



February 18, 2025

K2 Systems  
2835 La Mirada Dr., Ste. A  
Vista, CA 92081  
TEL: (760) 301-5300

Attn.: K2 Systems - Engineering Department

Re: Report # 2019-01435HG.41.0 Engineering Certification for the K2 Systems CrossRail - Dual Rail System for Gable and Hip roofs (X-80).

PZSE, Inc. - Structural Engineers have reviewed K2 Systems Dual Rail. All information, data, and analysis contained within the K2 Systems Dual Rail span tables are based on, and comply with the following codes:

1. Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-22
2. 2024 International Building Code, by the International Code Council, Inc.
3. 2024 International Residential Code, by the International Code Council, Inc.
4. AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012, by ICC-ES
5. Aluminum Design Manual 2020, by The Aluminum Association, Inc.
6. ANSI/AWC NDS-2018, National Design Specification for Wood Construction, by the American Wood Council

Following are typical specifications to meet the above code requirements:

<b>Design Criteria:</b>	Ground Snow Load = 0 - 100 (psf) Basic Wind Speed = 95 - 200 (mph) Roof Mean Height = 0 - 60 (ft) Enclosed and Partially Enclosed Gable and Hip Roof Pitch = 0° - 90° (degrees) Open Gable Roof Pitch = 0° - 45° (degrees) Exposure Category = B, C & D Seismic Design Category = A-E
<b>K2 Rail:</b>	K2 Systems 80-X Rail are made with an aluminum alloy, 6000 series, with a minimum yield strength of 34.8 ksi.
<b>Cantilever:</b>	Maximum cantilever length is L/3, where "L" is the span noted in the Span Tables, provided there is at least 1 module length between maximum cantilevers.
<b>Clearance:</b>	2" to 10" clear from the top of the roof to top of PV panel.

**Attachment Devices:** Attachment not considered for K2 Systems Dual Rail System span table.

**Tolerance(s):** 1.0" tolerance for any specified dimension in this report is allowed for installation.

**Installation Orientation:** Landscape (L) - PV Panel long dimension is parallel to the ridge/eave line of roof, and the PV panel is mounted on the long side.

Portrait (P) - PV Panel short dimension is parallel to the ridge/eave line of roof, and the PV panel is mounted on the short side.

Dual Rail Span Module sizes: 70" x 41", 74" x 41.2", 83" x 41.5", & 92.5" x 45.9"

**Components and Cladding Roof Zones:**

**Roof Zones — Enclosed and Partially Enclosed Gable Roofs  $\theta \leq 7^\circ$ :**

1. The zones shall be determined using Figure 30.3-2A of ASCE 7-22. See Figure 1.
2. Interior Zone 1, span shall be the minimum of 1 and 1' (See Dual Rail Span Chart).

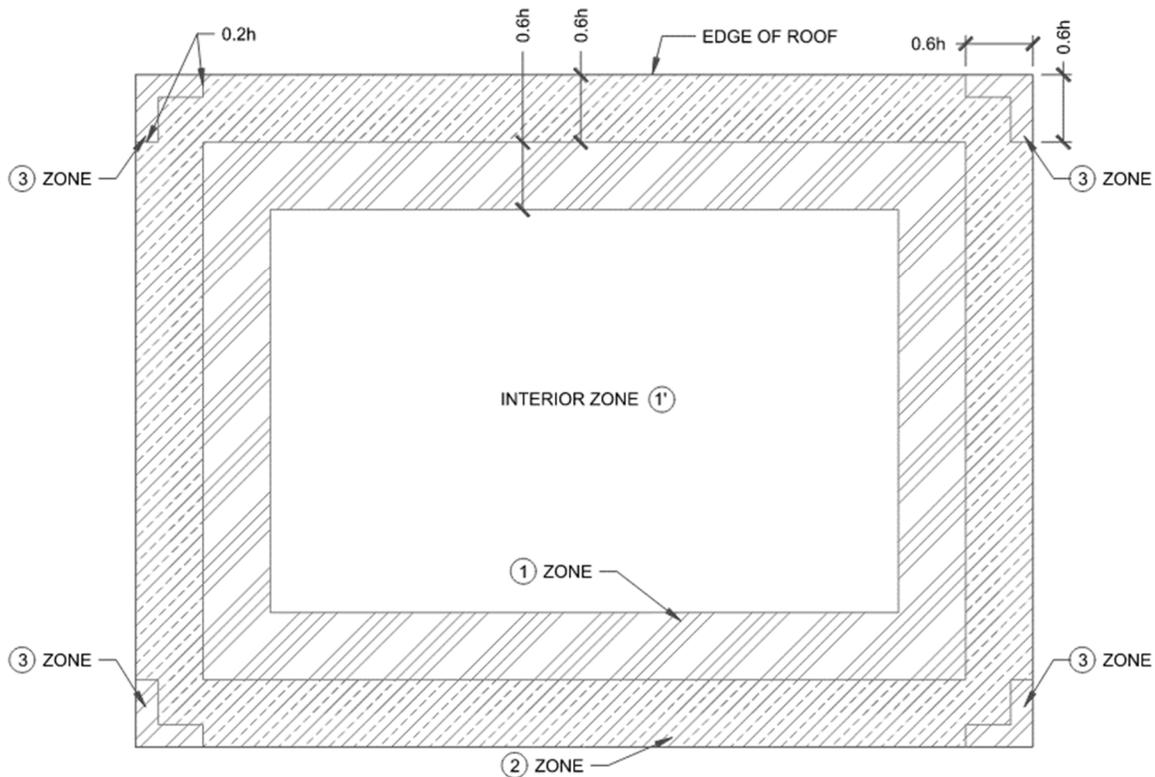


Figure 1: Roof Edge and Corner Zones, Gable Roofs,  $\theta \leq 7^\circ$

**Roof Zones – Enclosed and Partially Enclosed Gable Roofs,  $7^\circ < \theta \leq 27^\circ$ :**

1. The zones shall be determined using figure 30.3-2B and 30.3-2C of ASCE 7-22. See Figure 2.

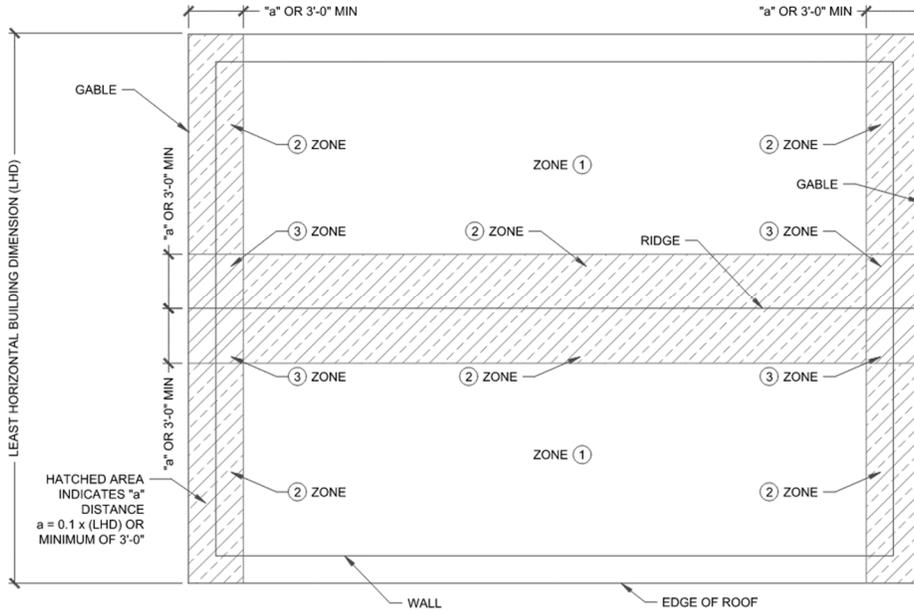


Figure 2: Roof Edge and Corner Zones, Gable Roofs,  $7^\circ < \theta \leq 27^\circ$

**Roof Zones – Enclosed and Partially Enclosed Gable Roofs,  $27^\circ < \theta \leq 90^\circ$ :**

1. The zones shall be determined using figure 30.3-2D of ASCE 7-22. See Figure 3.
2. Roofs from  $45^\circ < \theta \leq 90^\circ$  shall use the same Edge Zone, "a" determination as roofs from  $27^\circ < \theta \leq 45^\circ$ .

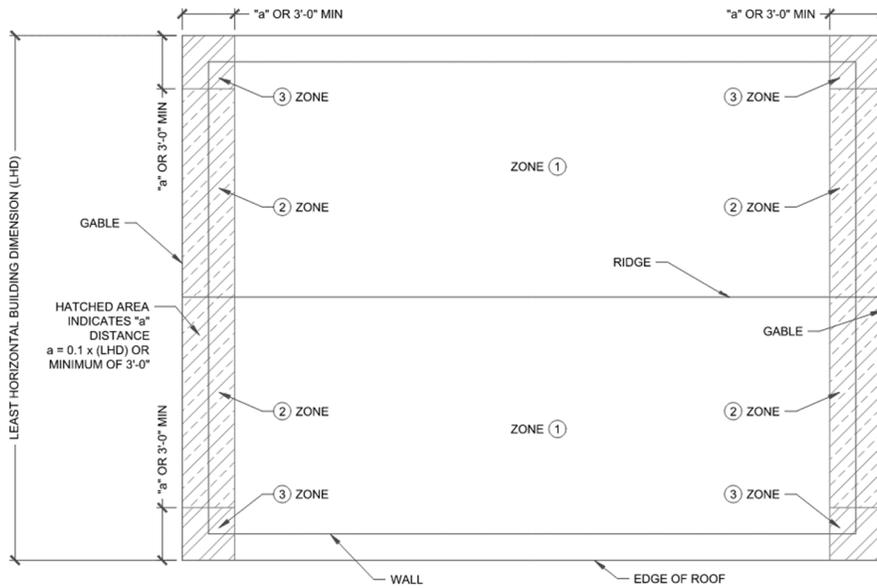


Figure 3: Roof Edge and Corner Zones, Gable Roofs,  $27^\circ < \theta \leq 90^\circ$

**Roof Zones – Enclosed and Partially Enclosed Hip Roofs,  $7^\circ < \theta \leq 90^\circ$ :**

1. The zones shall be determined using figure 30.3-2E thru 30.3-2G of ASCE 7-22. See Figure 4.
2. Roofs from  $45^\circ < \theta \leq 90^\circ$  shall use the same Edge Zone, “a” determination as roofs from  $7^\circ < \theta \leq 45^\circ$

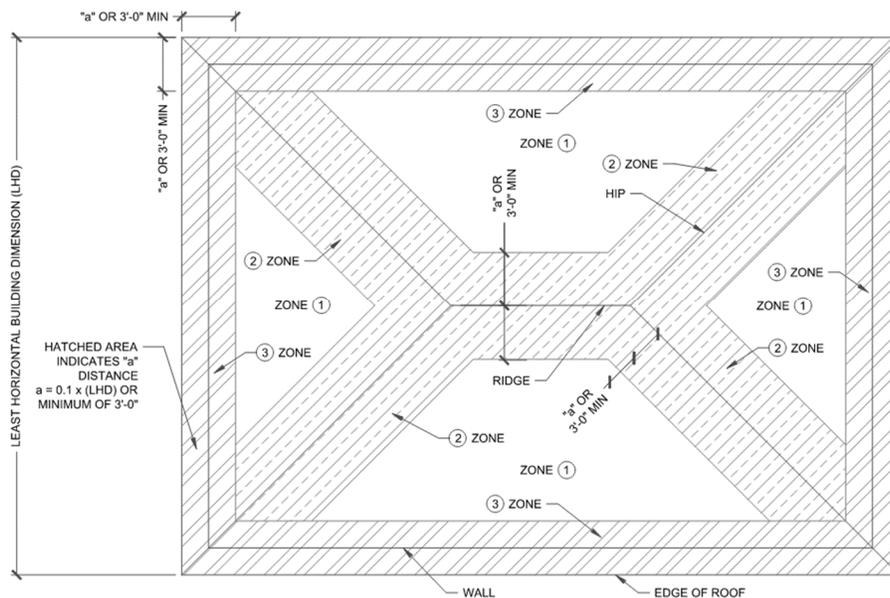


Figure 4: Roof Edge and Corner Zones, Hip Roofs,  $7^\circ < \theta \leq 90^\circ$

**Roof Zones – Open Gable Roofs,  $\theta \leq 10^\circ$ :**

1. The zones shall be determined using figure 30.5-2 of ASCE 7-22. See Figure 5.

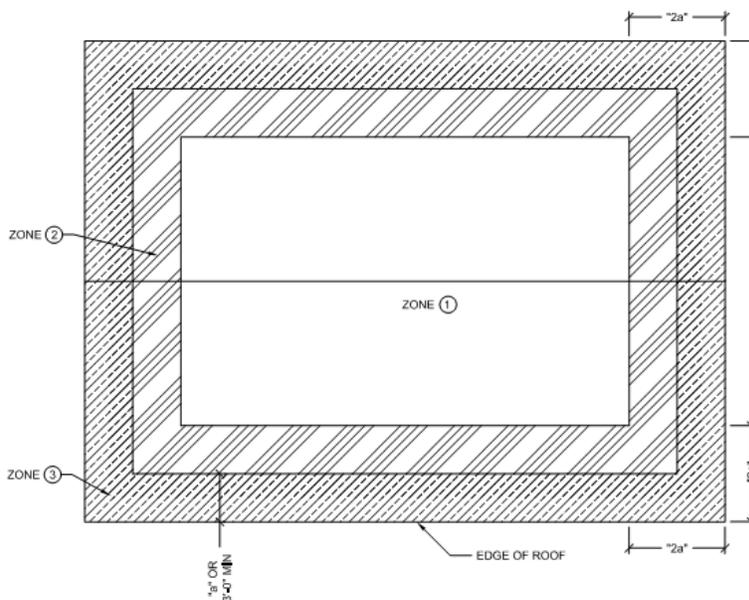


Figure 5: Roof Edge and Corner Zones, Open Gable Roofs,  $\theta \leq 10^\circ$

**Roof Zones – Open Gable Roofs,  $10^\circ < \theta \leq 45^\circ$ :**

1. The zones shall be determined using figure 30.5-2 of ASCE 7-22. See Figure 6.

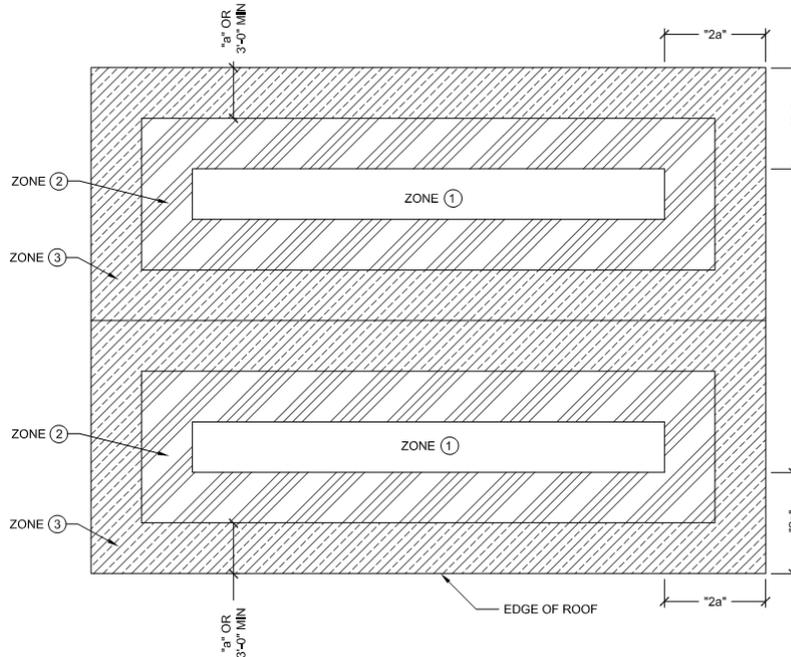


Figure 6: Roof Edge and Corner Zones, Open Gable Roofs,  $10^\circ < \theta \leq 45$

**Panel Array Edge:**

Panels exposed at array edge shall use figure 29.4-7 of ASCE 7-22 to determine “ $d_1$ ” and “ $d_2$ ” to apply “Array Edge” spans that apply to an array layout. See figure 7.

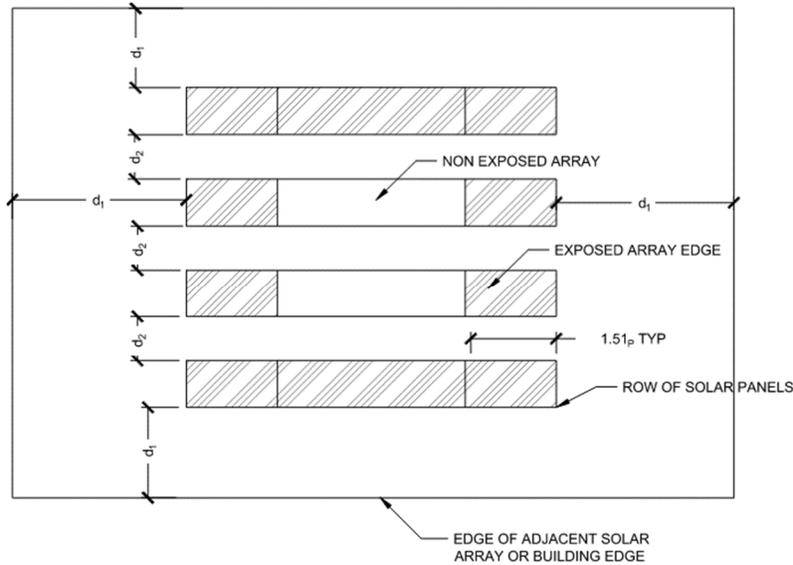


Figure 7: Array Edge



### **Panel with Support Mounts in Multiple Roof Zones:**

Edge and Corner Zone spacings (Zone 2 & 3, respectively) apply only to mounts located in those Zones, not to all the mounts supporting the module.

- Notes:*
- 1) *Tables are determined for Dual Rail only and do not include roof capacity check.*
  - 2) *Risk Category II per ASCE 7-22.*
  - 3) *Topographic factor,  $k_z$  is 1.0.*
  - 4) *Average parapet height is 0.0 ft.*
  - 5) *Wind speeds are LRFD values.*
  - 6) *Snow loads consider a Thermal Factor ( $C_t$ ) of 1.2.*
  - 7) *Attachment spacing(s) apply to a seismic design category E or less.*

### **Design Responsibility:**

These tables are intended for use under the responsible charge of a registered design professional as required by the authority having jurisdiction. In all cases, a design professional with sufficient structural engineering knowledge and experience should direct the use of these tables to:

- Evaluate whether these tables are applicable to the project.
- Understand and determine the appropriate values for all input parameters of these tables.

This letter certifies that the K2 Systems Dual Rail System, when installed in accordance with the limitations outlined in this letter and the accompanying span tables, complies with the aforementioned codes and loading criteria. This certification excludes evaluation of the building structure to support the loads imposed on the building by the array, including strength and deflection of structural framing members, fastening and/or strength of roofing materials, and/or the effects of snow accumulation on the roof. Assessing these aspects will require additional knowledge of the building and is outside the scope of the certification for this racking system.

If you have any questions on the above, do not hesitate to call.

Prepared by:  
PZSE, Inc. – Structural Engineers  
Roseville, CA



## Table of Contents

Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows:

72" and Greater	Green
64" to 71"	Blue
48" to 63"	Yellow
47" and Less	White / Gray

### K2 Systems Dual Rail Flush-Mount System

#### Enclosed Hip and Gable Span Tables for 80-X Flush-Mount Dual Rail

0-30 Foot Roof, 70in x 41in Modules.....	9
30-60 Foot Roof, 70in x 41in Modules.....	45
0-30 Foot Roof, 74in x 41.2in Modules.....	81
30-60 Foot Roof, 74in x 41.2in Modules.....	117
0-30 Foot Roof, 83in x 41.5in Modules.....	153
30-60 Foot Roof, 83in x 41.5in Modules.....	189
0-30 Foot Roof, 92.5in x 45.9in Modules.....	225
30-60 Foot Roof, 92.5in x 45.9in Modules.....	261

#### Open Gable Span Tables for 80-X Flush-Mount Dual Rail

0-30 Foot Roof, 70in x 41in Modules.....	297
30-60 Foot Roof, 70in x 41in Modules.....	333
0-30 Foot Roof, 74in x 41.2in Modules.....	369
30-60 Foot Roof, 74in x 41.2in Modules.....	405
0-30 Foot Roof, 83in x 41.5in Modules.....	441
30-60 Foot Roof, 83in x 41.5in Modules.....	477
0-30 Foot Roof, 92.5in x 45.9in Modules.....	513
30-60 Foot Roof, 92.5in x 45.9in Modules.....	549

#### Enclosed Hip and Gable Reaction Tables for 80-X Flush-Mount Dual Rail

0-30 Foot Roof, 70in x 41in Modules.....	585
30-60 Foot Roof, 70in x 41in Modules.....	621
Foot Roof, 74in x 41.2in Modules.....	657
30-60 Foot Roof, 74in x 41.2in Modules.....	693
30 Foot Roof, 83in x 41.5in Modules.....	729
30-60 Foot Roof, 83in x 41.5in Modules.....	765
0-30 Foot Roof, 92.5in x 45.9in Modules.....	801
30-60 Foot Roof, 92.5in x 45.9in Modules.....	837

#### Open Gable Reaction Tables for 80-X Flush-Mount Dual Rail

0-30 Foot Roof, 70in x 41in Modules.....	873
30-60 Foot Roof, 70in x 41in Modules.....	909
0-30 Foot Roof, 74in x 41.2in Modules.....	945
30-60 Foot Roof, 74in x 41.2in Modules.....	981
0-30 Foot Roof, 83in x 41.5in Modules.....	1017
30-60 Foot Roof, 83in x 41.5in Modules.....	1053

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**Open Gable Span Tables for 48-XL Flush-Mount Dual Rail (Continued)**

0-30 Foot Roof, 92.5in x 45.9in Modules.....	1089
30-60 Foot Roof, 92.5in x 45.9in Modules.....	1125

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																										
Wind Speed [mph]		95										100										105										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																													
0	1	150	130	142	122	148	135	143	126	142	142	145	125	136	118	148	130	141	122	142	140	140	121	132	113	146	126	136	117	142	136	
	2	135	116	127	107	130	112	140	121	142	137	130	111	122	102	126	106	135	117	142	132	125	105	118	96	121	100	131	112	142	128	
	3	120	98	114	92	122	101	130	111	142	137	115	93	108	87	118	96	125	105	142	132	109	88	103	83	113	91	121	100	142	128	
	5	1	149	130	142	122	148	135	143	126	142	142	145	125	136	118	148	130	141	122	142	140	140	121	132	113	146	126	136	117	142	136
		2	135	116	127	107	130	112	140	121	142	137	130	111	122	102	126	106	135	117	142	132	125	105	118	96	121	100	131	112	142	128
		3	120	98	114	92	122	101	130	111	142	137	115	93	108	87	118	96	125	105	142	132	109	88	103	83	113	91	121	100	142	128
	10	1	140	130	142	122	148	135	143	126	142	142	140	125	136	118	148	130	141	122	142	140	140	121	132	113	146	126	136	117	142	136
		2	135	116	127	107	130	112	140	121	142	137	130	111	122	102	126	106	135	117	142	132	125	105	118	96	121	100	131	112	142	128
		3	120	98	114	92	122	101	130	111	142	137	115	93	108	87	118	96	125	105	142	132	109	88	103	83	113	91	121	100	142	128

Exposure Category : B

Wind Speed [mph]		110										115									
0	1	135	117	127	108	141	122	131	113	142	133	131	112	123	103	137	118	127	108	142	129
	2	121	100	114	92	117	96	126	107	142	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	142	124	99	80	93	76	103	83	112	91	138	120
5	1	135	117	127	108	141	122	131	113	142	133	131	112	123	103	137	118	127	108	142	129
	2	121	100	114	92	117	96	126	107	142	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	142	124	99	80	93	76	103	83	112	91	138	120
10	1	135	117	127	108	141	122	131	113	142	133	131	112	123	103	137	118	127	108	142	129
	2	121	100	114	92	117	96	126	107	142	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	142	124	99	80	93	76	103	83	112	91	138	120

Wind Speed [mph]		120										130									
0	1	127	107	120	98	132	114	123	103	142	126	120	98	112	90	125	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
5	1	127	107	120	98	132	114	123	103	142	126	120	98	112	90	125	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
10	1	127	107	120	98	132	114	123	103	142	126	120	98	112	90	125	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		0	1	113	91	103	84	119	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77
0	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
0	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
5	1	113	91	103	84	119	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
5	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
5	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
10	1	113	91	103	84	119	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
10	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
10	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87

Exposure Category : B

Wind Speed [mph]		170										180									
0	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77
5	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77
10	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77
Wind Speed [mph]		190										200									
0	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69
5	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69
10	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		15	1	133	130	142	122	144	135	142	126	142	142	133	125	136	118	144	130	141	122	142	140	133	121	132	113	144	126	136	117
	2	133	116	127	107	130	112	140	121	142	137	130	111	122	102	126	106	135	117	142	132	125	105	118	96	121	100	131	112	142	128
	3	120	98	114	92	122	101	130	111	142	137	115	93	108	87	118	96	125	105	142	132	109	88	103	83	113	91	121	100	142	128
	1	127	127	140	122	135	135	136	126	142	142	127	125	136	118	135	130	136	122	142	140	127	121	132	113	135	126	136	117	142	136
	2	127	116	127	107	130	112	136	121	142	137	127	111	122	102	126	106	135	117	142	132	125	105	118	96	121	100	131	112	142	128
	3	120	98	114	92	122	101	130	111	142	137	115	93	108	87	118	96	125	105	142	132	109	88	103	83	113	91	121	100	142	128
	1	127	127	134	122	129	129	131	126	142	142	127	125	134	118	129	129	131	122	142	140	127	121	132	113	129	126	131	117	142	136
	2	127	116	127	107	129	112	131	121	142	137	127	111	122	102	126	106	131	117	142	132	125	105	118	96	121	100	131	112	142	128
	3	120	98	114	92	122	101	130	111	142	137	115	93	108	87	118	96	125	105	142	132	109	88	103	83	113	91	121	100	142	128

Exposure Category : B

Wind Speed [mph]		110										115									
15	1	133	117	127	108	141	122	131	113	142	133	131	112	123	103	137	118	127	108	142	129
	2	121	100	114	92	117	96	126	107	142	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	142	124	99	80	93	76	103	83	112	91	138	120
	1	127	117	127	108	135	122	131	113	142	133	127	112	123	103	135	118	127	108	142	129
	2	121	100	114	92	117	96	126	107	142	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	142	124	99	80	93	76	103	83	112	91	138	120
	1	127	117	127	108	129	122	131	113	142	133	127	112	123	103	129	118	127	108	142	129
	2	121	100	114	92	117	96	126	107	142	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	142	124	99	80	93	76	103	83	112	91	138	120
Wind Speed [mph]		120										130									
15	1	127	107	120	98	132	114	123	103	142	126	120	98	112	90	125	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
	1	127	107	120	98	132	114	123	103	142	126	120	98	112	90	125	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
	1	127	107	120	98	129	114	123	103	142	126	120	98	112	90	125	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
15	1	113	91	103	84	119	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
20	1	113	91	103	84	119	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
25	1	113	91	103	84	119	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87

Exposure Category : B

Wind Speed [mph]		170										180																			
15	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	62	51	59	48	64	52	71	57	95	77
20	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	62	51	59	48	64	52	71	57	95	77
25	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	62	51	59	48	64	52	71	57	95	77

Wind Speed [mph]		190										200																			
15	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77	66	54	61	50	64	52	71	58	85	69
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69	56	46	53	43	58	47	63	52	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69	56	46	53	43	58	47	63	52	85	69
20	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77	66	54	61	50	64	52	71	58	85	69
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69	56	46	53	43	58	47	63	52	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69	56	46	53	43	58	47	63	52	85	69
25	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77	66	54	61	50	64	52	71	58	85	69
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69	56	46	53	43	58	47	63	52	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69	56	46	53	43	58	47	63	52	85	69

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	125	125	128	122	123	123	126	126	142	142	125	125	128	118	123	123	126	122	142	140	125	121	128	113	123	123	126	117
	2	125	116	127	107	123	112	126	121	142	137	125	111	122	102	123	106	126	117	142	132	125	105	118	96	121	100	126	112	142	128
	3	120	98	114	92	122	101	126	111	142	137	115	93	108	87	118	96	125	105	142	132	109	88	103	83	113	91	121	100	142	128
	1	119	119	123	122	118	118	122	122	140	140	119	119	123	118	118	118	122	122	140	140	119	119	123	113	118	118	122	117	140	136
	2	119	116	123	107	118	112	122	121	140	137	119	111	122	102	118	106	122	117	140	132	119	105	118	96	118	100	122	112	140	128
	3	119	98	114	92	118	101	122	111	140	137	115	93	108	87	118	96	122	105	140	132	109	88	103	83	113	91	121	100	140	128
	1	115	115	118	118	114	114	119	119	137	137	115	115	118	118	114	114	119	119	137	137	115	115	118	113	114	114	119	117	137	136
	2	115	115	118	107	114	112	119	119	137	137	115	111	118	102	114	106	119	117	137	132	115	105	118	96	114	100	119	112	137	128
	3	115	98	114	92	114	101	119	111	137	137	115	93	108	87	114	96	119	105	137	132	109	88	103	83	113	91	119	100	137	128

Exposure Category : B

Wind Speed [mph]		110										115									
30	1	125	117	127	108	123	122	126	113	142	133	125	112	123	103	123	118	126	108	142	129
	2	121	100	114	92	117	96	126	107	142	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	142	124	99	80	93	76	103	83	112	91	138	120
35	1	119	117	123	108	118	118	122	113	140	133	119	112	123	103	118	118	122	108	140	129
	2	119	100	114	92	117	96	122	107	140	124	117	96	109	88	113	91	122	102	138	120
	3	104	84	98	79	107	87	117	95	140	124	99	80	93	76	103	83	112	91	138	120
40	1	115	115	118	108	114	114	119	113	137	133	115	112	118	103	114	114	119	108	137	129
	2	115	100	114	92	114	96	119	107	137	124	115	96	109	88	113	91	119	102	137	120
	3	104	84	98	79	107	87	117	95	137	124	99	80	93	76	103	83	112	91	137	120
Wind Speed [mph]		120										130									
30	1	125	107	120	98	123	114	123	103	142	126	120	98	112	90	123	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
35	1	119	107	120	98	118	114	122	103	140	126	119	98	112	90	118	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
40	1	115	107	118	98	114	114	119	103	137	126	115	98	112	90	114	105	117	95	135	116
	2	113	91	104	84	108	87	119	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	113	91	103	84	119	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
	1	113	91	103	84	118	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
	1	113	91	103	84	114	97	108	88	129	109	105	85	96	78	112	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87

Exposure Category : B

Wind Speed [mph]		170										180									
30	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77
35	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77
40	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77
Wind Speed [mph]		190										200									
30	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69
35	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69
40	1	82	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		1	111	111	115	115	110	110	116	116	136	136	111	111	115	115	110	110	116	116	136	136	111	111	115	113	110	110	116	116	136
45	2	111	111	115	107	110	110	116	116	136	136	111	111	115	102	110	106	116	116	136	132	111	105	115	96	110	100	116	112	136	128
	3	111	98	114	92	110	101	116	111	136	136	111	93	108	87	110	96	116	105	136	132	109	88	103	83	110	91	116	100	136	128
50	1	107	107	111	111	107	107	113	113	134	134	107	107	111	111	107	107	113	113	134	134	107	107	111	111	107	107	113	113	134	134
	2	107	107	111	107	107	107	113	113	134	134	107	107	111	102	107	106	113	113	134	132	107	105	111	96	107	100	113	112	134	128
	3	107	98	111	92	107	101	113	111	134	134	107	93	108	87	107	96	113	105	134	132	107	88	103	83	107	91	113	100	134	128
60	1	100	100	105	105	102	102	108	108	130	130	100	100	105	105	102	102	108	108	130	130	100	100	105	105	102	102	108	108	130	130
	2	100	100	105	105	102	102	108	108	130	130	100	100	105	102	102	102	108	108	130	130	100	100	105	96	102	100	108	108	130	128
	3	100	98	105	92	102	101	108	108	130	130	100	93	105	87	102	96	108	105	130	130	100	88	103	83	102	91	108	100	130	128

Exposure Category : B

Wind Speed [mph]		110										115									
45	1	111	111	115	108	110	110	116	113	136	133	111	111	115	103	110	110	116	108	136	129
	2	111	100	114	92	110	96	116	107	136	124	111	96	109	88	110	91	116	102	136	120
	3	104	84	98	79	107	87	116	95	136	124	99	80	93	76	103	83	112	91	136	120
50	1	107	107	111	108	107	107	113	113	134	133	107	107	111	103	107	107	113	108	134	129
	2	107	100	111	92	107	96	113	107	134	124	107	96	109	88	107	91	113	102	134	120
	3	104	84	98	79	107	87	113	95	134	124	99	80	93	76	103	83	112	91	134	120
60	1	100	100	105	105	102	102	108	108	130	130	100	100	105	103	102	102	108	108	130	129
	2	100	100	105	92	102	96	108	107	130	124	100	96	105	88	102	91	108	102	130	120
	3	100	84	98	79	102	87	108	95	130	124	99	80	93	76	102	83	108	91	130	120
Wind Speed [mph]		120										130									
45	1	111	107	115	98	110	110	116	103	136	126	111	98	112	90	110	105	116	95	135	116
	2	111	91	104	84	108	87	116	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
50	1	107	107	111	98	107	107	113	103	134	126	107	98	111	90	107	105	113	95	134	116
	2	107	91	104	84	107	87	113	98	134	116	104	84	95	77	99	80	111	90	127	108
	3	95	77	89	72	98	79	107	87	134	116	87	71	82	67	90	73	99	80	127	108
60	1	100	100	105	98	102	102	108	103	130	126	100	98	105	90	102	102	108	95	130	116
	2	100	91	104	84	102	87	108	98	130	116	100	84	95	77	99	80	108	90	127	108
	3	95	77	89	72	98	79	107	87	130	116	87	71	82	67	90	73	99	80	127	108

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
45	1	111	91	103	84	110	97	108	88	129	109	105	85	96	78	110	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
50	1	107	91	103	84	107	97	108	88	129	109	105	85	96	78	107	90	101	82	123	102	98	79	90	73	104	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
60	1	100	91	103	84	102	97	108	88	129	109	100	85	96	78	102	90	101	82	123	102	98	79	90	73	102	84	94	77	116	96
	2	96	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87

Exposure Category : B

Wind Speed [mph]		170										180																			
45	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	1	1	1	1	1	1	1	1	1	1
50	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	1	1	1	1	1	1	1	1	1	1
60	1	92	74	84	68	98	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	1	1	1	1	1	1	1	1	1	1

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		70	1	93	93	101	101	97	97	104	104	127	127	93	93	101	101	97	97	104	104	127	127	93	93	101	101	97	97	104	104
2	93		93	101	101	97	97	104	104	127	127	93	93	101	101	97	97	104	104	127	127	93	93	101	96	97	97	104	104	127	127
3	93		93	101	92	97	97	104	104	127	127	93	93	101	87	97	96	104	104	127	127	93	88	101	83	97	91	104	100	127	127
80	1	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124
	2	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124	88	88	97	96	93	93	100	100	124	124
	3	88	88	97	92	93	93	100	100	124	124	88	88	97	87	93	93	100	100	124	124	88	88	97	83	93	91	100	100	124	124
90	1	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122
	2	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122
	3	83	83	93	92	90	90	97	97	122	122	83	83	93	87	90	90	97	97	122	122	83	83	93	83	90	90	97	97	122	122
70	1	93	93	101	101	97	97	104	104	127	127	93	93	101	101	97	97	104	104	127	127	93	93	101	101	97	97	104	104	127	127
	2	93	93	101	92	97	96	104	104	127	124	93	93	101	88	97	91	104	102	127	120	93	93	101	88	97	91	104	102	127	120
	3	93	84	98	79	97	87	104	95	127	124	93	80	93	76	97	83	104	91	127	120	93	80	93	76	97	83	104	91	127	120
80	1	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124
	2	88	88	97	92	93	93	100	100	124	124	88	88	97	88	93	91	100	100	124	120	88	88	97	88	93	91	100	100	124	120
	3	88	84	97	79	93	87	100	95	124	124	88	80	93	76	93	83	100	91	124	120	88	80	93	76	93	83	100	91	124	120
90	1	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122
	2	83	83	93	92	90	90	97	97	122	122	83	83	93	88	90	90	97	97	122	120	83	83	93	88	90	90	97	97	122	120
	3	83	83	93	79	90	87	97	95	122	122	83	80	93	76	90	83	97	91	122	120	83	80	93	76	90	83	97	91	122	120
70	1	93	93	101	98	97	97	104	103	127	126	93	93	101	90	97	97	104	95	127	116	93	93	101	90	97	97	104	95	127	116
	2	93	91	101	84	97	87	104	98	127	116	93	84	95	77	97	80	104	90	127	108	93	84	95	77	97	80	104	90	127	108
	3	93	77	89	72	97	79	104	87	127	116	87	71	82	67	90	73	99	80	127	108	87	71	82	67	90	73	99	80	127	108
80	1	88	88	97	97	93	93	100	100	124	124	88	88	97	90	93	93	100	95	124	116	88	88	97	90	93	93	100	95	124	116
	2	88	88	97	84	93	87	100	98	124	116	88	84	95	77	93	80	100	90	124	108	88	84	95	77	93	80	100	90	124	108
	3	88	77	89	72	93	79	100	87	124	116	87	71	82	67	90	73	99	80	124	108	87	71	82	67	90	73	99	80	124	108
90	1	83	83	93	93	90	90	97	97	122	122	83	83	93	90	90	90	97	95	122	116	83	83	93	90	90	90	97	95	122	116
	2	83	83	93	84	90	87	97	97	122	116	83	83	93	77	90	80	97	90	122	108	83	83	93	77	90	80	97	90	122	108
	3	83	77	89	72	90	79	97	87	122	116	83	71	82	67	90	73	97	80	122	108	83	71	82	67	90	73	97	80	122	108

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
70	1	93	91	101	84	97	97	104	88	127	109	93	85	96	78	97	90	101	82	123	102	93	79	90	73	97	84	94	77	116	96
	2	93	78	88	72	92	74	103	83	120	100	89	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
80	1	88	88	97	84	93	93	100	88	124	109	88	85	96	78	93	90	100	82	123	102	88	79	90	73	93	84	94	77	116	96
	2	88	78	88	72	92	74	100	83	120	100	88	72	82	67	85	69	96	78	114	93	84	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87
90	1	83	83	93	84	90	90	97	88	122	109	83	83	93	78	90	90	97	82	122	102	83	79	90	73	90	84	94	77	116	96
	2	83	78	88	72	90	74	97	83	120	100	83	72	82	67	85	69	96	78	114	93	83	68	77	62	80	65	89	73	107	87
	3	81	66	76	62	84	68	91	74	120	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87

Exposure Category : B

Wind Speed [mph]		170										180																			
70	1	92	74	84	68	97	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	87	70	79	64	92	75	84	68	104	85
80	1	88	74	84	68	93	79	89	72	109	90	87	70	79	64	92	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	83	70	79	64	90	75	84	68	104	85
90	1	83	74	84	68	90	79	89	72	109	90	83	70	79	64	90	75	84	68	104	85	74	60	68	55	71	57	79	64	95	77
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	71	57	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77	88	74	84	68	93	79	89	72	109	90

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Span, inches																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge																																		
		100	1	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119				
	2	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119						
	3	79	79	90	90	87	87	94	94	119	119	79	79	90	87	87	87	94	94	119	119	79	79	90	83	87	87	94	94	119	119						

Exposure Category : B

Wind Speed [mph]		110												115											
100	1	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119				
	2	79	79	90	90	87	87	94	94	119	119	79	79	90	88	87	87	94	94	119	119				
	3	79	79	90	79	87	87	94	94	119	119	79	79	90	76	87	83	94	91	119	119				

Wind Speed [mph]		120												130											
100	1	79	79	90	90	87	87	94	94	119	119	79	79	90	89	87	87	94	94	119	116				
	2	79	79	90	84	87	87	94	94	119	116	79	79	90	77	87	80	94	90	119	108				
	3	79	77	89	72	87	79	94	87	119	116	79	71	82	67	87	73	94	80	119	108				

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	79	79	90	84	87	87	94	88	119	109	79	79	90	78	87	87	94	82	119	102	79	79	89	73	87	84	94	77
	2	79	78	88	72	87	74	94	83	119	100	79	72	82	67	85	69	94	78	114	93	79	68	77	62	80	65	89	73	107	87
	3	79	66	76	62	84	68	91	74	119	100	75	61	71	58	78	63	85	69	114	93	70	57	66	54	73	59	80	65	107	87

Exposure Category : B

Wind Speed [mph]		170										180									
100	1	79	74	84	68	87	79	89	72	109	90	79	70	79	64	87	75	84	68	104	85
	2	78	64	72	59	75	61	84	68	100	82	74	60	68	55	71	57	79	64	95	77
	3	66	54	62	51	68	56	75	61	100	82	62	51	59	48	64	52	71	57	95	77

Wind Speed [mph]		190										200									
100	1	79	66	75	61	87	71	79	64	98	81	78	63	71	58	83	67	75	61	94	77
	2	70	57	64	52	67	54	75	61	90	73	66	54	61	50	64	52	71	58	85	69
	3	59	48	56	45	61	50	67	54	90	73	56	46	53	43	58	47	63	52	85	69

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		0	1	133	115	125	105	139	120	129	110	142	131	128	109	121	100	134	116	125	105	142	127	124	103	117	95	129	110	120	99
	2	119	98	111	90	116	93	124	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113
5	1	133	115	125	105	139	120	129	110	142	131	128	109	121	100	134	116	125	105	142	127	124	103	117	95	129	110	120	99	139	122
	2	119	98	111	90	116	93	124	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113
10	1	133	115	125	105	139	120	129	110	142	131	128	109	121	100	134	116	125	105	142	127	124	103	117	95	129	110	120	99	139	122
	2	119	98	111	90	116	93	124	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113

Exposure Category : C

Wind Speed [mph]		110										115									
0	1	120	98	112	90	125	105	117	95	135	116	116	94	106	86	121	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
5	1	120	98	112	90	125	105	117	95	135	116	116	94	106	86	121	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
10	1	120	98	112	90	125	105	117	95	135	116	116	94	106	86	121	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
Wind Speed [mph]		120										130									
0	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90
5	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90
10	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
		0	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64
2	81		65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
3	68		55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
5	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
10	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
0	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72										
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65										
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65										
5	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72										
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65										
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65										
10	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72										
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65										
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65										
0	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65										
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58										
5	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65										
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58										
10	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65										
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58										
0	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65										
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58										
5	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65										
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58										
10	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65										
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
15	1	133	115	125	105	139	120	129	110	142	131	128	109	121	100	134	116	125	105	142	127	124	103	117	95	129	110	120	99	139	122
	2	119	98	111	90	116	93	124	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113
20	1	127	115	125	105	135	120	129	110	142	131	127	109	121	100	134	116	125	105	142	127	124	103	117	95	129	110	120	99	139	122
	2	119	98	111	90	116	93	124	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113
25	1	127	115	125	105	129	120	129	110	142	131	127	109	121	100	129	116	125	105	142	127	124	103	117	95	129	110	120	99	139	122
	2	119	98	111	90	116	93	124	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113

Exposure Category : C

Wind Speed [mph]		110										115																			
15	1	120	98	112	90	125	105	117	95	135	116	116	94	106	86	121	100	112	91	132	112										
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103										
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103										
20	1	120	98	112	90	125	105	117	95	135	116	116	94	106	86	121	100	112	91	132	112										
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103										
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103										
25	1	120	98	112	90	125	105	117	95	135	116	116	94	106	86	121	100	112	91	132	112										
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103										
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103										
Wind Speed [mph]		120										130																			
15	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99										
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90										
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90										
20	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99										
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90										
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90										
25	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99										
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90										
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
		15	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64
15	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
15	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
20	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
20	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
20	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
25	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
25	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
25	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73

Exposure Category : C

Wind Speed [mph]		170										180									
15	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
20	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
25	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65

Wind Speed [mph]		190										200									
15	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
20	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
25	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	125	115	125	105	123	120	126	110	142	131	125	109	121	100	123	116	125	105	142	127	124	103	117	95	123	110	120	99
	2	119	98	111	90	116	93	124	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113
35	1	119	115	123	105	118	118	122	110	140	131	119	109	121	100	118	116	122	105	140	127	119	103	117	95	118	110	120	99	139	122
	2	119	98	111	90	116	93	122	105	140	122	115	93	105	85	110	89	120	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	140	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113
40	1	115	115	118	105	114	114	119	110	137	131	115	109	118	100	114	114	119	105	137	127	115	103	117	95	114	110	119	99	137	122
	2	115	98	111	90	114	93	119	105	137	122	115	93	105	85	110	89	119	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	137	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113

Exposure Category : C

Wind Speed [mph]		110										115									
30	1	120	98	112	90	123	105	117	95	135	116	116	94	106	86	121	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
35	1	119	98	112	90	118	105	117	95	135	116	116	94	106	86	118	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
40	1	115	98	112	90	114	105	117	95	135	116	115	94	106	86	114	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
Wind Speed [mph]		120										130									
30	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90
35	1	111	90	102	82	117	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90
40	1	111	90	102	82	114	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
		30	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73

Exposure Category : C

Wind Speed [mph]		170										180									
30	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
35	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
40	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65

Wind Speed [mph]		190										200									
30	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
35	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
40	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		45	1	111	111	115	105	110	110	116	110	136	131	111	109	115	100	110	110	116	105	136	127	111	103	115	95	110	110	116	99
	2	111	98	111	90	110	93	116	105	136	122	111	93	105	85	110	89	116	99	135	117	109	88	100	81	104	84	116	94	131	113
	3	102	82	96	77	105	85	115	93	136	122	96	78	91	73	100	81	109	88	135	117	92	74	86	70	95	77	104	84	131	113
	1	107	107	111	105	107	107	113	110	134	131	107	107	111	100	107	107	113	105	134	127	107	103	111	95	107	107	113	99	134	122
	2	107	98	111	90	107	93	113	105	134	122	107	93	105	85	107	89	113	99	134	117	107	88	100	81	104	84	113	94	131	113
	3	102	82	96	77	105	85	113	93	134	122	96	78	91	73	100	81	109	88	134	117	92	74	86	70	95	77	104	84	131	113
	1	100	100	105	105	102	102	108	108	130	130	100	100	105	100	102	102	108	105	130	127	100	100	105	95	102	102	108	99	130	122
	2	100	98	105	90	102	93	108	105	130	122	100	93	105	85	102	89	108	99	130	117	100	88	100	81	102	84	108	94	130	113
	3	100	82	96	77	102	85	108	93	130	122	96	78	91	73	100	81	108	88	130	117	92	74	86	70	95	77	104	84	130	113

Exposure Category : C

Wind Speed [mph]		110										115									
45	1	111	98	112	90	110	105	116	95	135	116	111	94	106	86	110	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
	1	107	98	111	90	107	105	113	95	134	116	107	94	106	86	107	100	112	91	132	112
	2	104	84	95	77	99	80	111	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
	1	100	98	105	90	102	102	108	95	130	116	100	94	105	86	102	100	108	91	130	112
	2	100	84	95	77	99	80	108	90	127	107	99	80	91	74	95	77	106	86	123	103
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103
Wind Speed [mph]		120										130									
45	1	111	90	102	82	110	96	107	87	128	107	102	83	94	76	109	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90
	1	107	90	102	82	107	96	107	87	128	107	102	83	94	76	107	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90
	1	100	90	102	82	102	96	107	87	128	107	100	83	94	76	102	88	98	80	120	99
	2	95	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		45	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
	1	94	76	87	70	101	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73

Exposure Category : C

Wind Speed [mph]		170										180									
45	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
50	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
60	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
Wind Speed [mph]		190										200									
45	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
50	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
60	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		70	1	93	93	101	101	97	97	104	104	127	127	93	93	101	100	97	97	104	104	127	127	93	93	101	95	97	97	104	99
2	93		93	101	90	97	93	104	104	127	122	93	93	101	85	97	89	104	99	127	117	93	88	100	81	97	84	104	94	127	113
3	93		82	96	77	97	85	104	93	127	122	93	78	91	73	97	81	104	88	127	117	92	74	86	70	95	77	104	84	127	113
80	1	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124	88	88	97	95	93	93	100	99	124	122
	2	88	88	97	90	93	93	100	100	124	122	88	88	97	85	93	89	100	99	124	117	88	88	97	81	93	84	100	94	124	113
	3	88	82	96	77	93	85	100	93	124	122	88	78	91	73	93	81	100	88	124	117	88	74	86	70	93	77	100	84	124	113
90	1	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122
	2	83	83	93	90	90	90	97	97	122	122	83	83	93	85	90	89	97	97	122	117	83	83	93	81	90	84	97	94	122	113
	3	83	82	93	77	90	85	97	93	122	122	83	78	91	73	90	81	97	88	122	117	83	74	86	70	90	77	97	84	122	113
70	1	93	93	101	90	97	97	104	95	127	116	93	93	101	86	97	97	104	91	127	112										
	2	93	84	95	77	97	80	104	90	127	107	93	80	91	74	95	77	104	86	123	103										
	3	87	71	82	67	90	73	99	80	127	107	83	68	78	64	86	70	94	76	123	103										
80	1	88	88	97	90	93	93	100	95	124	116	88	88	97	86	93	93	100	91	124	112										
	2	88	84	95	77	93	80	100	90	124	107	88	80	91	74	93	77	100	86	123	103										
	3	87	71	82	67	90	73	99	80	124	107	83	68	78	64	86	70	94	76	123	103										
90	1	83	83	93	90	90	90	97	95	122	116	83	83	93	86	90	90	97	91	122	112										
	2	83	83	93	77	90	80	97	90	122	107	83	80	91	74	90	77	97	86	122	103										
	3	83	71	82	67	90	73	97	80	122	107	83	68	78	64	86	70	94	76	122	103										
70	1	93	90	101	82	97	96	104	87	127	107	93	83	94	76	97	88	98	80	120	99										
	2	93	77	87	71	90	73	101	82	119	98	87	71	80	65	83	68	93	76	111	90										
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90										
80	1	88	88	97	82	93	93	100	87	124	107	88	83	94	76	93	88	98	80	120	99										
	2	88	77	87	71	90	73	100	82	119	98	87	71	80	65	83	68	93	76	111	90										
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90										
90	1	83	83	93	82	90	90	97	87	122	107	83	83	93	76	90	88	97	80	120	99										
	2	83	77	87	71	90	73	97	82	119	98	83	71	80	65	83	68	93	76	111	90										
	3	80	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90										

Exposure Category : C

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
		70	1	93	76	87	70	97	81	91	74	112	92	88	71	81	65	94	76	85	69	105	86	82	67	75	61	87	71	79	64
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
	1	88	76	87	70	93	81	91	74	112	92	88	71	81	65	93	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73
	1	83	76	87	70	90	81	91	74	112	92	83	71	81	65	90	76	85	69	105	86	82	67	75	61	87	71	79	64	99	81
	2	81	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73

Exposure Category : C

Wind Speed [mph]		170										180									
70	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
80	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65
90	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65

Wind Speed [mph]		190										200									
70	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
80	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58
90	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
100	1	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119
	2	79	79	90	90	87	87	94	94	119	119	79	79	90	85	87	87	94	94	119	117	79	79	90	81	87	84	94	94	119	113
	3	79	79	90	77	87	85	94	93	119	119	79	78	90	73	87	81	94	88	119	117	79	74	86	70	87	77	94	84	119	113

Exposure Category : C

Wind Speed [mph]		110										115									
100	1	79	79	90	89	87	87	94	94	119	116	79	79	90	86	87	87	94	91	119	112
	2	79	79	90	77	87	80	94	90	119	107	79	79	90	74	87	77	94	86	119	103
	3	79	71	82	67	87	73	94	80	119	107	79	68	78	64	86	70	94	76	119	103

Wind Speed [mph]		120										130									
100	1	79	79	90	82	87	87	94	87	119	107	79	79	90	76	87	87	94	80	119	99
	2	79	77	87	71	87	73	94	82	119	98	79	71	80	65	83	68	93	76	111	90
	3	79	65	75	61	82	67	90	73	119	98	73	60	69	56	76	62	83	67	111	90

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																														
Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		100	1	79	76	87	70	87	81	91	74	112	92	79	71	81	65	87	76	85	69	105	86	79	67	75	61	87	71	79	64	99	81			
	2	79	65	74	60	77	63	86	70	103	84	75	61	69	56	72	58	80	65	96	78	70	57	65	53	67	55	75	61	90	73					
	3	68	55	64	52	70	57	77	62	103	84	63	51	60	48	65	53	72	58	96	78	59	48	56	45	61	50	67	55	90	73					

Exposure Category : C

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	77	63	71	58	82	67	75	61	93	76	73	59	67	54	77	63	70	57	88	72			
	2	66	54	61	49	63	51	71	57	85	69	62	51	57	47	60	48	67	54	80	65			
	3	56	45	52	43	58	47	63	51	85	69	53	43	49	40	54	44	59	48	80	65			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	69	56	63	51	73	59	67	54	84	69	65	53	60	49	69	56	63	51	80	65			
	2	59	48	54	44	56	46	63	51	75	61	56	45	51	42	53	43	60	49	72	58			
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	49	40	53	43	72	58			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		0	1	125	105	118	96	131	112	122	101	141	123	121	99	113	91	126	106	117	96	136	118	117	94	107	87	122	101	113	91
0	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
0	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
5	1	125	105	118	96	131	112	122	101	141	123	121	99	113	91	126	106	117	96	136	118	117	94	107	87	122	101	113	91	132	112
5	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
5	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
10	1	125	105	118	96	131	112	122	101	141	123	121	99	113	91	126	106	117	96	136	118	117	94	107	87	122	101	113	91	132	112
10	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
10	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103

Exposure Category : D

Wind Speed [mph]		110										115									
0	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
5	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
10	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
Wind Speed [mph]		120										130									
0	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
5	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
10	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		0	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59
0	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
0	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
5	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
5	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
5	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
10	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
10	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
10	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : D

Wind Speed [mph]		170										180									
0	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
5	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
10	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
Wind Speed [mph]		190										200									
0	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
5	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
10	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		15	1	125	105	118	96	131	112	122	101	141	123	121	99	113	91	126	106	117	96	136	118	117	94	107	87	122	101	113	91
15	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
15	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
20	1	125	105	118	96	131	112	122	101	141	123	121	99	113	91	126	106	117	96	136	118	117	94	107	87	122	101	113	91	132	112
20	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
20	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
25	1	125	105	118	96	131	112	122	101	141	123	121	99	113	91	126	106	117	96	136	118	117	94	107	87	122	101	113	91	132	112
25	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
25	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103

Exposure Category : D

Wind Speed [mph]		110										115									
15	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103
15	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
15	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
20	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103
20	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
20	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
25	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103
25	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
25	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
Wind Speed [mph]		120										130									
15	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
15	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
15	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
20	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
20	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
20	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
25	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
25	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
25	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		15	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : D

Wind Speed [mph]		170										180									
15	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
20	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
25	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
Wind Speed [mph]		190										200									
15	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
20	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
25	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

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x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	125	105	118	96	127	112	122	101	141	123	121	99	113	91	126	106	117	96	136	118	117	94	107	87	122	101	113	91	132	112
	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
35	1	123	105	118	96	122	112	122	101	141	123	121	99	113	91	122	106	117	96	136	118	117	94	107	87	122	101	113	91	132	112
	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
40	1	119	105	118	96	118	112	122	101	139	123	119	99	113	91	118	106	117	96	136	118	117	94	107	87	118	101	113	91	132	112
	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103

Exposure Category : D

Wind Speed [mph]		110										115																			
30	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103	91	73	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94	106	86	97	79	113	92	102	83	125	103
35	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103	91	73	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94	106	86	97	79	113	92	102	83	125	103
40	1	111	90	102	83	118	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103	91	73	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94	106	86	97	79	113	92	102	83	125	103

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : D

Wind Speed [mph]		170										180									
30	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
35	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
40	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
Wind Speed [mph]		190										200									
30	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
35	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
40	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		1	115	105	118	96	114	112	119	101	137	123	115	99	113	91	114	106	117	96	136	118	115	94	107	87	114	101	113	91	132
45	2	111	90	102	82	106	86	117	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
50	1	111	105	115	96	111	111	116	101	136	123	111	99	113	91	111	106	116	96	136	118	111	94	107	87	111	101	113	91	132	112
	2	111	90	102	82	106	86	116	96	132	115	105	85	96	78	100	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103
	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
60	1	105	105	109	96	105	105	111	101	132	123	105	99	109	91	105	105	111	96	132	118	105	94	107	87	105	101	111	91	132	112
	2	105	90	102	82	105	86	111	96	132	115	105	85	96	78	100	81	111	91	128	109	100	81	92	74	95	77	107	86	123	103
	3	93	75	87	71	96	78	105	85	132	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103

Exposure Category : D

Wind Speed [mph]		110										115									
45	1	111	90	102	83	114	96	107	87	129	107	106	86	97	79	113	92	102	83	125	103
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
50	1	111	90	102	83	111	96	107	87	129	107	106	86	97	79	111	92	102	83	125	103
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
60	1	105	90	102	83	105	96	107	87	129	107	105	86	97	79	105	92	102	83	125	103
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
Wind Speed [mph]		120										130									
45	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
50	1	102	82	93	75	108	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
60	1	102	82	93	75	105	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																				
Wind Speed [mph]		140										150										160										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
45	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75	
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67	
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67	
	50	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	60	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : D

Wind Speed [mph]		170										180									
45	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
50	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
60	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
Wind Speed [mph]		190										200									
45	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
50	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
60	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
70	1	99	99	104	96	101	101	107	101	130	123	99	99	104	91	101	101	107	96	130	118	99	94	104	87	101	101	107	91	130	112
	2	99	90	102	82	101	86	107	96	130	115	99	85	96	78	100	81	107	91	128	109	99	81	92	74	95	77	107	86	123	103
	3	93	75	87	71	96	78	105	85	130	115	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
80	1	93	93	100	96	97	97	104	101	127	123	93	93	100	91	97	97	104	96	127	118	93	93	100	87	97	97	104	91	127	112
	2	93	90	100	82	97	86	104	96	127	115	93	85	96	78	97	81	104	91	127	109	93	81	92	74	95	77	104	86	123	103
	3	93	75	87	71	96	78	104	85	127	115	88	72	83	67	91	74	100	81	127	109	84	68	79	64	87	70	95	77	123	103
90	1	88	88	97	96	93	93	100	100	124	123	88	88	97	91	93	93	100	96	124	118	88	88	97	87	93	93	100	91	124	112
	2	88	88	97	82	93	86	100	96	124	115	88	85	96	78	93	81	100	91	124	109	88	81	92	74	93	77	100	86	123	103
	3	88	75	87	71	93	78	100	85	124	115	88	72	83	67	91	74	100	81	124	109	84	68	79	64	87	70	95	77	123	103

Exposure Category : D

Wind Speed [mph]		110										115									
70	1	99	90	102	83	101	96	107	87	129	107	99	86	97	79	101	92	102	83	125	103
	2	95	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
80	1	93	90	100	83	97	96	104	87	127	107	93	86	97	79	97	92	102	83	125	103
	2	93	77	87	71	91	74	101	82	119	98	91	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
90	1	88	88	97	83	93	93	100	87	124	107	88	86	97	79	93	92	100	83	124	103
	2	88	77	87	71	91	74	100	82	119	98	88	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
Wind Speed [mph]		120										130									
70	1	99	82	93	75	101	88	98	79	120	99	93	76	86	69	100	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
80	1	93	82	93	75	97	88	98	79	120	99	93	76	86	69	97	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83
90	1	88	82	93	75	93	88	98	79	120	99	88	76	86	69	93	81	90	73	111	91
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Span, inches																				
Wind Speed [mph]		140										150										160										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
70	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75	
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67	
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67	
	80	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	90	1	86	70	79	64	92	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59	91	75
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : D

Wind Speed [mph]		170										180									
70	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
80	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
90	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60

Wind Speed [mph]		190										200									
70	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
80	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
90	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	83	83	94	94	91	91	98	98	122	122	83	83	94	91	91	91	98	96	122	118	83	83	94	87	91	91	98	91
	2	83	83	94	82	91	86	98	96	122	115	83	83	94	78	91	81	98	91	122	109	83	81	92	74	91	77	98	86	122	103
	3	83	75	87	71	91	78	98	85	122	115	83	72	83	67	91	74	98	81	122	109	83	68	79	64	87	70	95	77	122	103

Exposure Category : D

Wind Speed [mph]		110										115									
100	1	83	83	94	83	91	91	98	87	122	107	83	83	94	79	91	91	98	83	122	103
	2	83	77	87	71	91	74	98	82	119	98	83	73	83	68	87	70	97	79	116	94
	3	80	65	75	61	83	67	90	73	119	98	76	62	72	58	79	64	86	70	116	94
0	1																				
	2																				
	3																				
100	1	83	82	93	75	91	88	98	79	120	99	83	76	86	69	91	81	90	73	111	91
	2	83	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83
	3	73	59	69	56	75	61	83	67	111	90	67	55	63	51	69	56	76	62	102	83

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		70in x 41in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	83	70	79	64	91	75	83	68	104	85	80	65	74	60	86	70	78	63	97	80	75	61	69	56	80	65	73	59
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	53	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : D

Wind Speed [mph]		170										180									
100	1	71	57	65	53	75	61	68	56	86	70	67	54	61	50	71	58	65	52	81	67
	2	60	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60

Wind Speed [mph]		190										200									
100	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																										
Wind Speed [mph]		95										100										105										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																													
0	1	140	121	132	113	146	126	136	118	142	137	135	117	127	107	141	122	131	113	142	132	130	111	123	102	136	118	127	107	142	128	
	2	126	105	118	97	122	101	131	113	142	128	121	100	114	92	117	95	126	107	142	123	117	95	108	87	112	91	122	101	137	119	
	3	110	89	103	83	113	92	121	100	142	128	104	84	98	79	107	87	117	95	142	123	99	80	93	75	102	82	112	90	137	119	
	5	1	140	121	132	113	146	126	136	118	142	137	135	117	127	107	141	122	131	113	142	132	130	111	123	102	136	118	127	107	142	128
		2	126	105	118	97	122	101	131	113	142	128	121	100	114	92	117	95	126	107	142	123	117	95	108	87	112	91	122	101	137	119
		3	110	89	103	83	113	92	121	100	142	128	104	84	98	79	107	87	117	95	142	123	99	80	93	75	102	82	112	90	137	119
	10	1	140	121	132	113	146	126	136	118	142	137	135	117	127	107	141	122	131	113	142	132	130	111	123	102	136	118	127	107	142	128
		2	126	105	118	97	122	101	131	113	142	128	121	100	114	92	117	95	126	107	142	123	117	95	108	87	112	91	122	101	137	119
		3	110	89	103	83	113	92	121	100	142	128	104	84	98	79	107	87	117	95	142	123	99	80	93	75	102	82	112	90	137	119

Exposure Category : B

Wind Speed [mph]		110										115									
0	1	126	106	119	97	131	113	122	102	141	124	122	101	115	93	127	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
5	1	126	106	119	97	131	113	122	102	141	124	122	101	115	93	127	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
10	1	126	106	119	97	131	113	122	102	141	124	122	101	115	93	127	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110

Wind Speed [mph]		120										130									
0	1	118	97	110	89	123	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
5	1	118	97	110	89	123	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
10	1	118	97	110	89	123	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
0	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		
5	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		
10	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		

Exposure Category : B

Wind Speed [mph]	170											180										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
0	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	
5	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	
10	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		15	1	133	121	132	113	144	126	136	118	142	137	133	117	127	107	141	122	131	113	142	132	130	111	123	102	136	118	127	107
	2	126	105	118	97	122	101	131	113	142	128	121	100	114	92	117	95	126	107	142	123	117	95	108	87	112	91	122	101	137	119
	3	110	89	103	83	113	92	121	100	142	128	104	84	98	79	107	87	117	95	142	123	99	80	93	75	102	82	112	90	137	119
	1	127	121	132	113	135	126	136	118	142	137	127	117	127	107	135	122	131	113	142	132	127	111	123	102	135	118	127	107	142	128
	2	126	105	118	97	122	101	131	113	142	128	121	100	114	92	117	95	126	107	142	123	117	95	108	87	112	91	122	101	137	119
	3	110	89	103	83	113	92	121	100	142	128	104	84	98	79	107	87	117	95	142	123	99	80	93	75	102	82	112	90	137	119
	1	127	121	132	113	129	126	131	118	142	137	127	117	127	107	129	122	131	113	142	132	127	111	123	102	129	118	127	107	142	128
	2	126	105	118	97	122	101	131	113	142	128	121	100	114	92	117	95	126	107	142	123	117	95	108	87	112	91	122	101	137	119
	3	110	89	103	83	113	92	121	100	142	128	104	84	98	79	107	87	117	95	142	123	99	80	93	75	102	82	112	90	137	119

Exposure Category : B

Wind Speed [mph]		110										115									
15	1	126	106	119	97	131	113	122	102	141	124	122	101	115	93	127	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
20	1	126	106	119	97	131	113	122	102	141	124	122	101	115	93	127	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
25	1	126	106	119	97	129	113	122	102	141	124	122	101	115	93	127	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
Wind Speed [mph]		120										130									
15	1	118	97	110	89	123	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
20	1	118	97	110	89	123	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
25	1	118	97	110	89	123	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		
20	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		
25	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		

Exposure Category : B

Wind Speed [mph]	170											180																			
	Group	Array Interior	Array Edge																												
15	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	67	54	62	50	64	52	72	58	86	70
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	56	46	53	43	58	47	64	52	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	1	1	1	1	1	1	1	1	1	1
20	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	67	54	62	50	64	52	72	58	86	70
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	56	46	53	43	58	47	64	52	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	1	1	1	1	1	1	1	1	1	1
25	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	67	54	62	50	64	52	72	58	86	70
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	56	46	53	43	58	47	64	52	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	1	1	1	1	1	1	1	1	1	1

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	125	121	128	113	123	123	126	118	142	137	125	117	127	107	123	122	126	113	142	132	125	111	123	102	123	118	126	107
	2	125	105	118	97	122	101	126	113	142	128	121	100	114	92	117	95	126	107	142	123	117	95	108	87	112	91	122	101	137	119
	3	110	89	103	83	113	92	121	100	142	128	104	84	98	79	107	87	117	95	142	123	99	80	93	75	102	82	112	90	137	119
	1	119	119	123	113	118	118	122	118	140	137	119	117	123	107	118	118	122	113	140	132	119	111	123	102	118	118	122	107	140	128
	2	119	105	118	97	118	101	122	113	140	128	119	100	114	92	117	95	122	107	140	123	117	95	108	87	112	91	122	101	137	119
	3	110	89	103	83	113	92	121	100	140	128	104	84	98	79	107	87	117	95	140	123	99	80	93	75	102	82	112	90	137	119
	1	115	115	118	113	114	114	119	118	137	137	115	115	118	107	114	114	119	113	137	132	115	111	118	102	114	114	119	107	137	128
	2	115	105	118	97	114	101	119	113	137	128	115	100	114	92	114	95	119	107	137	123	115	95	108	87	112	91	119	101	137	119
	3	110	89	103	83	113	92	119	100	137	128	104	84	98	79	107	87	117	95	137	123	99	80	93	75	102	82	112	90	137	119

Exposure Category : B

Wind Speed [mph]		110										115									
30	1	125	106	119	97	123	113	122	102	141	124	122	101	115	93	123	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
35	1	119	106	119	97	118	113	122	102	140	124	119	101	115	93	118	108	119	97	138	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
40	1	115	106	118	97	114	113	119	102	137	124	115	101	115	93	114	108	119	97	137	119
	2	112	90	103	83	107	86	118	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
Wind Speed [mph]		120										130									
30	1	118	97	110	89	123	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
35	1	118	97	110	89	118	103	115	93	134	115	110	89	101	82	117	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
40	1	115	97	110	89	114	103	115	93	134	115	110	89	101	82	114	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79
35	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79
40	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79

Exposure Category : B

Wind Speed [mph]		170										180									
30	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70
35	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70
40	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70
Wind Speed [mph]		190										200									
30	1	74	60	68	55	79	64	72	58	90	74	70	57	64	52	75	61	68	55	85	70
	2	63	51	58	47	61	49	68	55	81	66	60	49	55	45	57	47	64	52	77	63
	3	53	43	50	41	55	45	60	49	81	66	51	41	48	39	52	43	57	47	77	63
35	1	74	60	68	55	79	64	72	58	90	74	70	57	64	52	75	61	68	55	85	70
	2	63	51	58	47	61	49	68	55	81	66	60	49	55	45	57	47	64	52	77	63
	3	53	43	50	41	55	45	60	49	81	66	51	41	48	39	52	43	57	47	77	63
40	1	74	60	68	55	79	64	72	58	90	74	70	57	64	52	75	61	68	55	85	70
	2	63	51	58	47	61	49	68	55	81	66	60	49	55	45	57	47	64	52	77	63
	3	53	43	50	41	55	45	60	49	81	66	51	41	48	39	52	43	57	47	77	63

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		1	111	111	115	113	110	110	116	116	136	136	111	111	115	107	110	110	116	113	136	132	111	111	115	102	110	110	116	107	136
45	2	111	105	115	97	110	101	116	113	136	128	111	100	114	92	110	95	116	107	136	123	111	95	108	87	110	91	116	101	136	119
	3	110	89	103	83	110	92	116	100	136	128	104	84	98	79	107	87	116	95	136	123	99	80	93	75	102	82	112	90	136	119
50	1	107	107	111	111	107	107	113	113	134	134	107	107	111	107	107	107	113	113	134	132	107	107	111	102	107	107	113	107	134	128
	2	107	105	111	97	107	101	113	113	134	128	107	100	111	92	107	95	113	107	134	123	107	95	108	87	107	91	113	101	134	119
	3	107	89	103	83	107	92	113	100	134	128	104	84	98	79	107	87	113	95	134	123	99	80	93	75	102	82	112	90	134	119
60	1	100	100	105	105	102	102	108	108	130	130	100	100	105	105	102	102	108	108	130	130	100	100	105	102	102	102	108	107	130	128
	2	100	100	105	97	102	101	108	108	130	128	100	100	105	92	102	95	108	107	130	123	100	95	105	87	102	91	108	101	130	119
	3	100	89	103	83	102	92	108	100	130	128	100	84	98	79	102	87	108	95	130	123	99	80	93	75	102	82	108	90	130	119

Exposure Category : B

Wind Speed [mph]		110										115									
45	1	111	106	115	97	110	110	116	102	136	124	111	101	115	93	110	108	116	97	136	119
	2	111	90	103	83	107	86	116	97	133	115	107	86	98	79	102	82	114	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
50	1	107	106	111	97	107	107	113	102	134	124	107	101	111	93	107	107	113	97	134	119
	2	107	90	103	83	107	86	113	97	133	115	107	86	98	79	102	82	113	92	129	110
	3	94	76	88	72	97	79	106	86	133	115	90	73	84	68	93	75	101	82	129	110
60	1	100	100	105	97	102	102	108	102	130	124	100	100	105	93	102	102	108	97	130	119
	2	100	90	103	83	102	86	108	97	130	115	100	86	98	79	102	82	108	92	129	110
	3	94	76	88	72	97	79	106	86	130	115	90	73	84	68	93	75	101	82	129	110
Wind Speed [mph]		120										130									
45	1	111	97	110	89	110	103	115	93	134	115	110	89	101	82	110	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
50	1	107	97	110	89	107	103	113	93	134	115	107	89	101	82	107	95	106	86	128	106
	2	102	83	94	76	97	79	109	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97
60	1	100	97	105	89	102	102	108	93	130	115	100	89	101	82	102	95	106	86	128	106
	2	100	83	94	76	97	79	108	88	125	106	94	76	86	70	90	73	100	81	118	97
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
45	1	102	82	93	76	108	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		
50	1	102	82	93	76	107	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		
60	1	100	82	93	76	102	88	98	80	120	99	95	77	87	70	101	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87		
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79		
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79		

Exposure Category : B

Wind Speed [mph]	170											180																			
	45	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	67	54	62	50	64	52	72	58	86
2		71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	56	46	53	43	58	47	64	52	86	70
3		60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	1	1	1	1	1	1	1	1	1	1
50	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	67	54	62	50	64	52	72	58	86	70
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	56	46	53	43	58	47	64	52	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	1	1	1	1	1	1	1	1	1	1
60	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78	67	54	62	50	64	52	72	58	86	70
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70	56	46	53	43	58	47	64	52	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70	1	1	1	1	1	1	1	1	1	1

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																				
Wind Speed [mph]		95										100										105										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
70	1	93	93	101	101	97	97	104	104	127	127	93	93	101	101	97	97	104	104	127	127	93	93	101	101	97	97	104	104	127	127	
	2	93	93	101	97	97	97	104	104	127	127	93	93	101	92	97	95	104	104	127	123	93	93	101	87	97	91	104	101	127	119	
	3	93	89	101	83	97	92	104	100	127	127	93	84	98	79	97	87	104	95	127	123	93	80	93	75	97	82	104	90	127	119	
	80	1	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124	88	88	97	97	93	93	100	100	124	124
		2	88	88	97	97	93	93	100	100	124	124	88	88	97	92	93	93	100	100	124	123	88	88	97	87	93	91	100	100	124	119
		3	88	88	97	83	93	92	100	100	124	124	88	84	97	79	93	87	100	95	124	123	88	80	93	75	93	82	100	90	124	119
	90	1	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	122
		2	83	83	93	93	90	90	97	97	122	122	83	83	93	92	90	90	97	97	122	122	83	83	93	87	90	90	97	97	122	119
		3	83	83	93	83	90	90	97	97	122	122	83	83	93	79	90	87	97	95	122	122	83	80	93	75	90	82	97	90	122	119
70	1	93	93	101	97	97	97	104	102	127	124	93	93	101	93	97	97	104	97	127	119											
	2	93	90	101	83	97	86	104	97	127	115	93	86	98	79	97	82	104	92	127	110											
	3	93	76	88	72	97	79	104	86	127	115	90	73	84	68	93	75	101	82	127	110											
	80	1	88	88	97	97	93	93	100	100	124	124	88	88	97	93	93	93	100	97	124	119										
		2	88	88	97	83	93	86	100	97	124	115	88	86	97	79	93	82	100	92	124	110										
		3	88	76	88	72	93	79	100	86	124	115	88	73	84	68	93	75	100	82	124	110										
	90	1	83	83	93	93	90	90	97	97	122	122	83	83	93	93	90	90	97	97	122	119										
		2	83	83	93	83	90	86	97	97	122	115	83	83	93	79	90	82	97	92	122	110										
		3	83	76	88	72	90	79	97	86	122	115	83	73	84	68	90	75	97	82	122	110										
70	1	93	93	101	89	97	97	104	93	127	115	93	89	101	82	97	95	104	86	127	106											
	2	93	83	94	76	97	79	104	88	125	106	93	76	86	70	90	73	100	81	118	97											
	3	86	70	81	65	89	72	97	79	125	106	79	64	74	60	82	66	89	72	118	97											
	80	1	88	88	97	89	93	93	100	93	124	115	88	88	97	82	93	93	100	86	124	106										
		2	88	83	94	76	93	79	100	88	124	106	88	76	86	70	90	73	100	81	118	97										
		3	86	70	81	65	89	72	97	79	124	106	79	64	74	60	82	66	89	72	118	97										
	90	1	83	83	93	89	90	90	97	93	122	115	83	83	93	82	90	90	97	86	122	106										
		2	83	83	93	76	90	79	97	88	122	106	83	76	86	70	90	73	97	81	118	97										
		3	83	70	81	65	89	72	97	79	122	106	79	64	74	60	82	66	89	72	118	97										

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
70	1	93	82	93	76	97	88	98	80	120	99	93	77	87	70	97	82	91	74	112	93	88	72	81	66	94	76	85	69	106	87
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79
80	1	88	82	93	76	93	88	98	80	120	99	88	77	87	70	93	82	91	74	112	93	88	72	81	66	93	76	85	69	106	87
	2	87	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79
90	1	83	82	93	76	90	88	97	80	120	99	83	77	87	70	90	82	91	74	112	93	83	72	81	66	90	76	85	69	106	87
	2	83	70	80	65	83	67	93	75	111	90	81	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79

Exposure Category : B

Wind Speed [mph]		170										180																				
70	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78											
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70											
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70											
80	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78											
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70											
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70											
90	1	83	67	76	62	88	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78											
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70											
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70											

Wind Speed [mph]		190										200																				
70	1	74	60	68	55	79	64	72	58	90	74	70	57	64	52	75	61	68	55	85	70											
	2	63	51	58	47	61	49	68	55	81	66	60	49	55	45	57	47	64	52	77	63											
	3	53	43	50	41	55	45	60	49	81	66	51	41	48	39	52	43	57	47	77	63											
80	1	74	60	68	55	79	64	72	58	90	74	70	57	64	52	75	61	68	55	85	70											
	2	63	51	58	47	61	49	68	55	81	66	60	49	55	45	57	47	64	52	77	63											
	3	53	43	50	41	55	45	60	49	81	66	51	41	48	39	52	43	57	47	77	63											
90	1	74	60	68	55	79	64	72	58	90	74	70	57	64	52	75	61	68	55	85	70											
	2	63	51	58	47	61	49	68	55	81	66	60	49	55	45	57	47	64	52	77	63											
	3	53	43	50	41	55	45	60	49	81	66	51	41	48	39	52	43	57	47	77	63											

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94
	2	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119	79	79	90	87	87	87	94	94	119	119
	3	79	79	90	83	87	87	94	94	119	119	79	79	90	79	87	87	94	94	119	119	79	79	90	75	87	82	94	90	119	119

Exposure Category : B

Wind Speed [mph]		110										115									
100	1	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	119
	2	79	79	90	83	87	86	94	94	119	115	79	79	90	79	87	82	94	92	119	110
	3	79	76	88	72	87	79	94	86	119	115	79	73	84	68	87	75	94	82	119	110

Wind Speed [mph]		120										130									
100	1	79	79	90	89	87	87	94	93	119	115	79	79	90	82	87	87	94	86	119	106
	2	79	79	90	76	87	79	94	88	119	106	79	76	86	70	87	73	94	81	118	97
	3	79	70	81	65	87	72	94	79	119	106	79	64	74	60	82	66	89	72	118	97

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	79	79	90	76	87	87	94	80	119	99	79	77	87	70	87	82	91	74	112	93	79	72	81	66	87	76	85	69
	2	79	70	80	65	83	67	93	75	111	90	79	66	74	60	77	63	86	70	103	84	76	61	70	56	72	59	81	66	97	79
	3	73	59	69	56	76	61	83	67	111	90	68	55	64	52	70	57	77	63	103	84	64	52	60	49	66	53	72	59	97	79

Exposure Category : B

Wind Speed [mph]		170										180									
100	1	79	67	76	62	87	72	80	65	100	82	78	63	72	58	83	68	76	61	94	78
	2	71	58	65	53	68	55	76	62	91	74	67	54	62	50	64	52	72	58	86	70
	3	60	49	56	46	62	50	68	55	91	74	56	46	53	43	58	47	64	52	86	70

Wind Speed [mph]		190										200									
100	1	74	60	68	55	79	64	72	58	90	74	70	57	64	52	75	61	68	55	85	70
	2	63	51	58	47	61	49	68	55	81	66	60	49	55	45	57	47	64	52	77	63
	3	53	43	50	41	55	45	60	49	81	66	51	41	48	39	52	43	57	47	77	63

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	126	106	119	97	131	113	122	102	141	124	121	100	114	92	127	107	118	97	137	118	117	95	108	87	122	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
5	1	126	106	119	97	131	113	122	102	141	124	121	100	114	92	127	107	118	97	137	118	117	95	108	87	122	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
10	1	126	106	119	97	131	113	122	102	141	124	121	100	114	92	127	107	118	97	137	118	117	95	108	87	122	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					

Exposure Category : C

Wind Speed [mph]	110												115											
	Group	Array Interior	Array Edge																					
0	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
5	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
10	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

		Enclosed Hip/Gable Roof					30-60ft					70in x 41in					Span, inches															
Wind Speed [mph]		140										150										160										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
0	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75	
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68	
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68	
	5	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68	
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68	
	10	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68	
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68	
Wind Speed [mph]		170										180																				
0	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67											
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60											
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60											
	5	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67										
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60											
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60											
	10	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67										
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60											
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60											
Wind Speed [mph]		190										200																				
0	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60											
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54											
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54											
	5	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60										
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54											
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54											
	10	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60										
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54											
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54											

Exposure Category : C

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	126	106	119	97	131	113	122	102	141	124	121	100	114	92	127	107	118	97	137	118	117	95	108	87	122	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
20	1	126	106	119	97	131	113	122	102	141	124	121	100	114	92	127	107	118	97	137	118	117	95	108	87	122	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
25	1	126	106	119	97	129	113	122	102	141	124	121	100	114	92	127	107	118	97	137	118	117	95	108	87	122	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					

Exposure Category : C

Wind Speed [mph]	110												115											
	15	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104		
2		96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
3		81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
20	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
25	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			

Wind Speed [mph]	120												130											
	15	1	103	83	94	76	109	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92		
2		88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
3		74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
20	1	103	83	94	76	109	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92			
	2	88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
25	1	103	83	94	76	109	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92			
	2	88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		15	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68

Exposure Category : C

Wind Speed [mph]		170										180									
15	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
20	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
25	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
Wind Speed [mph]		190										200									
15	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
20	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
25	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	125	106	119	97	123	113	122	102	141	124	121	100	114	92	123	107	118	97	137	118	117	95	108	87	122	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
35	1	119	106	119	97	118	113	122	102	140	124	119	100	114	92	118	107	118	97	137	118	117	95	108	87	118	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
40	1	115	106	118	97	114	113	119	102	137	124	115	100	114	92	114	107	118	97	137	118	115	95	108	87	114	102	114	92	133	113					
	2	112	90	103	83	107	86	118	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					

Exposure Category : C

Wind Speed [mph]	110												115											
	30	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104		
2		96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
3		81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
35	1	112	91	103	83	118	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
40	1	112	91	103	83	114	97	108	88	129	108	107	87	98	80	114	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			

Wind Speed [mph]	120												130											
	30	1	103	83	94	76	109	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92		
2		88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
3		74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
35	1	103	83	94	76	109	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92			
	2	88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
40	1	103	83	94	76	109	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92			
	2	88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
35	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
40	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68

Exposure Category : C

Wind Speed [mph]		170										180									
30	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
35	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
40	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60

Wind Speed [mph]		190										200									
30	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
35	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
40	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	111	106	115	97	110	110	116	102	136	124	111	100	114	92	110	107	116	97	136	118	111	95	108	87	110	102	114	92	133	113					
	2	111	90	103	83	107	86	116	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
50	1	107	106	111	97	107	107	113	102	134	124	107	100	111	92	107	107	113	97	134	118	107	95	108	87	107	102	113	92	133	113					
	2	107	90	103	83	107	86	113	97	133	115	106	86	97	79	101	82	113	92	128	110	101	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	133	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					
60	1	100	100	105	97	102	102	108	102	130	124	100	100	105	92	102	102	108	97	130	118	100	95	105	87	102	102	108	92	130	113					
	2	100	90	103	83	102	86	108	97	130	115	100	86	97	79	101	82	108	92	128	110	100	81	92	75	96	78	107	87	124	104					
	3	94	76	88	72	97	79	106	86	130	115	89	72	84	68	92	75	101	82	128	110	85	69	80	65	87	71	96	78	124	104					

Exposure Category : C

Wind Speed [mph]	110												115											
	45	1	111	91	103	83	110	97	108	88	129	108	107	87	98	80	110	92	103	84	126	104		
2		96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
3		81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
50	1	107	91	103	83	107	97	108	88	129	108	107	87	98	80	107	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
60	1	100	91	103	83	102	97	108	88	129	108	100	87	98	80	102	92	103	84	126	104			
	2	96	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			

Wind Speed [mph]	120												130											
	45	1	103	83	94	76	109	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92		
2		88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
3		74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
50	1	103	83	94	76	107	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92			
	2	88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
60	1	100	83	94	76	102	88	99	80	121	100	94	76	86	70	100	81	91	74	112	92			
	2	88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		45	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68

Exposure Category : C

Wind Speed [mph]		170										180									
45	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
50	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
60	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
Wind Speed [mph]		190										200									
45	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
50	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
60	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
70	1	93	93	101	97	97	97	104	102	127	124	93	93	101	92	97	97	104	97	127	118	93	93	101	87	97	97	104	92	127	113					
	2	93	90	101	83	97	86	104	97	127	115	93	86	97	79	97	82	104	92	127	110	93	81	92	75	96	78	104	87	124	104					
	3	93	76	88	72	97	79	104	86	127	115	89	72	84	68	92	75	101	82	127	110	85	69	80	65	87	71	96	78	124	104					
80	1	88	88	97	97	93	93	100	100	124	124	88	88	97	92	93	93	100	97	124	118	88	88	97	87	93	93	100	92	124	113					
	2	88	88	97	83	93	86	100	97	124	115	88	86	97	79	93	82	100	92	124	110	88	81	92	75	93	78	100	87	124	104					
	3	88	76	88	72	93	79	100	86	124	115	88	72	84	68	92	75	100	82	124	110	85	69	80	65	87	71	96	78	124	104					
90	1	83	83	93	93	90	90	97	97	122	122	83	83	93	92	90	90	97	97	122	118	83	83	93	87	90	90	97	92	122	113					
	2	83	83	93	83	90	86	97	97	122	115	83	83	93	79	90	82	97	92	122	110	83	81	92	75	90	78	97	87	122	104					
	3	83	76	88	72	90	79	97	86	122	115	83	72	84	68	90	75	97	82	122	110	83	69	80	65	87	71	96	78	122	104					

Exposure Category : C

Wind Speed [mph]	110												115											
	70	1	93	91	101	83	97	97	104	88	127	108	93	87	98	80	97	92	103	84	126	104		
2		93	78	88	71	92	74	102	83	120	99	91	74	84	68	87	71	98	79	116	95			
3		81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
80	1	88	88	97	83	93	93	100	88	124	108	88	87	97	80	93	92	100	84	124	104			
	2	88	78	88	71	92	74	100	83	120	99	88	74	84	68	87	71	98	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			
90	1	83	83	93	83	90	90	97	88	122	108	83	83	93	80	90	90	97	84	122	104			
	2	83	78	88	71	90	74	97	83	120	99	83	74	84	68	87	71	97	79	116	95			
	3	81	65	76	62	83	68	91	74	120	99	77	63	72	59	80	65	87	71	116	95			

Wind Speed [mph]	120												130											
	70	1	93	83	94	76	97	88	99	80	121	100	93	76	86	70	97	81	91	74	112	92		
2		88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
3		74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
80	1	88	83	94	76	93	88	99	80	121	100	88	76	86	70	93	81	91	74	112	92			
	2	88	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			
90	1	83	83	93	76	90	88	97	80	121	100	83	76	86	70	90	81	91	74	112	92			
	2	83	71	80	65	84	68	94	76	112	91	81	65	74	60	77	62	86	70	103	84			
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
70	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
80	1	87	71	80	65	93	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68
90	1	83	71	80	65	90	75	84	68	104	86	81	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68

Exposure Category : C

Wind Speed [mph]		170										180									
70	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
80	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60
90	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60

Wind Speed [mph]		190										200									
70	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
80	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54
90	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	79	79	90	90	87	87	94	94	119	119	79	79	90	90	87	87	94	94	119	118	79	79	90	87	87	87	94	92
	2	79	79	90	83	87	86	94	94	119	115	79	79	90	79	87	82	94	92	119	110	79	79	90	75	87	78	94	87	119	104
	3	79	76	88	72	87	79	94	86	119	115	79	72	84	68	87	75	94	82	119	110	79	69	80	65	87	71	94	78	119	104

Exposure Category : C

Wind Speed [mph]		110										115									
100	1	79	79	90	83	87	87	94	88	119	108	79	79	90	80	87	87	94	84	119	104
	2	79	78	88	71	87	74	94	83	119	99	79	74	84	68	87	71	94	79	116	95
	3	79	65	76	62	83	68	91	74	119	99	77	63	72	59	80	65	87	71	116	95

Wind Speed [mph]		120										130									
100	1	79	79	90	76	87	87	94	80	119	100	79	76	86	70	87	81	91	74	112	92
	2	79	71	80	65	84	68	94	76	112	91	79	65	74	60	77	62	86	70	103	84
	3	74	60	69	56	76	62	83	68	112	91	68	55	64	52	70	57	77	62	103	84

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																														
Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		100	1	79	71	80	65	87	75	84	68	104	86	79	66	75	61	86	70	78	64	98	80	76	62	70	57	81	66	73	60	92	75			
	2	75	61	69	56	71	58	80	65	95	78	69	56	64	52	66	54	74	60	89	72	65	53	60	49	62	51	70	57	83	68					
	3	63	51	59	48	65	53	71	58	95	78	59	48	55	45	61	49	66	54	89	72	55	45	52	42	57	46	62	50	83	68					

Exposure Category : C

Wind Speed [mph]	170												180																		
	100	1	71	58	66	53	76	62	69	56	87	71	67	55	62	50	72	58	65	53	82	67									
	2	61	50	56	46	58	47	65	53	78	64	58	47	53	43	55	45	62	50	74	60										
	3	52	42	49	39	53	43	58	47	78	64	49	40	46	37	50	41	55	45	74	60										

Wind Speed [mph]	190												200																		
	100	1	64	52	58	48	68	55	62	50	78	64	60	49	55	45	64	52	58	48	74	60									
	2	54	44	50	41	52	42	58	47	70	57	52	42	48	39	49	40	55	45	66	54										
	3	46	37	43	35	48	39	52	42	70	57	44	35	41	33	45	37	49	40	66	54										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	120	98	112	90	125	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
5	1	120	98	112	90	125	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
10	1	120	98	112	90	125	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97

Exposure Category : D

Wind Speed [mph]		110										115									
0	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
5	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
10	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
Wind Speed [mph]		120										130									
0	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
5	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
10	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					
5	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					
10	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					

Exposure Category : D

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63										
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56										
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56										
5	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63										
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56										
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56										
10	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63										
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56										
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
15	1	120	98	112	90	125	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
20	1	120	98	112	90	125	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
25	1	120	98	112	90	125	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97

Exposure Category : D

Wind Speed [mph]		110										115									
15	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
20	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
25	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
Wind Speed [mph]		120										130									
15	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
20	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
25	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70		
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63		
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63		
20	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70		
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63		
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63		
25	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70		
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63		
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63		

Exposure Category : D

Wind Speed [mph]	170											180										
	15	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63
2		57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56	
3		48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56	
20	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63	
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56	
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56	
25	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63	
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56	
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56	

Wind Speed [mph]	190											200										
	15	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56
2		51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50	
3		43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50	
20	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56	
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50	
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50	
25	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56	
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50	
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	120	98	112	90	125	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
35	1	120	98	112	90	122	105	117	95	136	116	116	93	106	86	120	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
40	1	119	98	112	90	118	105	117	95	136	116	116	93	106	86	118	99	111	90	131	111	110	89	101	81	116	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97

Exposure Category : D

Wind Speed [mph]		110										115									
30	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
35	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
40	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
Wind Speed [mph]		120										130									
30	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
35	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
40	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					
35	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					
40	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					

Exposure Category : D

Wind Speed [mph]	170												180											
	30	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63		
2		57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56			
3		48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56			
35	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63			
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56			
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56			
40	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63			
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56			
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56			

Wind Speed [mph]	190												200											
	30	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56		
2		51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50			
3		43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50			
35	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56			
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50			
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50			
40	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56			
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50			
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		1	115	98	112	90	114	105	117	95	136	116	115	93	106	86	114	99	111	90	131	111	110	89	101	81	114	94	106	86	127
45	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
50	1	111	98	112	90	111	105	116	95	136	116	111	93	106	86	111	99	111	90	131	111	110	89	101	81	111	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
60	1	105	98	109	90	105	105	111	95	132	116	105	93	106	86	105	99	111	90	131	111	105	89	101	81	105	94	106	86	127	106
	2	104	84	95	77	99	80	111	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97

Exposure Category : D

Wind Speed [mph]		110										115									
45	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
50	1	104	84	96	78	111	90	101	82	123	101	100	81	91	74	106	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
60	1	104	84	96	78	105	90	101	82	123	101	100	81	91	74	105	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
Wind Speed [mph]		120										130									
45	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
50	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
60	1	95	77	87	71	102	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
45	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70		
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63		
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63		
50	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70		
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63		
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63		
60	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70		
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63		
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63		

Exposure Category : D

Wind Speed [mph]	170											180																			
	45	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63									
2		57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56										
3		48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56										
50	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63										
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56										
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56										
60	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63										
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56										
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	99	98	104	90	101	101	107	95	130	116	99	93	104	86	101	99	107	90	130	111	99	89	101	81	101	94	106	86	127	106
	2	99	84	95	77	99	80	107	90	127	108	98	80	90	73	94	76	105	85	122	102	94	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
80	1	93	93	100	90	97	97	104	95	127	116	93	93	100	86	97	97	104	90	127	111	93	89	100	81	97	94	104	86	127	106
	2	93	84	95	77	97	80	104	90	127	108	93	80	90	73	94	76	104	85	122	102	93	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	127	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97
90	1	88	88	97	90	93	93	100	95	124	116	88	88	97	86	93	93	100	90	124	111	88	88	97	81	93	93	100	86	124	106
	2	88	84	95	77	93	80	100	90	124	108	88	80	90	73	93	76	100	85	122	102	88	76	86	70	89	72	100	81	118	97
	3	87	71	82	67	90	73	99	80	124	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97

Exposure Category : D

Wind Speed [mph]		110										115									
70	1	99	84	96	78	101	90	101	82	123	101	99	81	91	74	101	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
80	1	93	84	96	78	97	90	101	82	123	101	93	81	91	74	97	86	96	78	118	97
	2	89	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
90	1	88	84	96	78	93	90	100	82	123	101	88	81	91	74	93	86	96	78	118	97
	2	88	72	82	66	85	69	95	77	114	92	85	69	78	63	81	66	91	74	109	88
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88
Wind Speed [mph]		120										130									
70	1	95	77	87	71	101	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
80	1	93	77	87	71	97	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78
90	1	88	77	87	71	93	82	92	75	113	93	88	71	80	65	93	76	85	69	105	86
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
	Group	Array Interior	Array Edge																																	
70	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					
80	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					
90	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56	86	70					
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63					
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63					
Wind Speed [mph]	170												180																							
70	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63															
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56															
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56															
80	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63															
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56															
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56															
90	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63															
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56															
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56															
Wind Speed [mph]	190												200																							
70	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56															
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50															
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50															
80	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56															
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50															
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50															
90	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56															
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50															
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50															

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Notation (ASCE 7-22)  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
100	1	83	83	94	90	91	91	98	95	122	116	83	83	94	86	91	91	98	90	122	111	83	83	94	81	91	91	98	86	122	106
	2	83	83	94	77	91	80	98	90	122	108	83	80	90	73	91	76	98	85	122	102	83	76	86	70	89	72	98	81	118	97
	3	83	71	82	67	90	73	98	80	122	108	83	67	78	63	86	69	94	76	122	102	79	64	74	60	81	66	89	72	118	97

Exposure Category : D

Wind Speed [mph]		110										115																		
100	1	83	83	94	78	91	90	98	82	122	101	83	81	91	74	91	86	96	78	118	97									
	2	83	72	82	66	85	69	95	77	114	92	83	69	78	63	81	66	91	74	109	88									
	3	75	61	71	57	77	63	85	69	114	92	72	58	67	55	74	60	81	66	109	88									
0	1																													
	2																													
	3																													
0	1																													
	2																													
	3																													
Wind Speed [mph]		120										130																		
100	1	83	77	87	71	91	82	92	75	113	93	83	71	80	65	91	76	85	69	105	86									
	2	81	66	75	61	78	63	87	71	104	85	75	61	69	56	72	58	80	65	96	78									
	3	69	56	65	52	71	58	78	63	104	85	63	51	59	48	65	53	71	58	96	78									

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		70in x 41in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	81	66	75	61	86	70	78	64	98	80	76	61	69	56	80	65	73	59	91	75	71	57	65	53	75	61	68	56
	2	69	56	64	52	66	54	74	60	89	72	65	53	59	48	62	50	69	56	83	67	60	49	56	45	58	47	65	53	78	63
	3	59	48	55	45	60	49	66	54	89	72	55	44	51	42	56	46	62	50	83	67	51	42	48	39	53	43	58	47	78	63

Exposure Category : D

Wind Speed [mph]		170										180									
100	1	66	54	61	50	71	57	64	52	81	66	63	51	58	47	67	54	61	49	76	63
	2	57	46	52	43	54	44	61	50	73	59	54	44	49	40	51	42	57	47	69	56
	3	48	39	45	37	50	40	54	44	73	59	45	37	43	35	47	38	51	42	69	56

Wind Speed [mph]		190										200									
100	1	59	48	54	44	63	51	57	47	73	59	56	46	52	42	60	49	54	44	69	56
	2	51	41	47	38	49	40	54	44	65	53	48	39	44	36	46	37	52	42	62	50
	3	43	35	40	33	44	36	49	39	65	53	41	33	38	31	42	34	46	37	62	50

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft	74in x 41.2in	Span, inches																											
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
0	1	147	127	139	120	146	133	140	124	140	140	143	123	134	116	146	128	138	119	140	138	137	119	129	110	143	124	133	115	140	134
	2	132	114	125	104	128	108	138	119	140	134	127	108	120	99	123	103	133	115	140	130	123	102	116	94	119	98	128	109	140	125
	3	117	95	111	90	120	98	127	108	140	134	112	90	105	85	116	93	123	102	140	130	106	86	100	81	110	89	118	97	140	125
5	1	146	127	139	120	146	133	140	124	140	140	143	123	134	116	146	128	138	119	140	138	137	119	129	110	143	124	133	115	140	134
	2	132	114	125	104	128	108	138	119	140	134	127	108	120	99	123	103	133	115	140	130	123	102	116	94	119	98	128	109	140	125
	3	117	95	111	90	120	98	127	108	140	134	112	90	105	85	116	93	123	102	140	130	106	86	100	81	110	89	118	97	140	125
10	1	137	127	139	120	146	133	140	124	140	140	137	123	134	116	146	128	138	119	140	138	137	119	129	110	143	124	133	115	140	134
	2	132	114	125	104	128	108	138	119	140	134	127	108	120	99	123	103	133	115	140	130	123	102	116	94	119	98	128	109	140	125
	3	117	95	111	90	120	98	127	108	140	134	112	90	105	85	116	93	123	102	140	130	106	86	100	81	110	89	118	97	140	125

**Exposure Category : B**

Wind Speed [mph]		110										115									
0	1	133	114	125	105	139	120	129	110	140	130	129	109	121	100	134	116	125	105	140	127
	2	119	97	111	89	115	93	124	104	140	121	115	93	106	85	110	89	120	99	136	118
	3	101	82	95	77	104	85	114	93	140	121	97	78	91	73	100	81	109	88	136	118
5	1	133	114	125	105	139	120	129	110	140	130	129	109	121	100	134	116	125	105	140	127
	2	119	97	111	89	115	93	124	104	140	121	115	93	106	85	110	89	120	99	136	118
	3	101	82	95	77	104	85	114	93	140	121	97	78	91	73	100	81	109	88	136	118
10	1	133	114	125	105	139	120	129	110	140	130	129	109	121	100	134	116	125	105	140	127
	2	119	97	111	89	115	93	124	104	140	121	115	93	106	85	110	89	120	99	136	118
	3	101	82	95	77	104	85	114	93	140	121	97	78	91	73	100	81	109	88	136	118
Wind Speed [mph]		120										130									
0	1	125	104	117	95	130	111	121	100	140	122	118	96	109	88	123	102	114	92	133	113
	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105
	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105
5	1	125	104	117	95	130	111	121	100	140	122	118	96	109	88	123	102	114	92	133	113
	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105
	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105
10	1	125	104	117	95	130	111	121	100	140	122	118	96	109	88	123	102	114	92	133	113
	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105
	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

<b>x ≥ 72"</b>	<b>64" to 71"</b>	<b>48" to 63"</b>	<b>x ≤ 47"</b>
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
5	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
10	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84

Exposure Category : B

Wind Speed [mph]		170										180																							
0	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83														
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75														
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75														
5	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83														
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75														
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75														
10	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83														
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75														
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75														

		ASCE Group Zone	
Panal Angle		Gable	Hip
0 - 7	1 = 1' / 1		NA
	2 = 2		NA
	3 = 3		NA
7 - 20	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3
20 - 27	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3
27 - 45	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3
45 - 90	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			0-30ft			74in x 41.2in			Span, inches																						
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
		15	1	130	127	139	120	141	133	139	124	140	140	130	123	134	116	141	128	138	119	140	138	130	119	129	110	141	124	133	115
15	2	130	114	125	104	128	108	138	119	140	134	127	108	120	99	123	103	133	115	140	130	123	102	116	94	119	98	128	109	140	125
15	3	117	95	111	90	120	98	127	108	140	134	112	90	105	85	116	93	123	102	140	130	106	86	100	81	110	89	118	97	140	125
20	1	124	124	137	120	133	133	133	124	140	140	124	123	134	116	133	128	133	119	140	138	124	119	129	110	133	124	133	115	140	134
20	2	124	114	125	104	128	108	133	119	140	134	124	108	120	99	123	103	133	115	140	130	123	102	116	94	119	98	128	109	140	125
20	3	117	95	111	90	120	98	127	108	140	134	112	90	105	85	116	93	123	102	140	130	106	86	100	81	110	89	118	97	140	125
25	1	124	124	132	120	126	126	128	124	140	140	124	123	132	116	126	126	128	119	140	138	124	119	129	110	126	124	128	115	140	134
25	2	124	114	125	104	126	108	128	119	140	134	124	108	120	99	123	103	128	115	140	130	123	102	116	94	119	98	128	109	140	125
25	3	117	95	111	90	120	98	127	108	140	134	112	90	105	85	116	93	123	102	140	130	106	86	100	81	110	89	118	97	140	125

Exposure Category : B

Wind Speed [mph]		110										115									
15	1	130	114	125	105	139	120	129	110	140	130	129	109	121	100	134	116	125	105	140	127
15	2	119	97	111	89	115	93	124	104	140	121	115	93	106	85	110	89	120	99	136	118
15	3	101	82	95	77	104	85	114	93	140	121	97	78	91	73	100	81	109	88	136	118
20	1	124	114	125	105	133	120	129	110	140	130	124	109	121	100	133	116	125	105	140	127
20	2	119	97	111	89	115	93	124	104	140	121	115	93	106	85	110	89	120	99	136	118
20	3	101	82	95	77	104	85	114	93	140	121	97	78	91	73	100	81	109	88	136	118
25	1	124	114	125	105	126	120	128	110	140	130	124	109	121	100	126	116	125	105	140	127
25	2	119	97	111	89	115	93	124	104	140	121	115	93	106	85	110	89	120	99	136	118
25	3	101	82	95	77	104	85	114	93	140	121	97	78	91	73	100	81	109	88	136	118
Wind Speed [mph]		120										130									
15	1	125	104	117	95	130	111	121	100	140	122	118	96	109	88	123	102	114	92	133	113
15	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105
15	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105
20	1	124	104	117	95	130	111	121	100	140	122	118	96	109	88	123	102	114	92	133	113
20	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105
20	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105
25	1	124	104	117	95	126	111	121	100	140	122	118	96	109	88	123	102	114	92	133	113
25	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105
25	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$    **64'' to 71''**   **48'' to 63''**    $x \leq 47''$

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
15	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
20	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
25	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84

Exposure Category : B

Wind Speed [mph]		170										180																			
15	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	89	72	82	66	95	77	86	70	106	88
20	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	89	72	82	66	95	77	86	70	106	88
25	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	89	72	82	66	95	77	86	70	106	88

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100								105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90
Ground Snow	Group	Array Interior	Array Edge																												
30	1	121	121	126	120	121	121	124	124	139	139	121	121	126	116	121	121	124	119	139	138	121	119	126	110	121	121	124	115	139	134
30	2	121	114	125	104	121	108	124	119	139	134	121	108	120	99	121	103	124	115	139	130	121	102	116	94	119	98	124	109	139	125
30	3	117	95	111	90	120	98	124	108	139	134	112	90	105	85	116	93	123	102	139	130	106	86	100	81	110	89	118	97	139	125
35	1	116	116	121	120	116	116	120	120	137	137	116	116	121	116	116	116	120	119	137	137	116	116	121	110	116	116	120	115	137	134
35	2	116	114	121	104	116	108	120	119	137	134	116	108	120	99	116	103	120	115	137	130	116	102	116	94	116	98	120	109	137	125
35	3	116	95	111	90	116	98	120	108	137	134	112	90	105	85	116	93	120	102	137	130	106	86	100	81	110	89	118	97	137	125
40	1	112	112	116	116	112	112	117	117	135	135	112	112	116	116	112	112	117	117	135	135	112	112	116	110	112	112	117	115	135	134
40	2	112	112	116	104	112	108	117	117	135	134	112	108	116	99	112	103	117	115	135	130	112	102	116	94	112	98	117	109	135	125
40	3	112	95	111	90	112	98	117	108	135	134	112	90	105	85	112	93	117	102	135	130	106	86	100	81	110	89	117	97	135	125
110	1	121	114	125	105	121	120	124	110	139	130	121	109	121	100	121	116	124	105	139	127	121	109	121	100	121	116	124	105	139	127
110	2	119	97	111	89	115	93	124	104	139	121	115	93	106	85	110	89	120	99	136	118	115	93	106	85	110	89	120	99	136	118
110	3	101	82	95	77	104	85	114	93	139	121	97	78	91	73	100	81	109	88	136	118	97	78	91	73	100	81	109	88	136	118
115	1	116	114	121	105	116	116	120	110	137	130	116	109	121	100	116	116	120	105	137	127	116	109	121	100	116	116	120	105	137	127
115	2	116	97	111	89	115	93	120	104	137	121	115	93	106	85	110	89	120	99	136	118	115	93	106	85	110	89	120	99	136	118
115	3	101	82	95	77	104	85	114	93	137	121	97	78	91	73	100	81	109	88	136	118	97	78	91	73	100	81	109	88	136	118
120	1	121	104	117	95	121	111	121	100	139	122	118	96	109	88	121	102	114	92	133	113	118	96	109	88	121	102	114	92	133	113
120	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105	101	82	93	75	96	78	108	87	124	105
120	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105	85	69	80	65	88	71	96	78	124	105
130	1	116	104	117	95	116	111	120	100	137	122	116	96	109	88	116	102	114	92	133	113	116	96	109	88	116	102	114	92	133	113
130	2	110	89	101	82	105	85	117	95	131	114	101	82	93	75	96	78	108	87	124	105	101	82	93	75	96	78	108	87	124	105
130	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105	85	69	80	65	88	71	96	78	124	105

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
30	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93		
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84		
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84		
35	1	110	89	100	81	116	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93		
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84		
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84		
40	1	110	89	100	81	112	94	106	85	127	106	102	82	93	76	109	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93		
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84		
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84		

Exposure Category : B

Wind Speed [mph]	170											180																			
	30	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92
2		76	62	70	57	73	59	82	66	98	79	61	49	57	46	63	51	69	56	92	75	61	49	57	46	63	51	69	56	92	75
3		64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	61	49	57	46	63	51	69	56	92	75
35	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	61	49	57	46	63	51	69	56	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	61	49	57	46	63	51	69	56	92	75
40	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	61	49	57	46	63	51	69	56	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	61	49	57	46	63	51	69	56	92	75
Wind Speed [mph]	190											200																			
	30	1	80	65	73	59	85	69	77	62	96	79	75	61	69	56	80	65	73	59	91	75	65	52	59	48	62	50	69	56	83
2		68	55	63	51	65	53	73	59	87	71	54	44	51	42	56	46	62	50	83	67	54	44	51	42	56	46	62	50	83	67
3		57	47	54	44	59	48	65	53	87	71	54	44	51	42	56	46	62	50	83	67	54	44	51	42	56	46	62	50	83	67
35	1	80	65	73	59	85	69	77	62	96	79	75	61	69	56	80	65	73	59	91	75	65	52	59	48	62	50	69	56	83	67
	2	68	55	63	51	65	53	73	59	87	71	54	44	51	42	56	46	62	50	83	67	54	44	51	42	56	46	62	50	83	67
	3	57	47	54	44	59	48	65	53	87	71	54	44	51	42	56	46	62	50	83	67	54	44	51	42	56	46	62	50	83	67
40	1	80	65	73	59	85	69	77	62	96	79	75	61	69	56	80	65	73	59	91	75	65	52	59	48	62	50	69	56	83	67
	2	68	55	63	51	65	53	73	59	87	71	54	44	51	42	56	46	62	50	83	67	54	44	51	42	56	46	62	50	83	67
	3	57	47	54	44	59	48	65	53	87	71	54	44	51	42	56	46	62	50	83	67	54	44	51	42	56	46	62	50	83	67

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	108	108	112	112	108	108	114	114	133	133	108	108	112	112	108	108	114	114	133	133	108	108	112	110	108	108	114	114	133	133					
	2	108	108	112	104	108	108	114	114	133	133	108	108	112	99	108	103	114	114	133	130	108	102	112	94	108	98	114	109	133	125					
	3	108	95	111	90	108	98	114	108	133	133	108	90	105	85	108	93	114	102	133	130	106	86	100	81	108	89	114	97	133	125					
50	1	104	104	109	109	105	105	111	111	131	131	104	104	109	109	105	105	111	111	131	131	104	104	109	109	105	105	111	111	131	131					
	2	104	104	109	104	105	105	111	111	131	131	104	104	109	99	105	103	111	111	131	130	104	102	109	94	105	98	111	109	131	125					
	3	104	95	109	90	105	98	111	108	131	131	104	90	105	85	105	93	111	102	131	130	104	86	100	81	105	89	111	97	131	125					
60	1	97	97	103	103	100	100	106	106	128	128	97	97	103	103	100	100	106	106	128	128	97	97	103	103	100	100	106	106	128	128					
	2	97	97	103	103	100	100	106	106	128	128	97	97	103	99	100	100	106	106	128	128	97	97	103	94	100	98	106	106	128	125					
	3	97	95	103	90	100	98	106	106	128	128	97	90	103	85	100	93	106	102	128	128	97	86	100	81	100	89	106	97	128	125					

Exposure Category : B

Wind Speed [mph]	110												115											
45	1	108	108	112	105	108	108	114	110	133	130	108	108	112	100	108	108	114	105	133	127			
	2	108	97	111	89	108	93	114	104	133	121	108	93	106	85	108	89	114	99	133	118			
	3	101	82	95	77	104	85	114	93	133	121	97	78	91	73	100	81	109	88	133	118			
50	1	104	104	109	105	105	105	111	110	131	130	104	104	109	100	105	105	111	105	131	127			
	2	104	97	109	89	105	93	111	104	131	121	104	93	106	85	105	89	111	99	131	118			
	3	101	82	95	77	104	85	111	93	131	121	97	78	91	73	100	81	109	88	131	118			
60	1	97	97	103	103	100	100	106	106	128	128	97	97	103	100	100	106	105	128	127				
	2	97	97	103	89	100	93	106	104	128	121	97	93	103	85	100	89	106	99	128	118			
	3	97	82	95	77	100	85	106	93	128	121	97	78	91	73	100	81	106	88	128	118			

Wind Speed [mph]	120												130											
45	1	108	104	112	95	108	108	114	100	133	122	108	96	109	88	108	102	114	92	133	113			
	2	108	89	101	82	105	85	114	95	131	114	101	82	93	75	96	78	108	87	124	105			
	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105			
50	1	104	104	109	95	105	105	111	100	131	122	104	96	109	88	105	102	111	92	131	113			
	2	104	89	101	82	105	85	111	95	131	114	101	82	93	75	96	78	108	87	124	105			
	3	92	75	87	70	95	77	104	85	131	114	85	69	80	65	88	71	96	78	124	105			
60	1	97	97	103	95	100	100	106	100	128	122	97	96	103	88	100	100	106	92	128	113			
	2	97	89	101	82	100	85	106	95	128	114	97	82	93	75	96	78	106	87	124	105			
	3	92	75	87	70	95	77	104	85	128	114	85	69	80	65	88	71	96	78	124	105			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
		1	108	89	100	81	108	94	106	85	127	106	102	82	93	76	108	88	98	80	120	99	95	77	87	71	101	82	92	74	113
45	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
50	1	104	89	100	81	105	94	106	85	127	106	102	82	93	76	105	88	98	80	120	99	95	77	87	71	101	82	92	74	113	93
	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
60	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
	1	97	89	100	81	100	94	106	85	127	106	97	82	93	76	100	88	98	80	120	99	95	77	87	71	100	82	92	74	113	93
60	2	93	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84

Exposure Category : B

Wind Speed [mph]		170										180									
45	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75
50	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75
	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83
60	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75
Wind Speed [mph]		190										200									
45	1	80	65	73	59	85	69	77	62	96	79	75	61	69	56	80	65	73	59	91	75
	2	68	55	63	51	65	53	73	59	87	71	65	52	59	48	62	50	69	56	83	67
50	3	57	47	54	44	59	48	65	53	87	71	54	44	51	42	56	46	62	50	83	67
	1	80	65	73	59	85	69	77	62	96	79	75	61	69	56	80	65	73	59	91	75
60	2	68	55	63	51	65	53	73	59	87	71	65	52	59	48	62	50	69	56	83	67
	3	57	47	54	44	59	48	65	53	87	71	54	44	51	42	56	46	62	50	83	67

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	91	91	99	99	95	95	102	102	125	125	91	91	99	99	95	95	102	102	125	125	91	91	99	99	95	95	102	102	125	125
	2	91	91	99	99	95	95	102	102	125	125	91	91	99	99	95	95	102	102	125	125	91	91	99	94	95	95	102	102	125	125
	3	91	91	99	90	95	95	102	102	125	125	91	90	99	85	95	93	102	102	125	125	91	86	99	81	95	89	102	97	125	125
	1	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122
	2	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122	85	85	95	94	92	92	99	99	122	122
	3	85	85	95	90	92	92	99	99	122	122	85	85	95	85	92	92	99	99	122	122	85	85	95	81	92	89	99	97	122	122
80	1	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119
	2	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119
	3	81	81	91	90	89	89	95	95	119	119	81	81	91	85	89	89	95	95	119	119	81	81	91	81	89	89	95	95	119	119
	1	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122
	2	85	85	95	89	92	92	99	99	122	121	85	85	95	85	92	89	99	99	122	118	85	85	95	85	92	89	99	99	122	118
	3	85	82	95	77	92	85	99	93	122	121	85	78	91	73	92	81	99	88	122	118	85	78	91	73	92	81	99	88	122	118
90	1	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119
	2	81	81	91	89	89	89	95	95	119	119	81	81	91	85	89	89	95	95	119	118	81	81	91	85	89	89	95	95	119	118
	3	81	81	91	77	89	85	95	93	119	119	81	78	91	73	89	81	95	88	119	118	81	78	91	73	89	81	95	88	119	118
	1	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122
	2	85	85	95	89	92	92	99	99	122	121	85	85	95	85	92	89	99	99	122	118	85	85	95	85	92	89	99	99	122	118
	3	85	82	95	77	92	85	99	93	122	121	85	78	91	73	92	81	99	88	122	118	85	78	91	73	92	81	99	88	122	118

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	91	89	99	81	95	94	102	85	125	106	91	82	93	76	95	88	98	80	120	99	91	77	87	71	95	82	92	74	113	93
	2	91	76	86	70	89	72	100	81	118	97	87	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
80	1	85	85	95	81	92	92	99	85	122	106	85	82	93	76	92	88	98	80	120	99	85	77	87	71	92	82	92	74	113	93
	2	85	76	86	70	89	72	99	81	118	97	85	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84
90	1	81	81	91	81	89	89	95	85	119	106	81	81	91	76	89	88	95	80	119	99	81	77	87	71	89	82	92	74	113	93
	2	81	76	86	70	89	72	95	81	118	97	81	70	80	65	83	67	93	75	111	90	81	66	75	61	78	63	87	71	104	84
	3	79	64	74	60	81	66	89	72	118	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84

Exposure Category : B

Wind Speed [mph]		170										180																			
70	1	89	72	82	66	95	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	1	1	1	1	1	1	1	1	1	1
80	1	85	72	82	66	92	77	86	70	106	88	84	68	77	63	90	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	1	1	1	1	1	1	1	1	1	1
90	1	81	72	82	66	89	77	86	70	106	88	81	68	77	63	89	73	81	66	101	83	72	58	66	54	69	56	77	63	92	75
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75	61	49	57	46	63	51	69	56	92	75
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75	1	1	1	1	1	1	1	1	1	1

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Span, inches																														
Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		100	1	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117			
	2	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117					
	3	77	77	89	89	86	86	93	93	117	117	77	77	89	85	86	86	93	93	117	117	77	77	89	81	86	86	93	93	117	117					

Exposure Category : B

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117			
	2	77	77	89	89	86	86	93	93	117	117	77	77	89	85	86	86	93	93	117	117			
	3	77	77	89	77	86	85	93	93	117	117	77	77	89	73	86	81	93	88	117	117			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Span, inches																														
Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	77	77	89	81	86	86	93	85	117	106	77	77	88	76	86	86	93	80	117	99	77	77	87	71	86	82	92	74	113	93					
	2	77	76	86	70	86	72	93	81	117	97	77	70	80	65	83	67	93	75	111	90	77	66	75	61	78	63	87	71	104	84					
	3	77	64	74	60	81	66	89	72	117	97	73	59	69	56	76	61	83	67	111	90	69	56	64	52	71	57	77	63	104	84					

Exposure Category : B

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	77	72	82	66	86	77	86	70	106	88	77	68	77	63	86	73	81	66	101	83			
	2	76	62	70	57	73	59	82	66	98	79	72	58	66	54	69	56	77	63	92	75			
	3	64	52	61	49	66	54	73	59	98	79	61	49	57	46	63	51	69	56	92	75			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	131	112	123	102	136	118	127	107	140	128	126	106	119	97	131	113	122	102	140	124	122	100	114	92	127	107	118	97	137	118
	2	117	95	108	87	112	91	122	102	138	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110
	3	99	80	93	75	102	83	112	90	138	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110
5	1	131	112	123	102	136	118	127	107	140	128	126	106	119	97	131	113	122	102	140	124	122	100	114	92	127	107	118	97	137	118
	2	117	95	108	87	112	91	122	102	138	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110
	3	99	80	93	75	102	83	112	90	138	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110
10	1	131	112	123	102	136	118	127	107	140	128	126	106	119	97	131	113	122	102	140	124	122	100	114	92	127	107	118	97	137	118
	2	117	95	108	87	112	91	122	102	138	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110
	3	99	80	93	75	102	83	112	90	138	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110

Exposure Category : C

Wind Speed [mph]		110										115									
0	1	117	96	109	88	123	102	114	92	133	113	113	91	104	84	119	97	109	88	129	108
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100
5	1	117	96	109	88	123	102	114	92	133	113	113	91	104	84	119	97	109	88	129	108
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100
10	1	117	96	109	88	123	102	114	92	133	113	113	91	104	84	119	97	109	88	129	108
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100

Wind Speed [mph]		120										130									
0	1	108	87	99	80	115	93	104	84	126	104	99	80	91	74	106	86	96	78	117	96
	2	92	75	85	69	88	71	98	80	117	95	85	69	78	63	81	66	91	73	108	88
	3	78	63	73	59	80	65	88	71	117	95	71	58	67	54	74	60	81	66	108	88
5	1	108	87	99	80	115	93	104	84	126	104	99	80	91	74	106	86	96	78	117	96
	2	92	75	85	69	88	71	98	80	117	95	85	69	78	63	81	66	91	73	108	88
	3	78	63	73	59	80	65	88	71	117	95	71	58	67	54	74	60	81	66	108	88
10	1	108	87	99	80	115	93	104	84	126	104	99	80	91	74	106	86	96	78	117	96
	2	92	75	85	69	88	71	98	80	117	95	85	69	78	63	81	66	91	73	108	88
	3	78	63	73	59	80	65	88	71	117	95	71	58	67	54	74	60	81	66	108	88

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
5	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
10	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					

Exposure Category : C

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70	60	49	56	45	58	47	65	53	78	63
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63	51	42	48	39	53	43	58	47	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63	71	57	65	53	75	61	68	56	86	70
5	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70	60	49	56	45	58	47	65	53	78	63
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63	51	42	48	39	53	43	58	47	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63	71	57	65	53	75	61	68	56	86	70
10	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70	60	49	56	45	58	47	65	53	78	63
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63	51	42	48	39	53	43	58	47	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63	71	57	65	53	75	61	68	56	86	70

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	130	112	123	102	136	118	127	107	140	128	126	106	119	97	131	113	122	102	140	124	122	100	114	92	127	107	118	97	137	118		
	2	117	95	108	87	112	91	122	102	138	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110		
	3	99	80	93	75	102	83	112	90	138	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110		
20	1	124	112	123	102	133	118	127	107	140	128	124	106	119	97	131	113	122	102	140	124	122	100	114	92	127	107	118	97	137	118		
	2	117	95	108	87	112	91	122	102	138	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110		
	3	99	80	93	75	102	83	112	90	138	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110		
25	1	124	112	123	102	126	118	127	107	140	128	124	106	119	97	126	113	122	102	140	124	122	100	114	92	126	107	118	97	137	118		
	2	117	95	108	87	112	91	122	102	138	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110		
	3	99	80	93	75	102	83	112	90	138	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110		

Wind Speed [mph]	110											115										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
15	1	117	96	109	88	123	102	114	92	133	113	113	91	104	84	119	97	109	88	129	108	
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100	
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100	
20	1	117	96	109	88	123	102	114	92	133	113	113	91	104	84	119	97	109	88	129	108	
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100	
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100	
25	1	117	96	109	88	123	102	114	92	133	113	113	91	104	84	119	97	109	88	129	108	
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100	
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100	

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		15	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79			
15	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
15	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
20	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
20	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
20	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
25	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
25	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
25	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					

Exposure Category : C

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
15	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70			
15	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63			
15	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			
20	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70			
20	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63			
20	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			
25	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70			
25	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63			
25	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Ground Snow	Panal Angle	Group	95										100										105									
			0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
			Array Interior	Array Edge																												
30	30	1	121	112	123	102	121	118	124	107	139	128	121	106	119	97	121	113	122	102	139	124	121	100	114	92	121	107	118	97	137	118
		2	117	95	108	87	112	91	122	102	138	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110
		3	99	80	93	75	102	83	112	90	138	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110
35	35	1	116	112	121	102	116	116	120	107	137	128	116	106	119	97	116	113	120	102	137	124	116	100	114	92	116	107	118	97	137	118
		2	116	95	108	87	112	91	120	102	137	119	112	90	102	83	107	86	118	96	133	115	106	86	97	79	101	82	113	92	128	110
		3	99	80	93	75	102	83	112	90	137	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110
40	40	1	112	112	116	102	112	112	117	107	135	128	112	106	116	97	112	112	117	102	135	124	112	100	114	92	112	107	117	97	135	118
		2	112	95	108	87	112	91	117	102	135	119	112	90	102	83	107	86	117	96	133	115	106	86	97	79	101	82	113	92	128	110
		3	99	80	93	75	102	83	112	90	135	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110

Exposure Category : C

Wind Speed [mph]	Panal Angle	Group	110										115									
			0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
			Array Interior	Array Edge																		
30	30	1	117	96	109	88	121	102	114	92	133	113	113	91	104	84	119	97	109	88	129	108
		2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100
		3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100
35	35	1	116	96	109	88	116	102	114	92	133	113	113	91	104	84	116	97	109	88	129	108
		2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100
		3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100
40	40	1	112	96	109	88	112	102	114	92	133	113	112	91	104	84	112	97	109	88	129	108
		2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100
		3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
	Group	Array Interior	Array Edge																																	
30	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
35	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
40	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					

Exposure Category : C

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
	Group	Array Interior	Array Edge																												
30	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70	60	49	56	45	58	47	65	53	78	63
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63	51	42	48	39	53	43	58	47	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63	60	49	56	45	58	47	65	53	78	63
35	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70	60	49	56	45	58	47	65	53	78	63
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63	51	42	48	39	53	43	58	47	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63	60	49	56	45	58	47	65	53	78	63
40	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70	60	49	56	45	58	47	65	53	78	63
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63	51	42	48	39	53	43	58	47	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63	60	49	56	45	58	47	65	53	78	63

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Span, inches																															
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge																																		
		45	1	108	108	112	102	108	108	114	107	133	128	108	106	112	97	108	108	114	102	133	124	108	100	112	92	108	107	114	97	133	118				
2	108		95	108	87	108	91	114	102	133	119	108	90	102	83	107	86	114	96	133	115	106	86	97	79	101	82	113	92	128	110						
3	99		80	93	75	102	83	112	90	133	119	94	76	88	71	97	78	106	86	133	115	89	72	84	68	92	74	101	82	128	110						
50	1	104	104	109	102	105	105	111	107	131	128	104	104	109	97	105	105	111	102	131	124	104	100	109	92	105	105	111	97	131	118						
	2	104	95	108	87	105	91	111	102	131	119	104	90	102	83	105	86	111	96	131	115	104	86	97	79	101	82	111	92	128	110						
	3	99	80	93	75	102	83	111	90	131	119	94	76	88	71	97	78	106	86	131	115	89	72	84	68	92	74	101	82	128	110						
60	1	97	97	103	102	100	100	106	106	128	128	97	97	103	97	100	100	106	102	128	124	97	97	103	92	100	100	106	97	128	118						
	2	97	95	103	87	100	91	106	102	128	119	97	90	102	83	100	86	106	96	128	115	97	86	97	79	100	82	106	92	128	110						
	3	97	80	93	75	100	83	106	90	128	119	94	76	88	71	97	78	106	86	128	115	89	72	84	68	92	74	101	82	128	110						

Exposure Category : C

Wind Speed [mph]		110												115											
45	1	108	96	109	88	108	102	114	92	133	113	108	91	104	84	108	97	109	88	129	108				
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100				
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100				
50	1	104	96	109	88	105	102	111	92	131	113	104	91	104	84	105	97	109	88	129	108				
	2	101	82	93	75	96	78	108	87	124	104	96	78	88	72	92	75	103	83	120	100				
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100				
60	1	97	96	103	88	100	100	106	92	128	113	97	91	103	84	100	97	106	88	128	108				
	2	97	82	93	75	96	78	106	87	124	104	96	78	88	72	92	75	103	83	120	100				
	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100				
45	1	108	87	99	80	108	93	104	84	126	104	99	80	91	74	106	86	96	78	117	96				
	2	92	75	85	69	88	71	98	80	117	95	85	69	78	63	81	66	91	73	108	88				
	3	78	63	73	59	80	65	88	71	117	95	71	58	67	54	74	60	81	66	108	88				
50	1	104	87	99	80	105	93	104	84	126	104	99	80	91	74	105	86	96	78	117	96				
	2	92	75	85	69	88	71	98	80	117	95	85	69	78	63	81	66	91	73	108	88				
	3	78	63	73	59	80	65	88	71	117	95	71	58	67	54	74	60	81	66	108	88				
60	1	97	87	99	80	100	93	104	84	126	104	97	80	91	74	100	86	96	78	117	96				
	2	92	75	85	69	88	71	98	80	117	95	85	69	78	63	81	66	91	73	108	88				
	3	78	63	73	59	80	65	88	71	117	95	71	58	67	54	74	60	81	66	108	88				

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71
50	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71
60	1	92	74	84	68	98	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71

Wind Speed [mph]		170										180									
45	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63
50	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63
60	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63

Wind Speed [mph]		190										200									
45	1	67	54	61	50	71	58	65	53	81	67	63	51	58	47	68	55	61	50	77	63
	2	57	46	53	43	55	45	61	50	73	60	54	44	50	41	52	42	58	47	70	57
	3	48	39	45	37	50	41	55	44	73	60	46	37	43	35	47	39	52	42	70	57
50	1	67	54	61	50	71	58	65	53	81	67	63	51	58	47	68	55	61	50	77	63
	2	57	46	53	43	55	45	61	50	73	60	54	44	50	41	52	42	58	47	70	57
	3	48	39	45	37	50	41	55	44	73	60	46	37	43	35	47	39	52	42	70	57
60	1	67	54	61	50	71	58	65	53	81	67	63	51	58	47	68	55	61	50	77	63
	2	57	46	53	43	55	45	61	50	73	60	54	44	50	41	52	42	58	47	70	57
	3	48	39	45	37	50	41	55	44	73	60	46	37	43	35	47	39	52	42	70	57

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Ground Snow	Wind Speed [mph]		95										100										105									
	Panal Angle	Group	0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
			Array Interior	Array Edge																												
70	1	91	91	99	99	95	95	102	102	125	125	91	91	99	97	95	95	102	102	125	124	91	91	99	92	95	95	102	97	125	118	
70	2	91	91	99	87	95	91	102	102	125	119	91	90	99	83	95	86	102	96	125	115	91	86	97	79	95	82	102	92	125	110	
70	3	91	80	93	75	95	83	102	90	125	119	91	76	88	71	95	78	102	86	125	115	89	72	84	68	92	74	101	82	125	110	
80	1	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122	85	85	95	92	92	92	99	97	122	118	
80	2	85	85	95	87	92	91	99	99	122	119	85	85	95	83	92	86	99	96	122	115	85	85	95	79	92	82	99	92	122	110	
80	3	85	80	93	75	92	83	99	90	122	119	85	76	88	71	92	78	99	86	122	115	85	72	84	68	92	74	99	82	122	110	
90	1	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	118	
90	2	81	81	91	87	89	89	95	95	119	119	81	81	91	83	89	86	95	95	119	115	81	81	91	79	89	82	95	92	119	110	
90	3	81	80	91	75	89	83	95	90	119	119	81	76	88	71	89	78	95	86	119	115	81	72	84	68	89	74	95	82	119	110	

Exposure Category : C

Ground Snow	Wind Speed [mph]		110										115																		
	Group		Array Interior	Array Edge																											
70	1	91	91	99	88	95	95	102	92	125	113	91	91	99	84	95	95	102	88	125	108										
70	2	91	82	93	75	95	78	102	87	124	104	91	78	88	72	92	75	102	83	120	100										
70	3	85	69	80	65	88	71	96	78	124	104	81	66	76	62	84	68	92	74	120	100										
80	1	85	85	95	88	92	92	99	92	122	113	85	85	95	84	92	92	99	88	122	108										
80	2	85	82	93	75	92	78	99	87	122	104	85	78	88	72	92	75	99	83	120	100										
80	3	85	69	80	65	88	71	96	78	122	104	81	66	76	62	84	68	92	74	120	100										
90	1	81	81	91	88	89	89	95	92	119	113	81	81	91	84	89	89	95	88	119	108										
90	2	81	81	91	75	89	78	95	87	119	104	81	78	88	72	89	75	95	83	119	100										
90	3	81	69	80	65	88	71	95	78	119	104	81	66	76	62	84	68	92	74	119	100										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		70	1	91	74	84	68	95	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79			
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
80	1	85	74	84	68	92	79	89	72	109	90	85	69	78	64	91	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					
90	1	81	74	84	68	89	79	89	72	109	90	81	69	78	64	89	74	82	67	102	84	80	65	73	60	85	69	77	63	96	79					
	2	78	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					

Exposure Category : C

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
70	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70			
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63			
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			
80	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70			
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63			
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			
90	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70			
	2	64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63			
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Span, inches																									
Wind Speed [mph]	Panal Angle	95										100										105									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
100	1	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117	77	77	89	88	86	86	93	93	117	117
	2	77	77	89	87	86	86	93	93	117	117	77	77	89	83	86	86	93	93	117	115	77	77	89	79	86	82	93	92	117	110
	3	77	77	89	75	86	83	93	90	117	117	77	76	88	71	86	78	93	86	117	115	77	72	84	68	86	74	93	82	117	110

Exposure Category : C

Wind Speed [mph]	Panal Angle	110										115									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
100	1	77	77	89	87	86	86	93	92	117	113	77	77	89	84	86	86	93	88	117	108
	2	77	77	89	75	86	78	93	87	117	104	77	77	88	72	86	75	93	83	117	100
	3	77	69	80	65	86	71	93	78	117	104	77	66	76	62	84	68	92	74	117	100

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Span, inches																														
Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	77	74	84	68	86	79	89	72	109	90	77	69	78	64	86	74	82	67	102	84	77	65	73	60	85	69	77	63	96	79					
	2	77	64	72	59	75	61	84	68	100	81	73	59	67	55	70	57	78	63	93	76	68	55	63	51	65	53	73	59	87	71					
	3	66	54	62	51	68	55	75	61	100	81	62	50	58	47	64	52	70	57	93	76	58	47	54	44	60	48	65	53	87	71					

Exposure Category : C

Wind Speed [mph]	170												180											
	100	1	75	61	69	56	80	65	73	59	91	74	71	57	65	53	75	61	68	56	86	70		
2		64	52	59	48	61	50	69	56	82	67	60	49	56	45	58	47	65	53	78	63			
3		54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			

Wind Speed [mph]	190												200											
	100	1	67	54	61	50	71	58	65	53	81	67	63	51	58	47	68	55	61	50	77	63		
2		57	46	53	43	55	45	61	50	73	60	54	44	50	41	52	42	58	47	70	57			
3		48	39	45	37	50	41	55	44	73	60	46	37	43	35	47	39	52	42	70	57			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Ground Snow	Panal Angle	Group	95										100										105									
			0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
			Array Interior	Array Edge																												
0	1	123	102	116	94	128	109	119	98	138	120	118	97	110	89	124	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109	
0	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100	
0	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100	
5	1	123	102	116	94	128	109	119	98	138	120	118	97	110	89	124	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109	
5	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100	
5	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100	
10	1	123	102	116	94	128	109	119	98	138	120	118	97	110	89	124	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109	
10	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100	
10	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100	

Exposure Category : D	Wind Speed [mph]	110										115									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
		Array Interior	Array Edge																		
0	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100
0	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91
0	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91
5	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100
5	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91
5	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91
10	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100
10	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91
10	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150										160									
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
	Ground Snow	Group	Array Interior	Array Edge																												
0	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73	
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65	
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65	
5	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73	
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65	
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65	
10	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73	
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65	
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65	

Exposure Category : D

Wind Speed [mph]	170												180																											
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																
0	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58
	59	48	54	44	56	46	63	51	75	61	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58				
	50	40	47	38	51	42	56	46	75	61	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58
5	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58
	59	48	54	44	56	46	63	51	75	61	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58				
	50	40	47	38	51	42	56	46	75	61	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58
10	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58
	59	48	54	44	56	46	63	51	75	61	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58				
	50	40	47	38	51	42	56	46	75	61	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	47	38	44	36	48	39	53	43	71	58

Wind Speed [mph]	190												200																											
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																
0	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52
	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52										
	44	36	42	34	46	37	50	41	67	55	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52										
5	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52
	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52										
	44	36	42	34	46	37	50	41	67	55	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52										
10	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52
	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52										
	44	36	42	34	46	37	50	41	67	55	50	40	46	37	48	39	53	43	64	52	42	34	40	32	43	35	48	39	64	52										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"
64" to 71"
48" to 63"
x ≤ 47"

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105													
	Panal Angle			0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7			7 - 20			20 - 27			27 - 45			45 - 90		
	Group	Array Interior	Array Edge																																			
Ground Snow	1	123	102	116	94	128	109	119	98	138	120	118	97	110	89	124	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109							
	15	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100						
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100							
20	1	123	102	116	94	128	109	119	98	138	120	118	97	110	89	124	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109							
	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100							
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100							
25	1	123	102	116	94	128	109	119	98	138	120	118	97	110	89	124	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109							
	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100							
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100							

Exposure Category : D

Wind Speed [mph]	110												115																		
	Group	Array Interior	Array Edge	Group	Array Interior	Array Edge																									
15	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100	88	71	81	66	84	68	94	76	113	91
	2	92	75	85	69	88	72	99	80	117	96	74	60	70	57	77	62	84	68	113	91	88	71	81	66	84	68	94	76	113	91
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	74	60	70	57	77	62	84	68	113	91
20	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100	88	71	81	66	84	68	94	76	113	91
	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91	88	71	81	66	84	68	94	76	113	91
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	74	60	70	57	77	62	84	68	113	91
25	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100	88	71	81	66	84	68	94	76	113	91
	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91	88	71	81	66	84	68	94	76	113	91
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	74	60	70	57	77	62	84	68	113	91

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
---------------	------------	------------	---------------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		15	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58
15	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
15	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65
20	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73
20	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
20	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65
25	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73
25	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
25	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65

Exposure Category : D

Wind Speed [mph]		170										180									
15	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58
20	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58
25	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58
Wind Speed [mph]		190										200									
15	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52
20	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52
25	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
	Group	Array Interior	Array Edge																																	
30	1	123	102	116	94	124	109	119	98	138	120	118	97	110	89	124	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109					
	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100					
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100					
35	1	120	102	116	94	119	109	119	98	138	120	118	97	110	89	119	103	115	93	134	114	114	92	104	84	119	98	109	89	130	109					
	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100					
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100					
40	1	116	102	116	94	115	109	119	98	137	120	116	97	110	89	115	103	115	93	134	114	114	92	104	84	115	98	109	89	130	109					
	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100					
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100					

Exposure Category : D

Wind Speed [mph]	110												115																		
	Group	Array Interior	Array Edge																												
30	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100	88	71	81	66	84	68	94	76	113	91
	2	92	75	85	69	88	72	99	80	117	96	74	60	70	57	77	62	84	68	113	91	88	71	81	66	84	68	94	76	113	91
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	74	60	70	57	77	62	84	68	113	91
35	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100	88	71	81	66	84	68	94	76	113	91
	2	92	75	85	69	88	72	99	80	117	96	74	60	70	57	77	62	84	68	113	91	88	71	81	66	84	68	94	76	113	91
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	74	60	70	57	77	62	84	68	113	91
40	1	108	87	99	80	115	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100	88	71	81	66	84	68	94	76	113	91
	2	92	75	85	69	88	72	99	80	117	96	74	60	70	57	77	62	84	68	113	91	88	71	81	66	84	68	94	76	113	91
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	74	60	70	57	77	62	84	68	113	91

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
30	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65
35	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65
40	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65

Exposure Category : D

Wind Speed [mph]		170										180																			
30	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65										
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58										
35	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65										
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58										
40	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65										
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58										
Wind Speed [mph]		190										200																			
30	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58										
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52										
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52										
35	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58										
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52										
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52										
40	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58										
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52										
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				74in x 41.2in				Span, inches																					
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		1	112	102	116	94	112	109	117	98	135	120	112	97	110	89	112	103	115	93	134	114	112	92	104	84	112	98	109	89	130
45	2	108	87	99	80	103	83	115	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100
50	1	108	102	113	94	109	109	114	98	133	120	108	97	110	89	109	103	114	93	133	114	108	92	104	84	109	98	109	89	130	109
	2	108	87	99	80	103	83	114	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100
60	1	102	102	107	94	103	103	109	98	130	120	102	97	107	89	103	103	109	93	130	114	102	92	104	84	103	98	109	89	130	109
	2	102	87	99	80	103	83	109	93	130	111	102	83	94	76	97	79	109	88	125	106	97	78	89	72	93	75	104	84	121	100
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100
Wind Speed [mph]		110										115																			
45	1	108	87	99	80	112	93	104	84	126	104	103	84	95	77	110	89	100	81	121	100										
	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91										
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91										
50	1	108	87	99	80	109	93	104	84	126	104	103	84	95	77	109	89	100	81	121	100										
	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91										
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91										
60	1	102	87	99	80	103	93	104	84	126	104	102	84	95	77	103	89	100	81	121	100										
	2	92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91										
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91										
Wind Speed [mph]		120										130																			
45	1	99	80	91	73	105	85	95	77	117	96	91	74	83	68	97	78	88	71	108	89										
	2	84	68	78	63	81	65	90	73	108	88	78	63	71	58	74	60	83	67	99	81										
	3	71	58	67	54	73	60	80	65	108	88	65	53	62	50	68	55	74	60	99	81										
50	1	99	80	91	73	105	85	95	77	117	96	91	74	83	68	97	78	88	71	108	89										
	2	84	68	78	63	81	65	90	73	108	88	78	63	71	58	74	60	83	67	99	81										
	3	71	58	67	54	73	60	80	65	108	88	65	53	62	50	68	55	74	60	99	81										
60	1	99	80	91	73	103	85	95	77	117	96	91	74	83	68	97	78	88	71	108	89										
	2	84	68	78	63	81	65	90	73	108	88	78	63	71	58	74	60	83	67	99	81										
	3	71	58	67	54	73	60	80	65	108	88	65	53	62	50	68	55	74	60	99	81										

Exposure Category : D

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Panel Angle	Array Interior	Array Edge																												
	45	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89
2		72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
3		61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65
50	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65
60	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65

Exposure Category : D

Wind Speed [mph]		170										180																			
45	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65										
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58										
50	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65										
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58										
60	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65										
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58										
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58										

Wind Speed [mph]		190										200																			
45	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58										
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52										
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52										
50	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58										
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52										
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52										
60	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58										
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52										
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
70	1	96	96	102	94	99	99	105	98	127	120	96	96	102	89	99	99	105	93	127	114	96	92	102	84	99	98	105	89	127	109		
	2	96	87	99	80	99	83	105	93	127	111	96	83	94	76	97	79	105	88	125	106	96	78	89	72	93	75	104	84	121	100		
	3	91	73	85	69	93	76	102	83	127	111	86	70	81	65	89	72	97	79	125	106	82	66	77	62	84	68	92	75	121	100		
80	1	90	90	98	94	95	95	102	98	124	120	90	90	98	89	95	95	102	93	124	114	90	90	98	84	95	95	102	89	124	109		
	2	90	87	98	80	95	83	102	93	124	111	90	83	94	76	95	79	102	88	124	106	90	78	89	72	93	75	102	84	121	100		
	3	90	73	85	69	93	76	102	83	124	111	86	70	81	65	89	72	97	79	124	106	82	66	77	62	84	68	92	75	121	100		
90	1	85	85	95	94	92	92	99	98	122	120	85	85	95	89	92	92	99	93	122	114	85	85	95	84	92	92	99	89	122	109		
	2	85	85	95	80	92	83	99	93	122	111	85	83	94	76	92	79	99	88	122	106	85	78	89	72	92	75	99	84	121	100		
	3	85	73	85	69	92	76	99	83	122	111	85	70	81	65	89	72	97	79	122	106	82	66	77	62	84	68	92	75	121	100		

Exposure Category : D

Wind Speed [mph]	110											115										
	70	1	96	87	99	80	99	93	104	84	126	104	96	84	95	77	99	89	100	81	121	100
2		92	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91	
3		78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	
80	1	90	87	98	80	95	93	102	84	124	104	90	84	95	77	95	89	100	81	121	100	
	2	90	75	85	69	88	72	99	80	117	96	88	71	81	66	84	68	94	76	113	91	
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	
90	1	85	85	95	80	92	92	99	84	122	104	85	84	95	77	92	89	99	81	121	100	
	2	85	75	85	69	88	72	99	80	117	96	85	71	81	66	84	68	94	76	113	91	
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91	
Wind Speed [mph]	120											130										
	70	1	96	80	91	73	99	85	95	77	117	96	91	74	83	68	97	78	88	71	108	89
2		84	68	78	63	81	65	90	73	108	88	78	63	71	58	74	60	83	67	99	81	
3		71	58	67	54	73	60	80	65	108	88	65	53	62	50	68	55	74	60	99	81	
80	1	90	80	91	73	95	85	95	77	117	96	90	74	83	68	95	78	88	71	108	89	
	2	84	68	78	63	81	65	90	73	108	88	78	63	71	58	74	60	83	67	99	81	
	3	71	58	67	54	73	60	80	65	108	88	65	53	62	50	68	55	74	60	99	81	
90	1	85	80	91	73	92	85	95	77	117	96	85	74	83	68	92	78	88	71	108	89	
	2	84	68	78	63	81	65	90	73	108	88	78	63	71	58	74	60	83	67	99	81	
	3	71	58	67	54	73	60	80	65	108	88	65	53	62	50	68	55	74	60	99	81	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof				0-30ft		74in x 41.2in		Span, inches																											
Wind Speed [mph]	Panal Angle	140										150										160													
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																
		70	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73		
2	72		58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65				
3	61		49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65				
80	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73				
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65				
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65				
90	1	84	68	77	63	90	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73				
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65				
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65				

Exposure Category : D

Wind Speed [mph]	170										180																					
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2
70	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	
	2	59	48	54	44	56	46	63	51	75	61	47	38	44	36	48	39	53	43	71	58	47	38	44	36	48	39	53	43	71	58	
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58	47	38	44	36	48	39	53	43	71	58	
80	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	
	2	59	48	54	44	56	46	63	51	75	61	47	38	44	36	48	39	53	43	71	58	47	38	44	36	48	39	53	43	71	58	
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58	47	38	44	36	48	39	53	43	71	58	
90	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65	55	45	51	42	53	43	59	48	71	58	
	2	59	48	54	44	56	46	63	51	75	61	47	38	44	36	48	39	53	43	71	58	47	38	44	36	48	39	53	43	71	58	
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58	47	38	44	36	48	39	53	43	71	58	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
100	1	81	81	92	92	89	89	96	96	120	120	81	81	92	89	89	96	93	120	114	81	81	92	84	89	89	96	89	120	109	
	2	81	81	92	80	89	83	96	93	120	111	81	81	92	76	89	79	96	88	120	106	81	78	89	72	89	75	96	84	120	100
	3	81	73	85	69	89	76	96	83	120	111	81	70	81	65	89	72	96	79	120	106	81	66	77	62	84	68	92	75	120	100

Exposure Category : D

Wind Speed [mph]		110										115									
100	1	81	81	92	80	89	89	96	84	120	104	81	81	92	77	89	89	96	81	120	100
	2	81	75	85	69	88	72	96	80	117	96	81	71	81	66	84	68	94	76	113	91
	3	78	63	73	59	80	65	88	71	117	96	74	60	70	57	77	62	84	68	113	91
0	1																				
	2																				
	3																				
0	1																				
	2																				
	3																				

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																													
100	1	81	68	77	63	89	73	81	66	101	83	78	63	72	58	83	68	76	61	94	77	73	59	67	55	78	63	71	58	89	73	
	2	72	58	66	54	69	56	77	62	92	75	67	54	62	50	64	52	72	58	86	70	63	51	58	47	60	49	67	55	80	65	
	3	61	49	57	46	63	51	69	56	92	75	56	46	53	43	58	47	64	52	86	70	53	43	50	40	55	44	60	49	80	65	

Wind Speed [mph]		170										180																				
100	1	69	56	63	51	73	59	67	54	83	68	65	53	60	48	69	56	63	51	79	65											
	2	59	48	54	44	56	46	63	51	75	61	55	45	51	42	53	43	59	48	71	58											
	3	50	40	47	38	51	42	56	46	75	61	47	38	44	36	48	39	53	43	71	58											

Wind Speed [mph]		190										200																				
100	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58											
	2	52	43	48	39	50	41	56	46	67	55	50	40	46	37	48	39	53	43	64	52											
	3	44	36	42	34	46	37	50	41	67	55	42	34	40	32	43	35	48	39	64	52											

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					74in x 41.2in					Span, inches																				
Wind Speed [mph]		95										100										105										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
Exposure Category : B	0	1	138	119	130	110	144	124	133	116	140	134	133	114	125	104	138	119	129	110	140	130	128	108	120	99	134	115	124	104	140	126
		2	123	103	116	94	119	98	129	109	140	126	119	97	110	89	115	93	124	104	140	121	114	92	105	85	109	88	120	99	135	117
		3	107	86	100	81	110	89	119	97	140	126	101	82	95	77	104	84	114	92	140	121	96	78	90	73	99	80	108	88	135	117
	5	1	138	119	130	110	144	124	133	116	140	134	133	114	125	104	138	119	129	110	140	130	128	108	120	99	134	115	124	104	140	126
		2	123	103	116	94	119	98	129	109	140	126	119	97	110	89	115	93	124	104	140	121	114	92	105	85	109	88	120	99	135	117
		3	107	86	100	81	110	89	119	97	140	126	101	82	95	77	104	84	114	92	140	121	96	78	90	73	99	80	108	88	135	117
	10	1	137	119	130	110	144	124	133	116	140	134	133	114	125	104	138	119	129	110	140	130	128	108	120	99	134	115	124	104	140	126
		2	123	103	116	94	119	98	129	109	140	126	119	97	110	89	115	93	124	104	140	121	114	92	105	85	109	88	120	99	135	117
		3	107	86	100	81	110	89	119	97	140	126	101	82	95	77	104	84	114	92	140	121	96	78	90	73	99	80	108	88	135	117
Exposure Category : B	0	1	124	103	116	94	129	110	120	99	139	121	120	98	112	90	125	105	117	95	135	116	104	84	95	77	99	80	111	90	127	107
		2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	87	71	82	66	90	73	99	80	127	107
		3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	87	71	82	66	90	73	99	80	127	107
	5	1	124	103	116	94	129	110	120	99	139	121	120	98	112	90	125	105	117	95	135	116	104	84	95	77	99	80	111	90	127	107
		2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	87	71	82	66	90	73	99	80	127	107
		3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	87	71	82	66	90	73	99	80	127	107
	10	1	124	103	116	94	129	110	120	99	139	121	120	98	112	90	125	105	117	95	135	116	104	84	95	77	99	80	111	90	127	107
		2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	87	71	82	66	90	73	99	80	127	107
		3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	87	71	82	66	90	73	99	80	127	107
Exposure Category : B	0	1	116	94	107	86	121	100	112	91	132	111	107	86	98	79	114	92	103	83	125	103	91	74	84	68	87	71	98	79	116	95
		2	99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95	77	62	72	59	79	64	87	70	116	95
		3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95	77	62	72	59	79	64	87	70	116	95
	5	1	116	94	107	86	121	100	112	91	132	111	107	86	98	79	114	92	103	83	125	103	91	74	84	68	87	71	98	79	116	95
		2	99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95	77	62	72	59	79	64	87	70	116	95
		3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95	77	62	72	59	79	64	87	70	116	95
	10	1	116	94	107	86	121	100	112	91	132	111	107	86	98	79	114	92	103	83	125	103	91	74	84	68	87	71	98	79	116	95
		2	99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95	77	62	72	59	79	64	87	70	116	95
		3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95	77	62	72	59	79	64	87	70	116	95

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		0	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67
	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76
5	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85
	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76
10	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85
	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76

Exposure Category : B

Wind Speed [mph]		170										180									
0	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68
5	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68
10	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68
Wind Speed [mph]		190										200									
0	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61
5	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61
10	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100										105									
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
	Ground Snow	Group	Array Interior	Array Edge																												
15	1	130	119	130	110	141	124	133	116	140	134	130	114	125	104	138	119	129	110	140	130	128	108	120	99	134	115	124	104	140	126	
		2	123	103	116	94	119	98	129	109	140	126	119	97	110	89	115	93	124	104	140	121	114	92	105	85	109	88	120	99	135	117
		3	107	86	100	81	110	89	119	97	140	126	101	82	95	77	104	84	114	92	140	121	96	78	90	73	99	80	108	88	135	117
	20	1	124	119	130	110	133	124	133	116	140	134	124	114	125	104	133	119	129	110	140	130	124	108	120	99	133	115	124	104	140	126
		2	123	103	116	94	119	98	129	109	140	126	119	97	110	89	115	93	124	104	140	121	114	92	105	85	109	88	120	99	135	117
		3	107	86	100	81	110	89	119	97	140	126	101	82	95	77	104	84	114	92	140	121	96	78	90	73	99	80	108	88	135	117
	25	1	124	119	130	110	126	124	128	116	140	134	124	114	125	104	126	119	128	110	140	130	124	108	120	99	126	115	124	104	140	126
		2	123	103	116	94	119	98	128	109	140	126	119	97	110	89	115	93	124	104	140	121	114	92	105	85	109	88	120	99	135	117
		3	107	86	100	81	110	89	119	97	140	126	101	82	95	77	104	84	114	92	140	121	96	78	90	73	99	80	108	88	135	117

Exposure Category : B

Wind Speed [mph]	110												115																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
	Ground Snow	Group	Array Interior	Array Edge																											
15	1	124	103	116	94	129	110	120	99	139	121	120	98	112	90	125	105	117	95	135	116	104	84	95	77	99	80	111	90	127	107
	2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	87	71	82	66	90	73	99	80	127	107
	3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	87	71	82	66	90	73	99	80	127	107
20	1	124	103	116	94	129	110	120	99	139	121	120	98	112	90	125	105	117	95	135	116	104	84	95	77	99	80	111	90	127	107
	2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	87	71	82	66	90	73	99	80	127	107
	3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	87	71	82	66	90	73	99	80	127	107
25	1	124	103	116	94	126	110	120	99	139	121	120	98	112	90	125	105	117	95	135	116	104	84	95	77	99	80	111	90	127	107
	2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	87	71	82	66	90	73	99	80	127	107
	3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	87	71	82	66	90	73	99	80	127	107

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	Panal Angle	140										150										160									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		15	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67
2	84		68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
3	71		58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76
20	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85
	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76
25	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85
	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76
15	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	69	56	64	52	66	54	74	60	88	72
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	58	47	55	45	60	49	66	54	88	72
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	55	45	52	42	57	46	62	51	83	68
20	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	69	56	64	52	66	54	74	60	88	72
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	58	47	55	45	60	49	66	54	88	72
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	55	45	52	42	57	46	62	51	83	68
25	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	69	56	64	52	66	54	74	60	88	72
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	58	47	55	45	60	49	66	54	88	72
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	55	45	52	42	57	46	62	51	83	68
15	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68	62	50	57	46	59	48	66	54	79	64
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61	52	42	49	40	54	44	59	48	79	64
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	52	42	49	40	54	44	59	48	79	64
20	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68	62	50	57	46	59	48	66	54	79	64
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61	52	42	49	40	54	44	59	48	79	64
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	52	42	49	40	54	44	59	48	79	64
25	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68	62	50	57	46	59	48	66	54	79	64
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61	52	42	49	40	54	44	59	48	79	64
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	52	42	49	40	54	44	59	48	79	64

Exposure Category : B

**ASCE Group Zone**

Panal Angle	Gable	Hip
<b>0 - 7</b>	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
<b>7 - 20</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
<b>20 - 27</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
<b>27 - 45</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
<b>45 - 90</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90					
Ground Snow	Group	Array Interior	Array Edge																														
30	1	121	119	126	110	121	121	124	116	139	134	121	114	125	104	121	119	124	110	139	130	121	108	120	99	121	115	124	104	139	126		
	2	121	103	116	94	119	98	124	109	139	126	119	97	110	89	115	93	124	104	139	121	114	92	105	85	109	88	120	99	135	117		
	3	107	86	100	81	110	89	119	97	139	126	101	82	95	77	104	84	114	92	139	121	96	78	90	73	99	80	108	88	135	117		
35	1	116	116	121	110	116	116	120	116	137	134	116	114	121	104	116	116	120	110	137	130	116	108	120	99	116	115	120	104	137	126		
	2	116	103	116	94	116	98	120	109	137	126	116	97	110	89	115	93	120	104	137	121	114	92	105	85	109	88	120	99	135	117		
	3	107	86	100	81	110	89	119	97	137	126	101	82	95	77	104	84	114	92	137	121	96	78	90	73	99	80	108	88	135	117		
40	1	112	112	116	110	112	112	117	116	135	134	112	112	116	104	112	112	117	110	135	130	112	108	116	99	112	112	117	104	135	126		
	2	112	103	116	94	112	98	117	109	135	126	112	97	110	89	112	93	117	104	135	121	112	92	105	85	109	88	117	99	135	117		
	3	107	86	100	81	110	89	117	97	135	126	101	82	95	77	104	84	114	92	135	121	96	78	90	73	99	80	108	88	135	117		

Exposure Category : B

Wind Speed [mph]	110											115										
	30	1	121	103	116	94	121	110	120	99	139	121	120	98	112	90	121	105	117	95	135	116
2		109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	
3		91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	
35	1	116	103	116	94	116	110	120	99	137	121	116	98	112	90	116	105	117	95	135	116	
	2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	
	3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	
40	1	112	103	116	94	112	110	117	99	135	121	112	98	112	90	112	105	117	95	135	116	
	2	109	88	100	81	104	84	116	94	131	112	104	84	95	77	99	80	111	90	127	107	
	3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107	
Wind Speed [mph]	120											130										
	30	1	116	94	107	86	121	100	112	91	132	111	107	86	98	79	114	92	103	83	125	103
2		99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95	
3		83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95	
35	1	116	94	107	86	116	100	112	91	132	111	107	86	98	79	114	92	103	83	125	103	
	2	99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95	
	3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95	
40	1	112	94	107	86	112	100	112	91	132	111	107	86	98	79	112	92	103	83	125	103	
	2	99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95	
	3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof

30-60ft

74in x 41.2in

Span, inches

Exposure Category : B

Ground Snow	Panal Angle	Group	140										150										160									
			0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
			Array Interior	Array Edge																												
30	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85	
30	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76	
30	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76	
35	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85	
35	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76	
35	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76	
40	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85	
40	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76	
40	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76	
30	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	65	53	60	49	62	51	70	57	83	68	
30	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	51	83	68	
30	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	76	62	70	57	81	66	74	60	92	75	
35	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	65	53	60	49	62	51	70	57	83	68	
35	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	51	83	68	
35	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	76	62	70	57	81	66	74	60	92	75	
40	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	65	53	60	49	62	51	70	57	83	68	
40	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	51	83	68	
40	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	76	62	70	57	81	66	74	60	92	75	
30	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68	58	47	54	44	56	45	63	51	75	61	
30	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61	49	40	46	38	51	41	56	45	75	61	
30	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	68	55	63	51	73	59	66	54	83	68	
35	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68	58	47	54	44	56	45	63	51	75	61	
35	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61	49	40	46	38	51	41	56	45	75	61	
35	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	68	55	63	51	73	59	66	54	83	68	
40	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68	58	47	54	44	56	45	63	51	75	61	
40	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61	49	40	46	38	51	41	56	45	75	61	
40	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	68	55	63	51	73	59	66	54	83	68	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	108	108	112	110	108	108	114	114	133	133	108	108	112	104	108	108	114	110	133	130	108	108	112	99	108	108	114	104	133	126
	2	108	103	112	94	108	98	114	109	133	126	108	97	110	89	108	93	114	104	133	121	108	92	105	85	108	88	114	99	133	117
	3	107	86	100	81	108	89	114	97	133	126	101	82	95	77	104	84	114	92	133	121	96	78	90	73	99	80	108	88	133	117
50	1	104	104	109	109	105	105	111	111	131	131	104	104	109	104	105	105	111	110	131	130	104	104	109	99	105	105	111	104	131	126
	2	104	103	109	94	105	98	111	109	131	126	104	97	109	89	105	93	111	104	131	121	104	92	105	85	105	88	111	99	131	117
	3	104	86	100	81	105	89	111	97	131	126	101	82	95	77	104	84	111	92	131	121	96	78	90	73	99	80	108	88	131	117
60	1	97	97	103	103	100	100	106	106	128	128	97	97	103	103	100	100	106	106	128	128	97	97	103	99	100	100	106	104	128	126
	2	97	97	103	94	100	98	106	106	128	126	97	97	103	89	100	93	106	104	128	121	97	92	103	85	100	88	106	99	128	117
	3	97	86	100	81	100	89	106	97	128	126	97	82	95	77	100	84	106	92	128	121	96	78	90	73	99	80	106	88	128	117

Exposure Category : B

Wind Speed [mph]		110										115									
45	1	108	103	112	94	108	108	114	99	133	121	108	98	112	90	108	105	114	95	133	116
	2	108	88	100	81	104	84	114	94	131	112	104	84	95	77	99	80	111	90	127	107
	3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107
50	1	104	103	109	94	105	105	111	99	131	121	104	98	109	90	105	105	111	95	131	116
	2	104	88	100	81	104	84	111	94	131	112	104	84	95	77	99	80	111	90	127	107
	3	91	74	86	70	94	76	103	84	131	112	87	71	82	66	90	73	99	80	127	107
60	1	97	97	103	94	100	100	106	99	128	121	97	97	103	90	100	100	106	95	128	116
	2	97	88	100	81	100	84	106	94	128	112	97	84	95	77	99	80	106	90	127	107
	3	91	74	86	70	94	76	103	84	128	112	87	71	82	66	90	73	99	80	127	107
Wind Speed [mph]		120										130									
45	1	108	94	107	86	108	100	112	91	132	111	107	86	98	79	108	92	103	83	125	103
	2	99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95
	3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95
50	1	104	94	107	86	105	100	111	91	131	111	104	86	98	79	105	92	103	83	125	103
	2	99	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95
	3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95
60	1	97	94	103	86	100	100	106	91	128	111	97	86	98	79	100	92	103	83	125	103
	2	97	80	91	74	95	77	106	86	123	103	91	74	84	68	87	71	98	79	116	95
	3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
			1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67
45	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76
	1	99	80	91	73	105	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85
50	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76
	1	97	80	91	73	100	85	95	77	117	96	92	74	84	68	98	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85
60	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76

Exposure Category : B

Wind Speed [mph]		170										180									
45	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68
	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75
50	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68
	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75
60	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68
45	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61
	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68
50	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61
	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68
60	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		70	1	91	91	99	99	95	95	102	102	125	125	91	91	99	99	95	95	102	102	125	125	91	91	99	99	95	95	102	102
	2	91	91	99	94	95	95	102	102	125	125	91	91	99	89	95	93	102	102	125	121	91	91	99	85	95	88	102	99	125	117
	3	91	86	99	81	95	89	102	97	125	125	91	82	95	77	95	84	102	92	125	121	91	78	90	73	95	80	102	88	125	117
80	1	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122	85	85	95	95	92	92	99	99	122	122
	2	85	85	95	94	92	92	99	99	122	122	85	85	95	89	92	92	99	99	122	121	85	85	95	85	92	88	99	99	122	117
	3	85	85	95	81	92	89	99	97	122	122	85	82	95	77	92	84	99	92	122	121	85	78	90	73	92	80	99	88	122	117
90	1	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119	81	81	91	91	89	89	95	95	119	119
	2	81	81	91	91	89	89	95	95	119	119	81	81	91	89	89	89	95	95	119	119	81	81	91	85	89	88	95	95	119	117
	3	81	81	91	81	89	89	95	95	119	119	81	81	91	77	89	84	95	92	119	119	81	78	90	73	89	80	95	88	119	117

Exposure Category : B

Wind Speed [mph]		110										115									
70	1	91	91	99	94	95	95	102	99	125	121	91	91	99	90	95	95	102	95	125	116
	2	91	88	99	81	95	84	102	94	125	112	91	84	95	77	95	80	102	90	125	107
	3	91	74	86	70	94	76	102	84	125	112	87	71	82	66	90	73	99	80	125	107
80	1	85	85	95	94	92	92	99	99	122	121	85	85	95	90	92	92	99	95	122	116
	2	85	85	95	81	92	84	99	94	122	112	85	84	95	77	92	80	99	90	122	107
	3	85	74	86	70	92	76	99	84	122	112	85	71	82	66	90	73	99	80	122	107
90	1	81	81	91	91	89	89	95	95	119	119	81	81	91	90	89	89	95	95	119	116
	2	81	81	91	81	89	84	95	94	119	112	81	81	91	77	89	80	95	90	119	107
	3	81	74	86	70	89	76	95	84	119	112	81	71	82	66	89	73	95	80	119	107
Wind Speed [mph]		120										130									
70	1	91	91	99	86	95	95	102	91	125	111	91	86	98	79	95	92	102	83	125	103
	2	91	80	91	74	95	77	102	86	123	103	91	74	84	68	87	71	98	79	116	95
	3	83	68	78	64	86	70	94	77	123	103	77	62	72	59	79	64	87	70	116	95
80	1	85	85	95	86	92	92	99	91	122	111	85	85	95	79	92	92	99	83	122	103
	2	85	80	91	74	92	77	99	86	122	103	85	74	84	68	87	71	98	79	116	95
	3	83	68	78	64	86	70	94	77	122	103	77	62	72	59	79	64	87	70	116	95
90	1	81	81	91	86	89	89	95	91	119	111	81	81	91	79	89	89	95	83	119	103
	2	81	80	91	74	89	77	95	86	119	103	81	74	84	68	87	71	95	79	116	95
	3	81	68	78	64	86	70	94	77	119	103	77	62	72	59	79	64	87	70	116	95

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
70	1	91	80	91	73	95	85	95	77	117	96	91	74	84	68	95	79	89	72	109	90	86	70	79	64	92	74	83	67	103	85		
	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76		
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76		
80	1	85	80	91	73	92	85	95	77	117	96	85	74	84	68	92	79	89	72	109	90	85	70	79	64	92	74	83	67	103	85		
	2	84	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76		
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76		
90	1	81	80	91	73	89	85	95	77	117	96	81	74	84	68	89	79	89	72	109	90	81	70	79	64	89	74	83	67	103	85		
	2	81	68	78	63	81	65	90	73	108	88	79	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76		
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76		

Exposure Category : B

Wind Speed [mph]	170											180																			
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
70	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	65	53	60	49	62	51	70	57	83	68
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	51	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	55	45	52	42	57	46	62	51	83	68
80	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	65	53	60	49	62	51	70	57	83	68
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	51	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	55	45	52	42	57	46	62	51	83	68
90	1	81	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75	65	53	60	49	62	51	70	57	83	68
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	51	83	68
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68	55	45	52	42	57	46	62	51	83	68

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		74in x 41.2in		Span, inches																															
Wind Speed [mph]	Panal Angle	95												100												105											
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge																																		
100	1	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117						
	2	77	77	89	89	86	86	93	93	117	117	77	77	89	89	86	86	93	93	117	117	77	77	89	85	86	86	93	93	117	117						
	3	77	77	89	81	86	86	93	93	117	117	77	77	89	77	86	84	93	92	117	117	77	77	89	73	86	80	93	88	117	117						

Exposure Category : B

Wind Speed [mph]	Panal Angle	110												115											
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
100	1	77	77	89	88	86	86	93	93	117	117	77	77	89	87	86	86	93	93	117	116				
	2	77	77	89	81	86	84	93	93	117	112	77	77	89	77	86	80	93	90	117	107				
	3	77	74	86	70	86	76	93	84	117	112	77	71	82	66	86	73	93	80	117	107				

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	77	77	88	73	86	85	93	77	117	96	77	74	84	68	86	79	89	72	109	90	77	70	79	64	86	74	83	67	103	85					
	2	77	68	78	63	81	65	90	73	108	88	77	64	72	59	75	61	84	68	101	82	74	60	68	55	70	57	79	64	94	76					
	3	71	58	67	54	73	60	80	65	108	88	66	54	62	51	68	56	75	61	101	82	62	50	58	47	64	52	70	57	94	76					

Exposure Category : B

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	77	65	74	60	86	70	78	63	97	80	76	62	70	57	81	66	74	60	92	75			
	2	69	56	64	52	66	54	74	60	88	72	65	53	60	49	62	51	70	57	83	68			
	3	58	47	55	45	60	49	66	54	88	72	55	45	52	42	57	46	62	51	83	68			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	72	58	66	54	77	62	70	57	87	71	68	55	63	51	73	59	66	54	83	68			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	44	56	45	63	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		0	1	124	103	116	94	129	110	120	99	139	121	119	98	111	90	124	104	116	94	134	115	115	93	105	85	120	99	110	89
0	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101
0	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101
5	1	124	103	116	94	129	110	120	99	139	121	119	98	111	90	124	104	116	94	134	115	115	93	105	85	120	99	110	89	131	110
5	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101
5	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101
10	1	124	103	116	94	129	110	120	99	139	121	119	98	111	90	124	104	116	94	134	115	115	93	105	85	120	99	110	89	131	110
10	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101
10	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101

Wind Speed [mph]		110										115									
0	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101
	2	93	75	86	69	89	72	100	81	118	97	89	72	82	66	85	69	95	77	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92
5	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101
	2	93	75	86	69	89	72	100	81	118	97	89	72	82	66	85	69	95	77	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92
10	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101
	2	93	75	86	69	89	72	100	81	118	97	89	72	82	66	85	69	95	77	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92

Wind Speed [mph]		120										130									
0	1	100	81	91	74	106	86	96	78	117	97	92	74	84	68	98	79	88	72	109	90
	2	85	69	78	63	81	66	91	74	109	88	78	63	72	58	75	61	84	68	100	81
	3	72	58	67	55	74	60	81	66	109	88	66	54	62	50	68	55	75	61	100	81
5	1	100	81	91	74	106	86	96	78	117	97	92	74	84	68	98	79	88	72	109	90
	2	85	69	78	63	81	66	91	74	109	88	78	63	72	58	75	61	84	68	100	81
	3	72	58	67	55	74	60	81	66	109	88	66	54	62	50	68	55	75	61	100	81
10	1	100	81	91	74	106	86	96	78	117	97	92	74	84	68	98	79	88	72	109	90
	2	85	69	78	63	81	66	91	74	109	88	78	63	72	58	75	61	84	68	100	81
	3	72	58	67	55	74	60	81	66	109	88	66	54	62	50	68	55	75	61	100	81

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140												150												160											
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Panel Angle	Array Interior	Array Edge																																		
	0	Group 1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73					
Group 2		72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66						
Group 3		61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66						
5	Group 1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73						
	Group 2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66						
	Group 3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66						
10	Group 1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73						
	Group 2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66						
	Group 3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66						

Exposure Category : C

Wind Speed [mph]		170												180																	
		Array Interior	Array Edge																												
0	Group 1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65	56	45	52	42	54	44	60	49	72	58
	Group 2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58	47	38	44	36	49	40	54	44	72	58
	Group 3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58	47	38	44	36	49	40	54	44	72	58
5	Group 1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65	56	45	52	42	54	44	60	49	72	58
	Group 2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58	47	38	44	36	49	40	54	44	72	58
	Group 3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58	47	38	44	36	49	40	54	44	72	58
10	Group 1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65	56	45	52	42	54	44	60	49	72	58
	Group 2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58	47	38	44	36	49	40	54	44	72	58
	Group 3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58	47	38	44	36	49	40	54	44	72	58

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	124	103	116	94	129	110	120	99	139	121	119	98	111	90	124	104	116	94	134	115	115	93	105	85	120	99	110	89	131	110		
	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101		
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101		
20	1	124	103	116	94	129	110	120	99	139	121	119	98	111	90	124	104	116	94	134	115	115	93	105	85	120	99	110	89	131	110		
	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101		
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101		
25	1	124	103	116	94	126	110	120	99	139	121	119	98	111	90	124	104	116	94	134	115	115	93	105	85	120	99	110	89	131	110		
	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101		
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101		

Exposure Category : C

Wind Speed [mph]	110											115																			
	Group	Array Interior	Array Edge																												
15	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101	89	72	82	66	85	69	95	77	114	92
	2	93	75	86	69	89	72	100	81	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
20	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101	89	72	82	66	85	69	95	77	114	92
	2	93	75	86	69	89	72	100	81	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
25	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101	89	72	82	66	85	69	95	77	114	92
	2	93	75	86	69	89	72	100	81	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		15	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58
15	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66
15	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66
20	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73
20	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66
20	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66
25	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73
25	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66
25	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66

Exposure Category : C

Wind Speed [mph]		170										180									
15	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58
20	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58
25	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58

Wind Speed [mph]		190										200									
15	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52
20	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52
25	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
	Group	Array Interior	Array Edge																																	
30	1	121	103	116	94	121	110	120	99	139	121	119	98	111	90	121	104	116	94	134	115	115	93	105	85	120	99	110	89	131	110					
	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101					
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101					
35	1	116	103	116	94	116	110	120	99	137	121	116	98	111	90	116	104	116	94	134	115	115	93	105	85	116	99	110	89	131	110					
	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101					
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101					
40	1	112	103	116	94	112	110	117	99	135	121	112	98	111	90	112	104	116	94	134	115	112	93	105	85	112	99	110	89	131	110					
	2	109	88	100	81	104	84	116	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101					
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101					

Exposure Category : C

Wind Speed [mph]	110												115																		
	Group	Array Interior	Array Edge																												
30	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101	89	72	82	66	85	69	95	77	114	92
	2	93	75	86	69	89	72	100	81	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
35	1	109	88	100	81	116	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101	89	72	82	66	85	69	95	77	114	92
	2	93	75	86	69	89	72	100	81	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
40	1	109	88	100	81	112	94	105	85	127	105	104	84	96	77	111	90	100	81	122	101	89	72	82	66	85	69	95	77	114	92
	2	93	75	86	69	89	72	100	81	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92	75	61	70	57	77	63	85	69	114	92

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73					
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66					
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66					
35	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73					
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66					
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66					
40	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73					
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66					
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66					

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
30	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65			
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58			
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58			
35	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65			
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58			
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58			
40	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65			
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58			
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
30	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59			
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52			
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52			
35	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59			
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52			
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52			
40	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59			
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52			
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	108	103	112	94	108	108	114	99	133	121	108	98	111	90	108	104	114	94	133	115	108	93	105	85	108	99	110	89	131	110					
	2	108	88	100	81	104	84	114	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101					
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101					
50	1	104	103	109	94	105	105	111	99	131	121	104	98	109	90	105	104	111	94	131	115	104	93	105	85	105	99	110	89	131	110					
	2	104	88	100	81	104	84	111	94	131	112	103	83	95	77	98	80	110	89	126	107	98	79	90	73	93	76	105	85	122	101					
	3	91	74	86	70	94	76	103	84	131	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101					
60	1	97	97	103	94	100	100	106	99	128	121	97	97	103	90	100	100	106	94	128	115	97	93	103	85	100	99	106	89	128	110					
	2	97	88	100	81	100	84	106	94	128	112	97	83	95	77	98	80	106	89	126	107	97	79	90	73	93	76	105	85	122	101					
	3	91	74	86	70	94	76	103	84	128	112	87	70	81	66	89	72	98	79	126	107	82	67	77	63	85	69	93	75	122	101					

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
45	1	108	88	100	81	108	94	105	85	127	105	104	84	96	77	108	90	100	81	122	101			
	2	93	75	86	69	89	72	100	81	118	97	89	72	82	66	85	69	95	77	114	92			
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92			
50	1	104	88	100	81	105	94	105	85	127	105	104	84	96	77	105	90	100	81	122	101			
	2	93	75	86	69	89	72	100	81	118	97	89	72	82	66	85	69	95	77	114	92			
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92			
60	1	97	88	100	81	100	94	105	85	127	105	97	84	96	77	100	90	100	81	122	101			
	2	93	75	86	69	89	72	100	81	118	97	89	72	82	66	85	69	95	77	114	92			
	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92			

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73					
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66					
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66					
50	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73					
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66					
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66					
60	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73					
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66					
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66					

Exposure Category : C

Wind Speed [mph]	170												180											
	45	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65		
2		59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58			
3		50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58			
50	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65			
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58			
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58			
60	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65			
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58			
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58			

Wind Speed [mph]	190												200											
	45	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59		
2		53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52			
3		45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52			
50	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59			
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52			
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52			
60	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59			
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	38	48	39	54	44	64	52			
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52			

Panal Angle	ASCE Group Zone	
	Gable	Hip
<b>0 - 7</b>	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
<b>7 - 20</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
<b>20 - 27</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
<b>27 - 45</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
<b>45 - 90</b>	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		70	1	91	91	99	94	95	95	102	99	125	121	91	91	99	90	95	95	102	94	125	115	91	91	99	85	95	95	102	89
70	2	91	88	99	81	95	84	102	94	125	112	91	83	95	77	95	80	102	89	125	107	91	79	90	73	93	76	102	85	122	101
70	3	91	74	86	70	94	76	102	84	125	112	87	70	81	66	89	72	98	79	125	107	82	67	77	63	85	69	93	75	122	101
80	1	85	85	95	94	92	92	99	99	122	121	85	85	95	90	92	92	99	94	122	115	85	85	95	85	92	92	99	89	122	110
80	2	85	85	95	81	92	84	99	94	122	112	85	83	95	77	92	80	99	89	122	107	85	79	90	73	92	76	99	85	122	101
80	3	85	74	86	70	92	76	99	84	122	112	85	70	81	66	89	72	98	79	122	107	82	67	77	63	85	69	93	75	122	101
90	1	81	81	91	91	89	89	95	95	119	119	81	81	91	90	89	89	95	94	119	115	81	81	91	85	89	89	95	89	119	110
90	2	81	81	91	81	89	84	95	94	119	112	81	81	91	77	89	80	95	89	119	107	81	79	90	73	89	76	95	85	119	101
90	3	81	74	86	70	89	76	95	84	119	112	81	70	81	66	89	72	95	79	119	107	81	67	77	63	85	69	93	75	119	101
Wind Speed [mph]		110										115																			
70	1	91	88	99	81	95	94	102	85	125	105	91	84	96	77	95	90	100	81	122	101										
70	2	91	75	86	69	89	72	100	81	118	97	89	72	82	66	85	69	95	77	114	92										
70	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92										
80	1	85	85	95	81	92	92	99	85	122	105	85	84	95	77	92	90	99	81	122	101										
80	2	85	75	86	69	89	72	99	81	118	97	85	72	82	66	85	69	95	77	114	92										
80	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92										
90	1	81	81	91	81	89	89	95	85	119	105	81	81	91	77	89	89	95	81	119	101										
90	2	81	75	86	69	89	72	95	81	118	97	81	72	82	66	85	69	95	77	114	92										
90	3	78	64	74	60	81	66	89	72	118	97	75	61	70	57	77	63	85	69	114	92										
Wind Speed [mph]		120										130																			
70	1	91	81	91	74	95	86	96	78	117	97	91	74	84	68	95	79	88	72	109	90										
70	2	85	69	78	63	81	66	91	74	109	88	78	63	72	58	75	61	84	68	100	81										
70	3	72	58	67	55	74	60	81	66	109	88	66	54	62	50	68	55	75	61	100	81										
80	1	85	81	91	74	92	86	96	78	117	97	85	74	84	68	92	79	88	72	109	90										
80	2	85	69	78	63	81	66	91	74	109	88	78	63	72	58	75	61	84	68	100	81										
80	3	72	58	67	55	74	60	81	66	109	88	66	54	62	50	68	55	75	61	100	81										
90	1	81	81	91	74	89	86	95	78	117	97	81	74	84	68	89	79	88	72	109	90										
90	2	81	69	78	63	81	66	91	74	109	88	78	63	72	58	75	61	84	68	100	81										
90	3	72	58	67	55	74	60	81	66	109	88	66	54	62	50	68	55	75	61	100	81										

Exposure Category : C

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Span, inches																											
Wind Speed [mph]		140												150												160											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge																																		
70	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73						
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66						
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66						
80	1	85	69	78	63	90	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73						
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66						
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66						
90	1	81	69	78	63	89	73	82	67	102	83	79	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73						
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66						
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66						

Exposure Category : C

Wind Speed [mph]		170												180																	
70	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65	56	45	52	42	54	44	60	49	72	58
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58	47	38	44	36	49	40	54	44	72	58
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58	47	38	44	36	49	40	54	44	72	58
80	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65	56	45	52	42	54	44	60	49	72	58
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58	47	38	44	36	49	40	54	44	72	58
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58	47	38	44	36	49	40	54	44	72	58
90	1	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65	56	45	52	42	54	44	60	49	72	58
	2	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58	47	38	44	36	49	40	54	44	72	58
	3	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58	47	38	44	36	49	40	54	44	72	58

Wind Speed [mph]		190												200																	
70	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59	50	41	46	38	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	35	40	32	44	36	48	39	64	52	42	35	40	32	44	36	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52	42	35	40	32	44	36	48	39	64	52
80	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59	50	41	46	38	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	35	40	32	44	36	48	39	64	52	42	35	40	32	44	36	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52	42	35	40	32	44	36	48	39	64	52
90	1	62	50	57	46	66	54	60	49	76	62	59	48	54	44	62	51	57	46	72	59	50	41	46	38	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	35	40	32	44	36	48	39	64	52	42	35	40	32	44	36	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52	42	35	40	32	44	36	48	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	77	77	89	88	86	86	93	93	117	117	77	77	89	87	86	86	93	93	117	115	77	77	89	85	86	86	93	89	117	110					
	2	77	77	89	81	86	84	93	93	117	112	77	77	89	77	86	80	93	89	117	107	77	77	89	73	86	76	93	85	117	101					
	3	77	74	86	70	86	76	93	84	117	112	77	70	81	66	86	72	93	79	117	107	77	67	77	63	85	69	93	75	117	101					

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	77	77	89	81	86	86	93	85	117	105	77	77	89	77	86	86	93	81	117	101			
	2	77	75	86	69	86	72	93	81	117	97	77	72	82	66	85	69	93	77	114	92			
	3	77	64	74	60	81	66	89	72	117	97	75	61	70	57	77	63	85	69	114	92			

Wind Speed [mph]	120												130											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	77	77	88	74	86	86	93	78	117	97	77	74	84	68	86	79	88	72	109	90			
	2	77	69	78	63	81	66	91	74	109	88	77	63	72	58	75	61	84	68	100	81			
	3	72	58	67	55	74	60	81	66	109	88	66	54	62	50	68	55	75	61	100	81			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		74in x 41.2in		Span, inches																														
Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		100	1	77	69	78	63	86	73	82	67	102	83	77	64	73	59	84	68	76	62	95	78	74	60	68	55	79	64	71	58	89	73			
	2	72	59	67	54	69	56	78	63	93	75	68	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	68	55	81	66					
	3	61	50	58	47	63	51	69	56	93	75	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	66					

Exposure Category : C

Wind Speed [mph]	170												180																											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12																
100	69	56	64	52	74	60	67	55	84	69	65	53	60	49	70	57	63	51	80	65	59	48	55	44	57	46	64	52	76	62	56	45	52	42	54	44	60	49	72	58
	50	41	47	38	52	42	57	46	76	62	47	38	44	36	49	40	54	44	72	58	45	36	42	34	46	38	51	41	68	55	42	35	40	32	44	36	48	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105																			
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90	
Ground Snow	Group	Array Interior	Array Edge																																									
0	1	118	96	109	88	123	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103													
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94													
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94													
5	1	118	96	109	88	123	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103													
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94													
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94													
10	1	118	96	109	88	123	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103													
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94													
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94													

Exposure Category : D

Wind Speed [mph]	110												115																		
	0	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106
2		87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
3		73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99
5	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99
10	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		0	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
5	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
10	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61

Exposure Category : D

Wind Speed [mph]		170										180									
0	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
5	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
10	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54

Wind Speed [mph]		190										200									
0	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
5	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
10	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	118	96	109	88	123	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
20	1	118	96	109	88	123	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
25	1	118	96	109	88	123	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		

Exposure Category : D

Wind Speed [mph]	110											115																			
	15	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106
2		87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
3		73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99
20	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99
25	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		15	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61

Exposure Category : D

Wind Speed [mph]		170										180									
15	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
20	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
25	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
Wind Speed [mph]		190										200									
15	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
20	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
25	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
30	1	118	96	109	88	123	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
35	1	118	96	109	88	119	102	114	92	133	113	112	91	103	83	118	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
40	1	116	96	109	88	115	102	114	92	133	113	112	91	103	83	115	97	108	88	129	108	107	86	98	79	114	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		

Exposure Category : D

Wind Speed [mph]	110											115																			
	30	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106
2		87	70	80	65	83	67	93	75	111	90	70	57	66	53	72	58	79	64	106	86	70	57	66	53	72	58	79	64	106	86
3		73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	70	57	66	53	72	58	79	64	106	86
35	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	70	57	66	53	72	58	79	64	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	70	57	66	53	72	58	79	64	106	86
40	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	70	57	66	53	72	58	79	64	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	70	57	66	53	72	58	79	64	106	86
30	1	93	75	85	69	99	80	89	73	110	91	85	69	78	63	91	74	82	67	102	84	73	59	67	54	70	57	78	63	93	76
	2	79	64	73	59	76	61	85	69	101	82	61	50	58	47	63	52	70	57	93	76	61	50	58	47	63	52	70	57	93	76
	3	67	54	63	51	69	56	75	61	101	82	61	50	58	47	63	52	70	57	93	76	61	50	58	47	63	52	70	57	93	76
35	1	93	75	85	69	99	80	89	73	110	91	85	69	78	63	91	74	82	67	102	84	73	59	67	54	70	57	78	63	93	76
	2	79	64	73	59	76	61	85	69	101	82	61	50	58	47	63	52	70	57	93	76	61	50	58	47	63	52	70	57	93	76
	3	67	54	63	51	69	56	75	61	101	82	61	50	58	47	63	52	70	57	93	76	61	50	58	47	63	52	70	57	93	76
40	1	93	75	85	69	99	80	89	73	110	91	85	69	78	63	91	74	82	67	102	84	73	59	67	54	70	57	78	63	93	76
	2	79	64	73	59	76	61	85	69	101	82	61	50	58	47	63	52	70	57	93	76	61	50	58	47	63	52	70	57	93	76
	3	67	54	63	51	69	56	75	61	101	82	61	50	58	47	63	52	70	57	93	76	61	50	58	47	63	52	70	57	93	76

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		30	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61

Exposure Category : D

Wind Speed [mph]		170										180									
30	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
35	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
40	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54

Wind Speed [mph]		190										200									
30	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
35	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
40	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
45	1	112	96	109	88	112	102	114	92	133	113	112	91	103	83	112	97	108	88	129	108	107	86	98	79	112	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
50	1	108	96	109	88	109	102	114	92	133	113	108	91	103	83	109	97	108	88	129	108	107	86	98	79	109	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
60	1	102	96	107	88	103	102	109	92	130	113	102	91	103	83	103	97	108	88	129	108	102	86	98	79	103	92	103	83	125	103		
	2	101	82	93	75	97	78	108	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		

Exposure Category : D

Wind Speed [mph]	110											115																			
	45	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106
2		87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
3		73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99
50	1	102	82	93	75	108	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99
60	1	102	82	93	75	103	87	98	79	119	99	97	78	89	72	103	84	93	76	115	94	83	67	76	62	79	64	88	72	106	86
	2	87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	70	57	66	53	72	58	79	64	106	86
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	102	82	93	75	108	87	98	79	119	99

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		45	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61

Exposure Category : D

Wind Speed [mph]		170										180									
45	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
50	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
60	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
Wind Speed [mph]		190										200									
45	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
50	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
60	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
70	1	96	96	102	88	99	99	105	92	127	113	96	91	102	83	99	97	105	88	127	108	96	86	98	79	99	92	103	83	125	103		
	2	96	82	93	75	97	78	105	87	124	105	96	77	88	71	91	74	102	83	120	99	91	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
80	1	90	90	98	88	95	95	102	92	124	113	90	90	98	83	95	95	102	88	124	108	90	86	98	79	95	92	102	83	124	103		
	2	90	82	93	75	95	78	102	87	124	105	90	77	88	71	91	74	102	83	120	99	90	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	124	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		
90	1	85	85	95	88	92	92	99	92	122	113	85	85	95	83	92	92	99	88	122	108	85	85	95	79	92	92	99	83	122	103		
	2	85	82	93	75	92	78	99	87	122	105	85	77	88	71	91	74	99	83	120	99	85	74	84	68	87	70	97	79	116	94		
	3	85	69	80	65	88	71	96	78	122	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94		

Exposure Category : D

Wind Speed [mph]	110											115										
	70	1	96	82	93	75	99	87	98	79	119	99	96	78	89	72	99	84	93	76	115	94
2		87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	
3		73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	
80	1	90	82	93	75	95	87	98	79	119	99	90	78	89	72	95	84	93	76	115	94	
	2	87	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	
90	1	85	82	93	75	92	87	98	79	119	99	85	78	89	72	92	84	93	76	115	94	
	2	85	70	80	65	83	67	93	75	111	90	83	67	76	62	79	64	88	72	106	86	
	3	73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86	
Wind Speed [mph]	120											130										
	70	1	93	75	85	69	99	80	89	73	110	91	85	69	78	63	91	74	82	67	102	84
2		79	64	73	59	76	61	85	69	101	82	73	59	67	54	70	57	78	63	93	76	
3		67	54	63	51	69	56	75	61	101	82	61	50	58	47	63	52	70	57	93	76	
80	1	90	75	85	69	95	80	89	73	110	91	85	69	78	63	91	74	82	67	102	84	
	2	79	64	73	59	76	61	85	69	101	82	73	59	67	54	70	57	78	63	93	76	
	3	67	54	63	51	69	56	75	61	101	82	61	50	58	47	63	52	70	57	93	76	
90	1	85	75	85	69	92	80	89	73	110	91	85	69	78	63	91	74	82	67	102	84	
	2	79	64	73	59	76	61	85	69	101	82	73	59	67	54	70	57	78	63	93	76	
	3	67	54	63	51	69	56	75	61	101	82	61	50	58	47	63	52	70	57	93	76	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		70	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61
	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54	83	68
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61

Exposure Category : D

Wind Speed [mph]		170										180									
70	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
80	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54
90	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54

Wind Speed [mph]		190										200									
70	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
80	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49
90	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	81	81	92	88	89	89	96	92	120	113	81	81	92	83	89	89	96	88	120	108	81	81	92	79	89	89	96	83	120	103					
	2	81	81	92	75	89	78	96	87	120	105	81	77	88	71	89	74	96	83	120	99	81	74	84	68	87	70	96	79	116	94					
	3	81	69	80	65	88	71	96	78	120	105	81	65	76	61	83	67	91	74	120	99	77	62	72	58	79	64	87	70	116	94					

Exposure Category : D

Wind Speed [mph]	110												115											
	100	1	81	81	92	75	89	87	96	79	119	99	81	78	89	72	89	84	93	76	115	94		
2		81	70	80	65	83	67	93	75	111	90	81	67	76	62	79	64	88	72	106	86			
3		73	59	69	56	75	61	83	67	111	90	70	57	66	53	72	58	79	64	106	86			

Wind Speed [mph]	120												130											
	100	1	81	75	85	69	89	80	89	73	110	91	81	69	78	63	89	74	82	67	102	84		
2		79	64	73	59	76	61	85	69	101	82	73	59	67	54	70	57	78	63	93	76			
3		67	54	63	51	69	56	75	61	101	82	61	50	58	47	63	52	70	57	93	76			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		74in x 41.2in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		100	1	79	64	72	59	84	68	76	62	95	78	73	60	67	55	78	63	71	58	89	73	69	56	63	51	73	59	66	54
	2	67	55	62	50	65	52	72	59	86	70	63	51	58	47	60	49	67	55	81	65	59	48	54	44	56	46	63	51	75	61
	3	57	46	54	44	59	48	64	52	86	70	53	43	50	41	55	45	60	49	81	65	50	40	47	38	51	42	56	46	75	61

Exposure Category : D

Wind Speed [mph]		170										180									
100	1	65	52	59	48	69	56	62	51	79	64	61	49	56	45	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	58	52	42	48	39	50	41	56	45	67	54
	3	47	38	44	36	48	39	53	43	71	58	44	36	41	34	45	37	50	41	67	54

Wind Speed [mph]		190										200									
100	1	58	47	53	43	61	50	56	45	71	58	55	44	50	41	58	47	53	43	67	55
	2	49	40	45	37	47	38	53	43	63	51	47	38	43	35	45	36	50	41	60	49
	3	42	34	39	32	43	35	47	38	63	51	40	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																										
Wind Speed [mph]		95										100										105										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																													
0	1	141	123	134	115	140	128	135	119	134	134	137	118	129	109	140	123	133	115	134	133	132	113	124	104	138	119	128	109	134	129	
	2	127	107	120	98	123	102	133	114	134	129	123	102	116	93	119	97	128	108	134	125	118	97	110	89	114	92	123	103	134	121	
	3	112	90	105	85	115	93	122	102	134	129	106	85	99	80	109	88	118	96	134	125	100	81	94	76	104	84	113	92	134	121	
	5	1	141	123	134	115	140	128	135	119	134	134	137	118	129	109	140	123	133	115	134	133	132	113	124	104	138	119	128	109	134	129
		2	127	107	120	98	123	102	133	114	134	129	123	102	116	93	119	97	128	108	134	125	118	97	110	89	114	92	123	103	134	121
		3	112	90	105	85	115	93	122	102	134	129	106	85	99	80	109	88	118	96	134	125	100	81	94	76	104	84	113	92	134	121
	10	1	132	123	134	115	140	128	135	119	134	134	132	118	129	109	140	123	133	115	134	133	132	113	124	104	138	119	128	109	134	129
		2	127	107	120	98	123	102	133	114	134	129	123	102	116	93	119	97	128	108	134	125	118	97	110	89	114	92	123	103	134	121
		3	112	90	105	85	115	93	122	102	134	129	106	85	99	80	109	88	118	96	134	125	100	81	94	76	104	84	113	92	134	121

Exposure Category : B

Wind Speed [mph]		110										115									
0	1	128	108	120	99	133	115	124	104	134	125	124	103	116	94	129	110	120	99	134	120
	2	114	92	104	84	109	88	119	98	134	117	109	88	100	81	104	84	116	94	130	112
	3	96	77	90	73	99	80	108	87	134	117	91	74	86	69	94	76	103	83	130	112
5	1	128	108	120	99	133	115	124	104	134	125	124	103	116	94	129	110	120	99	134	120
	2	114	92	104	84	109	88	119	98	134	117	109	88	100	81	104	84	116	94	130	112
	3	96	77	90	73	99	80	108	87	134	117	91	74	86	69	94	76	103	83	130	112
10	1	128	108	120	99	133	115	124	104	134	125	124	103	116	94	129	110	120	99	134	120
	2	114	92	104	84	109	88	119	98	134	117	109	88	100	81	104	84	116	94	130	112
	3	96	77	90	73	99	80	108	87	134	117	91	74	86	69	94	76	103	83	130	112

Wind Speed [mph]		120										130									
0	1	120	98	112	90	125	105	117	95	134	115	112	90	103	83	118	96	108	87	128	107
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99
5	1	120	98	112	90	125	105	117	95	134	115	112	90	103	83	118	96	108	87	128	107
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99
10	1	120	98	112	90	125	105	117	95	134	115	112	90	103	83	118	96	108	87	128	107
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80
5	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80
10	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80

Exposure Category : B

Wind Speed [mph]		170										180																			
0	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	68	55	62	51	65	53	73	59	87	71
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	57	47	54	44	59	48	65	53	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	1	1	1	1	1	1	1	1	1	1
5	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	68	55	62	51	65	53	73	59	87	71
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	57	47	54	44	59	48	65	53	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	1	1	1	1	1	1	1	1	1	1
10	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	68	55	62	51	65	53	73	59	87	71
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	57	47	54	44	59	48	65	53	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	1	1	1	1	1	1	1	1	1	1

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	125	123	134	115	136	128	134	119	134	134	125	118	129	109	136	123	133	115	134	133	125	113	124	104	136	119	128	109	134	129					
	2	125	107	120	98	123	102	133	114	134	129	123	102	116	93	119	97	128	108	134	125	118	97	110	89	114	92	123	103	134	121					
	3	112	90	105	85	115	93	122	102	134	129	106	85	99	80	109	88	118	96	134	125	100	81	94	76	104	84	113	92	134	121					
20	1	117	117	132	115	128	128	128	119	134	134	117	117	129	109	128	123	128	115	134	133	117	113	124	104	128	119	128	109	134	129					
	2	117	107	120	98	123	102	128	114	134	129	117	102	116	93	119	97	128	108	134	125	117	97	110	89	114	92	123	103	134	121					
	3	112	90	105	85	115	93	122	102	134	129	106	85	99	80	109	88	118	96	134	125	100	81	94	76	104	84	113	92	134	121					
25	1	117	117	127	115	121	121	123	119	134	134	117	117	127	109	121	121	123	115	134	133	117	113	124	104	121	119	123	109	134	129					
	2	117	107	120	98	121	102	123	114	134	129	117	102	116	93	119	97	123	108	134	125	117	97	110	89	114	92	123	103	134	121					
	3	112	90	105	85	115	93	122	102	134	129	106	85	99	80	109	88	118	96	134	125	100	81	94	76	104	84	113	92	134	121					

Exposure Category : B

Wind Speed [mph]	110												115											
	15	1	125	108	120	99	133	115	124	104	134	125	124	103	116	94	129	110	120	99	134	120		
2		114	92	104	84	109	88	119	98	134	117	109	88	100	81	104	84	116	94	130	112			
3		96	77	90	73	99	80	108	87	134	117	91	74	86	69	94	76	103	83	130	112			
20	1	117	108	120	99	128	115	124	104	134	125	117	103	116	94	128	110	120	99	134	120			
	2	114	92	104	84	109	88	119	98	134	117	109	88	100	81	104	84	116	94	130	112			
	3	96	77	90	73	99	80	108	87	134	117	91	74	86	69	94	76	103	83	130	112			
25	1	117	108	120	99	121	115	123	104	134	125	117	103	116	94	121	110	120	99	134	120			
	2	114	92	104	84	109	88	119	98	134	117	109	88	100	81	104	84	116	94	130	112			
	3	96	77	90	73	99	80	108	87	134	117	91	74	86	69	94	76	103	83	130	112			

Wind Speed [mph]	120												130											
	15	1	120	98	112	90	125	105	117	95	134	115	112	90	103	83	118	96	108	87	128	107		
2		104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99			
3		87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99			
20	1	117	98	112	90	125	105	117	95	134	115	112	90	103	83	118	96	108	87	128	107			
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99			
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99			
25	1	117	98	112	90	121	105	117	95	134	115	112	90	103	83	118	96	108	87	128	107			
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99			
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88		
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80		
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80		
20	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88		
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80		
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80		
25	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88		
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80		
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80		

Exposure Category : B

Wind Speed [mph]	170											180										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
15	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	
20	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	
25	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	114	114	121	115	116	116	119	119	134	134	114	114	121	109	116	116	119	115	134	133	114	113	121	104	116	116	119	109	134	129
	2	114	107	120	98	116	102	119	114	134	129	114	102	116	93	116	97	119	108	134	125	114	97	110	89	114	92	119	103	134	121
	3	112	90	105	85	115	93	119	102	134	129	106	85	99	80	109	88	118	96	134	125	100	81	94	76	104	84	113	92	134	121
35	1	110	110	116	115	112	112	116	116	132	132	110	110	116	109	112	112	116	115	132	132	110	110	116	104	112	112	116	109	132	129
	2	110	107	116	98	112	102	116	114	132	129	110	102	116	93	112	97	116	108	132	125	110	97	110	89	112	92	116	103	132	121
	3	110	90	105	85	112	93	116	102	132	129	106	85	99	80	109	88	116	96	132	125	100	81	94	76	104	84	113	92	132	121
40	1	105	105	112	112	108	108	112	112	130	130	105	105	112	109	108	108	112	112	130	130	105	105	112	104	108	108	112	109	130	129
	2	105	105	112	98	108	102	112	112	130	129	105	102	112	93	108	97	112	108	130	125	105	97	110	89	108	92	112	103	130	121
	3	105	90	105	85	108	93	112	102	130	129	105	85	99	80	108	88	112	96	130	125	100	81	94	76	104	84	112	92	130	121

Exposure Category : B

Wind Speed [mph]		110										115									
30	1	114	108	120	99	116	115	119	104	134	125	114	103	116	94	116	110	119	99	134	120
	2	114	92	104	84	109	88	119	98	134	117	109	88	100	81	104	84	116	94	130	112
	3	96	77	90	73	99	80	108	87	134	117	91	74	86	69	94	76	103	83	130	112
35	1	110	108	116	99	112	112	116	104	132	125	110	103	116	94	112	110	116	99	132	120
	2	110	92	104	84	109	88	116	98	132	117	109	88	100	81	104	84	116	94	130	112
	3	96	77	90	73	99	80	108	87	132	117	91	74	86	69	94	76	103	83	130	112
40	1	105	105	112	99	108	108	112	104	130	125	105	103	112	94	108	108	112	99	130	120
	2	105	92	104	84	108	88	112	98	130	117	105	88	100	81	104	84	112	94	130	112
	3	96	77	90	73	99	80	108	87	130	117	91	74	86	69	94	76	103	83	130	112
Wind Speed [mph]		120										130									
30	1	114	98	112	90	116	105	117	95	134	115	112	90	103	83	116	96	108	87	128	107
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99
35	1	110	98	112	90	112	105	116	95	132	115	110	90	103	83	112	96	108	87	128	107
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99
40	1	105	98	112	90	108	105	112	95	130	115	105	90	103	83	108	96	108	87	128	107
	2	104	84	95	77	99	80	111	90	127	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					83in x 41.5in					Span, inches																			
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
		30	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80
	1	104	84	95	77	110	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80
	1	104	84	95	77	108	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80

Exposure Category : B

Wind Speed [mph]		170										180									
30	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71
35	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71
40	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71
Wind Speed [mph]		190										200									
30	1	75	61	69	56	80	65	73	59	90	74	71	58	65	53	76	62	69	56	86	71
	2	64	52	59	48	61	50	69	56	82	67	61	49	56	46	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63
35	1	75	61	69	56	80	65	73	59	90	74	71	58	65	53	76	62	69	56	86	71
	2	64	52	59	48	61	50	69	56	82	67	61	49	56	46	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63
40	1	75	61	69	56	80	65	73	59	90	74	71	58	65	53	76	62	69	56	86	71
	2	64	52	59	48	61	50	69	56	82	67	61	49	56	46	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		1	102	102	108	108	104	104	109	109	128	128	102	102	108	108	104	104	109	109	128	128	102	102	108	104	104	104	104	109	109
45	2	102	102	108	98	104	102	109	109	128	128	102	102	108	93	104	97	109	108	128	125	102	97	108	89	104	92	109	103	128	121
	3	102	90	105	85	104	93	109	102	128	128	102	85	99	80	104	88	109	96	128	125	100	81	94	76	104	84	109	92	128	121
50	1	98	98	105	105	101	101	107	107	126	126	98	98	105	105	101	101	107	107	126	126	98	98	105	104	101	101	107	107	126	126
	2	98	98	105	98	101	101	107	107	126	126	98	98	105	93	101	97	107	107	126	125	98	97	105	89	101	92	107	103	126	121
	3	98	90	105	85	101	93	107	102	126	126	98	85	99	80	101	88	107	96	126	125	98	81	94	76	101	84	107	92	126	121
60	1	92	92	100	100	96	96	102	102	123	123	92	92	100	100	96	96	102	102	123	123	92	92	100	100	96	96	102	102	123	123
	2	92	92	100	98	96	96	102	102	123	123	92	92	100	93	96	96	102	102	123	123	92	92	100	89	96	92	102	102	123	121
	3	92	90	100	85	96	93	102	102	123	123	92	85	99	80	96	88	102	96	123	123	92	81	94	76	96	84	102	92	123	121

Exposure Category : B

Wind Speed [mph]		110										115									
45	1	102	102	108	99	104	104	109	104	128	125	102	102	108	94	104	104	109	99	128	120
	2	102	92	104	84	104	88	109	98	128	117	102	88	100	81	104	84	109	94	128	112
	3	96	77	90	73	99	80	108	87	128	117	91	74	86	69	94	76	103	83	128	112
50	1	98	98	105	99	101	101	107	104	126	125	98	98	105	94	101	101	107	99	126	120
	2	98	92	104	84	101	88	107	98	126	117	98	88	100	81	101	84	107	94	126	112
	3	96	77	90	73	99	80	107	87	126	117	91	74	86	69	94	76	103	83	126	112
60	1	92	92	100	99	96	96	102	102	123	123	92	92	100	94	96	96	102	99	123	120
	2	92	92	100	84	96	88	102	98	123	117	92	88	100	81	96	84	102	94	123	112
	3	92	77	90	73	96	80	102	87	123	117	91	74	86	69	94	76	102	83	123	112
Wind Speed [mph]		120										130									
45	1	102	98	108	90	104	104	109	95	128	115	102	90	103	83	104	96	108	87	128	107
	2	102	84	95	77	99	80	109	90	127	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	127	107	80	65	75	61	83	67	91	74	120	99
50	1	98	98	105	90	101	101	107	95	126	115	98	90	103	83	101	96	107	87	126	107
	2	98	84	95	77	99	80	107	90	126	107	95	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	126	107	80	65	75	61	83	67	91	74	120	99
60	1	92	92	100	90	96	96	102	95	123	115	92	90	100	83	96	96	102	87	123	107
	2	92	84	95	77	96	80	102	90	123	107	92	77	88	71	91	74	102	82	120	99
	3	87	71	82	66	90	73	99	80	123	107	80	65	75	61	83	67	91	74	120	99

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
45	1	102	84	95	77	104	89	100	81	121	100	96	78	88	71	103	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88		
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80		
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80		
50	1	98	84	95	77	101	89	100	81	121	100	96	78	88	71	101	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88		
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80		
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80		
60	1	92	84	95	77	96	89	100	81	121	100	92	78	88	71	96	83	93	75	113	93	90	73	82	67	96	77	87	70	106	88		
	2	88	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80		
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80		

Exposure Category : B

Wind Speed [mph]	170											180										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
45	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	
50	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	
60	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78	
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71	
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	86	95	95	92	92	98	98	120	120	86	86	95	95	92	92	98	98	120	120	86	86	95	95	92	92	98	98	120	120
	2	86	86	95	95	92	92	98	98	120	120	86	86	95	93	92	92	98	98	120	120	86	86	95	89	92	92	98	98	120	120
	3	86	86	95	85	92	92	98	98	120	120	86	85	95	80	92	88	98	96	120	120	86	81	94	76	92	84	98	92	120	120
80	1	80	80	91	91	88	88	95	95	117	117	80	80	91	91	88	88	95	95	117	117	80	80	91	91	88	88	95	95	117	117
	2	80	80	91	91	88	88	95	95	117	117	80	80	91	91	88	88	95	95	117	117	80	80	91	89	88	88	95	95	117	117
	3	80	80	91	85	88	88	95	95	117	117	80	80	91	80	88	88	95	95	117	117	80	80	91	76	88	84	95	92	117	117
90	1	76	76	88	88	85	85	92	92	115	115	76	76	88	88	85	85	92	92	115	115	76	76	88	88	85	85	92	92	115	115
	2	76	76	88	88	85	85	92	92	115	115	76	76	88	88	85	85	92	92	115	115	76	76	88	88	85	85	92	92	115	115
	3	76	76	88	85	85	85	92	92	115	115	76	76	88	80	85	85	92	92	115	115	76	76	88	76	85	84	92	92	115	115

Exposure Category : B

Wind Speed [mph]		110										115									
70	1	86	86	95	95	92	92	98	98	120	120	86	86	95	94	92	92	98	98	120	120
	2	86	86	95	84	92	88	98	98	120	117	86	86	95	81	92	84	98	94	120	112
	3	86	77	90	73	92	80	98	87	120	117	86	74	86	69	92	76	98	83	120	112
80	1	80	80	91	91	88	88	95	95	117	117	80	80	91	91	88	88	95	95	117	117
	2	80	80	91	84	88	88	95	95	117	117	80	80	91	81	88	84	95	94	117	112
	3	80	77	90	73	88	80	95	87	117	117	80	74	86	69	88	76	95	83	117	112
90	1	76	76	88	88	85	85	92	92	115	115	76	76	88	88	85	85	92	92	115	115
	2	76	76	88	84	85	85	92	92	115	115	76	76	88	81	85	84	92	92	115	112
	3	76	76	88	73	85	80	92	87	115	115	76	74	86	69	85	76	92	83	115	112

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	84	95	77	92	89	98	81	120	100	86	78	88	71	92	83	93	75	113	93	86	73	82	67	92	77	87	70	106	88
	2	86	71	81	66	84	68	94	76	113	91	82	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80
80	1	80	80	91	77	88	88	95	81	117	100	80	78	88	71	88	83	93	75	113	93	80	73	82	67	88	77	87	70	106	88
	2	80	71	81	66	84	68	94	76	113	91	80	66	75	61	78	64	88	71	105	85	77	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80
90	1	76	76	88	77	85	85	92	81	115	100	76	76	86	71	85	83	92	75	113	93	76	73	82	67	85	77	87	70	106	88
	2	76	71	81	66	84	68	92	76	113	91	76	66	75	61	78	64	88	71	105	85	76	62	71	57	73	60	82	67	98	80
	3	74	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80

Exposure Category : B

Wind Speed [mph]		170										180									
70	1	84	68	77	63	90	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71
80	1	80	68	77	63	88	73	81	66	100	83	79	64	73	59	85	69	77	62	95	78
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71
90	1	76	68	77	63	85	73	81	66	100	83	76	64	73	59	85	69	77	62	95	78
	2	72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71
	3	61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71

Wind Speed [mph]		190										200									
70	1	75	61	69	56	80	65	73	59	90	74	71	58	65	53	76	62	69	56	86	71
	2	64	52	59	48	61	50	69	56	82	67	61	49	56	46	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63
80	1	75	61	69	56	80	65	73	59	90	74	71	58	65	53	76	62	69	56	86	71
	2	64	52	59	48	61	50	69	56	82	67	61	49	56	46	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63
90	1	75	61	69	56	80	65	73	59	90	74	71	58	65	53	76	62	69	56	86	71
	2	64	52	59	48	61	50	69	56	82	67	61	49	56	46	58	47	65	53	78	63
	3	54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																														
Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	72	72	85	85	83	83	89	89	113	113	72	72	85	85	83	83	89	89	113	113	72	72	85	85	83	83	89	89	113	113					
	2	72	72	85	85	83	83	89	89	113	113	72	72	85	85	83	83	89	89	113	113	72	72	85	85	83	83	89	89	113	113					
	3	72	72	85	85	83	83	89	89	113	113	72	72	85	80	83	83	89	89	113	113	72	72	85	76	83	83	89	89	113	113					

Exposure Category : B

Wind Speed [mph]	110												115											
	100	1	72	72	85	85	83	83	89	89	113	113	72	72	85	85	83	83	89	89	113	113		
2		72	72	85	84	83	83	89	89	113	113	72	72	85	81	83	83	89	89	113	112			
3		72	72	85	73	83	80	89	87	113	113	72	72	85	69	83	76	89	83	113	112			

Wind Speed [mph]	120												130											
	100	1	72	72	85	84	83	83	89	89	113	113	72	72	85	82	83	83	89	87	113	107		
2		72	72	85	77	83	80	89	89	113	107	72	72	85	71	83	74	89	82	113	99			
3		72	71	82	66	83	73	89	80	113	107	72	65	75	61	83	67	89	74	113	99			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	72	72	85	77	83	83	89	81	113	100	72	72	83	71	83	83	89	75	113	93	72	72	82	67	83	77	87	70	106	88					
	2	72	71	81	66	83	68	89	76	113	91	72	66	75	61	78	64	88	71	105	85	72	62	71	57	73	60	82	67	98	80					
	3	72	60	70	57	77	62	84	68	113	91	69	56	65	53	71	58	78	63	105	85	65	52	61	49	67	54	73	59	98	80					

Exposure Category : B

Wind Speed [mph]	170												180											
	100	1	72	68	77	63	83	73	81	66	100	83	72	64	73	59	83	69	77	62	95	78		
2		72	58	66	54	69	56	77	63	92	75	68	55	62	51	65	53	73	59	87	71			
3		61	49	57	46	63	51	69	56	92	75	57	47	54	44	59	48	65	53	87	71			

Wind Speed [mph]	190												200											
	100	1	72	61	69	56	80	65	73	59	90	74	71	58	65	53	76	62	69	56	86	71		
2		64	52	59	48	61	50	69	56	82	67	61	49	56	46	58	47	65	53	78	63			
3		54	44	51	41	56	45	61	50	82	67	51	42	48	39	53	43	58	47	78	63			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		0	1	126	105	118	97	131	112	122	101	134	122	121	100	113	91	126	106	118	96	134	117	117	95	108	87	122	101	113	91
2	111		90	102	82	106	86	118	96	133	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103
3	93		76	88	71	96	78	106	85	133	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
5	1	126	105	118	97	131	112	122	101	134	122	121	100	113	91	126	106	118	96	134	117	117	95	108	87	122	101	113	91	132	112
	2	111	90	102	82	106	86	118	96	133	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103
	3	93	76	88	71	96	78	106	85	133	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
10	1	126	105	118	97	131	112	122	101	134	122	121	100	113	91	126	106	118	96	134	117	117	95	108	87	122	101	113	91	132	112
	2	111	90	102	82	106	86	118	96	133	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103
	3	93	76	88	71	96	78	106	85	133	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
0	1	112	90	102	83	118	96	108	87	128	107	107	86	98	79	114	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	76	62	72	58	79	64	86	70	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	76	62	72	58	79	64	86	70	116	94
5	1	112	90	102	83	118	96	108	87	128	107	107	86	98	79	114	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	76	62	72	58	79	64	86	70	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	76	62	72	58	79	64	86	70	116	94
10	1	112	90	102	83	118	96	108	87	128	107	107	86	98	79	114	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	76	62	72	58	79	64	86	70	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	76	62	72	58	79	64	86	70	116	94
0	1	102	82	93	76	109	88	98	80	119	98	94	76	86	70	100	81	90	73	110	91	80	65	73	60	76	62	85	69	102	83
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	67	55	63	51	70	56	76	62	102	83
	3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	67	55	63	51	70	56	76	62	102	83
5	1	102	82	93	76	109	88	98	80	119	98	94	76	86	70	100	81	90	73	110	91	80	65	73	60	76	62	85	69	102	83
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	67	55	63	51	70	56	76	62	102	83
	3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	67	55	63	51	70	56	76	62	102	83
10	1	102	82	93	76	109	88	98	80	119	98	94	76	86	70	100	81	90	73	110	91	80	65	73	60	76	62	85	69	102	83
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	67	55	63	51	70	56	76	62	102	83
	3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	67	55	63	51	70	56	76	62	102	83

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
5	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
10	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : C

Wind Speed [mph]		170										180																			
0	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66										
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60										
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60										
5	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66										
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60										
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60										
10	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66										
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60										
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60										

Wind Speed [mph]		190										200																			
0	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60										
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53										
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53										
5	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60										
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53										
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53										
10	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60										
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53										
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	125	105	118	97	131	112	122	101	134	122	121	100	113	91	126	106	118	96	134	117	117	95	108	87	122	101	113	91	132	112					
	2	111	90	102	82	106	86	118	96	133	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103					
	3	93	76	88	71	96	78	106	85	133	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103					
20	1	117	105	118	97	128	112	122	101	134	122	117	100	113	91	126	106	118	96	134	117	117	95	108	87	122	101	113	91	132	112					
	2	111	90	102	82	106	86	118	96	133	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103					
	3	93	76	88	71	96	78	106	85	133	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103					
25	1	117	105	118	97	121	112	122	101	134	122	117	100	113	91	121	106	118	96	134	117	117	95	108	87	121	101	113	91	132	112					
	2	111	90	102	82	106	86	118	96	133	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103					
	3	93	76	88	71	96	78	106	85	133	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103					

Exposure Category : C

Wind Speed [mph]	110												115																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
15	1	112	90	102	83	118	96	108	87	128	107	107	86	98	79	114	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	76	62	72	58	79	64	86	70	116	94	80	65	75	61	83	67	91	73	120	99
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	80	65	75	61	83	67	91	73	120	99
20	1	112	90	102	83	118	96	108	87	128	107	107	86	98	79	114	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	76	62	72	58	79	64	86	70	116	94	80	65	75	61	83	67	91	73	120	99
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	80	65	75	61	83	67	91	73	120	99
25	1	112	90	102	83	118	96	108	87	128	107	107	86	98	79	114	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	76	62	72	58	79	64	86	70	116	94	80	65	75	61	83	67	91	73	120	99
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	80	65	75	61	83	67	91	73	120	99

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																													
15	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74	
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67	
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67	
	20	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	25	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : C

Wind Speed [mph]		170										180									
15	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
20	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
25	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60

Wind Speed [mph]		190										200									
15	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
20	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
25	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																														
Wind Speed [mph]	95												100												105											
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	114	105	118	97	116	112	119	101	134	122	114	100	113	91	116	106	118	96	134	117	114	95	108	87	116	101	113	91	132	112					
	2	111	90	102	82	106	86	118	96	133	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103					
	3	93	76	88	71	96	78	106	85	133	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103					
	35	1	110	105	116	97	112	112	116	101	132	122	110	100	113	91	112	106	116	96	132	117	110	95	108	87	112	101	113	91	132	112				
		2	110	90	102	82	106	86	116	96	132	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103				
		3	93	76	88	71	96	78	106	85	132	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103				
	40	1	105	105	112	97	108	108	112	101	130	122	105	100	112	91	108	106	112	96	130	117	105	95	108	87	108	101	112	91	130	112				
		2	105	90	102	82	106	86	112	96	130	115	105	85	97	78	101	81	112	91	128	109	100	81	92	74	96	77	107	86	123	103				
		3	93	76	88	71	96	78	106	85	130	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103				
30	1	112	90	102	83	116	96	108	87	128	107	107	86	98	79	114	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94					
	2	95	77	87	71	91	74	102	82	120	99	91	74	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94					
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	107	86	98	79	112	92	103	83	124	102					
	35	1	110	90	102	83	112	96	108	87	128	107	107	86	98	79	112	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94				
		2	95	77	87	71	91	74	102	82	120	99	91	74	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94				
		3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	105	86	98	79	108	92	103	83	124	102				
	40	1	105	90	102	83	108	96	108	87	128	107	105	86	98	79	108	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94				
		2	95	77	87	71	91	74	102	82	120	99	91	74	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94				
		3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	102	82	102	99	76	62	72	58	79	64	86	70	116	94
30	1	102	82	93	76	109	88	98	80	119	98	94	76	86	70	100	81	90	73	110	91	80	65	73	60	76	62	85	69	102	83					
	2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	67	55	63	51	70	56	76	62	102	83					
	3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	94	76	86	70	100	81	90	73	110	91					
	35	1	102	82	93	76	109	88	98	80	119	98	94	76	86	70	100	81	90	73	110	91	80	65	73	60	76	62	85	69	102	83				
		2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	67	55	63	51	70	56	76	62	102	83				
		3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	94	76	86	70	100	81	90	73	110	91				
	40	1	102	82	93	76	108	88	98	80	119	98	94	76	86	70	100	81	90	73	110	91	80	65	73	60	76	62	85	69	102	83				
		2	87	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	67	55	63	51	70	56	76	62	102	83				
		3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	94	76	86	70	100	81	90	73	110	91				

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160										
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																													
30	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74	
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67	
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67	
	35	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
	40	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
		2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
		3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Wind Speed [mph]		170										180																			
30	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60	48	39	45	37	50	40	55	44	73	60
35	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60	48	39	45	37	50	40	55	44	73	60
40	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60	48	39	45	37	50	40	55	44	73	60

Wind Speed [mph]		190										200																			
30	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53	43	35	41	33	45	36	49	40	66	53
35	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53	43	35	41	33	45	36	49	40	66	53
40	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	102	102	108	97	104	104	109	101	128	122	102	100	108	91	104	104	109	96	128	117	102	95	108	87	104	101	109	91	128	112
	2	102	90	102	82	104	86	109	96	128	115	102	85	97	78	101	81	109	91	128	109	100	81	92	74	96	77	107	86	123	103
	3	93	76	88	71	96	78	106	85	128	115	89	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103
50	1	98	98	105	97	101	101	107	101	126	122	98	98	105	91	101	101	107	96	126	117	98	95	105	87	101	101	107	91	126	112
	2	98	90	102	82	101	86	107	96	126	115	98	85	97	78	101	81	107	91	126	109	98	81	92	74	96	77	107	86	123	103
	3	93	76	88	71	96	78	106	85	126	115	89	72	83	67	91	74	100	81	126	109	84	68	79	64	87	70	95	77	123	103
60	1	92	92	100	97	96	96	102	101	123	122	92	92	100	91	96	96	102	96	123	117	92	92	100	87	96	96	102	91	123	112
	2	92	90	100	82	96	86	102	96	123	115	92	85	97	78	96	81	102	91	123	109	92	81	92	74	96	77	102	86	123	103
	3	92	76	88	71	96	78	102	85	123	115	89	72	83	67	91	74	100	81	123	109	84	68	79	64	87	70	95	77	123	103

Exposure Category : C

Wind Speed [mph]		110										115																			
45	1	102	90	102	83	104	96	108	87	128	107	102	86	98	79	104	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	91	74	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	98	86	98	79	101	92	103	83	124	102
50	1	98	90	102	83	101	96	107	87	126	107	98	86	98	79	101	92	103	83	124	102	91	74	83	68	87	70	97	79	116	94
	2	95	77	87	71	91	74	102	82	120	99	91	74	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	92	86	98	79	101	92	103	83	123	102
60	1	92	90	100	83	96	96	102	87	123	107	92	86	98	79	96	92	102	83	123	102	91	74	83	68	87	70	97	79	116	94
	2	92	77	87	71	91	74	102	82	120	99	91	74	83	68	87	70	97	79	116	94	76	62	72	58	79	64	86	70	116	94
	3	80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	102	86	98	79	101	92	103	83	123	102

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
50	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
60	1	87	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Wind Speed [mph]		170										180																			
45	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66	57	46	53	43	55	44	61	50	73	60
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60	48	39	45	37	50	40	55	44	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60	48	39	45	37	50	40	55	44	73	60
50	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66	57	46	53	43	55	44	61	50	73	60
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60	48	39	45	37	50	40	55	44	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60	48	39	45	37	50	40	55	44	73	60
60	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66	57	46	53	43	55	44	61	50	73	60
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60	48	39	45	37	50	40	55	44	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60	48	39	45	37	50	40	55	44	73	60

Wind Speed [mph]		190										200																			
45	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60	51	42	47	38	49	40	55	45	66	53
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53	43	35	41	33	45	36	49	40	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53	43	35	41	33	45	36	49	40	66	53
50	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60	51	42	47	38	49	40	55	45	66	53
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53	43	35	41	33	45	36	49	40	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53	43	35	41	33	45	36	49	40	66	53
60	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60	51	42	47	38	49	40	55	45	66	53
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53	43	35	41	33	45	36	49	40	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
70	1	86	86	95	95	92	92	98	98	120	120	86	86	95	91	92	92	98	96	120	117	86	86	95	87	92	92	98	91	120	112		
	2	86	86	95	82	92	86	98	96	120	115	86	85	95	78	92	81	98	91	120	109	86	81	92	74	92	77	98	86	120	103		
	3	86	76	88	71	92	78	98	85	120	115	86	72	83	67	91	74	98	81	120	109	84	68	79	64	87	70	95	77	120	103		
80	1	80	80	91	91	88	88	95	95	117	117	80	80	91	90	88	88	95	95	117	117	80	80	91	87	88	88	95	91	117	112		
	2	80	80	91	82	88	86	95	95	117	115	80	80	91	78	88	81	95	91	117	109	80	80	91	74	88	77	95	86	117	103		
	3	80	76	88	71	88	78	95	85	117	115	80	72	83	67	88	74	95	81	117	109	80	68	79	64	87	70	95	77	117	103		
90	1	76	76	88	88	85	85	92	92	115	115	76	76	88	87	85	85	92	92	115	115	76	76	88	86	85	85	92	91	115	112		
	2	76	76	88	82	85	85	92	92	115	115	76	76	88	78	85	81	92	91	115	109	76	76	88	74	85	77	92	86	115	103		
	3	76	76	88	71	85	78	92	85	115	115	76	72	83	67	85	74	92	81	115	109	76	68	79	64	85	70	92	77	115	103		

Exposure Category : C

Wind Speed [mph]	110											115										
	70	1	86	86	95	83	92	92	98	87	120	107	86	86	95	79	92	92	98	83	120	102
2		86	77	87	71	91	74	98	82	120	99	86	74	83	68	87	70	97	79	116	94	
3		80	65	75	61	83	67	91	73	120	99	76	62	72	58	79	64	86	70	116	94	
80	1	80	80	91	83	88	88	95	87	117	107	80	80	91	79	88	88	95	83	117	102	
	2	80	77	87	71	88	74	95	82	117	99	80	74	83	68	87	70	95	79	116	94	
	3	80	65	75	61	83	67	91	73	117	99	76	62	72	58	79	64	86	70	116	94	
90	1	76	76	88	83	85	85	92	87	115	107	76	76	88	79	85	85	92	83	115	102	
	2	76	76	87	71	85	74	92	82	115	99	76	74	83	68	85	70	92	79	115	94	
	3	76	65	75	61	83	67	91	73	115	99	76	62	72	58	79	64	86	70	115	94	

Wind Speed [mph]	120											130										
	70	1	86	82	93	76	92	88	98	80	119	98	86	76	86	70	92	81	90	73	110	91
2		86	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	
3		73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	
80	1	80	80	91	76	88	88	95	80	117	98	80	76	86	70	88	81	90	73	110	91	
	2	80	70	80	65	83	67	93	75	111	90	80	65	73	60	76	62	85	69	102	83	
	3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	
90	1	76	76	87	76	85	85	92	80	115	98	76	76	86	70	85	81	90	73	110	91	
	2	76	70	80	65	83	67	92	75	111	90	76	65	73	60	76	62	85	69	102	83	
	3	73	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	70	80	64	92	75	84	68	103	85	81	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
80	1	80	70	80	64	88	75	84	68	103	85	80	65	74	60	86	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67
90	1	76	70	80	64	85	75	84	68	103	85	76	65	74	60	85	70	78	63	96	79	75	61	69	56	80	65	73	59	91	74
	2	74	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67

Exposure Category : C

Wind Speed [mph]		170										180									
70	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
80	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60
90	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60

Wind Speed [mph]		190										200									
70	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
80	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53
90	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	72	72	85	85	83	83	89	89	113	113	72	72	85	84	83	83	89	89	113	113	72	72	85	83	83	83	89	89	113	112					
	2	72	72	85	82	83	83	89	89	113	113	72	72	85	78	83	81	89	89	113	109	72	72	85	74	83	77	89	86	113	103					
	3	72	72	85	71	83	78	89	85	113	113	72	72	83	67	83	74	89	81	113	109	72	68	79	64	83	70	89	77	113	103					

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	72	72	85	82	83	83	89	87	113	107	72	72	85	79	83	83	89	83	113	102			
	2	72	72	85	71	83	74	89	82	113	99	72	72	83	68	83	70	89	79	113	94			
	3	72	65	75	61	83	67	89	73	113	99	72	62	72	58	79	64	86	70	113	94			

Wind Speed [mph]	120												130											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	72	72	84	76	83	83	89	80	113	98	72	72	83	70	83	81	89	73	110	91			
	2	72	70	80	65	83	67	89	75	111	90	72	65	73	60	76	62	85	69	102	83			
	3	72	59	69	56	76	61	83	67	111	90	67	55	63	51	70	56	76	62	102	83			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																														
Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		100	1	72	70	80	64	83	75	84	68	103	85	72	65	74	60	83	70	78	63	96	79	72	61	69	56	80	65	73	59	91	74			
	2	72	60	68	55	71	57	79	64	95	77	69	56	63	51	66	54	74	60	88	72	64	52	59	48	62	50	69	56	83	67					
	3	62	51	59	48	64	52	71	57	95	77	58	47	55	44	60	49	66	53	88	72	54	44	51	42	56	46	62	50	83	67					

Exposure Category : C

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	71	57	65	53	75	61	68	56	85	70	67	54	61	50	71	58	65	52	81	66			
	2	61	49	56	45	58	47	65	53	78	63	57	46	53	43	55	44	61	50	73	60			
	3	51	42	48	39	53	43	58	47	78	63	48	39	45	37	50	40	55	44	73	60			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	63	51	58	47	67	55	61	50	77	63	60	49	55	45	64	52	58	47	73	60			
	2	54	44	50	40	52	42	58	47	69	56	51	42	47	38	49	40	55	45	66	53			
	3	46	37	43	35	47	38	52	42	69	56	43	35	41	33	45	36	49	40	66	53			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	118	96	109	88	123	103	115	93	133	113	113	91	104	84	119	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
5	1	118	96	109	88	123	103	115	93	133	113	113	91	104	84	119	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
10	1	118	96	109	88	123	103	115	93	133	113	113	91	104	84	119	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95

Exposure Category : D

Wind Speed [mph]		110										115																			
0	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94
5	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94
10	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94

Wind Speed [mph]		120										130																			
0	1	93	75	86	69	99	80	90	73	110	91	86	69	79	64	91	74	83	67	102	84	73	59	67	55	70	57	78	64	94	76
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76	62	50	58	47	64	52	70	57	94	76
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76	86	69	79	64	91	74	83	67	102	84
5	1	93	75	86	69	99	80	90	73	110	91	86	69	79	64	91	74	83	67	102	84	73	59	67	55	70	57	78	64	94	76
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76	62	50	58	47	64	52	70	57	94	76
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76	86	69	79	64	91	74	83	67	102	84
10	1	93	75	86	69	99	80	90	73	110	91	86	69	79	64	91	74	83	67	102	84	73	59	67	55	70	57	78	64	94	76
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76	62	50	58	47	64	52	70	57	94	76
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76	86	69	79	64	91	74	83	67	102	84

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		0	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
5	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
10	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62

Exposure Category : D

Wind Speed [mph]		170										180									
0	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
5	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
10	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
Wind Speed [mph]		190										200									
0	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49
5	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49
10	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
15	1	118	96	109	88	123	103	115	93	133	113	113	91	104	84	119	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
20	1	117	96	109	88	123	103	115	93	133	113	113	91	104	84	119	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
25	1	117	96	109	88	123	103	115	93	133	113	113	91	104	84	119	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95

Exposure Category : D

Wind Speed [mph]		110										115																			
15	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94
20	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94
25	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		15	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62

Exposure Category : D

Wind Speed [mph]		170										180									
15	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
20	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
25	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
Wind Speed [mph]		190										200									
15	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49
20	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49
25	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	117	96	109	88	120	103	115	93	133	113	113	91	104	84	119	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
35	1	113	96	109	88	115	103	115	93	133	113	113	91	104	84	115	97	109	88	129	108	108	87	98	80	115	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
40	1	109	96	109	88	111	103	115	93	132	113	109	91	104	84	111	97	109	88	129	108	108	87	98	80	111	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95

Exposure Category : D

Wind Speed [mph]		110										115																			
30	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94
35	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94
40	1	102	83	94	76	109	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84
30	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
35	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
40	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62

Exposure Category : D

Wind Speed [mph]		170										180																			
30	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61										
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55										
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55										
35	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61										
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55										
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55										
40	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61										
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55										
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55										
Wind Speed [mph]		190										200																			
30	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55										
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49										
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49										
35	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55										
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49										
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49										
40	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55										
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49										
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	105	96	109	88	108	103	112	93	130	113	105	91	104	84	108	97	109	88	129	108	105	87	98	80	108	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
50	1	102	96	109	88	105	103	110	93	128	113	102	91	104	84	105	97	109	88	128	108	102	87	98	80	105	92	103	84	125	103
	2	102	82	93	76	97	79	109	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
60	1	96	96	103	88	99	99	105	93	125	113	96	91	103	84	99	97	105	88	125	108	96	87	98	80	99	92	103	84	125	103
	2	96	82	93	76	97	79	105	88	125	105	96	78	88	72	92	74	103	83	120	100	92	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	125	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95

Exposure Category : D

Wind Speed [mph]		110										115																			
45	1	102	83	94	76	108	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	98	79	89	72	104	84	94	76	114	94
50	1	102	83	94	76	105	88	98	80	119	99	98	79	89	72	104	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	96	79	89	72	99	84	94	76	114	94
60	1	96	83	94	76	99	88	98	80	119	99	96	79	89	72	99	84	94	76	114	94	83	67	76	62	80	64	89	72	106	86
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86	70	57	66	53	72	59	79	64	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86	96	79	89	72	99	84	94	76	114	94

Wind Speed [mph]		120										130																			
45	1	93	75	86	69	99	80	90	73	110	91	86	69	79	64	91	74	83	67	102	84	73	59	67	55	70	57	78	64	94	76
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76	62	50	58	47	64	52	70	57	94	76
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76	86	69	79	64	91	74	83	67	102	84
50	1	93	75	86	69	99	80	90	73	110	91	86	69	79	64	91	74	83	67	102	84	73	59	67	55	70	57	78	64	94	76
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76	62	50	58	47	64	52	70	57	94	76
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76	86	69	79	64	91	74	83	67	102	84
60	1	93	75	86	69	99	80	90	73	110	91	86	69	79	64	91	74	83	67	102	84	73	59	67	55	70	57	78	64	94	76
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76	62	50	58	47	64	52	70	57	94	76
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76	86	69	79	64	91	74	83	67	102	84

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
50	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
60	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62

Exposure Category : D

Wind Speed [mph]		170										180																			
45	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61										
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55										
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55										
50	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61										
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55										
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55										
60	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61										
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55										
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55										
Wind Speed [mph]		190										200																			
45	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55										
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49										
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49										
50	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55										
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49										
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49										
60	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55										
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49										
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	90	90	98	88	95	95	101	93	122	113	90	90	98	84	95	95	101	88	122	108	90	87	98	80	95	92	101	84	122	103
	2	90	82	93	76	95	79	101	88	122	105	90	78	88	72	92	74	101	83	120	100	90	74	84	68	87	71	98	79	116	95
	3	86	69	80	65	88	71	97	78	122	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
80	1	85	85	95	88	91	91	98	93	120	113	85	85	95	84	91	91	98	88	120	108	85	85	95	80	91	91	98	84	120	103
	2	85	82	93	76	91	79	98	88	120	105	85	78	88	72	91	74	98	83	120	100	85	74	84	68	87	71	98	79	116	95
	3	85	69	80	65	88	71	97	78	120	105	81	66	76	62	84	68	92	74	120	100	77	62	72	59	79	64	87	71	116	95
90	1	80	80	91	88	88	88	95	93	117	113	80	80	91	84	88	88	95	88	117	108	80	80	91	80	88	88	95	84	117	103
	2	80	80	91	76	88	79	95	88	117	105	80	78	88	72	88	74	95	83	117	100	80	74	84	68	87	71	95	79	116	95
	3	80	69	80	65	88	71	95	78	117	105	80	66	76	62	84	68	92	74	117	100	77	62	72	59	79	64	87	71	116	95

Exposure Category : D

Wind Speed [mph]		110										115																			
70	1	90	83	94	76	95	88	98	80	119	99	90	79	89	72	95	84	94	76	114	94										
	2	87	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86										
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86										
80	1	85	83	94	76	91	88	98	80	119	99	85	79	89	72	91	84	94	76	114	94										
	2	85	71	80	65	83	67	93	76	111	90	83	67	76	62	80	64	89	72	106	86										
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86										
90	1	80	80	91	76	88	88	95	80	117	99	80	79	89	72	88	84	94	76	114	94										
	2	80	71	80	65	83	67	93	76	111	90	80	67	76	62	80	64	89	72	106	86										
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86										

Wind Speed [mph]		120										130																			
70	1	90	75	86	69	95	80	90	73	110	91	86	69	79	64	91	74	83	67	102	84										
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76										
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76										
80	1	85	75	86	69	91	80	90	73	110	91	85	69	79	64	91	74	83	67	102	84										
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76										
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76										
90	1	80	75	86	69	88	80	90	73	110	91	80	69	79	64	88	74	83	67	102	84										
	2	80	64	73	59	76	62	85	69	102	83	73	59	67	55	70	57	78	64	94	76										
	3	67	54	63	51	69	56	76	62	102	83	62	50	58	47	64	52	70	57	94	76										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		70	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62
	1	79	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62

Exposure Category : D

Wind Speed [mph]		170										180									
70	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
80	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
90	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55
Wind Speed [mph]		190										200									
70	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49
80	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49
90	1	58	47	53	43	62	50	56	46	71	58	55	45	50	41	58	47	53	43	67	55
	2	50	40	46	37	47	39	53	43	64	52	47	38	43	35	45	37	50	41	60	49
	3	42	34	39	32	43	35	47	39	64	52	40	32	37	30	41	33	45	37	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
		100	1	77	77	88	87	86	86	92	92	115	113	77	77	88	84	86	86	92	88	115	108	77	77	88	80	86	86	92	84
	2	77	77	88	76	86	79	92	88	115	105	77	77	88	72	86	74	92	83	115	100	77	74	84	68	86	71	92	79	115	95
	3	77	69	80	65	86	71	92	78	115	105	77	66	76	62	84	68	92	74	115	100	77	62	72	59	79	64	87	71	115	95

Exposure Category : D

Wind Speed [mph]		110										115									
100	1	77	77	88	76	86	86	92	80	115	99	77	77	87	72	86	84	92	76	114	94
	2	77	71	80	65	83	67	92	76	111	90	77	67	76	62	80	64	89	72	106	86
	3	73	60	69	56	76	61	83	67	111	90	70	57	66	53	72	59	79	64	106	86
0	1																				
	2																				
	3																				
0	1																				
	2																				
	3																				

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		83in x 41.5in		Span, inches																														
Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		100	1	77	64	73	59	85	68	77	62	95	78	74	60	68	55	79	64	71	58	89	73	69	56	63	52	74	60	67	54	84	69			
	2	68	55	62	51	65	53	73	59	87	71	63	51	58	47	60	49	68	55	81	66	59	48	54	44	57	46	63	51	76	62					
	3	57	46	54	44	59	48	65	53	87	71	53	43	50	41	55	45	60	49	81	66	50	41	47	38	52	42	56	46	76	62					

Exposure Category : D

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	65	53	60	48	69	56	63	51	79	65	61	50	56	46	65	53	59	48	75	61			
	2	56	45	51	42	53	43	59	48	71	58	52	43	48	39	50	41	56	46	67	55			
	3	47	38	44	36	48	39	53	43	71	58	44	36	42	34	46	37	50	41	67	55			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		83in x 41.5in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	133	114	125	104	138	119	128	109	134	129	128	108	120	99	133	115	124	103	134	125	123	102	116	94	128	109	120	98	134	119
	2	119	97	110	89	115	92	124	103	134	121	114	92	104	84	108	88	119	98	134	117	108	87	99	80	103	83	115	93	130	111
	3	101	81	95	76	104	84	114	92	134	121	95	77	90	72	98	80	108	87	134	117	91	73	85	69	94	76	102	83	130	111
5	1	133	114	125	104	138	119	128	109	134	129	128	108	120	99	133	115	124	103	134	125	123	102	116	94	128	109	120	98	134	119
	2	119	97	110	89	115	92	124	103	134	121	114	92	104	84	108	88	119	98	134	117	108	87	99	80	103	83	115	93	130	111
	3	101	81	95	76	104	84	114	92	134	121	95	77	90	72	98	80	108	87	134	117	91	73	85	69	94	76	102	83	130	111
10	1	132	114	125	104	138	119	128	109	134	129	128	108	120	99	133	115	124	103	134	125	123	102	116	94	128	109	120	98	134	119
	2	119	97	110	89	115	92	124	103	134	121	114	92	104	84	108	88	119	98	134	117	108	87	99	80	103	83	115	93	130	111
	3	101	81	95	76	104	84	114	92	134	121	95	77	90	72	98	80	108	87	134	117	91	73	85	69	94	76	102	83	130	111

Exposure Category : B

Wind Speed [mph]		110										115									
0	1	119	97	111	89	124	104	116	94	134	114	115	93	105	85	120	99	111	89	130	110
	2	103	83	94	76	98	79	110	89	126	106	98	79	90	73	94	76	105	85	122	101
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101
5	1	119	97	111	89	124	104	116	94	134	114	115	93	105	85	120	99	111	89	130	110
	2	103	83	94	76	98	79	110	89	126	106	98	79	90	73	94	76	105	85	122	101
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101
10	1	119	97	111	89	124	104	116	94	134	114	115	93	105	85	120	99	111	89	130	110
	2	103	83	94	76	98	79	110	89	126	106	98	79	90	73	94	76	105	85	122	101
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101

Wind Speed [mph]		120										130									
0	1	110	89	101	81	117	95	106	86	127	105	101	82	93	75	108	87	97	79	118	97
	2	94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89
5	1	110	89	101	81	117	95	106	86	127	105	101	82	93	75	108	87	97	79	118	97
	2	94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89
10	1	110	89	101	81	117	95	106	86	127	105	101	82	93	75	108	87	97	79	118	97
	2	94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80					
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72					
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72					
5	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80					
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72					
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72					
10	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80					
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72					
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72					

Exposure Category : B

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
5	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
10	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	125	114	125	104	136	119	128	109	134	129	125	108	120	99	133	115	124	103	134	125	123	102	116	94	128	109	120	98	134	119					
	2	119	97	110	89	115	92	124	103	134	121	114	92	104	84	108	88	119	98	134	117	108	87	99	80	103	83	115	93	130	111					
	3	101	81	95	76	104	84	114	92	134	121	95	77	90	72	98	80	108	87	134	117	91	73	85	69	94	76	102	83	130	111					
20	1	117	114	125	104	128	119	128	109	134	129	117	108	120	99	128	115	124	103	134	125	117	102	116	94	128	109	120	98	134	119					
	2	117	97	110	89	115	92	124	103	134	121	114	92	104	84	108	88	119	98	134	117	108	87	99	80	103	83	115	93	130	111					
	3	101	81	95	76	104	84	114	92	134	121	95	77	90	72	98	80	108	87	134	117	91	73	85	69	94	76	102	83	130	111					
25	1	117	114	125	104	121	119	123	109	134	129	117	108	120	99	121	115	123	103	134	125	117	102	116	94	121	109	120	98	134	119					
	2	117	97	110	89	115	92	123	103	134	121	114	92	104	84	108	88	119	98	134	117	108	87	99	80	103	83	115	93	130	111					
	3	101	81	95	76	104	84	114	92	134	121	95	77	90	72	98	80	108	87	134	117	91	73	85	69	94	76	102	83	130	111					

Exposure Category : B

Wind Speed [mph]	110												115																		
	15	1	119	97	111	89	124	104	116	94	134	114	115	93	105	85	120	99	111	89	130	110	98	79	90	73	94	76	105	85	122
2		103	83	94	76	98	79	110	89	126	106	82	67	77	63	85	69	93	75	122	101	86	70	81	66	89	72	98	79	126	106
3		86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101	115	93	105	85	120	99	111	89	130	110
20	1	117	97	111	89	124	104	116	94	134	114	115	93	105	85	120	99	111	89	130	110	98	79	90	73	94	76	105	85	122	101
	2	103	83	94	76	98	79	110	89	126	106	82	67	77	63	85	69	93	75	122	101	86	70	81	66	89	72	98	79	126	106
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101	115	93	105	85	120	99	111	89	130	110
25	1	117	97	111	89	121	104	116	94	134	114	115	93	105	85	120	99	111	89	130	110	98	79	90	73	94	76	105	85	122	101
	2	103	83	94	76	98	79	110	89	126	106	82	67	77	63	85	69	93	75	122	101	86	70	81	66	89	72	98	79	126	106
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101	115	93	105	85	120	99	111	89	130	110

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80		
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72		
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72		
20	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80		
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72		
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72		
25	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80		
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72		
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72		

Exposure Category : B

Wind Speed [mph]	170											180																			
	Group	Array Interior	Array Edge																												
15	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
20	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
25	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	114	114	121	104	116	116	119	109	134	129	114	108	120	99	116	115	119	103	134	125	114	102	116	94	116	109	119	98	134	119					
	2	114	97	110	89	115	92	119	103	134	121	114	92	104	84	108	88	119	98	134	117	108	87	99	80	103	83	115	93	130	111					
	3	101	81	95	76	104	84	114	92	134	121	95	77	90	72	98	80	108	87	134	117	91	73	85	69	94	76	102	83	130	111					
35	1	110	110	116	104	112	112	116	109	132	129	110	108	116	99	112	112	116	103	132	125	110	102	116	94	112	109	116	98	132	119					
	2	110	97	110	89	112	92	116	103	132	121	110	92	104	84	108	88	116	98	132	117	108	87	99	80	103	83	115	93	130	111					
	3	101	81	95	76	104	84	114	92	132	121	95	77	90	72	98	80	108	87	132	117	91	73	85	69	94	76	102	83	130	111					
40	1	105	105	112	104	108	108	112	109	130	129	105	105	112	99	108	108	112	103	130	125	105	102	112	94	108	108	112	98	130	119					
	2	105	97	110	89	108	92	112	103	130	121	105	92	104	84	108	88	112	98	130	117	105	87	99	80	103	83	112	93	130	111					
	3	101	81	95	76	104	84	112	92	130	121	95	77	90	72	98	80	108	87	130	117	91	73	85	69	94	76	102	83	130	111					

Exposure Category : B

Wind Speed [mph]	110												115											
	30	1	114	97	111	89	116	104	116	94	134	114	114	93	105	85	116	99	111	89	130	110		
2		103	83	94	76	98	79	110	89	126	106	98	79	90	73	94	76	105	85	122	101			
3		86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101			
35	1	110	97	111	89	112	104	116	94	132	114	110	93	105	85	112	99	111	89	130	110			
	2	103	83	94	76	98	79	110	89	126	106	98	79	90	73	94	76	105	85	122	101			
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101			
40	1	105	97	111	89	108	104	112	94	130	114	105	93	105	85	108	99	111	89	130	110			
	2	103	83	94	76	98	79	110	89	126	106	98	79	90	73	94	76	105	85	122	101			
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101			
Wind Speed [mph]	120												130											
	30	1	110	89	101	81	116	95	106	86	127	105	101	82	93	75	108	87	97	79	118	97		
2		94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89			
3		79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89			
35	1	110	89	101	81	112	95	106	86	127	105	101	82	93	75	108	87	97	79	118	97			
	2	94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89			
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89			
40	1	105	89	101	81	108	95	106	86	127	105	101	82	93	75	108	87	97	79	118	97			
	2	94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89			
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
30	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80		
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72		
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72		
35	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80		
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72		
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72		
40	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80		
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72		
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72		

Exposure Category : B

Wind Speed [mph]	170											180																			
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
30	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
35	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
40	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	102	102	108	104	104	104	109	109	128	128	102	102	108	99	104	104	109	103	128	125	102	102	108	94	104	104	109	98	128	119
	2	102	97	108	89	104	92	109	103	128	121	102	92	104	84	104	88	109	98	128	117	102	87	99	80	103	83	109	93	128	111
	3	101	81	95	76	104	84	109	92	128	121	95	77	90	72	98	80	108	87	128	117	91	73	85	69	94	76	102	83	128	111
50	1	98	98	105	104	101	101	107	107	126	126	98	98	105	99	101	101	107	103	126	125	98	98	105	94	101	101	107	98	126	119
	2	98	97	105	89	101	92	107	103	126	121	98	92	104	84	101	88	107	98	126	117	98	87	99	80	101	83	107	93	126	111
	3	98	81	95	76	101	84	107	92	126	121	95	77	90	72	98	80	107	87	126	117	91	73	85	69	94	76	102	83	126	111
60	1	92	92	100	100	96	96	102	102	123	123	92	92	100	99	96	96	102	102	123	123	92	92	100	94	96	96	102	98	123	119
	2	92	92	100	89	96	92	102	102	123	121	92	92	100	84	96	88	102	98	123	117	92	87	99	80	96	83	102	93	123	111
	3	92	81	95	76	96	84	102	92	123	121	92	77	90	72	96	80	102	87	123	117	91	73	85	69	94	76	102	83	123	111

Exposure Category : B

Wind Speed [mph]		110										115									
45	1	102	97	108	89	104	104	109	94	128	114	102	93	105	85	104	99	109	89	128	110
	2	102	83	94	76	98	79	109	89	126	106	98	79	90	73	94	76	105	85	122	101
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101
50	1	98	97	105	89	101	101	107	94	126	114	98	93	105	85	101	99	107	89	126	110
	2	98	83	94	76	98	79	107	89	126	106	98	79	90	73	94	76	105	85	122	101
	3	86	70	81	66	89	72	98	79	126	106	82	67	77	63	85	69	93	75	122	101
60	1	92	92	100	89	96	96	102	94	123	114	92	92	100	85	96	96	102	89	123	110
	2	92	83	94	76	96	79	102	89	123	106	92	79	90	73	94	76	102	85	122	101
	3	86	70	81	66	89	72	98	79	123	106	82	67	77	63	85	69	93	75	122	101

Wind Speed [mph]		120										130									
45	1	102	89	101	81	104	95	106	86	127	105	101	82	93	75	104	87	97	79	118	97
	2	94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89
50	1	98	89	101	81	101	95	106	86	126	105	98	82	93	75	101	87	97	79	118	97
	2	94	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89
60	1	92	89	100	81	96	95	102	86	123	105	92	82	93	75	96	87	97	79	118	97
	2	92	76	86	70	89	72	100	81	118	97	86	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72
50	1	93	76	86	69	100	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72
60	1	92	76	86	69	96	80	90	73	110	91	87	70	80	65	93	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72

Exposure Category : B

Wind Speed [mph]		170										180																			
45	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
50	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
60	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	72	58	66	54	77	62	69	56	87	71
45	1	68	55	62	51	72	59	66	53	82	67	64	52	59	48	69	56	62	51	78	64	55	45	51	41	53	43	59	48	71	57
	2	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57	47	38	44	36	48	39	53	43	71	57
	3	49	40	46	38	51	41	56	45	74	61	47	38	44	36	48	39	53	43	71	57	64	52	59	48	69	56	62	51	78	64
50	1	68	55	62	51	72	59	66	53	82	67	64	52	59	48	69	56	62	51	78	64	55	45	51	41	53	43	59	48	71	57
	2	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57	47	38	44	36	48	39	53	43	71	57
	3	49	40	46	38	51	41	56	45	74	61	47	38	44	36	48	39	53	43	71	57	64	52	59	48	69	56	62	51	78	64
60	1	68	55	62	51	72	59	66	53	82	67	64	52	59	48	69	56	62	51	78	64	55	45	51	41	53	43	59	48	71	57
	2	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57	47	38	44	36	48	39	53	43	71	57
	3	49	40	46	38	51	41	56	45	74	61	47	38	44	36	48	39	53	43	71	57	64	52	59	48	69	56	62	51	78	64

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	86	95	95	92	92	98	98	120	120	86	86	95	95	92	92	98	98	120	120	86	86	95	94	92	92	98	98	120	119
	2	86	86	95	89	92	92	98	98	120	120	86	86	95	84	92	88	98	98	120	117	86	86	95	80	92	83	98	93	120	111
	3	86	81	95	76	92	84	98	92	120	120	86	77	90	72	92	80	98	87	120	117	86	73	85	69	92	76	98	83	120	111
80	1	80	80	91	91	88	88	95	95	117	117	80	80	91	91	88	88	95	95	117	117	80	80	91	91	88	88	95	95	117	117
	2	80	80	91	89	88	88	95	95	117	117	80	80	91	84	88	88	95	95	117	117	80	80	91	80	88	83	95	93	117	111
	3	80	80	91	76	88	84	95	92	117	117	80	77	90	72	88	80	95	87	117	117	80	73	85	69	88	76	95	83	117	111
90	1	76	76	88	88	85	85	92	92	115	115	76	76	88	88	85	85	92	92	115	115	76	76	88	88	85	85	92	92	115	115
	2	76	76	88	88	85	85	92	92	115	115	76	76	88	84	85	85	92	92	115	115	76	76	88	80	85	83	92	92	115	111
	3	76	76	88	76	85	84	92	92	115	115	76	76	88	72	85	80	92	87	115	115	76	73	85	69	85	76	92	83	115	111

Exposure Category : B

Wind Speed [mph]		110										115									
70	1	86	86	95	89	92	92	98	94	120	114	86	86	95	85	92	92	98	89	120	110
	2	86	83	94	76	92	79	98	89	120	106	86	79	90	73	92	76	98	85	120	101
	3	86	70	81	66	89	72	98	79	120	106	82	67	77	63	85	69	93	75	120	101
80	1	80	80	91	89	88	88	95	94	117	114	80	80	91	85	88	88	95	89	117	110
	2	80	80	91	76	88	79	95	89	117	106	80	79	90	73	88	76	95	85	117	101
	3	80	70	81	66	88	72	95	79	117	106	80	67	77	63	85	69	93	75	117	101
90	1	76	76	88	86	85	85	92	92	115	114	76	76	88	85	85	85	92	89	115	110
	2	76	76	88	76	85	79	92	89	115	106	76	76	88	73	85	76	92	85	115	101
	3	76	70	81	66	85	72	92	79	115	106	76	67	77	63	85	69	92	75	115	101

Wind Speed [mph]		120										130									
70	1	86	86	95	81	92	92	98	86	120	105	86	82	93	75	92	87	97	79	118	97
	2	86	76	86	70	89	72	98	81	118	97	86	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	118	97	72	59	68	55	75	61	82	67	110	89
80	1	80	80	91	81	88	88	95	86	117	105	80	80	91	75	88	87	95	79	117	97
	2	80	76	86	70	88	72	95	81	117	97	80	70	79	64	82	67	92	75	110	89
	3	79	64	74	60	81	66	89	72	117	97	72	59	68	55	75	61	82	67	110	89
90	1	76	76	88	81	85	85	92	86	115	105	76	76	87	75	85	85	92	79	115	97
	2	76	76	86	70	85	72	92	81	115	97	76	70	79	64	82	67	92	75	110	89
	3	76	64	74	60	81	66	89	72	115	97	72	59	68	55	75	61	82	67	110	89

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	76	86	69	92	80	90	73	110	91	86	70	80	65	92	75	84	68	103	85	81	66	75	60	86	70	78	64	97	80
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72
80	1	80	76	86	69	88	80	90	73	110	91	80	70	80	65	88	75	84	68	103	85	80	66	75	60	86	70	78	64	97	80
	2	80	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72
90	1	76	76	85	69	85	80	90	73	110	91	76	70	80	65	85	75	84	68	103	85	76	66	75	60	85	70	78	64	97	80
	2	76	65	73	59	76	62	85	69	102	83	74	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72

Exposure Category : B

Wind Speed [mph]		170										180									
70	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64
80	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64
90	1	76	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64

Wind Speed [mph]		190										200									
70	1	68	55	62	51	72	59	66	53	82	67	64	52	59	48	69	56	62	51	78	64
	2	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57
	3	49	40	46	38	51	41	56	45	74	61	47	38	44	36	48	39	53	43	71	57
80	1	68	55	62	51	72	59	66	53	82	67	64	52	59	48	69	56	62	51	78	64
	2	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57
	3	49	40	46	38	51	41	56	45	74	61	47	38	44	36	48	39	53	43	71	57
90	1	68	55	62	51	72	59	66	53	82	67	64	52	59	48	69	56	62	51	78	64
	2	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57
	3	49	40	46	38	51	41	56	45	74	61	47	38	44	36	48	39	53	43	71	57

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	72	72	85	85	83	83	89	89	113	113	72	72	85	85	83	83	89	89	113	113	72	72	85	84	83	83	89	89	113	113					
	2	72	72	85	85	83	83	89	89	113	113	72	72	85	84	83	83	89	89	113	113	72	72	85	80	83	83	89	89	113	111					
	3	72	72	85	76	83	83	89	89	113	113	72	72	85	72	83	80	89	87	113	113	72	72	85	69	83	76	89	83	113	111					

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	72	72	85	83	83	83	89	89	113	113	72	72	85	82	83	83	89	89	113	110			
	2	72	72	85	76	83	79	89	89	113	106	72	72	85	73	83	76	89	85	113	101			
	3	72	70	81	66	83	72	89	79	113	106	72	67	77	63	83	69	89	75	113	101			

Wind Speed [mph]	120												130											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	72	72	85	81	83	83	89	86	113	105	72	72	84	75	83	83	89	79	113	97			
	2	72	72	85	70	83	72	89	81	113	97	72	70	79	64	82	67	89	75	110	89			
	3	72	64	74	60	81	66	89	72	113	97	72	59	68	55	75	61	82	67	110	89			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	72	72	83	69	83	80	89	73	110	91	72	70	80	65	83	75	84	68	103	85	72	66	75	60	83	70	78	64	97	80					
	2	72	65	73	59	76	62	85	69	102	83	72	60	68	55	71	58	79	64	95	77	69	56	64	52	66	54	74	60	89	72					
	3	67	54	63	51	69	56	76	62	102	83	63	51	59	48	65	52	71	57	95	77	59	48	55	45	60	49	66	54	89	72					

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
100	1	72	62	70	57	81	66	74	60	92	75	72	58	66	54	77	62	69	56	87	71	61	50	57	46	59	48	66	53	79	64
	2	65	53	60	49	62	51	70	57	83	68	61	50	57	46	59	48	66	53	79	64	52	42	49	40	54	44	59	48	79	64
	3	55	45	52	42	57	46	62	51	83	68	52	42	49	40	54	44	59	48	79	64	64	52	59	48	69	56	62	51	78	64

Wind Speed [mph]	190												200																												
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90																				
100	1	68	55	62	51	72	59	66	53	82	67	64	52	59	48	69	56	62	51	78	64	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57
	2	58	47	53	43	56	45	62	51	74	61	55	45	51	41	53	43	59	48	71	57	47	38	44	36	48	39	53	43	71	57	47	38	44	36	48	39	53	43	71	57
	3	49	40	46	38	51	41	56	45	74	61	47	38	44	36	48	39	53	43	71	57	47	38	44	36	48	39	53	43	71	57	47	38	44	36	48	39	53	43	71	57

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
0	1	119	97	111	89	124	104	116	94	134	114	114	92	105	84	120	98	110	89	129	109	109	88	99	80	116	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
5	1	119	97	111	89	124	104	116	94	134	114	114	92	105	84	120	98	110	89	129	109	109	88	99	80	116	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
10	1	119	97	111	89	124	104	116	94	134	114	114	92	105	84	120	98	110	89	129	109	109	88	99	80	116	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		

Exposure Category : C

Wind Speed [mph]	110											115																			
0	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107	87
	2	88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
5	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107	87
	2	88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
10	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107	87
	2	88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
5	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
10	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
5	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
10	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										

Wind Speed [mph]	190												200																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
5	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
10	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	119	97	111	89	124	104	116	94	134	114	114	92	105	84	120	98	110	89	129	109	109	88	99	80	116	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
20	1	117	97	111	89	124	104	116	94	134	114	114	92	105	84	120	98	110	89	129	109	109	88	99	80	116	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
25	1	117	97	111	89	121	104	116	94	134	114	114	92	105	84	120	98	110	89	129	109	109	88	99	80	116	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		

Exposure Category : C

Wind Speed [mph]	110											115																			
	15	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107
2		88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
3		74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
20	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107	87
	2	88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
25	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107	87
	2	88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
20	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
25	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
15	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
20	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
25	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										

Wind Speed [mph]	190												200																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
15	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
20	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
25	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
30	1	114	97	111	89	116	104	116	94	134	114	114	92	105	84	116	98	110	89	129	109	109	88	99	80	116	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
35	1	110	97	111	89	112	104	116	94	132	114	110	92	105	84	112	98	110	89	129	109	109	88	99	80	112	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
40	1	105	97	111	89	108	104	112	94	130	114	105	92	105	84	108	98	110	89	129	109	105	88	99	80	108	93	104	84	126	104		
	2	103	83	94	76	98	79	110	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		

Exposure Category : C

Wind Speed [mph]	110											115																			
	30	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107
2		88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
3		74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
35	1	103	83	95	76	110	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107	87
	2	88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
40	1	103	83	95	76	108	89	99	80	120	99	98	80	90	73	105	85	95	77	115	95	84	68	77	63	80	65	90	73	107	87
	2	88	71	81	65	84	68	94	76	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	71	57	66	54	73	59	80	65	107	87

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
35	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
40	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
30	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
35	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
40	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										

Wind Speed [mph]	190												200																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
30	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
35	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
40	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
45	1	102	97	108	89	104	104	109	94	128	114	102	92	105	84	104	98	109	89	128	109	102	88	99	80	104	93	104	84	126	104		
	2	102	83	94	76	98	79	109	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
50	1	98	97	105	89	101	101	107	94	126	114	98	92	105	84	101	98	107	89	126	109	98	88	99	80	101	93	104	84	126	104		
	2	98	83	94	76	98	79	107	89	126	106	97	79	89	72	93	75	104	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	126	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		
60	1	92	92	100	89	96	96	102	94	123	114	92	92	100	84	96	96	102	89	123	109	92	88	99	80	96	93	102	84	123	104		
	2	92	83	94	76	96	79	102	89	123	106	92	79	89	72	93	75	102	84	121	101	92	75	85	69	88	71	99	80	117	96		
	3	86	70	81	66	89	72	98	79	123	106	82	66	77	62	84	68	92	75	121	101	78	63	73	59	80	65	88	71	117	96		

Exposure Category : C

Wind Speed [mph]	110											115										
	45	1	102	83	95	76	104	89	99	80	120	99	98	80	90	73	104	85	95	77	115	95
2		88	71	81	65	84	68	94	76	112	91	84	68	77	63	80	65	90	73	107	87	
3		74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	
50	1	98	83	95	76	101	89	99	80	120	99	98	80	90	73	101	85	95	77	115	95	
	2	88	71	81	65	84	68	94	76	112	91	84	68	77	63	80	65	90	73	107	87	
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	
60	1	92	83	95	76	96	89	99	80	120	99	92	80	90	73	96	85	95	77	115	95	
	2	88	71	81	65	84	68	94	76	112	91	84	68	77	63	80	65	90	73	107	87	
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87	

Wind Speed [mph]	120											130										
	45	1	94	76	86	70	100	81	91	74	111	91	87	70	79	64	92	75	83	68	103	85
2		80	65	74	60	77	62	86	70	103	83	74	60	68	55	71	57	79	64	95	77	
3		68	55	64	52	70	57	77	62	103	83	62	51	59	48	64	52	70	57	95	77	
50	1	94	76	86	70	100	81	91	74	111	91	87	70	79	64	92	75	83	68	103	85	
	2	80	65	74	60	77	62	86	70	103	83	74	60	68	55	71	57	79	64	95	77	
	3	68	55	64	52	70	57	77	62	103	83	62	51	59	48	64	52	70	57	95	77	
60	1	92	76	86	70	96	81	91	74	111	91	87	70	79	64	92	75	83	68	103	85	
	2	80	65	74	60	77	62	86	70	103	83	74	60	68	55	71	57	79	64	95	77	
	3	68	55	64	52	70	57	77	62	103	83	62	51	59	48	64	52	70	57	95	77	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
50	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
60	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					

Wind Speed [mph]	170												180											
	Group	Array Interior	Array Edge																					
45	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62			
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55			
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55			
50	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62			
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55			
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55			
60	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62			
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55			
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55			

Wind Speed [mph]	190												200											
	Group	Array Interior	Array Edge																					
45	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55			
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49			
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49			
50	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55			
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49			
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49			
60	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55			
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49			
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	86	95	89	92	92	98	94	120	114	86	86	95	84	92	92	98	89	120	109	86	86	95	80	92	92	98	84	120	104
	2	86	83	94	76	92	79	98	89	120	106	86	79	89	72	92	75	98	84	120	101	86	75	85	69	88	71	98	80	117	96
	3	86	70	81	66	89	72	98	79	120	106	82	66	77	62	84	68	92	75	120	101	78	63	73	59	80	65	88	71	117	96
80	1	80	80	91	89	88	88	95	94	117	114	80	80	91	84	88	88	95	89	117	109	80	80	91	80	88	88	95	84	117	104
	2	80	80	91	76	88	79	95	89	117	106	80	79	89	72	88	75	95	84	117	101	80	75	85	69	88	71	95	80	117	96
	3	80	70	81	66	88	72	95	79	117	106	80	66	77	62	84	68	92	75	117	101	78	63	73	59	80	65	88	71	117	96
90	1	76	76	88	86	85	85	92	92	115	114	76	76	88	84	85	85	92	89	115	109	76	76	88	80	85	85	92	84	115	104
	2	76	76	88	76	85	79	92	89	115	106	76	76	88	72	85	75	92	84	115	101	76	75	85	69	85	71	92	80	115	96
	3	76	70	81	66	85	72	92	79	115	106	76	66	77	62	84	68	92	75	115	101	76	63	73	59	80	65	88	71	115	96

Exposure Category : C

Wind Speed [mph]		110										115									
70	1	86	83	95	76	92	89	98	80	120	99	86	80	90	73	92	85	95	77	115	95
	2	86	71	81	65	84	68	94	76	112	91	84	68	77	63	80	65	90	73	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87
80	1	80	80	91	76	88	88	95	80	117	99	80	80	90	73	88	85	95	77	115	95
	2	80	71	81	65	84	68	94	76	112	91	80	68	77	63	80	65	90	73	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87
90	1	76	76	88	76	85	85	92	80	115	99	76	76	87	73	85	85	92	77	115	95
	2	76	71	81	65	84	68	92	76	112	91	76	68	77	63	80	65	90	73	107	87
	3	74	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87

Wind Speed [mph]		120										130									
70	1	86	76	86	70	92	81	91	74	111	91	86	70	79	64	92	75	83	68	103	85
	2	80	65	74	60	77	62	86	70	103	83	74	60	68	55	71	57	79	64	95	77
	3	68	55	64	52	70	57	77	62	103	83	62	51	59	48	64	52	70	57	95	77
80	1	80	76	86	70	88	81	91	74	111	91	80	70	79	64	88	75	83	68	103	85
	2	80	65	74	60	77	62	86	70	103	83	74	60	68	55	71	57	79	64	95	77
	3	68	55	64	52	70	57	77	62	103	83	62	51	59	48	64	52	70	57	95	77
90	1	76	76	86	70	85	81	91	74	111	91	76	70	79	64	85	75	83	68	103	85
	2	76	65	74	60	77	62	86	70	103	83	74	60	68	55	71	57	79	64	95	77
	3	68	55	64	52	70	57	77	62	103	83	62	51	59	48	64	52	70	57	95	77

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
70	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
80	1	80	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					
90	1	76	65	74	60	85	69	77	63	96	79	75	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
70	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
80	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										
90	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62										
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55										
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55										

Wind Speed [mph]	190												200																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
70	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
80	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										
90	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55										
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49										
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	72	72	85	83	83	83	89	89	113	113	72	72	85	82	83	83	89	89	113	109	72	72	85	80	83	83	89	84	113	104					
	2	72	72	85	76	83	79	89	89	113	106	72	72	85	72	83	75	89	84	113	101	72	72	85	69	83	71	89	80	113	96					
	3	72	70	81	66	83	72	89	79	113	106	72	66	77	62	83	68	89	75	113	101	72	63	73	59	80	65	88	71	113	96					

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	72	72	85	76	83	83	89	80	113	99	72	72	84	73	83	83	89	77	113	95			
	2	72	71	81	65	83	68	89	76	112	91	72	68	77	63	80	65	89	73	107	87			
	3	72	60	70	56	76	62	84	68	112	91	71	57	66	54	73	59	80	65	107	87			

Wind Speed [mph]	120												130											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	72	72	83	70	83	81	89	74	111	91	72	70	79	64	83	75	83	68	103	85			
	2	72	65	74	60	77	62	86	70	103	83	72	60	68	55	71	57	79	64	95	77			
	3	68	55	64	52	70	57	77	62	103	83	62	51	59	48	64	52	70	57	95	77			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	72	65	74	60	83	69	77	63	96	79	72	60	68	56	79	64	72	58	90	74	70	57	64	52	74	60	67	55	84	69					
	2	68	56	63	51	65	53	73	59	88	71	64	52	59	48	61	50	68	55	82	66	60	48	55	45	57	46	64	52	76	62					
	3	58	47	54	44	60	48	65	53	88	71	54	44	51	41	56	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62					

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	65	53	60	49	70	57	63	51	79	65	62	50	57	46	66	53	60	49	75	62			
	2	56	46	52	42	54	44	60	49	72	58	53	43	49	40	51	41	57	46	68	55			
	3	47	38	45	36	49	40	54	44	72	58	45	36	42	34	46	37	51	41	68	55			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	58	47	54	44	62	51	57	46	71	58	55	45	51	41	59	48	54	44	68	55			
	2	50	41	46	37	48	39	54	44	64	52	47	39	44	35	45	37	51	41	61	49			
	3	42	34	40	32	44	35	48	39	64	52	40	33	38	31	41	34	45	37	61	49			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
0	1	112	90	103	83	118	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		
5	1	112	90	103	83	118	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		
10	1	112	90	103	83	118	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		

Exposure Category : D

Wind Speed [mph]	110											115																			
	0	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100
2		82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
3		69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
5	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
10	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
5	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
10	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					

Exposure Category : D

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57										
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51										
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51										
5	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57										
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51										
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51										
10	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57										
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51										
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51										

Wind Speed [mph]	190												200																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52										
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	42	34	47	39	57	46										
	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46										
5	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52										
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	42	34	47	39	57	46										
	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46										
10	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52										
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	42	34	47	39	57	46										
	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	112	90	103	83	118	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		
20	1	112	90	103	83	118	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		
25	1	112	90	103	83	118	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		

Exposure Category : D

Wind Speed [mph]	110											115																			
	15	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100
2		82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
3		69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
20	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
25	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
20	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
25	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					

Exposure Category : D

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
15	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57			
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51			
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51			
20	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57			
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51			
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51			
25	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57			
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51			
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	112	90	103	83	118	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89
35	1	112	90	103	83	115	96	108	87	128	107	106	86	97	79	113	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89
40	1	109	90	103	83	111	96	108	87	128	107	106	86	97	79	111	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89

Exposure Category : D

Wind Speed [mph]		110										115																			
30	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
35	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
40	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81

Wind Speed [mph]		120										130																			
30	1	87	71	80	65	93	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79	69	56	63	51	66	53	74	60	88	72
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72	58	47	55	44	60	49	66	53	88	72
35	1	87	71	80	65	93	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79	69	56	63	51	66	53	74	60	88	72
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72	58	47	55	44	60	49	66	53	88	72
40	1	87	71	80	65	93	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79	69	56	63	51	66	53	74	60	88	72
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72	58	47	55	44	60	49	66	53	88	72

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
35	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
40	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					

Exposure Category : D

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
30	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57										
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51										
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51										
35	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57										
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51										
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51										
40	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57										
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51										
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
45	1	105	90	103	83	108	96	108	87	128	107	105	86	97	79	108	91	102	83	123	102	101	81	92	75	107	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		
50	1	102	90	103	83	105	96	108	87	128	107	102	86	97	79	105	91	102	83	123	102	101	81	92	75	105	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		
60	1	96	90	103	83	99	96	105	87	125	107	96	86	97	79	99	91	102	83	123	102	96	81	92	75	99	87	97	79	118	97		
	2	95	77	88	71	91	74	102	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89		
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89		

Exposure Category : D

Wind Speed [mph]	110											115																			
	45	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100
2		82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
3		69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
50	1	96	78	88	71	102	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
60	1	96	78	88	71	99	83	92	75	113	93	91	74	84	68	97	79	88	72	108	89	78	63	72	58	75	61	84	68	100	81
	2	82	66	75	61	78	63	87	71	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81	66	53	62	50	68	55	74	60	100	81
45	1	87	71	80	65	93	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79	69	56	63	51	66	53	74	60	88	72
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72	58	47	55	44	60	49	66	53	88	72
50	1	87	71	80	65	93	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79	69	56	63	51	66	53	74	60	88	72
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72	58	47	55	44	60	49	66	53	88	72
60	1	87	71	80	65	93	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79	69	56	63	51	66	53	74	60	88	72
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72	58	47	55	44	60	49	66	53	88	72

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		45	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65			
45	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
45	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
50	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
50	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
50	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
60	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
60	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
60	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					

Exposure Category : D

Wind Speed [mph]	170												180																		
	45	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57	49	40	45	37	47	38	53	43	63
45	2	52	42	48	39	50	41	56	45	67	54	42	34	39	32	43	35	47	38	63	51	42	34	39	32	43	35	47	38	63	51
45	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51	42	34	39	32	43	35	47	38	63	51
50	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57	49	40	45	37	47	38	53	43	63	51
50	2	52	42	48	39	50	41	56	45	67	54	42	34	39	32	43	35	47	38	63	51	42	34	39	32	43	35	47	38	63	51
50	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51	42	34	39	32	43	35	47	38	63	51
60	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57	49	40	45	37	47	38	53	43	63	51
60	2	52	42	48	39	50	41	56	45	67	54	42	34	39	32	43	35	47	38	63	51	42	34	39	32	43	35	47	38	63	51
60	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51	42	34	39	32	43	35	47	38	63	51

Wind Speed [mph]	190												200																		
	45	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52	44	36	41	33	42	34	47	39	57
45	2	47	38	43	35	45	36	50	41	60	49	37	30	35	29	39	31	42	34	57	46	37	30	35	29	39	31	42	34	57	46
45	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46	37	30	35	29	39	31	42	34	57	46
50	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52	44	36	41	33	42	34	47	39	57	46
50	2	47	38	43	35	45	36	50	41	60	49	37	30	35	29	39	31	42	34	57	46	37	30	35	29	39	31	42	34	57	46
50	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46	37	30	35	29	39	31	42	34	57	46
60	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52	44	36	41	33	42	34	47	39	57	46
60	2	47	38	43	35	45	36	50	41	60	49	37	30	35	29	39	31	42	34	57	46	37	30	35	29	39	31	42	34	57	46
60	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46	37	30	35	29	39	31	42	34	57	46

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	90	90	98	83	95	95	101	87	122	107	90	86	97	79	95	91	101	83	122	102	90	81	92	75	95	87	97	79	118	97
	2	90	77	88	71	91	74	101	83	120	99	90	73	83	67	86	70	97	78	115	94	86	70	79	64	82	67	92	74	110	89
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89
80	1	85	85	95	83	91	91	98	87	120	107	85	85	95	79	91	91	98	83	120	102	85	81	92	75	91	87	97	79	118	97
	2	85	77	88	71	91	74	98	83	120	99	85	73	83	67	86	70	97	78	115	94	85	70	79	64	82	67	92	74	110	89
	3	80	65	75	61	83	67	91	74	120	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89
90	1	80	80	91	83	88	88	95	87	117	107	80	80	91	79	88	88	95	83	117	102	80	80	91	75	88	87	95	79	117	97
	2	80	77	88	71	88	74	95	83	117	99	80	73	83	67	86	70	95	78	115	94	80	70	79	64	82	67	92	74	110	89
	3	80	65	75	61	83	67	91	74	117	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89

Exposure Category : D

Wind Speed [mph]		110										115									
70	1	90	78	88	71	95	83	92	75	113	93	90	74	84	68	95	79	88	72	108	89
	2	82	66	75	61	78	63	87	71	105	85	78	63	72	58	75	61	84	68	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81
80	1	85	78	88	71	91	83	92	75	113	93	85	74	84	68	91	79	88	72	108	89
	2	82	66	75	61	78	63	87	71	105	85	78	63	72	58	75	61	84	68	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81
90	1	80	78	88	71	88	83	92	75	113	93	80	74	84	68	88	79	88	72	108	89
	2	80	66	75	61	78	63	87	71	105	85	78	63	72	58	75	61	84	68	100	81
	3	69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81

Wind Speed [mph]		120										130									
70	1	87	71	80	65	93	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72
80	1	85	71	80	65	91	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72
90	1	80	71	80	65	88	75	84	68	104	86	80	65	74	60	86	69	78	63	96	79
	2	75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72
	3	63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
70	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
80	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					
90	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65					
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58					
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58					

Exposure Category : D

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
70	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57			
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51			
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51			
80	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57			
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51			
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51			
90	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57			
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51			
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
70	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52			
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	42	34	47	39	57	46			
	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46			
80	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52			
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	42	34	47	39	57	46			
	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46			
90	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52			
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	42	34	47	39	57	46			
	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	77	77	88	83	86	86	92	87	115	107	77	77	88	79	86	86	92	83	115	102	77	77	88	75	86	86	92	79	115	97					
	2	77	77	88	71	86	74	92	83	115	99	77	73	83	67	86	70	92	78	115	94	77	70	79	64	82	67	92	74	110	89					
	3	77	65	75	61	83	67	91	74	115	99	76	62	71	58	79	64	86	70	115	94	72	59	68	55	75	61	82	66	110	89					

Exposure Category : D

Wind Speed [mph]	110												115											
	100	1	77	77	86	71	86	83	92	75	113	93	77	74	84	68	86	79	88	72	108	89		
2		77	66	75	61	78	63	87	71	105	85	77	63	72	58	75	61	84	68	100	81			
3		69	56	65	53	71	58	78	63	105	85	66	53	62	50	68	55	74	60	100	81			

Wind Speed [mph]	120												130											
	100	1	77	71	80	65	86	75	84	68	104	86	77	65	74	60	86	69	78	63	96	79		
2		75	61	69	56	71	58	80	65	96	78	69	56	63	51	66	53	74	60	88	72			
3		63	51	59	48	65	53	71	58	96	78	58	47	55	44	60	49	66	53	88	72			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 83in x 41.5in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
100	1	74	60	68	56	79	64	72	58	90	74	69	56	64	52	74	60	67	54	84	69	65	53	60	48	69	56	63	51	79	65
	2	64	52	59	48	61	50	68	55	82	66	59	48	55	44	57	46	64	52	76	62	56	45	51	42	53	43	59	48	71	58
	3	54	44	51	41	55	45	61	49	82	66	50	41	47	38	52	42	57	46	76	62	47	38	44	36	48	39	53	43	71	58

Wind Speed [mph]		170										180									
100	1	61	49	56	46	65	53	59	48	74	61	57	47	53	43	61	50	56	45	70	57
	2	52	42	48	39	50	41	56	45	67	54	49	40	45	37	47	38	53	43	63	51
	3	44	36	41	34	45	37	50	41	67	54	42	34	39	32	43	35	47	38	63	51

Wind Speed [mph]		190										200									
100	1	54	44	50	41	58	47	53	43	67	54	52	42	47	39	55	45	50	41	63	52
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	42	34	47	39	57	46
	3	39	32	37	30	41	33	45	36	60	49	37	30	35	29	39	31	42	34	57	46

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
0	1	136	118	129	109	135	123	130	115	130	130	132	113	124	104	135	119	128	109	130	128	128	107	120	98	133	114	124	103	130	123
	2	123	102	116	93	119	97	128	108	130	125	118	96	110	88	114	92	123	103	130	120	114	91	104	84	108	87	119	98	130	116
	3	106	85	99	80	109	88	118	96	130	125	100	81	94	76	103	83	113	91	130	120	95	77	89	72	98	79	107	87	130	116
5	1	136	118	129	109	135	123	130	115	130	130	132	113	124	104	135	119	128	109	130	128	128	107	120	98	133	114	124	103	130	123
	2	123	102	116	93	119	97	128	108	130	125	118	96	110	88	114	92	123	103	130	120	114	91	104	84	108	87	119	98	130	116
	3	106	85	99	80	109	88	118	96	130	125	100	81	94	76	103	83	113	91	130	120	95	77	89	72	98	79	107	87	130	116
10	1	128	118	129	109	135	123	130	115	130	130	128	113	124	104	135	119	128	109	130	128	128	107	120	98	133	114	124	103	130	123
	2	123	102	116	93	119	97	128	108	130	125	118	96	110	88	114	92	123	103	130	120	114	91	104	84	108	87	119	98	130	116
	3	106	85	99	80	109	88	118	96	130	125	100	81	94	76	103	83	113	91	130	120	95	77	89	72	98	79	107	87	130	116

Exposure Category : B

Wind Speed [mph]		110										115									
0	1	123	102	116	94	129	109	120	98	130	118	119	97	111	89	124	104	116	94	130	114
	2	108	87	99	80	103	83	115	93	130	111	103	83	94	76	98	79	110	89	126	106
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	66	89	72	98	79	126	106
5	1	123	102	116	94	129	109	120	98	130	118	119	97	111	89	124	104	116	94	130	114
	2	108	87	99	80	103	83	115	93	130	111	103	83	94	76	98	79	110	89	126	106
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	66	89	72	98	79	126	106
10	1	123	102	116	94	129	109	120	98	130	118	119	97	111	89	124	104	116	94	130	114
	2	108	87	99	80	103	83	115	93	130	111	103	83	94	76	98	79	110	89	126	106
	3	91	73	85	69	93	76	102	83	130	111	86	70	81	66	89	72	98	79	126	106

Wind Speed [mph]		120										130									
0	1	116	93	106	85	121	99	111	90	130	109	106	86	97	78	113	91	102	82	122	101
	2	98	79	90	73	94	76	105	85	122	102	90	73	83	67	86	70	96	78	115	93
	3	83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93
5	1	116	93	106	85	121	99	111	90	130	109	106	86	97	78	113	91	102	82	122	101
	2	98	79	90	73	94	76	105	85	122	102	90	73	83	67	86	70	96	78	115	93
	3	83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93
10	1	116	93	106	85	121	99	111	90	130	109	106	86	97	78	113	91	102	82	122	101
	2	98	79	90	73	94	76	105	85	122	102	90	73	83	67	86	70	96	78	115	93
	3	83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					
5	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					
10	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					

Exposure Category : B

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	64	52	59	48	62	50	69	56	82	67
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	54	44	51	41	56	45	61	50	82	67
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	54	44	51	41	56	45	61	50	82	67
5	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	64	52	59	48	62	50	69	56	82	67
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	54	44	51	41	56	45	61	50	82	67
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	54	44	51	41	56	45	61	50	82	67
10	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	64	52	59	48	62	50	69	56	82	67
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	54	44	51	41	56	45	61	50	82	67
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	54	44	51	41	56	45	61	50	82	67

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	119	118	129	109	131	123	129	115	130	130	119	113	124	104	131	119	128	109	130	128	119	107	120	98	131	114	124	103	130	123					
	2	119	102	116	93	119	97	128	108	130	125	118	96	110	88	114	92	123	103	130	120	114	91	104	84	108	87	119	98	130	116					
	3	106	85	99	80	109	88	118	96	130	125	100	81	94	76	103	83	113	91	130	120	95	77	89	72	98	79	107	87	130	116					
20	1	111	111	127	109	123	123	124	115	130	130	111	111	124	104	123	119	124	109	130	128	111	107	120	98	123	114	124	103	130	123					
	2	111	102	116	93	119	97	124	108	130	125	111	96	110	88	114	92	123	103	130	120	111	91	104	84	108	87	119	98	130	116					
	3	106	85	99	80	109	88	118	96	130	125	100	81	94	76	103	83	113	91	130	120	95	77	89	72	98	79	107	87	130	116					
25	1	111	111	122	109	117	117	119	115	130	130	111	111	122	104	117	117	119	109	130	128	111	107	120	98	117	114	119	103	130	123					
	2	111	102	116	93	117	97	119	108	130	125	111	96	110	88	114	92	119	103	130	120	111	91	104	84	108	87	119	98	130	116					
	3	106	85	99	80	109	88	118	96	130	125	100	81	94	76	103	83	113	91	130	120	95	77	89	72	98	79	107	87	130	116					

Exposure Category : B

Wind Speed [mph]	110												115																		
	15	1	119	102	116	94	129	109	120	98	130	118	119	97	111	89	124	104	116	94	130	114	103	83	94	76	98	79	110	89	126
2		108	87	99	80	103	83	115	93	130	111	86	70	81	66	89	72	98	79	126	106	86	70	81	66	89	72	98	79	126	106
3		91	73	85	69	93	76	102	83	130	111	111	97	111	89	123	104	116	94	130	114	103	83	94	76	98	79	110	89	126	106
20	1	111	102	116	94	123	109	120	98	130	118	111	97	111	89	123	104	116	94	130	114	103	83	94	76	98	79	110	89	126	106
	2	108	87	99	80	103	83	115	93	130	111	86	70	81	66	89	72	98	79	126	106	86	70	81	66	89	72	98	79	126	106
	3	91	73	85	69	93	76	102	83	130	111	111	97	111	89	117	104	116	94	130	114	103	83	94	76	98	79	110	89	126	106
25	1	111	102	116	94	117	109	119	98	130	118	111	97	111	89	117	104	116	94	130	114	103	83	94	76	98	79	110	89	126	106
	2	108	87	99	80	103	83	115	93	130	111	86	70	81	66	89	72	98	79	126	106	86	70	81	66	89	72	98	79	126	106
	3	91	73	85	69	93	76	102	83	130	111	111	97	111	89	117	104	116	94	130	114	103	83	94	76	98	79	110	89	126	106

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					
20	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					
25	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					

Exposure Category : B

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
15	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74			
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67			
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67			
20	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74			
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67			
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67			
25	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74			
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67			
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	108	108	117	109	112	112	115	115	129	129	108	108	117	104	112	112	115	109	129	128	108	107	117	98	112	112	115	103
	2	108	102	116	93	112	97	115	108	129	125	108	96	110	88	112	92	115	103	129	120	108	91	104	84	108	87	115	98	129	116
	3	106	85	99	80	109	88	115	96	129	125	100	81	94	76	103	83	113	91	129	120	95	77	89	72	98	79	107	87	129	116
35	1	104	104	112	109	108	108	111	111	127	127	104	104	112	104	108	108	111	109	127	127	104	104	112	98	108	108	111	103	127	123
	2	104	102	112	93	108	97	111	108	127	125	104	96	110	88	108	92	111	103	127	120	104	91	104	84	108	87	111	98	127	116
	3	104	85	99	80	108	88	111	96	127	125	100	81	94	76	103	83	111	91	127	120	95	77	89	72	98	79	107	87	127	116
40	1	100	100	108	108	104	104	108	108	125	125	100	100	108	104	104	104	108	108	125	125	100	100	108	98	104	104	108	103	125	123
	2	100	100	108	93	104	97	108	108	125	125	100	96	108	88	104	92	108	103	125	120	100	91	104	84	104	87	108	98	125	116
	3	100	85	99	80	104	88	108	96	125	125	100	81	94	76	103	83	108	91	125	120	95	77	89	72	98	79	107	87	125	116

Exposure Category : B

Wind Speed [mph]		110										115									
30	1	108	102	116	94	112	109	115	98	129	118	108	97	111	89	112	104	115	94	129	114
	2	108	87	99	80	103	83	115	93	129	111	103	83	94	76	98	79	110	89	126	106
	3	91	73	85	69	93	76	102	83	129	111	86	70	81	66	89	72	98	79	126	106
35	1	104	102	112	94	108	108	111	98	127	118	104	97	111	89	108	104	111	94	127	114
	2	104	87	99	80	103	83	111	93	127	111	103	83	94	76	98	79	110	89	126	106
	3	91	73	85	69	93	76	102	83	127	111	86	70	81	66	89	72	98	79	126	106
40	1	100	100	108	94	104	104	108	98	125	118	100	97	108	89	104	104	108	94	125	114
	2	100	87	99	80	103	83	108	93	125	111	100	83	94	76	98	79	108	89	125	106
	3	91	73	85	69	93	76	102	83	125	111	86	70	81	66	89	72	98	79	125	106
Wind Speed [mph]		120										130									
30	1	108	93	106	85	112	99	111	90	129	109	106	86	97	78	112	91	102	82	122	101
	2	98	79	90	73	94	76	105	85	122	102	90	73	83	67	86	70	96	78	115	93
	3	83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93
35	1	104	93	106	85	108	99	111	90	127	109	104	86	97	78	108	91	102	82	122	101
	2	98	79	90	73	94	76	105	85	122	102	90	73	83	67	86	70	96	78	115	93
	3	83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93
40	1	100	93	106	85	104	99	108	90	125	109	100	86	97	78	104	91	102	82	122	101
	2	98	79	90	73	94	76	105	85	122	102	90	73	83	67	86	70	96	78	115	93
	3	83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					
35	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					
40	1	98	79	90	73	104	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83					
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75					
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					

Exposure Category : B

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
30	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74			
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67			
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67			
35	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74			
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67			
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67			
40	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74			
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67			
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	96	96	104	104	101	101	105	105	123	123	96	96	104	104	101	101	105	105	123	123	96	96	104	98	101	101	105	103	123	123					
	2	96	96	104	93	101	97	105	105	123	123	96	96	104	88	101	92	105	103	123	120	96	91	104	84	101	87	105	98	123	116					
	3	96	85	99	80	101	88	105	96	123	123	96	81	94	76	101	83	105	91	123	120	95	77	89	72	98	79	105	87	123	116					
50	1	93	93	101	101	98	98	103	103	122	122	93	93	101	101	98	98	103	103	122	122	93	93	101	98	98	98	103	103	122	122					
	2	93	93	101	93	98	97	103	103	122	122	93	93	101	88	98	92	103	103	122	120	93	91	101	84	98	87	103	98	122	116					
	3	93	85	99	80	98	88	103	96	122	122	93	81	94	76	98	83	103	91	122	120	93	77	89	72	98	79	103	87	122	116					
60	1	87	87	96	96	93	93	98	98	119	119	87	87	96	96	93	93	98	98	119	119	87	87	96	96	93	93	98	98	119	119					
	2	87	87	96	93	93	93	98	98	119	119	87	87	96	88	93	92	98	98	119	119	87	87	96	84	93	87	98	98	119	116					
	3	87	85	96	80	93	88	98	96	119	119	87	81	94	76	93	83	98	91	119	119	87	77	89	72	93	79	98	87	119	116					

Exposure Category : B

Wind Speed [mph]	110												115											
	45	1	96	96	104	94	101	101	105	98	123	118	96	96	104	89	101	101	105	94	123	114		
2		96	87	99	80	101	83	105	93	123	111	96	83	94	76	98	79	105	89	123	106			
3		91	73	85	69	93	76	102	83	123	111	86	70	81	66	89	72	98	79	123	106			
50	1	93	93	101	94	98	98	103	98	122	118	93	93	101	89	98	98	103	94	122	114			
	2	93	87	99	80	98	83	103	93	122	111	93	83	94	76	98	79	103	89	122	106			
	3	91	73	85	69	93	76	102	83	122	111	86	70	81	66	89	72	98	79	122	106			
60	1	87	87	96	94	93	93	98	98	119	118	87	87	96	89	93	93	98	94	119	114			
	2	87	87	96	80	93	83	98	93	119	111	87	83	94	76	93	79	98	89	119	106			
	3	87	73	85	69	93	76	98	83	119	111	86	70	81	66	89	72	98	79	119	106			

Wind Speed [mph]	120												130											
	45	1	96	93	104	85	101	99	105	90	123	109	96	86	97	78	101	91	102	82	122	101		
2		96	79	90	73	94	76	105	85	122	102	90	73	83	67	86	70	96	78	115	93			
3		83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93			
50	1	93	93	101	85	98	98	103	90	122	109	93	86	97	78	98	91	102	82	122	101			
	2	93	79	90	73	94	76	103	85	122	102	90	73	83	67	86	70	96	78	115	93			
	3	83	67	78	63	85	69	93	76	122	102	76	62	71	58	78	64	86	70	115	93			
60	1	87	87	96	85	93	93	98	90	119	109	87	86	96	78	93	91	98	82	119	101			
	2	87	79	90	73	93	76	98	85	119	102	87	73	83	67	86	70	96	78	115	93			
	3	83	67	78	63	85	69	93	76	119	102	76	62	71	58	78	64	86	70	115	93			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	96	79	90	73	101	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75
50	1	93	79	90	73	98	84	94	76	114	94	91	74	84	68	97	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75
60	1	87	79	90	73	93	84	94	76	114	94	87	74	84	68	93	78	88	71	107	88	85	69	78	63	91	73	82	67	101	83
	2	84	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75

Exposure Category : B

Wind Speed [mph]		170										180																			
45	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	64	52	59	48	62	50	69	56	82	67
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	54	44	51	41	56	45	61	50	82	67
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	1	1	1	1	1	1	1	1	1	1
50	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	64	52	59	48	62	50	69	56	82	67
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	54	44	51	41	56	45	61	50	82	67
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	1	1	1	1	1	1	1	1	1	1
60	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	64	52	59	48	62	50	69	56	82	67
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	54	44	51	41	56	45	61	50	82	67
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	1	1	1	1	1	1	1	1	1	1

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	81	81	92	92	89	89	95	95	116	116	81	81	92	92	89	89	95	95	116	116	81	81	92	92	89	89	95	95	116	116
	2	81	81	92	92	89	89	95	95	116	116	81	81	92	88	89	89	95	95	116	116	81	81	92	84	89	87	95	95	116	116
	3	81	81	92	80	89	88	95	95	116	116	81	81	92	76	89	83	95	91	116	116	81	77	89	72	89	79	95	87	116	116
80	1	76	76	88	88	85	85	91	91	113	113	76	76	88	88	85	85	91	91	113	113	76	76	88	88	85	85	91	91	113	113
	2	76	76	88	88	85	85	91	91	113	113	76	76	88	88	85	85	91	91	113	113	76	76	88	84	85	85	91	91	113	113
	3	76	76	88	80	85	85	91	91	113	113	76	76	88	76	85	83	91	91	113	113	76	76	88	72	85	79	91	87	113	113
90	1	72	72	85	85	82	82	89	89	111	111	72	72	85	85	82	82	89	89	111	111	72	72	85	85	82	82	89	89	111	111
	2	72	72	85	85	82	82	89	89	111	111	72	72	85	85	82	82	89	89	111	111	72	72	85	84	82	82	89	89	111	111
	3	72	72	85	80	82	82	89	89	111	111	72	72	85	76	82	82	89	89	111	111	72	72	85	72	82	79	89	87	111	111

Exposure Category : B

Wind Speed [mph]		110										115									
70	1	81	81	92	91	89	89	95	95	116	116	81	81	92	89	89	89	95	94	116	114
	2	81	81	92	80	89	83	95	93	116	111	81	81	92	76	89	79	95	89	116	106
	3	81	73	85	69	89	76	95	83	116	111	81	70	81	66	89	72	95	79	116	106
80	1	76	76	88	87	85	85	91	91	113	113	76	76	88	86	85	85	91	91	113	113
	2	76	76	88	80	85	83	91	91	113	111	76	76	88	76	85	79	91	89	113	106
	3	76	73	85	69	85	76	91	83	113	111	76	70	81	66	85	72	91	79	113	106
90	1	72	72	85	84	82	82	89	89	111	111	72	72	85	83	82	82	89	89	111	111
	2	72	72	85	80	82	82	89	89	111	111	72	72	85	76	82	79	89	89	111	106
	3	72	72	85	69	82	76	89	83	111	111	72	70	81	66	82	72	89	79	111	106

Wind Speed [mph]		120										130									
70	1	81	81	92	85	89	89	95	90	116	109	81	81	92	78	89	89	95	82	116	101
	2	81	79	90	73	89	76	95	85	116	102	81	73	83	67	86	70	95	78	115	93
	3	81	67	78	63	85	69	93	76	116	102	76	62	71	58	78	64	86	70	115	93
80	1	76	76	88	85	85	85	91	90	113	109	76	76	88	78	85	85	91	82	113	101
	2	76	76	88	73	85	76	91	85	113	102	76	73	83	67	85	70	91	78	113	93
	3	76	67	78	63	85	69	91	76	113	102	76	62	71	58	78	64	86	70	113	93
90	1	72	72	85	82	82	82	89	89	111	109	72	72	85	78	82	82	89	82	111	101
	2	72	72	85	73	82	76	89	85	111	102	72	72	83	67	82	70	89	78	111	93
	3	72	67	78	63	82	69	89	76	111	102	72	62	71	58	78	64	86	70	111	93

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
70	1	81	79	90	73	89	84	94	76	114	94	81	74	84	68	89	78	88	71	107	88	81	69	78	63	89	73	82	67	101	83		
	2	81	68	77	62	80	65	89	72	107	87	78	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75		
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75		
80	1	76	76	86	73	85	84	91	76	113	94	76	74	84	68	85	78	88	71	107	88	76	69	78	63	85	73	82	67	101	83		
	2	76	68	77	62	80	65	89	72	107	87	76	63	71	58	74	60	83	67	99	81	73	59	67	54	69	56	78	63	93	75		
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75		
90	1	72	72	83	73	82	82	89	76	111	94	72	72	82	68	82	78	88	71	107	88	72	69	78	63	82	73	82	67	101	83		
	2	72	68	77	62	80	65	89	72	107	87	72	63	71	58	74	60	83	67	99	81	72	59	67	54	69	56	78	63	93	75		
	3	70	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75		

Exposure Category : B

Wind Speed [mph]	170											180										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
70	1	80	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	
80	1	76	65	73	59	85	69	77	63	95	78	75	61	69	56	80	65	73	59	90	74	
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	
90	1	72	65	73	59	82	69	77	63	95	78	72	61	69	56	80	65	73	59	90	74	
	2	68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67	
	3	58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	69	69	81	81	80	80	86	86	109	109	69	69	81	81	80	80	86	86	109	109	69	69	81	81	80	80	86	86	109	109					
	2	69	69	81	81	80	80	86	86	109	109	69	69	81	81	80	80	86	86	109	109	69	69	81	81	80	80	86	86	109	109					
	3	69	69	81	80	80	80	86	86	109	109	69	69	81	76	80	80	86	86	109	109	69	69	81	72	80	79	86	86	109	109					

Wind Speed [mph]	110												115																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
100	1	69	69	81	81	80	80	86	86	109	109	69	69	81	80	80	80	86	86	109	109	69	69	81	76	80	79	86	86	109	106
	2	69	69	81	80	80	80	86	86	109	109	69	69	81	76	80	79	86	86	109	106	69	69	81	76	80	79	86	86	109	106
	3	69	69	81	69	80	76	86	83	109	109	69	69	81	66	80	72	86	79	109	106	69	69	81	66	80	72	86	79	109	106

Wind Speed [mph]	120												130																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
100	1	69	69	81	79	80	80	86	86	109	109	69	69	81	78	80	80	86	82	109	101	69	69	81	67	80	70	86	78	109	93
	2	69	69	81	73	80	76	86	85	109	102	69	69	81	67	80	70	86	78	109	93	69	69	81	67	80	70	86	78	109	93
	3	69	67	78	63	80	69	86	76	109	102	69	62	71	58	78	64	86	70	109	93	69	62	71	58	78	64	86	70	109	93

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	69	69	80	73	80	80	86	76	109	94	69	69	79	68	80	78	86	71	107	88	69	69	77	63	80	73	82	67	101	83					
	2	69	68	77	62	80	65	86	72	107	87	69	63	71	58	74	60	83	67	99	81	69	59	67	54	69	56	78	63	93	75					
	3	69	57	66	54	73	59	79	64	107	87	65	53	62	50	68	55	74	60	99	81	61	50	58	47	63	51	69	56	93	75					

Exposure Category : B

Wind Speed [mph]	170												180											
	100	1	69	65	73	59	80	69	77	63	95	78	69	61	69	56	80	65	73	59	90	74		
2		68	55	63	51	65	53	73	59	87	71	64	52	59	48	62	50	69	56	82	67			
3		58	47	54	44	59	48	65	53	87	71	54	44	51	41	56	45	61	50	82	67			

Wind Speed [mph]	190												200											
	100	1	69	58	65	53	76	61	69	56	86	70	67	55	62	50	72	58	65	53	81	67		
2		61	49	56	45	58	47	65	53	78	63	58	47	53	43	55	45	62	50	74	60			
3		51	42	48	39	53	43	58	47	78	63	49	40	46	37	50	41	55	45	74	60			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
0	1	121	100	114	91	127	106	118	96	130	116	117	95	107	87	122	101	113	91	130	111	112	90	102	82	118	96	107	86	127	106
	2	106	85	97	78	101	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98
5	1	121	100	114	91	127	106	118	96	130	116	117	95	107	87	122	101	113	91	130	111	112	90	102	82	118	96	107	86	127	106
	2	106	85	97	78	101	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98
10	1	121	100	114	91	127	106	118	96	130	116	117	95	107	87	122	101	113	91	130	111	112	90	102	82	118	96	107	86	127	106
	2	106	85	97	78	101	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98

Exposure Category : C

Wind Speed [mph]		110										115																			
0	1	106	85	97	78	113	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	72	59	68	55	75	61	82	66	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	72	59	68	55	75	61	82	66	110	89
5	1	106	85	97	78	113	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	86	70	79	64	82	67	92	75	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	72	59	68	55	75	61	82	66	110	89
10	1	106	85	97	78	113	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	86	70	79	64	82	67	92	75	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	72	59	68	55	75	61	82	66	110	89

Wind Speed [mph]		120										130																			
0	1	97	78	88	72	103	83	93	75	113	93	89	72	81	66	95	76	85	69	105	86	76	61	70	56	72	59	81	66	97	79
	2	82	67	76	61	79	64	88	71	105	85	76	61	70	56	72	59	81	66	97	79	76	61	70	56	72	59	81	66	97	79
	3	69	56	65	53	72	58	78	64	105	85	64	52	60	49	66	53	72	59	97	79	64	52	60	49	66	53	72	59	97	79
5	1	97	78	88	72	103	83	93	75	113	93	89	72	81	66	95	76	85	69	105	86	76	61	70	56	72	59	81	66	97	79
	2	82	67	76	61	79	64	88	71	105	85	76	61	70	56	72	59	81	66	97	79	76	61	70	56	72	59	81	66	97	79
	3	69	56	65	53	72	58	78	64	105	85	64	52	60	49	66	53	72	59	97	79	64	52	60	49	66	53	72	59	97	79
10	1	97	78	88	72	103	83	93	75	113	93	89	72	81	66	95	76	85	69	105	86	76	61	70	56	72	59	81	66	97	79
	2	82	67	76	61	79	64	88	71	105	85	76	61	70	56	72	59	81	66	97	79	76	61	70	56	72	59	81	66	97	79
	3	69	56	65	53	72	58	78	64	105	85	64	52	60	49	66	53	72	59	97	79	64	52	60	49	66	53	72	59	97	79

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
5	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
10	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					

Exposure Category : C

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
0	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			
5	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			
10	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	119	100	114	91	127	106	118	96	130	116	117	95	107	87	122	101	113	91	130	111	112	90	102	82	118	96	107	86	127	106		
	2	106	85	97	78	101	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98		
	3	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98		
20	1	111	100	114	91	123	106	118	96	130	116	111	95	107	87	122	101	113	91	130	111	111	90	102	82	118	96	107	86	127	106		
	2	106	85	97	78	101	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98		
	3	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98		
25	1	111	100	114	91	117	106	118	96	130	116	111	95	107	87	117	101	113	91	130	111	111	90	102	82	117	96	107	86	127	106		
	2	106	85	97	78	101	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98		
	3	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98		

Exposure Category : C

Wind Speed [mph]	110											115																			
	Group	Array Interior	Array Edge																												
15	1	106	85	97	78	113	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	101	82	93	75	108	87	97	79	117	97
20	1	106	85	97	78	113	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	101	82	93	75	108	87	97	79	117	97
25	1	106	85	97	78	113	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	101	82	93	75	108	87	97	79	117	97

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
20	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
25	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					

Exposure Category : C

Wind Speed [mph]	170												180											
	Group	Array Interior	Array Edge																					
15	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			
20	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			
25	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	108	100	114	91	112	106	115	96	129	116	108	95	107	87	112	101	113	91	129	111	108	90	102	82	112	96	107	86	127	106
	2	106	85	97	78	101	81	112	91	128	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	128	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98
35	1	104	100	112	91	108	106	111	96	127	116	104	95	107	87	108	101	111	91	127	111	104	90	102	82	108	96	107	86	127	106
	2	104	85	97	78	101	81	111	91	127	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	127	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98
40	1	100	100	108	91	104	104	108	96	125	116	100	95	107	87	104	101	108	91	125	111	100	90	102	82	104	96	107	86	125	106
	2	100	85	97	78	101	81	108	91	125	109	100	81	92	74	95	77	107	86	123	103	95	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	125	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98

Exposure Category : C

Wind Speed [mph]		110										115																			
30	1	106	85	97	78	112	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	101	82	93	75	108	87	97	79	117	97
35	1	104	85	97	78	108	91	102	82	122	101	101	82	93	75	108	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	100	85	97	78	104	91	102	82	122	101
40	1	100	85	97	78	104	91	102	82	122	101	100	82	93	75	104	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	97	78	88	72	103	83	93	75	113	93

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
35	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
40	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					

Exposure Category : C

Wind Speed [mph]	170												180											
	30	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63		
2		57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
3		48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			
35	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			
40	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			

Wind Speed [mph]	190												200											
	30	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57		
2		51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51			
3		43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51			
35	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57			
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51			
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51			
40	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57			
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51			
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	96	96	104	91	101	101	105	96	123	116	96	95	104	87	101	101	105	91	123	111	96	90	102	82	101	96	105	86	123	106
	2	96	85	97	78	101	81	105	91	123	109	96	81	92	74	95	77	105	86	123	103	95	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	123	109	84	68	79	64	87	70	95	77	123	103	80	64	75	61	82	67	90	73	119	98
50	1	93	93	101	91	98	98	103	96	122	116	93	93	101	87	98	98	103	91	122	111	93	90	101	82	98	96	103	86	122	106
	2	93	85	97	78	98	81	103	91	122	109	93	81	92	74	95	77	103	86	122	103	93	77	87	70	90	73	101	82	119	98
	3	88	72	83	67	91	74	100	81	122	109	84	68	79	64	87	70	95	77	122	103	80	64	75	61	82	67	90	73	119	98
60	1	87	87	96	91	93	93	98	96	119	116	87	87	96	87	93	93	98	91	119	111	87	87	96	82	93	93	98	86	119	106
	2	87	85	96	78	93	81	98	91	119	109	87	81	92	74	93	77	98	86	119	103	87	77	87	70	90	73	98	82	119	98
	3	87	72	83	67	91	74	98	81	119	109	84	68	79	64	87	70	95	77	119	103	80	64	75	61	82	67	90	73	119	98

Exposure Category : C

Wind Speed [mph]		110										115																			
45	1	96	85	97	78	101	91	102	82	122	101	96	82	93	75	101	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	93	82	93	75	98	87	97	79	117	97
50	1	93	85	97	78	98	91	102	82	122	101	93	82	93	75	98	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	90	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	93	82	93	75	98	87	97	79	117	97
60	1	87	85	96	78	93	91	98	82	119	101	87	82	93	75	93	87	97	79	117	97	86	70	79	64	82	67	92	75	110	89
	2	87	73	83	67	86	70	96	78	115	93	86	70	79	64	82	67	92	75	110	89	72	59	68	55	75	61	82	66	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89	93	82	93	75	98	87	97	79	117	97

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64
50	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64
60	1	82	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64

Exposure Category : C

Wind Speed [mph]		170										180									
45	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56
50	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56
60	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56

Wind Speed [mph]		190										200									
45	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51
50	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51
60	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	81	81	92	91	89	89	95	95	116	116	81	81	92	87	89	89	95	91	116	111	81	81	92	82	89	89	95	86	116	106
	2	81	81	92	78	89	81	95	91	116	109	81	81	92	74	89	77	95	86	116	103	81	77	87	70	89	73	95	82	116	98
	3	81	72	83	67	89	74	95	81	116	109	81	68	79	64	87	70	95	77	116	103	80	64	75	61	82	67	90	73	116	98
80	1	76	76	88	87	85	85	91	91	113	113	76	76	88	86	85	85	91	91	113	111	76	76	88	82	85	85	91	86	113	106
	2	76	76	88	78	85	81	91	91	113	109	76	76	88	74	85	77	91	86	113	103	76	76	87	70	85	73	91	82	113	98
	3	76	72	83	67	85	74	91	81	113	109	76	68	79	64	85	70	91	77	113	103	76	64	75	61	82	67	90	73	113	98
90	1	72	72	85	84	82	82	89	89	111	111	72	72	85	82	82	82	89	89	111	111	72	72	85	81	82	82	89	86	111	106
	2	72	72	85	78	82	81	89	89	111	109	72	72	85	74	82	77	89	86	111	103	72	72	85	70	82	73	89	82	111	98
	3	72	72	83	67	82	74	89	81	111	109	72	68	79	64	82	70	89	77	111	103	72	64	75	61	82	67	89	73	111	98

Exposure Category : C

Wind Speed [mph]		110										115									
70	1	81	81	92	78	89	89	95	82	116	101	81	81	91	75	89	87	95	79	116	97
	2	81	73	83	67	86	70	95	78	115	93	81	70	79	64	82	67	92	75	110	89
	3	76	61	71	58	78	63	86	70	115	93	72	59	68	55	75	61	82	66	110	89
80	1	76	76	88	78	85	85	91	82	113	101	76	76	87	75	85	85	91	79	113	97
	2	76	73	83	67	85	70	91	78	113	93	76	70	79	64	82	67	91	75	110	89
	3	76	61	71	58	78	63	86	70	113	93	72	59	68	55	75	61	82	66	110	89
90	1	72	72	85	78	82	82	89	82	111	101	72	72	84	75	82	82	89	79	111	97
	2	72	72	83	67	82	70	89	78	111	93	72	70	79	64	82	67	89	75	110	89
	3	72	61	71	58	78	63	86	70	111	93	72	59	68	55	75	61	82	66	110	89

Wind Speed [mph]		120										130									
70	1	81	78	88	72	89	83	93	75	113	93	81	72	81	66	89	76	85	69	105	86
	2	81	67	76	61	79	64	88	71	105	85	76	61	70	56	72	59	81	66	97	79
	3	69	56	65	53	72	58	78	64	105	85	64	52	60	49	66	53	72	59	97	79
80	1	76	76	86	72	85	83	91	75	113	93	76	72	81	66	85	76	85	69	105	86
	2	76	67	76	61	79	64	88	71	105	85	76	61	70	56	72	59	81	66	97	79
	3	69	56	65	53	72	58	78	64	105	85	64	52	60	49	66	53	72	59	97	79
90	1	72	72	83	72	82	82	89	75	111	93	72	72	81	66	82	76	85	69	105	86
	2	72	67	76	61	79	64	88	71	105	85	72	61	70	56	72	59	81	66	97	79
	3	69	56	65	53	72	58	78	64	105	85	64	52	60	49	66	53	72	59	97	79

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
70	1	81	66	75	61	87	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
80	1	76	66	75	61	85	71	79	64	98	80	76	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					
90	1	72	66	75	61	82	71	79	64	98	80	72	62	70	57	81	66	74	60	91	75	71	58	66	53	76	62	69	56	86	71					
	2	70	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
70	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63										
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56										
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56										
80	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63										
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56										
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56										
90	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63										
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56										
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56										

Wind Speed [mph]	190												200																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
70	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57										
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51										
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51										
80	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57										
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51										
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51										
90	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57										
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51										
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	69	69	81	81	80	80	86	86	109	109	69	69	81	80	80	80	86	86	109	109	69	69	81	79	80	80	86	86	109	106					
	2	69	69	81	78	80	80	86	86	109	109	69	69	81	74	80	77	86	86	109	103	69	69	81	70	80	73	86	82	109	98					
	3	69	69	81	67	80	74	86	81	109	109	69	68	79	64	80	70	86	77	109	103	69	64	75	61	80	67	86	73	109	98					

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	69	69	81	77	80	80	86	82	109	101	69	69	81	75	80	80	86	79	109	97			
	2	69	69	81	67	80	70	86	78	109	93	69	69	79	64	80	67	86	75	109	89			
	3	69	61	71	58	78	63	86	70	109	93	69	59	68	55	75	61	82	66	109	89			

Wind Speed [mph]	120												130											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	69	69	80	72	80	80	86	75	109	93	69	69	78	66	80	76	85	69	105	86			
	2	69	67	76	61	79	64	86	71	105	85	69	61	70	56	72	59	81	66	97	79			
	3	69	56	65	53	72	58	78	64	105	85	64	52	60	49	66	53	72	59	97	79			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	69	66	75	61	80	71	79	64	98	80	69	62	70	57	80	66	74	60	91	75	69	58	66	53	76	62	69	56	86	71					
	2	69	57	64	52	67	54	75	61	90	73	65	53	60	49	62	51	70	57	84	68	61	50	56	46	58	47	65	53	78	64					
	3	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	62	51	84	68	51	42	48	39	53	43	58	47	78	64					

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	67	54	62	50	71	58	65	53	81	66	63	51	58	47	67	55	61	50	77	63			
	2	57	47	53	43	55	45	61	50	73	60	54	44	50	40	52	42	58	47	69	56			
	3	48	39	46	37	50	41	55	45	73	60	46	37	43	35	47	38	52	42	69	56			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	60	48	55	45	64	52	58	47	73	60	57	46	52	42	60	49	55	45	69	57			
	2	51	42	47	38	49	40	55	45	66	53	49	39	45	36	46	38	52	42	62	51			
	3	43	35	41	33	45	36	49	40	66	53	41	33	39	31	42	34	46	38	62	51			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	113	91	104	84	119	97	109	88	128	107	107	86	98	79	114	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98					
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90					
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90					
5	1	113	91	104	84	119	97	109	88	128	107	107	86	98	79	114	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98					
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90					
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90					
10	1	113	91	104	84	119	97	109	88	128	107	107	86	98	79	114	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98					
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90					
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90					

Exposure Category : D

Wind Speed [mph]	110												115																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
5	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
10	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					
5	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					
10	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					

Exposure Category : D

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
5	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
10	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
15	1	113	91	104	84	119	97	109	88	128	107	107	86	98	79	114	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		
20	1	111	91	104	84	119	97	109	88	128	107	107	86	98	79	114	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		
25	1	111	91	104	84	119	97	109	88	128	107	107	86	98	79	114	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		

Exposure Category : D

Wind Speed [mph]	110											115																			
	Group	Array Interior	Array Edge																												
15	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
20	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
25	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																											
Wind Speed [mph]		140										150										160											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65
15	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58		
15	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58		
20	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65		
20	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58		
20	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58		
25	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65		
25	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58		
25	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58		

Exposure Category : D

Wind Speed [mph]		170										180																			
15	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
15	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
15	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
20	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
20	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
20	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
25	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
25	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
25	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52

Wind Speed [mph]		190										200																			
15	1	55	44	50	41	58	47	53	43	67	55	52	42	48	39	55	45	50	41	64	52	44	36	41	33	43	35	48	39	57	46
15	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	43	35	48	39	57	46	38	31	35	29	39	32	43	35	57	46
15	3	40	32	37	30	41	33	45	36	60	49	38	31	35	29	39	32	43	35	57	46	38	31	35	29	39	32	43	35	57	46
20	1	55	44	50	41	58	47	53	43	67	55	52	42	48	39	55	45	50	41	64	52	44	36	41	33	43	35	48	39	57	46
20	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	43	35	48	39	57	46	38	31	35	29	39	32	43	35	57	46
20	3	40	32	37	30	41	33	45	36	60	49	38	31	35	29	39	32	43	35	57	46	38	31	35	29	39	32	43	35	57	46
25	1	55	44	50	41	58	47	53	43	67	55	52	42	48	39	55	45	50	41	64	52	44	36	41	33	43	35	48	39	57	46
25	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	43	35	48	39	57	46	38	31	35	29	39	32	43	35	57	46
25	3	40	32	37	30	41	33	45	36	60	49	38	31	35	29	39	32	43	35	57	46	38	31	35	29	39	32	43	35	57	46

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
30	1	111	91	104	84	115	97	109	88	128	107	107	86	98	79	114	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		
35	1	107	91	104	84	111	97	109	88	128	107	107	86	98	79	111	92	103	83	123	102	102	82	93	75	108	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		
40	1	103	91	104	84	107	97	109	88	127	107	103	86	98	79	107	92	103	83	123	102	102	82	93	75	107	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		

Exposure Category : D

Wind Speed [mph]	110											115																			
	Group	Array Interior	Array Edge																												
30	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
35	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
40	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					
35	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					
40	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					

Exposure Category : D

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
30	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
35	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
40	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
45	1	100	91	104	84	104	97	108	88	125	107	100	86	98	79	104	92	103	83	123	102	100	82	93	75	104	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		
50	1	97	91	104	84	101	97	106	88	124	107	97	86	98	79	101	92	103	83	123	102	97	82	93	75	101	87	98	79	118	98		
	2	96	78	88	72	92	74	103	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		
60	1	91	91	99	84	96	96	101	88	121	107	91	86	98	79	96	92	101	83	121	102	91	82	93	75	96	87	98	79	118	98		
	2	91	78	88	72	92	74	101	83	120	100	91	74	84	68	87	71	97	79	116	94	87	70	80	64	83	67	93	75	111	90		
	3	81	66	76	62	84	68	91	74	120	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90		

Exposure Category : D

Wind Speed [mph]	110											115																			
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
45	1	97	78	89	72	103	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
50	1	97	78	89	72	101	83	93	75	113	93	92	75	85	69	98	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
60	1	91	78	89	72	96	83	93	75	113	93	91	75	85	69	96	80	89	72	108	89	79	64	72	59	75	61	84	68	101	82
	2	83	67	76	61	79	64	88	72	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82	66	54	62	51	68	56	75	61	101	82

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					
50	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					
60	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					

Exposure Category : D

Wind Speed [mph]	170												180																		
	45	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64
2		53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
3		44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
50	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
60	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	86	95	84	92	92	98	88	118	107	86	86	95	79	92	92	98	83	118	102	86	82	93	75	92	87	98	79	118	98
	2	86	78	88	72	92	74	98	83	118	100	86	74	84	68	87	71	97	79	116	94	86	70	80	64	83	67	93	75	111	90
	3	81	66	76	62	84	68	91	74	118	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90
80	1	81	81	91	84	88	88	94	88	116	107	81	81	91	79	88	88	94	83	116	102	81	81	91	75	88	87	94	79	116	98
	2	81	78	88	72	88	74	94	83	116	100	81	74	84	68	87	71	94	79	116	94	81	70	80	64	83	67	93	75	111	90
	3	81	66	76	62	84	68	91	74	116	100	77	62	72	58	79	64	87	70	116	94	73	59	69	56	75	61	82	67	111	90
90	1	76	76	88	84	85	85	91	88	113	107	76	76	88	79	85	85	91	83	113	102	76	76	87	75	85	85	91	79	113	98
	2	76	76	88	72	85	74	91	83	113	100	76	74	84	68	85	71	91	79	113	94	76	70	80	64	83	67	91	75	111	90
	3	76	66	76	62	84	68	91	74	113	100	76	62	72	58	79	64	87	70	113	94	73	59	69	56	75	61	82	67	111	90

Exposure Category : D

Wind Speed [mph]		110										115									
70	1	86	78	89	72	92	83	93	75	113	93	86	75	85	69	92	80	89	72	108	89
	2	83	67	76	61	79	64	88	72	106	86	79	64	72	59	75	61	84	68	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82
80	1	81	78	89	72	88	83	93	75	113	93	81	75	85	69	88	80	89	72	108	89
	2	81	67	76	61	79	64	88	72	106	86	79	64	72	59	75	61	84	68	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82
90	1	76	76	86	72	85	83	91	75	113	93	76	75	85	69	85	80	89	72	108	89
	2	76	67	76	61	79	64	88	72	106	86	76	64	72	59	75	61	84	68	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82

Wind Speed [mph]		120										130									
70	1	86	71	81	66	92	76	85	69	104	86	81	66	74	60	86	70	78	64	97	80
	2	75	61	69	56	72	58	81	65	96	78	69	56	64	52	66	54	74	60	89	72
	3	63	52	60	48	66	53	72	58	96	78	58	47	55	45	60	49	66	54	89	72
80	1	81	71	81	66	88	76	85	69	104	86	81	66	74	60	86	70	78	64	97	80
	2	75	61	69	56	72	58	81	65	96	78	69	56	64	52	66	54	74	60	89	72
	3	63	52	60	48	66	53	72	58	96	78	58	47	55	45	60	49	66	54	89	72
90	1	76	71	81	66	85	76	85	69	104	86	76	66	74	60	85	70	78	64	97	80
	2	75	61	69	56	72	58	81	65	96	78	69	56	64	52	66	54	74	60	89	72
	3	63	52	60	48	66	53	72	58	96	78	58	47	55	45	60	49	66	54	89	72

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140											150											160										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
70	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65		
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58		
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58		
80	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65		
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58		
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58		
90	1	75	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65		
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58		
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58		

Exposure Category : D

Wind Speed [mph]	170											180																			
	70	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64
2		53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
3		44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
80	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
90	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58	50	40	46	37	47	39	53	43	64	52
	2	53	43	48	39	50	41	56	46	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52	42	34	39	32	43	35	47	39	64	52

Wind Speed [mph]	190											200																			
	70	1	55	44	50	41	58	47	53	43	67	55	52	42	48	39	55	45	50	41	64	52	44	36	41	33	43	35	48	39	57
2		47	38	43	35	45	36	50	41	60	49	44	36	41	33	43	35	48	39	57	46	44	36	41	33	43	35	48	39	57	46
3		40	32	37	30	41	33	45	36	60	49	38	31	35	29	39	32	43	35	57	46	38	31	35	29	39	32	43	35	57	46
80	1	55	44	50	41	58	47	53	43	67	55	52	42	48	39	55	45	50	41	64	52	44	36	41	33	43	35	48	39	57	46
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	43	35	48	39	57	46	44	36	41	33	43	35	48	39	57	46
	3	40	32	37	30	41	33	45	36	60	49	38	31	35	29	39	32	43	35	57	46	38	31	35	29	39	32	43	35	57	46
90	1	55	44	50	41	58	47	53	43	67	55	52	42	48	39	55	45	50	41	64	52	44	36	41	33	43	35	48	39	57	46
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	43	35	48	39	57	46	44	36	41	33	43	35	48	39	57	46
	3	40	32	37	30	41	33	45	36	60	49	38	31	35	29	39	32	43	35	57	46	38	31	35	29	39	32	43	35	57	46

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																									
Wind Speed [mph]	Panal Angle	95										100										105									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
100	1	73	73	85	82	82	82	89	88	111	107	73	73	85	79	82	82	89	83	111	102	73	73	84	75	82	82	89	79	111	98
	2	73	73	85	72	82	74	89	83	111	100	73	73	84	68	82	71	89	79	111	94	73	70	80	64	82	67	89	75	111	90
	3	73	66	76	62	82	68	89	74	111	100	73	62	72	58	79	64	87	70	111	94	73	59	69	56	75	61	82	67	111	90

Exposure Category : D

Wind Speed [mph]	Panal Angle	110										115									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
100	1	73	73	83	72	82	82	89	75	111	93	73	73	82	69	82	80	89	72	108	89
	2	73	67	76	61	79	64	88	72	106	86	73	64	72	59	75	61	84	68	101	82
	3	69	56	65	53	72	58	79	64	106	86	66	54	62	51	68	56	75	61	101	82
0	1																				
	2																				
	3																				
0	1																				
	2																				
	3																				

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	73	61	69	56	80	65	73	59	90	74	70	57	64	52	74	60	68	55	84	69	65	53	60	49	70	57	63	51	79	65					
	2	64	52	59	48	61	50	69	56	82	67	60	49	55	45	57	46	64	52	77	62	56	45	51	42	54	44	60	49	72	58					
	3	54	44	51	41	56	45	61	50	82	67	50	41	47	39	52	42	57	46	77	62	47	38	44	36	49	40	53	43	72	58					

Exposure Category : D

Wind Speed [mph]	170												180											
100	1	61	50	56	46	65	53	59	48	75	61	58	47	53	43	62	50	56	46	71	58			
	2	53	43	48	39	50	41	56	46	67	55	50	40	46	37	47	39	53	43	64	52			
	3	44	36	42	34	46	37	50	41	67	55	42	34	39	32	43	35	47	39	64	52			

Wind Speed [mph]	190												200											
100	1	55	44	50	41	58	47	53	43	67	55	52	42	48	39	55	45	50	41	64	52			
	2	47	38	43	35	45	36	50	41	60	49	44	36	41	33	43	35	48	39	57	46			
	3	40	32	37	30	41	33	45	36	60	49	38	31	35	29	39	32	43	35	57	46			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																									
Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
0	1	128	108	120	99	133	115	124	103	130	124	123	102	116	93	128	109	119	98	130	118	119	97	110	89	124	103	115	93	130	113
	2	114	92	104	84	108	87	119	98	130	116	108	87	99	80	103	83	115	93	130	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	130	116	90	73	85	69	93	75	102	83	130	111	86	69	81	65	89	72	97	79	125	105
5	1	128	108	120	99	133	115	124	103	130	124	123	102	116	93	128	109	119	98	130	118	119	97	110	89	124	103	115	93	130	113
	2	114	92	104	84	108	87	119	98	130	116	108	87	99	80	103	83	115	93	130	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	130	116	90	73	85	69	93	75	102	83	130	111	86	69	81	65	89	72	97	79	125	105
10	1	128	108	120	99	133	115	124	103	130	124	123	102	116	93	128	109	119	98	130	118	119	97	110	89	124	103	115	93	130	113
	2	114	92	104	84	108	87	119	98	130	116	108	87	99	80	103	83	115	93	130	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	130	116	90	73	85	69	93	75	102	83	130	111	86	69	81	65	89	72	97	79	125	105

Exposure Category : B

Wind Speed [mph]		110										115																			
0	1	115	92	105	84	120	98	110	89	129	108	109	88	100	81	116	94	105	85	125	104	93	75	85	69	89	72	99	80	117	96
	2	97	79	89	72	93	75	104	84	121	100	78	63	73	59	81	65	88	71	117	96	78	63	73	59	81	65	88	71	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96	78	63	73	59	81	65	88	71	117	96
5	1	115	92	105	84	120	98	110	89	129	108	109	88	100	81	116	94	105	85	125	104	93	75	85	69	89	72	99	80	117	96
	2	97	79	89	72	93	75	104	84	121	100	78	63	73	59	81	65	88	71	117	96	78	63	73	59	81	65	88	71	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96	78	63	73	59	81	65	88	71	117	96
10	1	115	92	105	84	120	98	110	89	129	108	109	88	100	81	116	94	105	85	125	104	93	75	85	69	89	72	99	80	117	96
	2	97	79	89	72	93	75	104	84	121	100	78	63	73	59	81	65	88	71	117	96	78	63	73	59	81	65	88	71	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96	78	63	73	59	81	65	88	71	117	96

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
5	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
10	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					

Exposure Category : B

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
0	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			
5	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			
10	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
15	1	119	108	120	99	131	115	124	103	130	124	119	102	116	93	128	109	119	98	130	118	119	97	110	89	124	103	115	93	130	113
	2	114	92	104	84	108	87	119	98	130	116	108	87	99	80	103	83	115	93	130	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	130	116	90	73	85	69	93	75	102	83	130	111	86	69	81	65	89	72	97	79	125	105
20	1	111	108	120	99	123	115	124	103	130	124	111	102	116	93	123	109	119	98	130	118	111	97	110	89	123	103	115	93	130	113
	2	111	92	104	84	108	87	119	98	130	116	108	87	99	80	103	83	115	93	130	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	130	116	90	73	85	69	93	75	102	83	130	111	86	69	81	65	89	72	97	79	125	105
25	1	111	108	120	99	117	115	119	103	130	124	111	102	116	93	117	109	119	98	130	118	111	97	110	89	117	103	115	93	130	113
	2	111	92	104	84	108	87	119	98	130	116	108	87	99	80	103	83	115	93	130	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	130	116	90	73	85	69	93	75	102	83	130	111	86	69	81	65	89	72	97	79	125	105

Exposure Category : B

Wind Speed [mph]		110										115																			
15	1	115	92	105	84	120	98	110	89	129	108	109	88	100	81	116	94	105	85	125	104	93	75	85	69	89	72	99	80	117	96
	2	97	79	89	72	93	75	104	84	121	100	93	75	85	69	89	72	99	80	117	96	78	63	73	59	81	65	88	71	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96	109	88	100	81	116	94	105	85	125	104
20	1	111	92	105	84	120	98	110	89	129	108	109	88	100	81	116	94	105	85	125	104	93	75	85	69	89	72	99	80	117	96
	2	97	79	89	72	93	75	104	84	121	100	93	75	85	69	89	72	99	80	117	96	78	63	73	59	81	65	88	71	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96	109	88	100	81	116	94	105	85	125	104
25	1	111	92	105	84	117	98	110	89	129	108	109	88	100	81	116	94	105	85	125	104	93	75	85	69	89	72	99	80	117	96
	2	97	79	89	72	93	75	104	84	121	100	93	75	85	69	89	72	99	80	117	96	78	63	73	59	81	65	88	71	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96	109	88	100	81	116	94	105	85	125	104

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
20	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
25	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					

Exposure Category : B

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
15	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67	58	47	54	43	56	45	62	51	75	61
	2	62	50	57	46	59	48	66	54	79	64	49	40	46	38	51	41	56	45	75	61	49	40	46	38	51	41	56	45	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	49	40	46	38	51	41	56	45	75	61
20	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67	58	47	54	43	56	45	62	51	75	61
	2	62	50	57	46	59	48	66	54	79	64	49	40	46	38	51	41	56	45	75	61	49	40	46	38	51	41	56	45	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	49	40	46	38	51	41	56	45	75	61
25	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67	58	47	54	43	56	45	62	51	75	61
	2	62	50	57	46	59	48	66	54	79	64	49	40	46	38	51	41	56	45	75	61	49	40	46	38	51	41	56	45	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61	49	40	46	38	51	41	56	45	75	61

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
30	1	108	108	117	99	112	112	115	103	129	124	108	102	116	93	112	109	115	98	129	118	108	97	110	89	112	103	115	93	129	113
	2	108	92	104	84	108	87	115	98	129	116	108	87	99	80	103	83	115	93	129	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	129	116	90	73	85	69	93	75	102	83	129	111	86	69	81	65	89	72	97	79	125	105
35	1	104	104	112	99	108	108	111	103	127	124	104	102	112	93	108	108	111	98	127	118	104	97	110	89	108	103	111	93	127	113
	2	104	92	104	84	108	87	111	98	127	116	104	87	99	80	103	83	111	93	127	111	102	82	94	76	98	79	109	88	125	105
	3	95	77	90	72	98	80	108	87	127	116	90	73	85	69	93	75	102	83	127	111	86	69	81	65	89	72	97	79	125	105
40	1	100	100	108	99	104	104	108	103	125	124	100	100	108	93	104	104	108	98	125	118	100	97	108	89	104	103	108	93	125	113
	2	100	92	104	84	104	87	108	98	125	116	100	87	99	80	103	83	108	93	125	111	100	82	94	76	98	79	108	88	125	105
	3	95	77	90	72	98	80	108	87	125	116	90	73	85	69	93	75	102	83	125	111	86	69	81	65	89	72	97	79	125	105

Exposure Category : B

Wind Speed [mph]		110										115									
30	1	108	92	105	84	112	98	110	89	129	108	108	88	100	81	112	94	105	85	125	104
	2	97	79	89	72	93	75	104	84	121	100	93	75	85	69	89	72	99	80	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96
35	1	104	92	105	84	108	98	110	89	127	108	104	88	100	81	108	94	105	85	125	104
	2	97	79	89	72	93	75	104	84	121	100	93	75	85	69	89	72	99	80	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96
40	1	100	92	105	84	104	98	108	89	125	108	100	88	100	81	104	94	105	85	125	104
	2	97	79	89	72	93	75	104	84	121	100	93	75	85	69	89	72	99	80	117	96
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96
Wind Speed [mph]		120										130									
30	1	104	84	95	77	111	90	100	81	120	100	96	77	88	71	102	82	92	75	112	92
	2	89	72	81	66	85	69	95	77	113	92	82	66	75	61	78	63	87	71	104	85
	3	75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85
35	1	104	84	95	77	108	90	100	81	120	100	96	77	88	71	102	82	92	75	112	92
	2	89	72	81	66	85	69	95	77	113	92	82	66	75	61	78	63	87	71	104	85
	3	75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85
40	1	100	84	95	77	104	90	100	81	120	100	96	77	88	71	102	82	92	75	112	92
	2	89	72	81	66	85	69	95	77	113	92	82	66	75	61	78	63	87	71	104	85
	3	75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
35	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
40	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					

Exposure Category : B

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
30	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			
35	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			
40	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	96	96	104	99	101	101	105	103	123	123	96	96	104	93	101	101	105	98	123	118	96	96	104	89	101	101	105	93	123	113					
	2	96	92	104	84	101	87	105	98	123	116	96	87	99	80	101	83	105	93	123	111	96	82	94	76	98	79	105	88	123	105					
	3	95	77	90	72	98	80	105	87	123	116	90	73	85	69	93	75	102	83	123	111	86	69	81	65	89	72	97	79	123	105					
50	1	93	93	101	99	98	98	103	103	122	122	93	93	101	93	98	98	103	98	122	118	93	93	101	89	98	98	103	93	122	113					
	2	93	92	101	84	98	87	103	98	122	116	93	87	99	80	98	83	103	93	122	111	93	82	94	76	98	79	103	88	122	105					
	3	93	77	90	72	98	80	103	87	122	116	90	73	85	69	93	75	102	83	122	111	86	69	81	65	89	72	97	79	122	105					
60	1	87	87	96	96	93	93	98	98	119	119	87	87	96	93	93	93	98	98	119	118	87	87	96	89	93	93	98	93	119	113					
	2	87	87	96	84	93	87	98	98	119	116	87	87	96	80	93	83	98	93	119	111	87	82	94	76	93	79	98	88	119	105					
	3	87	77	90	72	93	80	98	87	119	116	87	73	85	69	93	75	98	83	119	111	86	69	81	65	89	72	97	79	119	105					

Exposure Category : B

Wind Speed [mph]	110												115											
	45	1	96	92	104	84	101	98	105	89	123	108	96	88	100	81	101	94	105	85	123	104		
2		96	79	89	72	93	75	104	84	121	100	93	75	85	69	89	72	99	80	117	96			
3		82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96			
50	1	93	92	101	84	98	98	103	89	122	108	93	88	100	81	98	94	103	85	122	104			
	2	93	79	89	72	93	75	103	84	121	100	93	75	85	69	89	72	99	80	117	96			
	3	82	66	77	62	84	68	92	75	121	100	78	63	73	59	81	65	88	71	117	96			
60	1	87	87	96	84	93	93	98	89	119	108	87	87	96	81	93	93	98	85	119	104			
	2	87	79	89	72	93	75	98	84	119	100	87	75	85	69	89	72	98	80	117	96			
	3	82	66	77	62	84	68	92	75	119	100	78	63	73	59	81	65	88	71	117	96			
Wind Speed [mph]	120												130											
	45	1	96	84	95	77	101	90	100	81	120	100	96	77	88	71	101	82	92	75	112	92		
2		89	72	81	66	85	69	95	77	113	92	82	66	75	61	78	63	87	71	104	85			
3		75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85			
50	1	93	84	95	77	98	90	100	81	120	100	93	77	88	71	98	82	92	75	112	92			
	2	89	72	81	66	85	69	95	77	113	92	82	66	75	61	78	63	87	71	104	85			
	3	75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85			
60	1	87	84	95	77	93	90	98	81	119	100	87	77	88	71	93	82	92	75	112	92			
	2	87	72	81	66	85	69	95	77	113	92	82	66	75	61	78	63	87	71	104	85			
	3	75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
50	1	88	72	81	66	94	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					
60	1	87	72	81	66	93	76	85	69	104	86	82	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76					
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					

Exposure Category : B

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
45	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			
50	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			
60	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67			
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
70	1	81	81	92	92	89	89	95	95	116	116	81	81	92	91	89	89	95	95	116	116	81	81	92	89	89	89	95	93	116	113		
	2	81	81	92	84	89	87	95	95	116	116	81	81	92	80	89	83	95	93	116	111	81	81	92	76	89	79	95	88	116	105		
	3	81	77	90	72	89	80	95	87	116	116	81	73	85	69	89	75	95	83	116	111	81	69	81	65	89	72	95	79	116	105		
80	1	76	76	88	88	85	85	91	91	113	113	76	76	88	87	85	85	91	91	113	113	76	76	88	86	85	85	91	91	113	113		
	2	76	76	88	84	85	85	91	91	113	113	76	76	88	80	85	83	91	91	113	111	76	76	88	76	85	79	91	88	113	105		
	3	76	76	88	72	85	80	91	87	113	113	76	73	85	69	85	75	91	83	113	111	76	69	81	65	85	72	91	79	113	105		
90	1	72	72	85	85	82	82	89	89	111	111	72	72	85	84	82	82	89	89	111	111	72	72	85	83	82	82	89	89	111	111		
	2	72	72	85	84	82	82	89	89	111	111	72	72	85	80	82	82	89	89	111	111	72	72	85	76	82	79	89	88	111	105		
	3	72	72	85	72	82	80	89	87	111	111	72	72	85	69	82	75	89	83	111	111	72	69	81	65	82	72	89	79	111	105		

Exposure Category : B

Wind Speed [mph]	110										115										
	70	1	81	81	92	84	89	89	95	89	116	108	81	81	92	81	89	89	95	85	116
2		81	79	89	72	89	75	95	84	116	100	81	75	85	69	89	72	95	80	116	96
3		81	66	77	62	84	68	92	75	116	100	78	63	73	59	81	65	88	71	116	96
80	1	76	76	88	84	85	85	91	89	113	108	76	76	88	81	85	85	91	85	113	104
	2	76	76	88	72	85	75	91	84	113	100	76	75	85	69	85	72	91	80	113	96
	3	76	66	77	62	84	68	91	75	113	100	76	63	73	59	81	65	88	71	113	96
90	1	72	72	85	82	82	82	89	89	111	108	72	72	85	81	82	82	89	85	111	104
	2	72	72	85	72	82	75	89	84	111	100	72	72	85	69	82	72	89	80	111	96
	3	72	66	77	62	82	68	89	75	111	100	72	63	73	59	81	65	88	71	111	96
Wind Speed [mph]	120										130										
	70	1	81	81	92	77	89	89	95	81	116	100	81	77	88	71	89	82	92	75	112
2		81	72	81	66	85	69	95	77	113	92	81	66	75	61	78	63	87	71	104	85
3		75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85
80	1	76	76	88	77	85	85	91	81	113	100	76	76	86	71	85	82	91	75	112	92
	2	76	72	81	66	85	69	91	77	113	92	76	66	75	61	78	63	87	71	104	85
	3	75	60	70	57	77	62	84	68	113	92	69	56	65	52	71	57	78	63	104	85
90	1	72	72	84	77	82	82	89	81	111	100	72	72	83	71	82	82	89	75	111	92
	2	72	72	81	66	82	69	89	77	111	92	72	66	75	61	78	63	87	71	104	85
	3	72	60	70	57	77	62	84	68	111	92	69	56	65	52	71	57	78	63	104	85

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	81	72	81	66	89	76	85	69	104	86	81	67	75	61	88	71	79	64	98	80	77	62	71	57	82	66	74	60	92	76
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68
80	1	76	72	81	66	85	76	85	69	104	86	76	67	75	61	85	71	79	64	98	80	76	62	71	57	82	66	74	60	92	76
	2	75	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68
90	1	72	72	81	66	82	76	85	69	104	86	72	67	75	61	82	71	79	64	98	80	72	62	71	57	82	66	74	60	92	76
	2	72	61	69	56	72	59	81	65	97	78	70	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68

Exposure Category : B

Wind Speed [mph]		170										180									
70	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61
80	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61
90	1	72	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67
	2	62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61
	3	52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61

Wind Speed [mph]		190										200									
70	1	64	52	59	48	68	56	62	51	78	64	61	49	56	46	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	57	52	42	48	39	50	41	56	45	67	54
	3	46	38	44	36	48	39	53	43	71	57	44	36	41	34	46	37	50	41	67	54
80	1	64	52	59	48	68	56	62	51	78	64	61	49	56	46	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	57	52	42	48	39	50	41	56	45	67	54
	3	46	38	44	36	48	39	53	43	71	57	44	36	41	34	46	37	50	41	67	54
90	1	64	52	59	48	68	56	62	51	78	64	61	49	56	46	65	53	59	48	74	61
	2	55	45	51	41	53	43	59	48	71	57	52	42	48	39	50	41	56	45	67	54
	3	46	38	44	36	48	39	53	43	71	57	44	36	41	34	46	37	50	41	67	54

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	69	69	81	81	80	80	86	86	109	109	69	69	81	81	80	80	86	86	109	109	69	69	81	80	80	80	86	86	109	109					
	2	69	69	81	81	80	80	86	86	109	109	69	69	81	80	80	80	86	86	109	109	69	69	81	76	80	79	86	86	109	105					
	3	69	69	81	72	80	80	86	86	109	109	69	69	81	69	80	75	86	83	109	109	69	69	81	65	80	72	86	79	109	105					

Exposure Category : B

Wind Speed [mph]	110												115											
	100	1	69	69	81	79	80	80	86	86	109	108	69	69	81	78	80	80	86	85	109	104		
2		69	69	81	72	80	75	86	84	109	100	69	69	81	69	80	72	86	80	109	96			
3		69	66	77	62	80	68	86	75	109	100	69	63	73	59	80	65	86	71	109	96			

Wind Speed [mph]	120												130											
	100	1	69	69	81	77	80	80	86	81	109	100	69	69	80	71	80	80	86	75	109	92		
2		69	69	81	66	80	69	86	77	109	92	69	66	75	61	78	63	86	71	104	85			
3		69	60	70	57	77	62	84	68	109	92	69	56	65	52	71	57	78	63	104	85			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	69	69	78	66	80	76	85	69	104	86	69	67	75	61	80	71	79	64	98	80	69	62	71	57	80	66	74	60	92	76					
	2	69	61	69	56	72	59	81	65	97	78	69	57	65	52	67	55	75	61	90	73	66	53	60	49	63	51	70	57	84	68					
	3	64	52	60	49	66	53	72	58	97	78	59	48	56	45	61	50	67	54	90	73	55	45	52	42	57	46	63	51	84	68					

Exposure Category : B

Wind Speed [mph]	170												180											
	100	1	69	58	66	54	77	62	70	57	87	71	68	55	62	51	72	59	66	53	82	67		
2		62	50	57	46	59	48	66	54	79	64	58	47	54	43	56	45	62	51	75	61			
3		52	42	49	40	54	44	59	48	79	64	49	40	46	38	51	41	56	45	75	61			

Wind Speed [mph]	190												200											
	100	1	64	52	59	48	68	56	62	51	78	64	61	49	56	46	65	53	59	48	74	61		
2		55	45	51	41	53	43	59	48	71	57	52	42	48	39	50	41	56	45	67	54			
3		46	38	44	36	48	39	53	43	71	57	44	36	41	34	46	37	50	41	67	54			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	115	92	105	84	120	98	110	89	129	108	108	87	99	80	115	93	104	84	124	103	103	83	94	76	110	88	99	80	119	98					
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					
5	1	115	92	105	84	120	98	110	89	129	108	108	87	99	80	115	93	104	84	124	103	103	83	94	76	110	88	99	80	119	98					
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					
10	1	115	92	105	84	120	98	110	89	129	108	108	87	99	80	115	93	104	84	124	103	103	83	94	76	110	88	99	80	119	98					
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					

Exposure Category : C

Wind Speed [mph]	110												115																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90	80	64	73	59	76	62	85	69	102	82
	2	83	67	77	62	80	64	89	72	107	86	67	54	63	51	69	56	76	61	102	82	80	64	73	59	76	62	85	69	102	82
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82	67	54	63	51	69	56	76	61	102	82
5	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90	80	64	73	59	76	62	85	69	102	82
	2	83	67	77	62	80	64	89	72	107	86	67	54	63	51	69	56	76	61	102	82	80	64	73	59	76	62	85	69	102	82
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82	67	54	63	51	69	56	76	61	102	82
10	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90	80	64	73	59	76	62	85	69	102	82
	2	83	67	77	62	80	64	89	72	107	86	67	54	63	51	69	56	76	61	102	82	80	64	73	59	76	62	85	69	102	82
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82	67	54	63	51	69	56	76	61	102	82

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65					
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59					
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59					
5	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65					
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59					
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59					
10	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65					
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59					
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59					

Exposure Category : C

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
0	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58	50	41	46	37	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
5	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58	50	41	46	37	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
10	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58	50	41	46	37	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105																			
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90	
Ground Snow	Group	Array Interior	Array Edge																																									
15	1	115	92	105	84	120	98	110	89	129	108	108	87	99	80	115	93	104	84	124	103	103	83	94	76	110	88	99	80	119	98													
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91													
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91													
20	1	111	92	105	84	120	98	110	89	129	108	108	87	99	80	115	93	104	84	124	103	103	83	94	76	110	88	99	80	119	98													
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91													
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91													
25	1	111	92	105	84	117	98	110	89	129	108	108	87	99	80	115	93	104	84	124	103	103	83	94	76	110	88	99	80	119	98													
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91													
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91													

Exposure Category : C

Wind Speed [mph]	110												115											
	15	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90		
2		83	67	77	62	80	64	89	72	107	86	80	64	73	59	76	62	85	69	102	82			
3		70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			
20	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90			
	2	83	67	77	62	80	64	89	72	107	86	80	64	73	59	76	62	85	69	102	82			
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			
25	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90			
	2	83	67	77	62	80	64	89	72	107	86	80	64	73	59	76	62	85	69	102	82			
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			

Wind Speed [mph]	120												130											
	15	1	89	72	82	66	95	77	86	70	105	87	82	66	75	61	87	71	79	64	97	80		
2		76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
3		64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			
20	1	89	72	82	66	95	77	86	70	105	87	82	66	75	61	87	71	79	64	97	80			
	2	76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
	3	64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			
25	1	89	72	82	66	95	77	86	70	105	87	82	66	75	61	87	71	79	64	97	80			
	2	76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
	3	64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65					
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59					
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59					
20	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65					
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59					
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59					
25	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65					
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59					
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59					

Exposure Category : C

Wind Speed [mph]	170												180																		
	Group	Array Interior	Array Edge																												
15	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58	50	41	46	37	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
20	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58	50	41	46	37	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
25	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58	50	41	46	37	48	39	54	44	64	52
	2	53	43	49	40	51	41	57	46	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52	42	34	40	32	44	35	48	39	64	52

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	108	92	105	84	112	98	110	89	129	108	108	87	99	80	112	93	104	84	124	103	103	83	94	76	110	88	99	80	119	98					
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					
35	1	104	92	105	84	108	98	110	89	127	108	104	87	99	80	108	93	104	84	124	103	103	83	94	76	108	88	99	80	119	98					
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					
40	1	100	92	105	84	104	98	108	89	125	108	100	87	99	80	104	93	104	84	124	103	100	83	94	76	104	88	99	80	119	98					
	2	97	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					

Exposure Category : C

Wind Speed [mph]	110												115																		
	30	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90	80	64	73	59	76	62	85	69	102
2		83	67	77	62	80	64	89	72	107	86	67	54	63	51	69	56	76	61	102	82	80	64	73	59	76	62	85	69	102	82
3		70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82	67	54	63	51	69	56	76	61	102	82
35	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90	80	64	73	59	76	62	85	69	102	82
	2	83	67	77	62	80	64	89	72	107	86	67	54	63	51	69	56	76	61	102	82	80	64	73	59	76	62	85	69	102	82
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82	67	54	63	51	69	56	76	61	102	82
40	1	98	79	90	72	104	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90	80	64	73	59	76	62	85	69	102	82
	2	83	67	77	62	80	64	89	72	107	86	67	54	63	51	69	56	76	61	102	82	80	64	73	59	76	62	85	69	102	82
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82	67	54	63	51	69	56	76	61	102	82

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		30	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59
	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59
	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59

Wind Speed [mph]		170										180																				
30	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58											
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52											
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52											
35	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58											
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52											
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52											
40	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58											
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52											
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52											

Wind Speed [mph]		190										200																				
30	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53											
	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47											
	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47											
35	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53											
	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47											
	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47											
40	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53											
	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47											
	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47											

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	96	92	104	84	101	98	105	89	123	108	96	87	99	80	101	93	104	84	123	103	96	83	94	76	101	88	99	80	119	98					
	2	96	79	89	72	93	75	104	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					
50	1	93	92	101	84	98	98	103	89	122	108	93	87	99	80	98	93	103	84	122	103	93	83	94	76	98	88	99	80	119	98					
	2	93	79	89	72	93	75	103	84	121	100	92	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	121	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					
60	1	87	87	96	84	93	93	98	89	119	108	87	87	96	80	93	93	98	84	119	103	87	83	94	76	93	88	98	80	119	98					
	2	87	79	89	72	93	75	98	84	119	100	87	74	85	68	88	71	98	80	117	95	87	71	80	65	84	68	93	76	112	91					
	3	82	66	77	62	84	68	92	75	119	100	77	63	73	59	80	65	88	71	117	95	74	60	69	56	76	62	83	67	112	91					

Exposure Category : C

Wind Speed [mph]	110												115											
	45	1	96	79	90	72	101	84	94	76	114	94	93	75	85	69	99	80	90	73	109	90		
2		83	67	77	62	80	64	89	72	107	86	80	64	73	59	76	62	85	69	102	82			
3		70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			
50	1	93	79	90	72	98	84	94	76	114	94	93	75	85	69	98	80	90	73	109	90			
	2	83	67	77	62	80	64	89	72	107	86	80	64	73	59	76	62	85	69	102	82			
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			
60	1	87	79	90	72	93	84	94	76	114	94	87	75	85	69	93	80	90	73	109	90			
	2	83	67	77	62	80	64	89	72	107	86	80	64	73	59	76	62	85	69	102	82			
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			
Wind Speed [mph]	120												130											
	45	1	89	72	82	66	95	77	86	70	105	87	82	66	75	61	87	71	79	64	97	80		
2		76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
3		64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			
50	1	89	72	82	66	95	77	86	70	105	87	82	66	75	61	87	71	79	64	97	80			
	2	76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
	3	64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			
60	1	87	72	82	66	93	77	86	70	105	87	82	66	75	61	87	71	79	64	97	80			
	2	76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
	3	64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		45	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52
45	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
45	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59
50	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65
50	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
50	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59
60	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65
60	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
60	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59

Exposure Category : C

Wind Speed [mph]		170										180									
45	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58
45	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52
45	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52
50	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58
50	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52
50	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52
60	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58
60	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52
60	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52

Wind Speed [mph]		190										200									
45	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53
45	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47
45	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47
50	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53
50	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47
50	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47
60	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53
60	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47
60	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
70	1	81	81	92	84	89	89	95	89	116	108	81	81	92	80	89	89	95	84	116	103	81	81	91	76	89	88	95	80	116	98					
	2	81	79	89	72	89	75	95	84	116	100	81	74	85	68	88	71	95	80	116	95	81	71	80	65	84	68	93	76	112	91					
	3	81	66	77	62	84	68	92	75	116	100	77	63	73	59	80	65	88	71	116	95	74	60	69	56	76	62	83	67	112	91					
80	1	76	76	88	84	85	85	91	89	113	108	76	76	88	80	85	85	91	84	113	103	76	76	87	76	85	85	91	80	113	98					
	2	76	76	88	72	85	75	91	84	113	100	76	74	85	68	85	71	91	80	113	95	76	71	80	65	84	68	91	76	112	91					
	3	76	66	77	62	84	68	91	75	113	100	76	63	73	59	80	65	88	71	113	95	74	60	69	56	76	62	83	67	112	91					
90	1	72	72	85	82	82	82	89	89	111	108	72	72	85	80	82	82	89	84	111	103	72	72	84	76	82	82	89	80	111	98					
	2	72	72	85	72	82	75	89	84	111	100	72	72	85	68	82	71	89	80	111	95	72	71	80	65	82	68	89	76	111	91					
	3	72	66	77	62	82	68	89	75	111	100	72	63	73	59	80	65	88	71	111	95	72	60	69	56	76	62	83	67	111	91					

Exposure Category : C

Wind Speed [mph]	110												115											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
70	1	81	79	90	72	89	84	94	76	114	94	81	75	85	69	89	80	90	73	109	90			
	2	81	67	77	62	80	64	89	72	107	86	80	64	73	59	76	62	85	69	102	82			
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			
80	1	76	76	86	72	85	84	91	76	113	94	76	75	85	69	85	80	90	73	109	90			
	2	76	67	77	62	80	64	89	72	107	86	76	64	73	59	76	62	85	69	102	82			
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			
90	1	72	72	83	72	82	82	89	76	111	94	72	72	82	69	82	80	89	73	109	90			
	2	72	67	77	62	80	64	89	72	107	86	72	64	73	59	76	62	85	69	102	82			
	3	70	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			

Wind Speed [mph]	120												130											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
70	1	81	72	82	66	89	77	86	70	105	87	81	66	75	61	87	71	79	64	97	80			
	2	76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
	3	64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			
80	1	76	72	82	66	85	77	86	70	105	87	76	66	75	61	85	71	79	64	97	80			
	2	76	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
	3	64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			
90	1	72	72	81	66	82	77	86	70	105	87	72	66	75	61	82	71	79	64	97	80			
	2	72	62	70	57	73	59	81	66	97	79	70	57	64	52	67	54	75	61	90	73			
	3	64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
		70	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52
70	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
70	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59
80	1	76	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65
80	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
80	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59
90	1	72	61	70	56	81	65	73	59	91	75	71	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65
90	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59
90	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59

Wind Speed [mph]		170										180									
70	Group	Array Interior	Array Edge																		
		1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71
70	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52
70	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52
80	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58
80	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52
80	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52
90	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58
90	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52
90	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52

Wind Speed [mph]		190										200									
70	Group	Array Interior	Array Edge																		
		1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64
70	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47
70	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47
80	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53
80	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47
80	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47
90	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53
90	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47
90	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95												100												105											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	69	69	81	79	80	80	86	86	109	108	69	69	81	78	80	80	86	84	109	103	69	69	81	76	80	80	86	80	109	98					
	2	69	69	81	72	80	75	86	84	109	100	69	69	81	68	80	71	86	80	109	95	69	69	80	65	80	68	86	76	109	91					
	3	69	66	77	62	80	68	86	75	109	100	69	63	73	59	80	65	86	71	109	95	69	60	69	56	76	62	83	67	109	91					

Exposure Category : C

Wind Speed [mph]	110												115											
	100	1	69	69	80	72	80	80	86	76	109	94	69	69	79	69	80	80	86	73	109	90		
2		69	67	77	62	80	64	86	72	107	86	69	64	73	59	76	62	85	69	102	82			
3		69	57	66	53	72	59	79	64	107	86	67	54	63	51	69	56	76	61	102	82			

Wind Speed [mph]	120												130											
	100	1	69	69	78	66	80	77	86	70	105	87	69	66	75	61	80	71	79	64	97	80		
2		69	62	70	57	73	59	81	66	97	79	69	57	64	52	67	54	75	61	90	73			
3		64	52	60	49	66	54	72	59	97	79	59	48	55	45	61	49	67	54	90	73			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
		100	1	69	61	70	56	80	65	73	59	91	75	69	57	65	53	75	61	68	55	85	70	66	54	61	49	70	57	64	52	80	65			
	2	65	53	60	48	62	50	69	56	83	67	60	49	56	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59					
	3	55	44	51	42	56	46	62	50	83	67	51	41	48	39	53	43	58	47	77	63	48	39	45	36	49	40	54	44	72	59					

Wind Speed [mph]	170												180																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
100	1	62	50	57	46	66	54	60	49	75	62	58	47	54	44	62	51	57	46	71	58										
	2	53	43	49	40	51	41	57	46	68	55	50	41	46	37	48	39	54	44	64	52										
	3	45	36	42	34	46	38	51	41	68	55	42	34	40	32	44	35	48	39	64	52										

Wind Speed [mph]	190												200																		
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90										
100	1	55	45	51	41	59	48	54	44	67	55	52	43	48	39	56	45	51	41	64	53										
	2	47	38	44	35	45	37	51	41	61	49	45	36	41	34	43	35	48	39	58	47										
	3	40	32	38	31	41	34	45	37	61	49	38	31	36	29	39	32	43	35	58	47										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
0	1	106	86	97	78	113	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92		
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84		
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84		
5	1	106	86	97	78	113	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92		
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84		
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84		
10	1	106	86	97	78	113	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92		
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84		
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84		

Exposure Category : D

Wind Speed [mph]	110											115										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
0	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	
5	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	
10	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
0	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
5	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
10	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					

Exposure Category : D

Wind Speed [mph]	170												180																											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90																			
0	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	53	43	63	52					
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	
5	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	53	43	63	52	47	38	43	53	43
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	
10	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	53	43	63	52	47	38	43	53	43
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
15	1	106	86	97	78	113	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84
20	1	106	86	97	78	113	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84
25	1	106	86	97	78	113	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84

Exposure Category : D

Wind Speed [mph]		110										115																			
15	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84										
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77										
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77										
20	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84										
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77										
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77										
25	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84										
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77										
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77										

Wind Speed [mph]		120										130																			
15	1	83	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75										
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68										
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68										
20	1	83	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75										
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68										
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68										
25	1	83	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75										
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68										
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68										

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
15	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
20	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
25	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					

Exposure Category : D

Wind Speed [mph]	170												180																			
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90											
15	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54											
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49											
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49											
20	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54											
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49											
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49											
25	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54											
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49											
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49											

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	95											100											105										
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		
Ground Snow	Group	Array Interior	Array Edge																														
30	1	106	86	97	78	113	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92		
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84		
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84		
35	1	106	86	97	78	111	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92		
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84		
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84		
40	1	103	86	97	78	107	91	102	83	122	101	101	81	92	74	107	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92		
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84		
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84		

Exposure Category : D

Wind Speed [mph]	110											115																			
	30	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	74	60	68	55	71	57	79	64	95
2		77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	70	57	95	77
3		65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	62	51	59	48	64	52	70	57	95	77
35	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	74	60	68	55	71	57	79	64	95	77
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	70	57	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	62	51	59	48	64	52	70	57	95	77
40	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	74	60	68	55	71	57	79	64	95	77
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	70	57	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	62	51	59	48	64	52	70	57	95	77

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
30	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
35	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
40	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					

Exposure Category : D

Wind Speed [mph]	170												180																												
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90																				
30	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52								
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
35	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52	47	38	43	63	52			
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
40	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52	47	38	43	63	52			
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
45	1	100	86	97	78	104	91	102	83	122	101	100	81	92	74	104	86	97	78	117	96	95	77	87	71	102	82	92	74	111	92
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84
50	1	97	86	97	78	101	91	102	83	122	101	97	81	92	74	101	86	97	78	117	96	95	77	87	71	101	82	92	74	111	92
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84
60	1	91	86	97	78	96	91	101	83	121	101	91	81	92	74	96	86	97	78	117	96	91	77	87	71	96	82	92	74	111	92
	2	90	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84

Exposure Category : D

Wind Speed [mph]		110										115																			
45	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	74	60	68	55	71	57	79	64	95	77
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	70	57	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	62	51	59	48	64	52	70	57	95	77
50	1	91	73	83	67	97	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	74	60	68	55	71	57	79	64	95	77
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	70	57	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	62	51	59	48	64	52	70	57	95	77
60	1	91	73	83	67	96	78	87	71	107	88	87	70	79	64	92	75	84	68	102	84	74	60	68	55	71	57	79	64	95	77
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77	62	51	59	48	64	52	70	57	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77	62	51	59	48	64	52	70	57	95	77
45	1	83	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75	65	53	60	49	62	51	70	57	83	68
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	50	83	68
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68	55	45	52	42	57	46	62	50	83	68
50	1	83	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75	65	53	60	49	62	51	70	57	83	68
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68	55	45	52	42	57	46	62	50	83	68
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68	55	45	52	42	57	46	62	50	83	68
60	1	83	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75	65	53	60	49	62	51	70	57	83	68
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68	65	53	60	49	62	51	70	57	83	68
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68	65	53	60	49	62	51	70	57	83	68

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
45	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
50	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
60	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					

Exposure Category : D

Wind Speed [mph]	170												180																												
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90																				
45	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52								
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
50	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52	47	38	43	63	52			
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
60	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52	47	38	43	63	52			
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
70	1	86	86	95	78	92	91	98	83	118	101	86	81	92	74	92	86	97	78	117	96	86	77	87	71	92	82	92	74	111	92
	2	86	73	83	67	86	70	96	78	115	93	86	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84
80	1	81	81	91	78	88	88	94	83	116	101	81	81	90	74	88	86	94	78	116	96	81	77	87	71	88	82	92	74	111	92
	2	81	73	83	67	86	70	94	78	115	93	81	69	79	64	82	66	91	74	109	89	81	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	115	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84
90	1	76	76	88	78	85	85	91	83	113	101	76	76	87	74	85	85	91	78	113	96	76	76	86	71	85	82	91	74	111	92
	2	76	73	83	67	85	70	91	78	113	93	76	69	79	64	82	66	91	74	109	89	76	66	75	61	78	63	87	70	104	84
	3	76	62	71	58	78	64	86	70	113	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84

Exposure Category : D

Wind Speed [mph]		110										115									
70	1	86	73	83	67	92	78	87	71	107	88	86	70	79	64	92	75	84	68	102	84
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77
80	1	81	73	83	67	88	78	87	71	107	88	81	70	79	64	88	75	84	68	102	84
	2	77	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77
90	1	76	73	83	67	85	78	87	71	107	88	76	70	79	64	85	75	84	68	102	84
	2	76	63	71	58	74	60	83	67	99	80	74	60	68	55	71	57	79	64	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77

Wind Speed [mph]		120										130									
70	1	83	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68
80	1	81	67	76	62	88	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68
90	1	76	67	76	62	85	71	80	65	98	81	76	62	70	57	81	66	74	60	91	75
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
70	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
80	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					
90	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					

Exposure Category : D

Wind Speed [mph]	170												180																												
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90																				
70	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52								
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
80	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52	47	38	43	63	52			
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
90	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54	47	38	43	53	43	63	52	47	38	43	63	52	47	38	43	63	52			
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49	39	32	37	30	41	33	45	36	60	49

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge																												
100	1	73	73	85	78	82	82	89	83	111	101	73	73	84	74	82	82	89	78	111	96	73	73	83	71	82	82	89	74	111	92
	2	73	73	83	67	82	70	89	78	111	93	73	69	79	64	82	66	89	74	109	89	73	66	75	61	78	63	87	70	104	84
	3	73	62	71	58	78	64	86	70	111	93	72	58	68	55	74	60	81	66	109	89	68	56	64	52	71	57	77	63	104	84

Exposure Category : D

Wind Speed [mph]		110										115									
100	1	73	73	82	67	82	78	87	71	107	88	73	70	79	64	82	75	84	68	102	84
	2	73	63	71	58	74	60	83	67	99	80	73	60	68	55	71	57	79	64	95	77
	3	65	53	61	50	67	55	74	60	99	80	62	51	59	48	64	52	70	57	95	77

Wind Speed [mph]		120										130									
100	1	73	67	76	62	82	71	80	65	98	81	73	62	70	57	81	66	74	60	91	75
	2	71	57	65	53	68	55	76	61	91	74	65	53	60	49	62	51	70	57	83	68
	3	60	48	56	46	62	50	67	55	91	74	55	45	52	42	57	46	62	50	83	68

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Wind Speed [mph]	140												150												160											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90					
Ground Snow	Group	Array Interior	Array Edge																																	
100	1	71	57	65	53	75	61	68	55	85	70	66	53	60	49	70	57	63	52	79	65	61	50	56	46	65	53	59	48	75	61					
	2	60	49	55	45	58	47	65	52	77	63	56	46	52	42	54	44	60	49	72	59	53	43	48	39	50	41	56	46	67	55					
	3	51	41	48	39	53	43	58	47	77	63	47	39	45	36	49	40	54	44	72	59	44	36	42	34	46	37	50	41	67	55					

Wind Speed [mph]	170												180											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	58	47	53	43	61	50	56	45	70	58	54	44	50	41	58	47	53	43	66	54			
	2	49	40	45	37	47	38	53	43	63	52	47	38	43	35	45	36	50	41	60	49			
	3	42	34	39	32	43	35	47	38	63	52	39	32	37	30	41	33	45	36	60	49			

Wind Speed [mph]	190												200											
	Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
100	1	51	42	47	38	55	45	50	41	63	52	49	40	45	36	52	42	47	38	60	49			
	2	44	36	41	33	42	34	47	38	57	46	42	34	39	31	40	33	45	36	54	44			
	3	37	30	35	28	38	31	42	34	57	46	35	29	33	27	36	30	40	33	54	44			

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	150	136	150	139	147	134	143	141	148	132	150	136	146	130	143	138	144	129	148	133	142	127	143	134	
	2	136	118	138	122	133	114	140	124	132	114	135	117	129	109	137	119	129	110	131	113	126	105	133	114	
	3	117	95	128	108	121	101	130	110	113	91	125	104	117	97	127	105	108	87	120	100	112	93	122	101	
	5	1	149	136	150	139	147	134	143	141	147	132	150	136	146	130	143	138	144	129	148	133	142	127	143	134
		2	136	118	138	122	133	114	140	124	132	114	135	117	129	109	137	119	129	110	131	113	126	105	133	114
		3	117	95	128	108	121	101	130	110	113	91	125	104	117	97	127	105	108	87	120	100	112	93	122	101
	10	1	140	131	141	134	140	134	140	140	139	129	141	132	140	130	140	138	137	127	140	130	140	127	140	134
		2	131	118	134	122	133	114	140	124	129	114	131	117	129	109	137	119	127	110	129	113	126	105	133	114
		3	117	95	121	107	121	101	130	110	113	91	118	104	117	97	127	105	108	87	115	100	112	93	122	101
Wind Speed [mph]		110								115																
0	1	141	126	145	130	139	123	143	131	138	122	142	127	136	119	143	128	141	126	145	130	139	123	143	131	
	2	126	106	128	109	122	101	130	110	122	102	125	105	118	98	127	106	126	106	128	109	122	101	130	110	
	3	103	83	116	96	108	90	118	98	99	80	112	93	104	86	114	94	103	83	116	96	108	90	118	98	
	5	1	141	126	145	130	139	123	143	131	138	122	142	127	136	119	143	128	141	126	145	130	139	123	143	131
		2	126	106	128	109	122	101	130	110	122	102	125	105	118	98	127	106	126	106	128	109	122	101	130	110
		3	103	83	116	96	108	90	118	98	99	80	112	93	104	86	114	94	103	83	116	96	108	90	118	98
	10	1	135	124	138	128	139	123	140	131	133	121	136	126	136	119	140	128	135	124	138	128	139	123	140	131
		2	124	106	127	109	122	101	130	110	121	102	125	105	118	98	127	106	124	106	127	109	122	101	130	110
		3	103	83	113	96	108	90	118	98	99	80	110	93	104	86	114	94	103	83	113	96	108	90	118	98
Wind Speed [mph]		120								130																
0	1	135	118	139	123	133	115	141	125	138	122	142	127	136	119	143	128	135	118	139	123	133	115	141	125	
	2	118	98	121	101	114	94	123	102	122	102	125	105	118	98	127	106	118	98	121	101	114	94	123	102	
	3	95	77	108	90	101	83	110	91	99	80	112	93	104	86	114	94	95	77	108	90	101	83	110	91	
	5	1	135	118	139	123	133	115	141	125	138	122	142	127	136	119	143	128	135	118	139	123	133	115	141	125
		2	118	98	121	101	114	94	123	102	122	102	125	105	118	98	127	106	118	98	121	101	114	94	123	102
		3	95	77	108	90	101	83	110	91	99	80	112	93	104	86	114	94	95	77	108	90	101	83	110	91
	10	1	131	118	134	123	133	115	140	125	133	121	136	126	136	119	140	128	131	118	134	123	133	115	140	125
		2	118	98	121	101	114	94	123	102	121	102	125	105	118	98	127	106	118	98	121	101	114	94	123	102
		3	95	77	107	90	101	83	110	91	99	80	110	93	104	86	114	94	95	77	107	90	101	83	110	91

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	133	114	136	119	131	111	138	121	128	108	131	112	125	104	133	114	122	101	126	106	118	98	128	107
	2	114	95	118	98	110	91	119	99	108	89	111	92	103	85	112	93	101	84	104	86	97	80	106	87
	3	92	74	105	87	97	80	106	88	85	69	98	81	91	75	99	82	80	65	93	76	86	71	94	77
5	1	133	114	136	119	131	111	138	121	128	108	131	112	125	104	133	114	122	101	126	106	118	98	128	107
	2	114	95	118	98	110	91	119	99	108	89	111	92	103	85	112	93	101	84	104	86	97	80	106	87
	3	92	74	105	87	97	80	106	88	85	69	98	81	91	75	99	82	80	65	93	76	86	71	94	77
10	1	129	114	132	119	131	111	138	121	126	108	129	112	125	104	133	114	121	101	125	106	118	98	128	107
	2	114	95	118	98	110	91	119	99	108	89	111	92	103	85	112	93	101	84	104	86	97	80	106	87
	3	92	74	105	87	97	80	106	88	85	69	98	81	91	75	99	82	80	65	93	76	86	71	94	77
0	1	115	96	120	100	112	93	122	101	110	91	114	95	106	88	116	96								
	2	96	79	99	82	92	76	100	82	91	75	94	77	87	72	95	78								
	3	75	61	87	72	81	67	88	73	71	57	83	68	77	63	84	69								
5	1	115	96	120	100	112	93	122	101	110	91	114	95	106	88	116	96								
	2	96	79	99	82	92	76	100	82	91	75	94	77	87	72	95	78								
	3	75	61	87	72	81	67	88	73	71	57	83	68	77	63	84	69								
10	1	115	96	120	100	112	93	122	101	110	91	114	95	106	88	116	96								
	2	96	79	99	82	92	76	100	82	91	75	94	77	87	72	95	78								
	3	75	61	87	72	81	67	88	73	71	57	83	68	77	63	84	69								
0	1	104	87	109	90	101	84	110	91	100	82	104	86	96	80	105	87								
	2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
	3	67	54	79	65	73	60	79	65	63	51	75	62	69	57	75	62								
5	1	104	87	109	90	101	84	110	91	100	82	104	86	96	80	105	87								
	2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
	3	67	54	79	65	73	60	79	65	63	51	75	62	69	57	75	62								
10	1	104	87	109	90	101	84	110	91	100	82	104	86	96	80	105	87								
	2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
	3	67	54	79	65	73	60	79	65	63	51	75	62	69	57	75	62								
0	1	104	87	109	90	101	84	110	91	100	82	104	86	96	80	105	87								
	2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
	3	67	54	79	65	73	60	79	65	63	51	75	62	69	57	75	62								
5	1	104	87	109	90	101	84	110	91	100	82	104	86	96	80	105	87								
	2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
	3	67	54	79	65	73	60	79	65	63	51	75	62	69	57	75	62								
10	1	104	87	109	90	101	84	110	91	100	82	104	86	96	80	105	87								
	2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
	3	67	54	79	65	73	60	79	65	63	51	75	62	69	57	75	62								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft				70in x 41in				Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	133	126	134	129	128	128	131	131	132	123	134	127	128	128	131	131	130	120	133	124	128	127	131	131	
	2	126	113	128	116	128	114	131	124	123	110	126	112	128	109	131	119	120	107	123	110	126	105	131	114	
	3	109	95	113	101	118	101	130	110	107	91	111	99	115	97	127	105	104	87	108	96	111	93	122	101	
	20	1	127	119	128	123	120	120	124	124	126	116	128	120	120	120	124	124	125	114	128	118	120	120	124	124
		2	119	107	122	110	120	113	124	124	116	105	119	108	120	109	124	119	114	102	117	105	120	105	124	114
		3	103	93	106	96	113	99	124	110	101	91	104	94	110	97	124	105	99	87	102	92	107	93	122	101
	25	1	127	119	128	123	113	113	118	118	126	116	128	120	113	113	118	118	125	114	128	118	113	113	118	118
		2	119	107	122	110	113	110	118	118	116	105	119	108	113	107	118	118	114	102	117	105	113	104	118	114
		3	103	93	106	96	109	96	118	110	101	91	104	94	106	94	118	105	99	87	102	92	103	91	118	101
15	1	129	118	132	122	128	123	131	131	127	115	130	119	128	119	131	128									
	2	118	104	121	107	122	101	130	110	115	101	118	104	118	98	127	106									
	3	102	83	106	94	108	90	118	98	99	80	103	91	104	86	114	94									
	20	1	123	112	126	116	120	120	124	124	121	109	124	113	120	117	124	124								
		2	112	100	115	102	119	101	124	110	109	97	112	100	116	98	124	106								
		3	97	83	100	90	105	90	118	98	95	80	98	87	102	86	114	94								
	25	1	123	112	126	116	113	113	118	118	121	109	124	113	113	113	118	118								
		2	112	100	115	102	113	101	118	110	109	97	112	100	113	98	118	106								
		3	97	83	100	90	101	89	118	98	95	80	98	87	99	86	114	94								
15	1	126	112	128	116	128	115	131	125	127	115	130	119	128	119	131	128									
	2	112	98	115	101	114	94	123	102	115	101	118	104	118	98	127	106									
	3	95	77	101	89	101	83	110	91	99	80	103	91	104	86	114	94									
	20	1	119	107	122	111	120	114	124	124	121	109	124	113	120	117	124	124								
		2	107	95	110	98	113	94	123	102	109	97	112	100	116	98	124	106								
		3	93	77	96	85	99	83	110	91	95	80	98	87	102	86	114	94								
	25	1	119	107	122	111	113	111	118	118	121	109	124	113	113	113	118	118								
		2	107	95	110	98	110	94	118	102	109	97	112	100	113	98	118	106								
		3	93	77	96	85	96	83	110	91	95	80	98	87	99	86	114	94								
15	1	126	112	128	116	128	115	131	125	127	115	130	119	128	119	131	128									
	2	112	98	115	101	114	94	123	102	115	101	118	104	118	98	127	106									
	3	95	77	101	89	101	83	110	91	99	80	103	91	104	86	114	94									
	20	1	119	107	122	111	120	114	124	124	121	109	124	113	120	117	124	124								
		2	107	95	110	98	113	94	123	102	109	97	112	100	116	98	124	106								
		3	93	77	96	85	99	83	110	91	95	80	98	87	102	86	114	94								
	25	1	119	107	122	111	113	111	118	118	121	109	124	113	113	113	118	118								
		2	107	95	110	98	110	94	118	102	109	97	112	100	113	98	118	106								
		3	93	77	96	85	96	83	110	91	95	80	98	87	99	86	114	94								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	123	110	127	114	128	111	131	121	119	105	123	109	125	104	131	114	115	101	119	105	118	98	128	107	
	2	110	95	113	98	110	91	119	99	105	89	108	92	103	85	112	93	101	84	104	86	97	80	106	87	
	3	92	74	99	87	97	80	106	88	85	69	95	81	91	75	99	82	80	65	91	76	86	71	94	77	
	20	1	117	105	121	109	120	111	124	121	113	101	117	105	120	104	124	114	109	97	113	101	117	98	124	107
		2	105	93	108	95	110	91	119	99	101	89	104	91	103	85	112	93	97	84	100	86	97	80	106	87
		3	91	74	94	83	97	80	106	88	85	69	91	80	91	75	99	82	80	65	87	76	86	71	94	77
	25	1	117	105	121	109	113	109	118	118	113	101	117	105	113	104	118	114	109	97	113	101	113	98	118	107
		2	105	93	108	95	108	91	118	99	101	89	104	91	103	85	112	93	97	84	100	86	97	80	106	87
		3	91	74	94	83	94	80	106	88	85	69	91	80	90	75	99	82	80	65	87	76	86	71	94	77
15	1	111	96	115	100	112	93	122	101	107	91	111	95	106	88	116	96									
	2	96	79	99	82	92	76	100	82	91	75	94	77	87	72	95	78									
	3	75	61	87	72	81	67	88	73	71	57	83	68	77	63	84	69									
	20	1	106	93	109	97	112	93	122	101	102	90	106	93	106	88	116	96								
		2	93	79	96	82	92	76	100	82	90	75	92	77	87	72	95	78								
		3	75	61	84	72	81	67	88	73	71	57	81	68	77	63	84	69								
	25	1	106	93	109	97	109	93	118	101	102	90	106	93	105	88	116	96								
		2	93	79	96	82	92	76	100	82	90	75	92	77	87	72	95	78								
		3	75	61	84	72	81	67	88	73	71	57	81	68	77	63	84	69								
15	1	103	87	107	90	101	84	110	91	99	82	103	86	96	80	105	87									
	2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70									
	3	67	54	79	65	73	60	79	65	63	51	75	62	69	57	75	62									
	20	1	99	87	103	90	101	84	110	91	96	82	99	86	96	80	105	87								
		2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
		3	67	54	78	65	73	60	79	65	63	51	75	62	69	57	75	62								
	25	1	99	87	103	90	101	84	110	91	96	82	99	86	96	80	105	87								
		2	87	71	89	73	83	68	90	74	82	68	85	70	79	65	85	70								
		3	67	54	78	65	73	60	79	65	63	51	75	62	69	57	75	62								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft				70in x 41in				Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	124	115	126	119	107	107	114	114	123	113	126	117	107	107	114	114	121	111	124	115	107	107	114	114	
	2	115	105	118	108	107	107	114	114	113	102	116	105	107	105	114	114	111	100	114	103	107	102	114	114	
	3	100	91	103	94	105	94	114	110	98	89	101	92	102	91	114	105	96	87	99	90	100	89	114	101	
	35	1	118	111	120	115	103	103	110	110	117	109	120	113	103	103	110	110	116	107	119	111	103	103	110	110
		2	111	102	114	104	103	103	110	110	109	99	112	102	103	102	110	110	107	97	110	100	103	99	110	110
		3	96	88	99	91	101	91	110	110	94	86	97	89	99	89	110	105	92	84	95	87	97	87	110	101
	40	1	114	107	116	111	99	99	106	106	113	106	116	109	99	99	106	106	112	104	115	107	99	99	106	106
		2	107	99	110	101	99	99	106	106	106	97	108	99	99	99	106	106	104	95	107	97	99	97	106	106
		3	92	85	95	88	98	89	106	106	91	83	94	86	96	87	106	105	89	82	92	84	94	85	106	101
Wind Speed [mph]		110								115																
30	1	119	109	123	113	107	107	114	114	117	107	121	110	107	107	114	114	117	107	121	110	107	107	114	114	
	2	109	98	112	100	107	99	114	110	107	96	110	98	107	97	114	106	107	96	110	98	107	97	114	106	
	3	94	83	97	88	98	86	114	98	92	80	96	86	96	84	114	94	92	80	96	86	96	84	114	94	
35	1	114	105	118	109	103	103	110	110	113	103	116	107	103	103	110	110	113	103	116	107	103	103	110	110	
	2	105	95	108	98	103	97	110	110	103	93	106	96	103	95	110	106	103	93	106	96	103	95	110	106	
	3	91	82	94	85	95	84	110	98	89	80	92	83	93	82	110	94	89	80	92	83	93	82	110	94	
40	1	110	102	114	105	99	99	106	106	109	100	112	104	99	99	106	106	109	100	112	104	99	99	106	106	
	2	102	93	105	95	99	95	106	106	100	91	103	93	99	93	106	106	100	91	103	93	99	93	106	106	
	3	88	80	91	83	92	83	106	98	86	78	89	81	91	81	106	94	86	78	89	81	91	81	106	94	
Wind Speed [mph]		120								130																
30	1	115	105	119	108	107	107	114	114	117	107	121	110	107	107	114	114	117	107	121	110	107	107	114	114	
	2	105	93	108	96	107	94	114	102	107	96	110	98	107	97	114	106	107	96	110	98	107	97	114	106	
	3	91	77	94	84	94	82	110	91	92	80	96	86	96	84	114	94	92	80	96	86	96	84	114	94	
35	1	111	102	115	105	103	103	110	110	113	103	116	107	103	103	110	110	113	103	116	107	103	103	110	110	
	2	102	91	104	94	103	92	110	102	103	93	106	96	103	95	110	106	103	93	106	96	103	95	110	106	
	3	88	77	91	81	91	80	110	91	89	80	92	83	93	82	110	94	89	80	92	83	93	82	110	94	
40	1	107	99	111	102	99	99	106	106	109	100	112	104	99	99	106	106	109	100	112	104	99	99	106	106	
	2	99	89	101	91	99	91	106	102	100	91	103	93	99	93	106	106	100	91	103	93	99	93	106	106	
	3	85	77	88	79	89	79	106	91	86	78	89	81	91	81	106	94	86	78	89	81	91	81	106	94	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	113	103	117	106	107	106	114	114	110	99	114	102	107	101	114	114	107	95	110	99	107	97	114	107	
	2	103	91	106	94	105	91	114	99	99	87	102	90	100	85	112	93	95	83	98	86	96	80	106	87	
	3	89	74	92	82	92	80	106	88	85	69	89	78	88	75	99	82	80	65	85	75	84	71	94	77	
	35	1	109	100	113	103	103	103	110	110	106	96	110	100	103	99	110	110	103	93	107	96	103	95	110	107
		2	100	89	102	92	102	90	110	99	96	85	99	88	98	85	110	93	93	82	95	84	94	80	106	87
		3	86	74	89	80	89	78	106	88	83	69	86	76	86	75	99	82	80	65	83	73	82	71	94	77
	40	1	106	97	109	100	99	99	106	106	103	94	106	97	99	97	106	106	100	91	103	94	99	93	106	106
		2	97	87	100	89	99	88	106	99	94	84	96	86	96	84	106	93	91	80	93	82	92	80	106	87
		3	83	74	86	78	87	77	106	88	81	69	84	75	84	73	99	82	78	65	81	72	80	70	94	77
Wind Speed [mph]		170								180																
30	1	103	92	107	95	106	93	114	101	100	88	104	92	103	88	114	96	88	75	91	77	87	72	95	78	
	2	92	79	94	82	92	76	100	82	88	75	91	77	87	72	95	78	71	57	79	68	77	63	84	69	
	3	75	61	82	72	81	67	88	73	71	57	79	68	77	63	84	69	71	57	77	68	76	63	84	69	
	35	1	100	90	104	93	103	91	110	101	97	86	101	90	100	88	110	96	97	86	101	90	100	88	110	96
		2	90	78	92	81	90	76	100	82	86	75	89	77	87	72	95	78	86	75	89	77	87	72	95	78
		3	75	61	80	70	79	67	88	73	71	57	77	68	76	63	84	69	71	57	77	68	76	63	84	69
	40	1	97	88	101	91	99	90	106	101	95	85	98	88	98	86	106	96	95	85	98	88	98	86	106	96
		2	88	77	90	79	89	76	100	82	85	74	87	76	86	72	95	78	85	74	87	76	86	72	95	78
		3	75	61	78	69	77	67	88	73	71	57	76	66	74	63	84	69	71	57	76	66	74	63	84	69
Wind Speed [mph]		190								200																
30	1	97	85	101	89	99	84	110	91	94	82	98	85	96	80	105	87	82	68	85	70	79	65	85	70	
	2	85	71	88	73	83	68	90	74	82	68	85	70	79	65	85	70	82	68	85	70	79	65	85	70	
	3	67	54	77	65	73	60	79	65	63	51	74	62	69	57	75	62	63	51	74	62	69	57	75	62	
	35	1	94	84	98	87	97	84	110	91	92	81	95	84	94	80	105	87	92	81	95	84	94	80	105	87
		2	84	71	86	73	83	68	90	74	81	68	83	70	79	65	85	70	81	68	83	70	79	65	85	70
		3	67	54	75	65	73	60	79	65	63	51	72	62	69	57	75	62	63	51	72	62	69	57	75	62
	40	1	92	82	95	85	95	83	106	91	90	79	93	82	92	80	105	87	90	79	93	82	92	80	105	87
		2	82	71	84	73	82	68	90	74	79	68	81	70	79	65	85	70	79	68	81	70	79	65	85	70
		3	67	54	73	64	72	60	79	65	63	51	71	62	69	57	75	62	63	51	71	62	69	57	75	62

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		70in x 41in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
45	1	110	104	112	107	96	96	103	103	109	102	112	105	96	96	103	103	108	101	111	104	96	96	103	103	
	2	104	96	107	99	96	96	103	103	102	94	105	97	96	96	103	103	101	92	103	95	96	95	103	103	
	3	89	83	92	85	95	87	103	103	88	81	91	84	93	85	103	103	86	79	89	82	92	83	103	101	
	50	1	106	101	108	104	93	93	100	100	105	99	108	102	93	93	100	100	104	98	107	101	93	93	100	100
		2	101	94	103	96	93	93	100	100	99	92	102	94	93	93	100	100	98	90	100	92	93	93	100	100
		3	86	80	89	83	93	85	100	100	85	79	88	81	91	83	100	100	84	77	87	80	89	81	100	99
	60	1	99	95	101	98	88	88	95	95	99	94	101	97	88	88	95	95	98	93	101	96	88	88	95	95
		2	95	89	98	91	88	88	95	95	94	88	96	90	88	88	95	95	93	86	95	88	88	88	95	95
		3	81	76	84	79	88	81	95	95	80	75	83	77	86	79	95	95	79	74	82	76	85	78	95	95
Wind Speed [mph]		110								115																
45	1	106	99	110	102	96	96	103	103	105	98	108	101	96	96	103	103									
	2	99	90	102	93	96	93	103	103	98	89	100	91	96	91	103	103									
	3	85	78	88	80	90	81	103	98	84	76	87	79	88	79	103	94									
	50	1	103	96	106	99	93	93	100	100	102	95	105	98	93	93	100	100								
		2	96	88	99	91	93	91	100	100	95	87	97	89	93	89	100	100								
		3	83	76	85	78	88	79	100	97	81	74	84	77	86	77	100	94								
	60	1	97	91	100	94	88	88	95	95	96	90	99	93	88	88	95	95								
		2	91	85	94	87	88	88	95	95	90	83	93	85	88	86	95	95								
		3	78	72	81	75	84	76	95	94	77	71	80	74	82	75	95	92								
Wind Speed [mph]		120								130																
45	1	104	96	107	99	96	96	103	103	105	98	108	101	96	96	103	103									
	2	96	87	98	89	96	89	103	102	98	89	100	91	96	91	103	103									
	3	82	75	85	77	87	77	103	91	84	76	87	79	88	79	103	94									
	50	1	101	93	104	97	93	93	100	100	102	95	105	98	93	93	100	100								
		2	93	85	96	87	93	87	100	100	95	87	97	89	93	89	100	100								
		3	80	73	83	76	85	76	100	91	81	74	84	77	86	77	100	94								
	60	1	95	89	98	92	88	88	95	95	96	90	99	93	88	88	95	95								
		2	89	82	91	84	88	85	95	95	90	83	93	85	88	86	95	95								
		3	76	70	79	72	81	73	95	90	77	71	80	74	82	75	95	92								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	102	94	106	98	96	96	103	103	100	91	103	95	96	95	103	103	97	88	100	92	96	91	103	103
	2	94	85	97	88	96	87	103	99	91	82	94	84	94	83	103	93	88	79	91	81	91	79	103	87
	3	81	73	84	76	85	75	103	88	79	69	81	73	82	72	99	82	76	65	79	70	79	69	94	77
50	1	99	92	103	95	93	93	100	100	97	89	100	92	93	93	100	100	95	86	98	89	93	90	100	100
	2	92	83	94	86	93	85	100	99	89	80	92	83	92	82	100	93	86	77	89	79	89	78	100	87
	3	79	72	82	74	83	74	100	88	77	69	79	72	80	71	98	82	74	65	77	69	77	68	94	77
60	1	94	88	97	91	88	88	95	95	92	85	95	88	88	88	95	95	90	83	93	86	88	87	95	95
	2	88	80	90	82	88	83	95	95	85	77	88	80	88	79	95	93	83	75	85	77	86	76	95	87
	3	75	69	78	71	80	72	95	87	73	66	76	69	77	69	95	82	71	64	73	66	74	66	92	77
Wind Speed [mph]		170								180															
45	1	95	86	98	89	96	88	103	101	92	83	95	86	96	85	103	96								
	2	86	76	88	78	87	76	100	82	83	73	85	75	84	72	95	78								
	3	74	61	76	68	76	66	88	73	71	57	74	65	73	63	84	69								
50	1	92	84	95	87	93	87	100	100	90	81	93	84	93	84	100	96								
	2	84	75	86	77	86	75	100	82	81	72	83	74	83	72	95	78								
	3	72	61	75	67	75	65	88	73	70	57	72	64	72	63	84	69								
60	1	88	81	91	83	88	84	95	95	86	78	89	81	88	81	95	95								
	2	81	72	83	74	83	73	95	82	78	70	80	72	80	70	95	78								
	3	69	61	71	64	72	64	88	73	67	57	70	62	70	61	84	69								
Wind Speed [mph]		190								200															
45	1	90	80	93	83	93	82	103	91	88	78	91	81	90	79	103	87								
	2	80	70	82	72	81	68	90	74	78	68	80	70	78	65	85	70								
	3	67	54	72	63	71	60	79	65	63	51	69	61	68	57	75	62								
50	1	88	79	91	82	91	81	100	91	86	76	89	79	89	78	100	87								
	2	79	69	81	71	80	68	90	74	76	67	79	69	77	65	85	70								
	3	67	54	70	62	69	60	79	65	63	51	68	60	67	57	75	62								
60	1	84	76	87	79	88	78	95	91	82	74	85	77	86	76	95	87								
	2	76	67	78	69	78	68	90	74	74	65	76	67	75	65	85	70								
	3	65	54	68	60	67	59	79	65	63	51	66	58	65	57	75	62								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	92	91	94	93	84	84	91	91	92	89	94	92	84	84	91	91	92	88	94	91	84	84	91	91
	2	91	85	93	87	84	84	91	91	89	84	92	86	84	84	91	91	88	83	91	85	84	84	91	91
	3	77	73	80	75	84	78	91	91	76	72	79	74	83	76	91	91	75	71	78	73	81	75	91	91
80	1	86	86	89	89	80	80	88	88	86	86	89	88	80	80	88	88	86	85	89	87	80	80	88	88
	2	86	82	89	84	80	80	88	88	86	81	88	83	80	80	88	88	85	79	87	82	80	80	88	88
	3	74	70	76	72	80	75	88	88	73	69	75	71	79	74	88	88	72	68	74	70	78	72	88	88
90	1	82	82	84	84	78	78	85	85	82	82	84	84	78	78	85	85	82	81	84	84	78	78	85	85
	2	82	79	84	81	78	78	85	85	82	78	84	80	78	78	85	85	81	77	83	79	78	78	85	85
	3	70	67	73	69	77	72	85	85	70	66	72	68	76	71	85	85	69	65	71	67	75	70	85	85
Wind Speed [mph]		110								115															
70	1	92	87	94	90	84	84	91	91	91	86	94	89	84	84	91	91								
	2	87	81	90	83	84	84	91	91	86	80	88	82	84	84	91	91								
	3	74	69	77	72	80	74	91	91	74	68	76	71	79	72	91	90								
80	1	86	84	89	86	80	80	88	88	86	83	89	85	80	80	88	88								
	2	84	78	86	80	80	80	88	88	83	77	85	79	80	80	88	88								
	3	71	67	73	69	77	71	88	88	70	66	73	68	76	70	88	88								
90	1	82	80	84	83	78	78	85	85	82	80	84	82	78	78	85	85								
	2	80	76	83	78	78	78	85	85	80	74	82	76	78	78	85	85								
	3	68	64	70	66	74	69	85	85	68	64	70	66	73	68	85	85								
Wind Speed [mph]		120								130															
70	1	90	85	93	88	84	84	91	91	91	86	94	89	84	84	91	91								
	2	85	79	87	81	84	82	91	91	86	80	88	82	84	84	91	91								
	3	73	67	75	70	78	71	91	88	74	68	76	71	79	72	91	90								
80	1	86	82	89	84	80	80	88	88	86	83	89	85	80	80	88	88								
	2	82	76	84	78	80	80	88	88	83	77	85	79	80	80	88	88								
	3	70	65	72	67	75	69	88	86	70	66	73	68	76	70	88	88								
90	1	82	79	84	81	78	78	85	85	82	80	84	82	78	78	85	85								
	2	79	73	81	75	78	77	85	85	80	74	82	76	78	78	85	85								
	3	67	63	69	65	72	67	85	84	68	64	70	66	73	68	85	85								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	90	84	92	87	84	84	91	91	88	82	91	85	84	84	91	91	86	80	89	82	84	84	91	91
	2	84	77	86	79	84	80	91	91	82	75	84	77	84	77	91	91	80	72	82	74	83	74	91	87
	3	72	66	74	68	77	69	91	86	70	64	72	66	74	67	91	82	68	62	70	64	72	64	90	77
80	1	86	81	88	83	80	80	88	88	84	79	87	81	80	80	88	88	83	77	85	79	80	80	88	88
	2	81	75	83	77	80	78	88	88	79	72	81	74	80	75	88	88	77	70	79	72	80	73	88	87
	3	69	64	71	66	74	67	88	84	67	62	69	64	72	65	88	80	66	60	68	62	70	63	88	77
90	1	82	78	84	80	78	78	85	85	81	76	83	79	78	78	85	85	79	74	82	77	78	78	85	85
	2	78	72	80	74	78	76	85	85	76	70	78	72	78	73	85	85	74	68	76	70	78	71	85	85
	3	66	62	68	64	71	65	85	82	65	60	67	62	69	63	85	79	63	58	65	60	68	61	85	75
70	1	84	78	87	80	84	81	91	91	83	76	85	78	84	79	91	91								
	2	78	70	80	72	81	72	91	82	76	68	78	70	78	69	91	78								
	3	66	60	69	62	70	62	86	73	65	57	67	60	68	60	83	69								
80	1	81	75	84	78	80	79	88	88	79	73	82	76	80	77	88	88								
	2	75	68	77	70	78	70	88	82	73	66	75	68	76	67	88	78								
	3	64	58	66	60	68	60	84	73	63	57	65	59	66	58	81	69								
90	1	78	73	80	75	78	77	85	85	77	71	79	73	78	75	85	85								
	2	73	66	75	68	76	68	85	82	71	64	73	66	74	66	85	78								
	3	62	57	64	59	66	59	83	72	61	55	63	57	64	57	80	69								
70	1	84	78	87	80	84	81	91	91	83	76	85	78	84	79	91	91								
	2	78	70	80	72	81	72	91	82	76	68	78	70	78	69	91	78								
	3	66	60	69	62	70	62	86	73	65	57	67	60	68	60	83	69								
80	1	81	75	84	78	80	79	88	88	79	73	82	76	80	77	88	88								
	2	75	68	77	70	78	70	88	82	73	66	75	68	76	67	88	78								
	3	64	58	66	60	68	60	84	73	63	57	65	59	66	58	81	69								
90	1	78	73	80	75	78	77	85	85	77	71	79	73	78	75	85	85								
	2	73	66	75	68	76	68	85	82	71	64	73	66	74	66	85	78								
	3	62	57	64	59	66	59	83	72	61	55	63	57	64	57	80	69								
70	1	81	74	83	76	84	76	91	91	79	72	82	74	83	74	91	87								
	2	74	66	76	67	76	66	90	74	72	64	74	65	73	64	85	70								
	3	63	54	65	58	66	58	79	65	61	51	64	57	64	56	75	62								
80	1	78	71	80	74	80	74	88	88	76	70	79	72	80	72	88	87								
	2	71	64	73	66	74	65	88	74	70	62	71	64	72	63	85	70								
	3	61	54	63	57	64	56	78	65	60	51	62	55	62	55	75	62								
90	1	75	69	78	72	78	73	85	85	74	68	76	70	78	71	85	85								
	2	69	63	71	64	72	64	85	74	68	61	69	62	70	62	85	70								
	3	59	54	61	55	62	55	77	65	58	51	60	54	60	53	74	62								
70	1	81	74	83	76	84	76	91	91	79	72	82	74	83	74	91	87								
	2	74	66	76	67	76	66	90	74	72	64	74	65	73	64	85	70								
	3	63	54	65	58	66	58	79	65	61	51	64	57	64	56	75	62								
80	1	78	71	80	74	80	74	88	88	76	70	79	72	80	72	88	87								
	2	71	64	73	66	74	65	88	74	70	62	71	64	72	63	85	70								
	3	61	54	63	57	64	56	78	65	60	51	62	55	62	55	75	62								
90	1	75	69	78	72	78	73	85	85	74	68	76	70	78	71	85	85								
	2	69	63	71	64	72	64	85	74	68	61	69	62	70	62	85	70								
	3	59	54	61	55	62	55	77	65	58	51	60	54	60	53	74	62								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	78	78	80	80	75	75	82	82	78	78	80	80	75	75	82	82	78	78	80	80	75	75	82	82
	2	78	76	80	78	75	75	82	82	78	75	80	77	75	75	82	82	78	74	80	76	75	75	82	82
	3	68	65	70	67	74	70	82	82	67	64	69	66	73	69	82	82	66	63	68	65	73	68	82	82
Wind Speed [mph]		110								115															
100	1	78	77	80	80	75	75	82	82	78	77	80	79	75	75	82	82								
	2	77	73	80	75	75	75	82	82	77	72	79	74	75	75	82	82								
	3	66	62	68	64	72	67	82	82	65	61	67	63	71	66	82	82								
Wind Speed [mph]		120								130															
100	1	78	76	80	78	75	75	82	82	78	77	80	79	75	75	82	82								
	2	76	71	78	73	75	75	82	82	77	72	79	74	75	75	82	82								
	3	65	61	67	63	70	65	82	82	65	61	67	63	71	66	82	82								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		70in x 41in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	78	75	80	78	75	75	82	82	78	74	80	76	75	75	82	82	77	72	79	74	75	75	82	82
	2	75	70	77	72	75	74	82	82	74	68	76	70	75	72	82	82	72	67	74	68	75	69	82	82
	3	64	60	66	62	69	64	82	81	63	58	65	60	67	62	82	77	61	57	63	59	66	60	82	74
Wind Speed [mph]		170								180															
100	1	75	70	78	73	75	75	82	82	74	69	76	71	75	73	82	82								
	2	70	65	72	66	74	67	82	82	69	63	71	65	72	65	82	78								
	3	60	55	62	57	64	58	81	71	59	54	61	56	62	56	79	68								
Wind Speed [mph]		190								200															
100	1	73	67	75	70	75	71	82	82	72	66	74	68	75	69	82	82								
	2	67	61	69	63	70	63	82	74	66	59	68	61	69	61	82	70								
	3	58	52	59	54	61	54	76	65	56	51	58	53	59	53	73	62								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	138	122	142	127	136	119	143	128	135	117	138	122	133	114	141	124	132	113	135	118	130	110	137	120	
	2	122	102	125	105	117	98	127	106	117	98	121	100	113	94	123	102	113	94	116	97	109	90	118	98	
	3	99	80	112	93	104	86	113	94	94	76	107	89	100	83	109	90	90	73	103	86	96	79	105	86	
	5	1	138	122	142	127	136	119	143	128	135	117	138	122	133	114	141	124	132	113	135	118	130	110	137	120
		2	122	102	125	105	117	98	127	106	117	98	121	100	113	94	123	102	113	94	116	97	109	90	118	98
		3	99	80	112	93	104	86	113	94	94	76	107	89	100	83	109	90	90	73	103	86	96	79	105	86
	10	1	133	121	136	126	136	119	140	128	131	117	134	122	133	114	140	124	129	113	132	118	130	110	137	120
		2	121	102	124	105	117	98	127	106	117	98	121	100	113	94	123	102	113	94	116	97	109	90	118	98
		3	99	80	110	93	104	86	113	94	94	76	107	89	100	83	109	90	90	73	103	86	96	79	105	86
Wind Speed [mph]		110								115																
0	1	129	109	132	113	127	106	134	115	126	105	129	110	123	102	131	111									
	2	109	90	112	93	105	86	114	94	105	87	108	90	101	83	110	91									
	3	87	70	100	82	93	76	101	83	83	67	96	79	89	73	97	80									
	5	1	129	109	132	113	127	106	134	115	126	105	129	110	123	102	131	111								
		2	109	90	112	93	105	86	114	94	105	87	108	90	101	83	110	91								
		3	87	70	100	82	93	76	101	83	83	67	96	79	89	73	97	80								
	10	1	127	109	130	113	127	106	134	115	124	105	128	110	123	102	131	111								
		2	109	90	112	93	105	86	114	94	105	87	108	90	101	83	110	91								
		3	87	70	100	82	93	76	101	83	83	67	96	79	89	73	97	80								
Wind Speed [mph]		120								130																
0	1	122	102	126	106	119	98	128	107	126	105	129	110	123	102	131	111									
	2	102	84	104	87	97	80	106	87	105	87	108	90	101	83	110	91									
	3	80	65	93	77	86	71	94	77	83	67	96	79	89	73	97	80									
	5	1	122	102	126	106	119	98	128	107	126	105	129	110	123	102	131	111								
		2	102	84	104	87	97	80	106	87	105	87	108	90	101	83	110	91								
		3	80	65	93	77	86	71	94	77	83	67	96	79	89	73	97	80								
	10	1	121	102	125	106	119	98	128	107	124	105	128	110	123	102	131	111								
		2	102	84	104	87	97	80	106	87	105	87	108	90	101	83	110	91								
		3	80	65	93	77	86	71	94	77	83	67	96	79	89	73	97	80								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	118	98	123	102	115	95	125	104	111	92	116	96	108	89	117	97	105	87	109	91	102	84	111	91	
	2	98	81	101	84	94	78	102	84	92	76	95	78	88	73	96	79	87	72	89	74	83	68	90	74	
	3	77	62	90	74	83	68	90	74	72	58	84	69	78	64	85	70	67	54	79	65	73	60	80	65	
	5	1	118	98	123	102	115	95	125	104	111	92	116	96	108	89	117	97	105	87	109	91	102	84	111	91
		2	98	81	101	84	94	78	102	84	92	76	95	78	88	73	96	79	87	72	89	74	83	68	90	74
		3	77	62	90	74	83	68	90	74	72	58	84	69	78	64	85	70	67	54	79	65	73	60	80	65
	10	1	118	98	123	102	115	95	125	104	111	92	116	96	108	89	117	97	105	87	109	91	102	84	111	91
		2	98	81	101	84	94	78	102	84	92	76	95	78	88	73	96	79	87	72	89	74	83	68	90	74
		3	77	62	90	74	83	68	90	74	72	58	84	69	78	64	85	70	67	54	79	65	73	60	80	65
0	1	99	82	103	86	96	79	105	86	94	78	98	81	91	75	99	82									
	2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66									
	3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58									
	5	1	99	82	103	86	96	79	105	86	94	78	98	81	91	75	99	82								
		2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66								
		3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58								
	10	1	99	82	103	86	96	79	105	86	94	78	98	81	91	75	99	82								
		2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66								
		3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58								
0	1	99	82	103	86	96	79	105	86	94	78	98	81	91	75	99	82									
	2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66									
	3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58									
	5	1	99	82	103	86	96	79	105	86	94	78	98	81	91	75	99	82								
		2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66								
		3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58								
	10	1	99	82	103	86	96	79	105	86	94	78	98	81	91	75	99	82								
		2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66								
		3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58								
0	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74									
	2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60									
	3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52									
	5	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
	10	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
0	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74									
	2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60									
	3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52									
	5	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
	10	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		70in x 41in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	127	115	130	119	128	119	131	128	125	112	128	116	128	114	131	124	122	109	126	113	128	110	131	120
	2	115	101	118	104	117	98	127	106	112	98	115	100	113	94	123	102	109	94	112	97	109	90	118	98
	3	99	80	103	91	104	86	113	94	94	76	101	88	100	83	109	90	90	73	98	86	96	79	105	86
	1	120	109	124	113	120	117	124	124	118	107	122	111	120	114	124	124	116	104	120	108	120	110	124	120
	2	109	97	112	100	116	98	124	106	107	95	110	97	113	94	123	102	104	92	107	95	109	90	118	98
	3	95	80	98	87	102	86	113	94	92	76	96	85	99	83	109	90	90	73	94	83	96	79	105	86
	1	120	109	124	113	113	113	118	118	118	107	122	111	113	111	118	118	116	104	120	108	113	108	118	118
	2	109	97	112	100	113	98	118	106	107	95	110	97	110	94	118	102	104	92	107	95	107	90	118	98
	3	95	80	98	87	99	86	113	94	92	76	96	85	96	83	109	90	90	73	94	83	93	79	105	86
20	1	120	106	124	110	127	106	131	115	117	104	121	107	123	102	131	111	117	104	121	107	123	102	131	111
	2	106	90	109	93	105	86	114	94	104	87	106	90	101	83	110	91	104	87	106	90	101	83	110	91
	3	87	70	96	82	93	76	101	83	83	67	93	79	89	73	97	80	83	67	93	79	89	73	97	80
	1	114	102	117	106	120	106	124	115	111	100	115	103	120	102	124	111	111	100	115	103	120	102	124	111
	2	102	90	105	92	105	86	114	94	100	87	102	90	101	83	110	91	100	87	102	90	101	83	110	91
	3	87	70	91	80	93	76	101	83	83	67	89	78	89	73	97	80	83	67	89	78	89	73	97	80
	1	114	102	117	106	113	105	118	115	111	100	115	103	113	102	118	111	111	100	115	103	113	102	118	111
	2	102	90	105	92	104	86	114	94	100	87	102	90	101	83	110	91	100	87	102	90	101	83	110	91
	3	87	70	91	80	91	76	101	83	83	67	89	78	88	73	97	80	83	67	89	78	88	73	97	80
25	1	115	101	119	105	119	98	128	107	117	104	121	107	123	102	131	111	117	104	121	107	123	102	131	111
	2	101	84	104	87	97	80	106	87	104	87	106	90	101	83	110	91	104	87	106	90	101	83	110	91
	3	80	65	91	77	86	71	94	77	83	67	93	79	89	73	97	80	83	67	93	79	89	73	97	80
	1	109	97	113	101	117	98	124	107	111	100	115	103	120	102	124	111	111	100	115	103	120	102	124	111
	2	97	84	100	87	97	80	106	87	100	87	102	90	101	83	110	91	100	87	102	90	101	83	110	91
	3	80	65	87	76	86	71	94	77	83	67	89	78	89	73	97	80	83	67	89	78	89	73	97	80
	1	109	97	113	101	113	98	118	107	111	100	115	103	113	102	118	111	111	100	115	103	113	102	118	111
	2	97	84	100	87	97	80	106	87	100	87	102	90	101	83	110	91	100	87	102	90	101	83	110	91
	3	80	65	87	76	86	71	94	77	83	67	89	78	88	73	97	80	83	67	89	78	88	73	97	80

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	112	98	116	102	115	95	125	104	108	92	112	96	108	89	117	97	103	87	107	91	102	84	111	91	
	2	98	81	101	84	94	78	102	84	92	76	95	78	88	73	96	79	87	72	89	74	83	68	90	74	
	3	77	62	89	74	83	68	90	74	72	58	84	69	78	64	85	70	67	54	79	65	73	60	80	65	
	20	1	107	95	111	99	114	95	124	104	103	91	107	94	108	89	117	97	99	87	103	90	102	84	111	91
		2	95	81	98	84	94	78	102	84	91	76	93	78	88	73	96	79	87	72	89	74	83	68	90	74
		3	77	62	85	74	83	68	90	74	72	58	82	69	78	64	85	70	67	54	78	65	73	60	80	65
	25	1	107	95	111	99	111	95	118	104	103	91	107	94	106	89	117	97	99	87	103	90	102	84	111	91
		2	95	81	98	84	94	78	102	84	91	76	93	78	88	73	96	79	87	72	89	74	83	68	90	74
		3	77	62	85	74	83	68	90	74	72	58	82	69	78	64	85	70	67	54	78	65	73	60	80	65
15	1	99	82	103	86	96	79	105	86	94	78	98	81	91	75	99	82									
	2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66									
	3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58									
	20	1	96	82	99	86	96	79	105	86	92	78	95	81	91	75	99	82								
		2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66								
		3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58								
	25	1	96	82	99	86	96	79	105	86	92	78	95	81	91	75	99	82								
		2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66								
		3	63	51	75	61	69	57	75	62	59	48	71	58	65	53	71	58								
15	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74									
	2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60									
	3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52									
	20	1	89	74	92	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
	25	1	89	74	92	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
15	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74									
	2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60									
	3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52									
	20	1	89	74	92	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
	25	1	89	74	92	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
15	1	89	74	93	77	86	71	94	77	85	70	89	73	82	68	90	74									
	2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60									
	3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52									
	20	1	89	74	92	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								
	25	1	89	74	92	77	86	71	94	77	85	70	89	73	82	68	90	74								
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60								
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	117	107	121	110	107	107	114	114	115	104	119	108	107	107	114	114	113	102	116	106	107	105	114	114	
	2	107	95	110	98	107	96	114	106	104	93	107	95	107	94	114	102	102	90	105	93	104	90	114	98	
	3	92	80	95	86	96	84	113	94	90	76	93	83	93	82	109	90	88	73	91	81	91	79	105	86	
	35	1	113	103	116	107	103	103	110	110	111	101	114	105	103	103	110	110	109	99	112	102	103	102	110	110
		2	103	93	106	96	103	94	110	106	101	91	104	93	103	92	110	102	99	88	102	91	102	89	110	98
		3	89	80	92	83	93	82	110	94	87	76	90	81	91	80	109	90	85	73	88	79	88	78	105	86
	40	1	109	100	112	104	99	99	106	106	107	98	110	102	99	99	106	106	105	96	109	100	99	99	106	106
		2	100	91	103	93	99	93	106	106	98	89	101	91	99	90	106	102	96	86	99	89	99	88	106	98
		3	86	78	89	81	91	81	106	94	85	76	87	79	88	78	106	90	83	73	86	77	86	76	105	86
Wind Speed [mph]		110								115																
30	1	111	100	114	103	107	102	114	114	109	98	112	101	107	100	114	111									
	2	100	88	102	90	101	86	114	94	98	86	100	88	99	83	110	91									
	3	86	70	89	79	88	76	101	83	83	67	87	77	86	73	97	80									
35	1	107	97	110	100	103	100	110	110	105	95	109	98	103	97	110	110									
	2	97	86	100	88	99	86	110	94	95	84	97	86	97	83	110	91									
	3	84	70	87	77	86	75	101	83	82	67	85	75	84	73	97	80									
40	1	104	94	107	98	99	98	106	106	102	92	105	96	99	95	106	106									
	2	94	84	97	87	97	85	106	94	92	82	95	85	95	83	106	91									
	3	81	70	84	75	84	74	101	83	80	67	82	74	82	72	97	80									
Wind Speed [mph]		120								130																
30	1	107	95	110	99	107	97	114	107	109	98	112	101	107	100	114	111									
	2	95	84	98	86	96	80	106	87	98	86	100	88	99	83	110	91									
	3	80	65	85	75	84	71	94	77	83	67	87	77	86	73	97	80									
35	1	103	93	107	96	103	95	110	107	105	95	109	98	103	97	110	110									
	2	93	82	95	84	94	80	106	87	95	84	97	86	97	83	110	91									
	3	80	65	83	73	82	71	94	77	82	67	85	75	84	73	97	80									
40	1	100	91	104	94	99	93	106	106	102	92	105	96	99	95	106	106									
	2	91	80	93	83	93	80	106	87	92	82	95	85	95	83	106	91									
	3	78	65	81	72	80	70	94	77	80	67	82	74	82	72	97	80									

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	105	93	108	97	107	95	114	104	101	89	104	93	104	89	114	97	97	85	101	89	99	84	111	91	
	2	93	81	96	84	94	78	102	84	89	76	92	78	88	73	96	79	85	72	88	74	83	68	90	74	
	3	77	62	84	73	82	68	90	74	72	58	80	69	78	64	85	70	67	54	77	65	73	60	80	65	
	35	1	101	91	105	94	103	93	110	104	98	87	101	90	101	89	110	97	95	84	98	87	97	84	110	91
		2	91	80	93	82	92	78	102	84	87	76	90	78	88	73	96	79	84	72	86	74	83	68	90	74
		3	77	62	81	72	80	68	90	74	72	58	78	68	77	64	85	70	67	54	75	65	73	60	80	65
	40	1	99	89	102	92	99	91	106	104	95	85	99	88	99	87	106	97	92	82	95	85	95	83	106	91
		2	89	78	91	81	90	78	102	84	85	75	88	77	86	73	96	79	82	72	84	74	83	68	90	74
		3	77	62	79	70	79	68	90	74	72	58	76	67	75	64	85	70	67	54	73	64	72	60	80	65
30	1	94	82	97	85	95	79	105	86	90	78	94	81	91	75	99	82	94	82	97	85	95	79	105	86	
	2	82	68	84	69	78	64	85	70	78	64	80	66	74	61	80	66	78	64	80	66	74	61	80	66	
	3	63	51	74	61	69	57	75	62	59	48	71	58	65	53	71	58	59	48	71	58	65	53	71	58	
	35	1	91	80	95	83	93	79	105	86	88	77	92	80	90	75	99	82	88	77	92	80	90	75	99	82
		2	80	68	83	69	78	64	85	70	77	64	79	66	74	61	80	66	77	64	79	66	74	61	80	66
		3	63	51	72	61	69	57	75	62	59	48	69	58	65	53	71	58	59	48	69	58	65	53	71	58
	40	1	89	79	92	82	92	79	105	86	86	76	90	79	88	75	99	82	86	76	90	79	88	75	99	82
		2	79	68	81	69	78	64	85	70	76	64	78	66	74	61	80	66	76	64	78	66	74	61	80	66
		3	63	51	71	61	69	57	75	62	59	48	68	58	65	53	71	58	59	48	68	58	65	53	71	58
30	1	87	74	91	77	86	71	94	77	84	70	88	73	82	68	90	74	84	70	88	73	82	68	90	74	
	2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60	70	58	72	59	67	55	73	60	
	3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52	53	43	64	52	59	48	64	52	
	35	1	85	74	89	77	86	71	94	77	83	70	86	73	82	68	90	74	83	70	86	73	82	68	90	74
		2	74	61	76	62	70	58	76	63	70	58	72	59	67	55	73	60	70	58	72	59	67	55	73	60
		3	56	46	67	55	62	51	67	55	53	43	64	52	59	48	64	52	53	43	64	52	59	48	64	52
	40	1	84	73	87	76	85	71	94	77	81	70	84	73	82	68	90	74	81	70	84	73	82	68	90	74
		2	73	61	75	62	70	58	76	63	70	58	72	59	67	55	73	60	70	58	72	59	67	55	73	60
		3	56	46	66	55	62	51	67	55	53	43	63	52	59	48	64	52	53	43	63	52	59	48	64	52

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
45	1	105	97	108	101	96	96	103	103	104	96	107	99	96	96	103	103	102	94	105	97	96	96	103	103	
	2	97	89	100	91	96	91	103	103	96	87	98	89	96	88	103	102	94	85	96	87	96	86	103	98	
	3	84	76	86	79	88	79	103	94	82	74	85	77	86	77	103	90	81	73	83	75	84	75	103	86	
	50	1	102	95	105	98	93	93	100	100	100	93	104	96	93	93	100	100	99	91	102	95	93	93	100	100
		2	95	87	97	89	93	89	100	100	93	85	96	87	93	87	100	100	91	83	94	85	93	85	100	98
		3	81	74	84	77	86	77	100	94	80	73	83	75	84	75	100	90	79	71	81	74	82	74	100	86
	60	1	96	90	99	93	88	88	95	95	95	89	98	92	88	88	95	95	94	87	97	90	88	88	95	95
		2	90	83	93	85	88	86	95	95	89	81	91	84	88	84	95	95	87	80	90	82	88	82	95	95
		3	77	71	80	74	82	75	95	92	76	70	78	72	81	73	95	89	75	68	77	71	79	71	95	86
45	1	100	92	104	95	96	96	103	103	99	90	102	93	96	94	103	103									
	2	92	83	94	85	95	84	103	94	90	81	93	83	93	82	103	91									
	3	79	70	82	74	82	73	100	83	78	67	80	72	81	71	97	80									
	50	1	98	90	101	93	93	93	100	100	96	88	99	91	93	92	100	100								
		2	90	81	92	83	93	83	100	94	88	79	91	81	91	80	100	91								
		3	77	70	80	72	81	72	99	83	76	67	78	71	79	70	96	80								
	60	1	93	86	95	89	88	88	95	95	91	84	94	87	88	88	95	95								
		2	86	78	88	80	88	80	95	94	84	76	87	78	88	78	95	91								
		3	74	67	76	69	78	69	95	83	72	66	75	68	76	68	94	80								
45	1	97	89	101	92	96	91	103	103	99	90	102	93	96	94	103	103									
	2	89	79	91	81	91	79	103	87	90	81	93	83	93	82	103	91									
	3	76	65	79	70	79	69	94	77	78	67	80	72	81	71	97	80									
	50	1	95	87	98	90	93	90	100	100	96	88	99	91	93	92	100	100								
		2	87	77	89	80	89	78	100	87	88	79	91	81	91	80	100	91								
		3	74	65	77	69	77	68	94	77	76	67	78	71	79	70	96	80								
	60	1	90	83	93	86	88	87	95	95	91	84	94	87	88	88	95	95								
		2	83	75	85	77	86	76	95	87	84	76	87	78	88	78	95	91								
		3	71	64	74	67	75	66	92	77	72	66	75	68	76	68	94	80								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	96	87	99	90	96	89	103	103	93	84	96	87	96	86	103	97	90	80	93	83	93	82	103	91
	2	87	77	89	79	89	77	102	84	84	74	86	76	85	73	96	79	80	70	83	72	81	68	90	74
	3	75	62	77	69	77	67	90	74	72	58	75	66	74	64	85	70	67	54	72	63	71	60	80	65
50	1	93	85	96	88	93	88	100	100	91	82	94	85	93	84	100	97	88	79	91	82	92	81	100	91
	2	85	76	87	78	87	76	100	84	82	73	84	75	84	73	96	79	79	69	81	71	80	68	90	74
	3	73	62	76	68	76	66	90	74	70	58	73	65	73	63	85	70	67	54	70	62	70	60	80	65
60	1	89	82	92	84	88	85	95	95	87	79	89	82	88	82	95	95	84	76	87	79	88	79	95	91
	2	82	73	84	75	84	75	95	84	79	70	81	72	81	71	95	79	76	68	78	69	78	68	90	74
	3	70	62	72	65	73	65	89	74	68	58	70	63	70	62	85	70	65	54	68	60	68	59	80	65
Wind Speed [mph]		170								180															
45	1	87	77	90	80	90	79	103	86	85	75	88	77	87	75	99	82								
	2	77	68	80	69	78	64	85	70	75	64	77	66	74	61	80	66								
	3	63	51	69	60	68	57	75	62	59	48	67	58	65	53	71	58								
50	1	85	76	88	79	88	78	100	86	83	73	86	76	85	75	99	82								
	2	76	67	78	68	77	64	85	70	73	64	75	66	74	61	80	66								
	3	63	51	68	60	67	57	75	62	59	48	66	57	64	53	71	58								
60	1	82	74	85	76	85	76	95	86	80	71	82	74	83	73	95	82								
	2	74	65	76	67	75	64	85	70	71	62	73	64	72	61	80	66								
	3	63	51	66	58	65	57	75	62	59	48	63	56	63	53	71	58								
Wind Speed [mph]		190								200															
45	1	82	72	85	75	84	71	94	77	79	69	82	72	81	68	90	74								
	2	72	61	74	62	70	58	76	63	69	58	71	59	67	55	73	60								
	3	56	46	64	55	62	51	67	55	53	43	62	52	59	48	64	52								
50	1	80	71	83	74	82	71	94	77	78	69	81	71	80	68	90	74								
	2	71	61	73	62	70	58	76	63	69	58	70	59	67	55	73	60								
	3	56	46	63	55	62	51	67	55	53	43	61	52	59	48	64	52								
60	1	77	69	80	71	80	70	94	77	75	67	78	69	78	68	90	74								
	2	69	60	71	62	69	58	76	63	67	58	69	59	67	55	73	60								
	3	56	46	61	54	60	51	67	55	53	43	59	52	58	48	64	52								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
		70	1	91	86	94	89	84	84	91	91	90	85	93	88	84	84	91	91	89	84	92	86	84	84
2	86		80	88	82	84	83	91	91	85	78	87	80	84	82	91	91	84	77	86	79	84	80	91	91
3	74		68	76	71	79	72	91	90	73	67	75	69	77	70	91	87	71	66	74	68	76	69	91	85
80	1	86	83	89	85	80	80	88	88	86	81	89	84	80	80	88	88	85	80	88	83	80	80	88	88
	2	83	77	85	79	80	80	88	88	81	76	84	78	80	79	88	88	80	74	83	76	80	78	88	88
	3	70	66	73	68	76	70	88	88	69	65	72	67	75	68	88	86	69	63	71	66	73	67	88	83
90	1	82	79	84	82	78	78	85	85	82	78	84	81	78	78	85	85	82	77	84	80	78	78	85	85
	2	79	74	82	76	78	78	85	85	78	73	81	75	78	77	85	85	77	72	80	74	78	76	85	85
	3	68	63	70	66	73	68	85	85	67	62	69	65	72	66	85	84	66	61	68	63	71	65	85	82
70	1	88	82	91	85	84	84	91	91	87	81	90	84	84	84	91	91	87	81	90	84	84	84	91	91
	2	82	75	85	77	84	78	91	91	81	74	83	76	84	76	91	91	81	74	83	76	84	76	91	91
	3	70	65	73	67	75	67	91	82	69	63	72	66	73	66	91	80	69	63	72	66	73	66	91	80
80	1	84	79	87	82	80	80	88	88	84	78	86	81	80	80	88	88	84	78	86	81	80	80	88	88
	2	79	73	81	75	80	76	88	88	78	72	80	74	80	74	88	88	78	72	80	74	80	74	88	88
	3	68	62	70	64	72	65	88	81	67	61	69	63	71	64	88	79	67	61	69	63	71	64	88	79
90	1	81	76	84	79	78	78	85	85	80	75	83	78	78	78	85	85	80	75	83	78	78	78	85	85
	2	76	71	78	73	78	74	85	85	75	70	77	71	78	72	85	85	75	70	77	71	78	72	85	85
	3	65	60	67	62	70	64	85	80	64	59	66	61	69	62	85	77	64	59	66	61	69	62	85	77
70	1	86	80	89	82	84	84	91	91	87	81	90	84	84	84	91	91	87	81	90	84	84	84	91	91
	2	80	72	82	74	83	74	91	87	81	74	83	76	84	76	91	91	81	74	83	76	84	76	91	91
	3	68	62	71	64	72	64	90	77	69	63	72	66	73	66	91	80	69	63	72	66	73	66	91	80
80	1	83	77	85	79	80	80	88	88	84	78	86	81	80	80	88	88	84	78	86	81	80	80	88	88
	2	77	70	79	72	80	73	88	87	78	72	80	74	80	74	88	88	78	72	80	74	80	74	88	88
	3	66	60	68	62	70	63	88	77	67	61	69	63	71	64	88	79	67	61	69	63	71	64	88	79
90	1	79	74	82	77	78	78	85	85	80	75	83	78	78	78	85	85	80	75	83	78	78	78	85	85
	2	74	68	76	70	78	71	85	85	75	70	77	71	78	72	85	85	75	70	77	71	78	72	85	85
	3	63	58	66	60	68	61	85	75	64	59	66	61	69	62	85	77	64	59	66	61	69	62	85	77

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	85	79	88	81	84	82	91	91	83	76	86	79	84	79	91	91	81	74	84	76	84	76	91	91	
	2	79	71	81	73	82	73	91	84	76	68	78	70	79	70	91	79	74	66	76	68	76	67	90	74	
	3	67	61	69	63	71	63	88	74	65	58	67	61	68	60	84	70	63	54	65	59	66	58	80	65	
	80	1	82	76	84	78	80	80	88	88	80	74	82	76	80	77	88	88	78	71	80	74	80	75	88	88
		2	76	69	78	71	79	71	88	84	74	67	76	68	77	68	88	79	71	64	73	66	74	65	88	74
		3	65	59	67	61	69	61	86	74	63	57	65	59	66	59	82	70	61	54	63	57	64	57	78	65
	90	1	79	73	81	76	78	78	85	85	77	71	79	74	78	75	85	85	75	69	78	72	78	73	85	85
		2	73	67	75	69	77	69	85	84	71	65	73	67	75	67	85	79	69	63	71	64	72	64	85	74
		3	63	57	65	59	67	60	84	74	61	56	63	57	64	58	81	70	59	54	61	56	62	55	77	65
Wind Speed [mph]		170								180																
70	1	79	71	82	74	83	74	91	86	77	69	79	72	80	71	91	82									
	2	71	63	73	65	73	64	85	70	69	61	71	63	70	61	80	66									
	3	61	51	63	56	63	55	75	62	59	48	61	54	61	53	71	58									
	80	1	76	69	79	72	80	72	88	86	74	67	77	70	78	70	88	82								
		2	69	62	71	64	71	63	85	70	67	60	69	61	69	60	80	66								
		3	59	51	61	55	62	54	75	62	58	48	60	53	60	52	71	58								
	90	1	74	67	76	70	78	70	85	85	72	66	74	68	76	68	85	82								
		2	67	61	69	62	70	62	85	70	66	59	67	60	68	59	80	66								
		3	58	51	60	54	60	53	74	62	56	48	58	52	58	51	71	58								
Wind Speed [mph]		190								200																
70	1	75	67	77	70	78	69	91	77	73	65	76	67	76	66	90	74									
	2	67	59	69	61	68	58	76	63	65	57	67	58	66	55	73	60									
	3	56	46	60	53	59	51	67	55	53	43	58	51	57	48	64	52									
	80	1	73	65	75	68	76	67	88	77	71	63	73	66	74	65	88	74								
		2	65	58	67	59	67	58	76	63	63	56	65	57	64	55	73	60								
		3	56	46	58	51	58	50	67	55	53	43	56	50	56	48	64	52								
	90	1	70	64	73	66	74	66	85	77	69	62	71	64	72	64	85	74								
		2	64	57	66	58	65	57	76	63	62	55	64	56	63	55	73	60								
		3	55	46	56	50	56	49	67	55	53	43	55	49	55	48	64	52								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	78	77	80	79	75	75	82	82	78	76	80	78	75	75	82	82	78	75	80	77	75	75	82	82
	2	77	72	79	74	75	75	82	82	76	71	78	73	75	75	82	82	75	70	77	72	75	74	82	82
	3	65	61	67	63	71	66	82	82	64	60	66	62	70	65	82	82	64	60	66	62	69	63	82	80
Wind Speed [mph]		110								115															
100	1	78	74	80	76	75	75	82	82	77	73	80	75	75	75	82	82								
	2	74	69	76	71	75	72	82	82	73	68	75	69	75	71	82	82								
	3	63	59	65	61	68	62	82	78	62	58	64	60	67	61	82	76								
Wind Speed [mph]		120								130															
100	1	77	72	79	74	75	75	82	82	77	73	80	75	75	75	82	82								
	2	72	67	74	68	75	69	82	82	73	68	75	69	75	71	82	82								
	3	61	57	63	59	66	60	82	74	62	58	64	60	67	61	82	76								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		70in x 41in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	76	71	78	73	75	75	82	82	74	69	77	72	75	73	82	82	73	68	75	70	75	71	82	82
	2	71	65	73	67	75	68	82	82	69	63	71	65	73	65	82	79	68	61	69	63	71	63	82	74
	3	61	56	63	58	65	59	82	73	59	54	61	56	63	56	79	69	58	52	60	54	61	54	76	65
Wind Speed [mph]		170								180															
100	1	71	66	74	68	75	69	82	82	70	64	72	66	74	67	82	81								
	2	66	59	68	61	68	61	82	70	64	57	66	59	66	58	80	66								
	3	56	51	58	53	59	52	73	62	55	48	57	51	57	50	70	58								
Wind Speed [mph]		190								200															
100	1	68	62	71	64	72	65	82	77	67	61	69	63	70	63	82	74								
	2	62	56	64	57	64	56	76	63	61	54	62	55	62	54	73	60								
	3	53	46	55	49	55	49	67	55	52	43	54	48	54	47	64	52								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	132	113	135	118	130	110	137	120	129	109	132	113	126	106	134	115	125	105	129	109	122	102	131	111	
	2	113	94	116	97	109	90	118	98	109	90	112	93	104	86	114	94	105	87	108	89	100	83	109	90	
	3	91	73	104	86	96	80	105	87	86	70	99	82	92	76	101	83	83	67	96	79	89	73	97	80	
	5	1	132	113	135	118	130	110	137	120	129	109	132	113	126	106	134	115	125	105	129	109	122	102	131	111
		2	113	94	116	97	109	90	118	98	109	90	112	93	104	86	114	94	105	87	108	89	100	83	109	90
		3	91	73	104	86	96	80	105	87	86	70	99	82	92	76	101	83	83	67	96	79	89	73	97	80
	10	1	129	113	132	118	130	110	137	120	127	109	130	113	126	106	134	115	124	105	127	109	122	102	131	111
		2	113	94	116	97	109	90	118	98	109	90	112	93	104	86	114	94	105	87	108	89	100	83	109	90
		3	91	73	104	86	96	80	105	87	86	70	99	82	92	76	101	83	83	67	96	79	89	73	97	80
0	1	121	101	126	105	118	98	127	107	117	97	122	101	114	94	124	103	117	97	122	101	114	94	124	103	
	2	101	84	104	86	97	80	105	87	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84	
	3	79	64	92	76	85	70	93	77	76	62	89	73	82	68	90	74	76	62	89	73	82	68	90	74	
	5	1	121	101	126	105	118	98	127	107	117	97	122	101	114	94	124	103	117	97	122	101	114	94	124	103
		2	101	84	104	86	97	80	105	87	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84
		3	79	64	92	76	85	70	93	77	76	62	89	73	82	68	90	74	76	62	89	73	82	68	90	74
	10	1	121	101	125	105	118	98	127	107	117	97	122	101	114	94	124	103	117	97	122	101	114	94	124	103
		2	101	84	104	86	97	80	105	87	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84
		3	79	64	92	76	85	70	93	77	76	62	89	73	82	68	90	74	76	62	89	73	82	68	90	74
0	1	113	94	118	98	110	91	120	99	117	97	122	101	114	94	124	103	117	97	122	101	114	94	124	103	
	2	94	78	97	80	90	74	98	81	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84	
	3	73	59	86	71	79	65	86	71	76	62	89	73	82	68	90	74	76	62	89	73	82	68	90	74	
	5	1	113	94	118	98	110	91	120	99	117	97	122	101	114	94	124	103	117	97	122	101	114	94	124	103
		2	94	78	97	80	90	74	98	81	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84
		3	73	59	86	71	79	65	86	71	76	62	89	73	82	68	90	74	76	62	89	73	82	68	90	74
	10	1	113	94	118	98	110	91	120	99	117	97	122	101	114	94	124	103	117	97	122	101	114	94	124	103
		2	94	78	97	80	90	74	98	81	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84
		3	73	59	86	71	79	65	86	71	76	62	89	73	82	68	90	74	76	62	89	73	82	68	90	74

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	109	91	114	95	106	88	116	96	103	85	107	89	100	82	109	90	97	80	101	84	94	77	102	84
	2	91	75	93	77	87	72	94	78	85	70	88	72	81	67	88	73	80	66	82	68	77	63	83	68
	3	70	57	83	68	77	63	83	69	66	53	78	64	72	59	78	64	61	50	73	60	67	55	73	60
5	1	109	91	114	95	106	88	116	96	103	85	107	89	100	82	109	90	97	80	101	84	94	77	102	84
	2	91	75	93	77	87	72	94	78	85	70	88	72	81	67	88	73	80	66	82	68	77	63	83	68
	3	70	57	83	68	77	63	83	69	66	53	78	64	72	59	78	64	61	50	73	60	67	55	73	60
10	1	109	91	114	95	106	88	116	96	103	85	107	89	100	82	109	90	97	80	101	84	94	77	102	84
	2	91	75	93	77	87	72	94	78	85	70	88	72	81	67	88	73	80	66	82	68	77	63	83	68
	3	70	57	83	68	77	63	83	69	66	53	78	64	72	59	78	64	61	50	73	60	67	55	73	60
0	1	92	76	96	79	89	73	97	80	87	72	91	75	84	69	91	75								
	2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61								
	3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54								
5	1	92	76	96	79	89	73	97	80	87	72	91	75	84	69	91	75								
	2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61								
	3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54								
10	1	92	76	96	79	89	73	97	80	87	72	91	75	84	69	91	75								
	2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61								
	3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54								
0	1	83	68	86	71	80	66	87	71	79	65	82	68	76	62	83	68								
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48								
5	1	83	68	86	71	80	66	87	71	79	65	82	68	76	62	83	68								
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48								
10	1	83	68	86	71	80	66	87	71	79	65	82	68	76	62	83	68								
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	123	109	126	113	130	110	134	120	120	106	124	110	126	106	134	115	117	103	121	107	122	102	131	111	
	2	109	94	112	97	109	90	118	98	106	90	109	93	104	86	114	94	103	87	106	89	100	83	109	90	
	3	91	73	98	86	96	80	105	87	86	70	96	82	92	76	101	83	83	67	93	79	89	73	97	80	
	20	1	116	104	120	108	123	110	127	120	114	102	117	105	123	106	127	115	111	99	115	103	121	102	127	111
		2	104	92	107	95	109	90	118	98	102	89	105	92	104	86	114	94	99	87	102	89	100	83	109	90
		3	90	73	94	83	96	80	105	87	86	70	91	80	92	76	101	83	83	67	89	78	89	73	97	80
	25	1	116	104	120	108	116	109	122	120	114	102	117	105	116	106	122	115	111	99	115	103	116	102	122	111
		2	104	92	107	95	108	90	118	98	102	89	105	92	104	86	114	94	99	87	102	89	100	83	109	90
		3	90	73	94	83	95	80	105	87	86	70	91	80	92	76	101	83	83	67	89	78	89	73	97	80
15	1	114	100	118	104	118	98	127	107	112	97	116	101	114	94	124	103	112	97	116	101	114	94	124	103	
	2	100	84	103	86	97	80	105	87	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84	
	3	79	64	91	76	85	70	93	77	76	62	88	73	82	68	90	74	76	62	88	73	82	68	90	74	
	20	1	109	97	113	100	118	98	127	107	107	94	110	98	114	94	124	103	107	94	110	98	114	94	124	103
		2	97	84	99	86	97	80	105	87	94	81	97	83	93	77	101	84	94	81	97	83	93	77	101	84
		3	79	64	87	76	85	70	93	77	76	62	85	73	82	68	90	74	76	62	85	73	82	68	90	74
	25	1	109	97	113	100	115	98	122	107	107	94	110	98	112	94	122	103	107	94	110	98	112	94	122	103
		2	97	84	99	86	97	80	105	87	94	81	97	83	93	77	101	84	94	81	97	83	93	77	101	84
		3	79	64	87	76	85	70	93	77	76	62	85	73	82	68	90	74	76	62	85	73	82	68	90	74
15	1	109	94	113	98	110	91	120	99	112	97	116	101	114	94	124	103	112	97	116	101	114	94	124	103	
	2	94	78	97	80	90	74	98	81	97	81	100	83	93	77	101	84	97	81	100	83	93	77	101	84	
	3	73	59	86	71	79	65	86	71	76	62	88	73	82	68	90	74	76	62	88	73	82	68	90	74	
	20	1	104	92	108	96	110	91	120	99	107	94	110	98	114	94	124	103	107	94	110	98	114	94	124	103
		2	92	78	95	80	90	74	98	81	94	81	97	83	93	77	101	84	94	81	97	83	93	77	101	84
		3	73	59	83	71	79	65	86	71	76	62	85	73	82	68	90	74	76	62	85	73	82	68	90	74
	25	1	104	92	108	96	109	91	120	99	107	94	110	98	112	94	122	103	107	94	110	98	112	94	122	103
		2	92	78	95	80	90	74	98	81	94	81	97	83	93	77	101	84	94	81	97	83	93	77	101	84
		3	73	59	83	71	79	65	86	71	76	62	85	73	82	68	90	74	76	62	85	73	82	68	90	74

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	107	91	110	95	106	88	116	96	102	85	106	89	100	82	109	90	97	80	101	84	94	77	102	84	
	2	91	75	93	77	87	72	94	78	85	70	88	72	81	67	88	73	80	66	82	68	77	63	83	68	
	3	70	57	83	68	77	63	83	69	66	53	78	64	72	59	78	64	61	50	73	60	67	55	73	60	
	20	1	102	90	106	93	106	88	116	96	98	85	102	89	100	82	109	90	94	80	98	84	94	77	102	84
		2	90	75	92	77	87	72	94	78	85	70	88	72	81	67	88	73	80	66	82	68	77	63	83	68
		3	70	57	81	68	77	63	83	69	66	53	77	64	72	59	78	64	61	50	73	60	67	55	73	60
	25	1	102	90	106	93	106	88	116	96	98	85	102	89	100	82	109	90	94	80	98	84	94	77	102	84
		2	90	75	92	77	87	72	94	78	85	70	88	72	81	67	88	73	80	66	82	68	77	63	83	68
		3	70	57	81	68	77	63	83	69	66	53	77	64	72	59	78	64	61	50	73	60	67	55	73	60
15	1	92	76	96	79	89	73	97	80	87	72	91	75	84	69	91	75									
	2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61									
	3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54									
	20	1	90	76	94	79	89	73	97	80	87	72	90	75	84	69	91	75								
		2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61								
		3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54								
	25	1	90	76	94	79	89	73	97	80	87	72	90	75	84	69	91	75								
		2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61								
		3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54								
15	1	83	68	86	71	80	66	87	71	79	65	82	68	76	62	83	68									
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55									
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48									
	20	1	83	68	86	71	80	66	87	71	79	65	82	68	76	62	83	68								
		2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
		3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48								
	25	1	83	68	86	71	80	66	87	71	79	65	82	68	76	62	83	68								
		2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
		3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	116	104	120	108	111	107	117	117	113	102	117	105	111	104	117	115	111	99	115	103	111	101	117	111	
	2	104	92	107	95	106	90	117	98	102	89	104	92	103	86	114	94	99	87	102	89	100	83	109	90	
	3	90	73	94	83	93	80	105	87	86	70	91	80	90	76	101	83	83	67	89	78	87	73	97	80	
	35	1	112	101	116	105	106	104	113	113	110	99	113	103	106	102	113	113	108	97	111	100	106	99	113	111
		2	101	90	104	93	104	90	113	98	99	88	102	90	101	86	113	94	97	85	99	87	98	83	109	90
		3	88	73	91	81	90	79	105	87	86	70	89	79	88	76	101	83	83	67	87	76	86	73	97	80
	40	1	109	99	112	102	102	102	109	109	107	97	110	100	102	100	109	109	105	94	108	98	102	97	109	109
		2	99	88	102	91	102	89	109	98	97	86	99	88	99	86	109	94	94	84	97	86	96	83	109	90
		3	85	73	88	79	88	78	105	87	83	70	86	77	86	75	101	83	81	67	84	75	84	73	97	80
Wind Speed [mph]		110								115																
30	1	109	97	112	100	111	98	117	107	106	94	110	98	109	94	117	103									
	2	97	84	99	86	97	80	105	87	94	81	97	83	93	77	101	84									
	3	79	64	87	76	85	70	93	77	76	62	85	73	82	68	90	74									
	35	1	106	94	109	98	106	96	113	107	103	92	107	96	106	94	113	103								
		2	94	83	97	85	95	80	105	87	92	81	95	83	93	77	101	84								
		3	79	64	85	74	83	70	93	77	76	62	83	72	81	68	90	74								
	40	1	103	92	106	96	102	94	109	107	101	90	104	93	102	92	109	103								
		2	92	81	95	84	94	80	105	87	90	79	93	81	91	77	101	84								
		3	79	64	82	73	82	70	93	77	76	62	81	71	80	68	90	74								
Wind Speed [mph]		120								130																
30	1	104	92	108	95	107	91	117	99	106	94	110	98	109	94	117	103									
	2	92	78	94	80	90	74	98	81	94	81	97	83	93	77	101	84									
	3	73	59	83	71	79	65	86	71	76	62	85	73	82	68	90	74									
	35	1	101	90	105	93	104	91	113	99	103	92	107	96	106	94	113	103								
		2	90	78	92	80	90	74	98	81	92	81	95	83	93	77	101	84								
		3	73	59	81	70	79	65	86	71	76	62	83	72	81	68	90	74								
	40	1	99	88	102	91	102	90	109	99	101	90	104	93	102	92	109	103								
		2	88	77	91	79	89	74	98	81	90	79	93	81	91	77	101	84								
		3	73	59	79	69	78	65	86	71	76	62	81	71	80	68	90	74								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	102	90	106	93	104	88	116	96	98	85	101	89	99	82	109	90	94	80	97	84	94	77	102	84
	2	90	75	92	77	87	72	94	78	85	70	88	72	81	67	88	73	80	66	82	68	77	63	83	68
	3	70	57	81	68	77	63	83	69	66	53	77	64	72	59	78	64	61	50	73	60	67	55	73	60
	1	99	88	103	91	102	88	113	96	96	84	99	87	98	82	109	90	92	80	95	83	93	77	102	84
	2	88	75	90	77	87	72	94	78	84	70	86	72	81	67	88	73	80	66	82	68	77	63	83	68
	3	70	57	79	68	77	63	83	69	66	53	75	64	72	59	78	64	61	50	72	60	67	55	73	60
	1	97	86	100	89	100	87	109	96	93	82	97	86	96	82	109	90	90	79	93	82	92	77	102	84
	2	86	75	89	77	87	72	94	78	82	70	85	72	81	67	88	73	79	66	81	68	77	63	83	68
	3	70	57	77	67	76	63	83	69	66	53	74	64	72	59	78	64	61	50	71	60	67	55	73	60
35	1	90	76	94	79	89	73	97	80	87	72	90	75	84	69	91	75	76	62	78	64	72	59	78	64
	2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61	72	59	74	61	68	56	74	61
	3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54	58	47	69	56	64	52	69	57
	1	88	76	92	79	89	73	97	80	85	72	88	75	84	69	91	75	88	76	92	79	88	73	97	80
	2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61	72	59	74	61	68	56	74	61
	3	58	47	69	56	64	52	69	57	54	44	65	53	60	49	65	54	58	47	69	56	64	52	69	57
	1	87	76	90	79	88	73	97	80	84	72	87	75	84	69	91	75	87	76	90	79	88	73	97	80
	2	76	62	78	64	72	59	78	64	72	59	74	61	68	56	74	61	76	62	78	64	72	59	78	64
	3	58	47	68	56	64	52	69	57	54	44	65	53	60	49	65	54	58	47	68	56	64	52	69	57
40	1	83	68	86	71	80	66	87	71	79	65	82	68	76	62	83	68	83	68	86	71	80	66	87	71
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55	68	56	70	57	65	53	70	58
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48	52	42	62	51	57	47	62	51
	1	82	68	85	71	80	66	87	71	79	65	82	68	76	62	83	68	82	68	85	71	80	66	87	71
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55	68	56	70	57	65	53	70	58
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48	52	42	62	51	57	47	62	51
	1	81	68	84	71	80	66	87	71	78	65	81	68	76	62	83	68	81	68	84	71	80	66	87	71
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55	68	56	70	57	65	53	70	58
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48	52	42	62	51	57	47	62	51

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	105	96	109	100	99	99	106	106	103	94	107	98	99	98	106	106	102	92	105	96	99	95	106	106
	2	96	87	99	89	99	88	106	98	94	84	97	87	97	85	106	94	92	82	95	84	94	83	106	90
	3	83	73	86	77	86	76	105	87	81	70	84	75	84	74	101	83	79	67	82	73	82	72	97	80
	1	102	94	106	97	96	96	103	103	101	92	104	95	96	96	103	103	99	90	102	93	96	94	103	103
	2	94	85	97	87	96	86	103	98	92	83	95	85	95	84	103	94	90	81	93	83	93	81	103	90
	3	81	73	84	76	85	75	103	87	79	70	82	74	83	73	100	83	78	67	80	72	81	71	97	80
	1	97	90	100	93	91	91	98	98	96	88	99	91	91	91	98	98	94	87	97	90	91	90	98	98
	2	90	82	93	84	91	84	98	98	88	80	91	82	91	82	98	94	87	78	89	80	90	79	98	90
	3	77	70	80	73	81	73	98	87	76	69	78	71	80	71	98	83	74	67	77	69	78	69	95	80
50	1	100	90	103	93	99	93	106	106	98	88	101	91	99	91	106	103	98	88	101	91	99	91	106	103
	2	90	80	93	82	92	80	105	87	88	78	91	80	90	77	101	84	88	78	91	80	90	77	101	84
	3	78	64	81	72	80	70	93	77	76	62	79	70	78	68	90	74	76	62	79	70	78	68	90	74
	1	97	88	101	92	96	91	103	103	96	87	99	90	96	89	103	103	96	87	99	90	96	89	103	103
	2	88	79	91	81	91	79	103	87	87	77	89	79	88	77	101	84	87	77	89	79	88	77	101	84
	3	76	64	79	70	79	69	93	77	74	62	77	69	77	67	90	74	74	62	77	69	77	67	90	74
	1	93	85	96	88	91	88	98	98	91	83	94	86	91	86	98	98	91	83	94	86	91	86	98	98
	2	85	76	87	78	88	77	98	87	83	74	86	76	86	75	98	84	83	74	86	76	86	75	98	84
	3	73	64	75	68	76	67	93	77	72	62	74	66	74	65	90	74	72	62	74	66	74	65	90	74
60	1	96	86	100	90	99	88	106	99	98	88	101	91	99	91	106	103	98	88	101	91	99	91	106	103
	2	86	76	89	78	88	74	98	81	88	78	91	80	90	77	101	84	88	78	91	80	90	77	101	84
	3	73	59	77	68	76	65	86	71	76	62	79	70	78	68	90	74	76	62	79	70	78	68	90	74
	1	94	85	97	88	96	87	103	99	96	87	99	90	96	89	103	103	96	87	99	90	96	89	103	103
	2	85	75	87	77	86	74	98	81	87	77	89	79	88	77	101	84	87	77	89	79	88	77	101	84
	3	73	59	76	67	75	65	86	71	74	62	77	69	77	67	90	74	74	62	77	69	77	67	90	74
	1	90	82	93	85	91	84	98	98	91	83	94	86	91	86	98	98	91	83	94	86	91	86	98	98
	2	82	73	84	75	84	73	98	81	83	74	86	76	86	75	98	84	83	74	86	76	86	75	98	84
	3	70	59	73	65	73	64	86	71	72	62	74	66	74	65	90	74	72	62	74	66	74	65	90	74

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	95	85	98	88	98	86	106	96	91	81	94	84	94	82	106	90	88	78	91	81	90	77	102	84
	2	85	74	87	76	85	72	94	78	81	70	83	72	81	67	88	73	78	66	80	68	77	63	83	68
	3	70	57	76	66	74	63	83	69	66	53	72	63	71	59	78	64	61	50	70	60	67	55	73	60
50	1	92	83	96	86	96	85	103	96	89	80	92	83	92	81	103	90	86	76	89	79	89	77	102	84
	2	83	73	85	75	84	72	94	78	80	70	82	72	80	67	88	73	76	66	79	68	77	63	83	68
	3	70	57	74	65	73	63	83	69	66	53	71	62	70	59	78	64	61	50	68	60	67	55	73	60
60	1	89	80	92	83	91	83	98	96	86	77	89	80	89	79	98	90	83	74	86	77	86	76	98	84
	2	80	71	82	73	82	71	94	78	77	68	79	70	78	67	88	73	74	65	76	67	75	63	83	68
	3	69	57	71	63	71	62	83	69	66	53	69	61	68	59	78	64	61	50	66	58	65	55	73	60
45	1	85	75	88	77	87	73	97	80	82	72	85	74	83	69	91	75								
	2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61								
	3	58	47	67	56	64	52	69	57	54	44	64	53	60	49	65	54								
50	1	83	73	86	76	85	73	97	80	81	71	84	73	82	69	91	75								
	2	73	62	75	64	72	59	78	64	71	59	73	61	68	56	74	61								
	3	58	47	66	56	64	52	69	57	54	44	63	53	60	49	65	54								
60	1	81	71	83	74	83	73	97	80	78	69	81	71	80	69	91	75								
	2	71	62	73	64	72	59	78	64	69	59	71	61	68	56	74	61								
	3	58	47	64	56	62	52	69	57	54	44	61	53	60	49	65	54								
45	1	85	75	88	77	87	73	97	80	82	72	85	74	83	69	91	75								
	2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61								
	3	58	47	67	56	64	52	69	57	54	44	64	53	60	49	65	54								
50	1	83	73	86	76	85	73	97	80	81	71	84	73	82	69	91	75								
	2	73	62	75	64	72	59	78	64	71	59	73	61	68	56	74	61								
	3	58	47	66	56	64	52	69	57	54	44	63	53	60	49	65	54								
60	1	81	71	83	74	83	73	97	80	78	69	81	71	80	69	91	75								
	2	71	62	73	64	72	59	78	64	69	59	71	61	68	56	74	61								
	3	58	47	64	56	62	52	69	57	54	44	61	53	60	49	65	54								
45	1	79	68	82	71	80	66	87	71	77	65	80	68	76	62	83	68								
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48								
50	1	78	68	81	71	79	66	87	71	75	65	78	68	76	62	83	68								
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
	3	52	42	61	51	57	47	62	51	49	40	59	48	54	44	59	48								
60	1	76	66	78	69	77	66	87	71	73	64	76	67	75	62	83	68								
	2	66	56	68	57	65	53	70	58	64	53	66	55	62	50	67	55								
	3	52	42	59	51	57	47	62	51	49	40	57	48	54	44	59	48								
45	1	79	68	82	71	80	66	87	71	77	65	80	68	76	62	83	68								
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
	3	52	42	62	51	57	47	62	51	49	40	59	48	54	44	59	48								
50	1	78	68	81	71	79	66	87	71	75	65	78	68	76	62	83	68								
	2	68	56	70	57	65	53	70	58	65	53	67	55	62	50	67	55								
	3	52	42	61	51	57	47	62	51	49	40	59	48	54	44	59	48								
60	1	76	66	78	69	77	66	87	71	73	64	76	67	75	62	83	68								
	2	66	56	68	57	65	53	70	58	64	53	66	55	62	50	67	55								
	3	52	42	59	51	57	47	62	51	49	40	57	48	54	44	59	48								

Exposure Category : D

**ASCE Group Zone**

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	93	87	96	89	87	87	94	94	91	85	94	88	87	87	94	94	90	83	93	86	87	87	94	94	
	2	87	79	89	81	87	82	94	94	85	77	87	79	87	80	94	94	83	76	86	78	87	77	94	90	
	3	74	68	76	70	78	71	94	86	73	66	75	69	77	69	94	83	71	65	74	67	75	67	93	80	
	80	1	89	83	92	86	83	83	91	91	88	82	90	85	83	83	91	91	87	81	89	83	83	83	91	91
		2	83	77	86	79	83	80	91	91	82	75	84	77	83	78	91	91	81	73	83	75	83	76	91	90
		3	71	66	73	68	76	69	91	85	70	64	72	66	74	67	91	82	69	63	71	65	73	65	91	80
	90	1	85	80	88	83	80	80	88	88	84	79	87	82	80	80	88	88	83	78	86	81	80	80	88	88
		2	80	74	83	76	80	78	88	88	79	73	81	75	80	76	88	88	78	71	80	73	80	74	88	88
		3	69	64	71	66	73	67	88	83	68	62	70	64	72	65	88	81	67	61	69	63	71	64	88	78
70	Wind Speed [mph]		110								115															
	1	89	82	92	85	87	86	94	94	88	80	91	83	87	84	94	94									
	2	82	74	84	76	85	76	94	87	80	72	83	74	83	74	94	84									
	3	70	63	73	66	74	65	91	77	69	62	71	64	72	64	88	74									
	80	1	85	79	88	82	83	83	91	91	84	78	87	81	83	82	91	91								
		2	79	72	81	74	83	74	91	87	78	70	80	72	81	72	91	84								
		3	68	62	70	64	71	64	89	77	67	60	69	63	70	62	87	74								
	90	1	82	77	85	79	80	80	88	88	81	76	84	78	80	80	88	88								
		2	77	70	79	72	80	72	88	87	76	69	78	71	79	71	88	84								
3		66	60	68	62	69	62	87	76	65	59	67	61	68	61	85	74									
70	Wind Speed [mph]		120								130															
	1	86	79	89	82	87	82	94	94	88	80	91	83	87	84	94	94									
	2	79	71	81	73	82	72	94	81	80	72	83	74	83	74	94	84									
	3	68	59	70	63	71	62	86	71	69	62	71	64	72	64	88	74									
	80	1	83	77	86	79	83	80	91	91	84	78	87	81	83	82	91	91								
		2	77	69	79	71	79	70	91	81	78	70	80	72	81	72	91	84								
		3	66	59	68	61	69	61	85	71	67	60	69	63	70	62	87	74								
	90	1	80	74	83	77	80	78	88	88	81	76	84	78	80	80	88	88								
		2	74	67	76	69	78	69	88	81	76	69	78	71	79	71	88	84								
3		64	58	66	60	67	60	83	71	65	59	67	61	68	61	85	74									

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	85	78	88	80	87	80	94	94	83	75	85	77	87	77	94	90	80	72	83	75	84	74	94	84
	2	78	69	80	71	80	70	94	78	75	66	77	68	77	67	88	73	72	64	74	65	73	63	83	68
	3	67	57	69	62	69	61	83	69	64	53	66	59	66	58	78	64	61	50	64	57	64	55	73	60
80	1	82	75	85	78	83	78	91	91	80	73	83	75	83	75	91	90	78	70	80	73	81	72	91	84
	2	75	68	77	69	78	69	91	78	73	65	75	67	75	66	88	73	70	62	72	64	72	63	83	68
	3	64	57	67	60	67	60	82	69	62	53	64	58	65	57	78	64	60	50	62	55	62	54	73	60
90	1	79	73	82	76	80	77	88	88	77	71	80	73	80	74	88	88	75	69	78	71	79	71	88	84
	2	73	66	75	68	76	67	88	78	71	63	73	65	73	64	88	73	69	61	70	63	70	62	83	68
	3	63	57	65	59	66	58	81	69	61	53	63	56	63	56	77	64	59	50	61	54	61	53	73	60
Wind Speed [mph]		170								180															
70	1	78	70	81	72	81	71	94	80	76	67	78	70	78	68	91	75								
	2	70	61	72	63	70	59	78	64	67	59	69	60	68	56	74	61								
	3	58	47	62	54	61	52	69	57	54	44	60	52	59	49	65	54								
80	1	76	68	78	70	79	70	91	80	73	66	76	68	76	67	91	75								
	2	68	60	70	61	69	59	78	64	66	58	67	59	66	56	74	61								
	3	58	47	60	53	60	52	69	57	54	44	58	51	58	49	65	54								
90	1	73	66	76	69	77	68	88	80	71	64	74	67	75	66	88	75								
	2	66	59	68	60	68	59	78	64	64	57	66	58	65	56	74	61								
	3	57	47	59	52	59	51	69	57	54	44	57	50	57	49	65	54								
Wind Speed [mph]		190								200															
70	1	73	65	76	67	75	66	87	71	71	63	74	65	73	62	83	68								
	2	65	56	67	57	65	53	70	58	63	53	64	55	62	50	67	55								
	3	52	42	58	50	57	47	62	51	49	40	56	48	54	44	59	48								
80	1	71	63	74	66	74	65	87	71	69	61	72	64	71	62	83	68								
	2	63	55	65	57	64	53	70	58	61	53	63	55	62	50	67	55								
	3	52	42	57	49	56	47	62	51	49	40	55	48	54	44	59	48								
90	1	70	62	72	64	72	63	87	71	68	60	70	63	70	61	83	68								
	2	62	54	64	56	63	53	70	58	60	53	62	54	61	50	67	55								
	3	52	42	55	49	55	47	62	51	49	40	54	47	53	44	59	48								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	82	78	84	80	78	78	85	85	81	77	84	79	78	78	85	85	81	76	83	78	78	78	85	85
	2	78	72	80	74	78	76	85	85	77	71	79	73	78	74	85	85	76	70	78	72	78	72	85	85
	3	66	62	68	64	71	65	85	82	65	61	67	63	70	64	85	80	64	59	67	62	69	62	85	77
0	1																								
	2																								
	3																								
100	1	80	74	82	77	78	78	85	85	79	73	81	76	78	78	85	85								
	2	74	68	76	70	78	71	85	85	73	67	75	69	77	69	85	84								
	3	64	58	66	60	68	61	85	75	63	57	65	59	66	60	84	73								
0	1																								
	2																								
	3																								
100	1	78	72	80	75	78	76	85	85	79	73	81	76	78	78	85	85								
	2	72	66	74	68	76	68	85	81	73	67	75	69	77	69	85	84								
	3	62	56	64	58	65	59	82	71	63	57	65	59	66	60	84	73								
0	1																								
	2																								
	3																								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	77	71	79	74	78	75	85	85	75	69	77	71	78	72	85	85	73	67	76	69	77	70	85	84
	2	71	65	73	66	74	66	85	78	69	62	71	64	72	63	85	73	67	60	69	62	69	61	83	68
	3	61	55	63	57	64	57	80	69	59	53	61	55	62	55	76	64	57	50	59	53	60	53	73	60
Wind Speed [mph]		170								180															
100	1	71	65	74	67	75	67	85	80	70	63	72	65	73	65	85	75								
	2	65	58	67	59	67	58	78	64	63	56	65	57	64	56	74	61								
	3	55	47	57	51	58	50	69	57	54	44	56	50	56	48	65	54								
Wind Speed [mph]		190								200															
100	1	68	61	70	63	71	62	85	71	66	59	69	61	69	60	83	68								
	2	61	54	63	55	62	53	70	58	59	52	61	53	60	50	67	55								
	3	52	42	54	48	54	47	62	51	49	40	53	46	52	44	59	48								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	144	128	147	132	142	126	143	134	140	125	144	128	138	122	143	130	137	120	140	125	135	117	143	127	
	2	128	109	131	112	125	104	133	113	125	104	127	107	120	100	129	109	120	100	124	103	116	96	126	104	
	3	107	86	119	99	111	92	121	100	102	82	115	95	107	88	116	96	97	79	110	92	103	85	112	92	
	5	1	144	128	147	132	142	126	143	134	140	125	144	128	138	122	143	130	137	120	140	125	135	117	143	127
		2	128	109	131	112	125	104	133	113	125	104	127	107	120	100	129	109	120	100	124	103	116	96	126	104
		3	107	86	119	99	111	92	121	100	102	82	115	95	107	88	116	96	97	79	110	92	103	85	112	92
	10	1	136	126	139	129	140	126	140	134	134	123	137	127	138	122	140	130	132	120	135	124	135	117	140	127
		2	126	109	129	112	125	104	133	113	123	104	126	107	120	100	129	109	120	100	123	103	116	96	126	104
		3	107	86	115	99	111	92	121	100	102	82	112	95	107	88	116	96	97	79	109	92	103	85	112	92
Wind Speed [mph]		110								115																
0	1	134	116	137	121	132	113	140	123	131	112	134	117	129	109	137	119	112	93	115	96	108	89	117	97	
	2	116	97	119	99	112	92	121	100	112	93	115	96	108	89	117	97	89	72	103	85	95	79	104	86	
	3	93	75	106	88	99	82	108	89	89	72	103	85	95	79	104	86									
5	1	134	116	137	121	132	113	140	123	131	112	134	117	129	109	137	119	112	93	115	96	108	89	117	97	
	2	116	97	119	99	112	92	121	100	112	93	115	96	108	89	117	97	89	72	103	85	95	79	104	86	
	3	93	75	106	88	99	82	108	89	89	72	103	85	95	79	104	86									
10	1	130	116	133	121	132	113	140	123	128	112	131	117	129	109	137	119	112	93	115	96	108	89	117	97	
	2	116	97	119	99	112	92	121	100	112	93	115	96	108	89	117	97	89	72	103	85	95	79	104	86	
	3	93	75	106	88	99	82	108	89	89	72	103	85	95	79	104	86									
Wind Speed [mph]		120								130																
0	1	128	108	132	113	126	105	134	115	131	112	134	117	129	109	137	119	112	93	115	96	108	89	117	97	
	2	108	90	111	93	104	86	113	93	112	93	115	96	108	89	117	97	89	72	103	85	95	79	104	86	
	3	86	70	99	82	92	76	100	83	89	72	103	85	95	79	104	86									
5	1	128	108	132	113	126	105	134	115	131	112	134	117	129	109	137	119	112	93	115	96	108	89	117	97	
	2	108	90	111	93	104	86	113	93	112	93	115	96	108	89	117	97	89	72	103	85	95	79	104	86	
	3	86	70	99	82	92	76	100	83	89	72	103	85	95	79	104	86									
10	1	126	108	129	113	126	105	134	115	128	112	131	117	129	109	137	119	112	93	115	96	108	89	117	97	
	2	108	90	111	93	104	86	113	93	112	93	115	96	108	89	117	97	89	72	103	85	95	79	104	86	
	3	86	70	99	82	92	76	100	83	89	72	103	85	95	79	104	86									

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Span, inches															
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	126	105	129	109	122	102	131	111	118	98	123	103	115	95	125	104	112	93	116	97	108	90	118	98
	2	105	87	108	89	101	83	109	90	98	82	101	84	94	78	102	85	93	77	95	79	89	73	96	79
	3	83	67	96	79	89	73	97	80	77	63	90	74	83	69	91	75	72	59	85	70	78	64	85	70
5	1	126	105	129	109	122	102	131	111	118	98	123	103	115	95	125	104	112	93	116	97	108	90	118	98
	2	105	87	108	89	101	83	109	90	98	82	101	84	94	78	102	85	93	77	95	79	89	73	96	79
	3	83	67	96	79	89	73	97	80	77	63	90	74	83	69	91	75	72	59	85	70	78	64	85	70
10	1	124	105	127	109	122	102	131	111	118	98	123	103	115	95	125	104	112	93	116	97	108	90	118	98
	2	105	87	108	89	101	83	109	90	98	82	101	84	94	78	102	85	93	77	95	79	89	73	96	79
	3	83	67	96	79	89	73	97	80	77	63	90	74	83	69	91	75	72	59	85	70	78	64	85	70
0	1	106	88	110	91	103	85	112	92	100	83	105	87	97	80	106	87								
	2	88	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	80	66	74	61	80	66	64	52	76	62	70	57	76	62								
5	1	106	88	110	91	103	85	112	92	100	83	105	87	97	80	106	87								
	2	88	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	80	66	74	61	80	66	64	52	76	62	70	57	76	62								
10	1	106	88	110	91	103	85	112	92	100	83	105	87	97	80	106	87								
	2	88	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	80	66	74	61	80	66	64	52	76	62	70	57	76	62								
0	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
5	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
10	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
0	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
5	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
10	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	130	120	133	124	128	126	131	131	128	117	131	121	128	122	131	130	127	114	129	118	128	117	131	127
	2	120	106	123	109	125	104	131	113	117	103	120	106	120	100	129	109	114	100	117	103	116	96	126	104
	3	104	86	108	95	111	92	121	100	101	82	105	93	107	88	116	96	97	79	102	90	103	85	112	92
	1	124	113	127	117	120	120	124	124	122	111	126	115	120	119	124	124	120	108	124	112	120	116	124	124
	2	113	102	116	104	120	104	124	113	111	99	114	102	118	100	124	109	108	96	111	99	115	96	124	104
	3	98	86	102	91	107	92	121	100	96	82	99	89	104	88	116	96	94	79	97	86	101	85	112	92
	1	124	113	127	117	113	113	118	118	122	111	126	115	113	113	118	118	120	108	124	112	113	113	118	118
	2	113	102	116	104	113	104	118	113	111	99	114	102	113	100	118	109	108	96	111	99	112	96	118	104
	3	98	86	102	91	103	91	118	100	96	82	99	89	100	88	116	96	94	79	97	86	98	85	112	92
20	1	124	111	128	115	128	113	131	123	122	108	126	112	128	109	131	119	124	111	128	115	128	113	131	123
	2	111	97	114	99	112	92	121	100	108	93	111	96	108	89	117	97	108	93	111	96	108	89	117	97
	3	93	75	100	88	99	82	108	89	89	72	98	85	95	79	104	86	89	72	98	85	95	79	104	86
	1	118	106	121	110	120	113	124	123	115	104	119	107	120	109	124	119	115	104	119	107	113	107	118	118
	2	106	94	109	96	112	92	121	100	104	91	107	94	108	89	117	97	104	91	107	94	106	89	117	97
	3	92	75	95	84	98	82	108	89	89	72	93	82	95	79	104	86	89	72	93	82	93	79	104	86
	1	118	106	121	110	113	110	118	118	115	104	119	107	113	107	118	118	115	104	119	107	113	107	118	118
	2	106	94	109	96	109	92	118	100	104	91	107	94	106	89	117	97	104	91	107	94	106	89	117	97
	3	92	75	95	84	95	82	108	89	89	72	93	82	93	79	104	86	89	72	93	82	93	79	104	86
25	1	119	106	124	110	126	105	131	115	122	108	126	112	128	109	131	119	122	108	126	112	128	109	131	119
	2	106	90	109	93	104	86	113	93	108	93	111	96	108	89	117	97	108	93	111	96	108	89	117	97
	3	86	70	95	82	92	76	100	83	89	72	98	85	95	79	104	86	89	72	98	85	95	79	104	86
	1	113	102	117	105	120	105	124	115	115	104	119	107	120	109	124	119	115	104	119	107	113	107	118	118
	2	102	89	104	92	104	86	113	93	104	91	107	94	108	89	117	97	104	91	107	94	106	89	117	97
	3	86	70	91	80	92	76	100	83	89	72	93	82	95	79	104	86	89	72	93	82	95	79	104	86
	1	113	102	117	105	113	104	118	115	115	104	119	107	113	107	118	118	115	104	119	107	113	107	118	118
	2	102	89	104	92	103	86	113	93	104	91	107	94	106	89	117	97	104	91	107	94	106	89	117	97
	3	86	70	91	80	90	76	100	83	89	72	93	82	93	79	104	86	89	72	93	82	93	79	104	86

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	117	103	121	107	122	102	131	111	112	98	116	102	115	95	125	104	108	93	112	97	108	90	118	98
	2	103	87	106	89	101	83	109	90	98	82	101	84	94	78	102	85	93	77	95	79	89	73	96	79
	3	83	67	93	79	89	73	97	80	77	63	89	74	83	69	91	75	72	59	85	70	78	64	85	70
20	1	111	99	115	103	120	102	124	111	107	95	111	99	114	95	124	104	103	91	107	95	108	90	118	98
	2	99	87	102	89	101	83	109	90	95	82	98	84	94	78	102	85	91	77	94	79	89	73	96	79
	3	83	67	89	78	89	73	97	80	77	63	85	74	83	69	91	75	72	59	82	70	78	64	85	70
25	1	111	99	115	103	113	102	118	111	107	95	111	99	111	95	118	104	103	91	107	95	107	90	118	98
	2	99	87	102	89	101	83	109	90	95	82	98	84	94	78	102	85	91	77	94	79	89	73	96	79
	3	83	67	89	78	88	73	97	80	77	63	85	74	83	69	91	75	72	59	82	70	78	64	85	70
15	1	104	88	108	91	103	85	112	92	100	83	104	87	97	80	106	87								
	2	88	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	80	66	74	61	80	66	64	52	76	62	70	57	76	62								
20	1	100	87	103	91	103	85	112	92	96	83	100	87	97	80	106	87								
	2	87	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	79	66	74	61	80	66	64	52	75	62	70	57	76	62								
25	1	100	87	103	91	102	85	112	92	96	83	100	87	97	80	106	87								
	2	87	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	79	66	74	61	80	66	64	52	75	62	70	57	76	62								
15	1	104	88	108	91	103	85	112	92	100	83	104	87	97	80	106	87								
	2	88	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	80	66	74	61	80	66	64	52	76	62	70	57	76	62								
20	1	100	87	103	91	103	85	112	92	96	83	100	87	97	80	106	87								
	2	87	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	79	66	74	61	80	66	64	52	75	62	70	57	76	62								
25	1	100	87	103	91	102	85	112	92	96	83	100	87	97	80	106	87								
	2	87	72	90	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	79	66	74	61	80	66	64	52	75	62	70	57	76	62								
15	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
20	1	93	79	97	82	92	76	101	83	90	75	93	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
25	1	93	79	97	82	92	76	101	83	90	75	93	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
15	1	95	79	99	82	92	76	101	83	91	75	95	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
20	1	93	79	97	82	92	76	101	83	90	75	93	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
25	1	93	79	97	82	92	76	101	83	90	75	93	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	120	111	124	114	107	107	114	114	118	108	122	112	107	107	114	114	116	106	120	110	107	107	114	114	
	2	111	100	113	102	107	101	114	113	108	97	111	100	107	98	114	109	106	95	109	97	107	95	114	104	
	3	95	86	99	89	100	88	114	100	93	82	97	87	97	86	114	96	92	79	95	85	95	83	112	92	
	35	1	115	107	119	110	103	103	110	110	114	105	117	108	103	103	110	110	112	103	115	106	103	103	110	110
		2	107	97	110	99	103	99	110	110	105	94	107	97	103	96	110	109	103	92	105	95	103	93	110	104
		3	92	83	95	86	97	86	110	100	90	81	93	84	94	84	110	96	88	79	91	82	92	81	110	92
	40	1	111	103	115	107	99	99	106	106	110	101	113	105	99	99	106	106	108	100	111	103	99	99	106	106
		2	103	94	106	97	99	97	106	106	101	92	104	95	99	94	106	106	100	90	102	92	99	92	106	104
		3	89	81	92	84	94	84	106	100	87	79	90	82	92	82	106	96	86	77	89	80	90	80	106	92
Wind Speed [mph]		110								115																
30	1	114	104	118	107	107	107	114	114	112	102	116	105	107	104	114	114	112	102	116	105	107	104	114	114	
	2	104	92	106	95	106	92	114	100	102	90	104	92	103	89	114	97	102	90	104	92	103	89	114	97	
	3	90	75	93	83	92	81	108	89	88	72	91	81	90	79	104	86	88	72	91	81	90	79	104	86	
35	1	110	101	114	104	103	103	110	110	108	99	112	102	103	102	110	110	108	99	112	102	103	102	110	110	
	2	101	90	103	92	103	91	110	100	99	88	101	90	101	89	110	97	99	88	101	90	101	89	110	97	
	3	87	75	90	80	90	79	108	89	85	72	88	79	88	77	104	86	85	72	88	79	88	77	104	86	
40	1	106	98	110	101	99	99	106	106	105	96	108	99	99	99	106	106	105	96	108	99	99	99	106	106	
	2	98	88	100	90	99	89	106	100	96	86	98	88	99	87	106	97	96	86	98	88	99	87	106	97	
	3	84	75	87	78	88	78	106	89	83	72	85	77	86	76	104	86	83	72	85	77	86	76	104	86	
Wind Speed [mph]		120								130																
30	1	110	99	114	103	107	102	114	114	112	102	116	105	107	104	114	114	112	102	116	105	107	104	114	114	
	2	99	88	102	90	101	86	113	93	102	90	104	92	103	89	114	97	102	90	104	92	103	89	114	97	
	3	86	70	89	79	88	76	100	83	88	72	91	81	90	79	104	86	88	72	91	81	90	79	104	86	
35	1	107	97	110	100	103	100	110	110	108	99	112	102	103	102	110	110	108	99	112	102	103	102	110	110	
	2	97	86	99	88	99	86	110	93	99	88	101	90	101	89	110	97	99	88	101	90	101	89	110	97	
	3	83	70	86	77	86	75	100	83	85	72	88	79	88	77	104	86	85	72	88	79	88	77	104	86	
40	1	103	94	107	97	99	97	106	106	105	96	108	99	99	99	106	106	105	96	108	99	99	99	106	106	
	2	94	84	97	86	97	85	106	93	96	86	98	88	99	87	106	97	96	86	98	88	99	87	106	97	
	3	81	70	84	75	84	74	100	83	83	72	85	77	86	76	104	86	83	72	85	77	86	76	104	86	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Span, inches															
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	109	97	112	101	107	99	114	111	105	93	108	97	107	95	114	104	101	90	105	93	104	90	114	98
	2	97	86	100	88	99	83	109	90	93	82	96	84	94	78	102	85	90	77	92	79	89	73	96	79
	3	83	67	87	77	86	73	97	80	77	63	84	73	82	69	91	75	72	59	80	70	78	64	85	70
35	1	105	95	108	98	103	97	110	110	102	91	105	94	103	93	110	104	98	88	102	91	102	89	110	98
	2	95	84	97	86	97	83	109	90	91	80	94	82	92	78	102	85	88	77	90	79	88	73	96	79
	3	82	67	85	75	84	73	97	80	77	63	81	72	80	69	91	75	72	59	78	69	77	64	85	70
40	1	102	92	105	96	99	95	106	106	99	89	102	92	99	91	106	104	96	86	99	89	99	87	106	98
	2	92	82	95	84	95	83	106	90	89	79	91	81	91	78	102	85	86	75	88	77	87	73	96	79
	3	80	67	82	73	82	72	97	80	77	63	79	70	79	69	91	75	72	59	77	67	76	64	85	70
Wind Speed [mph]		170								180															
30	1	98	86	101	89	100	85	112	92	95	83	98	86	96	80	106	87								
	2	86	72	88	74	84	69	91	75	83	68	85	70	79	65	86	71								
	3	68	55	77	66	74	61	80	66	64	52	74	62	70	57	76	62								
35	1	95	84	99	87	98	85	110	92	92	81	95	84	94	80	106	87								
	2	84	72	87	74	84	69	91	75	81	68	83	70	79	65	86	71								
	3	68	55	75	66	74	61	80	66	64	52	73	62	70	57	76	62								
40	1	93	83	96	86	96	84	106	92	90	80	93	83	92	80	106	87								
	2	83	72	85	74	83	69	91	75	80	68	82	70	79	65	86	71								
	3	68	55	74	65	72	61	80	66	64	52	71	62	70	57	76	62								
Wind Speed [mph]		190								200															
30	1	91	79	95	82	92	76	101	83	88	75	92	78	88	73	96	79								
	2	79	65	81	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	72	59	66	54	72	59	57	47	68	56	63	52	69	56								
35	1	89	78	93	81	91	76	101	83	86	75	90	78	88	73	96	79								
	2	78	65	80	67	75	62	82	67	75	62	77	64	72	59	78	64								
	3	60	49	70	59	66	54	72	59	57	47	68	56	63	52	69	56								
40	1	87	77	90	80	89	76	101	83	85	74	88	77	86	73	96	79								
	2	77	65	79	67	75	62	82	67	74	62	76	64	72	59	78	64								
	3	60	49	69	59	66	54	72	59	57	47	66	56	63	52	69	56								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	107	100	111	103	96	96	103	103	106	99	109	102	96	96	103	103	105	97	108	100	96	96	103	103
	2	100	92	103	94	96	95	103	103	99	90	101	92	96	92	103	103	97	88	99	90	96	90	103	103
	3	86	79	89	82	91	82	103	100	85	77	87	80	89	80	103	96	83	76	86	78	88	78	103	92
	1	104	97	107	101	93	93	100	100	103	96	106	99	93	93	100	100	101	94	104	97	93	93	100	100
	2	97	90	100	92	93	93	100	100	96	88	98	90	93	91	100	100	94	86	97	88	93	88	100	100
	3	84	77	86	80	89	81	100	99	82	75	85	78	87	79	100	96	81	74	84	76	85	77	100	92
	1	98	92	101	95	88	88	95	95	97	91	100	94	88	88	95	95	96	90	99	93	88	88	95	95
	2	92	86	95	88	88	88	95	95	91	84	93	86	88	87	95	95	90	82	92	85	88	85	95	95
	3	79	73	82	76	85	77	95	95	78	72	80	74	83	76	95	94	77	71	79	73	82	74	95	91
50	1	103	95	106	98	96	96	103	103	102	93	105	97	96	96	103	103	102	93	105	97	96	96	103	103
	2	95	86	98	88	96	88	103	100	93	84	96	86	96	86	103	97	93	84	96	86	96	86	103	97
	3	82	74	84	77	86	76	103	89	80	72	83	75	84	74	103	86	80	72	83	75	84	74	103	86
	1	100	93	103	96	93	93	100	100	99	91	102	94	93	93	100	100	99	91	102	94	93	93	100	100
	2	93	84	95	86	93	86	100	100	91	82	94	85	93	84	100	97	91	82	94	85	93	84	100	97
	3	80	72	82	75	84	75	100	89	78	71	81	73	82	73	100	86	78	71	81	73	82	73	100	86
	1	95	88	97	91	88	88	95	95	93	87	96	90	88	88	95	95	93	87	96	90	88	88	95	95
	2	88	81	91	83	88	84	95	95	87	79	89	81	88	82	95	95	87	79	89	81	88	82	95	95
	3	76	69	78	72	80	72	95	88	74	68	77	70	79	71	95	86	74	68	77	70	79	71	95	86
60	1	100	92	103	95	96	95	103	103	102	93	105	97	96	96	103	103	102	93	105	97	96	96	103	103
	2	92	82	94	85	95	83	103	93	93	84	96	86	96	86	103	97	93	84	96	86	96	86	103	97
	3	79	70	82	73	82	73	100	83	80	72	83	75	84	74	103	86	80	72	83	75	84	74	103	86
	1	97	90	100	93	93	93	100	100	99	91	102	94	93	93	100	100	99	91	102	94	93	93	100	100
	2	90	81	92	83	93	82	100	93	91	82	94	85	93	84	100	97	91	82	94	85	93	84	100	97
	3	77	69	80	72	80	71	99	83	78	71	81	73	82	73	100	86	78	71	81	73	82	73	100	86
	1	92	86	95	88	88	88	95	95	93	87	96	90	88	88	95	95	93	87	96	90	88	88	95	95
	2	86	78	88	80	88	80	95	93	87	79	89	81	88	82	95	95	87	79	89	81	88	82	95	95
	3	73	67	76	69	77	69	95	83	74	68	77	70	79	71	95	86	74	68	77	70	79	71	95	86

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	99	90	102	93	96	93	103	103	96	87	99	90	96	90	103	103	93	84	96	87	96	86	103	98
	2	90	81	93	83	93	81	103	90	87	77	89	79	89	78	102	85	84	74	86	76	85	73	96	79
	3	77	67	80	72	80	71	97	80	75	63	77	69	77	68	91	75	72	59	75	66	74	64	85	70
50	1	96	88	99	91	93	92	100	100	93	85	97	88	93	88	100	100	91	82	94	85	93	85	100	98
	2	88	79	90	81	91	80	100	90	85	76	87	78	87	77	100	85	82	73	84	75	84	73	96	79
	3	76	67	78	70	79	70	96	80	73	63	76	68	76	67	91	75	71	59	73	65	73	64	85	70
60	1	91	84	94	87	88	88	95	95	89	82	92	84	88	85	95	95	87	79	90	82	88	82	95	95
	2	84	76	87	78	88	78	95	90	82	73	84	75	85	75	95	85	79	71	81	73	81	71	95	79
	3	72	65	75	68	76	68	94	80	70	63	72	65	73	65	90	75	68	59	70	63	71	62	85	70
45	1	91	81	94	84	94	83	103	92	88	78	91	81	91	79	103	87								
	2	81	71	83	73	82	69	91	75	78	68	80	70	79	65	86	71								
	3	68	55	72	64	71	61	80	66	64	52	70	61	69	57	76	62								
50	1	88	79	91	82	92	81	100	92	86	77	89	80	89	78	100	87								
	2	79	70	82	72	81	69	91	75	77	67	79	69	78	65	86	71								
	3	68	55	71	63	70	61	80	66	64	52	68	60	68	57	76	62								
60	1	85	77	87	79	88	79	95	92	82	74	85	77	86	76	95	87								
	2	77	68	79	70	78	68	91	75	74	66	76	67	76	65	86	71								
	3	66	55	68	61	68	59	80	66	64	52	66	58	66	57	76	62								
45	1	85	76	88	78	88	76	101	83	83	73	86	76	85	73	96	79								
	2	76	65	78	67	75	62	82	67	73	62	75	64	72	59	78	64								
	3	60	49	67	59	66	54	72	59	57	47	65	56	63	52	69	56								
50	1	84	74	87	77	86	75	100	83	81	72	84	75	84	73	96	79								
	2	74	65	76	67	75	62	82	67	72	62	74	64	72	59	78	64								
	3	60	49	66	58	65	54	72	59	57	47	64	56	63	52	69	56								
60	1	80	72	83	75	84	74	95	83	78	70	81	72	81	71	95	79								
	2	72	63	74	65	73	62	82	67	70	61	72	63	70	59	78	64								
	3	60	49	64	56	63	54	72	59	57	47	62	54	61	52	69	56								
45	1	85	76	88	78	88	76	101	83	83	73	86	76	85	73	96	79								
	2	76	65	78	67	75	62	82	67	73	62	75	64	72	59	78	64								
	3	60	49	67	59	66	54	72	59	57	47	65	56	63	52	69	56								
50	1	84	74	87	77	86	75	100	83	81	72	84	75	84	73	96	79								
	2	74	65	76	67	75	62	82	67	72	62	74	64	72	59	78	64								
	3	60	49	66	58	65	54	72	59	57	47	64	56	63	52	69	56								
60	1	80	72	83	75	84	74	95	83	78	70	81	72	81	71	95	79								
	2	72	63	74	65	73	62	82	67	70	61	72	63	70	59	78	64								
	3	60	49	64	56	63	54	72	59	57	47	62	54	61	52	69	56								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	92	88	94	91	84	84	91	91	92	87	94	90	84	84	91	91	91	86	94	88	84	84	91	91
	2	88	82	90	84	84	84	91	91	87	81	89	83	84	84	91	91	86	79	88	81	84	83	91	91
	3	75	70	78	73	81	75	91	91	74	69	77	71	80	73	91	91	73	68	76	70	78	71	91	89
80	1	86	84	89	87	80	80	88	88	86	83	89	86	80	80	88	88	86	82	89	85	80	80	88	88
	2	84	79	87	81	80	80	88	88	83	78	85	80	80	80	88	88	82	77	84	79	80	80	88	88
	3	72	68	74	70	78	72	88	88	71	66	73	69	77	71	88	88	70	65	72	68	75	69	88	87
90	1	82	81	84	83	78	78	85	85	82	80	84	83	78	78	85	85	82	79	84	82	78	78	85	85
	2	81	76	83	78	78	78	85	85	80	75	82	77	78	78	85	85	79	74	81	76	78	78	85	85
	3	69	65	71	67	75	70	85	85	68	64	70	66	74	68	85	85	67	63	69	65	73	67	85	85
70	1	90	85	93	87	84	84	91	91	89	83	92	86	84	84	91	91	89	83	92	86	84	84	91	91
	2	85	78	87	80	84	81	91	91	83	77	86	79	84	79	91	91	83	77	86	79	84	79	91	91
	3	72	67	75	69	77	70	91	87	71	66	74	68	76	69	91	84	71	66	74	68	76	69	91	84
80	1	86	81	89	84	80	80	88	88	85	80	88	83	80	80	88	88	85	80	88	83	80	80	88	88
	2	81	75	83	77	80	79	88	88	80	74	82	76	80	77	88	88	80	74	82	76	80	77	88	88
	3	69	64	71	66	74	68	88	85	68	63	71	65	73	67	88	83	68	63	71	65	73	67	88	83
90	1	82	78	84	81	78	78	85	85	82	77	84	80	78	78	85	85	82	77	84	80	78	78	85	85
	2	78	73	80	75	78	77	85	85	77	72	79	74	78	75	85	85	77	72	79	74	78	75	85	85
	3	67	62	69	64	72	66	85	83	66	61	68	63	71	65	85	81	66	61	68	63	71	65	85	81
70	1	88	82	91	85	84	84	91	91	89	83	92	86	84	84	91	91	89	83	92	86	84	84	91	91
	2	82	75	84	77	84	78	91	91	83	77	86	79	84	79	91	91	83	77	86	79	84	79	91	91
	3	70	64	73	67	75	67	91	82	71	66	74	68	76	69	91	84	71	66	74	68	76	69	91	84
80	1	84	79	87	82	80	80	88	88	85	80	88	83	80	80	88	88	85	80	88	83	80	80	88	88
	2	79	73	81	75	80	76	88	88	80	74	82	76	80	77	88	88	80	74	82	76	80	77	88	88
	3	67	62	70	64	72	65	88	81	68	63	71	65	73	67	88	83	68	63	71	65	73	67	88	83
90	1	81	76	83	79	78	78	85	85	82	77	84	80	78	78	85	85	82	77	84	80	78	78	85	85
	2	76	71	78	73	78	74	85	85	77	72	79	74	78	75	85	85	77	72	79	74	78	75	85	85
	3	65	60	67	62	70	64	85	79	66	61	68	63	71	65	85	81	66	61	68	63	71	65	85	81

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	87	81	90	84	84	84	91	91	85	79	88	81	84	82	91	91	83	76	86	79	84	80	91	91	
	2	81	74	83	76	84	76	91	90	79	71	81	73	82	73	91	85	76	69	78	71	79	70	91	79	
	3	69	63	72	65	73	66	91	80	67	61	70	63	71	63	88	75	65	59	68	61	68	61	84	70	
	80	1	83	78	86	81	80	80	88	88	82	76	84	78	80	80	88	88	80	74	83	76	80	77	88	88
		2	78	72	80	73	80	74	88	88	76	69	78	71	80	71	88	85	74	67	76	69	77	68	88	79
		3	67	61	69	63	71	64	88	79	65	59	67	61	69	62	86	75	63	57	65	59	66	59	82	70
	90	1	80	75	83	78	78	78	85	85	79	73	81	76	78	78	85	85	77	72	80	74	78	75	85	85
		2	75	69	77	71	78	72	85	85	73	67	75	69	77	70	85	84	72	65	74	67	75	67	85	79
		3	64	59	66	61	69	62	85	77	63	57	65	59	67	60	84	74	61	56	63	58	65	58	81	70
70	1	81	74	84	77	84	77	91	91	79	72	82	75	83	74	91	87									
	2	74	66	76	68	76	67	91	75	72	64	74	66	74	64	86	71									
	3	63	55	66	59	66	58	80	66	62	52	64	57	64	56	76	62									
	80	1	78	72	81	74	80	75	88	88	77	70	79	72	80	73	88	87								
		2	72	65	74	66	74	66	88	75	70	62	72	64	72	63	86	71								
		3	61	55	64	57	64	57	79	66	60	52	62	56	62	55	76	62								
	90	1	76	70	78	72	78	73	85	85	74	68	76	70	78	71	85	85								
		2	70	63	72	65	73	64	85	75	68	61	70	63	70	62	85	71								
		3	60	54	62	56	63	56	78	66	58	52	60	54	61	54	75	62								
70	1	77	70	80	72	81	72	91	83	76	68	78	70	79	69	91	79									
	2	70	62	72	63	71	62	82	67	68	60	70	61	69	59	78	64									
	3	60	49	62	55	62	54	72	59	57	47	60	53	60	52	69	56									
	80	1	75	68	77	70	79	70	88	83	73	66	76	68	77	68	88	79								
		2	68	60	70	62	70	61	82	67	66	58	68	60	67	59	78	64								
		3	58	49	60	54	60	53	72	59	57	47	59	52	58	51	69	56								
	90	1	72	66	75	68	77	69	85	83	71	64	73	67	75	67	85	79								
		2	66	59	68	61	68	60	82	67	64	57	66	59	66	58	78	64								
		3	57	49	59	53	59	52	72	59	55	47	57	51	57	50	69	56								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	78	78	80	80	75	75	82	82	78	77	80	80	75	75	82	82	78	76	80	79	75	75	82	82
	2	78	74	80	76	75	75	82	82	77	73	79	75	75	75	82	82	76	72	78	74	75	75	82	82
	3	66	63	68	65	72	68	82	82	66	62	68	64	71	66	82	82	65	61	67	63	70	65	82	82
Wind Speed [mph]		110								115															
100	1	78	76	80	78	75	75	82	82	78	75	80	77	75	75	82	82								
	2	76	71	78	73	75	75	82	82	75	70	77	72	75	73	82	82								
	3	64	60	66	62	70	64	82	82	64	59	65	61	69	63	82	80								
Wind Speed [mph]		120								130															
100	1	78	74	80	76	75	75	82	82	78	75	80	77	75	75	82	82								
	2	74	69	76	70	75	72	82	82	75	70	77	72	75	73	82	82								
	3	63	58	65	60	68	62	82	78	64	59	65	61	69	63	82	80								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	77	73	80	75	75	75	82	82	76	71	78	74	75	75	82	82	75	70	77	72	75	74	82	82
	2	73	68	75	69	75	71	82	82	71	66	73	67	75	68	82	82	70	64	71	65	73	66	82	79
	3	62	58	64	60	67	61	82	76	61	56	63	58	65	59	82	73	59	54	61	56	63	57	80	69
Wind Speed [mph]		170								180															
100	1	73	68	75	70	75	71	82	82	72	66	74	68	75	69	82	82								
	2	68	62	70	63	71	63	82	75	66	60	68	61	69	61	82	71								
	3	58	53	60	55	61	55	77	66	56	51	58	53	59	53	74	62								
Wind Speed [mph]		190								200															
100	1	70	65	73	67	75	67	82	82	69	63	71	65	73	65	82	79								
	2	65	58	66	60	67	59	81	67	63	56	65	58	65	57	78	64								
	3	55	49	57	51	58	51	71	59	54	47	56	50	56	49	68	56								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	133	114	136	119	130	111	138	121	129	110	133	114	127	107	135	116	126	106	129	110	123	102	131	112	
	2	114	95	117	98	110	91	119	99	110	91	113	94	105	87	114	95	106	88	108	90	101	84	110	91	
	3	91	74	104	87	97	80	106	87	87	71	100	83	93	77	101	84	83	68	96	80	90	74	98	80	
	5	1	133	114	136	119	130	111	138	121	129	110	133	114	127	107	135	116	126	106	129	110	123	102	131	112
		2	114	95	117	98	110	91	119	99	110	91	113	94	105	87	114	95	106	88	108	90	101	84	110	91
		3	91	74	104	87	97	80	106	87	87	71	100	83	93	77	101	84	83	68	96	80	90	74	98	80
	10	1	129	114	132	119	130	111	138	121	127	110	130	114	127	107	135	116	124	106	128	110	123	102	131	112
		2	114	95	117	98	110	91	119	99	110	91	113	94	105	87	114	95	106	88	108	90	101	84	110	91
		3	91	74	104	87	97	80	106	87	87	71	100	83	93	77	101	84	83	68	96	80	90	74	98	80
0	1	122	102	126	106	119	99	128	107	118	98	123	102	115	95	125	104									
	2	102	84	105	87	97	80	106	87	98	81	101	84	94	78	102	84									
	3	80	65	93	77	86	71	94	77	77	62	90	74	83	68	90	74									
	5	1	122	102	126	106	119	99	128	107	118	98	123	102	115	95	125	104								
		2	102	84	105	87	97	80	106	87	98	81	101	84	94	78	102	84								
		3	80	65	93	77	86	71	94	77	77	62	90	74	83	68	90	74								
	10	1	121	102	126	106	119	99	128	107	118	98	122	102	115	95	125	104								
		2	102	84	105	87	97	80	106	87	98	81	101	84	94	78	102	84								
		3	80	65	93	77	86	71	94	77	77	62	90	74	83	68	90	74								
0	1	114	95	119	99	111	92	121	100	118	98	123	102	115	95	125	104									
	2	95	78	97	81	91	75	99	81	98	81	101	84	94	78	102	84									
	3	74	60	86	71	80	66	87	72	77	62	90	74	83	68	90	74									
	5	1	114	95	119	99	111	92	121	100	118	98	123	102	115	95	125	104								
		2	95	78	97	81	91	75	99	81	98	81	101	84	94	78	102	84								
		3	74	60	86	71	80	66	87	72	77	62	90	74	83	68	90	74								
	10	1	114	95	119	99	111	92	121	100	118	98	122	102	115	95	125	104								
		2	95	78	97	81	91	75	99	81	98	81	101	84	94	78	102	84								
		3	74	60	86	71	80	66	87	72	77	62	90	74	83	68	90	74								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	110	92	115	96	107	89	117	97	104	86	108	90	101	83	109	90	98	81	102	84	95	78	103	85	
	2	92	76	94	78	88	72	95	78	86	71	88	73	82	68	89	73	81	67	83	68	77	63	84	69	
	3	71	58	83	69	77	64	84	69	66	54	78	64	72	59	79	65	62	50	74	60	68	56	74	61	
	5	1	110	92	115	96	107	89	117	97	104	86	108	90	101	83	109	90	98	81	102	84	95	78	103	85
		2	92	76	94	78	88	72	95	78	86	71	88	73	82	68	89	73	81	67	83	68	77	63	84	69
		3	71	58	83	69	77	64	84	69	66	54	78	64	72	59	79	65	62	50	74	60	68	56	74	61
	10	1	110	92	115	96	107	89	117	97	104	86	108	90	101	83	109	90	98	81	102	84	95	78	103	85
		2	92	76	94	78	88	72	95	78	86	71	88	73	82	68	89	73	81	67	83	68	77	63	84	69
		3	71	58	83	69	77	64	84	69	66	54	78	64	72	59	79	65	62	50	74	60	68	56	74	61
0	1	92	76	96	80	89	74	97	80	88	72	91	75	85	70	92	76									
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61									
	3	58	47	69	57	64	53	70	57	55	45	66	54	61	50	66	54									
	5	1	92	76	96	80	89	74	97	80	88	72	91	75	85	70	92	76								
		2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61								
		3	58	47	69	57	64	53	70	57	55	45	66	54	61	50	66	54								
	10	1	92	76	96	80	89	74	97	80	88	72	91	75	85	70	92	76								
		2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61								
		3	58	47	69	57	64	53	70	57	55	45	66	54	61	50	66	54								
0	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68									
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55									
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49									
	5	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68								
		2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
		3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								
	10	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68								
		2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
		3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								
0	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68									
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55									
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49									
	5	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68								
		2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
		3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								
	10	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68								
		2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
		3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								
0	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68									
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55									
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49									
	5	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68								
		2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
		3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								
	10	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68								
		2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
		3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	123	110	127	114	128	111	131	121	120	107	124	111	127	107	131	116	118	104	122	108	123	102	131	112	
	2	110	95	113	98	110	91	119	99	107	91	110	94	105	87	114	95	104	88	107	90	101	84	110	91	
	3	91	74	99	86	97	80	106	87	87	71	96	83	93	77	101	84	83	68	94	80	90	74	98	80	
	20	1	117	105	120	109	120	111	124	121	114	102	118	106	120	107	124	116	112	100	116	103	120	102	124	112
		2	105	93	108	95	110	91	119	99	102	90	105	92	105	87	114	95	100	87	102	90	101	84	110	91
		3	91	74	94	83	97	80	106	87	87	71	92	81	93	77	101	84	83	68	90	79	90	74	98	80
	25	1	117	105	120	109	113	108	118	118	114	102	118	106	113	105	118	116	112	100	116	103	113	102	118	112
		2	105	93	108	95	107	91	118	99	102	90	105	92	104	87	114	95	100	87	102	90	101	84	110	91
		3	91	74	94	83	94	80	106	87	87	71	92	81	91	77	101	84	83	68	90	79	89	74	98	80
15	1	115	101	119	105	119	99	128	107	112	98	116	102	115	95	125	104									
	2	101	84	104	87	97	80	106	87	98	81	101	84	94	78	102	84									
	3	80	65	91	77	86	71	94	77	77	62	89	74	83	68	90	74									
	20	1	109	97	113	101	117	99	124	107	107	95	111	98	114	95	124	104								
		2	97	84	100	87	97	80	106	87	95	81	97	84	94	78	102	84								
		3	80	65	87	76	86	71	94	77	77	62	85	74	83	68	90	74								
	25	1	109	97	113	101	113	99	118	107	107	95	111	98	111	95	118	104								
		2	97	84	100	87	97	80	106	87	95	81	97	84	94	78	102	84								
		3	80	65	87	76	86	71	94	77	77	62	85	74	83	68	90	74								
15	1	110	95	114	99	111	92	121	100	112	98	116	102	115	95	125	104									
	2	95	78	97	81	91	75	99	81	98	81	101	84	94	78	102	84									
	3	74	60	86	71	80	66	87	72	77	62	89	74	83	68	90	74									
	20	1	105	93	109	96	111	92	121	100	107	95	111	98	114	95	124	104								
		2	93	78	95	81	91	75	99	81	95	81	97	84	94	78	102	84								
		3	74	60	83	71	80	66	87	72	77	62	85	74	83	68	90	74								
	25	1	105	93	109	96	108	92	118	100	107	95	111	98	111	95	118	104								
		2	93	78	95	81	91	75	99	81	95	81	97	84	94	78	102	84								
		3	74	60	83	71	80	66	87	72	77	62	85	74	83	68	90	74								
15	1	110	95	114	99	111	92	121	100	112	98	116	102	115	95	125	104									
	2	95	78	97	81	91	75	99	81	98	81	101	84	94	78	102	84									
	3	74	60	86	71	80	66	87	72	77	62	89	74	83	68	90	74									
	20	1	105	93	109	96	111	92	121	100	107	95	111	98	114	95	124	104								
		2	93	78	95	81	91	75	99	81	95	81	97	84	94	78	102	84								
		3	74	60	83	71	80	66	87	72	77	62	85	74	83	68	90	74								
	25	1	105	93	109	96	108	92	118	100	107	95	111	98	111	95	118	104								
		2	93	78	95	81	91	75	99	81	95	81	97	84	94	78	102	84								
		3	74	60	83	71	80	66	87	72	77	62	85	74	83	68	90	74								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	107	92	111	96	107	89	117	97	102	86	106	90	101	83	109	90	98	81	102	84	95	78	103	85
	2	92	76	94	78	88	72	95	78	86	71	88	73	82	68	89	73	81	67	83	68	77	63	84	69
	3	71	58	83	69	77	64	84	69	66	54	78	64	72	59	79	65	62	50	74	60	68	56	74	61
	1	103	90	106	94	107	89	117	97	99	86	102	89	101	83	109	90	95	81	98	84	95	78	103	85
	2	90	76	93	78	88	72	95	78	86	71	88	73	82	68	89	73	81	67	83	68	77	63	84	69
	3	71	58	81	69	77	64	84	69	66	54	77	64	72	59	79	65	62	50	74	60	68	56	74	61
	1	103	90	106	94	106	89	117	97	99	86	102	89	101	83	109	90	95	81	98	84	95	78	103	85
	2	90	76	93	78	88	72	95	78	86	71	88	73	82	68	89	73	81	67	83	68	77	63	84	69
	3	71	58	81	69	77	64	84	69	66	54	77	64	72	59	79	65	62	50	74	60	68	56	74	61
20	1	92	76	96	80	89	74	97	80	88	72	91	75	85	70	92	76	88	72	91	75	85	70	92	76
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61	72	59	74	61	69	56	75	61
	3	58	47	69	57	64	53	70	57	55	45	66	54	61	50	66	54	55	45	66	54	61	50	66	54
	1	91	76	94	80	89	74	97	80	87	72	91	75	85	70	92	76	87	72	91	75	85	70	92	76
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61	72	59	74	61	69	56	75	61
	3	58	47	69	57	64	53	70	57	55	45	66	54	61	50	66	54	55	45	66	54	61	50	66	54
	1	91	76	94	80	89	74	97	80	87	72	91	75	85	70	92	76	87	72	91	75	85	70	92	76
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61	72	59	74	61	69	56	75	61
	3	58	47	69	57	64	53	70	57	55	45	66	54	61	50	66	54	55	45	66	54	61	50	66	54
25	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68	79	65	83	68	77	63	83	68
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55	65	54	67	55	62	51	67	55
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49	49	40	59	49	55	45	59	49
	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68	79	65	83	68	77	63	83	68
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55	65	54	67	55	62	51	67	55
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49	49	40	59	49	55	45	59	49
	1	83	69	87	72	80	66	88	72	79	65	83	68	77	63	83	68	79	65	83	68	77	63	83	68
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55	65	54	67	55	62	51	67	55
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49	49	40	59	49	55	45	59	49

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	113	103	117	106	107	106	114	114	111	100	115	104	107	103	114	114	109	98	113	101	107	100	114	112	
	2	103	91	105	94	105	91	114	99	100	89	103	91	102	87	114	95	98	86	100	88	99	84	110	91	
	3	89	74	92	82	91	80	106	87	87	71	90	79	89	77	101	84	83	68	88	77	86	74	98	80	
	35	1	109	100	113	103	103	103	110	110	107	97	111	101	103	100	110	110	105	95	109	98	103	98	110	110
		2	100	89	102	91	102	90	110	99	97	87	100	89	100	87	110	95	95	84	98	87	97	84	110	91
		3	86	74	89	80	89	78	106	87	84	71	87	77	87	76	101	84	82	68	85	75	84	74	98	80
	40	1	106	97	109	100	99	99	106	106	104	95	107	98	99	98	106	106	102	93	105	96	99	96	106	106
		2	97	87	99	89	99	88	106	99	95	85	97	87	97	86	106	95	93	83	95	85	95	83	106	91
		3	83	74	86	78	87	77	106	87	82	71	84	76	85	75	101	84	80	68	83	74	83	72	98	80
Wind Speed [mph]		110								115																
30	1	107	95	110	99	107	97	114	107	105	93	108	97	107	95	114	104									
	2	95	84	98	86	96	80	106	87	93	81	96	84	94	78	102	84									
	3	80	65	85	75	84	71	94	77	77	62	83	73	82	68	90	74									
	35	1	103	93	107	96	103	95	110	107	101	91	105	94	103	93	110	104								
		2	93	82	95	84	94	80	106	87	91	80	93	82	92	78	102	84								
		3	80	65	83	73	82	71	94	77	77	62	81	72	80	68	90	74								
	40	1	100	91	104	94	99	93	106	106	98	89	102	92	99	91	106	104								
		2	91	80	93	83	93	80	106	87	89	78	91	81	90	78	102	84								
		3	78	65	81	72	81	70	94	77	76	62	79	70	79	68	90	74								
Wind Speed [mph]		120								130																
30	1	103	91	106	94	105	92	114	100	105	93	108	97	107	95	114	104									
	2	91	78	93	81	91	75	99	81	93	81	96	84	94	78	102	84									
	3	74	60	82	71	80	66	87	72	77	62	83	73	82	68	90	74									
	35	1	100	89	103	92	103	90	110	100	101	91	105	94	103	93	110	104								
		2	89	78	91	80	90	75	99	81	91	80	93	82	92	78	102	84								
		3	74	60	79	70	78	66	87	72	77	62	81	72	80	68	90	74								
	40	1	97	87	100	90	99	89	106	100	98	89	102	92	99	91	106	104								
		2	87	76	89	79	88	75	99	81	89	78	91	81	90	78	102	84								
		3	74	60	78	68	77	66	87	72	76	62	79	70	79	68	90	74								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	101	89	104	92	103	89	114	97	97	85	100	88	99	83	109	90	93	81	96	84	94	78	103	85
	2	89	76	91	78	88	72	95	78	85	71	87	73	82	68	89	73	81	67	83	68	77	63	84	69
	3	71	58	80	69	77	64	84	69	66	54	76	64	72	59	79	65	62	50	73	60	68	56	74	61
	1	98	87	101	90	101	88	110	97	94	83	97	86	96	83	109	90	91	80	94	83	92	78	103	85
	2	87	76	89	78	87	72	95	78	83	71	85	73	82	68	89	73	80	67	82	68	77	63	84	69
	3	71	58	78	68	76	64	84	69	66	54	74	64	72	59	79	65	62	50	71	60	68	56	74	61
	1	95	85	98	88	99	87	106	97	92	81	95	84	95	83	106	90	89	78	92	81	91	78	103	85
	2	85	75	87	77	86	72	95	78	81	71	84	73	82	68	89	73	78	67	80	68	77	63	84	69
	3	71	58	76	67	75	64	84	69	66	54	73	64	71	59	79	65	62	50	70	60	68	56	74	61
35	1	89	76	93	80	89	74	97	80	86	72	89	75	85	70	92	76								
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61								
	3	58	47	69	57	64	53	70	57	55	45	66	54	61	50	66	54								
	1	87	76	91	79	89	74	97	80	84	72	87	75	85	70	92	76								
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	56	75	61								
	3	58	47	68	57	64	53	70	57	55	45	66	54	61	50	66	54								
	1	85	75	89	78	87	74	97	80	83	72	86	75	84	70	92	76								
	2	75	63	77	65	73	60	79	65	72	59	74	61	69	56	75	61								
	3	58	47	67	57	64	53	70	57	55	45	65	54	61	50	66	54								
40	1	83	69	86	72	80	66	88	72	79	65	83	68	77	63	83	68								
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								
	1	81	69	84	72	80	66	88	72	78	65	81	68	77	63	83	68								
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								
	1	80	69	83	72	80	66	88	72	77	65	80	68	77	63	83	68								
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	67	55								
	3	52	42	62	51	57	47	63	51	49	40	59	49	55	45	59	49								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	102	94	106	97	96	96	103	103	101	92	104	95	96	96	103	103	99	90	102	94	96	94	103	103
	2	94	85	97	87	96	87	103	99	92	83	95	85	95	84	103	95	90	81	93	83	93	82	103	91
	3	81	73	84	76	85	75	103	87	79	71	82	74	83	73	101	84	78	68	80	72	81	71	98	80
50	1	99	92	102	95	93	93	100	100	98	90	101	93	93	93	100	100	96	88	99	91	93	92	100	100
	2	92	83	94	86	93	85	100	99	90	81	93	84	93	83	100	95	88	79	91	82	91	81	100	91
	3	79	72	82	74	83	74	100	87	77	70	80	72	81	72	100	84	76	68	78	71	79	70	97	80
60	1	94	88	97	91	88	88	95	95	93	86	96	89	88	88	95	95	91	85	94	87	88	88	95	95
	2	88	80	90	82	88	83	95	95	86	78	88	80	88	80	95	95	85	77	87	79	88	78	95	91
	3	75	69	78	71	80	72	95	87	74	67	76	70	78	70	95	84	72	66	75	68	76	68	94	80
Wind Speed [mph]		110								115															
45	1	97	89	101	92	96	92	103	103	96	87	99	90	96	89	103	103								
	2	89	79	91	81	91	80	103	87	87	77	89	79	89	77	102	84								
	3	76	65	79	70	79	69	94	77	75	62	77	69	77	67	90	74								
50	1	95	87	98	90	93	90	100	100	93	85	96	88	93	88	100	100								
	2	87	78	89	80	89	78	100	87	85	76	87	78	87	76	100	84								
	3	74	65	77	69	77	68	94	77	73	62	76	68	76	66	90	74								
60	1	90	83	93	86	88	87	95	95	89	82	92	84	88	85	95	95								
	2	83	75	85	77	86	76	95	87	82	73	84	75	84	74	95	84								
	3	71	64	74	67	75	66	92	77	70	62	72	65	73	65	89	74								
Wind Speed [mph]		120								130															
45	1	94	85	97	88	96	87	103	100	96	87	99	90	96	89	103	103								
	2	85	75	87	77	87	75	99	81	87	77	89	79	89	77	102	84								
	3	73	60	76	67	75	66	87	72	75	62	77	69	77	67	90	74								
50	1	92	83	95	86	93	86	100	100	93	85	96	88	93	88	100	100								
	2	83	74	85	76	85	74	99	81	85	76	87	78	87	76	100	84								
	3	72	60	74	66	74	65	87	72	73	62	76	68	76	66	90	74								
60	1	88	80	90	83	88	83	95	95	89	82	92	84	88	85	95	95								
	2	80	72	82	74	83	73	95	81	82	73	84	75	84	74	95	84								
	3	69	60	71	64	71	63	87	72	70	62	72	65	73	65	89	74								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	93	83	96	86	96	85	103	97	90	80	93	83	93	81	103	90	87	77	90	80	89	78	103	85
	2	83	73	86	75	85	72	95	78	80	70	82	72	81	68	89	73	77	67	79	68	77	63	84	69
	3	71	58	74	66	74	64	84	69	66	54	71	63	70	59	79	65	62	50	69	60	67	56	74	61
50	1	90	82	93	85	93	84	100	97	87	78	90	81	91	80	100	90	85	75	88	78	88	77	100	85
	2	82	72	84	74	83	72	95	78	78	69	81	71	80	68	89	73	75	66	78	68	76	63	84	69
	3	70	58	73	64	72	63	84	69	66	54	70	62	69	59	79	65	62	50	67	59	66	56	74	61
60	1	86	79	89	81	88	81	95	95	84	76	87	78	88	78	95	90	81	73	84	76	85	75	95	85
	2	79	70	81	72	81	71	95	78	76	67	78	69	77	67	89	73	73	64	75	66	74	63	84	69
	3	67	58	70	62	70	61	84	69	65	54	67	60	67	59	79	65	62	50	65	57	64	56	74	61
45	1	84	74	87	77	86	74	97	80	81	71	84	74	83	70	92	76	81	71	84	74	83	70	92	76
	2	74	63	76	65	73	60	79	65	71	59	73	61	69	56	75	61	71	59	73	61	69	56	75	61
	3	58	47	66	57	64	53	70	57	55	45	63	54	61	50	66	54	55	45	63	54	61	50	66	54
50	1	82	73	85	75	84	74	97	80	79	70	82	73	81	70	92	76	79	70	82	73	81	70	92	76
	2	73	63	75	65	73	60	79	65	70	59	72	61	69	56	75	61	70	59	72	61	69	56	75	61
	3	58	47	65	56	63	53	70	57	55	45	62	54	61	50	66	54	55	45	62	54	61	50	66	54
60	1	79	70	82	73	82	72	95	80	77	68	79	71	79	69	92	76	77	68	79	71	79	69	92	76
	2	70	62	72	63	71	60	79	65	68	59	70	61	68	56	75	61	68	59	70	61	68	56	75	61
	3	58	47	63	55	62	53	70	57	55	45	61	53	59	50	66	54	55	45	61	53	59	50	66	54
45	1	78	68	81	71	80	66	88	72	76	65	79	68	77	63	83	68	76	65	79	68	77	63	83	68
	2	68	56	70	58	65	54	71	58	65	54	67	55	62	51	67	55	65	54	67	55	62	51	67	55
	3	52	42	61	51	57	47	63	51	49	40	59	49	55	45	59	49	49	40	59	49	55	45	59	49
50	1	77	67	80	70	78	66	88	72	74	65	77	67	76	63	83	68	74	65	77	67	76	63	83	68
	2	67	56	69	58	65	54	71	58	65	54	67	55	62	51	67	55	65	54	67	55	62	51	67	55
	3	52	42	60	51	57	47	63	51	49	40	58	49	55	45	59	49	49	40	58	49	55	45	59	49
60	1	74	66	77	68	76	66	88	72	72	63	75	66	74	63	83	68	72	63	75	66	74	63	83	68
	2	66	56	67	58	65	54	71	58	63	54	65	55	62	51	67	55	63	54	65	55	62	51	67	55
	3	52	42	59	51	57	47	63	51	49	40	57	49	55	45	59	49	49	40	57	49	55	45	59	49

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	90	84	92	87	84	84	91	91	88	83	91	85	84	84	91	91	87	81	90	84	84	84	91	91	
	2	84	77	86	79	84	80	91	91	83	76	85	78	84	78	91	91	81	74	83	76	84	76	91	91	
	3	72	66	74	68	76	69	91	85	71	65	73	67	75	68	91	83	69	63	72	66	73	66	91	80	
	80	1	86	81	88	83	80	80	88	88	85	79	87	82	80	80	88	88	84	78	86	81	80	80	88	88
		2	81	75	83	77	80	78	88	88	79	73	82	75	80	76	88	88	78	72	80	74	80	74	88	88
		3	69	64	71	66	74	67	88	84	68	63	70	65	72	66	88	81	67	61	69	64	71	64	88	79
	90	1	82	78	84	80	78	78	85	85	81	77	84	79	78	78	85	85	80	76	83	78	78	78	85	85
		2	78	72	80	74	78	76	85	85	77	71	79	73	78	74	85	85	76	70	78	72	78	73	85	85
		3	66	62	68	64	71	65	85	82	65	61	67	63	70	64	85	80	64	60	66	62	69	63	85	78
Wind Speed [mph]		110								115																
70	1	86	80	89	83	84	84	91	91	85	79	88	81	84	82	91	91									
	2	80	73	82	75	83	74	91	87	79	71	81	73	82	73	91	84									
	3	68	62	71	64	72	64	90	77	67	61	69	63	71	63	87	74									
	80	1	83	77	85	80	80	80	88	88	82	76	84	78	80	80	88	88								
		2	77	70	79	72	80	73	88	87	76	69	78	71	79	71	88	84								
		3	66	60	68	62	70	63	88	77	65	59	67	61	68	61	86	74								
	90	1	79	74	82	77	78	78	85	85	79	73	81	76	78	78	85	85								
		2	74	68	76	70	78	71	85	85	73	67	75	69	77	69	85	84								
		3	63	58	66	60	68	61	85	76	63	57	65	59	66	60	84	73								
Wind Speed [mph]		120								130																
70	1	84	77	87	80	84	81	91	91	85	79	88	81	84	82	91	91									
	2	77	70	79	71	80	71	91	81	79	71	81	73	82	73	91	84									
	3	66	60	68	62	69	61	85	72	67	61	69	63	71	63	87	74									
	80	1	81	75	83	77	80	78	88	88	82	76	84	78	80	80	88	88								
		2	75	68	77	70	78	69	88	81	76	69	78	71	79	71	88	84								
		3	64	58	66	60	67	60	84	72	65	59	67	61	68	61	86	74								
	90	1	78	72	80	75	78	76	85	85	79	73	81	76	78	78	85	85								
		2	72	66	74	68	76	68	85	81	73	67	75	69	77	69	85	84								
		3	62	56	64	58	65	59	82	72	63	57	65	59	66	60	84	73								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	83	76	85	78	84	79	91	91	81	73	83	76	84	76	91	90	78	71	81	73	82	73	91	85
	2	76	68	78	70	78	69	91	78	73	65	75	67	75	66	89	73	71	63	73	65	72	63	84	69
	3	65	58	67	61	68	60	83	69	63	54	65	58	65	57	79	65	61	50	63	56	63	55	74	61
80	1	80	73	82	76	80	77	88	88	78	71	80	74	80	74	88	88	76	69	78	71	80	71	88	85
	2	73	66	75	68	76	68	88	78	71	64	73	66	74	65	88	73	69	61	71	63	71	62	84	69
	3	63	57	65	59	66	59	82	69	61	54	63	57	64	56	78	65	59	50	61	55	61	54	74	61
90	1	77	71	79	74	78	75	85	85	75	69	77	71	78	72	85	85	73	67	76	69	78	70	85	85
	2	71	65	73	66	74	66	85	78	69	62	71	64	72	64	85	73	67	60	69	62	69	61	84	69
	3	61	55	63	57	64	57	80	69	59	53	61	55	62	55	77	65	57	50	59	53	60	53	73	61
70	1	76	68	79	71	79	70	91	80	74	66	77	69	77	68	91	76								
	2	68	60	70	62	70	60	79	65	66	58	68	60	67	56	75	61								
	3	58	47	61	54	60	52	70	57	55	45	59	52	58	50	66	54								
80	1	74	67	76	69	77	69	88	80	72	65	74	67	75	66	88	76								
	2	67	59	68	61	68	59	79	65	65	57	66	58	66	56	75	61								
	3	57	47	59	53	59	52	70	57	55	45	57	51	57	49	66	54								
90	1	71	65	74	67	75	67	85	80	70	63	72	65	73	65	85	76								
	2	65	58	67	59	67	58	79	65	63	56	65	57	64	56	75	61								
	3	56	47	58	51	58	51	70	57	54	45	56	50	56	49	66	54								
70	1	76	68	79	71	79	70	91	80	74	66	77	69	77	68	91	76								
	2	68	60	70	62	70	60	79	65	66	58	68	60	67	56	75	61								
	3	58	47	61	54	60	52	70	57	55	45	59	52	58	50	66	54								
80	1	74	67	76	69	77	69	88	80	72	65	74	67	75	66	88	76								
	2	67	59	68	61	68	59	79	65	65	57	66	58	66	56	75	61								
	3	57	47	59	53	59	52	70	57	55	45	57	51	57	49	66	54								
90	1	71	65	74	67	75	67	85	80	70	63	72	65	73	65	85	76								
	2	65	58	67	59	67	58	79	65	63	56	65	57	64	56	75	61								
	3	56	47	58	51	58	51	70	57	54	45	56	50	56	49	66	54								
70	1	72	64	75	66	74	65	88	72	70	62	73	64	72	63	83	68								
	2	64	56	66	57	65	54	71	58	62	54	64	55	62	51	67	55								
	3	52	42	57	50	56	47	63	51	49	40	55	48	54	45	59	49								
80	1	70	63	72	65	73	64	88	72	68	61	71	63	70	62	83	68								
	2	63	55	64	56	63	54	71	58	61	53	62	54	61	51	67	55								
	3	52	42	56	49	55	47	63	51	49	40	54	47	53	45	59	49								
90	1	68	61	70	63	71	63	85	72	66	59	69	61	69	61	83	68								
	2	61	54	63	55	62	54	71	58	59	52	61	53	60	51	67	55								
	3	52	42	54	48	54	47	63	51	49	40	53	46	52	45	59	49								
70	1	72	64	75	66	74	65	88	72	70	62	73	64	72	63	83	68								
	2	64	56	66	57	65	54	71	58	62	54	64	55	62	51	67	55								
	3	52	42	57	50	56	47	63	51	49	40	55	48	54	45	59	49								
80	1	70	63	72	65	73	64	88	72	68	61	71	63	70	62	83	68								
	2	63	55	64	56	63	54	71	58	61	53	62	54	61	51	67	55								
	3	52	42	56	49	55	47	63	51	49	40	54	47	53	45	59	49								
90	1	68	61	70	63	71	63	85	72	66	59	69	61	69	61	83	68								
	2	61	54	63	55	62	54	71	58	59	52	61	53	60	51	67	55								
	3	52	42	54	48	54	47	63	51	49	40	53	46	52	45	59	49								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	78	75	80	77	75	75	82	82	78	74	80	76	75	75	82	82	77	73	80	75	75	75	82	82
	2	75	70	77	72	75	74	82	82	74	69	76	71	75	72	82	82	73	68	75	70	75	71	82	82
	3	64	60	66	62	69	64	82	81	63	59	65	61	68	62	82	79	62	58	64	60	67	61	82	76
Wind Speed [mph]		110								115															
100	1	77	72	79	74	75	75	82	82	76	71	78	73	75	75	82	82								
	2	72	67	74	68	75	69	82	82	71	65	73	67	75	68	82	82								
	3	61	57	63	59	66	60	82	74	61	56	63	58	65	59	82	72								
Wind Speed [mph]		120								130															
100	1	75	70	77	72	75	74	82	82	76	71	78	73	75	75	82	82								
	2	70	64	72	66	74	67	82	81	71	65	73	67	75	68	82	82								
	3	60	55	62	57	64	57	81	71	61	56	63	58	65	59	82	72								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	74	69	77	71	75	73	82	82	73	67	75	69	75	71	82	82	71	65	73	68	75	68	82	82
	2	69	63	71	65	73	65	82	78	67	61	69	63	70	62	82	73	65	59	67	60	68	60	82	69
	3	59	54	61	56	63	56	79	69	57	52	59	54	60	54	75	65	56	50	58	52	58	52	72	61
Wind Speed [mph]		170								180															
100	1	69	63	72	66	73	66	82	80	68	62	70	64	71	64	82	76								
	2	63	57	65	58	65	58	79	65	62	55	63	56	63	55	75	61								
	3	54	47	56	50	57	50	69	57	53	45	55	49	55	48	66	54								
Wind Speed [mph]		190								200															
100	1	66	60	68	62	69	62	82	72	65	58	67	60	67	60	82	68								
	2	60	53	61	54	61	53	71	58	58	51	60	53	59	51	67	55								
	3	51	42	53	47	53	46	63	51	49	40	52	46	51	44	59	49								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	127	107	131	112	125	104	133	113	123	103	128	107	120	100	129	109	119	99	124	103	116	96	126	105	
	2	107	89	110	92	103	85	112	92	103	85	106	88	99	82	107	89	99	82	102	84	95	78	103	85	
	3	85	69	98	81	91	75	99	82	81	66	94	78	87	72	95	78	78	63	90	75	84	69	91	75	
	5	1	127	107	131	112	125	104	133	113	123	103	128	107	120	100	129	109	119	99	124	103	116	96	126	105
		2	107	89	110	92	103	85	112	92	103	85	106	88	99	82	107	89	99	82	102	84	95	78	103	85
		3	85	69	98	81	91	75	99	82	81	66	94	78	87	72	95	78	78	63	90	75	84	69	91	75
	10	1	126	107	129	112	125	104	133	113	122	103	126	107	120	100	129	109	119	99	123	103	116	96	126	105
		2	107	89	110	92	103	85	112	92	103	85	106	88	99	82	107	89	99	82	102	84	95	78	103	85
		3	85	69	98	81	91	75	99	82	81	66	94	78	87	72	95	78	78	63	90	75	84	69	91	75
0	1	115	95	119	99	111	92	121	101	111	92	115	96	108	89	117	97									
	2	95	79	98	81	91	75	99	82	92	76	95	78	88	73	96	79									
	3	74	60	87	72	81	66	88	72	71	58	84	69	78	64	85	69									
	5	1	115	95	119	99	111	92	121	101	111	92	115	96	108	89	117	97								
		2	95	79	98	81	91	75	99	82	92	76	95	78	88	73	96	79								
		3	74	60	87	72	81	66	88	72	71	58	84	69	78	64	85	69								
	10	1	115	95	119	99	111	92	121	101	111	92	115	96	108	89	117	97								
		2	95	79	98	81	91	75	99	82	92	76	95	78	88	73	96	79								
		3	74	60	87	72	81	66	88	72	71	58	84	69	78	64	85	69								
0	1	107	89	111	93	104	86	113	94	111	92	115	96	108	89	117	97									
	2	89	73	91	75	85	70	92	76	92	76	95	78	88	73	96	79									
	3	69	56	81	67	75	62	82	67	71	58	84	69	78	64	85	69									
	5	1	107	89	111	93	104	86	113	94	111	92	115	96	108	89	117	97								
		2	89	73	91	75	85	70	92	76	92	76	95	78	88	73	96	79								
		3	69	56	81	67	75	62	82	67	71	58	84	69	78	64	85	69								
	10	1	107	89	111	93	104	86	113	94	111	92	115	96	108	89	117	97								
		2	89	73	91	75	85	70	92	76	92	76	95	78	88	73	96	79								
		3	69	56	81	67	75	62	82	67	71	58	84	69	78	64	85	69								
0	1	107	89	111	93	104	86	113	94	111	92	115	96	108	89	117	97									
	2	89	73	91	75	85	70	92	76	92	76	95	78	88	73	96	79									
	3	69	56	81	67	75	62	82	67	71	58	84	69	78	64	85	69									
	5	1	107	89	111	93	104	86	113	94	111	92	115	96	108	89	117	97								
		2	89	73	91	75	85	70	92	76	92	76	95	78	88	73	96	79								
		3	69	56	81	67	75	62	82	67	71	58	84	69	78	64	85	69								
	10	1	107	89	111	93	104	86	113	94	111	92	115	96	108	89	117	97								
		2	89	73	91	75	85	70	92	76	92	76	95	78	88	73	96	79								
		3	69	56	81	67	75	62	82	67	71	58	84	69	78	64	85	69								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	104	86	108	90	100	83	109	90	97	80	101	84	94	78	103	85	92	76	95	79	89	73	97	80	
	2	86	71	88	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64	
	3	66	54	78	64	72	59	79	65	62	50	73	60	68	55	74	60	58	47	69	56	64	52	69	57	
	5	1	104	86	108	90	100	83	109	90	97	80	101	84	94	78	103	85	92	76	95	79	89	73	97	80
		2	86	71	88	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64
		3	66	54	78	64	72	59	79	65	62	50	73	60	68	55	74	60	58	47	69	56	64	52	69	57
	10	1	104	86	108	90	100	83	109	90	97	80	101	84	94	78	103	85	92	76	95	79	89	73	97	80
		2	86	71	88	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64
		3	66	54	78	64	72	59	79	65	62	50	73	60	68	55	74	60	58	47	69	56	64	52	69	57
0	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
	5	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57								
		3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50								
	10	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57								
		3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50								
0	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
	5	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57								
		3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50								
	10	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57								
		3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50								
0	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									
	5	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52								
		3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45								
	10	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52								
		3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45								
0	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									
	5	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52								
		3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45								
	10	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52								
		3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	119	105	123	109	125	104	133	113	116	102	120	106	120	100	129	109	113	99	117	103	116	96	126	105
	2	105	89	108	92	103	85	112	92	102	85	105	88	99	82	107	89	99	82	102	84	95	78	103	85
	3	85	69	95	81	91	75	99	82	81	66	92	78	87	72	95	78	78	63	89	75	84	69	91	75
	1	113	101	117	104	123	104	127	113	110	98	114	102	120	100	127	109	108	96	111	99	116	96	126	105
	2	101	88	104	91	103	85	112	92	98	85	101	88	99	82	107	89	96	82	98	84	95	78	103	85
	3	85	69	90	79	91	75	99	82	81	66	88	77	87	72	95	78	78	63	86	75	84	69	91	75
	1	113	101	117	104	116	104	122	113	110	98	114	102	116	100	122	109	108	96	111	99	113	96	122	105
	2	101	88	104	91	103	85	112	92	98	85	101	88	99	82	107	89	96	82	98	84	95	78	103	85
	3	85	69	90	79	91	75	99	82	81	66	88	77	87	72	95	78	78	63	86	75	84	69	91	75
20	1	110	95	114	99	111	92	121	101	107	92	111	96	108	89	117	97								
	2	95	79	98	81	91	75	99	82	92	76	95	78	88	73	96	79								
	3	74	60	87	72	81	66	88	72	71	58	84	69	78	64	85	69								
	1	105	93	109	97	111	92	121	101	103	91	107	94	108	89	117	97								
	2	93	79	96	81	91	75	99	82	91	76	93	78	88	73	96	79								
	3	74	60	84	72	81	66	88	72	71	58	81	69	78	64	85	69								
	1	105	93	109	97	110	92	121	101	103	91	107	94	107	89	117	97								
	2	93	79	96	81	91	75	99	82	91	76	93	78	88	73	96	79								
	3	74	60	84	72	81	66	88	72	71	58	81	69	78	64	85	69								
25	1	105	89	109	93	104	86	113	94	107	92	111	96	108	89	117	97								
	2	89	73	91	75	85	70	92	76	92	76	95	78	88	73	96	79								
	3	69	56	81	67	75	62	82	67	71	58	84	69	78	64	85	69								
	1	101	88	104	92	104	86	113	94	103	91	107	94	108	89	117	97								
	2	88	73	91	75	85	70	92	76	91	76	93	78	88	73	96	79								
	3	69	56	79	67	75	62	82	67	71	58	81	69	78	64	85	69								
	1	101	88	104	92	104	86	113	94	103	91	107	94	107	89	117	97								
	2	88	73	91	75	85	70	92	76	91	76	93	78	88	73	96	79								
	3	69	56	79	67	75	62	82	67	71	58	81	69	78	64	85	69								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	102	86	106	90	100	83	109	90	97	80	101	84	94	78	103	85	92	76	95	79	89	73	97	80
	2	86	71	88	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64
	3	66	54	78	64	72	59	79	65	62	50	73	60	68	55	74	60	58	47	69	56	64	52	69	57
	1	99	86	102	89	100	83	109	90	94	80	98	84	94	78	103	85	90	76	94	79	89	73	97	80
	2	86	71	88	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64
	3	66	54	77	64	72	59	79	65	62	50	73	60	68	55	74	60	58	47	69	56	64	52	69	57
	1	99	86	102	89	100	83	109	90	94	80	98	84	94	78	103	85	90	76	94	79	89	73	97	80
	2	86	71	88	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64
	3	66	54	77	64	72	59	79	65	62	50	73	60	68	55	74	60	58	47	69	56	64	52	69	57
20	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71	87	71	90	74	84	69	91	75
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57	71	59	73	60	68	56	74	61
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50	54	44	65	53	60	49	65	53
	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71	87	71	90	74	84	69	91	75
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57	71	59	73	60	68	56	74	61
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50	54	44	65	53	60	49	65	53
	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71	87	71	90	74	84	69	91	75
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57	71	59	73	60	68	56	74	61
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50	54	44	65	53	60	49	65	53
25	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64	78	64	81	67	75	62	82	67
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52	64	53	66	54	61	50	66	54
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45	48	39	58	48	54	44	58	48
	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64	78	64	81	67	75	62	82	67
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52	64	53	66	54	61	50	66	54
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45	48	39	58	48	54	44	58	48
	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64	78	64	81	67	75	62	82	67
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52	64	53	66	54	61	50	66	54
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45	48	39	58	48	54	44	58	48

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	113	101	116	104	111	103	117	113	110	98	114	102	111	100	117	109	108	95	111	99	111	96	117	105	
	2	101	88	103	91	102	85	112	92	98	85	101	88	99	82	107	89	95	82	98	84	95	78	103	85	
	3	85	69	90	79	89	75	99	82	81	66	88	77	86	72	95	78	78	63	86	75	84	69	91	75	
	35	1	109	98	113	102	106	101	113	113	107	96	110	99	106	98	113	109	104	93	108	97	106	95	113	105
		2	98	87	101	89	100	85	112	92	96	84	98	86	97	82	107	89	93	82	96	84	94	78	103	85
		3	85	69	88	78	87	75	99	82	81	66	86	75	84	72	95	78	78	63	84	73	82	69	91	75
	40	1	106	96	109	99	102	99	109	109	104	93	107	97	102	96	109	109	102	91	105	94	102	93	109	105
		2	96	85	98	87	98	85	109	92	93	83	96	85	95	82	107	89	91	80	94	82	92	78	103	85
		3	83	69	86	76	85	74	99	82	81	66	83	74	83	72	95	78	78	63	82	72	81	69	91	75
30	1	105	93	109	96	108	92	117	101	103	91	107	94	105	89	117	97									
	2	93	79	95	81	91	75	99	82	91	76	93	78	88	73	96	79									
	3	74	60	83	72	81	66	88	72	71	58	81	69	78	64	85	69									
	35	1	102	91	106	94	105	92	113	101	100	89	104	92	103	89	113	97								
		2	91	79	93	81	91	75	99	82	89	76	91	78	88	73	96	79								
		3	74	60	81	71	80	66	88	72	71	58	79	69	78	64	85	69								
	40	1	100	89	103	92	102	91	109	101	98	87	101	90	101	88	109	97								
		2	89	78	91	80	90	75	99	82	87	76	89	78	88	73	96	79								
		3	74	60	80	70	78	66	88	72	71	58	78	68	76	64	85	69								
30	1	105	93	109	96	108	92	117	101	103	91	107	94	105	89	117	97									
	2	93	79	95	81	91	75	99	82	91	76	93	78	88	73	96	79									
	3	74	60	83	72	81	66	88	72	71	58	81	69	78	64	85	69									
	35	1	102	91	106	94	105	92	113	101	100	89	104	92	103	89	113	97								
		2	91	79	93	81	91	75	99	82	89	76	91	78	88	73	96	79								
		3	74	60	81	71	80	66	88	72	71	58	79	69	78	64	85	69								
	40	1	100	89	103	92	102	91	109	101	98	87	101	90	101	88	109	97								
		2	89	78	91	80	90	75	99	82	87	76	89	78	88	73	96	79								
		3	74	60	80	70	78	66	88	72	71	58	78	68	76	64	85	69								
30	1	101	88	104	92	102	86	113	94	103	91	107	94	105	89	117	97									
	2	88	73	91	75	85	70	92	76	91	76	93	78	88	73	96	79									
	3	69	56	79	67	75	62	82	67	71	58	81	69	78	64	85	69									
	35	1	98	87	102	90	100	86	113	94	100	89	104	92	103	89	113	97								
		2	87	73	89	75	85	70	92	76	89	76	91	78	88	73	96	79								
		3	69	56	78	67	75	62	82	67	71	58	79	69	78	64	85	69								
	40	1	96	85	99	88	98	86	109	94	98	87	101	90	101	88	109	97								
		2	85	73	87	75	85	70	92	76	87	76	89	78	88	73	96	79								
		3	69	56	76	66	74	62	82	67	71	58	78	68	76	64	85	69								
30	1	101	88	104	92	102	86	113	94	103	91	107	94	105	89	117	97									
	2	88	73	91	75	85	70	92	76	91	76	93	78	88	73	96	79									
	3	69	56	79	67	75	62	82	67	71	58	81	69	78	64	85	69									
	35	1	98	87	102	90	100	86	113	94	100	89	104	92	103	89	113	97								
		2	87	73	89	75	85	70	92	76	89	76	91	78	88	73	96	79								
		3	69	56	78	67	75	62	82	67	71	58	79	69	78	64	85	69								
	40	1	96	85	99	88	98	86	109	94	98	87	101	90	101	88	109	97								
		2	85	73	87	75	85	70	92	76	87	76	89	78	88	73	96	79								
		3	69	56	76	66	74	62	82	67	71	58	78	68	76	64	85	69								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
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B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	98	86	102	89	100	83	109	90	94	80	98	84	94	78	103	85	90	76	94	79	89	73	97	80	
	2	86	71	88	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64	
	3	66	54	77	64	72	59	79	65	62	50	73	60	68	55	74	60	58	47	69	56	64	52	69	57	
	35	1	96	84	99	88	98	83	109	90	92	80	95	84	94	78	103	85	88	76	92	79	89	73	97	80
		2	84	71	87	73	82	67	89	73	80	66	83	68	77	63	83	69	76	62	78	64	72	59	78	64
		3	66	54	76	64	72	59	79	65	62	50	72	60	68	55	74	60	58	47	69	56	64	52	69	57
	40	1	94	83	97	86	96	83	109	90	90	79	93	82	92	78	103	85	87	76	90	79	88	73	97	80
		2	83	71	85	73	82	67	89	73	79	66	81	68	77	63	83	69	76	62	78	64	72	59	78	64
		3	66	54	74	64	72	59	79	65	62	50	71	60	68	55	74	60	58	47	68	56	64	52	69	57
30	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
35	1	85	71	88	74	84	69	91	75	82	68	85	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
40	1	83	71	86	74	84	69	91	75	80	68	83	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
30	1	87	71	90	74	84	69	91	75	82	68	86	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
35	1	85	71	88	74	84	69	91	75	82	68	85	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
40	1	83	71	86	74	84	69	91	75	80	68	83	71	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57									
	3	54	44	65	53	60	49	65	53	51	42	61	50	57	46	62	50									
30	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									
35	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									
40	1	77	64	80	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									
30	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									
35	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									
40	1	77	64	80	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52									
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45									

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	103	94	106	97	99	97	106	106	101	91	104	95	99	94	106	106	99	89	102	92	99	92	106	105
	2	94	83	96	86	96	84	106	92	91	81	94	83	93	82	106	89	89	79	92	81	91	78	103	85
	3	81	69	83	75	83	73	99	82	79	66	81	73	81	71	95	78	77	63	80	71	79	69	91	75
50	1	100	91	103	95	96	95	103	103	98	89	102	93	96	93	103	103	97	87	100	91	96	90	103	103
	2	91	82	94	84	94	83	103	92	89	80	92	82	92	80	103	89	87	78	90	80	89	78	103	85
	3	79	69	81	73	82	72	99	82	77	66	80	71	80	70	95	78	75	63	78	69	78	68	91	75
60	1	95	88	98	91	91	91	98	98	94	86	97	89	91	90	98	98	92	84	95	87	91	87	98	98
	2	88	79	90	81	91	81	98	92	86	77	88	79	89	78	98	89	84	75	86	77	87	76	98	85
	3	75	68	78	70	79	70	97	82	74	66	76	69	77	68	94	78	72	63	75	67	75	66	91	75
45	1	97	87	100	90	99	89	106	101	95	85	99	88	99	87	106	97								
	2	87	77	90	79	89	75	99	82	85	75	88	77	86	73	96	79								
	3	74	60	78	69	77	66	88	72	71	58	76	67	75	64	85	69								
50	1	95	86	98	89	96	88	103	101	93	84	96	87	96	86	103	97								
	2	86	76	88	78	87	75	99	82	84	74	86	76	85	73	96	79								
	3	74	60	76	68	76	66	88	72	71	58	75	66	74	64	85	69								
60	1	91	82	94	85	91	85	98	98	89	81	92	84	91	83	98	97								
	2	82	73	85	75	85	74	98	82	81	72	83	74	83	72	96	79								
	3	71	60	73	66	73	64	88	72	69	58	72	64	72	63	85	69								
45	1	93	83	97	86	97	85	106	94	95	85	99	88	99	87	106	97								
	2	83	73	86	75	84	70	92	76	85	75	88	77	86	73	96	79								
	3	69	56	74	65	73	62	82	67	71	58	76	67	75	64	85	69								
50	1	91	82	95	85	95	84	103	94	93	84	96	87	96	86	103	97								
	2	82	72	84	74	83	70	92	76	84	74	86	76	85	73	96	79								
	3	69	56	73	64	72	62	82	67	71	58	75	66	74	64	85	69								
60	1	88	79	91	82	91	81	98	94	89	81	92	84	91	83	98	97								
	2	79	70	81	72	81	70	92	76	81	72	83	74	83	72	96	79								
	3	68	56	70	62	70	61	82	67	69	58	72	64	72	63	85	69								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	92	81	95	84	94	83	106	90	88	78	91	81	90	78	103	85	85	75	88	77	87	73	97	80
	2	81	71	84	73	82	67	89	73	78	66	80	68	77	63	83	69	75	62	77	64	72	59	78	64
	3	66	54	73	64	71	59	79	65	62	50	70	60	68	55	74	60	58	47	67	56	64	52	69	57
50	1	90	80	93	83	93	82	103	90	87	77	90	80	89	78	103	85	83	73	86	76	85	73	97	80
	2	80	70	82	72	81	67	89	73	77	66	79	68	77	63	83	69	73	62	75	64	72	59	78	64
	3	66	54	71	63	70	59	79	65	62	50	69	60	67	55	74	60	58	47	66	56	64	52	69	57
60	1	86	77	89	80	90	79	98	90	83	74	86	77	86	76	98	85	81	71	83	74	83	73	97	80
	2	77	68	80	70	79	67	89	73	74	65	76	67	75	63	83	69	71	62	73	64	72	59	78	64
	3	66	54	69	61	68	59	79	65	62	50	66	58	65	55	74	60	58	47	64	56	62	52	69	57
45	1	82	71	85	74	83	69	91	75	79	68	82	71	79	65	86	71								
	2	71	59	73	60	68	56	74	61	68	55	70	57	64	53	70	57								
	3	54	44	64	53	60	49	65	53	51	42	61	50	57	46	62	50								
50	1	80	70	83	73	82	69	91	75	78	68	81	70	79	65	86	71								
	2	70	59	72	60	68	56	74	61	68	55	70	57	64	53	70	57								
	3	54	44	63	53	60	49	65	53	51	42	61	50	57	46	62	50								
60	1	78	69	81	71	80	69	91	75	75	66	78	69	77	65	86	71								
	2	69	59	71	60	68	56	74	61	66	55	68	57	64	53	70	57								
	3	54	44	61	53	60	49	65	53	51	42	59	50	57	46	62	50								
45	1	76	64	79	67	75	62	82	67	73	61	76	64	72	59	78	64								
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52								
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45								
50	1	75	64	78	67	75	62	82	67	72	61	75	64	72	59	78	64								
	2	64	53	66	54	61	50	66	54	61	50	63	51	58	48	63	52								
	3	48	39	58	48	54	44	58	48	46	37	55	45	51	42	56	45								
60	1	73	64	76	66	74	62	82	67	71	61	73	64	71	59	78	64								
	2	64	53	65	54	61	50	66	54	61	50	63	51	58	48	63	52								
	3	48	39	57	48	54	44	58	48	46	37	55	45	51	42	56	45								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	91	84	94	87	87	87	94	94	90	83	93	86	87	87	94	94	88	81	91	84	87	85	94	94	
	2	84	77	87	79	87	79	94	92	83	75	85	77	86	77	94	89	81	73	83	75	84	75	94	85	
	3	72	66	75	68	76	68	94	82	71	64	73	67	75	66	92	78	70	63	72	65	73	65	90	75	
	80	1	87	81	90	84	83	83	91	91	86	80	89	83	83	83	91	91	85	79	88	81	83	82	91	91
		2	81	74	84	76	83	77	91	91	80	73	82	75	83	75	91	89	79	71	81	73	82	73	91	85
		3	70	64	72	66	74	66	91	81	68	62	71	65	72	65	90	78	67	61	69	63	71	63	88	75
	90	1	84	79	87	81	80	80	88	88	83	77	86	80	80	80	88	88	82	76	84	79	80	80	88	88
		2	79	72	81	74	80	75	88	88	77	71	80	73	80	73	88	88	76	69	78	71	80	71	88	85
		3	67	62	69	64	72	65	88	80	66	61	68	63	70	63	88	77	65	59	67	61	69	62	86	75
70	1	87	80	90	82	87	83	94	94	86	78	88	81	87	81	94	94									
	2	80	71	82	73	82	73	94	82	78	70	80	72	80	71	94	79									
	3	68	60	71	64	71	63	87	72	67	58	69	62	70	61	85	69									
	80	1	84	77	86	80	83	81	91	91	83	76	85	78	83	79	91	91								
		2	77	70	79	72	80	71	91	82	76	68	78	70	78	69	91	79								
		3	66	60	68	62	69	62	86	72	65	58	67	61	68	60	83	69								
	90	1	81	75	83	77	80	79	88	88	80	74	82	76	80	77	88	88								
		2	75	68	77	70	78	70	88	82	74	66	76	68	77	68	88	79								
		3	64	58	66	60	67	60	84	72	63	57	65	59	66	59	82	69								
70	1	87	80	90	82	87	83	94	94	86	78	88	81	87	81	94	94									
	2	80	71	82	73	82	73	94	82	78	70	80	72	80	71	94	79									
	3	68	60	71	64	71	63	87	72	67	58	69	62	70	61	85	69									
	80	1	84	77	86	80	83	81	91	91	83	76	85	78	83	79	91	91								
		2	77	70	79	72	80	71	91	82	76	68	78	70	78	69	91	79								
		3	66	60	68	62	69	62	86	72	65	58	67	61	68	60	83	69								
	90	1	81	75	83	77	80	79	88	88	80	74	82	76	80	77	88	88								
		2	75	68	77	70	78	70	88	82	74	66	76	68	77	68	88	79								
		3	64	58	66	60	67	60	84	72	63	57	65	59	66	59	82	69								
70	1	84	77	87	79	87	79	94	94	86	78	88	81	87	81	94	94									
	2	77	68	79	70	79	69	92	76	78	70	80	72	80	71	94	79									
	3	66	56	68	61	68	60	82	67	67	58	69	62	70	61	85	69									
	80	1	81	74	84	77	83	77	91	91	83	76	85	78	83	79	91	91								
		2	74	67	76	68	77	68	91	76	76	68	78	70	78	69	91	79								
		3	64	56	66	59	66	59	81	67	65	58	67	61	68	60	83	69								
	90	1	79	72	81	75	80	76	88	88	80	74	82	76	80	77	88	88								
		2	72	65	74	67	75	66	88	76	74	66	76	68	77	68	88	79								
		3	62	56	64	58	65	57	80	67	63	57	65	59	66	59	82	69								
70	1	84	77	87	79	87	79	94	94	86	78	88	81	87	81	94	94									
	2	77	68	79	70	79	69	92	76	78	70	80	72	80	71	94	79									
	3	66	56	68	61	68	60	82	67	67	58	69	62	70	61	85	69									
	80	1	81	74	84	77	83	77	91	91	83	76	85	78	83	79	91	91								
		2	74	67	76	68	77	68	91	76	76	68	78	70	78	69	91	79								
		3	64	56	66	59	66	59	81	67	65	58	67	61	68	60	83	69								
	90	1	79	72	81	75	80	76	88	88	80	74	82	76	80	77	88	88								
		2	72	65	74	67	75	66	88	76	74	66	76	68	77	68	88	79								
		3	62	56	64	58	65	57	80	67	63	57	65	59	66	59	82	69								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	83	75	86	78	87	78	94	90	80	72	83	75	84	74	94	85	78	70	81	72	81	71	94	80	
	2	75	67	77	69	77	67	89	73	72	64	74	65	74	63	83	69	70	61	72	63	70	59	78	64	
	3	64	54	67	59	67	58	79	65	62	50	64	57	64	55	74	60	58	47	62	54	61	52	69	57	
	80	1	80	73	83	76	83	76	91	90	78	70	80	73	82	73	91	85	76	68	78	70	79	70	91	80
		2	73	65	75	67	75	66	89	73	70	62	72	64	72	63	83	69	68	60	70	61	69	59	78	64
		3	63	54	65	58	65	57	79	65	60	50	63	56	62	54	74	60	58	47	60	53	60	52	69	57
	90	1	78	71	80	74	80	74	88	88	75	69	78	71	80	71	88	85	73	66	76	69	77	68	88	80
		2	71	64	73	66	73	65	88	73	69	61	71	63	71	62	83	69	66	59	68	60	68	59	78	64
		3	61	54	63	57	63	56	78	65	59	50	61	54	61	54	74	60	57	47	59	52	59	51	69	57
Wind Speed [mph]		170								180																
70	1	76	67	78	70	78	68	91	75	73	65	76	67	75	65	86	71									
	2	67	58	69	60	67	56	74	61	65	55	66	57	64	53	70	57									
	3	54	44	60	52	59	49	65	53	51	42	58	50	56	46	62	50									
	80	1	73	66	76	68	76	67	91	75	71	63	74	66	74	64	86	71								
		2	66	57	67	59	66	56	74	61	63	55	65	57	64	53	70	57								
		3	54	44	58	51	57	49	65	53	51	42	56	49	55	46	62	50								
	90	1	71	64	74	66	74	66	88	75	69	62	72	64	72	63	86	71								
		2	64	56	66	58	65	56	74	61	62	54	64	56	63	53	70	57								
		3	54	44	57	50	56	49	65	53	51	42	55	48	54	46	62	50								
Wind Speed [mph]		190								200																
70	1	71	62	74	65	73	62	82	67	69	60	71	62	70	59	78	64									
	2	62	53	64	54	61	50	66	54	60	50	62	51	58	48	63	52									
	3	48	39	56	48	54	44	58	48	46	37	54	45	51	42	56	45									
	80	1	69	61	72	63	71	62	82	67	67	59	70	61	69	59	78	64								
		2	61	53	63	54	61	50	66	54	59	50	61	51	58	48	63	52								
		3	48	39	54	47	53	44	58	48	46	37	53	45	51	42	56	45								
	90	1	67	60	70	62	70	61	82	67	66	58	68	60	67	59	78	64								
		2	60	52	62	54	60	50	66	54	58	50	60	51	58	48	63	52								
		3	48	39	53	47	52	44	58	48	46	37	52	45	50	42	56	45								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								70in x 41in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	81	76	84	79	78	78	85	85	80	75	83	78	78	78	85	85	79	74	82	76	78	78	85	85
	2	76	70	78	72	78	73	85	85	75	69	77	71	78	72	85	85	74	68	76	70	78	70	85	85
	3	65	60	67	62	70	63	85	79	64	59	66	61	68	62	85	76	63	58	65	60	67	60	85	74
0	1																								
	2																								
	3																								
100	1	78	73	81	75	78	77	85	85	77	72	80	74	78	75	85	85								
	2	73	66	75	68	76	68	85	82	72	65	73	67	75	67	85	79								
	3	62	57	64	59	66	59	83	72	61	56	63	58	64	58	81	69								
0	1																								
	2																								
	3																								
100	1	76	70	79	73	78	74	85	85	77	72	80	74	78	75	85	85								
	2	70	64	72	65	73	65	85	76	72	65	73	67	75	67	85	79								
	3	60	55	62	56	63	56	79	67	61	56	63	58	64	58	81	69								
0	1																								
	2																								
	3																								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	75	69	78	72	78	72	85	85	73	67	76	69	78	70	85	85	71	65	74	67	75	67	85	80
	2	69	62	71	64	72	64	85	73	67	60	69	62	69	61	83	69	65	58	67	59	67	58	78	64
	3	59	53	61	55	62	55	77	65	57	50	59	53	60	53	73	60	55	47	57	51	58	50	69	57
Wind Speed [mph]		170								180															
100	1	70	63	72	65	73	65	85	75	68	61	70	63	71	62	85	71								
	2	63	55	64	57	64	56	74	61	61	53	62	55	62	53	70	57								
	3	54	44	56	49	55	48	65	53	51	42	54	48	53	46	62	50								
Wind Speed [mph]		190								200															
100	1	66	59	68	61	68	60	82	67	64	57	66	59	66	58	78	64								
	2	59	51	60	53	59	50	66	54	57	50	59	51	57	48	63	52								
	3	48	39	52	46	52	44	58	48	46	37	51	44	50	42	56	45								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	147	133	147	137	144	131	140	139	145	130	147	133	143	128	140	135	142	127	145	130	140	124	140	132	
	2	133	115	135	118	130	111	138	120	130	111	132	114	127	106	134	116	127	107	129	109	123	102	131	111	
	3	115	93	126	105	118	98	128	107	110	89	121	101	113	94	124	103	105	85	117	97	109	91	119	99	
	5	1	146	133	147	137	144	131	140	139	145	130	147	133	143	128	140	135	142	127	145	130	140	124	140	132
		2	133	115	135	118	130	111	138	120	130	111	132	114	127	106	134	116	127	107	129	109	123	102	131	111
		3	115	93	126	105	118	98	128	107	110	89	121	101	113	94	124	103	105	85	117	97	109	91	119	99
	10	1	138	129	139	132	137	131	138	138	136	127	139	130	137	128	138	135	134	124	137	128	137	124	138	132
		2	129	115	131	118	130	111	138	120	127	111	129	114	127	106	134	116	124	107	127	109	123	102	131	111
		3	114	93	118	104	118	98	128	107	110	89	115	101	113	94	124	103	105	85	112	97	109	91	119	99
Wind Speed [mph]		110								115																
0	1	139	123	142	127	137	120	140	129	136	119	139	124	134	116	140	126	119	99	122	102	114	95	124	103	
	2	123	103	126	106	118	98	128	107	119	99	122	102	114	95	124	103	96	78	109	90	101	84	110	91	
	3	100	81	113	94	105	87	115	95	96	78	109	90	101	84	110	91	136	119	139	124	134	116	140	126	
5	1	139	123	142	127	137	120	140	129	136	119	139	124	134	116	140	126	119	99	122	102	114	95	124	103	
	2	123	103	126	106	118	98	128	107	119	99	122	102	114	95	124	103	96	78	109	90	101	84	110	91	
	3	100	81	113	94	105	87	115	95	96	78	109	90	101	84	110	91	131	118	134	122	134	116	138	126	
10	1	132	121	135	125	137	120	138	129	131	118	134	122	134	116	138	126	118	99	121	102	114	95	124	103	
	2	121	103	124	106	118	98	128	107	118	99	121	102	114	95	124	103	96	78	107	90	101	84	110	91	
	3	100	81	109	94	105	87	115	95	96	78	107	90	101	84	110	91	133	115	136	120	131	112	139	122	
Wind Speed [mph]		120								130																
0	1	133	115	136	120	131	112	139	122	136	119	139	124	134	116	140	126	119	99	122	102	114	95	124	103	
	2	115	96	118	98	110	92	120	100	119	99	122	102	114	95	124	103	96	78	109	90	101	84	110	91	
	3	93	75	105	87	98	81	107	88	96	78	109	90	101	84	110	91	133	115	136	120	131	112	139	122	
5	1	133	115	136	120	131	112	139	122	136	119	139	124	134	116	140	126	119	99	122	102	114	95	124	103	
	2	115	96	118	98	110	92	120	100	119	99	122	102	114	95	124	103	96	78	109	90	101	84	110	91	
	3	93	75	105	87	98	81	107	88	96	78	109	90	101	84	110	91	129	115	132	119	131	112	138	122	
10	1	129	115	132	119	131	112	138	122	131	118	134	122	134	116	138	126	118	99	121	102	114	95	124	103	
	2	115	96	118	98	110	92	120	100	118	99	121	102	114	95	124	103	96	78	107	90	101	84	110	91	
	3	93	75	104	87	98	81	107	88	96	78	107	90	101	84	110	91	133	115	136	120	131	112	139	122	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	130	111	134	116	128	108	136	118	125	105	129	109	122	102	130	111	118	99	123	103	115	96	125	104
	2	111	93	114	95	107	89	116	96	105	87	107	89	100	83	109	90	99	82	101	84	95	78	103	85
	3	89	72	102	84	95	78	103	85	83	67	96	79	89	73	97	80	78	63	90	74	84	69	91	75
5	1	130	111	134	116	128	108	136	118	125	105	129	109	122	102	130	111	118	99	123	103	115	96	125	104
	2	111	93	114	95	107	89	116	96	105	87	107	89	100	83	109	90	99	82	101	84	95	78	103	85
	3	89	72	102	84	95	78	103	85	83	67	96	79	89	73	97	80	78	63	90	74	84	69	91	75
10	1	127	111	130	116	128	108	136	118	123	105	127	109	122	102	130	111	118	99	122	103	115	96	125	104
	2	111	93	114	95	107	89	116	96	105	87	107	89	100	83	109	90	99	82	101	84	95	78	103	85
	3	89	72	102	84	95	78	103	85	83	67	96	79	89	73	97	80	78	63	90	74	84	69	91	75
0	1	112	93	117	97	109	90	119	98	107	89	111	92	103	86	113	93								
	2	93	77	96	79	89	74	97	80	89	73	91	75	85	70	92	76								
	3	73	59	85	70	79	65	86	71	69	56	81	66	75	61	81	67								
5	1	112	93	117	97	109	90	119	98	107	89	111	92	103	86	113	93								
	2	93	77	96	79	89	74	97	80	89	73	91	75	85	70	92	76								
	3	73	59	85	70	79	65	86	71	69	56	81	66	75	61	81	67								
10	1	112	93	117	97	109	90	119	98	107	89	111	92	103	86	113	93								
	2	93	77	96	79	89	74	97	80	89	73	91	75	85	70	92	76								
	3	73	59	85	70	79	65	86	71	69	56	81	66	75	61	81	67								
0	1	101	84	106	88	98	81	107	89	97	80	101	84	94	77	102	84								
	2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68								
	3	65	53	77	63	71	58	77	63	62	50	73	60	67	55	73	60								
5	1	101	84	106	88	98	81	107	89	97	80	101	84	94	77	102	84								
	2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68								
	3	65	53	77	63	71	58	77	63	62	50	73	60	67	55	73	60								
10	1	101	84	106	88	98	81	107	89	97	80	101	84	94	77	102	84								
	2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68								
	3	65	53	77	63	71	58	77	63	62	50	73	60	67	55	73	60								
0	1	101	84	106	88	98	81	107	89	97	80	101	84	94	77	102	84								
	2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68								
	3	65	53	77	63	71	58	77	63	62	50	73	60	67	55	73	60								
5	1	101	84	106	88	98	81	107	89	97	80	101	84	94	77	102	84								
	2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68								
	3	65	53	77	63	71	58	77	63	62	50	73	60	67	55	73	60								
10	1	101	84	106	88	98	81	107	89	97	80	101	84	94	77	102	84								
	2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68								
	3	65	53	77	63	71	58	77	63	62	50	73	60	67	55	73	60								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	131	122	132	126	126	126	129	129	130	120	132	124	126	126	129	129	128	117	131	121	126	124	129	129	
	2	122	109	125	112	126	111	129	120	120	107	123	109	126	106	129	116	117	104	120	107	123	102	129	111	
	3	106	93	110	99	115	98	128	107	104	89	108	96	111	94	124	103	102	85	105	93	108	91	119	99	
	20	1	124	115	126	119	117	117	122	122	123	113	126	117	117	117	122	122	121	111	125	115	117	117	122	122
		2	115	104	118	107	117	110	122	120	113	102	116	105	117	106	122	116	111	99	114	102	117	102	122	111
		3	100	90	103	94	110	97	122	107	98	88	101	91	107	94	122	103	96	85	99	89	104	91	119	99
	25	1	124	115	126	119	111	111	116	116	123	113	126	117	111	111	116	116	121	111	125	115	111	111	116	116
		2	115	104	118	107	111	107	116	116	113	102	116	105	111	104	116	116	111	99	114	102	111	101	116	111
		3	100	90	103	94	106	94	116	107	98	88	101	91	103	91	116	103	96	85	99	89	101	89	116	99
15	Wind Speed [mph]		110								115															
	1	126	114	129	118	126	120	129	129	124	112	128	116	126	116	129	126	124	112	128	116	126	116	129	126	
	2	114	101	117	104	118	98	128	107	112	98	115	101	114	95	124	103	112	98	115	101	114	95	124	103	
	3	99	81	103	91	105	87	115	95	96	78	101	89	101	84	110	91	96	78	101	89	101	84	110	91	
	20	1	119	109	123	112	117	117	122	122	117	106	121	110	117	114	122	122	117	106	121	110	117	114	122	122
		2	109	97	112	100	116	98	122	107	106	95	109	97	113	95	122	103	106	95	109	97	113	95	122	103
		3	94	81	97	87	102	87	115	95	92	78	95	85	99	84	110	91	92	78	95	85	99	84	110	91
	25	1	119	109	123	112	111	111	116	116	117	106	121	110	111	111	116	116	117	106	121	110	111	111	116	116
		2	109	97	112	100	111	98	116	107	106	95	109	97	110	95	116	103	106	95	109	97	110	95	116	103
3		94	81	97	87	98	86	115	95	92	78	95	85	96	84	110	91	92	78	95	85	96	84	110	91	
15	Wind Speed [mph]		120								130															
	1	122	109	126	113	126	112	129	122	124	112	128	116	126	116	129	126	124	112	128	116	126	116	129	126	
	2	109	96	112	98	110	92	120	100	112	98	115	101	114	95	124	103	112	98	115	101	114	95	124	103	
	3	93	75	98	86	98	81	107	88	96	78	101	89	101	84	110	91	96	78	101	89	101	84	110	91	
	20	1	115	104	119	108	117	111	122	122	117	106	121	110	117	114	122	122	117	106	121	110	117	114	122	122
		2	104	92	107	95	110	92	120	100	106	95	109	97	113	95	122	103	106	95	109	97	113	95	122	103
		3	90	75	93	83	97	81	107	88	92	78	95	85	99	84	110	91	92	78	95	85	99	84	110	91
	25	1	115	104	119	108	111	108	116	116	117	106	121	110	111	111	116	116	117	106	121	110	111	111	116	116
		2	104	92	107	95	107	92	116	100	106	95	109	97	110	95	116	103	106	95	109	97	110	95	116	103
3		90	75	93	83	94	81	107	88	92	78	95	85	96	84	110	91	92	78	95	85	96	84	110	91	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	120	107	124	111	126	108	129	118	116	102	120	106	122	102	129	111	111	98	115	102	115	96	125	104	
	2	107	93	110	95	107	89	116	96	102	87	105	89	100	83	109	90	98	82	101	84	95	78	103	85	
	3	89	72	96	84	95	78	103	85	83	67	92	79	89	73	97	80	78	63	88	74	84	69	91	75	
	20	1	113	102	117	106	117	108	122	118	110	98	113	102	117	102	122	111	106	94	110	98	114	96	122	104
		2	102	90	105	93	107	89	116	96	98	86	101	89	100	83	109	90	94	82	97	84	95	78	103	85
		3	89	72	92	81	94	78	103	85	83	67	88	77	89	73	97	80	78	63	85	74	84	69	91	75
	25	1	113	102	117	106	111	106	116	116	110	98	113	102	111	101	116	111	106	94	110	98	110	96	116	104
		2	102	90	105	93	105	89	116	96	98	86	101	89	100	83	109	90	94	82	97	84	95	78	103	85
		3	89	72	92	81	92	78	103	85	83	67	88	77	87	73	97	80	78	63	85	74	84	69	91	75
15	1	108	93	111	97	109	90	119	98	104	89	108	92	103	86	113	93	104	89	108	92	103	86	113	93	
	2	93	77	96	79	89	74	97	80	89	73	91	75	85	70	92	76	89	73	91	75	85	70	92	76	
	3	73	59	85	70	79	65	86	71	69	56	81	66	75	61	81	67	69	56	81	66	75	61	81	67	
	20	1	103	91	106	94	109	90	119	98	99	87	103	91	103	86	113	93	99	87	103	91	103	86	113	93
		2	91	77	93	79	89	74	97	80	87	73	90	75	85	70	92	76	87	73	90	75	85	70	92	76
		3	73	59	82	70	79	65	86	71	69	56	79	66	75	61	81	67	69	56	79	66	75	61	81	67
	25	1	103	91	106	94	106	90	116	98	99	87	103	91	102	86	113	93	99	87	103	91	102	86	113	93
		2	91	77	93	79	89	74	97	80	87	73	90	75	85	70	92	76	87	73	90	75	85	70	92	76
		3	73	59	82	70	79	65	86	71	69	56	79	66	75	61	81	67	69	56	79	66	75	61	81	67
15	1	100	84	104	88	98	81	107	89	97	80	100	84	94	77	102	84	97	80	100	84	94	77	102	84	
	2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68	80	66	82	68	77	63	83	68	
	3	65	53	77	63	71	58	77	63	62	50	73	60	67	55	73	60	62	50	73	60	67	55	73	60	
	20	1	96	84	100	87	98	81	107	89	93	80	97	84	94	77	102	84	93	80	97	84	94	77	102	84
		2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68	80	66	82	68	77	63	83	68
		3	65	53	76	63	71	58	77	63	62	50	73	60	67	55	73	60	62	50	73	60	67	55	73	60
	25	1	96	84	100	87	98	81	107	89	93	80	97	84	94	77	102	84	93	80	97	84	94	77	102	84
		2	84	69	87	71	80	66	87	72	80	66	82	68	77	63	83	68	80	66	82	68	77	63	83	68
		3	65	53	76	63	71	58	77	63	62	50	73	60	67	55	73	60	62	50	73	60	67	55	73	60

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	120	112	122	116	105	105	112	112	119	110	122	114	105	105	112	112	117	108	121	112	105	105	112	112	
	2	112	102	115	105	105	105	112	112	110	100	113	102	105	102	112	112	108	97	111	100	105	99	112	111	
	3	97	88	100	91	102	91	112	107	95	86	98	89	100	89	112	103	93	84	96	87	97	86	112	99	
	35	1	115	108	117	112	101	101	107	107	114	106	117	110	101	101	107	107	113	104	116	108	101	101	107	107
		2	108	99	111	102	101	101	107	107	106	97	109	99	101	99	107	107	104	95	107	97	101	97	107	107
		3	93	85	96	88	98	89	107	107	91	83	94	86	96	86	107	103	90	82	93	84	94	84	107	99
	40	1	111	104	113	108	97	97	104	104	110	103	113	106	97	97	104	104	108	101	112	104	97	97	104	104
		2	104	96	107	99	97	97	104	104	103	94	105	97	97	97	104	104	101	92	104	95	97	95	104	104
		3	90	83	93	85	95	86	104	104	88	81	91	84	94	84	104	102	87	79	90	82	92	82	104	99
Wind Speed [mph]		110								115																
30	1	116	106	119	109	105	105	112	112	114	104	117	107	105	105	112	112	104	93	107	95	105	94	112	103	
	2	106	95	109	98	105	96	112	107	104	93	107	95	105	94	112	103	90	78	93	83	93	82	110	91	
	3	92	81	95	85	95	84	112	95	90	78	93	83	93	82	110	91	110	101	113	104	101	101	107	107	
35	1	111	102	115	106	101	101	107	107	110	101	113	104	101	101	107	107	101	91	103	93	101	92	107	103	
	2	102	93	105	95	101	94	107	107	101	91	103	93	101	92	107	103	87	78	90	81	90	80	107	91	
	3	88	80	91	83	92	82	107	95	87	78	90	81	90	80	107	91	106	98	109	101	97	97	104	104	
40	1	107	99	110	103	97	97	104	104	106	98	109	101	97	97	104	104	98	88	100	91	97	90	104	103	
	2	99	90	102	93	97	92	104	104	98	88	100	91	97	90	104	103	84	76	87	79	88	78	104	91	
	3	85	78	88	80	90	80	104	95	84	76	87	79	88	78	104	91	112	102	116	105	105	105	112	112	
Wind Speed [mph]		120								130																
30	1	112	102	116	105	105	105	112	112	114	104	117	107	105	105	112	112	104	93	107	95	105	94	112	103	
	2	102	91	105	93	104	91	112	100	104	93	107	95	105	94	112	103	90	78	93	83	93	82	110	91	
	3	88	75	91	81	91	80	107	88	90	78	93	83	93	82	110	91	110	101	113	104	101	101	107	107	
35	1	108	99	111	102	101	101	107	107	110	101	113	104	101	101	107	107	101	91	103	93	101	92	107	103	
	2	99	89	101	91	101	90	107	100	101	91	103	93	101	92	107	103	87	78	90	81	90	80	107	91	
	3	85	75	88	79	89	78	107	88	87	78	90	81	90	80	107	91	106	98	109	101	97	97	104	104	
40	1	104	96	108	99	97	97	104	104	106	98	109	101	97	97	104	104	98	88	100	91	97	90	104	103	
	2	96	86	98	89	97	88	104	100	98	88	100	91	97	90	104	103	84	76	87	79	88	78	104	91	
	3	83	74	85	77	86	77	104	88	84	76	87	79	88	78	104	91									

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	110	100	114	103	105	103	112	112	107	96	111	100	105	98	112	111	104	93	107	96	105	94	112	104	
	2	100	89	103	91	102	89	112	96	96	85	99	87	98	83	109	90	93	81	95	83	94	78	103	85	
	3	86	72	89	80	89	78	103	85	83	67	86	76	85	73	97	80	78	63	83	73	82	69	91	75	
	35	1	106	97	110	100	101	100	107	107	103	94	107	97	101	96	107	107	100	90	104	93	101	92	107	104
		2	97	87	100	89	100	87	107	96	94	83	96	85	96	83	107	90	90	80	93	82	92	78	103	85
		3	84	72	87	78	87	76	103	85	81	67	84	74	83	73	97	80	78	63	81	71	80	69	91	75
	40	1	103	94	106	98	97	97	104	104	100	91	103	94	97	94	104	104	97	88	101	91	97	91	104	104
		2	94	85	97	87	97	86	104	96	91	81	94	83	94	82	104	90	88	78	90	80	90	78	103	85
		3	81	72	84	76	85	75	103	85	78	67	81	73	81	71	97	80	76	63	79	70	78	68	91	75
Wind Speed [mph]		170								180																
30	1	100	89	104	93	103	90	112	98	97	86	101	89	100	86	112	93	97	86	101	89	100	86	112	93	
	2	89	77	92	79	89	74	97	80	86	73	88	75	85	70	92	76	86	73	88	75	85	70	92	76	
	3	73	59	80	70	78	65	86	71	69	56	77	66	75	61	81	67	69	56	77	66	75	61	81	67	
	35	1	97	87	101	90	101	89	107	98	95	84	98	87	98	85	107	93	95	84	98	87	98	85	107	93
		2	87	76	89	78	88	74	97	80	84	73	86	75	85	70	92	76	84	73	86	75	85	70	92	76
		3	73	59	78	68	77	65	86	71	69	56	75	66	74	61	81	67	69	56	75	66	74	61	81	67
	40	1	95	85	98	88	97	87	104	98	92	82	95	85	95	84	104	93	92	82	95	85	95	84	104	93
		2	85	75	87	77	86	74	97	80	82	72	85	74	83	70	92	76	82	72	85	74	83	70	92	76
		3	73	59	76	67	75	65	86	71	69	56	74	65	72	61	81	67	69	56	74	65	72	61	81	67
Wind Speed [mph]		190								200																
30	1	94	83	98	86	96	81	107	89	91	80	95	83	93	77	102	84	91	80	95	83	93	77	102	84	
	2	83	69	85	71	80	66	87	72	80	66	82	68	77	63	83	68	80	66	82	68	77	63	83	68	
	3	65	53	74	63	71	58	77	63	62	50	72	60	67	55	73	60	62	50	72	60	67	55	73	60	
	35	1	92	81	95	84	94	81	107	89	89	78	92	81	91	77	102	84	89	78	92	81	91	77	102	84
		2	81	69	83	71	80	66	87	72	78	66	81	68	77	63	83	68	78	66	81	68	77	63	83	68
		3	65	53	73	63	71	58	77	63	62	50	70	60	67	55	73	60	62	50	70	60	67	55	73	60
	40	1	90	80	93	83	92	81	104	89	87	77	90	80	89	77	102	84	87	77	90	80	89	77	102	84
		2	80	69	82	71	80	66	87	72	77	66	79	68	77	63	83	68	77	66	79	68	77	63	83	68
		3	65	53	71	62	70	58	77	63	62	50	69	60	67	55	73	60	62	50	69	60	67	55	73	60

Exposure Category : B

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft				74in x 41.2in				Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
45	1	107	101	109	104	94	94	101	101	106	99	109	103	94	94	101	101	105	98	108	101	94	94	101	101	
	2	101	93	104	96	94	94	101	101	99	92	102	94	94	94	101	101	98	90	100	92	94	93	101	101	
	3	87	80	89	83	93	84	101	101	85	79	88	81	91	82	101	101	84	77	87	80	89	80	101	98	
	50	1	103	98	105	101	91	91	98	98	102	97	105	100	91	91	98	98	101	95	104	98	91	91	98	98
		2	98	91	101	93	91	91	98	98	97	89	99	92	91	91	98	98	95	88	98	90	91	91	98	98
		3	84	78	87	81	90	82	98	98	83	77	85	79	88	81	98	98	82	75	84	78	87	79	98	97
	60	1	96	93	99	95	86	86	93	93	96	91	99	94	86	86	93	93	95	90	98	93	86	86	93	93
		2	93	87	95	89	86	86	93	93	91	85	94	87	86	86	93	93	90	84	93	86	86	86	93	93
		3	79	74	82	77	85	79	93	93	78	73	81	75	84	77	93	93	77	72	80	74	83	76	93	93
Wind Speed [mph]		110								115																
45	1	103	96	107	99	94	94	101	101	102	95	105	98	94	94	101	101									
	2	96	88	99	90	94	91	101	101	95	86	97	89	94	88	101	101									
	3	83	76	85	78	87	79	101	95	81	74	84	77	86	77	101	91									
	50	1	100	94	103	97	91	91	98	98	99	92	102	95	91	91	98	98								
		2	94	86	96	88	91	89	98	98	92	84	95	87	91	87	98	98								
		3	80	74	83	76	85	77	98	94	79	72	82	75	84	75	98	91								
	60	1	94	89	97	92	86	86	93	93	94	88	96	91	86	86	93	93								
		2	89	82	91	84	86	86	93	93	88	81	90	83	86	84	93	93								
		3	76	70	79	73	81	74	93	92	75	69	77	72	80	73	93	89								
Wind Speed [mph]		120								130																
45	1	101	93	104	96	94	94	101	101	102	95	105	98	94	94	101	101									
	2	93	85	96	87	94	86	101	100	95	86	97	89	94	88	101	101									
	3	80	73	83	75	84	75	101	88	81	74	84	77	86	77	101	91									
	50	1	98	91	101	94	91	91	98	98	99	92	102	95	91	91	98	98								
		2	91	83	93	85	91	85	98	98	92	84	95	87	91	87	98	98								
		3	78	71	81	74	82	74	98	88	79	72	82	75	84	75	98	91								
	60	1	93	87	95	89	86	86	93	93	94	88	96	91	86	86	93	93								
		2	87	79	89	82	86	82	93	93	88	81	90	83	86	84	93	93								
		3	74	68	76	70	79	71	93	87	75	69	77	72	80	73	93	89								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	100	92	103	95	94	94	101	101	97	89	100	92	94	92	101	101	95	86	98	89	94	89	101	101
	2	92	83	94	85	94	84	101	96	89	80	91	82	92	81	101	90	86	77	88	79	88	77	101	85
	3	79	71	82	74	83	73	101	85	76	67	79	71	80	70	97	80	74	63	77	68	77	67	91	75
50	1	97	89	100	92	91	91	98	98	94	87	97	90	91	91	98	98	92	84	95	87	91	87	98	98
	2	89	81	92	83	91	83	98	96	87	78	89	80	90	79	98	90	84	75	86	77	87	76	98	85
	3	77	70	79	72	81	72	98	85	74	67	77	70	78	69	95	80	72	63	75	67	75	66	91	75
60	1	92	85	94	88	86	86	93	93	90	83	92	86	86	86	93	93	88	81	90	83	86	84	93	93
	2	85	78	88	80	86	80	93	93	83	75	85	77	86	77	93	90	81	73	83	75	84	74	93	85
	3	73	67	75	69	77	70	93	85	71	65	73	67	75	67	93	80	69	62	71	65	72	64	89	75
Wind Speed [mph]		170								180															
45	1	92	83	95	86	94	86	101	98	90	81	93	84	93	83	101	93								
	2	83	74	86	76	85	74	97	80	81	71	83	73	82	70	92	76								
	3	72	59	74	66	74	64	86	71	69	56	72	63	71	61	81	67								
50	1	90	82	93	84	91	84	98	98	88	79	91	82	91	81	98	93								
	2	82	72	84	74	84	73	97	80	79	70	81	72	81	70	92	76								
	3	70	59	73	65	72	63	86	71	68	56	70	62	70	61	81	67								
60	1	86	78	88	81	86	81	93	93	84	76	86	79	86	79	93	93								
	2	78	70	80	72	81	71	93	80	76	68	78	70	78	68	92	76								
	3	67	59	69	63	70	62	85	71	65	56	68	60	68	59	81	67								
Wind Speed [mph]		190								200															
45	1	87	78	90	81	91	80	101	89	85	76	88	78	88	77	101	84								
	2	78	68	80	70	79	66	87	72	76	66	78	68	76	63	83	68								
	3	65	53	70	61	69	58	77	63	62	50	68	59	66	55	73	60								
50	1	85	77	88	79	89	78	98	89	83	74	86	77	86	76	98	84								
	2	77	67	79	69	78	66	87	72	74	65	76	67	75	63	83	68								
	3	65	53	68	60	68	58	77	63	62	50	66	58	65	55	73	60								
60	1	82	74	85	77	86	76	93	89	80	72	83	74	83	74	93	84								
	2	74	66	76	67	76	66	87	72	72	63	74	65	73	63	83	68								
	3	63	53	66	58	66	57	77	63	62	50	64	57	63	55	73	60								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	90	88	92	91	82	82	89	89	90	87	92	90	82	82	89	89	90	86	92	89	82	82	89	89
	2	88	83	90	85	82	82	89	89	87	82	89	84	82	82	89	89	86	80	88	82	82	82	89	89
	3	75	71	77	73	82	76	89	89	74	70	76	72	80	74	89	89	73	69	76	71	79	73	89	89
80	1	84	84	86	86	79	79	86	86	84	83	86	86	79	79	86	86	84	82	86	85	79	79	86	86
	2	84	80	86	82	79	79	86	86	83	78	85	80	79	79	86	86	82	77	84	79	79	79	86	86
	3	72	68	74	70	78	73	86	86	71	67	73	69	77	72	86	86	70	66	72	68	76	70	86	86
90	1	80	80	82	82	76	76	83	83	80	80	82	82	76	76	83	83	80	79	82	81	76	76	83	83
	2	80	77	82	79	76	76	83	83	80	76	82	78	76	76	83	83	79	74	81	76	76	76	83	83
	3	68	65	71	67	75	70	83	83	68	64	70	66	74	69	83	83	67	63	69	65	73	68	83	83
Wind Speed [mph]		110								115															
70	1	90	85	92	88	82	82	89	89	89	84	91	86	82	82	89	89								
	2	85	79	87	81	82	82	89	89	84	78	86	80	82	81	89	89								
	3	72	68	75	70	78	71	89	89	72	66	74	69	77	70	89	87								
80	1	84	81	86	84	79	79	86	86	84	80	86	83	79	79	86	86								
	2	81	76	83	78	79	79	86	86	80	75	83	77	79	79	86	86								
	3	69	65	71	67	75	69	86	86	69	64	71	66	74	68	86	86								
90	1	80	78	82	81	76	76	83	83	80	77	82	80	76	76	83	83								
	2	78	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83								
	3	66	63	69	65	72	67	83	83	66	62	68	64	71	66	83	83								
Wind Speed [mph]		120								130															
70	1	88	83	91	85	82	82	89	89	89	84	91	86	82	82	89	89								
	2	83	76	85	79	82	80	89	89	84	78	86	80	82	81	89	89								
	3	71	65	73	68	76	69	89	85	72	66	74	69	77	70	89	87								
80	1	84	79	86	82	79	79	86	86	84	80	86	83	79	79	86	86								
	2	79	74	82	76	79	77	86	86	80	75	83	77	79	79	86	86								
	3	68	63	70	65	73	67	86	84	69	64	71	66	74	68	86	86								
90	1	80	77	82	79	76	76	83	83	80	77	82	80	76	76	83	83								
	2	77	71	79	73	76	75	83	83	77	72	79	74	76	76	83	83								
	3	65	61	67	63	70	65	83	82	66	62	68	64	71	66	83	83								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	87	82	90	84	82	82	89	89	85	80	88	82	82	82	89	89	84	78	86	80	82	82	89	89	
	2	82	75	84	77	82	78	89	89	80	73	82	75	82	75	89	89	78	70	80	72	81	72	89	85	
	3	70	64	72	67	74	67	89	83	68	62	70	64	72	65	89	79	66	60	69	62	70	63	87	75	
	80	1	83	79	86	81	79	79	86	86	82	77	84	79	79	79	86	86	80	75	83	77	79	79	86	86
		2	79	73	81	75	79	76	86	86	77	70	79	72	79	73	86	86	75	68	77	70	79	71	86	85
		3	67	62	69	64	72	65	86	82	65	60	68	62	70	63	86	78	64	58	66	61	68	61	85	74
	90	1	80	76	82	78	76	76	83	83	79	74	81	76	76	76	83	83	77	72	80	75	76	76	83	83
		2	76	70	78	72	76	74	83	83	74	68	76	70	76	71	83	83	72	66	74	68	76	69	83	83
		3	64	60	66	62	69	64	83	80	63	58	65	60	68	62	83	77	62	57	64	59	66	59	83	73
Wind Speed [mph]		170								180																
70	1	82	76	85	78	82	79	89	89	80	74	83	76	82	77	89	89									
	2	76	68	78	70	78	70	89	80	74	66	76	68	76	67	89	76									
	3	65	58	67	61	68	60	84	71	63	56	65	59	66	58	80	67									
	80	1	79	73	81	75	79	77	86	86	77	71	80	74	79	75	86	86								
		2	73	66	75	68	76	68	86	80	71	64	73	66	74	66	86	76								
		3	62	57	64	59	66	59	82	71	61	55	63	57	64	57	79	67								
	90	1	76	71	78	73	76	75	83	83	74	69	77	71	76	73	83	83								
		2	71	65	73	66	74	67	83	80	69	63	71	64	72	64	83	76								
		3	60	55	62	57	64	57	81	70	59	54	61	55	62	56	78	67								
Wind Speed [mph]		190								200																
70	1	79	72	81	74	82	74	89	89	77	70	79	72	81	72	89	84									
	2	72	64	74	66	74	65	87	72	70	62	72	64	71	62	83	68									
	3	61	53	63	57	64	56	77	63	60	50	62	55	62	54	73	60									
	80	1	76	69	78	72	79	72	86	86	74	68	77	70	78	70	86	84								
		2	69	62	71	64	72	63	86	72	68	60	69	62	70	61	83	68								
		3	59	53	61	55	62	55	76	63	58	50	60	54	60	53	73	60								
	90	1	73	67	75	70	76	71	83	83	72	66	74	68	76	69	83	83								
		2	67	61	69	63	70	62	83	72	66	59	68	61	68	60	83	68								
		3	58	52	60	54	60	54	75	63	56	50	58	52	59	52	72	60								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	76	76	78	78	74	74	81	81	76	76	78	78	74	74	81	81	76	76	78	78	74	74	81	81
	2	76	74	78	76	74	74	81	81	76	73	78	75	74	74	81	81	76	72	78	74	74	74	81	81
	3	66	63	68	65	72	68	81	81	65	62	67	64	71	67	81	81	65	61	67	63	71	66	81	81
Wind Speed [mph]		110								115															
100	1	76	75	78	78	74	74	81	81	76	75	78	77	74	74	81	81								
	2	75	71	77	73	74	74	81	81	75	70	77	72	74	74	81	81								
	3	64	61	66	62	70	65	81	81	63	60	65	62	69	64	81	81								
Wind Speed [mph]		120								130															
100	1	76	74	78	76	74	74	81	81	76	75	78	77	74	74	81	81								
	2	74	69	76	71	74	73	81	81	75	70	77	72	74	74	81	81								
	3	63	59	65	61	68	63	81	80	63	60	65	62	69	64	81	81								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	76	73	78	75	74	74	81	81	76	72	78	74	74	74	81	81	75	70	77	72	74	74	81	81
	2	73	68	75	70	74	72	81	81	72	66	73	68	74	70	81	81	70	65	72	66	74	67	81	81
	3	62	58	64	60	67	62	81	79	61	57	63	59	66	60	81	75	60	55	62	57	64	58	81	72
Wind Speed [mph]		170								180															
100	1	73	69	76	71	74	73	81	81	72	67	74	69	74	71	81	81								
	2	69	63	70	65	72	65	81	79	67	61	69	63	70	63	81	76								
	3	58	54	60	56	62	56	79	69	57	52	59	54	61	54	76	66								
Wind Speed [mph]		190								200															
100	1	71	66	73	68	74	69	81	81	70	64	72	66	74	67	81	81								
	2	66	59	67	61	69	61	81	72	64	58	66	59	67	59	81	68								
	3	56	51	58	53	59	53	74	63	55	49	57	51	57	51	71	60								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
		0	1	136	119	139	123	134	115	140	126	132	114	136	119	130	111	138	121	129	110	133	114	127	107
	2	119	99	122	102	114	95	124	103	114	95	117	98	110	91	119	99	110	91	113	94	106	87	115	95
	3	96	78	109	90	101	84	110	91	92	74	104	87	97	80	106	88	88	71	101	83	93	77	102	84
5	1	136	119	139	123	134	115	140	126	132	114	136	119	130	111	138	121	129	110	133	114	127	107	135	116
	2	119	99	122	102	114	95	124	103	114	95	117	98	110	91	119	99	110	91	113	94	106	87	115	95
	3	96	78	109	90	101	84	110	91	92	74	104	87	97	80	106	88	88	71	101	83	93	77	102	84
10	1	131	118	134	122	134	115	138	126	128	114	131	119	130	111	138	121	126	110	129	114	127	107	135	116
	2	118	99	121	102	114	95	124	103	114	95	117	98	110	91	119	99	110	91	113	94	106	87	115	95
	3	96	78	107	90	101	84	110	91	92	74	104	87	97	80	106	88	88	71	101	83	93	77	102	84
Wind Speed [mph]		110								115															
0	1	126	106	130	110	123	103	132	112	122	102	127	107	119	99	129	108								
	2	106	88	109	90	102	84	110	91	102	85	105	87	98	81	107	88								
	3	84	68	97	80	90	74	98	81	81	65	93	77	87	71	94	78								
5	1	126	106	130	110	123	103	132	112	122	102	127	107	119	99	129	108								
	2	106	88	109	90	102	84	110	91	102	85	105	87	98	81	107	88								
	3	84	68	97	80	90	74	98	81	81	65	93	77	87	71	94	78								
10	1	124	106	127	110	123	103	132	112	121	102	125	107	119	99	129	108								
	2	106	88	109	90	102	84	110	91	102	85	105	87	98	81	107	88								
	3	84	68	97	80	90	74	98	81	81	65	93	77	87	71	94	78								
Wind Speed [mph]		120								130															
0	1	118	99	123	103	115	96	126	104	122	102	127	107	119	99	129	108								
	2	99	82	102	84	95	78	103	85	102	85	105	87	98	81	107	88								
	3	78	63	90	74	84	69	91	75	81	65	93	77	87	71	94	78								
5	1	118	99	123	103	115	96	126	104	122	102	127	107	119	99	129	108								
	2	99	82	102	84	95	78	103	85	102	85	105	87	98	81	107	88								
	3	78	63	90	74	84	69	91	75	81	65	93	77	87	71	94	78								
10	1	118	99	122	103	115	96	126	104	121	102	125	107	119	99	129	108								
	2	99	82	102	84	95	78	103	85	102	85	105	87	98	81	107	88								
	3	78	63	90	74	84	69	91	75	81	65	93	77	87	71	94	78								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
---------------	------------	------------	---------------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\theta$  = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
		0	1	115	96	119	100	112	93	122	101	108	90	112	93	105	87	114	94	102	84	106	88	99	82
	2	96	79	98	81	91	75	99	82	90	74	92	76	86	71	93	77	84	70	87	72	81	66	88	72
	3	75	61	87	72	81	67	88	72	70	57	82	67	76	62	82	68	65	53	77	63	71	58	77	64
5	1	115	96	119	100	112	93	122	101	108	90	112	93	105	87	114	94	102	84	106	88	99	82	108	89
	2	96	79	98	81	91	75	99	82	90	74	92	76	86	71	93	77	84	70	87	72	81	66	88	72
	3	75	61	87	72	81	67	88	72	70	57	82	67	76	62	82	68	65	53	77	63	71	58	77	64
10	1	115	96	119	100	112	93	122	101	108	90	112	93	105	87	114	94	102	84	106	88	99	82	108	89
	2	96	79	98	81	91	75	99	82	90	74	92	76	86	71	93	77	84	70	87	72	81	66	88	72
	3	75	61	87	72	81	67	88	72	70	57	82	67	76	62	82	68	65	53	77	63	71	58	77	64
Wind Speed [mph]		170								180															
0	1	96	80	100	83	93	77	102	84	91	76	95	79	88	73	96	79								
	2	80	66	82	68	76	63	83	68	76	62	78	64	72	59	78	64								
	3	61	50	73	60	67	55	73	60	58	47	69	56	63	52	69	57								
5	1	96	80	100	83	93	77	102	84	91	76	95	79	88	73	96	79								
	2	80	66	82	68	76	63	83	68	76	62	78	64	72	59	78	64								
	3	61	50	73	60	67	55	73	60	58	47	69	56	63	52	69	57								
10	1	96	80	100	83	93	77	102	84	91	76	95	79	88	73	96	79								
	2	80	66	82	68	76	63	83	68	76	62	78	64	72	59	78	64								
	3	61	50	73	60	67	55	73	60	58	47	69	56	63	52	69	57								
Wind Speed [mph]		190								200															
0	1	87	72	91	75	84	69	92	75	83	68	86	71	80	66	87	72								
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58								
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51								
5	1	87	72	91	75	84	69	92	75	83	68	86	71	80	66	87	72								
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58								
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51								
10	1	87	72	91	75	84	69	92	75	83	68	86	71	80	66	87	72								
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58								
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51								

Exposure Category : C

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
---------------	------------	------------	---------------

**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\theta$  = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	124	112	128	116	126	115	129	126	122	109	126	113	126	111	129	121	119	106	123	110	126	107	129	116
	2	112	98	115	101	114	95	124	103	109	95	112	98	110	91	119	99	106	91	109	94	106	87	115	95
	3	96	78	101	89	101	84	110	91	92	74	98	86	97	80	106	88	88	71	95	83	93	77	102	84
	1	117	106	121	110	117	114	122	122	115	104	119	108	117	111	122	121	113	101	116	105	117	107	122	116
	2	106	95	109	97	113	95	122	103	104	92	107	95	110	91	119	99	101	89	104	92	106	87	115	95
	3	92	78	95	85	99	84	110	91	90	74	93	83	96	80	106	88	88	71	91	80	93	77	102	84
	1	117	106	121	110	111	111	116	116	115	104	119	108	111	107	116	116	113	101	116	105	111	105	116	116
	2	106	95	109	97	110	95	116	103	104	92	107	95	107	91	116	99	101	89	104	92	104	87	115	95
	3	92	78	95	85	96	84	110	91	90	74	93	83	93	80	106	88	88	71	91	80	91	77	102	84
20	1	117	103	121	107	123	103	129	112	114	101	118	104	119	99	129	108								
	2	103	88	106	90	102	84	110	91	101	85	103	87	98	81	107	88								
	3	84	68	93	80	90	74	98	81	81	65	91	77	87	71	94	78								
	1	111	99	114	103	117	103	122	112	108	97	112	100	117	99	122	108								
	2	99	87	102	89	102	84	110	91	97	85	99	87	98	81	107	88								
	3	84	68	89	78	90	74	98	81	81	65	87	76	87	71	94	78								
	1	111	99	114	103	111	102	116	112	108	97	112	100	111	99	116	108								
	2	99	87	102	89	101	84	110	91	97	85	99	87	98	81	107	88								
	3	84	68	89	78	88	74	98	81	81	65	87	76	86	71	94	78								
25	1	112	98	116	102	115	96	126	104	114	101	118	104	119	99	129	108								
	2	98	82	101	84	95	78	103	85	101	85	103	87	98	81	107	88								
	3	78	63	88	74	84	69	91	75	81	65	91	77	87	71	94	78								
	1	106	95	110	98	114	96	122	104	108	97	112	100	117	99	122	108								
	2	95	82	97	84	95	78	103	85	97	85	99	87	98	81	107	88								
	3	78	63	85	74	84	69	91	75	81	65	87	76	87	71	94	78								
	1	106	95	110	98	110	96	116	104	108	97	112	100	111	99	116	108								
	2	95	82	97	84	95	78	103	85	97	85	99	87	98	81	107	88								
	3	78	63	85	74	84	69	91	75	81	65	87	76	86	71	94	78								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	109	96	113	99	112	93	122	101	105	90	108	93	105	87	114	94	100	84	104	88	99	82	108	89
	2	96	79	98	81	91	75	99	82	90	74	92	76	86	71	93	77	84	70	87	72	81	66	88	72
	3	75	61	86	72	81	67	88	72	70	57	82	67	76	62	82	68	65	53	77	63	71	58	77	64
	1	104	92	108	96	111	93	122	101	100	88	104	92	105	87	114	94	96	84	100	88	99	82	108	89
	2	92	79	95	81	91	75	99	82	88	74	91	76	86	71	93	77	84	70	87	72	81	66	88	72
	3	75	61	83	72	81	67	88	72	70	57	79	67	76	62	82	68	65	53	76	63	71	58	77	64
	1	104	92	108	96	108	93	116	101	100	88	104	92	103	87	114	94	96	84	100	88	99	82	108	89
	2	92	79	95	81	91	75	99	82	88	74	91	76	86	71	93	77	84	70	87	72	81	66	88	72
	3	75	61	83	72	81	67	88	72	70	57	79	67	76	62	82	68	65	53	76	63	71	58	77	64
20	1	96	80	100	83	93	77	102	84	91	76	95	79	88	73	96	79	89	76	93	79	88	73	96	79
	2	80	66	82	68	76	63	83	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	73	60	67	55	73	60	58	47	69	56	63	52	69	57	58	47	69	56	63	52	69	57
	1	93	80	96	83	93	77	102	84	89	76	93	79	88	73	96	79	89	76	93	79	88	73	96	79
	2	80	66	82	68	76	63	83	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	73	60	67	55	73	60	58	47	69	56	63	52	69	57	58	47	69	56	63	52	69	57
	1	93	80	96	83	93	77	102	84	89	76	93	79	88	73	96	79	89	76	93	79	88	73	96	79
	2	80	66	82	68	76	63	83	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	73	60	67	55	73	60	58	47	69	56	63	52	69	57	58	47	69	56	63	52	69	57
25	1	87	72	91	75	84	69	92	75	83	68	86	71	80	66	87	72	83	68	86	71	80	66	87	72
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58	68	56	70	58	65	53	71	58
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51	52	42	62	51	57	47	62	51
	1	86	72	90	75	84	69	92	75	83	68	86	71	80	66	87	72	83	68	86	71	80	66	87	72
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58	68	56	70	58	65	53	71	58
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51	52	42	62	51	57	47	62	51
	1	86	72	90	75	84	69	92	75	83	68	86	71	80	66	87	72	83	68	86	71	80	66	87	72
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58	68	56	70	58	65	53	71	58
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51	52	42	62	51	57	47	62	51

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	114	104	117	107	105	105	112	112	112	102	115	105	105	105	112	112	110	99	113	103	105	102	112	112	
	2	104	93	107	95	105	94	112	103	102	90	104	93	104	91	112	99	99	88	102	90	101	87	112	95	
	3	90	78	93	83	93	82	110	91	88	74	91	81	91	79	106	88	86	71	89	79	88	77	102	84	
	35	1	109	101	113	104	101	101	107	107	108	98	111	102	101	101	107	107	106	96	109	100	101	100	107	107
		2	101	90	103	93	101	92	107	103	98	88	101	91	101	89	107	99	96	86	99	88	99	87	107	95
		3	87	78	90	81	90	80	107	91	85	74	88	79	88	78	106	88	83	71	86	77	86	76	102	84
	40	1	106	98	109	101	97	97	104	104	104	96	107	99	97	97	104	104	102	94	106	97	97	97	104	104
		2	98	88	100	91	97	90	104	103	96	86	98	88	97	88	104	99	94	84	96	86	97	85	104	95
		3	84	76	87	79	88	78	104	91	82	74	85	77	86	76	104	88	81	71	83	75	84	74	102	84
Wind Speed [mph]		110								115																
30	1	108	97	111	100	105	99	112	112	106	95	109	98	105	97	112	108									
	2	97	86	100	88	99	84	110	91	95	83	97	86	96	81	107	88									
	3	84	68	87	77	86	74	98	81	81	65	85	75	84	71	94	78									
35	1	104	94	107	98	101	97	107	107	102	92	106	96	101	95	107	107									
	2	94	84	97	86	96	84	107	91	92	82	95	84	94	81	107	88									
	3	81	68	84	75	84	73	98	81	80	65	82	73	82	71	94	78									
40	1	101	92	104	95	97	95	104	104	99	90	102	93	97	93	104	104									
	2	92	82	94	84	94	83	104	91	90	80	92	82	92	81	104	88									
	3	79	68	82	73	82	72	98	81	77	65	80	72	80	70	94	78									
Wind Speed [mph]		120								130																
30	1	104	93	107	96	105	94	112	104	106	95	109	98	105	97	112	108									
	2	93	81	95	84	94	78	103	85	95	83	97	86	96	81	107	88									
	3	78	63	83	73	82	69	91	75	81	65	85	75	84	71	94	78									
35	1	100	90	104	94	101	93	107	104	102	92	106	96	101	95	107	107									
	2	90	80	93	82	92	78	103	85	92	82	95	84	94	81	107	88									
	3	78	63	81	71	80	69	91	75	80	65	82	73	82	71	94	78									
40	1	97	88	101	91	97	91	104	104	99	90	102	93	97	93	104	104									
	2	88	78	91	80	90	78	103	85	90	80	92	82	92	81	104	88									
	3	76	63	79	70	78	68	91	75	77	65	80	72	80	70	94	78									

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	102	91	105	94	105	92	112	101	98	87	102	90	101	87	112	94	95	83	98	86	97	82	108	89
	2	91	79	93	81	91	75	99	82	87	74	89	76	86	71	93	77	83	70	85	72	81	66	88	72
	3	75	61	81	71	80	67	88	72	70	57	78	67	76	62	82	68	65	53	75	63	71	58	77	64
	1	99	88	102	92	101	90	107	101	95	85	99	88	98	86	107	94	92	81	95	84	94	82	107	89
	2	88	78	91	80	90	75	99	82	85	74	87	76	85	71	93	77	81	70	84	72	81	66	88	72
	3	75	61	79	70	78	67	88	72	70	57	76	66	74	62	82	68	65	53	73	63	71	58	77	64
	1	96	86	99	89	97	89	104	101	93	83	96	86	96	85	104	94	90	80	93	83	93	81	104	89
	2	86	76	89	78	88	75	99	82	83	73	85	75	84	71	93	77	80	70	82	72	80	66	88	72
	3	74	61	77	68	76	67	88	72	70	57	74	65	73	62	82	68	65	53	71	62	70	58	77	64
35	1	91	80	95	83	93	77	102	84	88	76	91	79	88	73	96	79	88	76	91	79	88	73	96	79
	2	80	66	82	68	76	63	83	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	72	60	67	55	73	60	58	47	69	56	63	52	69	57	58	47	69	56	63	52	69	57
	1	89	78	92	81	91	77	102	84	86	75	89	78	87	73	96	79	86	75	89	78	87	73	96	79
	2	78	66	80	68	76	63	83	68	75	62	77	64	72	59	78	64	75	62	77	64	72	59	78	64
	3	61	50	70	60	67	55	73	60	58	47	67	56	63	52	69	57	58	47	67	56	63	52	69	57
	1	87	77	90	80	89	77	102	84	84	74	87	77	86	73	96	79	84	74	87	77	86	73	96	79
	2	77	66	79	68	76	63	83	68	74	62	76	64	72	59	78	64	74	62	76	64	72	59	78	64
	3	61	50	69	60	67	55	73	60	58	47	66	56	63	52	69	57	58	47	66	56	63	52	69	57
40	1	85	72	88	75	84	69	92	75	82	68	85	71	80	66	87	72	82	68	85	71	80	66	87	72
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58	68	56	70	58	65	53	71	58
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51	52	42	62	51	57	47	62	51
	1	83	72	86	75	84	69	92	75	80	68	83	71	80	66	87	72	80	68	83	71	80	66	87	72
	2	72	59	74	61	68	56	74	61	68	56	70	58	65	53	71	58	68	56	70	58	65	53	71	58
	3	55	44	65	53	60	49	66	54	52	42	62	51	57	47	62	51	52	42	62	51	57	47	62	51
	1	81	71	84	74	83	69	92	75	79	68	82	71	80	66	87	72	79	68	82	71	80	66	87	72
	2	71	59	73	61	68	56	74	61	68	56	70	58	65	53	71	58	68	56	70	58	65	53	71	58
	3	55	44	64	53	60	49	66	54	52	42	61	51	57	47	62	51	52	42	61	51	57	47	62	51

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	102	95	105	98	94	94	101	101	101	93	104	96	94	94	101	101	99	91	102	94	94	94	101	101
	2	95	86	97	89	94	88	101	101	93	84	95	86	94	86	101	99	91	82	94	84	94	84	101	95
	3	81	74	84	77	86	77	101	91	80	72	83	75	84	75	101	88	78	71	81	73	82	73	100	84
50	1	99	92	102	95	91	91	98	98	98	91	101	94	91	91	98	98	96	89	99	92	91	91	98	98
	2	92	84	95	87	91	87	98	98	91	82	93	85	91	85	98	98	89	81	91	83	91	82	98	95
	3	79	72	82	75	84	75	98	91	78	71	80	73	82	73	98	88	76	69	79	72	80	71	98	84
60	1	93	88	96	91	86	86	93	93	92	86	95	89	86	86	93	93	91	85	94	88	86	86	93	93
	2	88	81	90	83	86	84	93	93	86	79	89	81	86	82	93	93	85	77	87	80	86	80	93	93
	3	75	69	77	72	80	73	93	89	74	68	76	70	78	71	93	87	73	66	75	69	77	69	93	84
45	1	98	89	101	93	94	93	101	101	96	88	99	91	94	91	101	101								
	2	89	80	92	83	92	81	101	91	88	78	90	81	90	79	101	88								
	3	77	68	80	72	80	71	98	81	75	65	78	70	78	69	94	78								
50	1	95	87	98	90	91	91	98	98	94	86	97	89	91	89	98	98								
	2	87	79	90	81	91	80	98	91	86	77	88	79	89	78	98	88								
	3	75	68	78	70	78	70	96	81	74	65	76	69	77	68	94	78								
60	1	90	83	93	86	86	86	93	93	89	82	92	85	86	86	93	93								
	2	83	76	86	78	86	78	93	91	82	74	84	76	85	76	93	88								
	3	71	65	74	67	75	67	93	81	70	64	73	66	74	66	91	78								
45	1	95	86	98	89	94	89	101	101	96	88	99	91	94	91	101	101								
	2	86	77	88	79	88	77	101	85	88	78	90	81	90	79	101	88								
	3	74	63	77	68	77	67	91	75	75	65	78	70	78	69	94	78								
50	1	92	84	95	87	91	87	98	98	94	86	97	89	91	89	98	98								
	2	84	75	86	77	87	76	98	85	86	77	88	79	89	78	98	88								
	3	72	63	75	67	75	66	91	75	74	65	76	69	77	68	94	78								
60	1	88	81	90	83	86	84	93	93	89	82	92	85	86	86	93	93								
	2	81	73	83	75	84	74	93	85	82	74	84	76	85	76	93	88								
	3	69	62	71	65	72	64	89	75	70	64	73	66	74	66	91	78								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	93	84	96	87	94	87	101	101	90	81	93	84	94	83	101	94	88	78	91	81	91	80	101	89
	2	84	75	87	77	86	75	99	82	81	72	83	74	83	71	93	77	78	69	80	70	79	66	88	72
	3	73	61	75	67	75	66	88	72	70	57	72	64	72	62	82	68	65	53	70	61	69	58	77	64
50	1	91	83	94	86	91	85	98	98	88	80	91	82	91	82	98	94	86	77	88	80	89	79	98	89
	2	83	74	85	76	85	74	98	82	80	71	82	72	81	71	93	77	77	68	79	69	78	66	88	72
	3	71	61	73	66	74	65	88	72	68	57	71	63	71	62	82	68	65	53	68	60	68	58	77	64
60	1	86	79	89	82	86	83	93	93	84	77	87	79	86	79	93	93	82	74	85	77	86	76	93	89
	2	79	71	81	73	82	72	93	82	77	68	79	70	79	69	93	77	74	66	76	68	76	66	88	72
	3	68	61	70	63	71	63	87	72	66	57	68	61	68	60	82	68	64	53	66	59	66	57	77	64
45	1	85	75	88	78	87	76	101	84	82	73	85	75	84	73	96	79								
	2	75	66	77	67	76	63	83	68	73	62	75	64	72	59	78	64								
	3	61	50	67	59	66	55	73	60	58	47	65	56	63	52	69	57								
50	1	83	74	86	77	86	75	98	84	81	71	83	74	83	72	96	79								
	2	74	65	76	67	75	63	83	68	71	62	73	64	72	59	78	64								
	3	61	50	66	58	65	55	73	60	58	47	64	56	62	52	69	57								
60	1	80	72	82	74	83	73	93	84	77	69	80	72	80	71	93	79								
	2	72	63	74	65	73	63	83	68	69	61	71	62	70	59	78	64								
	3	61	50	64	56	63	55	73	60	58	47	62	54	61	52	69	57								
45	1	80	70	83	73	81	69	92	75	77	68	80	70	79	66	87	72								
	2	70	59	72	61	68	56	74	61	68	56	69	58	65	53	71	58								
	3	55	44	63	53	60	49	66	54	52	42	60	51	57	47	62	51								
50	1	78	69	81	72	80	69	92	75	76	67	79	69	78	66	87	72								
	2	69	59	71	61	68	56	74	61	67	56	68	58	65	53	71	58								
	3	55	44	62	53	60	49	66	54	52	42	60	51	57	47	62	51								
60	1	75	67	78	70	78	68	92	75	73	65	76	67	75	66	87	72								
	2	67	58	69	60	68	56	74	61	65	56	67	58	65	53	71	58								
	3	55	44	60	52	59	49	66	54	52	42	58	50	57	47	62	51								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
		70	1	89	84	91	86	82	82	89	89	88	83	90	85	82	82	89	89	87	81	89	84	82	82
2	84		78	86	80	82	81	89	89	83	76	85	78	82	79	89	89	81	75	83	77	82	78	89	89
3	72		66	74	69	77	70	89	87	71	65	73	67	75	69	89	85	69	64	72	66	74	67	89	82
80	1	84	80	86	83	79	79	86	86	84	79	86	82	79	79	86	86	83	78	85	81	79	79	86	86
	2	80	75	82	77	79	79	86	86	79	74	81	76	79	77	86	86	78	72	80	74	79	75	86	86
	3	68	64	71	66	74	68	86	86	68	63	70	65	73	66	86	83	67	62	69	64	71	65	86	81
90	1	80	77	82	80	76	76	83	83	80	76	82	79	76	76	83	83	80	75	82	78	76	76	83	83
	2	77	72	79	74	76	76	83	83	76	71	78	73	76	75	83	83	75	70	77	72	76	73	83	83
	3	66	62	68	64	71	66	83	83	65	61	67	63	70	65	83	82	64	60	66	62	69	63	83	79
70	1	86	80	88	83	82	82	89	89	85	79	87	81	82	82	89	89								
	2	80	73	82	75	82	76	89	89	79	72	81	74	82	74	89	88								
	3	68	63	71	65	73	65	89	80	67	62	70	64	71	64	89	78								
80	1	82	77	85	80	79	79	86	86	81	76	84	78	79	79	86	86								
	2	77	71	79	73	79	74	86	86	76	70	78	72	79	72	86	86								
	3	66	61	68	63	70	64	86	79	65	60	67	62	69	62	86	77								
90	1	79	74	81	77	76	76	83	83	78	73	80	76	76	76	83	83								
	2	74	69	76	71	76	72	83	83	73	68	75	69	76	70	83	83								
	3	63	59	65	61	68	62	83	77	63	58	65	60	67	61	83	75								
70	1	84	78	86	80	82	82	89	89	85	79	87	81	82	82	89	89								
	2	78	70	80	72	81	72	89	85	79	72	81	74	82	74	89	88								
	3	66	60	69	63	70	63	87	75	67	62	70	64	71	64	89	78								
80	1	80	75	83	77	79	79	86	86	81	76	84	78	79	79	86	86								
	2	75	68	77	70	79	71	86	85	76	70	78	72	79	72	86	86								
	3	64	59	66	61	68	61	85	75	65	60	67	62	69	62	86	77								
90	1	77	72	80	75	76	76	83	83	78	73	80	76	76	76	83	83								
	2	72	66	74	68	76	69	83	83	73	68	75	69	76	70	83	83								
	3	62	57	64	59	66	60	83	73	63	58	65	60	67	61	83	75								
70	1	84	78	86	80	82	82	89	89	85	79	87	81	82	82	89	89								
	2	78	70	80	72	81	72	89	85	79	72	81	74	82	74	89	88								
	3	66	60	69	63	70	63	87	75	67	62	70	64	71	64	89	78								
80	1	80	75	83	77	79	79	86	86	81	76	84	78	79	79	86	86								
	2	75	68	77	70	79	71	86	85	76	70	78	72	79	72	86	86								
	3	64	59	66	61	68	61	85	75	65	60	67	62	69	62	86	77								
90	1	77	72	80	75	76	76	83	83	78	73	80	76	76	76	83	83								
	2	72	66	74	68	76	69	83	83	73	68	75	69	76	70	83	83								
	3	62	57	64	59	66	60	83	73	63	58	65	60	67	61	83	75								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	83	76	85	79	82	80	89	89	81	74	83	77	82	77	89	89	79	72	81	74	82	74	89	89
	2	76	69	78	71	80	71	89	82	74	67	76	68	77	68	89	77	72	64	74	66	74	65	88	72
	3	65	59	68	61	69	61	85	72	63	57	66	59	66	59	81	68	61	53	64	57	64	56	77	64
80	1	79	74	82	76	79	78	86	86	78	72	80	74	79	75	86	86	76	69	78	72	79	72	86	86
	2	74	67	76	69	77	69	86	82	72	65	74	67	75	66	86	77	69	62	71	64	72	63	86	72
	3	63	57	65	59	67	60	83	72	61	55	63	57	64	57	80	68	59	53	61	55	62	55	76	64
90	1	76	71	79	74	76	76	83	83	75	69	77	72	76	73	83	83	73	67	76	70	76	71	83	83
	2	71	65	73	67	75	68	83	82	69	63	71	65	73	65	83	77	67	61	69	63	70	62	83	72
	3	61	56	63	58	65	58	82	72	59	54	61	56	63	56	78	68	58	52	60	54	61	54	75	64
Wind Speed [mph]		170								180															
70	1	77	69	79	72	80	72	89	84	75	67	77	70	78	69	89	79								
	2	69	62	71	63	71	62	83	68	67	59	69	61	69	59	78	64								
	3	60	50	62	55	62	54	73	60	58	47	60	53	59	52	69	57								
80	1	74	67	76	70	78	70	86	84	72	65	75	68	76	68	86	79								
	2	67	60	69	62	69	61	83	68	65	58	67	60	67	58	78	64								
	3	58	50	60	54	60	53	73	60	56	47	58	52	58	51	69	57								
90	1	72	66	74	68	76	68	83	83	70	64	72	66	74	66	83	79								
	2	66	59	67	61	68	60	83	68	64	57	66	58	66	58	78	64								
	3	56	50	58	52	59	52	72	60	55	47	56	51	57	50	69	57								
Wind Speed [mph]		190								200															
70	1	73	65	75	68	76	67	89	75	71	63	73	66	73	64	87	72								
	2	65	57	67	59	66	56	74	61	63	55	65	57	64	53	71	58								
	3	55	44	58	51	57	49	66	54	52	42	56	49	55	47	62	51								
80	1	71	64	73	66	74	65	86	75	69	62	71	64	72	63	86	72								
	2	64	56	65	58	65	56	74	61	62	54	63	56	63	53	71	58								
	3	54	44	56	50	56	49	66	54	52	42	55	48	54	47	62	51								
90	1	68	62	71	64	72	64	83	75	67	60	69	62	70	62	83	72								
	2	62	55	64	57	64	55	74	61	60	53	62	55	61	53	71	58								
	3	53	44	55	49	55	48	66	54	52	42	53	47	53	46	62	51								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	76	75	78	77	74	74	81	81	76	74	78	76	74	74	81	81	76	73	78	75	74	74	81	81
	2	75	70	77	72	74	74	81	81	74	69	76	71	74	73	81	81	73	68	75	70	74	72	81	81
	3	63	60	65	62	69	64	81	81	63	59	65	61	68	63	81	80	62	58	64	60	67	62	81	78
Wind Speed [mph]		110								115															
100	1	76	72	78	74	74	74	81	81	75	71	78	73	74	74	81	81								
	2	72	67	74	69	74	70	81	81	71	66	73	68	74	69	81	81								
	3	61	57	63	59	66	60	81	76	60	56	62	58	65	59	81	74								
Wind Speed [mph]		120								130															
100	1	75	70	77	72	74	74	81	81	75	71	78	73	74	74	81	81								
	2	70	65	72	66	74	67	81	81	71	66	73	68	74	69	81	81								
	3	60	55	62	57	64	58	81	72	60	56	62	58	65	59	81	74								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	74	69	76	71	74	74	81	81	72	67	75	70	74	71	81	81	71	66	73	68	74	69	81	81
	2	69	64	71	65	73	66	81	81	67	62	69	63	71	64	81	77	66	60	67	61	69	61	81	72
	3	59	54	61	56	63	57	80	71	57	53	59	54	61	55	77	67	56	51	58	53	59	53	74	64
Wind Speed [mph]		170								180															
100	1	69	64	72	66	74	67	81	81	68	62	70	64	72	65	81	79								
	2	64	58	66	59	66	59	81	68	62	56	64	57	64	57	78	64								
	3	55	49	56	51	57	51	71	60	53	47	55	50	56	49	68	57								
Wind Speed [mph]		190								200															
100	1	67	61	69	63	70	63	81	75	65	59	67	61	68	61	81	72								
	2	61	54	62	56	62	55	74	61	59	52	61	54	60	53	71	58								
	3	52	44	54	48	54	47	66	54	50	42	52	47	52	46	62	51								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	129	110	133	115	127	107	135	117	126	106	130	110	123	103	131	112	122	102	126	106	119	99	128	108
	2	110	92	113	94	106	88	115	95	106	88	109	90	102	84	110	91	102	84	105	87	98	81	106	88
	3	88	71	101	84	94	77	102	84	84	68	97	80	90	74	98	81	80	65	93	77	86	71	94	77
5	1	129	110	133	115	127	107	135	117	126	106	130	110	123	103	131	112	122	102	126	106	119	99	128	108
	2	110	92	113	94	106	88	115	95	106	88	109	90	102	84	110	91	102	84	105	87	98	81	106	88
	3	88	71	101	84	94	77	102	84	84	68	97	80	90	74	98	81	80	65	93	77	86	71	94	77
10	1	126	110	129	115	127	107	135	117	124	106	127	110	123	103	131	112	120	102	125	106	119	99	128	108
	2	110	92	113	94	106	88	115	95	106	88	109	90	102	84	110	91	102	84	105	87	98	81	106	88
	3	88	71	101	84	94	77	102	84	84	68	97	80	90	74	98	81	80	65	93	77	86	71	94	77
0	1	118	98	122	102	114	95	125	104	114	95	118	99	111	92	120	100								
	2	98	81	101	84	94	78	102	84	95	78	97	81	91	75	98	81								
	3	77	63	90	74	83	68	90	74	74	60	86	71	80	66	87	72								
5	1	118	98	122	102	114	95	125	104	114	95	118	99	111	92	120	100								
	2	98	81	101	84	94	78	102	84	95	78	97	81	91	75	98	81								
	3	77	63	90	74	83	68	90	74	74	60	86	71	80	66	87	72								
10	1	117	98	121	102	114	95	125	104	114	95	118	99	111	92	120	100								
	2	98	81	101	84	94	78	102	84	95	78	97	81	91	75	98	81								
	3	77	63	90	74	83	68	90	74	74	60	86	71	80	66	87	72								
0	1	110	91	114	95	107	89	116	96	114	95	118	99	111	92	120	100								
	2	91	76	94	78	87	72	95	78	95	78	97	81	91	75	98	81								
	3	71	58	83	69	77	63	84	69	74	60	86	71	80	66	87	72								
5	1	110	91	114	95	107	89	116	96	114	95	118	99	111	92	120	100								
	2	91	76	94	78	87	72	95	78	95	78	97	81	91	75	98	81								
	3	71	58	83	69	77	63	84	69	74	60	86	71	80	66	87	72								
10	1	110	91	114	95	107	89	116	96	114	95	118	99	111	92	120	100								
	2	91	76	94	78	87	72	95	78	95	78	97	81	91	75	98	81								
	3	71	58	83	69	77	63	84	69	74	60	86	71	80	66	87	72								
0	1	110	91	114	95	107	89	116	96	114	95	118	99	111	92	120	100								
	2	91	76	94	78	87	72	95	78	95	78	97	81	91	75	98	81								
	3	71	58	83	69	77	63	84	69	74	60	86	71	80	66	87	72								
5	1	110	91	114	95	107	89	116	96	114	95	118	99	111	92	120	100								
	2	91	76	94	78	87	72	95	78	95	78	97	81	91	75	98	81								
	3	71	58	83	69	77	63	84	69	74	60	86	71	80	66	87	72								
10	1	110	91	114	95	107	89	116	96	114	95	118	99	111	92	120	100								
	2	91	76	94	78	87	72	95	78	95	78	97	81	91	75	98	81								
	3	71	58	83	69	77	63	84	69	74	60	86	71	80	66	87	72								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	106	88	111	92	103	86	113	93	100	83	104	86	97	80	106	87	94	78	98	81	91	75	99	82	
	2	88	73	91	75	85	70	92	76	83	68	85	70	79	65	86	71	78	64	80	66	74	61	81	66	
	3	69	56	81	66	75	61	81	67	64	52	75	62	70	57	76	62	60	49	71	58	66	54	71	58	
	5	1	106	88	111	92	103	86	113	93	100	83	104	86	97	80	106	87	94	78	98	81	91	75	99	82
		2	88	73	91	75	85	70	92	76	83	68	85	70	79	65	86	71	78	64	80	66	74	61	81	66
		3	69	56	81	66	75	61	81	67	64	52	75	62	70	57	76	62	60	49	71	58	66	54	71	58
	10	1	106	88	111	92	103	86	113	93	100	83	104	86	97	80	106	87	94	78	98	81	91	75	99	82
		2	88	73	91	75	85	70	92	76	83	68	85	70	79	65	86	71	78	64	80	66	74	61	81	66
		3	69	56	81	66	75	61	81	67	64	52	75	62	70	57	76	62	60	49	71	58	66	54	71	58
0	1	89	74	93	77	86	71	94	77	84	70	88	73	82	67	89	73									
	2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59									
	3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52									
	5	1	89	74	93	77	86	71	94	77	84	70	88	73	82	67	89	73								
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59								
		3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52								
	10	1	89	74	93	77	86	71	94	77	84	70	88	73	82	67	89	73								
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59								
		3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52								
0	1	89	74	93	77	86	71	94	77	84	70	88	73	82	67	89	73									
	2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59									
	3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52									
	5	1	89	74	93	77	86	71	94	77	84	70	88	73	82	67	89	73								
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59								
		3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52								
	10	1	89	74	93	77	86	71	94	77	84	70	88	73	82	67	89	73								
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59								
		3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52								
0	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66									
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53									
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47									
	5	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
	10	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
0	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66									
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53									
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47									
	5	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
	10	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	119	106	123	110	127	107	132	117	116	103	120	107	123	103	131	112	114	100	118	104	119	99	128	108
	2	106	92	109	94	106	88	115	95	103	88	106	90	102	84	110	91	100	84	103	87	98	81	106	88
	3	88	71	96	84	94	77	102	84	84	68	93	80	90	74	98	81	80	65	90	77	86	71	94	77
	1	113	102	117	105	121	107	125	117	110	99	114	103	121	103	125	112	108	97	112	100	118	99	125	108
	2	102	90	104	92	106	88	115	95	99	87	102	89	102	84	110	91	97	84	99	87	98	81	106	88
	3	88	71	91	81	94	77	102	84	84	68	89	78	90	74	98	81	80	65	87	76	86	71	94	77
	1	113	102	117	105	114	106	119	117	110	99	114	103	114	103	119	112	108	97	112	100	114	99	119	108
	2	102	90	104	92	105	88	115	95	99	87	102	89	102	84	110	91	97	84	99	87	98	81	106	88
	3	88	71	91	81	92	77	102	84	84	68	89	78	90	74	98	81	80	65	87	76	86	71	94	77
20	1	111	98	115	101	114	95	125	104	109	95	112	99	111	92	120	100								
	2	98	81	100	84	94	78	102	84	95	78	97	81	91	75	98	81								
	3	77	63	88	74	83	68	90	74	74	60	86	71	80	66	87	72								
	1	106	94	110	98	114	95	125	104	104	92	107	95	111	92	120	100								
	2	94	81	97	84	94	78	102	84	92	78	94	81	91	75	98	81								
	3	77	63	84	74	83	68	90	74	74	60	82	71	80	66	87	72								
	1	106	94	110	98	112	95	119	104	104	92	107	95	109	92	119	100								
	2	94	81	97	84	94	78	102	84	92	78	94	81	91	75	98	81								
	3	77	63	84	74	83	68	90	74	74	60	82	71	80	66	87	72								
25	1	106	91	110	95	107	89	116	96	109	95	112	99	111	92	120	100								
	2	91	76	94	78	87	72	95	78	95	78	97	81	91	75	98	81								
	3	71	58	83	69	77	63	84	69	74	60	86	71	80	66	87	72								
	1	101	90	105	93	107	89	116	96	104	92	107	95	111	92	120	100								
	2	90	76	92	78	87	72	95	78	92	78	94	81	91	75	98	81								
	3	71	58	80	69	77	63	84	69	74	60	82	71	80	66	87	72								
	1	101	90	105	93	106	89	116	96	104	92	107	95	109	92	119	100								
	2	90	76	92	78	87	72	95	78	92	78	94	81	91	75	98	81								
	3	71	58	80	69	77	63	84	69	74	60	82	71	80	66	87	72								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	104	88	107	92	103	86	113	93	99	83	103	86	97	80	106	87	94	78	98	81	91	75	99	82	
	2	88	73	91	75	85	70	92	76	83	68	85	70	79	65	86	71	78	64	80	66	74	61	81	66	
	3	69	56	81	66	75	61	81	67	64	52	75	62	70	57	76	62	60	49	71	58	66	54	71	58	
	20	1	99	87	103	91	103	86	113	93	95	83	99	86	97	80	106	87	91	78	95	81	91	75	99	82
		2	87	73	90	75	85	70	92	76	83	68	85	70	79	65	86	71	78	64	80	66	74	61	81	66
		3	69	56	78	66	75	61	81	67	64	52	75	62	70	57	76	62	60	49	71	58	66	54	71	58
	25	1	99	87	103	91	103	86	113	93	95	83	99	86	97	80	106	87	91	78	95	81	91	75	99	82
		2	87	73	90	75	85	70	92	76	83	68	85	70	79	65	86	71	78	64	80	66	74	61	81	66
		3	69	56	78	66	75	61	81	67	64	52	75	62	70	57	76	62	60	49	71	58	66	54	71	58
15	1	89	74	93	77	86	71	94	77	84	70	88	73	82	67	89	73	84	70	88	73	82	67	89	73	
	2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59	70	57	72	59	66	54	72	59	
	3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52	53	43	63	52	58	48	64	52	
	20	1	88	74	91	77	86	71	94	77	84	70	88	73	82	67	89	73	84	70	88	73	82	67	89	73
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59	70	57	72	59	66	54	72	59
		3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52	53	43	63	52	58	48	64	52
	25	1	88	74	91	77	86	71	94	77	84	70	88	73	82	67	89	73	84	70	88	73	82	67	89	73
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59	70	57	72	59	66	54	72	59
		3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52	53	43	63	52	58	48	64	52
15	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66	76	63	80	66	74	61	80	66	
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53	
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47	
	20	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66	76	63	80	66	74	61	80	66
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47
	25	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66	76	63	80	66	74	61	80	66
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	113	101	116	105	109	104	115	115	110	99	114	102	109	101	115	112	108	96	112	100	109	98	115	108
	2	101	90	104	92	103	88	115	95	99	87	102	89	100	84	110	91	96	84	99	87	97	81	106	88
	3	88	71	91	80	90	77	102	84	84	68	89	78	87	74	98	81	80	65	86	76	85	71	94	77
	1	109	99	112	102	104	102	111	111	107	96	110	100	104	99	111	111	105	94	108	97	104	96	111	108
	2	99	88	101	90	101	88	111	95	96	85	99	87	98	84	110	91	94	83	97	85	95	81	106	88
	3	85	71	88	79	88	77	102	84	83	68	86	76	85	74	98	81	80	65	84	74	83	71	94	77
	1	106	96	109	99	101	99	107	107	104	94	107	97	101	97	107	107	102	92	105	95	101	94	107	107
	2	96	86	99	88	99	87	107	95	94	83	96	86	96	84	107	91	92	81	94	83	94	81	106	88
	3	83	71	86	77	86	76	102	84	81	68	84	75	84	73	98	81	79	65	82	73	81	71	94	77
35	1	106	94	109	97	109	95	115	104	104	92	107	95	106	92	115	100	106	94	109	97	109	95	115	104
	2	94	81	97	84	94	78	102	84	92	78	94	81	91	75	98	81	94	81	97	84	94	78	102	84
	3	77	63	84	74	83	68	90	74	74	60	82	71	80	66	87	72	74	60	82	71	80	66	87	72
	1	103	92	106	95	104	94	111	104	101	90	104	93	104	91	111	100	101	90	104	93	104	91	111	100
	2	92	80	94	83	93	78	102	84	90	78	92	80	90	75	98	81	90	78	92	80	90	75	98	81
	3	77	63	82	72	81	68	90	74	74	60	80	70	79	66	87	72	74	60	80	70	79	66	87	72
	1	100	90	103	93	101	92	107	104	98	88	101	91	101	90	107	100	98	88	101	91	101	90	107	100
	2	90	79	92	81	91	78	102	84	88	77	90	79	89	75	98	81	88	77	90	79	89	75	98	81
	3	77	63	80	71	79	68	90	74	74	60	78	69	77	66	87	72	74	60	78	69	77	66	87	72
40	1	101	89	105	93	104	89	115	96	104	92	107	95	106	92	115	100	104	92	107	95	106	92	115	100
	2	89	76	92	78	87	72	95	78	92	78	94	81	91	75	98	81	92	78	94	81	91	75	98	81
	3	71	58	80	69	77	63	84	69	74	60	82	71	80	66	87	72	74	60	82	71	80	66	87	72
	1	99	88	102	91	101	89	111	96	101	90	104	93	104	91	111	100	101	90	104	93	104	91	111	100
	2	88	76	90	78	87	72	95	78	90	78	92	80	90	75	98	81	90	78	92	80	90	75	98	81
	3	71	58	78	68	77	63	84	69	74	60	80	70	79	66	87	72	74	60	80	70	79	66	87	72
	1	96	86	99	89	99	87	107	96	98	88	101	91	101	90	107	100	98	88	101	91	101	90	107	100
	2	86	75	88	77	87	72	95	78	88	77	90	79	89	75	98	81	88	77	90	79	89	75	98	81
	3	71	58	77	67	75	63	84	69	74	60	78	69	77	66	87	72	74	60	78	69	77	66	87	72

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	99	87	103	91	101	86	113	93	95	83	99	86	97	80	106	87	91	78	95	81	91	75	99	82	
	2	87	73	90	75	85	70	92	76	83	68	85	70	79	65	86	71	78	64	80	66	74	61	81	66	
	3	69	56	78	66	75	61	81	67	64	52	75	62	70	57	76	62	60	49	71	58	66	54	71	58	
	35	1	97	85	100	89	99	86	111	93	93	82	96	85	95	80	106	87	89	78	93	81	91	75	99	82
		2	85	73	88	75	85	70	92	76	82	68	84	70	79	65	86	71	78	64	80	66	74	61	81	66
		3	69	56	77	66	75	61	81	67	64	52	73	62	70	57	76	62	60	49	70	58	66	54	71	58
	40	1	94	84	98	87	97	85	107	93	91	80	94	83	93	80	106	87	87	77	91	80	89	75	99	82
		2	84	73	86	75	84	70	92	76	80	68	82	70	79	65	86	71	77	64	79	66	74	61	81	66
		3	69	56	75	66	74	61	81	67	64	52	72	62	70	57	76	62	60	49	69	58	66	54	71	58
30	1	88	74	91	77	86	71	94	77	84	70	88	73	82	67	89	73									
	2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59									
	3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52									
	35	1	86	74	89	77	86	71	94	77	83	70	86	73	82	67	89	73								
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59								
		3	56	46	67	55	62	51	67	55	53	43	63	52	58	48	64	52								
	40	1	84	74	87	76	86	71	94	77	81	70	84	73	82	67	89	73								
		2	74	61	76	62	70	58	76	63	70	57	72	59	66	54	72	59								
		3	56	46	66	55	62	51	67	55	53	43	63	52	58	48	64	52								
30	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66									
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53									
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47									
	35	1	80	66	83	69	78	64	84	69	76	63	80	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
	40	1	78	66	81	69	78	64	84	69	76	63	79	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
30	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66									
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53									
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47									
	35	1	80	66	83	69	78	64	84	69	76	63	80	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
	40	1	78	66	81	69	78	64	84	69	76	63	79	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
30	1	80	66	84	69	78	64	84	69	76	63	80	66	74	61	80	66									
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53									
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47									
	35	1	80	66	83	69	78	64	84	69	76	63	80	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
	40	1	78	66	81	69	78	64	84	69	76	63	79	66	74	61	80	66								
		2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
		3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	102	94	106	97	97	97	104	104	101	92	104	95	97	95	104	104	99	90	102	93	97	93	104	104
	2	94	84	96	86	97	85	104	95	92	82	94	84	94	83	104	91	90	80	92	82	92	80	104	88
	3	81	71	84	75	84	74	102	84	79	68	82	73	82	72	98	81	77	65	80	71	80	70	94	77
50	1	100	92	103	95	94	94	101	101	98	90	101	93	94	93	101	101	96	88	99	91	94	91	101	101
	2	92	83	94	85	94	84	101	95	90	80	92	83	93	82	101	91	88	78	90	81	90	79	101	88
	3	79	71	81	74	82	73	101	84	77	68	80	72	80	71	98	81	76	65	78	70	78	69	94	77
60	1	95	88	97	91	89	89	96	96	93	86	96	89	89	89	96	96	92	84	95	87	89	88	96	96
	2	88	80	90	82	89	82	96	95	86	78	88	80	89	79	96	91	84	76	87	78	87	77	96	88
	3	75	68	78	71	79	71	96	84	74	67	76	69	77	69	95	81	72	65	75	68	76	67	93	77
Wind Speed [mph]		110								115															
45	1	97	88	100	91	97	90	104	104	95	86	99	89	97	88	104	100								
	2	88	78	90	80	90	78	102	84	86	76	88	78	87	75	98	81								
	3	76	63	78	70	78	68	90	74	74	60	77	68	76	66	87	72								
50	1	95	86	98	89	94	89	101	101	93	84	96	87	94	87	101	100								
	2	86	76	88	79	88	77	101	84	84	75	86	77	86	75	98	81								
	3	74	63	77	68	77	67	90	74	72	60	75	67	75	65	87	72								
60	1	90	83	93	86	89	86	96	96	89	81	92	84	89	84	96	96								
	2	83	74	85	76	85	75	96	84	81	72	83	74	83	73	96	81								
	3	71	63	73	66	74	65	90	74	70	60	72	65	72	64	87	72								
Wind Speed [mph]		120								130															
45	1	94	84	97	87	97	86	104	96	95	86	99	89	97	88	104	100								
	2	84	74	86	76	85	72	95	78	86	76	88	78	87	75	98	81								
	3	71	58	75	66	74	63	84	69	74	60	77	68	76	66	87	72								
50	1	92	82	95	85	94	85	101	96	93	84	96	87	94	87	101	100								
	2	82	73	85	75	84	72	95	78	84	75	86	77	86	75	98	81								
	3	71	58	73	65	73	63	84	69	72	60	75	67	75	65	87	72								
60	1	88	80	90	82	89	82	96	96	89	81	92	84	89	84	96	96								
	2	80	71	82	73	82	71	95	78	81	72	83	74	83	73	96	81								
	3	68	58	71	63	71	62	84	69	70	60	72	65	72	64	87	72								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	92	82	95	85	95	84	104	93	89	79	92	82	91	80	104	87	86	76	89	78	88	75	99	82
	2	82	72	84	74	83	70	92	76	79	68	81	70	79	65	86	71	76	64	78	66	74	61	81	66
	3	69	56	73	65	72	61	81	67	64	52	70	61	69	57	76	62	60	49	68	58	66	54	71	58
50	1	90	81	93	84	94	83	101	93	87	77	90	80	90	79	101	87	84	74	87	77	86	75	99	82
	2	81	71	83	73	82	70	92	76	77	68	80	70	78	65	86	71	74	64	76	66	74	61	81	66
	3	69	56	72	64	71	61	81	67	64	52	69	61	68	57	76	62	60	49	66	58	65	54	71	58
60	1	86	78	89	81	89	80	96	93	83	75	86	78	87	77	96	87	81	72	84	75	84	74	96	82
	2	78	69	80	71	80	69	92	76	75	66	77	68	76	65	86	71	72	63	74	65	73	61	81	66
	3	67	56	69	62	69	60	81	67	64	52	67	59	66	57	76	62	60	49	64	56	63	54	71	58
45	1	83	72	86	75	84	71	94	77	80	70	83	72	81	67	89	73								
	2	72	61	74	62	70	58	76	63	70	57	72	59	66	54	72	59								
	3	56	46	65	55	62	51	67	55	53	43	62	52	58	48	64	52								
50	1	81	71	84	74	83	71	94	77	78	69	81	71	80	67	89	73								
	2	71	61	73	62	70	58	76	63	69	57	71	59	66	54	72	59								
	3	56	46	64	55	62	51	67	55	53	43	61	52	58	48	64	52								
60	1	78	69	81	72	81	71	94	77	76	67	79	69	78	67	89	73								
	2	69	60	71	62	70	58	76	63	67	57	69	59	66	54	72	59								
	3	56	46	62	54	61	51	67	55	53	43	60	52	58	48	64	52								
45	1	83	72	86	75	84	71	94	77	80	70	83	72	81	67	89	73								
	2	72	61	74	62	70	58	76	63	70	57	72	59	66	54	72	59								
	3	56	46	65	55	62	51	67	55	53	43	62	52	58	48	64	52								
50	1	81	71	84	74	83	71	94	77	78	69	81	71	80	67	89	73								
	2	71	61	73	62	70	58	76	63	69	57	71	59	66	54	72	59								
	3	56	46	64	55	62	51	67	55	53	43	61	52	58	48	64	52								
60	1	78	69	81	72	81	71	94	77	76	67	79	69	78	67	89	73								
	2	69	60	71	62	70	58	76	63	67	57	69	59	66	54	72	59								
	3	56	46	62	54	61	51	67	55	53	43	60	52	58	48	64	52								
45	1	77	66	80	69	78	64	84	69	74	63	77	66	74	61	80	66								
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
50	1	76	66	79	69	77	64	84	69	73	63	76	66	74	61	80	66								
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
	3	50	41	59	49	55	45	60	49	48	39	57	47	53	43	57	47								
60	1	74	65	76	67	75	64	84	69	71	62	74	65	73	61	80	66								
	2	65	54	66	56	63	52	68	56	62	52	64	53	60	49	65	53								
	3	50	41	58	49	55	45	60	49	48	39	56	47	53	43	57	47								
45	1	77	66	80	69	78	64	84	69	74	63	77	66	74	61	80	66								
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
	3	50	41	60	49	55	45	60	49	48	39	57	47	53	43	57	47								
50	1	76	66	79	69	77	64	84	69	73	63	76	66	74	61	80	66								
	2	66	54	68	56	63	52	68	56	63	52	65	53	60	49	65	53								
	3	50	41	59	49	55	45	60	49	48	39	57	47	53	43	57	47								
60	1	74	65	76	67	75	64	84	69	71	62	74	65	73	61	80	66								
	2	65	54	66	56	63	52	68	56	62	52	64	53	60	49	65	53								
	3	50	41	58	49	55	45	60	49	48	39	56	47	53	43	57	47								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

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 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	90	84	93	87	85	85	92	92	89	83	92	85	85	85	92	92	88	81	91	84	85	85	92	92	
	2	84	77	86	79	85	79	92	92	83	75	85	77	85	77	92	91	81	74	83	76	85	75	92	88	
	3	72	66	74	68	76	69	92	84	71	65	73	67	75	67	92	81	69	63	72	65	73	65	91	77	
	80	1	86	81	89	84	82	82	89	89	85	80	88	82	82	82	89	89	84	78	87	81	82	82	89	89
		2	81	75	83	77	82	77	89	89	80	73	82	75	82	75	89	89	78	71	80	73	82	74	89	88
		3	69	64	71	66	74	67	89	82	68	62	70	65	72	65	89	80	67	61	69	63	71	64	89	77
	90	1	83	78	86	81	79	79	86	86	82	77	85	79	79	79	86	86	81	76	84	78	79	79	86	86
		2	78	72	80	74	79	75	86	86	77	71	79	73	79	74	86	86	76	70	78	71	79	72	86	86
		3	67	62	69	64	71	65	86	81	66	61	68	63	70	64	86	79	65	59	67	62	69	62	86	76
Wind Speed [mph]		110								115																
70	1	87	80	89	82	85	83	92	92	85	78	88	81	85	82	92	92									
	2	80	72	82	74	83	73	92	84	78	70	80	72	81	72	92	81									
	3	68	62	71	64	72	64	88	74	67	60	69	63	70	62	86	72									
80	1	83	77	86	80	82	81	89	89	82	76	85	78	82	79	89	89									
	2	77	70	79	72	81	72	89	84	76	69	78	70	79	70	89	81									
	3	66	60	68	62	69	62	87	74	65	59	67	61	68	61	84	72									
90	1	80	75	83	77	79	79	86	86	79	73	82	76	79	77	86	86									
	2	75	68	77	70	78	70	86	84	73	67	75	69	77	69	86	81									
	3	64	58	66	60	68	61	85	74	63	57	65	59	66	59	83	72									
Wind Speed [mph]		120								130																
70	1	84	77	87	80	85	80	92	92	85	78	88	81	85	82	92	92									
	2	77	69	79	71	79	70	92	78	78	70	80	72	81	72	92	81									
	3	66	58	68	61	69	61	84	69	67	60	69	63	70	62	86	72									
80	1	81	74	84	77	82	78	89	89	82	76	85	78	82	79	89	89									
	2	74	67	76	69	77	68	89	78	76	69	78	70	79	70	89	81									
	3	64	58	66	60	67	59	82	69	65	59	67	61	68	61	84	72									
90	1	78	72	81	75	79	76	86	86	79	73	82	76	79	77	86	86									
	2	72	65	74	67	75	67	86	78	73	67	75	69	77	69	86	81									
	3	62	56	64	58	65	58	81	69	63	57	65	59	66	59	83	72									

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	83	75	86	78	85	78	92	92	80	73	83	75	84	75	92	87	78	70	81	73	81	72	92	82	
	2	75	67	78	69	78	68	92	76	73	64	75	66	74	65	86	71	70	62	72	64	71	61	81	66	
	3	65	56	67	60	67	59	81	67	62	52	65	58	64	56	76	62	60	49	62	55	62	54	71	58	
	80	1	80	73	82	76	82	76	89	89	78	71	80	73	82	73	89	87	76	68	78	71	79	70	89	82
		2	73	66	75	68	76	67	89	76	71	63	73	65	73	64	86	71	68	61	70	62	70	61	81	66
		3	63	56	65	58	65	58	80	67	61	52	63	56	63	55	76	62	59	49	61	54	61	53	71	58
	90	1	77	71	80	74	79	74	86	86	75	69	78	71	79	72	86	86	73	67	76	69	77	69	86	82
		2	71	64	73	66	74	66	86	76	69	62	71	63	71	63	86	71	67	59	68	61	68	60	81	66
		3	61	55	63	57	64	57	79	67	59	52	61	55	61	54	75	62	57	49	59	53	59	52	71	58
Wind Speed [mph]		170								180																
70	1	76	68	78	70	79	69	92	77	74	65	76	68	76	66	89	73									
	2	68	59	70	61	68	58	76	63	65	57	67	59	66	54	72	59									
	3	56	46	60	53	59	51	67	55	53	43	58	51	57	48	64	52									
80	1	73	66	76	68	77	68	89	77	71	64	74	66	74	65	89	73									
	2	66	58	68	60	67	58	76	63	64	56	66	57	65	54	72	59									
	3	56	46	59	52	58	51	67	55	53	43	57	50	56	48	64	52									
90	1	71	64	74	67	75	66	86	77	70	62	72	65	72	64	86	73									
	2	64	57	66	59	66	57	76	63	62	55	64	57	63	54	72	59									
	3	55	46	57	51	57	50	67	55	53	43	55	49	55	48	64	52									
Wind Speed [mph]		190								200																
70	1	71	63	74	65	73	64	84	69	69	61	72	63	71	61	80	66									
	2	63	54	65	56	63	52	68	56	61	52	63	53	60	49	65	53									
	3	50	41	56	49	55	45	60	49	48	39	54	47	53	43	57	47									
80	1	69	62	72	64	72	63	84	69	68	60	70	62	70	60	80	66									
	2	62	54	63	55	62	52	68	56	60	52	61	53	60	49	65	53									
	3	50	41	55	48	54	45	60	49	48	39	53	46	52	43	57	47									
90	1	68	60	70	63	70	62	84	69	66	59	68	61	68	60	80	66									
	2	60	53	62	54	61	52	68	56	59	51	60	52	59	49	65	53									
	3	50	41	54	47	53	45	60	49	48	39	52	46	51	43	57	47									

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	80	76	82	78	76	76	83	83	79	75	82	77	76	76	83	83	78	74	81	76	76	76	83	83
	2	76	70	78	72	76	74	83	83	75	69	77	71	76	72	83	83	74	68	75	70	76	70	83	83
	3	64	60	67	62	69	63	83	80	64	59	66	61	68	62	83	77	63	58	65	60	67	61	83	75
0	1																								
	2																								
	3																								
Wind Speed [mph]		110								115															
100	1	77	72	80	75	76	76	83	83	77	71	79	74	76	75	83	83								
	2	72	66	74	68	76	69	83	83	71	65	73	67	75	67	83	81								
	3	62	57	64	59	66	59	83	73	61	56	63	58	65	58	82	71								
0	1																								
	2																								
	3																								
Wind Speed [mph]		120								130															
100	1	76	70	78	73	76	74	83	83	77	71	79	74	76	75	83	83								
	2	70	64	72	66	74	66	83	78	71	65	73	67	75	67	83	81								
	3	60	55	62	57	63	57	80	69	61	56	63	58	65	58	82	71								
0	1																								
	2																								
	3																								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Span, inches																							
Wind Speed [mph]		140								150								160											
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45					
Ground Snow	Group	Array Interior	Array Edge																										
100	1	75	69	77	72	76	73	83	83	73	67	75	69	76	70	83	83	71	65	74	67	75	68	83	82				
	2	69	63	71	64	72	64	83	76	67	60	69	62	70	62	83	71	65	58	67	60	67	59	81	66				
	3	59	54	61	56	62	56	78	67	57	52	59	54	60	53	74	62	56	49	58	52	58	51	71	58				
Wind Speed [mph]		170								180																			
100	1	69	63	72	65	73	65	83	77	68	61	70	63	71	63	83	73												
	2	63	56	65	58	65	57	76	63	61	54	63	56	62	54	72	59												
	3	54	46	56	50	56	49	67	55	52	43	54	48	54	47	64	52												
Wind Speed [mph]		190								200																			
100	1	66	59	68	61	69	61	83	69	64	57	67	60	67	59	80	66												
	2	59	52	61	54	60	52	68	56	57	50	59	52	58	49	65	53												
	3	50	41	53	46	52	45	60	49	48	39	51	45	50	43	57	47												

**Exposure Category : D**

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	141	126	144	129	139	123	140	131	138	121	141	126	136	118	140	128	134	117	138	122	132	114	140	124	
	2	126	106	128	108	122	101	130	110	121	101	125	104	117	97	127	106	117	98	120	100	113	93	122	102	
	3	104	84	116	97	108	90	118	98	99	80	111	93	104	86	113	94	95	77	107	89	100	83	109	90	
	5	1	141	126	144	129	139	123	140	131	138	121	141	126	136	118	140	128	134	117	138	122	132	114	140	124
	2	126	106	128	108	122	101	130	110	121	101	125	104	117	97	127	106	117	98	120	100	113	93	122	102	
	3	104	84	116	97	108	90	118	98	99	80	111	93	104	86	113	94	95	77	107	89	100	83	109	90	
	10	1	134	123	137	127	137	123	138	131	132	120	135	124	136	118	138	128	130	117	133	121	132	114	138	124
	2	123	106	126	108	122	101	130	110	120	101	123	104	117	97	127	106	117	98	120	100	113	93	122	102	
	3	104	84	112	97	108	90	118	98	99	80	109	93	104	86	113	94	95	77	106	89	100	83	109	90	
5	1	131	113	135	117	129	110	137	120	129	109	132	113	127	106	134	115	129	109	132	113	127	106	134	115	
	2	113	94	116	97	108	90	118	98	109	91	112	93	105	87	114	94	109	91	112	93	105	87	114	94	
	3	91	73	103	86	96	79	105	86	87	70	100	83	93	77	101	83	87	70	100	83	93	77	101	83	
	5	1	131	113	135	117	129	110	137	120	129	109	132	113	127	106	134	115	129	109	132	113	127	106	134	115
	2	113	94	116	97	108	90	118	98	109	91	112	93	105	87	114	94	109	91	112	93	105	87	114	94	
	3	91	73	103	86	96	79	105	86	87	70	100	83	93	77	101	83	87	70	100	83	93	77	101	83	
	10	1	128	113	131	117	129	110	137	120	126	109	129	113	127	106	134	115	126	109	129	113	127	106	134	115
	2	113	94	116	97	108	90	118	98	109	91	112	93	105	87	114	94	109	91	112	93	105	87	114	94	
	3	91	73	103	86	96	79	105	86	87	70	100	83	93	77	101	83	87	70	100	83	93	77	101	83	
0	1	126	105	129	110	123	102	131	111	129	109	132	113	127	106	134	115	129	109	132	113	127	106	134	115	
	2	105	88	108	90	101	84	110	91	109	91	112	93	105	87	114	94	109	91	112	93	105	87	114	94	
	3	84	68	96	80	89	74	97	80	87	70	100	83	93	77	101	83	87	70	100	83	93	77	101	83	
	5	1	126	105	129	110	123	102	131	111	129	109	132	113	127	106	134	115	129	109	132	113	127	106	134	115
	2	105	88	108	90	101	84	110	91	109	91	112	93	105	87	114	94	109	91	112	93	105	87	114	94	
	3	84	68	96	80	89	74	97	80	87	70	100	83	93	77	101	83	87	70	100	83	93	77	101	83	
	10	1	123	105	127	110	123	102	131	111	126	109	129	113	127	106	134	115	126	109	129	113	127	106	134	115
	2	105	88	108	90	101	84	110	91	109	91	112	93	105	87	114	94	109	91	112	93	105	87	114	94	
	3	84	68	96	80	89	74	97	80	87	70	100	83	93	77	101	83	87	70	100	83	93	77	101	83	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	122	102	127	106	119	99	128	108	115	96	120	100	112	93	122	101	109	90	113	94	105	87	115	95
	2	102	85	105	87	98	81	106	88	96	79	98	81	92	76	100	82	90	75	93	77	86	71	94	77
	3	81	65	93	77	86	71	94	78	75	61	87	72	81	67	88	73	70	57	82	68	76	63	83	68
5	1	122	102	127	106	119	99	128	108	115	96	120	100	112	93	122	101	109	90	113	94	105	87	115	95
	2	102	85	105	87	98	81	106	88	96	79	98	81	92	76	100	82	90	75	93	77	86	71	94	77
	3	81	65	93	77	86	71	94	78	75	61	87	72	81	67	88	73	70	57	82	68	76	63	83	68
10	1	120	102	125	106	119	99	128	108	115	96	119	100	112	93	122	101	109	90	113	94	105	87	115	95
	2	102	85	105	87	98	81	106	88	96	79	98	81	92	76	100	82	90	75	93	77	86	71	94	77
	3	81	65	93	77	86	71	94	78	75	61	87	72	81	67	88	73	70	57	82	68	76	63	83	68
0	1	103	85	107	89	100	82	109	90	98	81	102	84	95	78	103	85	81	67	83	68	77	63	84	69
	2	85	70	88	72	81	67	89	73	81	67	83	68	77	63	84	69	62	50	74	60	68	56	74	61
	3	66	53	78	64	72	59	78	64	62	50	74	60	68	56	74	61	62	50	74	60	68	56	74	61
5	1	103	85	107	89	100	82	109	90	98	81	102	84	95	78	103	85	81	67	83	68	77	63	84	69
	2	85	70	88	72	81	67	89	73	81	67	83	68	77	63	84	69	62	50	74	60	68	56	74	61
	3	66	53	78	64	72	59	78	64	62	50	74	60	68	56	74	61	62	50	74	60	68	56	74	61
10	1	103	85	107	89	100	82	109	90	98	81	102	84	95	78	103	85	81	67	83	68	77	63	84	69
	2	85	70	88	72	81	67	89	73	81	67	83	68	77	63	84	69	62	50	74	60	68	56	74	61
	3	66	53	78	64	72	59	78	64	62	50	74	60	68	56	74	61	62	50	74	60	68	56	74	61
0	1	93	77	97	80	90	74	98	81	89	73	92	76	86	71	93	77	73	60	75	62	70	57	76	62
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	56	45	66	55	61	50	67	55
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55
5	1	93	77	97	80	90	74	98	81	89	73	92	76	86	71	93	77	73	60	75	62	70	57	76	62
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	56	45	66	55	61	50	67	55
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55
10	1	93	77	97	80	90	74	98	81	89	73	92	76	86	71	93	77	73	60	75	62	70	57	76	62
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	56	45	66	55	61	50	67	55
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55
0	1	93	77	97	80	90	74	98	81	89	73	92	76	86	71	93	77	73	60	75	62	70	57	76	62
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	56	45	66	55	61	50	67	55
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55
5	1	93	77	97	80	90	74	98	81	89	73	92	76	86	71	93	77	73	60	75	62	70	57	76	62
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	56	45	66	55	61	50	67	55
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55
10	1	93	77	97	80	90	74	98	81	89	73	92	76	86	71	93	77	73	60	75	62	70	57	76	62
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	56	45	66	55	61	50	67	55
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	128	116	130	120	126	123	129	129	126	113	129	117	126	118	129	128	123	111	127	115	126	114	129	124	
	2	116	103	119	106	122	101	129	110	113	100	116	103	117	97	127	106	111	97	114	100	113	93	122	102	
	3	101	84	105	93	108	90	118	98	99	80	102	90	104	86	113	94	95	77	100	88	100	83	109	90	
	20	1	121	110	124	114	117	117	122	122	118	108	122	112	117	116	122	122	116	106	120	109	117	113	122	122
		2	110	99	113	102	117	101	122	110	108	96	111	99	115	97	122	106	106	94	108	96	112	93	122	102
		3	95	84	99	89	104	90	118	98	93	80	97	86	101	86	113	94	91	77	95	84	98	83	109	90
	25	1	121	110	124	114	111	111	116	116	118	108	122	112	111	111	116	116	116	106	120	109	111	109	116	116
		2	110	99	113	102	111	101	116	110	108	96	111	99	111	97	116	106	106	94	108	96	109	93	116	102
		3	95	84	99	89	100	88	116	98	93	80	97	86	97	85	113	94	91	77	95	84	95	83	109	90
15	Wind Speed [mph]		110								115															
	1	121	108	125	112	126	110	129	120	119	105	123	109	126	106	129	115									
	2	108	94	111	97	108	90	118	98	105	91	108	93	105	87	114	94									
	3	91	73	97	85	96	79	105	86	87	70	95	83	93	77	101	83									
	20	1	114	103	118	107	117	110	122	120	112	101	116	105	117	106	122	115								
		2	103	91	106	94	108	90	118	98	101	89	104	91	105	87	114	94								
		3	89	73	92	82	95	79	105	86	87	70	90	80	93	77	101	83								
	25	1	114	103	118	107	111	107	116	116	112	101	116	105	111	104	116	115								
		2	103	91	106	94	106	90	116	98	101	89	104	91	103	87	114	94								
3		89	73	92	82	93	79	105	86	87	70	90	80	90	77	101	83									
15	Wind Speed [mph]		120								130															
	1	116	103	120	107	123	102	129	111	119	105	123	109	126	106	129	115									
	2	103	88	106	90	101	84	110	91	105	91	108	93	105	87	114	94									
	3	84	68	93	80	89	74	97	80	87	70	95	83	93	77	101	83									
	20	1	110	99	114	102	117	102	122	111	112	101	116	105	117	106	122	115								
		2	99	87	101	89	101	84	110	91	101	89	104	91	105	87	114	94								
		3	84	68	89	78	89	74	97	80	87	70	90	80	93	77	101	83								
	25	1	110	99	114	102	111	101	116	111	112	101	116	105	111	104	116	115								
		2	99	87	101	89	101	84	110	91	101	89	104	91	103	87	114	94								
3		84	68	89	78	88	74	97	80	87	70	90	80	90	77	101	83									

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	114	101	118	104	119	99	128	108	109	96	113	100	112	93	122	101	105	90	109	94	105	87	115	95
	2	101	85	103	87	98	81	106	88	96	79	98	81	92	76	100	82	90	75	93	77	86	71	94	77
	3	81	65	91	77	86	71	94	78	75	61	86	72	81	67	88	73	70	57	82	68	76	63	83	68
	1	108	97	112	100	116	99	122	108	104	93	108	96	111	93	122	101	101	89	104	92	105	87	115	95
	2	97	85	99	87	98	81	106	88	93	79	95	81	92	76	100	82	89	75	91	77	86	71	94	77
	3	81	65	87	76	86	71	94	78	75	61	83	72	81	67	88	73	70	57	80	68	76	63	83	68
	1	108	97	112	100	111	99	116	108	104	93	108	96	108	93	116	101	101	89	104	92	104	87	115	95
	2	97	85	99	87	98	81	106	88	93	79	95	81	92	76	100	82	89	75	91	77	86	71	94	77
	3	81	65	87	76	86	71	94	78	75	61	83	72	81	67	88	73	70	57	80	68	76	63	83	68
20	1	101	85	105	89	100	82	109	90	97	81	101	84	95	78	103	85	97	81	101	84	95	78	103	85
	2	85	70	88	72	81	67	89	73	81	67	83	68	77	63	84	69	81	67	83	68	77	63	84	69
	3	66	53	78	64	72	59	78	64	62	50	74	60	68	56	74	61	62	50	74	60	68	56	74	61
	1	97	85	101	88	100	82	109	90	94	81	97	84	95	78	103	85	94	81	97	84	95	78	103	85
	2	85	70	87	72	81	67	89	73	81	67	83	68	77	63	84	69	81	67	83	68	77	63	84	69
	3	66	53	76	64	72	59	78	64	62	50	73	60	68	56	74	61	62	50	73	60	68	56	74	61
	1	97	85	101	88	99	82	109	90	94	81	97	84	95	78	103	85	94	81	97	84	95	78	103	85
	2	85	70	87	72	81	67	89	73	81	67	83	68	77	63	84	69	81	67	83	68	77	63	84	69
	3	66	53	76	64	72	59	78	64	62	50	73	60	68	56	74	61	62	50	73	60	68	56	74	61
25	1	93	77	97	80	90	74	98	81	89	73	92	76	86	71	93	77	89	73	92	76	86	71	93	77
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	73	60	75	62	70	57	76	62
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55
	1	91	77	94	80	90	74	98	81	87	73	91	76	86	71	93	77	87	73	91	76	86	71	93	77
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	73	60	75	62	70	57	76	62
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55
	1	91	77	94	80	90	74	98	81	87	73	91	76	86	71	93	77	87	73	91	76	86	71	93	77
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62	73	60	75	62	70	57	76	62
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55	56	45	66	55	61	50	67	55

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	117	107	121	111	105	105	112	112	115	105	119	109	105	105	112	112	113	103	117	107	105	105	112	112	
	2	107	97	110	99	105	98	112	110	105	94	108	97	105	95	112	106	103	92	106	94	105	93	112	102	
	3	93	84	96	87	97	86	112	98	91	80	94	84	94	83	112	94	89	77	92	82	92	81	109	90	
	35	1	112	104	116	107	101	101	107	107	111	102	114	105	101	101	107	107	109	100	112	103	101	101	107	107
		2	104	94	107	97	101	96	107	107	102	92	104	94	101	93	107	106	100	90	102	92	101	91	107	102
		3	89	81	92	84	94	84	107	98	88	79	91	82	92	81	107	94	86	77	89	80	90	79	107	90
	40	1	108	101	111	104	97	97	104	104	107	99	110	102	97	97	104	104	105	97	108	100	97	97	104	104
		2	101	92	103	94	97	94	104	104	99	90	101	92	97	92	104	104	97	87	99	90	97	89	104	102
		3	86	79	89	82	91	82	104	98	85	77	88	80	89	80	104	94	83	75	86	78	87	78	104	90
Wind Speed [mph]		110								115																
30	1	111	101	115	104	105	104	112	112	109	99	113	102	105	101	112	112									
	2	101	90	104	92	103	90	112	98	99	87	101	90	101	87	112	94									
	3	87	73	90	80	90	79	105	86	85	70	88	78	88	77	101	83									
	35	1	107	98	111	101	101	101	107	107	105	96	109	99	101	99	107	107								
		2	98	88	100	90	101	88	107	98	96	85	98	88	98	86	107	94								
		3	84	73	87	78	88	77	105	86	83	70	86	76	86	75	101	83								
	40	1	104	95	107	98	97	97	104	104	102	93	105	96	97	97	104	104								
		2	95	85	98	88	97	87	104	98	93	84	96	86	96	85	104	94								
		3	82	73	85	76	85	76	104	86	80	70	83	75	84	74	101	83								
Wind Speed [mph]		120								130																
30	1	107	97	111	100	105	99	112	111	109	99	113	102	105	101	112	112									
	2	97	85	99	88	98	84	110	91	99	87	101	90	101	87	112	94									
	3	84	68	87	77	86	74	97	80	85	70	88	78	88	77	101	83									
	35	1	104	94	107	97	101	97	107	107	105	96	109	99	101	99	107	107								
		2	94	83	97	86	96	84	107	91	96	85	98	88	98	86	107	94								
		3	81	68	84	75	84	73	97	80	83	70	86	76	86	75	101	83								
	40	1	100	92	104	95	97	95	104	104	102	93	105	96	97	97	104	104								
		2	92	82	94	84	94	82	104	91	93	84	96	86	96	85	104	94								
		3	79	68	82	73	82	72	97	80	80	70	83	75	84	74	101	83								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	106	95	109	98	105	97	112	108	102	91	105	94	105	92	112	101	98	87	102	90	101	87	112	95
	2	95	83	97	86	96	81	106	88	91	79	93	81	91	76	100	82	87	75	90	77	86	71	94	77
	3	81	65	85	75	84	71	94	78	75	61	81	71	80	67	88	73	70	57	78	68	76	63	83	68
35	1	102	92	105	95	101	95	107	107	99	89	102	92	101	90	107	101	96	85	99	88	99	87	107	95
	2	92	82	95	84	94	81	106	88	89	78	91	80	90	76	100	82	85	74	87	76	86	71	94	77
	3	79	65	82	73	82	71	94	78	75	61	79	70	78	67	88	73	70	57	76	67	75	63	83	68
40	1	99	90	102	93	97	93	104	104	96	86	99	90	97	89	104	101	93	83	96	86	97	85	104	95
	2	90	80	92	82	92	80	104	88	86	76	89	78	88	76	100	82	83	73	86	75	84	71	94	77
	3	77	65	80	71	80	70	94	78	75	61	77	68	77	67	88	73	70	57	74	65	73	63	83	68
30	1	95	84	99	87	97	82	109	90	92	80	95	84	94	78	103	85								
	2	84	70	86	72	81	67	89	73	80	67	83	68	77	63	84	69								
	3	66	53	75	64	72	59	78	64	62	50	72	60	68	56	74	61								
35	1	93	82	96	85	95	82	107	90	90	79	93	82	92	78	103	85								
	2	82	70	84	72	81	67	89	73	79	67	81	68	77	63	84	69								
	3	66	53	73	64	72	59	78	64	62	50	71	60	68	56	74	61								
40	1	90	80	93	83	93	82	104	90	87	77	91	80	90	78	103	85								
	2	80	70	82	72	81	67	89	73	77	67	80	68	77	63	84	69								
	3	66	53	72	63	70	59	78	64	62	50	69	60	68	56	74	61								
30	1	89	77	92	80	90	74	98	81	86	73	89	76	86	71	93	77								
	2	77	63	79	65	73	60	80	65	73	60	75	62	70	57	76	62								
	3	59	48	70	57	65	53	70	58	56	45	66	55	61	50	67	55								
35	1	87	76	90	79	88	74	98	81	84	73	87	76	85	71	93	77								
	2	76	63	78	65	73	60	80	65	73	60	75	62	70	57	76	62								
	3	59	48	68	57	65	53	70	58	56	45	66	55	61	50	67	55								
40	1	85	75	88	78	87	74	98	81	82	72	85	75	84	71	93	77								
	2	75	63	77	65	73	60	80	65	72	60	74	62	70	57	76	62								
	3	59	48	67	57	65	53	70	58	56	45	65	55	61	50	67	55								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	104	98	108	101	94	94	101	101	103	96	106	99	94	94	101	101	102	94	105	97	94	94	101	101
	2	98	89	100	92	94	92	101	101	96	87	98	90	94	90	101	101	94	85	97	88	94	88	101	101
	3	84	77	86	79	89	80	101	97	82	75	85	78	87	78	101	94	81	74	84	76	85	76	101	90
50	1	101	95	104	98	91	91	98	98	100	93	103	96	91	91	98	98	99	92	102	95	91	91	98	98
	2	95	87	97	90	91	90	98	98	93	85	96	88	91	88	98	98	92	84	94	86	91	86	98	98
	3	81	75	84	77	86	78	98	96	80	73	83	76	85	76	98	93	79	72	81	74	83	75	98	90
60	1	95	90	98	93	86	86	93	93	94	89	97	91	86	86	93	93	93	87	96	90	86	86	93	93
	2	90	83	92	86	86	86	93	93	89	82	91	84	86	85	93	93	87	80	90	82	86	83	93	93
	3	77	71	79	74	82	75	93	93	76	70	78	72	81	74	93	91	75	69	77	71	79	72	93	88
Wind Speed [mph]		110								115															
45	1	100	92	103	96	94	94	101	101	99	91	102	94	94	94	101	101								
	2	92	84	95	86	94	85	101	98	91	82	93	84	94	83	101	94								
	3	79	72	82	74	83	74	101	86	78	70	81	73	82	72	100	83								
50	1	97	90	100	93	91	91	98	98	96	89	99	92	91	91	98	98								
	2	90	82	93	84	91	84	98	98	89	80	91	82	91	82	98	94								
	3	77	70	80	73	81	73	98	86	76	69	79	71	80	71	98	83								
60	1	92	86	95	89	86	86	93	93	91	85	94	87	86	86	93	93								
	2	86	79	88	81	86	81	93	93	85	77	87	79	86	79	93	93								
	3	74	67	76	70	78	70	93	86	72	66	75	68	77	69	93	83								
Wind Speed [mph]		120								130															
45	1	97	89	101	92	94	93	101	101	99	91	102	94	94	94	101	101								
	2	89	80	92	82	92	81	101	91	91	82	93	84	94	83	101	94								
	3	77	68	79	71	80	71	97	80	78	70	81	73	82	72	100	83								
50	1	95	87	98	90	91	91	98	98	96	89	99	92	91	91	98	98								
	2	87	78	89	81	90	80	98	91	89	80	91	82	91	82	98	94								
	3	75	67	77	70	78	69	96	80	76	69	79	71	80	71	98	83								
60	1	90	83	93	86	86	86	93	93	91	85	94	87	86	86	93	93								
	2	83	76	85	78	86	78	93	91	85	77	87	79	86	79	93	93								
	3	71	65	74	67	75	67	93	80	72	66	75	68	77	69	93	83								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	96	88	99	91	94	91	101	101	93	85	96	88	94	87	101	101	91	82	94	84	94	84	101	95
	2	88	78	90	80	90	79	101	88	85	75	87	77	86	75	100	82	82	72	84	74	83	71	94	77
	3	75	65	78	70	78	69	94	78	73	61	75	67	75	66	88	73	70	57	73	64	72	63	83	68
50	1	93	86	96	89	91	89	98	98	91	83	94	86	91	86	98	98	88	80	91	83	91	82	98	95
	2	86	77	88	79	88	78	98	88	83	74	85	76	85	74	98	82	80	71	82	73	82	71	94	77
	3	74	65	76	68	77	68	94	78	71	61	74	66	74	65	88	73	69	57	71	63	71	62	83	68
60	1	89	82	92	85	86	86	93	93	87	79	89	82	86	83	93	93	84	77	87	80	86	80	93	93
	2	82	74	84	76	85	76	93	88	79	71	82	73	82	73	93	82	77	69	79	71	79	69	93	77
	3	70	64	73	66	74	66	91	78	68	61	70	64	71	63	87	73	66	57	68	61	69	60	83	68
45	1	88	79	91	82	91	80	101	90	85	76	88	79	88	77	101	85								
	2	79	69	81	71	80	67	89	73	76	66	78	68	77	63	84	69								
	3	66	53	70	62	69	59	78	64	62	50	68	59	67	56	74	61								
50	1	86	77	89	80	90	79	98	90	84	75	86	77	87	76	98	85								
	2	77	68	79	70	78	67	89	73	75	65	77	67	76	63	84	69								
	3	66	53	69	61	68	59	78	64	62	50	67	59	66	56	74	61								
60	1	82	75	85	77	86	77	93	90	80	72	83	75	84	74	93	85								
	2	75	66	77	68	76	67	89	73	72	64	74	66	74	63	84	69								
	3	64	53	66	59	66	58	78	64	62	50	64	57	64	56	74	61								
45	1	83	73	86	76	85	74	98	81	81	71	84	74	83	71	93	77								
	2	73	63	75	65	73	60	80	65	71	60	73	62	70	57	76	62								
	3	59	48	66	57	64	53	70	58	56	45	63	55	61	50	67	55								
50	1	81	72	84	75	84	73	98	81	79	70	82	73	81	71	93	77								
	2	72	63	74	65	73	60	80	65	70	60	72	62	70	57	76	62								
	3	59	48	64	56	63	53	70	58	56	45	62	54	61	50	67	55								
60	1	78	70	81	73	81	72	93	81	76	68	79	70	79	69	93	77								
	2	70	61	72	63	71	60	80	65	68	59	70	61	68	57	76	62								
	3	59	48	62	55	62	53	70	58	56	45	60	53	59	50	67	55								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	90	86	92	88	82	82	89	89	89	85	92	87	82	82	89	89	88	83	91	86	82	82	89	89	
	2	86	80	88	82	82	82	89	89	85	79	87	81	82	82	89	89	83	77	86	79	82	81	89	89	
	3	73	68	75	71	79	73	89	89	72	67	74	69	78	71	89	89	71	66	73	68	76	70	89	86	
	80	1	84	82	86	85	79	79	86	86	84	81	86	83	79	79	86	86	84	80	86	82	79	79	86	86
		2	82	77	84	79	79	79	86	86	81	76	83	78	79	79	86	86	80	74	82	76	79	78	86	86
		3	70	66	72	68	76	70	86	86	69	65	71	67	75	69	86	86	68	64	70	66	73	67	86	85
	90	1	80	79	82	81	76	76	83	83	80	78	82	80	76	76	83	83	80	77	82	79	76	76	83	83
		2	79	74	81	76	76	76	83	83	78	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83
		3	67	63	69	65	73	68	83	83	66	62	68	64	72	67	83	83	65	61	68	63	71	65	83	83
70	Wind Speed [mph]		110								115															
	1	88	82	90	85	82	82	89	89	87	81	89	84	82	82	89	89									
	2	82	76	84	78	82	79	89	89	81	74	83	76	82	77	89	89									
	3	70	65	72	67	75	68	89	84	69	64	71	66	74	67	89	82									
	80	1	84	79	86	81	79	79	86	86	83	78	85	80	79	79	86	86								
		2	79	73	81	75	79	77	86	86	78	72	80	74	79	75	86	86								
		3	67	63	69	65	72	66	86	82	66	62	69	64	71	65	86	80								
	90	1	80	76	82	78	76	76	83	83	79	75	82	77	76	76	83	83								
		2	76	71	78	73	76	75	83	83	75	70	77	72	76	73	83	83								
3		65	60	67	62	70	64	83	81	64	60	66	62	69	63	83	79									
70	Wind Speed [mph]		120								130															
	1	86	80	88	82	82	82	89	89	87	81	89	84	82	82	89	89									
	2	80	73	82	75	82	75	89	89	81	74	83	76	82	77	89	89									
	3	68	63	71	65	72	65	89	80	69	64	71	66	74	67	89	82									
	80	1	82	77	84	79	79	79	86	86	83	78	85	80	79	79	86	86								
		2	77	71	79	73	79	74	86	86	78	72	80	74	79	75	86	86								
		3	66	60	68	63	70	63	86	78	66	62	69	64	71	65	86	80								
	90	1	79	74	81	77	76	76	83	83	79	75	82	77	76	76	83	83								
		2	74	69	76	71	76	72	83	83	75	70	77	72	76	73	83	83								
3		63	59	65	61	68	62	83	77	64	60	66	62	69	63	83	79									

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	85	79	87	81	82	82	89	89	83	76	85	79	82	80	89	89	81	74	84	77	82	77	89	89
	2	79	72	81	74	82	74	89	88	76	69	79	71	80	71	89	82	74	67	76	69	77	68	89	77
	3	67	61	70	64	71	64	89	78	65	59	68	61	69	61	85	73	64	57	66	59	66	59	82	68
80	1	81	76	84	78	79	79	86	86	79	74	82	76	79	78	86	86	78	72	80	74	79	75	86	86
	2	76	70	78	71	79	72	86	86	74	67	76	69	77	69	86	82	72	65	74	67	75	66	86	77
	3	65	59	67	62	69	62	86	76	63	58	65	60	67	60	84	73	61	56	63	58	65	58	80	68
90	1	78	73	80	76	76	76	83	83	77	71	79	74	76	76	83	83	75	70	77	72	76	73	83	83
	2	73	68	75	69	76	70	83	83	71	65	73	67	75	68	83	82	70	63	71	65	73	65	83	77
	3	62	58	64	60	67	61	83	75	61	56	63	58	65	58	82	72	59	54	61	56	63	56	79	68
Wind Speed [mph]		170								180															
70	1	79	72	82	75	82	75	89	89	77	70	80	72	81	72	89	85								
	2	72	64	74	66	74	65	89	73	70	62	72	64	72	63	84	69								
	3	62	53	64	57	64	57	78	64	60	50	62	55	62	54	74	61								
80	1	76	70	79	72	79	73	86	86	74	68	77	70	79	71	86	85								
	2	70	63	72	65	72	64	86	73	68	61	70	62	70	61	84	69								
	3	60	53	62	56	63	55	77	64	58	50	60	54	61	53	74	61								
90	1	73	68	76	70	76	71	83	83	72	66	74	68	76	69	83	83								
	2	68	61	70	63	71	63	83	73	66	59	68	61	68	60	83	69								
	3	58	52	60	54	61	54	76	64	56	50	58	53	59	52	73	61								
Wind Speed [mph]		190								200															
70	1	75	68	78	70	79	70	89	81	74	66	76	68	77	68	89	77								
	2	68	60	70	62	69	60	80	65	66	58	68	60	67	57	76	62								
	3	58	48	60	54	60	52	70	58	56	45	59	52	58	50	67	55								
80	1	73	66	75	68	77	68	86	81	71	64	74	67	75	66	86	77								
	2	66	59	68	60	68	59	80	65	64	57	66	58	66	57	76	62								
	3	57	48	59	52	59	51	70	58	55	45	57	51	57	50	67	55								
90	1	70	64	73	67	75	67	83	81	69	63	71	65	73	65	83	77								
	2	64	57	66	59	66	58	80	65	63	56	64	57	64	56	76	62								
	3	55	48	57	51	57	50	70	58	54	45	55	50	56	49	67	55								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	76	76	78	78	74	74	81	81	76	75	78	77	74	74	81	81	76	74	78	77	74	74	81	81
	2	76	72	78	74	74	74	81	81	75	71	77	73	74	74	81	81	74	70	76	72	74	74	81	81
	3	64	61	66	63	70	66	81	81	64	60	66	62	69	65	81	81	63	59	65	61	69	64	81	81
Wind Speed [mph]		110								115															
100	1	76	73	78	76	74	74	81	81	76	73	78	75	74	74	81	81								
	2	73	69	75	71	74	73	81	81	73	68	75	70	74	71	81	81								
	3	62	59	64	60	68	62	81	79	62	58	64	60	67	61	81	78								
Wind Speed [mph]		120								130															
100	1	76	72	78	74	74	74	81	81	76	73	78	75	74	74	81	81								
	2	72	67	74	69	74	70	81	81	73	68	75	70	74	71	81	81								
	3	61	57	63	59	66	60	81	76	62	58	64	60	67	61	81	78								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	75	71	77	73	74	74	81	81	74	69	76	72	74	74	81	81	73	68	75	70	74	72	81	81
	2	71	66	73	67	74	69	81	81	69	64	71	65	73	66	81	81	68	62	69	63	71	64	81	77
	3	60	56	62	58	65	59	81	74	59	54	61	56	63	57	80	71	58	53	60	55	61	55	77	67
Wind Speed [mph]		170								180															
100	1	71	66	73	68	74	69	81	81	70	64	72	67	74	67	81	81								
	2	66	60	68	62	69	62	81	73	64	58	66	60	67	59	81	69								
	3	56	51	58	53	59	53	74	64	55	50	57	51	58	51	72	61								
Wind Speed [mph]		190								200															
100	1	68	63	71	65	73	65	81	80	67	61	69	63	71	64	81	77								
	2	63	56	64	58	65	57	79	65	61	55	63	56	63	55	76	62								
	3	54	48	55	50	56	50	69	58	52	45	54	49	54	48	66	55								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	130	111	133	116	128	108	136	117	127	107	130	111	124	104	132	113	123	103	127	107	120	100	129	108	
	2	111	92	114	95	107	88	116	96	107	89	110	91	102	85	111	92	103	85	106	88	98	81	107	88	
	3	89	72	102	84	94	78	103	85	85	69	98	81	91	75	99	81	81	66	94	78	87	72	95	78	
	5	1	130	111	133	116	128	108	136	117	127	107	130	111	124	104	132	113	123	103	127	107	120	100	129	108
	2	111	92	114	95	107	88	116	96	107	89	110	91	102	85	111	92	103	85	106	88	98	81	107	88	
	3	89	72	102	84	94	78	103	85	85	69	98	81	91	75	99	81	81	66	94	78	87	72	95	78	
	10	1	127	111	130	116	128	108	136	117	124	107	128	111	124	104	132	113	121	103	125	107	120	100	129	108
	2	111	92	114	95	107	88	116	96	107	89	110	91	102	85	111	92	103	85	106	88	98	81	107	88	
	3	89	72	101	84	94	78	103	85	85	69	98	81	91	75	99	81	81	66	94	78	87	72	95	78	
5	1	119	99	123	103	115	96	126	104	115	95	119	99	111	92	121	101	115	95	119	99	111	92	121	101	
	2	99	82	102	84	95	78	103	85	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	78	63	90	75	84	69	91	75	75	61	87	72	81	66	88	72	75	61	87	72	81	66	88	72	
	5	1	119	99	123	103	115	96	126	104	115	95	119	99	111	92	121	101	115	95	119	99	111	92	121	101
	2	99	82	102	84	95	78	103	85	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	78	63	90	75	84	69	91	75	75	61	87	72	81	66	88	72	75	61	87	72	81	66	88	72	
	10	1	118	99	122	103	115	96	126	104	115	95	119	99	111	92	121	101	115	95	119	99	111	92	121	101
	2	99	82	102	84	95	78	103	85	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	78	63	90	75	84	69	91	75	75	61	87	72	81	66	88	72	75	61	87	72	81	66	88	72	
10	1	111	92	115	96	108	89	117	97	115	95	119	99	111	92	121	101	115	95	119	99	111	92	121	101	
	2	92	76	95	78	88	73	96	79	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	72	58	84	69	78	64	85	70	75	61	87	72	81	66	88	72	75	61	87	72	81	66	88	72	
	5	1	111	92	115	96	108	89	117	97	115	95	119	99	111	92	121	101	115	95	119	99	111	92	121	101
	2	92	76	95	78	88	73	96	79	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	72	58	84	69	78	64	85	70	75	61	87	72	81	66	88	72	75	61	87	72	81	66	88	72	
	10	1	111	92	115	96	108	89	117	97	115	95	119	99	111	92	121	101	115	95	119	99	111	92	121	101
	2	92	76	95	78	88	73	96	79	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	72	58	84	69	78	64	85	70	75	61	87	72	81	66	88	72	75	61	87	72	81	66	88	72	

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	107	89	112	93	104	86	113	94	101	84	105	87	98	81	106	88	95	79	99	82	92	76	100	83	
	2	89	74	92	76	85	70	93	76	84	69	86	71	80	66	87	71	79	65	81	67	75	62	81	67	
	3	69	56	81	67	75	62	82	67	64	52	76	63	70	58	77	63	60	49	71	59	66	54	72	59	
	5	1	107	89	112	93	104	86	113	94	101	84	105	87	98	81	106	88	95	79	99	82	92	76	100	83
		2	89	74	92	76	85	70	93	76	84	69	86	71	80	66	87	71	79	65	81	67	75	62	81	67
		3	69	56	81	67	75	62	82	67	64	52	76	63	70	58	77	63	60	49	71	59	66	54	72	59
	10	1	107	89	112	93	104	86	113	94	101	84	105	87	98	81	106	88	95	79	99	82	92	76	100	83
		2	89	74	92	76	85	70	93	76	84	69	86	71	80	66	87	71	79	65	81	67	75	62	81	67
		3	69	56	81	67	75	62	82	67	64	52	76	63	70	58	77	63	60	49	71	59	66	54	72	59
0	1	90	74	94	77	87	72	95	78	85	70	89	73	82	68	90	74									
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60									
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53									
	5	1	90	74	94	77	87	72	95	78	85	70	89	73	82	68	90	74								
		2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
		3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
	10	1	90	74	94	77	87	72	95	78	85	70	89	73	82	68	90	74								
		2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
		3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
0	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67									
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54									
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47									
	5	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
		2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
		3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
	10	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
		2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
		3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
0	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67									
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54									
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47									
	5	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
		2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
		3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
	10	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
		2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
		3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
0	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67									
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54									
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47									
	5	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
		2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
		3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
	10	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
		2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
		3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	120	107	124	111	126	108	129	117	117	104	121	108	124	104	129	113	114	101	118	105	120	100	129	108	
	2	107	92	110	95	107	88	116	96	104	89	107	91	102	85	111	92	101	85	104	88	98	81	107	88	
	3	89	72	96	84	94	78	103	85	85	69	93	81	91	75	99	81	81	66	91	78	87	72	95	78	
	20	1	113	102	117	106	117	108	122	117	111	100	115	103	117	104	122	113	109	97	112	101	117	100	122	108
		2	102	90	105	93	107	88	116	96	100	88	102	90	102	85	111	92	97	85	100	87	98	81	107	88
		3	88	72	92	81	94	78	103	85	85	69	89	79	91	75	99	81	81	66	87	76	87	72	95	78
	25	1	113	102	117	106	111	105	116	116	111	100	115	103	111	102	116	113	109	97	112	101	111	99	116	108
		2	102	90	105	93	104	88	116	96	100	88	102	90	101	85	111	92	97	85	100	87	98	81	107	88
		3	88	72	92	81	91	78	103	85	85	69	89	79	89	75	99	81	81	66	87	76	86	72	95	78
15	1	112	98	116	102	115	96	126	104	109	95	113	99	111	92	121	101	109	95	113	99	111	92	121	101	
	2	98	82	101	84	95	78	103	85	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	78	63	89	75	84	69	91	75	75	61	86	72	81	66	88	72	75	61	86	72	81	66	88	72	
	20	1	106	95	110	98	114	96	122	104	104	92	108	96	111	92	121	101	104	92	108	96	111	92	121	101
		2	95	82	97	84	95	78	103	85	92	79	95	81	91	75	99	82	92	79	95	81	91	75	99	82
		3	78	63	85	74	84	69	91	75	75	61	83	72	81	66	88	72	75	61	83	72	81	66	88	72
	25	1	106	95	110	98	110	96	116	104	104	92	108	96	108	92	116	101	104	92	108	96	108	92	116	101
		2	95	82	97	84	95	78	103	85	92	79	95	81	91	75	99	82	92	79	95	81	91	75	99	82
		3	78	63	85	74	84	69	91	75	75	61	83	72	81	66	88	72	75	61	83	72	81	66	88	72
15	1	107	92	110	96	108	89	117	97	109	95	113	99	111	92	121	101	109	95	113	99	111	92	121	101	
	2	92	76	95	78	88	73	96	79	95	79	98	81	91	75	99	82	95	79	98	81	91	75	99	82	
	3	72	58	84	69	78	64	85	70	75	61	86	72	81	66	88	72	75	61	86	72	81	66	88	72	
	20	1	102	90	106	93	108	89	117	97	104	92	108	96	111	92	121	101	104	92	108	96	111	92	121	101
		2	90	76	92	78	88	73	96	79	92	79	95	81	91	75	99	82	92	79	95	81	91	75	99	82
		3	72	58	81	69	78	64	85	70	75	61	83	72	81	66	88	72	75	61	83	72	81	66	88	72
	25	1	102	90	106	93	105	89	116	97	104	92	108	96	108	92	116	101	104	92	108	96	108	92	116	101
		2	90	76	92	78	88	73	96	79	92	79	95	81	91	75	99	82	92	79	95	81	91	75	99	82
		3	72	58	81	69	78	64	85	70	75	61	83	72	81	66	88	72	75	61	83	72	81	66	88	72

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	104	89	108	93	104	86	113	94	100	84	103	87	98	81	106	88	95	79	99	82	92	76	100	83
	2	89	74	92	76	85	70	93	76	84	69	86	71	80	66	87	71	79	65	81	67	75	62	81	67
	3	69	56	81	67	75	62	82	67	64	52	76	63	70	58	77	63	60	49	71	59	66	54	72	59
20	1	100	88	103	91	104	86	113	94	96	84	99	87	98	81	106	88	92	79	95	82	92	76	100	83
	2	88	74	90	76	85	70	93	76	84	69	86	71	80	66	87	71	79	65	81	67	75	62	81	67
	3	69	56	79	67	75	62	82	67	64	52	75	63	70	58	77	63	60	49	71	59	66	54	72	59
25	1	100	88	103	91	103	86	113	94	96	84	99	87	98	81	106	88	92	79	95	82	92	76	100	83
	2	88	74	90	76	85	70	93	76	84	69	86	71	80	66	87	71	79	65	81	67	75	62	81	67
	3	69	56	79	67	75	62	82	67	64	52	75	63	70	58	77	63	60	49	71	59	66	54	72	59
15	1	90	74	94	77	87	72	95	78	85	70	89	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
20	1	88	74	92	77	87	72	95	78	85	70	88	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
25	1	88	74	92	77	87	72	95	78	85	70	88	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
15	1	90	74	94	77	87	72	95	78	85	70	89	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
20	1	88	74	92	77	87	72	95	78	85	70	88	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
25	1	88	74	92	77	87	72	95	78	85	70	88	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
15	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
20	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
25	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
15	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
20	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
25	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	110	100	114	103	105	103	112	112	108	97	112	101	105	100	112	112	106	95	109	98	105	97	112	108	
	2	100	89	103	91	102	88	112	96	97	86	100	88	99	85	111	92	95	84	98	86	96	81	107	88	
	3	86	72	89	79	89	78	103	85	84	69	87	77	86	75	99	81	81	66	85	75	84	72	95	78	
	35	1	106	97	110	100	101	100	107	107	104	95	108	98	101	98	107	107	102	93	106	96	101	95	107	107
		2	97	87	99	89	99	87	107	96	95	84	97	86	97	85	107	92	93	82	95	84	94	81	107	88
		3	84	72	86	77	87	76	103	85	82	69	85	75	84	74	99	81	80	66	83	73	82	72	95	78
	40	1	103	94	106	97	97	97	104	104	101	92	104	95	97	95	104	104	99	90	102	93	97	93	104	104
		2	94	85	97	87	97	86	104	96	92	82	95	85	95	83	104	92	90	80	93	82	92	81	104	88
		3	81	72	84	75	84	75	103	85	79	69	82	74	82	72	99	81	78	66	80	72	80	70	95	78
Wind Speed [mph]		110								115																
30	1	104	93	107	96	105	95	112	104	102	91	105	94	105	92	112	101									
	2	93	81	95	84	94	78	103	85	91	79	93	81	91	75	99	82									
	3	78	63	83	73	82	69	91	75	75	61	81	71	80	66	88	72									
	35	1	101	90	104	94	101	93	107	104	99	88	102	92	101	90	107	101								
		2	90	80	93	82	92	78	103	85	88	78	91	80	89	75	99	82								
		3	78	63	81	71	80	69	91	75	75	61	79	70	78	66	88	72								
	40	1	97	88	101	91	97	91	104	104	96	86	99	89	97	89	104	101								
		2	88	78	91	80	90	78	103	85	86	76	89	78	88	75	99	82								
		3	76	63	79	70	78	68	91	75	74	61	77	68	76	66	88	72								
Wind Speed [mph]		120								130																
30	1	100	88	103	92	103	89	112	97	102	91	105	94	105	92	112	101									
	2	88	76	91	78	88	73	96	79	91	79	93	81	91	75	99	82									
	3	72	58	79	69	78	64	85	70	75	61	81	71	80	66	88	72									
	35	1	97	86	100	90	100	88	107	97	99	88	102	92	101	90	107	101								
		2	86	76	89	78	87	73	96	79	88	78	91	80	89	75	99	82								
		3	72	58	77	68	76	64	85	70	75	61	79	70	78	66	88	72								
	40	1	94	84	97	88	97	86	104	97	96	86	99	89	97	89	104	101								
		2	84	74	87	76	86	73	96	79	86	76	89	78	88	75	99	82								
		3	72	58	75	67	75	64	85	70	74	61	77	68	76	66	88	72								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	98	86	101	90	100	86	112	94	94	83	97	86	96	81	106	88	90	79	94	82	92	76	100	83
	2	86	74	89	76	85	70	93	76	83	69	85	71	80	66	87	71	79	65	81	67	75	62	81	67
	3	69	56	77	67	75	62	82	67	64	52	74	63	70	58	77	63	60	49	71	59	66	54	72	59
35	1	95	84	98	88	98	86	107	94	91	81	95	84	94	81	106	88	88	77	91	80	90	76	100	83
	2	84	74	87	76	85	70	93	76	81	69	83	71	80	66	87	71	77	65	80	67	75	62	81	67
	3	69	56	76	66	74	62	82	67	64	52	72	63	70	58	77	63	60	49	69	59	66	54	72	59
40	1	92	83	96	86	96	84	104	94	89	79	92	82	92	80	104	88	86	76	89	79	88	76	100	83
	2	83	72	85	74	84	70	93	76	79	69	81	71	80	66	87	71	76	65	78	67	75	62	81	67
	3	69	56	74	65	73	62	82	67	64	52	71	62	69	58	77	63	60	49	68	59	66	54	72	59
30	1	87	74	90	77	87	72	95	78	84	70	87	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
35	1	85	74	88	77	86	72	95	78	82	70	85	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	66	55	62	51	68	56	53	43	64	52	59	48	64	53								
40	1	83	73	86	76	85	72	95	78	80	70	83	73	82	68	90	74								
	2	73	61	75	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	65	55	62	51	68	56	53	43	63	52	59	48	64	53								
30	1	87	74	90	77	87	72	95	78	84	70	87	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	67	55	62	51	68	56	53	43	64	52	59	48	64	53								
35	1	85	74	88	77	86	72	95	78	82	70	85	73	82	68	90	74								
	2	74	61	76	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	66	55	62	51	68	56	53	43	64	52	59	48	64	53								
40	1	83	73	86	76	85	72	95	78	80	70	83	73	82	68	90	74								
	2	73	61	75	63	71	58	77	63	70	58	72	59	67	55	73	60								
	3	57	46	65	55	62	51	68	56	53	43	63	52	59	48	64	53								
30	1	81	67	84	70	78	64	85	70	77	63	80	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
35	1	79	67	82	70	78	64	85	70	76	63	79	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	61	50	56	46	61	50	48	39	58	47	53	43	58	47								
40	1	78	67	80	70	78	64	85	70	75	63	78	66	74	61	81	67								
	2	67	55	69	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	60	50	56	46	61	50	48	39	58	47	53	43	58	47								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	100	92	103	95	94	94	101	101	98	90	101	93	94	93	101	101	96	88	99	91	94	91	101	101
	2	92	83	94	85	94	84	101	96	90	81	92	83	93	82	101	92	88	79	90	81	91	80	101	88
	3	79	71	81	74	83	73	101	85	77	69	80	72	81	71	98	81	76	66	78	70	79	69	95	78
50	1	97	89	100	92	91	91	98	98	95	88	98	91	91	91	98	98	94	86	97	89	91	89	98	98
	2	89	81	92	83	91	83	98	96	88	79	90	81	91	81	98	92	86	77	88	79	89	78	98	88
	3	77	70	79	72	81	72	98	85	75	68	78	70	79	70	97	81	74	66	76	69	77	68	94	78
60	1	91	85	94	88	86	86	93	93	90	84	93	86	86	86	93	93	89	82	92	85	86	86	93	93
	2	85	78	88	80	86	80	93	93	84	76	86	78	86	78	93	92	82	74	84	77	86	76	93	88
	3	73	67	75	69	77	70	93	85	72	65	74	68	76	68	93	81	70	64	73	66	74	66	92	78
Wind Speed [mph]		110								115															
45	1	95	86	98	89	94	89	101	101	93	84	96	87	94	87	101	101								
	2	86	77	88	79	88	77	101	85	84	75	87	77	86	75	99	82								
	3	74	63	77	69	77	67	91	75	73	61	75	67	75	66	88	72								
50	1	92	84	95	87	91	87	98	98	91	83	94	85	91	85	98	98								
	2	84	75	86	77	87	76	98	85	83	74	85	76	85	74	98	82								
	3	72	63	75	67	75	66	91	75	71	61	73	66	74	65	88	72								
60	1	88	81	90	83	86	84	93	93	86	79	89	82	86	83	93	93								
	2	81	73	83	75	84	74	93	85	79	71	81	73	82	72	93	82								
	3	69	63	72	65	73	64	89	75	68	61	70	63	71	63	87	72								
Wind Speed [mph]		120								130															
45	1	92	83	95	86	94	85	101	97	93	84	96	87	94	87	101	101								
	2	83	73	85	75	84	73	96	79	84	75	87	77	86	75	99	82								
	3	71	58	74	65	73	64	85	70	73	61	75	67	75	66	88	72								
50	1	89	81	92	84	91	83	98	97	91	83	94	85	91	85	98	98								
	2	81	72	83	74	83	72	96	79	83	74	85	76	85	74	98	82								
	3	70	58	72	64	72	63	85	70	71	61	73	66	74	65	88	72								
60	1	85	78	88	81	86	81	93	93	86	79	89	82	86	83	93	93								
	2	78	70	80	72	80	71	93	79	79	71	81	73	82	72	93	82								
	3	67	58	69	62	69	61	85	70	68	61	70	63	71	63	87	72								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	90	81	93	84	94	83	101	94	87	78	90	81	90	79	101	88	84	75	87	77	87	76	100	83
	2	81	71	83	73	82	70	93	76	78	68	80	70	78	66	87	71	75	65	77	67	75	62	81	67
	3	69	56	72	64	72	62	82	67	64	52	69	61	68	58	77	63	60	49	67	58	65	54	72	59
50	1	88	79	91	82	91	82	98	94	85	76	88	79	88	78	98	88	82	73	85	76	85	75	98	83
	2	79	70	82	72	81	70	93	76	76	67	78	69	77	66	87	71	73	64	75	66	74	62	81	67
	3	68	56	71	63	70	61	82	67	64	52	68	60	67	58	77	63	60	49	65	57	64	54	72	59
60	1	84	76	87	79	86	79	93	93	81	74	84	76	85	76	93	88	79	71	82	74	82	73	93	83
	2	76	68	78	70	79	69	93	76	74	65	76	67	75	66	87	71	71	63	73	64	72	62	81	67
	3	66	56	68	61	68	60	82	67	63	52	65	58	65	57	77	63	60	49	63	56	63	54	72	59
Wind Speed [mph]		170								180															
45	1	81	72	84	74	83	72	95	78	79	69	82	72	80	68	90	74								
	2	72	61	74	63	71	58	77	63	69	58	71	59	67	55	73	60								
	3	57	46	64	55	62	51	68	56	53	43	62	52	59	48	64	53								
50	1	80	71	83	73	82	72	95	78	77	68	80	71	79	68	90	74								
	2	71	61	73	63	71	58	77	63	68	58	70	59	67	55	73	60								
	3	57	46	63	55	62	51	68	56	53	43	61	52	59	48	64	53								
60	1	77	69	79	71	80	70	93	78	74	66	77	69	77	67	90	74								
	2	69	60	70	62	69	58	77	63	66	58	68	59	67	55	73	60								
	3	57	46	61	54	60	51	68	56	53	43	59	51	58	48	64	53								
Wind Speed [mph]		190								200															
45	1	76	66	79	69	77	64	85	70	74	63	76	66	74	61	81	67								
	2	66	55	68	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	59	50	56	46	61	50	48	39	57	47	53	43	58	47								
50	1	75	66	78	68	76	64	85	70	72	63	75	66	74	61	81	67								
	2	66	55	67	56	64	52	69	57	63	52	65	54	60	50	66	54								
	3	51	41	59	50	56	46	61	50	48	39	57	47	53	43	58	47								
60	1	72	64	75	66	74	64	85	70	70	62	73	64	72	61	81	67								
	2	64	55	66	56	64	52	69	57	62	52	63	54	60	50	66	54								
	3	51	41	57	49	56	46	61	50	48	39	55	47	53	43	58	47								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

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 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	87	82	90	84	82	82	89	89	86	80	89	83	82	82	89	89	85	79	88	82	82	82	89	89	
	2	82	75	84	77	82	78	89	89	80	74	82	76	82	76	89	89	79	72	81	74	82	74	89	88	
	3	70	64	72	66	74	67	89	83	69	63	71	65	73	66	89	81	68	62	70	64	71	64	89	78	
	80	1	83	78	86	81	79	79	86	86	82	77	85	80	79	79	86	86	81	76	84	79	79	79	86	86
		2	78	73	81	75	79	76	86	86	77	71	79	73	79	74	86	86	76	70	78	72	79	72	86	86
		3	67	62	69	64	72	65	86	81	66	61	68	63	70	64	86	79	65	60	67	62	69	62	86	77
	90	1	80	76	82	78	76	76	83	83	79	75	81	77	76	76	83	83	78	73	81	76	76	76	83	83
		2	76	70	78	72	76	74	83	83	75	69	77	71	76	72	83	83	73	68	75	70	76	71	83	83
		3	64	60	66	62	69	64	83	80	63	59	66	61	68	62	83	78	63	58	65	60	67	61	83	76
70	1	84	78	86	80	82	82	89	89	83	76	85	79	82	80	89	89									
	2	78	71	80	72	81	72	89	85	76	69	78	71	80	71	89	82									
	3	66	60	69	63	70	63	87	75	65	59	68	61	69	61	85	72									
	80	1	80	75	83	77	79	79	86	86	79	74	82	76	79	78	86	86								
		2	75	68	77	70	79	71	86	85	74	67	76	69	77	69	86	82								
		3	64	59	66	61	68	61	85	75	63	57	65	59	67	60	83	72								
	90	1	77	72	80	75	76	76	83	83	76	71	79	74	76	76	83	83								
		2	72	67	74	68	76	69	83	83	71	65	73	67	75	68	83	82								
		3	62	57	64	59	66	60	83	73	61	56	63	58	65	58	82	71								
70	1	84	78	86	80	82	82	89	89	83	76	85	79	82	80	89	89									
	2	78	71	80	72	81	72	89	85	76	69	78	71	80	71	89	82									
	3	66	60	69	63	70	63	87	75	65	59	68	61	69	61	85	72									
	80	1	80	75	83	77	79	79	86	86	79	74	82	76	79	78	86	86								
		2	75	68	77	70	79	71	86	85	74	67	76	69	77	69	86	82								
		3	64	59	66	61	68	61	85	75	63	57	65	59	67	60	83	72								
	90	1	77	72	80	75	76	76	83	83	76	71	79	74	76	76	83	83								
		2	72	67	74	68	76	69	83	83	71	65	73	67	75	68	83	82								
		3	62	57	64	59	66	60	83	73	61	56	63	58	65	58	82	71								
70	1	82	75	84	78	82	78	89	89	83	76	85	79	82	80	89	89									
	2	75	68	77	69	78	69	89	79	76	69	78	71	80	71	89	82									
	3	64	58	66	60	67	60	83	70	65	59	68	61	69	61	85	72									
	80	1	78	73	81	75	79	76	86	86	79	74	82	76	79	78	86	86								
		2	73	66	75	68	76	67	86	79	74	67	76	69	77	69	86	82								
		3	62	56	64	58	65	58	81	70	63	57	65	59	67	60	83	72								
	90	1	76	70	78	73	76	74	83	83	76	71	79	74	76	76	83	83								
		2	70	64	72	66	74	66	83	79	71	65	73	67	75	68	83	82								
		3	60	55	62	57	64	57	80	70	61	56	63	58	65	58	82	71								
70	1	82	75	84	78	82	78	89	89	83	76	85	79	82	80	89	89									
	2	75	68	77	69	78	69	89	79	76	69	78	71	80	71	89	82									
	3	64	58	66	60	67	60	83	70	65	59	68	61	69	61	85	72									
	80	1	78	73	81	75	79	76	86	86	79	74	82	76	79	78	86	86								
		2	73	66	75	68	76	67	86	79	74	67	76	69	77	69	86	82								
		3	62	56	64	58	65	58	81	70	63	57	65	59	67	60	83	72								
	90	1	76	70	78	73	76	74	83	83	76	71	79	74	76	76	83	83								
		2	70	64	72	66	74	66	83	79	71	65	73	67	75	68	83	82								
		3	60	55	62	57	64	57	80	70	61	56	63	58	65	58	82	71								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	80	74	83	76	82	77	89	89	78	71	81	74	82	74	89	88	76	69	79	71	80	71	89	83
	2	74	66	76	68	76	67	89	76	71	64	73	65	73	64	87	71	69	61	71	63	70	61	81	67
	3	63	56	65	59	66	58	81	67	61	52	63	57	63	56	77	63	59	49	61	54	61	53	72	59
	1	77	71	80	74	79	75	86	86	75	69	78	72	79	72	86	86	74	67	76	69	78	69	86	83
	2	71	64	73	66	74	66	86	76	69	62	71	64	71	63	86	71	67	60	69	61	69	60	81	67
	3	61	55	63	57	64	57	79	67	59	52	61	55	62	55	76	63	57	49	59	53	60	52	72	59
	1	75	69	77	72	76	73	83	83	73	67	75	69	76	70	83	83	71	65	74	67	75	68	83	83
	2	69	63	71	65	72	65	83	76	67	61	69	62	70	62	83	71	65	58	67	60	67	59	81	67
	3	59	54	61	56	62	56	78	67	57	52	59	54	60	54	74	63	56	49	58	52	58	51	71	59
80	1	74	67	77	69	77	68	89	78	72	64	75	67	75	66	89	74	72	64	75	67	75	66	89	74
	2	67	59	68	60	68	58	77	63	64	56	66	58	65	55	73	60	64	56	66	58	65	55	73	60
	3	57	46	59	52	59	51	68	56	53	43	57	50	57	48	64	53	53	43	57	50	57	48	64	53
	1	72	65	74	67	75	67	86	78	70	63	72	65	73	64	86	74	70	63	72	65	73	64	86	74
	2	65	57	67	59	66	58	77	63	63	55	64	57	64	55	73	60	63	55	64	57	64	55	73	60
	3	56	46	57	51	57	50	68	56	53	43	56	49	55	48	64	53	53	43	56	49	55	48	64	53
	1	69	63	72	65	73	65	83	78	68	61	70	63	71	63	83	74	68	61	70	63	71	63	83	74
	2	63	56	65	58	65	57	77	63	61	54	63	56	63	55	73	60	61	54	63	56	63	55	73	60
	3	54	46	56	50	56	49	68	56	52	43	54	48	54	47	64	53	52	43	54	48	54	47	64	53
90	1	70	62	73	65	72	63	85	70	68	60	71	63	70	61	81	67	68	60	71	63	70	61	81	67
	2	62	54	64	56	63	52	69	57	60	52	62	54	60	50	66	54	60	52	62	54	60	50	66	54
	3	51	41	55	48	54	46	61	50	48	39	54	47	52	43	58	47	48	39	54	47	52	43	58	47
	1	68	61	70	63	71	62	85	70	66	59	69	61	68	60	81	67	66	59	69	61	68	60	81	67
	2	61	53	62	55	62	52	69	57	59	51	61	53	59	50	66	54	59	51	61	53	59	50	66	54
	3	51	41	54	48	53	46	61	50	48	39	52	46	52	43	58	47	48	39	52	46	52	43	58	47
	1	66	59	68	62	69	61	83	70	64	58	67	60	67	59	81	67	64	58	67	60	67	59	81	67
	2	59	52	61	54	60	52	69	57	58	51	59	52	58	50	66	54	58	51	59	52	58	50	66	54
	3	51	41	53	47	52	45	61	50	48	39	51	45	51	43	58	47	48	39	51	45	51	43	58	47

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	76	73	78	75	74	74	81	81	76	72	78	74	74	74	81	81	75	71	78	73	74	74	81	81
	2	73	68	75	70	74	72	81	81	72	67	74	69	74	70	81	81	71	66	73	68	74	69	81	81
	3	62	58	64	60	67	62	81	79	61	57	63	59	66	61	81	76	61	56	62	58	65	59	81	74
Wind Speed [mph]		110								115															
100	1	75	70	77	72	74	74	81	81	74	69	76	71	74	74	81	81								
	2	70	65	72	67	74	68	81	81	69	64	71	65	73	66	81	81								
	3	60	55	62	57	64	58	81	72	59	54	61	56	63	57	80	70								
Wind Speed [mph]		120								130															
100	1	73	68	75	70	74	72	81	81	74	69	76	71	74	74	81	81								
	2	68	62	70	64	72	65	81	79	69	64	71	65	73	66	81	81								
	3	58	53	60	55	62	56	78	69	59	54	61	56	63	57	80	70								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	72	67	74	69	74	71	81	81	71	65	73	68	74	69	81	81	69	63	71	66	73	66	81	81
	2	67	61	69	63	71	63	81	76	65	59	67	61	68	61	81	71	63	57	65	59	66	58	81	67
	3	57	52	59	54	61	55	77	67	56	51	58	52	59	52	73	63	54	49	56	51	57	50	70	59
Wind Speed [mph]		170								180															
100	1	67	62	70	64	71	64	81	78	66	60	68	62	69	62	81	74								
	2	62	55	63	57	64	56	77	63	60	53	62	55	62	54	73	60								
	3	53	46	55	49	55	48	67	56	51	43	53	47	53	47	64	53								
Wind Speed [mph]		190								200															
100	1	64	58	67	60	67	60	81	70	63	56	65	59	66	58	80	67								
	2	58	51	60	53	59	52	69	57	56	50	58	51	57	50	66	54								
	3	50	41	52	46	51	45	61	50	48	39	50	44	50	43	58	47								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	125	104	128	109	122	101	130	110	120	100	125	104	117	97	127	106	116	96	120	100	112	93	123	102	
	2	104	87	107	89	100	83	109	90	100	83	103	85	96	79	104	86	96	80	99	82	92	76	100	83	
	3	83	67	95	79	89	73	96	79	79	64	91	76	85	70	92	76	75	61	88	73	82	67	89	73	
	5	1	125	104	128	109	122	101	130	110	120	100	125	104	117	97	127	106	116	96	120	100	112	93	123	102
		2	104	87	107	89	100	83	109	90	100	83	103	85	96	79	104	86	96	80	99	82	92	76	100	83
		3	83	67	95	79	89	73	96	79	79	64	91	76	85	70	92	76	75	61	88	73	82	67	89	73
	10	1	122	104	126	109	122	101	130	110	119	100	123	104	117	97	127	106	116	96	120	100	112	93	123	102
		2	104	87	107	89	100	83	109	90	100	83	103	85	96	79	104	86	96	80	99	82	92	76	100	83
		3	83	67	95	79	89	73	96	79	79	64	91	76	85	70	92	76	75	61	88	73	82	67	89	73
Wind Speed [mph]		110								115																
0	1	112	93	116	97	108	90	118	98	108	90	112	93	105	87	114	94	108	90	112	93	105	87	114	94	
	2	93	77	95	79	89	73	96	80	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77	
	3	72	59	85	70	78	64	85	70	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68	
	5	1	112	93	116	97	108	90	118	98	108	90	112	93	105	87	114	94	108	90	112	93	105	87	114	94
		2	93	77	95	79	89	73	96	80	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77
		3	72	59	85	70	78	64	85	70	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68
	10	1	112	93	116	97	108	90	118	98	108	90	112	93	105	87	114	94	108	90	112	93	105	87	114	94
		2	93	77	95	79	89	73	96	80	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77
		3	72	59	85	70	78	64	85	70	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68
Wind Speed [mph]		120								130																
0	1	104	86	108	90	101	84	110	91	108	90	112	93	105	87	114	94	108	90	112	93	105	87	114	94	
	2	86	71	89	73	83	68	90	74	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77	
	3	67	54	79	65	73	60	79	65	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68	
	5	1	104	86	108	90	101	84	110	91	108	90	112	93	105	87	114	94	108	90	112	93	105	87	114	94
		2	86	71	89	73	83	68	90	74	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77
		3	67	54	79	65	73	60	79	65	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68
	10	1	104	86	108	90	101	84	110	91	108	90	112	93	105	87	114	94	108	90	112	93	105	87	114	94
		2	86	71	89	73	83	68	90	74	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77
		3	67	54	79	65	73	60	79	65	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	101	84	105	87	98	81	106	88	95	78	99	82	92	76	100	82	89	74	93	77	86	71	94	77
	2	84	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	76	63	70	58	77	63	60	49	71	58	66	54	72	59	56	46	67	55	62	51	67	55
5	1	101	84	105	87	98	81	106	88	95	78	99	82	92	76	100	82	89	74	93	77	86	71	94	77
	2	84	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	76	63	70	58	77	63	60	49	71	58	66	54	72	59	56	46	67	55	62	51	67	55
10	1	101	84	105	87	98	81	106	88	95	78	99	82	92	76	100	82	89	74	93	77	86	71	94	77
	2	84	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	76	63	70	58	77	63	60	49	71	58	66	54	72	59	56	46	67	55	62	51	67	55
0	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	50	40	60	49	55	45	60	49
5	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	50	40	60	49	55	45	60	49
10	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	50	40	60	49	55	45	60	49
0	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
5	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
10	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
0	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
5	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
10	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	115	102	119	106	122	101	130	110	113	99	117	103	117	97	127	106	110	96	114	100	112	93	123	102	
	2	102	87	105	89	100	83	109	90	99	83	102	85	96	79	104	86	96	80	99	82	92	76	100	83	
	3	83	67	92	79	89	73	96	79	79	64	89	76	85	70	92	76	75	61	87	73	82	67	89	73	
	20	1	110	98	113	102	120	101	125	110	107	95	111	99	116	97	125	106	105	93	108	96	112	93	123	102
		2	98	86	101	88	100	83	109	90	95	83	98	85	96	79	104	86	93	80	95	82	92	76	100	83
		3	83	67	88	77	89	73	96	79	79	64	86	75	85	70	92	76	75	61	83	73	82	67	89	73
	25	1	110	98	113	102	114	101	119	110	107	95	111	99	113	97	119	106	105	93	108	96	110	93	119	102
		2	98	86	101	88	100	83	109	90	95	83	98	85	96	79	104	86	93	80	95	82	92	76	100	83
		3	83	67	88	77	88	73	96	79	79	64	86	75	85	70	92	76	75	61	83	73	82	67	89	73
15	1	107	93	111	97	108	90	118	98	105	90	108	93	105	87	114	94	105	90	108	93	105	87	114	94	
	2	93	77	95	79	89	73	96	80	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77	
	3	72	59	84	70	78	64	85	70	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68	
	20	1	102	90	106	94	108	90	118	98	100	88	104	91	105	87	114	94	100	88	104	91	105	87	114	94
		2	90	77	93	79	89	73	96	80	88	74	91	76	86	71	93	77	88	74	91	76	86	71	93	77
		3	72	59	81	70	78	64	85	70	69	56	79	67	76	62	82	68	69	56	79	67	76	62	82	68
	25	1	102	90	106	94	107	90	118	98	100	88	104	91	105	87	114	94	100	88	104	91	105	87	114	94
		2	90	77	93	79	89	73	96	80	88	74	91	76	86	71	93	77	88	74	91	76	86	71	93	77
		3	72	59	81	70	78	64	85	70	69	56	79	67	76	62	82	68	69	56	79	67	76	62	82	68
15	1	102	86	106	90	101	84	110	91	105	90	108	93	105	87	114	94	105	90	108	93	105	87	114	94	
	2	86	71	89	73	83	68	90	74	90	74	92	76	86	71	93	77	90	74	92	76	86	71	93	77	
	3	67	54	79	65	73	60	79	65	69	56	82	67	76	62	82	68	69	56	82	67	76	62	82	68	
	20	1	98	86	101	89	101	84	110	91	100	88	104	91	105	87	114	94	100	88	104	91	105	87	114	94
		2	86	71	88	73	83	68	90	74	88	74	91	76	86	71	93	77	88	74	91	76	86	71	93	77
		3	67	54	77	65	73	60	79	65	69	56	79	67	76	62	82	68	69	56	79	67	76	62	82	68
	25	1	98	86	101	89	101	84	110	91	100	88	104	91	105	87	114	94	100	88	104	91	105	87	114	94
		2	86	71	88	73	83	68	90	74	88	74	91	76	86	71	93	77	88	74	91	76	86	71	93	77
		3	67	54	77	65	73	60	79	65	69	56	79	67	76	62	82	68	69	56	79	67	76	62	82	68

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	100	84	103	87	98	81	106	88	95	78	99	82	92	76	100	82	89	74	93	77	86	71	94	77
	2	84	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	76	63	70	58	77	63	60	49	71	58	66	54	72	59	56	46	67	55	62	51	67	55
	1	96	84	99	87	98	81	106	88	92	78	95	82	92	76	100	82	88	74	91	77	86	71	94	77
	2	84	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	75	63	70	58	77	63	60	49	71	58	66	54	72	59	56	46	67	55	62	51	67	55
	1	96	84	99	87	98	81	106	88	92	78	95	82	92	76	100	82	88	74	91	77	86	71	94	77
	2	84	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	75	63	70	58	77	63	60	49	71	58	66	54	72	59	56	46	67	55	62	51	67	55
20	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	84	69	87	72	81	67	89	73
	1	84	69	87	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	84	69	87	72	81	67	89	73
	1	84	69	87	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49								
25	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	76	62	79	65	73	60	80	65
	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	76	62	79	65	73	60	80	65
	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	109	98	113	101	109	100	115	110	107	95	111	99	109	97	115	106	105	93	108	96	108	93	115	102
	2	98	86	101	88	99	83	109	90	95	83	98	85	96	79	104	86	93	80	95	82	92	76	100	83
	3	83	67	88	77	86	73	96	79	79	64	86	75	84	70	92	76	75	61	83	73	81	67	89	73
	1	106	95	110	99	104	98	111	110	104	93	107	96	104	95	111	106	102	91	105	94	104	92	111	102
	2	95	84	98	87	97	83	109	90	93	82	96	84	94	79	104	86	91	79	93	82	91	76	100	83
	3	82	67	85	76	85	73	96	79	79	64	83	73	82	70	92	76	75	61	81	71	80	67	89	73
	1	103	93	106	96	101	96	107	107	101	91	104	94	101	93	107	106	99	89	102	92	101	91	107	102
	2	93	83	96	85	95	83	107	90	91	80	93	82	92	79	104	86	89	78	91	80	90	76	100	83
	3	80	67	83	74	83	72	96	79	78	64	81	72	81	70	92	76	75	61	79	70	78	67	89	73
35	1	102	90	106	94	105	90	115	98	100	88	104	91	102	87	114	94	99	88	103	92	102	90	111	98
	2	90	77	93	79	89	73	96	80	88	74	90	76	86	71	93	77	86	74	89	76	86	71	93	77
	3	72	59	81	70	78	64	85	70	69	56	79	67	76	62	82	68	69	56	77	67	75	62	82	68
	1	99	88	103	92	102	90	111	98	97	86	101	89	100	87	111	94	86	74	89	76	86	71	93	77
	2	88	77	91	79	89	73	96	80	86	74	89	76	86	71	93	77	86	74	89	76	86	71	93	77
	3	72	59	79	69	78	64	85	70	69	56	77	67	75	62	82	68	69	56	77	67	75	62	82	68
	1	97	87	100	90	100	88	107	98	95	85	98	88	98	86	107	94	95	85	98	88	98	86	107	94
	2	87	76	89	78	87	73	96	80	85	74	87	76	85	71	93	77	85	74	87	76	85	71	93	77
	3	72	59	77	68	76	64	85	70	69	56	76	66	74	62	82	68	69	56	76	66	74	62	82	68
40	1	98	86	101	89	100	84	110	91	100	88	104	91	102	87	114	94	98	86	101	89	100	84	110	91
	2	86	71	88	73	83	68	90	74	88	74	90	76	86	71	93	77	88	74	90	76	86	71	93	77
	3	67	54	77	65	73	60	79	65	69	56	79	67	76	62	82	68	69	56	79	67	76	62	82	68
	1	95	84	99	87	98	84	110	91	97	86	101	89	100	87	111	94	97	86	101	89	100	87	111	94
	2	84	71	86	73	83	68	90	74	86	74	89	76	86	71	93	77	86	74	89	76	86	71	93	77
	3	67	54	75	65	73	60	79	65	69	56	77	67	75	62	82	68	69	56	77	67	75	62	82	68
	1	93	83	96	86	96	84	107	91	95	85	98	88	98	86	107	94	95	85	98	88	98	86	107	94
	2	83	71	85	73	83	68	90	74	85	74	87	76	85	71	93	77	85	74	87	76	85	71	93	77
	3	67	54	74	64	72	60	79	65	69	56	76	66	74	62	82	68	69	56	76	66	74	62	82	68

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	96	84	99	87	97	81	106	88	92	78	95	82	92	76	100	82	88	74	91	77	86	71	94	77
	2	84	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	75	63	70	58	77	63	60	49	71	58	66	54	72	59	56	46	67	55	62	51	67	55
	1	93	82	97	85	95	81	106	88	90	78	93	81	91	76	100	82	86	74	89	77	86	71	94	77
	2	82	69	84	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	74	63	70	58	77	63	60	49	70	58	66	54	72	59	56	46	67	55	62	51	67	55
	1	91	81	94	84	94	81	106	88	88	77	91	80	89	76	100	82	84	74	87	76	86	71	94	77
	2	81	69	83	71	80	66	87	71	77	64	79	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	64	52	72	63	70	58	77	63	60	49	69	58	66	54	72	59	56	46	66	55	62	51	67	55
35	1	84	69	87	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	50	40	60	49	55	45	60	49
	1	83	69	86	72	81	67	89	73	79	66	82	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	50	40	60	49	55	45	60	49
	1	81	69	84	72	81	67	89	73	78	66	81	69	77	63	84	69	66	54	68	55	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56	50	40	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	40	60	49	55	45	60	49	50	40	60	49	55	45	60	49
40	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
	1	76	62	79	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
	1	75	62	78	65	73	60	80	65	72	59	75	62	70	57	76	62	59	49	61	50	56	46	61	50
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	100	91	103	94	97	94	104	104	98	89	101	92	97	92	104	104	96	87	99	90	97	89	104	102
	2	91	81	93	83	93	82	104	90	89	79	91	81	91	79	104	86	87	77	89	79	88	76	100	83
	3	78	67	81	72	81	71	96	79	77	64	79	71	79	69	92	76	75	61	77	69	77	67	89	73
50	1	97	89	100	92	94	92	101	101	96	87	99	90	94	90	101	101	94	85	97	88	94	88	101	101
	2	89	80	91	82	92	81	101	90	87	78	89	80	89	78	101	86	85	76	87	78	87	76	100	83
	3	77	67	79	71	80	70	96	79	75	64	77	69	78	68	92	76	73	61	76	67	76	66	89	73
60	1	93	85	96	88	89	89	96	96	91	84	94	86	89	87	96	96	90	82	93	85	89	85	96	96
	2	85	77	88	79	89	79	96	90	84	75	86	77	86	76	96	86	82	73	84	75	84	74	96	83
	3	73	66	76	69	77	68	94	79	72	64	74	67	75	66	92	76	70	61	73	65	73	64	89	73
45	1	94	85	98	88	97	87	104	98	93	83	96	86	96	85	104	94								
	2	85	75	87	77	86	73	96	80	83	73	85	75	84	71	93	77								
	3	72	59	76	67	75	64	85	70	69	56	74	65	73	62	82	68								
50	1	92	83	95	86	94	85	101	98	91	81	94	84	94	83	101	94								
	2	83	74	85	76	85	73	96	80	81	72	84	74	83	71	93	77								
	3	72	59	74	66	74	64	85	70	69	56	73	64	72	62	82	68								
60	1	88	80	91	83	89	83	96	96	87	79	90	81	89	81	96	94								
	2	80	71	82	73	82	72	96	80	79	70	81	72	80	70	93	77								
	3	69	59	71	64	71	63	85	70	67	56	70	62	70	61	82	68								
45	1	91	81	94	84	94	82	104	91	93	83	96	86	96	85	104	94								
	2	81	71	83	73	82	68	90	74	83	73	85	75	84	71	93	77								
	3	67	54	72	63	71	60	79	65	69	56	74	65	73	62	82	68								
50	1	89	80	92	82	92	81	101	91	91	81	94	84	94	83	101	94								
	2	80	70	82	72	81	68	90	74	81	72	84	74	83	71	93	77								
	3	67	54	71	62	70	60	79	65	69	56	73	64	72	62	82	68								
60	1	85	77	88	80	89	79	96	91	87	79	90	81	89	81	96	94								
	2	77	68	79	70	78	68	90	74	79	70	81	72	80	70	93	77								
	3	66	54	68	61	68	59	79	65	67	56	70	62	70	61	82	68								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
45	1	89	79	92	82	92	80	104	88	86	76	89	79	88	76	100	82	83	72	86	75	84	71	94	77	
	2	79	69	81	71	80	66	87	71	76	64	78	66	75	61	81	67	72	61	74	62	70	58	76	63	
	3	64	52	71	62	69	58	77	63	60	49	68	58	66	54	72	59	56	46	65	55	62	51	67	55	
	50	1	87	78	90	81	90	79	101	88	84	75	87	77	87	76	100	82	81	71	84	74	83	71	94	77
		2	78	68	80	70	79	66	87	71	75	64	77	66	75	61	81	67	71	61	73	62	70	58	76	63
		3	64	52	70	61	68	58	77	63	60	49	67	58	65	54	72	59	56	46	64	55	62	51	67	55
	60	1	84	75	87	78	87	77	96	88	81	72	84	75	84	74	96	82	78	69	81	72	81	71	94	77
		2	75	66	77	68	77	66	87	71	72	63	74	65	73	61	81	67	69	60	71	62	70	58	76	63
		3	64	52	67	59	67	58	77	63	60	49	64	57	64	54	72	59	56	46	62	54	61	51	67	55
45	1	80	69	83	72	81	67	89	73	77	66	80	69	77	63	84	69									
	2	69	57	71	59	66	54	72	59	66	54	68	55	63	51	68	56									
	3	53	43	62	52	58	48	63	52	50	40	60	49	55	45	60	49									
	50	1	78	69	81	71	80	67	89	73	76	66	78	68	77	63	84	69								
		2	69	57	70	59	66	54	72	59	66	54	68	55	63	51	68	56								
		3	53	43	61	52	58	48	63	52	50	40	59	49	55	45	60	49								
	60	1	76	67	78	69	78	67	89	73	73	64	76	67	75	63	84	69								
		2	67	57	69	59	66	54	72	59	64	54	66	55	63	51	68	56								
		3	53	43	60	52	58	48	63	52	50	40	57	49	55	45	60	49								
45	1	74	62	77	65	73	60	80	65	71	59	74	62	70	57	76	62									
	2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50									
	3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44									
	50	1	73	62	76	65	73	60	80	65	70	59	73	62	70	57	76	62								
		2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50								
		3	47	38	57	46	52	43	57	46	45	36	54	44	50	41	54	44								
	60	1	71	62	73	64	72	60	80	65	69	59	71	62	69	57	76	62								
		2	62	51	64	53	59	49	64	53	59	49	61	50	56	46	61	50								
		3	47	38	55	46	52	43	57	46	45	36	53	44	50	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	89	82	91	85	85	85	92	92	87	81	90	83	85	84	92	92	86	79	89	82	85	82	92	92	
	2	82	75	84	77	85	77	92	90	81	73	83	75	84	74	92	86	79	71	81	73	82	72	92	83	
	3	70	64	73	66	74	66	92	79	69	63	71	65	72	65	90	76	68	61	70	63	71	63	87	73	
	80	1	85	79	88	82	82	82	89	89	84	78	86	80	82	82	89	89	83	76	85	79	82	80	89	89
		2	79	72	81	74	82	75	89	89	78	71	80	73	81	73	89	86	76	69	78	71	80	71	89	83
		3	68	62	70	64	72	65	89	79	66	61	69	63	70	63	88	76	65	59	68	61	69	61	85	73
	90	1	82	77	84	79	79	79	86	86	81	75	83	78	79	79	86	86	80	74	82	76	79	78	86	86
		2	77	70	79	72	79	73	86	86	75	69	77	71	79	71	86	86	74	67	76	69	78	69	86	83
		3	65	60	67	62	70	63	86	78	64	59	66	61	68	62	86	75	63	58	65	60	67	60	84	73
70	1	85	77	87	80	85	81	92	92	83	76	86	79	85	79	92	92									
	2	77	69	80	71	80	71	92	80	76	68	78	70	78	69	92	77									
	3	66	59	69	62	69	61	85	70	65	56	67	60	68	60	82	68									
	80	1	81	75	84	78	82	79	89	89	80	74	83	76	82	77	89	89								
		2	75	68	77	70	78	69	89	80	74	66	76	68	76	67	89	77								
		3	64	58	66	60	67	60	83	70	63	56	65	59	66	58	81	68								
	90	1	79	73	81	75	79	77	86	86	78	72	80	74	79	75	86	86								
		2	73	66	75	68	76	68	86	80	72	65	73	66	74	66	86	77								
		3	62	57	64	59	66	59	82	70	61	55	63	57	64	57	80	68								
70	1	85	77	87	80	85	81	92	92	83	76	86	79	85	79	92	92									
	2	77	69	80	71	80	71	92	80	76	68	78	70	78	69	92	77									
	3	66	59	69	62	69	61	85	70	65	56	67	60	68	60	82	68									
	80	1	81	75	84	78	82	79	89	89	80	74	83	76	82	77	89	89								
		2	75	68	77	70	78	69	89	80	74	66	76	68	76	67	89	77								
		3	64	58	66	60	67	60	83	70	63	56	65	59	66	58	81	68								
	90	1	79	73	81	75	79	77	86	86	78	72	80	74	79	75	86	86								
		2	73	66	75	68	76	68	86	80	72	65	73	66	74	66	86	77								
		3	62	57	64	59	66	59	82	70	61	55	63	57	64	57	80	68								
70	1	82	75	85	77	85	77	92	91	83	76	86	79	85	79	92	92									
	2	75	66	77	68	76	67	90	74	76	68	78	70	78	69	92	77									
	3	64	54	66	59	66	58	79	65	65	56	67	60	68	60	82	68									
	80	1	79	72	82	75	82	75	89	89	80	74	83	76	82	77	89	89								
		2	72	65	74	67	75	66	89	74	74	66	76	68	76	67	89	77								
		3	62	54	64	58	65	57	79	65	63	56	65	59	66	58	81	68								
	90	1	77	70	79	73	79	73	86	86	78	72	80	74	79	75	86	86								
		2	70	63	72	65	73	65	86	74	72	65	73	66	74	66	86	77								
		3	60	54	62	56	63	56	78	65	61	55	63	57	64	57	80	68								
70	1	82	75	85	77	85	77	92	91	83	76	86	79	85	79	92	92									
	2	75	66	77	68	76	67	90	74	76	68	78	70	78	69	92	77									
	3	64	54	66	59	66	58	79	65	65	56	67	60	68	60	82	68									
	80	1	79	72	82	75	82	75	89	89	80	74	83	76	82	77	89	89								
		2	72	65	74	67	75	66	89	74	74	66	76	68	76	67	89	77								
		3	62	54	64	58	65	57	79	65	63	56	65	59	66	58	81	68								
	90	1	77	70	79	73	79	73	86	86	78	72	80	74	79	75	86	86								
		2	70	63	72	65	73	65	86	74	72	65	73	66	74	66	86	77								
		3	60	54	62	56	63	56	78	65	61	55	63	57	64	57	80	68								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								74in x 41.2in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	81	73	83	76	85	75	92	88	78	70	81	73	82	72	92	82	76	68	78	70	79	69	92	77
	2	73	65	75	67	75	65	87	71	70	62	72	64	72	61	81	67	68	59	70	61	68	58	76	63
	3	63	52	65	58	65	57	77	63	60	49	63	55	62	54	72	59	56	46	60	53	59	51	67	55
80	1	78	71	81	74	82	74	89	88	76	68	78	71	79	71	89	82	73	66	76	68	77	68	89	77
	2	71	63	73	65	73	64	87	71	68	61	70	62	70	61	81	67	66	58	68	60	67	58	76	63
	3	61	52	63	56	63	56	77	63	59	49	61	54	61	53	72	59	56	46	59	52	58	51	67	55
90	1	75	69	78	72	79	72	86	86	73	67	76	69	77	69	86	82	71	64	74	67	75	66	86	77
	2	69	62	71	64	71	63	86	71	67	59	69	61	69	60	81	67	64	57	66	59	66	57	76	63
	3	59	52	61	55	62	55	76	63	57	49	59	53	59	52	72	59	55	46	57	51	57	50	67	55
70	1	73	65	76	68	76	66	89	73	71	63	74	65	73	63	84	69								
	2	65	57	67	58	66	54	72	59	63	54	65	55	63	51	68	56								
	3	53	43	58	51	57	48	63	52	50	40	56	49	55	45	60	49								
80	1	71	64	74	66	74	65	89	73	69	61	72	64	71	62	84	69								
	2	64	56	65	57	64	54	72	59	61	54	63	55	62	51	68	56								
	3	53	43	57	50	56	48	63	52	50	40	55	48	54	45	60	49								
90	1	69	62	72	65	72	64	86	73	67	60	70	62	70	61	84	69								
	2	62	55	64	56	63	54	72	59	60	53	62	54	61	51	68	56								
	3	53	43	55	49	55	48	63	52	50	40	54	47	53	45	60	49								
70	1	73	65	76	68	76	66	89	73	71	63	74	65	73	63	84	69								
	2	65	57	67	58	66	54	72	59	63	54	65	55	63	51	68	56								
	3	53	43	58	51	57	48	63	52	50	40	56	49	55	45	60	49								
80	1	71	64	74	66	74	65	89	73	69	61	72	64	71	62	84	69								
	2	64	56	65	57	64	54	72	59	61	54	63	55	62	51	68	56								
	3	53	43	57	50	56	48	63	52	50	40	55	48	54	45	60	49								
90	1	69	62	72	65	72	64	86	73	67	60	70	62	70	61	84	69								
	2	62	55	64	56	63	54	72	59	60	53	62	54	61	51	68	56								
	3	53	43	55	49	55	48	63	52	50	40	54	47	53	45	60	49								
70	1	69	61	71	63	71	60	80	65	67	58	69	61	68	57	76	62								
	2	61	51	62	53	59	49	64	53	58	49	60	50	56	46	61	50								
	3	47	38	54	46	52	43	57	46	45	36	52	44	50	41	54	44								
80	1	67	59	70	62	69	60	80	65	65	57	68	60	67	57	76	62								
	2	59	51	61	53	59	49	64	53	57	49	59	50	56	46	61	50								
	3	47	38	53	46	52	43	57	46	45	36	51	44	50	41	54	44								
90	1	66	58	68	60	68	59	80	65	64	56	66	58	66	57	76	62								
	2	58	51	60	52	59	49	64	53	56	49	58	50	56	46	61	50								
	3	47	38	52	45	51	43	57	46	45	36	50	44	49	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	79	74	81	77	76	76	83	83	78	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83
	2	74	69	76	70	76	71	83	83	73	67	75	69	76	70	83	83	72	66	74	68	76	68	83	83
	3	63	59	65	60	68	62	83	77	62	57	64	59	66	60	83	74	61	56	63	58	65	59	83	72
0	1																								
	2																								
	3																								
Wind Speed [mph]		110								115															
100	1	76	71	78	73	76	75	83	83	75	70	77	72	76	73	83	83								
	2	71	65	73	66	74	66	83	80	70	63	71	65	73	65	83	77								
	3	60	55	62	57	64	57	80	70	59	54	61	56	63	56	78	68								
0	1																								
	2																								
	3																								
Wind Speed [mph]		120								130															
100	1	74	68	77	71	76	72	83	83	75	70	77	72	76	73	83	83								
	2	68	62	70	64	71	63	83	74	70	63	71	65	73	65	83	77								
	3	58	53	60	55	62	55	76	65	59	54	61	56	63	56	78	68								
0	1																								
	2																								
	3																								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		74in x 41.2in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	73	67	76	70	76	70	83	83	71	65	74	67	75	68	83	82	69	63	72	65	73	65	83	77
	2	67	61	69	62	70	62	83	71	65	58	67	60	67	59	81	67	63	56	65	58	65	57	76	63
	3	58	52	60	54	60	54	75	63	56	49	58	52	58	51	71	59	54	46	56	50	56	49	67	55
Wind Speed [mph]		170								180															
100	1	68	61	70	63	71	63	83	73	66	59	68	61	69	60	83	69								
	2	61	54	63	55	62	54	72	59	59	52	61	53	60	51	68	56								
	3	52	43	54	48	54	47	63	52	50	40	52	46	52	45	60	49								
Wind Speed [mph]		190								200															
100	1	64	57	66	59	66	58	80	65	62	55	65	57	64	56	76	62								
	2	57	50	59	51	58	49	64	53	55	48	57	50	56	46	61	50								
	3	47	38	51	45	50	43	57	46	45	36	49	43	48	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	141	128	142	131	139	126	135	134	139	125	142	128	138	122	135	130	136	120	140	125	135	117	135	127	
	2	128	109	130	112	125	104	132	114	125	104	127	107	120	100	129	109	120	101	123	103	116	97	126	105	
	3	109	88	119	100	111	93	121	101	104	84	115	96	107	89	117	97	99	80	110	92	103	85	112	93	
	5	1	141	128	142	131	139	126	135	134	139	125	142	128	138	122	135	130	136	120	140	125	135	117	135	127
	2	128	109	130	112	125	104	132	114	125	104	127	107	120	100	129	109	120	101	123	103	116	97	126	105	
	3	109	88	119	100	111	93	121	101	104	84	115	96	107	89	117	97	99	80	110	92	103	85	112	93	
	10	1	132	123	133	127	132	126	133	133	131	120	133	124	132	122	133	130	129	117	132	121	132	117	133	127
	2	123	109	126	112	125	104	132	114	120	104	123	107	120	100	129	109	117	101	120	103	116	97	126	105	
	3	108	88	112	98	111	93	121	101	104	84	109	96	107	89	117	97	99	80	106	92	103	85	112	93	
5	1	133	116	137	121	132	113	135	123	131	112	134	117	129	109	135	119	133	116	137	121	132	113	135	123	
	2	116	97	119	100	112	93	122	101	112	94	115	96	108	90	117	97	116	97	119	100	112	93	122	101	
	3	95	77	106	89	99	82	108	90	91	74	103	85	96	79	104	86	95	77	106	89	99	82	108	90	
	5	1	133	116	137	121	132	113	135	123	131	112	134	117	129	109	135	119	133	116	137	121	132	113	135	123
	2	116	97	119	100	112	93	122	101	112	94	115	96	108	90	117	97	116	97	119	100	112	93	122	101	
	3	95	77	106	89	99	82	108	90	91	74	103	85	96	79	104	86	95	77	106	89	99	82	108	90	
	10	1	128	114	130	118	132	113	133	123	126	111	129	115	129	109	133	119	128	114	130	118	132	113	133	123
	2	114	97	117	100	112	93	122	101	111	94	114	96	108	90	117	97	114	97	117	100	112	93	122	101	
	3	95	77	103	89	99	82	108	90	91	74	101	85	96	79	104	86	95	77	103	89	99	82	108	90	
10	1	128	108	131	113	126	105	133	115	131	112	134	117	129	109	135	119	128	108	131	113	126	105	133	115	
	2	108	90	111	93	104	87	113	94	112	94	115	96	108	90	117	97	108	90	111	93	104	87	113	94	
	3	87	71	99	82	92	76	101	83	91	74	103	85	96	79	104	86	87	71	99	82	92	76	101	83	
	5	1	128	108	131	113	126	105	133	115	131	112	134	117	129	109	135	119	128	108	131	113	126	105	133	115
	2	108	90	111	93	104	87	113	94	112	94	115	96	108	90	117	97	108	90	111	93	104	87	113	94	
	3	87	71	99	82	92	76	101	83	91	74	103	85	96	79	104	86	87	71	99	82	92	76	101	83	
	10	1	123	108	127	113	126	105	133	115	126	111	129	115	129	109	133	119	123	108	127	113	126	105	133	115
	2	108	90	111	93	104	87	113	94	111	94	114	96	108	90	117	97	108	90	111	93	104	87	113	94	
	3	87	71	98	82	92	76	101	83	91	74	101	85	96	79	104	86	87	71	98	82	92	76	101	83	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	125	105	129	109	122	102	131	111	118	99	123	103	115	96	125	104	112	93	116	97	109	90	118	98
	2	105	87	108	90	101	84	110	91	99	82	101	84	95	78	103	85	93	77	96	79	89	74	97	80
	3	84	68	96	80	89	74	97	80	78	63	90	75	84	69	91	75	73	59	85	70	79	65	86	71
5	1	125	105	129	109	122	102	131	111	118	99	123	103	115	96	125	104	112	93	116	97	109	90	118	98
	2	105	87	108	90	101	84	110	91	99	82	101	84	95	78	103	85	93	77	96	79	89	74	97	80
	3	84	68	96	80	89	74	97	80	78	63	90	75	84	69	91	75	73	59	85	70	79	65	86	71
10	1	121	105	125	109	122	102	131	111	116	99	120	103	115	96	125	104	111	93	115	97	109	90	118	98
	2	105	87	108	90	101	84	110	91	99	82	101	84	95	78	103	85	93	77	96	79	89	74	97	80
	3	84	68	96	80	89	74	97	80	78	63	90	75	84	69	91	75	73	59	85	70	79	65	86	71
0	1	106	88	110	92	103	85	112	93	101	84	105	87	98	81	106	88	101	84	105	87	98	81	106	88
	2	88	73	91	75	84	70	92	75	84	69	86	71	80	66	87	71	84	69	86	71	80	66	87	71
	3	69	56	80	66	74	61	81	67	65	53	76	63	70	58	77	63	65	53	76	63	70	58	77	63
5	1	106	88	110	92	103	85	112	93	101	84	105	87	98	81	106	88	101	84	105	87	98	81	106	88
	2	88	73	91	75	84	70	92	75	84	69	86	71	80	66	87	71	84	69	86	71	80	66	87	71
	3	69	56	80	66	74	61	81	67	65	53	76	63	70	58	77	63	65	53	76	63	70	58	77	63
10	1	106	88	110	92	103	85	112	93	101	84	105	87	98	81	106	88	101	84	105	87	98	81	106	88
	2	88	73	91	75	84	70	92	75	84	69	86	71	80	66	87	71	84	69	86	71	80	66	87	71
	3	69	56	80	66	74	61	81	67	65	53	76	63	70	58	77	63	65	53	76	63	70	58	77	63
0	1	96	79	100	83	93	77	101	84	91	76	95	79	89	73	96	80	91	76	95	79	89	73	96	80
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	72	59	67	55	73	60	58	47	69	57	64	52	69	57	58	47	69	57	64	52	69	57
5	1	96	79	100	83	93	77	101	84	91	76	95	79	89	73	96	80	91	76	95	79	89	73	96	80
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	72	59	67	55	73	60	58	47	69	57	64	52	69	57	58	47	69	57	64	52	69	57
10	1	96	79	100	83	93	77	101	84	91	76	95	79	89	73	96	80	91	76	95	79	89	73	96	80
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	72	59	67	55	73	60	58	47	69	57	64	52	69	57	58	47	69	57	64	52	69	57
0	1	96	79	100	83	93	77	101	84	91	76	95	79	89	73	96	80	91	76	95	79	89	73	96	80
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	72	59	67	55	73	60	58	47	69	57	64	52	69	57	58	47	69	57	64	52	69	57
5	1	96	79	100	83	93	77	101	84	91	76	95	79	89	73	96	80	91	76	95	79	89	73	96	80
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	72	59	67	55	73	60	58	47	69	57	64	52	69	57	58	47	69	57	64	52	69	57
10	1	96	79	100	83	93	77	101	84	91	76	95	79	89	73	96	80	91	76	95	79	89	73	96	80
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64	76	62	78	64	72	59	78	64
	3	61	50	72	59	67	55	73	60	58	47	69	57	64	52	69	57	58	47	69	57	64	52	69	57

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	126	115	127	119	121	121	124	124	124	113	127	117	121	120	124	124	122	110	126	114	121	117	124	124	
	2	115	103	118	106	121	104	124	114	113	101	116	103	120	100	124	109	110	98	113	101	116	97	124	105	
	3	100	88	104	93	108	93	121	101	98	84	101	91	105	89	117	97	96	80	99	88	102	85	112	93	
	20	1	117	109	119	113	113	113	117	117	116	107	119	110	113	113	117	117	114	105	118	108	113	113	117	117
		2	109	99	112	101	113	104	117	114	107	96	110	99	113	100	117	109	105	94	107	96	112	97	117	105
		3	94	85	97	88	104	91	117	101	92	83	96	86	101	89	117	97	91	80	94	84	98	85	112	93
	25	1	117	109	119	113	107	107	112	112	116	107	119	110	107	107	112	112	114	105	118	108	107	107	112	112
		2	109	99	112	101	107	101	112	112	107	96	110	99	107	98	112	109	105	94	107	96	107	96	112	105
		3	94	85	97	88	100	89	112	101	92	83	96	86	97	86	112	97	91	80	94	84	95	84	112	93
15	Wind Speed [mph]		110								115															
	1	120	108	124	112	121	113	124	123	117	106	121	109	121	109	124	119	117	106	121	109	124	119			
	2	108	95	111	98	112	93	122	101	106	93	108	95	108	90	117	97	106	93	108	95	108	90	117	97	
	3	94	77	97	86	99	82	108	90	91	74	95	84	96	79	104	86	91	74	95	84	96	79	104	86	
	20	1	112	103	116	106	113	110	117	117	111	101	114	104	113	108	117	117	111	101	114	104	113	108	117	117
		2	103	92	105	94	109	93	117	101	101	89	103	92	107	90	117	97	101	89	103	92	107	90	117	97
		3	89	77	92	82	96	82	108	90	87	74	90	80	94	79	104	86	87	74	90	80	94	79	104	86
	25	1	112	103	116	106	107	107	112	112	111	101	114	104	107	104	112	112	111	101	114	104	107	104	112	112
		2	103	92	105	94	106	93	112	101	101	89	103	92	104	90	112	97	101	89	103	92	104	90	112	97
3		89	77	92	82	93	81	108	90	87	74	90	80	91	79	104	86	87	74	90	80	91	79	104	86	
15	Wind Speed [mph]		120								130															
	1	115	103	119	107	121	105	124	115	117	106	121	109	121	109	124	119	117	106	121	109	124	119			
	2	103	90	106	93	104	87	113	94	106	93	108	95	108	90	117	97	106	93	108	95	108	90	117	97	
	3	87	71	93	82	92	76	101	83	91	74	95	84	96	79	104	86	91	74	95	84	96	79	104	86	
	20	1	109	98	112	102	113	105	117	115	111	101	114	104	113	108	117	117	111	101	114	104	113	108	117	117
		2	98	87	101	90	104	87	113	94	101	89	103	92	107	90	117	97	101	89	103	92	107	90	117	97
		3	85	71	88	78	91	76	101	83	87	74	90	80	94	79	104	86	87	74	90	80	94	79	104	86
	25	1	109	98	112	102	107	102	112	112	111	101	114	104	107	104	112	112	111	101	114	104	107	104	112	112
		2	98	87	101	90	101	87	112	94	101	89	103	92	104	90	112	97	101	89	103	92	104	90	112	97
3		85	71	88	78	88	76	101	83	87	74	90	80	91	79	104	86	87	74	90	80	91	79	104	86	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	113	101	117	105	121	102	124	111	109	97	113	100	115	96	124	104	105	93	109	96	109	90	118	98
	2	101	87	104	90	101	84	110	91	97	82	99	84	95	78	103	85	93	77	95	79	89	74	97	80
	3	84	68	91	80	89	74	97	80	78	63	87	75	84	69	91	75	73	59	83	70	79	65	86	71
20	1	107	97	111	100	113	102	117	111	104	93	107	96	112	96	117	104	100	89	104	92	107	90	117	98
	2	97	85	99	88	101	84	110	91	93	81	95	84	95	78	103	85	89	77	92	79	89	74	97	80
	3	84	68	87	77	89	74	97	80	78	63	83	73	84	69	91	75	73	59	80	70	79	65	86	71
25	1	107	97	111	100	107	100	112	111	104	93	107	96	107	95	112	104	100	89	104	92	104	90	112	98
	2	97	85	99	88	99	84	110	91	93	81	95	84	94	78	103	85	89	77	92	79	89	74	97	80
	3	84	68	87	77	86	74	97	80	78	63	83	73	83	69	91	75	73	59	80	70	79	65	86	71
15	1	101	88	105	92	103	85	112	93	98	84	102	87	98	81	106	88								
	2	88	73	91	75	84	70	92	75	84	69	86	71	80	66	87	71								
	3	69	56	80	66	74	61	81	67	65	53	76	63	70	58	77	63								
20	1	97	86	100	89	103	85	112	93	94	83	97	86	98	81	106	88								
	2	86	73	88	75	84	70	92	75	83	69	85	71	80	66	87	71								
	3	69	56	77	66	74	61	81	67	65	53	74	63	70	58	77	63								
25	1	97	86	100	89	100	85	112	93	94	83	97	86	96	81	106	88								
	2	86	73	88	75	84	70	92	75	83	69	85	71	80	66	87	71								
	3	69	56	77	66	74	61	81	67	65	53	74	63	70	58	77	63								
15	1	95	79	98	83	93	77	101	84	91	76	95	79	89	73	96	80								
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64								
	3	61	50	72	59	67	55	73	60	58	47	69	57	64	52	69	57								
20	1	91	79	94	83	93	77	101	84	88	76	91	79	89	73	96	80								
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64								
	3	61	50	71	59	67	55	73	60	58	47	69	57	64	52	69	57								
25	1	91	79	94	83	93	77	101	84	88	76	91	79	89	73	96	80								
	2	79	65	82	67	76	62	82	68	76	62	78	64	72	59	78	64								
	3	61	50	71	59	67	55	73	60	58	47	69	57	64	52	69	57								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	114	106	115	109	101	101	107	107	112	104	115	107	101	101	107	107	111	102	114	105	101	101	107	107	
	2	106	96	109	99	101	99	107	107	104	94	107	97	101	96	107	107	102	92	105	94	101	93	107	105	
	3	91	83	94	86	96	86	107	101	90	81	93	84	94	84	107	97	88	79	91	82	92	82	107	93	
	35	1	109	102	111	105	97	97	103	103	108	100	111	103	97	97	103	103	106	98	110	102	97	97	103	103
		2	102	93	105	96	97	96	103	103	100	91	103	94	97	94	103	103	98	89	101	92	97	91	103	103
		3	88	80	91	83	93	84	103	101	86	79	89	81	91	82	103	97	85	77	88	80	89	80	103	93
	40	1	105	99	106	102	94	94	100	100	104	97	106	100	94	94	100	100	102	95	106	98	94	94	100	100
		2	99	91	101	93	94	94	100	100	97	89	99	91	94	92	100	100	95	87	98	89	94	89	100	100
		3	85	78	87	81	90	82	100	100	83	76	86	79	88	80	100	97	82	75	85	77	87	78	100	93
Wind Speed [mph]		110								115																
30	1	109	100	113	103	101	101	107	107	107	98	111	101	101	101	107	107	107	98	88	101	90	101	89	107	97
	2	100	90	103	92	101	91	107	101	98	88	101	90	101	89	107	97	85	74	88	79	88	77	104	86	
	3	86	77	89	80	90	79	107	90	85	74	88	79	88	77	104	86	103	95	107	98	97	97	103	103	
35	1	105	97	108	100	97	97	103	103	103	95	107	98	97	97	103	103	95	85	97	88	97	87	103	97	
	2	97	87	99	90	97	89	103	101	95	85	97	88	97	87	103	97	82	74	85	76	85	76	103	86	
	3	83	75	86	78	87	78	103	90	82	74	85	76	85	76	103	86	100	92	103	95	94	94	100	100	
40	1	101	94	104	97	94	94	100	100	100	92	103	95	94	94	100	100	92	83	95	86	94	85	100	97	
	2	94	85	96	87	94	87	100	100	92	83	95	86	94	85	100	97	79	72	82	74	83	74	100	86	
	3	81	73	83	76	85	76	100	90	79	72	82	74	83	74	100	86	106	96	109	100	101	99	107	107	
Wind Speed [mph]		120								130																
30	1	106	96	109	100	101	99	107	107	107	98	111	101	101	101	107	107	107	98	88	101	90	101	89	107	97
	2	96	86	99	88	99	86	107	94	98	88	101	90	101	89	107	97	83	71	86	77	86	75	101	83	
	3	83	71	86	77	86	75	101	83	85	74	88	79	88	77	104	86	102	93	105	96	97	97	103	103	
35	1	102	93	105	96	97	97	103	103	103	95	107	98	97	97	103	103	95	85	97	88	97	87	103	97	
	2	93	84	96	86	96	85	103	94	95	85	97	88	97	87	103	97	80	71	83	75	84	74	101	83	
	3	80	71	83	75	84	74	101	83	82	74	85	76	85	76	103	86	98	91	102	94	94	94	100	100	
40	1	98	91	102	94	94	94	100	100	100	92	103	95	94	94	100	100	92	83	95	86	94	85	100	97	
	2	91	82	93	84	94	83	100	94	92	83	95	86	94	85	100	97	78	70	81	73	81	72	100	83	
	3	78	70	81	73	81	72	100	83	79	72	82	74	83	74	100	86									

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	104	94	108	98	101	97	107	107	101	91	104	94	101	93	107	104	98	87	101	91	101	89	107	98
	2	94	84	97	86	96	84	107	91	91	80	93	82	92	78	103	85	87	77	90	79	88	74	97	80
	3	82	68	84	75	84	73	97	80	78	63	81	72	80	69	91	75	73	59	78	69	77	65	86	71
35	1	100	92	104	95	97	95	103	103	98	88	101	91	97	91	103	103	95	85	98	88	97	87	103	98
	2	92	82	94	84	94	83	103	91	88	78	91	80	90	78	103	85	85	75	88	77	87	74	97	80
	3	79	68	82	73	82	72	97	80	76	63	79	70	79	69	91	75	73	59	76	67	75	65	86	71
40	1	97	89	100	92	94	93	100	100	94	86	98	89	94	89	100	100	92	83	95	86	94	86	100	98
	2	89	80	91	82	92	81	100	91	86	77	88	79	88	77	100	85	83	74	85	76	85	74	97	80
	3	77	68	79	71	80	71	97	80	74	63	77	69	77	67	91	75	72	59	74	66	74	64	86	71
Wind Speed [mph]		170								180															
30	1	95	84	98	87	98	85	107	93	92	81	95	84	94	81	106	88								
	2	84	73	87	75	84	70	92	75	81	69	83	71	80	66	87	71								
	3	69	56	75	66	74	61	81	67	65	53	73	63	70	58	77	63								
35	1	92	82	95	85	95	84	103	93	89	79	92	82	92	81	103	88								
	2	82	72	84	74	83	70	92	75	79	69	82	71	80	66	87	71								
	3	69	56	74	65	72	61	81	67	65	53	71	62	70	58	77	63								
40	1	89	80	92	83	93	82	100	93	87	78	90	81	90	79	100	88								
	2	80	71	83	73	82	70	92	75	78	68	80	70	78	66	87	71								
	3	69	56	72	63	71	61	81	67	65	53	69	61	68	58	77	63								
Wind Speed [mph]		190								200															
30	1	89	78	92	81	91	77	101	84	86	76	90	78	88	73	96	80								
	2	78	65	80	67	76	62	82	68	76	62	78	64	72	59	78	64								
	3	61	50	70	59	67	55	73	60	58	47	68	57	64	52	69	57								
35	1	87	77	90	80	89	77	101	84	84	74	87	77	86	73	96	80								
	2	77	65	79	67	76	62	82	68	74	62	76	64	72	59	78	64								
	3	61	50	69	59	67	55	73	60	58	47	66	57	64	52	69	57								
40	1	85	75	87	78	87	76	100	84	82	73	85	75	84	73	96	80								
	2	75	65	77	67	76	62	82	68	73	62	75	64	72	59	78	64								
	3	61	50	67	59	66	55	73	60	58	47	65	57	63	52	69	57								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	101	95	103	98	90	90	97	97	100	94	103	97	90	90	97	97	99	92	102	95	90	90	97	97
	2	95	88	98	90	90	90	97	97	94	86	96	89	90	90	97	97	92	85	95	87	90	88	97	97
	3	82	76	84	78	87	80	97	97	81	74	83	77	86	78	97	95	79	73	82	75	84	76	97	93
	1	97	92	99	95	88	88	94	94	97	91	99	94	88	88	94	94	96	90	99	93	88	88	94	94
	2	92	86	95	88	88	88	94	94	91	84	94	86	88	88	94	94	90	83	92	85	88	86	94	94
	3	79	74	82	76	85	78	94	94	78	72	81	75	83	76	94	94	77	71	79	73	82	74	94	91
	1	91	87	93	90	83	83	90	90	91	86	93	89	83	83	90	90	90	85	93	88	83	83	90	90
	2	87	82	90	84	83	83	90	90	86	80	89	83	83	83	90	90	85	79	87	81	83	83	90	90
	3	75	70	77	72	81	74	90	90	74	69	76	71	79	73	90	90	73	68	75	70	78	71	90	89
50	1	98	91	101	94	90	90	97	97	96	90	99	92	90	90	97	97								
	2	91	83	93	85	90	85	97	97	90	81	92	84	90	84	97	97								
	3	78	71	81	74	83	74	97	90	77	70	79	72	81	73	97	86								
	1	95	88	97	91	88	88	94	94	93	87	96	90	88	88	94	94								
	2	88	81	91	83	88	84	94	94	87	80	89	82	88	82	94	94								
	3	76	70	78	72	81	73	94	89	75	68	77	71	79	71	94	86								
	1	89	84	92	87	83	83	90	90	88	83	91	85	83	83	90	90								
	2	84	78	86	80	83	81	90	90	83	76	85	78	83	79	90	90								
	3	72	66	74	69	77	70	90	87	71	65	73	68	76	69	90	84								
60	1	95	88	98	91	90	90	97	97	96	90	99	92	90	90	97	97								
	2	88	80	90	82	90	82	97	94	90	81	92	84	90	84	97	97								
	3	76	69	78	71	79	71	97	83	77	70	79	72	81	73	97	86								
	1	92	86	95	89	88	88	94	94	93	87	96	90	88	88	94	94								
	2	86	78	88	80	88	80	94	94	87	80	89	82	88	82	94	94								
	3	74	67	76	69	78	70	94	83	75	68	77	71	79	71	94	86								
	1	87	82	90	84	83	83	90	90	88	83	91	85	83	83	90	90								
	2	82	75	84	77	83	78	90	90	83	76	85	78	83	79	90	90								
	3	70	64	72	66	74	67	90	82	71	65	73	68	76	69	90	84								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	94	87	97	90	90	90	97	97	92	84	95	87	90	87	97	97	89	81	92	84	90	84	97	97
	2	87	78	89	80	90	80	97	91	84	75	86	77	87	76	97	85	81	72	83	74	83	73	97	80
	3	74	67	77	70	78	69	96	80	72	63	75	67	75	66	91	75	70	59	72	65	72	63	86	71
50	1	91	84	94	87	88	88	94	94	89	82	92	85	88	85	94	94	87	79	90	82	88	82	94	94
	2	84	77	87	79	88	78	94	91	82	74	84	76	85	75	94	85	79	71	82	73	82	72	94	80
	3	72	66	75	68	76	68	94	80	70	63	73	66	74	65	90	75	68	59	71	63	71	62	86	71
60	1	86	81	89	83	83	83	90	90	85	78	87	81	83	82	90	90	83	76	85	79	83	80	90	90
	2	81	74	83	76	83	76	90	90	78	71	80	73	82	73	90	85	76	69	78	71	79	70	90	80
	3	69	63	71	65	73	66	90	80	67	61	69	63	71	63	88	75	65	59	67	61	68	61	84	71
45	1	87	79	90	81	90	81	97	93	85	76	88	79	88	78	97	88								
	2	79	70	81	71	80	70	92	75	76	67	78	69	77	66	87	71								
	3	68	56	70	62	70	61	81	67	65	53	68	60	67	58	77	63								
50	1	85	77	88	80	88	79	94	93	83	75	85	77	86	77	94	88								
	2	77	68	79	70	79	69	92	75	75	66	77	68	76	66	87	71								
	3	66	56	68	61	68	60	81	67	64	53	66	59	66	58	77	63								
60	1	81	74	83	76	83	77	90	90	79	72	82	74	83	74	90	88								
	2	74	66	76	68	76	67	90	75	72	64	74	66	74	65	87	71								
	3	63	56	66	59	66	58	81	67	62	53	64	57	64	56	77	63								
45	1	82	74	85	76	85	75	97	84	80	71	83	74	83	72	96	80								
	2	74	65	76	66	74	62	82	68	71	62	73	64	72	59	78	64								
	3	61	50	66	58	65	55	73	60	58	47	64	56	63	52	69	57								
50	1	81	72	83	75	84	74	94	84	79	70	81	73	81	71	94	80								
	2	72	64	74	65	73	62	82	68	70	61	72	63	71	59	78	64								
	3	61	50	64	57	64	55	73	60	58	47	63	55	62	52	69	57								
60	1	77	70	80	72	81	72	90	84	75	68	78	70	79	70	90	80								
	2	70	62	72	64	71	62	82	68	68	60	70	61	69	59	78	64								
	3	60	50	62	55	62	54	73	60	58	47	60	53	60	52	69	57								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
---------------	------------	------------	---------------

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	84	83	87	86	79	79	86	86	84	82	87	85	79	79	86	86	84	81	87	84	79	79	86	86
	2	83	78	85	80	79	79	86	86	82	77	84	79	79	79	86	86	81	76	83	78	79	79	86	86
	3	71	67	73	69	77	71	86	86	70	66	72	68	76	70	86	86	69	65	71	67	75	69	86	86
80	1	79	79	81	81	76	76	83	83	79	78	81	81	76	76	83	83	79	78	81	80	76	76	83	83
	2	79	75	81	77	76	76	83	83	78	74	81	76	76	76	83	83	78	73	80	75	76	76	83	83
	3	68	64	70	66	74	69	83	83	67	63	69	65	73	68	83	83	66	62	68	64	72	66	83	83
90	1	75	75	77	77	73	73	80	80	75	75	77	77	73	73	80	80	75	75	77	77	73	73	80	80
	2	75	72	77	74	73	73	80	80	75	71	77	73	73	73	80	80	75	70	77	72	73	73	80	80
	3	65	61	67	63	71	66	80	80	64	61	66	63	70	65	80	80	63	60	65	62	69	64	80	80
70	1	84	80	87	83	79	79	86	86	84	79	86	82	79	79	86	86								
	2	80	75	82	77	79	78	86	86	79	73	81	75	79	77	86	86								
	3	68	64	71	66	74	67	86	85	68	63	70	65	72	66	86	83								
80	1	79	77	81	79	76	76	83	83	79	76	81	78	76	76	83	83								
	2	77	72	79	74	76	76	83	83	76	71	78	73	76	74	83	83								
	3	65	61	67	63	71	65	83	83	65	60	67	62	70	64	83	81								
90	1	75	74	77	76	73	73	80	80	75	73	77	75	73	73	80	80								
	2	74	69	76	71	73	73	80	80	73	68	75	70	73	72	80	80								
	3	63	59	65	61	68	63	80	80	62	58	64	60	67	62	80	79								
70	1	83	78	86	81	79	79	86	86	84	79	86	82	79	79	86	86								
	2	78	72	80	74	79	75	86	86	79	73	81	75	79	77	86	86								
	3	67	62	69	64	71	65	86	80	68	63	70	65	72	66	86	83								
80	1	79	75	81	77	76	76	83	83	79	76	81	78	76	76	83	83								
	2	75	70	77	72	76	73	83	83	76	71	78	73	76	74	83	83								
	3	64	59	66	61	69	63	83	79	65	60	67	62	70	64	83	81								
90	1	75	72	77	74	73	73	80	80	75	73	77	75	73	73	80	80								
	2	72	67	74	69	73	71	80	80	73	68	75	70	73	72	80	80								
	3	61	57	63	59	66	61	80	77	62	58	64	60	67	62	80	79								
70	1	83	78	86	81	79	79	86	86	84	79	86	82	79	79	86	86								
	2	78	72	80	74	79	75	86	86	79	73	81	75	79	77	86	86								
	3	67	62	69	64	71	65	86	80	68	63	70	65	72	66	86	83								
80	1	79	75	81	77	76	76	83	83	79	76	81	78	76	76	83	83								
	2	75	70	77	72	76	73	83	83	76	71	78	73	76	74	83	83								
	3	64	59	66	61	69	63	83	79	65	60	67	62	70	64	83	81								
90	1	75	72	77	74	73	73	80	80	75	73	77	75	73	73	80	80								
	2	72	67	74	69	73	71	80	80	73	68	75	70	73	72	80	80								
	3	61	57	63	59	66	61	80	77	62	58	64	60	67	62	80	79								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	82	77	85	80	79	79	86	86	81	75	83	78	79	79	86	86	79	73	81	76	79	77	86	86	
	2	77	71	79	73	79	74	86	86	75	69	77	71	79	71	86	85	73	66	75	68	76	68	86	80	
	3	66	61	68	63	70	64	86	79	64	59	66	61	68	61	86	75	63	57	65	59	66	59	82	71	
	80	1	79	74	81	76	76	76	83	83	77	72	80	75	76	76	83	83	76	71	78	73	76	75	83	83
		2	74	69	76	70	76	72	83	83	72	67	74	68	76	69	83	83	71	64	72	66	74	67	83	80
		3	63	59	65	61	68	62	83	77	62	57	64	59	66	60	83	74	60	55	62	57	64	58	81	70
	90	1	75	71	77	74	73	73	80	80	74	70	76	72	73	73	80	80	73	68	75	70	73	73	80	80
		2	71	66	73	68	73	70	80	80	70	65	72	66	73	67	80	80	68	63	70	64	72	65	80	79
		3	61	57	63	59	65	60	80	76	59	55	61	57	64	58	80	72	58	54	60	55	62	56	79	69
70	1	77	71	80	74	79	75	86	86	76	69	78	72	79	72	86	86									
	2	71	64	73	66	74	66	86	75	69	62	71	64	72	63	86	71									
	3	61	55	63	57	64	57	79	67	59	53	61	55	62	55	76	63									
	80	1	74	69	77	71	76	72	83	83	73	67	75	69	76	70	83	83								
		2	69	63	71	64	72	64	83	75	67	61	69	62	70	62	83	71								
		3	59	54	61	55	62	56	77	67	57	52	59	54	60	54	75	63								
	90	1	72	67	74	69	73	71	80	80	70	65	73	67	73	69	80	80								
		2	67	61	68	63	70	63	80	75	65	59	67	61	68	61	80	71								
		3	57	52	59	54	60	54	76	66	56	51	57	52	59	52	73	63								
70	1	74	68	77	70	78	70	86	84	73	66	75	68	76	68	86	80									
	2	68	60	69	62	69	61	82	68	66	58	68	60	67	59	78	64									
	3	58	50	60	54	60	53	73	60	56	47	58	52	58	51	69	57									
	80	1	71	65	74	68	76	68	83	83	70	64	72	66	74	66	83	80								
		2	65	59	67	60	68	60	82	68	64	57	66	59	66	58	78	64								
		3	56	50	58	52	59	52	72	60	55	47	57	51	57	50	69	57								
	90	1	69	64	71	66	73	67	80	80	68	62	70	64	72	65	80	79								
		2	64	57	65	59	66	59	80	68	62	56	64	57	64	57	78	64								
		3	54	49	56	51	57	51	71	60	53	47	55	49	55	49	68	57								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	71	71	73	73	71	71	78	78	71	71	73	73	71	71	78	78	71	71	73	73	71	71	78	78
	2	71	70	73	72	71	71	78	78	71	69	73	71	71	71	78	78	71	68	73	70	71	71	78	78
	3	62	59	64	61	68	64	78	78	62	59	63	60	67	63	78	78	61	58	63	60	67	62	78	78
Wind Speed [mph]		110								115															
100	1	71	71	73	73	71	71	78	78	71	70	73	73	71	71	78	78								
	2	71	67	73	69	71	71	78	78	70	66	72	68	71	70	78	78								
	3	60	57	62	59	66	61	78	78	60	56	62	58	65	60	78	78								
Wind Speed [mph]		120								130															
100	1	71	70	73	72	71	71	78	78	71	70	73	73	71	71	78	78								
	2	70	65	72	67	71	69	78	78	70	66	72	68	71	70	78	78								
	3	59	56	61	57	64	59	78	76	60	56	62	58	65	60	78	78								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	71	69	73	71	71	71	78	78	71	68	73	70	71	71	78	78	70	66	72	68	71	71	78	78
	2	69	64	71	66	71	68	78	78	68	63	69	64	71	66	78	78	66	61	68	63	70	64	78	78
	3	59	55	60	57	63	58	78	74	57	54	59	55	62	57	78	71	56	52	58	54	60	55	77	68
Wind Speed [mph]		170								180															
100	1	69	65	71	67	71	69	78	78	68	63	70	65	71	67	78	78								
	2	65	59	66	61	68	62	78	75	63	58	65	59	66	60	78	71								
	3	55	51	57	52	59	53	75	65	54	49	56	51	57	51	72	63								
Wind Speed [mph]		190								200															
100	1	67	62	69	64	71	65	78	78	66	60	68	63	70	63	78	78								
	2	62	56	64	58	65	58	78	68	60	55	62	56	63	56	77	64								
	3	53	48	55	50	56	50	70	60	52	47	53	48	54	48	67	57								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	131	112	134	117	129	109	135	119	127	108	131	112	125	105	133	114	124	104	128	108	121	101	130	110
	2	112	93	115	96	108	90	117	97	108	90	111	92	104	86	113	93	104	86	107	89	100	83	108	90
	3	91	73	103	85	96	79	104	86	87	70	99	82	92	76	100	83	83	67	95	79	88	73	96	79
5	1	131	112	134	117	129	109	135	119	127	108	131	112	125	105	133	114	124	104	128	108	121	101	130	110
	2	112	93	115	96	108	90	117	97	108	90	111	92	104	86	113	93	104	86	107	89	100	83	108	90
	3	91	73	103	85	96	79	104	86	87	70	99	82	92	76	100	83	83	67	95	79	88	73	96	79
10	1	126	111	129	115	129	109	133	119	123	108	126	112	125	105	133	114	120	104	124	108	121	101	130	110
	2	111	93	114	96	108	90	117	97	108	90	111	92	104	86	113	93	104	86	107	89	100	83	108	90
	3	91	73	101	85	96	79	104	86	87	70	98	82	92	76	100	83	83	67	95	79	88	73	96	79
0	1	119	100	124	104	116	97	127	106	116	97	120	101	113	94	123	102	116	97	120	101	113	94	123	102
	2	100	83	103	85	96	79	104	86	97	80	99	82	93	76	101	83	97	80	99	82	93	76	101	83
	3	79	64	91	76	85	70	92	76	76	62	88	73	82	67	89	73	76	62	88	73	82	67	89	73
5	1	119	100	124	104	116	97	127	106	116	97	120	101	113	94	123	102	116	97	120	101	113	94	123	102
	2	100	83	103	85	96	79	104	86	97	80	99	82	93	76	101	83	97	80	99	82	93	76	101	83
	3	79	64	91	76	85	70	92	76	76	62	88	73	82	67	89	73	76	62	88	73	82	67	89	73
10	1	117	100	121	104	116	97	127	106	114	97	118	101	113	94	123	102	114	97	118	101	113	94	123	102
	2	100	83	103	85	96	79	104	86	97	80	99	82	93	76	101	83	97	80	99	82	93	76	101	83
	3	79	64	91	76	85	70	92	76	76	62	88	73	82	67	89	73	76	62	88	73	82	67	89	73
0	1	112	93	116	97	109	90	119	98	116	97	120	101	113	94	123	102	116	97	120	101	113	94	123	102
	2	93	77	96	79	89	74	97	80	97	80	99	82	93	76	101	83	97	80	99	82	93	76	101	83
	3	73	59	85	70	79	65	86	71	76	62	88	73	82	67	89	73	76	62	88	73	82	67	89	73
5	1	112	93	116	97	109	90	119	98	116	97	120	101	113	94	123	102	116	97	120	101	113	94	123	102
	2	93	77	96	79	89	74	97	80	97	80	99	82	93	76	101	83	97	80	99	82	93	76	101	83
	3	73	59	85	70	79	65	86	71	76	62	88	73	82	67	89	73	76	62	88	73	82	67	89	73
10	1	111	93	115	97	109	90	119	98	114	97	118	101	113	94	123	102	114	97	118	101	113	94	123	102
	2	93	77	96	79	89	74	97	80	97	80	99	82	93	76	101	83	97	80	99	82	93	76	101	83
	3	73	59	85	70	79	65	86	71	76	62	88	73	82	67	89	73	76	62	88	73	82	67	89	73

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	108	90	113	94	105	87	115	95	102	85	106	88	99	82	108	89	96	80	100	83	93	77	102	84
	2	90	75	93	77	86	71	94	77	85	70	87	72	81	67	88	72	80	66	82	68	76	63	83	68
	3	71	57	82	68	76	63	83	68	66	53	77	64	71	59	78	64	61	50	73	60	67	55	73	60
5	1	108	90	113	94	105	87	115	95	102	85	106	88	99	82	108	89	96	80	100	83	93	77	102	84
	2	90	75	93	77	86	71	94	77	85	70	87	72	81	67	88	72	80	66	82	68	76	63	83	68
	3	71	57	82	68	76	63	83	68	66	53	77	64	71	59	78	64	61	50	73	60	67	55	73	60
10	1	108	90	113	94	105	87	115	95	102	85	106	88	99	82	108	89	96	80	100	83	93	77	102	84
	2	90	75	93	77	86	71	94	77	85	70	87	72	81	67	88	72	80	66	82	68	76	63	83	68
	3	71	57	82	68	76	63	83	68	66	53	77	64	71	59	78	64	61	50	73	60	67	55	73	60
0	1	91	75	95	78	88	73	96	79	86	71	90	74	84	69	91	75	86	71	90	74	84	69	91	75
	2	75	62	77	64	72	59	78	64	71	59	73	60	68	56	74	61	71	59	73	60	68	56	74	61
	3	58	47	68	56	63	52	69	57	54	44	65	53	60	49	65	53	54	44	65	53	60	49	65	53
5	1	91	75	95	78	88	73	96	79	86	71	90	74	84	69	91	75	86	71	90	74	84	69	91	75
	2	75	62	77	64	72	59	78	64	71	59	73	60	68	56	74	61	71	59	73	60	68	56	74	61
	3	58	47	68	56	63	52	69	57	54	44	65	53	60	49	65	53	54	44	65	53	60	49	65	53
10	1	91	75	95	78	88	73	96	79	86	71	90	74	84	69	91	75	86	71	90	74	84	69	91	75
	2	75	62	77	64	72	59	78	64	71	59	73	60	68	56	74	61	71	59	73	60	68	56	74	61
	3	58	47	68	56	63	52	69	57	54	44	65	53	60	49	65	53	54	44	65	53	60	49	65	53
0	1	82	68	86	71	79	65	86	71	78	64	82	67	76	62	82	68	78	64	82	67	76	62	82	68
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55	64	53	66	54	61	50	67	55
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48	49	40	59	48	54	44	59	48
5	1	82	68	86	71	79	65	86	71	78	64	82	67	76	62	82	68	78	64	82	67	76	62	82	68
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55	64	53	66	54	61	50	67	55
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48	49	40	59	48	54	44	59	48
10	1	82	68	86	71	79	65	86	71	78	64	82	67	76	62	82	68	78	64	82	67	76	62	82	68
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55	64	53	66	54	61	50	67	55
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48	49	40	59	48	54	44	59	48

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	117	105	121	109	121	109	124	119	115	103	119	106	121	105	124	114	112	100	116	104	120	101	124	110
	2	105	93	108	95	108	90	117	97	103	90	105	92	104	86	113	93	100	86	103	89	100	83	108	90
	3	91	73	95	84	96	79	104	86	87	70	92	81	92	76	100	83	83	67	90	79	88	73	96	79
	1	111	100	114	104	113	107	117	117	108	98	112	101	113	104	117	114	106	96	110	99	113	101	117	110
	2	100	89	103	92	107	90	117	97	98	87	101	89	103	86	113	93	96	84	98	87	100	83	108	90
	3	87	73	90	80	93	79	104	86	85	70	88	78	91	76	100	83	83	67	86	76	88	73	96	79
	1	111	100	114	104	107	104	112	112	108	98	112	101	107	101	112	112	106	96	110	99	107	99	112	110
	2	100	89	103	92	104	90	112	97	98	87	101	89	101	86	112	93	96	84	98	87	98	83	108	90
	3	87	73	90	80	90	79	104	86	85	70	88	78	88	76	100	83	83	67	86	76	86	73	96	79
20	1	110	98	114	101	116	97	124	106	108	95	111	99	113	94	123	102	108	95	111	99	113	94	123	102
	2	98	83	100	85	96	79	104	86	95	80	98	82	93	76	101	83	95	80	98	82	93	76	101	83
	3	79	64	88	76	85	70	92	76	76	62	86	73	82	67	89	73	76	62	86	73	82	67	89	73
	1	104	94	108	97	113	97	117	106	102	91	106	95	110	94	117	102	102	91	106	95	110	94	117	102
	2	94	82	96	84	96	79	104	86	91	80	94	82	93	76	101	83	91	80	94	82	93	76	101	83
	3	79	64	84	74	85	70	92	76	76	62	82	72	82	67	89	73	76	62	82	72	81	67	89	73
	1	104	94	108	97	107	96	112	106	102	91	106	95	107	94	112	102	102	91	106	95	107	94	112	102
	2	94	82	96	84	95	79	104	86	91	80	94	82	93	76	101	83	91	80	94	82	93	76	101	83
	3	79	64	84	74	83	70	92	76	76	62	82	72	81	67	89	73	76	62	82	72	81	67	89	73
25	1	105	93	109	96	109	90	119	98	108	95	111	99	113	94	123	102	108	95	111	99	113	94	123	102
	2	93	77	95	79	89	74	97	80	95	80	98	82	93	76	101	83	95	80	98	82	93	76	101	83
	3	73	59	83	70	79	65	86	71	76	62	86	73	82	67	89	73	76	62	86	73	82	67	89	73
	1	100	89	104	93	107	90	117	98	102	91	106	95	110	94	117	102	102	91	106	95	110	94	117	102
	2	89	77	92	79	89	74	97	80	91	80	94	82	93	76	101	83	91	80	94	82	93	76	101	83
	3	73	59	80	70	79	65	86	71	76	62	82	72	82	67	89	73	76	62	82	72	82	67	89	73
	1	100	89	104	93	104	90	112	98	102	91	106	95	107	94	112	102	102	91	106	95	107	94	112	102
	2	89	77	92	79	89	74	97	80	91	80	94	82	93	76	101	83	91	80	94	82	93	76	101	83
	3	73	59	80	70	79	65	86	71	76	62	82	72	81	67	89	73	76	62	82	72	81	67	89	73

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches				140				150				160							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
		15	1	103	90	107	94	105	87	115	95	99	85	102	88	99	82	108	89	95	80	98	83	93	77
	2	90	75	93	77	86	71	94	77	85	70	87	72	81	67	88	72	80	66	82	68	76	63	83	68
	3	71	57	81	68	76	63	83	68	66	53	77	64	71	59	78	64	61	50	73	60	67	55	73	60
20	1	98	87	102	90	105	87	115	95	95	83	98	86	99	82	108	89	91	80	94	83	93	77	102	84
	2	87	75	90	77	86	71	94	77	83	70	86	72	81	67	88	72	80	66	82	68	76	63	83	68
	3	71	57	78	68	76	63	83	68	66	53	75	64	71	59	78	64	61	50	72	60	67	55	73	60
25	1	98	87	102	90	102	87	112	95	95	83	98	86	97	82	108	89	91	80	94	83	93	77	102	84
	2	87	75	90	77	86	71	94	77	83	70	86	72	81	67	88	72	80	66	82	68	76	63	83	68
	3	71	57	78	68	76	63	83	68	66	53	75	64	71	59	78	64	61	50	72	60	67	55	73	60
Wind Speed [mph]		170								180															
15	1	91	75	94	78	88	73	96	79	86	71	90	74	84	69	91	75								
	2	75	62	77	64	72	59	78	64	71	59	73	60	68	56	74	61								
	3	58	47	68	56	63	52	69	57	54	44	65	53	60	49	65	53								
20	1	88	75	91	78	88	73	96	79	84	71	88	74	84	69	91	75								
	2	75	62	77	64	72	59	78	64	71	59	73	60	68	56	74	61								
	3	58	47	68	56	63	52	69	57	54	44	65	53	60	49	65	53								
25	1	88	75	91	78	88	73	96	79	84	71	88	74	84	69	91	75								
	2	75	62	77	64	72	59	78	64	71	59	73	60	68	56	74	61								
	3	58	47	68	56	63	52	69	57	54	44	65	53	60	49	65	53								
Wind Speed [mph]		190								200															
15	1	82	68	86	71	79	65	86	71	78	64	82	67	76	62	82	68								
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55								
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48								
20	1	81	68	85	71	79	65	86	71	78	64	82	67	76	62	82	68								
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55								
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48								
25	1	81	68	85	71	79	65	86	71	78	64	82	67	76	62	82	68								
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55								
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	107	98	111	101	101	101	107	107	105	96	109	99	101	99	107	107	104	94	107	97	101	96	107	107	
	2	98	88	101	90	101	89	107	97	96	85	98	88	98	86	107	93	94	83	96	85	95	83	107	90	
	3	85	73	88	79	88	77	104	86	83	70	86	76	86	75	100	83	81	67	84	74	83	73	96	79	
	35	1	103	95	107	98	97	97	103	103	102	93	105	96	97	96	103	103	100	91	103	94	97	94	103	103
		2	95	85	97	88	97	87	103	97	93	83	95	85	96	84	103	93	91	81	93	83	93	82	103	90
		3	82	73	85	76	85	76	103	86	80	70	83	74	83	73	100	83	78	67	81	73	81	71	96	79
	40	1	100	92	103	95	94	94	100	100	98	90	101	93	94	94	100	100	97	88	100	91	94	92	100	100
		2	92	83	94	86	94	85	100	97	90	81	93	83	93	83	100	93	88	79	91	81	91	80	100	90
		3	79	72	82	74	83	74	100	86	78	70	80	73	81	72	99	83	76	67	79	71	79	70	96	79
Wind Speed [mph]		110								115																
30	1	102	92	105	95	101	94	107	106	100	90	103	93	101	91	107	102									
	2	92	81	94	83	93	79	104	86	90	79	92	81	91	76	101	83									
	3	79	64	82	72	81	70	92	76	76	62	80	71	79	67	89	73									
	35	1	98	89	101	92	97	92	103	103	96	87	100	90	97	89	103	102								
		2	89	79	91	81	91	79	103	86	87	77	89	79	89	76	101	83								
		3	77	64	79	71	79	69	92	76	75	62	78	69	77	67	89	73								
	40	1	95	87	98	90	94	90	100	100	93	85	97	88	94	88	100	100								
		2	87	77	89	79	89	78	100	86	85	76	87	78	87	76	100	83								
		3	75	64	77	69	77	68	92	76	73	62	76	68	76	66	89	73								
Wind Speed [mph]		120								130																
30	1	98	88	101	91	101	89	107	98	100	90	103	93	101	91	107	102									
	2	88	77	90	79	88	74	97	80	90	79	92	81	91	76	101	83									
	3	73	59	78	69	77	65	86	71	76	62	80	71	79	67	89	73									
	35	1	95	85	98	88	97	87	103	98	96	87	100	90	97	89	103	102								
		2	85	75	88	77	87	74	97	80	87	77	89	79	89	76	101	83								
		3	73	59	76	67	75	65	86	71	75	62	78	69	77	67	89	73								
	40	1	92	83	95	86	94	86	100	98	93	85	97	88	94	88	100	100								
		2	83	74	85	76	85	74	97	80	85	76	87	78	87	76	100	83								
		3	72	59	74	66	74	64	86	71	73	62	76	68	76	66	89	73								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	96	86	99	89	99	87	107	95	93	82	96	85	95	82	107	89	89	78	92	81	91	77	102	84
	2	86	75	88	77	86	71	94	77	82	70	84	72	81	67	88	72	78	66	81	68	76	63	83	68
	3	71	57	77	67	75	63	83	68	66	53	73	64	71	59	78	64	61	50	70	60	67	55	73	60
35	1	93	83	96	87	97	85	103	95	90	80	93	83	93	81	103	89	87	77	90	80	89	77	102	84
	2	83	73	86	75	85	71	94	77	80	70	82	72	81	67	88	72	77	66	79	68	76	63	83	68
	3	71	57	75	66	74	63	83	68	66	53	72	63	70	59	78	64	61	50	69	60	67	55	73	60
40	1	90	82	94	84	94	84	100	95	88	78	91	81	91	80	100	89	85	75	88	78	87	76	100	84
	2	82	72	84	74	83	71	94	77	78	69	80	71	79	67	88	72	75	66	77	67	76	63	83	68
	3	70	57	73	64	72	63	83	68	66	53	70	62	69	59	78	64	61	50	67	59	66	55	73	60
30	1	86	75	89	78	87	73	96	79	83	71	86	74	84	69	91	75								
	2	75	62	77	64	72	59	78	64	71	59	73	60	68	56	74	61								
	3	58	47	68	56	63	52	69	57	54	44	65	53	60	49	65	53								
35	1	84	74	87	77	86	73	96	79	81	71	84	74	82	69	91	75								
	2	74	62	76	64	72	59	78	64	71	59	73	60	68	56	74	61								
	3	58	47	66	56	63	52	69	57	54	44	64	53	60	49	65	53								
40	1	82	72	85	75	84	73	96	79	79	70	82	72	81	69	91	75								
	2	72	62	74	64	72	59	78	64	70	59	72	60	68	56	74	61								
	3	58	47	65	56	63	52	69	57	54	44	62	53	60	49	65	53								
30	1	80	68	83	71	79	65	86	71	77	64	80	67	76	62	82	68								
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55								
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48								
35	1	78	68	81	71	79	65	86	71	76	64	79	67	76	62	82	68								
	2	68	56	70	57	65	53	70	58	64	53	66	54	61	50	67	55								
	3	52	42	61	50	57	47	62	51	49	40	59	48	54	44	59	48								
40	1	77	67	80	70	78	65	86	71	74	64	77	67	75	62	82	68								
	2	67	56	69	57	65	53	70	58	64	53	66	54	61	50	67	55								
	3	52	42	60	50	57	47	62	51	49	40	58	48	54	44	59	48								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	96	89	99	92	90	90	97	97	95	88	98	91	90	90	97	97	94	86	97	89	90	90	97	97
	2	89	81	92	84	90	83	97	97	88	79	90	82	90	81	97	93	86	78	88	80	89	79	97	90
	3	77	70	79	72	81	72	97	86	75	68	78	71	79	71	97	83	74	67	77	69	77	69	95	79
50	1	93	87	96	90	88	88	94	94	92	85	95	88	88	88	94	94	91	84	94	87	88	88	94	94
	2	87	80	89	82	88	82	94	94	85	78	88	80	88	80	94	93	84	76	86	78	87	78	94	90
	3	75	68	77	71	79	71	94	86	73	67	76	69	77	69	94	83	72	65	74	68	76	67	93	79
60	1	88	83	91	85	83	83	90	90	87	81	90	84	83	83	90	90	86	80	89	83	83	83	90	90
	2	83	76	85	78	83	79	90	90	81	75	84	77	83	77	90	90	80	73	82	75	83	75	90	90
	3	71	65	73	68	76	68	90	84	70	64	72	66	74	67	90	82	69	63	71	65	73	65	90	79
Wind Speed [mph]		110								115															
45	1	92	84	95	87	90	88	97	97	91	83	94	86	90	86	97	97								
	2	84	76	87	78	87	77	97	86	83	74	85	76	85	75	97	83								
	3	73	64	75	68	76	67	92	76	71	62	74	66	74	65	89	73								
50	1	90	82	92	85	88	86	94	94	88	81	91	84	88	84	94	94								
	2	82	74	85	76	85	76	94	86	81	73	83	75	84	74	94	83								
	3	71	64	73	66	74	66	91	76	69	62	72	65	73	64	88	73								
60	1	85	79	88	81	83	83	90	90	84	77	86	80	83	81	90	90								
	2	79	72	81	74	82	74	90	86	77	70	80	72	81	72	90	83								
	3	67	61	70	64	71	64	89	76	66	60	69	62	70	62	86	73								
Wind Speed [mph]		120								130															
45	1	89	81	92	84	90	84	97	97	91	83	94	86	90	86	97	97								
	2	81	72	83	74	83	73	97	80	83	74	85	76	85	75	97	83								
	3	70	59	72	65	72	63	86	71	71	62	74	66	74	65	89	73								
50	1	87	79	90	82	88	82	94	94	88	81	91	84	88	84	94	94								
	2	79	71	82	73	82	72	94	80	81	73	83	75	84	74	94	83								
	3	68	59	71	63	71	63	86	71	69	62	72	65	73	64	88	73								
60	1	83	76	85	79	83	80	90	90	84	77	86	80	83	81	90	90								
	2	76	69	78	71	79	70	90	80	77	70	80	72	81	72	90	83								
	3	65	59	67	61	68	61	84	71	66	60	69	62	70	62	86	73								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	88	80	91	83	90	82	97	95	85	77	88	79	89	79	97	89	83	74	85	77	86	75	97	84
	2	80	71	82	73	81	71	94	77	77	68	79	69	78	67	88	72	74	65	76	66	75	63	83	68
	3	69	57	71	63	71	62	83	68	66	53	68	60	68	59	78	64	61	50	66	58	65	55	73	60
50	1	86	78	89	81	88	81	94	94	83	75	86	78	87	77	94	89	81	72	83	75	84	74	94	84
	2	78	70	80	71	80	70	94	77	75	67	77	68	77	67	88	72	72	64	74	66	74	63	83	68
	3	67	57	69	62	69	61	83	68	65	53	67	59	67	58	78	64	61	50	65	57	64	55	73	60
60	1	82	75	84	77	83	78	90	90	79	72	82	75	83	75	90	89	77	70	80	72	81	72	90	84
	2	75	67	77	69	77	68	90	77	72	65	74	66	74	65	88	72	70	62	72	64	72	62	83	68
	3	64	57	66	60	67	59	82	68	62	53	64	58	64	57	78	64	60	50	62	55	62	54	73	60
Wind Speed [mph]		170								180															
45	1	80	71	83	74	83	72	96	79	78	69	80	71	80	69	91	75								
	2	71	62	73	64	72	59	78	64	69	59	70	60	68	56	74	61								
	3	58	47	64	55	62	52	69	57	54	44	61	53	60	49	65	53								
50	1	78	70	81	72	81	71	94	79	76	67	79	70	78	68	91	75								
	2	70	61	72	63	71	59	78	64	67	59	69	60	68	56	74	61								
	3	58	47	62	55	61	52	69	57	54	44	60	53	59	49	65	53								
60	1	75	68	78	70	78	69	90	79	73	65	76	68	76	67	90	75								
	2	68	60	69	61	69	59	78	64	65	57	67	59	66	56	74	61								
	3	58	47	60	53	60	52	69	57	54	44	58	51	57	49	65	53								
Wind Speed [mph]		190								200															
45	1	75	66	78	69	77	65	86	71	73	64	76	66	74	62	82	68								
	2	66	56	68	57	65	53	70	58	64	53	66	54	61	50	67	55								
	3	52	42	59	50	57	47	62	51	49	40	57	48	54	44	59	48								
50	1	74	65	76	68	76	65	86	71	72	63	74	65	73	62	82	68								
	2	65	56	67	57	65	53	70	58	63	53	65	54	61	50	67	55								
	3	52	42	58	50	57	47	62	51	49	40	56	48	54	44	59	48								
60	1	71	63	74	66	73	64	86	71	69	61	72	64	71	62	82	68								
	2	63	55	65	57	64	53	70	58	61	53	63	54	61	50	67	55								
	3	52	42	56	49	55	47	62	51	49	40	55	48	53	44	59	48								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	84	79	86	82	79	79	86	86	83	78	85	80	79	79	86	86	82	77	84	79	79	79	86	86
	2	79	73	81	75	79	77	86	86	78	72	80	74	79	75	86	86	77	71	79	72	79	73	86	86
	3	68	63	70	65	72	66	86	82	67	62	69	64	71	65	86	80	66	60	68	62	70	63	86	78
80	1	79	76	81	78	76	76	83	83	79	75	81	77	76	76	83	83	78	74	81	76	76	76	83	83
	2	76	71	78	73	76	74	83	83	75	69	77	71	76	73	83	83	74	68	76	70	76	71	83	83
	3	65	60	67	62	70	64	83	81	64	59	66	61	69	63	83	78	63	58	65	60	67	61	83	76
90	1	75	73	77	75	73	73	80	80	75	72	77	74	73	73	80	80	75	71	77	73	73	73	80	80
	2	73	68	75	70	73	72	80	80	72	67	74	69	73	71	80	80	71	66	73	68	73	69	80	80
	3	62	58	64	60	67	62	80	79	61	57	63	59	66	61	80	77	61	56	62	58	65	60	80	75
70	1	81	76	83	78	79	79	86	86	80	74	82	77	79	79	86	86								
	2	76	69	78	71	79	71	86	86	74	68	76	70	78	70	86	83								
	3	65	59	67	61	69	62	86	76	64	58	66	60	67	60	84	73								
80	1	77	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83								
	2	73	67	75	69	76	70	83	83	72	66	74	68	76	68	83	83								
	3	62	57	64	59	66	60	83	74	61	56	63	58	65	59	83	72								
90	1	74	70	77	72	73	73	80	80	74	69	76	71	73	73	80	80								
	2	70	65	72	67	73	68	80	80	69	64	71	66	73	66	80	80								
	3	60	55	62	57	64	58	80	73	59	55	61	56	63	57	80	71								
70	1	79	73	82	76	79	77	86	86	80	74	82	77	79	79	86	86								
	2	73	67	75	68	77	68	86	80	74	68	76	70	78	70	86	83								
	3	63	57	65	59	66	59	82	71	64	58	66	60	67	60	84	73								
80	1	76	71	78	73	76	75	83	83	77	72	79	74	76	76	83	83								
	2	71	65	73	66	74	67	83	80	72	66	74	68	76	68	83	83								
	3	60	55	62	57	64	58	81	70	61	56	63	58	65	59	83	72								
90	1	73	68	75	71	73	73	80	80	74	69	76	71	73	73	80	80								
	2	68	63	70	64	72	65	80	79	69	64	71	66	73	66	80	80								
	3	58	54	60	55	62	56	79	69	59	55	61	56	63	57	80	71								
70	1	79	73	82	76	79	77	86	86	80	74	82	77	79	79	86	86								
	2	73	67	75	68	77	68	86	80	74	68	76	70	78	70	86	83								
	3	63	57	65	59	66	59	82	71	64	58	66	60	67	60	84	73								
80	1	76	71	78	73	76	75	83	83	77	72	79	74	76	76	83	83								
	2	71	65	73	66	74	67	83	80	72	66	74	68	76	68	83	83								
	3	60	55	62	57	64	58	81	70	61	56	63	58	65	59	83	72								
90	1	73	68	75	71	73	73	80	80	74	69	76	71	73	73	80	80								
	2	68	63	70	64	72	65	80	79	69	64	71	66	73	66	80	80								
	3	58	54	60	55	62	56	79	69	59	55	61	56	63	57	80	71								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	78	72	81	75	79	76	86	86	76	70	79	72	79	73	86	86	74	68	77	70	78	70	86	84
	2	72	65	74	67	75	67	86	77	70	63	72	64	72	64	86	72	68	60	70	62	70	61	83	68
	3	62	56	64	58	65	58	80	68	60	53	62	56	63	55	77	64	58	50	60	54	60	53	73	60
80	1	75	70	77	72	76	73	83	83	73	68	76	70	76	71	83	83	72	66	74	68	76	68	83	83
	2	70	63	71	65	73	65	83	77	68	61	69	63	70	62	83	72	66	59	67	61	68	60	83	68
	3	59	54	61	56	63	56	79	68	58	52	60	54	61	54	75	64	56	50	58	52	59	52	72	60
90	1	72	67	74	70	73	71	80	80	71	66	73	68	73	69	80	80	69	64	71	66	73	67	80	80
	2	67	62	69	63	71	64	80	77	66	60	67	61	69	61	80	72	64	58	65	59	66	59	80	68
	3	57	53	59	55	61	55	77	68	56	51	58	53	59	53	74	64	54	49	56	51	57	51	71	60
Wind Speed [mph]		170								180															
70	1	72	66	75	68	76	68	86	79	71	64	73	66	74	65	86	75								
	2	66	58	67	60	67	59	78	64	64	56	65	58	65	56	74	61								
	3	56	47	58	52	58	51	69	57	54	44	56	50	56	49	65	53								
80	1	70	64	72	66	74	66	83	79	68	62	70	64	72	64	83	75								
	2	64	57	65	58	66	57	78	64	62	55	63	56	63	55	74	61								
	3	54	47	56	51	57	50	69	57	53	44	55	49	55	48	65	53								
90	1	68	62	70	64	72	65	80	79	66	60	68	62	70	62	80	75								
	2	62	56	64	57	64	56	78	64	60	54	62	55	62	54	74	61								
	3	53	47	55	49	55	49	68	57	51	44	53	48	54	47	65	53								
Wind Speed [mph]		190								200															
70	1	69	62	71	64	71	63	86	71	67	60	69	62	69	61	82	68								
	2	62	54	63	56	62	53	70	58	60	52	61	54	60	50	67	55								
	3	52	42	55	48	54	47	62	51	49	40	53	47	52	44	59	48								
80	1	67	60	69	62	70	62	83	71	65	58	67	60	68	60	82	68								
	2	60	53	62	54	61	53	70	58	58	51	60	53	59	50	67	55								
	3	51	42	53	47	53	46	62	51	49	40	52	46	51	44	59	48								
90	1	65	59	67	61	68	60	80	71	63	57	65	59	66	58	80	68								
	2	59	52	60	53	60	52	70	58	57	50	58	52	58	50	67	55								
	3	50	42	52	46	52	45	62	51	49	40	50	45	50	44	59	48								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	71	70	73	73	71	71	78	78	71	70	73	72	71	71	78	78	71	69	73	71	71	71	78	78
	2	70	66	72	68	71	70	78	78	70	65	71	67	71	69	78	78	69	64	71	66	71	68	78	78
	3	60	56	62	58	65	60	78	78	59	56	61	57	64	59	78	76	58	55	60	56	63	58	78	74
Wind Speed [mph]		110								115															
100	1	71	68	73	70	71	71	78	78	71	67	73	69	71	71	78	78								
	2	68	63	70	65	71	66	78	78	67	62	69	64	71	65	78	78								
	3	58	54	60	56	62	57	78	72	57	53	59	55	61	56	78	70								
Wind Speed [mph]		120								130															
100	1	70	66	72	68	71	71	78	78	71	67	73	69	71	71	78	78								
	2	66	61	68	63	70	64	78	78	67	62	69	64	71	65	78	78								
	3	56	52	58	54	60	55	77	68	57	53	59	55	61	56	78	70								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	70	65	72	67	71	70	78	78	68	64	70	66	71	67	78	78	67	62	69	64	71	65	78	78
	2	65	60	67	62	69	62	78	76	64	58	65	60	67	60	78	72	62	56	64	58	65	58	78	68
	3	56	51	57	53	59	54	76	67	54	50	56	51	58	52	73	63	53	48	55	50	56	50	70	60
Wind Speed [mph]		170								180															
100	1	66	60	68	62	70	63	78	78	64	59	66	61	68	61	78	75								
	2	60	54	62	56	63	56	77	64	59	53	60	54	61	53	74	61								
	3	51	47	53	48	54	48	67	57	50	44	52	47	52	46	64	53								
Wind Speed [mph]		190								200															
100	1	63	57	65	59	66	59	78	71	61	56	63	58	65	57	78	68								
	2	57	51	59	52	59	52	70	58	56	49	57	51	57	50	67	55								
	3	49	42	51	45	51	45	62	51	48	40	49	44	49	43	59	48								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	124	104	128	108	121	101	130	110	119	100	124	104	116	97	126	106	115	96	120	100	112	93	122	102	
	2	104	86	107	89	100	83	109	90	100	83	103	85	96	79	104	86	96	80	99	82	92	76	100	83	
	3	83	67	95	79	88	73	96	80	79	64	91	76	85	70	92	76	76	62	88	73	82	67	89	73	
	5	1	124	104	128	108	121	101	130	110	119	100	124	104	116	97	126	106	115	96	120	100	112	93	122	102
		2	104	86	107	89	100	83	109	90	100	83	103	85	96	79	104	86	96	80	99	82	92	76	100	83
		3	83	67	95	79	88	73	96	80	79	64	91	76	85	70	92	76	76	62	88	73	82	67	89	73
	10	1	120	104	124	108	121	101	130	110	117	100	121	104	116	97	126	106	114	96	118	100	112	93	122	102
		2	104	86	107	89	100	83	109	90	100	83	103	85	96	79	104	86	96	80	99	82	92	76	100	83
		3	83	67	95	79	88	73	96	80	79	64	91	76	85	70	92	76	76	62	88	73	82	67	89	73
0	1	111	93	116	97	108	90	118	98	107	89	112	93	104	87	114	94									
	2	93	77	95	79	89	73	96	80	89	74	92	76	86	71	93	77									
	3	73	59	85	70	78	65	85	70	70	57	82	67	76	62	82	68									
	5	1	111	93	116	97	108	90	118	98	107	89	112	93	104	87	114	94								
		2	93	77	95	79	89	73	96	80	89	74	92	76	86	71	93	77								
		3	73	59	85	70	78	65	85	70	70	57	82	67	76	62	82	68								
	10	1	111	93	115	97	108	90	118	98	107	89	112	93	104	87	114	94								
		2	93	77	95	79	89	73	96	80	89	74	92	76	86	71	93	77								
		3	73	59	85	70	78	65	85	70	70	57	82	67	76	62	82	68								
0	1	104	86	108	90	101	84	110	91	107	89	112	93	104	87	114	94									
	2	86	71	89	73	83	68	90	74	89	74	92	76	86	71	93	77									
	3	67	55	79	65	73	60	79	65	70	57	82	67	76	62	82	68									
	5	1	104	86	108	90	101	84	110	91	107	89	112	93	104	87	114	94								
		2	86	71	89	73	83	68	90	74	89	74	92	76	86	71	93	77								
		3	67	55	79	65	73	60	79	65	70	57	82	67	76	62	82	68								
	10	1	104	86	108	90	101	84	110	91	107	89	112	93	104	87	114	94								
		2	86	71	89	73	83	68	90	74	89	74	92	76	86	71	93	77								
		3	67	55	79	65	73	60	79	65	70	57	82	67	76	62	82	68								
0	1	104	86	108	90	101	84	110	91	107	89	112	93	104	87	114	94									
	2	86	71	89	73	83	68	90	74	89	74	92	76	86	71	93	77									
	3	67	55	79	65	73	60	79	65	70	57	82	67	76	62	82	68									
	5	1	104	86	108	90	101	84	110	91	107	89	112	93	104	87	114	94								
		2	86	71	89	73	83	68	90	74	89	74	92	76	86	71	93	77								
		3	67	55	79	65	73	60	79	65	70	57	82	67	76	62	82	68								
	10	1	104	86	108	90	101	84	110	91	107	89	112	93	104	87	114	94								
		2	86	71	89	73	83	68	90	74	89	74	92	76	86	71	93	77								
		3	67	55	79	65	73	60	79	65	70	57	82	67	76	62	82	68								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	100	83	105	87	98	81	106	88	94	78	98	82	92	76	100	82	89	74	93	77	86	71	94	77
	2	83	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	65	53	76	63	70	58	77	63	60	49	71	59	66	54	72	59	56	46	67	55	62	51	67	55
5	1	100	83	105	87	98	81	106	88	94	78	98	82	92	76	100	82	89	74	93	77	86	71	94	77
	2	83	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	65	53	76	63	70	58	77	63	60	49	71	59	66	54	72	59	56	46	67	55	62	51	67	55
10	1	100	83	105	87	98	81	106	88	94	78	98	82	92	76	100	82	89	74	93	77	86	71	94	77
	2	83	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
	3	65	53	76	63	70	58	77	63	60	49	71	59	66	54	72	59	56	46	67	55	62	51	67	55
0	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	56	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	50	41	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49	80	66	83	69	77	63	84	69
5	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	56	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	50	41	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49	80	66	83	69	77	63	84	69
10	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	66	54	68	56	63	51	68	56
	2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	50	41	60	49	55	45	60	49
	3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49								
0	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	59	49	61	50	57	46	61	50
	2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	72	59	75	62	70	57	76	62
5	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	59	49	61	50	57	46	61	50
	2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	72	59	75	62	70	57	76	62
10	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	59	49	61	50	57	46	61	50
	2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	45	36	54	44	50	41	54	44
	3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	113	100	116	104	121	101	127	110	110	97	114	101	116	97	126	106	107	95	111	98	112	93	122	102	
	2	100	86	103	89	100	83	109	90	97	83	100	85	96	79	104	86	95	80	97	82	92	76	100	83	
	3	83	67	90	79	88	73	96	80	79	64	88	76	85	70	92	76	76	62	85	73	82	67	89	73	
	20	1	107	96	110	99	116	101	120	110	104	93	108	97	114	97	120	106	102	91	106	94	111	93	120	102
		2	96	85	98	87	100	83	109	90	93	82	96	84	96	79	104	86	91	80	94	82	92	76	100	83
		3	83	67	86	76	88	73	96	80	79	64	84	74	85	70	92	76	76	62	82	72	82	67	89	73
	25	1	107	96	110	99	110	100	115	110	104	93	108	97	110	97	115	106	102	91	106	94	108	93	115	102
		2	96	85	98	87	99	83	109	90	93	82	96	84	96	79	104	86	91	80	94	82	92	76	100	83
		3	83	67	86	76	87	73	96	80	79	64	84	74	84	70	92	76	76	62	82	72	82	67	89	73
15	1	105	92	109	96	108	90	118	98	102	89	106	93	104	87	114	94	102	89	106	93	104	87	114	94	
	2	92	77	95	79	89	73	96	80	89	74	92	76	86	71	93	77	89	74	92	76	86	71	93	77	
	3	73	59	83	70	78	65	85	70	70	57	81	67	76	62	82	68	70	57	81	67	76	62	82	68	
	20	1	100	89	103	92	108	90	118	98	98	87	101	90	104	87	114	94	98	87	101	90	104	87	114	94
		2	89	77	91	79	89	73	96	80	87	74	89	76	86	71	93	77	87	74	89	76	86	71	93	77
		3	73	59	80	70	78	65	85	70	70	57	78	67	76	62	82	68	70	57	78	67	76	62	82	68
	25	1	100	89	103	92	105	90	115	98	98	87	101	90	103	87	114	94	98	87	101	90	103	87	114	94
		2	89	77	91	79	89	73	96	80	87	74	89	76	86	71	93	77	87	74	89	76	86	71	93	77
		3	73	59	80	70	78	65	85	70	70	57	78	67	76	62	82	68	70	57	78	67	76	62	82	68
15	1	100	86	104	90	101	84	110	91	102	89	106	93	104	87	114	94	102	89	106	93	104	87	114	94	
	2	86	71	89	73	83	68	90	74	89	74	92	76	86	71	93	77	89	74	92	76	86	71	93	77	
	3	67	55	79	65	73	60	79	65	70	57	81	67	76	62	82	68	70	57	81	67	76	62	82	68	
	20	1	96	85	99	88	101	84	110	91	98	87	101	90	104	87	114	94	98	87	101	90	104	87	114	94
		2	85	71	87	73	83	68	90	74	87	74	89	76	86	71	93	77	87	74	89	76	86	71	93	77
		3	67	55	76	65	73	60	79	65	70	57	78	67	76	62	82	68	70	57	78	67	76	62	82	68
	25	1	96	85	99	88	100	84	110	91	98	87	101	90	103	87	114	94	98	87	101	90	103	87	114	94
		2	85	71	87	73	83	68	90	74	87	74	89	76	86	71	93	77	87	74	89	76	86	71	93	77
		3	67	55	76	65	73	60	79	65	70	57	78	67	76	62	82	68	70	57	78	67	76	62	82	68

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	98	83	101	87	98	81	106	88	94	78	97	82	92	76	100	82	89	74	93	77	86	71	94	77	
	2	83	69	86	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63	
	3	65	53	76	63	70	58	77	63	60	49	71	59	66	54	72	59	56	46	67	55	62	51	67	55	
	20	1	94	82	97	86	98	81	106	88	90	78	93	82	92	76	100	82	86	74	90	77	86	71	94	77
		2	82	69	85	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
		3	65	53	74	63	70	58	77	63	60	49	71	59	66	54	72	59	56	46	67	55	62	51	67	55
	25	1	94	82	97	86	98	81	106	88	90	78	93	82	92	76	100	82	86	74	90	77	86	71	94	77
		2	82	69	85	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63
		3	65	53	74	63	70	58	77	63	60	49	71	59	66	54	72	59	56	46	67	55	62	51	67	55
15	1	84	69	88	72	81	67	89	73	80	66	83	69	77	63	84	69	80	66	83	69	77	63	84	69	
	2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	66	54	68	56	63	51	68	56	
	3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49	50	41	60	49	55	45	60	49	
	20	1	83	69	86	72	81	67	89	73	80	66	83	69	77	63	84	69	80	66	83	69	77	63	84	69
		2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	66	54	68	56	63	51	68	56
		3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49	50	41	60	49	55	45	60	49
	25	1	83	69	86	72	81	67	89	73	80	66	83	69	77	63	84	69	80	66	83	69	77	63	84	69
		2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	66	54	68	56	63	51	68	56
		3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49	50	41	60	49	55	45	60	49
15	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62	
	2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50	
	3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44	
	20	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62
		2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50
		3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
	25	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62
		2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50
		3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
15	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62	
	2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50	
	3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44	
	20	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62
		2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50
		3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
	25	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62
		2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50
		3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
		30	1	106	96	110	99	105	98	110	110	104	93	108	97	105	95	110	106	102	91	105	94	105	93
	2	96	85	98	87	97	83	109	90	93	82	96	84	94	79	104	86	91	80	93	82	92	76	100	83
	3	83	67	86	76	85	73	96	80	79	64	84	74	83	70	92	76	76	62	82	72	80	67	89	73
	1	103	93	106	96	100	96	106	106	101	91	104	94	100	93	106	106	99	89	102	92	100	91	106	102
	2	93	83	96	85	95	83	106	90	91	80	93	83	93	79	104	86	89	78	91	80	90	76	100	83
	3	80	67	83	74	83	73	96	80	79	64	81	72	81	70	92	76	76	62	79	70	78	67	89	73
	1	100	91	103	94	97	94	103	103	98	89	101	92	97	91	103	103	96	87	99	90	97	89	103	102
	2	91	81	93	83	93	82	103	90	89	79	91	81	91	79	103	86	87	77	89	79	88	76	100	83
	3	78	67	81	72	81	71	96	80	76	64	79	71	79	69	92	76	75	62	77	69	77	67	89	73
Wind Speed [mph]		110								115															
	1	100	89	103	92	103	90	110	98	98	87	101	90	100	87	110	94								
	2	89	77	91	79	89	73	96	80	87	74	89	76	86	71	93	77								
	3	73	59	80	70	78	65	85	70	70	57	78	67	76	62	82	68								
	1	97	87	100	90	100	88	106	98	95	85	98	88	98	86	106	94								
	2	87	76	89	78	88	73	96	80	85	74	87	76	85	71	93	77								
	3	73	59	78	68	76	65	85	70	70	57	76	66	74	62	82	68								
	1	94	85	97	88	97	87	103	98	92	83	96	86	96	84	103	94								
	2	85	75	87	77	86	73	96	80	83	73	85	75	84	71	93	77								
	3	73	59	76	67	75	65	85	70	70	57	74	65	73	62	82	68								
Wind Speed [mph]		120								130															
	1	96	84	99	88	98	84	110	91	98	87	101	90	100	87	110	94								
	2	84	71	87	73	83	68	90	74	87	74	89	76	86	71	93	77								
	3	67	55	76	65	73	60	79	65	70	57	78	67	76	62	82	68								
	1	93	83	96	86	96	84	106	91	95	85	98	88	98	86	106	94								
	2	83	71	85	73	83	68	90	74	85	74	87	76	85	71	93	77								
	3	67	55	74	65	72	60	79	65	70	57	76	66	74	62	82	68								
	1	91	81	94	84	94	82	103	91	92	83	96	86	96	84	103	94								
	2	81	71	83	73	82	68	90	74	83	73	85	75	84	71	93	77								
	3	67	55	72	63	71	60	79	65	70	57	74	65	73	62	82	68								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	94	82	97	85	96	81	106	88	90	78	93	82	91	76	100	82	86	74	89	77	86	71	94	77	
	2	82	69	85	71	80	66	87	71	78	64	80	66	75	61	81	67	74	61	76	62	70	58	76	63	
	3	65	53	74	63	70	58	77	63	60	49	71	59	66	54	72	59	56	46	67	55	62	51	67	55	
	35	1	91	81	94	84	94	81	106	88	88	77	91	80	90	76	100	82	84	74	87	76	86	71	94	77
		2	81	69	83	71	80	66	87	71	77	64	79	66	75	61	81	67	74	61	76	62	70	58	76	63
		3	65	53	72	63	70	58	77	63	60	49	69	59	66	54	72	59	56	46	66	55	62	51	67	55
	40	1	89	79	92	82	92	80	103	88	86	76	89	79	88	76	100	82	83	72	86	75	84	71	94	77
		2	79	69	81	71	80	66	87	71	76	64	78	66	75	61	81	67	72	61	74	62	70	58	76	63
		3	65	53	71	62	69	58	77	63	60	49	68	59	66	54	72	59	56	46	65	55	62	51	67	55
30	1	83	69	86	72	81	67	89	73	80	66	83	69	77	63	84	69	80	66	83	69	77	63	84	69	
	2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	66	54	68	56	63	51	68	56	
	3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49	50	41	60	49	55	45	60	49	
	35	1	81	69	84	72	81	67	89	73	78	66	81	69	77	63	84	69	78	66	81	69	77	63	84	69
		2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	66	54	68	56	63	51	68	56
		3	53	43	63	52	58	48	63	52	50	41	60	49	55	45	60	49	50	41	60	49	55	45	60	49
	40	1	80	69	82	72	81	67	89	73	77	66	80	69	77	63	84	69	77	66	80	69	77	63	84	69
		2	69	57	71	59	66	54	72	59	66	54	68	56	63	51	68	56	66	54	68	56	63	51	68	56
		3	53	43	62	52	58	48	63	52	50	41	60	49	55	45	60	49	50	41	60	49	55	45	60	49
30	1	76	62	79	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62	
	2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50	
	3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44	
	35	1	75	62	78	65	73	60	80	66	72	59	75	62	70	57	76	62	72	59	75	62	70	57	76	62
		2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50
		3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44
	40	1	74	62	77	65	73	60	80	66	71	59	74	62	70	57	76	62	71	59	74	62	70	57	76	62
		2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50	59	49	61	50	57	46	61	50
		3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44	45	36	54	44	50	41	54	44

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	97	89	100	92	94	92	100	100	95	87	98	90	94	90	100	100	93	85	96	88	94	87	100	100
	2	89	79	91	82	91	81	100	90	87	77	89	79	89	78	100	86	85	75	87	77	87	76	100	83
	3	76	67	79	71	79	70	96	80	75	64	77	69	77	68	92	76	73	62	76	67	75	66	89	73
50	1	94	86	97	89	91	90	97	97	92	85	95	88	91	88	97	97	91	83	94	86	91	86	97	97
	2	86	78	89	80	90	79	97	90	85	76	87	78	87	77	97	86	83	74	85	76	85	75	97	83
	3	74	67	77	69	78	69	95	80	73	64	75	68	76	67	92	76	71	62	74	66	74	65	89	73
60	1	89	83	92	85	86	86	93	93	88	81	91	84	86	85	93	93	87	80	89	82	86	83	93	93
	2	83	75	85	77	86	77	93	90	81	73	83	75	84	75	93	86	80	72	82	74	82	73	93	83
	3	71	65	73	67	75	67	93	80	70	63	72	65	73	65	90	76	68	62	71	64	71	63	87	73
45	1	92	83	95	86	94	85	100	98	90	81	93	84	94	83	100	94								
	2	83	73	85	75	85	73	96	80	81	72	83	73	82	71	93	77								
	3	71	59	74	66	74	64	85	70	70	57	72	64	72	62	82	68								
50	1	89	81	92	84	91	84	97	97	88	79	91	82	91	82	97	94								
	2	81	72	83	74	83	73	96	80	79	70	82	72	81	71	93	77								
	3	70	59	72	64	72	63	85	70	68	57	71	63	71	62	82	68								
60	1	85	78	88	81	86	81	93	93	84	77	87	79	86	79	93	93								
	2	78	70	80	72	81	71	93	80	77	68	79	70	79	69	93	77								
	3	67	59	69	62	70	62	85	70	66	57	68	61	68	60	82	68								
45	1	88	79	91	82	92	81	100	91	90	81	93	84	94	83	100	94								
	2	79	70	81	72	80	68	90	74	81	72	83	73	82	71	93	77								
	3	67	55	71	62	70	60	79	65	70	57	72	64	72	62	82	68								
50	1	86	78	89	81	90	80	97	91	88	79	91	82	91	82	97	94								
	2	78	69	80	71	79	68	90	74	79	70	82	72	81	71	93	77								
	3	67	55	69	61	69	60	79	65	68	57	71	63	71	62	82	68								
60	1	83	75	85	78	86	78	93	91	84	77	87	79	86	79	93	93								
	2	75	67	77	69	77	67	90	74	77	68	79	70	79	69	93	77								
	3	64	55	67	60	67	58	79	65	66	57	68	61	68	60	82	68								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
45	1	87	78	90	80	90	79	100	88	84	74	87	77	86	75	100	82	81	71	84	74	83	71	94	77	
	2	78	68	80	70	78	66	87	71	74	64	76	66	75	61	81	67	71	61	73	62	70	58	76	63	
	3	65	53	69	61	68	58	77	63	60	49	66	58	65	54	72	59	56	46	64	55	62	51	67	55	
	50	1	85	76	88	79	88	78	97	88	82	73	85	76	85	74	97	82	79	70	82	73	82	71	94	77
		2	76	67	78	69	77	66	87	71	73	64	75	66	74	61	81	67	70	61	72	62	70	58	76	63
		3	65	53	68	60	67	58	77	63	60	49	65	57	64	54	72	59	56	46	63	55	61	51	67	55
	60	1	81	74	84	76	85	76	93	88	79	71	81	73	82	73	93	82	76	68	79	71	79	69	93	77
		2	74	65	76	67	75	66	87	71	71	62	73	64	72	61	81	67	68	60	70	61	69	58	76	63
		3	63	53	65	58	65	57	77	63	60	49	63	56	62	54	72	59	56	46	61	53	60	51	67	55
45	1	78	68	81	71	80	67	89	73	75	66	78	68	76	63	84	69									
	2	68	57	70	59	66	54	72	59	66	54	68	56	63	51	68	56									
	3	53	43	61	52	58	48	63	52	50	41	59	49	55	45	60	49									
	50	1	77	67	79	70	78	67	89	73	74	65	77	67	75	63	84	69								
		2	67	57	69	59	66	54	72	59	65	54	67	56	63	51	68	56								
		3	53	43	60	52	58	48	63	52	50	41	58	49	55	45	60	49								
	60	1	74	66	77	68	76	67	89	73	72	63	74	66	73	63	84	69								
		2	66	57	67	59	66	54	72	59	63	54	65	56	63	51	68	56								
		3	53	43	59	51	57	48	63	52	50	41	56	49	55	45	60	49								
45	1	73	62	75	65	73	60	80	66	70	59	73	62	70	57	76	62									
	2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50									
	3	47	38	57	46	52	43	57	47	45	36	54	44	50	41	54	44									
	50	1	72	62	74	65	73	60	80	66	69	59	72	62	70	57	76	62								
		2	62	51	64	53	59	49	65	53	59	49	61	50	57	46	61	50								
		3	47	38	56	46	52	43	57	47	45	36	54	44	50	41	54	44								
	60	1	69	61	72	63	71	60	80	66	67	59	70	61	68	57	76	62								
		2	61	51	63	53	59	49	65	53	59	49	60	50	57	46	61	50								
		3	47	38	54	46	52	43	57	47	45	36	53	44	50	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	85	79	88	82	82	82	89	89	84	78	87	81	82	82	89	89	83	77	85	79	82	80	89	89
	2	79	73	82	75	82	75	89	89	78	71	80	73	82	73	89	86	77	69	79	71	80	71	89	83
	3	68	62	70	64	72	65	89	79	67	61	69	63	71	63	88	76	66	60	68	62	69	62	86	73
80	1	82	76	84	79	79	79	86	86	81	75	83	78	79	79	86	86	80	74	82	76	79	78	86	86
	2	76	70	79	72	79	73	86	86	75	69	77	71	79	71	86	86	74	67	76	69	78	69	86	83
	3	65	60	67	62	70	63	86	78	64	59	66	61	68	62	86	75	63	58	65	60	67	60	84	73
90	1	78	74	81	76	76	76	83	83	77	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83
	2	74	68	76	70	76	71	83	83	73	67	75	69	76	70	83	83	72	66	73	67	75	68	83	83
	3	63	58	65	60	67	61	83	76	62	57	64	59	66	60	83	74	61	56	63	58	65	59	82	72
70	1	82	75	84	78	82	79	89	89	80	74	83	76	82	77	89	89								
	2	75	68	77	70	78	69	89	80	74	66	76	68	76	68	89	77								
	3	64	58	67	60	68	60	83	70	63	57	65	59	66	59	81	68								
80	1	78	73	81	75	79	76	86	86	77	71	80	74	79	75	86	86								
	2	73	66	75	68	76	68	86	80	71	65	73	66	74	66	86	77								
	3	62	57	64	59	66	59	82	70	61	55	63	57	64	57	80	68								
90	1	76	70	78	73	76	74	83	83	75	69	77	72	76	73	83	83								
	2	70	64	72	66	74	66	83	80	69	63	71	65	73	65	83	77								
	3	60	55	62	57	64	57	80	70	59	54	61	56	63	56	78	68								
70	1	79	73	82	75	82	75	89	89	80	74	83	76	82	77	89	89								
	2	73	65	75	67	75	66	89	74	74	66	76	68	76	68	89	77								
	3	62	55	64	58	65	57	79	65	63	57	65	59	66	59	81	68								
80	1	76	70	79	73	79	73	86	86	77	71	80	74	79	75	86	86								
	2	70	63	72	65	73	65	86	74	71	65	73	66	74	66	86	77								
	3	60	54	62	56	63	56	78	65	61	55	63	57	64	57	80	68								
90	1	74	68	76	71	76	72	83	83	75	69	77	72	76	73	83	83								
	2	68	62	70	63	71	63	83	74	69	63	71	65	73	65	83	77								
	3	58	53	60	55	61	55	76	65	59	54	61	56	63	56	78	68								
70	1	79	73	82	75	82	75	89	89	80	74	83	76	82	77	89	89								
	2	73	65	75	67	75	66	89	74	74	66	76	68	76	68	89	77								
	3	62	55	64	58	65	57	79	65	63	57	65	59	66	59	81	68								
80	1	76	70	79	73	79	73	86	86	77	71	80	74	79	75	86	86								
	2	70	63	72	65	73	65	86	74	71	65	73	66	74	66	86	77								
	3	60	54	62	56	63	56	78	65	61	55	63	57	64	57	80	68								
90	1	74	68	76	71	76	72	83	83	75	69	77	72	76	73	83	83								
	2	68	62	70	63	71	63	83	74	69	63	71	65	73	65	83	77								
	3	58	53	60	55	61	55	76	65	59	54	61	56	63	56	78	68								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	78	71	81	74	82	74	89	88	76	69	78	71	80	71	89	82	74	66	76	69	77	68	89	77
	2	71	64	73	65	73	64	87	71	69	61	71	63	70	61	81	67	66	58	68	60	67	58	76	63
	3	61	53	63	57	63	56	77	63	59	49	61	54	61	53	72	59	56	46	59	52	58	51	67	55
80	1	75	69	78	71	79	72	86	86	73	67	76	69	77	69	86	82	71	64	74	67	75	66	86	77
	2	69	62	71	64	71	63	86	71	67	60	69	61	69	60	81	67	64	57	66	59	66	57	76	63
	3	59	53	61	55	62	55	76	63	57	49	59	53	59	52	72	59	55	46	57	51	57	50	67	55
90	1	73	67	75	69	76	70	83	83	71	65	73	67	75	68	83	82	69	63	71	65	73	65	83	77
	2	67	61	69	62	70	62	83	71	65	58	67	60	67	59	81	67	63	56	65	58	65	57	76	63
	3	57	52	59	54	60	54	75	63	56	49	58	52	58	51	71	59	54	46	56	50	56	49	67	55
Wind Speed [mph]		170								180															
70	1	72	64	74	66	74	65	89	73	69	62	72	64	72	63	84	69								
	2	64	56	66	58	65	54	72	59	62	54	63	55	62	51	68	56								
	3	53	43	57	50	56	48	63	52	50	41	55	48	54	45	60	49								
80	1	69	62	72	65	72	64	86	73	67	60	70	62	70	62	84	69								
	2	62	55	64	56	63	54	72	59	60	53	62	54	61	51	68	56								
	3	53	43	55	49	55	48	63	52	50	41	54	47	53	45	60	49								
90	1	67	61	70	63	71	63	83	73	66	59	68	61	68	60	83	69								
	2	61	54	63	55	62	54	72	59	59	52	61	53	60	51	68	56								
	3	52	43	54	48	54	47	63	52	50	41	52	46	52	45	60	49								
Wind Speed [mph]		190								200															
70	1	67	60	70	62	69	60	80	66	65	58	68	60	67	57	76	62								
	2	60	51	61	53	59	49	65	53	58	49	59	50	57	46	61	50								
	3	47	38	53	46	52	43	57	47	45	36	51	44	50	41	54	44								
80	1	66	58	68	60	68	59	80	66	64	56	66	59	66	57	76	62								
	2	58	51	60	52	59	49	65	53	56	49	58	50	57	46	61	50								
	3	47	38	52	45	51	43	57	47	45	36	50	44	49	41	54	44								
90	1	64	57	66	59	66	58	80	66	62	55	64	57	64	56	76	62								
	2	57	50	59	51	58	49	65	53	55	48	57	50	56	46	61	50								
	3	47	38	51	45	50	43	57	47	45	36	49	43	48	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	76	71	77	74	74	74	80	80	75	70	77	73	74	74	80	80	74	69	76	72	74	74	80	80
	2	71	66	73	68	74	70	80	80	70	65	72	67	74	68	80	80	69	64	71	66	74	66	80	80
	3	61	57	63	59	65	60	80	75	60	56	62	57	64	59	80	73	59	55	61	56	63	57	80	71
Wind Speed [mph]		110								115															
100	1	73	68	75	71	74	73	80	80	72	67	74	70	74	71	80	80								
	2	68	63	70	64	72	65	80	79	67	62	69	63	71	64	80	77								
	3	58	54	60	55	62	56	79	69	57	53	59	54	61	55	77	67								
0	1																								
	2																								
	3																								
0	1																								
	2																								
	3																								
Wind Speed [mph]		120								130															
100	1	71	66	74	69	74	70	80	80	72	67	74	70	74	71	80	80								
	2	66	60	68	62	70	62	80	74	67	62	69	63	71	64	80	77								
	3	57	52	58	53	60	54	75	65	57	53	59	54	61	55	77	67								
0	1																								
	2																								
	3																								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	71	65	73	68	74	69	80	80	69	63	71	65	73	66	80	80	67	61	69	64	71	64	80	77
	2	65	59	67	61	68	61	80	71	63	57	65	59	66	58	80	67	61	55	63	56	63	56	76	63
	3	56	51	58	52	59	53	73	63	54	49	56	51	57	50	70	59	52	46	54	49	55	48	67	55
Wind Speed [mph]		170								180															
100	1	66	60	68	62	69	62	80	73	64	58	66	60	67	59	80	69								
	2	60	53	61	54	61	53	72	59	58	51	59	52	59	51	68	56								
	3	51	43	53	47	53	46	63	52	49	41	51	45	51	44	60	49								
Wind Speed [mph]		190								200															
100	1	62	56	64	58	65	57	79	66	61	54	63	56	63	55	76	62								
	2	56	49	57	51	57	49	65	53	54	47	56	49	55	46	61	50								
	3	47	38	50	44	49	43	57	47	45	36	48	42	48	41	54	44								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	136	119	139	124	134	116	135	126	132	115	136	119	131	112	135	122	129	110	133	115	127	107	135	117	
	2	119	100	122	102	115	96	125	104	115	96	118	98	110	92	120	100	110	92	113	95	106	88	116	96	
	3	98	79	109	91	102	85	111	92	93	76	105	87	98	81	107	88	89	72	101	84	94	78	103	85	
	5	1	136	119	139	124	134	116	135	126	132	115	136	119	131	112	135	122	129	110	133	115	127	107	135	117
		2	119	100	122	102	115	96	125	104	115	96	118	98	110	92	120	100	110	92	113	95	106	88	116	96
		3	98	79	109	91	102	85	111	92	93	76	105	87	98	81	107	88	89	72	101	84	94	78	103	85
	10	1	129	116	132	121	132	116	133	126	127	113	130	117	131	112	133	122	125	110	128	114	127	107	133	117
		2	116	100	119	102	115	96	125	104	113	96	116	98	110	92	120	100	110	92	113	95	106	88	116	96
		3	98	79	105	91	102	85	111	92	93	76	102	87	98	81	107	88	89	72	100	84	94	78	103	85
Wind Speed [mph]		110								115																
0	1	127	107	130	111	124	104	132	113	123	103	127	107	120	100	129	109	123	103	127	107	120	100	129	109	
	2	107	89	109	91	102	85	111	92	103	86	106	88	99	82	107	89	103	86	106	88	99	82	107	89	
	3	86	69	98	81	91	75	99	82	82	67	94	78	88	72	95	79	82	67	94	78	88	72	95	79	
5	1	127	107	130	111	124	104	132	113	123	103	127	107	120	100	129	109	123	103	127	107	120	100	129	109	
	2	107	89	109	91	102	85	111	92	103	86	106	88	99	82	107	89	103	86	106	88	99	82	107	89	
	3	86	69	98	81	91	75	99	82	82	67	94	78	88	72	95	79	82	67	94	78	88	72	95	79	
10	1	122	107	126	111	124	104	132	113	119	103	123	107	120	100	129	109	119	103	123	107	120	100	129	109	
	2	107	89	109	91	102	85	111	92	103	86	106	88	99	82	107	89	103	86	106	88	99	82	107	89	
	3	86	69	97	81	91	75	99	82	82	67	94	78	88	72	95	79	82	67	94	78	88	72	95	79	
Wind Speed [mph]		120								130																
0	1	119	99	124	104	116	97	126	105	123	103	127	107	120	100	129	109	123	103	127	107	120	100	129	109	
	2	99	83	102	85	95	79	104	86	103	86	106	88	99	82	107	89	103	86	106	88	99	82	107	89	
	3	79	64	91	75	84	70	92	76	82	67	94	78	88	72	95	79	82	67	94	78	88	72	95	79	
5	1	119	99	124	104	116	97	126	105	123	103	127	107	120	100	129	109	123	103	127	107	120	100	129	109	
	2	99	83	102	85	95	79	104	86	103	86	106	88	99	82	107	89	103	86	106	88	99	82	107	89	
	3	79	64	91	75	84	70	92	76	82	67	94	78	88	72	95	79	82	67	94	78	88	72	95	79	
10	1	116	99	120	104	116	97	126	105	119	103	123	107	120	100	129	109	119	103	123	107	120	100	129	109	
	2	99	83	102	85	95	79	104	86	103	86	106	88	99	82	107	89	103	86	106	88	99	82	107	89	
	3	79	64	91	75	84	70	92	76	82	67	94	78	88	72	95	79	82	67	94	78	88	72	95	79	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	115	96	120	100	112	93	122	102	108	90	113	94	106	88	115	95	102	85	107	89	100	82	108	90
	2	96	80	99	82	92	76	100	83	90	75	93	77	87	71	94	78	85	70	88	72	81	67	88	73
	3	76	62	88	73	82	67	89	73	71	57	82	68	76	63	83	68	66	54	78	64	72	59	78	64
	1	115	96	120	100	112	93	122	102	108	90	113	94	106	88	115	95	102	85	107	89	100	82	108	90
	2	96	80	99	82	92	76	100	83	90	75	93	77	87	71	94	78	85	70	88	72	81	67	88	73
	3	76	62	88	73	82	67	89	73	71	57	82	68	76	63	83	68	66	54	78	64	72	59	78	64
	1	114	96	118	100	112	93	122	102	108	90	113	94	106	88	115	95	102	85	107	89	100	82	108	90
	2	96	80	99	82	92	76	100	83	90	75	93	77	87	71	94	78	85	70	88	72	81	67	88	73
	3	76	62	88	73	82	67	89	73	71	57	82	68	76	63	83	68	66	54	78	64	72	59	78	64
5	1	97	80	101	84	94	78	103	85	92	76	96	80	89	74	97	80	97	80	101	84	94	78	103	85
	2	80	66	83	68	77	63	84	69	76	63	78	65	73	60	79	65	76	63	78	65	73	60	79	65
	3	62	50	73	60	68	56	74	61	59	48	69	57	64	53	70	57	59	48	69	57	64	53	70	57
	1	97	80	101	84	94	78	103	85	92	76	96	80	89	74	97	80	97	80	101	84	94	78	103	85
	2	80	66	83	68	77	63	84	69	76	63	78	65	73	60	79	65	76	63	78	65	73	60	79	65
	3	62	50	73	60	68	56	74	61	59	48	69	57	64	53	70	57	59	48	69	57	64	53	70	57
	1	97	80	101	84	94	78	103	85	92	76	96	80	89	74	97	80	97	80	101	84	94	78	103	85
	2	80	66	83	68	77	63	84	69	76	63	78	65	73	60	79	65	76	63	78	65	73	60	79	65
	3	62	50	73	60	68	56	74	61	59	48	69	57	64	53	70	57	59	48	69	57	64	53	70	57
10	1	88	72	91	76	85	70	92	76	84	69	87	72	81	67	88	73	84	69	87	72	81	67	88	73
	2	72	60	75	61	69	57	75	62	69	57	71	58	66	54	71	59	69	57	71	58	66	54	71	59
	3	55	45	66	54	61	50	66	54	53	43	63	51	58	47	63	52	53	43	63	51	58	47	63	52
	1	88	72	91	76	85	70	92	76	84	69	87	72	81	67	88	73	84	69	87	72	81	67	88	73
	2	72	60	75	61	69	57	75	62	69	57	71	58	66	54	71	59	69	57	71	58	66	54	71	59
	3	55	45	66	54	61	50	66	54	53	43	63	51	58	47	63	52	53	43	63	51	58	47	63	52
	1	88	72	91	76	85	70	92	76	84	69	87	72	81	67	88	73	84	69	87	72	81	67	88	73
	2	72	60	75	61	69	57	75	62	69	57	71	58	66	54	71	59	69	57	71	58	66	54	71	59
	3	55	45	66	54	61	50	66	54	53	43	63	51	58	47	63	52	53	43	63	51	58	47	63	52

**Exposure Category : B**

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
15	1	121	110	125	114	121	116	124	124	119	107	123	111	121	112	124	122	117	104	120	108	121	107	124	117	
	2	110	97	113	100	115	96	124	104	107	95	110	97	110	92	120	100	104	92	107	94	106	88	116	96	
	3	95	79	99	88	102	85	111	92	93	76	96	85	98	81	107	88	89	72	94	83	94	78	103	85	
	20	1	114	104	117	108	113	112	117	117	112	102	115	105	113	109	117	117	110	100	113	103	113	106	117	117
		2	104	93	107	96	112	96	117	104	102	91	105	93	108	92	117	100	100	88	102	91	105	88	116	96
		3	90	79	93	84	98	85	111	92	88	76	91	81	95	81	107	88	86	72	89	79	92	78	103	85
	25	1	114	104	117	108	107	107	112	112	112	102	115	105	107	106	112	112	110	100	113	103	107	103	112	112
		2	104	93	107	96	107	95	112	104	102	91	105	93	105	92	112	100	100	88	102	91	103	88	112	96
		3	90	79	93	84	94	83	111	92	88	76	91	81	92	81	107	88	86	72	89	79	90	78	103	85
Wind Speed [mph]		110								115																
15	1	114	102	118	106	121	104	124	113	112	100	116	103	119	100	124	109									
	2	102	89	105	91	102	85	111	92	100	86	102	88	99	82	107	89									
	3	86	69	92	80	91	75	99	82	82	67	90	78	88	72	95	79									
	20	1	108	97	111	101	113	104	117	113	106	95	109	99	113	100	117	109								
		2	97	86	100	89	102	85	111	92	95	84	98	86	99	82	107	89								
		3	84	69	87	77	90	75	99	82	82	67	85	75	88	72	95	79								
	25	1	108	97	111	101	107	101	112	112	106	95	109	99	107	98	112	109								
		2	97	86	100	89	100	85	111	92	95	84	98	86	97	82	107	89								
		3	84	69	87	77	87	75	99	82	82	67	85	75	85	72	95	79								
Wind Speed [mph]		120								130																
15	1	110	97	113	101	116	97	124	105	112	100	116	103	119	100	124	109									
	2	97	83	100	85	95	79	104	86	100	86	102	88	99	82	107	89									
	3	79	64	87	75	84	70	92	76	82	67	90	78	88	72	95	79									
	20	1	104	93	108	97	112	97	117	105	106	95	109	99	113	100	117	109								
		2	93	82	96	84	95	79	104	86	95	84	98	86	99	82	107	89								
		3	79	64	84	74	84	70	92	76	82	67	85	75	88	72	95	79								
	25	1	104	93	108	97	107	96	112	105	106	95	109	99	107	98	112	109								
		2	93	82	96	84	95	79	104	86	95	84	98	86	97	82	107	89								
		3	79	64	84	74	83	70	92	76	82	67	85	75	85	72	95	79								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	107	95	111	98	112	93	122	102	103	90	107	94	106	88	115	95	99	85	103	89	100	82	108	90
	2	95	80	97	82	92	76	100	83	90	75	93	77	87	71	94	78	85	70	88	72	81	67	88	73
	3	76	62	85	73	82	67	89	73	71	57	82	68	76	63	83	68	66	54	78	64	72	59	78	64
	1	102	91	106	94	110	93	117	102	99	87	102	91	105	88	115	95	95	84	98	87	100	82	108	90
	2	91	80	94	82	92	76	100	83	87	75	90	77	87	71	94	78	84	70	86	72	81	67	88	73
	3	76	62	82	72	82	67	89	73	71	57	78	68	76	63	83	68	66	54	75	64	72	59	78	64
	1	102	91	106	94	106	93	112	102	99	87	102	91	102	88	112	95	95	84	98	87	98	82	108	90
	2	91	80	94	82	92	76	100	83	87	75	90	77	87	71	94	78	84	70	86	72	81	67	88	73
	3	76	62	82	72	81	67	89	73	71	57	78	68	76	63	83	68	66	54	75	64	72	59	78	64
20	1	95	80	99	84	94	78	103	85	92	76	95	80	89	74	97	80	95	80	99	84	94	78	103	85
	2	80	66	83	68	77	63	84	69	76	63	78	65	73	60	79	65	80	66	83	68	77	63	84	69
	3	62	50	73	60	68	56	74	61	59	48	69	57	64	53	70	57	62	50	73	60	68	56	74	61
	1	92	80	95	83	94	78	103	85	88	76	92	80	89	74	97	80	92	80	95	83	94	78	103	85
	2	80	66	82	68	77	63	84	69	76	63	78	65	73	60	79	65	80	66	82	68	77	63	84	69
	3	62	50	72	60	68	56	74	61	59	48	69	57	64	53	70	57	62	50	72	60	68	56	74	61
	1	92	80	95	83	94	78	103	85	88	76	92	80	89	74	97	80	92	80	95	83	94	78	103	85
	2	80	66	82	68	77	63	84	69	76	63	78	65	73	60	79	65	80	66	82	68	77	63	84	69
	3	62	50	72	60	68	56	74	61	59	48	69	57	64	53	70	57	62	50	72	60	68	56	74	61
25	1	88	72	91	76	85	70	92	76	84	69	87	72	81	67	88	73	88	72	91	76	85	70	92	76
	2	72	60	75	61	69	57	75	62	69	57	71	58	66	54	71	59	72	60	75	61	69	57	75	62
	3	55	45	66	54	61	50	66	54	53	43	63	51	58	47	63	52	55	45	66	54	61	50	66	54
	1	85	72	89	76	85	70	92	76	83	69	86	72	81	67	88	73	85	72	89	76	85	70	92	76
	2	72	60	75	61	69	57	75	62	69	57	71	58	66	54	71	59	72	60	75	61	69	57	75	62
	3	55	45	66	54	61	50	66	54	53	43	63	51	58	47	63	52	55	45	66	54	61	50	66	54
	1	85	72	89	76	85	70	92	76	83	69	86	72	81	67	88	73	85	72	89	76	85	70	92	76
	2	72	60	75	61	69	57	75	62	69	57	71	58	66	54	71	59	72	60	75	61	69	57	75	62
	3	55	45	66	54	61	50	66	54	53	43	63	51	58	47	63	52	55	45	66	54	61	50	66	54

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	110	101	114	105	101	101	107	107	109	99	112	103	101	101	107	107	107	97	110	101	101	101	101	107	107
	2	101	91	104	94	101	93	107	104	99	89	102	91	101	90	107	100	97	87	100	89	100	88	107	96	
	3	88	79	91	82	91	81	107	92	86	76	89	80	89	79	107	88	84	72	87	78	87	76	103	85	
	1	106	98	109	101	97	97	103	103	104	96	108	99	97	97	103	103	103	94	106	97	97	97	103	103	
	2	98	89	101	91	97	91	103	103	96	87	99	89	97	88	103	100	94	85	97	87	97	86	103	96	
	3	84	77	87	79	89	79	103	92	83	75	86	77	87	77	103	88	81	72	84	76	85	75	103	85	
	1	102	95	105	98	94	94	100	100	101	93	104	96	94	94	100	100	99	91	102	94	94	94	100	100	
	2	95	86	97	89	94	89	100	100	93	84	96	87	94	86	100	100	91	83	94	85	94	84	100	96	
	3	82	74	84	77	86	77	100	92	80	73	83	75	84	75	100	88	79	71	81	74	82	73	100	85	
35	1	105	95	108	99	101	98	107	107	103	93	107	96	101	96	107	107	103	93	107	96	101	96	107	107	
	2	95	85	98	87	97	85	107	92	93	83	96	85	95	82	107	89	93	83	96	85	95	82	107	89	
	3	82	69	85	76	85	74	99	82	81	67	83	74	83	72	95	79	81	67	83	74	83	72	95	79	
	1	101	92	104	95	97	96	103	103	100	91	103	94	97	93	103	103	100	91	103	94	97	93	103	103	
	2	92	83	95	85	95	83	103	92	91	81	93	83	93	81	103	89	91	81	93	83	93	81	103	89	
	3	80	69	82	74	83	73	99	82	78	67	81	72	81	71	95	79	78	67	81	72	81	71	95	79	
	1	98	90	101	93	94	93	100	100	96	88	99	91	94	91	100	100	96	88	99	91	94	91	100	100	
	2	90	81	92	83	93	82	100	92	88	79	90	81	91	80	100	89	88	79	90	81	91	80	100	89	
	3	77	69	80	72	81	71	98	82	76	67	78	70	79	70	95	79	76	67	78	70	79	70	95	79	
40	1	101	91	105	95	101	93	107	105	103	93	107	96	101	96	107	107	103	93	107	96	101	96	107	107	
	2	91	81	94	83	93	79	104	86	93	83	96	85	95	82	107	89	93	83	96	85	95	82	107	89	
	3	79	64	82	72	81	70	92	76	81	67	83	74	83	72	95	79	81	67	83	74	83	72	95	79	
	1	98	89	101	92	97	91	103	103	100	91	103	94	97	93	103	103	100	91	103	94	97	93	103	103	
	2	89	79	91	81	91	79	103	86	91	81	93	83	93	81	103	89	91	81	93	83	93	81	103	89	
	3	77	64	79	70	79	69	92	76	78	67	81	72	81	71	95	79	78	67	81	72	81	71	95	79	
	1	95	86	98	89	94	89	100	100	96	88	99	91	94	91	100	100	96	88	99	91	94	91	100	100	
	2	86	77	89	79	89	78	100	86	88	79	90	81	91	80	100	89	88	79	90	81	91	80	100	89	
	3	74	64	77	69	77	68	92	76	76	67	78	70	79	70	95	79	76	67	78	70	79	70	95	79	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	100	89	103	93	101	91	107	102	96	86	100	89	99	87	107	95	93	82	96	85	95	82	107	90	
	2	89	79	92	81	90	76	100	83	86	75	88	77	86	71	94	78	82	70	85	72	81	67	88	73	
	3	76	62	80	70	79	67	89	73	71	57	77	67	75	63	83	68	66	54	74	64	72	59	78	64	
	35	1	96	87	100	90	97	89	103	102	93	84	96	87	97	85	103	95	90	80	93	83	93	82	103	90
		2	87	77	89	79	89	76	100	83	84	73	86	75	85	71	94	78	80	70	83	72	81	67	88	73
		3	75	62	78	69	77	67	89	73	71	57	75	66	74	63	83	68	66	54	72	63	71	59	78	64
	40	1	93	85	96	88	94	87	100	100	91	82	94	85	94	84	100	95	88	79	91	81	91	80	100	90
		2	85	75	87	77	87	76	100	83	82	72	84	74	83	71	94	78	79	69	81	71	80	67	88	73
		3	73	62	76	67	75	66	89	73	70	57	73	65	72	63	83	68	66	54	70	62	69	59	78	64
30	1	90	79	93	82	92	78	103	85	87	76	90	79	88	74	97	80	87	76	90	79	88	74	97	80	
	2	79	66	81	68	77	63	84	69	76	63	78	65	73	60	79	65	76	63	78	65	73	60	79	65	
	3	62	50	71	60	68	56	74	61	59	48	68	57	64	53	70	57	59	48	68	57	64	53	70	57	
	35	1	87	77	90	80	90	78	103	85	85	74	88	77	87	74	97	80	85	74	88	77	87	74	97	80
		2	77	66	79	68	77	63	84	69	74	63	77	65	73	60	79	65	74	63	77	65	73	60	79	65
		3	62	50	69	60	68	56	74	61	59	48	67	57	64	53	70	57	59	48	67	57	64	53	70	57
	40	1	85	76	88	79	88	77	100	85	83	73	85	76	85	74	97	80	83	73	85	76	85	74	97	80
		2	76	66	78	68	76	63	84	69	73	63	75	65	73	60	79	65	73	63	75	65	73	60	79	65
		3	62	50	68	59	66	56	74	61	59	48	65	57	64	53	70	57	59	48	65	57	64	53	70	57
30	1	84	72	87	76	85	70	92	76	81	69	84	72	81	67	88	73	81	69	84	72	81	67	88	73	
	2	72	60	75	61	69	57	75	62	69	57	71	58	66	54	71	59	69	57	71	58	66	54	71	59	
	3	55	45	66	54	61	50	66	54	53	43	63	51	58	47	63	52	53	43	63	51	58	47	63	52	
	35	1	82	72	85	75	83	70	92	76	79	69	82	72	81	67	88	73	79	69	82	72	81	67	88	73
		2	72	60	74	61	69	57	75	62	69	57	71	58	66	54	71	59	69	57	71	58	66	54	71	59
		3	55	45	64	54	61	50	66	54	53	43	62	51	58	47	63	52	53	43	62	51	58	47	63	52
	40	1	80	71	83	73	82	70	92	76	78	68	81	71	79	67	88	73	78	68	81	71	79	67	88	73
		2	71	60	72	61	69	57	75	62	68	57	70	58	66	54	71	59	68	57	70	58	66	54	71	59
		3	55	45	63	54	61	50	66	54	53	43	61	51	58	47	63	52	53	43	61	51	58	47	63	52

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	99	92	102	95	90	90	97	97	97	90	100	93	90	90	97	97	96	89	99	92	90	90	97	97
	2	92	84	94	87	90	87	97	97	90	82	93	85	90	85	97	97	89	81	91	83	90	83	97	96
	3	79	72	82	75	84	76	97	92	78	71	80	73	82	74	97	88	76	69	79	72	80	72	97	85
50	1	95	89	98	92	88	88	94	94	94	88	97	91	88	88	94	94	93	87	96	89	88	88	94	94
	2	89	82	92	84	88	85	94	94	88	81	90	83	88	83	94	94	87	79	89	81	88	81	94	94
	3	77	71	79	73	82	74	94	91	75	69	78	72	80	72	94	88	74	68	77	70	78	70	94	85
60	1	90	85	93	87	83	83	90	90	89	84	92	86	83	83	90	90	88	82	91	85	83	83	90	90
	2	85	79	87	81	83	82	90	90	84	77	86	79	83	80	90	90	82	76	85	78	83	78	90	90
	3	73	67	75	70	78	71	90	88	71	66	74	68	76	69	90	86	70	65	73	67	75	68	90	83
Wind Speed [mph]		110								115															
45	1	95	87	98	90	90	90	97	97	93	86	96	89	90	89	97	97								
	2	87	79	90	81	90	81	97	92	86	77	88	79	89	79	97	89								
	3	75	68	78	70	79	70	97	82	74	66	76	69	77	68	94	79								
50	1	92	85	95	88	88	88	94	94	91	84	93	86	88	88	94	94								
	2	85	77	87	79	88	79	94	92	84	76	86	78	87	77	94	89								
	3	73	66	75	69	77	69	94	82	72	65	74	67	75	67	93	79								
60	1	87	81	89	84	83	83	90	90	86	80	88	82	83	83	90	90								
	2	81	74	83	76	83	77	90	90	80	73	82	75	83	75	90	89								
	3	69	64	72	66	74	66	90	81	68	62	71	65	72	65	90	79								
Wind Speed [mph]		120								130															
45	1	92	84	95	87	90	88	97	97	93	86	96	89	90	89	97	97								
	2	84	76	86	78	87	77	97	86	86	77	88	79	89	79	97	89								
	3	72	64	75	67	75	67	92	76	74	66	76	69	77	68	94	79								
50	1	89	82	92	85	88	86	94	94	91	84	93	86	88	88	94	94								
	2	82	74	84	76	85	75	94	86	84	76	86	78	87	77	94	89								
	3	71	64	73	66	74	66	91	76	72	65	74	67	75	67	93	79								
60	1	85	79	87	81	83	83	90	90	86	80	88	82	83	83	90	90								
	2	79	71	81	73	82	73	90	86	80	73	82	75	83	75	90	89								
	3	67	61	70	63	71	63	88	76	68	62	71	65	72	65	90	79								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	91	83	94	86	90	86	97	97	88	80	91	83	90	82	97	95	86	77	88	80	89	79	97	90
	2	83	74	85	76	85	75	97	83	80	71	82	73	82	71	94	78	77	68	79	70	78	67	88	73
	3	71	62	74	66	74	65	89	73	69	57	71	63	71	62	83	68	66	54	69	61	68	59	78	64
50	1	88	81	91	84	88	84	94	94	86	78	89	81	88	81	94	94	83	75	86	78	87	78	94	90
	2	81	73	83	75	84	74	94	83	78	70	80	72	80	70	94	78	75	67	77	69	77	67	88	73
	3	69	62	72	65	72	64	88	73	67	57	69	62	70	61	83	68	65	54	67	60	67	58	78	64
60	1	84	77	86	80	83	81	90	90	82	75	84	78	83	78	90	90	80	73	82	75	83	75	90	90
	2	77	70	79	72	81	72	90	83	75	67	77	69	78	68	90	78	73	65	75	67	75	66	88	73
	3	66	60	69	62	70	62	86	73	64	57	66	60	67	59	82	68	62	54	64	58	65	57	78	64
Wind Speed [mph]		170								180															
45	1	83	74	86	77	86	76	97	85	81	72	83	74	83	73	97	80								
	2	74	65	76	67	75	63	84	69	72	63	74	64	72	60	79	65								
	3	62	50	66	58	65	56	74	61	59	48	64	56	63	53	70	57								
50	1	81	73	84	76	85	75	94	85	79	70	82	73	82	72	94	80								
	2	73	64	75	66	74	63	84	69	70	62	72	63	71	60	79	65								
	3	62	50	65	57	64	56	74	61	59	48	63	55	62	53	70	57								
60	1	78	70	80	73	81	73	90	85	76	68	78	71	79	70	90	80								
	2	70	62	72	64	72	63	84	69	68	60	70	62	69	60	79	65								
	3	60	50	63	56	62	55	74	61	59	48	61	54	60	52	70	57								
Wind Speed [mph]		190								200															
45	1	78	69	81	72	81	70	92	76	76	67	79	70	78	67	88	73								
	2	69	60	71	61	69	57	75	62	67	57	69	58	66	54	71	59								
	3	55	45	62	54	61	50	66	54	53	43	60	51	58	47	63	52								
50	1	77	68	79	71	79	69	92	76	75	66	77	68	77	67	88	73								
	2	68	59	70	61	69	57	75	62	66	57	68	58	66	54	71	59								
	3	55	45	61	53	60	50	66	54	53	43	59	51	58	47	63	52								
60	1	74	66	76	68	77	68	90	76	72	64	74	66	74	65	88	73								
	2	66	58	68	60	67	57	75	62	64	56	66	58	65	54	71	59								
	3	55	45	59	52	58	50	66	54	53	43	57	50	56	47	63	52								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	84	81	87	83	79	79	86	86	84	80	87	82	79	79	86	86	83	79	86	81	79	79	86	86
	2	81	75	83	77	79	79	86	86	80	74	82	76	79	78	86	86	79	73	81	75	79	76	86	86
	3	69	64	71	67	74	68	86	86	68	63	70	65	73	67	86	84	67	62	69	64	72	66	86	82
80	1	79	77	81	80	76	76	83	83	79	76	81	79	76	76	83	83	79	75	81	78	76	76	83	83
	2	77	73	79	75	76	76	83	83	76	71	78	73	76	75	83	83	75	70	77	72	76	74	83	83
	3	66	62	68	64	71	66	83	83	65	61	67	63	70	65	83	82	64	60	66	62	69	64	83	80
90	1	75	74	77	77	73	73	80	80	75	74	77	76	73	73	80	80	75	73	77	75	73	73	80	80
	2	74	70	76	72	73	73	80	80	74	69	75	71	73	73	80	80	73	68	75	70	73	72	80	80
	3	63	60	65	62	69	64	80	80	63	59	64	61	68	63	80	80	62	58	64	60	67	62	80	78
Wind Speed [mph]		110								115															
70	1	83	78	85	80	79	79	86	86	82	76	84	79	79	79	86	86								
	2	78	72	80	73	79	74	86	86	76	70	79	72	79	73	86	86								
	3	66	61	68	63	71	64	86	79	65	60	67	62	70	63	86	77								
80	1	79	75	81	77	76	76	83	83	78	74	81	76	76	76	83	83								
	2	75	69	76	71	76	72	83	83	74	68	76	70	76	71	83	83								
	3	64	59	66	61	68	62	83	78	63	58	65	60	67	61	83	76								
90	1	75	72	77	74	73	73	80	80	75	71	77	73	73	73	80	80								
	2	72	67	74	69	73	70	80	80	71	66	73	68	73	69	80	80								
	3	61	57	63	59	66	61	80	76	60	56	62	58	65	59	80	75								
Wind Speed [mph]		120								130															
70	1	81	75	83	78	79	79	86	86	82	76	84	79	79	79	86	86								
	2	75	69	77	71	79	71	86	86	76	70	79	72	79	73	86	86								
	3	64	59	67	61	68	62	86	75	65	60	67	62	70	63	86	77								
80	1	77	73	80	75	76	76	83	83	78	74	81	76	76	76	83	83								
	2	73	67	75	69	76	69	83	83	74	68	76	70	76	71	83	83								
	3	62	57	64	59	66	60	83	74	63	58	65	60	67	61	83	76								
90	1	74	70	77	72	73	73	80	80	75	71	77	73	73	73	80	80								
	2	70	65	72	67	73	68	80	80	71	66	73	68	73	69	80	80								
	3	60	55	62	57	64	58	80	73	60	56	62	58	65	59	80	75								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	80	74	82	77	79	78	86	86	78	72	81	75	79	76	86	86	76	70	79	72	79	73	86	86
	2	74	68	76	70	78	70	86	83	72	65	74	67	75	67	86	78	70	63	72	65	73	64	86	73
	3	64	58	66	60	67	60	84	73	62	56	64	58	65	58	81	68	60	54	62	56	63	56	77	64
80	1	77	72	79	74	76	76	83	83	75	70	77	72	76	73	83	83	73	68	76	70	76	71	83	83
	2	72	66	74	67	76	68	83	83	70	63	72	65	73	65	83	78	68	61	70	63	71	63	83	73
	3	61	56	63	58	65	59	82	72	60	54	61	56	63	56	79	68	58	53	60	54	61	54	76	64
90	1	74	69	76	71	73	73	80	80	72	67	74	70	73	71	80	80	71	66	73	68	73	69	80	80
	2	69	64	71	65	73	66	80	80	67	62	69	63	71	64	80	78	66	60	67	61	69	61	80	73
	3	59	54	61	56	63	57	80	71	57	53	59	55	61	55	77	68	56	51	58	53	59	53	74	64
Wind Speed [mph]		170								180															
70	1	75	68	77	70	79	71	86	85	73	66	75	68	77	68	86	80								
	2	68	61	70	62	70	62	84	69	66	59	68	60	68	59	79	65								
	3	58	50	60	54	61	53	74	61	57	48	59	52	59	51	70	57								
80	1	72	66	74	68	76	69	83	83	70	64	73	66	74	67	83	80								
	2	66	59	68	61	68	60	83	69	64	57	66	59	66	58	79	65								
	3	56	50	58	53	59	52	73	61	55	48	57	51	57	50	70	57								
90	1	69	64	72	66	73	67	80	80	68	62	70	64	72	65	80	80								
	2	64	58	66	59	67	59	80	69	62	56	64	58	65	57	79	65								
	3	55	50	57	51	57	51	71	61	53	48	55	50	56	49	69	57								
Wind Speed [mph]		190								200															
70	1	71	64	74	66	74	66	86	76	69	62	72	65	72	64	86	73								
	2	64	57	66	58	65	57	75	62	62	55	64	56	63	54	71	59								
	3	55	45	57	51	57	49	66	54	53	43	55	49	55	47	63	52								
80	1	69	62	71	65	72	64	83	76	67	61	69	63	70	62	83	73								
	2	62	55	64	57	64	56	75	62	61	54	62	55	62	54	71	59								
	3	53	45	55	49	55	48	66	54	52	43	54	48	54	47	63	52								
90	1	67	61	69	63	70	63	80	76	65	59	67	61	69	61	80	73								
	2	61	54	62	56	63	55	75	62	59	53	61	54	61	53	71	59								
	3	52	45	54	48	54	48	66	54	51	43	52	47	52	46	63	52								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	71	71	73	73	71	71	78	78	71	71	73	73	71	71	78	78	71	70	73	72	71	71	78	78
	2	71	68	73	70	71	71	78	78	71	67	73	69	71	71	78	78	70	66	72	68	71	70	78	78
	3	61	58	63	59	66	62	78	78	60	57	62	59	66	61	78	78	60	56	61	58	65	60	78	77
Wind Speed [mph]		110								115															
100	1	71	69	73	71	71	71	78	78	71	69	73	71	71	71	78	78								
	2	69	65	71	67	71	69	78	78	69	64	70	66	71	67	78	78								
	3	59	55	61	57	64	59	78	75	58	54	60	56	63	58	78	73								
Wind Speed [mph]		120								130															
100	1	71	68	73	70	71	71	78	78	71	69	73	71	71	71	78	78								
	2	68	63	70	65	71	66	78	78	69	64	70	66	71	67	78	78								
	3	58	54	59	55	62	57	78	72	58	54	60	56	63	58	78	73								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	71	67	73	69	71	71	78	78	70	65	72	67	71	70	78	78	68	64	71	66	71	68	78	78
	2	67	62	69	64	71	65	78	78	65	60	67	62	69	62	78	77	64	58	66	60	67	60	78	73
	3	57	53	59	55	61	56	78	70	56	51	57	53	59	54	76	67	54	50	56	52	58	52	73	64
Wind Speed [mph]		170								180															
100	1	67	62	69	64	71	66	78	78	66	61	68	63	70	64	78	78								
	2	62	57	64	58	65	58	78	69	61	55	62	56	63	56	78	65								
	3	53	48	55	50	56	50	70	61	52	47	54	49	54	48	68	57								
Wind Speed [mph]		190								200															
100	1	65	59	67	61	69	62	78	76	63	58	65	60	67	60	78	73								
	2	59	53	61	55	61	54	75	62	58	52	59	53	60	52	71	59								
	3	51	45	52	47	53	47	65	54	49	43	51	46	51	45	63	52								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	125	105	128	109	122	102	130	111	120	101	125	105	117	98	127	106	116	97	121	101	113	94	123	102	
	2	105	87	108	90	101	83	109	91	101	84	103	86	97	80	105	87	97	80	100	83	93	77	101	83	
	3	84	68	96	79	89	74	97	80	80	65	92	76	86	71	93	77	77	62	89	73	82	68	90	74	
	5	1	125	105	128	109	122	102	130	111	120	101	125	105	117	98	127	106	116	97	121	101	113	94	123	102
		2	105	87	108	90	101	83	109	91	101	84	103	86	97	80	105	87	97	80	100	83	93	77	101	83
		3	84	68	96	79	89	74	97	80	80	65	92	76	86	71	93	77	77	62	89	73	82	68	90	74
	10	1	120	105	125	109	122	102	130	111	117	101	121	105	117	98	127	106	114	97	118	101	113	94	123	102
		2	105	87	108	90	101	83	109	91	101	84	103	86	97	80	105	87	97	80	100	83	93	77	101	83
		3	84	68	96	79	89	74	97	80	80	65	92	76	86	71	93	77	77	62	89	73	82	68	90	74
0	1	112	93	116	97	109	91	119	99	108	90	113	94	105	87	115	95	108	90	113	94	105	87	115	95	
	2	93	77	96	80	89	74	97	80	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77	
	3	73	60	85	70	79	65	86	71	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68	
	5	1	112	93	116	97	109	91	119	99	108	90	113	94	105	87	115	95	108	90	113	94	105	87	115	95
		2	93	77	96	80	89	74	97	80	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
		3	73	60	85	70	79	65	86	71	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68
	10	1	111	93	115	97	109	91	119	99	108	90	112	94	105	87	115	95	108	90	112	94	105	87	115	95
		2	93	77	96	80	89	74	97	80	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
		3	73	60	85	70	79	65	86	71	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68
0	1	105	87	109	91	102	84	111	92	108	90	113	94	105	87	115	95	108	90	113	94	105	87	115	95	
	2	87	72	89	74	83	69	90	75	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77	
	3	68	55	79	65	73	60	80	66	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68	
	5	1	105	87	109	91	102	84	111	92	108	90	113	94	105	87	115	95	108	90	113	94	105	87	115	95
		2	87	72	89	74	83	69	90	75	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
		3	68	55	79	65	73	60	80	66	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68
	10	1	105	87	109	91	102	84	111	92	108	90	112	94	105	87	115	95	108	90	112	94	105	87	115	95
		2	87	72	89	74	83	69	90	75	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
		3	68	55	79	65	73	60	80	66	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68
0	1	105	87	109	91	102	84	111	92	108	90	113	94	105	87	115	95	108	90	113	94	105	87	115	95	
	2	87	72	89	74	83	69	90	75	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77	
	3	68	55	79	65	73	60	80	66	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68	
	5	1	105	87	109	91	102	84	111	92	108	90	113	94	105	87	115	95	108	90	113	94	105	87	115	95
		2	87	72	89	74	83	69	90	75	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
		3	68	55	79	65	73	60	80	66	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68
	10	1	105	87	109	91	102	84	111	92	108	90	112	94	105	87	115	95	108	90	112	94	105	87	115	95
		2	87	72	89	74	83	69	90	75	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
		3	68	55	79	65	73	60	80	66	70	57	82	68	76	63	83	68	70	57	82	68	76	63	83	68

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
0	1	101	84	105	88	98	81	107	89	95	79	99	82	92	76	100	83	90	74	93	77	87	72	95	78	
	2	84	69	86	71	80	66	87	72	79	65	81	67	75	62	82	67	74	61	76	63	71	58	77	63	
	3	65	53	77	63	71	58	77	63	61	49	72	59	66	55	72	59	57	46	67	55	62	51	68	56	
	5	1	101	84	105	88	98	81	107	89	95	79	99	82	92	76	100	83	90	74	93	77	87	72	95	78
		2	84	69	86	71	80	66	87	72	79	65	81	67	75	62	82	67	74	61	76	63	71	58	77	63
		3	65	53	77	63	71	58	77	63	61	49	72	59	66	55	72	59	57	46	67	55	62	51	68	56
	10	1	101	84	105	88	98	81	107	89	95	79	99	82	92	76	100	83	90	74	93	77	87	72	95	78
		2	84	69	86	71	80	66	87	72	79	65	81	67	75	62	82	67	74	61	76	63	71	58	77	63
		3	65	53	77	63	71	58	77	63	61	49	72	59	66	55	72	59	57	46	67	55	62	51	68	56
0	1	85	70	88	73	82	68	89	74	80	66	84	69	78	64	85	70	80	66	84	69	78	64	85	70	
	2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56	
	3	53	43	64	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50	
	5	1	85	70	88	73	82	68	89	74	80	66	84	69	78	64	85	70	80	66	84	69	78	64	85	70
		2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
		3	53	43	64	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50
	10	1	85	70	88	73	82	68	89	74	80	66	84	69	78	64	85	70	80	66	84	69	78	64	85	70
		2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
		3	53	43	64	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50
0	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63	
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51	
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45	
	5	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
		2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
		3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45
	10	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
		2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
		3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45
0	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63	
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51	
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45	
	5	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
		2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
		3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45
	10	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
		2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
		3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	113	101	117	104	121	102	124	111	110	98	114	102	117	98	124	106	108	95	112	99	113	94	123	102
	2	101	87	103	90	101	83	109	91	98	84	101	86	97	80	105	87	95	80	98	83	93	77	101	83
	3	84	68	91	79	89	74	97	80	80	65	88	76	86	71	93	77	77	62	86	73	82	68	90	74
	1	107	96	110	100	113	102	117	111	105	94	108	97	113	98	117	106	103	92	106	95	110	94	117	102
	2	96	85	99	87	101	83	109	91	94	83	96	85	97	80	105	87	92	80	94	82	93	77	101	83
	3	83	68	86	76	89	74	97	80	80	65	84	74	86	71	93	77	77	62	82	72	82	68	90	74
	1	107	96	110	100	107	99	112	111	105	94	108	97	107	97	112	106	103	92	106	95	107	94	112	102
	2	96	85	99	87	99	83	109	91	94	83	96	85	96	80	105	87	92	80	94	82	93	77	101	83
	3	83	68	86	76	86	74	97	80	80	65	84	74	84	71	93	77	77	62	82	72	81	68	90	74
20	1	105	93	109	96	109	91	119	99	103	90	107	94	105	87	115	95	103	90	107	94	105	87	115	95
	2	93	77	95	80	89	74	97	80	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
	3	73	60	84	70	79	65	86	71	70	57	81	68	76	63	83	68	70	57	81	68	76	63	83	68
	1	100	89	104	93	107	91	117	99	98	87	102	90	105	87	115	95	98	87	102	90	105	87	115	95
	2	89	77	92	80	89	74	97	80	87	75	89	77	86	71	94	77	87	75	89	77	86	71	94	77
	3	73	60	80	70	79	65	86	71	70	57	78	68	76	63	83	68	70	57	78	68	76	63	83	68
	1	100	89	104	93	104	91	112	99	98	87	102	90	102	87	112	95	98	87	102	90	102	87	112	95
	2	89	77	92	80	89	74	97	80	87	75	89	77	86	71	94	77	87	75	89	77	86	71	94	77
	3	73	60	80	70	79	65	86	71	70	57	78	68	76	63	83	68	70	57	78	68	76	63	83	68
25	1	101	87	104	91	102	84	111	92	103	90	107	94	105	87	115	95	103	90	107	94	105	87	115	95
	2	87	72	89	74	83	69	90	75	90	75	93	77	86	71	94	77	90	75	93	77	86	71	94	77
	3	68	55	79	65	73	60	80	66	70	57	81	68	76	63	83	68	70	57	81	68	76	63	83	68
	1	96	85	100	88	102	84	111	92	98	87	102	90	105	87	115	95	98	87	102	90	105	87	115	95
	2	85	72	87	74	83	69	90	75	87	75	89	77	86	71	94	77	87	75	89	77	86	71	94	77
	3	68	55	76	65	73	60	80	66	70	57	78	68	76	63	83	68	70	57	78	68	76	63	83	68
	1	96	85	100	88	99	84	111	92	98	87	102	90	102	87	112	95	98	87	102	90	102	87	112	95
	2	85	72	87	74	83	69	90	75	87	75	89	77	86	71	94	77	87	75	89	77	86	71	94	77
	3	68	55	76	65	73	60	80	66	70	57	78	68	76	63	83	68	70	57	78	68	76	63	83	68

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	98	84	102	88	98	81	107	89	94	79	98	82	92	76	100	83	90	74	93	77	87	72	95	78
	2	84	69	86	71	80	66	87	72	79	65	81	67	75	62	82	67	74	61	76	63	71	58	77	63
	3	65	53	77	63	71	58	77	63	61	49	72	59	66	55	72	59	57	46	67	55	62	51	68	56
	1	94	83	98	86	98	81	107	89	90	79	94	82	92	76	100	83	87	74	90	77	87	72	95	78
	2	83	69	85	71	80	66	87	72	79	65	81	67	75	62	82	67	74	61	76	63	71	58	77	63
	3	65	53	74	63	71	58	77	63	61	49	71	59	66	55	72	59	57	46	67	55	62	51	68	56
	1	94	83	98	86	97	81	107	89	90	79	94	82	92	76	100	83	87	74	90	77	87	72	95	78
	2	83	69	85	71	80	66	87	72	79	65	81	67	75	62	82	67	74	61	76	63	71	58	77	63
	3	65	53	74	63	71	58	77	63	61	49	71	59	66	55	72	59	57	46	67	55	62	51	68	56
20	1	85	70	88	73	82	68	89	74	80	66	84	69	78	64	85	70	80	66	84	69	78	64	85	70
	2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
	3	53	43	64	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50
	1	83	70	87	73	82	68	89	74	80	66	83	69	78	64	85	70	80	66	83	69	78	64	85	70
	2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
	3	53	43	64	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50
	1	83	70	87	73	82	68	89	74	80	66	83	69	78	64	85	70	80	66	83	69	78	64	85	70
	2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
	3	53	43	64	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50
25	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45
	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45
	1	76	63	80	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
30	1	104	94	107	98	101	97	107	107	102	92	105	95	101	94	107	106	100	90	103	93	101	92	107	102	
	2	94	84	97	86	96	83	107	91	92	81	94	83	94	80	105	87	90	79	92	81	91	77	101	83	
	3	81	68	84	75	84	73	97	80	79	65	82	73	82	71	93	77	77	62	80	71	79	68	90	74	
	35	1	100	91	104	95	97	95	103	103	99	89	102	92	97	92	103	103	97	87	100	90	97	90	103	102
		2	91	82	94	84	94	82	103	91	89	79	92	82	91	80	103	87	87	77	90	79	89	77	101	83
		3	79	68	82	73	82	72	97	80	77	65	80	71	80	70	93	77	75	62	78	69	78	68	90	74
	40	1	97	89	100	92	94	92	100	100	95	87	98	90	94	90	100	100	94	85	97	88	94	88	100	100
		2	89	80	91	82	92	81	100	91	87	78	89	80	89	79	100	87	85	76	87	78	87	76	100	83
		3	77	68	79	71	80	70	97	80	75	65	77	69	78	68	93	77	73	62	76	68	76	66	90	74
30	1	98	88	101	91	101	89	107	99	96	86	99	89	99	87	107	95	96	86	99	89	99	87	107	95	
	2	88	77	90	79	88	74	97	80	86	75	88	77	86	71	94	77	86	75	88	77	86	71	94	77	
	3	73	60	78	69	77	65	86	71	70	57	77	67	75	63	83	68	70	57	77	67	75	63	83	68	
	35	1	95	85	98	88	97	87	103	99	93	83	96	86	97	85	103	95	93	83	96	86	97	85	103	95
		2	85	75	88	77	87	74	97	80	83	73	86	75	84	71	94	77	83	73	86	75	84	71	94	77
		3	73	60	76	67	76	65	86	71	70	57	75	66	74	63	83	68	70	57	75	66	74	63	83	68
	40	1	92	83	95	86	94	86	100	99	90	81	93	84	94	84	100	95	90	81	93	84	94	84	100	95
		2	83	74	86	76	85	74	97	80	81	72	84	74	83	71	94	77	81	72	84	74	83	71	94	77
		3	72	60	74	66	74	65	86	71	70	57	73	64	72	63	83	68	70	57	73	64	72	63	83	68
30	1	94	84	97	87	97	84	107	92	96	86	99	89	99	87	107	95	96	86	99	89	99	87	107	95	
	2	84	72	86	74	83	69	90	75	86	75	88	77	86	71	94	77	86	75	88	77	86	71	94	77	
	3	68	55	75	65	73	60	80	66	70	57	77	67	75	63	83	68	70	57	77	67	75	63	83	68	
	35	1	91	82	95	85	94	83	103	92	93	83	96	86	97	85	103	95	93	83	96	86	97	85	103	95
		2	82	71	84	73	82	69	90	75	83	73	86	75	84	71	94	77	83	73	86	75	84	71	94	77
		3	68	55	73	64	72	60	80	66	70	57	75	66	74	63	83	68	70	57	75	66	74	63	83	68
	40	1	89	80	92	83	92	82	100	92	90	81	93	84	94	84	100	95	90	81	93	84	94	84	100	95
		2	80	70	82	72	81	69	90	75	81	72	84	74	83	71	94	77	81	72	84	74	83	71	94	77
		3	68	55	71	63	70	60	80	66	70	57	73	64	72	63	83	68	70	57	73	64	72	63	83	68

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	92	82	96	85	95	81	107	89	89	78	92	81	90	76	100	83	85	74	88	77	87	72	95	78
	2	82	69	84	71	80	66	87	72	78	65	80	67	75	62	82	67	74	61	76	63	71	58	77	63
	3	65	53	73	63	71	58	77	63	61	49	70	59	66	55	72	59	57	46	67	55	62	51	68	56
	1	90	80	93	83	92	81	103	89	86	76	89	79	89	76	100	83	83	73	86	76	85	72	95	78
	2	80	69	82	71	80	66	87	72	76	65	78	67	75	62	82	67	73	61	75	63	71	58	77	63
	3	65	53	71	62	70	58	77	63	61	49	68	59	66	55	72	59	57	46	65	55	62	51	68	56
	1	87	78	90	81	90	80	100	89	84	75	87	78	87	76	100	83	81	72	84	74	83	72	95	78
	2	78	68	80	70	79	66	87	72	75	65	77	67	75	62	82	67	72	61	74	63	71	58	77	63
	3	65	53	70	61	69	58	77	63	61	49	67	58	66	55	72	59	57	46	64	55	62	51	68	56
35	1	82	70	85	73	82	68	89	74	79	66	82	69	78	64	85	70	82	70	85	73	82	68	89	74
	2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
	3	53	43	64	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50
	1	80	70	83	73	81	68	89	74	77	66	80	69	78	64	85	70	77	66	80	69	78	64	85	70
	2	70	58	72	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
	3	53	43	63	52	59	48	64	52	50	41	60	49	56	46	61	50	50	41	60	49	56	46	61	50
	1	78	69	81	71	80	68	89	74	76	66	79	69	77	64	85	70	76	66	79	69	77	64	85	70
	2	69	58	71	59	67	55	73	60	66	54	68	56	63	52	69	56	66	54	68	56	63	52	69	56
	3	53	43	62	52	59	48	64	52	50	41	59	49	56	46	61	50	50	41	59	49	56	46	61	50
40	1	76	63	79	66	74	61	80	66	73	60	76	63	70	58	77	63	73	60	76	63	70	58	77	63
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45
	1	75	63	77	66	74	61	80	66	72	60	75	63	70	58	77	63	72	60	75	63	70	58	77	63
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45
	1	73	63	76	66	74	61	80	66	71	60	73	63	70	58	77	63	71	60	73	63	70	58	77	63
	2	63	52	65	53	60	49	65	53	60	49	62	51	57	47	62	51	60	49	62	51	57	47	62	51
	3	48	39	57	47	53	43	57	47	45	37	54	45	50	41	55	45	45	37	54	45	50	41	55	45

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	94	87	97	89	90	90	97	97	92	85	95	88	90	88	97	97	91	83	94	86	90	86	97	97
	2	87	78	89	80	90	80	97	91	85	76	87	78	88	77	97	87	83	74	85	76	85	75	97	83
	3	74	67	77	70	78	69	95	80	73	65	75	68	76	67	93	77	71	62	74	66	74	65	90	74
50	1	91	84	94	87	88	88	94	94	90	83	93	86	88	86	94	94	88	81	91	84	88	84	94	94
	2	84	76	87	79	88	78	94	91	83	75	85	77	86	76	94	87	81	73	83	75	84	74	94	83
	3	72	66	75	68	76	68	94	80	71	64	73	66	74	66	91	77	70	62	72	65	73	64	89	74
60	1	86	80	89	83	83	83	90	90	85	79	88	82	83	83	90	90	84	78	87	80	83	81	90	90
	2	80	74	83	76	83	76	90	90	79	72	81	74	83	74	90	87	78	70	80	72	81	72	90	83
	3	69	63	71	65	73	66	90	80	68	62	70	64	71	64	89	77	66	60	69	62	70	62	87	74
Wind Speed [mph]		110								115															
45	1	89	81	92	84	90	84	97	97	88	80	91	82	90	82	97	95								
	2	81	72	84	74	83	73	97	80	80	71	82	73	81	71	94	77								
	3	70	60	72	65	72	64	86	71	69	57	71	63	71	62	83	68								
50	1	87	80	90	82	88	83	94	94	86	78	88	81	88	81	94	94								
	2	80	71	82	73	82	72	94	80	78	69	80	71	80	70	94	77								
	3	68	60	71	63	71	63	86	71	67	57	69	62	69	61	83	68								
60	1	83	76	85	79	83	80	90	90	82	75	84	77	83	78	90	90								
	2	76	69	78	71	79	70	90	80	75	67	77	69	77	68	90	77								
	3	65	59	68	61	68	61	84	71	64	57	66	60	67	59	82	68								
Wind Speed [mph]		120								130															
45	1	86	78	89	81	90	80	97	92	88	80	91	82	90	82	97	95								
	2	78	69	80	71	79	69	90	75	80	71	82	73	81	71	94	77								
	3	67	55	70	62	69	60	80	66	69	57	71	63	71	62	83	68								
50	1	84	76	87	79	88	79	94	92	86	78	88	81	88	81	94	94								
	2	76	68	78	70	78	68	90	75	78	69	80	71	80	70	94	77								
	3	66	55	68	61	68	59	80	66	67	57	69	62	69	61	83	68								
60	1	80	73	83	76	83	76	90	90	82	75	84	77	83	78	90	90								
	2	73	66	75	68	76	67	90	75	75	67	77	69	77	68	90	77								
	3	63	55	65	59	66	58	80	66	64	57	66	60	67	59	82	68								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	85	76	88	79	89	78	97	89	82	73	85	76	85	75	97	83	79	70	82	73	82	71	95	78
	2	76	67	78	69	78	66	87	72	73	64	75	66	74	62	82	67	70	61	72	63	71	58	77	63
	3	65	53	68	60	67	58	77	63	61	49	65	57	64	55	72	59	57	46	63	55	62	51	68	56
50	1	83	75	86	78	87	77	94	89	80	72	83	75	83	74	94	83	78	69	80	72	80	70	94	78
	2	75	66	77	68	76	66	87	72	72	63	74	65	73	62	82	67	69	60	71	62	70	58	77	63
	3	64	53	67	59	66	58	77	63	61	49	64	57	63	55	72	59	57	46	62	54	61	51	68	56
60	1	79	72	82	75	83	75	90	89	77	70	80	72	81	72	90	83	75	67	77	69	78	69	90	78
	2	72	64	74	66	74	65	87	72	70	62	71	63	71	62	82	67	67	59	69	61	68	58	77	63
	3	62	53	64	57	64	56	77	63	60	49	62	55	62	54	72	59	57	46	60	53	59	51	68	56
Wind Speed [mph]		170								180															
45	1	77	68	80	70	79	68	89	74	74	65	77	68	76	64	85	70								
	2	68	58	70	59	67	55	73	60	65	54	67	56	63	52	69	56								
	3	53	43	61	52	59	48	64	52	50	41	58	49	56	46	61	50								
50	1	75	67	78	69	77	68	89	74	73	64	75	67	75	64	85	70								
	2	67	58	68	59	67	55	73	60	64	54	66	56	63	52	69	56								
	3	53	43	60	52	58	48	64	52	50	41	57	49	56	46	61	50								
60	1	72	65	75	67	75	66	89	74	70	62	73	65	73	63	85	70								
	2	65	57	66	58	65	55	73	60	62	54	64	56	63	52	69	56								
	3	53	43	58	51	57	48	64	52	50	41	56	49	55	46	61	50								
Wind Speed [mph]		190								200															
45	1	72	63	74	65	73	61	80	66	70	60	72	63	70	58	77	63								
	2	63	52	64	53	60	49	65	53	60	49	62	51	57	47	62	51								
	3	48	39	56	47	53	43	57	47	45	37	54	45	50	41	55	45								
50	1	71	62	73	64	72	61	80	66	68	60	71	62	69	58	77	63								
	2	62	52	64	53	60	49	65	53	60	49	61	51	57	47	62	51								
	3	48	39	55	47	53	43	57	47	45	37	53	45	50	41	55	45								
60	1	68	60	71	63	70	61	80	66	66	58	69	60	68	58	77	63								
	2	60	52	62	53	60	49	65	53	58	49	60	51	57	47	62	51								
	3	48	39	54	47	52	43	57	47	45	37	52	45	50	41	55	45								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				83in x 41.5in				Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	82	77	85	80	79	79	86	86	81	76	84	78	79	79	86	86	80	75	83	77	79	79	86	86	
	2	77	71	79	73	79	74	86	86	76	69	78	71	79	72	86	86	75	68	77	70	78	70	86	83	
	3	66	61	68	63	70	64	86	78	65	59	67	61	69	62	86	76	64	58	66	60	67	61	85	74	
	80	1	79	74	81	76	76	76	83	83	78	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83
		2	74	69	76	70	76	72	83	83	73	67	75	69	76	70	83	83	72	66	74	68	76	68	83	83
		3	63	59	65	61	68	62	83	77	62	57	64	59	66	60	83	75	61	56	63	58	65	59	83	72
	90	1	75	71	77	74	73	73	80	80	75	70	77	73	73	73	80	80	74	69	76	72	73	73	80	80
		2	71	66	73	68	73	70	80	80	70	65	72	67	73	68	80	80	69	64	71	66	73	67	80	80
		3	61	57	63	59	65	60	80	75	60	56	62	57	64	59	80	73	59	55	61	56	63	57	80	71
70	1	79	73	82	76	79	77	86	86	78	72	81	74	79	76	86	86									
	2	73	67	75	68	77	68	86	80	72	65	74	67	75	67	86	77									
	3	63	57	65	59	66	59	82	71	62	56	64	58	65	58	80	68									
	80	1	76	71	78	73	76	75	83	83	75	70	77	72	76	73	83	83								
		2	71	65	73	66	74	67	83	80	70	63	71	65	73	65	83	77								
		3	60	55	62	57	64	58	81	70	59	54	61	56	63	56	79	68								
	90	1	73	68	75	71	73	73	80	80	72	67	74	70	73	71	80	80								
		2	68	63	70	64	72	65	80	80	67	62	69	63	71	64	80	77								
		3	58	54	60	55	62	56	79	69	57	53	59	54	61	55	77	67								
70	1	79	73	82	76	79	77	86	86	78	72	81	74	79	76	86	86									
	2	73	67	75	68	77	68	86	80	72	65	74	67	75	67	86	77									
	3	63	57	65	59	66	59	82	71	62	56	64	58	65	58	80	68									
	80	1	76	71	78	73	76	75	83	83	75	70	77	72	76	73	83	83								
		2	71	65	73	66	74	67	83	80	70	63	71	65	73	65	83	77								
		3	60	55	62	57	64	58	81	70	59	54	61	56	63	56	79	68								
	90	1	73	68	75	71	73	73	80	80	72	67	74	70	73	71	80	80								
		2	68	63	70	64	72	65	80	80	67	62	69	63	71	64	80	77								
		3	58	54	60	55	62	56	79	69	57	53	59	54	61	55	77	67								
70	1	77	71	79	73	79	74	86	86	78	72	81	74	79	76	86	86									
	2	71	64	73	66	74	65	86	75	72	65	74	67	75	67	86	77									
	3	61	55	63	57	64	56	78	66	62	56	64	58	65	58	80	68									
	80	1	74	68	76	71	76	72	83	83	75	70	77	72	76	73	83	83								
		2	68	62	70	64	71	64	83	75	70	63	71	65	73	65	83	77								
		3	58	53	60	55	62	55	77	66	59	54	61	56	63	56	79	68								
	90	1	71	66	74	69	73	70	80	80	72	67	74	70	73	71	80	80								
		2	66	60	68	62	70	62	80	75	67	62	69	63	71	64	80	77								
		3	57	52	58	54	60	54	75	66	57	53	59	54	61	55	77	67								
70	1	77	71	79	73	79	74	86	86	78	72	81	74	79	76	86	86									
	2	71	64	73	66	74	65	86	75	72	65	74	67	75	67	86	77									
	3	61	55	63	57	64	56	78	66	62	56	64	58	65	58	80	68									
	80	1	74	68	76	71	76	72	83	83	75	70	77	72	76	73	83	83								
		2	68	62	70	64	71	64	83	75	70	63	71	65	73	65	83	77								
		3	58	53	60	55	62	55	77	66	59	54	61	56	63	56	79	68								
	90	1	71	66	74	69	73	70	80	80	72	67	74	70	73	71	80	80								
		2	66	60	68	62	70	62	80	75	67	62	69	63	71	64	80	77								
		3	57	52	58	54	60	54	75	66	57	53	59	54	61	55	77	67								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	76	70	78	72	79	73	86	86	74	67	76	70	78	70	86	83	72	65	74	67	75	67	86	78	
	2	70	63	72	64	72	64	86	72	67	60	69	62	69	61	82	67	65	58	67	59	66	58	77	63	
	3	60	53	62	56	62	55	76	63	58	49	60	53	60	53	72	59	56	46	58	51	58	50	68	56	
	80	1	73	67	75	70	76	71	83	83	71	65	74	68	75	68	83	83	69	63	72	65	73	65	83	78
		2	67	61	69	63	70	62	83	72	65	59	67	60	67	59	82	67	63	56	65	58	65	57	77	63
		3	58	52	60	54	61	54	75	63	56	49	58	52	58	52	71	59	54	46	56	50	56	49	68	56
	90	1	70	65	73	68	73	69	80	80	69	63	71	66	73	66	80	80	67	61	69	64	71	64	80	78
		2	65	59	67	61	68	61	80	72	63	57	65	59	66	58	80	67	61	55	63	57	64	56	77	63
		3	56	51	58	53	59	53	74	63	54	49	56	51	57	50	70	59	53	46	54	49	55	48	67	56
Wind Speed [mph]		170								180																
70	1	70	63	72	65	73	64	86	74	68	61	70	63	71	62	85	70									
	2	63	55	65	57	64	55	73	60	61	53	62	55	61	52	69	56									
	3	53	43	56	49	55	48	64	52	50	41	54	48	53	46	61	50									
	80	1	68	61	70	63	71	63	83	74	66	59	68	61	69	61	83	70								
		2	61	54	63	56	63	54	73	60	59	52	61	54	60	52	69	56								
		3	52	43	54	48	54	47	64	52	50	41	53	47	52	45	61	50								
	90	1	66	60	68	62	69	62	80	74	64	58	66	60	67	60	80	70								
		2	60	53	61	55	61	54	73	60	58	51	59	53	59	51	69	56								
		3	51	43	53	47	53	46	64	52	49	41	51	46	51	45	61	50								
Wind Speed [mph]		190								200																
70	1	66	59	68	61	68	60	80	66	64	57	67	59	66	58	77	63									
	2	59	51	60	53	59	49	65	53	57	49	58	51	57	47	62	51									
	3	48	39	52	46	51	43	57	47	45	37	51	44	50	41	55	45									
	80	1	64	57	66	59	67	59	80	66	62	56	65	58	65	57	77	63								
		2	57	50	59	52	58	49	65	53	56	48	57	50	56	47	62	51								
		3	48	39	51	45	50	43	57	47	45	37	49	43	49	41	55	45								
	90	1	62	56	65	58	65	58	80	66	61	54	63	56	63	56	77	63								
		2	56	49	58	51	57	49	65	53	54	48	56	49	55	47	62	51								
		3	48	39	50	44	49	43	57	47	45	37	48	43	48	41	55	45								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	71	69	73	71	71	71	78	78	71	68	73	70	71	71	78	78	71	67	73	69	71	71	78	78
	2	69	64	71	66	71	68	78	78	68	63	70	65	71	67	78	78	67	62	69	64	71	65	78	78
	3	59	55	60	57	63	58	78	74	58	54	60	56	62	57	78	72	57	53	59	55	61	56	78	70
Wind Speed [mph]		110								115															
100	1	70	66	73	68	71	71	78	78	70	65	72	67	71	69	78	78								
	2	66	61	68	63	70	64	78	78	65	60	67	62	69	62	78	76								
	3	56	52	58	54	60	55	78	68	56	51	57	53	59	54	76	66								
Wind Speed [mph]		120								130															
100	1	69	64	71	66	71	68	78	78	70	65	72	67	71	69	78	78								
	2	64	59	66	61	68	61	78	74	65	60	67	62	69	62	78	76								
	3	55	50	57	52	58	53	74	65	56	51	57	53	59	54	76	66								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	68	63	70	66	71	67	78	78	67	62	69	64	71	65	78	78	65	60	67	62	69	63	78	77
	2	63	58	65	60	67	60	78	72	62	56	63	57	64	57	78	67	60	54	62	55	62	55	76	63
	3	54	49	56	51	57	52	72	63	53	48	54	49	55	50	69	59	51	46	53	48	54	48	66	56
Wind Speed [mph]		170								180															
100	1	64	58	66	60	67	61	78	74	62	57	64	59	66	59	78	70	62	57	64	59	66	59	78	70
	2	58	52	60	54	60	53	73	60	57	50	58	52	58	51	69	56	57	50	58	52	58	51	69	56
	3	50	43	51	46	52	46	63	52	48	41	50	45	50	44	61	50	48	41	50	45	50	44	61	50
Wind Speed [mph]		190								200															
100	1	61	55	63	57	64	57	78	66	59	53	61	55	62	55	76	63	59	53	61	55	62	55	76	63
	2	55	49	56	50	56	49	65	53	53	47	55	48	54	47	62	51	53	47	55	48	54	47	62	51
	3	47	39	49	43	49	42	57	47	45	37	47	42	47	41	55	45	45	37	47	42	47	41	55	45

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
0	1	118	98	122	103	115	96	125	104	113	95	118	99	110	92	120	100	109	91	114	95	106	88	116	96
	2	98	82	101	84	94	78	103	85	95	78	97	81	91	75	98	81	91	75	93	77	87	72	95	78
	3	78	63	90	74	84	69	91	75	74	60	86	71	80	66	87	72	71	58	83	68	77	63	84	69
5	1	118	98	122	103	115	96	125	104	113	95	118	99	110	92	120	100	109	91	114	95	106	88	116	96
	2	98	82	101	84	94	78	103	85	95	78	97	81	91	75	98	81	91	75	93	77	87	72	95	78
	3	78	63	90	74	84	69	91	75	74	60	86	71	80	66	87	72	71	58	83	68	77	63	84	69
10	1	115	98	120	103	115	96	125	104	112	95	116	99	110	92	120	100	109	91	113	95	106	88	116	96
	2	98	82	101	84	94	78	103	85	95	78	97	81	91	75	98	81	91	75	93	77	87	72	95	78
	3	78	63	90	74	84	69	91	75	74	60	86	71	80	66	87	72	71	58	83	68	77	63	84	69
0	1	105	88	110	91	102	85	111	92	102	84	106	88	99	82	108	89								
	2	88	72	90	74	84	69	91	75	84	70	87	72	81	67	88	72								
	3	68	55	80	66	74	61	81	66	66	53	77	63	71	59	78	64								
5	1	105	88	110	91	102	85	111	92	102	84	106	88	99	82	108	89								
	2	88	72	90	74	84	69	91	75	84	70	87	72	81	67	88	72								
	3	68	55	80	66	74	61	81	66	66	53	77	63	71	59	78	64								
10	1	105	88	110	91	102	85	111	92	102	84	106	88	99	82	108	89								
	2	88	72	90	74	84	69	91	75	84	70	87	72	81	67	88	72								
	3	68	55	80	66	74	61	81	66	66	53	77	63	71	59	78	64								
0	1	98	82	102	85	95	79	104	86	102	84	106	88	99	82	108	89								
	2	82	67	84	69	78	64	85	70	84	70	87	72	81	67	88	72								
	3	63	51	74	61	69	56	75	61	66	53	77	63	71	59	78	64								
5	1	98	82	102	85	95	79	104	86	102	84	106	88	99	82	108	89								
	2	82	67	84	69	78	64	85	70	84	70	87	72	81	67	88	72								
	3	63	51	74	61	69	56	75	61	66	53	77	63	71	59	78	64								
10	1	98	82	102	85	95	79	104	86	102	84	106	88	99	82	108	89								
	2	82	67	84	69	78	64	85	70	84	70	87	72	81	67	88	72								
	3	63	51	74	61	69	56	75	61	66	53	77	63	71	59	78	64								
0	1	98	82	102	85	95	79	104	86	102	84	106	88	99	82	108	89								
	2	82	67	84	69	78	64	85	70	84	70	87	72	81	67	88	72								
	3	63	51	74	61	69	56	75	61	66	53	77	63	71	59	78	64								
5	1	98	82	102	85	95	79	104	86	102	84	106	88	99	82	108	89								
	2	82	67	84	69	78	64	85	70	84	70	87	72	81	67	88	72								
	3	63	51	74	61	69	56	75	61	66	53	77	63	71	59	78	64								
10	1	98	82	102	85	95	79	104	86	102	84	106	88	99	82	108	89								
	2	82	67	84	69	78	64	85	70	84	70	87	72	81	67	88	72								
	3	63	51	74	61	69	56	75	61	66	53	77	63	71	59	78	64								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Wind Speed [mph]		140								150								160																																																																																																																																																																																																																																																																																																																																																																																																																																						
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45																																																																																																																																																																																																																																																																																																																																																																																																																																
Ground Snow	Group	Array Interior	Array Edge																																																																																																																																																																																																																																																																																																																																																																																																																																																					
0	1	95	79	99	82	92	76	100	83	89	74	93	77	86	71	94	78	84	69	88	72	81	67	89	73																																																																																																																																																																																																																																																																																																																																																																																																																															
	2	79	65	81	67	75	62	82	67	74	61	76	63	70	58	77	63	69	57	71	59	66	54	72	59																																																																																																																																																																																																																																																																																																																																																																																																																															
	3	61	49	72	59	66	54	72	59	57	46	67	55	62	51	68	55	53	43	63	52	58	48	63	52																																																																																																																																																																																																																																																																																																																																																																																																																															
5	1	95	79	99	82	92	76	100	83	89	74	93	77	86	71	94	78	84	69	88	72	81	67	89	73																																																																																																																																																																																																																																																																																																																																																																																																																															
	2	79	65	81	67	75	62	82	67	74	61	76	63	70	58	77	63	69	57	71	59	66	54	72	59																																																																																																																																																																																																																																																																																																																																																																																																																															
	3	61	49	72	59	66	54	72	59	57	46	67	55	62	51	68	55	53	43	63	52	58	48	63	52																																																																																																																																																																																																																																																																																																																																																																																																																															
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	3	61	49	72	59	66	54	72	59	57	46	67	55	62	51	68	55	53	43	63	52	58	48	63	52																																																																																																																																																																																																																																																																																																																																																																																																																															
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	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	79	66	83	68	77	63	84	69																																																																																																																																																																																																																																																																																																																																																																																																																															
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	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	79	66	83	68	77	63	84	69																																																																																																																																																																																																																																																																																																																																																																																																																															
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	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	0	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	72	59	75	61	69	57	75	62	5	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	72	59	75	61	69	57	75	62	10	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	0	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	5	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	10	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51
0	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59		59	48	61	50	56	46	61	50																																																																																																																																																																																																																																																																																																																																																																																																																														
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	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	5	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	10	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42																																																																																																																																																																																																																																																																																															
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	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47		44	36	53	44	49	40	54	44																																																																																																																																																																																																																																																																																																																																																																																																																														
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	10	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	59	48	61	50	56	46	61	50	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42																																																																																																																																																																																																																																																																																																																																																																			
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Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	109	96	113	100	115	96	125	104	106	94	110	97	110	92	120	100	104	91	107	94	106	88	116	96
	2	96	82	99	84	94	78	103	85	94	78	96	81	91	75	98	81	91	75	93	77	87	72	95	78
	3	78	63	87	74	84	69	91	75	74	60	84	71	80	66	87	72	71	58	82	68	77	63	84	69
	1	103	93	107	96	113	96	120	104	101	90	105	93	110	92	120	100	99	88	102	91	106	88	116	96
	2	93	81	95	83	94	78	103	85	90	78	93	81	91	75	98	81	88	75	90	77	87	72	95	78
	3	78	63	83	73	84	69	91	75	74	60	81	71	80	66	87	72	71	58	79	68	77	63	84	69
	1	103	93	107	96	110	96	115	104	101	90	105	93	107	92	115	100	99	88	102	91	104	88	115	96
	2	93	81	95	83	94	78	103	85	90	78	93	81	91	75	98	81	88	75	90	77	87	72	95	78
	3	78	63	83	73	84	69	91	75	74	60	81	71	80	66	87	72	71	58	79	68	77	63	84	69
20	1	101	88	105	91	102	85	111	92	99	84	102	88	99	82	108	89								
	2	88	72	90	74	84	69	91	75	84	70	87	72	81	67	88	72								
	3	68	55	80	66	74	61	81	66	66	53	77	63	71	59	78	64								
	1	97	85	100	89	102	85	111	92	95	83	98	86	99	82	108	89								
	2	85	72	88	74	84	69	91	75	83	70	85	72	81	67	88	72								
	3	68	55	77	66	74	61	81	66	66	53	75	63	71	59	78	64								
	1	97	85	100	89	101	85	111	92	95	83	98	86	99	82	108	89								
	2	85	72	88	74	84	69	91	75	83	70	85	72	81	67	88	72								
	3	68	55	77	66	74	61	81	66	66	53	75	63	71	59	78	64								
25	1	96	82	100	85	95	79	104	86	99	84	102	88	99	82	108	89								
	2	82	67	84	69	78	64	85	70	84	70	87	72	81	67	88	72								
	3	63	51	74	61	69	56	75	61	66	53	77	63	71	59	78	64								
	1	92	81	96	84	95	79	104	86	95	83	98	86	99	82	108	89								
	2	81	67	83	69	78	64	85	70	83	70	85	72	81	67	88	72								
	3	63	51	73	61	69	56	75	61	66	53	75	63	71	59	78	64								
	1	92	81	96	84	95	79	104	86	95	83	98	86	99	82	108	89								
	2	81	67	83	69	78	64	85	70	83	70	85	72	81	67	88	72								
	3	63	51	73	61	69	56	75	61	66	53	75	63	71	59	78	64								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	94	79	98	82	92	76	100	83	89	74	93	77	86	71	94	78	84	69	88	72	81	67	89	73
	2	79	65	81	67	75	62	82	67	74	61	76	63	70	58	77	63	69	57	71	59	66	54	72	59
	3	61	49	72	59	66	54	72	59	57	46	67	55	62	51	68	55	53	43	63	52	58	48	63	52
	1	90	79	94	82	92	76	100	83	87	74	90	77	86	71	94	78	83	69	86	72	81	67	89	73
	2	79	65	81	67	75	62	82	67	74	61	76	63	70	58	77	63	69	57	71	59	66	54	72	59
	3	61	49	71	59	66	54	72	59	57	46	67	55	62	51	68	55	53	43	63	52	58	48	63	52
	1	90	79	94	82	92	76	100	83	87	74	90	77	86	71	94	78	83	69	86	72	81	67	89	73
	2	79	65	81	67	75	62	82	67	74	61	76	63	70	58	77	63	69	57	71	59	66	54	72	59
	3	61	49	71	59	66	54	72	59	57	46	67	55	62	51	68	55	53	43	63	52	58	48	63	52
20	1	79	66	83	68	77	63	84	69	75	62	79	65	73	60	79	65	66	54	67	55	62	51	68	56
	2	66	54	67	55	62	51	68	56	62	51	64	52	59	48	64	53	50	40	60	49	55	45	60	49
	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	79	66	83	68	77	63	84	69
	1	79	66	83	68	77	63	84	69	75	62	79	65	73	60	79	65	66	54	67	55	62	51	68	56
	2	66	54	67	55	62	51	68	56	62	51	64	52	59	48	64	53	50	40	60	49	55	45	60	49
	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	79	66	83	68	77	63	84	69
	1	79	66	83	68	77	63	84	69	75	62	79	65	73	60	79	65	66	54	67	55	62	51	68	56
	2	66	54	67	55	62	51	68	56	62	51	64	52	59	48	64	53	50	40	60	49	55	45	60	49
	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46								
25	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	72	59	75	61	69	57	75	62
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	72	59	75	61	69	57	75	62
	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	72	59	75	61	69	57	75	62
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	72	59	75	61	69	57	75	62
	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	72	59	75	61	69	57	75	62
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	44	36	53	44	49	40	54	44
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	103	92	107	96	105	94	110	104	101	90	104	93	104	91	110	100	99	88	102	91	102	88	110	96
	2	92	81	95	83	93	78	103	85	90	78	92	81	91	75	98	81	88	75	90	77	87	72	95	78
	3	78	63	83	73	82	69	91	75	74	60	81	71	79	66	87	72	71	58	79	68	77	63	84	69
	1	100	90	103	93	100	92	106	104	98	88	101	91	100	90	106	100	96	86	99	89	99	87	106	96
	2	90	80	93	82	92	78	103	85	88	77	90	79	89	75	98	81	86	75	88	77	86	72	95	78
	3	78	63	81	71	80	69	91	75	74	60	79	69	78	66	87	72	71	58	77	67	75	63	84	69
	1	97	88	100	91	97	90	103	103	95	86	98	89	97	88	103	100	93	84	96	87	97	86	103	96
	2	88	78	90	80	90	78	103	85	86	76	88	78	87	75	98	81	84	74	86	76	85	72	95	78
	3	76	63	78	70	78	68	91	75	74	60	77	68	76	66	87	72	71	58	75	66	74	63	84	69
35	1	97	85	100	88	99	85	110	92	94	83	98	86	96	82	108	89	97	85	100	88	99	85	110	92
	2	85	72	88	74	84	69	91	75	83	70	85	72	81	67	88	72	85	72	88	74	84	69	91	75
	3	68	55	77	66	74	61	81	66	66	53	75	63	71	59	78	64	68	55	77	66	74	61	81	66
	1	94	83	97	87	97	85	106	92	92	81	95	84	94	82	106	89	94	83	97	87	97	85	106	92
	2	83	72	86	74	84	69	91	75	81	70	84	72	81	67	88	72	83	72	86	74	84	69	91	75
	3	68	55	75	65	73	61	81	66	66	53	73	63	71	59	78	64	68	55	75	65	73	61	81	66
	1	91	82	95	85	95	83	103	92	90	80	93	83	92	81	103	89	91	82	95	85	95	83	103	92
	2	82	72	84	74	83	69	91	75	80	70	82	72	80	67	88	72	82	72	84	74	83	69	91	75
	3	68	55	73	64	72	61	81	66	66	53	71	62	70	59	78	64	68	55	73	64	72	61	81	66
40	1	92	81	96	84	94	79	104	86	94	83	98	86	96	82	108	89	92	81	96	84	94	79	104	86
	2	81	67	83	69	78	64	85	70	83	70	85	72	81	67	88	72	81	67	83	69	78	64	85	70
	3	63	51	73	61	69	56	75	61	66	53	75	63	71	59	78	64	63	51	73	61	69	56	75	61
	1	90	79	93	82	92	79	104	86	92	81	95	84	94	82	106	89	90	79	93	82	92	79	104	86
	2	79	67	82	69	78	64	85	70	81	70	84	72	81	67	88	72	79	67	82	69	78	64	85	70
	3	63	51	71	61	69	56	75	61	66	53	73	63	71	59	78	64	63	51	71	61	69	56	75	61
	1	88	78	91	81	90	79	103	86	90	80	93	83	92	81	103	89	88	78	91	81	90	79	103	86
	2	78	67	80	69	78	64	85	70	80	70	82	72	80	67	88	72	78	67	80	69	78	64	85	70
	3	63	51	70	61	68	56	75	61	66	53	71	62	70	59	78	64	63	51	70	61	68	56	75	61

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
30	1	90	79	94	82	92	76	100	83	86	74	90	77	86	71	94	78	83	69	86	72	81	67	89	73
	2	79	65	81	67	75	62	82	67	74	61	76	63	70	58	77	63	69	57	71	59	66	54	72	59
	3	61	49	71	59	66	54	72	59	57	46	67	55	62	51	68	55	53	43	63	52	58	48	63	52
	1	88	77	91	80	90	76	100	83	85	74	88	77	86	71	94	78	81	69	84	72	81	67	89	73
	2	77	65	80	67	75	62	82	67	74	61	76	63	70	58	77	63	69	57	71	59	66	54	72	59
	3	61	49	69	59	66	54	72	59	57	46	66	55	62	51	68	55	53	43	63	52	58	48	63	52
	1	86	76	89	79	88	76	100	83	83	73	86	75	84	71	94	78	80	69	82	72	81	67	89	73
	2	76	65	78	67	75	62	82	67	73	61	75	63	70	58	77	63	69	57	71	59	66	54	72	59
	3	61	49	68	59	66	54	72	59	57	46	65	55	62	51	68	55	53	43	62	52	58	48	63	52
35	1	79	66	82	68	77	63	84	69	75	62	79	65	73	60	79	65	75	62	79	65	73	60	79	65
	2	66	54	67	55	62	51	68	56	62	51	64	52	59	48	64	53	62	51	64	52	59	48	64	53
	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	47	38	56	46	52	43	57	46
	1	78	66	81	68	77	63	84	69	75	62	78	65	73	60	79	65	75	62	78	65	73	60	79	65
	2	66	54	67	55	62	51	68	56	62	51	64	52	59	48	64	53	62	51	64	52	59	48	64	53
	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	47	38	56	46	52	43	57	46
	1	77	66	79	68	77	63	84	69	74	62	76	65	73	60	79	65	74	62	76	65	73	60	79	65
	2	66	54	67	55	62	51	68	56	62	51	64	52	59	48	64	53	62	51	64	52	59	48	64	53
	3	50	40	60	49	55	45	60	49	47	38	56	46	52	43	57	46	47	38	56	46	52	43	57	46
40	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	68	56	71	58	66	54	72	59
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	56	46	58	47	53	44	58	47
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	42	34	51	42	47	38	51	42
	1	72	59	75	61	69	57	75	62	68	56	71	58	66	54	72	59	68	56	71	58	66	54	72	59
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	56	46	58	47	53	44	58	47
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	42	34	51	42	47	38	51	42
	1	71	59	74	61	69	57	75	62	68	56	71	58	66	54	72	59	68	56	71	58	66	54	72	59
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	56	46	58	47	53	44	58	47
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	42	34	51	42	47	38	51	42

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	94	86	97	89	94	89	100	100	93	84	96	87	94	86	100	100	91	82	94	85	94	84	100	96
	2	86	77	88	79	88	77	100	85	84	74	86	76	86	75	98	81	82	72	84	74	83	72	95	78
	3	74	63	77	68	77	67	91	75	72	60	75	67	75	65	87	72	71	58	73	65	73	63	84	69
50	1	92	84	95	87	91	87	97	97	90	82	93	85	91	85	97	97	89	80	92	83	91	83	97	96
	2	84	75	86	77	87	76	97	85	82	73	84	75	84	74	97	81	80	71	82	73	82	72	95	78
	3	72	63	75	67	75	66	91	75	71	60	73	65	73	64	87	72	69	58	72	64	71	62	84	69
60	1	87	81	90	83	86	84	93	93	86	79	89	82	86	82	93	93	85	77	87	80	86	80	93	93
	2	81	73	83	75	84	74	93	85	79	71	81	73	82	72	93	81	77	69	79	71	80	70	93	78
	3	69	62	71	65	72	64	89	75	68	60	70	63	71	63	86	72	66	58	69	62	69	61	84	69
45	1	89	80	92	83	93	82	100	92	87	78	90	81	91	80	100	89								
	2	80	70	82	72	81	69	91	75	78	69	80	71	79	67	88	72								
	3	68	55	71	63	71	61	81	66	66	53	70	61	69	59	78	64								
50	1	87	79	90	81	91	81	97	92	85	77	88	80	89	79	97	89								
	2	79	69	81	71	80	69	91	75	77	68	79	70	78	67	88	72								
	3	68	55	70	62	70	61	81	66	66	53	68	60	68	59	78	64								
60	1	83	76	86	78	86	78	93	92	82	74	85	77	86	76	93	89								
	2	76	67	78	69	78	68	91	75	74	66	76	68	76	66	88	72								
	3	65	55	67	60	67	59	81	66	64	53	66	59	66	58	78	64								
45	1	89	80	92	83	93	82	100	92	87	78	90	81	91	80	100	89								
	2	80	70	82	72	81	69	91	75	78	69	80	71	79	67	88	72								
	3	68	55	71	63	71	61	81	66	66	53	70	61	69	59	78	64								
50	1	87	79	90	81	91	81	97	92	85	77	88	80	89	79	97	89								
	2	79	69	81	71	80	69	91	75	77	68	79	70	78	67	88	72								
	3	68	55	70	62	70	61	81	66	66	53	68	60	68	59	78	64								
60	1	83	76	86	78	86	78	93	92	82	74	85	77	86	76	93	89								
	2	76	67	78	69	78	68	91	75	74	66	76	68	76	66	88	72								
	3	65	55	67	60	67	59	81	66	64	53	66	59	66	58	78	64								
45	1	86	76	89	79	89	78	100	86	87	78	90	81	91	80	100	89								
	2	76	67	79	69	77	64	85	70	78	69	80	71	79	67	88	72								
	3	63	51	68	60	67	56	75	61	66	53	70	61	69	59	78	64								
50	1	84	75	87	78	87	77	97	86	85	77	88	80	89	79	97	89								
	2	75	66	77	68	76	64	85	70	77	68	79	70	78	67	88	72								
	3	63	51	67	59	66	56	75	61	66	53	68	60	68	59	78	64								
60	1	80	73	83	75	84	75	93	86	82	74	85	77	86	76	93	89								
	2	73	64	75	66	74	64	85	70	74	66	76	68	76	66	88	72								
	3	62	51	65	57	64	56	75	61	64	53	66	59	66	58	78	64								
45	1	86	76	89	79	89	78	100	86	87	78	90	81	91	80	100	89								
	2	76	67	79	69	77	64	85	70	78	69	80	71	79	67	88	72								
	3	63	51	68	60	67	56	75	61	66	53	70	61	69	59	78	64								
50	1	84	75	87	78	87	77	97	86	85	77	88	80	89	79	97	89								
	2	75	66	77	68	76	64	85	70	77	68	79	70	78	67	88	72								
	3	63	51	67	59	66	56	75	61	66	53	68	60	68	59	78	64								
60	1	80	73	83	75	84	75	93	86	82	74	85	77	86	76	93	89								
	2	73	64	75	66	74	64	85	70	74	66	76	68	76	66	88	72								
	3	62	51	65	57	64	56	75	61	64	53	66	59	66	58	78	64								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
45	1	84	75	87	78	87	76	100	83	81	71	84	74	83	71	94	78	78	68	81	71	80	67	89	73
	2	75	65	77	67	75	62	82	67	71	61	73	63	70	58	77	63	68	57	70	59	66	54	72	59
	3	61	49	67	58	65	54	72	59	57	46	64	55	62	51	68	55	53	43	61	52	58	48	63	52
	1	82	73	85	76	85	75	97	83	79	70	82	73	82	71	94	78	77	67	79	70	78	67	89	73
	2	73	64	75	66	74	62	82	67	70	61	72	63	70	58	77	63	67	57	69	59	66	54	72	59
	3	61	49	66	58	65	54	72	59	57	46	63	55	61	51	68	55	53	43	60	52	58	48	63	52
	1	79	71	82	74	82	73	93	83	76	68	79	71	79	70	93	78	74	66	77	68	76	67	89	73
	2	71	63	73	64	72	62	82	67	68	60	70	61	69	58	77	63	66	57	67	59	66	54	72	59
	3	61	49	63	56	63	54	72	59	57	46	61	53	60	51	68	55	53	43	59	51	57	48	63	52
50	1	75	66	78	68	76	63	84	69	72	62	75	65	73	60	79	65	75	66	78	68	76	63	84	69
	2	66	54	67	55	62	51	68	56	62	51	64	52	59	48	64	53	66	54	67	55	62	51	68	56
	3	50	40	59	49	55	45	60	49	47	38	56	46	52	43	57	46	50	40	59	49	55	45	60	49
	1	74	65	77	67	75	63	84	69	71	62	74	64	72	60	79	65	74	65	77	67	75	63	84	69
	2	65	54	66	55	62	51	68	56	62	51	64	52	59	48	64	53	65	54	66	55	62	51	68	56
	3	50	40	58	49	55	45	60	49	47	38	56	46	52	43	57	46	50	40	58	49	55	45	60	49
	1	71	63	74	65	73	63	84	69	69	61	72	63	71	60	79	65	71	63	74	65	73	63	84	69
	2	63	54	65	55	62	51	68	56	61	51	62	52	59	48	64	53	63	54	65	55	62	51	68	56
	3	50	40	56	49	55	45	60	49	47	38	54	46	52	43	57	46	50	40	56	49	55	45	60	49
60	1	70	59	73	61	69	57	75	62	67	56	70	58	66	54	72	59	70	59	73	61	69	57	75	62
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	59	48	61	50	56	46	61	50
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	44	36	53	44	49	40	54	44
	1	69	59	71	61	69	57	75	62	66	56	69	58	66	54	72	59	69	59	71	61	69	57	75	62
	2	59	48	61	50	56	46	61	50	56	46	58	47	53	44	58	47	59	48	61	50	56	46	61	50
	3	44	36	53	44	49	40	54	44	42	34	51	42	47	38	51	42	44	36	53	44	49	40	54	44
	1	67	58	69	61	68	57	75	62	65	56	67	58	66	54	72	59	67	58	69	61	68	57	75	62
	2	58	48	60	50	56	46	61	50	56	46	58	47	53	44	58	47	58	48	60	50	56	46	61	50
	3	44	36	52	44	49	40	54	44	42	34	50	42	47	38	51	42	44	36	52	44	49	40	54	44

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								83in x 41.5in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge																							
70	1	84	77	86	80	82	82	89	89	82	76	85	79	82	80	89	89	81	75	84	77	82	78	89	89	
	2	77	70	80	72	81	72	89	85	76	69	78	71	79	70	89	81	75	67	77	69	77	68	89	78	
	3	66	60	69	63	70	63	87	75	65	59	67	61	68	61	85	72	64	58	66	60	67	59	82	69	
	80	1	80	75	83	77	79	79	86	86	79	73	82	76	79	77	86	86	78	72	80	75	79	76	86	86
		2	75	68	77	70	79	71	86	85	73	67	75	69	77	69	86	81	72	65	74	67	75	67	86	78
		3	64	59	66	61	68	61	85	75	63	57	65	59	66	59	83	72	62	56	64	58	65	58	81	69
	90	1	77	72	79	75	76	76	83	83	76	71	79	73	76	75	83	83	75	70	78	72	76	74	83	83
		2	72	66	74	68	76	69	83	83	71	65	73	67	75	67	83	81	70	64	72	65	73	66	83	78
		3	62	57	64	59	66	60	83	73	61	56	63	58	64	58	81	71	60	54	62	56	63	57	79	69
70	1	80	73	82	76	82	76	89	89	79	72	81	74	82	74	89	89									
	2	73	66	75	67	76	67	89	75	72	64	74	66	74	65	88	72									
	3	63	55	65	58	65	58	80	66	61	53	64	57	64	56	78	64									
	80	1	77	71	79	73	79	74	86	86	76	70	78	72	79	73	86	86								
		2	71	64	73	66	74	65	86	75	70	62	71	64	72	64	86	72								
		3	61	55	63	57	64	57	79	66	60	53	62	56	62	55	76	64								
	90	1	74	69	77	71	76	72	83	83	73	68	76	70	76	71	83	83								
		2	69	62	71	64	72	64	83	75	68	61	69	63	70	62	83	72								
		3	59	53	61	55	62	55	77	66	58	52	60	54	61	54	75	64								
70	1	77	70	80	73	81	73	89	86	79	72	81	74	82	74	89	89									
	2	70	63	72	64	72	63	85	70	72	64	74	66	74	65	88	72									
	3	60	51	62	56	63	55	75	61	61	53	64	57	64	56	78	64									
	80	1	75	68	77	71	79	71	86	86	76	70	78	72	79	73	86	86								
		2	68	61	70	63	70	62	85	70	70	62	71	64	72	64	86	72								
		3	58	51	60	54	61	54	74	61	60	53	62	56	62	55	76	64								
	90	1	72	66	75	69	76	69	83	83	73	68	76	70	76	71	83	83								
		2	66	60	68	61	69	61	83	70	68	61	69	63	70	62	83	72								
		3	57	51	59	53	59	53	73	61	58	52	60	54	61	54	75	64								
70	1	77	70	80	73	81	73	89	86	79	72	81	74	82	74	89	89									
	2	70	63	72	64	72	63	85	70	72	64	74	66	74	65	88	72									
	3	60	51	62	56	63	55	75	61	61	53	64	57	64	56	78	64									
	80	1	75	68	77	71	79	71	86	86	76	70	78	72	79	73	86	86								
		2	68	61	70	63	70	62	85	70	70	62	71	64	72	64	86	72								
		3	58	51	60	54	61	54	74	61	60	53	62	56	62	55	76	64								
	90	1	72	66	75	69	76	69	83	83	73	68	76	70	76	71	83	83								
		2	66	60	68	61	69	61	83	70	68	61	69	63	70	62	83	72								
		3	57	51	59	53	59	53	73	61	58	52	60	54	61	54	75	64								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
70	1	76	69	79	71	80	71	89	83	74	66	76	69	77	68	89	78	72	64	74	66	74	65	89	73
	2	69	61	71	63	71	62	82	67	66	58	68	60	68	58	77	63	64	56	66	58	65	54	72	59
	3	59	49	61	55	61	53	72	59	57	46	59	52	59	51	68	55	53	43	57	50	56	48	63	52
80	1	74	67	76	69	78	69	86	83	71	65	74	67	75	67	86	78	69	62	72	65	72	64	86	73
	2	67	60	69	61	69	60	82	67	65	57	66	59	66	58	77	63	62	55	64	56	63	54	72	59
	3	57	49	59	53	60	52	72	59	55	46	57	51	57	50	68	55	53	43	55	49	55	48	63	52
90	1	71	65	74	67	75	68	83	83	69	63	72	65	73	65	83	78	67	61	70	63	71	63	83	73
	2	65	59	67	60	67	59	82	67	63	56	65	58	65	57	77	63	61	54	63	55	62	54	72	59
	3	56	49	58	52	58	51	71	59	54	46	56	50	56	49	68	55	52	43	54	48	54	47	63	52
Wind Speed [mph]		170								180															
70	1	69	62	72	64	72	62	84	69	67	59	70	62	69	60	79	65								
	2	62	54	63	55	62	51	68	56	59	51	61	52	59	48	64	53								
	3	50	40	55	48	54	45	60	49	47	38	53	46	52	43	57	46								
80	1	67	60	70	62	70	61	84	69	65	58	68	60	67	59	79	65								
	2	60	53	62	54	61	51	68	56	58	51	60	52	58	48	64	53								
	3	50	40	53	47	53	45	60	49	47	38	52	45	51	43	57	46								
90	1	65	59	68	61	68	60	83	69	64	57	66	59	66	58	79	65								
	2	59	52	60	53	60	51	68	56	57	50	58	51	57	48	64	53								
	3	50	40	52	46	52	45	60	49	47	38	51	44	50	43	57	46								
Wind Speed [mph]		190								200															
70	1	65	57	67	59	67	57	75	62	63	55	65	57	64	54	72	59								
	2	57	48	59	50	56	46	61	50	55	46	57	47	53	44	58	47								
	3	44	36	51	44	49	40	54	44	42	34	49	42	47	38	51	42								
80	1	63	56	66	58	65	57	75	62	62	54	64	56	63	54	72	59								
	2	56	48	58	50	56	46	61	50	54	46	56	47	53	44	58	47								
	3	44	36	50	43	49	40	54	44	42	34	48	42	47	38	51	42								
90	1	62	55	64	57	64	56	75	62	60	53	62	55	62	54	72	59								
	2	55	48	56	49	55	46	61	50	53	46	55	47	53	44	58	47								
	3	44	36	49	43	48	40	54	44	42	34	47	41	46	38	51	42								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	74	70	77	72	74	74	80	80	74	69	76	71	74	73	80	80	73	68	75	70	74	72	80	80
	2	70	65	72	66	74	67	80	80	69	63	71	65	73	66	80	80	68	62	70	64	71	64	80	78
	3	60	55	62	57	64	58	80	72	59	54	61	56	63	57	80	70	58	53	60	55	62	55	78	68
0	1																								
	2																								
	3																								
100	1	72	67	74	69	74	71	80	80	71	66	73	68	74	69	80	80								
	2	67	61	69	63	70	63	80	75	66	60	67	61	69	61	80	72								
	3	57	52	59	54	60	54	76	66	56	51	58	53	59	53	74	64								
0	1																								
	2																								
	3																								
100	1	70	65	72	67	74	68	80	80	71	66	73	68	74	69	80	80								
	2	65	58	66	60	67	60	80	70	66	60	67	61	69	61	80	72								
	3	55	50	57	52	58	52	72	61	56	51	58	53	59	53	74	64								
0	1																								
	2																								
	3																								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		83in x 41.5in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
100	1	69	64	71	66	74	67	80	80	67	62	70	64	71	64	80	78	66	60	68	62	69	62	80	73
	2	64	57	65	59	66	58	80	67	62	55	63	57	64	56	77	63	60	53	61	54	61	53	72	59
	3	54	49	56	51	57	51	70	59	53	46	54	49	55	48	67	55	51	43	53	47	53	46	63	52
Wind Speed [mph]		170								180															
100	1	64	58	66	60	67	59	80	69	62	56	64	58	65	57	79	65								
	2	58	51	59	52	59	51	68	56	56	49	57	50	57	48	64	53								
	3	49	40	51	45	51	44	60	49	47	38	49	44	49	43	57	46								
Wind Speed [mph]		190								200															
100	1	60	54	63	56	63	55	75	62	59	52	61	54	61	53	72	59								
	2	54	47	55	49	55	46	61	50	52	45	54	47	53	44	58	47								
	3	44	36	48	42	47	40	54	44	42	34	46	41	46	38	51	42								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
0	1	136	122	137	127	134	120	130	129	134	118	137	123	133	115	130	126	131	114	135	118	130	111	130	121	
	2	122	103	126	106	118	99	128	108	118	99	121	102	114	95	124	103	114	95	117	98	110	91	119	99	
	3	103	83	113	94	105	88	115	96	98	79	108	91	101	84	110	92	94	76	104	87	98	81	106	88	
	5	1	136	122	136	127	134	120	130	129	134	118	136	123	133	115	130	126	131	114	135	118	130	111	130	121
		2	122	103	126	106	118	99	128	108	118	99	121	102	114	95	124	103	114	95	117	98	110	91	119	99
		3	103	83	113	94	105	88	115	96	98	79	108	91	101	84	110	92	94	76	104	87	98	81	106	88
	10	1	128	117	129	121	128	120	128	128	126	114	129	118	128	115	128	126	124	111	127	115	128	111	128	121
		2	117	103	120	106	118	99	128	108	114	99	117	102	114	95	124	103	111	95	114	98	110	91	119	99
		3	102	83	106	93	105	88	115	96	98	79	103	90	101	84	110	92	94	76	100	87	98	81	106	88
Wind Speed [mph]		110								115																
0	1	129	110	132	114	127	107	130	117	126	106	129	110	123	103	130	113	126	106	129	110	123	103	130	113	
	2	110	92	113	94	106	88	115	96	106	89	109	91	102	85	111	92	106	89	109	91	102	85	111	92	
	3	90	73	101	84	94	78	102	85	86	70	97	81	91	75	99	82	86	70	97	81	91	75	99	82	
5	1	129	110	132	114	127	107	130	117	126	106	129	110	123	103	130	113	126	106	129	110	123	103	130	113	
	2	110	92	113	94	106	88	115	96	106	89	109	91	102	85	111	92	106	89	109	91	102	85	111	92	
	3	90	73	101	84	94	78	102	85	86	70	97	81	91	75	99	82	86	70	97	81	91	75	99	82	
10	1	122	108	126	112	127	107	128	117	119	105	123	109	123	103	128	113	119	105	123	109	123	103	128	113	
	2	108	92	111	94	106	88	115	96	105	89	108	91	102	85	111	92	105	89	108	91	102	85	111	92	
	3	90	73	98	84	94	78	102	85	86	70	95	81	91	75	99	82	86	70	95	81	91	75	99	82	
Wind Speed [mph]		120								130																
0	1	122	103	127	107	119	100	129	109	126	106	129	110	123	103	130	113	126	106	129	110	123	103	130	113	
	2	103	86	106	88	99	82	107	89	106	89	109	91	102	85	111	92	106	89	109	91	102	85	111	92	
	3	83	67	94	78	88	72	95	79	86	70	97	81	91	75	99	82	86	70	97	81	91	75	99	82	
5	1	122	103	127	107	119	100	129	109	126	106	129	110	123	103	130	113	126	106	129	110	123	103	130	113	
	2	103	86	106	88	99	82	107	89	106	89	109	91	102	85	111	92	106	89	109	91	102	85	111	92	
	3	83	67	94	78	88	72	95	79	86	70	97	81	91	75	99	82	86	70	97	81	91	75	99	82	
10	1	117	103	121	107	119	100	128	109	119	105	123	109	123	103	128	113	119	105	123	109	123	103	128	113	
	2	103	86	106	88	99	82	107	89	105	89	108	91	102	85	111	92	105	89	108	91	102	85	111	92	
	3	83	67	93	78	88	72	95	79	86	70	95	81	91	75	99	82	86	70	95	81	91	75	99	82	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
0	1	119	99	123	104	116	97	126	105	112	94	116	97	109	91	119	99	106	88	110	92	103	85	112	93	
	2	99	83	102	85	96	79	104	86	94	78	96	80	90	74	97	81	88	73	91	75	84	70	92	76	
	3	80	64	91	75	85	70	92	76	74	60	85	71	79	65	86	71	69	56	80	66	75	61	81	67	
	5	1	119	99	123	104	116	97	126	105	112	94	116	97	109	91	119	99	106	88	110	92	103	85	112	93
		2	99	83	102	85	96	79	104	86	94	78	96	80	90	74	97	81	88	73	91	75	84	70	92	76
		3	80	64	91	75	85	70	92	76	74	60	85	71	79	65	86	71	69	56	80	66	75	61	81	67
	10	1	114	99	118	104	116	97	126	105	110	94	113	97	109	91	119	99	105	88	109	92	103	85	112	93
		2	99	83	102	85	96	79	104	86	94	78	96	80	90	74	97	81	88	73	91	75	84	70	92	76
		3	80	64	91	75	85	70	92	76	74	60	85	71	79	65	86	71	69	56	80	66	75	61	81	67
0	1	100	83	104	87	97	81	106	88	95	79	99	82	92	77	101	83	95	79	99	82	92	77	101	83	
	2	83	69	86	71	80	66	87	71	79	65	81	67	76	62	82	68	79	65	81	67	76	62	82	68	
	3	65	53	76	63	70	58	77	63	61	50	72	59	67	55	73	60	61	50	72	59	67	55	73	60	
	5	1	100	83	104	87	97	81	106	88	95	79	99	82	92	77	101	83	95	79	99	82	92	77	101	83
		2	83	69	86	71	80	66	87	71	79	65	81	67	76	62	82	68	79	65	81	67	76	62	82	68
		3	65	53	76	63	70	58	77	63	61	50	72	59	67	55	73	60	61	50	72	59	67	55	73	60
	10	1	100	83	104	87	97	81	106	88	95	79	99	82	92	77	101	83	95	79	99	82	92	77	101	83
		2	83	69	86	71	80	66	87	71	79	65	81	67	76	62	82	68	79	65	81	67	76	62	82	68
		3	65	53	76	63	70	58	77	63	61	50	72	59	67	55	73	60	61	50	72	59	67	55	73	60
0	1	91	75	94	78	88	73	96	79	87	72	90	75	84	69	91	75	87	72	90	75	84	69	91	75	
	2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61	72	59	74	61	68	56	74	61	
	3	58	47	68	56	63	52	69	57	55	45	65	54	60	49	66	54	55	45	65	54	60	49	66	54	
	5	1	91	75	94	78	88	73	96	79	87	72	90	75	84	69	91	75	87	72	90	75	84	69	91	75
		2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61	72	59	74	61	68	56	74	61
		3	58	47	68	56	63	52	69	57	55	45	65	54	60	49	66	54	55	45	65	54	60	49	66	54
	10	1	91	75	94	78	88	73	96	79	87	72	90	75	84	69	91	75	87	72	90	75	84	69	91	75
		2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61	72	59	74	61	68	56	74	61
		3	58	47	68	56	63	52	69	57	55	45	65	54	60	49	66	54	55	45	65	54	60	49	66	54

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
15	1	119	109	120	113	117	117	120	120	118	107	120	111	117	114	120	120	115	105	119	108	117	111	120	120	
	2	109	98	112	100	116	99	120	108	107	95	110	98	113	95	120	103	105	93	107	95	110	91	119	99	
	3	95	83	98	88	102	88	115	96	93	79	96	86	100	84	110	92	91	76	94	83	97	81	106	88	
	20	1	111	103	113	107	109	109	113	113	110	101	113	104	109	109	113	113	108	99	112	102	109	107	113	113
		2	103	93	106	96	109	99	113	108	101	91	104	94	109	95	113	103	99	89	102	91	106	91	113	99
		3	89	81	92	84	98	86	113	96	88	79	90	82	96	84	110	92	86	76	89	80	93	81	106	88
	25	1	111	103	113	107	103	103	108	108	110	101	113	104	103	103	108	108	108	99	112	102	103	103	108	108
		2	103	93	106	96	103	96	108	108	101	91	104	94	103	93	108	103	99	89	102	91	103	91	108	99
		3	89	81	92	84	94	84	108	96	88	79	90	82	92	81	108	92	86	76	89	80	90	79	106	88
Wind Speed [mph]		110								115																
15	1	113	102	117	106	117	107	120	117	111	100	115	103	117	103	120	113									
	2	102	90	105	93	106	88	115	96	100	88	103	90	102	85	111	92									
	3	89	73	92	81	94	78	102	85	86	70	90	79	91	75	99	82									
20	1	107	97	110	100	109	104	113	113	105	95	108	98	109	102	113	113									
	2	97	87	100	89	104	88	113	96	95	85	98	87	101	85	111	92									
	3	84	73	87	78	91	78	102	85	82	70	85	76	89	75	99	82									
25	1	107	97	110	100	103	101	108	108	105	95	108	98	103	99	108	108									
	2	97	87	100	89	100	88	108	96	95	85	98	87	98	85	108	92									
	3	84	73	87	78	88	77	102	85	82	70	85	76	86	75	99	82									
Wind Speed [mph]		120								130																
15	1	109	98	113	101	117	100	120	109	111	100	115	103	117	103	120	113									
	2	98	86	100	88	99	82	107	89	100	88	103	90	102	85	111	92									
	3	83	67	88	77	88	72	95	79	86	70	90	79	91	75	99	82									
20	1	103	93	106	97	109	99	113	109	105	95	108	98	109	102	113	113									
	2	93	83	96	85	99	82	107	89	95	85	98	87	101	85	111	92									
	3	81	67	84	74	86	72	95	79	82	70	85	76	89	75	99	82									
25	1	103	93	106	97	103	97	108	108	105	95	108	98	103	99	108	108									
	2	93	83	96	85	96	82	107	89	95	85	98	87	98	85	108	92									
	3	81	67	84	74	84	72	95	79	82	70	85	76	86	75	99	82									

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
15	1	107	96	111	99	115	97	120	105	103	92	107	95	109	91	119	99	100	88	103	91	103	85	112	93
	2	96	83	98	85	96	79	104	86	92	78	94	80	90	74	97	81	88	73	90	75	84	70	92	76
	3	80	64	86	75	85	70	92	76	74	60	82	71	79	65	86	71	69	56	79	66	75	61	81	67
	1	101	91	105	95	109	97	113	105	98	88	101	91	106	91	113	99	95	84	98	88	102	85	112	93
	2	91	81	94	83	96	79	104	86	88	77	90	79	90	74	97	81	84	73	87	75	84	70	92	76
	3	79	64	82	72	84	70	92	76	74	60	79	69	79	65	86	71	69	56	76	66	75	61	81	67
	1	101	91	105	95	103	94	108	105	98	88	101	91	102	90	108	99	95	84	98	88	99	85	108	93
	2	91	81	94	83	94	79	104	86	88	77	90	79	89	74	97	81	84	73	87	75	84	70	92	76
	3	79	64	82	72	82	70	92	76	74	60	79	69	78	65	86	71	69	56	76	66	75	61	81	67
20	1	96	83	100	87	97	81	106	88	93	79	96	82	92	77	101	83	96	83	100	87	97	81	106	88
	2	83	69	86	71	80	66	87	71	79	65	81	67	76	62	82	68	83	69	86	71	80	66	87	71
	3	65	53	76	63	70	58	77	63	61	50	72	59	67	55	73	60	65	53	76	63	70	58	77	63
	1	92	81	95	84	97	81	106	88	89	78	92	81	92	77	101	83	92	81	95	84	97	81	106	88
	2	81	69	83	71	80	66	87	71	78	65	80	67	76	62	82	68	81	69	83	71	80	66	87	71
	3	65	53	73	63	70	58	77	63	61	50	70	59	67	55	73	60	65	53	73	63	70	58	77	63
	1	92	81	95	84	95	81	106	88	89	78	92	81	91	77	101	83	92	81	95	84	95	81	106	88
	2	81	69	83	71	80	66	87	71	78	65	80	67	76	62	82	68	81	69	83	71	80	66	87	71
	3	65	53	73	63	70	58	77	63	61	50	70	59	67	55	73	60	65	53	73	63	70	58	77	63
25	1	90	75	93	78	88	73	96	79	86	72	90	75	84	69	91	75	90	75	93	78	88	73	96	79
	2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61	75	62	77	64	72	59	78	64
	3	58	47	68	56	63	52	69	57	55	45	65	54	60	49	66	54	58	47	68	56	63	52	69	57
	1	86	75	89	78	88	73	96	79	83	72	86	75	84	69	91	75	86	75	89	78	88	73	96	79
	2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61	75	62	77	64	72	59	78	64
	3	58	47	68	56	63	52	69	57	55	45	65	54	60	49	66	54	58	47	68	56	63	52	69	57
	1	86	75	89	78	88	73	96	79	83	72	86	75	84	69	91	75	86	75	89	78	88	73	96	79
	2	75	62	77	64	72	59	78	64	72	59	74	61	68	56	74	61	75	62	77	64	72	59	78	64
	3	58	47	68	56	63	52	69	57	55	45	65	54	60	49	66	54	58	47	68	56	63	52	69	57

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
30	1	108	100	109	104	98	98	104	104	107	98	109	102	98	98	104	104	105	97	108	100	98	98	104	104	
	2	100	91	103	94	98	93	104	104	98	89	101	91	98	91	104	103	97	87	99	89	98	88	104	99	
	3	87	79	89	82	91	81	104	96	85	77	88	80	89	79	104	92	83	75	86	78	87	77	104	88	
	35	1	103	97	105	100	94	94	100	100	102	95	105	98	94	94	100	100	101	93	104	96	94	94	100	100
		2	97	88	99	91	94	91	100	100	95	86	97	89	94	89	100	100	93	85	96	87	94	86	100	99
		3	83	76	86	79	88	79	100	96	82	75	84	77	86	77	100	92	80	73	83	75	84	75	100	88
	40	1	99	93	101	96	90	90	96	96	98	92	101	95	90	90	96	96	97	90	100	93	90	90	96	96
		2	93	86	96	88	90	89	96	96	92	84	94	86	90	87	96	96	90	82	93	85	90	85	96	96
		3	80	74	83	76	85	77	96	94	79	72	81	75	84	75	96	92	78	71	80	73	82	74	96	88
Wind Speed [mph]		110								115																
30	1	103	95	107	98	98	98	104	104	102	93	105	96	98	96	104	104	102	93	105	96	98	96	104	104	
	2	95	85	97	87	98	86	104	96	93	83	95	85	95	84	104	92	93	83	95	85	95	84	104	92	
	3	82	73	85	76	85	75	102	85	80	70	83	74	83	73	99	82	80	70	83	74	83	73	99	82	
35	1	99	92	102	95	94	94	100	100	98	90	101	93	94	94	100	100	98	90	101	93	94	94	100	100	
	2	92	83	94	85	94	84	100	96	90	81	92	83	93	82	100	92	90	81	92	83	93	82	100	92	
	3	79	71	82	74	83	73	100	85	78	70	80	72	81	72	98	82	78	70	80	72	81	72	98	82	
40	1	96	89	99	92	90	90	96	96	94	87	97	90	90	90	96	96	94	87	97	90	90	90	96	96	
	2	89	81	91	83	90	83	96	96	87	79	90	81	90	81	96	92	87	79	90	81	90	81	96	92	
	3	76	69	79	72	80	72	96	85	75	68	78	70	79	70	96	82	75	68	78	70	79	70	96	82	
Wind Speed [mph]		120								130																
30	1	100	91	103	94	98	94	104	104	102	93	105	96	98	96	104	104	102	93	105	96	98	96	104	104	
	2	91	81	94	83	93	82	104	89	93	83	95	85	95	84	104	92	93	83	95	85	95	84	104	92	
	3	79	67	81	73	81	71	95	79	80	70	83	74	83	73	99	82	80	70	83	74	83	73	99	82	
35	1	97	88	100	91	94	92	100	100	98	90	101	93	94	94	100	100	98	90	101	93	94	94	100	100	
	2	88	79	91	81	91	80	100	89	90	81	92	83	93	82	100	92	90	81	92	83	93	82	100	92	
	3	76	67	79	71	79	70	95	79	78	70	80	72	81	72	98	82	78	70	80	72	81	72	98	82	
40	1	93	86	96	89	90	89	96	96	94	87	97	90	90	90	96	96	94	87	97	90	90	90	96	96	
	2	86	77	88	79	89	79	96	89	87	79	90	81	90	81	96	92	87	79	90	81	90	81	96	92	
	3	74	67	76	69	77	68	94	79	75	68	78	70	79	70	96	82	75	68	78	70	79	70	96	82	

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
30	1	99	89	102	92	98	92	104	104	96	86	99	89	98	88	104	99	93	83	96	86	96	84	104	93	
	2	89	79	92	81	91	79	104	86	86	76	88	78	87	74	97	81	83	73	85	75	84	70	92	76	
	3	77	64	80	71	80	70	92	76	74	60	77	68	76	65	86	71	69	56	74	65	73	61	81	67	
	35	1	95	87	98	90	94	90	100	100	92	84	95	87	94	86	100	99	90	81	93	84	93	83	100	93
		2	87	77	89	80	89	78	100	86	84	74	86	76	85	74	97	81	81	71	83	73	82	70	92	76
		3	75	64	77	69	78	68	92	76	72	60	75	66	74	65	86	71	69	56	72	64	71	61	81	67
	40	1	92	84	95	87	90	88	96	96	89	81	92	84	90	84	96	96	87	79	90	81	90	81	96	93
		2	84	76	87	78	87	77	96	86	81	73	84	75	84	73	96	81	79	70	81	72	80	70	92	76
		3	73	64	75	68	76	67	92	76	70	60	73	65	73	64	86	71	68	56	70	62	70	61	81	67
30	1	90	80	93	83	92	81	104	88	87	77	90	80	89	77	101	83									
	2	80	69	82	71	80	66	87	71	77	65	79	67	76	62	82	68									
	3	65	53	71	62	70	58	77	63	61	50	69	59	67	55	73	60									
	35	1	87	78	90	81	90	79	100	88	85	75	88	78	87	76	100	83								
		2	78	68	80	70	79	66	87	71	75	65	77	67	76	62	82	68								
		3	65	53	70	61	69	58	77	63	61	50	67	59	66	55	73	60								
	40	1	85	76	88	79	88	78	96	88	82	74	85	76	85	75	96	83								
		2	76	67	78	69	77	66	87	71	74	64	76	66	74	62	82	68								
		3	65	53	68	60	67	58	77	63	61	50	66	58	65	55	73	60								
30	1	84	74	87	77	86	73	96	79	82	72	85	74	83	69	91	75									
	2	74	62	76	64	72	59	78	64	72	59	73	61	68	56	74	61									
	3	58	47	67	56	63	52	69	57	55	45	64	54	60	49	66	54									
	35	1	82	73	85	75	84	73	96	79	80	70	83	73	82	69	91	75								
		2	73	62	75	64	72	59	78	64	70	59	72	61	68	56	74	61								
		3	58	47	65	56	63	52	69	57	55	45	63	54	60	49	66	54								
	40	1	80	71	83	74	83	72	96	79	78	69	81	71	80	69	91	75								
		2	71	62	73	64	72	59	78	64	69	59	71	61	68	56	74	61								
		3	58	47	64	56	62	52	69	57	55	45	62	54	60	49	66	54								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
45	1	95	90	97	93	87	87	94	94	95	89	97	92	87	87	94	94	94	88	96	90	87	87	94	94
	2	90	83	93	86	87	87	94	94	89	82	91	84	87	85	94	94	88	80	90	82	87	83	94	94
	3	77	72	80	74	83	75	94	93	76	70	79	73	81	74	94	90	75	69	78	71	80	72	94	88
50	1	92	88	94	90	85	85	91	91	92	86	94	89	85	85	91	91	91	85	93	88	85	85	91	91
	2	88	81	90	83	85	85	91	91	86	80	89	82	85	83	91	91	85	78	87	80	85	81	91	91
	3	75	70	77	72	80	74	91	91	74	68	76	71	79	72	91	89	73	67	75	69	78	70	91	86
60	1	86	83	88	85	80	80	87	87	86	82	88	84	80	80	87	87	85	81	88	83	80	80	87	87
	2	83	77	85	79	80	80	87	87	82	76	84	78	80	80	87	87	81	75	83	77	80	78	87	87
	3	71	66	73	68	76	70	87	87	70	65	72	67	75	69	87	87	69	64	71	66	74	68	87	84
45	1	92	86	95	89	87	87	94	94	91	85	94	88	87	87	94	94								
	2	86	79	88	81	87	81	94	94	85	77	87	79	87	79	94	92								
	3	74	68	76	70	78	70	94	85	73	66	75	69	77	69	94	82								
50	1	90	84	92	86	85	85	91	91	89	82	91	85	85	85	91	91								
	2	84	77	86	79	85	79	91	91	82	75	85	77	85	78	91	91								
	3	72	66	74	68	76	69	91	84	71	65	73	67	75	67	91	82								
60	1	84	80	87	82	80	80	87	87	84	78	86	81	80	80	87	87								
	2	80	73	82	75	80	77	87	87	78	72	81	74	80	75	87	87								
	3	68	63	70	65	73	66	87	82	67	62	69	64	72	65	87	80								
45	1	90	83	93	86	87	87	94	94	91	85	94	88	87	87	94	94								
	2	83	76	86	78	87	77	94	89	85	77	87	79	87	79	94	92								
	3	72	65	74	67	75	67	93	79	73	66	75	69	77	69	94	82								
50	1	87	81	90	84	85	85	91	91	89	82	91	85	85	85	91	91								
	2	81	74	83	76	85	76	91	89	82	75	85	77	85	78	91	91								
	3	70	64	72	66	74	66	91	79	71	65	73	67	75	67	91	82								
60	1	83	77	85	80	80	80	87	87	84	78	86	81	80	80	87	87								
	2	77	71	79	73	80	73	87	87	78	72	81	74	80	75	87	87								
	3	66	61	68	63	70	64	87	78	67	62	69	64	72	65	87	80								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
45	1	89	82	92	85	87	86	94	94	87	79	90	82	87	83	94	94	85	77	87	80	87	79	94	93
	2	82	74	84	76	85	75	94	86	79	71	82	73	82	72	94	81	77	68	79	70	79	69	92	76
	3	71	64	73	66	74	66	91	76	68	60	71	64	71	63	86	71	66	56	68	61	68	60	81	67
50	1	86	80	89	83	85	84	91	91	84	78	87	80	85	81	91	91	82	75	85	78	85	78	91	91
	2	80	73	82	74	83	74	91	86	78	70	80	72	80	71	91	81	75	67	77	69	77	68	91	76
	3	69	62	71	65	72	64	89	76	67	60	69	62	70	62	85	71	65	56	67	60	67	59	81	67
60	1	82	76	84	79	80	80	87	87	80	74	83	77	80	78	87	87	78	72	81	75	80	75	87	87
	2	76	70	78	72	80	72	87	86	74	67	76	69	77	69	87	81	72	65	74	67	75	66	87	76
	3	65	60	67	62	69	62	87	76	64	58	66	60	67	60	83	71	62	56	64	58	65	57	80	67
Wind Speed [mph]		170								180															
45	1	82	74	85	77	86	77	94	88	80	72	83	75	83	74	94	83								
	2	74	66	76	68	76	66	87	71	72	63	74	65	73	62	82	68								
	3	64	53	66	59	66	58	77	63	61	50	64	57	64	55	73	60								
50	1	80	73	83	75	84	75	91	88	78	71	81	73	82	73	91	83								
	2	73	65	75	67	75	65	87	71	71	62	73	64	72	62	82	68								
	3	63	53	65	58	65	57	77	63	61	50	63	56	63	54	73	60								
60	1	77	70	79	72	80	73	87	87	75	68	77	70	79	70	87	83								
	2	70	63	72	64	72	64	87	71	68	61	70	62	70	61	82	68								
	3	60	53	62	56	63	55	76	63	58	50	60	54	61	53	73	60								
Wind Speed [mph]		190								200															
45	1	78	70	81	72	81	71	94	79	76	68	79	70	78	69	91	75								
	2	70	61	72	63	71	59	78	64	68	59	69	61	68	56	74	61								
	3	58	47	62	55	61	52	69	57	55	45	60	53	59	49	66	54								
50	1	76	68	79	71	79	70	91	79	74	66	77	69	77	68	91	75								
	2	68	60	70	62	69	59	78	64	66	58	68	60	67	56	74	61								
	3	58	47	61	54	60	52	69	57	55	45	59	52	58	49	66	54								
60	1	73	66	76	68	77	68	87	79	71	64	74	67	74	66	87	75								
	2	66	59	68	60	68	59	78	64	64	57	66	58	65	56	74	61								
	3	57	47	59	52	59	51	69	57	55	45	57	51	57	49	66	54								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
70	1	80	79	82	81	76	76	83	83	80	78	82	80	76	76	83	83	80	77	82	79	76	76	83	83
	2	79	74	81	76	76	76	83	83	78	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83
	3	67	63	69	65	73	68	83	83	66	62	68	64	72	66	83	83	66	61	68	63	71	65	83	82
80	1	75	75	77	77	73	73	80	80	75	74	77	77	73	73	80	80	75	74	77	76	73	73	80	80
	2	75	71	77	73	73	73	80	80	74	70	76	72	73	73	80	80	74	69	75	71	73	73	80	80
	3	64	61	66	62	70	65	80	80	63	60	65	62	69	64	80	80	63	59	65	61	68	63	80	80
90	1	71	71	73	73	71	71	77	77	71	71	73	73	71	71	77	77	71	71	73	73	71	71	77	77
	2	71	68	73	70	71	71	77	77	71	67	73	69	71	71	77	77	71	67	72	68	71	71	77	77
	3	61	58	63	60	67	63	77	77	61	57	62	59	66	62	77	77	60	57	62	59	65	61	77	77
70	1	80	76	82	78	76	76	83	83	79	75	82	77	76	76	83	83								
	2	76	71	78	72	76	74	83	83	75	69	77	71	76	73	83	83								
	3	65	60	67	62	70	64	83	80	64	59	66	61	69	63	83	78								
80	1	75	73	77	75	73	73	80	80	75	72	77	74	73	73	80	80								
	2	73	68	75	70	73	72	80	80	72	67	74	69	73	70	80	80								
	3	62	58	64	60	67	62	80	78	61	57	63	59	66	61	80	77								
90	1	71	70	73	72	71	71	77	77	71	69	73	71	71	71	77	77								
	2	70	66	72	67	71	70	77	77	69	65	71	66	71	68	77	77								
	3	59	56	61	58	65	60	77	77	59	55	61	57	64	59	77	75								
70	1	79	74	81	76	76	76	83	83	79	75	82	77	76	76	83	83								
	2	74	68	76	70	76	71	83	83	75	69	77	71	76	73	83	83								
	3	63	58	65	60	68	61	83	76	64	59	66	61	69	63	83	78								
80	1	75	71	77	73	73	73	80	80	75	72	77	74	73	73	80	80								
	2	71	66	73	68	73	69	80	80	72	67	74	69	73	70	80	80								
	3	61	56	62	58	65	60	80	75	61	57	63	59	66	61	80	77								
90	1	71	68	73	70	71	71	77	77	71	69	73	71	71	71	77	77								
	2	68	64	70	66	71	67	77	77	69	65	71	66	71	68	77	77								
	3	58	54	60	56	63	58	77	73	59	55	61	57	64	59	77	75								
70	1	79	74	81	76	76	76	83	83	79	75	82	77	76	76	83	83								
	2	74	68	76	70	76	71	83	83	75	69	77	71	76	73	83	83								
	3	63	58	65	60	68	61	83	76	64	59	66	61	69	63	83	78								
80	1	75	71	77	73	73	73	80	80	75	72	77	74	73	73	80	80								
	2	71	66	73	68	73	69	80	80	72	67	74	69	73	70	80	80								
	3	61	56	62	58	65	60	80	75	61	57	63	59	66	61	80	77								
90	1	71	68	73	70	71	71	77	77	71	69	73	71	71	71	77	77								
	2	68	64	70	66	71	67	77	77	69	65	71	66	71	68	77	77								
	3	58	54	60	56	63	58	77	73	59	55	61	57	64	59	77	75								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
70	1	78	73	80	75	76	76	83	83	76	71	79	73	76	75	83	83	75	69	77	72	76	73	83	83
	2	73	67	75	69	76	70	83	83	71	65	73	67	75	67	83	81	69	63	71	65	72	65	83	76
	3	62	58	64	59	67	60	83	74	61	56	63	58	64	58	81	71	59	54	61	56	63	56	78	67
80	1	74	70	77	72	73	73	80	80	73	69	75	71	73	73	80	80	72	67	74	69	73	71	80	80
	2	70	65	72	67	73	68	80	80	69	63	70	65	72	65	80	80	67	61	69	63	70	63	80	76
	3	60	55	62	57	64	59	80	73	58	54	60	56	62	56	79	70	57	52	59	54	61	54	76	67
90	1	71	68	73	70	71	71	77	77	70	66	72	68	71	71	77	77	69	65	71	67	71	69	77	77
	2	68	63	69	65	71	66	77	77	66	61	68	63	70	64	77	77	65	59	66	61	68	62	77	75
	3	58	54	59	55	62	57	77	72	56	52	58	54	60	55	77	68	55	51	57	52	59	53	75	66
Wind Speed [mph]		170								180															
70	1	73	67	76	70	76	71	83	83	72	66	74	68	76	68	83	83								
	2	67	61	69	63	70	62	83	71	66	59	67	61	68	60	82	68								
	3	58	52	60	54	61	54	75	63	56	50	58	52	59	52	72	60								
80	1	70	65	73	67	73	69	80	80	69	64	71	66	73	67	80	80								
	2	65	59	67	61	68	61	80	71	64	57	65	59	66	59	80	68								
	3	56	51	58	52	59	53	73	63	54	49	56	51	57	51	71	60								
90	1	68	63	70	65	71	67	77	77	67	62	69	64	71	65	77	77								
	2	63	58	65	59	66	59	77	71	62	56	63	58	64	57	77	68								
	3	54	49	56	51	57	51	72	63	53	48	54	50	56	50	69	60								
Wind Speed [mph]		190								200															
70	1	70	64	73	66	74	66	83	79	69	62	71	64	72	64	83	75								
	2	64	57	66	59	66	58	78	64	62	55	64	57	64	56	74	61								
	3	55	47	57	51	57	50	69	57	53	45	55	49	55	48	66	54								
80	1	68	62	70	64	72	65	80	79	66	60	68	63	70	63	80	75								
	2	62	56	64	57	64	57	78	64	60	54	62	55	62	55	74	61								
	3	53	47	55	49	55	49	68	57	52	45	54	48	54	47	66	54								
90	1	65	60	67	62	70	63	77	77	64	59	66	61	68	61	77	75								
	2	60	54	62	56	63	56	77	64	59	53	60	54	61	54	74	61								
	3	51	47	53	48	54	48	67	57	50	45	52	47	53	46	65	54								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
100	1	68	68	69	69	68	68	75	75	68	68	69	69	68	68	75	75	68	68	69	69	68	68	75	75
	2	68	66	69	68	68	68	75	75	68	65	69	67	68	68	75	75	68	64	69	66	68	68	75	75
	3	59	56	61	58	65	61	75	75	58	55	60	57	64	60	75	75	58	55	59	56	63	59	75	75
Wind Speed [mph]		110								115															
100	1	68	67	69	69	68	68	75	75	68	67	69	69	68	68	75	75								
	2	67	64	69	65	68	68	75	75	67	63	68	64	68	67	75	75								
	3	57	54	59	56	62	58	75	75	57	53	58	55	62	57	75	74								
Wind Speed [mph]		120								130															
100	1	68	66	69	68	68	68	75	75	68	67	69	69	68	68	75	75								
	2	66	62	68	64	68	66	75	75	67	63	68	64	68	67	75	75								
	3	56	53	58	54	61	56	75	72	57	53	58	55	62	57	75	74								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	68	65	69	67	68	68	75	75	68	64	69	66	68	68	75	75	67	63	69	65	68	67	75	75
	2	65	61	67	63	68	64	75	75	64	59	66	61	68	62	75	75	63	58	64	59	66	60	75	74
	3	56	52	57	54	60	55	75	70	54	51	56	52	59	54	75	67	53	49	55	51	57	52	73	65
Wind Speed [mph]		170								180															
100	1	65	61	68	63	68	65	75	75	64	60	66	62	68	63	75	75								
	2	61	56	63	58	65	58	75	71	60	55	62	56	63	56	75	68								
	3	52	48	54	50	56	50	71	62	51	47	53	48	54	49	68	59								
Wind Speed [mph]		190								200															
100	1	63	59	65	61	68	62	75	75	62	57	64	59	66	60	75	74								
	2	59	53	60	55	61	55	75	64	57	52	59	53	60	53	73	61								
	3	50	45	52	47	53	47	66	57	49	44	51	46	51	46	64	54								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
0	1	126	106	129	110	123	103	130	112	121	102	126	106	119	99	128	108	117	98	122	102	114	95	125	104	
	2	106	88	109	91	102	85	111	92	102	85	105	87	98	81	107	88	98	82	101	84	94	78	103	85	
	3	86	70	97	81	91	75	99	82	82	66	93	77	87	72	95	78	78	64	90	74	84	69	91	75	
	5	1	126	106	129	110	123	103	130	112	121	102	126	106	119	99	128	108	117	98	122	102	114	95	125	104
		2	106	88	109	91	102	85	111	92	102	85	105	87	98	81	107	88	98	82	101	84	94	78	103	85
		3	86	70	97	81	91	75	99	82	82	66	93	77	87	72	95	78	78	64	90	74	84	69	91	75
	10	1	119	105	123	109	123	103	128	112	116	102	120	106	119	99	128	108	113	98	117	102	114	95	125	104
		2	105	88	108	91	102	85	111	92	102	85	105	87	98	81	107	88	98	82	101	84	94	78	103	85
		3	86	70	95	81	91	75	99	82	82	66	93	77	87	72	95	78	78	64	90	74	84	69	91	75
0	1	113	95	118	99	110	92	120	100	109	91	114	95	107	89	116	97	109	91	114	95	107	89	116	97	
	2	95	79	97	81	91	75	99	82	91	76	94	78	88	72	95	79	91	76	94	78	88	72	95	79	
	3	75	61	87	72	80	66	88	72	72	59	83	69	78	64	84	70	72	59	83	69	78	64	84	70	
	5	1	113	95	118	99	110	92	120	100	109	91	114	95	107	89	116	97	109	91	114	95	107	89	116	97
		2	95	79	97	81	91	75	99	82	91	76	94	78	88	72	95	79	91	76	94	78	88	72	95	79
		3	75	61	87	72	80	66	88	72	72	59	83	69	78	64	84	70	72	59	83	69	78	64	84	70
	10	1	110	95	114	99	110	92	120	100	108	91	112	95	107	89	116	97	108	91	112	95	107	89	116	97
		2	95	79	97	81	91	75	99	82	91	76	94	78	88	72	95	79	91	76	94	78	88	72	95	79
		3	75	61	87	72	80	66	88	72	72	59	83	69	78	64	84	70	72	59	83	69	78	64	84	70
0	1	106	88	110	92	103	86	112	93	109	91	114	95	107	89	116	97	109	91	114	95	107	89	116	97	
	2	88	73	91	75	85	70	92	76	91	76	94	78	88	72	95	79	91	76	94	78	88	72	95	79	
	3	69	56	81	67	75	62	81	67	72	59	83	69	78	64	84	70	72	59	83	69	78	64	84	70	
	5	1	106	88	110	92	103	86	112	93	109	91	114	95	107	89	116	97	109	91	114	95	107	89	116	97
		2	88	73	91	75	85	70	92	76	91	76	94	78	88	72	95	79	91	76	94	78	88	72	95	79
		3	69	56	81	67	75	62	81	67	72	59	83	69	78	64	84	70	72	59	83	69	78	64	84	70
	10	1	105	88	109	92	103	86	112	93	108	91	112	95	107	89	116	97	108	91	112	95	107	89	116	97
		2	88	73	91	75	85	70	92	76	91	76	94	78	88	72	95	79	91	76	94	78	88	72	95	79
		3	69	56	81	67	75	62	81	67	72	59	83	69	78	64	84	70	72	59	83	69	78	64	84	70

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
		0	1	103	85	107	89	100	83	109	90	96	80	100	84	94	78	102	84	91	75	95	79	88	73	96
2	85		71	88	73	82	67	89	73	80	66	82	68	77	63	83	69	75	62	78	64	72	59	78	64	
3	67		54	78	64	72	59	79	65	62	51	73	60	68	56	74	60	58	47	69	57	64	52	69	57	
5	1		103	85	107	89	100	83	109	90	96	80	100	84	94	78	102	84	91	75	95	79	88	73	96	79
	2		85	71	88	73	82	67	89	73	80	66	82	68	77	63	83	69	75	62	78	64	72	59	78	64
	3		67	54	78	64	72	59	79	65	62	51	73	60	68	56	74	60	58	47	69	57	64	52	69	57
10	1		103	85	107	89	100	83	109	90	96	80	100	84	94	78	102	84	91	75	95	79	88	73	96	79
	2		85	71	88	73	82	67	89	73	80	66	82	68	77	63	83	69	75	62	78	64	72	59	78	64
	3		67	54	78	64	72	59	79	65	62	51	73	60	68	56	74	60	58	47	69	57	64	52	69	57
0	1	86	71	90	74	83	69	91	75	82	68	85	70	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57									
	3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51									
	5	1	86	71	90	74	83	69	91	75	82	68	85	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
	10	1	86	71	90	74	83	69	91	75	82	68	85	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
0	1	86	71	90	74	83	69	91	75	82	68	85	70	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57									
	3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51									
	5	1	86	71	90	74	83	69	91	75	82	68	85	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
	10	1	86	71	90	74	83	69	91	75	82	68	85	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
0	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52									
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46									
	5	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
	10	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
0	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52									
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46									
	5	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
	10	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								

Exposure Category : C

**ASCE Group Zone**

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
15	1	111	100	115	103	117	103	120	112	109	97	112	101	117	99	120	108	106	95	110	98	114	95	120	104
	2	100	88	103	90	102	85	111	92	97	85	100	87	98	81	107	88	95	82	97	84	94	78	103	85
	3	86	70	90	79	91	75	99	82	82	66	88	77	87	72	95	78	78	64	85	74	84	69	91	75
20	1	105	95	108	98	109	102	113	112	103	93	106	96	109	99	113	108	101	91	104	94	109	95	113	104
	2	95	85	98	87	101	85	111	92	93	82	95	84	98	81	107	88	91	80	93	82	94	78	103	85
	3	82	70	85	76	88	75	99	82	80	66	83	74	86	72	95	78	78	64	81	72	83	69	91	75
25	1	105	95	108	98	103	99	108	108	103	93	106	96	103	96	108	108	101	91	104	94	103	93	108	104
	2	95	85	98	87	98	85	108	92	93	82	95	84	95	81	107	88	91	80	93	82	93	78	103	85
	3	82	70	85	76	86	75	99	82	80	66	83	74	83	72	95	78	78	64	81	72	81	69	91	75
15	1	104	92	108	96	110	92	120	100	102	90	105	93	107	89	116	97								
	2	92	79	95	81	91	75	99	82	90	76	92	78	88	72	95	79								
	3	75	61	83	72	80	66	88	72	72	59	81	69	78	64	84	70								
20	1	99	89	102	92	107	92	113	100	97	87	100	90	104	89	113	97								
	2	89	78	91	80	91	75	99	82	87	76	89	78	88	72	95	79								
	3	75	61	79	70	80	66	88	72	72	59	78	68	78	64	84	70								
25	1	99	89	102	92	103	91	108	100	97	87	100	90	101	89	108	97								
	2	89	78	91	80	90	75	99	82	87	76	89	78	88	72	95	79								
	3	75	61	79	70	79	66	88	72	72	59	78	68	77	64	84	70								
15	1	104	92	108	96	110	92	120	100	102	90	105	93	107	89	116	97								
	2	92	79	95	81	91	75	99	82	90	76	92	78	88	72	95	79								
	3	75	61	83	72	80	66	88	72	72	59	81	69	78	64	84	70								
20	1	99	89	102	92	107	92	113	100	97	87	100	90	104	89	113	97								
	2	89	78	91	80	91	75	99	82	87	76	89	78	88	72	95	79								
	3	75	61	79	70	80	66	88	72	72	59	78	68	78	64	84	70								
25	1	99	89	102	92	103	91	108	100	97	87	100	90	101	89	108	97								
	2	89	78	91	80	90	75	99	82	87	76	89	78	88	72	95	79								
	3	75	61	79	70	79	66	88	72	72	59	78	68	77	64	84	70								
15	1	100	88	103	91	103	86	112	93	102	90	105	93	107	89	116	97								
	2	88	73	90	75	85	70	92	76	90	76	92	78	88	72	95	79								
	3	69	56	79	67	75	62	81	67	72	59	81	69	78	64	84	70								
20	1	95	85	98	88	102	86	112	93	97	87	100	90	104	89	113	97								
	2	85	73	87	75	85	70	92	76	87	76	89	78	88	72	95	79								
	3	69	56	76	66	75	62	81	67	72	59	78	68	78	64	84	70								
25	1	95	85	98	88	99	86	108	93	97	87	100	90	101	89	108	97								
	2	85	73	87	75	85	70	92	76	87	76	89	78	88	72	95	79								
	3	69	56	76	66	75	62	81	67	72	59	78	68	77	64	84	70								
15	1	100	88	103	91	103	86	112	93	102	90	105	93	107	89	116	97								
	2	88	73	90	75	85	70	92	76	90	76	92	78	88	72	95	79								
	3	69	56	79	67	75	62	81	67	72	59	81	69	78	64	84	70								
20	1	95	85	98	88	102	86	112	93	97	87	100	90	104	89	113	97								
	2	85	73	87	75	85	70	92	76	87	76	89	78	88	72	95	79								
	3	69	56	76	66	75	62	81	67	72	59	78	68	78	64	84	70								
25	1	95	85	98	88	99	86	108	93	97	87	100	90	101	89	108	97								
	2	85	73	87	75	85	70	92	76	87	76	89	78	88	72	95	79								
	3	69	56	76	66	75	62	81	67	72	59	78	68	77	64	84	70								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
15	1	98	85	101	89	100	83	109	90	94	80	97	84	94	78	102	84	90	75	93	79	88	73	96	79	
	2	85	71	88	73	82	67	89	73	80	66	82	68	77	63	83	69	75	62	78	64	72	59	78	64	
	3	67	54	77	64	72	59	79	65	62	51	73	60	68	56	74	60	58	47	69	57	64	52	69	57	
	20	1	93	83	96	86	99	83	109	90	90	79	93	82	94	78	102	84	86	75	89	78	88	73	96	79
		2	83	71	85	73	82	67	89	73	79	66	81	68	77	63	83	69	75	62	78	64	72	59	78	64
		3	67	54	74	64	72	59	79	65	62	51	71	60	68	56	74	60	58	47	68	57	64	52	69	57
	25	1	93	83	96	86	96	83	108	90	90	79	93	82	92	78	102	84	86	75	89	78	88	73	96	79
		2	83	71	85	73	82	67	89	73	79	66	81	68	77	63	83	69	75	62	78	64	72	59	78	64
		3	67	54	74	64	72	59	79	65	62	51	71	60	68	56	74	60	58	47	68	57	64	52	69	57
15	1	86	71	89	74	83	69	91	75	82	68	85	70	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57									
	3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51									
	20	1	83	71	86	74	83	69	91	75	80	68	83	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
	25	1	83	71	86	74	83	69	91	75	80	68	83	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
15	1	86	71	89	74	83	69	91	75	82	68	85	70	79	65	86	71									
	2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57									
	3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51									
	20	1	83	71	86	74	83	69	91	75	80	68	83	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
	25	1	83	71	86	74	83	69	91	75	80	68	83	70	79	65	86	71								
		2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
		3	55	44	65	53	60	49	65	54	52	42	61	50	57	46	62	51								
15	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52									
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46									
	20	1	77	64	80	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
	25	1	77	64	80	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
15	1	78	64	81	67	75	62	82	67	74	61	77	64	72	59	78	64									
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52									
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46									
	20	1	77	64	80	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
	25	1	77	64	80	67	75	62	82	67	74	61	77	64	72	59	78	64								
		2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
		3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
30	1	102	93	105	96	98	96	104	104	100	91	103	94	98	94	104	104	98	89	101	92	98	91	104	104
	2	93	83	95	85	95	84	104	92	91	81	93	83	93	81	104	88	89	79	91	81	90	78	103	85
	3	80	70	83	74	83	73	99	82	78	66	81	72	81	71	95	78	77	64	79	70	79	69	91	75
35	1	98	90	101	93	94	94	100	100	96	88	99	91	94	91	100	100	95	86	98	89	94	89	100	100
	2	90	81	92	83	93	82	100	92	88	79	90	81	91	80	100	88	86	77	88	79	88	77	100	85
	3	77	70	80	72	81	72	98	82	76	66	78	70	79	69	95	78	74	64	77	69	77	68	91	75
40	1	94	87	97	90	90	90	96	96	93	85	96	88	90	89	96	96	91	84	94	87	90	87	96	96
	2	87	79	89	81	90	81	96	92	85	77	88	79	88	78	96	88	84	75	86	77	86	76	96	85
	3	75	68	78	70	79	70	96	82	74	66	76	69	77	68	94	78	72	64	75	67	75	66	91	75
30	1	96	87	99	90	98	89	104	100	94	85	98	88	98	87	104	97								
	2	87	77	89	79	88	75	99	82	85	75	87	77	86	72	95	79								
	3	75	61	78	69	77	66	88	72	72	59	76	67	75	64	84	70								
35	1	93	84	96	87	94	87	100	100	91	82	94	85	94	85	100	97								
	2	84	75	87	77	86	75	99	82	82	73	85	75	84	72	95	79								
	3	73	61	75	67	75	66	88	72	71	59	74	65	73	64	84	70								
40	1	90	82	93	85	90	85	96	96	89	80	91	83	90	83	96	96								
	2	82	73	84	75	84	74	96	82	80	72	83	73	82	72	95	79								
	3	71	61	73	65	73	64	88	72	69	59	72	64	72	63	84	70								
30	1	96	87	99	90	98	89	104	100	94	85	98	88	98	87	104	97								
	2	87	77	89	79	88	75	99	82	85	75	87	77	86	72	95	79								
	3	75	61	78	69	77	66	88	72	72	59	76	67	75	64	84	70								
35	1	93	84	96	87	94	87	100	100	91	82	94	85	94	85	100	97								
	2	84	75	87	77	86	75	99	82	82	73	85	75	84	72	95	79								
	3	73	61	75	67	75	66	88	72	71	59	74	65	73	64	84	70								
40	1	90	82	93	85	90	85	96	96	89	80	91	83	90	83	96	96								
	2	82	73	84	75	84	74	96	82	80	72	83	73	82	72	95	79								
	3	71	61	73	65	73	64	88	72	69	59	72	64	72	63	84	70								
30	1	93	83	96	86	96	84	104	93	94	85	98	88	98	87	104	97								
	2	83	73	85	75	84	70	92	76	85	75	87	77	86	72	95	79								
	3	69	56	74	65	73	62	81	67	72	59	76	67	75	64	84	70								
35	1	90	81	93	84	93	83	100	93	91	82	94	85	94	85	100	97								
	2	81	71	83	73	82	70	92	76	82	73	85	75	84	72	95	79								
	3	69	56	72	64	71	62	81	67	71	59	74	65	73	64	84	70								
40	1	87	79	90	82	90	81	96	93	89	80	91	83	90	83	96	96								
	2	79	70	81	72	80	70	92	76	80	72	83	73	82	72	95	79								
	3	68	56	70	62	70	61	81	67	69	59	72	64	72	63	84	70								
30	1	93	83	96	86	96	84	104	93	94	85	98	88	98	87	104	97								
	2	83	73	85	75	84	70	92	76	85	75	87	77	86	72	95	79								
	3	69	56	74	65	73	62	81	67	72	59	76	67	75	64	84	70								
35	1	90	81	93	84	93	83	100	93	91	82	94	85	94	85	100	97								
	2	81	71	83	73	82	70	92	76	82	73	85	75	84	72	95	79								
	3	69	56	72	64	71	62	81	67	71	59	74	65	73	64	84	70								
40	1	87	79	90	82	90	81	96	93	89	80	91	83	90	83	96	96								
	2	79	70	81	72	80	70	92	76	80	72	83	73	82	72	95	79								
	3	68	56	70	62	70	61	81	67	69	59	72	64	72	63	84	70								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
30	1	91	81	94	84	94	82	104	90	88	78	91	80	90	78	102	84	85	74	88	77	86	73	96	79
	2	81	71	83	73	82	67	89	73	78	66	80	68	77	63	83	69	74	62	76	64	72	59	78	64
	3	67	54	73	64	71	59	79	65	62	51	70	60	68	56	74	60	58	47	67	57	64	52	69	57
35	1	88	79	91	82	92	81	100	90	85	76	88	79	88	77	100	84	82	73	85	75	84	73	96	79
	2	79	69	81	71	80	67	89	73	76	66	78	68	76	63	83	69	73	62	75	64	72	59	78	64
	3	67	54	71	62	70	59	79	65	62	51	68	59	67	56	74	60	58	47	65	57	64	52	69	57
40	1	86	77	89	80	89	79	96	90	83	74	86	77	86	76	96	84	80	71	83	74	83	72	96	79
	2	77	68	79	70	79	67	89	73	74	65	76	67	75	63	83	69	71	62	73	64	72	59	78	64
	3	67	54	69	61	68	59	79	65	62	51	66	58	65	56	74	60	58	47	64	56	63	52	69	57
30	1	81	71	84	74	83	69	91	75	79	68	82	70	79	65	86	71								
	2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
	3	55	44	64	53	60	49	65	54	52	42	61	50	57	46	62	51								
35	1	79	70	82	73	81	69	91	75	77	67	80	70	78	65	86	71								
	2	70	59	72	60	68	56	74	61	67	56	69	57	64	53	70	57								
	3	55	44	63	53	60	49	65	54	52	42	60	50	57	46	62	51								
40	1	78	69	80	71	80	69	91	75	75	66	78	69	77	65	86	71								
	2	69	59	70	60	68	56	74	61	66	56	68	57	64	53	70	57								
	3	55	44	61	53	60	49	65	54	52	42	59	50	57	46	62	51								
30	1	81	71	84	74	83	69	91	75	79	68	82	70	79	65	86	71								
	2	71	59	73	60	68	56	74	61	68	56	69	57	64	53	70	57								
	3	55	44	64	53	60	49	65	54	52	42	61	50	57	46	62	51								
35	1	79	70	82	73	81	69	91	75	77	67	80	70	78	65	86	71								
	2	70	59	72	60	68	56	74	61	67	56	69	57	64	53	70	57								
	3	55	44	63	53	60	49	65	54	52	42	60	50	57	46	62	51								
40	1	78	69	80	71	80	69	91	75	75	66	78	69	77	65	86	71								
	2	69	59	70	60	68	56	74	61	66	56	68	57	64	53	70	57								
	3	55	44	61	53	60	49	65	54	52	42	59	50	57	46	62	51								
30	1	76	64	79	67	75	62	82	67	73	61	76	64	72	59	78	64								
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
35	1	74	64	77	67	75	62	82	67	72	61	74	64	72	59	78	64								
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
40	1	73	64	75	66	74	62	82	67	70	61	73	64	71	59	78	64								
	2	64	53	65	54	61	50	66	54	61	50	63	52	58	48	63	52								
	3	49	40	57	48	54	44	59	48	46	38	55	45	51	42	56	46								
30	1	76	64	79	67	75	62	82	67	73	61	76	64	72	59	78	64								
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
35	1	74	64	77	67	75	62	82	67	72	61	74	64	72	59	78	64								
	2	64	53	66	54	61	50	66	54	61	50	63	52	58	48	63	52								
	3	49	40	58	48	54	44	59	48	46	38	55	45	51	42	56	46								
40	1	73	64	75	66	74	62	82	67	70	61	73	64	71	59	78	64								
	2	64	53	65	54	61	50	66	54	61	50	63	52	58	48	63	52								
	3	49	40	57	48	54	44	59	48	46	38	55	45	51	42	56	46								

Exposure Category : C

**ASCE Group Zone**

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
45	1	91	85	94	87	87	87	94	94	90	83	93	86	87	87	94	94	89	82	91	84	87	85	94	94
	2	85	77	87	79	87	79	94	92	83	75	85	77	86	77	94	88	82	73	84	75	84	75	94	85
	3	73	66	75	69	77	69	94	82	71	65	74	67	75	67	92	78	70	63	72	65	73	65	90	75
50	1	88	82	91	85	85	85	91	91	87	81	90	84	85	85	91	91	86	80	89	82	85	83	91	91
	2	82	75	85	77	85	78	91	91	81	74	83	76	85	76	91	88	80	72	82	74	83	74	91	85
	3	71	65	73	67	75	67	91	82	69	63	72	65	73	66	91	78	68	62	71	64	72	64	88	75
60	1	84	78	86	81	80	80	87	87	83	77	85	80	80	80	87	87	81	76	84	78	80	80	87	87
	2	78	72	80	74	80	75	87	87	77	71	79	73	80	73	87	87	76	69	78	71	80	71	87	85
	3	67	62	69	64	72	65	87	80	66	61	68	63	70	63	87	77	65	59	67	61	69	62	86	75
Wind Speed [mph]		110								115															
45	1	87	80	90	83	87	83	94	94	86	78	89	81	87	81	94	94								
	2	80	72	82	74	83	73	94	82	78	70	81	72	81	71	94	79								
	3	69	61	71	64	72	63	87	72	67	59	70	63	70	62	84	70								
50	1	85	78	88	81	85	82	91	91	84	77	86	79	85	80	91	91								
	2	78	70	80	72	81	72	91	82	77	69	79	71	79	70	91	79								
	3	67	60	69	63	70	62	86	72	66	59	68	61	69	61	84	70								
60	1	80	75	83	77	80	78	87	87	79	73	82	76	80	77	87	87								
	2	75	68	77	70	78	70	87	82	73	66	75	68	76	68	87	79								
	3	64	58	66	60	67	60	84	72	63	57	65	59	66	59	82	70								
Wind Speed [mph]		120								130															
45	1	85	77	87	80	87	80	94	93	86	78	89	81	87	81	94	94								
	2	77	69	79	70	79	69	92	76	78	70	81	72	81	71	94	79								
	3	66	56	68	61	69	60	81	67	67	59	70	63	70	62	84	70								
50	1	82	75	85	78	85	78	91	91	84	77	86	79	85	80	91	91								
	2	75	67	77	69	77	68	91	76	77	69	79	71	79	70	91	79								
	3	65	56	67	60	67	59	81	67	66	59	68	61	69	61	84	70								
60	1	78	72	81	75	80	75	87	87	79	73	82	76	80	77	87	87								
	2	72	65	74	67	75	66	87	76	73	66	75	68	76	68	87	79								
	3	62	56	64	58	65	58	80	67	63	57	65	59	66	59	82	70								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
45	1	83	75	86	78	87	78	94	90	81	73	83	75	84	74	94	84	78	70	81	72	81	71	94	79
	2	75	67	78	69	77	67	89	73	73	64	75	66	74	63	83	69	70	61	72	63	71	59	78	64
	3	65	54	67	60	67	59	79	65	62	51	65	57	64	56	74	60	58	47	62	55	61	52	69	57
	1	81	74	84	76	85	76	91	90	79	71	81	74	82	73	91	84	76	69	79	71	80	70	91	79
	2	74	66	76	68	76	66	89	73	71	63	73	65	73	63	83	69	69	60	71	62	70	59	78	64
	3	63	54	66	59	66	58	79	65	61	51	63	56	63	55	74	60	58	47	61	54	61	52	69	57
	1	77	71	80	73	80	74	87	87	75	69	78	71	79	71	87	84	73	66	76	69	77	68	87	79
	2	71	64	73	65	73	65	87	73	69	61	70	63	70	62	83	69	66	59	68	60	68	59	78	64
	3	61	54	63	57	63	56	78	65	59	51	61	54	61	54	74	60	57	47	59	52	59	51	69	57
50	1	76	67	78	70	78	68	91	75	73	65	76	67	75	65	86	71								
	2	67	59	69	60	68	56	74	61	65	56	67	57	64	53	70	57								
	3	55	44	60	53	59	49	65	54	52	42	58	50	57	46	62	51								
	1	74	66	77	69	77	67	91	75	72	64	75	66	74	65	86	71								
	2	66	58	68	60	67	56	74	61	64	56	66	57	64	53	70	57								
	3	55	44	59	52	58	49	65	54	52	42	57	50	56	46	62	51								
	1	71	64	74	66	74	66	87	75	69	62	72	64	72	63	86	71								
	2	64	56	66	58	65	56	74	61	62	54	64	56	63	53	70	57								
	3	55	44	57	50	56	49	65	54	52	42	55	48	54	46	62	51								
60	1	71	63	74	65	73	62	82	67	69	60	72	63	70	59	78	64								
	2	63	53	64	54	61	50	66	54	60	50	62	52	58	48	63	52								
	3	49	40	56	48	54	44	59	48	46	38	54	45	51	42	56	46								
	1	70	62	72	64	72	62	82	67	68	60	70	62	69	59	78	64								
	2	62	53	63	54	61	50	66	54	60	50	61	52	58	48	63	52								
	3	49	40	55	48	54	44	59	48	46	38	53	45	51	42	56	46								
	1	67	60	70	62	70	61	82	67	65	58	68	60	67	59	78	64								
	2	60	52	62	54	60	50	66	54	58	50	60	52	58	48	63	52								
	3	49	40	53	47	52	44	59	48	46	38	52	45	51	42	56	46								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
70	1	79	75	82	77	76	76	83	83	78	74	81	76	76	76	83	83	78	73	80	75	76	76	83	83
	2	75	69	77	71	76	73	83	83	74	68	76	70	76	71	83	83	73	67	75	69	76	69	83	83
	3	64	59	66	61	69	63	83	78	63	58	65	60	67	61	83	76	62	57	64	59	66	60	83	74
	1	75	72	77	74	73	73	80	80	75	71	77	73	73	73	80	80	74	70	76	72	73	73	80	80
	2	72	67	74	69	73	70	80	80	71	66	73	68	73	69	80	80	70	65	72	66	73	67	80	80
	3	61	57	63	59	66	61	80	76	60	56	62	58	65	59	80	74	60	55	61	57	64	58	80	72
	1	71	69	73	71	71	71	77	77	71	68	73	70	71	71	77	77	71	67	73	69	71	71	77	77
	2	69	65	71	66	71	68	77	77	68	64	70	65	71	67	77	77	67	63	69	64	71	66	77	77
	3	59	55	61	57	64	59	77	75	58	54	60	56	63	58	77	73	57	53	59	55	62	56	77	71
80	1	77	72	79	74	76	76	83	83	76	70	78	73	76	74	83	83	76	70	78	73	76	74	83	83
	2	72	65	73	67	75	68	83	82	70	64	72	66	74	66	83	79	70	64	72	66	74	66	83	79
	3	61	56	63	58	65	59	82	72	60	55	62	57	64	57	80	70	60	55	62	57	64	57	80	70
	1	73	69	76	71	73	73	80	80	73	68	75	70	73	72	80	80	73	68	75	70	73	72	80	80
	2	69	63	71	65	73	66	80	80	68	62	70	64	72	64	80	78	68	62	70	64	72	64	80	78
	3	59	54	61	56	63	57	80	70	58	53	60	55	62	56	78	68	58	53	60	55	62	56	78	68
	1	70	66	73	69	71	71	77	77	70	66	72	68	71	70	77	77	70	66	72	68	71	70	77	77
	2	66	61	68	63	71	64	77	77	66	60	67	62	70	63	77	77	66	60	67	62	70	63	77	77
	3	57	52	58	54	61	55	77	69	56	52	58	53	60	54	77	67	56	52	58	53	60	54	77	67
90	1	75	69	77	72	76	73	83	83	76	70	78	73	76	74	83	83	76	70	78	73	76	74	83	83
	2	69	63	71	65	72	65	83	76	70	64	72	66	74	66	83	79	70	64	72	66	74	66	83	79
	3	59	54	61	56	63	56	78	67	60	55	62	57	64	57	80	70	60	55	62	57	64	57	80	70
	1	72	67	74	69	73	71	80	80	73	68	75	70	73	72	80	80	73	68	75	70	73	72	80	80
	2	67	61	69	63	70	63	80	76	68	62	70	64	72	64	80	78	68	62	70	64	72	64	80	78
	3	57	52	59	54	61	55	76	67	58	53	60	55	62	56	78	68	58	53	60	55	62	56	78	68
	1	69	65	71	67	71	69	77	77	70	66	72	68	71	70	77	77	70	66	72	68	71	70	77	77
	2	65	59	66	61	68	62	77	75	66	60	67	62	70	63	77	77	66	60	67	62	70	63	77	77
	3	55	51	57	52	59	53	75	66	56	52	58	53	60	54	77	67	56	52	58	53	60	54	77	67

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
70	1	74	68	76	71	76	72	83	83	72	66	74	68	76	69	83	83	70	64	73	66	74	66	83	79
	2	68	62	70	63	71	63	83	73	66	59	68	61	68	60	83	69	64	57	66	59	66	58	78	64
	3	58	53	60	55	61	55	76	65	57	51	59	53	59	52	73	60	55	47	57	51	57	50	69	57
	1	71	66	73	68	73	70	80	80	69	64	72	66	73	67	80	80	68	62	70	64	72	65	80	79
	2	66	60	68	62	69	62	80	73	64	58	66	59	67	59	80	69	62	56	64	57	64	57	78	64
	3	56	51	58	53	60	53	75	65	55	50	57	51	57	51	71	60	53	47	55	50	56	49	68	57
	1	68	64	70	66	71	68	77	77	67	62	69	64	71	65	77	77	65	60	68	62	70	63	77	77
	2	64	58	66	60	67	60	77	73	62	56	64	58	65	58	77	69	60	54	62	56	63	56	77	64
	3	54	50	56	52	58	52	73	64	53	48	55	50	56	50	70	60	52	47	53	48	54	48	67	57
80	1	69	62	71	64	72	64	83	75	67	60	69	62	70	62	83	71	69	62	71	64	72	64	83	75
	2	62	55	64	57	64	55	74	61	60	53	62	55	61	53	70	57	62	55	64	57	64	55	74	61
	3	53	44	55	49	55	48	65	54	52	42	53	47	53	46	62	51	53	44	55	49	55	48	65	54
	1	66	60	68	62	70	63	80	75	65	58	67	61	68	60	80	71	66	60	68	62	70	63	80	75
	2	60	54	62	55	62	54	74	61	58	52	60	53	60	52	70	57	60	54	62	55	62	54	74	61
	3	52	44	53	48	54	47	65	54	50	42	52	46	52	45	62	51	50	42	53	48	54	47	65	54
	1	64	59	66	61	68	61	77	75	63	57	65	59	66	59	77	71	63	57	65	59	66	59	77	71
	2	59	53	60	54	61	53	74	61	57	51	59	52	59	51	70	57	57	51	59	52	59	51	70	57
	3	50	44	52	47	52	46	64	54	49	42	50	45	51	45	62	51	49	42	50	45	51	45	62	51
90	1	65	58	67	60	68	60	82	67	63	56	66	59	66	58	78	64	65	58	67	60	68	60	82	67
	2	58	51	60	53	59	50	66	54	56	49	58	51	57	48	63	52	58	51	60	53	59	50	66	54
	3	49	40	52	46	51	44	59	48	46	38	50	44	49	42	56	46	49	40	52	46	51	44	59	48
	1	63	57	65	59	66	58	80	67	61	55	64	57	64	56	78	64	63	57	65	59	66	58	80	67
	2	57	50	58	52	58	50	66	54	55	48	57	50	56	48	63	52	57	50	58	52	58	50	66	54
	3	49	40	50	45	50	44	59	48	46	38	49	43	48	42	56	46	49	40	50	45	50	44	59	48
	1	61	55	63	57	64	57	77	67	60	54	62	56	63	55	77	64	61	55	63	57	64	57	77	67
	2	55	49	57	51	57	49	66	54	54	48	55	49	55	48	63	52	55	49	57	51	57	49	66	54
	3	47	40	49	44	49	43	59	48	46	38	48	42	48	41	56	46	47	40	49	44	49	43	59	48

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	68	67	69	69	68	68	75	75	68	66	69	68	68	68	75	75	68	65	69	67	68	68	75	75
	2	67	63	68	64	68	67	75	75	66	62	68	63	68	65	75	75	65	61	67	62	68	64	75	75
	3	57	53	58	55	62	57	75	73	56	53	58	54	61	56	75	72	55	52	57	53	60	55	75	70
Wind Speed [mph]		110								115															
100	1	68	64	69	66	68	68	75	75	67	63	69	65	68	68	75	75								
	2	64	60	66	61	68	63	75	75	63	59	65	60	68	61	75	75								
	3	55	51	56	53	59	54	75	68	54	50	56	52	58	53	75	66								
Wind Speed [mph]		120								130															
100	1	67	63	69	65	68	67	75	75	67	63	69	65	68	68	75	75								
	2	63	58	64	59	67	60	75	74	63	59	65	60	68	61	75	75								
	3	53	49	55	51	57	52	73	65	54	50	56	52	58	53	75	66								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	66	62	68	64	68	66	75	75	65	60	67	62	68	64	75	75	63	59	65	61	68	62	75	75
	2	62	57	64	58	65	59	75	72	60	55	62	57	63	57	75	69	59	53	60	55	61	55	75	64
	3	53	49	54	50	56	51	72	63	51	47	53	49	54	49	69	60	50	46	52	47	53	47	66	57
Wind Speed [mph]		170								180															
100	1	62	57	64	59	66	60	75	74	61	56	63	58	64	58	75	71								
	2	57	52	59	53	59	53	73	61	56	50	57	51	58	51	70	57								
	3	49	44	50	46	51	45	63	54	47	42	49	44	50	44	61	51								
Wind Speed [mph]		190								200															
100	1	59	54	61	56	63	56	75	67	58	53	60	55	61	54	75	64								
	2	54	48	56	50	56	49	66	54	53	47	54	48	54	47	63	52								
	3	46	40	48	43	48	42	59	48	45	38	47	42	47	41	56	46								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
0	1	117	98	122	103	115	96	125	104	113	95	118	99	110	92	120	100	109	91	113	95	106	88	116	96
	2	98	82	101	84	95	78	103	85	95	79	97	81	91	75	99	82	91	76	94	78	87	72	95	78
	3	79	64	90	75	84	69	91	75	75	61	86	72	80	66	88	72	72	58	83	69	77	64	84	69
5	1	117	98	122	103	115	96	125	104	113	95	118	99	110	92	120	100	109	91	113	95	106	88	116	96
	2	98	82	101	84	95	78	103	85	95	79	97	81	91	75	99	82	91	76	94	78	87	72	95	78
	3	79	64	90	75	84	69	91	75	75	61	86	72	80	66	88	72	72	58	83	69	77	64	84	69
10	1	113	98	117	103	115	96	125	104	110	95	114	99	110	92	120	100	108	91	111	95	106	88	116	96
	2	98	82	101	84	95	78	103	85	95	79	97	81	91	75	99	82	91	76	94	78	87	72	95	78
	3	79	64	90	75	84	69	91	75	75	61	86	72	80	66	88	72	72	58	83	69	77	64	84	69
0	1	105	88	109	91	102	85	112	93	102	85	106	88	99	82	108	89								
	2	88	73	90	75	84	69	91	75	85	70	87	72	81	67	88	73								
	3	69	56	80	66	74	61	81	67	66	54	77	64	72	59	78	64								
5	1	105	88	109	91	102	85	112	93	102	85	106	88	99	82	108	89								
	2	88	73	90	75	84	69	91	75	85	70	87	72	81	67	88	73								
	3	69	56	80	66	74	61	81	67	66	54	77	64	72	59	78	64								
10	1	105	88	109	91	102	85	112	93	102	85	106	88	99	82	108	89								
	2	88	73	90	75	84	69	91	75	85	70	87	72	81	67	88	73								
	3	69	56	80	66	74	61	81	67	66	54	77	64	72	59	78	64								
0	1	98	82	102	85	95	79	104	86	102	85	106	88	99	82	108	89								
	2	82	68	84	69	78	64	85	70	85	70	87	72	81	67	88	73								
	3	64	52	74	61	69	57	75	62	66	54	77	64	72	59	78	64								
5	1	98	82	102	85	95	79	104	86	102	85	106	88	99	82	108	89								
	2	82	68	84	69	78	64	85	70	85	70	87	72	81	67	88	73								
	3	64	52	74	61	69	57	75	62	66	54	77	64	72	59	78	64								
10	1	98	82	102	85	95	79	104	86	102	85	106	88	99	82	108	89								
	2	82	68	84	69	78	64	85	70	85	70	87	72	81	67	88	73								
	3	64	52	74	61	69	57	75	62	66	54	77	64	72	59	78	64								
0	1	98	82	102	85	95	79	104	86	102	85	106	88	99	82	108	89								
	2	82	68	84	69	78	64	85	70	85	70	87	72	81	67	88	73								
	3	64	52	74	61	69	57	75	62	66	54	77	64	72	59	78	64								
5	1	98	82	102	85	95	79	104	86	102	85	106	88	99	82	108	89								
	2	82	68	84	69	78	64	85	70	85	70	87	72	81	67	88	73								
	3	64	52	74	61	69	57	75	62	66	54	77	64	72	59	78	64								
10	1	98	82	102	85	95	79	104	86	102	85	106	88	99	82	108	89								
	2	82	68	84	69	78	64	85	70	85	70	87	72	81	67	88	73								
	3	64	52	74	61	69	57	75	62	66	54	77	64	72	59	78	64								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
0	1	95	79	99	82	92	76	101	83	89	74	93	77	87	72	94	78	84	70	88	73	82	67	89	73	
	2	79	65	81	67	76	62	82	68	74	61	76	63	71	58	77	63	70	57	72	59	66	55	72	59	
	3	61	50	72	59	67	55	73	60	57	46	67	55	62	51	68	56	53	43	63	52	59	48	64	52	
	5	1	95	79	99	82	92	76	101	83	89	74	93	77	87	72	94	78	84	70	88	73	82	67	89	73
		2	79	65	81	67	76	62	82	68	74	61	76	63	71	58	77	63	70	57	72	59	66	55	72	59
		3	61	50	72	59	67	55	73	60	57	46	67	55	62	51	68	56	53	43	63	52	59	48	64	52
	10	1	95	79	99	82	92	76	101	83	89	74	93	77	87	72	94	78	84	70	88	73	82	67	89	73
		2	79	65	81	67	76	62	82	68	74	61	76	63	71	58	77	63	70	57	72	59	66	55	72	59
		3	61	50	72	59	67	55	73	60	57	46	67	55	62	51	68	56	53	43	63	52	59	48	64	52
0	1	80	66	83	69	77	63	84	69	76	62	79	65	73	60	79	65	76	62	79	65	73	60	79	65	
	2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53	62	51	64	53	59	49	64	53	
	3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47	47	38	57	46	52	43	57	47	
	5	1	80	66	83	69	77	63	84	69	76	62	79	65	73	60	79	65	76	62	79	65	73	60	79	65
		2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53	62	51	64	53	59	49	64	53
		3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47	47	38	57	46	52	43	57	47
	10	1	80	66	83	69	77	63	84	69	76	62	79	65	73	60	79	65	76	62	79	65	73	60	79	65
		2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53	62	51	64	53	59	49	64	53
		3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47	47	38	57	46	52	43	57	47
0	1	72	59	75	62	69	57	75	62	68	56	71	59	66	54	72	59	68	56	71	59	66	54	72	59	
	2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48	56	46	58	47	54	44	58	48	
	3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42	42	35	51	42	47	38	51	42	
	5	1	72	59	75	62	69	57	75	62	68	56	71	59	66	54	72	59	68	56	71	59	66	54	72	59
		2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48	56	46	58	47	54	44	58	48
		3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42	42	35	51	42	47	38	51	42
	10	1	72	59	75	62	69	57	75	62	68	56	71	59	66	54	72	59	68	56	71	59	66	54	72	59
		2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48	56	46	58	47	54	44	58	48
		3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42	42	35	51	42	47	38	51	42

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
		15	1	107	95	110	98	115	96	122	104	104	92	108	96	110	92	120	100	102	90	105	93	106	88
	2	95	82	97	84	95	78	103	85	92	79	95	81	91	75	99	82	90	76	92	78	87	72	95	78
	3	79	64	85	75	84	69	91	75	75	61	83	72	80	66	88	72	72	58	81	69	77	64	84	69
	1	101	91	104	94	111	96	116	104	99	89	102	92	108	92	116	100	97	86	100	89	105	88	116	96
	2	91	80	93	82	95	78	103	85	89	78	91	80	91	75	99	82	86	75	89	78	87	72	95	78
	3	79	64	81	72	84	69	91	75	75	61	79	70	80	66	88	72	72	58	77	68	77	64	84	69
	1	101	91	104	94	106	95	111	104	99	89	102	92	105	92	111	100	97	86	100	89	102	88	111	96
	2	91	80	93	82	94	78	103	85	89	78	91	80	91	75	99	82	86	75	89	78	87	72	95	78
	3	79	64	81	72	82	69	91	75	75	61	79	70	80	66	88	72	72	58	77	68	77	64	84	69
Wind Speed [mph]		110								115															
	1	99	87	103	91	102	85	112	93	97	85	101	88	99	82	108	89								
	2	87	73	90	75	84	69	91	75	85	70	87	72	81	67	88	73								
	3	69	56	79	66	74	61	81	67	66	54	77	64	72	59	78	64								
	1	95	84	98	87	102	85	112	93	93	82	96	85	99	82	108	89								
	2	84	73	86	75	84	69	91	75	82	70	84	72	81	67	88	73								
	3	69	56	75	66	74	61	81	67	66	54	74	64	72	59	78	64								
	1	95	84	98	87	100	85	111	93	93	82	96	85	97	82	108	89								
	2	84	73	86	75	84	69	91	75	82	70	84	72	81	67	88	73								
	3	69	56	75	66	74	61	81	67	66	54	74	64	72	59	78	64								
Wind Speed [mph]		120								130															
	1	95	82	98	85	95	79	104	86	97	85	101	88	99	82	108	89								
	2	82	68	84	69	78	64	85	70	85	70	87	72	81	67	88	73								
	3	64	52	74	61	69	57	75	62	66	54	77	64	72	59	78	64								
	1	91	80	94	83	95	79	104	86	93	82	96	85	99	82	108	89								
	2	80	68	82	69	78	64	85	70	82	70	84	72	81	67	88	73								
	3	64	52	72	61	69	57	75	62	66	54	74	64	72	59	78	64								
	1	91	80	94	83	95	79	104	86	93	82	96	85	97	82	108	89								
	2	80	68	82	69	78	64	85	70	82	70	84	72	81	67	88	73								
	3	64	52	72	61	69	57	75	62	66	54	74	64	72	59	78	64								

Exposure Category : D

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
15	1	93	79	96	82	92	76	101	83	89	74	92	77	87	72	94	78	84	70	88	73	82	67	89	73	
	2	79	65	81	67	76	62	82	68	74	61	76	63	71	58	77	63	70	57	72	59	66	55	72	59	
	3	61	50	72	59	67	55	73	60	57	46	67	55	62	51	68	56	53	43	63	52	59	48	64	52	
	20	1	89	78	92	81	92	76	101	83	85	74	88	77	87	72	94	78	82	70	85	73	82	67	89	73
		2	78	65	80	67	76	62	82	68	74	61	76	63	71	58	77	63	70	57	72	59	66	55	72	59
		3	61	50	70	59	67	55	73	60	57	46	67	55	62	51	68	56	53	43	63	52	59	48	64	52
	25	1	89	78	92	81	92	76	101	83	85	74	88	77	87	72	94	78	82	70	85	73	82	67	89	73
		2	78	65	80	67	76	62	82	68	74	61	76	63	71	58	77	63	70	57	72	59	66	55	72	59
		3	61	50	70	59	67	55	73	60	57	46	67	55	62	51	68	56	53	43	63	52	59	48	64	52
15	1	80	66	83	69	77	63	84	69	76	62	79	65	73	60	79	65									
	2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53									
	3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47									
	20	1	79	66	81	69	77	63	84	69	75	62	78	65	73	60	79	65								
		2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53								
		3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47								
	25	1	79	66	81	69	77	63	84	69	75	62	78	65	73	60	79	65								
		2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53								
		3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47								
15	1	72	59	75	62	69	57	75	62	68	56	71	59	66	54	72	59									
	2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48									
	3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42									
	20	1	72	59	75	62	69	57	75	62	68	56	71	59	66	54	72	59								
		2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48								
		3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42								
	25	1	72	59	75	62	69	57	75	62	68	56	71	59	66	54	72	59								
		2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48								
		3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches																
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
30	1	101	91	104	94	101	93	106	104	99	88	102	92	101	90	106	100	97	86	100	89	100	88	106	96	
	2	91	80	93	82	92	78	103	85	88	78	91	80	89	75	99	82	86	75	88	77	87	72	95	78	
	3	78	64	81	72	80	69	91	75	75	61	79	70	78	66	88	72	72	58	77	68	76	64	84	69	
	35	1	97	88	101	91	97	91	103	103	95	86	99	89	97	88	103	100	94	84	97	87	97	86	103	96
		2	88	78	91	80	90	78	103	85	86	76	88	78	88	75	99	82	84	74	86	76	85	72	95	78
		3	76	64	79	70	79	69	91	75	74	61	77	68	76	66	88	72	72	58	75	66	74	64	84	69
	40	1	94	86	97	89	93	89	99	99	93	84	96	87	93	87	99	99	91	82	94	85	93	84	99	96
		2	86	77	88	79	88	77	99	85	84	75	86	77	86	75	99	82	82	73	84	75	84	72	95	78
		3	74	64	77	69	77	67	91	75	72	61	75	67	75	65	88	72	71	58	73	65	73	63	84	69
30	1	95	84	98	87	97	85	106	93	93	82	96	85	95	82	106	89	93	82	96	85	95	82	106	89	
	2	84	73	86	75	84	69	91	75	82	70	84	72	81	67	88	73	82	70	84	72	81	67	88	73	
	3	69	56	75	66	74	61	81	67	66	54	74	64	72	59	78	64	66	54	74	64	72	59	78	64	
	35	1	92	82	95	85	95	84	103	93	90	80	93	83	93	81	103	89	90	80	93	83	93	81	103	89
		2	82	72	84	74	83	69	91	75	80	70	82	72	81	67	88	73	80	70	82	72	81	67	88	73
		3	69	56	73	65	72	61	81	67	66	54	72	63	70	59	78	64	66	54	72	63	70	59	78	64
	40	1	89	80	92	83	93	82	99	93	87	78	90	81	91	80	99	89	87	78	90	81	91	80	99	89
		2	80	71	82	73	81	69	91	75	78	69	81	71	79	67	88	73	78	69	81	71	79	67	88	73
		3	69	56	72	63	71	61	81	67	66	54	70	62	69	59	78	64	66	54	70	62	69	59	78	64
30	1	91	80	94	83	93	79	104	86	93	82	96	85	95	82	106	89	93	82	96	85	95	82	106	89	
	2	80	68	82	69	78	64	85	70	82	70	84	72	81	67	88	73	82	70	84	72	81	67	88	73	
	3	64	52	72	61	69	57	75	62	66	54	74	64	72	59	78	64	66	54	74	64	72	59	78	64	
	35	1	88	78	91	81	91	79	103	86	90	80	93	83	93	81	103	89	90	80	93	83	93	81	103	89
		2	78	68	80	69	78	64	85	70	80	70	82	72	81	67	88	73	80	70	82	72	81	67	88	73
		3	64	52	70	61	69	57	75	62	66	54	72	63	70	59	78	64	66	54	72	63	70	59	78	64
	40	1	86	77	89	79	89	78	99	86	87	78	90	81	91	80	99	89	87	78	90	81	91	80	99	89
		2	77	67	79	69	77	64	85	70	78	69	81	71	79	67	88	73	78	69	81	71	79	67	88	73
		3	64	52	69	60	67	57	75	62	66	54	70	62	69	59	78	64	66	54	70	62	69	59	78	64

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
30	1	89	78	92	81	91	76	101	83	85	74	88	77	86	72	94	78	82	70	85	73	82	67	89	73	
	2	78	65	80	67	76	62	82	68	74	61	76	63	71	58	77	63	70	57	72	59	66	55	72	59	
	3	61	50	70	59	67	55	73	60	57	46	67	55	62	51	68	56	53	43	63	52	59	48	64	52	
	35	1	86	76	89	79	89	76	101	83	83	73	86	76	85	72	94	78	80	70	83	72	81	67	89	73
		2	76	65	78	67	76	62	82	68	73	61	75	63	71	58	77	63	70	57	72	59	66	55	72	59
		3	61	50	68	59	67	55	73	60	57	46	65	55	62	51	68	56	53	43	63	52	59	48	64	52
	40	1	84	75	87	78	87	76	99	83	81	72	84	74	83	72	94	78	78	69	81	71	80	67	89	73
		2	75	65	77	67	75	62	82	68	72	61	74	63	71	58	77	63	69	57	70	59	66	55	72	59
		3	61	50	67	59	66	55	73	60	57	46	64	55	62	51	68	56	53	43	61	52	59	48	64	52
Wind Speed [mph]		170								180																
30	1	78	66	81	69	77	63	84	69	75	62	78	65	73	60	79	65									
	2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53									
	3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47									
35	1	77	66	80	69	77	63	84	69	74	62	77	65	73	60	79	65									
	2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53									
	3	50	41	60	49	55	45	60	49	47	38	57	46	52	43	57	47									
40	1	75	66	78	68	77	63	84	69	73	62	75	65	73	60	79	65									
	2	66	54	68	56	63	51	68	56	62	51	64	53	59	49	64	53									
	3	50	41	59	49	55	45	60	49	47	38	57	46	52	43	57	47									
Wind Speed [mph]		190								200																
30	1	72	59	75	62	69	57	75	62	68	56	71	59	66	54	72	59									
	2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48									
	3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42									
35	1	71	59	74	62	69	57	75	62	68	56	71	59	66	54	72	59									
	2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48									
	3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42									
40	1	70	59	73	62	69	57	75	62	68	56	70	59	66	54	72	59									
	2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48									
	3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42									

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
---------------	--------------	--------------	---------------

**Notation (ASCE 7-22)**  
 $a = 0.4h$ , never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 $B$  = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 $h$  = Mean roof height, in ft(m).  
 $\theta$  = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
45	1	92	84	94	87	90	87	96	96	90	82	93	85	90	85	96	96	88	80	91	83	90	83	96	96
	2	84	75	86	77	86	76	96	85	82	73	84	75	84	74	96	82	80	71	82	73	82	72	95	78
	3	72	64	75	67	75	66	91	75	71	61	73	65	73	64	88	72	69	58	72	64	71	63	84	69
50	1	89	82	92	85	88	85	94	94	88	80	90	83	88	83	94	94	86	78	89	81	88	81	94	94
	2	82	74	84	76	85	75	94	85	80	72	82	74	83	73	94	82	78	70	81	72	81	71	94	78
	3	70	63	73	66	74	65	90	75	69	61	71	64	72	63	87	72	67	58	70	63	70	62	84	69
60	1	85	78	87	81	83	82	89	89	83	77	86	79	83	80	89	89	82	75	85	78	83	79	89	89
	2	78	71	80	73	82	73	89	85	77	69	79	71	80	71	89	82	75	68	77	70	78	69	89	78
	3	67	61	69	63	71	63	88	75	66	60	68	62	69	62	85	72	65	58	67	60	68	60	83	69
45	1	87	78	90	81	90	81	96	93	85	77	88	80	89	79	96	89	85	77	88	80	89	79	96	89
	2	78	69	81	71	80	69	91	75	77	68	79	70	78	67	88	73	77	68	79	70	78	67	88	73
	3	68	56	70	62	70	61	81	67	66	54	69	61	68	59	78	64	66	54	69	61	68	59	78	64
50	1	85	77	87	80	88	79	94	93	83	75	86	78	87	77	94	89	83	75	86	78	87	77	94	89
	2	77	68	79	70	79	69	91	75	75	67	77	69	77	67	88	73	75	67	77	69	77	67	88	73
	3	66	56	68	61	68	60	81	67	65	54	67	60	67	58	78	64	65	54	67	60	67	58	78	64
60	1	81	74	83	76	83	77	89	89	79	72	82	75	83	75	89	89	79	72	82	75	83	75	89	89
	2	74	66	76	68	76	67	89	75	72	65	74	66	75	65	88	73	72	65	74	66	75	65	88	73
	3	63	56	66	59	66	58	81	67	62	54	64	58	65	57	78	64	62	54	64	58	65	57	78	64
45	1	84	75	87	78	87	77	96	86	85	77	88	80	89	79	96	89	85	77	88	80	89	79	96	89
	2	75	66	77	68	76	64	85	70	77	68	79	70	78	67	88	73	77	68	79	70	78	67	88	73
	3	64	52	67	59	66	57	75	62	66	54	69	61	68	59	78	64	66	54	69	61	68	59	78	64
50	1	82	74	85	76	85	76	94	86	83	75	86	78	87	77	94	89	83	75	86	78	87	77	94	89
	2	74	65	76	67	75	64	85	70	75	67	77	69	77	67	88	73	75	67	77	69	77	67	88	73
	3	63	52	66	58	65	57	75	62	65	54	67	60	67	58	78	64	65	54	67	60	67	58	78	64
60	1	78	71	81	74	82	73	89	86	79	72	82	75	83	75	89	89	79	72	82	75	83	75	89	89
	2	71	63	73	65	73	64	85	70	72	65	74	66	75	65	88	73	72	65	74	66	75	65	88	73
	3	61	52	63	56	63	55	75	62	62	54	64	58	65	57	78	64	62	54	64	58	65	57	78	64

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
45	1	82	73	85	76	85	75	96	83	79	70	82	73	82	71	94	78	77	67	79	70	78	67	89	73
	2	73	64	75	66	74	62	82	68	70	61	72	63	71	58	77	63	67	57	69	59	66	55	72	59
	3	61	50	66	58	65	55	73	60	57	46	63	55	62	51	68	56	53	43	60	52	59	48	64	52
50	1	80	72	83	75	84	74	94	83	78	69	80	72	80	70	94	78	75	66	78	69	77	67	89	73
	2	72	63	74	65	73	62	82	68	69	60	71	62	70	58	77	63	66	57	68	59	66	55	72	59
	3	61	50	64	57	64	55	73	60	57	46	62	54	61	51	68	56	53	43	59	52	58	48	64	52
60	1	77	70	80	72	81	72	89	83	75	67	77	69	78	69	89	78	72	65	75	67	75	66	89	73
	2	70	62	72	63	71	62	82	68	67	59	69	61	68	58	77	63	65	56	66	58	65	55	72	59
	3	60	50	62	55	62	54	73	60	57	46	60	53	59	51	68	56	53	43	58	50	57	48	64	52
Wind Speed [mph]		170								180															
45	1	74	65	77	67	75	63	84	69	71	62	74	65	72	60	79	65								
	2	65	54	67	56	63	51	68	56	62	51	64	53	59	49	64	53								
	3	50	41	58	49	55	45	60	49	47	38	56	46	52	43	57	47								
50	1	73	64	75	66	74	63	84	69	70	61	73	64	71	60	79	65								
	2	64	54	66	56	63	51	68	56	61	51	63	53	59	49	64	53								
	3	50	41	57	49	55	45	60	49	47	38	55	46	52	43	57	47								
60	1	70	62	72	64	72	63	84	69	68	60	70	62	70	60	79	65								
	2	62	54	64	56	62	51	68	56	60	51	61	53	59	49	64	53								
	3	50	41	55	48	54	45	60	49	47	38	53	46	52	43	57	47								
Wind Speed [mph]		190								200															
45	1	69	59	71	62	69	57	75	62	67	56	69	59	66	54	72	59								
	2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48								
	3	45	36	54	44	50	41	54	44	42	35	51	42	47	38	51	42								
50	1	68	59	70	61	69	57	75	62	66	56	68	59	66	54	72	59								
	2	59	49	61	50	56	46	61	50	56	46	58	47	54	44	58	48								
	3	45	36	53	44	50	41	54	44	42	35	51	42	47	38	51	42								
60	1	66	58	68	60	67	57	75	62	64	56	66	58	65	54	72	59								
	2	58	49	59	50	56	46	61	50	56	46	57	47	54	44	58	48								
	3	45	36	52	44	50	41	54	44	42	35	50	42	47	38	51	42								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
70	1	81	75	83	78	79	79	86	86	80	74	82	76	79	78	86	86	78	73	81	75	79	76	86	86	
	2	75	69	77	71	79	71	86	85	74	67	76	69	77	69	86	82	73	66	74	68	76	67	86	78	
	3	64	59	66	61	68	61	86	75	63	58	65	60	67	60	83	72	62	56	64	58	65	58	81	69	
	80	1	77	72	80	75	76	76	83	83	76	71	79	74	76	75	83	83	75	70	78	72	76	74	83	83
		2	72	67	74	68	76	69	83	83	71	65	73	67	75	67	83	82	70	64	72	66	73	66	83	78
		3	62	57	64	59	66	60	83	74	61	56	63	58	65	58	82	71	60	55	62	57	63	57	79	69
	90	1	74	70	76	72	73	73	80	80	73	69	76	71	73	73	80	80	72	68	75	70	73	72	80	80
		2	70	65	72	66	73	67	80	80	69	63	71	65	73	66	80	80	68	62	70	64	71	64	80	78
		3	60	55	62	57	64	58	80	72	59	54	61	56	63	57	80	70	58	53	60	55	62	56	78	68
70	Wind Speed [mph]		110								115															
	1	77	71	80	74	79	75	86	86	76	70	79	72	79	73	86	86									
	2	71	64	73	66	74	66	86	75	70	63	72	65	72	64	86	73									
	3	61	55	63	57	64	57	79	67	60	54	62	56	63	55	77	64									
	80	1	74	69	77	71	76	72	83	83	73	68	76	70	76	71	83	83								
		2	69	63	71	64	72	64	83	75	68	61	70	63	71	63	83	73								
		3	59	54	61	55	62	56	77	67	58	52	60	54	61	54	75	64								
	90	1	72	67	74	69	73	71	80	80	71	66	73	68	73	69	80	80								
		2	67	61	68	63	70	63	80	75	66	60	67	61	69	61	80	73								
3		57	52	59	54	60	54	76	66	56	51	58	53	59	53	74	64									
70	Wind Speed [mph]		120								130															
	1	75	69	78	71	79	71	86	86	76	70	79	72	79	73	86	86									
	2	69	62	71	63	71	62	85	70	70	63	72	65	72	64	86	73									
	3	59	52	61	55	61	54	75	62	60	54	62	56	63	55	77	64									
	80	1	72	67	75	69	76	70	83	83	73	68	76	70	76	71	83	83								
		2	67	60	68	62	69	61	83	70	68	61	70	63	71	63	83	73								
		3	57	51	59	53	60	53	74	62	58	52	60	54	61	54	75	64								
	90	1	70	65	72	67	73	68	80	80	71	66	73	68	73	69	80	80								
		2	65	59	66	60	67	60	80	70	66	60	67	61	69	61	80	73								
3		55	50	57	52	58	52	72	62	56	51	58	53	59	53	74	64									

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
70	1	74	67	76	70	78	70	86	83	72	65	74	67	75	67	86	78	70	63	72	65	73	64	86	73
	2	67	60	69	62	69	61	82	68	65	58	67	59	66	58	77	63	63	55	64	57	64	55	72	59
	3	58	50	60	54	60	53	73	60	56	46	58	51	58	50	68	56	53	43	56	49	55	48	64	52
80	1	71	65	74	68	76	68	83	83	69	63	72	65	73	65	83	78	68	61	70	63	71	63	83	73
	2	65	59	67	60	68	60	82	68	63	56	65	58	65	57	77	63	61	54	63	56	62	54	72	59
	3	56	50	58	52	58	52	72	60	54	46	56	50	56	49	68	56	52	43	54	48	54	47	64	52
90	1	69	64	71	66	73	67	80	80	67	62	69	64	71	64	80	78	66	60	68	62	69	62	80	73
	2	64	57	65	59	66	59	80	68	62	55	63	57	64	56	77	63	60	53	61	54	61	54	72	59
	3	54	49	56	51	57	51	71	60	53	46	54	49	55	48	67	56	51	43	53	47	53	46	64	52
Wind Speed [mph]		170								180															
70	1	68	61	70	63	70	62	84	69	66	58	68	61	68	59	79	65								
	2	61	53	62	54	61	51	68	56	58	51	60	52	59	49	64	53								
	3	50	41	54	47	53	45	60	49	47	38	52	45	51	43	57	47								
80	1	66	59	68	61	68	61	83	69	64	57	66	59	66	58	79	65								
	2	59	52	61	53	60	51	68	56	57	50	59	51	58	49	64	53								
	3	50	41	52	46	52	45	60	49	47	38	51	45	50	43	57	47								
90	1	64	58	66	60	67	59	80	69	62	56	64	58	65	57	79	65								
	2	58	51	59	52	59	51	68	56	56	49	57	50	57	49	64	53								
	3	49	41	51	45	51	44	60	49	47	38	50	44	49	43	57	47								
Wind Speed [mph]		190								200															
70	1	64	56	66	59	66	57	75	62	62	54	64	57	63	54	72	59								
	2	56	49	58	50	56	46	61	50	54	46	56	47	54	44	58	48								
	3	45	36	50	44	49	41	54	44	42	35	49	42	47	38	51	42								
80	1	62	55	64	57	64	56	75	62	60	53	63	55	62	54	72	59								
	2	55	48	57	49	56	46	61	50	53	46	55	47	54	44	58	48								
	3	45	36	49	43	48	41	54	44	42	35	48	41	47	38	51	42								
90	1	60	54	63	56	63	55	75	62	59	52	61	54	61	53	72	59								
	2	54	47	56	49	55	46	61	50	52	46	54	47	53	44	58	48								
	3	45	36	48	42	47	41	54	44	42	35	47	41	46	38	51	42								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	72	68	73	70	71	71	77	77	71	67	73	69	71	71	77	77	70	66	72	68	71	70	77	77
	2	68	63	69	65	71	66	77	77	67	62	68	63	71	64	77	77	66	61	67	62	70	63	77	77
	3	58	54	59	55	62	57	77	71	57	53	59	54	61	56	77	69	56	52	58	53	60	54	77	67
Wind Speed [mph]		110								115															
100	1	69	65	71	67	71	69	77	77	68	64	71	66	71	67	77	77	68	64	71	66	71	67	77	77
	2	65	59	66	61	68	62	77	75	64	58	65	60	67	60	77	73	64	58	65	60	67	60	77	73
	3	55	51	57	52	59	53	75	65	54	50	56	52	58	52	73	64	54	50	56	52	58	52	73	64
0	1																								
	2																								
	3																								
0	1																								
	2																								
	3																								
Wind Speed [mph]		120								130															
100	1	68	63	70	65	71	66	77	77	68	64	71	66	71	67	77	77	68	64	71	66	71	67	77	77
	2	63	57	64	59	66	59	77	70	64	58	65	60	67	60	77	73	64	58	65	60	67	60	77	73
	3	54	49	55	51	57	51	71	62	54	50	56	52	58	52	73	64	54	50	56	52	58	52	73	64
Wind Speed [mph]																									
100	1																								
	2																								
	3																								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	67	62	69	64	71	65	77	77	65	60	67	62	69	63	77	77	64	58	66	60	67	60	77	73
	2	62	56	64	58	65	58	77	68	60	54	62	55	62	55	76	63	58	52	60	53	60	53	72	59
	3	53	48	55	50	56	50	69	60	51	46	53	48	54	48	66	56	50	43	51	46	52	46	63	52
Wind Speed [mph]		170								180															
100	1	62	56	64	58	65	58	77	69	61	55	63	57	63	56	77	65								
	2	56	50	58	52	58	51	68	56	55	48	56	50	56	48	64	53								
	3	48	41	50	45	50	44	60	49	47	38	48	43	48	42	57	47								
Wind Speed [mph]		190								200															
100	1	59	53	61	55	62	54	75	62	58	51	60	53	60	52	72	59								
	2	53	47	54	48	54	46	61	50	51	45	53	46	52	44	58	48								
	3	45	36	47	42	47	40	54	44	42	35	46	40	45	38	51	42								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
0	1	131	113	134	117	129	110	130	120	128	109	131	113	126	106	130	115	124	105	128	109	122	102	130	111
	2	113	94	116	97	109	91	118	98	109	91	111	93	105	87	114	94	105	87	107	90	101	84	109	91
	3	93	75	104	86	97	80	105	87	88	72	100	83	93	77	101	84	85	68	96	80	89	74	97	80
	1	131	113	134	117	129	110	130	120	128	109	131	113	126	106	130	115	124	105	128	109	122	102	130	111
	2	113	94	116	97	109	91	118	98	109	91	111	93	105	87	114	94	105	87	107	90	101	84	109	91
	3	93	75	104	86	97	80	105	87	88	72	100	83	93	77	101	84	85	68	96	80	89	74	97	80
	1	124	110	127	114	128	110	128	120	121	107	125	111	126	106	128	115	118	104	122	108	122	102	128	111
	2	110	94	113	97	109	91	118	98	107	91	110	93	105	87	114	94	104	87	107	90	101	84	109	91
	3	93	75	100	86	97	80	105	87	88	72	97	83	93	77	101	84	85	68	94	80	89	74	97	80
5	1	120	101	125	105	117	98	127	107	116	97	121	101	113	95	124	103	120	101	125	105	117	98	127	107
	2	101	84	104	86	97	80	105	87	97	81	100	83	94	77	102	84	101	84	104	86	97	80	105	87
	3	81	66	92	77	86	71	94	77	78	63	89	74	83	68	90	74	81	66	92	77	86	71	94	77
	1	120	101	125	105	117	98	127	107	116	97	121	101	113	95	124	103	120	101	125	105	117	98	127	107
	2	101	84	104	86	97	80	105	87	97	81	100	83	94	77	102	84	101	84	104	86	97	80	105	87
	3	81	66	92	77	86	71	94	77	78	63	89	74	83	68	90	74	81	66	92	77	86	71	94	77
	1	115	101	119	105	117	98	127	107	113	97	117	101	113	95	124	103	115	101	119	105	117	98	127	107
	2	101	84	104	86	97	80	105	87	97	81	100	83	94	77	102	84	101	84	104	86	97	80	105	87
	3	81	66	92	77	86	71	94	77	78	63	89	74	83	68	90	74	81	66	92	77	86	71	94	77
10	1	113	94	117	98	110	91	120	100	116	97	121	101	113	95	124	103	113	94	117	98	110	91	120	100
	2	94	78	97	80	90	75	98	81	97	81	100	83	94	77	102	84	94	78	97	80	90	75	98	81
	3	75	61	86	71	80	66	87	72	78	63	89	74	83	68	90	74	75	61	86	71	80	66	87	72
	1	113	94	117	98	110	91	120	100	116	97	121	101	113	95	124	103	113	94	117	98	110	91	120	100
	2	94	78	97	80	90	75	98	81	97	81	100	83	94	77	102	84	94	78	97	80	90	75	98	81
	3	75	61	86	71	80	66	87	72	78	63	89	74	83	68	90	74	75	61	86	71	80	66	87	72
	1	110	94	114	98	110	91	120	100	113	97	117	101	113	95	124	103	110	94	114	98	110	91	120	100
	2	94	78	97	80	90	75	98	81	97	81	100	83	94	77	102	84	94	78	97	80	90	75	98	81
	3	75	61	86	71	80	66	87	72	78	63	89	74	83	68	90	74	75	61	86	71	80	66	87	72

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
	1	109	91	113	95	106	88	116	96	103	86	107	89	100	83	109	90	97	81	101	84	94	78	103	85
0	2	91	76	94	78	87	72	95	78	86	71	88	73	82	68	89	73	81	67	83	69	77	64	84	69
	3	72	58	83	69	77	64	84	69	67	54	78	64	72	60	79	65	63	51	73	61	68	56	74	61
	1	109	91	113	95	106	88	116	96	103	86	107	89	100	83	109	90	97	81	101	84	94	78	103	85
5	2	91	76	94	78	87	72	95	78	86	71	88	73	82	68	89	73	81	67	83	69	77	64	84	69
	3	72	58	83	69	77	64	84	69	67	54	78	64	72	60	79	65	63	51	73	61	68	56	74	61
	1	108	91	111	95	106	88	116	96	103	86	107	89	100	83	109	90	97	81	101	84	94	78	103	85
10	2	91	76	94	78	87	72	95	78	86	71	88	73	82	68	89	73	81	67	83	69	77	64	84	69
	3	72	58	83	69	77	64	84	69	67	54	78	64	72	60	79	65	63	51	73	61	68	56	74	61
	1	109	91	113	95	106	88	116	96	103	86	107	89	100	83	109	90	97	81	101	84	94	78	103	85
Wind Speed [mph]		170								180															
0	1	92	76	96	79	89	74	97	80	87	72	91	75	85	70	92	76	76	63	78	65	73	60	79	65
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	57	75	62	55	45	66	54	61	50	66	54
	3	59	48	69	57	64	53	70	57	55	45	66	54	61	50	66	54	92	76	96	79	89	74	97	80
5	1	92	76	96	79	89	74	97	80	87	72	91	75	85	70	92	76	76	63	78	65	73	60	79	65
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	57	75	62	55	45	66	54	61	50	66	54
	3	59	48	69	57	64	53	70	57	55	45	66	54	61	50	66	54	92	76	96	79	89	74	97	80
10	1	92	76	96	79	89	74	97	80	87	72	91	75	85	70	92	76	76	63	78	65	73	60	79	65
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	57	75	62	55	45	66	54	61	50	66	54
	3	59	48	69	57	64	53	70	57	55	45	66	54	61	50	66	54	92	76	96	79	89	74	97	80
Wind Speed [mph]		190								200															
0	1	83	69	86	72	80	66	87	72	79	65	82	68	77	63	83	69	69	56	71	58	65	54	71	58
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56	50	40	59	49	55	45	60	49
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49	83	69	86	72	80	66	87	72
5	1	83	69	86	72	80	66	87	72	79	65	82	68	77	63	83	69	69	56	71	58	65	54	71	58
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56	50	40	59	49	55	45	60	49
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49	83	69	86	72	80	66	87	72
10	1	83	69	86	72	80	66	87	72	79	65	82	68	77	63	83	69	69	56	71	58	65	54	71	58
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56	50	40	59	49	55	45	60	49
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49	83	69	86	72	80	66	87	72

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 30-60ft | 92.5in x 45.9in | Span, inches

Exposure Category : B

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge																						
15	1	115	104	119	108	117	110	120	120	113	101	116	105	117	106	120	115	110	99	114	102	117	102	120	111
	2	104	92	107	95	109	91	118	98	101	90	104	92	105	87	114	94	99	87	102	89	101	84	109	91
	3	90	75	93	83	96	80	105	87	88	72	91	81	93	77	101	84	85	68	89	78	89	74	97	80
20	1	108	99	111	102	109	107	113	113	106	96	109	100	109	104	113	113	104	94	107	98	109	101	113	111
	2	99	88	101	91	106	91	113	98	96	86	99	88	103	87	113	94	94	84	97	86	100	84	109	91
	3	85	75	88	79	93	80	105	87	83	72	86	77	90	77	101	84	82	68	84	75	88	74	97	80
25	1	108	99	111	102	103	103	108	108	106	96	109	100	103	100	108	108	104	94	107	98	103	98	108	108
	2	99	88	101	91	102	90	108	98	96	86	99	88	100	87	108	94	94	84	97	86	97	84	108	91
	3	85	75	88	79	89	79	105	87	83	72	86	77	87	76	101	84	82	68	84	75	85	74	97	80
Wind Speed [mph]		110								115															
15	1	108	97	112	100	116	98	120	107	106	94	110	98	113	95	120	103								
	2	97	84	99	86	97	80	105	87	94	81	97	83	94	77	102	84								
	3	81	66	87	76	86	71	94	77	78	63	85	74	83	68	90	74								
20	1	102	92	106	95	109	98	113	107	100	90	104	93	109	95	113	103								
	2	92	82	95	84	97	80	105	87	90	80	93	82	94	77	102	84								
	3	80	66	83	73	85	71	94	77	78	63	81	71	83	68	90	74								
25	1	102	92	106	95	103	95	108	107	100	90	104	93	103	93	108	103								
	2	92	82	95	84	95	80	105	87	90	80	93	82	92	77	102	84								
	3	80	66	83	73	83	71	94	77	78	63	81	71	81	68	90	74								
Wind Speed [mph]		120								130															
15	1	104	92	107	95	110	91	120	100	106	94	110	98	113	95	120	103								
	2	92	78	94	80	90	75	98	81	94	81	97	83	94	77	102	84								
	3	75	61	83	71	80	66	87	72	78	63	85	74	83	68	90	74								
20	1	99	88	102	91	106	91	113	100	100	90	104	93	109	95	113	103								
	2	88	77	91	80	90	75	98	81	90	80	93	82	94	77	102	84								
	3	75	61	79	70	80	66	87	72	78	63	81	71	83	68	90	74								
25	1	99	88	102	91	103	91	108	100	100	90	104	93	103	93	108	103								
	2	88	77	91	80	90	75	98	81	90	80	93	82	92	77	102	84								
	3	75	61	79	70	79	66	87	72	78	63	81	71	81	68	90	74								

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
15	1	102	90	105	93	106	88	116	96	98	86	101	89	100	83	109	90	94	81	97	84	94	78	103	85
	2	90	76	92	78	87	72	95	78	86	71	88	73	82	68	89	73	81	67	83	69	77	64	84	69
	3	72	58	81	69	77	64	84	69	67	54	77	64	72	60	79	65	63	51	73	61	68	56	74	61
	1	97	86	100	89	104	88	113	96	93	83	97	86	99	83	109	90	90	79	93	82	94	78	103	85
	2	86	76	89	78	87	72	95	78	83	71	85	73	82	68	89	73	79	67	81	69	77	64	84	69
	3	72	58	77	68	77	64	84	69	67	54	74	64	72	60	79	65	63	51	71	61	68	56	74	61
	1	97	86	100	89	101	88	108	96	93	83	97	86	97	83	108	90	90	79	93	82	93	78	103	85
	2	86	76	89	78	87	72	95	78	83	71	85	73	82	68	89	73	79	67	81	69	77	64	84	69
	3	72	58	77	68	77	64	84	69	67	54	74	64	72	60	79	65	63	51	71	61	68	56	74	61
20	1	90	76	94	79	89	74	97	80	87	72	90	75	85	70	92	76	87	72	90	75	85	70	92	76
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	57	75	62	72	59	74	61	69	57	75	62
	3	59	48	69	57	64	53	70	57	55	45	66	54	61	50	66	54	55	45	66	54	61	50	66	54
	1	87	76	90	79	89	74	97	80	84	72	87	75	85	70	92	76	84	72	87	75	85	70	92	76
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	57	75	62	72	59	74	61	69	57	75	62
	3	59	48	68	57	64	53	70	57	55	45	66	54	61	50	66	54	55	45	66	54	61	50	66	54
	1	87	76	90	79	89	74	97	80	84	72	87	75	85	70	92	76	84	72	87	75	85	70	92	76
	2	76	63	78	65	73	60	79	65	72	59	74	61	69	57	75	62	72	59	74	61	69	57	75	62
	3	59	48	68	57	64	53	70	57	55	45	66	54	61	50	66	54	55	45	66	54	61	50	66	54
25	1	83	69	86	72	80	66	87	72	79	65	82	68	77	63	83	69	79	65	82	68	77	63	83	69
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56	65	54	67	55	62	51	68	56
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49	50	40	59	49	55	45	60	49
	1	81	69	84	72	80	66	87	72	78	65	81	68	77	63	83	69	78	65	81	68	77	63	83	69
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56	65	54	67	55	62	51	68	56
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49	50	40	59	49	55	45	60	49
	1	81	69	84	72	80	66	87	72	78	65	81	68	77	63	83	69	78	65	81	68	77	63	83	69
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56	65	54	67	55	62	51	68	56
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49	50	40	59	49	55	45	60	49

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
30	1	105	96	108	99	98	98	104	104	103	94	106	97	98	98	104	104	101	92	104	95	98	95	104	104
	2	96	87	99	89	98	88	104	98	94	84	97	87	97	85	104	94	92	82	95	84	94	83	104	91
	3	83	75	86	77	87	77	104	87	81	72	84	76	84	74	101	84	80	68	82	74	82	72	97	80
	1	100	93	103	96	94	94	100	100	99	91	102	94	94	94	100	100	97	89	100	92	94	93	100	100
	2	93	84	95	86	94	86	100	98	91	82	93	84	94	84	100	94	89	80	92	82	92	81	100	91
	3	80	73	83	75	84	75	100	87	78	71	81	73	82	73	100	84	77	68	80	72	80	71	97	80
	1	97	90	100	93	90	90	96	96	95	88	98	91	90	90	96	96	94	87	97	89	90	90	96	96
	2	90	82	92	84	90	84	96	96	88	80	91	82	90	82	96	94	87	78	89	80	90	80	96	91
	3	77	71	80	73	82	73	96	87	76	69	78	71	80	71	96	84	74	67	77	70	78	69	96	80
35	1	99	90	103	93	98	93	104	104	98	88	101	91	98	91	104	103								
	2	90	80	93	82	92	80	104	87	88	78	91	80	90	77	102	84								
	3	78	66	81	72	80	70	94	77	76	63	79	70	78	68	90	74								
	1	96	87	99	90	94	91	100	100	94	86	97	89	94	89	100	100								
	2	87	78	90	80	90	79	100	87	86	76	88	78	88	77	100	84								
	3	75	66	78	70	78	69	94	77	74	63	76	68	76	67	90	74								
	1	93	85	95	88	90	88	96	96	91	83	94	86	90	87	96	96								
	2	85	76	87	78	88	78	96	87	83	75	86	77	86	76	96	84								
	3	73	66	76	68	76	68	93	77	72	63	74	67	75	66	90	74								
40	1	96	86	99	89	98	88	104	100	98	88	101	91	98	91	104	103								
	2	86	76	89	78	88	75	98	81	88	78	91	80	90	77	102	84								
	3	75	61	77	68	77	66	87	72	76	63	79	70	78	68	90	74								
	1	93	84	96	87	94	87	100	100	94	86	97	89	94	89	100	100								
	2	84	75	86	77	86	75	98	81	86	76	88	78	88	77	100	84								
	3	72	61	75	67	75	65	87	72	74	63	76	68	76	67	90	74								
	1	90	82	93	85	90	85	96	96	91	83	94	86	90	87	96	96								
	2	82	73	84	75	84	74	96	81	83	75	86	77	86	76	96	84								
	3	70	61	73	65	73	64	87	72	72	63	74	67	75	66	90	74								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
30	1	94	85	98	88	98	86	104	96	91	81	94	84	94	82	104	90	88	78	91	81	90	78	103	85
	2	85	74	87	76	86	72	95	78	81	71	83	73	82	68	89	73	78	67	80	69	77	64	84	69
	3	72	58	76	67	75	64	84	69	67	54	73	64	71	60	79	65	63	51	70	61	68	56	74	61
35	1	91	82	94	85	94	85	100	96	88	79	91	82	92	81	100	90	85	76	88	79	88	77	100	85
	2	82	73	85	75	84	72	95	78	79	70	81	71	80	68	89	73	76	66	78	68	77	64	84	69
	3	71	58	74	65	73	64	84	69	67	54	71	62	70	60	79	65	63	51	68	60	67	56	74	61
40	1	88	80	91	83	90	83	96	96	86	77	89	80	89	79	96	90	83	74	86	77	86	76	96	85
	2	80	71	82	73	82	72	95	78	77	68	79	70	79	68	89	73	74	65	76	67	75	64	84	69
	3	69	58	72	64	71	63	84	69	67	54	69	61	68	60	79	65	63	51	67	59	66	56	74	61
30	1	85	75	88	78	87	74	97	80	82	72	85	75	84	70	92	76								
	2	75	63	77	65	73	60	79	65	72	59	74	61	69	57	75	62								
	3	59	48	67	57	64	53	70	57	55	45	65	54	61	50	66	54								
35	1	83	73	86	76	85	74	97	80	80	71	83	73	82	70	92	76								
	2	73	63	75	65	73	60	79	65	71	59	72	61	69	57	75	62								
	3	59	48	66	57	64	53	70	57	55	45	63	54	61	50	66	54								
40	1	81	72	83	74	83	73	96	80	78	69	81	72	80	70	92	76								
	2	72	63	74	64	72	60	79	65	69	59	71	61	69	57	75	62								
	3	59	48	64	56	63	53	70	57	55	45	62	54	60	50	66	54								
30	1	85	75	88	78	87	74	97	80	82	72	85	75	84	70	92	76								
	2	75	63	77	65	73	60	79	65	72	59	74	61	69	57	75	62								
	3	59	48	67	57	64	53	70	57	55	45	65	54	61	50	66	54								
35	1	83	73	86	76	85	74	97	80	80	71	83	73	82	70	92	76								
	2	73	63	75	65	73	60	79	65	71	59	72	61	69	57	75	62								
	3	59	48	66	57	64	53	70	57	55	45	63	54	61	50	66	54								
40	1	81	72	83	74	83	73	96	80	78	69	81	72	80	70	92	76								
	2	72	63	74	64	72	60	79	65	69	59	71	61	69	57	75	62								
	3	59	48	64	56	63	53	70	57	55	45	62	54	60	50	66	54								
30	1	79	69	82	72	80	66	87	72	77	65	80	68	77	63	83	69								
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56								
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49								
35	1	78	68	80	71	79	66	87	72	75	65	78	68	76	63	83	69								
	2	68	56	70	58	65	54	71	58	65	54	67	55	62	51	68	56								
	3	52	43	61	51	58	47	63	51	50	40	59	49	55	45	60	49								
40	1	76	67	79	69	78	66	87	72	74	64	76	67	75	63	83	69								
	2	67	56	69	58	65	54	71	58	64	54	66	55	62	51	68	56								
	3	52	43	60	51	58	47	63	51	50	40	58	49	55	45	60	49								
30	1	79	69	82	72	80	66	87	72	77	65	80	68	77	63	83	69								
	2	69	56	71	58	65	54	71	58	65	54	67	55	62	51	68	56								
	3	52	43	62	51	58	47	63	51	50	40	59	49	55	45	60	49								
35	1	78	68	80	71	79	66	87	72	75	65	78	68	76	63	83	69								
	2	68	56	70	58	65	54	71	58	65	54	67	55	62	51	68	56								
	3	52	43	61	51	58	47	63	51	50	40	59	49	55	45	60	49								
40	1	76	67	79	69	78	66	87	72	74	64	76	67	75	63	83	69								
	2	67	56	69	58	65	54	71	58	64	54	66	55	62	51	68	56								
	3	52	43	60	51	58	47	63	51	50	40	58	49	55	45	60	49								

Exposure Category : B

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
45	1	93	87	96	90	87	87	94	94	92	86	95	88	87	87	94	94	91	84	94	87	87	87	94	94
	2	87	80	89	82	87	82	94	94	86	78	88	80	87	80	94	94	84	76	86	78	87	78	94	91
	3	75	69	77	71	79	72	94	87	74	67	76	69	78	70	94	84	72	66	75	68	76	68	94	80
50	1	90	85	93	87	85	85	91	91	89	83	92	86	85	85	91	91	88	82	91	85	85	85	91	91
	2	85	78	87	80	85	81	91	91	83	76	86	78	85	79	91	91	82	75	84	77	85	77	91	91
	3	73	67	75	69	77	70	91	86	71	66	74	68	76	68	91	83	70	64	73	66	74	67	91	80
60	1	85	80	88	83	80	80	87	87	84	79	87	82	80	80	87	87	83	78	86	80	80	80	87	87
	2	80	74	82	76	80	78	87	87	79	73	81	75	80	76	87	87	78	72	80	74	80	74	87	87
	3	69	64	71	66	74	67	87	84	68	63	70	65	72	66	87	81	67	61	69	64	71	64	87	79
Wind Speed [mph]		110								115															
45	1	90	83	92	85	87	86	94	94	88	81	91	84	87	85	94	94								
	2	83	75	85	77	86	76	94	87	81	73	83	75	84	74	94	84								
	3	71	64	73	67	74	66	92	77	70	63	72	65	73	65	89	74								
50	1	87	81	90	83	85	85	91	91	86	79	88	82	85	83	91	91								
	2	81	73	83	75	84	75	91	87	79	72	81	74	82	73	91	84								
	3	69	63	71	65	73	65	90	77	68	62	70	64	71	64	88	74								
60	1	82	77	85	79	80	80	87	87	81	76	84	78	80	80	87	87								
	2	77	70	79	72	80	73	87	87	76	69	78	71	79	71	87	84								
	3	66	60	68	62	70	63	87	77	65	59	67	61	68	61	86	74								
Wind Speed [mph]		120								130															
45	1	87	80	90	82	87	83	94	94	88	81	91	84	87	85	94	94								
	2	80	72	82	73	82	73	94	81	81	73	83	75	84	74	94	84								
	3	69	61	71	64	71	63	87	72	70	63	72	65	73	65	89	74								
50	1	85	78	87	80	85	81	91	91	86	79	88	82	85	83	91	91								
	2	78	70	80	72	81	71	91	81	79	72	81	74	82	73	91	84								
	3	67	60	69	62	70	62	86	72	68	62	70	64	71	64	88	74								
60	1	80	74	83	77	80	78	87	87	81	76	84	78	80	80	87	87								
	2	74	68	76	69	78	69	87	81	76	69	78	71	79	71	87	84								
	3	64	58	66	60	67	60	84	72	65	59	67	61	68	61	86	74								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
45	1	86	78	89	81	87	81	94	94	83	76	86	78	87	78	94	90	81	73	84	76	84	75	94	85
	2	78	70	80	72	81	71	94	78	76	67	78	69	77	67	89	73	73	64	75	66	74	64	84	69
	3	67	58	70	62	70	62	84	69	65	54	67	60	67	59	79	65	63	51	65	57	64	56	74	61
50	1	83	77	86	79	85	80	91	91	81	74	84	77	85	77	91	90	79	71	82	74	83	74	91	85
	2	77	69	79	71	79	70	91	78	74	66	76	68	76	67	89	73	71	63	73	65	73	64	84	69
	3	66	58	68	61	69	61	84	69	64	54	66	59	66	58	79	65	61	51	64	57	63	55	74	61
60	1	79	73	82	76	80	77	87	87	77	71	80	73	80	74	87	87	75	69	78	71	80	71	87	85
	2	73	66	75	68	76	68	87	78	71	64	73	66	73	65	87	73	69	61	71	63	71	62	84	69
	3	63	57	65	59	66	59	82	69	61	54	63	57	64	56	78	65	59	51	61	55	61	54	74	61
Wind Speed [mph]		170								180															
45	1	79	70	81	73	82	72	94	80	76	68	79	70	79	69	92	76								
	2	70	62	72	63	71	60	79	65	68	59	70	61	68	57	75	62								
	3	59	48	63	55	62	53	70	57	55	45	61	53	60	50	66	54								
50	1	77	69	79	72	80	71	91	80	75	67	77	69	77	68	91	76								
	2	69	61	71	62	70	60	79	65	67	58	69	60	67	57	75	62								
	3	59	48	62	54	61	53	70	57	55	45	60	52	59	50	66	54								
60	1	74	67	76	69	77	69	87	80	72	65	74	67	75	66	87	76								
	2	67	59	68	61	68	59	79	65	65	57	66	59	66	57	75	62								
	3	57	48	59	53	59	52	70	57	55	45	57	51	57	50	66	54								
Wind Speed [mph]		190								200															
45	1	74	66	77	68	76	66	87	72	72	63	75	66	74	63	83	69								
	2	66	56	67	58	65	54	71	58	63	54	65	55	62	51	68	56								
	3	52	43	59	51	57	47	63	51	50	40	57	49	55	45	60	49								
50	1	73	65	75	67	75	66	87	72	71	62	73	65	73	63	83	69								
	2	65	56	66	58	65	54	71	58	62	54	64	55	62	51	68	56								
	3	52	43	58	50	57	47	63	51	50	40	56	49	54	45	60	49								
60	1	70	63	72	65	73	64	87	72	68	61	70	63	70	62	83	69								
	2	63	55	64	56	63	54	71	58	61	53	62	54	61	51	68	56								
	3	52	43	56	49	55	47	63	51	50	40	54	47	53	45	60	49								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft   92.5in x 45.9in								Span, inches															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
70	1	80	77	82	79	76	76	83	83	80	76	82	78	76	76	83	83	79	75	81	77	76	76	83	83
	2	77	71	79	73	76	75	83	83	76	70	78	72	76	74	83	83	75	69	76	71	76	72	83	83
	3	65	61	67	63	70	65	83	82	64	60	66	62	69	63	83	79	64	59	66	61	68	62	83	77
80	1	75	73	77	76	73	73	80	80	75	72	77	75	73	73	80	80	75	71	77	74	73	73	80	80
	2	73	69	75	71	73	73	80	80	72	68	74	69	73	71	80	80	71	67	73	68	73	70	80	80
	3	62	59	64	61	68	63	80	80	62	58	64	60	67	61	80	78	61	57	63	59	66	60	80	76
90	1	71	70	73	73	71	71	77	77	71	70	73	72	71	71	77	77	71	69	73	71	71	71	77	77
	2	70	66	72	68	71	71	77	77	70	65	71	67	71	69	77	77	69	64	71	66	71	68	77	77
	3	60	57	62	58	65	61	77	77	59	56	61	57	64	59	77	76	59	55	60	57	63	58	77	74
Wind Speed [mph]		110								115															
70	1	78	73	81	76	76	76	83	83	77	72	80	75	76	76	83	83								
	2	73	68	75	70	76	70	83	83	72	67	74	68	76	69	83	83								
	3	63	58	65	60	67	61	83	75	62	57	64	59	66	60	83	73								
80	1	75	71	77	73	73	73	80	80	74	70	76	72	73	73	80	80								
	2	71	65	72	67	73	68	80	80	70	64	71	66	73	67	80	80								
	3	60	56	62	58	65	59	80	74	59	55	61	57	64	58	80	72								
90	1	71	68	73	70	71	71	77	77	71	67	73	69	71	71	77	77								
	2	68	63	70	65	71	67	77	77	67	62	69	64	71	65	77	77								
	3	58	54	60	56	62	57	77	72	57	53	59	55	61	56	77	71								
Wind Speed [mph]		120								130															
70	1	77	71	79	74	76	76	83	83	77	72	80	75	76	76	83	83								
	2	71	65	73	67	75	67	83	81	72	67	74	68	76	69	83	83								
	3	61	56	63	58	65	58	82	71	62	57	64	59	66	60	83	73								
80	1	73	69	75	71	73	73	80	80	74	70	76	72	73	73	80	80								
	2	69	63	71	65	73	66	80	80	70	64	71	66	73	67	80	80								
	3	59	54	61	56	63	57	80	70	59	55	61	57	64	58	80	72								
90	1	70	66	73	68	71	71	77	77	71	67	73	69	71	71	77	77								
	2	66	61	68	63	71	64	77	77	67	62	69	64	71	65	77	77								
	3	56	52	58	54	61	55	77	69	57	53	59	55	61	56	77	71								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
70	1	76	70	78	73	76	74	83	83	74	68	76	71	76	72	83	83	72	66	75	69	76	69	83	83
	2	70	64	72	66	74	66	83	78	68	62	70	64	71	63	83	73	66	60	68	61	69	61	83	69
	3	60	55	62	57	64	57	80	69	58	53	60	55	61	55	76	65	57	51	59	53	59	53	73	61
80	1	73	68	75	70	73	72	80	80	71	66	73	68	73	70	80	80	70	64	72	66	73	67	80	80
	2	68	62	70	64	71	64	80	78	66	60	68	62	69	62	80	73	64	58	66	60	67	59	80	69
	3	58	53	60	55	62	56	78	68	56	51	58	53	60	53	75	65	55	50	57	51	58	51	72	61
90	1	70	65	72	68	71	70	77	77	68	64	71	66	71	68	77	77	67	62	69	64	71	66	77	77
	2	65	60	67	62	69	63	77	77	64	58	66	60	67	60	77	73	62	57	64	58	65	58	77	69
	3	56	52	58	53	60	54	76	67	54	50	56	52	58	52	73	64	53	48	55	50	56	50	70	61
Wind Speed [mph]		170								180															
70	1	71	64	73	67	75	67	83	80	69	63	71	65	72	65	83	76								
	2	64	58	66	59	66	58	79	65	63	56	64	57	64	56	75	62								
	3	55	48	57	51	57	51	70	57	54	45	55	49	55	49	66	54								
80	1	68	62	70	65	72	65	80	80	67	61	69	63	70	63	80	76								
	2	62	56	64	58	65	57	79	65	61	54	62	56	63	55	75	62								
	3	53	48	55	50	56	49	69	57	52	45	54	48	54	48	66	54								
90	1	66	61	68	63	70	64	77	77	64	59	66	61	68	62	77	75								
	2	61	55	62	56	63	56	77	65	59	53	61	55	61	54	75	62								
	3	52	47	54	49	54	48	68	57	50	45	52	47	53	47	65	54								
Wind Speed [mph]		190								200															
70	1	67	61	70	63	70	62	83	72	66	59	68	61	68	60	83	69								
	2	61	54	62	55	62	54	71	58	59	52	61	53	60	51	68	56								
	3	52	43	54	48	54	47	63	51	50	40	52	46	52	45	60	49								
80	1	65	59	67	61	68	61	80	72	64	57	66	59	67	59	80	69								
	2	59	52	61	54	61	53	71	58	57	51	59	52	59	51	68	56								
	3	51	43	52	47	52	46	63	51	49	40	51	45	51	44	60	49								
90	1	63	57	65	59	67	60	77	72	62	56	64	58	65	58	77	69								
	2	57	51	59	53	59	52	71	58	56	50	58	51	57	50	68	56								
	3	49	43	51	46	51	45	62	51	48	40	50	44	50	44	60	49								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	68	68	69	69	68	68	75	75	68	67	69	69	68	68	75	75	68	66	69	68	68	68	75	75
	2	68	64	69	66	68	68	75	75	67	63	69	65	68	67	75	75	66	62	68	64	68	66	75	75
	3	58	55	59	56	63	59	75	75	57	54	59	56	62	58	75	75	56	53	58	55	61	57	75	73
Wind Speed [mph]		110								115															
100	1	68	66	69	68	68	68	75	75	68	65	69	67	68	68	75	75								
	2	66	61	67	63	68	65	75	75	65	61	67	62	68	64	75	75								
	3	56	52	58	54	60	56	75	71	55	52	57	53	60	55	75	69								
Wind Speed [mph]		120								130															
100	1	68	64	69	66	68	68	75	75	68	65	69	67	68	68	75	75								
	2	64	60	66	61	68	63	75	75	65	61	67	62	68	64	75	75								
	3	55	51	56	53	59	54	75	68	55	52	57	53	60	55	75	69								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	67	63	69	65	68	68	75	75	66	62	68	64	68	66	75	75	65	60	67	62	68	64	75	75
	2	63	59	65	60	68	61	75	75	62	57	64	58	66	59	75	72	60	55	62	57	64	57	75	69
	3	54	50	56	52	58	53	75	66	53	49	54	50	56	51	72	63	51	47	53	49	55	49	69	60
Wind Speed [mph]		170								180															
100	1	64	59	66	61	68	62	75	75	62	57	64	59	66	60	75	74								
	2	59	54	61	55	62	55	75	65	57	52	59	53	60	53	74	62								
	3	50	46	52	47	53	48	66	57	49	44	51	46	52	46	64	54								
Wind Speed [mph]		190								200															
100	1	61	56	63	58	65	58	75	72	60	55	62	57	63	57	75	69								
	2	56	50	58	52	58	51	71	58	55	49	56	50	56	49	68	56								
	3	48	43	50	45	50	44	62	51	47	40	48	43	49	43	59	49								

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
0	1	118	99	123	103	115	96	126	105	114	95	118	99	111	93	121	101	110	92	114	96	107	89	117	97	
	2	99	83	102	85	95	79	104	86	95	79	98	81	92	76	99	82	92	76	94	78	88	73	96	79	
	3	79	64	91	75	84	70	92	76	76	61	87	72	81	67	88	73	73	59	84	69	78	64	85	70	
	5	1	118	99	123	103	115	96	126	105	114	95	118	99	111	93	121	101	110	92	114	96	107	89	117	97
		2	99	83	102	85	95	79	104	86	95	79	98	81	92	76	99	82	92	76	94	78	88	73	96	79
		3	79	64	91	75	84	70	92	76	76	61	87	72	81	67	88	73	73	59	84	69	78	64	85	70
	10	1	114	99	118	103	115	96	126	105	111	95	115	99	111	93	121	101	108	92	112	96	107	89	117	97
		2	99	83	102	85	95	79	104	86	95	79	98	81	92	76	99	82	92	76	94	78	88	73	96	79
		3	79	64	91	75	84	70	92	76	76	61	87	72	81	67	88	73	73	59	84	69	78	64	85	70
0	1	106	88	110	92	103	86	112	93	102	85	107	89	100	83	108	90	106	88	110	92	103	86	112	93	
	2	88	73	91	75	85	70	92	76	85	71	88	73	82	67	89	73	88	73	91	75	85	70	92	76	
	3	70	56	81	67	75	62	82	67	67	54	78	64	72	59	79	65	70	56	81	67	75	62	82	67	
	5	1	106	88	110	92	103	86	112	93	102	85	107	89	100	83	108	90	106	88	110	92	103	86	112	93
		2	88	73	91	75	85	70	92	76	85	71	88	73	82	67	89	73	88	73	91	75	85	70	92	76
		3	70	56	81	67	75	62	82	67	67	54	78	64	72	59	79	65	70	56	81	67	75	62	82	67
	10	1	105	88	109	92	103	86	112	93	102	85	106	89	100	83	108	90	105	88	109	92	103	86	112	93
		2	88	73	91	75	85	70	92	76	85	71	88	73	82	67	89	73	88	73	91	75	85	70	92	76
		3	70	56	81	67	75	62	82	67	67	54	78	64	72	59	79	65	70	56	81	67	75	62	82	67
0	1	99	82	103	86	96	80	105	87	102	85	107	89	100	83	108	90	99	82	103	86	96	80	105	87	
	2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73	82	68	85	70	79	65	86	71	
	3	64	52	75	62	70	57	76	62	67	54	78	64	72	59	79	65	64	52	75	62	70	57	76	62	
	5	1	99	82	103	86	96	80	105	87	102	85	107	89	100	83	108	90	99	82	103	86	96	80	105	87
		2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73	82	68	85	70	79	65	86	71
		3	64	52	75	62	70	57	76	62	67	54	78	64	72	59	79	65	64	52	75	62	70	57	76	62
	10	1	99	82	103	86	96	80	105	87	102	85	106	89	100	83	108	90	99	82	103	86	96	80	105	87
		2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73	82	68	85	70	79	65	86	71
		3	64	52	75	62	70	57	76	62	67	54	78	64	72	59	79	65	64	52	75	62	70	57	76	62
0	1	99	82	103	86	96	80	105	87	102	85	107	89	100	83	108	90	99	82	103	86	96	80	105	87	
	2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73	82	68	85	70	79	65	86	71	
	3	64	52	75	62	70	57	76	62	67	54	78	64	72	59	79	65	64	52	75	62	70	57	76	62	
	5	1	99	82	103	86	96	80	105	87	102	85	107	89	100	83	108	90	99	82	103	86	96	80	105	87
		2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73	82	68	85	70	79	65	86	71
		3	64	52	75	62	70	57	76	62	67	54	78	64	72	59	79	65	64	52	75	62	70	57	76	62
	10	1	99	82	103	86	96	80	105	87	102	85	106	89	100	83	108	90	99	82	103	86	96	80	105	87
		2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73	82	68	85	70	79	65	86	71
		3	64	52	75	62	70	57	76	62	67	54	78	64	72	59	79	65	64	52	75	62	70	57	76	62

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
0	1	96	80	100	83	93	77	101	84	90	75	94	78	87	72	95	79	85	70	88	73	82	68	90	74
	2	80	66	82	68	76	63	83	68	75	62	77	63	71	59	77	64	70	58	72	60	67	55	73	60
	3	62	50	73	60	67	55	73	60	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	53
5	1	96	80	100	83	93	77	101	84	90	75	94	78	87	72	95	79	85	70	88	73	82	68	90	74
	2	80	66	82	68	76	63	83	68	75	62	77	63	71	59	77	64	70	58	72	60	67	55	73	60
	3	62	50	73	60	67	55	73	60	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	53
10	1	96	80	100	83	93	77	101	84	90	75	94	78	87	72	95	79	85	70	88	73	82	68	90	74
	2	80	66	82	68	76	63	83	68	75	62	77	63	71	59	77	64	70	58	72	60	67	55	73	60
	3	62	50	73	60	67	55	73	60	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	53
0	1	80	66	84	69	78	64	85	70	76	63	79	66	74	61	80	66	76	63	79	66	74	61	80	66
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47
5	1	80	66	84	69	78	64	85	70	76	63	79	66	74	61	80	66	76	63	79	66	74	61	80	66
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47
10	1	80	66	84	69	78	64	85	70	76	63	79	66	74	61	80	66	76	63	79	66	74	61	80	66
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47
0	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60	69	57	72	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42
5	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60	69	57	72	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42
10	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60	69	57	72	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42
0	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60	69	57	72	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42
5	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60	69	57	72	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42
10	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60	69	57	72	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
15	1	107	95	111	99	114	96	120	105	105	93	108	96	111	93	120	101	102	90	106	94	107	89	117	97	
	2	95	83	98	85	95	79	104	86	93	79	95	81	92	76	99	82	90	76	93	78	88	73	96	79	
	3	79	64	86	75	84	70	92	76	76	61	84	72	81	67	88	73	73	59	81	69	78	64	85	70	
	20	1	101	91	105	94	109	96	113	105	99	89	103	92	107	93	113	101	97	87	100	90	104	89	113	97
		2	91	81	94	83	95	79	104	86	89	78	91	80	92	76	99	82	87	76	89	78	88	73	96	79
		3	79	64	82	72	84	70	92	76	76	61	80	70	81	67	88	73	73	59	78	68	78	64	85	70
	25	1	101	91	105	94	103	94	108	105	99	89	103	92	103	91	108	101	97	87	100	90	101	89	108	97
		2	91	81	94	83	93	79	104	86	89	78	91	80	91	76	99	82	87	76	89	78	88	73	96	79
		3	79	64	82	72	82	70	92	76	76	61	80	70	79	67	88	73	73	59	78	68	77	64	85	70
15	1	100	88	103	91	103	86	112	93	98	85	101	89	100	83	108	90									
	2	88	73	90	75	85	70	92	76	85	71	88	73	82	67	89	73									
	3	70	56	79	67	75	62	82	67	67	54	77	64	72	59	79	65									
	20	1	95	85	98	88	102	86	112	93	93	82	96	86	99	83	108	90								
		2	85	73	87	75	85	70	92	76	82	71	85	73	82	67	89	73								
		3	70	56	76	66	75	62	82	67	67	54	74	64	72	59	79	65								
	25	1	95	85	98	88	99	86	108	93	93	82	96	86	96	83	108	90								
		2	85	73	87	75	85	70	92	76	82	71	85	73	82	67	89	73								
		3	70	56	76	66	75	62	82	67	67	54	74	64	72	59	79	65								
15	1	100	88	103	91	103	86	112	93	98	85	101	89	100	83	108	90									
	2	88	73	90	75	85	70	92	76	85	71	88	73	82	67	89	73									
	3	70	56	79	67	75	62	82	67	67	54	77	64	72	59	79	65									
	20	1	95	85	98	88	102	86	112	93	93	82	96	86	99	83	108	90								
		2	85	73	87	75	85	70	92	76	82	71	85	73	82	67	89	73								
		3	70	56	76	66	75	62	82	67	67	54	74	64	72	59	79	65								
	25	1	95	85	98	88	99	86	108	93	93	82	96	86	96	83	108	90								
		2	85	73	87	75	85	70	92	76	82	71	85	73	82	67	89	73								
		3	70	56	76	66	75	62	82	67	67	54	74	64	72	59	79	65								
15	1	95	82	99	86	96	80	105	87	98	85	101	89	100	83	108	90									
	2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73									
	3	64	52	75	62	70	57	76	62	67	54	77	64	72	59	79	65									
	20	1	91	80	94	83	96	80	105	87	93	82	96	86	99	83	108	90								
		2	80	68	83	70	79	65	86	71	82	71	85	73	82	67	89	73								
		3	64	52	72	62	70	57	76	62	67	54	74	64	72	59	79	65								
	25	1	91	80	94	83	94	80	105	87	93	82	96	86	96	83	108	90								
		2	80	68	83	70	79	65	86	71	82	71	85	73	82	67	89	73								
		3	64	52	72	62	70	57	76	62	67	54	74	64	72	59	79	65								
15	1	95	82	99	86	96	80	105	87	98	85	101	89	100	83	108	90									
	2	82	68	85	70	79	65	86	71	85	71	88	73	82	67	89	73									
	3	64	52	75	62	70	57	76	62	67	54	77	64	72	59	79	65									
	20	1	91	80	94	83	96	80	105	87	93	82	96	86	99	83	108	90								
		2	80	68	83	70	79	65	86	71	82	71	85	73	82	67	89	73								
		3	64	52	72	62	70	57	76	62	67	54	74	64	72	59	79	65								
	25	1	91	80	94	83	94	80	105	87	93	82	96	86	96	83	108	90								
		2	80	68	83	70	79	65	86	71	82	71	85	73	82	67	89	73								
		3	64	52	72	62	70	57	76	62	67	54	74	64	72	59	79	65								

Exposure Category : C

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

#### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
15	1	93	80	97	83	93	77	101	84	89	75	92	78	87	72	95	79	85	70	88	73	82	68	90	74
	2	80	66	82	68	76	63	83	68	75	62	77	63	71	59	77	64	70	58	72	60	67	55	73	60
	3	62	50	73	60	67	55	73	60	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	53
20	1	89	79	92	82	93	77	101	84	86	75	89	78	87	72	95	79	82	70	85	73	82	68	90	74
	2	79	66	81	68	76	63	83	68	75	62	77	63	71	59	77	64	70	58	72	60	67	55	73	60
	3	62	50	71	60	67	55	73	60	58	47	67	56	63	52	68	56	54	44	64	52	59	48	64	53
25	1	89	79	92	82	92	77	101	84	86	75	89	78	87	72	95	79	82	70	85	73	82	68	90	74
	2	79	66	81	68	76	63	83	68	75	62	77	63	71	59	77	64	70	58	72	60	67	55	73	60
	3	62	50	71	60	67	55	73	60	58	47	67	56	63	52	68	56	54	44	64	52	59	48	64	53
15	1	80	66	84	69	78	64	85	70	76	63	79	66	74	61	80	66								
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53								
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47								
20	1	79	66	82	69	78	64	85	70	76	63	79	66	74	61	80	66								
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53								
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47								
25	1	79	66	82	69	78	64	85	70	76	63	79	66	74	61	80	66								
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53								
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47								
15	1	80	66	84	69	78	64	85	70	76	63	79	66	74	61	80	66								
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53								
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47								
20	1	79	66	82	69	78	64	85	70	76	63	79	66	74	61	80	66								
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53								
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47								
25	1	79	66	82	69	78	64	85	70	76	63	79	66	74	61	80	66								
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53								
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47								
15	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60								
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48								
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42								
20	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60								
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48								
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42								
25	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60								
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48								
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42								
15	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60								
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48								
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42								
20	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60								
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48								
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42								
25	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60								
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48								
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
30	1	99	89	102	92	98	92	104	104	97	87	100	90	98	89	104	101	95	85	98	88	98	87	104	97
	2	89	79	92	81	91	79	104	86	87	77	89	79	89	76	99	82	85	75	87	77	86	73	96	79
	3	77	64	80	71	79	69	92	76	75	61	78	69	77	67	88	73	73	59	76	67	75	64	85	70
	1	95	87	98	90	94	90	100	100	93	85	96	88	94	87	100	100	92	83	95	86	94	85	100	97
	2	87	77	89	79	89	78	100	86	85	75	87	77	87	76	99	82	83	73	85	75	84	73	96	79
	3	75	64	77	69	77	68	92	76	73	61	76	67	75	66	88	73	71	59	74	66	73	64	85	70
	1	92	84	95	87	90	88	96	96	90	82	93	85	90	85	96	96	89	81	92	83	90	83	96	96
	2	84	76	86	78	87	77	96	86	82	74	85	76	85	74	96	82	81	72	83	74	83	72	96	79
	3	72	64	75	67	76	67	92	76	71	61	73	66	74	65	88	73	69	59	72	64	72	63	85	70
35	1	93	83	96	86	96	85	104	93	91	81	94	84	94	82	104	90	93	83	96	86	96	85	104	93
	2	83	73	85	75	84	70	92	76	81	71	83	73	82	67	89	73	83	73	85	75	84	70	92	76
	3	70	56	74	65	73	62	82	67	67	54	73	63	71	59	79	65	70	56	74	65	73	62	82	67
	1	90	81	93	84	94	83	100	93	88	79	91	82	91	81	100	90	90	81	93	84	94	83	100	93
	2	81	71	83	73	82	70	92	76	79	69	81	71	80	67	89	73	81	71	83	73	82	70	92	76
	3	70	56	72	64	72	62	82	67	67	54	71	62	70	59	79	65	70	56	72	64	72	62	82	67
	1	87	79	90	82	90	81	96	93	86	77	88	80	89	79	96	90	87	79	90	82	90	81	96	93
	2	79	70	81	72	80	70	92	76	77	68	79	70	78	67	89	73	79	70	81	72	80	70	92	76
	3	68	56	70	62	70	61	82	67	66	54	69	61	68	59	79	65	68	56	70	62	70	61	82	67
40	1	89	79	92	82	92	80	104	87	91	81	94	84	94	82	104	90	89	79	92	82	92	80	104	87
	2	79	68	81	70	79	65	86	71	81	71	83	73	82	67	89	73	79	68	81	70	79	65	86	71
	3	64	52	71	62	69	57	76	62	67	54	73	63	71	59	79	65	64	52	71	62	69	57	76	62
	1	87	77	89	80	89	79	100	87	88	79	91	82	91	81	100	90	87	77	89	80	89	79	100	87
	2	77	68	79	69	78	65	86	71	79	69	81	71	80	67	89	73	77	68	79	69	78	65	86	71
	3	64	52	69	61	68	57	76	62	67	54	71	62	70	59	79	65	64	52	69	61	68	57	76	62
	1	84	75	87	78	87	77	96	87	86	77	88	80	89	79	96	90	84	75	87	78	87	77	96	87
	2	75	66	78	68	77	65	86	71	77	68	79	70	78	67	89	73	75	66	78	68	77	65	86	71
	3	64	52	67	59	67	57	76	62	66	54	69	61	68	59	79	65	64	52	67	59	67	57	76	62

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
30	1	87	77	90	80	90	77	101	84	84	74	87	77	86	72	95	79	81	70	84	73	82	68	90	74
	2	77	66	79	68	76	63	83	68	74	62	76	63	71	59	77	64	70	58	72	60	67	55	73	60
	3	62	50	69	60	67	55	73	60	58	47	66	56	63	52	68	56	54	44	63	52	59	48	64	53
	1	85	76	88	78	88	77	100	84	82	72	85	75	84	72	95	79	79	69	82	72	80	68	90	74
	2	76	66	78	68	76	63	83	68	72	62	74	63	71	59	77	64	69	58	71	60	67	55	73	60
	3	62	50	68	59	66	55	73	60	58	47	65	56	63	52	68	56	54	44	62	52	59	48	64	53
	1	83	74	85	77	86	75	96	84	80	71	83	73	82	72	95	79	77	68	80	70	79	68	90	74
	2	74	65	76	67	75	63	83	68	71	62	73	63	71	59	77	64	68	58	70	60	67	55	73	60
	3	62	50	66	58	65	55	73	60	58	47	63	55	62	52	68	56	54	44	61	52	59	48	64	53
35	1	78	66	81	69	78	64	85	70	75	63	78	66	74	61	80	66	75	63	78	66	74	61	80	66
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53
	3	51	41	60	49	56	46	61	50	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47
	1	76	66	79	69	77	64	85	70	73	63	76	66	74	61	80	66	73	63	76	66	74	61	80	66
	2	66	55	68	56	63	52	69	56	63	52	65	53	60	49	65	53	63	52	65	53	60	49	65	53
	3	51	41	59	49	56	46	61	50	48	39	57	47	53	43	57	47	48	39	57	47	53	43	57	47
	1	74	65	77	68	76	64	85	70	72	63	74	65	73	61	80	66	72	63	74	65	73	61	80	66
	2	65	55	67	56	63	52	69	56	63	52	64	53	60	49	65	53	63	52	64	53	60	49	65	53
	3	51	41	58	49	56	46	61	50	48	39	56	47	53	43	57	47	48	39	56	47	53	43	57	47
40	1	72	60	75	62	70	57	76	63	69	57	72	59	67	55	72	60	69	57	72	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42
	1	71	60	73	62	70	57	76	63	68	57	71	59	67	55	72	60	68	57	71	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42
	1	69	60	72	62	70	57	76	63	67	57	70	59	67	55	72	60	67	57	70	59	67	55	72	60
	2	60	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	57	47	58	48	54	44	59	48
	3	45	37	54	44	50	41	54	44	43	35	51	42	47	39	52	42	43	35	51	42	47	39	52	42

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
45	1	89	82	92	85	87	86	94	94	88	80	90	83	87	84	94	94	86	79	89	81	87	82	94	94
	2	82	74	84	76	85	75	94	86	80	72	82	74	83	73	94	82	79	70	81	72	81	71	94	79
	3	70	64	73	66	74	66	90	76	69	61	71	64	72	64	88	73	68	59	70	63	70	62	85	70
	1	86	80	89	83	85	84	91	91	85	78	88	81	85	82	91	91	84	77	86	79	85	80	91	91
	2	80	72	82	74	83	74	91	86	78	71	80	73	81	72	91	82	77	69	79	71	79	70	91	79
	3	69	62	71	64	72	64	89	76	67	61	70	63	70	63	87	73	66	59	68	61	69	61	84	70
	1	82	76	84	79	80	80	87	87	81	75	83	77	80	79	87	87	80	73	82	76	80	77	87	87
	2	76	70	78	72	80	72	87	86	75	68	77	70	78	70	87	82	73	67	75	68	77	68	87	79
	3	65	60	67	62	69	62	87	76	64	58	66	60	68	61	84	73	63	57	65	59	66	59	82	70
50	1	85	77	87	80	87	80	94	93	83	75	86	78	87	78	94	90								
	2	77	69	79	70	79	69	92	76	75	67	77	69	77	67	89	73								
	3	66	56	69	61	69	60	82	67	65	54	67	60	67	59	79	65								
	1	82	75	85	78	85	78	91	91	81	74	84	76	85	76	91	90								
	2	75	67	77	69	78	68	91	76	74	66	76	68	76	66	89	73								
	3	65	56	67	60	67	59	82	67	63	54	66	59	66	58	79	65								
	1	78	72	81	75	80	75	87	87	77	71	80	73	80	74	87	87								
	2	72	65	74	67	75	66	87	76	71	64	73	65	73	65	87	73								
	3	62	56	64	58	65	58	80	67	61	54	63	57	63	56	78	65								
60	1	82	74	85	77	86	76	94	87	83	75	86	78	87	78	94	90								
	2	74	65	76	67	75	65	86	71	75	67	77	69	77	67	89	73								
	3	64	52	66	58	65	57	76	62	65	54	67	60	67	59	79	65								
	1	80	72	82	75	84	75	91	87	81	74	84	76	85	76	91	90								
	2	72	64	74	66	74	65	86	71	74	66	76	68	76	66	89	73								
	3	62	52	64	57	64	56	76	62	63	54	66	59	66	58	79	65								
	1	76	70	79	72	80	72	87	87	77	71	80	73	80	74	87	87								
	2	70	62	71	64	72	63	86	71	71	64	73	65	73	65	87	73								
	3	60	52	62	55	62	55	76	62	61	54	63	57	63	56	78	65								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
45	1	81	72	83	75	84	74	94	84	78	69	81	72	81	71	94	79	75	67	78	69	77	68	90	74
	2	72	64	74	65	73	63	83	68	69	61	71	62	70	59	77	64	67	58	69	60	67	55	73	60
	3	62	50	65	57	64	55	73	60	58	47	62	54	61	52	68	56	54	44	60	52	58	48	64	53
	1	79	71	81	73	82	73	91	84	76	68	79	71	79	70	91	79	74	66	76	68	76	67	90	74
	2	71	63	73	64	72	63	83	68	68	60	70	62	69	59	77	64	66	57	67	59	66	55	73	60
	3	61	50	63	56	63	55	73	60	58	47	61	54	60	52	68	56	54	44	58	51	58	48	64	53
	1	75	68	78	71	79	71	87	84	73	66	75	68	76	68	87	79	71	63	73	66	74	65	87	74
	2	68	61	70	63	70	62	83	68	66	58	68	60	67	59	77	64	63	56	65	57	64	55	73	60
	3	59	50	61	54	61	53	73	60	56	47	59	52	58	51	68	56	54	44	56	50	56	48	64	53
50	1	73	64	75	67	75	64	85	70	70	62	73	64	72	61	80	66	73	64	75	67	75	64	85	70
	2	64	55	66	56	63	52	69	56	62	52	63	53	60	49	65	53	64	55	66	56	63	52	69	56
	3	51	41	57	49	56	46	61	50	48	39	55	47	53	43	57	47	51	41	57	49	56	46	61	50
	1	71	63	74	65	73	64	85	70	69	61	71	63	71	61	80	66	71	63	74	65	73	64	85	70
	2	63	55	65	56	63	52	69	56	61	52	62	53	60	49	65	53	63	55	65	56	63	52	69	56
	3	51	41	56	49	55	46	61	50	48	39	54	47	53	43	57	47	51	41	56	49	55	46	61	50
	1	69	61	71	63	71	62	85	70	67	59	69	61	69	60	80	66	69	61	71	63	71	62	85	70
	2	61	54	63	55	62	52	69	56	59	51	61	53	59	49	65	53	61	54	63	55	62	52	69	56
	3	51	41	55	48	54	46	61	50	48	39	53	46	52	43	57	47	51	41	55	48	54	46	61	50
60	1	68	59	71	62	69	57	76	63	66	57	68	59	67	55	72	60	68	59	71	62	69	57	76	63
	2	59	49	61	50	57	47	62	51	57	47	58	48	54	44	59	48	59	49	61	50	57	47	62	51
	3	45	37	53	44	50	41	54	44	43	35	51	42	47	39	52	42	45	37	53	44	50	41	54	44
	1	67	59	69	61	68	57	76	63	65	56	67	59	66	55	72	60	67	59	69	61	68	57	76	63
	2	59	49	60	50	57	47	62	51	56	47	58	48	54	44	59	48	59	49	60	50	57	47	62	51
	3	45	37	52	44	50	41	54	44	43	35	51	42	47	39	52	42	45	37	52	44	50	41	54	44
	1	65	57	67	59	66	57	76	63	63	55	65	57	64	55	72	60	65	57	67	59	66	57	76	63
	2	57	49	59	50	57	47	62	51	55	47	57	48	54	44	59	48	57	49	59	50	57	47	62	51
	3	45	37	51	44	50	41	54	44	43	35	49	42	47	39	52	42	45	37	51	44	50	41	54	44

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
70	1	78	73	80	75	76	76	83	83	77	72	79	74	76	76	83	83	76	71	78	73	76	75	83	83
	2	73	67	75	69	76	70	83	83	72	66	74	68	76	68	83	82	71	64	72	66	74	66	83	79
	3	62	57	64	59	66	60	83	74	61	56	63	58	65	59	82	72	60	55	62	57	64	57	80	70
80	1	74	70	77	72	73	73	80	80	74	69	76	71	73	73	80	80	73	68	75	70	73	72	80	80
	2	70	65	72	67	73	68	80	80	69	64	71	65	73	66	80	80	68	62	70	64	72	65	80	79
	3	60	55	62	57	64	58	80	73	59	54	61	56	63	57	80	71	58	53	60	55	62	56	78	69
90	1	71	68	73	70	71	71	77	77	71	67	73	69	71	71	77	77	70	66	72	68	71	70	77	77
	2	68	63	69	65	71	66	77	77	67	62	68	63	71	65	77	77	66	61	67	62	70	63	77	77
	3	58	54	59	55	62	57	77	71	57	53	59	54	61	56	77	69	56	52	58	53	60	54	77	68
70	1	75	69	77	72	76	73	83	83	74	68	76	71	76	72	83	83								
	2	69	63	71	65	73	65	83	76	68	62	70	63	71	63	83	73								
	3	59	54	61	56	63	56	78	67	58	53	60	55	61	55	76	65								
80	1	72	67	74	69	73	71	80	80	71	66	73	68	73	69	80	80								
	2	67	61	69	63	70	63	80	76	66	60	68	62	69	62	80	73								
	3	57	52	59	54	61	55	76	67	56	51	58	53	59	53	75	65								
90	1	69	65	71	67	71	69	77	77	68	64	70	66	71	68	77	77								
	2	65	59	66	61	68	62	77	75	64	58	65	60	67	60	77	73								
	3	55	51	57	53	59	53	75	66	54	50	56	52	58	52	73	64								
70	1	75	69	77	72	76	73	83	83	74	68	76	71	76	72	83	83								
	2	69	63	71	65	73	65	83	76	68	62	70	63	71	63	83	73								
	3	59	54	61	56	63	56	78	67	58	53	60	55	61	55	76	65								
80	1	72	67	74	69	73	71	80	80	71	66	73	68	73	69	80	80								
	2	67	61	69	63	70	63	80	76	66	60	68	62	69	62	80	73								
	3	57	52	59	54	61	55	76	67	56	51	58	53	59	53	75	65								
90	1	69	65	71	67	71	69	77	77	68	64	70	66	71	68	77	77								
	2	65	59	66	61	68	62	77	75	64	58	65	60	67	60	77	73								
	3	55	51	57	53	59	53	75	66	54	50	56	52	58	52	73	64								
70	1	73	67	75	69	76	70	83	83	74	68	76	71	76	72	83	83								
	2	67	60	69	62	70	62	83	71	68	62	70	63	71	63	83	73								
	3	57	52	59	54	60	53	74	62	58	53	60	55	61	55	76	65								
80	1	70	65	72	67	73	68	80	80	71	66	73	68	73	69	80	80								
	2	65	59	67	60	68	60	80	71	66	60	68	62	69	62	80	73								
	3	55	50	57	52	58	52	73	62	56	51	58	53	59	53	75	65								
90	1	68	63	70	65	71	66	77	77	68	64	70	66	71	68	77	77								
	2	63	57	64	59	66	59	77	71	64	58	65	60	67	60	77	73								
	3	54	49	55	51	57	51	71	62	54	50	56	52	58	52	73	64								
70	1	73	67	75	69	76	70	83	83	74	68	76	71	76	72	83	83								
	2	67	60	69	62	70	62	83	71	68	62	70	63	71	63	83	73								
	3	57	52	59	54	60	53	74	62	58	53	60	55	61	55	76	65								
80	1	70	65	72	67	73	68	80	80	71	66	73	68	73	69	80	80								
	2	65	59	67	60	68	60	80	71	66	60	68	62	69	62	80	73								
	3	55	50	57	52	58	52	73	62	56	51	58	53	59	53	75	65								
90	1	68	63	70	65	71	66	77	77	68	64	70	66	71	68	77	77								
	2	63	57	64	59	66	59	77	71	64	58	65	60	67	60	77	73								
	3	54	49	55	51	57	51	71	62	54	50	56	52	58	52	73	64								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
70	1	72	66	74	68	76	69	83	83	70	64	72	66	74	66	83	79	68	62	70	64	71	63	83	74
	2	66	59	68	61	68	60	83	68	64	57	65	58	66	57	77	64	62	55	63	56	63	55	73	60
	3	56	50	58	53	59	52	72	60	55	47	56	51	57	50	68	56	53	44	55	49	55	48	64	53
80	1	69	64	71	66	73	67	80	80	67	62	70	64	71	64	80	78	66	60	68	62	69	62	80	74
	2	64	58	66	59	66	59	80	68	62	55	63	57	64	56	77	64	60	53	61	55	61	54	73	60
	3	55	49	56	51	57	51	71	60	53	47	55	49	55	49	68	56	51	44	53	47	53	47	64	53
90	1	67	62	69	64	71	65	77	77	65	60	67	62	69	63	77	77	64	58	66	60	67	61	77	74
	2	62	56	64	58	65	58	77	68	60	54	62	56	62	55	76	64	58	52	60	54	60	53	73	60
	3	53	48	55	50	56	50	70	60	51	46	53	48	54	48	67	56	50	44	51	46	52	46	64	53
Wind Speed [mph]		170								180															
70	1	66	59	68	62	69	61	83	70	64	58	67	60	67	59	80	66								
	2	59	52	61	54	61	52	69	56	58	50	59	52	58	49	65	53								
	3	51	41	53	47	52	46	61	50	48	39	51	45	50	43	57	47								
80	1	64	58	66	60	67	60	80	70	62	56	65	58	65	58	79	66								
	2	58	51	60	53	59	52	69	56	56	49	58	51	57	49	65	53								
	3	50	41	51	46	51	45	61	50	48	39	50	44	49	43	57	47								
90	1	62	56	64	58	65	58	77	70	61	55	63	57	64	56	77	66								
	2	56	50	58	52	58	51	69	56	55	48	56	50	56	49	65	53								
	3	48	41	50	45	50	44	61	50	47	39	49	43	48	42	57	47								
Wind Speed [mph]		190								200															
70	1	63	56	65	58	65	57	76	63	61	54	63	56	63	55	72	60								
	2	56	48	57	50	56	47	62	51	54	47	55	48	54	44	59	48								
	3	45	37	50	43	49	41	54	44	43	35	48	42	47	39	52	42								
80	1	61	54	63	56	63	55	76	63	59	53	61	55	61	54	72	60								
	2	54	48	56	49	55	47	62	51	53	46	54	47	53	44	59	48								
	3	45	37	48	42	48	41	54	44	43	35	47	41	46	39	52	42								
90	1	59	53	61	55	62	55	75	63	58	52	60	53	60	53	72	60								
	2	53	47	55	48	54	47	62	51	52	45	53	46	52	44	59	48								
	3	45	37	47	42	47	41	54	44	43	35	46	40	45	39	52	42								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	68	65	69	67	68	68	75	75	68	64	69	66	68	68	75	75	67	64	69	66	68	68	75	75
	2	65	61	67	63	68	64	75	75	64	60	66	62	68	63	75	75	64	59	65	60	68	62	75	75
	3	56	52	57	54	60	55	75	70	55	51	57	53	59	54	75	68	54	50	56	52	58	53	75	66
Wind Speed [mph]		110								115															
100	1	67	63	69	65	68	67	75	75	66	62	68	64	68	66	75	75								
	2	63	58	64	59	67	60	75	74	62	57	63	58	65	59	75	72								
	3	53	49	55	51	57	52	73	65	53	49	54	50	56	51	72	63								
Wind Speed [mph]		120								130															
100	1	65	61	67	63	68	65	75	75	66	62	68	64	68	66	75	75								
	2	61	56	63	57	64	58	75	70	62	57	63	58	65	59	75	72								
	3	52	48	54	49	55	50	70	61	53	49	54	50	56	51	72	63								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	65	60	67	62	68	64	75	75	63	58	65	60	67	61	75	75	62	57	64	59	66	59	75	73
	2	60	55	62	56	63	57	75	68	58	53	60	54	61	54	75	64	57	51	58	52	59	52	72	60
	3	51	47	53	48	54	49	69	60	50	45	51	47	53	47	66	56	48	44	50	45	51	45	63	53
Wind Speed [mph]		170								180															
100	1	60	55	62	57	64	57	75	70	59	53	61	55	62	55	75	66								
	2	55	49	57	51	57	50	69	56	53	48	55	49	55	48	65	53								
	3	47	41	49	44	49	43	60	50	46	39	47	42	47	42	57	47								
Wind Speed [mph]		190								200															
100	1	58	52	59	54	60	54	74	63	56	50	58	52	59	52	72	60								
	2	52	46	53	47	53	46	62	51	50	44	52	46	51	44	59	48								
	3	44	37	46	41	46	40	54	44	43	35	45	40	44	39	52	42								

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
0	1	111	93	116	97	109	90	118	99	107	90	112	93	104	87	114	95	103	86	108	90	101	83	110	91	
	2	93	77	96	80	89	74	97	80	90	74	92	76	86	71	93	77	86	71	89	73	82	68	90	74	
	3	74	60	85	70	79	65	86	71	71	57	82	68	76	62	83	68	67	55	79	65	73	60	79	65	
	5	1	111	93	116	97	109	90	118	99	107	90	112	93	104	87	114	95	103	86	108	90	101	83	110	91
		2	93	77	96	80	89	74	97	80	90	74	92	76	86	71	93	77	86	71	89	73	82	68	90	74
		3	74	60	85	70	79	65	86	71	71	57	82	68	76	62	83	68	67	55	79	65	73	60	79	65
	10	1	109	93	113	97	109	90	118	99	106	90	110	93	104	87	114	95	103	86	107	90	101	83	110	91
		2	93	77	96	80	89	74	97	80	90	74	92	76	86	71	93	77	86	71	89	73	82	68	90	74
		3	74	60	85	70	79	65	86	71	71	57	82	68	76	62	83	68	67	55	79	65	73	60	79	65
0	1	100	83	104	86	97	80	106	87	96	80	100	83	93	77	102	84									
	2	83	69	85	71	79	65	86	71	80	66	82	68	76	63	83	68									
	3	65	52	76	62	70	58	76	63	62	50	73	60	68	55	73	60									
	5	1	100	83	104	86	97	80	106	87	96	80	100	83	93	77	102	84								
		2	83	69	85	71	79	65	86	71	80	66	82	68	76	63	83	68								
		3	65	52	76	62	70	58	76	63	62	50	73	60	68	55	73	60								
	10	1	100	83	104	86	97	80	106	87	96	80	100	83	93	77	102	84								
		2	83	69	85	71	79	65	86	71	80	66	82	68	76	63	83	68								
		3	65	52	76	62	70	58	76	63	62	50	73	60	68	55	73	60								
0	1	100	83	104	86	97	80	106	87	96	80	100	83	93	77	102	84									
	2	83	69	85	71	79	65	86	71	80	66	82	68	76	63	83	68									
	3	65	52	76	62	70	58	76	63	62	50	73	60	68	55	73	60									
	5	1	100	83	104	86	97	80	106	87	96	80	100	83	93	77	102	84								
		2	83	69	85	71	79	65	86	71	80	66	82	68	76	63	83	68								
		3	65	52	76	62	70	58	76	63	62	50	73	60	68	55	73	60								
	10	1	100	83	104	86	97	80	106	87	96	80	100	83	93	77	102	84								
		2	83	69	85	71	79	65	86	71	80	66	82	68	76	63	83	68								
		3	65	52	76	62	70	58	76	63	62	50	73	60	68	55	73	60								
0	1	93	77	97	81	90	75	98	81	96	80	100	83	93	77	102	84									
	2	77	64	79	66	74	61	80	66	80	66	82	68	76	63	83	68									
	3	60	48	70	58	65	53	71	58	62	50	73	60	68	55	73	60									
	5	1	93	77	97	81	90	75	98	81	96	80	100	83	93	77	102	84								
		2	77	64	79	66	74	61	80	66	80	66	82	68	76	63	83	68								
		3	60	48	70	58	65	53	71	58	62	50	73	60	68	55	73	60								
	10	1	93	77	97	81	90	75	98	81	96	80	100	83	93	77	102	84								
		2	77	64	79	66	74	61	80	66	80	66	82	68	76	63	83	68								
		3	60	48	70	58	65	53	71	58	62	50	73	60	68	55	73	60								
0	1	93	77	97	81	90	75	98	81	96	80	100	83	93	77	102	84									
	2	77	64	79	66	74	61	80	66	80	66	82	68	76	63	83	68									
	3	60	48	70	58	65	53	71	58	62	50	73	60	68	55	73	60									
	5	1	93	77	97	81	90	75	98	81	96	80	100	83	93	77	102	84								
		2	77	64	79	66	74	61	80	66	80	66	82	68	76	63	83	68								
		3	60	48	70	58	65	53	71	58	62	50	73	60	68	55	73	60								
	10	1	93	77	97	81	90	75	98	81	96	80	100	83	93	77	102	84								
		2	77	64	79	66	74	61	80	66	80	66	82	68	76	63	83	68								
		3	60	48	70	58	65	53	71	58	62	50	73	60	68	55	73	60								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
0	1	90	75	94	78	87	72	95	79	85	70	88	73	82	68	89	74	80	66	83	69	77	63	84	69	
	2	75	62	77	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56	
	3	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	52	50	41	60	49	55	45	60	49	
	5	1	90	75	94	78	87	72	95	79	85	70	88	73	82	68	89	74	80	66	83	69	77	63	84	69
		2	75	62	77	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56
		3	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	52	50	41	60	49	55	45	60	49
	10	1	90	75	94	78	87	72	95	79	85	70	88	73	82	68	89	74	80	66	83	69	77	63	84	69
		2	75	62	77	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56
		3	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	52	50	41	60	49	55	45	60	49
Wind Speed [mph]		170								180																
0	1	75	62	78	65	73	60	79	65	71	59	74	61	69	57	75	62									
	2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50									
	3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44									
	5	1	75	62	78	65	73	60	79	65	71	59	74	61	69	57	75	62								
		2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50								
		3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44								
	10	1	75	62	78	65	73	60	79	65	71	59	74	61	69	57	75	62								
		2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50								
		3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44								
Wind Speed [mph]		190								200																
0	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56									
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45									
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39									
	5	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								
	10	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
15	1	103	91	107	95	109	90	118	99	101	89	104	92	104	87	114	95	98	86	102	89	101	83	110	91
	2	91	77	94	80	89	74	97	80	89	74	91	76	86	71	93	77	86	71	89	73	82	68	90	74
	3	74	60	82	70	79	65	86	71	71	57	80	68	76	62	83	68	67	55	78	65	73	60	79	65
	1	98	88	101	91	107	90	116	99	96	85	99	88	104	87	114	95	94	83	97	86	101	83	110	91
	2	88	77	90	79	89	74	97	80	85	74	88	76	86	71	93	77	83	71	85	73	82	68	90	74
	3	74	60	79	69	79	65	86	71	71	57	77	67	76	62	83	68	67	55	75	65	73	60	79	65
	1	98	88	101	91	104	90	111	99	96	85	99	88	101	87	111	95	94	83	97	86	99	83	110	91
	2	88	77	90	79	89	74	97	80	85	74	88	76	86	71	93	77	83	71	85	73	82	68	90	74
	3	74	60	79	69	79	65	86	71	71	57	77	67	76	62	83	68	67	55	75	65	73	60	79	65
20	1	96	83	99	86	97	80	106	87	93	80	97	83	93	77	102	84	96	83	99	86	97	80	106	87
	2	83	69	85	71	79	65	86	71	80	66	82	68	76	63	83	68	80	66	82	68	76	63	83	68
	3	65	52	75	62	70	58	76	63	62	50	73	60	68	55	73	60	62	50	73	60	68	55	73	60
	1	92	81	95	84	97	80	106	87	90	79	93	82	93	77	102	84	92	81	95	84	97	80	106	87
	2	81	69	83	71	79	65	86	71	79	66	81	68	76	63	83	68	79	66	81	68	76	63	83	68
	3	65	52	73	62	70	58	76	63	62	50	71	60	68	55	73	60	62	50	71	60	68	55	73	60
	1	92	81	95	84	96	80	106	87	90	79	93	82	93	77	102	84	92	81	95	84	96	80	106	87
	2	81	69	83	71	79	65	86	71	79	66	81	68	76	63	83	68	79	66	81	68	76	63	83	68
	3	65	52	73	62	70	58	76	63	62	50	71	60	68	55	73	60	62	50	71	60	68	55	73	60
25	1	91	77	95	81	90	75	98	81	93	80	97	83	93	77	102	84	91	77	95	81	90	75	98	81
	2	77	64	79	66	74	61	80	66	80	66	82	68	76	63	83	68	77	64	79	66	74	61	80	66
	3	60	48	70	58	65	53	71	58	62	50	73	60	68	55	73	60	60	48	70	58	65	53	71	58
	1	88	77	91	80	90	75	98	81	90	79	93	82	93	77	102	84	88	77	91	80	90	75	98	81
	2	77	64	79	66	74	61	80	66	79	66	81	68	76	63	83	68	77	64	79	66	74	61	80	66
	3	60	48	69	58	65	53	71	58	62	50	71	60	68	55	73	60	60	48	69	58	65	53	71	58
	1	88	77	91	80	90	75	98	81	90	79	93	82	93	77	102	84	88	77	91	80	90	75	98	81
	2	77	64	79	66	74	61	80	66	79	66	81	68	76	63	83	68	77	64	79	66	74	61	80	66
	3	60	48	69	58	65	53	71	58	62	50	71	60	68	55	73	60	60	48	69	58	65	53	71	58

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches								
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
15	1	89	75	92	78	87	72	95	79	85	70	88	73	82	68	89	74	80	66	83	69	77	63	84	69	
	2	75	62	77	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56	
	3	58	47	68	56	63	52	68	56	54	44	64	52	59	48	64	52	50	41	60	49	55	45	60	49	
	20	1	86	75	89	78	87	72	95	79	82	70	85	73	82	68	89	74	79	66	81	69	77	63	84	69
		2	75	62	77	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56
		3	58	47	67	56	63	52	68	56	54	44	64	52	59	48	64	52	50	41	60	49	55	45	60	49
	25	1	86	75	89	78	87	72	95	79	82	70	85	73	82	68	89	74	79	66	81	69	77	63	84	69
		2	75	62	77	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56
		3	58	47	67	56	63	52	68	56	54	44	64	52	59	48	64	52	50	41	60	49	55	45	60	49
15	1	75	62	78	65	73	60	79	65	71	59	74	61	69	57	75	62									
	2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50									
	3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44									
	20	1	75	62	78	65	73	60	79	65	71	59	74	61	69	57	75	62								
		2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50								
		3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44								
	25	1	75	62	78	65	73	60	79	65	71	59	74	61	69	57	75	62								
		2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50								
		3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44								
15	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56									
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45									
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39									
	20	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								
	25	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								
15	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56									
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45									
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39									
	20	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								
	25	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								
15	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56									
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45									
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39									
	20	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								
	25	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
30	1	98	88	101	91	101	89	106	99	96	85	99	88	99	87	106	95	94	83	97	86	96	83	106	91
	2	88	77	90	79	88	74	97	80	85	74	88	76	86	71	93	77	83	71	85	73	82	68	90	74
	3	74	60	79	69	77	65	86	71	71	57	76	67	75	62	83	68	67	55	74	65	73	60	79	65
	1	95	85	98	88	97	87	103	99	93	83	96	86	96	85	103	95	91	81	94	84	94	82	103	91
	2	85	75	88	77	87	74	97	80	83	73	85	75	84	71	93	77	81	71	83	73	82	68	90	74
	3	74	60	76	68	76	65	86	71	71	57	74	66	73	62	83	68	67	55	73	64	71	60	79	65
	1	92	83	95	86	93	86	99	99	90	81	93	84	93	83	99	95	88	79	91	82	92	81	99	91
	2	83	74	85	76	85	74	97	80	81	72	83	74	83	71	93	77	79	70	81	72	80	68	90	74
	3	72	60	74	66	74	65	86	71	70	57	73	64	72	62	83	68	67	55	71	62	70	60	79	65
35	1	91	81	95	84	94	80	106	87	89	79	93	82	91	77	102	84	89	79	93	82	91	77	102	84
	2	81	69	83	71	79	65	86	71	79	66	81	68	76	63	83	68	79	66	81	68	76	63	83	68
	3	65	52	73	62	70	58	76	63	62	50	71	60	68	55	73	60	62	50	71	60	68	55	73	60
	1	89	79	92	82	92	80	103	87	87	77	90	80	89	77	102	84	87	77	90	80	89	77	102	84
	2	79	69	81	71	79	65	86	71	77	66	79	68	76	63	83	68	77	66	79	68	76	63	83	68
	3	65	52	71	62	69	58	76	63	62	50	69	60	67	55	73	60	62	50	69	60	67	55	73	60
	1	87	77	90	80	90	79	99	87	85	76	88	78	88	77	99	84	85	76	88	78	88	77	99	84
	2	77	68	79	70	78	65	86	71	76	66	78	68	76	63	83	68	76	66	78	68	76	63	83	68
	3	65	52	69	61	68	58	76	63	62	50	68	59	66	55	73	60	62	50	68	59	66	55	73	60
40	1	87	77	91	80	89	75	98	81	89	79	93	82	91	77	102	84	89	79	93	82	91	77	102	84
	2	77	64	79	66	74	61	80	66	79	66	81	68	76	63	83	68	79	66	81	68	76	63	83	68
	3	60	48	69	58	65	53	71	58	62	50	71	60	68	55	73	60	62	50	71	60	68	55	73	60
	1	85	75	88	78	87	75	98	81	87	77	90	80	89	77	102	84	87	77	90	80	89	77	102	84
	2	75	64	77	66	74	61	80	66	77	66	79	68	76	63	83	68	77	66	79	68	76	63	83	68
	3	60	48	67	58	65	53	71	58	62	50	69	60	67	55	73	60	62	50	69	60	67	55	73	60
	1	83	74	86	76	86	75	98	81	85	76	88	78	88	77	99	84	85	76	88	78	88	77	99	84
	2	74	64	76	66	74	61	80	66	76	66	78	68	76	63	83	68	76	66	78	68	76	63	83	68
	3	60	48	66	58	65	53	71	58	62	50	68	59	66	55	73	60	62	50	68	59	66	55	73	60

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																				
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
30	1	86	75	89	78	87	72	95	79	82	70	85	73	82	68	89	74	78	66	81	69	77	63	84	69	
	2	75	62	77	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56	
	3	58	47	67	56	63	52	68	56	54	44	64	52	59	48	64	52	50	41	60	49	55	45	60	49	
	1	83	73	86	76	85	72	95	79	80	70	83	73	81	68	89	74	77	66	80	69	77	63	84	69	
	2	73	62	75	63	71	59	77	64	70	58	72	59	67	55	72	60	66	54	68	56	63	51	68	56	
	3	58	47	66	56	63	52	68	56	54	44	63	52	59	48	64	52	50	41	60	49	55	45	60	49	
	1	82	72	84	75	84	72	95	79	78	69	81	71	80	68	89	74	75	66	78	68	76	63	84	69	
	2	72	62	74	63	71	59	77	64	69	58	71	59	67	55	72	60	66	54	68	56	63	51	68	56	
	3	58	47	65	56	63	52	68	56	54	44	62	52	59	48	64	52	50	41	59	49	55	45	60	49	
Wind Speed [mph]		170								180																
30	1	75	62	78	65	73	60	79	65	71	59	74	61	69	57	75	62	62	51	64	52	59	48	64	53	
	2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50	50	48	60	50	56	46	61	50	
	3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44	44	36	53	44	49	40	54	44	
	1	74	62	77	65	73	60	79	65	71	59	74	61	69	57	75	62	62	51	64	52	59	48	64	53	
	2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50	50	48	60	50	56	46	61	50	
	3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44	44	36	53	44	49	40	54	44	
	1	72	62	75	65	73	60	79	65	70	59	72	61	69	57	75	62	62	51	64	52	59	48	64	53	
	2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50	50	48	60	50	56	46	61	50	
	3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44	44	36	53	44	49	40	54	44	
Wind Speed [mph]		190								200																
30	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
	1	67	56	70	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
35	1	68	56	71	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
	1	67	56	70	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
	1	67	56	70	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
40	1	67	56	70	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
	1	67	56	70	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41
	1	67	56	70	58	65	54	71	58	64	53	67	55	62	51	68	56	56	46	57	47	53	43	58	47	
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45	45	46	57	47	53	43	58	47	
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39	39	42	34	51	41	47	38	51	41

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft								92.5in x 45.9in								Span, inches							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
45	1	89	81	92	84	90	84	96	96	88	79	91	82	90	82	96	95	86	78	89	80	90	80	96	91
	2	81	72	84	74	83	73	96	80	79	71	82	72	81	71	93	77	78	69	80	70	79	68	90	74
	3	70	60	72	65	73	64	86	71	68	57	71	63	71	62	83	68	67	55	69	61	69	60	79	65
	1	87	80	90	82	88	83	94	94	85	78	88	80	88	80	94	94	84	76	87	79	88	78	94	91
	2	80	71	82	73	82	72	94	80	78	69	80	71	80	70	93	77	76	67	78	69	78	68	90	74
	3	68	60	71	64	71	63	86	71	67	57	69	62	69	61	83	68	65	55	68	60	68	59	79	65
	1	83	76	85	79	83	80	89	89	81	75	84	77	83	78	89	89	80	73	83	76	83	76	89	89
	2	76	69	78	71	79	70	89	80	75	67	77	69	77	68	89	77	73	65	75	67	75	66	89	74
	3	65	59	68	61	69	61	84	71	64	57	66	60	67	59	82	68	63	55	65	58	65	58	79	65
50	1	84	76	87	79	88	78	96	87	83	74	86	77	86	76	96	84	84	76	87	79	88	78	96	87
	2	76	67	78	69	77	65	86	71	74	65	76	67	75	63	83	68	74	65	76	67	75	63	83	68
	3	65	52	68	60	67	58	76	63	62	50	66	58	65	55	73	60	62	50	66	58	65	55	73	60
	1	82	74	85	77	86	76	94	87	81	73	84	75	84	74	94	84	81	73	84	75	84	74	94	84
	2	74	66	76	68	76	65	86	71	73	64	75	66	74	63	83	68	73	64	75	66	74	63	83	68
	3	64	52	66	59	66	57	76	63	62	50	65	57	64	55	73	60	62	50	65	57	64	55	73	60
	1	79	72	81	74	83	74	89	87	77	70	80	73	81	72	89	84	77	70	80	73	81	72	89	84
	2	72	64	74	66	74	64	86	71	70	62	72	64	72	63	83	68	70	62	72	64	72	63	83	68
	3	62	52	64	57	64	56	76	63	60	50	62	56	62	54	73	60	60	50	62	56	62	54	73	60
60	1	81	72	84	75	84	74	96	81	83	74	86	77	86	76	96	84	83	74	86	77	86	76	96	84
	2	72	63	74	65	73	61	80	66	74	65	76	67	75	63	83	68	74	65	76	67	75	63	83	68
	3	60	48	65	57	64	53	71	58	62	50	66	58	65	55	73	60	62	50	66	58	65	55	73	60
	1	79	71	82	74	82	73	94	81	81	73	84	75	84	74	94	84	81	73	84	75	84	74	94	84
	2	71	62	73	64	72	61	80	66	73	64	75	66	74	63	83	68	73	64	75	66	74	63	83	68
	3	60	48	63	56	63	53	71	58	62	50	65	57	64	55	73	60	62	50	65	57	64	55	73	60
	1	76	69	79	71	80	71	89	81	77	70	80	73	81	72	89	84	77	70	80	73	81	72	89	84
	2	69	61	71	62	70	61	80	66	70	62	72	64	72	63	83	68	70	62	72	64	72	63	83	68
	3	59	48	61	54	61	53	71	58	60	50	62	56	62	54	73	60	60	50	62	56	62	54	73	60

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																				
Wind Speed [mph]		140								150								160								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
45	1	80	71	82	73	82	72	95	79	77	68	79	70	79	68	89	74	74	65	77	67	75	63	84	69	
	2	71	62	73	63	71	59	77	64	68	58	70	59	67	55	72	60	65	54	67	56	63	51	68	56	
	3	58	47	63	55	62	52	68	56	54	44	61	52	59	48	64	52	50	41	58	49	55	45	60	49	
	50	1	78	70	81	72	81	71	94	79	75	67	78	69	77	67	89	74	73	64	75	66	74	63	84	69
		2	70	61	71	63	70	59	77	64	67	58	68	59	67	55	72	60	64	54	66	56	63	51	68	56
		3	58	47	62	54	61	52	68	56	54	44	60	52	58	48	64	52	50	41	57	49	55	45	60	49
	60	1	75	67	77	70	78	69	89	79	72	65	75	67	75	66	89	74	70	62	72	64	72	63	84	69
		2	67	59	69	61	68	59	77	64	65	57	66	58	65	55	72	60	62	54	64	56	62	51	68	56
		3	58	47	60	53	59	52	68	56	54	44	58	51	57	48	64	52	50	41	55	48	54	45	60	49
Wind Speed [mph]		170								180																
45	1	71	62	74	64	72	60	79	65	69	59	71	61	69	57	75	62									
	2	62	51	64	52	59	48	64	53	59	48	60	50	56	46	61	50									
	3	47	38	56	46	52	43	57	46	44	36	53	44	49	40	54	44									
	50	1	70	61	73	64	71	60	79	65	67	59	70	61	68	57	75	62								
		2	61	51	63	52	59	48	64	53	59	48	60	50	56	46	61	50								
		3	47	38	55	46	52	43	57	46	44	36	53	44	49	40	54	44								
	60	1	68	60	70	62	69	60	79	65	65	57	68	60	67	57	75	62								
		2	60	51	61	52	59	48	64	53	57	48	59	50	56	46	61	50								
		3	47	38	53	46	52	43	57	46	44	36	51	44	49	40	54	44								
Wind Speed [mph]		190								200																
45	1	66	56	69	58	65	54	71	58	64	53	66	55	62	51	68	56									
	2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45									
	3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39									
	50	1	65	56	68	58	65	54	71	58	63	53	65	55	62	51	68	56								
		2	56	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	51	41	47	38	51	41	40	32	48	39	44	36	48	39								
	60	1	63	55	66	57	64	54	71	58	61	53	64	55	62	51	68	56								
		2	55	46	57	47	53	43	58	47	53	43	55	45	50	41	55	45								
		3	42	34	49	41	47	38	51	41	40	32	48	39	44	36	48	39								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
70	1	79	73	82	76	79	77	86	86	78	72	80	74	79	75	86	86	77	71	79	73	79	74	86	86	
	2	73	67	75	68	77	68	86	80	72	65	74	67	75	67	86	77	71	64	72	65	73	65	86	74	
	3	63	57	65	59	66	59	83	71	62	56	64	58	65	58	80	68	60	55	63	57	63	56	78	65	
	80	1	76	71	78	73	76	75	83	83	75	70	77	72	76	73	83	83	74	68	76	71	76	72	83	83
		2	71	65	73	66	74	67	83	80	70	63	71	65	73	65	83	77	68	62	70	64	71	63	83	74
		3	60	55	62	57	64	58	81	71	59	54	61	56	63	56	79	68	58	53	60	55	61	55	76	65
	90	1	73	68	75	71	73	73	80	80	72	67	74	69	73	71	80	80	71	66	73	68	73	70	80	80
		2	68	63	70	65	72	65	80	80	67	62	69	63	71	64	80	77	66	60	68	62	69	62	80	74
		3	58	54	60	56	62	56	79	69	57	53	59	54	61	55	77	67	56	52	58	53	60	54	75	65
Wind Speed [mph]		110								115																
70	1	76	69	78	72	79	72	86	86	74	68	77	70	79	70	86	84									
	2	69	62	71	64	72	63	86	71	68	61	70	62	70	61	83	68									
	3	59	52	61	55	62	55	76	63	58	50	60	54	61	53	73	60									
80	1	73	67	75	69	76	70	83	83	72	66	74	68	76	69	83	83									
	2	67	61	69	62	70	62	83	71	66	59	68	61	68	60	83	68									
	3	57	52	59	54	60	54	74	63	56	50	58	53	59	52	72	60									
90	1	70	65	72	67	73	68	80	80	69	64	72	66	73	67	80	80									
	2	65	59	67	61	68	61	80	71	64	58	66	59	67	59	80	68									
	3	56	51	57	52	59	52	73	63	55	49	56	51	57	51	71	60									
Wind Speed [mph]		120								130																
70	1	73	67	76	69	77	69	86	81	74	68	77	70	79	70	86	84									
	2	67	59	68	61	68	60	80	66	68	61	70	62	70	61	83	68									
	3	57	48	59	53	59	52	71	58	58	50	60	54	61	53	73	60									
80	1	71	65	73	67	75	67	83	81	72	66	74	68	76	69	83	83									
	2	65	58	66	59	67	59	80	66	66	59	68	61	68	60	83	68									
	3	55	48	57	51	58	51	70	58	56	50	58	53	59	52	72	60									
90	1	68	63	71	65	73	66	80	80	69	64	72	66	73	67	80	80									
	2	63	57	65	58	65	58	80	66	64	58	66	59	67	59	80	68									
	3	54	48	56	50	56	50	69	58	55	49	56	51	57	51	71	60									

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
70	1	72	65	75	68	76	67	86	79	70	63	72	65	73	64	86	74	68	60	70	63	70	62	84	69
	2	65	58	67	60	67	58	77	64	63	55	65	57	64	55	72	60	60	53	62	54	61	51	68	56
	3	56	47	58	52	58	51	68	56	54	44	56	49	55	48	64	52	50	41	54	47	53	45	60	49
80	1	70	63	72	66	73	66	83	79	68	61	70	63	71	63	83	74	66	59	68	61	68	61	83	69
	2	63	57	65	58	65	57	77	64	61	54	63	56	63	55	72	60	59	52	61	53	60	51	68	56
	3	54	47	56	50	56	50	68	56	52	44	54	48	54	47	64	52	50	41	52	46	52	45	60	49
90	1	67	62	70	64	71	64	80	78	66	60	68	62	69	62	80	74	64	58	66	60	67	59	80	69
	2	62	55	63	57	64	56	77	64	60	53	61	55	61	54	72	60	58	51	59	52	59	51	68	56
	3	53	47	55	49	55	49	68	56	51	44	53	47	53	47	64	52	49	41	51	45	51	44	60	49
Wind Speed [mph]		170								180															
70	1	66	58	68	60	68	59	79	65	64	56	66	58	65	57	75	62								
	2	58	51	60	52	59	48	64	53	56	48	58	50	56	46	61	50								
	3	47	38	52	45	51	43	57	46	44	36	50	44	49	40	54	44								
80	1	64	57	66	59	66	58	79	65	62	55	64	57	64	56	75	62								
	2	57	50	58	51	58	48	64	53	55	48	56	49	55	46	61	50								
	3	47	38	51	44	50	43	57	46	44	36	49	43	48	40	54	44								
90	1	62	56	64	58	65	57	79	65	60	54	62	56	63	55	75	62								
	2	56	49	57	50	57	48	64	53	54	47	55	48	54	46	61	50								
	3	47	38	49	44	49	43	57	46	44	36	48	42	47	40	54	44								
Wind Speed [mph]		190								200															
70	1	62	54	64	56	63	54	71	58	60	52	62	54	61	51	68	56								
	2	54	46	56	47	53	43	58	47	52	43	54	45	50	41	55	45								
	3	42	34	48	41	47	38	51	41	40	32	47	39	44	36	48	39								
80	1	60	53	62	55	62	54	71	58	58	51	60	53	60	51	68	56								
	2	53	46	55	47	53	43	58	47	51	43	53	45	50	41	55	45								
	3	42	34	47	41	46	38	51	41	40	32	46	39	44	36	48	39								
90	1	59	52	61	54	61	53	71	58	57	50	59	52	59	51	68	56								
	2	52	45	53	47	52	43	58	47	50	43	52	45	50	41	55	45								
	3	42	34	46	40	45	38	51	41	40	32	45	39	44	36	48	39								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	70	66	73	68	71	71	77	77	70	65	72	67	71	69	77	77	69	64	71	66	71	68	77	77
	2	66	61	68	63	70	64	77	77	65	60	67	62	69	62	77	76	64	59	66	60	68	61	77	74
	3	56	52	58	54	60	55	77	68	56	51	57	53	59	54	76	66	55	50	57	52	58	53	74	64
0	1																								
	2																								
	3																								
100	1	68	63	70	65	71	67	77	77	67	62	69	64	71	65	77	77	67	62	69	64	71	65	77	77
	2	63	58	65	59	66	59	77	71	62	56	64	58	65	58	77	68	62	56	64	58	65	58	77	68
	3	54	49	56	51	57	51	72	63	53	48	55	50	56	50	70	60	53	48	55	50	56	50	70	60
0	1																								
	2																								
	3																								
100	1	66	61	68	63	71	64	77	77	67	62	69	64	71	65	77	77	67	62	69	64	71	65	77	77
	2	61	55	63	57	64	57	77	66	62	56	64	58	65	58	77	68	62	56	64	58	65	58	77	68
	3	52	47	54	49	55	49	68	58	53	48	55	50	56	50	70	60	53	48	55	50	56	50	70	60
0	1																								
	2																								
	3																								

Exposure Category : D

### ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		92.5in x 45.9in		Span, inches																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	65	60	68	62	70	63	77	77	64	58	66	60	67	61	77	74	62	56	64	58	65	58	77	69
	2	60	54	62	56	63	55	76	64	58	52	60	54	60	53	72	60	56	50	58	51	58	51	68	56
	3	51	46	53	48	54	48	67	56	50	44	52	46	52	46	64	52	48	41	50	45	50	44	60	49
Wind Speed [mph]		170								180															
100	1	60	55	62	56	63	56	77	65	59	53	61	55	61	54	75	62								
	2	55	48	56	50	56	48	64	53	53	46	54	48	54	46	61	50								
	3	47	38	48	43	48	42	57	46	44	36	47	41	46	40	54	44								
Wind Speed [mph]		190								200															
100	1	57	51	59	53	59	52	71	58	56	49	58	51	58	50	68	56								
	2	51	45	52	46	52	43	58	47	49	43	51	44	50	41	55	45								
	3	42	34	45	40	45	38	51	41	40	32	44	38	43	36	48	39								

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees





# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]		95																100																105															
Panal Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge													
		15	1	580 / 396 / 78	567 / 609 / 76	486 / 511 / 104	418 / 684 / 89	455 / 377 / 123	427 / 557 / 115	405 / 469 / 126	406 / 644 / 112	384 / 301 / 126	479 / 439 / 126	580 / 445 / 78	545 / 654 / 74	465 / 549 / 99	404 / 738 / 86	455 / 424 / 123	411 / 600 / 111	402 / 521 / 126	429 / 694 / 109	384 / 316 / 126	518 / 483 / 124	580 / 496 / 78	528 / 704 / 71	452 / 593 / 96	407 / 784 / 83	455 / 473 / 123	421 / 646 / 107	388 / 558 / 121	448 / 738 / 104	400 / 352 / 126	550 / 520 / 120																

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																																
Wind Speed [mph]		140												150								160																				
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90													
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		15	1	493 / 788 / 67	397 / 971 / 54	408 / 855 / 75	442 / 1063 / 62	440 / 731 / 101	507 / 913 / 83	479 / 813 / 96	563 / 1008 / 79	609 / 590 / 114	752 / 760 / 97	458 / 847 / 62	371 / 1047 / 50	413 / 921 / 70	463 / 1138 / 57	465 / 797 / 95	531 / 978 / 77	507 / 878 / 90	596 / 1082 / 73	660 / 650 / 109	802 / 819 / 90	428 / 905 / 58	358 / 1112 / 47	420 / 987 / 66	486 / 1216 / 54	482 / 847 / 89	557 / 1043 / 72	530 / 934 / 84	631 / 1159 / 69	702 / 701 / 103	854 / 880 / 85									
20	1		564 / 788 / 67	454 / 971 / 54	441 / 855 / 75	456 / 1063 / 75	470 / 731 / 122	507 / 913 / 99	479 / 813 / 110	563 / 1008 / 89	609 / 590 / 114	752 / 760 / 97	524 / 847 / 62	424 / 1047 / 50	444 / 921 / 85	463 / 1138 / 70	481 / 797 / 115	531 / 978 / 92	507 / 878 / 103	596 / 1082 / 83	660 / 650 / 109	802 / 819 / 90	489 / 905 / 58	408 / 1112 / 47	449 / 987 / 80	486 / 1216 / 65	484 / 847 / 107	557 / 1043 / 86	530 / 934 / 95	631 / 1159 / 78	702 / 701 / 103	854 / 880 / 85										
	25		1	402 / 965 / 54	354 / 1180 / 44	436 / 1044 / 62	505 / 1282 / 50	505 / 906 / 84	584 / 1111 / 67	561 / 1001 / 79	662 / 1226 / 64	740 / 746 / 97	900 / 934 / 80	380 / 1027 / 51	353 / 1255 / 41	453 / 1105 / 58	528 / 1356 / 47	524 / 958 / 78	616 / 1186 / 64	588 / 1063 / 75	696 / 1301 / 61	787 / 801 / 92	949 / 991 / 75	ASCE Group Zone																		
			15	1	402 / 965 / 54	354 / 1180 / 44	436 / 1044 / 62	505 / 1282 / 50	505 / 906 / 84	584 / 1111 / 67	561 / 1001 / 79	662 / 1226 / 64	740 / 746 / 97	900 / 934 / 80	380 / 1027 / 51	353 / 1255 / 41	453 / 1105 / 58	528 / 1356 / 47	524 / 958 / 78	616 / 1186 / 64	588 / 1063 / 75	696 / 1301 / 61	787 / 801 / 92	949 / 991 / 75	ASCE Group Zone						Gable						Hip					
				20	1	459 / 965 / 54	400 / 1180 / 44	451 / 1044 / 75	505 / 1282 / 61	505 / 906 / 100	584 / 1111 / 81	561 / 1001 / 90	662 / 1226 / 97	740 / 746 / 91	900 / 934 / 80	434 / 1027 / 51	397 / 1255 / 41	457 / 1105 / 70	528 / 1356 / 57	524 / 958 / 94	616 / 1186 / 77	588 / 1063 / 85	696 / 1301 / 69	787 / 801 / 92	949 / 991 / 75	ASCE Group Zone						Gable						Hip				
					25	1	459 / 965 / 54	400 / 1180 / 44	451 / 1044 / 75	505 / 1282 / 61	505 / 906 / 100	584 / 1111 / 81	561 / 1001 / 90	662 / 1226 / 97	740 / 746 / 91	900 / 934 / 80	434 / 1027 / 51	397 / 1255 / 41	457 / 1105 / 70	528 / 1356 / 57	524 / 958 / 94	616 / 1186 / 77	588 / 1063 / 85	696 / 1301 / 69	787 / 801 / 92	949 / 991 / 75	ASCE Group Zone						Gable						Hip			

Exposure Category : B

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			0-30ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]			95												100												105											
Panel Angle			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge						
		1		655 / 372 / 74	655 / 585 / 74	564 / 461 / 155	537 / 684 / 147	483 / 322 / 168	483 / 507 / 168	359 / 416 / 159	406 / 644 / 159	384 / 301 / 127	479 / 439 / 127	655 / 418 / 74	655 / 654 / 74	564 / 517 / 155	520 / 738 / 142	483 / 362 / 168	483 / 567 / 168	359 / 465 / 159	429 / 694 / 154	384 / 316 / 127	518 / 483 / 125	655 / 467 / 74	634 / 704 / 71	564 / 575 / 155	518 / 784 / 136	483 / 404 / 168	505 / 630 / 168	359 / 517 / 159	448 / 738 / 148	400 / 352 / 127	550 / 520 / 121					

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows:

$x \geq 72''$	$64''$ to $71''$	$48''$ to $63''$	$x \leq 47''$
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Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\theta$  = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150								160															
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		30	1	592 / 788 / 67	477 / 971 / 54	509 / 855 / 124	511 / 1063 / 102	531 / 731 / 163	544 / 913 / 133	479 / 813 / 136	563 / 1008 / 111	609 / 590 / 115	752 / 760 / 97	550 / 847 / 62	446 / 1047 / 50	507 / 921 / 116	514 / 1138 / 94	537 / 797 / 153	550 / 978 / 123	507 / 878 / 128	596 / 1082 / 104	660 / 650 / 110	802 / 819 / 91	514 / 905 / 58	428 / 1112 / 47	508 / 987 / 109	521 / 1216 / 88	537 / 847 / 142	559 / 1043 / 115	530 / 934 / 119	631 / 1159 / 97	702 / 701 / 104	854 / 880 / 86				
35	1		644 / 788 / 70	519 / 971 / 57	543 / 855 / 141	539 / 1063 / 115	556 / 725 / 182	568 / 913 / 149	479 / 813 / 150	563 / 1008 / 122	609 / 590 / 121	752 / 760 / 102	599 / 847 / 65	485 / 1047 / 53	538 / 921 / 131	540 / 1138 / 107	566 / 797 / 173	573 / 978 / 139	507 / 878 / 140	596 / 1082 / 114	660 / 650 / 115	802 / 819 / 96	559 / 905 / 61	464 / 1112 / 49	537 / 987 / 123	545 / 1216 / 100	563 / 847 / 160	580 / 1043 / 130	530 / 934 / 130	631 / 1159 / 107	702 / 701 / 109	854 / 880 / 90					
	40		1	696 / 788 / 175	561 / 971 / 141	576 / 855 / 157	566 / 1063 / 128	566 / 701 / 195	593 / 913 / 166	479 / 813 / 163	563 / 1008 / 133	609 / 590 / 126	752 / 760 / 107	647 / 847 / 163	524 / 1047 / 132	570 / 921 / 147	565 / 1138 / 119	594 / 797 / 192	596 / 978 / 154	507 / 878 / 153	596 / 1082 / 124	660 / 650 / 120	802 / 819 / 100	604 / 905 / 152	500 / 1112 / 123	567 / 987 / 137	569 / 1216 / 112	589 / 847 / 178	601 / 1043 / 144	530 / 934 / 142	631 / 1159 / 116	702 / 701 / 114	854 / 880 / 94				

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**K2 80-X Dual Rail System (ASCE 7-22)**

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																															
Wind Speed [mph]	Panal Angle	140												150												160															
		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90												
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	735 / 774 / 185	603 / 971 / 152	610 / 855 / 174	594 / 1063 / 142	574 / 676 / 207	617 / 913 / 183	479 / 813 / 176	563 / 1008 / 144	609 / 590 / 132	752 / 760 / 111	695 / 847 / 175	563 / 1047 / 142	601 / 921 / 162	591 / 1138 / 132	611 / 782 / 207	618 / 978 / 170	507 / 878 / 165	596 / 1082 / 134	660 / 650 / 126	802 / 819 / 104	649 / 905 / 164	537 / 1112 / 132	596 / 987 / 152	593 / 1216 / 123	616 / 847 / 196	623 / 1043 / 158	530 / 934 / 154	631 / 1159 / 126	702 / 701 / 118	854 / 880 / 98								

**Exposure Category : B**

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof

		0-30ft					70in x 41in					Load: Up / Down / Side, lbs																											
Wind Speed [mph]		140										150										160																	
Panal Angle		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90			
Ground Snow	Group	Array Interior		Array Edge			Array Interior		Array Edge			Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		70	1	867 / 648 / 211	849 / 971 / 207	764 / 838 / 251	731 / 1063 / 208	629 / 596 / 266	740 / 913 / 266	495 / 783 / 234	563 / 1008 / 198	600 / 581 / 157	752 / 760 / 135	867 / 750 / 211	793 / 1047 / 193	759 / 921 / 238	719 / 1138 / 194	662 / 690 / 266	732 / 978 / 247	524 / 878 / 227	596 / 1082 / 185	660 / 650 / 152	802 / 819 / 126	867 / 859 / 211	737 / 1112 / 179	744 / 987 / 223	712 / 1216 / 181	697 / 790 / 266	729 / 1043 / 231	532 / 934 / 212	631 / 1159 / 174	702 / 701 / 143	854 / 880 / 119						

Exposure Category : B

Wind Speed [mph]		170										180										ASCE Group Zone																	
Panal Angle		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90			
70	1	858 / 965 / 209	692 / 1180 / 168	726 / 1044 / 208	703 / 1282 / 169	734 / 897 / 266	731 / 1111 / 217	561 / 1001 / 200	662 / 1226 / 162	740 / 746 / 135	900 / 934 / 111	811 / 1027 / 198	673 / 1255 / 159	715 / 1105 / 196	701 / 1356 / 159	734 / 958 / 253	740 / 1186 / 206	588 / 1063 / 189	696 / 1301 / 153	787 / 801 / 129	949 / 991 / 105																		

Wind Speed [mph]		190										200										ASCE Group Zone																	
Panal Angle		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90		0 - 7		7 - 20			20 - 27		27 - 45			45 - 90			
70	1	765 / 1083 / 186	652 / 1321 / 150	712 / 1173 / 186	707 / 1443 / 151	732 / 1013 / 239	747 / 1254 / 195	611 / 1116 / 178	726 / 1366 / 144	822 / 844 / 121	1004 / 1055 / 100	728 / 1145 / 177	641 / 1401 / 143	706 / 1233 / 176	712 / 1523 / 144	736 / 1074 / 228	750 / 1314 / 184	639 / 1177 / 169	764 / 1445 / 138	870 / 899 / 116	1055 / 1113 / 95																		

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	1028 / 551 / 236	1028 / 843 / 236	858 / 747 / 309	896 / 1063 / 289	697 / 535 / 329	796 / 819 / 329	500 / 708 / 281	597 / 1008 / 264	562 / 544 / 178	752 / 760 / 163	1028 / 637 / 236	1028 / 973 / 236	888 / 863 / 309	872 / 1138 / 268	726 / 619 / 329	840 / 945 / 329	540 / 817 / 281	610 / 1082 / 246	639 / 629 / 178	802 / 819 / 152	1028 / 730 / 236	1028 / 1112 / 236	910 / 976 / 306	856 / 1216 / 251	758 / 709 / 329	857 / 1043 / 317	584 / 934 / 281	631 / 1159 / 231	702 / 701 / 173	854 / 880 / 143				
	2	1028 / 757 / 236	1015 / 1138 / 233	839 / 999 / 302	768 / 1240 / 247	697 / 914 / 329	677 / 1180 / 280	500 / 790 / 281	563 / 1059 / 249	562 / 700 / 178	690 / 893 / 149	1028 / 874 / 236	937 / 1211 / 215	809 / 1073 / 282	749 / 1329 / 230	709 / 1029 / 321	666 / 1267 / 261	540 / 911 / 281	580 / 1146 / 234	612 / 773 / 170	732 / 956 / 139	1028 / 999 / 236	885 / 1305 / 204	788 / 1151 / 265	727 / 1403 / 213	697 / 1107 / 302	663 / 1361 / 246	553 / 985 / 267	599 / 1223 / 219	648 / 829 / 160	774 / 1020 / 130						
	3	1028 / 1067 / 236	859 / 1351 / 198	724 / 1160 / 261	662 / 1433 / 213	673 / 1065 / 317	622 / 1306 / 257	484 / 963 / 273	502 / 1186 / 222	562 / 700 / 178	690 / 893 / 149	976 / 1167 / 224	794 / 1437 / 183	701 / 1249 / 244	649 / 1542 / 199	651 / 1140 / 295	609 / 1393 / 238	489 / 1036 / 255	513 / 1272 / 207	612 / 773 / 170	732 / 956 / 139	911 / 1244 / 210	742 / 1532 / 171	675 / 1325 / 227	633 / 1637 / 186	636 / 1217 / 276	602 / 1487 / 223	497 / 1113 / 240	533 / 1367 / 195	648 / 829 / 160	774 / 1020 / 130						

Exposure Category : B

Wind Speed [mph]		170												180													
100	1	1028 / 828 / 236	963 / 1180 / 221	892 / 1044 / 289	836 / 1282 / 234	791 / 804 / 329	851 / 1111 / 299	597 / 1001 / 267	662 / 1226 / 216	740 / 746 / 163	900 / 934 / 134	1028 / 933 / 236	911 / 1255 / 210	871 / 1105 / 271	826 / 1356 / 220	827 / 906 / 329	854 / 1186 / 283	608 / 1063 / 252	696 / 1301 / 204	787 / 801 / 155	949 / 991 / 127	ASCE Group Zone					
	2	1015 / 1118 / 233	833 / 1390 / 192	764 / 1219 / 247	726 / 1510 / 203	682 / 1175 / 283	658 / 1445 / 231	564 / 1053 / 252	625 / 1289 / 204	679 / 877 / 149	820 / 1088 / 123	963 / 1193 / 221	781 / 1464 / 180	750 / 1294 / 234	710 / 1581 / 189	675 / 1250 / 268	649 / 1517 / 216	572 / 1113 / 237	655 / 1363 / 192	719 / 937 / 142	860 / 1147 / 115						
	3	859 / 1328 / 198	703 / 1641 / 162	658 / 1408 / 213	627 / 1748 / 175	618 / 1284 / 257	604 / 1596 / 212	503 / 1181 / 225	561 / 1450 / 183	679 / 877 / 149	820 / 1088 / 123	807 / 1401 / 186	664 / 1740 / 153	650 / 1505 / 203	620 / 1846 / 165	608 / 1357 / 242	592 / 1664 / 197	514 / 1256 / 213	584 / 1521 / 171	719 / 937 / 142	860 / 1147 / 115						

Wind Speed [mph]		190												200													
100	1	1028 / 1043 / 236	859 / 1321 / 198	859 / 1173 / 258	827 / 1443 / 210	864 / 1013 / 329	855 / 1254 / 268	615 / 1116 / 237	726 / 1366 / 192	822 / 844 / 146	1004 / 1055 / 121	1015 / 1145 / 233	820 / 1401 / 189	846 / 1233 / 244	826 / 1523 / 199	862 / 1074 / 314	852 / 1314 / 253	639 / 1177 / 225	764 / 1445 / 183	870 / 899 / 140	1055 / 1113 / 115	ASCE Group Zone					
	2	911 / 1261 / 210	742 / 1553 / 171	733 / 1360 / 220	705 / 1668 / 179	666 / 1318 / 253	650 / 1603 / 204	584 / 1180 / 225	692 / 1449 / 183	755 / 991 / 134	905 / 1214 / 109	859 / 1321 / 198	703 / 1632 / 162	727 / 1439 / 210	712 / 1779 / 172	665 / 1397 / 242	662 / 1713 / 197	605 / 1240 / 213	726 / 1529 / 174	787 / 1039 / 127	945 / 1273 / 103						
	3	768 / 1489 / 177	625 / 1827 / 144	642 / 1594 / 193	610 / 1931 / 155	606 / 1444 / 231	602 / 1785 / 189	522 / 1323 / 201	613 / 1608 / 162	755 / 991 / 134	905 / 1214 / 109	729 / 1568 / 168	599 / 1942 / 138	631 / 1674 / 182	613 / 2046 / 148	603 / 1524 / 219	598 / 1861 / 178	537 / 1380 / 189	651 / 1717 / 156	787 / 1039 / 127	945 / 1273 / 103						

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\theta$  = Angle of roof from horizontal, in degrees







# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof				0-30ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]				140												150												160											
Panel Angle				0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge							
		15	1	410 / 934 / 55	355 / 1149 / 45	431 / 1025 / 64	496 / 1252 / 51	497 / 885 / 86	572 / 1080 / 69	547 / 971 / 81	648 / 1195 / 66	724 / 727 / 99	875 / 906 / 82	384 / 1009 / 52	353 / 1237 / 42	453 / 1101 / 59	523 / 1338 / 48	522 / 950 / 80	608 / 1167 / 65	580 / 1045 / 76	688 / 1283 / 62	773 / 786 / 93	934 / 975 / 76	361 / 1075 / 48	355 / 1332 / 40	470 / 1164 / 55	552 / 1432 / 45	542 / 1006 / 74	640 / 1245 / 61	607 / 1108 / 71	721 / 1356 / 57	825 / 846 / 88	997 / 1047 / 72						
20	1		469 / 934 / 55	403 / 1149 / 45	453 / 1025 / 78	496 / 1252 / 62	497 / 885 / 103	572 / 1080 / 83	547 / 971 / 92	648 / 1195 / 75	724 / 727 / 99	875 / 906 / 82	439 / 1009 / 52	398 / 1237 / 42	460 / 1101 / 72	523 / 1338 / 58	522 / 950 / 96	608 / 1167 / 78	580 / 1045 / 86	688 / 1283 / 70	773 / 786 / 93	934 / 975 / 76	413 / 1075 / 48	397 / 1332 / 40	470 / 1164 / 67	552 / 1432 / 55	542 / 1006 / 89	640 / 1245 / 73	607 / 1108 / 80	721 / 1356 / 65	825 / 846 / 88	997 / 1047 / 72							
	25		1	405 / 1101 / 48	345 / 1339 / 38	385 / 1188 / 66	426 / 1457 / 54	379 / 1144 / 79	445 / 1416 / 65	517 / 1022 / 87	613 / 1259 / 71	666 / 857 / 91	799 / 1057 / 75	375 / 1175 / 44	342 / 1447 / 36	392 / 1276 / 62	450 / 1564 / 50	400 / 1232 / 74	464 / 1500 / 60	546 / 1095 / 81	648 / 1345 / 66	707 / 920 / 85	848 / 1130 / 69	353 / 1252 / 41	338 / 1541 / 34	407 / 1371 / 58	480 / 1688 / 47	417 / 1308 / 69	496 / 1621 / 57	577 / 1171 / 76	688 / 1439 / 62	750 / 984 / 80	899 / 1205 / 65						

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																								
Wind Speed [mph]		95															100										105									
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90							
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge															
		30	1	655 / 543 / 74	603 / 774 / 68	551 / 651 / 151	511 / 841 / 127	483 / 470 / 168	526 / 712 / 164	384 / 598 / 159	474 / 800 / 139	451 / 408 / 127	600 / 579 / 117	655 / 607 / 74	571 / 818 / 64	533 / 703 / 146	510 / 892 / 121	483 / 526 / 168	536 / 767 / 159	415 / 662 / 158	495 / 850 / 133	494 / 455 / 127	639 / 624 / 113	650 / 669 / 73	540 / 856 / 61	521 / 755 / 141	509 / 939 / 115	489 / 585 / 168	536 / 806 / 150	433 / 704 / 151	510 / 886 / 125	528 / 494 / 124	672 / 664 / 109			
35	1	679 / 517 / 74	656 / 774 / 71	582 / 640 / 168	545 / 841 / 144	493 / 451 / 182	547 / 700 / 182	374 / 579 / 169	474 / 800 / 152	444 / 402 / 131	600 / 579 / 124	679 / 578 / 74	622 / 818 / 68	573 / 703 / 165	543 / 892 / 137	493 / 505 / 182	566 / 767 / 179	405 / 646 / 169	495 / 850 / 146	487 / 449 / 131	639 / 624 / 119	679 / 642 / 74	587 / 856 / 64	560 / 755 / 160	540 / 939 / 139	499 / 561 / 182	564 / 806 / 169	433 / 704 / 166	510 / 886 / 137	528 / 494 / 130	672 / 664 / 114					
40	1	709 / 499 / 178	709 / 774 / 178	597 / 614 / 180	580 / 841 / 160	505 / 436 / 195	558 / 676 / 195	376 / 565 / 180	474 / 800 / 166	435 / 393 / 134	600 / 579 / 128	709 / 559 / 178	672 / 818 / 169	597 / 686 / 180	576 / 892 / 153	505 / 488 / 195	585 / 754 / 180	400 / 630 / 159	495 / 850 / 134	476 / 439 / 134	639 / 624 / 124	709 / 621 / 178	635 / 856 / 160	598 / 755 / 178	571 / 939 / 145	511 / 542 / 195	592 / 806 / 188	429 / 698 / 180	510 / 886 / 149	520 / 487 / 134	672 / 664 / 119					
110	1	629 / 716 / 71	514 / 898 / 58	519 / 797 / 135	506 / 979 / 109	510 / 647 / 168	539 / 849 / 144	457 / 757 / 148	532 / 936 / 120	558 / 530 / 120	698 / 695 / 104	608 / 761 / 68	493 / 946 / 55	510 / 829 / 128	507 / 1026 / 104	524 / 700 / 165	541 / 887 / 137	473 / 795 / 141	553 / 983 / 115	592 / 569 / 118	732 / 736 / 100	ASCE Group Zone														
100	1	629 / 716 / 71	514 / 898 / 58	519 / 797 / 135	506 / 979 / 109	510 / 647 / 168	539 / 849 / 144	457 / 757 / 148	532 / 936 / 120	558 / 530 / 120	698 / 695 / 104	608 / 761 / 68	493 / 946 / 55	510 / 829 / 128	507 / 1026 / 104	524 / 700 / 165	541 / 887 / 137	473 / 795 / 141	553 / 983 / 115	592 / 569 / 118	732 / 736 / 100															
105	1	629 / 716 / 71	514 / 898 / 58	519 / 797 / 135	506 / 979 / 109	510 / 647 / 168	539 / 849 / 144	457 / 757 / 148	532 / 936 / 120	558 / 530 / 120	698 / 695 / 104	608 / 761 / 68	493 / 946 / 55	510 / 829 / 128	507 / 1026 / 104	524 / 700 / 165	541 / 887 / 137	473 / 795 / 141	553 / 983 / 115	592 / 569 / 118	732 / 736 / 100															

Exposure Category : C

Panal Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		140															150															160														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		30	1	493 / 934 / 55	422 / 1149 / 45	510 / 1025 / 105	522 / 1252 / 85	543 / 885 / 138	572 / 1080 / 111	547 / 971 / 115	648 / 1195 / 94	724 / 727 / 100	875 / 906 / 82	461 / 1009 / 52	416 / 1237 / 42	513 / 1101 / 98	531 / 1338 / 79	550 / 950 / 129	608 / 1167 / 104	580 / 1045 / 107	688 / 1283 / 87	773 / 786 / 94	934 / 975 / 77	433 / 1075 / 48	414 / 1332 / 40	513 / 1164 / 91	552 / 1432 / 74	553 / 1006 / 119	640 / 1245 / 97	607 / 1108 / 100	721 / 1356 / 81	825 / 846 / 88	997 / 1047 / 72													
35	1	536 / 934 / 58	457 / 1149 / 47	538 / 1025 / 119	545 / 1252 / 96	568 / 885 / 156	586 / 1080 / 125	547 / 971 / 126	648 / 1195 / 103	724 / 727 / 105	875 / 906 / 86	502 / 1009 / 55	448 / 1237 / 44	539 / 1101 / 111	552 / 1338 / 89	574 / 950 / 145	608 / 1167 / 117	580 / 1045 / 118	688 / 1283 / 96	773 / 786 / 98	934 / 975 / 81	471 / 1075 / 51	445 / 1332 / 42	537 / 1164 / 103	565 / 1432 / 84	575 / 1006 / 134	640 / 1245 / 110	607 / 1108 / 110	721 / 1356 / 89	825 / 846 / 93	997 / 1047 / 76															
40	1	579 / 934 / 146	492 / 1149 / 118	567 / 1025 / 133	568 / 1252 / 107	594 / 885 / 173	606 / 1080 / 139	547 / 971 / 137	648 / 1195 / 112	724 / 727 / 110	875 / 906 / 90	542 / 1009 / 136	481 / 1237 / 110	566 / 1101 / 124	574 / 1338 / 99	597 / 950 / 161	623 / 1167 / 130	580 / 1045 / 128	688 / 1283 / 104	773 / 786 / 103	934 / 975 / 84	509 / 1075 / 127	476 / 1332 / 104	562 / 1164 / 115	585 / 1432 / 93	597 / 1006 / 149	640 / 1245 / 122	607 / 1108 / 119	721 / 1356 / 97	825 / 846 / 97	997 / 1047 / 79															
170	1	425 / 1144 / 45	411 / 1417 / 37	524 / 1248 / 86	588 / 1540 / 70	570 / 1074 / 112	676 / 1329 / 92	646 / 1191 / 95	772 / 1462 / 77	870 / 900 / 83	1053 / 1111 / 68	421 / 1219 / 43	407 / 1491 / 35	533 / 1323 / 81	609 / 1611 / 65	594 / 1134 / 105	708 / 1404 / 86	671 / 1248 / 89	805 / 1534 / 72	919 / 957 / 79	1115 / 1182 / 64	ASCE Group Zone																								
180	1	460 / 1144 / 48	440 / 1417 / 39	547 / 1248 / 97	588 / 1540 / 80	586 / 1074 / 126	676 / 1329 / 103	646 / 1191 / 104	772 / 1462 / 87	870 / 900 / 87	1053 / 1111 / 71	454 / 1219 / 46	434 / 1491 / 37	554 / 1323 / 92	609 / 1611 / 74	594 / 1134 / 119	708 / 1404 / 97	671 / 1248 / 97	805 / 1534 / 79	919 / 957 / 82	1115 / 1182 / 68																									
190	1	415 / 1287 / 41	408 / 1579 / 33	539 / 1389 / 76	637 / 1697 / 62	622 / 1201 / 100	734 / 1468 / 81	712 / 1334 / 85	847 / 1621 / 68	974 / 1019 / 75	1188 / 1264 / 62	409 / 1347 / 38	408 / 1659 / 31	564 / 1469 / 73	674 / 1809 / 59	646 / 1261 / 95	768 / 1546 / 77	738 / 1392 / 80	883 / 1698 / 65	1025 / 1078 / 72	1237 / 1320 / 58																									
200	1	479 / 1287 / 107	460 / 1579 / 87	580 / 1389 / 96	637 / 1697 / 78	626 / 1201 / 125	734 / 1468 / 101	712 / 1334 / 101	847 / 1621 / 82	974 / 1019 / 82	1188 / 1264 / 68	469 / 1347 / 101	457 / 1659 / 82	591 / 1469 / 92	674 / 1809 / 75	646 / 1261 / 118	768 / 1546 / 96	738 / 1392 / 95	883 / 1698 / 77	1025 / 1078 / 78	1237 / 1320 / 64																									

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



K2 80-X Dual Rail System (ASCE 7-22)

Table for Wind Speed 140, 150, and 160 mph. Columns include Panel Angle (0-7, 7-20, 20-27, 27-45, 45-90) and Ground Snow (1, 2, 3) for various array interior and edge configurations.

Exposure Category : C

Table for Wind Speed 170, 180, 190, and 200 mph. Columns include Panel Angle (0-7, 7-20, 20-27, 27-45, 45-90) and Ground Snow (1, 2, 3) for various array interior and edge configurations.

Table mapping Panel Angle to ASCE Group Zone and Gable/Hip roof types. Shows relationships between panel angles and zone classifications.

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.
B = Horizontal dimension of building measured normal to wind direction, in ft(m).
h = Mean roof height, in ft(m).
θ = Angle of roof from horizontal, in degrees

Color-coded span table with columns for x ≥ 72", 64" to 71", 48" to 63", and x ≤ 47".



## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																					
Wind Speed [mph]		140												150								160									
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
		70	1	867 / 924 / 211	709 / 1149 / 173	738 / 1025 / 216	706 / 1252 / 174	718 / 850 / 266	729 / 1080 / 222	547 / 971 / 205	648 / 1195 / 167	724 / 727 / 138	875 / 906 / 114	821 / 1009 / 200	677 / 1237 / 161	725 / 1101 / 201	701 / 1338 / 161	740 / 950 / 258	738 / 1167 / 209	580 / 1045 / 192	688 / 1283 / 156	773 / 786 / 130	934 / 975 / 106	765 / 1075 / 186	661 / 1332 / 152	709 / 1164 / 186	705 / 1432 / 151	729 / 1006 / 239	744 / 1245 / 195	607 / 1108 / 178	721 / 1356 / 144

Exposure Category : C

Wind Speed [mph]		170												180									
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		70	1	718 / 1144 / 175	643 / 1417 / 143	710 / 1248 / 176	717 / 1540 / 144	732 / 1074 / 225	756 / 1329 / 184	646 / 1191 / 169	772 / 1462 / 138	870 / 900 / 115	1053 / 1111 / 94	690 / 1219 / 166	624 / 1491 / 134	708 / 1323 / 166	714 / 1611 / 134	731 / 1134 / 212	765 / 1404 / 173	671 / 1248 / 158	805 / 1534 / 129	919 / 957 / 109	1115 / 1182 / 89

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	1028 / 785 / 236	989 / 1149 / 227	909 / 1025 / 299	843 / 1252 / 241	776 / 762 / 329	852 / 1080 / 306	591 / 971 / 273	648 / 1195 / 222	724 / 727 / 167	875 / 906 / 137	1028 / 906 / 236	924 / 1237 / 212	884 / 1101 / 278	829 / 1338 / 223	817 / 880 / 329	854 / 1167 / 287	603 / 1045 / 255	688 / 1283 / 207	773 / 786 / 157	934 / 975 / 128	1028 / 1035 / 236	872 / 1332 / 201	857 / 1164 / 258	824 / 1432 / 210	861 / 1006 / 329	851 / 1245 / 268	612 / 1108 / 237	721 / 1356 / 192	825 / 846 / 148	997 / 1047 / 121				
	2	1028 / 1074 / 236	846 / 1339 / 195	773 / 1188 / 254	723 / 1457 / 206	687 / 1144 / 291	663 / 1416 / 238	558 / 1022 / 258	613 / 1259 / 210	666 / 857 / 154	799 / 1057 / 126	976 / 1175 / 224	794 / 1447 / 183	753 / 1276 / 237	714 / 1564 / 193	677 / 1232 / 272	652 / 1500 / 219	568 / 1095 / 240	648 / 1345 / 195	707 / 920 / 143	848 / 1130 / 117	911 / 1252 / 210	742 / 1541 / 171	743 / 1371 / 223	716 / 1688 / 182	664 / 1308 / 253	660 / 1621 / 208	581 / 1171 / 225	688 / 1439 / 183	750 / 984 / 134	899 / 1205 / 109						
	3	885 / 1297 / 204	716 / 1586 / 165	669 / 1379 / 220	626 / 1691 / 179	625 / 1253 / 265	600 / 1542 / 216	500 / 1150 / 231	543 / 1398 / 186	666 / 857 / 154	799 / 1057 / 126	820 / 1384 / 189	664 / 1691 / 153	655 / 1487 / 206	612 / 1794 / 165	611 / 1340 / 246	596 / 1649 / 200	511 / 1238 / 216	578 / 1504 / 174	707 / 920 / 143	848 / 1130 / 117	768 / 1478 / 177	625 / 1814 / 144	640 / 1582 / 193	608 / 1917 / 155	604 / 1434 / 231	600 / 1772 / 189	519 / 1313 / 201	620 / 1625 / 165	750 / 984 / 134	899 / 1205 / 109						

Exposure Category : C

Wind Speed [mph]		170												180													
100	1	1002 / 1144 / 230	820 / 1417 / 189	849 / 1248 / 244	831 / 1540 / 199	856 / 1074 / 310	858 / 1329 / 253	646 / 1191 / 225	772 / 1462 / 183	870 / 900 / 139	1053 / 1111 / 114	950 / 1219 / 218	787 / 1491 / 177	840 / 1323 / 230	820 / 1611 / 186	848 / 1134 / 291	861 / 1404 / 238	671 / 1248 / 210	805 / 1534 / 171	919 / 957 / 131	1115 / 1182 / 108	ASCE Group Zone					
	2	859 / 1336 / 198	703 / 1651 / 162	730 / 1456 / 210	702 / 1764 / 169	658 / 1391 / 238	653 / 1699 / 193	611 / 1255 / 213	721 / 1520 / 171	795 / 1051 / 127	956 / 1288 / 103	807 / 1410 / 186	681 / 1751 / 153	715 / 1528 / 196	714 / 1899 / 162	661 / 1489 / 227	656 / 1795 / 182	643 / 1330 / 201	763 / 1616 / 162	836 / 1112 / 120	1007 / 1362 / 97						
	3	729 / 1587 / 168	586 / 1922 / 135	622 / 1662 / 179	616 / 2070 / 148	606 / 1542 / 219	602 / 1883 / 178	543 / 1397 / 189	646 / 1704 / 153	795 / 1051 / 127	956 / 1288 / 103	690 / 1686 / 159	574 / 2062 / 129	614 / 1758 / 169	607 / 2160 / 138	595 / 1612 / 204	601 / 1978 / 167	566 / 1468 / 177	678 / 1799 / 144	836 / 1112 / 120	1007 / 1362 / 97						

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																		
		0	1	383 / 652 / 74	321 / 844 / 62	357 / 736 / 85	401 / 918 / 69	391 / 602 / 102	464 / 794 / 87	428 / 692 / 106	506 / 875 / 88	520 / 485 / 125	658 / 648 / 109	370 / 705 / 71	303 / 887 / 58	369 / 786 / 82	415 / 968 / 66	407 / 647 / 98	479 / 837 / 83	448 / 740 / 102	527 / 925 / 84	551 / 521 / 120	695 / 691 / 104	358 / 757 / 69	288 / 932 / 55	378 / 825 / 77	431 / 1024 / 63	426 / 696 / 95	497 / 883 / 79	471 / 791 / 99	546 / 969 / 80	584 / 561 / 117	723 / 726 / 99													

Exposure Category : D

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

## Enclosed Hip/Gable Roof

0-30ft

70in x 41in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140										150										160									
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
	0	1	263 / 1018 / 51	278 / 1258 / 41	454 / 1108 / 57	529 / 1359 / 46	525 / 960 / 72	617 / 1189 / 59	582 / 1053 / 73	698 / 1304 / 60	789 / 803 / 92	951 / 994 / 75	257 / 1092 / 47	290 / 1345 / 38	480 / 1196 / 54	563 / 1467 / 44	555 / 1035 / 67	655 / 1278 / 55	622 / 1139 / 68	737 / 1390 / 55	839 / 863 / 86	1024 / 1076 / 71	267 / 1169 / 44	303 / 1440 / 36	503 / 1273 / 50	593 / 1561 / 41	580 / 1100 / 63	686 / 1353 / 51	657 / 1216 / 64	782 / 1483 / 52	891 / 924 / 81

Exposure Category : D

Wind Speed [mph]		170										180															
0	1	278 / 1254 / 42	315 / 1522 / 34	529 / 1357 / 47	629 / 1670 / 39	608 / 1168 / 59	722 / 1437 / 48	687 / 1282 / 60	834 / 1592 / 49	947 / 988 / 76	1143 / 1214 / 62	289 / 1330 / 40	329 / 1619 / 32	552 / 1430 / 44	661 / 1769 / 36	639 / 1243 / 56	765 / 1534 / 45	732 / 1376 / 57	865 / 1659 / 46	996 / 1045 / 72	1224 / 1304 / 60	ASCE Group Zone					
0	2	235 / 1443 / 36	271 / 1778 / 29	456 / 1586 / 41	534 / 1921 / 33	470 / 1520 / 45	556 / 1857 / 37	656 / 1363 / 57	789 / 1676 / 47	859 / 1145 / 69	1029 / 1394 / 56	246 / 1539 / 34	281 / 1873 / 27	479 / 1685 / 39	568 / 2060 / 31	495 / 1619 / 43	580 / 1951 / 35	687 / 1437 / 53	831 / 1774 / 44	898 / 1203 / 65	1096 / 1490 / 53						

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																			
Wind Speed [mph]		95															100										105				
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
	15	1	545 / 652 / 74	458 / 844 / 62	391 / 736 / 85	401 / 918 / 69	403 / 602 / 104	464 / 794 / 89	428 / 692 / 106	506 / 875 / 88	520 / 485 / 125	658 / 648 / 109	528 / 705 / 71	432 / 887 / 58	395 / 786 / 82	415 / 968 / 66	411 / 647 / 100	479 / 837 / 84	448 / 740 / 102	527 / 925 / 84	551 / 521 / 120	695 / 691 / 104	511 / 757 / 69	410 / 932 / 55	395 / 825 / 77	431 / 1024 / 63	426 / 696 / 97	497 / 883 / 80	471 / 791 / 99	546 / 969 / 80	584 / 561 / 117

Exposure Category : D

Wind Speed [mph]		110															115										
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
	15	1	484 / 793 / 65	393 / 984 / 53	398 / 867 / 74	446 / 1075 / 60	445 / 743 / 94	512 / 925 / 76	485 / 825 / 93	568 / 1020 / 76	622 / 604 / 114	754 / 763 / 95	463 / 832 / 62	375 / 1031 / 51	400 / 905 / 70	458 / 1122 / 57	459 / 782 / 90	531 / 972 / 73	500 / 863 / 89	589 / 1066 / 73	655 / 643 / 111	790 / 805 / 91					

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																										
Wind Speed [mph]	Panel Angle	140										150										160																
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90								
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge							
		15	1	375 / 1018 / 51	354 / 1258 / 41	454 / 1108 / 57	529 / 1359 / 46	525 / 960 / 73	617 / 1189 / 60	582 / 1053 / 73	698 / 1304 / 60	789 / 803 / 92	951 / 994 / 75	358 / 1092 / 47	352 / 1345 / 38	480 / 1196 / 54	563 / 1467 / 44	555 / 1035 / 68	655 / 1278 / 56	622 / 1139 / 68	737 / 1390 / 55	839 / 863 / 86	1024 / 1076 / 71	355 / 1169 / 44	354 / 1440 / 36	503 / 1273 / 50	593 / 1561 / 41	580 / 1100 / 64	686 / 1353 / 52	657 / 1216 / 64	782 / 1483 / 52	891 / 924 / 81	1088 / 1150 / 67					
20	1		429 / 1018 / 51	398 / 1258 / 41	454 / 1108 / 65	529 / 1359 / 46	525 / 960 / 87	617 / 1189 / 71	582 / 1053 / 87	698 / 1304 / 65	789 / 803 / 92	951 / 994 / 75	409 / 1092 / 47	393 / 1345 / 38	480 / 1196 / 61	563 / 1467 / 49	555 / 1035 / 82	655 / 1278 / 75	622 / 1139 / 75	737 / 1390 / 61	839 / 863 / 86	1024 / 1076 / 71	402 / 1169 / 44	392 / 1440 / 31	503 / 1273 / 57	593 / 1561 / 46	580 / 1100 / 76	686 / 1353 / 62	657 / 1216 / 70	782 / 1483 / 57	891 / 924 / 81	1088 / 1150 / 67						
	25		1	429 / 1018 / 51	398 / 1258 / 41	469 / 1108 / 76	529 / 1359 / 62	525 / 960 / 101	617 / 1189 / 83	582 / 1053 / 89	698 / 1304 / 73	789 / 803 / 92	951 / 994 / 75	409 / 1092 / 47	393 / 1345 / 38	481 / 1196 / 71	563 / 1467 / 58	555 / 1035 / 95	655 / 1278 / 77	622 / 1139 / 84	737 / 1390 / 68	839 / 863 / 86	1024 / 1076 / 71	402 / 1169 / 44	392 / 1440 / 36	503 / 1273 / 66	593 / 1561 / 54	580 / 1100 / 88	686 / 1353 / 72	657 / 1216 / 78	782 / 1483 / 63	891 / 924 / 81	1088 / 1150 / 67					
		15	1	356 / 1254 / 42	354 / 1522 / 34	529 / 1357 / 47	629 / 1670 / 39	608 / 1168 / 60	722 / 1437 / 49	687 / 1282 / 60	834 / 1592 / 49	947 / 988 / 76	1143 / 1214 / 62	355 / 1330 / 40	359 / 1619 / 32	552 / 1430 / 44	661 / 1769 / 36	639 / 1243 / 57	765 / 1534 / 46	732 / 1376 / 57	865 / 1659 / 46	996 / 1045 / 72	1224 / 1304 / 60	ASCE Group Zone														
20			1	400 / 1254 / 42	390 / 1522 / 34	529 / 1357 / 53	629 / 1670 / 44	608 / 1168 / 71	722 / 1437 / 58	687 / 1282 / 65	834 / 1592 / 60	947 / 988 / 76	1143 / 1214 / 62	397 / 1330 / 40	393 / 1619 / 32	552 / 1430 / 50	661 / 1769 / 41	639 / 1243 / 55	765 / 1534 / 55	732 / 1376 / 63	865 / 1659 / 50	996 / 1045 / 72	1224 / 1304 / 60	ASCE Group Zone														
	25		1	400 / 1254 / 42	390 / 1522 / 34	529 / 1357 / 63	629 / 1670 / 51	608 / 1168 / 83	722 / 1437 / 67	687 / 1282 / 73	834 / 1592 / 60	947 / 988 / 76	1143 / 1214 / 62	397 / 1330 / 40	393 / 1619 / 32	552 / 1430 / 59	661 / 1769 / 48	639 / 1243 / 78	765 / 1534 / 64	732 / 1376 / 70	865 / 1659 / 56	996 / 1045 / 72	1224 / 1304 / 60	ASCE Group Zone														
		15	1	353 / 1396 / 37	362 / 1707 / 30	580 / 1518 / 42	688 / 1855 / 34	667 / 1310 / 53	804 / 1624 / 44	761 / 1441 / 53	923 / 1779 / 44	1052 / 1109 / 68	1279 / 1368 / 56	356 / 1476 / 36	372 / 1819 / 29	605 / 1598 / 40	727 / 1970 / 33	702 / 1389 / 51	838 / 1703 / 42	799 / 1520 / 51	959 / 1854 / 41	1102 / 1167 / 65	1348 / 1445 / 53	ASCE Group Zone														
20			1	393 / 1396 / 37	394 / 1707 / 30	580 / 1518 / 48	688 / 1855 / 39	667 / 1310 / 64	804 / 1624 / 52	761 / 1441 / 59	923 / 1779 / 48	1052 / 1109 / 68	1279 / 1368 / 56	394 / 1476 / 36	403 / 1819 / 29	605 / 1598 / 45	727 / 1970 / 37	702 / 1389 / 61	838 / 1703 / 50	799 / 1520 / 56	959 / 1854 / 45	1102 / 1167 / 65	1348 / 1445 / 53	ASCE Group Zone														
	25		1	393 / 1396 / 37	394 / 1707 / 30	580 / 1518 / 56	688 / 1855 / 45	667 / 1310 / 74	804 / 1624 / 61	761 / 1441 / 65	923 / 1779 / 54	1052 / 1109 / 68	1279 / 1368 / 56	394 / 1476 / 36	403 / 1819 / 29	605 / 1598 / 53	727 / 1970 / 44	702 / 1389 / 71	838 / 1703 / 57	799 / 1520 / 62	959 / 1854 / 51	1102 / 1167 / 65	1348 / 1445 / 53	ASCE Group Zone														

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																			
Wind Speed [mph]	Panel Angle	95										100										105									
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	624 / 652 / 74	524 / 844 / 62	494 / 736 / 130	485 / 918 / 106	477 / 584 / 159	518 / 794 / 140	428 / 692 / 144	506 / 875 / 119	520 / 485 / 125	658 / 648 / 109	604 / 705 / 71	494 / 887 / 58	494 / 786 / 125	486 / 968 / 100	496 / 647 / 158	520 / 837 / 133	448 / 740 / 138	527 / 925 / 113	551 / 521 / 120	695 / 691 / 104	584 / 757 / 69	469 / 932 / 55	489 / 825 / 118	490 / 1024 / 96	505 / 696 / 153	525 / 883 / 127	471 / 791 / 133	546 / 969 / 107
2	554 / 800 / 65		449 / 993 / 53	427 / 873 / 112	414 / 1070 / 90	398 / 840 / 133	398 / 1038 / 108	411 / 742 / 138	481 / 928 / 113	487 / 586 / 117	616 / 778 / 108	524 / 844 / 62	424 / 1043 / 50	420 / 915 / 106	416 / 1131 / 86	394 / 882 / 125	397 / 1087 / 102	429 / 790 / 132	500 / 977 / 107	518 / 632 / 113	642 / 819 / 97	499 / 891 / 59	405 / 1099 / 48	420 / 971 / 101	417 / 1186 / 82	393 / 927 / 119	401 / 1142 / 97	446 / 836 / 126	516 / 1021 / 102	545 / 672 / 109	665 / 856 / 91
3	464 / 949 / 55		375 / 1164 / 44	364 / 1005 / 96	359 / 1245 / 78	361 / 920 / 120	361 / 1136 / 98	369 / 840 / 124	426 / 1033 / 100	487 / 586 / 117	616 / 778 / 102	439 / 999 / 52	360 / 1241 / 43	363 / 1066 / 92	358 / 1305 / 74	358 / 970 / 114	363 / 1197 / 93	383 / 890 / 118	445 / 1094 / 96	518 / 632 / 113	642 / 819 / 97	419 / 1055 / 50	340 / 1296 / 40	361 / 1122 / 87	361 / 1377 / 71	360 / 1026 / 109	364 / 1252 / 88	396 / 935 / 112	462 / 1149 / 91	545 / 672 / 109	665 / 856 / 91
35	1	657 / 642 / 72	561 / 844 / 62	528 / 736 / 147	513 / 918 / 119	486 / 561 / 172	543 / 794 / 158	428 / 692 / 157	506 / 875 / 130	520 / 485 / 127	658 / 648 / 111	647 / 705 / 71	529 / 887 / 58	527 / 786 / 140	512 / 968 / 113	508 / 627 / 172	544 / 837 / 71	448 / 740 / 151	527 / 925 / 124	551 / 521 / 123	695 / 691 / 106	625 / 757 / 59	502 / 932 / 55	520 / 825 / 133	516 / 1024 / 108	532 / 696 / 172	548 / 883 / 142	471 / 791 / 146	546 / 969 / 117	584 / 561 / 119	723 / 726 / 101
	2	593 / 800 / 65	481 / 993 / 53	457 / 873 / 127	438 / 1070 / 102	422 / 840 / 149	417 / 1038 / 121	411 / 742 / 151	481 / 928 / 124	487 / 586 / 119	616 / 778 / 104	561 / 844 / 62	454 / 1043 / 50	448 / 915 / 119	439 / 1131 / 97	416 / 882 / 141	416 / 1087 / 114	429 / 790 / 144	500 / 977 / 117	518 / 632 / 115	642 / 819 / 98	534 / 891 / 59	433 / 1099 / 48	447 / 971 / 114	439 / 1186 / 92	414 / 927 / 134	418 / 1142 / 108	446 / 836 / 138	516 / 1021 / 111	545 / 672 / 111	665 / 856 / 93
	3	497 / 949 / 55	401 / 1164 / 44	390 / 1005 / 108	380 / 1245 / 88	382 / 920 / 135	378 / 1136 / 110	369 / 840 / 135	426 / 1033 / 110	487 / 586 / 119	616 / 778 / 104	470 / 999 / 52	385 / 1241 / 43	387 / 1066 / 103	377 / 1305 / 83	379 / 970 / 128	380 / 1197 / 104	383 / 890 / 129	445 / 1094 / 105	518 / 632 / 115	642 / 819 / 98	449 / 1055 / 50	364 / 1296 / 40	384 / 1122 / 98	379 / 1377 / 80	380 / 1026 / 122	380 / 1252 / 99	396 / 935 / 123	462 / 1149 / 99	545 / 672 / 111	665 / 856 / 93
40	1	685 / 621 / 75	604 / 844 / 66	563 / 736 / 163	541 / 918 / 133	496 / 543 / 184	568 / 794 / 175	428 / 692 / 171	506 / 875 / 141	513 / 478 / 131	658 / 648 / 116	685 / 694 / 75	570 / 887 / 62	560 / 786 / 156	539 / 968 / 126	518 / 606 / 184	568 / 837 / 165	448 / 740 / 164	527 / 925 / 134	551 / 521 / 128	695 / 691 / 111	673 / 757 / 74	541 / 932 / 59	551 / 825 / 148	541 / 1024 / 121	541 / 673 / 184	571 / 883 / 158	471 / 791 / 158	546 / 969 / 127	584 / 561 / 124	723 / 726 / 105
	2	639 / 800 / 70	518 / 993 / 57	487 / 873 / 141	462 / 1070 / 114	446 / 840 / 165	436 / 1038 / 164	411 / 742 / 164	481 / 928 / 134	487 / 586 / 124	616 / 778 / 108	604 / 844 / 62	489 / 1043 / 54	475 / 915 / 133	462 / 1131 / 108	439 / 882 / 156	434 / 1087 / 126	429 / 790 / 157	500 / 977 / 127	518 / 632 / 120	642 / 819 / 103	575 / 891 / 63	466 / 1099 / 51	474 / 971 / 127	460 / 1186 / 103	436 / 927 / 148	435 / 1142 / 120	446 / 836 / 150	516 / 1021 / 120	545 / 672 / 116	665 / 856 / 97
	3	535 / 949 / 59	432 / 1164 / 47	415 / 1005 / 121	400 / 1245 / 98	404 / 920 / 150	396 / 1136 / 122	369 / 840 / 147	426 / 1033 / 119	487 / 586 / 124	616 / 778 / 108	506 / 999 / 56	414 / 1241 / 46	411 / 1066 / 115	397 / 1305 / 93	399 / 970 / 142	396 / 1197 / 116	383 / 890 / 140	445 / 1094 / 114	518 / 632 / 120	642 / 819 / 103	483 / 1055 / 53	391 / 1296 / 43	407 / 1122 / 110	398 / 1377 / 89	399 / 1026 / 136	396 / 1252 / 109	396 / 935 / 133	462 / 1149 / 108	545 / 672 / 116	665 / 856 / 97

Exposure Category : D

ASCE Group Zone		
Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	$64''$ to $71''$	$48''$ to $63''$	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		140															150															160														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		30	1	429 / 1018 / 51	398 / 1258 / 41	492 / 1108 / 87	529 / 1359 / 71	533 / 960 / 115	617 / 1189 / 94	582 / 1053 / 98	698 / 1304 / 80	789 / 803 / 92	951 / 994 / 75	409 / 1092 / 47	393 / 1345 / 38	502 / 1196 / 82	563 / 1467 / 66	555 / 1035 / 108	655 / 1278 / 88	622 / 1139 / 92	737 / 1390 / 75	839 / 863 / 86	1024 / 1076 / 71	402 / 1169 / 44	392 / 1440 / 36	510 / 1273 / 76	593 / 1561 / 62	580 / 1100 / 100	686 / 1353 / 82	657 / 1216 / 86	782 / 1483 / 70	891 / 924 / 81	1088 / 1150 / 67													

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	709 / 600 / 178	647 / 844 / 163	597 / 736 / 180	569 / 918 / 147	505 / 524 / 195	593 / 794 / 192	418 / 675 / 180	506 / 875 / 153	506 / 471 / 134	658 / 648 / 120	709 / 670 / 178	610 / 887 / 153	592 / 786 / 172	565 / 968 / 139	526 / 586 / 195	591 / 837 / 182	448 / 740 / 177	527 / 925 / 145	551 / 521 / 133	695 / 691 / 115	709 / 744 / 178	579 / 932 / 146	582 / 825 / 163	566 / 1024 / 133	548 / 650 / 195	594 / 883 / 173	471 / 791 / 171	546 / 969 / 137	584 / 561 / 129	723 / 726 / 110				
110	1	684 / 793 / 172	555 / 984 / 140	576 / 867 / 156	566 / 1075 / 127	572 / 718 / 195	594 / 925 / 164	485 / 825 / 162	568 / 1020 / 131	622 / 604 / 126	754 / 763 / 105	653 / 832 / 164	530 / 1031 / 133	569 / 905 / 148	565 / 1122 / 121	592 / 782 / 193	599 / 972 / 158	500 / 863 / 154	589 / 1066 / 125	655 / 643 / 122	790 / 805 / 101	ASCE Group Zone															
115	1	684 / 793 / 172	555 / 984 / 140	576 / 867 / 156	566 / 1075 / 127	572 / 718 / 195	594 / 925 / 164	485 / 825 / 162	568 / 1020 / 131	622 / 604 / 126	754 / 763 / 105	653 / 832 / 164	530 / 1031 / 133	569 / 905 / 148	565 / 1122 / 121	592 / 782 / 193	599 / 972 / 158	500 / 863 / 154	589 / 1066 / 125	655 / 643 / 122	790 / 805 / 101	ASCE Group Zone															

Exposure Category : D

Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
45 - 90	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																	
	70	1	829 / 517 / 206	829 / 796 / 206	678 / 649 / 232	709 / 918 / 214	561 / 464 / 250	649 / 716 / 250	419 / 607 / 220	509 / 875 / 208	480 / 447 / 152	658 / 648 / 144	829 / 577 / 206	829 / 887 / 206	697 / 723 / 232	698 / 968 / 203	580 / 519 / 250	677 / 798 / 250	445 / 676 / 220	527 / 925 / 198	526 / 498 / 152	695 / 691 / 138	829 / 641 / 206	787 / 932 / 196	717 / 802 / 232	693 / 1024 / 194	600 / 576 / 250	707 / 883 / 250	472 / 749 / 220	546 / 969 / 187	575 / 552 / 152	723 / 726 / 131														
2		829 / 714 / 206	753 / 993 / 188	665 / 873 / 228	606 / 1070 / 183	561 / 800 / 250	552 / 1038 / 213	419 / 678 / 220	484 / 928 / 198	480 / 577 / 152	616 / 778 / 134	829 / 796 / 206	712 / 1043 / 206	643 / 915 / 214	598 / 1131 / 174	574 / 882 / 248	543 / 1087 / 201	445 / 755 / 220	500 / 977 / 187	518 / 632 / 150	642 / 819 / 127	829 / 882 / 206	678 / 1099 / 169	635 / 971 / 205	589 / 1186 / 165	564 / 927 / 235	539 / 1142 / 191	472 / 836 / 220	516 / 1021 / 177	545 / 672 / 144	665 / 856 / 120															
3		779 / 949 / 194	628 / 1164 / 156	567 / 1005 / 194	524 / 1245 / 159	534 / 920 / 238	501 / 1136 / 193	411 / 840 / 216	428 / 1033 / 175	480 / 577 / 152	616 / 778 / 134	737 / 999 / 183	603 / 1241 / 150	556 / 1066 / 185	514 / 1305 / 150	522 / 970 / 226	496 / 1197 / 206	416 / 890 / 206	445 / 1094 / 167	518 / 632 / 150	642 / 819 / 127	703 / 1055 / 175	569 / 1296 / 142	545 / 1122 / 177	510 / 1377 / 143	517 / 1026 / 216	490 / 1252 / 174	419 / 935 / 196	462 / 1149 / 159	545 / 672 / 144	665 / 856 / 120															
80	1	880 / 485 / 214	880 / 748 / 214	710 / 624 / 252	765 / 918 / 270	583 / 446 / 270	667 / 688 / 237	425 / 590 / 237	526 / 875 / 230	469 / 437 / 158	658 / 648 / 153	880 / 542 / 214	880 / 833 / 214	728 / 696 / 252	751 / 968 / 229	600 / 498 / 270	694 / 766 / 270	450 / 657 / 219	534 / 925 / 219	514 / 487 / 158	695 / 691 / 147	880 / 602 / 214	880 / 923 / 214	748 / 771 / 231	744 / 1024 / 219	620 / 553 / 270	723 / 848 / 270	476 / 728 / 237	546 / 969 / 207	562 / 540 / 158	723 / 726 / 139															
	2	880 / 671 / 214	852 / 993 / 207	710 / 856 / 252	653 / 1070 / 206	583 / 768 / 270	591 / 1038 / 239	425 / 659 / 237	500 / 928 / 219	469 / 563 / 158	616 / 778 / 143	880 / 747 / 214	804 / 1043 / 195	699 / 915 / 242	644 / 1131 / 196	600 / 855 / 270	580 / 1087 / 226	450 / 734 / 237	507 / 977 / 207	514 / 627 / 158	642 / 819 / 136	880 / 828 / 214	767 / 1099 / 186	688 / 971 / 231	633 / 1186 / 186	607 / 927 / 264	574 / 1142 / 214	476 / 812 / 237	516 / 1021 / 196	545 / 672 / 153	665 / 856 / 128															
	3	880 / 949 / 214	710 / 1164 / 172	618 / 1005 / 219	566 / 1245 / 179	577 / 920 / 267	536 / 1136 / 217	425 / 832 / 237	442 / 1033 / 193	469 / 563 / 158	616 / 778 / 143	833 / 999 / 202	681 / 1241 / 166	605 / 1066 / 209	553 / 1305 / 169	563 / 970 / 253	530 / 1197 / 206	432 / 890 / 228	451 / 1094 / 185	514 / 627 / 158	642 / 819 / 136	795 / 1055 / 214	644 / 1296 / 156	591 / 1122 / 199	547 / 1377 / 161	556 / 1026 / 242	522 / 1252 / 195	435 / 935 / 217	462 / 1149 / 176	545 / 672 / 153	665 / 856 / 128															
90	1	929 / 459 / 221	929 / 708 / 221	745 / 605 / 271	821 / 918 / 269	601 / 428 / 287	681 / 659 / 287	425 / 568 / 250	537 / 867 / 250	458 / 427 / 164	658 / 648 / 162	929 / 513 / 221	929 / 788 / 221	763 / 675 / 271	804 / 968 / 255	618 / 478 / 287	707 / 735 / 250	449 / 632 / 240	550 / 925 / 164	502 / 475 / 164	695 / 691 / 156	929 / 569 / 221	929 / 873 / 221	782 / 748 / 271	794 / 1024 / 244	636 / 530 / 287	735 / 813 / 287	474 / 700 / 250	556 / 969 / 227	549 / 527 / 164	723 / 726 / 148															
	2	929 / 635 / 221	929 / 971 / 221	745 / 831 / 271	701 / 1070 / 230	601 / 737 / 287	630 / 1038 / 266	425 / 634 / 250	515 / 928 / 240	458 / 550 / 154	616 / 778 / 172	929 / 707 / 221	897 / 1043 / 213	755 / 915 / 269	689 / 1131 / 218	618 / 820 / 287	616 / 1087 / 250	449 / 706 / 227	522 / 977 / 164	502 / 612 / 164	642 / 819 / 144	929 / 784 / 221	855 / 1099 / 203	742 / 971 / 257	676 / 1186 / 207	636 / 908 / 287	609 / 1142 / 238	474 / 781 / 250	526 / 1021 / 215	545 / 672 / 162	665 / 856 / 136															
	3	929 / 898 / 221	792 / 1164 / 188	668 / 1005 / 244	607 / 1245 / 199	601 / 891 / 287	571 / 1136 / 241	425 / 800 / 250	456 / 1033 / 213	458 / 550 / 164	616 / 778 / 152	929 / 999 / 221	760 / 1241 / 181	653 / 1066 / 232	592 / 1305 / 188	604 / 970 / 281	563 / 1197 / 229	449 / 890 / 250	464 / 1094 / 203	502 / 612 / 164	642 / 819 / 144	887 / 1055 / 211	718 / 1296 / 171	637 / 1122 / 221	584 / 1377 / 179	595 / 1026 / 269	553 / 1252 / 216	451 / 935 / 237	471 / 1149 / 193	545 / 672 / 162	665 / 856 / 136															

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			0-30ft				70in x 41in				Load: Up / Down / Side , lbs																																						
Wind Speed [mph]		140												150												160																							
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90																			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																	
		70	1	720 / 1018 / 179	623 / 1258 / 146	676 / 1108 / 177	669 / 1359 / 143	699 / 960 / 228	712 / 1189 / 186	582 / 1053 / 171	698 / 1304 / 140	789 / 803 / 122	951 / 994 / 99	670 / 1092 / 167	602 / 1345 / 136	675 / 1196 / 165	678 / 1467 / 134	701 / 1035 / 213	723 / 1278 / 174	622 / 1139 / 161	737 / 1390 / 130	839 / 863 / 113	1024 / 1076 / 94	644 / 1169 / 156	588 / 1440 / 127	670 / 1273 / 154	683 / 1561 / 125	700 / 1100 / 198	730 / 1353 / 161	657 / 1216 / 150	782 / 1483 / 122	891 / 924 / 106	1088 / 1150 / 88																
Wind Speed [mph]		170												180												190												200											

Exposure Category : D

Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 70in x 41in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95										100										105									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
	100	1	967 / 433 / 226	967 / 668 / 226	795 / 586 / 290	858 / 899 / 290	629 / 419 / 309	708 / 645 / 309	432 / 556 / 267	542 / 849 / 267	450 / 420 / 170	653 / 643 / 170	967 / 484 / 226	967 / 744 / 226	795 / 654 / 290	857 / 968 / 280	645 / 467 / 309	733 / 719 / 309	456 / 620 / 267	566 / 925 / 261	494 / 468 / 170	695 / 691 / 165	967 / 537 / 226	967 / 823 / 226	813 / 725 / 290	845 / 1024 / 268	663 / 519 / 309	760 / 796 / 309	481 / 686 / 267	571 / 969 / 248	540 / 518 / 170
	2	967 / 599 / 226	967 / 916 / 226	795 / 805 / 290	749 / 1070 / 253	629 / 721 / 309	669 / 1038 / 292	432 / 621 / 267	531 / 928 / 261	450 / 541 / 170	616 / 778 / 161	967 / 667 / 226	967 / 1019 / 226	795 / 896 / 290	734 / 1131 / 240	645 / 802 / 309	653 / 1087 / 275	456 / 692 / 267	537 / 977 / 248	494 / 603 / 170	642 / 819 / 152	967 / 739 / 226	943 / 1099 / 221	795 / 971 / 283	719 / 1186 / 228	663 / 888 / 309	643 / 1142 / 262	481 / 766 / 267	540 / 1021 / 234	540 / 667 / 170	665 / 856 / 144
	3	967 / 847 / 226	874 / 1164 / 204	736 / 1005 / 268	648 / 1245 / 219	629 / 872 / 309	607 / 1136 / 265	432 / 784 / 267	470 / 1033 / 231	450 / 541 / 170	616 / 778 / 161	967 / 942 / 226	839 / 1241 / 196	702 / 1066 / 256	631 / 1305 / 207	645 / 970 / 309	596 / 1197 / 251	456 / 872 / 267	478 / 1094 / 220	494 / 603 / 170	642 / 819 / 152	967 / 1042 / 226	792 / 1296 / 185	683 / 1122 / 244	622 / 1377 / 197	634 / 1026 / 295	585 / 1252 / 238	466 / 935 / 258	484 / 1149 / 210	540 / 667 / 170	665 / 856 / 144

Wind Speed [mph]		110										115																			
100	1	967 / 593 / 226	967 / 907 / 226	832 / 799 / 290	832 / 1075 / 256	682 / 573 / 309	789 / 877 / 309	507 / 756 / 267	581 / 1020 / 237	588 / 572 / 170	754 / 763 / 150	967 / 651 / 226	967 / 995 / 226	853 / 877 / 290	818 / 1122 / 244	702 / 630 / 309	818 / 962 / 309	535 / 829 / 267	589 / 1066 / 226	639 / 627 / 170	790 / 805 / 144	ASCE Group Zone									
	2	967 / 815 / 226	897 / 1150 / 210	770 / 1011 / 268	712 / 1252 / 219	682 / 978 / 309	641 / 1208 / 251	507 / 843 / 267	548 / 1071 / 223	574 / 717 / 166	691 / 896 / 137	967 / 894 / 226	850 / 1195 / 199	753 / 1057 / 256	704 / 1313 / 210	671 / 1025 / 295	630 / 1251 / 238	529 / 915 / 264	561 / 1130 / 215	608 / 766 / 162	721 / 941 / 131										
	3	932 / 1106 / 218	757 / 1362 / 177	664 / 1172 / 231	612 / 1443 / 188	622 / 1077 / 282	581 / 1317 / 228	466 / 975 / 245	488 / 1197 / 199	574 / 717 / 166	691 / 896 / 137	885 / 1151 / 207	722 / 1422 / 169	653 / 1233 / 222	600 / 1501 / 179	610 / 1123 / 268	576 / 1378 / 217	469 / 1021 / 234	497 / 1257 / 191	608 / 766 / 162	721 / 941 / 131										

Wind Speed [mph]		120										130																			
100	1	967 / 712 / 226	955 / 1073 / 223	865 / 948 / 287	802 / 1162 / 231	723 / 689 / 309	821 / 1016 / 299	563 / 905 / 267	607 / 1107 / 215	680 / 674 / 168	824 / 845 / 138	967 / 842 / 226	885 / 1173 / 207	841 / 1035 / 265	788 / 1260 / 213	767 / 814 / 309	815 / 1103 / 275	573 / 980 / 245	651 / 1204 / 199	732 / 736 / 155	883 / 915 / 127	ASCE Group Zone									
	2	967 / 976 / 226	815 / 1250 / 191	744 / 1113 / 247	695 / 1369 / 200	659 / 1068 / 282	625 / 1306 / 228	535 / 958 / 253	576 / 1170 / 204	629 / 800 / 155	749 / 983 / 126	932 / 1110 / 218	757 / 1367 / 177	714 / 1197 / 225	685 / 1488 / 185	640 / 1153 / 258	624 / 1423 / 211	541 / 1032 / 231	616 / 1267 / 188	672 / 867 / 143	805 / 1067 / 116										
	3	850 / 1207 / 199	687 / 1476 / 161	642 / 1289 / 213	599 / 1580 / 173	596 / 1164 / 255	569 / 1432 / 207	477 / 1075 / 226	514 / 1312 / 182	629 / 800 / 155	749 / 983 / 126	780 / 1305 / 183	641 / 1619 / 150	616 / 1386 / 194	582 / 1693 / 157	581 / 1261 / 234	563 / 1546 / 190	484 / 1159 / 207	553 / 1428 / 169	672 / 867 / 143	805 / 1067 / 116										

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

**K2 80-X Dual Rail System (ASCE 7-22)**

Enclosed Hip/Gable Roof		0-30ft					70in x 41in					Load: Up / Down / Side , lbs																									
Wind Speed [mph]		140															150										160										
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		100	1	967 / 982 / 226	815 / 1258 / 191	814 / 1108 / 244	781 / 1359 / 197	814 / 950 / 309	813 / 1189 / 255	584 / 1053 / 226	698 / 1304 / 185	789 / 803 / 145	951 / 994 / 119	932 / 1092 / 218	761 / 1345 / 177	804 / 1196 / 228	782 / 1467 / 185	818 / 1035 / 292	818 / 1278 / 238	622 / 1139 / 212	737 / 1390 / 172	839 / 863 / 136	1024 / 1076 / 112	874 / 1169 / 204	738 / 1440 / 166	791 / 1273 / 213	781 / 1561 / 173	809 / 1100 / 272	818 / 1353 / 221	657 / 1216 / 199	782 / 1483 / 161	891 / 924 / 127	1088 / 1150 / 105				
	2	862 / 1196 / 202	699 / 1468 / 164	701 / 1297 / 210	671 / 1585 / 170	635 / 1253 / 241	618 / 1520 / 194	556 / 1116 / 215	657 / 1366 / 174	721 / 939 / 133	862 / 1150 / 108	804 / 1285 / 188	656 / 1576 / 153	685 / 1383 / 194	665 / 1690 / 157	628 / 1341 / 224	619 / 1626 / 180	590 / 1203 / 201	702 / 1473 / 163	761 / 1002 / 123	921 / 1237 / 101	746 / 1360 / 175	629 / 1669 / 142	676 / 1477 / 182	669 / 1813 / 148	627 / 1437 / 211	629 / 1748 / 170	621 / 1280 / 188	742 / 1566 / 153	813 / 1077 / 116	972 / 1312 / 94						
	3	722 / 1405 / 169	594 / 1745 / 139	608 / 1509 / 182	586 / 1851 / 148	573 / 1361 / 217	564 / 1669 / 177	500 / 1259 / 193	585 / 1525 / 155	721 / 939 / 133	862 / 1150 / 108	676 / 1513 / 158	551 / 1849 / 128	598 / 1618 / 170	574 / 1950 / 136	571 / 1468 / 204	573 / 1808 / 167	527 / 1347 / 180	620 / 1630 / 144	761 / 1002 / 123	921 / 1237 / 101	629 / 1605 / 147	533 / 1972 / 120	585 / 1710 / 157	586 / 2120 / 130	566 / 1562 / 190	579 / 1933 / 156	558 / 1442 / 169	662 / 1752 / 136	813 / 1077 / 116	972 / 1312 / 94						

Exposure Category : D

Wind Speed [mph]		170															180														
100	1	827 / 1254 / 194	713 / 1522 / 155	787 / 1357 / 200	790 / 1670 / 164	806 / 1168 / 255	826 / 1437 / 207	687 / 1282 / 185	834 / 1592 / 153	947 / 988 / 120	1143 / 1214 / 98	780 / 1330 / 183	699 / 1619 / 147	780 / 1430 / 188	796 / 1769 / 154	811 / 1243 / 241	844 / 1534 / 197	732 / 1376 / 177	865 / 1659 / 142	996 / 1045 / 113	1224 / 1304 / 94	ASCE Group Zone									
	2	699 / 1443 / 164	613 / 1778 / 134	678 / 1586 / 173	670 / 1921 / 139	623 / 1520 / 197	636 / 1857 / 160	656 / 1363 / 177	789 / 1676 / 144	859 / 1145 / 109	1029 / 1394 / 88	664 / 1539 / 155	596 / 1873 / 126	677 / 1685 / 164	684 / 2060 / 133	628 / 1619 / 187	640 / 1951 / 150	687 / 1437 / 166	831 / 1774 / 136	898 / 1203 / 102	1096 / 1490 / 84										
	3	594 / 1715 / 139	526 / 2127 / 115	581 / 1819 / 148	581 / 2225 / 120	570 / 1671 / 180	582 / 2042 / 146	586 / 1525 / 158	700 / 1861 / 128	859 / 1145 / 109	1029 / 1394 / 88	559 / 1812 / 131	505 / 2216 / 107	575 / 1914 / 139	589 / 2368 / 114	571 / 1770 / 170	582 / 2132 / 136	619 / 1623 / 150	732 / 1955 / 120	898 / 1203 / 102	1096 / 1490 / 84										

Wind Speed [mph]		190															200														
100	1	750 / 1396 / 172	684 / 1707 / 139	783 / 1518 / 179	798 / 1855 / 145	813 / 1310 / 228	859 / 1624 / 187	761 / 1441 / 166	923 / 1779 / 136	1052 / 1109 / 108	1279 / 1368 / 88	734 / 1476 / 164	681 / 1819 / 134	784 / 1598 / 170	815 / 1970 / 139	825 / 1389 / 217	871 / 1703 / 177	799 / 1520 / 158	959 / 1854 / 128	1102 / 1167 / 102	1348 / 1445 / 84	ASCE Group Zone									
	2	643 / 1628 / 147	590 / 1999 / 120	675 / 1774 / 154	679 / 2137 / 124	631 / 1708 / 177	656 / 2077 / 143	724 / 1524 / 158	868 / 1860 / 128	943 / 1269 / 97	1137 / 1551 / 79	624 / 1706 / 139	583 / 2116 / 115	670 / 1850 / 145	688 / 2251 / 117	632 / 1785 / 167	670 / 2194 / 136	758 / 1603 / 150	918 / 1974 / 123	996 / 1347 / 92	1190 / 1628 / 74										
	3	548 / 1937 / 126	496 / 2344 / 101	580 / 2040 / 133	595 / 2498 / 108	571 / 1856 / 160	594 / 2258 / 129	649 / 1712 / 142	776 / 2080 / 115	943 / 1269 / 97	1137 / 1551 / 79	526 / 2008 / 117	486 / 2459 / 96	584 / 2157 / 127	598 / 2611 / 102	580 / 1971 / 153	603 / 2372 / 123	675 / 1789 / 134	816 / 2197 / 109	996 / 1347 / 92	1190 / 1628 / 74										

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof

30-60ft

70in x 41in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		0	1	312 / 873 / 60	255 / 1070 / 48	408 / 946 / 67	474 / 1175 / 55	470 / 815 / 84	546 / 1013 / 68	517 / 903 / 85	613 / 1118 / 70	679 / 672 / 106	822 / 842 / 87	291 / 939 / 56	267 / 1159 / 45	430 / 1021 / 63	495 / 1246 / 50	495 / 881 / 78	576 / 1088 / 64	544 / 966 / 79	645 / 1190 / 65	721 / 724 / 99	881 / 911 / 82	270 / 995 / 52	276 / 1237 / 42	448 / 1086 / 58	524 / 1341 / 48	516 / 937 / 73	601 / 1152 / 59	573 / 1031 / 74	679 / 1266 / 60	771 / 782 / 94	933 / 973 / 77				

Exposure Category : B

Wind Speed [mph]		170												180																			
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90				
0	1	255 / 1064 / 49	284 / 1303 / 39	467 / 1154 / 55	550 / 1425 / 45	538 / 995 / 68	637 / 1235 / 56	603 / 1098 / 70	718 / 1348 / 57	816 / 836 / 88	989 / 1037 / 73	261 / 1125 / 46	294 / 1377 / 37	490 / 1229 / 52	572 / 1497 / 42	562 / 1056 / 65	669 / 1311 / 53	637 / 1173 / 66	752 / 1421 / 53	856 / 884 / 83	1051 / 1108 / 69	ASCE Group Zone											

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Table for Enclosed Hip/Gable Roof with wind speeds of 140, 150, and 160 mph. Includes columns for Panel Angle, Ground Snow, and various array dimensions and loads.

Table for Exposure Category: B with wind speeds of 170 and 180 mph. Includes columns for Panel Angle, Ground Snow, and various array dimensions and loads.

Table for Exposure Category: B with wind speeds of 190 and 200 mph. Includes columns for Panel Angle, Ground Snow, and various array dimensions and loads.

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Color-coded span table: x ≥ 72" (green), 64" to 71" (blue), 48" to 63" (yellow), x ≤ 47" (grey)

Notation (ASCE 7-22) a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances. B = Horizontal dimension of building measured normal to wind direction, in ft(m). h = Mean roof height, in ft(m). Θ = Angle of roof from horizontal, in degrees

ASCE Group Zone table mapping Panal Angle to Gable/Hip and then to specific zone values (e.g., 1=1, 2=2, 3=3).



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		140												150								160											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		30	1	535 / 873 / 60	433 / 1070 / 48	505 / 946 / 112	518 / 1175 / 92	535 / 815 / 148	558 / 1013 / 120	517 / 903 / 124	613 / 1118 / 101	679 / 672 / 107	822 / 842 / 88	498 / 939 / 56	427 / 1159 / 45	508 / 1021 / 105	521 / 1246 / 85	541 / 881 / 138	576 / 1088 / 112	544 / 966 / 115	645 / 1190 / 94	721 / 724 / 100	881 / 911 / 83	461 / 995 / 52	419 / 1237 / 42	509 / 1086 / 98	534 / 1341 / 80	545 / 937 / 129	601 / 1152 / 104	573 / 1031 / 107	679 / 1266 / 87	771 / 782 / 95	933 / 973 / 78
35	1		456 / 1021 / 51	369 / 1247 / 41	435 / 1110 / 79	443 / 1366 / 92	411 / 1065 / 114	425 / 1303 / 92	491 / 955 / 117	574 / 1167 / 95	628 / 798 / 99	747 / 980 / 80	425 / 1096 / 47	366 / 1354 / 39	432 / 1183 / 90	446 / 1451 / 73	413 / 1139 / 105	443 / 1410 / 86	515 / 1018 / 109	610 / 1253 / 89	663 / 853 / 92	796 / 1053 / 75	399 / 1175 / 45	355 / 1427 / 36	440 / 1277 / 85	453 / 1544 / 68	418 / 1215 / 99	467 / 1505 / 81	546 / 1094 / 102	650 / 1347 / 84	706 / 917 / 87	848 / 1129 / 71	
	40		1	383 / 1204 / 43	312 / 1472 / 35	375 / 1285 / 84	382 / 1576 / 68	376 / 1176 / 104	387 / 1428 / 84	438 / 1072 / 105	513 / 1308 / 85	628 / 798 / 99	747 / 980 / 80	357 / 1292 / 40	305 / 1579 / 32	374 / 1372 / 78	387 / 1683 / 63	375 / 1248 / 96	401 / 1535 / 78	461 / 1145 / 97	549 / 1415 / 80	663 / 853 / 92	796 / 1053 / 75	336 / 1387 / 38	303 / 1701 / 31	377 / 1467 / 73	397 / 1807 / 59	383 / 1342 / 90	419 / 1627 / 73	485 / 1221 / 91	581 / 1510 / 75	706 / 917 / 87	848 / 1129 / 71

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		Wind Speed [mph]		95												100												105									
Wind Speed [mph]		110												115												ASCE Group Zone											
Wind Speed [mph]		120												130																							
Wind Speed [mph]		130												140																							
Wind Speed [mph]		140												150																							
Wind Speed [mph]		150												160																							
Wind Speed [mph]		160												170																							
Wind Speed [mph]		170												180																							
Wind Speed [mph]		180												190																							
Wind Speed [mph]		190												200																							
Wind Speed [mph]		200												210																							

Exposure Category : B

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				70in x 41in				Load: Up / Down / Side , lbs																										
Wind Speed [mph]	Panel Angle	140												150												160											
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																
		45	1	676 / 873 / 169	546 / 1070 / 136	597 / 946 / 157	593 / 1175 / 128	617 / 815 / 204	625 / 1013 / 166	517 / 903 / 160	613 / 1118 / 131	679 / 672 / 123	822 / 842 / 101	629 / 939 / 157	533 / 1159 / 128	594 / 1021 / 147	589 / 1246 / 118	618 / 881 / 190	633 / 1088 / 155	544 / 966 / 149	645 / 1190 / 121	721 / 724 / 114	881 / 911 / 95	583 / 995 / 146	519 / 1237 / 119	588 / 1086 / 137	599 / 1341 / 111	617 / 937 / 177	636 / 1152 / 143	573 / 1031 / 139	679 / 1266 / 113	771 / 782 / 108	933 / 973 / 89				
50	1	723 / 873 / 181	584 / 1070 / 146	627 / 946 / 172	618 / 1175 / 140	638 / 807 / 220	647 / 1013 / 181	517 / 903 / 172	613 / 1118 / 141	679 / 672 / 128	822 / 842 / 101	673 / 939 / 169	569 / 1159 / 137	622 / 1021 / 161	612 / 1246 / 129	644 / 881 / 208	653 / 1088 / 169	544 / 966 / 160	645 / 1190 / 130	721 / 724 / 119	881 / 911 / 99	623 / 995 / 156	552 / 1237 / 126	615 / 1086 / 129	621 / 1341 / 122	640 / 937 / 193	656 / 1152 / 156	573 / 1031 / 149	679 / 1266 / 121	771 / 782 / 113	933 / 973 / 93						
60	1	810 / 856 / 201	664 / 1070 / 165	688 / 946 / 201	668 / 1175 / 164	660 / 770 / 245	692 / 1013 / 211	517 / 903 / 196	613 / 1118 / 160	679 / 672 / 138	822 / 842 / 114	769 / 939 / 191	640 / 1159 / 155	679 / 1021 / 188	658 / 1246 / 152	695 / 881 / 243	695 / 1088 / 197	544 / 966 / 182	645 / 1190 / 148	721 / 724 / 129	881 / 911 / 107	713 / 995 / 177	618 / 1237 / 145	668 / 1086 / 175	664 / 1341 / 143	688 / 937 / 226	694 / 1152 / 183	573 / 1031 / 170	679 / 1266 / 138	771 / 782 / 122	933 / 973 / 100						

Exposure Category : B

Wind Speed [mph]	170												180																				
	0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90				
45	1	550 / 1064 / 138	503 / 1303 / 111	588 / 1154 / 128	606 / 1425 / 105	618 / 995 / 166	653 / 1235 / 136	603 / 1098 / 131	718 / 1348 / 106	816 / 836 / 102	989 / 1037 / 84	534 / 1125 / 129	493 / 1377 / 104	592 / 1229 / 121	610 / 1497 / 98	624 / 1056 / 157	669 / 1311 / 128	637 / 1173 / 124	752 / 1421 / 100	856 / 884 / 96	1051 / 1108 / 80	ASCE Group Zone											
50	1	588 / 1064 / 147	534 / 1303 / 119	613 / 1154 / 140	627 / 1425 / 115	641 / 995 / 181	672 / 1235 / 148	603 / 1098 / 141	718 / 1348 / 114	816 / 836 / 106	989 / 1037 / 87	570 / 1125 / 139	522 / 1377 / 112	616 / 1229 / 133	629 / 1497 / 107	645 / 1056 / 171	685 / 1311 / 140	637 / 1173 / 134	752 / 1421 / 107	856 / 884 / 100	1051 / 1108 / 83	ASCE Group Zone											
60	1	672 / 1064 / 167	596 / 1303 / 135	662 / 1154 / 164	667 / 1425 / 134	685 / 995 / 211	708 / 1235 / 173	603 / 1098 / 160	718 / 1348 / 130	816 / 836 / 115	989 / 1037 / 94	641 / 1125 / 157	580 / 1377 / 127	663 / 1229 / 156	667 / 1497 / 126	688 / 1056 / 199	719 / 1311 / 163	637 / 1173 / 152	752 / 1421 / 122	856 / 884 / 108	1051 / 1108 / 90	ASCE Group Zone											

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					70in x 41in					Load: Up / Down / Side , lbs																																																																			
Wind Speed [mph]		95															100															105																																															
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																																																		
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																																																			
		70	1	867 / 345 / 209	867 / 537 / 209	710 / 451 / 251	727 / 697 / 251	577 / 317 / 266	593 / 494 / 266	371 / 424 / 234	446 / 652 / 234	356 / 313 / 157	511 / 483 / 157	867 / 387 / 209	867 / 600 / 209	710 / 504 / 251	748 / 776 / 251	577 / 355 / 266	614 / 551 / 266	379 / 473 / 234	473 / 726 / 234	389 / 350 / 157	561 / 538 / 157	867 / 430 / 209	867 / 665 / 209	710 / 560 / 251	770 / 860 / 251	577 / 395 / 266	635 / 612 / 266	398 / 525 / 234	502 / 803 / 234	424 / 388 / 157	613 / 596 / 157																																														
80	1		929 / 326 / 219	929 / 509 / 219	745 / 433 / 271	761 / 669 / 271	601 / 304 / 287	616 / 474 / 287	375 / 408 / 250	447 / 627 / 250	348 / 305 / 164	498 / 471 / 164	929 / 366 / 219	929 / 568 / 219	745 / 484 / 271	781 / 746 / 271	601 / 341 / 287	635 / 529 / 287	383 / 455 / 250	474 / 698 / 250	380 / 341 / 164	547 / 525 / 164	929 / 407 / 219	929 / 630 / 219	745 / 538 / 271	803 / 826 / 271	601 / 379 / 287	656 / 587 / 287	401 / 505 / 250	502 / 772 / 250	414 / 379 / 164	599 / 582 / 164																																															
	90		1	978 / 308 / 226	978 / 480 / 226	795 / 415 / 290	795 / 641 / 290	627 / 294 / 309	642 / 458 / 309	382 / 396 / 266	452 / 608 / 266	342 / 301 / 172	490 / 464 / 172	978 / 345 / 226	978 / 535 / 226	795 / 464 / 290	810 / 715 / 290	627 / 330 / 309	661 / 512 / 309	389 / 441 / 266	477 / 677 / 266	374 / 336 / 172	539 / 517 / 172	978 / 384 / 226	978 / 594 / 226	795 / 515 / 290	830 / 792 / 290	627 / 367 / 309	680 / 568 / 309	407 / 490 / 266	505 / 749 / 266	408 / 373 / 172	589 / 572 / 172																																														
			70	1	867 / 476 / 209	867 / 734 / 209	710 / 618 / 251	761 / 910 / 241	577 / 438 / 266	657 / 675 / 266	418 / 579 / 234	523 / 868 / 230	461 / 429 / 157	653 / 641 / 153	867 / 524 / 209	867 / 806 / 209	722 / 680 / 251	752 / 958 / 231	589 / 482 / 266	680 / 741 / 234	440 / 636 / 218	527 / 905 / 218	500 / 471 / 157	681 / 675 / 147	<table border="1"> <thead> <tr> <th rowspan="2">Panal Angle</th> <th colspan="2">ASCE Group Zone</th> </tr> <tr> <th>Gable</th> <th>Hip</th> </tr> </thead> <tbody> <tr> <td rowspan="3">0 - 7</td> <td>1 = 1' / 1</td> <td>NA</td> </tr> <tr> <td>2 = 2</td> <td>NA</td> </tr> <tr> <td>3 = 3</td> <td>NA</td> </tr> <tr> <td rowspan="3">7 - 20</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">20 - 27</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">27 - 45</td> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">45 - 90</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> </tbody> </table>															Panal Angle	ASCE Group Zone		Gable	Hip	0 - 7	1 = 1' / 1	NA	2 = 2	NA	3 = 3	NA	7 - 20	1 = 1	1 = 1	2 = 2	2 = 2	3 = 3	3 = 3	20 - 27	1 = 1	1 = 1	2 = 2	2 = 2	3 = 3	3 = 3	27 - 45	2 = 2	2 = 2	3 = 3	3 = 3	3 = 3	3 = 3	45 - 90	1 = 1	1 = 1	2 = 2	2 = 2	3 = 3	3 = 3
				Panal Angle	ASCE Group Zone																																																																										
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				0 - 7	1 = 1' / 1	NA																																																																									
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		7 - 20		1 = 1	1 = 1																																																																										
2 = 2				2 = 2																																																																											
3 = 3	3 = 3																																																																														
20 - 27	1 = 1	1 = 1																																																																													
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	3 = 3	3 = 3																																																																													
80	1	929 / 451 / 219	929 / 695 / 219	745 / 594 / 271	825 / 910 / 271	601 / 420 / 287	677 / 647 / 287	421 / 557 / 250	531 / 851 / 271	450 / 419 / 164	653 / 641 / 164	929 / 496 / 219	929 / 763 / 219	757 / 653 / 271	813 / 958 / 260	612 / 462 / 287	699 / 711 / 287	441 / 612 / 250	545 / 905 / 242	488 / 460 / 164	681 / 675 / 157	929 / 684 / 219	908 / 1022 / 214	757 / 895 / 271	691 / 1109 / 221	612 / 794 / 287	616 / 1065 / 253	441 / 683 / 250	517 / 957 / 230	488 / 593 / 164	629 / 800 / 145																																																
	90	1	978 / 425 / 226	978 / 655 / 226	795 / 569 / 290	852 / 873 / 290	627 / 406 / 309	701 / 626 / 309	426 / 540 / 266	533 / 825 / 266	443 / 412 / 172	642 / 631 / 172	978 / 468 / 226	978 / 719 / 226	795 / 626 / 290	874 / 958 / 290	638 / 447 / 309	722 / 688 / 309	446 / 593 / 266	563 / 905 / 266	480 / 453 / 172	681 / 675 / 167	978 / 645 / 226	978 / 986 / 226	795 / 858 / 290	742 / 1109 / 246	638 / 768 / 309	658 / 1065 / 266	446 / 663 / 253	534 / 957 / 172	480 / 583 / 155	629 / 800 / 155																																															
		70	1	867 / 574 / 209	867 / 881 / 209	739 / 744 / 251	742 / 1001 / 221	605 / 528 / 266	704 / 810 / 266	462 / 695 / 234	536 / 947 / 209	540 / 515 / 157	712 / 712 / 142	867 / 681 / 209	830 / 996 / 200	775 / 880 / 251	727 / 1088 / 203	640 / 626 / 266	740 / 938 / 261	509 / 822 / 234	574 / 1032 / 194	626 / 610 / 157	764 / 775 / 131	867 / 791 / 209	774 / 1077 / 187	688 / 948 / 233	634 / 1165 / 189	605 / 905 / 266	574 / 1120 / 217	462 / 776 / 234	507 / 999 / 198	532 / 653 / 154	657 / 842 / 131	867 / 935 / 209	709 / 1163 / 171	660 / 1024 / 213	621 / 1264 / 174	594 / 991 / 247	569 / 1220 / 201	490 / 881 / 225	541 / 1083 / 183	581 / 728 / 146	699 / 908 / 120																																				

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		140		[Data for Wind Speed 140]																																	
150		[Data for Wind Speed 150]																																			
160		[Data for Wind Speed 160]																																			
170		[Data for Wind Speed 170]																																			
180		[Data for Wind Speed 180]																																			
190		[Data for Wind Speed 190]																																			
200		[Data for Wind Speed 200]																																			

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof

30-60ft

70in x 41in

Load: Up / Down / Side , lbs

Wind Speed [mph]		95												100												105															
Panal Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	1028 / 293 / 234	1028 / 457 / 234	848 / 402 / 309	848 / 621 / 309	650 / 284 / 329	665 / 443 / 329	388 / 383 / 281	455 / 589 / 281	334 / 293 / 178	478 / 452 / 178	1028 / 328 / 234	1028 / 510 / 234	848 / 449 / 309	848 / 692 / 309	650 / 319 / 329	683 / 495 / 329	394 / 428 / 281	480 / 656 / 281	365 / 328 / 178	525 / 504 / 178	1028 / 366 / 234	1028 / 565 / 234	848 / 499 / 309	863 / 766 / 309	650 / 355 / 329	702 / 549 / 329	412 / 475 / 281	506 / 726 / 281	398 / 364 / 178	575 / 558 / 178								
	2	1028 / 409 / 234	1028 / 630 / 234	848 / 555 / 309	848 / 851 / 309	650 / 496 / 329	665 / 761 / 329	388 / 429 / 281	455 / 658 / 281	334 / 380 / 178	478 / 583 / 178	1028 / 456 / 234	1028 / 701 / 234	848 / 619 / 309	848 / 947 / 309	650 / 553 / 329	683 / 847 / 329	394 / 479 / 281	480 / 732 / 281	365 / 424 / 178	525 / 649 / 178	1028 / 507 / 234	1028 / 777 / 234	848 / 686 / 309	834 / 1013 / 299	650 / 613 / 329	702 / 937 / 329	412 / 530 / 281	506 / 810 / 281	398 / 470 / 178	575 / 718 / 178										
	3	1028 / 582 / 234	1028 / 889 / 234	848 / 752 / 309	783 / 1057 / 285	650 / 602 / 329	665 / 920 / 329	388 / 543 / 281	455 / 830 / 281	334 / 380 / 178	478 / 583 / 178	1028 / 648 / 234	1028 / 989 / 234	848 / 837 / 309	745 / 1119 / 271	650 / 671 / 329	683 / 1023 / 329	394 / 605 / 281	480 / 922 / 281	365 / 424 / 178	525 / 649 / 178	1028 / 718 / 234	1028 / 1094 / 234	848 / 927 / 309	719 / 1174 / 258	650 / 743 / 329	661 / 1066 / 310	412 / 670 / 281	485 / 976 / 270	398 / 470 / 178	575 / 718 / 178										

Wind Speed [mph]		110												115																			
100	1	1028 / 405 / 234	1028 / 624 / 234	848 / 551 / 309	883 / 845 / 309	650 / 393 / 329	721 / 605 / 329	430 / 524 / 281	534 / 800 / 281	432 / 402 / 178	626 / 615 / 178	1028 / 445 / 234	1028 / 685 / 234	848 / 606 / 309	905 / 927 / 309	661 / 432 / 329	742 / 665 / 329	450 / 575 / 281	563 / 877 / 281	468 / 441 / 178	681 / 675 / 178	ASCE Group Zone											
	2	1028 / 559 / 234	1028 / 856 / 234	848 / 757 / 309	815 / 1063 / 285	650 / 676 / 329	713 / 1020 / 325	430 / 585 / 281	534 / 892 / 281	432 / 518 / 172	605 / 764 / 164	1028 / 614 / 234	1028 / 938 / 234	848 / 830 / 309	794 / 1109 / 271	661 / 742 / 329	700 / 1065 / 310	450 / 642 / 281	551 / 957 / 276	468 / 569 / 178	629 / 800 / 164												
	3	1028 / 791 / 234	989 / 1158 / 225	830 / 998 / 302	707 / 1240 / 247	650 / 818 / 329	655 / 1130 / 299	430 / 738 / 281	489 / 1026 / 258	432 / 518 / 178	605 / 764 / 172	1028 / 868 / 234	950 / 1219 / 217	792 / 1045 / 289	684 / 1282 / 234	661 / 898 / 329	640 / 1175 / 283	450 / 810 / 281	491 / 1072 / 246	468 / 569 / 178	629 / 800 / 164												

Wind Speed [mph]		120												130																			
100	1	1028 / 488 / 234	1028 / 749 / 234	848 / 663 / 309	917 / 1001 / 306	675 / 473 / 329	764 / 727 / 329	470 / 629 / 281	587 / 947 / 278	506 / 483 / 178	712 / 712 / 172	1028 / 578 / 234	1028 / 885 / 234	867 / 784 / 309	888 / 1088 / 282	706 / 561 / 329	810 / 859 / 329	513 / 743 / 281	601 / 1032 / 258	586 / 571 / 178	764 / 775 / 158												
	2	1028 / 672 / 234	1028 / 1025 / 234	848 / 907 / 309	783 / 1165 / 261	675 / 811 / 329	694 / 1120 / 299	470 / 702 / 281	555 / 999 / 264	506 / 622 / 178	657 / 842 / 158	1028 / 794 / 234	989 / 1163 / 225	829 / 1024 / 295	758 / 1264 / 241	706 / 958 / 329	680 / 1220 / 276	513 / 828 / 281	566 / 1083 / 243	581 / 728 / 176	699 / 908 / 145												
	3	1028 / 948 / 234	911 / 1275 / 208	764 / 1100 / 278	670 / 1337 / 223	675 / 980 / 329	632 / 1231 / 272	470 / 884 / 281	498 / 1127 / 237	506 / 622 / 178	657 / 842 / 158	1028 / 1119 / 234	833 / 1373 / 190	713 / 1184 / 254	650 / 1453 / 206	665 / 1090 / 310	615 / 1329 / 250	485 / 987 / 267	504 / 1209 / 216	581 / 728 / 176	699 / 908 / 145												

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	1028 / 676 / 234	1028 / 1031 / 234	902 / 915 / 309	867 / 1175 / 261	739 / 657 / 329	860 / 1001 / 329	559 / 866 / 281	618 / 1118 / 240	673 / 667 / 178	822 / 842 / 148	1028 / 781 / 234	1002 / 1159 / 228	907 / 1021 / 299	842 / 1246 / 241	775 / 759 / 329	861 / 1088 / 310	589 / 966 / 273	645 / 1190 / 222	721 / 724 / 167	881 / 911 / 139	1028 / 894 / 234	937 / 1237 / 214	880 / 1086 / 278	837 / 1341 / 227	813 / 868 / 329	848 / 1152 / 287	598 / 1031 / 255	679 / 1266 / 207	771 / 782 / 158	933 / 973 / 130				
	2	1028 / 927 / 234	911 / 1247 / 208	802 / 1110 / 275	742 / 1366 / 223	705 / 1065 / 314	662 / 1303 / 253	553 / 955 / 278	580 / 1167 / 225	628 / 798 / 166	747 / 980 / 134	1028 / 1069 / 234	859 / 1354 / 196	772 / 1183 / 254	722 / 1451 / 206	686 / 1139 / 291	662 / 1410 / 238	557 / 1018 / 258	610 / 1253 / 210	663 / 853 / 154	796 / 1053 / 126	989 / 1175 / 225	794 / 1427 / 181	761 / 1277 / 241	710 / 1544 / 193	673 / 1215 / 272	659 / 1505 / 223	570 / 1094 / 243	650 / 1347 / 198	706 / 917 / 145	848 / 1129 / 118						
	3	950 / 1204 / 217	768 / 1472 / 175	691 / 1285 / 237	639 / 1576 / 193	646 / 1176 / 287	603 / 1428 / 231	493 / 1072 / 249	518 / 1308 / 201	628 / 798 / 166	747 / 980 / 134	885 / 1292 / 202	716 / 1579 / 163	668 / 1372 / 220	625 / 1683 / 179	624 / 1248 / 265	599 / 1535 / 216	498 / 1145 / 231	549 / 1415 / 189	663 / 853 / 154	796 / 1053 / 126	833 / 1387 / 190	677 / 1701 / 154	652 / 1467 / 206	622 / 1807 / 169	617 / 1342 / 250	592 / 1627 / 200	507 / 1221 / 216	581 / 1510 / 177	706 / 917 / 145	848 / 1129 / 118						

Exposure Category : B

Wind Speed [mph]		170												180													
100	1	1028 / 1013 / 234	872 / 1303 / 199	862 / 1154 / 261	830 / 1425 / 213	854 / 984 / 329	854 / 1235 / 272	611 / 1098 / 240	718 / 1348 / 195	816 / 836 / 149	989 / 1037 / 123	1015 / 1125 / 231	820 / 1377 / 187	852 / 1229 / 247	819 / 1497 / 199	856 / 1056 / 314	857 / 1311 / 257	637 / 1173 / 228	752 / 1421 / 183	856 / 884 / 140	1051 / 1108 / 117	ASCE Group Zone					
	2	924 / 1243 / 211	755 / 1535 / 172	737 / 1342 / 223	709 / 1652 / 182	667 / 1299 / 257	653 / 1587 / 208	581 / 1162 / 228	685 / 1431 / 186	743 / 974 / 136	893 / 1196 / 111	872 / 1318 / 199	703 / 1605 / 160	734 / 1438 / 213	707 / 1750 / 172	660 / 1374 / 242	656 / 1684 / 197	604 / 1237 / 216	715 / 1503 / 174	783 / 1034 / 128	944 / 1270 / 105						
	3	781 / 1471 / 178	638 / 1813 / 146	635 / 1549 / 193	616 / 1918 / 158	609 / 1426 / 234	593 / 1735 / 189	520 / 1305 / 204	608 / 1591 / 165	743 / 974 / 136	893 / 1196 / 111	729 / 1542 / 166	599 / 1910 / 137	627 / 1646 / 182	608 / 2012 / 148	598 / 1499 / 219	593 / 1831 / 178	537 / 1379 / 192	641 / 1689 / 156	783 / 1034 / 128	944 / 1270 / 105						

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof				30-60ft				70in x 41in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]				95																100																105															
Panel Angle				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge											
		0	1	386 / 645 / 74	325 / 837 / 62	360 / 729 / 85	399 / 911 / 70	391 / 591 / 102	461 / 787 / 88	422 / 680 / 106	503 / 868 / 89	512 / 476 / 124	653 / 641 / 109	370 / 692 / 71	306 / 880 / 58	367 / 778 / 82	413 / 961 / 66	405 / 640 / 99	476 / 830 / 83	446 / 732 / 103	524 / 918 / 84	546 / 516 / 121	684 / 679 / 104	358 / 743 / 68	291 / 925 / 56	376 / 818 / 78	424 / 1006 / 63	420 / 683 / 95	494 / 876 / 79	468 / 784 / 99	543 / 963 / 80	579 / 555 / 117	718 / 719 / 100																		

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
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B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		140												150								160											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	266 / 1011 / 51	278 / 1253 / 42	452 / 1102 / 58	529 / 1356 / 47	523 / 953 / 72	608 / 1168 / 58	580 / 1047 / 73	686 / 1281 / 59	776 / 789 / 92	947 / 988 / 76	257 / 1086 / 47	290 / 1342 / 39	479 / 1191 / 54	564 / 1465 / 44	546 / 1017 / 67	644 / 1255 / 55	612 / 1119 / 68	737 / 1387 / 56	834 / 857 / 87	1006 / 1057 / 71	267 / 1164 / 45	304 / 1438 / 36	502 / 1268 / 50	594 / 1561 / 41	578 / 1094 / 63	685 / 1350 / 51	647 / 1195 / 64	782 / 1482 / 52	886 / 918 / 81	1070 / 1130 / 66

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																					
Wind Speed [mph]		95												100								105									
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90		
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
		95																													
100																															
105																															
110																															
115																															
120																															
130																															

Exposure Category : C

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				70in x 41in				Load: Up / Down / Side , lbs																																													
Wind Speed [mph]	95																												100																105											
Panel Angle	0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90																			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																									
30	1	655 / 640 / 73	556 / 837 / 62	524 / 729 / 144	507 / 911 / 117	483 / 555 / 168	536 / 787 / 155	422 / 680 / 154	503 / 868 / 129	512 / 476 / 126	653 / 641 / 111	634 / 692 / 71	524 / 880 / 58	519 / 778 / 138	506 / 961 / 111	501 / 620 / 168	537 / 830 / 146	446 / 732 / 149	524 / 918 / 122	546 / 516 / 122	684 / 679 / 105	613 / 743 / 68	498 / 925 / 56	513 / 818 / 130	504 / 1006 / 105	521 / 683 / 167	542 / 876 / 140	468 / 784 / 144	543 / 963 / 116	579 / 555 / 119	718 / 719 / 101																									
	30	1	587 / 785 / 65	477 / 977 / 53	510 / 860 / 124	507 / 1056 / 100	528 / 729 / 161	545 / 918 / 133	482 / 818 / 136	566 / 1013 / 111	612 / 593 / 115	749 / 757 / 96	561 / 824 / 63	456 / 1024 / 51	506 / 898 / 118	514 / 1116 / 97	534 / 774 / 156	547 / 955 / 126	497 / 856 / 130	586 / 1060 / 106	649 / 636 / 112	785 / 799 / 93	ASCE Group Zone																																	
		30	1	540 / 868 / 60	436 / 1067 / 49	507 / 941 / 114	514 / 1157 / 92	535 / 810 / 149	552 / 998 / 120	516 / 898 / 125	604 / 1101 / 101	675 / 667 / 108	818 / 838 / 89	493 / 937 / 55	422 / 1152 / 45	505 / 1017 / 104	523 / 1256 / 85	538 / 879 / 137	573 / 1083 / 111	548 / 974 / 115	649 / 1199 / 94	726 / 729 / 100	878 / 908 / 82																																	

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		95		[Data for Wind Speed 95]																																	
100		[Data for Wind Speed 100]																																			
105		[Data for Wind Speed 105]																																			
110		[Data for Wind Speed 110]																																			
115		[Data for Wind Speed 115]																																			
120		[Data for Wind Speed 120]																																			
130		[Data for Wind Speed 130]																																			

Exposure Category : C

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		45	1	576 / 1011 / 144	516 / 1253 / 118	589 / 1102 / 135	600 / 1356 / 110	619 / 953 / 175	639 / 1168 / 141	580 / 1047 / 137	686 / 1281 / 111	776 / 789 / 106	947 / 988 / 88	543 / 1086 / 134	503 / 1342 / 109	594 / 1191 / 127	613 / 1465 / 103	620 / 1017 / 162	654 / 1255 / 132	612 / 1119 / 128	737 / 1387 / 105	834 / 857 / 100	1006 / 1057 / 82	529 / 1164 / 126	496 / 1438 / 103	595 / 1268 / 118	623 / 1561 / 96	632 / 1094 / 153	685 / 1350 / 125	647 / 1195 / 119	782 / 1482 / 98	886 / 918 / 94	1070 / 1130 / 77				
50	1		616 / 1011 / 154	549 / 1253 / 126	615 / 1102 / 148	621 / 1356 / 120	643 / 953 / 191	658 / 1168 / 154	580 / 1047 / 148	686 / 1281 / 120	776 / 789 / 111	947 / 988 / 92	581 / 1086 / 144	534 / 1342 / 117	618 / 1191 / 138	633 / 1465 / 113	642 / 1017 / 177	672 / 1255 / 144	612 / 1119 / 137	737 / 1387 / 113	834 / 857 / 104	1006 / 1057 / 85	564 / 1164 / 135	525 / 1438 / 110	618 / 1268 / 129	642 / 1561 / 105	652 / 1094 / 167	692 / 1350 / 136	647 / 1195 / 128	782 / 1482 / 106	886 / 918 / 98	1070 / 1130 / 80					
	55		1	705 / 1011 / 175	614 / 1253 / 143	668 / 1102 / 173	664 / 1356 / 141	690 / 953 / 223	696 / 1168 / 180	580 / 1047 / 168	686 / 1281 / 136	776 / 789 / 120	947 / 988 / 99	656 / 1086 / 163	594 / 1342 / 133	667 / 1191 / 162	673 / 1465 / 132	685 / 1017 / 207	707 / 1255 / 168	612 / 1119 / 156	737 / 1387 / 128	834 / 857 / 113	1006 / 1057 / 92	634 / 1164 / 153	582 / 1438 / 125	664 / 1268 / 152	679 / 1561 / 123	693 / 1094 / 195	725 / 1350 / 159	647 / 1195 / 146	782 / 1482 / 120	886 / 918 / 106	1070 / 1130 / 86				

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				70in x 41in				Load: Up / Down / Side , lbs																															
Wind Speed [mph]			95												100												105															
Panal Angle			0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge									
																																		70	1	867 / 476 / 209	867 / 734 / 209	710 / 618 / 251	761 / 911 / 241	577 / 438 / 266	657 / 675 / 266	418 / 580 / 234

Exposure Category : C

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		70	1	811 / 1011 / 196	680 / 1253 / 160	720 / 1102 / 199	706 / 1356 / 161	737 / 953 / 255	734 / 1168 / 206	580 / 1047 / 189	686 / 1281 / 153	776 / 789 / 129	947 / 988 / 106	755 / 1086 / 182	655 / 1342 / 149	716 / 1191 / 186	713 / 1465 / 151	729 / 1017 / 236	743 / 1255 / 192	612 / 1119 / 176	737 / 1387 / 144	834 / 857 / 121	1006 / 1057 / 99	709 / 1164 / 171	639 / 1438 / 140	710 / 1268 / 174	717 / 1561 / 142	734 / 1094 / 222	759 / 1350 / 181	647 / 1195 / 165	782 / 1482 / 135	886 / 918 / 114	1070 / 1130 / 93				
170	1		677 / 1232 / 160	621 / 1522 / 131	711 / 1353 / 164	716 / 1641 / 132	737 / 1163 / 209	771 / 1435 / 170	685 / 1278 / 156	820 / 1564 / 126	942 / 982 / 108	1140 / 1210 / 88	658 / 1306 / 151	613 / 1620 / 124	709 / 1428 / 154	726 / 1738 / 124	746 / 1238 / 198	779 / 1507 / 159	720 / 1352 / 147	866 / 1661 / 120	992 / 1040 / 101	1203 / 1282 / 83	ASCE Group Zone														
	180		1	648 / 1394 / 144	603 / 1710 / 117	704 / 1492 / 144	747 / 1861 / 119	752 / 1306 / 187	797 / 1595 / 151	761 / 1439 / 140	908 / 1748 / 113	1048 / 1104 / 97	1278 / 1366 / 79	626 / 1450 / 135	591 / 1787 / 111	708 / 1570 / 137	751 / 1936 / 112	755 / 1365 / 176	824 / 1673 / 143	786 / 1493 / 131	963 / 1861 / 108	1098 / 1162 / 92							1325 / 1420 / 74								

Exposure Category : C

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Load: Up / Down / Side , lbs

Wind Speed [mph]	140												150												160											
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge													
100	1	1028 / 918 / 234	924 / 1253 / 211	877 / 1102 / 275	834 / 1356 / 223	822 / 892 / 329	848 / 1168 / 283	602 / 1047 / 252	686 / 1281 / 204	776 / 789 / 155	947 / 988 / 128	1028 / 1059 / 234	859 / 1342 / 196	864 / 1191 / 258	833 / 1465 / 210	860 / 1017 / 325	849 / 1255 / 265	614 / 1119 / 234	737 / 1387 / 192	834 / 857 / 146	1006 / 1057 / 120	989 / 1164 / 225	810 / 1438 / 184	847 / 1268 / 241	829 / 1561 / 196	857 / 1094 / 306	859 / 1350 / 250	647 / 1195 / 219	782 / 1482 / 180	886 / 918 / 137	1070 / 1130 / 112					
	2	976 / 1191 / 222	794 / 1466 / 181	757 / 1293 / 237	719 / 1586 / 193	671 / 1231 / 268	656 / 1520 / 219	573 / 1110 / 240	656 / 1363 / 195	709 / 923 / 142	859 / 1145 / 117	898 / 1262 / 205	729 / 1549 / 166	737 / 1381 / 220	710 / 1693 / 179	660 / 1318 / 250	655 / 1628 / 204	583 / 1182 / 222	691 / 1447 / 180	757 / 995 / 133	906 / 1215 / 108	846 / 1357 / 193	693 / 1671 / 157	726 / 1476 / 206	713 / 1818 / 169	656 / 1412 / 234	664 / 1752 / 193	620 / 1275 / 210	743 / 1567 / 171	799 / 1058 / 124	970 / 1308 / 102					
	3	820 / 1403 / 187	664 / 1714 / 151	647 / 1482 / 203	616 / 1819 / 165	614 / 1358 / 246	599 / 1671 / 200	509 / 1237 / 213	586 / 1525 / 174	709 / 923 / 142	859 / 1145 / 117	768 / 1512 / 175	625 / 1855 / 143	634 / 1590 / 189	615 / 1960 / 155	610 / 1466 / 231	595 / 1776 / 185	520 / 1323 / 198	622 / 1632 / 162	757 / 995 / 133	906 / 1215 / 108	716 / 1607 / 163	588 / 1981 / 134	630 / 1713 / 179	611 / 2084 / 145	603 / 1562 / 216	599 / 1900 / 174	549 / 1417 / 186	651 / 1721 / 150	799 / 1058 / 124	970 / 1308 / 102					

Wind Speed [mph]	170												180														
	100	1	924 / 1232 / 211	781 / 1522 / 172	840 / 1353 / 227	820 / 1641 / 182	852 / 1163 / 287	865 / 1435 / 234	685 / 1278 / 207	820 / 1564 / 168	942 / 982 / 130	1140 / 1210 / 106	872 / 1306 / 199	764 / 1620 / 163	831 / 1428 / 213	824 / 1738 / 172	855 / 1238 / 272	867 / 1507 / 219	720 / 1352 / 195	866 / 1661 / 159	992 / 1040 / 123	1203 / 1282 / 100	ASCE Group Zone				
2		794 / 1441 / 181	674 / 1782 / 148	713 / 1558 / 193	712 / 1929 / 158	650 / 1494 / 219	656 / 1825 / 178	646 / 1340 / 195	776 / 1646 / 159	844 / 1125 / 117	1028 / 1392 / 96	755 / 1539 / 172	653 / 1881 / 140	710 / 1656 / 182	709 / 2024 / 148	653 / 1591 / 208	673 / 1961 / 170	687 / 1435 / 186	817 / 1743 / 150	895 / 1199 / 111	1077 / 1464 / 90						
3		677 / 1718 / 154	566 / 2090 / 125	624 / 1825 / 169	604 / 2186 / 134	594 / 1642 / 200	600 / 2007 / 163	576 / 1499 / 174	688 / 1829 / 141	844 / 1125 / 117	1028 / 1392 / 96	638 / 1817 / 146	556 / 2234 / 119	617 / 1923 / 158	610 / 2327 / 127	594 / 1739 / 189	613 / 2147 / 155	609 / 1595 / 165	736 / 1965 / 135	895 / 1199 / 111	1077 / 1464 / 90						

Wind Speed [mph]	190												200														
	100	1	833 / 1394 / 190	746 / 1710 / 154	818 / 1492 / 199	842 / 1861 / 165	855 / 1306 / 257	881 / 1595 / 208	761 / 1439 / 186	908 / 1748 / 150	1048 / 1104 / 117	1278 / 1366 / 96	792 / 1450 / 178	727 / 1787 / 146	816 / 1570 / 189	839 / 1936 / 155	853 / 1365 / 242	890 / 1673 / 197	786 / 1493 / 174	963 / 1861 / 144	1098 / 1162 / 111	1325 / 1420 / 90	ASCE Group Zone				
2		703 / 1599 / 160	632 / 1964 / 131	705 / 1743 / 172	719 / 2152 / 141	654 / 1678 / 197	673 / 2041 / 159	712 / 1497 / 174	853 / 1827 / 141	940 / 1265 / 105	1138 / 1551 / 85	686 / 1709 / 154	623 / 2079 / 125	713 / 1856 / 165	727 / 2270 / 134	653 / 1754 / 185	685 / 2155 / 151	745 / 1575 / 165	903 / 1940 / 135	980 / 1323 / 99	1192 / 1630 / 81						
3		599 / 1903 / 137	531 / 2304 / 110	607 / 2004 / 148	614 / 2454 / 121	604 / 1862 / 182	625 / 2277 / 148	638 / 1682 / 156	763 / 2044 / 126	940 / 1265 / 105	1138 / 1551 / 85	581 / 2019 / 131	519 / 2416 / 104	609 / 2119 / 141	615 / 2566 / 114	600 / 1936 / 170	634 / 2395 / 140	664 / 1758 / 147	803 / 2159 / 120	980 / 1323 / 99	1192 / 1630 / 81						

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	257 / 1087 / 47	290 / 1343 / 39	480 / 1192 / 54	564 / 1466 / 44	547 / 1018 / 67	645 / 1256 / 55	613 / 1120 / 68	737 / 1389 / 56	835 / 857 / 87	1007 / 1059 / 71	269 / 1176 / 45	301 / 1429 / 36	500 / 1263 / 50	589 / 1549 / 40	576 / 1092 / 62	681 / 1343 / 51	653 / 1207 / 64	776 / 1472 / 52	885 / 917 / 80	1080 / 1142 / 66	279 / 1254 / 42	315 / 1523 / 34	529 / 1357 / 47	629 / 1671 / 38	608 / 1168 / 58	722 / 1437 / 48	687 / 1282 / 59	834 / 1592 / 49	947 / 988 / 76	1143 / 1214 / 62				

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	360 / 1087 / 47	354 / 1343 / 39	480 / 1192 / 54	564 / 1466 / 44	547 / 1018 / 68	645 / 1256 / 56	613 / 1120 / 68	737 / 1389 / 56	835 / 857 / 87	1007 / 1059 / 71	359 / 1176 / 45	352 / 1429 / 36	500 / 1263 / 50	589 / 1549 / 40	576 / 1092 / 64	681 / 1343 / 52	653 / 1207 / 64	776 / 1472 / 52	885 / 917 / 80	1080 / 1142 / 66	356 / 1254 / 42	354 / 1523 / 34	529 / 1357 / 47	629 / 1671 / 38	608 / 1168 / 60	722 / 1437 / 49	687 / 1282 / 59	834 / 1592 / 49	947 / 988 / 76	1143 / 1214 / 62				
15	1	351 / 1320 / 39	360 / 1631 / 32	555 / 1441 / 44	665 / 1782 / 36	644 / 1252 / 57	757 / 1519 / 46	726 / 1365 / 56	871 / 1671 / 45	1003 / 1053 / 72	1214 / 1294 / 58	356 / 1416 / 37	365 / 1730 / 30	587 / 1539 / 42	697 / 1880 / 34	676 / 1328 / 53	799 / 1616 / 43	771 / 1461 / 53	917 / 1767 / 43	1052 / 1110 / 67	1296 / 1387 / 56	ASCE Group Zone															
15	1	354 / 1480 / 35	369 / 1817 / 28	605 / 1599 / 39	724 / 1963 / 32	703 / 1394 / 50	837 / 1703 / 41	800 / 1523 / 50	977 / 1890 / 41	1123 / 1190 / 65	1350 / 1449 / 52	356 / 1559 / 33	379 / 1931 / 27	641 / 1708 / 38	763 / 2078 / 30	738 / 1474 / 48	888 / 1815 / 39	836 / 1600 / 47	1011 / 1962 / 39	1173 / 1247 / 61	1418 / 1525 / 50																

Exposure Category : D

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		140												150								160											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		30	1	411 / 1087 / 47	396 / 1343 / 39	504 / 1192 / 83	564 / 1466 / 67	547 / 1018 / 108	645 / 1256 / 88	613 / 1120 / 92	737 / 1389 / 76	835 / 857 / 87	1007 / 1059 / 71	407 / 1176 / 45	391 / 1429 / 36	507 / 1263 / 76	589 / 1549 / 62	576 / 1092 / 100	681 / 1343 / 82	653 / 1207 / 86	776 / 1472 / 70	885 / 917 / 80	1080 / 1142 / 66	400 / 1254 / 42	390 / 1523 / 34	529 / 1357 / 72	629 / 1671 / 59	608 / 1168 / 94	722 / 1437 / 77	687 / 1282 / 80	834 / 1592 / 66	947 / 988 / 76	1143 / 1214 / 62

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge								
		1	709 / 684 / 177	604 / 896 / 151	591 / 795 / 171	564 / 976 / 137	530 / 598 / 195	592 / 846 / 180	456 / 754 / 177	531 / 933 / 143	560 / 532 / 133	696 / 693 / 114	709 / 763 / 177	573 / 946 / 143	582 / 838 / 162	566 / 1038 / 131	554 / 667 / 195	590 / 888 / 170	473 / 797 / 168	552 / 983 / 136	593 / 571 / 128	733 / 738 / 109	678 / 810 / 169	549 / 1002 / 137	577 / 885 / 154	561 / 1081 / 124	580 / 740 / 195	591 / 933 / 161	492 / 842 / 160	577 / 1038 / 130	629 / 613 / 124	768 / 779 / 104					

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**K2 80-X Dual Rail System (ASCE 7-22)**

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																					
Wind Speed [mph]	140											150										160									
Panel Angle	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
			ASCE Group Zone																												
		ASCE Group Zone																													
		ASCE Group Zone																													
		ASCE Group Zone																													
		ASCE Group Zone																													
		ASCE Group Zone																													
		ASCE Group Zone																													

**Exposure Category : D**

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		95												100								105											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		70	1	829 / 589 / 204	820 / 896 / 202	701 / 738 / 232	695 / 976 / 201	583 / 530 / 250	683 / 814 / 250	450 / 690 / 220	531 / 933 / 196	536 / 509 / 152	696 / 693 / 136	829 / 657 / 204	779 / 946 / 192	723 / 822 / 232	692 / 1038 / 192	605 / 591 / 250	701 / 888 / 245	479 / 768 / 220	552 / 983 / 185	588 / 567 / 152	733 / 738 / 130	829 / 729 / 204	745 / 1002 / 184	725 / 885 / 226	679 / 1081 / 181	628 / 655 / 250	697 / 933 / 233	505 / 842 / 218	577 / 1038 / 177	629 / 613 / 148	768 / 779 / 124

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95												100												105															
Panal Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	967 / 494 / 224	967 / 759 / 224	798 / 667 / 290	852 / 976 / 277	649 / 477 / 309	738 / 733 / 309	461 / 632 / 267	567 / 933 / 258	503 / 477 / 170	696 / 693 / 162	967 / 551 / 224	967 / 844 / 224	818 / 743 / 290	842 / 1038 / 265	668 / 532 / 309	767 / 816 / 309	488 / 703 / 267	574 / 983 / 245	552 / 532 / 170	733 / 738 / 155	967 / 611 / 224	967 / 934 / 224	839 / 823 / 290	820 / 1081 / 250	688 / 591 / 309	798 / 903 / 309	516 / 779 / 267	586 / 1038 / 234	604 / 589 / 170	768 / 779 / 148								
	2	967 / 681 / 224	967 / 1039 / 224	798 / 914 / 290	729 / 1139 / 237	649 / 819 / 309	649 / 1095 / 272	461 / 706 / 267	537 / 986 / 245	503 / 615 / 170	648 / 828 / 151	967 / 758 / 224	932 / 1113 / 216	783 / 974 / 277	715 / 1200 / 225	668 / 911 / 309	641 / 1156 / 258	488 / 785 / 267	542 / 1034 / 231	552 / 684 / 170	674 / 869 / 143	967 / 839 / 224	885 / 1169 / 205	767 / 1029 / 265	709 / 1271 / 216	673 / 986 / 302	631 / 1210 / 245	516 / 868 / 267	552 / 1089 / 220	584 / 732 / 165	703 / 913 / 136										
	3	967 / 961 / 224	827 / 1248 / 192	696 / 1074 / 253	635 / 1330 / 207	642 / 978 / 306	592 / 1204 / 248	461 / 889 / 267	478 / 1101 / 218	503 / 615 / 170	648 / 828 / 151	967 / 1069 / 224	780 / 1308 / 181	678 / 1136 / 240	617 / 1389 / 194	631 / 1039 / 292	582 / 1264 / 234	468 / 948 / 256	485 / 1162 / 207	552 / 684 / 170	674 / 869 / 143	920 / 1125 / 213	746 / 1381 / 173	660 / 1191 / 228	608 / 1461 / 185	613 / 1083 / 275	579 / 1336 / 224	468 / 993 / 242	490 / 1216 / 196	584 / 732 / 165	703 / 913 / 136										

Wind Speed [mph]		110												115													
100	1	967 / 674 / 224	967 / 1029 / 224	861 / 908 / 290	817 / 1145 / 240	710 / 652 / 309	821 / 984 / 306	545 / 857 / 267	600 / 1089 / 223	659 / 649 / 170	799 / 817 / 141	967 / 740 / 224	943 / 1101 / 219	856 / 964 / 280	803 / 1191 / 228	732 / 715 / 309	816 / 1031 / 292	565 / 921 / 261	620 / 1134 / 212	692 / 688 / 165	836 / 859 / 136	ASCE Group Zone					
	2	967 / 925 / 224	839 / 1219 / 195	751 / 1080 / 253	692 / 1318 / 204	663 / 1036 / 289	629 / 1275 / 234	529 / 927 / 258	563 / 1139 / 210	615 / 778 / 159	728 / 952 / 129	967 / 1014 / 224	804 / 1279 / 186	733 / 1126 / 240	683 / 1377 / 194	652 / 1082 / 275	626 / 1335 / 224	535 / 973 / 248	588 / 1198 / 201	639 / 816 / 152	758 / 997 / 123						
	3	874 / 1175 / 203	711 / 1447 / 165	650 / 1257 / 219	597 / 1525 / 176	601 / 1132 / 262	575 / 1402 / 214	473 / 1043 / 231	505 / 1281 / 188	615 / 778 / 159	728 / 952 / 129	839 / 1236 / 195	676 / 1506 / 157	630 / 1299 / 207	597 / 1611 / 170	595 / 1192 / 251	569 / 1461 / 204	476 / 1089 / 220	524 / 1341 / 180	639 / 816 / 152	758 / 997 / 123						

Wind Speed [mph]		120												130													
100	1	967 / 809 / 224	897 / 1142 / 208	840 / 1006 / 268	797 / 1246 / 219	755 / 782 / 309	810 / 1073 / 279	571 / 963 / 250	645 / 1189 / 204	718 / 720 / 158	869 / 899 / 130	967 / 956 / 224	827 / 1242 / 192	816 / 1092 / 247	783 / 1344 / 200	805 / 924 / 309	813 / 1172 / 258	588 / 1049 / 231	690 / 1288 / 188	776 / 789 / 147	938 / 979 / 120	ASCE Group Zone					
	2	943 / 1081 / 219	769 / 1335 / 178	724 / 1182 / 231	685 / 1454 / 188	648 / 1137 / 265	622 / 1390 / 214	540 / 1015 / 237	611 / 1254 / 193	661 / 849 / 145	795 / 1050 / 119	874 / 1180 / 203	711 / 1453 / 165	704 / 1281 / 213	675 / 1571 / 173	637 / 1237 / 245	620 / 1506 / 197	553 / 1100 / 218	650 / 1350 / 177	710 / 924 / 134	851 / 1134 / 109						
	3	804 / 1292 / 186	652 / 1585 / 151	628 / 1375 / 200	584 / 1660 / 160	590 / 1248 / 241	573 / 1540 / 197	485 / 1144 / 212	542 / 1395 / 172	661 / 849 / 145	795 / 1050 / 119	734 / 1389 / 170	594 / 1698 / 138	602 / 1468 / 182	579 / 1802 / 148	575 / 1345 / 221	567 / 1655 / 180	491 / 1226 / 193	580 / 1511 / 158	710 / 924 / 134	851 / 1134 / 109						

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 70in x 41in | Load: Up / Down / Side , lbs

Wind Speed [mph]		140										150										160									
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge										
	100	1	943 / 1087 / 219	770 / 1343 / 178	810 / 1192 / 231	789 / 1466 / 188	812 / 1018 / 292	810 / 1256 / 238	613 / 1120 / 212	737 / 1389 / 174	835 / 857 / 137	1007 / 1059 / 112	885 / 1176 / 205	737 / 1429 / 165	788 / 1263 / 213	778 / 1549 / 173	806 / 1092 / 272	814 / 1343 / 221	653 / 1207 / 199	776 / 1472 / 161	885 / 917 / 127	1080 / 1142 / 105	827 / 1254 / 192	713 / 1523 / 154	787 / 1357 / 200	790 / 1671 / 164	806 / 1168 / 255	826 / 1437 / 207	687 / 1282 / 185	834 / 1592 / 153	947 / 988 / 120
	2	804 / 1264 / 186	654 / 1550 / 151	691 / 1382 / 197	673 / 1695 / 160	623 / 1319 / 224	625 / 1629 / 184	581 / 1183 / 201	691 / 1449 / 163	758 / 996 / 124	907 / 1217 / 101	757 / 1371 / 176	640 / 1688 / 143	674 / 1466 / 182	667 / 1799 / 148	624 / 1426 / 211	626 / 1735 / 170	617 / 1270 / 188	736 / 1555 / 153	807 / 1069 / 116	965 / 1302 / 94	699 / 1443 / 162	613 / 1778 / 133	678 / 1587 / 173	671 / 1922 / 139	623 / 1521 / 197	637 / 1858 / 160	657 / 1364 / 177	789 / 1676 / 144	859 / 1146 / 109	1029 / 1395 / 88
	3	687 / 1513 / 160	560 / 1857 / 130	594 / 1591 / 170	582 / 1962 / 139	566 / 1444 / 204	567 / 1778 / 167	519 / 1324 / 180	622 / 1634 / 147	758 / 996 / 124	907 / 1217 / 101	641 / 1623 / 149	532 / 1957 / 119	583 / 1697 / 157	583 / 2105 / 130	564 / 1550 / 190	576 / 1919 / 156	554 / 1431 / 169	658 / 1739 / 136	807 / 1069 / 116	965 / 1302 / 94	594 / 1715 / 138	526 / 2128 / 114	581 / 1820 / 148	581 / 2226 / 120	570 / 1672 / 180	582 / 2043 / 146	586 / 1526 / 158	700 / 1862 / 128	859 / 1146 / 109	1029 / 1395 / 88

Wind Speed [mph]		170										180																			
100	1	769 / 1320 / 178	701 / 1631 / 146	782 / 1441 / 188	799 / 1782 / 154	814 / 1252 / 241	834 / 1519 / 194	726 / 1365 / 174	871 / 1671 / 142	1003 / 1053 / 113	1214 / 1294 / 92	753 / 1416 / 170	687 / 1730 / 138	788 / 1539 / 179	805 / 1880 / 145	820 / 1328 / 228	852 / 1616 / 184	771 / 1461 / 166	917 / 1767 / 134	1052 / 1110 / 106	1296 / 1387 / 88	ASCE Group Zone									
	2	664 / 1551 / 154	597 / 1887 / 124	667 / 1666 / 160	687 / 2075 / 133	619 / 1601 / 184	644 / 1966 / 150	692 / 1447 / 166	837 / 1787 / 136	904 / 1212 / 102	1085 / 1476 / 83	645 / 1650 / 146	593 / 2026 / 119	666 / 1762 / 151	685 / 2166 / 124	624 / 1698 / 173	662 / 2105 / 143	721 / 1518 / 155	879 / 1885 / 128	955 / 1287 / 97	1152 / 1572 / 79										
	3	559 / 1825 / 130	506 / 2233 / 106	577 / 1928 / 139	591 / 2386 / 114	574 / 1783 / 170	585 / 2147 / 136	612 / 1606 / 147	737 / 1969 / 120	904 / 1212 / 102	1085 / 1476 / 83	538 / 1920 / 122	498 / 2377 / 100	584 / 2068 / 133	600 / 2532 / 108	575 / 1881 / 160	599 / 2289 / 129	645 / 1702 / 139	786 / 2109 / 115	955 / 1287 / 97	1152 / 1572 / 79										

Wind Speed [mph]		190										200																			
100	1	725 / 1480 / 160	671 / 1817 / 130	777 / 1599 / 167	807 / 1963 / 136	822 / 1394 / 214	866 / 1703 / 173	800 / 1523 / 155	977 / 1890 / 128	1123 / 1190 / 102	1350 / 1449 / 83	709 / 1559 / 151	669 / 1931 / 124	793 / 1708 / 160	824 / 2078 / 130	833 / 1474 / 204	895 / 1815 / 167	836 / 1600 / 147	1011 / 1962 / 120	1173 / 1247 / 97	1418 / 1525 / 79	ASCE Group Zone									
	2	627 / 1739 / 138	574 / 2105 / 111	677 / 1886 / 145	697 / 2294 / 117	639 / 1820 / 167	679 / 2236 / 136	758 / 1605 / 147	915 / 1968 / 120	1000 / 1352 / 91	1213 / 1659 / 74	608 / 1815 / 130	567 / 2221 / 106	671 / 1958 / 136	706 / 2410 / 111	639 / 1895 / 156	676 / 2293 / 126	806 / 1714 / 142	965 / 2083 / 115	1054 / 1430 / 87	1266 / 1736 / 70										
	3	529 / 2047 / 116	490 / 2506 / 95	576 / 2145 / 124	605 / 2661 / 102	574 / 1964 / 150	611 / 2418 / 123	688 / 1824 / 134	811 / 2183 / 106	1000 / 1352 / 91	1213 / 1659 / 74	519 / 2164 / 111	480 / 2620 / 89	580 / 2260 / 117	608 / 2771 / 96	584 / 2079 / 143	621 / 2531 / 116	713 / 1899 / 125	850 / 2296 / 101	1054 / 1430 / 87	1266 / 1736 / 70										

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]			140												150												160											
Panel Angle			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge									
																														0	1	356 / 811 / 68	288 / 1004 / 55	395 / 878 / 76	451 / 1084 / 62	454 / 754 / 96	519 / 935 / 78	497 / 844 / 98

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	507 / 811 / 68	411 / 1004 / 55	418 / 878 / 77	451 / 1084 / 63	454 / 754 / 104	519 / 935 / 85	497 / 844 / 100	575 / 1029 / 80	634 / 614 / 119	773 / 781 / 99	471 / 870 / 63	378 / 1068 / 51	422 / 943 / 72	477 / 1172 / 59	479 / 819 / 98	549 / 1010 / 79	520 / 900 / 92	615 / 1116 / 75	681 / 670 / 112	823 / 841 / 93	438 / 928 / 59	369 / 1146 / 48	430 / 1009 / 67	500 / 1250 / 55	495 / 870 / 91	574 / 1076 / 74	548 / 966 / 87	641 / 1177 / 70	723 / 722 / 106	875 / 901 / 87				
20	1		581 / 811 / 68	470 / 1004 / 55	453 / 878 / 77	465 / 1084 / 76	485 / 754 / 126	519 / 935 / 102	497 / 844 / 114	575 / 1029 / 91	634 / 614 / 119	773 / 781 / 99	538 / 870 / 63	433 / 1068 / 51	455 / 943 / 88	477 / 1172 / 72	494 / 819 / 118	549 / 1010 / 95	520 / 900 / 105	615 / 1116 / 86	681 / 670 / 112	823 / 841 / 93	501 / 928 / 59	420 / 1146 / 48	459 / 1009 / 82	500 / 1250 / 67	497 / 870 / 109	574 / 1076 / 89	548 / 966 / 99	641 / 1177 / 80	723 / 722 / 106	875 / 901 / 87					
	25		1	581 / 811 / 68	470 / 1004 / 55	488 / 878 / 111	493 / 1084 / 90	516 / 754 / 147	532 / 935 / 119	497 / 844 / 128	575 / 1029 / 102	634 / 614 / 119	773 / 781 / 99	538 / 870 / 63	433 / 1068 / 51	487 / 943 / 103	503 / 1172 / 84	524 / 819 / 138	549 / 1010 / 111	520 / 900 / 118	615 / 1116 / 96	681 / 670 / 112	823 / 841 / 93	501 / 928 / 59	420 / 1146 / 48	489 / 1009 / 97	511 / 1250 / 79	524 / 870 / 128	574 / 1076 / 104	548 / 966 / 111	641 / 1177 / 89	723 / 722 / 106	875 / 901 / 87				

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			0-30ft		74in x 41.2in		Load: Up / Down / Side , lbs																												
Wind Speed [mph]			95										100										105												
Panal Angle			0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90				
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
			1	670 / 381 / 75	670 / 599 / 75	587 / 480 / 161	559 / 711 / 153	502 / 335 / 175	502 / 528 / 175	374 / 433 / 165	423 / 669 / 165	397 / 311 / 131	496 / 454 / 131	670 / 428 / 75	670 / 670 / 75	587 / 538 / 161	540 / 767 / 148	502 / 377 / 175	502 / 590 / 175	374 / 484 / 165	443 / 716 / 159	397 / 327 / 131	540 / 503 / 130	670 / 478 / 75	659 / 731 / 74	587 / 598 / 161	533 / 807 / 140	502 / 421 / 175	525 / 655 / 175	374 / 538 / 165	465 / 767 / 153	414 / 364 / 131	573 / 542 / 126		
	1	670 / 529 / 75	632 / 774 / 71	582 / 657 / 160	530 / 850 / 134	502 / 466 / 175	544 / 718 / 173	385 / 594 / 165	482 / 808 / 147	449 / 403 / 131	605 / 580 / 123	670 / 584 / 75	604 / 814 / 68	563 / 699 / 154	525 / 889 / 128	502 / 514 / 175	550 / 763 / 168	415 / 653 / 165	498 / 847 / 140	486 / 443 / 131	641 / 622 / 120	ASCE Group Zone													
	1	670 / 641 / 75	576 / 850 / 65	545 / 741 / 149	520 / 923 / 121	502 / 564 / 175	551 / 799 / 161	435 / 697 / 161	512 / 881 / 133	524 / 485 / 131	666 / 653 / 115	654 / 742 / 73	532 / 928 / 60	533 / 818 / 139	522 / 1010 / 112	530 / 671 / 175	553 / 869 / 148	470 / 778 / 152	544 / 956 / 123	580 / 550 / 125	717 / 714 / 107														

Exposure Category : B

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Load: Up / Down / Side , lbs																																				
Wind Speed [mph]		140															150															160																
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge												
		30	1	609 / 811 / 68	493 / 1004 / 55	522 / 878 / 128	521 / 1084 / 104	547 / 754 / 168	557 / 935 / 136	497 / 844 / 141	575 / 1029 / 114	634 / 614 / 120	773 / 781 / 100	565 / 870 / 63	454 / 1068 / 51	519 / 943 / 119	530 / 1172 / 97	553 / 819 / 158	568 / 1010 / 127	520 / 900 / 131	615 / 1116 / 107	681 / 670 / 113	823 / 841 / 93	526 / 928 / 59	441 / 1146 / 48	519 / 1009 / 111	536 / 1250 / 91	551 / 870 / 146	577 / 1076 / 119	548 / 966 / 123	641 / 1177 / 99	723 / 722 / 107	875 / 901 / 88															
140			150															160																														
30	1		493 / 986 / 55	431 / 1213 / 45	522 / 1078 / 105	538 / 1316 / 84	557 / 928 / 137	602 / 1145 / 111	573 / 1023 / 115	680 / 1260 / 94	761 / 767 / 100	930 / 966 / 83	466 / 1048 / 52	426 / 1289 / 42	524 / 1139 / 98	555 / 1411 / 81	566 / 991 / 130	634 / 1220 / 106	599 / 1083 / 108	714 / 1335 / 88	808 / 822 / 95	980 / 1023 / 78	ASCE Group Zone																									
	170		180															190															200															
	30		1	448 / 1117 / 50	426 / 1376 / 41	530 / 1206 / 93	568 / 1475 / 76	574 / 1046 / 123	662 / 1288 / 100	630 / 1150 / 103	744 / 1399 / 83	851 / 873 / 91	1036 / 1087 / 75	435 / 1164 / 47	419 / 1434 / 38	534 / 1267 / 88	593 / 1554 / 72	581 / 1095 / 116	686 / 1347 / 94	657 / 1211 / 98	781 / 1478 / 79	890 / 920 / 86	1086 / 1146 / 71	ASCE Group Zone																								
			190		200																																											

Exposure Category : B

Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																												
Wind Speed [mph]		140												150												160												
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90									
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		
		140		[Data for Wind Speed 140]																																		
150		[Data for Wind Speed 150]																																				
160		[Data for Wind Speed 160]																																				
Exposure Category : B	Wind Speed [mph]		170												180												ASCE Group Zone											
	45	1	[Data for 45-1]																																			
		2	[Data for 45-2]																																			
		3	[Data for 45-3]																																			
	50	1	[Data for 50-1]																																			
		2	[Data for 50-2]																																			
		3	[Data for 50-3]																																			
	60	1	[Data for 60-1]																																			
		2	[Data for 60-2]																																			
		3	[Data for 60-3]																																			
	Wind Speed [mph]		190												200																							
	45	1	[Data for 190-45-1]																																			
		2	[Data for 190-45-2]																																			
		3	[Data for 190-45-3]																																			
	50	1	[Data for 200-50-1]																																			
		2	[Data for 200-50-2]																																			
		3	[Data for 200-50-3]																																			
	60	1	[Data for 200-60-1]																																			
2		[Data for 200-60-2]																																				
3		[Data for 200-60-3]																																				

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																		
		70	1	897 / 287 / 218	897 / 451 / 218	735 / 377 / 260	735 / 587 / 260	598 / 263 / 276	598 / 414 / 276	385 / 356 / 243	415 / 551 / 243	357 / 280 / 163	446 / 409 / 163	897 / 322 / 218	897 / 504 / 218	735 / 422 / 260	735 / 655 / 260	598 / 296 / 276	598 / 463 / 276	385 / 398 / 243	439 / 614 / 243	357 / 294 / 163	489 / 456 / 163	897 / 359 / 218	897 / 559 / 218	735 / 470 / 260	754 / 726 / 260	598 / 330 / 276	616 / 515 / 276	385 / 442 / 243	463 / 680 / 243	372 / 328 / 163	534 / 506 / 163													

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
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θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			0-30ft				74in x 41.2in				Load: Up / Down / Side, lbs																											
Wind Speed [mph]			140												150												160											
Panel Angle			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		
		70	1	897 / 671 / 218	877 / 1004 / 214	791 / 869 / 260	746 / 1084 / 212	651 / 617 / 276	758 / 935 / 273	513 / 812 / 243	575 / 1029 / 202	624 / 604 / 163	773 / 781 / 138	897 / 776 / 218	808 / 1068 / 197	777 / 943 / 244	740 / 1172 / 199	685 / 714 / 276	757 / 1010 / 255	538 / 900 / 233	615 / 1116 / 191	681 / 670 / 157	823 / 841 / 129	897 / 889 / 218	759 / 1146 / 185	760 / 1009 / 228	732 / 1250 / 186	722 / 818 / 276	752 / 1076 / 238	550 / 966 / 219	641 / 1177 / 176	723 / 722 / 148	875 / 901 / 122					
70	2	897 / 922 / 218	749 / 1172 / 182	688 / 1032 / 226	644 / 1275 / 184	610 / 988 / 258	581 / 1214 / 209	503 / 888 / 238	548 / 1092 / 193	589 / 734 / 154	708 / 916 / 127	858 / 1018 / 209	690 / 1244 / 168	668 / 1107 / 210	633 / 1363 / 171	599 / 1063 / 241	576 / 1300 / 195	511 / 953 / 221	576 / 1165 / 179	630 / 796 / 145	748 / 978 / 118	799 / 1083 / 194	651 / 1339 / 159	655 / 1185 / 197	629 / 1459 / 160	593 / 1141 / 226	578 / 1395 / 183	520 / 1018 / 207	615 / 1258 / 169	666 / 852 / 136	790 / 1042 / 110							
70	3	779 / 1128 / 190	631 / 1385 / 154	592 / 1194 / 194	552 / 1466 / 158	556 / 1086 / 235	532 / 1340 / 192	448 / 995 / 212	487 / 1220 / 172	589 / 734 / 154	708 / 916 / 127	720 / 1201 / 175	582 / 1470 / 142	576 / 1283 / 181	546 / 1574 / 147	548 / 1174 / 221	525 / 1426 / 177	456 / 1070 / 198	515 / 1306 / 160	630 / 796 / 145	748 / 978 / 118	680 / 1296 / 166	552 / 1591 / 135	559 / 1358 / 168	536 / 1666 / 137	540 / 1252 / 206	523 / 1519 / 166	461 / 1133 / 183	546 / 1400 / 150	666 / 852 / 136	790 / 1042 / 110							

Exposure Category : B

ASCE Group Zone		
Panel Angle	ASCE Group Zone	
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		140															150															160														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge														
		100	1	1059 / 568 / 244	1059 / 869 / 244	897 / 781 / 323	914 / 1084 / 294	728 / 559 / 344	832 / 856 / 344	523 / 741 / 294	610 / 1029 / 269	584 / 566 / 185	773 / 781 / 167	1059 / 657 / 244	1059 / 1003 / 244	918 / 892 / 320	898 / 1172 / 276	759 / 647 / 344	878 / 987 / 344	565 / 855 / 294	629 / 1116 / 253	664 / 653 / 185	823 / 841 / 156	1059 / 752 / 244	1059 / 1146 / 244	941 / 1009 / 316	880 / 1250 / 258	792 / 741 / 344	884 / 1076 / 328	604 / 966 / 291	641 / 1177 / 234	723 / 722 / 178	875 / 901 / 147													
	2	1059 / 780 / 244	1045 / 1172 / 240	866 / 1032 / 312	790 / 1275 / 254	728 / 955 / 344	697 / 1214 / 288	523 / 826 / 294	581 / 1092 / 256	584 / 727 / 185	708 / 916 / 153	1059 / 901 / 244	963 / 1244 / 221	835 / 1107 / 291	768 / 1363 / 236	732 / 1063 / 332	684 / 1300 / 268	565 / 953 / 294	590 / 1165 / 237	630 / 796 / 175	748 / 978 / 142	1059 / 1030 / 244	908 / 1339 / 209	811 / 1185 / 272	756 / 1459 / 222	718 / 1141 / 312	679 / 1395 / 252	572 / 1018 / 275	615 / 1258 / 225	666 / 852 / 164	790 / 1042 / 133															
	3	1059 / 1099 / 244	880 / 1385 / 203	746 / 1194 / 269	677 / 1466 / 218	686 / 1086 / 324	639 / 1340 / 264	500 / 995 / 282	516 / 1220 / 228	584 / 727 / 185	708 / 916 / 153	1004 / 1201 / 231	812 / 1470 / 187	720 / 1283 / 251	662 / 1574 / 204	671 / 1174 / 304	623 / 1426 / 244	505 / 1070 / 263	527 / 1306 / 212	630 / 796 / 175	748 / 978 / 142	949 / 1296 / 218	770 / 1591 / 177	692 / 1358 / 233	645 / 1666 / 189	654 / 1252 / 284	615 / 1519 / 228	506 / 1133 / 244	546 / 1400 / 200	666 / 852 / 164	790 / 1042 / 133															

Exposure Category : B

Wind Speed [mph]		170															180																			
100	1	1059 / 854 / 244	990 / 1213 / 228	920 / 1078 / 298	858 / 1316 / 240	827 / 841 / 344	877 / 1145 / 308	610 / 1023 / 272	680 / 1260 / 222	761 / 767 / 167	930 / 966 / 139	1059 / 961 / 244	935 / 1289 / 215	897 / 1139 / 280	860 / 1411 / 229	864 / 947 / 344	879 / 1220 / 292	619 / 1083 / 256	714 / 1335 / 209	808 / 822 / 159	980 / 1023 / 131	ASCE Group Zone														
	2	1045 / 1152 / 240	853 / 1424 / 196	786 / 1253 / 254	741 / 1542 / 207	702 / 1209 / 292	672 / 1478 / 236	582 / 1087 / 260	641 / 1323 / 209	703 / 909 / 155	835 / 1108 / 125	990 / 1227 / 228	798 / 1496 / 184	769 / 1328 / 240	737 / 1641 / 196	693 / 1285 / 276	674 / 1575 / 224	589 / 1147 / 244	682 / 1418 / 200	736 / 959 / 145	885 / 1181 / 119															
	3	880 / 1361 / 203	715 / 1671 / 165	685 / 1464 / 222	637 / 1775 / 178	634 / 1317 / 264	615 / 1627 / 216	518 / 1215 / 231	573 / 1483 / 187	703 / 909 / 155	835 / 1108 / 125	839 / 1458 / 193	674 / 1767 / 155	664 / 1537 / 207	628 / 1870 / 167	633 / 1413 / 252	614 / 1726 / 204	528 / 1290 / 219	606 / 1580 / 177	736 / 959 / 145	885 / 1181 / 119															

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof				0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]				140												150												160											
Panal Angle				0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
		0	1	298 / 966 / 57	272 / 1182 / 46	440 / 1047 / 64	510 / 1285 / 52	510 / 907 / 81	589 / 1113 / 65	565 / 1004 / 82	666 / 1230 / 67	745 / 748 / 102	905 / 937 / 84	275 / 1030 / 53	283 / 1270 / 43	461 / 1121 / 60	544 / 1393 / 49	534 / 973 / 75	626 / 1202 / 61	591 / 1065 / 76	706 / 1317 / 62	794 / 807 / 95	965 / 1006 / 79	264 / 1108 / 50	296 / 1366 / 41	483 / 1198 / 56	574 / 1489 / 46	560 / 1039 / 70	658 / 1279 / 57	626 / 1142 / 71	751 / 1411 / 58	845 / 867 / 90	1028 / 1079 / 74						
0	1	272 / 1177 / 47	308 / 1450 / 38	509 / 1282 / 53	600 / 1572 / 43	588 / 1108 / 66	694 / 1363 / 54	665 / 1225 / 68	789 / 1495 / 55	900 / 931 / 85	1084 / 1143 / 69	282 / 1254 / 44	317 / 1523 / 36	532 / 1357 / 50	632 / 1671 / 41	611 / 1168 / 62	725 / 1437 / 51	689 / 1282 / 63	836 / 1593 / 52	950 / 988 / 81	1146 / 1215 / 66	ASCE Group Zone																	
0	1	290 / 1322 / 42	330 / 1610 / 34	551 / 1422 / 47	660 / 1759 / 38	639 / 1235 / 59	763 / 1525 / 48	730 / 1368 / 60	879 / 1681 / 49	993 / 1039 / 76	1219 / 1297 / 63	297 / 1380 / 39	341 / 1687 / 32	576 / 1501 / 45	684 / 1834 / 36	673 / 1314 / 56	798 / 1605 / 46	756 / 1424 / 57	915 / 1759 / 46	1043 / 1097 / 72	1267 / 1353 / 59																	Panal Angle	

Exposure Category : C

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																																									
Wind Speed [mph]	140																												150												160											
	0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																			
Ground Snow	Panel Angle	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge															
			15	1	424 / 966 / 57	366 / 1182 / 46	440 / 1047 / 65	510 / 1285 / 53	510 / 907 / 88	589 / 1113 / 71	565 / 1004 / 84	666 / 1230 / 68	745 / 748 / 102	905 / 937 / 84	392 / 1030 / 53	363 / 1270 / 43	461 / 1121 / 60	544 / 1393 / 50	534 / 973 / 82	626 / 1202 / 67	591 / 1065 / 77	706 / 1317 / 63	794 / 807 / 95	965 / 1006 / 79	373 / 1108 / 50	364 / 1366 / 41	483 / 1198 / 57	574 / 1489 / 47	560 / 1039 / 77	658 / 1279 / 62	626 / 1142 / 73	751 / 1411 / 60	845 / 867 / 90	1028 / 1079 / 74																		

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		74in x 41.2in		Load: Up / Down / Side , lbs																															
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
		30		1	670 / 555 / 75	621 / 796 / 70	573 / 677 / 157	525 / 864 / 130	502 / 489 / 175	547 / 740 / 171	399 / 622 / 165	487 / 823 / 143	466 / 422 / 131	620 / 598 / 121	670 / 621 / 75	587 / 840 / 66	554 / 731 / 152	523 / 915 / 124	502 / 547 / 175	552 / 790 / 163	428 / 683 / 163	509 / 873 / 136	511 / 471 / 131	660 / 644 / 117	670 / 691 / 75	554 / 879 / 62	537 / 777 / 146	521 / 961 / 118	508 / 608 / 175	551 / 829 / 155	450 / 732 / 157	528 / 918 / 129	550 / 515 / 129	688 / 679 / 111			
35		1	699 / 532 / 76	675 / 796 / 74	605 / 666 / 111	560 / 864 / 147	512 / 469 / 189	569 / 727 / 189	389 / 602 / 176	487 / 823 / 157	460 / 416 / 135	620 / 598 / 121	699 / 596 / 76	639 / 840 / 70	595 / 731 / 172	557 / 915 / 145	512 / 525 / 189	582 / 790 / 176	421 / 671 / 176	509 / 873 / 149	504 / 464 / 135	660 / 644 / 123	699 / 662 / 76	603 / 879 / 66	576 / 777 / 175	553 / 961 / 133	518 / 583 / 189	580 / 829 / 174	450 / 732 / 173	528 / 918 / 142	550 / 515 / 135	688 / 679 / 117					
40		1	730 / 514 / 183	730 / 796 / 183	621 / 638 / 187	595 / 864 / 165	525 / 453 / 203	579 / 702 / 203	390 / 587 / 187	487 / 823 / 171	453 / 410 / 140	620 / 598 / 132	730 / 575 / 183	691 / 840 / 174	621 / 713 / 187	591 / 915 / 157	525 / 507 / 203	607 / 783 / 203	416 / 655 / 187	509 / 873 / 163	496 / 457 / 140	660 / 644 / 128	730 / 639 / 183	652 / 879 / 164	616 / 777 / 184	585 / 961 / 148	530 / 563 / 203	609 / 829 / 194	446 / 726 / 187	528 / 918 / 155	542 / 508 / 140	688 / 679 / 122					
110		1	648 / 738 / 73	532 / 930 / 60	534 / 820 / 139	523 / 1012 / 112	531 / 673 / 175	554 / 871 / 148	471 / 779 / 152	545 / 959 / 123	581 / 552 / 125	718 / 716 / 107	626 / 784 / 70	504 / 968 / 57	529 / 860 / 133	524 / 1060 / 107	545 / 728 / 172	555 / 909 / 140	486 / 818 / 145	565 / 1005 / 117	611 / 588 / 122	746 / 750 / 102	ASCE Group Zone														
115		1	648 / 738 / 73	532 / 930 / 60	534 / 820 / 139	523 / 1012 / 112	531 / 673 / 175	554 / 871 / 148	471 / 779 / 152	545 / 959 / 123	581 / 552 / 125	718 / 716 / 107	626 / 784 / 70	504 / 968 / 57	529 / 860 / 133	524 / 1060 / 107	545 / 728 / 172	555 / 909 / 140	486 / 818 / 145	565 / 1005 / 117	611 / 588 / 122	746 / 750 / 102	ASCE Group Zone														
120		1	598 / 820 / 67	482 / 1011 / 54	524 / 895 / 126	523 / 1102 / 102	550 / 770 / 166	561 / 953 / 135	500 / 853 / 139	583 / 1047 / 112	646 / 628 / 119	779 / 789 / 98	549 / 890 / 62	445 / 1097 / 50	521 / 972 / 116	532 / 1202 / 95	553 / 840 / 153	574 / 1040 / 124	533 / 929 / 128	628 / 1145 / 104	696 / 689 / 110	838 / 858 / 91	ASCE Group Zone														
130		1	598 / 820 / 67	482 / 1011 / 54	524 / 895 / 126	523 / 1102 / 102	550 / 770 / 166	561 / 953 / 135	500 / 853 / 139	583 / 1047 / 112	646 / 628 / 119	779 / 789 / 98	549 / 890 / 62	445 / 1097 / 50	521 / 972 / 116	532 / 1202 / 95	553 / 840 / 153	574 / 1040 / 124	533 / 929 / 128	628 / 1145 / 104	696 / 689 / 110	838 / 858 / 91	ASCE Group Zone														

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Notation (ASCE 7-22)  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees



## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Load: Up / Down / Side , lbs																									
Wind Speed [mph]		95										100										105															
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge								
		45	1	756 / 496 / 191	756 / 768 / 191	638 / 616 / 199	631 / 864 / 182	535 / 437 / 215	587 / 677 / 215	392 / 572 / 197	487 / 823 / 185	446 / 404 / 143	620 / 598 / 138	756 / 555 / 191	742 / 840 / 187	638 / 688 / 199	624 / 915 / 173	535 / 489 / 215	615 / 755 / 215	416 / 638 / 197	509 / 873 / 176	489 / 451 / 143	660 / 644 / 134	756 / 616 / 191	700 / 879 / 177	644 / 764 / 199	617 / 961 / 164	540 / 543 / 215	637 / 829 / 213	442 / 707 / 197	528 / 918 / 168	534 / 500 / 143	688 / 679 / 127				
110	1	756 / 681 / 191	672 / 930 / 169	647 / 820 / 194	614 / 1012 / 157	561 / 600 / 215	636 / 871 / 203	471 / 779 / 197	545 / 959 / 159	581 / 552 / 143	718 / 716 / 122	756 / 749 / 191	637 / 968 / 161	637 / 860 / 185	611 / 1060 / 150	581 / 660 / 215	633 / 909 / 193	486 / 818 / 188	565 / 1005 / 152	611 / 588 / 139	746 / 750 / 117	ASCE Group Zone															
120	1	756 / 820 / 191	609 / 1011 / 154	627 / 895 / 176	606 / 1102 / 143	603 / 723 / 215	635 / 953 / 185	500 / 853 / 180	583 / 1047 / 145	646 / 628 / 136	779 / 789 / 112	693 / 890 / 175	562 / 1097 / 141	616 / 972 / 162	609 / 1202 / 132	638 / 840 / 211	643 / 1040 / 171	533 / 929 / 166	628 / 1145 / 135	696 / 689 / 126	838 / 858 / 104																

Exposure Category : C

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]		140																150																160															
Panel Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
		1	644 / 966 / 162	542 / 1182 / 131	607 / 1047 / 150	607 / 1285 / 121	636 / 907 / 195	646 / 1113 / 158	565 / 1004 / 154	666 / 1230 / 124	745 / 748 / 118	905 / 937 / 97	595 / 1030 / 150	528 / 1270 / 122	603 / 1121 / 139	619 / 1393 / 114	636 / 973 / 181	661 / 1202 / 148	591 / 1065 / 142	706 / 1317 / 116	794 / 807 / 110	965 / 1006 / 91	564 / 1108 / 141	520 / 1366 / 115	603 / 1198 / 130	629 / 1489 / 107	639 / 1039 / 169	672 / 1279 / 138	626 / 1142 / 133	751 / 1411 / 109	845 / 867 / 104	1028 / 1079 / 85																	

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																		
		70	1	897 / 418 / 218	897 / 647 / 218	735 / 545 / 260	784 / 839 / 260	598 / 384 / 276	644 / 596 / 276	400 / 512 / 243	503 / 784 / 243	420 / 380 / 163	605 / 584 / 163	897 / 467 / 218	897 / 722 / 218	735 / 608 / 260	792 / 915 / 254	598 / 430 / 276	668 / 664 / 276	422 / 571 / 243	536 / 873 / 243	460 / 424 / 163	660 / 644 / 162	897 / 519 / 218	897 / 800 / 218	741 / 675 / 260	776 / 961 / 241	603 / 478 / 276	693 / 736 / 276	446 / 633 / 243	543 / 918 / 231	502 / 470 / 163	688 / 679 / 154													

Exposure Category : C

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		140												150								160											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		70	1	897 / 956 / 218	730 / 1182 / 178	753 / 1047 / 220	725 / 1285 / 178	743 / 880 / 276	752 / 1113 / 229	565 / 1004 / 212	666 / 1230 / 172	745 / 748 / 142	905 / 937 / 118	838 / 1030 / 204	696 / 1270 / 166	738 / 1121 / 205	730 / 1393 / 168	758 / 973 / 264	760 / 1202 / 215	591 / 1065 / 195	706 / 1317 / 160	794 / 807 / 133	965 / 1006 / 110	789 / 1108 / 192	678 / 1366 / 156	730 / 1198 / 192	733 / 1489 / 158	753 / 1039 / 247	764 / 1279 / 200	626 / 1142 / 183	751 / 1411 / 150	845 / 867 / 125	1028 / 1079 / 103

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					74in x 41.2in					Load: Up / Down / Side , lbs																																																																																		
Wind Speed [mph]		95															100															105																																																														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																																																																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																																																																		
		15	1	567 / 678 / 76	471 / 867 / 63	406 / 765 / 89	415 / 950 / 72	417 / 622 / 107	477 / 817 / 92	441 / 714 / 110	519 / 898 / 90	538 / 502 / 129	679 / 668 / 112	544 / 727 / 73	448 / 919 / 60	407 / 809 / 84	429 / 1001 / 68	428 / 673 / 104	492 / 860 / 87	466 / 768 / 106	540 / 947 / 86	574 / 543 / 125	710 / 706 / 107	526 / 780 / 71	424 / 965 / 57	406 / 848 / 79	440 / 1045 / 64	440 / 717 / 100	509 / 906 / 82	481 / 807 / 101	564 / 1002 / 82	608 / 584 / 122	744 / 747 / 102																																																													
20	1		649 / 678 / 76	538 / 867 / 63	442 / 765 / 100	444 / 950 / 81	447 / 622 / 128	481 / 817 / 109	441 / 714 / 121	519 / 898 / 99	538 / 502 / 129	679 / 668 / 112	623 / 727 / 73	512 / 919 / 60	440 / 809 / 95	447 / 1001 / 77	457 / 673 / 124	492 / 860 / 103	466 / 768 / 117	540 / 947 / 94	574 / 543 / 125	710 / 706 / 107	602 / 780 / 71	486 / 965 / 57	438 / 848 / 79	449 / 1045 / 73	464 / 717 / 119	509 / 906 / 98	481 / 807 / 111	564 / 1002 / 90	608 / 584 / 122	744 / 747 / 102																																																														
	25		1	649 / 678 / 76	538 / 867 / 63	478 / 765 / 118	473 / 950 / 96	478 / 622 / 149	507 / 817 / 127	441 / 714 / 135	519 / 898 / 111	538 / 502 / 129	679 / 668 / 112	623 / 727 / 73	512 / 919 / 60	474 / 809 / 112	475 / 1001 / 90	487 / 673 / 144	509 / 860 / 120	466 / 768 / 130	540 / 947 / 105	574 / 543 / 125	710 / 706 / 107	602 / 780 / 71	486 / 965 / 57	470 / 848 / 106	474 / 1045 / 85	492 / 717 / 138	516 / 906 / 114	481 / 807 / 123	564 / 1002 / 101	608 / 584 / 122	744 / 747 / 102																																																													
			30	1	498 / 815 / 67	401 / 1005 / 54	408 / 890 / 76	454 / 1096 / 61	459 / 765 / 97	524 / 947 / 78	498 / 848 / 96	580 / 1041 / 78	642 / 624 / 118	775 / 784 / 97	475 / 854 / 64	388 / 1064 / 52	414 / 937 / 73	472 / 1156 / 59	472 / 804 / 92	543 / 994 / 75	518 / 894 / 92	607 / 1100 / 75	670 / 658 / 113	811 / 827 / 94	<table border="1"> <thead> <tr> <th colspan="2">ASCE Group Zone</th> </tr> <tr> <th>Panal Angle</th> <th>Gable</th> <th>Hip</th> </tr> </thead> <tbody> <tr> <td rowspan="3">0 - 7</td> <td>1 = 1' / 1</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>2 = 2</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>3 = 3</td> <td>NA</td> <td>NA</td> </tr> <tr> <td rowspan="3">7 - 20</td> <td>1 = 1</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">20 - 27</td> <td>1 = 1</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">27 - 45</td> <td>1 = 1</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">45 - 90</td> <td>1 = 1</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> <td>3 = 3</td> </tr> </tbody> </table>															ASCE Group Zone		Panal Angle	Gable	Hip	0 - 7	1 = 1' / 1	NA	NA	2 = 2	NA	NA	3 = 3	NA	NA	7 - 20	1 = 1	1 = 1	1 = 1	2 = 2	2 = 2	2 = 2	3 = 3	3 = 3	3 = 3	20 - 27	1 = 1	1 = 1	1 = 1	2 = 2	2 = 2	2 = 2	3 = 3	3 = 3	3 = 3	27 - 45	1 = 1	1 = 1	1 = 1	2 = 2	2 = 2	2 = 2	3 = 3	3 = 3	3 = 3	45 - 90	1 = 1	1 = 1	1 = 1	2 = 2	2 = 2	2 = 2	3 = 3	3 = 3	3 = 3
				ASCE Group Zone																																																																																										
				Panal Angle	Gable	Hip																																																																																								
				0 - 7	1 = 1' / 1	NA	NA																																																																																							
					2 = 2	NA	NA																																																																																							
					3 = 3	NA	NA																																																																																							
		7 - 20		1 = 1	1 = 1	1 = 1																																																																																								
2 = 2				2 = 2	2 = 2																																																																																									
3 = 3	3 = 3			3 = 3																																																																																										
20 - 27	1 = 1	1 = 1	1 = 1																																																																																											
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27 - 45	1 = 1	1 = 1	1 = 1																																																																																											
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]		140																150																160															
Panel Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
		15	1	388 / 1051 / 52	363 / 1292 / 42	467 / 1142 / 59	551 / 1415 / 48	543 / 993 / 76	635 / 1223 / 61	601 / 1086 / 75	716 / 1338 / 61	810 / 825 / 95	982 / 1026 / 78	369 / 1126 / 49	360 / 1378 / 39	494 / 1230 / 55	576 / 1499 / 45	566 / 1056 / 70	672 / 1312 / 57	641 / 1173 / 70	755 / 1423 / 57	860 / 884 / 88	1041 / 1095 / 72	365 / 1203 / 46	362 / 1472 / 37	516 / 1306 / 51	616 / 1620 / 42	598 / 1134 / 66	703 / 1387 / 53	676 / 1250 / 66	812 / 1542 / 54	921 / 955 / 83	1119 / 1184 / 68																
20	1		443 / 1051 / 52	408 / 1292 / 42	467 / 1142 / 67	551 / 1415 / 55	543 / 993 / 90	635 / 1223 / 73	601 / 1086 / 82	716 / 1338 / 67	810 / 825 / 95	982 / 1026 / 78	421 / 1126 / 49	402 / 1378 / 39	494 / 1230 / 63	576 / 1499 / 50	566 / 1056 / 83	672 / 1312 / 68	641 / 1173 / 77	755 / 1423 / 62	860 / 884 / 88	1041 / 1095 / 72	414 / 1203 / 46	401 / 1472 / 37	516 / 1306 / 58	616 / 1620 / 48	598 / 1134 / 78	703 / 1387 / 63	676 / 1250 / 72	812 / 1542 / 59	921 / 955 / 83	1119 / 1184 / 68																	
	25		1	443 / 1051 / 52	408 / 1292 / 42	483 / 1142 / 78	551 / 1415 / 64	543 / 993 / 105	635 / 1223 / 85	601 / 1086 / 92	716 / 1338 / 75	810 / 825 / 95	982 / 1026 / 78	421 / 1126 / 49	402 / 1378 / 39	494 / 1230 / 73	576 / 1499 / 59	566 / 1056 / 97	672 / 1312 / 79	641 / 1173 / 86	755 / 1423 / 69	860 / 884 / 88	1041 / 1095 / 72	414 / 1203 / 46	401 / 1472 / 37	516 / 1306 / 68	616 / 1620 / 56	598 / 1134 / 91	703 / 1387 / 73	676 / 1250 / 80	812 / 1542 / 66	921 / 955 / 83	1119 / 1184 / 68																

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof      0-30ft      74in x 41.2in      Load: Up / Down / Side , lbs

Wind Speed [mph]	95												100												105																
	0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
				649 / 678 / 76	538 / 867 / 63	513 / 765 / 135	502 / 950 / 110	492 / 603 / 164	533 / 817 / 144	441 / 714 / 148	519 / 898 / 122	538 / 502 / 129	679 / 668 / 112	623 / 727 / 73	512 / 919 / 60	508 / 809 / 128	502 / 1001 / 104	516 / 673 / 164	534 / 860 / 136	466 / 768 / 143	540 / 947 / 116	574 / 543 / 125	710 / 706 / 107	602 / 780 / 71	486 / 965 / 57	502 / 848 / 121	500 / 1045 / 98	520 / 717 / 158	539 / 906 / 130	481 / 807 / 136	564 / 1002 / 111	608 / 584 / 122	744 / 747 / 102								

Exposure Category : D

Wind Speed [mph]	110												115																										
	0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90		
		570 / 815 / 67	459 / 1005 / 54	500 / 890 / 115	503 / 1096 / 93	528 / 765 / 152	542 / 947 / 123	498 / 848 / 130	580 / 1041 / 105	642 / 624 / 118	775 / 784 / 97	544 / 854 / 64	443 / 1064 / 52	501 / 937 / 111	511 / 1156 / 90	530 / 804 / 146	549 / 994 / 118	518 / 894 / 125	607 / 1100 / 101	670 / 658 / 113	811 / 827 / 94	ASCE Group Zone																	

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees





K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof Load: Up / Down / Side, lbs. Table with columns for Wind Speed [mph] (140, 150, 160, 170, 180, 190, 200) and Panel Angle (0-7, 7-20, 20-27, 27-45, 45-90). Rows include Ground Snow, Exposure Category D, and various load values for Array Interior and Array Edge across different groupings.

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22) a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances. B = Horizontal dimension of building measured normal to wind direction, in ft(m). h = Mean roof height, in ft(m). theta = Angle of roof from horizontal, in degrees

Span table with 4 columns: x >= 72", 64" to 71", 48" to 63", x <= 47"

ASCE Group Zone table with columns: Panel Angle, Gable, Hip. Rows include zones 0-7, 7-20, 20-27, 27-45, 45-90.



# K2 80-X Dual Rail System (ASCE 7-22)

**Enclosed Hip/Gable Roof**      **0-30ft**      **74in x 41.2in**      **Load: Up / Down / Side , lbs**

Ground Snow	Panel Angle	Group	140												150												160															
			0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90			
			Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		1	743 / 1051 / 185	640 / 1292 / 150	696 / 1142 / 182	696 / 1415 / 149	723 / 993 / 236	732 / 1223 / 191	601 / 1086 / 176	716 / 1338 / 144	810 / 825 / 125	982 / 1026 / 103	690 / 1126 / 172	617 / 1378 / 139	694 / 1230 / 170	692 / 1499 / 137	716 / 1056 / 217	743 / 1312 / 178	641 / 1173 / 166	755 / 1423 / 133	860 / 884 / 116	1041 / 1095 / 95	662 / 1203 / 161	601 / 1472 / 130	688 / 1306 / 158	709 / 1620 / 130	722 / 1134 / 204	748 / 1387 / 165	676 / 1250 / 155	812 / 1542 / 126	921 / 955 / 110	1119 / 1184 / 90										

Exposure Category : D

Ground Snow	Panel Angle	Group	170												180																															
			0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90							
			Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																										
		1	646 / 1288 / 152	595 / 1581 / 124	690 / 1390 / 149	709 / 1699 / 121	725 / 1202 / 191	760 / 1469 / 155	715 / 1335 / 146	850 / 1623 / 118	966 / 1008 / 103	1174 / 1247 / 84	628 / 1364 / 143	588 / 1680 / 117	700 / 1487 / 142	719 / 1795 / 114	735 / 1277 / 181	782 / 1566 / 147	750 / 1410 / 137	896 / 1720 / 111	1027 / 1078 / 98	1255 / 1338 / 81	ASCE Group Zone																							

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		140												150								160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90				
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	320 / 896 / 61	263 / 1104 / 50	422 / 978 / 69	482 / 1193 / 56	483 / 837 / 86	558 / 1034 / 70	530 / 925 / 87	623 / 1137 / 71	699 / 693 / 109	842 / 864 / 90	298 / 962 / 57	271 / 1177 / 46	439 / 1042 / 64	508 / 1280 / 52	508 / 903 / 80	587 / 1108 / 65	563 / 999 / 82	663 / 1224 / 66	742 / 745 / 102	901 / 932 / 84	278 / 1028 / 53	284 / 1271 / 43	461 / 1120 / 60	537 / 1374 / 49	534 / 970 / 76	619 / 1185 / 61	591 / 1064 / 76	697 / 1299 / 62	792 / 804 / 96	964 / 1005 / 79

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																															
Wind Speed [mph]			95												100												105															
Panel Angle			0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		
		15	1	600 / 510 / 80	549 / 727 / 73	470 / 613 / 100	417 / 802 / 85	471 / 487 / 127	437 / 667 / 112	401 / 573 / 125	467 / 769 / 109	415 / 364 / 131	569 / 539 / 125	600 / 571 / 80	526 / 777 / 70	452 / 659 / 96	417 / 845 / 80	461 / 534 / 124	445 / 715 / 107	402 / 620 / 121	484 / 811 / 104	454 / 407 / 131	607 / 582 / 121	590 / 626 / 79	498 / 817 / 67	434 / 703 / 93	420 / 891 / 77	448 / 577 / 121	459 / 767 / 104	419 / 662 / 117	499 / 849 / 98	495 / 452 / 131	643 / 625 / 118									
20	1		654 / 486 / 76	628 / 727 / 73	515 / 613 / 122	455 / 802 / 85	480 / 459 / 144	470 / 667 / 134	401 / 573 / 143	467 / 769 / 124	415 / 364 / 131	569 / 539 / 125	654 / 545 / 76	602 / 777 / 70	495 / 659 / 117	453 / 845 / 98	480 / 515 / 129	477 / 715 / 138	402 / 620 / 138	484 / 811 / 118	454 / 407 / 131	607 / 582 / 121	654 / 606 / 76	570 / 817 / 67	476 / 703 / 93	454 / 891 / 93	480 / 573 / 144	487 / 767 / 124	419 / 662 / 133	499 / 849 / 112	495 / 452 / 131	643 / 625 / 118										
	25		1	654 / 486 / 76	628 / 727 / 73	560 / 613 / 144	494 / 802 / 122	489 / 435 / 159	503 / 667 / 157	386 / 552 / 154	467 / 769 / 140	415 / 364 / 131	569 / 539 / 125	654 / 545 / 76	602 / 777 / 70	539 / 659 / 139	489 / 845 / 115	489 / 488 / 159	509 / 715 / 150	399 / 616 / 154	484 / 811 / 132	454 / 407 / 131	607 / 582 / 121	654 / 606 / 76	570 / 817 / 67	517 / 703 / 133	489 / 891 / 110	489 / 543 / 159	518 / 767 / 145	419 / 662 / 149	499 / 849 / 125	495 / 452 / 131	643 / 625 / 118									

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof				30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]				140												150												160											
Panel Angle				0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge							
		15	1	457 / 896 / 61	372 / 1104 / 50	428 / 978 / 70	482 / 1193 / 57	483 / 837 / 95	558 / 1034 / 77	530 / 925 / 90	623 / 1137 / 73	699 / 693 / 109	842 / 864 / 90	424 / 962 / 57	365 / 1177 / 46	439 / 1042 / 65	508 / 1280 / 53	508 / 903 / 88	587 / 1108 / 71	563 / 999 / 84	663 / 1224 / 68	742 / 745 / 102	901 / 932 / 84	397 / 1028 / 53	366 / 1271 / 43	461 / 1120 / 61	537 / 1374 / 50	534 / 970 / 83	619 / 1185 / 67	591 / 1064 / 78	697 / 1299 / 63	792 / 804 / 96	964 / 1005 / 79						
170	1		374 / 1098 / 50	361 / 1337 / 40	481 / 1188 / 57	563 / 1458 / 47	556 / 1028 / 78	654 / 1270 / 63	622 / 1132 / 74	736 / 1382 / 60	837 / 857 / 91	1020 / 1070 / 75	368 / 1159 / 47	365 / 1433 / 38	504 / 1264 / 54	595 / 1556 / 44	580 / 1090 / 73	686 / 1345 / 60	656 / 1207 / 70	782 / 1478 / 57	886 / 914 / 86	1069 / 1126 / 70	ASCE Group Zone																
	180		1	366 / 1227 / 45	362 / 1496 / 36	524 / 1331 / 51	623 / 1645 / 42	608 / 1158 / 69	713 / 1411 / 56	687 / 1275 / 66	824 / 1566 / 54	930 / 965 / 81	1124 / 1190 / 66	363 / 1288 / 42	364 / 1575 / 34	549 / 1410 / 49	648 / 1723 / 40	633 / 1219 / 66	748 / 1490 / 53	714 / 1334 / 62	861 / 1646 / 51	979 / 1023 / 78	1190 / 1265 / 64																

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		30	1	670 / 474 / 75	659 / 727 / 73	587 / 594 / 161	532 / 802 / 140	502 / 418 / 175	523 / 651 / 175	374 / 534 / 165	467 / 769 / 155	412 / 362 / 131	569 / 539 / 126	670 / 532 / 75	632 / 777 / 70	582 / 659 / 160	525 / 845 / 133	502 / 468 / 175	541 / 715 / 172	386 / 596 / 165	484 / 811 / 147	450 / 404 / 131	607 / 582 / 123	670 / 592 / 75	598 / 817 / 67	559 / 703 / 153	523 / 891 / 126	502 / 521 / 175	549 / 767 / 166	419 / 662 / 165	499 / 849 / 139	491 / 449 / 131	643 / 625 / 119				

Exposure Category : B

		ASCE Group Zone	
Panal Angle		Gable	Hip
0 - 7	1 = 1' / 1		NA
	2 = 2		NA
	3 = 3		NA
7 - 20	1 = 1		1 = 1
	2 = 2		2 = 2
20 - 27	2 = 2		2 = 2
	3 = 3		3 = 3
	1 = 1		1 = 1
27 - 45	2 = 2		2 = 2
	3 = 3		3 = 3
45 - 90	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																					
Wind Speed [mph]		95												100								105									
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90		
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
		95																													
100																															
105																															
110																															
115																															
120																															
130																															

Exposure Category : B

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof      30-60ft      74in x 41.2in      Load: Up / Down / Side , lbs

Wind Speed [mph]		140												150												160															
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90												
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	693 / 896 / 173	563 / 1104 / 140	617 / 978 / 162	602 / 1193 / 130	634 / 837 / 209	638 / 1034 / 169	530 / 925 / 164	623 / 1137 / 133	699 / 693 / 126	842 / 864 / 104	644 / 962 / 161	542 / 1177 / 130	606 / 1042 / 150	605 / 1280 / 121	634 / 903 / 195	644 / 1108 / 158	563 / 999 / 154	663 / 1224 / 124	742 / 745 / 118	901 / 932 / 97	602 / 1028 / 151	533 / 1271 / 123	607 / 1120 / 141	614 / 1374 / 114	638 / 970 / 183	655 / 1185 / 148	591 / 1064 / 143	697 / 1299 / 116	792 / 804 / 111	964 / 1005 / 92								
50	1	741 / 896 / 186	602 / 1104 / 150	649 / 978 / 177	628 / 1193 / 142	662 / 837 / 228	661 / 1034 / 185	530 / 925 / 176	623 / 1137 / 143	699 / 693 / 132	842 / 864 / 104	689 / 962 / 173	578 / 1177 / 139	635 / 1042 / 164	629 / 1280 / 133	660 / 903 / 213	665 / 1108 / 172	563 / 999 / 165	663 / 1224 / 134	742 / 745 / 123	901 / 932 / 101	644 / 1028 / 156	567 / 1271 / 131	634 / 1120 / 154	636 / 1374 / 125	663 / 970 / 200	675 / 1185 / 161	591 / 1064 / 154	697 / 1299 / 125	792 / 804 / 116	964 / 1005 / 96										
60	1	830 / 878 / 206	685 / 1104 / 170	712 / 978 / 208	678 / 1193 / 167	684 / 798 / 254	706 / 1034 / 216	530 / 925 / 201	623 / 1137 / 163	699 / 693 / 142	842 / 864 / 117	788 / 962 / 196	650 / 1177 / 158	693 / 1042 / 192	676 / 1280 / 156	713 / 903 / 249	708 / 1108 / 201	563 / 999 / 189	663 / 1224 / 153	742 / 745 / 133	901 / 932 / 109	736 / 1028 / 183	635 / 1271 / 149	689 / 1120 / 181	681 / 1374 / 146	712 / 970 / 234	715 / 1185 / 188	591 / 1064 / 176	697 / 1299 / 142	792 / 804 / 125	964 / 1005 / 103										

Exposure Category : B

Wind Speed [mph]		170												180												190												200											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																									
		45	1	568 / 1098 / 142	516 / 1337 / 114	605 / 1188 / 132	620 / 1458 / 107	639 / 1028 / 171	672 / 1270 / 140	622 / 1132 / 135	736 / 1382 / 109	837 / 857 / 105	1020 / 1070 / 87	550 / 1159 / 133	513 / 1433 / 109	609 / 1264 / 125	634 / 1556 / 102	644 / 1090 / 161	686 / 1345 / 132	656 / 1207 / 128	782 / 1478 / 104	886 / 914 / 99	1069 / 1126 / 81	ASCE Group Zone																									
50	1	607 / 1098 / 152	547 / 1337 / 122	631 / 1188 / 144	641 / 1458 / 117	662 / 1028 / 187	690 / 1270 / 152	622 / 1132 / 145	736 / 1382 / 117	837 / 857 / 109	1020 / 1070 / 90	587 / 1159 / 143	543 / 1433 / 116	633 / 1264 / 137	654 / 1556 / 102	666 / 1090 / 176	703 / 1345 / 144	656 / 1207 / 112	782 / 1478 / 104	886 / 914 / 104	1069 / 1126 / 85	ASCE Group Zone																											
60	1	693 / 1098 / 172	611 / 1337 / 138	682 / 1188 / 169	683 / 1458 / 137	708 / 1028 / 218	728 / 1270 / 178	622 / 1132 / 165	736 / 1382 / 134	837 / 857 / 118	1020 / 1070 / 97	661 / 1159 / 162	603 / 1433 / 132	682 / 1264 / 160	693 / 1556 / 130	709 / 1090 / 206	738 / 1345 / 168	656 / 1207 / 157	782 / 1478 / 127	886 / 914 / 112	1069 / 1126 / 91	ASCE Group Zone																											

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
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h = Mean roof height, in ft(m).  
Θ = Angle of roof from horizontal, in degrees

x >= 72"	64" to 71"	48" to 63"	x <= 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft		74in x 41.2in		Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95										100										105											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge				
70	1	897 / 357 / 217	897 / 556 / 217	735 / 467 / 260	753 / 722 / 260	598 / 328 / 276	614 / 511 / 276	385 / 440 / 243	462 / 676 / 243	370 / 325 / 163	531 / 502 / 163	897 / 400 / 217	897 / 620 / 217	735 / 522 / 260	775 / 804 / 260	598 / 368 / 276	635 / 571 / 276	392 / 491 / 243	491 / 752 / 243	405 / 364 / 163	583 / 560 / 163	897 / 445 / 217	897 / 688 / 217	735 / 580 / 260	797 / 891 / 260	598 / 409 / 276	657 / 633 / 276	413 / 544 / 243	521 / 833 / 243	442 / 404 / 163	638 / 620 / 163		
	80	1	948 / 333 / 224	948 / 519 / 224	772 / 448 / 281	788 / 693 / 281	628 / 318 / 301	644 / 495 / 301	393 / 427 / 262	468 / 656 / 262	361 / 318 / 170	518 / 490 / 170	948 / 374 / 224	948 / 580 / 224	772 / 501 / 281	809 / 772 / 281	628 / 356 / 301	664 / 553 / 301	400 / 476 / 262	496 / 730 / 262	395 / 355 / 170	569 / 546 / 170	948 / 416 / 224	948 / 643 / 224	772 / 557 / 281	831 / 855 / 281	628 / 396 / 301	686 / 613 / 301	420 / 528 / 262	525 / 808 / 262	431 / 394 / 170	623 / 605 / 163	
		90	1	1009 / 318 / 234	1009 / 495 / 234	823 / 429 / 300	823 / 664 / 300	655 / 307 / 323	671 / 479 / 323	396 / 409 / 276	467 / 630 / 276	353 / 310 / 177	506 / 478 / 177	1009 / 356 / 234	1009 / 552 / 234	823 / 480 / 300	838 / 739 / 300	655 / 344 / 323	690 / 535 / 323	403 / 457 / 276	494 / 701 / 276	386 / 346 / 177	555 / 533 / 177	1009 / 396 / 234	1009 / 613 / 234	823 / 533 / 300	859 / 819 / 300	655 / 384 / 323	711 / 593 / 323	422 / 507 / 276	522 / 776 / 276	420 / 384 / 177	608 / 590 / 177
			ASCE Group Zone	ASCE Group Zone																													

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	1059 / 697 / 241	1059 / 1063 / 241	932 / 946 / 320	880 / 1193 / 265	773 / 686 / 344	888 / 1034 / 340	584 / 906 / 294	629 / 1137 / 244	699 / 693 / 185	842 / 864 / 152	1059 / 805 / 241	1018 / 1177 / 232	926 / 1042 / 305	864 / 1280 / 247	810 / 793 / 344	877 / 1108 / 316	609 / 999 / 282	663 / 1224 / 228	742 / 745 / 172	901 / 932 / 142	1059 / 921 / 241	963 / 1271 / 220	908 / 1120 / 287	858 / 1374 / 233	850 / 907 / 344	873 / 1185 / 296	617 / 1064 / 263	697 / 1299 / 212	792 / 804 / 163	964 / 1005 / 134				
	2	1059 / 955 / 241	935 / 1280 / 213	826 / 1144 / 283	760 / 1399 / 229	728 / 1099 / 324	679 / 1336 / 260	566 / 977 / 285	597 / 1201 / 231	646 / 821 / 170	772 / 1013 / 139	1059 / 1101 / 241	880 / 1388 / 201	794 / 1216 / 262	750 / 1508 / 214	706 / 1173 / 300	677 / 1443 / 244	575 / 1051 / 266	627 / 1287 / 215	687 / 884 / 159	821 / 1086 / 130	1018 / 1209 / 232	825 / 1484 / 188	781 / 1311 / 247	737 / 1603 / 200	692 / 1249 / 280	673 / 1537 / 228	588 / 1128 / 250	666 / 1381 / 203	723 / 939 / 148	862 / 1148 / 120						
	3	977 / 1238 / 223	798 / 1530 / 182	710 / 1319 / 243	651 / 1607 / 196	656 / 1194 / 292	627 / 1485 / 240	503 / 1092 / 253	531 / 1342 / 206	646 / 821 / 170	772 / 1013 / 139	908 / 1325 / 207	743 / 1639 / 169	684 / 1406 / 225	648 / 1745 / 185	640 / 1281 / 272	622 / 1594 / 224	513 / 1179 / 237	562 / 1448 / 193	687 / 884 / 159	821 / 1086 / 130	853 / 1420 / 194	688 / 1729 / 157	667 / 1499 / 211	630 / 1833 / 171	633 / 1376 / 256	614 / 1687 / 208	521 / 1255 / 222	593 / 1542 / 181	723 / 939 / 148	862 / 1148 / 120						

Exposure Category : B

Wind Speed [mph]		170												180													
100	1	1059 / 1044 / 241	894 / 1337 / 204	887 / 1188 / 269	849 / 1458 / 218	892 / 1028 / 344	878 / 1270 / 280	630 / 1132 / 247	736 / 1382 / 200	837 / 857 / 153	1020 / 1070 / 126	1045 / 1159 / 238	853 / 1433 / 194	876 / 1264 / 254	851 / 1556 / 207	883 / 1090 / 324	880 / 1345 / 264	656 / 1207 / 234	782 / 1478 / 190	886 / 914 / 145	1069 / 1126 / 119	ASCE Group Zone					
	2	949 / 1277 / 216	770 / 1567 / 176	767 / 1397 / 233	736 / 1713 / 189	685 / 1333 / 264	677 / 1647 / 216	598 / 1196 / 234	701 / 1464 / 190	760 / 995 / 139	918 / 1230 / 114	894 / 1352 / 204	729 / 1665 / 166	751 / 1471 / 218	732 / 1813 / 178	676 / 1407 / 248	680 / 1746 / 204	621 / 1271 / 222	742 / 1562 / 181	799 / 1055 / 131	969 / 1304 / 107						
	3	798 / 1503 / 182	647 / 1838 / 148	659 / 1608 / 200	637 / 1983 / 164	623 / 1459 / 240	615 / 1797 / 196	533 / 1339 / 209	631 / 1652 / 171	760 / 995 / 139	918 / 1230 / 114	757 / 1601 / 173	619 / 1975 / 141	651 / 1707 / 189	627 / 2078 / 153	621 / 1557 / 228	613 / 1894 / 184	550 / 1412 / 196	664 / 1751 / 162	799 / 1055 / 131	969 / 1304 / 107						

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees





## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					74in x 41.2in					Load: Up / Down / Side , lbs																																							
		95										100										105																													
Wind Speed [mph]		0 - 7					7 - 20					20 - 27					27 - 45					45 - 90					0 - 7					7 - 20					20 - 27					27 - 45					45 - 90				
Ground Snow	Panel Angle	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge													
15	1	1	572 / 671 / 76	475 / 860 / 64	420 / 751 / 90	422 / 933 / 73	431 / 615 / 116	475 / 809 / 99	439 / 707 / 113	516 / 891 / 93	534 / 496 / 130	674 / 662 / 113	549 / 720 / 73	452 / 911 / 61	419 / 801 / 86	430 / 994 / 70	434 / 661 / 112	490 / 853 / 94	463 / 761 / 109	537 / 940 / 89	565 / 533 / 125	705 / 700 / 107	530 / 772 / 71	429 / 958 / 57	418 / 840 / 81	438 / 1039 / 66	445 / 710 / 108	507 / 899 / 89	478 / 799 / 104	556 / 985 / 84	603 / 578 / 122	739 / 740 / 103																			

Exposure Category : C

ASCE Group Zone	
Panel Angle	
0 - 7	1 = 1' / 1
	2 = 2
	3 = 3
7 - 20	1 = 1
	2 = 2
	3 = 3
20 - 27	1 = 1
	2 = 2
	3 = 3
27 - 45	2 = 2
	3 = 3
45 - 90	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]		140																150																160															
Panal Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge													
		15	1	392 / 1045 / 53	365 / 1288 / 43	466 / 1136 / 60	542 / 1390 / 49	535 / 975 / 81	625 / 1202 / 66	598 / 1080 / 77	715 / 1335 / 63	804 / 818 / 95	966 / 1008 / 78	371 / 1120 / 49	363 / 1375 / 40	493 / 1225 / 57	576 / 1498 / 46	564 / 1050 / 76	662 / 1289 / 61	630 / 1153 / 72	755 / 1421 / 59	855 / 878 / 89	1037 / 1090 / 73	368 / 1198 / 46	364 / 1471 / 37	516 / 1302 / 53	606 / 1592 / 43	596 / 1128 / 71	702 / 1384 / 58	665 / 1228 / 67	799 / 1515 / 55	906 / 938 / 83	1101 / 1163 / 68																

Exposure Category : C

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		95		[Data for Wind Speed 95]																																	
100		[Data for Wind Speed 100]																																			
105		[Data for Wind Speed 105]																																			
110		[Data for Wind Speed 110]																																			
115		[Data for Wind Speed 115]																																			
120		[Data for Wind Speed 120]																																			
130		[Data for Wind Speed 130]																																			

Exposure Category : C

		ASCE Group Zone	
Panel Angle		Gable	Hip
0 - 7	1 = 1' / 1		NA
	2 = 2		NA
	3 = 3		NA
7 - 20	1 = 1		1 = 1
	2 = 2		2 = 2
20 - 27	2 = 2		2 = 2
	3 = 3		3 = 3
	1 = 1		1 = 1
27 - 45	2 = 2		2 = 2
	3 = 3		3 = 3
45 - 90	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																																																																																					
Wind Speed [mph]	140																																150																																160																															
	0 - 7								7 - 20								20 - 27								27 - 45								45 - 90								0 - 7								7 - 20								20 - 27								27 - 45								45 - 90																							
Ground Snow	Panel Angle	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																																											
			45	1	1	595 / 1045 / 149	530 / 1288 / 121	607 / 1136 / 139	614 / 1390 / 112	633 / 975 / 179	657 / 1202 / 146	598 / 1080 / 142	715 / 1335 / 116	804 / 818 / 110	966 / 1008 / 90	560 / 1120 / 138	516 / 1375 / 112	611 / 1225 / 130	627 / 1498 / 105	640 / 1050 / 167	672 / 1289 / 136	630 / 1153 / 131	755 / 1421 / 107	855 / 878 / 103	1037 / 1090 / 84	544 / 1198 / 130	508 / 1471 / 105	611 / 1302 / 121	636 / 1592 / 98	651 / 1128 / 158	702 / 1384 / 128	665 / 1228 / 123	799 / 1515 / 100	906 / 938 / 96	1101 / 1163 / 79	ASCE Group Zone																																																												

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof

30-60ft

74in x 41.2in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140										150										160											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		70	1	838 / 1045 / 202	698 / 1288 / 164	742 / 1136 / 205	723 / 1390 / 165	754 / 975 / 261	755 / 1202 / 212	598 / 1080 / 195	715 / 1335 / 160	804 / 818 / 133	966 / 1008 / 109	779 / 1120 / 188	672 / 1375 / 152	737 / 1225 / 192	729 / 1498 / 155	753 / 1050 / 244	763 / 1289 / 197	630 / 1153 / 181	755 / 1421 / 148	855 / 878 / 124	1037 / 1090 / 102	730 / 1198 / 176	654 / 1471 / 143	729 / 1302 / 178	731 / 1592 / 144	757 / 1128 / 229	778 / 1384 / 186	665 / 1228 / 169	799 / 1515 / 138	906 / 938 / 116	1101 / 1163 / 96

Exposure Category : C

Wind Speed [mph]		170										180															
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
70	1	695 / 1265 / 164	634 / 1553 / 133	729 / 1387 / 168	743 / 1702 / 137	758 / 1197 / 215	789 / 1468 / 174	703 / 1311 / 160	851 / 1624 / 131	961 / 1002 / 110	1171 / 1243 / 90	675 / 1340 / 155	624 / 1651 / 126	725 / 1461 / 158	752 / 1801 / 129	766 / 1273 / 203	810 / 1566 / 166	737 / 1385 / 150	881 / 1690 / 122	1023 / 1072 / 105	1234 / 1314 / 85	ASCE Group Zone					

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	265 / 1121 / 49	298 / 1377 / 40	487 / 1210 / 55	577 / 1499 / 45	565 / 1051 / 69	662 / 1290 / 56	631 / 1154 / 70	755 / 1422 / 57	855 / 879 / 89	1038 / 1091 / 73	273 / 1194 / 45	313 / 1486 / 37	513 / 1296 / 51	611 / 1608 / 42	594 / 1125 / 64	698 / 1376 / 52	671 / 1241 / 65	806 / 1530 / 54	915 / 948 / 83	1111 / 1175 / 68	286 / 1288 / 43	327 / 1581 / 35	542 / 1391 / 48	640 / 1700 / 39	626 / 1202 / 60	738 / 1470 / 49	705 / 1315 / 61	850 / 1623 / 50	966 / 1008 / 78	1174 / 1247 / 64				
0	1	298 / 1374 / 40	337 / 1661 / 32	568 / 1474 / 45	675 / 1809 / 37	661 / 1287 / 57	786 / 1578 / 46	743 / 1398 / 57	903 / 1733 / 47	1034 / 1086 / 74	1244 / 1327 / 60	308 / 1449 / 38	352 / 1757 / 31	599 / 1571 / 43	706 / 1903 / 34	693 / 1362 / 54	829 / 1677 / 44	789 / 1493 / 54	949 / 1830 / 44	1083 / 1142 / 69	1327 / 1420 / 57	ASCE Group Zone															
0	1	321 / 1538 / 36	372 / 1880 / 29	627 / 1659 / 41	748 / 2028 / 33	720 / 1427 / 50	868 / 1765 / 41	831 / 1581 / 52	989 / 1913 / 42	1154 / 1223 / 66	1403 / 1505 / 54	333 / 1619 / 34	382 / 1953 / 27	652 / 1737 / 38	787 / 2145 / 31	754 / 1506 / 48	900 / 1840 / 39	868 / 1660 / 49	1044 / 2027 / 40	1204 / 1281 / 63	1472 / 1583 / 52	ASCE Group Zone															

Exposure Category : D

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 74in x 41.2in | Load: Up / Down / Side, lbs
Wind Speed [mph] | 140 | 150 | 160
Panel Angle | 0-7 | 7-20 | 20-27 | 27-45 | 45-90 | 0-7 | 7-20 | 20-27 | 27-45 | 45-90 | 0-7 | 7-20 | 20-27 | 27-45 | 45-90
Ground Snow | Group | Array Interior | Array Edge | Array Interior | Array Edge

Exposure Category : D

ASCE Group Zone
Panal Angle | Gable | Hip
0-7 | 1 = 1' / 1 | NA | 2 = 2 | NA | 3 = 3 | NA
7-20 | 1 = 1 | 1 = 1 | 2 = 2 | 2 = 2
20-27 | 1 = 1 | 1 = 1 | 2 = 2 | 2 = 2
27-45 | 1 = 1 | 1 = 1 | 2 = 2 | 2 = 2
45-90 | 1 = 1 | 1 = 1 | 2 = 2 | 2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.
B = Horizontal dimension of building measured normal to wind direction, in ft(m).
h = Mean roof height, in ft(m).
θ = Angle of roof from horizontal, in degrees

Span color-coding table:
x >= 72" (Green)
64" to 71" (Blue)
48" to 63" (Yellow)
x <= 47" (Grey)

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																															
Wind Speed [mph]			95												100												105															
Panel Angle			0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge						
		30	1	623 / 742 / 73	507 / 927 / 59	508 / 818 / 127	502 / 1009 / 103	517 / 682 / 163	535 / 869 / 135	470 / 777 / 142	543 / 956 / 115	579 / 550 / 124	716 / 714 / 105	591 / 786 / 69	480 / 978 / 56	503 / 861 / 120	501 / 1059 / 97	522 / 730 / 156	541 / 920 / 129	487 / 819 / 135	571 / 1016 / 110	617 / 594 / 120	754 / 759 / 101	565 / 833 / 66	454 / 1024 / 53	502 / 908 / 114	505 / 1114 / 92	532 / 782 / 151	546 / 966 / 122	506 / 865 / 128	589 / 1059 / 104	654 / 638 / 117	789 / 800 / 96									

Exposure Category : D

Wind Speed [mph]			110												115																																		
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																	
		30	1	538 / 876 / 63	433 / 1075 / 51	499 / 949 / 108	507 / 1164 / 88	530 / 817 / 143	549 / 1006 / 115	523 / 906 / 122	611 / 1109 / 99	679 / 669 / 111	828 / 846 / 92	512 / 914 / 60	420 / 1121 / 48	501 / 996 / 104	515 / 1225 / 84	533 / 856 / 136	571 / 1064 / 111	538 / 943 / 116	638 / 1168 / 95	713 / 709 / 107	856 / 880 / 88	ASCE Group Zone																									

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																									
Wind Speed [mph]	140												150												160											
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Panel Angle	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
			30	0 - 7	1	424 / 1121 / 49	406 / 1377 / 40	511 / 1210 / 84	577 / 1499 / 69	565 / 1051 / 111	662 / 1290 / 90	631 / 1154 / 95	755 / 1422 / 78	855 / 879 / 89	1038 / 1091 / 73	413 / 1194 / 45	406 / 1486 / 37	521 / 1296 / 78	611 / 1608 / 64	594 / 1125 / 103	698 / 1376 / 84	671 / 1241 / 89	806 / 1530 / 73	915 / 948 / 83	1111 / 1175 / 68	411 / 1288 / 43	405 / 1581 / 35	542 / 1391 / 74	640 / 1700 / 60	626 / 1202 / 97	738 / 1470 / 78	705 / 1315 / 82	850 / 1623 / 68	966 / 1008 / 78	1174 / 1247 / 64	
30	0 - 7	1			409 / 1374 / 40	401 / 1661 / 32	568 / 1474 / 69	675 / 1809 / 56	661 / 1287 / 92	786 / 1578 / 74	743 / 1398 / 78	903 / 1733 / 64	1034 / 1086 / 74	1244 / 1327 / 60	405 / 1449 / 38	404 / 1757 / 31	599 / 1571 / 65	706 / 1903 / 53	693 / 1362 / 86	829 / 1677 / 70	789 / 1493 / 74	949 / 1830 / 60	1083 / 1142 / 69	1327 / 1420 / 57	ASCE Group Zone											

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																			
Wind Speed [mph]	95												100												105					
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90		
Ground Snow	Panel Angle	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge								

Exposure Category : D

Wind Speed [mph]	110												115																
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90	

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof 30-60ft 74in x 41.2in Load: Up / Down / Side , lbs

Main data table with columns for Wind Speed [mph] (140, 150, 160, 170, 180, 190, 200), Panel Angle, Ground Snow, and Array Interior/Edge load values for various panel angles (0-7, 7-20, 20-27, 27-45, 45-90) and ground snow depths (1, 2, 3).

Exposure Category : D

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Span table with four cells: x >= 72", 64" to 71", 48" to 63", x <= 47"

Notation (ASCE 7-22) a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances. B = Horizontal dimension of building measured normal to wind direction, in ft(m). h = Mean roof height, in ft(m). θ = Angle of roof from horizontal, in degrees

ASCE Group Zone table with columns for Panel Angle, Gable, and Hip, and rows for panel angles 0-7, 7-20, 20-27, 27-45, 45-90.

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																														
Wind Speed [mph]		95												100												105														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge								
		70	1	849 / 604 / 210	849 / 927 / 210	726 / 765 / 241	718 / 1009 / 208	605 / 549 / 259	708 / 843 / 259	467 / 716 / 229	543 / 956 / 200	553 / 525 / 157	716 / 714 / 140	849 / 674 / 210	805 / 978 / 199	749 / 853 / 241	706 / 1059 / 196	627 / 612 / 259	726 / 920 / 254	497 / 797 / 229	571 / 1016 / 192	608 / 585 / 157	754 / 759 / 133	849 / 747 / 210	761 / 1024 / 188	743 / 908 / 231	700 / 1114 / 187	650 / 679 / 259	721 / 966 / 241	519 / 865 / 224	589 / 1059 / 181	654 / 638 / 154	789 / 800 / 127							
80	1		900 / 566 / 217	900 / 869 / 217	758 / 735 / 261	773 / 1009 / 234	625 / 527 / 280	724 / 809 / 261	471 / 695 / 246	548 / 956 / 222	540 / 513 / 134	716 / 714 / 149	900 / 632 / 217	900 / 968 / 217	780 / 819 / 261	757 / 1059 / 221	647 / 588 / 280	756 / 901 / 217	501 / 774 / 246	571 / 1016 / 212	593 / 571 / 163	754 / 759 / 142	900 / 700 / 217	860 / 1024 / 207	804 / 908 / 223	748 / 1114 / 210	669 / 652 / 280	765 / 966 / 271	532 / 857 / 246	589 / 1059 / 200	649 / 633 / 163	789 / 800 / 136								
	90		1	948 / 535 / 224	948 / 821 / 224	794 / 713 / 281	827 / 1009 / 260	649 / 510 / 301	745 / 784 / 301	475 / 675 / 262	564 / 956 / 243	531 / 505 / 170	716 / 714 / 158	948 / 597 / 224	948 / 914 / 224	815 / 794 / 281	808 / 1059 / 246	670 / 569 / 301	776 / 872 / 301	503 / 751 / 262	578 / 1016 / 233	584 / 562 / 170	754 / 759 / 151	948 / 662 / 224	948 / 1012 / 224	837 / 880 / 281	797 / 1114 / 234	692 / 631 / 301	809 / 966 / 301	534 / 832 / 262	589 / 1059 / 219	639 / 622 / 170	789 / 800 / 144							
			100	1	849 / 824 / 210	726 / 1075 / 179	728 / 949 / 220	692 / 1164 / 177	675 / 749 / 259	715 / 1006 / 228	525 / 906 / 213	611 / 1109 / 172	679 / 669 / 147	828 / 846 / 122	849 / 905 / 210	690 / 1121 / 170	720 / 996 / 210	693 / 1225 / 170	700 / 823 / 259	723 / 1064 / 220	538 / 943 / 203	638 / 1168 / 166	713 / 709 / 142	856 / 880 / 116	ASCE Group Zone															

Panal Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
45 - 90	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 0-30ft | 83in x 41.5in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95												100												105											
		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge									
																													Wind Speed [mph]		110						
Group	ASCE Group Zone		[Data Rows]																																		
	Panel Angle	Gable	Hip	[Data Rows]																																	
Wind Speed [mph]		120												130																							
Group	ASCE Group Zone		[Data Rows]																																		
	Panel Angle	Gable	Hip	[Data Rows]																																	
Wind Speed [mph]		120												130																							
Group	ASCE Group Zone		[Data Rows]																																		
	Panel Angle	Gable	Hip	[Data Rows]																																	

Exposure Category : B

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		140		ASCE Group Zone																																	
150		ASCE Group Zone																																			
160		ASCE Group Zone																																			
170		ASCE Group Zone																																			
180		ASCE Group Zone																																			
190		ASCE Group Zone																																			
200		ASCE Group Zone																																			

Exposure Category : B

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2

## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					83in x 41.5in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge														
		[Data grid with values for wind speeds 95, 100, 105 and various panel angles]																																												
Wind Speed [mph]		110															115																													
Exposure Category : B	45	1	[Data]																																											
		2	[Data]																																											
	3	[Data]																																												
	50	1	[Data]																																											
		2	[Data]																																											
		3	[Data]																																											
	60	1	[Data]																																											
		2	[Data]																																											
		3	[Data]																																											
	Wind Speed [mph]		120															130																												
	Exposure Category : B	45	1	[Data]																																										
			2	[Data]																																										
3		[Data]																																												
50		1	[Data]																																											
		2	[Data]																																											
		3	[Data]																																											
60		1	[Data]																																											
		2	[Data]																																											
		3	[Data]																																											

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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		ASCE Group Zone	
Panal Angle		Gable	Hip
0 - 7	1 = 1' / 1		NA
	2 = 2		NA
	3 = 3		NA
7 - 20	1 = 1		1 = 1
	2 = 2		2 = 2
20 - 27	2 = 2		2 = 2
	3 = 3		3 = 3
	1 = 1		1 = 1
27 - 45	2 = 2		2 = 2
	3 = 3		3 = 3
45 - 90	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					83in x 41.5in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		140															150															160														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		140		ASCE Group Zone																																										
150		ASCE Group Zone																																												
160		ASCE Group Zone																																												
170		ASCE Group Zone																																												
180		ASCE Group Zone																																												
190		ASCE Group Zone																																												
200		ASCE Group Zone																																												

Exposure Category : B

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
45 - 90	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1

K2 80-X Dual Rail System (ASCE 7-22)

Main data table containing wind speed and load information for various panel angles and ground snow conditions. It is organized into sections for wind speeds 95, 100, 105, 110, 115, 120, and 130 mph, with sub-sections for panel angles 0-7, 7-20, 20-27, 27-45, and 45-90 degrees.

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.
B = Horizontal dimension of building measured normal to wind direction, in ft(m).
h = Mean roof height, in ft(m).
θ = Angle of roof from horizontal, in degrees

Span table with columns for span ranges: x ≥ 72", 64" to 71", 48" to 63", and x ≤ 47".

ASCE Group Zone table showing correlations between Panel Angle and ASCE Group Zone for various roof types (Gable, Hip) and panel angles (0-7, 7-20, 20-27, 27-45, 45-90).







# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					83in x 41.5in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		0	1	457 / 648 / 88	381 / 837 / 73	423 / 728 / 101	418 / 922 / 83	464 / 594 / 121	478 / 787 / 104	440 / 687 / 126	516 / 871 / 105	504 / 456 / 140	662 / 639 / 128	439 / 697 / 84	363 / 889 / 70	405 / 779 / 97	427 / 963 / 78	446 / 639 / 116	493 / 831 / 98	464 / 740 / 122	537 / 921 / 99	553 / 509 / 140	698 / 682 / 123	425 / 749 / 82	345 / 936 / 66	396 / 826 / 92	443 / 1019 / 75	442 / 688 / 113	509 / 878 / 93	483 / 786 / 117	556 / 966 / 94	594 / 557 / 138	732 / 723 / 117													
10	1	403 / 793 / 77	327 / 987 / 63	366 / 867 / 87	354 / 1066 / 70	375 / 833 / 98	367 / 1034 / 80	426 / 743 / 122	490 / 924 / 99	501 / 586 / 139	624 / 774 / 121	381 / 837 / 73	309 / 1038 / 59	348 / 919 / 83	366 / 1127 / 67	358 / 885 / 93	377 / 1083 / 75	441 / 785 / 116	509 / 974 / 94	528 / 628 / 134	651 / 816 / 114	363 / 884 / 70	294 / 1095 / 57	337 / 965 / 79	377 / 1183 / 64	348 / 932 / 89	389 / 1139 / 71	457 / 831 / 111	525 / 1018 / 89	554 / 669 / 129	673 / 853 / 108															
0	1	406 / 792 / 78	327 / 978 / 63	402 / 861 / 87	457 / 1071 / 71	460 / 736 / 109	524 / 920 / 89	500 / 828 / 112	578 / 1017 / 90	627 / 596 / 134	763 / 760 / 112	388 / 832 / 75	312 / 1026 / 60	415 / 909 / 84	469 / 1118 / 68	477 / 782 / 105	542 / 967 / 85	516 / 867 / 107	598 / 1063 / 86	659 / 634 / 130	791 / 795 / 107	ASCE Group Zone																								
0	2	345 / 926 / 66	280 / 1146 / 54	343 / 1006 / 75	391 / 1249 / 61	355 / 973 / 84	404 / 1204 / 69	472 / 873 / 106	545 / 1068 / 85	588 / 719 / 126	706 / 902 / 104	330 / 974 / 64	269 / 1207 / 52	351 / 1053 / 71	404 / 1310 / 58	365 / 1021 / 81	413 / 1248 / 65	486 / 911 / 100	569 / 1127 / 82	616 / 762 / 122	729 / 939 / 99																ASCE Group Zone									
0	1	370 / 869 / 71	298 / 1069 / 57	422 / 943 / 80	486 / 1174 / 65	490 / 818 / 101	559 / 1011 / 81	529 / 901 / 101	623 / 1118 / 83	684 / 665 / 125	823 / 834 / 103	341 / 948 / 66	279 / 1169 / 53	446 / 1030 / 74	515 / 1275 / 60	514 / 889 / 92	593 / 1099 / 75	560 / 977 / 93	659 / 1202 / 76	734 / 726 / 115	890 / 913 / 96	ASCE Group Zone																								
0	2	316 / 1018 / 61	254 / 1247 / 49	363 / 1108 / 69	416 / 1367 / 56	373 / 1064 / 77	426 / 1304 / 62	502 / 954 / 96	584 / 1168 / 78	638 / 797 / 116	756 / 981 / 95	290 / 1106 / 56	239 / 1364 / 46	378 / 1193 / 63	442 / 1486 / 52	391 / 1149 / 70	454 / 1421 / 58	529 / 1029 / 88	623 / 1265 / 72	680 / 864 / 107	812 / 1065 / 87																ASCE Group Zone									

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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Panal Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
45 - 90	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	316 / 1025 / 61	288 / 1255 / 49	470 / 1118 / 69	538 / 1357 / 55	537 / 955 / 85	627 / 1185 / 69	598 / 1062 / 87	706 / 1302 / 71	789 / 793 / 108	959 / 992 / 89	294 / 1101 / 57	299 / 1342 / 46	490 / 1192 / 64	572 / 1465 / 52	566 / 1031 / 80	664 / 1275 / 65	631 / 1137 / 81	745 / 1389 / 65	838 / 852 / 101	1018 / 1061 / 83	277 / 1165 / 52	312 / 1437 / 43	512 / 1270 / 59	601 / 1559 / 48	591 / 1096 / 74	695 / 1351 / 60	665 / 1214 / 76	788 / 1483 / 61	899 / 922 / 96	1080 / 1134 / 78				

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					83in x 41.5in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		30	1	708 / 587 / 79	653 / 837 / 73	616 / 728 / 169	560 / 922 / 139	540 / 526 / 188	582 / 787 / 182	430 / 670 / 178	516 / 871 / 151	504 / 456 / 142	662 / 639 / 129	708 / 656 / 79	621 / 889 / 70	590 / 779 / 162	551 / 963 / 130	540 / 588 / 188	581 / 831 / 172	464 / 740 / 176	537 / 921 / 144	553 / 509 / 142	698 / 682 / 124	708 / 730 / 79	590 / 936 / 66	570 / 826 / 155	552 / 1019 / 125	546 / 654 / 188	584 / 878 / 164	483 / 786 / 169	556 / 966 / 136	594 / 557 / 140	732 / 723 / 118													
30	1	696 / 792 / 78	559 / 978 / 63	560 / 861 / 146	553 / 1071 / 119	571 / 723 / 188	585 / 920 / 156	500 / 828 / 162	578 / 1017 / 130	627 / 596 / 135	763 / 760 / 113	665 / 832 / 75	535 / 1026 / 60	559 / 909 / 140	552 / 1118 / 113	586 / 782 / 185	590 / 967 / 149	516 / 867 / 154	598 / 1063 / 124	659 / 634 / 131	791 / 795 / 108	ASCE Group Zone																								
30	1	634 / 869 / 71	510 / 1069 / 57	552 / 943 / 133	557 / 1174 / 109	585 / 818 / 177	595 / 1011 / 143	529 / 901 / 147	623 / 1118 / 120	684 / 665 / 126	823 / 834 / 104	584 / 948 / 66	475 / 1169 / 53	552 / 1030 / 123	564 / 1275 / 100	585 / 889 / 162	606 / 1099 / 131	560 / 977 / 135	659 / 1202 / 109	734 / 726 / 116	890 / 913 / 96																									

Exposure Category : C

Panel Angle	ASCE Group Zone	
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		30	1	541 / 1025 / 61	461 / 1255 / 49	556 / 1118 / 115	566 / 1357 / 92	586 / 955 / 149	627 / 1185 / 122	598 / 1062 / 126	706 / 1302 / 102	789 / 793 / 109	959 / 992 / 90	503 / 1101 / 57	451 / 1342 / 46	555 / 1192 / 106	581 / 1465 / 86	596 / 1031 / 140	664 / 1275 / 114	631 / 1137 / 117	745 / 1389 / 94	838 / 852 / 102	1018 / 1061 / 84	470 / 1165 / 52	447 / 1437 / 43	559 / 1270 / 99	601 / 1559 / 80	603 / 1096 / 130	695 / 1351 / 106	665 / 1214 / 109	788 / 1483 / 88	899 / 922 / 96	1080 / 1134 / 78				

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	801 / 525 / 202	801 / 814 / 202	690 / 667 / 216	673 / 922 / 194	578 / 472 / 232	634 / 731 / 232	420 / 613 / 211	516 / 871 / 196	482 / 436 / 155	662 / 639 / 148	801 / 587 / 202	785 / 889 / 198	690 / 744 / 216	657 / 963 / 182	578 / 528 / 232	664 / 815 / 211	446 / 684 / 186	537 / 921 / 186	528 / 486 / 155	698 / 682 / 142	801 / 653 / 202	746 / 936 / 188	696 / 826 / 216	654 / 1019 / 174	584 / 587 / 232	675 / 878 / 226	474 / 758 / 211	556 / 966 / 176	576 / 540 / 155	732 / 723 / 136				
110	1	801 / 722 / 202	707 / 978 / 178	679 / 861 / 204	650 / 1071 / 166	605 / 648 / 232	671 / 920 / 214	500 / 828 / 209	578 / 1017 / 169	627 / 596 / 155	763 / 760 / 130	801 / 794 / 202	675 / 1026 / 170	674 / 909 / 196	644 / 1118 / 158	628 / 713 / 232	673 / 967 / 206	516 / 867 / 199	598 / 1063 / 161	659 / 634 / 150	791 / 795 / 124	ASCE Group Zone															
120	1	801 / 869 / 202	644 / 1069 / 162	660 / 943 / 186	646 / 1174 / 152	652 / 781 / 232	674 / 1011 / 197	529 / 901 / 190	623 / 1118 / 155	684 / 665 / 144	823 / 834 / 119	738 / 948 / 186	599 / 1169 / 151	652 / 1030 / 172	646 / 1275 / 140	675 / 889 / 223	679 / 1099 / 181	560 / 977 / 174	659 / 1202 / 141	734 / 726 / 133	890 / 913 / 110																

Panal Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof     0-30ft     83in x 41.5in     Load: Up / Down / Side, lbs

Main table for ASCE 7-22 exposure category C, wind speeds 140-160 mph. Columns include wind speed, panel angle, ground snow, and array interior/edge loads for various panel angles (0-7 to 45-90 degrees).

Exposure Category : C

Main table for ASCE 7-22 exposure category C, wind speeds 170-200 mph. Columns include wind speed, panel angle, ground snow, and array interior/edge loads for various panel angles.

ASCE Group Zone table showing Panal Angle (Gable, Hip) and corresponding Group Zone values (1=1, 2=2, 3=3) for different panel angles.

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows. Notation (ASCE 7-22) a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances. B = Horizontal dimension of building measured normal to wind direction, in ft(m). h = Mean roof height, in ft(m). theta = Angle of roof from horizontal, in degrees

Color-coded span table: x >= 72" (green), 64" to 71" (blue), 48" to 63" (yellow), x <= 47" (grey).











# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					83in x 41.5in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		140															150															160														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		0	1	287 / 1109 / 55	302 / 1364 / 45	497 / 1214 / 63	578 / 1486 / 51	575 / 1052 / 79	664 / 1278 / 63	640 / 1158 / 80	754 / 1410 / 64	854 / 870 / 100	1035 / 1081 / 82	282 / 1198 / 52	317 / 1472 / 42	523 / 1303 / 58	612 / 1594 / 47	604 / 1128 / 73	710 / 1385 / 59	671 / 1230 / 74	805 / 1517 / 60	913 / 939 / 93	1107 / 1164 / 77	291 / 1276 / 48	330 / 1567 / 39	544 / 1378 / 54	653 / 1718 / 45	636 / 1207 / 69	751 / 1481 / 56	715 / 1323 / 69	848 / 1610 / 56	975 / 1011 / 88	1187 / 1255 / 73													

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				83in x 41.5in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]		140																150																160															
Panel Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
		15	1	409 / 1109 / 55	383 / 1364 / 45	497 / 1214 / 63	578 / 1486 / 51	575 / 1052 / 80	664 / 1278 / 64	640 / 1158 / 80	754 / 1410 / 64	854 / 870 / 100	1035 / 1081 / 82	393 / 1198 / 52	385 / 1472 / 42	523 / 1303 / 58	612 / 1594 / 47	604 / 1128 / 74	710 / 1385 / 60	671 / 1230 / 74	805 / 1517 / 60	913 / 939 / 93	1107 / 1164 / 77	387 / 1276 / 48	385 / 1567 / 39	544 / 1378 / 54	653 / 1718 / 45	636 / 1207 / 70	751 / 1481 / 57	715 / 1323 / 69	848 / 1610 / 56	975 / 1011 / 88	1187 / 1255 / 73																

Exposure Category : D

Wind Speed [mph]		170																180																			
15	1	386 / 1361 / 46	390 / 1678 / 37	579 / 1485 / 52	675 / 1794 / 41	663 / 1274 / 65	785 / 1564 / 53	754 / 1408 / 65	900 / 1719 / 53	1031 / 1076 / 83	1258 / 1336 / 68	383 / 1436 / 43	394 / 1778 / 35	600 / 1557 / 48	721 / 1930 / 40	694 / 1349 / 61	828 / 1662 / 50	787 / 1481 / 61	946 / 1816 / 50	1094 / 1148 / 79	1321 / 1408 / 64	ASCE Group Zone															
20	1	435 / 1361 / 46	430 / 1678 / 37	579 / 1485 / 58	675 / 1794 / 47	663 / 1274 / 78	785 / 1564 / 63	754 / 1408 / 72	900 / 1719 / 58	1031 / 1076 / 83	1258 / 1336 / 68	429 / 1436 / 43	431 / 1778 / 35	600 / 1557 / 55	721 / 1930 / 45	694 / 1349 / 73	828 / 1662 / 60	787 / 1481 / 67	946 / 1816 / 55	1094 / 1148 / 79	1321 / 1408 / 64																

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**K2 80-X Dual Rail System (ASCE 7-22)**

Enclosed Hip/Gable Roof		0-30ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge								
70	1	893 / 557 / 222	893 / 858 / 222	757 / 725 / 259	770 / 998 / 233	626 / 518 / 279	723 / 799 / 279	469 / 680 / 247	556 / 956 / 227	534 / 497 / 169	717 / 706 / 157	893 / 622 / 222	893 / 956 / 222	778 / 808 / 259	764 / 1059 / 222	646 / 579 / 279	755 / 890 / 279	498 / 757 / 247	573 / 1005 / 215	586 / 555 / 169	754 / 750 / 150	893 / 690 / 222	863 / 1023 / 215	801 / 896 / 259	755 / 1116 / 212	669 / 642 / 279	764 / 954 / 270	529 / 838 / 247	598 / 1061 / 205	640 / 615 / 169	788 / 792 / 143						
	80	1	954 / 526 / 231	954 / 811 / 231	800 / 703 / 283	831 / 998 / 300	648 / 496 / 300	742 / 765 / 300	474 / 659 / 265	574 / 956 / 251	525 / 489 / 177	717 / 706 / 167	954 / 587 / 231	954 / 903 / 231	820 / 783 / 283	822 / 1059 / 251	668 / 554 / 300	772 / 852 / 300	502 / 734 / 265	581 / 1005 / 238	576 / 546 / 177	754 / 750 / 159	954 / 652 / 231	954 / 1000 / 231	843 / 868 / 283	811 / 1116 / 239	689 / 615 / 300	804 / 944 / 300	532 / 813 / 265	598 / 1061 / 227	630 / 605 / 177	788 / 792 / 152					
		90	1	1001 / 495 / 238	1001 / 763 / 238	829 / 673 / 302	892 / 998 / 292	674 / 480 / 322	764 / 740 / 322	478 / 639 / 281	592 / 956 / 276	512 / 477 / 183	717 / 706 / 177	1001 / 553 / 238	1001 / 850 / 238	849 / 751 / 302	880 / 1059 / 279	693 / 536 / 322	794 / 824 / 281	506 / 712 / 261	598 / 1005 / 183	562 / 532 / 169	754 / 750 / 169	1001 / 614 / 238	1001 / 941 / 238	870 / 832 / 302	866 / 1116 / 265	714 / 595 / 322	825 / 913 / 322	534 / 789 / 281	609 / 1061 / 249	614 / 589 / 183	788 / 792 / 161				

Exposure Category : D

		ASCE Group Zone	
Panel Angle	Gable	Hip	
0 - 7	1 = 1' / 1	NA	
	2 = 2	NA	
	3 = 3	NA	
7 - 20	1 = 1	1 = 1	
	2 = 2	2 = 2	
20 - 27	1 = 1	1 = 1	
	2 = 2	2 = 2	
	3 = 3	3 = 3	
27 - 45	1 = 1	1 = 1	
	2 = 2	2 = 2	
45 - 90	1 = 1	1 = 1	
	2 = 2	2 = 2	
	3 = 3	3 = 3	

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150								160															
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	338 / 944 / 64	280 / 1176 / 53	448 / 1037 / 73	511 / 1264 / 59	516 / 895 / 92	589 / 1092 / 74	563 / 983 / 93	663 / 1209 / 75	738 / 730 / 115	896 / 918 / 95	316 / 1020 / 60	287 / 1249 / 49	468 / 1113 / 68	544 / 1372 / 56	541 / 961 / 86	625 / 1180 / 69	596 / 1058 / 87	703 / 1297 / 70	786 / 789 / 108	955 / 988 / 89	294 / 1086 / 56	300 / 1344 / 46	491 / 1192 / 64	565 / 1445 / 51	560 / 1017 / 79	656 / 1258 / 65	623 / 1121 / 81	747 / 1392 / 66	837 / 849 / 102	1018 / 1061 / 84				

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]			95												100												105											
Panel Angle			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge									
																														(Data grid with multiple rows and columns of numerical values for wind speed and panel angles)								

Exposure Category : B

		ASCE Group Zone		
Panel Angle	Gable		Hip	
0 - 7	1 = 1' / 1			NA
	2 = 2			NA
	3 = 3			NA
7 - 20	1 = 1			1 = 1
	2 = 2			2 = 2
20 - 27	1 = 1			1 = 1
	2 = 2			2 = 2
27 - 45	1 = 1			1 = 1
	2 = 2			2 = 2
45 - 90	1 = 1			1 = 1
	2 = 2			2 = 2
	3 = 3			3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	730 / 944 / 183	600 / 1176 / 149	654 / 1037 / 172	638 / 1264 / 138	677 / 895 / 223	673 / 1092 / 179	563 / 983 / 174	663 / 1209 / 141	738 / 730 / 133	896 / 918 / 110	683 / 1020 / 171	575 / 1249 / 138	647 / 1113 / 160	649 / 1372 / 130	675 / 961 / 208	686 / 1180 / 168	596 / 1058 / 163	703 / 1297 / 132	786 / 789 / 125	955 / 988 / 103	636 / 1086 / 159	564 / 1344 / 130	646 / 1192 / 150	646 / 1445 / 120	669 / 1017 / 192	695 / 1258 / 157	623 / 1121 / 151	747 / 1392 / 124	837 / 849 / 117	1018 / 1061 / 97				
50	1		781 / 944 / 196	642 / 1176 / 160	687 / 1037 / 188	665 / 1264 / 151	707 / 895 / 244	697 / 1092 / 195	563 / 983 / 188	663 / 1209 / 139	738 / 730 / 139	896 / 918 / 115	731 / 1020 / 183	613 / 1249 / 147	679 / 1113 / 175	674 / 1372 / 142	703 / 961 / 227	709 / 1180 / 183	596 / 1058 / 175	703 / 1297 / 142	786 / 789 / 130	955 / 988 / 107	680 / 1086 / 170	600 / 1344 / 170	675 / 1192 / 164	669 / 1445 / 131	695 / 1017 / 210	716 / 1258 / 171	623 / 1121 / 163	747 / 1392 / 133	837 / 849 / 122	1018 / 1061 / 101					
	60		1	883 / 934 / 219	730 / 1176 / 181	754 / 1037 / 220	719 / 1264 / 177	736 / 859 / 273	745 / 1092 / 228	563 / 983 / 214	663 / 1209 / 174	738 / 730 / 150	896 / 918 / 124	835 / 1020 / 208	689 / 1249 / 167	741 / 1113 / 205	725 / 1372 / 167	759 / 961 / 265	754 / 1180 / 214	596 / 1058 / 200	703 / 1297 / 162	786 / 789 / 140	955 / 988 / 116	778 / 1086 / 193	672 / 1344 / 158	733 / 1192 / 192	716 / 1445 / 154	746 / 1017 / 245	758 / 1258 / 199	623 / 1121 / 185	747 / 1392 / 152	837 / 849 / 132	1018 / 1061 / 109				

Exposure Category : B

		ASCE Group Zone	
Panel Angle		Gable	Hip
0 - 7	1 = 1' / 1		NA
	2 = 2		NA
	3 = 3		NA
7 - 20	1 = 1		1 = 1
	2 = 2		2 = 2
20 - 27	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3
27 - 45	1 = 1		1 = 1
	2 = 2		2 = 2
45 - 90	1 = 1		1 = 1
	2 = 2		2 = 2
	3 = 3		3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																																																																
Wind Speed [mph]		95												100												105																																																
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																																													
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																																										
		70	1	951 / 378 / 229	951 / 589 / 229	791 / 503 / 279	810 / 777 / 279	649 / 356 / 299	667 / 555 / 299	415 / 474 / 262	498 / 728 / 262	399 / 350 / 176	572 / 541 / 176	951 / 424 / 229	951 / 658 / 229	791 / 562 / 279	834 / 866 / 279	649 / 399 / 299	690 / 620 / 299	423 / 529 / 262	529 / 811 / 262	436 / 392 / 176	628 / 603 / 176	951 / 472 / 229	951 / 729 / 229	791 / 624 / 279	849 / 949 / 276	649 / 445 / 299	714 / 688 / 299	445 / 587 / 262	561 / 898 / 262	476 / 435 / 176	681 / 662 / 174																																									
80	1		1001 / 352 / 236	1001 / 548 / 236	829 / 481 / 302	847 / 744 / 302	674 / 341 / 322	691 / 531 / 322	423 / 459 / 281	503 / 706 / 281	389 / 342 / 183	558 / 527 / 183	1001 / 394 / 236	1001 / 612 / 236	829 / 538 / 302	869 / 829 / 302	674 / 382 / 322	713 / 593 / 322	431 / 513 / 281	533 / 786 / 281	425 / 382 / 183	612 / 588 / 183	1001 / 439 / 236	1001 / 679 / 236	829 / 598 / 302	893 / 919 / 302	674 / 425 / 322	736 / 658 / 322	452 / 569 / 281	565 / 870 / 281	464 / 424 / 183	670 / 651 / 174																																										
	90		1	1062 / 334 / 246	1062 / 521 / 246	892 / 466 / 325	892 / 720 / 325	702 / 329 / 346	719 / 513 / 346	430 / 445 / 300	508 / 684 / 300	382 / 336 / 192	548 / 518 / 192	1062 / 375 / 246	1062 / 581 / 246	892 / 520 / 325	909 / 802 / 325	702 / 369 / 346	740 / 573 / 346	437 / 496 / 300	537 / 761 / 300	418 / 375 / 192	602 / 578 / 192	1062 / 417 / 246	1062 / 645 / 246	892 / 578 / 325	932 / 888 / 325	702 / 411 / 346	762 / 636 / 346	458 / 551 / 300	567 / 843 / 300	456 / 417 / 192	658 / 640 / 192																																									
			70	1	951 / 522 / 229	951 / 805 / 229	791 / 689 / 279	828 / 990 / 262	649 / 492 / 299	739 / 759 / 299	467 / 647 / 262	571 / 948 / 251	517 / 480 / 176	712 / 699 / 167	951 / 575 / 229	951 / 884 / 229	805 / 758 / 279	815 / 1038 / 250	663 / 542 / 299	765 / 834 / 299	491 / 711 / 262	573 / 984 / 238	560 / 528 / 176	746 / 740 / 161	ASCE Group Zone																																																	
				80	1	1001 / 486 / 236	1001 / 749 / 236	829 / 660 / 302	897 / 990 / 295	674 / 471 / 322	759 / 726 / 322	474 / 627 / 281	592 / 948 / 279	504 / 468 / 183	712 / 699 / 172	1001 / 535 / 236	1001 / 822 / 236	842 / 726 / 302	881 / 1038 / 282	687 / 518 / 322	784 / 797 / 322	497 / 689 / 281	593 / 984 / 264	546 / 515 / 183																	746 / 740 / 172	ASCE Group Zone																																
					90	1	1062 / 461 / 246	1062 / 711 / 246	892 / 639 / 325	934 / 957 / 318	702 / 455 / 346	785 / 701 / 346	479 / 608 / 300	599 / 928 / 300	495 / 460 / 192	712 / 699 / 190	1062 / 508 / 246	1062 / 781 / 246	892 / 702 / 325	947 / 1038 / 314	714 / 500 / 346	809 / 770 / 346	502 / 667 / 300	612 / 984 / 290																	537 / 506 / 192																	746 / 740 / 183	ASCE Group Zone															

Exposure Category : B

Panal Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		140		ASCE Group Zone																																	
150		ASCE Group Zone																																			
160		ASCE Group Zone																																			
170		ASCE Group Zone																																			
180		ASCE Group Zone																																			
190		ASCE Group Zone																																			
200		ASCE Group Zone																																			

Exposure Category : B

Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	1111 / 317 / 253	1111 / 493 / 253	950 / 450 / 346	950 / 695 / 346	735 / 321 / 372	752 / 501 / 372	435 / 430 / 316	511 / 661 / 316	376 / 330 / 200	539 / 509 / 200	1111 / 355 / 253	1111 / 551 / 253	950 / 503 / 346	950 / 775 / 346	735 / 360 / 372	772 / 559 / 372	443 / 480 / 316	539 / 736 / 316	411 / 369 / 200	591 / 568 / 200	1111 / 395 / 253	1111 / 611 / 253	950 / 559 / 346	955 / 848 / 342	735 / 401 / 372	794 / 621 / 372	463 / 533 / 316	568 / 815 / 316	448 / 409 / 200	647 / 629 / 200				
	2	1111 / 441 / 253	1111 / 680 / 253	950 / 622 / 346	950 / 953 / 346	735 / 561 / 372	752 / 861 / 372	435 / 482 / 316	511 / 739 / 316	376 / 428 / 200	539 / 656 / 200	1111 / 493 / 253	1111 / 758 / 253	950 / 693 / 346	939 / 1048 / 342	735 / 626 / 372	772 / 958 / 372	443 / 537 / 316	539 / 822 / 316	411 / 477 / 200	591 / 730 / 200	1111 / 547 / 253	1111 / 839 / 253	950 / 768 / 346	909 / 1104 / 326	735 / 694 / 372	794 / 1060 / 372	463 / 595 / 316	568 / 909 / 316	448 / 529 / 200	636 / 794 / 196						
	3	1111 / 628 / 253	1111 / 961 / 253	950 / 842 / 346	850 / 1148 / 310	735 / 681 / 372	752 / 1040 / 372	435 / 610 / 316	511 / 931 / 316	376 / 428 / 200	539 / 656 / 200	1111 / 700 / 253	1111 / 1069 / 253	950 / 938 / 346	805 / 1209 / 293	735 / 759 / 372	744 / 1115 / 358	443 / 679 / 316	527 / 1012 / 309	411 / 477 / 200	591 / 730 / 200	1111 / 776 / 253	1111 / 1182 / 253	950 / 1038 / 346	784 / 1281 / 281	735 / 840 / 372	727 / 1171 / 341	463 / 752 / 316	530 / 1068 / 295	448 / 529 / 200	636 / 794 / 196						

Exposure Category : B

Wind Speed [mph]		110												115																			
100	1	1111 / 437 / 253	1111 / 674 / 253	950 / 617 / 346	966 / 924 / 338	735 / 444 / 372	816 / 685 / 372	483 / 588 / 316	599 / 898 / 316	487 / 452 / 200	705 / 693 / 200	1111 / 481 / 253	1111 / 740 / 253	950 / 678 / 346	977 / 1001 / 334	747 / 489 / 372	840 / 752 / 372	505 / 645 / 316	632 / 984 / 316	527 / 497 / 200	746 / 740 / 195	ASCE Group Zone											
	2	1111 / 604 / 253	1111 / 925 / 253	950 / 847 / 346	884 / 1155 / 310	735 / 765 / 372	777 / 1110 / 354	483 / 657 / 316	599 / 1001 / 316	487 / 583 / 200	662 / 834 / 188	1111 / 664 / 253	1111 / 1014 / 253	950 / 930 / 346	870 / 1215 / 297	747 / 840 / 372	769 / 1171 / 341	505 / 721 / 316	603 / 1048 / 302	527 / 640 / 200	685 / 871 / 179												
	3	1111 / 855 / 253	1080 / 1265 / 246	905 / 1089 / 330	768 / 1348 / 269	735 / 926 / 372	708 / 1221 / 323	483 / 829 / 316	532 / 1118 / 280	487 / 583 / 200	662 / 834 / 188	1111 / 938 / 253	1034 / 1326 / 236	861 / 1135 / 314	751 / 1409 / 257	747 / 1015 / 372	698 / 1282 / 309	505 / 909 / 316	533 / 1163 / 266	527 / 640 / 200	685 / 871 / 179												

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees













# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof      30-60ft      83in x 41.5in      Load: Up / Down / Side , lbs

Wind Speed [mph]	140											150											160										
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90					
	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge				
30	1	497 / 1103 / 55	454 / 1361 / 45	560 / 1209 / 106	586 / 1485 / 86	594 / 1033 / 138	663 / 1274 / 112	630 / 1138 / 115	754 / 1407 / 94	849 / 863 / 102	1031 / 1076 / 84	473 / 1192 / 52	444 / 1446 / 42	559 / 1280 / 98	613 / 1595 / 80	604 / 1108 / 128	698 / 1361 / 104	670 / 1225 / 108	792 / 1491 / 87	908 / 933 / 95	1104 / 1160 / 78	463 / 1271 / 49	447 / 1567 / 40	571 / 1375 / 92	642 / 1688 / 75	626 / 1185 / 120	739 / 1455 / 98	704 / 1300 / 100	849 / 1611 / 83	959 / 993 / 89	1167 / 1233 / 73		

Exposure Category : C

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]			95												100												105											
Panal Angle			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge									
																														70	1	951 / 522 / 229	951 / 805 / 229	791 / 690 / 279	828 / 991 / 262	649 / 492 / 299	739 / 759 / 299	467 / 647 / 262

Exposure Category : C

Panal Angle	ASCE Group Zone	
	0 - 7	Gable
7 - 20	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x >= 72"	64" to 71"	48" to 63"	x <= 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				83in x 41.5in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]			140																150																160															
Panal Angle			0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
			30	1		445 / 1178 / 51	426 / 1448 / 42	542 / 1281 / 89	614 / 1596 / 73	596 / 1109 / 117	699 / 1362 / 95	671 / 1226 / 101	792 / 1492 / 81	909 / 934 / 94	1105 / 1161 / 78	438 / 1266 / 48	425 / 1555 / 39	558 / 1389 / 84	648 / 1705 / 68	632 / 1197 / 110	745 / 1470 / 89	710 / 1313 / 94	842 / 1598 / 76	968 / 1003 / 88	1178 / 1245 / 72	435 / 1361 / 45	430 / 1679 / 37	579 / 1485 / 79	675 / 1794 / 63	663 / 1275 / 103	786 / 1565 / 83	754 / 1408 / 88	900 / 1719 / 72	1032 / 1077 / 83	1259 / 1337 / 68															
Wind Speed [mph]			170																180																ASCE Group Zone															
Exposure Category : D	Group		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
			30	1	430 / 1446 / 42	424 / 1755 / 34	604 / 1569 / 73	726 / 1944 / 60	699 / 1359 / 97	834 / 1675 / 79	793 / 1492 / 83	953 / 1829 / 67	1087 / 1141 / 78	1330 / 1418 / 64	424 / 1519 / 40	434 / 1890 / 33	636 / 1668 / 69	756 / 2040 / 56	729 / 1434 / 91	877 / 1774 / 75	840 / 1590 / 79	998 / 1924 / 63	1149 / 1212 / 73	1391 / 1488 / 60	ASCE Group Zone																									
Wind Speed [mph]			190																200																															
Exposure Category : D	Group		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
			30	1	424 / 1606 / 38	434 / 1974 / 31	664 / 1756 / 66	800 / 2169 / 54	768 / 1522 / 86	915 / 1860 / 70	882 / 1679 / 74	1060 / 2051 / 60	1222 / 1295 / 70	1465 / 1572 / 57	431 / 1717 / 36	441 / 2090 / 29	687 / 1831 / 62	840 / 2288 / 51	802 / 1602 / 82	967 / 1976 / 67	918 / 1757 / 70	1117 / 2168 / 58	1270 / 1351 / 66	1561 / 1679 / 55																										

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
	1 = 1	1 = 1
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					83in x 41.5in					Load: Up / Down / Side , lbs																										
Wind Speed [mph]		95															100										105											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90									
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge									
		95																																				
100																																						
105																																						
Exposure Category : D	Wind Speed [mph]		110															115										ASCE Group Zone										
	45	1	ASCE Group Zone																																			
		2	ASCE Group Zone																																			
		3	ASCE Group Zone																																			
	50	1	ASCE Group Zone																																			
		2	ASCE Group Zone																																			
		3	ASCE Group Zone																																			
	60	1	ASCE Group Zone																																			
		2	ASCE Group Zone																																			
		3	ASCE Group Zone																																			
	Wind Speed [mph]		120															130										ASCE Group Zone										
	Exposure Category : D	120																																				
130																																						
Exposure Category : D		ASCE Group Zone		ASCE Group Zone															ASCE Group Zone										ASCE Group Zone									
		45	ASCE Group Zone		ASCE Group Zone																																	
			ASCE Group Zone		ASCE Group Zone																																	
			ASCE Group Zone		ASCE Group Zone																																	
		50	ASCE Group Zone		ASCE Group Zone																																	
			ASCE Group Zone		ASCE Group Zone																																	
			ASCE Group Zone		ASCE Group Zone																																	
		60	ASCE Group Zone		ASCE Group Zone																																	
			ASCE Group Zone		ASCE Group Zone																																	
			ASCE Group Zone		ASCE Group Zone																																	

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof      30-60ft      83in x 41.5in      Load: Up / Down / Side , lbs

Wind Speed [mph]	140												150												160											
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge													
45	1	548 / 1178 / 135	510 / 1448 / 109	612 / 1281 / 123	646 / 1596 / 102	652 / 1109 / 160	699 / 1362 / 130	671 / 1226 / 129	792 / 1492 / 104	909 / 934 / 104	1105 / 1161 / 86	533 / 1266 / 126	503 / 1555 / 102	624 / 1389 / 116	659 / 1705 / 94	666 / 1197 / 150	745 / 1470 / 122	710 / 1313 / 120	842 / 1598 / 97	968 / 1003 / 98	1178 / 1245 / 80	525 / 1361 / 119	503 / 1679 / 97	633 / 1485 / 109	675 / 1794 / 87	677 / 1275 / 140	786 / 1565 / 114	754 / 1408 / 113	900 / 1719 / 92	1032 / 1077 / 92	1259 / 1337 / 76					
	2	474 / 1390 / 117	442 / 1707 / 95	531 / 1511 / 107	554 / 1855 / 87	503 / 1446 / 124	546 / 1789 / 102	633 / 1289 / 122	751 / 1574 / 99	828 / 1088 / 95	985 / 1322 / 77	456 / 1475 / 108	431 / 1812 / 88	536 / 1621 / 100	557 / 1955 / 80	513 / 1555 / 116	572 / 1892 / 94	678 / 1397 / 115	811 / 1712 / 93	876 / 1161 / 88	1059 / 1428 / 72	452 / 1597 / 102	427 / 1936 / 82	538 / 1713 / 92	591 / 2126 / 76	520 / 1648 / 108	603 / 2015 / 88	707 / 1468 / 106	848 / 1800 / 86	927 / 1236 / 83	1123 / 1522 / 67					
	3	400 / 1642 / 99	374 / 2018 / 80	459 / 1749 / 92	473 / 2119 / 74	454 / 1569 / 112	492 / 1936 / 92	568 / 1451 / 109	670 / 1758 / 88	828 / 1088 / 95	985 / 1322 / 77	387 / 1749 / 91	368 / 2162 / 75	458 / 1854 / 85	481 / 2258 / 69	468 / 1707 / 106	522 / 2077 / 86	604 / 1560 / 102	717 / 1897 / 83	876 / 1161 / 88	1059 / 1428 / 72	380 / 1874 / 86	361 / 2283 / 70	464 / 1978 / 80	507 / 2436 / 65	471 / 1795 / 98	547 / 2197 / 79	635 / 1653 / 95	759 / 2019 / 77	927 / 1236 / 83	1123 / 1522 / 67					

Wind Speed [mph]	170												180																				
	0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90					
	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge				
45	1	515 / 1446 / 111	492 / 1755 / 89	639 / 1569 / 102	726 / 1944 / 83	699 / 1359 / 132	834 / 1675 / 108	793 / 1492 / 106	953 / 1829 / 86	1087 / 1141 / 86	1330 / 1418 / 71	503 / 1519 / 104	499 / 1890 / 86	653 / 1668 / 96	756 / 2040 / 78	729 / 1434 / 124	877 / 1774 / 102	840 / 1590 / 100	998 / 1924 / 81	1149 / 1212 / 81	1391 / 1488 / 66	ASCE Group Zone											
	2	439 / 1677 / 95	422 / 2043 / 77	548 / 1823 / 87	616 / 2231 / 71	538 / 1758 / 102	645 / 2172 / 84	753 / 1575 / 100	893 / 1907 / 81	984 / 1319 / 78	1178 / 1602 / 63	433 / 1775 / 89	425 / 2184 / 73	554 / 1919 / 82	651 / 2376 / 67	562 / 1855 / 96	667 / 2259 / 77	795 / 1674 / 95	954 / 2045 / 77	1034 / 1393 / 73	1244 / 1698 / 59												
	3	372 / 1984 / 80	362 / 2444 / 66	468 / 2083 / 74	537 / 2599 / 62	484 / 1903 / 92	582 / 2355 / 75	672 / 1763 / 90	814 / 2176 / 74	984 / 1319 / 78	1178 / 1602 / 63	371 / 2125 / 77	361 / 2589 / 62	480 / 2224 / 71	563 / 2745 / 58	514 / 2041 / 88	614 / 2500 / 71	705 / 1860 / 84	843 / 2262 / 68	1034 / 1393 / 73	1244 / 1698 / 59												

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees











# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	396 / 903 / 76	320 / 1114 / 61	444 / 987 / 86	508 / 1221 / 70	509 / 844 / 107	580 / 1045 / 87	551 / 936 / 108	643 / 1150 / 88	711 / 689 / 133	857 / 866 / 110	368 / 970 / 71	299 / 1204 / 58	465 / 1064 / 80	534 / 1311 / 65	532 / 911 / 100	608 / 1119 / 80	584 / 1011 / 101	682 / 1238 / 82	759 / 747 / 125	915 / 934 / 103	344 / 1038 / 66	300 / 1283 / 54	481 / 1130 / 75	555 / 1387 / 60	557 / 979 / 94	639 / 1197 / 75	611 / 1076 / 95	726 / 1332 / 77	808 / 806 / 118	976 / 1006 / 97				
5	1		402 / 903 / 76	324 / 1114 / 61	444 / 987 / 86	508 / 1221 / 70	509 / 844 / 107	580 / 1045 / 87	551 / 936 / 108	643 / 1150 / 88	711 / 689 / 133	857 / 866 / 110	374 / 970 / 71	304 / 1204 / 58	465 / 1064 / 80	534 / 1311 / 65	532 / 911 / 100	608 / 1119 / 80	584 / 1011 / 101	682 / 1238 / 82	759 / 747 / 125	915 / 934 / 103	349 / 1038 / 66	300 / 1283 / 54	481 / 1130 / 75	555 / 1387 / 60	557 / 979 / 94	639 / 1197 / 75	611 / 1076 / 95	726 / 1332 / 77	808 / 806 / 118	976 / 1006 / 97					
	10		1	484 / 903 / 76	390 / 1114 / 61	444 / 987 / 86	508 / 1221 / 70	509 / 844 / 107	580 / 1045 / 87	551 / 936 / 108	643 / 1150 / 88	711 / 689 / 133	857 / 866 / 110	449 / 970 / 71	365 / 1204 / 58	465 / 1064 / 80	534 / 1311 / 65	532 / 911 / 100	608 / 1119 / 80	584 / 1011 / 101	682 / 1238 / 82	759 / 747 / 125	915 / 934 / 103	420 / 1038 / 66	356 / 1283 / 54	481 / 1130 / 75	555 / 1387 / 60	557 / 979 / 94	639 / 1197 / 75	611 / 1076 / 95	726 / 1332 / 77	808 / 806 / 118	976 / 1006 / 97				

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					92.5in x 45.9in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		95															100															105														
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																		
		15	1	686 / 468 / 92	680 / 730 / 92	583 / 614 / 124	493 / 808 / 105	547 / 454 / 147	514 / 670 / 138	486 / 563 / 152	490 / 776 / 135	464 / 364 / 152	580 / 531 / 152	686 / 526 / 92	651 / 781 / 88	561 / 661 / 120	470 / 860 / 100	547 / 510 / 147	497 / 725 / 134	482 / 624 / 150	507 / 820 / 128	464 / 383 / 152	626 / 583 / 150	686 / 587 / 92	617 / 822 / 83	543 / 712 / 116	466 / 899 / 95	547 / 569 / 147	503 / 772 / 128	467 / 672 / 146	521 / 858 / 121	484 / 426 / 152	657 / 622 / 144													

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					92.5in x 45.9in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		140															150															160														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge						
		15	1	565 / 903 / 76	456 / 1114 / 61	471 / 987 / 87	508 / 1221 / 71	509 / 844 / 117	580 / 1045 / 95	551 / 936 / 111	643 / 1150 / 90	711 / 689 / 133	857 / 866 / 110	525 / 970 / 71	427 / 1204 / 58	477 / 1064 / 81	534 / 1311 / 66	532 / 911 / 109	608 / 1119 / 88	584 / 1011 / 104	682 / 1238 / 84	759 / 747 / 125	915 / 934 / 103	490 / 1038 / 66	413 / 1283 / 54	481 / 1130 / 75	555 / 1387 / 61	557 / 979 / 102	639 / 1197 / 82	611 / 1076 / 97	726 / 1332 / 79	808 / 806 / 118	976 / 1006 / 97													

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
				748 / 425 / 84	748 / 668 / 84	681 / 557 / 187	634 / 808 / 174	581 / 388 / 202	581 / 610 / 202	433 / 502 / 192	490 / 776 / 192	460 / 361 / 152	575 / 527 / 152	748 / 477 / 84	748 / 747 / 84	681 / 624 / 187	605 / 860 / 166	581 / 436 / 202	581 / 683 / 202	433 / 561 / 192	507 / 820 / 182	460 / 380 / 152	626 / 583 / 151	748 / 533 / 84	741 / 822 / 83	681 / 694 / 187	594 / 899 / 156	581 / 486 / 202	607 / 758 / 202	433 / 623 / 192	521 / 858 / 172	480 / 422 / 152	657 / 622 / 145				

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		70	1	998 / 319 / 243	998 / 501 / 243	854 / 438 / 301	854 / 682 / 301	700 / 308 / 323	700 / 485 / 323	448 / 415 / 283	483 / 641 / 283	414 / 325 / 189	517 / 474 / 189	998 / 358 / 243	998 / 560 / 243	854 / 491 / 301	854 / 761 / 301	700 / 347 / 323	700 / 542 / 323	448 / 464 / 283	511 / 715 / 283	414 / 342 / 189	567 / 529 / 189	998 / 400 / 243	998 / 622 / 243	854 / 546 / 301	876 / 844 / 301	700 / 387 / 323	721 / 603 / 323	448 / 515 / 283	540 / 792 / 283	432 / 380 / 189	619 / 586 / 189				
80	1		1060 / 299 / 252	1060 / 470 / 252	893 / 419 / 325	893 / 652 / 325	725 / 294 / 347	725 / 463 / 347	451 / 397 / 300	485 / 614 / 300	403 / 316 / 197	504 / 462 / 197	1060 / 336 / 252	1060 / 526 / 252	893 / 469 / 325	893 / 728 / 325	725 / 331 / 347	725 / 518 / 347	451 / 444 / 300	511 / 685 / 300	403 / 333 / 197	552 / 515 / 197	1060 / 375 / 252	1060 / 584 / 252	893 / 522 / 325	914 / 807 / 325	725 / 369 / 347	745 / 576 / 347	451 / 493 / 300	539 / 758 / 300	421 / 370 / 197	603 / 571 / 197					
	90		1	1121 / 283 / 262	1121 / 446 / 262	961 / 405 / 350	961 / 630 / 350	755 / 284 / 372	755 / 447 / 372	463 / 389 / 323	496 / 601 / 323	396 / 311 / 206	495 / 454 / 206	1121 / 318 / 262	1121 / 498 / 262	961 / 453 / 350	961 / 703 / 350	755 / 319 / 372	755 / 500 / 372	463 / 434 / 323	522 / 669 / 323	396 / 327 / 206	543 / 506 / 206	1121 / 355 / 262	1121 / 553 / 262	961 / 504 / 350	961 / 780 / 350	755 / 356 / 372	774 / 555 / 372	463 / 483 / 323	549 / 742 / 323	413 / 364 / 206	593 / 561 / 206				
			ASCE Group Zone																																		
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Exposure Category : B

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					92.5in x 45.9in					Load: Up / Down / Side , lbs																																		
Wind Speed [mph]		140															150															160														
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge										
		70	1	998 / 746 / 243	974 / 1114 / 237	899 / 987 / 295	840 / 1221 / 239	763 / 723 / 323	847 / 1045 / 305	591 / 936 / 280	643 / 1150 / 226	711 / 689 / 186	857 / 866 / 153	998 / 863 / 243	912 / 1204 / 222	877 / 1064 / 275	828 / 1311 / 223	803 / 836 / 323	839 / 1119 / 283	604 / 1011 / 262	682 / 1238 / 211	759 / 747 / 175	915 / 934 / 144	998 / 989 / 243	850 / 1283 / 207	852 / 1130 / 256	812 / 1387 / 207	845 / 958 / 323	837 / 1197 / 265	613 / 1076 / 244	726 / 1332 / 199	808 / 806 / 165	976 / 1006 / 136													

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft					92.5in x 45.9in					Load: Up / Down / Side , lbs																									
Wind Speed [mph]	Panal Angle	95										100										105															
		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge								
		0	1	489 / 694 / 94	404 / 889 / 78	455 / 784 / 109	437 / 964 / 87	501 / 642 / 131	504 / 830 / 109	475 / 740 / 136	547 / 923 / 111	545 / 493 / 152	702 / 677 / 136	473 / 751 / 91	384 / 942 / 74	427 / 822 / 102	455 / 1026 / 83	481 / 690 / 126	523 / 882 / 104	495 / 790 / 130	567 / 973 / 105	597 / 551 / 152	738 / 721 / 130	453 / 799 / 87	364 / 989 / 70	416 / 869 / 97	465 / 1071 / 78	476 / 742 / 121	540 / 930 / 99	510 / 829 / 123	585 / 1017 / 99	637 / 597 / 148	772 / 762 / 124				
0	1	429 / 836 / 82	344 / 1030 / 66	426 / 912 / 93	478 / 1122 / 75	491 / 785 / 116	554 / 972 / 94	526 / 872 / 118	607 / 1068 / 95	666 / 633 / 143	802 / 800 / 118	409 / 876 / 78	332 / 1090 / 64	439 / 961 / 89	496 / 1183 / 72	504 / 825 / 111	572 / 1020 / 90	541 / 910 / 112	634 / 1127 / 91	693 / 666 / 137	838 / 842 / 113	ASCE Group Zone															

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
---------------	------------	------------	---------------

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

### K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side, lbs																															
Wind Speed [mph]		140												150												160															
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90												
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	332 / 1076 / 64	303 / 1318 / 51	491 / 1168 / 72	572 / 1441 / 58	566 / 1007 / 90	662 / 1251 / 73	627 / 1114 / 91	740 / 1366 / 74	837 / 840 / 115	1006 / 1041 / 94	308 / 1152 / 59	318 / 1427 / 48	517 / 1257 / 67	606 / 1551 / 55	594 / 1082 / 84	698 / 1340 / 68	667 / 1202 / 85	790 / 1474 / 69	886 / 900 / 106	1077 / 1123 / 88	292 / 1230 / 55	331 / 1523 / 45	546 / 1353 / 63	634 / 1644 / 51	625 / 1161 / 78	739 / 1436 / 64	701 / 1279 / 80	834 / 1568 / 65	947 / 971 / 101	1155 / 1212 / 83								
0	1		303 / 1315 / 52	341 / 1605 / 42	572 / 1439 / 59	669 / 1755 / 48	652 / 1229 / 73	774 / 1520 / 60	740 / 1363 / 75	886 / 1678 / 61	1002 / 1035 / 95	1208 / 1275 / 77	312 / 1390 / 49	355 / 1703 / 40	594 / 1513 / 56	700 / 1852 / 45	682 / 1304 / 69	817 / 1620 / 57	773 / 1438 / 71	933 / 1778 / 58	1063 / 1106 / 90	1289 / 1366 / 74	ASCE Group Zone																		
	0		1	325 / 1479 / 47	367 / 1789 / 38	621 / 1602 / 53	742 / 1979 / 43	720 / 1392 / 66	855 / 1709 / 54	814 / 1526 / 67	974 / 1864 / 54	1119 / 1171 / 85	1365 / 1452 / 70	336 / 1561 / 45	385 / 1902 / 36	646 / 1682 / 50	763 / 2049 / 40	742 / 1449 / 62	888 / 1788 / 51	852 / 1605 / 64	1030 / 1979 / 52	1168 / 1228 / 81	1433 / 1530 / 67																		
			0	1	303 / 1315 / 52	341 / 1605 / 42	572 / 1439 / 59	669 / 1755 / 48	652 / 1229 / 73	774 / 1520 / 60	740 / 1363 / 75	886 / 1678 / 61	1002 / 1035 / 95	1208 / 1275 / 77	312 / 1390 / 49	355 / 1703 / 40	594 / 1513 / 56	700 / 1852 / 45	682 / 1304 / 69	817 / 1620 / 57	773 / 1438 / 71	933 / 1778 / 58	1063 / 1106 / 90	1289 / 1366 / 74																	
				0	1	325 / 1479 / 47	367 / 1789 / 38	621 / 1602 / 53	742 / 1979 / 43	720 / 1392 / 66	855 / 1709 / 54	814 / 1526 / 67	974 / 1864 / 54	1119 / 1171 / 85	1365 / 1452 / 70	336 / 1561 / 45	385 / 1902 / 36	646 / 1682 / 50	763 / 2049 / 40	742 / 1449 / 62	888 / 1788 / 51	852 / 1605 / 64	1030 / 1979 / 52	1168 / 1228 / 81	1433 / 1530 / 67																

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		95												100								105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90				
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	686 / 683 / 92	577 / 889 / 78	515 / 784 / 110	467 / 964 / 88	531 / 642 / 143	508 / 830 / 119	475 / 740 / 139	547 / 923 / 113	545 / 493 / 152	702 / 677 / 136	674 / 751 / 91	548 / 942 / 74	484 / 822 / 103	474 / 1026 / 84	510 / 690 / 137	523 / 882 / 114	495 / 790 / 133	567 / 973 / 107	597 / 551 / 152	738 / 721 / 130	646 / 799 / 87	519 / 989 / 70	468 / 869 / 98	474 / 1071 / 79	501 / 742 / 133	540 / 930 / 108	510 / 829 / 126	585 / 1017 / 101	637 / 597 / 148	772 / 762 / 124
15	2	611 / 844 / 82	490 / 1039 / 66	439 / 919 / 94	400 / 1130 / 75	422 / 885 / 114	388 / 1085 / 91	451 / 785 / 132	518 / 976 / 107	537 / 628 / 150	659 / 818 / 127	577 / 888 / 78	467 / 1102 / 63	416 / 971 / 89	403 / 1192 / 72	397 / 928 / 107	399 / 1147 / 87	469 / 836 / 126	536 / 1026 / 101	565 / 673 / 144	685 / 860 / 120	548 / 936 / 74	444 / 1160 / 60	399 / 1017 / 84	405 / 1247 / 68	382 / 974 / 101	410 / 1203 / 82	481 / 874 / 119	558 / 1082 / 97	597 / 721 / 139	714 / 905 / 115		
15	3	507 / 994 / 68	415 / 1241 / 56	375 / 1064 / 80	344 / 1306 / 65	380 / 966 / 102	354 / 1197 / 83	402 / 887 / 118	461 / 1094 / 95	537 / 628 / 150	659 / 818 / 127	484 / 1057 / 65	392 / 1303 / 53	357 / 1126 / 76	349 / 1386 / 62	364 / 1028 / 98	363 / 1259 / 79	417 / 938 / 112	480 / 1156 / 91	565 / 673 / 144	685 / 860 / 120	461 / 1114 / 62	369 / 1356 / 50	344 / 1183 / 72	353 / 1460 / 59	348 / 1073 / 92	377 / 1332 / 76	429 / 983 / 106	497 / 1211 / 86	597 / 721 / 139	714 / 905 / 115		

Exposure Category : C

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	473 / 1076 / 64	407 / 1318 / 51	491 / 1168 / 72	572 / 1441 / 59	566 / 1007 / 98	662 / 1251 / 80	627 / 1114 / 93	740 / 1366 / 75	837 / 840 / 115	1006 / 1041 / 94	438 / 1152 / 59	408 / 1427 / 48	517 / 1257 / 68	606 / 1551 / 55	594 / 1082 / 91	698 / 1340 / 74	667 / 1202 / 87	790 / 1474 / 71	886 / 900 / 106	1077 / 1123 / 88	413 / 1230 / 55	406 / 1523 / 45	546 / 1353 / 64	634 / 1644 / 51	625 / 1161 / 86	739 / 1436 / 70	701 / 1279 / 81	834 / 1568 / 66	947 / 971 / 101	1155 / 1212 / 83				

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft		92.5in x 45.9in		Load: Up / Down / Side , lbs																									
Wind Speed [mph]		95																													
Panel Angle		0 - 7						7 - 20						20 - 27						27 - 45						45 - 90					
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
	1	748 / 619 / 84	693 / 889 / 78	663 / 784 / 182	585 / 964 / 145	581 / 566 / 202	614 / 830 / 192	463 / 721 / 192	547 / 923 / 160	541 / 489 / 152	702 / 677 / 137	748 / 693 / 84	658 / 942 / 74	623 / 822 / 171	587 / 1026 / 139	581 / 633 / 202	617 / 882 / 182	495 / 790 / 188	567 / 973 / 152	593 / 546 / 152	738 / 721 / 131	748 / 770 / 84	623 / 989 / 70	600 / 869 / 163	580 / 1071 / 131	588 / 704 / 202	618 / 930 / 173	510 / 829 / 178	585 / 1017 / 143	637 / 597 / 150	772 / 762 / 125
Wind Speed [mph]		100																													
Wind Speed [mph]		105																													
Wind Speed [mph]		110																													
Wind Speed [mph]		115																													
Wind Speed [mph]		120																													
Wind Speed [mph]		130																													

Exposure Category : C

ASCE Group Zone	
Panel Angle	
0 - 7	Gable
	Hip
	1 = 1' / 1
7 - 20	2 = 2
	3 = 3
	1 = 1
20 - 27	2 = 2
	3 = 3
	1 = 1
27 - 45	2 = 2
	3 = 3
	1 = 1
45 - 90	2 = 2
	3 = 3
	1 = 1

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft										92.5in x 45.9in										Load: Up / Down / Side , lbs																																																																				
Wind Speed [mph]	140																														150																														160																													
	0 - 7						7 - 20						20 - 27						27 - 45						45 - 90						0 - 7						7 - 20						20 - 27						27 - 45						45 - 90																																			
Ground Snow	Panel Angle	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																																																												
30	1	1	568 / 1076 / 64	484 / 1318 / 51	580 / 1168 / 120	601 / 1441 / 98	618 / 1007 / 157	662 / 1251 / 128	627 / 1114 / 132	740 / 1366 / 107	837 / 840 / 116	1006 / 1041 / 94	526 / 1152 / 59	480 / 1427 / 48	586 / 1257 / 112	615 / 1551 / 91	626 / 1082 / 146	698 / 1340 / 119	667 / 1202 / 123	790 / 1474 / 100	886 / 900 / 107	1077 / 1123 / 89	496 / 1230 / 55	474 / 1523 / 45	596 / 1353 / 105	634 / 1644 / 85	638 / 1161 / 137	739 / 1436 / 112	701 / 1279 / 115	834 / 1568 / 94	947 / 971 / 101	1155 / 1212 / 84																																																										
35	1	1	618 / 1076 / 67	524 / 1318 / 54	613 / 1168 / 136	628 / 1441 / 110	647 / 1007 / 177	678 / 1251 / 145	627 / 1114 / 145	740 / 1366 / 117	837 / 840 / 121	1006 / 1041 / 99	573 / 1152 / 62	517 / 1427 / 51	616 / 1257 / 103	640 / 1053 / 165	653 / 1082 / 165	698 / 1340 / 134	667 / 1202 / 107	790 / 1474 / 112	886 / 900 / 112	1077 / 1123 / 93	539 / 1230 / 50	509 / 1523 / 41	625 / 1353 / 119	648 / 1644 / 96	664 / 1161 / 155	739 / 1436 / 126	701 / 1279 / 126	834 / 1568 / 103	947 / 971 / 106	1155 / 1212 / 88																																																										
40	1	1	668 / 1076 / 168	564 / 1318 / 135	645 / 1168 / 151	654 / 1441 / 123	676 / 1007 / 197	702 / 1251 / 161	627 / 1114 / 158	740 / 1366 / 128	837 / 840 / 127	1006 / 1041 / 103	619 / 1152 / 156	555 / 1427 / 127	646 / 1257 / 141	665 / 1551 / 115	680 / 1082 / 183	714 / 1340 / 149	667 / 1202 / 148	790 / 1474 / 120	886 / 900 / 118	1077 / 1123 / 97	582 / 1230 / 145	544 / 1523 / 119	653 / 1353 / 133	671 / 1644 / 107	689 / 1161 / 172	739 / 1436 / 140	701 / 1279 / 138	834 / 1568 / 112	947 / 971 / 111	1155 / 1212 / 92																																																										

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees





# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																																																
Wind Speed [mph]		95												100								105																																				
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																													
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																										
		70	1	998 / 465 / 243	998 / 720 / 243	854 / 633 / 301	900 / 964 / 298	700 / 450 / 323	754 / 697 / 323	466 / 596 / 283	585 / 913 / 283	487 / 440 / 189	702 / 677 / 189	998 / 520 / 243	998 / 803 / 243	854 / 707 / 301	888 / 1026 / 285	700 / 503 / 323	782 / 778 / 323	492 / 664 / 283	597 / 973 / 271	533 / 491 / 189	738 / 721 / 181	998 / 578 / 243	998 / 890 / 243	860 / 784 / 301	864 / 1071 / 269	706 / 560 / 323	812 / 862 / 323	519 / 736 / 283	601 / 1017 / 256	582 / 545 / 189	772 / 762 / 173																									
80	1		1060 / 436 / 252	1060 / 676 / 252	893 / 605 / 325	936 / 921 / 347	725 / 430 / 347	777 / 666 / 347	469 / 571 / 300	583 / 875 / 300	474 / 429 / 197	684 / 659 / 197	1060 / 488 / 252	1060 / 753 / 252	893 / 676 / 325	952 / 1014 / 318	725 / 481 / 347	804 / 743 / 347	493 / 636 / 300	620 / 973 / 197	519 / 479 / 197	738 / 721 / 194	1060 / 542 / 252	1060 / 835 / 252	899 / 750 / 322	935 / 1071 / 259	731 / 534 / 347	832 / 823 / 347	519 / 705 / 300	622 / 1017 / 284	567 / 531 / 197	772 / 762 / 185																										
	90		1	1121 / 413 / 262	1121 / 640 / 262	961 / 585 / 350	976 / 889 / 346	755 / 414 / 372	804 / 643 / 372	480 / 558 / 323	592 / 855 / 323	466 / 421 / 206	671 / 648 / 206	1121 / 462 / 262	1121 / 714 / 262	961 / 653 / 350	979 / 967 / 338	755 / 464 / 372	830 / 716 / 372	504 / 622 / 323	628 / 952 / 323	510 / 470 / 206	738 / 721 / 206	1121 / 514 / 262	1121 / 791 / 262	961 / 725 / 350	994 / 1057 / 334	760 / 516 / 372	858 / 794 / 372	530 / 690 / 323	643 / 1017 / 312	557 / 522 / 206	772 / 762 / 197																									
			70	1	998 / 639 / 243	998 / 981 / 243	882 / 865 / 301	849 / 1122 / 256	726 / 618 / 323	843 / 950 / 323	547 / 812 / 283	610 / 1068 / 244	633 / 601 / 189	802 / 800 / 165	998 / 702 / 243	998 / 1077 / 243	894 / 940 / 298	844 / 1183 / 246	748 / 680 / 323	855 / 1020 / 316	577 / 891 / 283	634 / 1127 / 235	687 / 660 / 189	838 / 842 / 158	ASCE Group Zone																																	
				80	1	1060 / 599 / 252	1060 / 921 / 252	919 / 828 / 325	917 / 1122 / 288	751 / 591 / 347	862 / 908 / 347	546 / 778 / 300	630 / 1068 / 176	617 / 586 / 176	802 / 800 / 169	1060 / 659 / 252	1060 / 1010 / 252	930 / 899 / 322	909 / 1183 / 277	771 / 650 / 347	893 / 996 / 300	575 / 854 / 300	644 / 1127 / 261	669 / 643 / 197																	838 / 842 / 169																	
					90	1	1121 / 568 / 262	1121 / 872 / 262	962 / 800 / 350	984 / 1122 / 321	779 / 570 / 372	886 / 876 / 372	556 / 761 / 323	650 / 1068 / 298	606 / 576 / 206	802 / 800 / 188	1121 / 624 / 262	1121 / 957 / 262	971 / 868 / 346	974 / 1183 / 309	799 / 627 / 372	916 / 961 / 323	584 / 835 / 323	663 / 1127 / 287																	657 / 632 / 206	838 / 842 / 180																

Exposure Category : C

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees







# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof

0-30ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Wind Speed [mph]		95										100										105											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	457 / 779 / 88	368 / 967 / 71	415 / 857 / 99	464 / 1061 / 80	470 / 723 / 122	531 / 909 / 100	505 / 817 / 126	582 / 1008 / 101	624 / 582 / 150	757 / 745 / 125	433 / 824 / 83	348 / 1018 / 67	423 / 901 / 94	476 / 1110 / 75	487 / 774 / 117	549 / 960 / 95	522 / 860 / 119	602 / 1057 / 96	658 / 623 / 144	794 / 790 / 119	413 / 872 / 79	332 / 1075 / 64	434 / 947 / 89	491 / 1166 / 72	499 / 814 / 111	565 / 1005 / 90	540 / 906 / 113	626 / 1112 / 91	690 / 662 / 138	836 / 839 / 115

Exposure Category : D

Wind Speed [mph]		110										115																			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
		0	1	392 / 915 / 75	316 / 1126 / 61	448 / 1000 / 85	511 / 1233 / 69	513 / 857 / 106	585 / 1057 / 86	557 / 948 / 107	648 / 1162 / 87	720 / 699 / 132	866 / 877 / 109	372 / 954 / 72	303 / 1188 / 58	460 / 1048 / 81	529 / 1295 / 66	526 / 896 / 101	610 / 1117 / 83	576 / 995 / 103	675 / 1222 / 83	747 / 734 / 126	902 / 919 / 104	<b>ASCE Group Zone</b>							

Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
20 - 27	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]		140																150																160															
Panel Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
		0	1	303 / 1173 / 58	321 / 1449 / 48	523 / 1279 / 66	612 / 1572 / 54	603 / 1103 / 83	707 / 1361 / 67	677 / 1223 / 84	800 / 1495 / 68	902 / 918 / 105	1094 / 1143 / 87	297 / 1263 / 55	336 / 1559 / 45	549 / 1367 / 61	645 / 1680 / 50	631 / 1177 / 76	742 / 1447 / 62	717 / 1312 / 79	851 / 1603 / 64	960 / 987 / 98	1167 / 1227 / 81	305 / 1339 / 51	348 / 1653 / 41	578 / 1462 / 57	686 / 1804 / 47	671 / 1272 / 72	795 / 1568 / 59	749 / 1387 / 73	893 / 1694 / 59	1022 / 1060 / 92	1246 / 1317 / 76																

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																																																																					
Wind Speed [mph]		95												100												105																																																					
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																																																		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																																																		
		15	1	651 / 779 / 88	525 / 967 / 71	455 / 857 / 99	464 / 1061 / 80	484 / 723 / 125	531 / 909 / 102	505 / 817 / 126	582 / 1008 / 101	624 / 582 / 150	757 / 745 / 125	617 / 824 / 83	496 / 1018 / 67	453 / 901 / 94	476 / 1110 / 75	491 / 774 / 120	549 / 960 / 97	522 / 860 / 119	602 / 1057 / 96	658 / 623 / 144	794 / 790 / 119	588 / 872 / 79	473 / 1075 / 64	454 / 947 / 89	491 / 1166 / 72	499 / 814 / 113	565 / 1005 / 91	540 / 906 / 113	626 / 1112 / 91	690 / 662 / 138	836 / 839 / 115																																														
20	1		732 / 765 / 86	600 / 967 / 71	495 / 857 / 112	496 / 1061 / 149	519 / 723 / 149	535 / 909 / 121	505 / 817 / 138	582 / 1008 / 112	624 / 582 / 150	757 / 745 / 125	706 / 824 / 83	567 / 1018 / 67	490 / 901 / 106	496 / 1110 / 86	525 / 774 / 143	549 / 960 / 115	522 / 860 / 131	602 / 1057 / 105	658 / 623 / 144	794 / 790 / 119	673 / 872 / 79	541 / 1075 / 64	490 / 947 / 101	501 / 1166 / 81	526 / 814 / 135	565 / 1005 / 109	540 / 906 / 124	626 / 1112 / 100	690 / 662 / 138	836 / 839 / 115																																															
	25		1	559 / 915 / 75	450 / 1126 / 61	459 / 1000 / 85	511 / 1233 / 69	513 / 857 / 108	585 / 1057 / 87	557 / 948 / 107	648 / 1162 / 87	720 / 699 / 132	866 / 877 / 109	530 / 954 / 72	433 / 1188 / 58	463 / 1048 / 81	529 / 1295 / 66	526 / 896 / 103	610 / 1117 / 84	576 / 995 / 103	675 / 1222 / 83	747 / 734 / 126	902 / 919 / 104	<table border="1"> <thead> <tr> <th rowspan="2">Panel Angle</th> <th colspan="2">ASCE Group Zone</th> </tr> <tr> <th>Gable</th> <th>Hip</th> </tr> </thead> <tbody> <tr> <td rowspan="3">0 - 7</td> <td>1 = 1' / 1</td> <td>NA</td> </tr> <tr> <td>2 = 2</td> <td>NA</td> </tr> <tr> <td>3 = 3</td> <td>NA</td> </tr> <tr> <td rowspan="3">7 - 20</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">20 - 27</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">27 - 45</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> <tr> <td rowspan="3">45 - 90</td> <td>1 = 1</td> <td>1 = 1</td> </tr> <tr> <td>2 = 2</td> <td>2 = 2</td> </tr> <tr> <td>3 = 3</td> <td>3 = 3</td> </tr> </tbody> </table>																Panel Angle	ASCE Group Zone		Gable	Hip	0 - 7	1 = 1' / 1	NA	2 = 2	NA	3 = 3	NA	7 - 20	1 = 1	1 = 1	2 = 2	2 = 2	3 = 3	3 = 3	20 - 27	1 = 1	1 = 1	2 = 2	2 = 2	3 = 3	3 = 3	27 - 45	1 = 1	1 = 1	2 = 2	2 = 2	3 = 3	3 = 3	45 - 90	1 = 1	1 = 1	2 = 2	2 = 2	3 = 3	3 = 3
			Panel Angle	ASCE Group Zone																																																																											
				Gable	Hip																																																																										
			0 - 7	1 = 1' / 1	NA																																																																										
				2 = 2	NA																																																																										
				3 = 3	NA																																																																										
			7 - 20	1 = 1	1 = 1																																																																										
		2 = 2		2 = 2																																																																											
3 = 3		3 = 3																																																																													
20 - 27	1 = 1	1 = 1																																																																													
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	3 = 3	3 = 3																																																																													
27 - 45	1 = 1	1 = 1																																																																													
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Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		15	1	433 / 1173 / 58	407 / 1449 / 48	523 / 1279 / 66	612 / 1572 / 54	603 / 1103 / 84	707 / 1361 / 68	677 / 1223 / 84	800 / 1495 / 68	902 / 918 / 105	1094 / 1143 / 87	414 / 1263 / 55	408 / 1559 / 45	549 / 1367 / 61	645 / 1680 / 50	631 / 1177 / 78	742 / 1447 / 63	717 / 1312 / 79	851 / 1603 / 64	960 / 987 / 98	1167 / 1227 / 81	407 / 1339 / 51	406 / 1653 / 41	578 / 1462 / 57	686 / 1804 / 47	671 / 1272 / 74	795 / 1568 / 60	749 / 1387 / 73	893 / 1694 / 59	1022 / 1060 / 92	1246 / 1317 / 76				
20	1		495 / 1173 / 58	458 / 1449 / 48	523 / 1279 / 75	612 / 1572 / 61	603 / 1103 / 100	707 / 1361 / 81	677 / 1223 / 80	800 / 1495 / 75	902 / 918 / 105	1094 / 1143 / 87	472 / 1263 / 55	455 / 1559 / 45	549 / 1367 / 69	645 / 1680 / 56	631 / 1177 / 93	742 / 1447 / 75	717 / 1312 / 86	851 / 1603 / 70	960 / 987 / 98	1167 / 1227 / 81	461 / 1339 / 51	450 / 1653 / 41	578 / 1462 / 65	686 / 1804 / 53	671 / 1272 / 88	795 / 1568 / 72	749 / 1387 / 80	893 / 1694 / 65	1022 / 1060 / 92	1246 / 1317 / 76					
	25		1	495 / 1173 / 58	458 / 1449 / 48	541 / 1279 / 88	612 / 1572 / 71	603 / 1103 / 116	707 / 1361 / 95	677 / 1223 / 103	800 / 1495 / 84	902 / 918 / 105	1094 / 1143 / 87	472 / 1263 / 55	455 / 1559 / 45	549 / 1367 / 81	645 / 1680 / 66	631 / 1177 / 108	742 / 1447 / 87	717 / 1312 / 96	851 / 1603 / 78	960 / 987 / 98	1167 / 1227 / 81	461 / 1339 / 51	450 / 1653 / 41	578 / 1462 / 76	686 / 1804 / 62	671 / 1272 / 102	795 / 1568 / 83	749 / 1387 / 89	893 / 1694 / 72	1022 / 1060 / 92	1246 / 1317 / 76				

Exposure Category : D

ASCE Group Zone	
Panal Angle	
0 - 7	Gable
	Hip
	1 = 1' / 1
7 - 20	2 = 2
	3 = 3
	1 = 1
20 - 27	2 = 2
	3 = 3
	1 = 1
27 - 45	2 = 2
	3 = 3
	1 = 1
45 - 90	2 = 2
	3 = 3
	1 = 1

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
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h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------









# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		95												100								105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90				
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		70	1	951 / 593 / 237	951 / 914 / 237	818 / 783 / 280	820 / 1061 / 248	675 / 559 / 301	781 / 862 / 301	507 / 735 / 267	586 / 1008 / 239	575 / 536 / 182	757 / 745 / 165	951 / 662 / 237	951 / 1018 / 237	841 / 873 / 280	800 / 1110 / 233	698 / 624 / 301	815 / 960 / 301	539 / 818 / 267	602 / 1057 / 226	631 / 598 / 182	794 / 790 / 157	951 / 735 / 237	907 / 1075 / 226	848 / 947 / 274	789 / 1166 / 221	722 / 693 / 301	805 / 1005 / 285	572 / 906 / 267	626 / 1112 / 215	690 / 662 / 182	836 / 839 / 151

Exposure Category : D

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		0-30ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90							
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge								
	100	1	1123 / 503 / 263	1123 / 776 / 263	950 / 701 / 346	989 / 1036 / 334	749 / 498 / 368	842 / 768 / 368	519 / 667 / 320	643 / 1008 / 316	541 / 504 / 205	757 / 745 / 197	1123 / 562 / 263	1123 / 864 / 263	950 / 781 / 346	983 / 1110 / 322	768 / 557 / 368	873 / 856 / 368	547 / 743 / 320	647 / 1057 / 298	594 / 562 / 205	794 / 790 / 188	1123 / 624 / 263	1123 / 957 / 263	960 / 856 / 342	962 / 1166 / 305	790 / 618 / 368	905 / 948 / 368	577 / 823 / 320	655 / 1112 / 284	649 / 623 / 205	836 / 839 / 181					
	2	1123 / 696 / 263	1123 / 1064 / 263	950 / 962 / 346	869 / 1242 / 293	749 / 858 / 368	760 / 1181 / 332	519 / 746 / 320	607 / 1060 / 298	541 / 651 / 205	707 / 893 / 185	1123 / 775 / 263	1123 / 1184 / 263	939 / 1058 / 342	846 / 1303 / 277	768 / 955 / 368	756 / 1259 / 319	547 / 830 / 320	616 / 1121 / 284	594 / 724 / 205	732 / 934 / 174	1123 / 859 / 263	1077 / 1255 / 252	914 / 1115 / 326	821 / 1356 / 261	790 / 1058 / 368	740 / 1313 / 301	577 / 919 / 320	622 / 1176 / 270	649 / 802 / 205	768 / 988 / 166						
	3	1123 / 984 / 263	1016 / 1353 / 238	849 / 1160 / 309	748 / 1437 / 253	749 / 1038 / 368	699 / 1309 / 305	519 / 941 / 320	541 / 1188 / 266	541 / 651 / 205	707 / 893 / 185	1123 / 1095 / 263	954 / 1413 / 223	805 / 1222 / 293	722 / 1492 / 236	740 / 1113 / 354	681 / 1368 / 287	535 / 1023 / 313	545 / 1249 / 252	594 / 724 / 205	732 / 934 / 174	1123 / 1211 / 263	908 / 1485 / 212	788 / 1295 / 281	719 / 1592 / 228	722 / 1169 / 337	674 / 1441 / 274	532 / 1066 / 295	556 / 1321 / 241	649 / 802 / 205	768 / 988 / 166						

Exposure Category : D

Wind Speed [mph]		110												115																							
100	1	1123 / 689 / 263	1123 / 1054 / 263	971 / 932 / 338	954 / 1233 / 293	812 / 682 / 368	939 / 1044 / 368	609 / 907 / 320	662 / 1162 / 270	707 / 687 / 205	866 / 877 / 172	1123 / 757 / 263	1123 / 1156 / 263	983 / 1011 / 334	944 / 1295 / 281	836 / 750 / 368	951 / 1117 / 359	642 / 995 / 320	675 / 1222 / 259	747 / 734 / 199	902 / 919 / 164	ASCE Group Zone															
	2	1123 / 947 / 263	1031 / 1323 / 241	889 / 1167 / 309	808 / 1421 / 248	783 / 1122 / 354	733 / 1380 / 287	602 / 1000 / 316	636 / 1242 / 259	675 / 843 / 196	801 / 1039 / 159	1123 / 1039 / 263	985 / 1384 / 230	863 / 1212 / 293	807 / 1506 / 240	765 / 1168 / 337	725 / 1441 / 274	606 / 1047 / 302	638 / 1285 / 244	699 / 881 / 186	831 / 1085 / 151																
	3	1062 / 1260 / 248	862 / 1550 / 202	760 / 1342 / 265	702 / 1656 / 216	713 / 1235 / 323	664 / 1507 / 260	540 / 1131 / 284	565 / 1387 / 230	675 / 843 / 196	801 / 1039 / 159	1016 / 1321 / 238	831 / 1637 / 195	743 / 1403 / 253	698 / 1744 / 208	693 / 1278 / 305	666 / 1593 / 251	541 / 1176 / 270	572 / 1447 / 219	699 / 881 / 186	831 / 1085 / 151																

Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees





# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																												
Wind Speed [mph]		140												150												160												
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90									
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		
		140		[Data for Wind Speed 140]																																		
150		[Data for Wind Speed 150]																																				
160		[Data for Wind Speed 160]																																				
Exposure Category : B	Wind Speed [mph]		170												180												ASCE Group Zone											
	170		[Data for Wind Speed 170]																																			
	180		[Data for Wind Speed 180]																																			
	ASCE Group Zone		[Data for ASCE Group Zone]																																			
	190		[Data for Wind Speed 190]																																			
	200		[Data for Wind Speed 200]																																			

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
---------	------------	------------	---------

Panel Angle	ASCE Group Zone	
0 - 7	Gable	Hip
	1 = 1' / 1	NA
	2 = 2	NA
7 - 20	3 = 3	NA
	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	3 = 3	3 = 3
	1 = 1	1 = 1
	2 = 2	2 = 2



**K2 80-X Dual Rail System (ASCE 7-22)**

Enclosed Hip/Gable Roof			30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																																																																											
Wind Speed [mph]	140																												150																160																																									
	0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90																																																									
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																																																									
15	1	507 / 995 / 68	419 / 1242 / 56	476 / 1088 / 78	544 / 1348 / 64	541 / 937 / 106	623 / 1156 / 86	593 / 1035 / 100	698 / 1274 / 81	777 / 770 / 121	943 / 967 / 100	473 / 1071 / 63	413 / 1332 / 52	489 / 1163 / 72	569 / 1435 / 59	570 / 1014 / 99	659 / 1245 / 80	625 / 1109 / 93	737 / 1360 / 75	834 / 837 / 114	1001 / 1036 / 93	444 / 1151 / 59	405 / 1408 / 48	518 / 1258 / 69	598 / 1530 / 55	595 / 1081 / 92	690 / 1322 / 74	659 / 1186 / 87	780 / 1454 / 71	884 / 897 / 107	1077 / 1123 / 89																																																							
	170	1	416 / 1220 / 56	402 / 1491 / 45	536 / 1324 / 64	633 / 1640 / 52	622 / 1151 / 87	724 / 1406 / 70	697 / 1270 / 83	832 / 1563 / 67	939 / 961 / 102	1132 / 1187 / 83	412 / 1296 / 53	405 / 1589 / 43	558 / 1399 / 60	665 / 1740 / 49	644 / 1211 / 81	767 / 1503 / 67	731 / 1345 / 78	863 / 1631 / 63	987 / 1018 / 96	1193 / 1258 / 78	ASCE Group Zone																																																															
		180	1	406 / 1364 / 50	406 / 1677 / 40	585 / 1487 / 57	692 / 1827 / 47	671 / 1278 / 77	805 / 1593 / 63	761 / 1411 / 73	921 / 1751 / 60	1042 / 1082 / 91	1267 / 1341 / 75	407 / 1444 / 47	405 / 1754 / 38	610 / 1567 / 54	731 / 1943 / 45	705 / 1357 / 73	839 / 1673 / 60	798 / 1491 / 70	957 / 1829 / 57	1091 / 1140 / 86													1334 / 1418 / 71	ASCE Group Zone																																																		
			190	1	406 / 1364 / 50	449 / 1677 / 40	585 / 1487 / 70	692 / 1827 / 57	671 / 1278 / 92	805 / 1593 / 76	761 / 1411 / 83	921 / 1751 / 69	1042 / 1082 / 91	1267 / 1341 / 75	457 / 1444 / 47	446 / 1754 / 38	610 / 1567 / 66	731 / 1943 / 54	705 / 1357 / 88	839 / 1673 / 72	798 / 1491 / 79	957 / 1829 / 65													1091 / 1140 / 86													1334 / 1418 / 71	ASCE Group Zone																																					
				200	1	460 / 1364 / 50	449 / 1677 / 40	585 / 1487 / 70	692 / 1827 / 57	671 / 1278 / 92	805 / 1593 / 76	761 / 1411 / 83	921 / 1751 / 69	1042 / 1082 / 91	1267 / 1341 / 75	457 / 1444 / 47	446 / 1754 / 38	610 / 1567 / 66	731 / 1943 / 54	705 / 1357 / 88	839 / 1673 / 72	798 / 1491 / 79													957 / 1829 / 65													1091 / 1140 / 86													1334 / 1418 / 71	ASCE Group Zone																								
					210	1	460 / 1364 / 50	449 / 1677 / 40	585 / 1487 / 70	692 / 1827 / 57	671 / 1278 / 92	805 / 1593 / 76	761 / 1411 / 83	921 / 1751 / 69	1042 / 1082 / 91	1267 / 1341 / 75	457 / 1444 / 47	446 / 1754 / 38	610 / 1567 / 66	731 / 1943 / 54	705 / 1357 / 88	839 / 1673 / 72													798 / 1491 / 79													957 / 1829 / 65													1091 / 1140 / 86													1334 / 1418 / 71	ASCE Group Zone											

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
		30	1	748 / 529 / 83	748 / 824 / 83	681 / 690 / 187	598 / 902 / 158	581 / 483 / 202	605 / 753 / 202	433 / 619 / 192	518 / 853 / 172	478 / 420 / 152	659 / 623 / 146	748 / 593 / 83	706 / 869 / 79	675 / 764 / 185	587 / 944 / 148	581 / 542 / 202	619 / 819 / 197	448 / 691 / 192	539 / 904 / 163	522 / 469 / 152	688 / 660 / 139	748 / 660 / 83	672 / 917 / 75	640 / 805 / 175	588 / 1001 / 142	581 / 603 / 202	615 / 858 / 186	486 / 767 / 192	557 / 949 / 155	570 / 521 / 152	721 / 701 / 133				
35	1		784 / 510 / 85	784 / 794 / 85	700 / 660 / 202	641 / 902 / 202	596 / 466 / 220	620 / 727 / 220	428 / 598 / 203	518 / 853 / 189	470 / 413 / 157	659 / 623 / 153	784 / 571 / 85	768 / 869 / 84	700 / 738 / 202	628 / 944 / 202	596 / 522 / 220	649 / 811 / 220	438 / 667 / 203	539 / 904 / 179	514 / 462 / 157	688 / 660 / 146	784 / 636 / 85	731 / 917 / 80	688 / 805 / 175	626 / 1001 / 161	596 / 581 / 220	649 / 858 / 210	469 / 740 / 203	557 / 949 / 179	561 / 513 / 152	721 / 701 / 140					
	40		1	814 / 490 / 203	814 / 763 / 203	722 / 637 / 218	684 / 902 / 200	609 / 449 / 235	632 / 700 / 235	430 / 582 / 215	518 / 853 / 205	463 / 407 / 161	659 / 623 / 160	814 / 549 / 203	814 / 852 / 203	722 / 712 / 218	668 / 944 / 187	609 / 503 / 235	660 / 781 / 215	440 / 649 / 195	539 / 904 / 161	506 / 454 / 152	688 / 660 / 152	814 / 611 / 203	790 / 917 / 197	722 / 791 / 218	665 / 1001 / 179	609 / 560 / 235	684 / 858 / 233	466 / 720 / 215	557 / 949 / 185	552 / 505 / 161	721 / 701 / 146				
			45	1	814 / 490 / 203	814 / 763 / 203	722 / 637 / 218	684 / 902 / 200	609 / 449 / 235	632 / 700 / 235	430 / 582 / 215	518 / 853 / 205	463 / 407 / 161	659 / 623 / 160	814 / 549 / 203	814 / 852 / 203	722 / 712 / 218	668 / 944 / 187	609 / 503 / 235	660 / 781 / 215	440 / 649 / 195	539 / 904 / 161	506 / 454 / 152	688 / 660 / 152	814 / 611 / 203	790 / 917 / 197	722 / 791 / 218	665 / 1001 / 179	609 / 560 / 235	684 / 858 / 233	466 / 720 / 215	557 / 949 / 185	552 / 505 / 161	721 / 701 / 146			

Exposure Category : B

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		30	1	609 / 995 / 68	502 / 1242 / 56	581 / 1088 / 129	595 / 1348 / 105	615 / 937 / 170	637 / 1156 / 137	593 / 1035 / 142	698 / 1274 / 115	777 / 770 / 123	943 / 967 / 101	568 / 1071 / 63	491 / 1332 / 52	579 / 1163 / 120	599 / 1435 / 98	623 / 1014 / 159	659 / 1245 / 128	625 / 1109 / 132	737 / 1360 / 107	834 / 837 / 116	1001 / 1036 / 94	533 / 1151 / 59	477 / 1408 / 48	589 / 1258 / 113	610 / 1530 / 91	628 / 1081 / 148	690 / 1322 / 119	659 / 1186 / 123	780 / 1454 / 100	884 / 897 / 109	1077 / 1123 / 90				

Exposure Category : B

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof      30-60ft      92.5in x 45.9in      Load: Up / Down / Side , lbs

Wind Speed [mph]		140												150												160											
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		45	1	770 / 995 / 192	633 / 1242 / 158	687 / 1088 / 180	681 / 1348 / 147	709 / 937 / 234	713 / 1156 / 189	593 / 1035 / 183	698 / 1274 / 149	777 / 770 / 140	943 / 967 / 116	718 / 1071 / 179	613 / 1332 / 147	676 / 1163 / 167	679 / 1435 / 136	712 / 1014 / 219	724 / 1245 / 177	625 / 1109 / 171	737 / 1360 / 138	834 / 837 / 132	1001 / 1036 / 108	674 / 1151 / 168	590 / 1408 / 136	682 / 1258 / 158	684 / 1530 / 127	711 / 1081 / 204	730 / 1322 / 164	659 / 1186 / 160	780 / 1454 / 130	884 / 897 / 124	1077 / 1123 / 103				

Exposure Category : B

Wind Speed [mph]		170												180													
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
		45	1	631 / 1220 / 158	575 / 1491 / 127	674 / 1324 / 147	698 / 1640 / 120	715 / 1151 / 192	743 / 1406 / 155	697 / 1270 / 151	832 / 1563 / 123	939 / 961 / 117	1132 / 1187 / 96	615 / 1296 / 149	569 / 1589 / 120	674 / 1399 / 138	709 / 1740 / 114	716 / 1211 / 179	767 / 1503 / 147	731 / 1345 / 143	863 / 1631 / 115	987 / 1018 / 111	1193 / 1258 / 91	ASCE Group Zone			

Panel Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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Notation (ASCE 7-22)  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees









K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof | 30-60ft | 92.5in x 45.9in | Load: Up / Down / Side , lbs

Wind Speed [mph] | 95 | 100 | 105

Panel Angle | 0 - 7 | 7 - 20 | 20 - 27 | 27 - 45 | 45 - 90

Ground Snow | Group | Array Interior | Array Edge | ...

Wind Speed [mph] | 110 | 115

Wind Speed [mph] | 120 | 130

ASCE Group Zone

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22) a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances. B = Horizontal dimension of building measured normal to wind direction, in ft(m). h = Mean roof height, in ft(m). θ = Angle of roof from horizontal, in degrees

Span color-coded table: x ≥ 72", 64" to 71", 48" to 63", x ≤ 47"









# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof			30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																																					
Wind Speed [mph]	140																150																160															
	0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90											
Ground Snow	Panel Angle	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge											
			30	1	526 / 1167 / 59	474 / 1423 / 47	590 / 1274 / 112	610 / 1544 / 90	631 / 1097 / 146	696 / 1337 / 118	666 / 1202 / 122	787 / 1469 / 99	897 / 912 / 107	1091 / 1138 / 89	499 / 1258 / 55	470 / 1531 / 44	595 / 1363 / 104	647 / 1682 / 85	639 / 1172 / 136	742 / 1445 / 110	705 / 1289 / 114	837 / 1575 / 92	956 / 982 / 100	1164 / 1223 / 83	486 / 1336 / 51	472 / 1655 / 42	606 / 1460 / 98	675 / 1773 / 78	660 / 1249 / 127	782 / 1541 / 103	749 / 1384 / 107	895 / 1697 / 87	1018 / 1054 / 94	1225 / 1294 / 77														

Exposure Category : C

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		95												100								105											
Panal Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	840 / 650 / 210	805 / 960 / 201	740 / 841 / 231	689 / 1042 / 187	625 / 602 / 251	713 / 901 / 244	494 / 773 / 226	580 / 1001 / 192	590 / 549 / 166	751 / 738 / 146	840 / 726 / 210	761 / 1011 / 190	724 / 893 / 220	686 / 1104 / 178	645 / 673 / 251	711 / 953 / 232	522 / 853 / 224	600 / 1050 / 181	648 / 612 / 166	789 / 783 / 139	840 / 806 / 210	726 / 1068 / 182	712 / 940 / 209	681 / 1161 / 169	671 / 747 / 251	706 / 999 / 219	538 / 899 / 214	624 / 1106 / 173	685 / 656 / 160	822 / 824 / 132

Exposure Category : C

ASCE Group Zone		
Panal Angle	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees



K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof

30-60ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Table with columns for Wind Speed [mph] (95, 100, 105) and Panal Angle (0-7, 7-20, 20-27, 27-45, 45-90). Rows include Ground Snow and Group (1, 2, 3) for 70, 80, and 90 exposure categories.

Exposure Category : C

Table with columns for Wind Speed [mph] (110, 115, 120, 130) and Panal Angle (0-7, 7-20, 20-27, 27-45, 45-90). Rows include Ground Snow and Group (1, 2, 3) for 70, 80, and 90 exposure categories.

ASCE Group Zone table with columns for Panal Angle, Gable, and Hip. Rows show combinations of Panal Angle and Exposure Category (0-7, 7-20, 20-27, 27-45, 45-90).

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.
B = Horizontal dimension of building measured normal to wind direction, in ft(m).
h = Mean roof height, in ft(m).
theta = Angle of roof from horizontal, in degrees

Color-coded span table: x >= 72" (green), 64" to 71" (blue), 48" to 63" (yellow), x <= 47" (grey)











# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																											
Wind Speed [mph]		95												100												105											
Panal Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90								
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	611 / 833 / 82	496 / 1038 / 66	453 / 910 / 92	477 / 1118 / 74	492 / 783 / 118	552 / 969 / 95	525 / 869 / 117	613 / 1078 / 95	664 / 631 / 142	800 / 798 / 118	582 / 886 / 78	467 / 1089 / 63	455 / 961 / 87	494 / 1180 / 70	504 / 827 / 112	570 / 1019 / 90	546 / 920 / 111	632 / 1125 / 90	700 / 674 / 136	838 / 843 / 112	548 / 924 / 73	444 / 1145 / 59	456 / 1007 / 83	516 / 1252 / 67	520 / 875 / 107	592 / 1076 / 86	565 / 966 / 106	656 / 1180 / 85	726 / 708 / 129	881 / 893 / 107				
20	1		699 / 833 / 82	567 / 1038 / 66	490 / 910 / 105	496 / 1118 / 84	526 / 783 / 141	552 / 969 / 114	525 / 869 / 129	613 / 1078 / 105	664 / 631 / 142	800 / 798 / 118	666 / 886 / 78	534 / 1089 / 63	491 / 961 / 100	502 / 1180 / 80	528 / 827 / 134	570 / 1019 / 108	546 / 920 / 123	632 / 1125 / 99	700 / 674 / 136	838 / 843 / 112	627 / 924 / 73	508 / 1145 / 59	490 / 1007 / 94	516 / 1252 / 77	534 / 875 / 128	592 / 1076 / 103	565 / 966 / 117	656 / 1180 / 94	726 / 708 / 129	881 / 893 / 107					
	25		1	699 / 833 / 82	567 / 1038 / 66	490 / 910 / 123	496 / 1118 / 99	560 / 783 / 164	569 / 969 / 132	525 / 869 / 144	613 / 1078 / 117	664 / 631 / 142	800 / 798 / 118	666 / 886 / 78	534 / 1089 / 63	526 / 961 / 117	530 / 1180 / 94	560 / 827 / 155	574 / 1019 / 125	546 / 920 / 137	632 / 1125 / 110	700 / 674 / 136	838 / 843 / 112	627 / 924 / 73	508 / 1145 / 59	523 / 1007 / 110	540 / 1252 / 90	564 / 875 / 148	592 / 1076 / 119	565 / 966 / 130	656 / 1180 / 105	726 / 708 / 129	881 / 893 / 107				
			30	1	699 / 833 / 82	567 / 1038 / 66	490 / 910 / 99	496 / 1118 / 84	560 / 783 / 164	569 / 969 / 132	525 / 869 / 144	613 / 1078 / 117	664 / 631 / 142	800 / 798 / 118	666 / 886 / 78	534 / 1089 / 63	526 / 961 / 117	530 / 1180 / 94	560 / 827 / 155	574 / 1019 / 125	546 / 920 / 137	632 / 1125 / 110	700 / 674 / 136	838 / 843 / 112	627 / 924 / 73	508 / 1145 / 59	523 / 1007 / 110	540 / 1252 / 90	564 / 875 / 148	592 / 1076 / 119	565 / 966 / 130	656 / 1180 / 105	726 / 708 / 129	881 / 893 / 107			

Exposure Category : D

Panal Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft					92.5in x 45.9in					Load: Up / Down / Side , lbs																					
Wind Speed [mph]		140										150										160											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	417 / 1259 / 55	404 / 1533 / 44	549 / 1365 / 62	648 / 1684 / 51	630 / 1173 / 79	742 / 1447 / 64	706 / 1291 / 78	837 / 1577 / 63	957 / 983 / 99	1165 / 1224 / 82	412 / 1349 / 51	404 / 1641 / 41	574 / 1451 / 57	681 / 1791 / 47	666 / 1262 / 74	789 / 1556 / 60	744 / 1376 / 73	904 / 1715 / 60	1015 / 1052 / 92	1237 / 1307 / 76	404 / 1424 / 47	410 / 1765 / 39	602 / 1545 / 53	721 / 1916 / 44	696 / 1338 / 68	829 / 1650 / 56	787 / 1470 / 68	944 / 1803 / 55	1091 / 1139 / 88	1317 / 1398 / 71

Exposure Category : D

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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## K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																							
Wind Speed [mph]		95												100								105											
Panel Angle		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90		0 - 7		7 - 20		20 - 27		27 - 45		45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		30	1	699 / 833 / 82	567 / 1038 / 66	565 / 910 / 141	556 / 1118 / 114	593 / 783 / 187	596 / 969 / 151	525 / 869 / 159	613 / 1078 / 129	664 / 631 / 142	800 / 798 / 118	666 / 886 / 78	534 / 1089 / 63	562 / 961 / 134	558 / 1180 / 108	592 / 827 / 177	600 / 1019 / 142	546 / 920 / 151	632 / 1125 / 122	700 / 674 / 136	838 / 843 / 112	627 / 924 / 73	508 / 1145 / 59	557 / 1007 / 127	567 / 1252 / 103	594 / 875 / 169	608 / 1076 / 136	565 / 966 / 143	656 / 1180 / 115	726 / 708 / 129	881 / 893 / 107

Exposure Category : D

Wind Speed [mph]		110												115															
30	1	600 / 977 / 70	482 / 1196 / 56	557 / 1059 / 121	567 / 1300 / 98	595 / 918 / 161	615 / 1127 / 129	580 / 1006 / 136	686 / 1246 / 111	763 / 752 / 125	920 / 940 / 103	574 / 1025 / 67	472 / 1257 / 54	556 / 1105 / 115	572 / 1361 / 93	595 / 956 / 152	637 / 1188 / 124	607 / 1065 / 131	714 / 1307 / 106	791 / 786 / 119	956 / 983 / 98	ASCE Group Zone							
	2	508 / 1133 / 59	416 / 1409 / 49	476 / 1236 / 103	491 / 1530 / 85	454 / 1192 / 123	473 / 1465 / 100	554 / 1070 / 129	647 / 1309 / 105	706 / 893 / 115	837 / 1094 / 93	488 / 1195 / 57	404 / 1470 / 46	478 / 1297 / 99	492 / 1589 / 80	459 / 1253 / 118	484 / 1524 / 123	571 / 1116 / 100	672 / 1369 / 100	736 / 939 / 111	877 / 1153 / 90								
	3	429 / 1346 / 50	350 / 1661 / 41	409 / 1427 / 89	423 / 1768 / 73	411 / 1302 / 111	434 / 1617 / 91	494 / 1200 / 115	580 / 1472 / 94	706 / 893 / 115	837 / 1094 / 93	409 / 1406 / 48	344 / 1750 / 40	415 / 1512 / 86	429 / 1857 / 70	414 / 1362 / 106	442 / 1674 / 86	506 / 1243 / 109	598 / 1530 / 89	736 / 939 / 111	877 / 1153 / 90								

Panel Angle	ASCE Group Zone	
	Gable	Hip
0 - 7	1 = 1' / 1	NA
	2 = 2	NA
	3 = 3	NA
7 - 20	1 = 1	1 = 1
	2 = 2	2 = 2
20 - 27	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3
27 - 45	1 = 1	1 = 1
	2 = 2	2 = 2
45 - 90	1 = 1	1 = 1
	2 = 2	2 = 2
	3 = 3	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees





**K2 80-X Dual Rail System (ASCE 7-22)**

Enclosed Hip/Gable Roof

30-60ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140												150												160															
Panel Angle		0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				0 - 7				7 - 20				20 - 27				27 - 45				45 - 90			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		45	1	586 / 1259 / 144	540 / 1533 / 116	652 / 1365 / 131	681 / 1684 / 107	690 / 1173 / 170	742 / 1447 / 138	706 / 1291 / 136	837 / 1577 / 110	957 / 983 / 110	1165 / 1224 / 91	569 / 1349 / 134	530 / 1641 / 108	652 / 1451 / 121	692 / 1791 / 99	702 / 1262 / 158	789 / 1556 / 129	744 / 1376 / 126	904 / 1715 / 104	1015 / 1052 / 102	1237 / 1307 / 84	549 / 1424 / 124	529 / 1765 / 102	659 / 1545 / 113	721 / 1916 / 93	710 / 1338 / 147	829 / 1650 / 120	787 / 1470 / 118	944 / 1803 / 96	1091 / 1139 / 97	1317 / 1398 / 79								

Wind Speed [mph]		170												180												ASCE Group Zone	
Exposure Category : D	Panel Angle	0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				ASCE Group Zone					
		45	1	546 / 1533 / 118	526 / 1876 / 96	674 / 1655 / 107	756 / 2025 / 87	731 / 1422 / 138	877 / 1761 / 113	839 / 1578 / 112	996 / 1911 / 90	1146 / 1203 / 91	1410 / 1503 / 75	531 / 1603 / 110	521 / 1972 / 90	686 / 1753 / 101	804 / 2167 / 83	773 / 1519 / 131	919 / 1858 / 107	886 / 1677 / 106	1063 / 2049 / 86	1207 / 1274 / 85	1468 / 1571 / 70	NA			

Wind Speed [mph]		190												200												ASCE Group Zone	
Exposure Category : D	Panel Angle	0 - 7				7 - 20				20 - 27				27 - 45				45 - 90				ASCE Group Zone					
		45	1	525 / 1691 / 104	526 / 2100 / 86	695 / 1839 / 95	826 / 2241 / 77	811 / 1608 / 125	976 / 1985 / 102	927 / 1765 / 100	1126 / 2179 / 82	1280 / 1357 / 82	1572 / 1687 / 67	528 / 1803 / 100	530 / 2219 / 81	733 / 1954 / 91	864 / 2354 / 73	845 / 1688 / 118	1006 / 2055 / 95	962 / 1840 / 94	1154 / 2239 / 76	1348 / 1433 / 78	1639 / 1763 / 64	NA			

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	$64''$ to $71''$	$48''$ to $63''$	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Enclosed Hip/Gable Roof		30-60ft				92.5in x 45.9in				Load: Up / Down / Side , lbs																																					
Wind Speed [mph]		95												100								105																									
Panel Angle		0 - 7			7 - 20			20 - 27			27 - 45			45 - 90			0 - 7			7 - 20			20 - 27			27 - 45			45 - 90																		
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge															
		70	1	951 / 676 / 235	951 / 1038 / 235	846 / 891 / 280	796 / 1118 / 230	702 / 637 / 301	813 / 969 / 298	545 / 835 / 267	613 / 1078 / 226	642 / 610 / 182	800 / 798 / 156	951 / 754 / 235	896 / 1089 / 221	845 / 961 / 271	786 / 1180 / 218	728 / 711 / 301	805 / 1019 / 282	574 / 920 / 264	632 / 1125 / 212	700 / 674 / 181	838 / 843 / 148	951 / 837 / 235	852 / 1145 / 210	825 / 1007 / 257	786 / 1252 / 210	755 / 789 / 301	804 / 1076 / 268	580 / 966 / 250	656 / 1180 / 201	726 / 708 / 171	881 / 893 / 142														
80	1		1013 / 637 / 244	1013 / 978 / 244	880 / 853 / 259	856 / 1118 / 324	724 / 610 / 324	839 / 937 / 324	543 / 801 / 283	618 / 1078 / 202	631 / 600 / 191	800 / 798 / 166	1013 / 710 / 244	1013 / 1089 / 244	896 / 940 / 299	843 / 1180 / 246	749 / 680 / 324	856 / 1019 / 316	577 / 892 / 283	632 / 1125 / 235	694 / 668 / 191	838 / 843 / 158	1013 / 788 / 244	963 / 1145 / 232	892 / 1007 / 277	841 / 1252 / 236	775 / 755 / 302	852 / 1076 / 302	600 / 966 / 277	656 / 1180 / 182	726 / 708 / 171	881 / 893 / 151															
	90		1	1060 / 597 / 250	1060 / 918 / 250	919 / 825 / 325	916 / 1118 / 288	750 / 589 / 347	861 / 905 / 347	545 / 775 / 300	636 / 1078 / 274	615 / 584 / 197	800 / 798 / 176	1060 / 667 / 250	1060 / 1021 / 250	933 / 909 / 322	900 / 1180 / 274	774 / 657 / 347	896 / 1007 / 300	578 / 863 / 258	640 / 1125 / 197	676 / 651 / 168	838 / 843 / 168	1060 / 739 / 250	1060 / 1131 / 250	948 / 995 / 318	895 / 1252 / 263	799 / 729 / 347	901 / 1076 / 335	613 / 955 / 300	656 / 1180 / 244	726 / 708 / 194	881 / 893 / 161														
			100	1	951 / 923 / 235	807 / 1196 / 199	812 / 1059 / 245	773 / 1300 / 198	784 / 870 / 301	801 / 1127 / 255	583 / 1006 / 237	686 / 1246 / 193	763 / 752 / 165	920 / 940 / 136	951 / 1013 / 235	774 / 1257 / 191	799 / 1105 / 233	769 / 1361 / 189	814 / 956 / 301	806 / 1188 / 246	607 / 1065 / 229	714 / 1307 / 185	791 / 786 / 157	956 / 983 / 130	ASCE Group Zone																						
				110	1	918 / 1069 / 226	751 / 1314 / 183	794 / 1162 / 224	777 / 1438 / 183	808 / 999 / 288	800 / 1228 / 232	625 / 1107 / 218	739 / 1362 / 177	823 / 825 / 151	1001 / 1034 / 125	841 / 1156 / 207	724 / 1433 / 169	782 / 1262 / 207	776 / 1557 / 168	802 / 1087 / 265	815 / 1345 / 216	669 / 1207 / 201	793 / 1480 / 163	889 / 903 / 141																	1081 / 1128 / 116	ASCE Group Zone					

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees











# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

70in x 41in

Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		15	1	687 / 253 / 110	750 / 373 / 104	671 / 257 / 166	721 / 346 / 160	515 / 251 / 203	632 / 277 / 203	382 / 266 / 187	475 / 266 / 187	695 / 269 / 109	761 / 402 / 101	671 / 257 / 166	737 / 378 / 157	536 / 251 / 203	665 / 307 / 203	382 / 266 / 187	513 / 283 / 187	706 / 293 / 107	773 / 432 / 99	679 / 272 / 165	748 / 406 / 153	559 / 251 / 203	693 / 336 / 202

Exposure Category : B

Wind Speed [mph]		110								115							
15	1	723 / 321 / 106	790 / 465 / 97	695 / 297 / 163	764 / 438 / 151	583 / 251 / 203	706 / 357 / 195	418 / 266 / 187	593 / 342 / 187	734 / 346 / 105	801 / 495 / 95	706 / 321 / 161	775 / 466 / 147	608 / 255 / 203	717 / 378 / 189	447 / 266 / 187	621 / 365 / 183

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      0-30ft      70in x 41in      Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
95		[Data for Wind Speed 95]																							
100		[Data for Wind Speed 100]																							
105		[Data for Wind Speed 105]																							
110		[Data for Wind Speed 110]																							
115		[Data for Wind Speed 115]																							
120		[Data for Wind Speed 120]																							
130		[Data for Wind Speed 130]																							

Exposure Category : C

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

70in x 41in

Load: Up / Down / Side, lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15- 30		30 - 45		0 - 7.5		7.5 - 15		15- 30		30 - 45		0 - 7.5		7.5 - 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	690 / 553 / 70	824 / 711 / 58	664 / 526 / 83	790 / 675 / 69	711 / 399 / 92	851 / 512 / 76	652 / 389 / 109	786 / 501 / 91	733 / 605 / 66	878 / 772 / 55	707 / 576 / 78	844 / 736 / 65	756 / 436 / 87	907 / 555 / 71	691 / 423 / 102	834 / 541 / 85	779 / 657 / 62	936 / 835 / 52	745 / 623 / 74	901 / 799 / 62	804 / 473 / 82	966 / 601 / 67

Exposure Category : C

Wind Speed [mph]		170								180								190								200							
Panal Angle		0 - 7.5		7.5 - 15		15- 30		30 - 45		0 - 7.5		7.5 - 15		15- 30		30 - 45		0 - 7.5		7.5 - 15		15- 30		30 - 45									
0	1	819 / 705 / 59	988 / 894 / 49	786 / 670 / 70	954 / 857 / 58	846 / 508 / 77	1020 / 642 / 63	781 / 496 / 92	938 / 623 / 75	864 / 755 / 56	1047 / 957 / 47	830 / 719 / 66	1000 / 909 / 55	892 / 544 / 73	1079 / 686 / 60	820 / 528 / 86	997 / 669 / 72	ASCE Group Zone															
																										Gable							
																										1 = 1							
																										2 = 2							
																										3 = 3							
																										1 = 1							
																										2 = 2							
																										3 = 3							
																										1 = 1							
																										2 = 2							
																										3 = 3							

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof			0-30ft						70in x 41in						Load: Up / Down / Side , lbs																							
Wind Speed [mph]			95												100												105											
Panal Angle			0 - 7.5				7.5 - 15				15 - 30				30 - 45				0 - 7.5				7.5 - 15				15 - 30				30 - 45							
Ground Snow	Group		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge									
			70	1		1217 / 249 / 275	1184 / 371 / 260	1195 / 233 / 395	1154 / 350 / 374	877 / 168 / 499	985 / 267 / 499	520 / 185 / 413	618 / 260 / 413	1203 / 272 / 272	1198 / 404 / 257	1182 / 256 / 391	1168 / 381 / 370	897 / 186 / 499	1015 / 295 / 499	538 / 185 / 413	646 / 287 / 413	1190 / 297 / 269	1213 / 438 / 254	1169 / 279 / 386	1169 / 409 / 361	918 / 206 / 499	1046 / 324 / 413	557 / 201 / 413	675 / 315 / 413									
90	3	1	1305 / 235 / 291	1260 / 358 / 281	1284 / 221 / 420	1226 / 334 / 401	933 / 160 / 539	1021 / 255 / 539	540 / 179 / 450	636 / 251 / 450	1305 / 260 / 291	1252 / 385 / 274	1284 / 245 / 420	1223 / 364 / 397	937 / 177 / 539	1049 / 281 / 539	558 / 179 / 450	663 / 277 / 450	1290 / 283 / 287	1264 / 417 / 271	1264 / 417 / 271	1269 / 267 / 415	1235 / 395 / 392	957 / 196 / 539	1079 / 309 / 539	577 / 194 / 450	690 / 304 / 450											
		110	1	1177 / 322 / 266	1214 / 467 / 248	1157 / 303 / 382	1183 / 442 / 357	940 / 226 / 499	1079 / 354 / 499	577 / 220 / 413	705 / 344 / 413	1176 / 347 / 263	1229 / 502 / 245	1147 / 327 / 378	1198 / 475 / 353	963 / 247 / 499	1113 / 386 / 499	598 / 240 / 413	736 / 374 / 413	1229 / 502 / 245	1307 / 703 / 223	1195 / 485 / 349	1273 / 681 / 319	1125 / 401 / 499	1227 / 559 / 451	749 / 374 / 413	962 / 575 / 413											

Exposure Category : C

**ASCE Group Zone**

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      0-30ft      70in x 41in      Load: Up / Down / Side , lbs

Wind Speed [mph]		140										150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
100	1	1428 / 357 / 312	1423 / 515 / 292	1393 / 334 / 449	1376 / 484 / 421	1135 / 260 / 625	1291 / 404 / 625	685 / 255 / 514	829 / 395 / 514	1391 / 403 / 304	1441 / 579 / 284	1375 / 383 / 444	1413 / 552 / 415	1181 / 303 / 625	1324 / 456 / 608	727 / 296 / 514	893 / 457 / 514	1408 / 457 / 300	1482 / 653 / 280	1363 / 429 / 432	1433 / 615 / 403	1231 / 348 / 625	1358 / 508 / 591	773 / 341 / 514	961 / 524 / 514		
	2	1423 / 515 / 292	1490 / 721 / 267	1388 / 499 / 421	1456 / 701 / 386	1303 / 420 / 625	1399 / 584 / 566	842 / 395 / 514	1065 / 605 / 514	1441 / 579 / 284	1524 / 806 / 259	1407 / 562 / 409	1491 / 785 / 375	1337 / 473 / 608	1430 / 644 / 541	908 / 457 / 514	1121 / 673 / 495	1482 / 653 / 280	1559 / 892 / 251	1427 / 625 / 398	1526 / 869 / 363	1373 / 528 / 591	1481 / 714 / 525	979 / 524 / 514	1146 / 720 / 464		
	3	1339 / 911 / 251	1445 / 1266 / 230	1298 / 565 / 363	1400 / 793 / 334	1254 / 475 / 541	1384 / 658 / 491	973 / 535 / 514	1123 / 725 / 457	1363 / 1015 / 243	1485 / 1405 / 222	1321 / 632 / 352	1439 / 882 / 323	1293 / 532 / 525	1417 / 720 / 466	1020 / 595 / 495	1170 / 790 / 432	1410 / 1139 / 239	1525 / 1543 / 214	1366 / 711 / 346	1478 / 971 / 311	1332 / 589 / 508	1473 / 793 / 450	1066 / 655 / 476	1229 / 850 / 407		

Wind Speed [mph]		170										180							
100	1	1416 / 506 / 292	1503 / 719 / 271	1388 / 481 / 426	1452 / 678 / 392	1283 / 397 / 625	1392 / 560 / 575	822 / 388 / 514	1034 / 594 / 514	1444 / 563 / 288	1523 / 785 / 263	1396 / 529 / 415	1472 / 741 / 380	1321 / 442 / 616	1426 / 613 / 558	873 / 438 / 514	1098 / 661 / 507		
	2	1503 / 719 / 271	1594 / 977 / 243	1468 / 699 / 392	1562 / 953 / 352	1388 / 574 / 566	1533 / 783 / 508	1054 / 594 / 514	1180 / 772 / 439	1523 / 785 / 263	1628 / 1061 / 234	1489 / 764 / 380	1597 / 1037 / 340	1423 / 627 / 550	1557 / 838 / 483	1106 / 653 / 501	1222 / 818 / 414		
	3	1434 / 1245 / 230	1595 / 1711 / 210	1389 / 779 / 334	1545 / 1078 / 306	1371 / 646 / 491	1528 / 864 / 433	1110 / 713 / 457	1320 / 917 / 388	1484 / 1373 / 226	1600 / 1808 / 197	1437 / 861 / 329	1582 / 1166 / 294	1410 / 703 / 475	1580 / 934 / 417	1153 / 769 / 439	1380 / 964 / 363		

Wind Speed [mph]		190										200							
100	1	1452 / 612 / 280	1543 / 851 / 255	1424 / 584 / 409	1491 / 803 / 369	1342 / 482 / 600	1460 / 665 / 541	928 / 491 / 514	1121 / 703 / 482	1482 / 672 / 275	1588 / 930 / 251	1432 / 632 / 398	1534 / 879 / 363	1363 / 523 / 583	1494 / 717 / 525	985 / 546 / 514	1155 / 751 / 464		
	2	1543 / 851 / 255	1691 / 1164 / 230	1510 / 828 / 369	1630 / 1119 / 329	1457 / 680 / 533	1605 / 903 / 466	1128 / 694 / 476	1295 / 872 / 395	1588 / 930 / 251	1723 / 1247 / 222	1530 / 892 / 357	1662 / 1199 / 317	1490 / 733 / 516	1651 / 967 / 450	1163 / 741 / 457	1364 / 922 / 376		
	3	1506 / 1477 / 218	1633 / 1933 / 189	1460 / 928 / 317	1618 / 1251 / 283	1447 / 758 / 458	1664 / 1022 / 408	1193 / 822 / 420	1455 / 1021 / 345	1558 / 1608 / 214	1625 / 2004 / 177	1509 / 1012 / 311	1686 / 1360 / 277	1510 / 826 / 450	1713 / 1088 / 392	1260 / 872 / 401	1522 / 1071 / 326		

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

70in x 41in

Load: Up / Down / Side , lbs

Exposure Category : D

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
	0	1	590 / 437 / 78	716 / 586 / 67	559 / 406 / 91	691 / 558 / 80	610 / 316 / 104	739 / 422 / 88	541 / 300 / 119	680 / 412 / 105	621 / 472 / 77	748 / 622 / 65	588 / 440 / 89	715 / 588 / 76	638 / 339 / 101	772 / 448 / 85	572 / 324 / 117	706 / 435 / 100	647 / 503 / 74	778 / 656 / 62	618 / 473 / 87	745 / 622 / 74	666 / 362 / 98	803 / 473 / 82	603 / 349 / 114

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft				70in x 41in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]		140																150																160															
Panal Angle		0 - 7.5				7.5 - 15				15 - 30				30 - 45				0 - 7.5				7.5 - 15				15 - 30				30 - 45																			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge																					
		15	1	852 / 603 / 88	931 / 788 / 75	817 / 565 / 136	904 / 752 / 118	763 / 442 / 158	923 / 567 / 131	705 / 433 / 158	850 / 553 / 131	881 / 666 / 84	956 / 851 / 70	853 / 632 / 131	929 / 814 / 110	817 / 484 / 149	979 / 611 / 122	752 / 472 / 148	908 / 599 / 122	907 / 726 / 80	1008 / 916 / 66	879 / 691 / 125	974 / 879 / 104	866 / 523 / 140	1040 / 657 / 115	793 / 507 / 139	958 / 639 / 114																						

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      0-30ft      70in x 41in      Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	1333 / 434 / 285	1391 / 615 / 263	1288 / 406 / 409	1361 / 586 / 384	1150 / 325 / 581	1291 / 483 / 558	724 / 318 / 478	901 / 489 / 478	1349 / 490 / 278	1421 / 691 / 256	1303 / 459 / 399	1371 / 650 / 368	1207 / 378 / 581	1318 / 537 / 536	776 / 368 / 478	980 / 566 / 478	1366 / 547 / 271	1452 / 767 / 248	1336 / 520 / 394	1401 / 722 / 358	1252 / 428 / 573	1363 / 597 / 521	832 / 423 / 478	1051 / 639 / 473
	2	1391 / 615 / 263	1495 / 859 / 241	1356 / 596 / 378	1439 / 823 / 342	1288 / 496 / 551	1399 / 675 / 491	917 / 489 / 478	1093 / 685 / 439	1421 / 691 / 256	1520 / 944 / 230	1387 / 670 / 368	1487 / 920 / 332	1334 / 558 / 536	1441 / 744 / 469	998 / 566 / 478	1127 / 740 / 411	1452 / 767 / 248	1568 / 1043 / 222	1418 / 745 / 358	1535 / 1017 / 321	1361 / 612 / 514	1505 / 822 / 454	1059 / 632 / 467	1179 / 787 / 383
	3	1334 / 1083 / 226	1453 / 1477 / 204	1290 / 674 / 327	1405 / 926 / 296	1259 / 558 / 476	1402 / 756 / 424	1015 / 622 / 450	1186 / 816 / 388	1369 / 1206 / 219	1507 / 1637 / 197	1324 / 753 / 316	1457 / 1030 / 285	1310 / 624 / 462	1473 / 841 / 410	1058 / 682 / 428	1258 / 871 / 360	1405 / 1329 / 211	1529 / 1760 / 185	1359 / 832 / 306	1509 / 1132 / 275	1361 / 690 / 447	1544 / 924 / 395	1112 / 748 / 411	1338 / 932 / 338

Wind Speed [mph]		170								180							
100	1	1383 / 604 / 263	1484 / 844 / 241	1353 / 575 / 384	1431 / 795 / 347	1281 / 475 / 558	1388 / 649 / 499	892 / 481 / 478	1085 / 691 / 450	1420 / 671 / 259	1515 / 920 / 234	1370 / 631 / 373	1461 / 868 / 337	1312 / 521 / 543	1432 / 708 / 484	955 / 542 / 478	1101 / 729 / 422
	2	1484 / 844 / 241	1615 / 1142 / 215	1450 / 820 / 347	1557 / 1096 / 306	1407 / 674 / 499	1542 / 886 / 432	1080 / 673 / 439	1249 / 839 / 360	1515 / 920 / 234	1662 / 1239 / 208	1481 / 896 / 337	1602 / 1190 / 296	1430 / 724 / 476	1602 / 961 / 417	1110 / 719 / 416	1331 / 898 / 343
	3	1440 / 1451 / 204	1545 / 1870 / 174	1392 / 910 / 296	1559 / 1232 / 265	1412 / 756 / 432	1581 / 987 / 372	1167 / 801 / 388	1431 / 1002 / 321	1501 / 1600 / 200	1554 / 1965 / 163	1451 / 1005 / 290	1640 / 1357 / 259	1462 / 821 / 417	1644 / 1064 / 357	1228 / 849 / 366	1516 / 1066 / 304

Wind Speed [mph]		190								200							
100	1	1438 / 730 / 252	1545 / 995 / 226	1387 / 687 / 363	1490 / 941 / 327	1342 / 568 / 529	1453 / 756 / 462	1022 / 607 / 478	1127 / 771 / 400	1455 / 788 / 245	1575 / 1070 / 219	1424 / 754 / 358	1519 / 1012 / 316	1371 / 614 / 514	1494 / 813 / 447	1067 / 659 / 467	1192 / 821 / 383
	2	1545 / 995 / 226	1707 / 1333 / 200	1512 / 970 / 327	1646 / 1282 / 285	1474 / 784 / 462	1630 / 1016 / 395	1144 / 760 / 394	1406 / 954 / 326	1575 / 1070 / 219	1750 / 1425 / 193	1542 / 1044 / 316	1688 / 1371 / 275	1517 / 844 / 447	1651 / 1064 / 372	1209 / 808 / 377	1474 / 1004 / 310
	3	1535 / 1719 / 193	1591 / 2092 / 156	1485 / 1083 / 280	1688 / 1454 / 249	1510 / 884 / 402	1741 / 1163 / 350	1301 / 904 / 349	1592 / 1123 / 287	1535 / 1797 / 182	1624 / 2209 / 148	1545 / 1180 / 275	1732 / 1546 / 239	1556 / 946 / 387	1797 / 1208 / 328	1369 / 955 / 332	1658 / 1173 / 270

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees





# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 30-60ft | 70in x 41in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		15	1	711 / 301 / 107	780 / 442 / 99	684 / 279 / 164	755 / 416 / 153	565 / 251 / 203	696 / 341 / 200	400 / 266 / 187	562 / 319 / 187	725 / 329 / 105	794 / 476 / 96	697 / 305 / 162	768 / 448 / 149	591 / 251 / 203	712 / 366 / 193	428 / 266 / 187	603 / 350 / 186	744 / 360 / 104	808 / 509 / 94	710 / 332 / 159	782 / 480 / 146	619 / 265 / 203	721 / 386 / 185

Exposure Category : B

Wind Speed [mph]		110								115																									
15	1	753 / 386 / 102	821 / 542 / 91	729 / 362 / 158	795 / 512 / 142	648 / 292 / 203	735 / 408 / 179	493 / 269 / 187	663 / 398 / 176	767 / 415 / 100	834 / 574 / 89	742 / 390 / 156	807 / 543 / 138	678 / 320 / 203	748 / 429 / 173	528 / 294 / 187	688 / 419 / 170	20	2	821 / 542 / 91	911 / 731 / 80	800 / 524 / 141	881 / 703 / 122	741 / 421 / 178	873 / 536 / 146	670 / 391 / 173	804 / 501 / 143	834 / 574 / 89	919 / 761 / 76	813 / 556 / 137	899 / 741 / 119	758 / 442 / 171	909 / 563 / 141	696 / 412 / 167	840 / 528 / 139

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

30-60ft

70in x 41in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160										
		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45				
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
15	1	789 / 469 / 96	866 / 642 / 85	764 / 442 / 149	839 / 609 / 132	707 / 361 / 193	801 / 471 / 162	601 / 348 / 187	736 / 459 / 159	811 / 523 / 92	897 / 707 / 81	785 / 494 / 143	869 / 672 / 126	728 / 397 / 182	847 / 509 / 151	649 / 387 / 178	783 / 499 / 149	839 / 580 / 89	925 / 769 / 76	812 / 549 / 138	897 / 733 / 120	747 / 429 / 171	906 / 554 / 143	689 / 420 / 169	833 / 539 / 140			
	15	1	866 / 636 / 85	949 / 827 / 72	838 / 603 / 133	911 / 781 / 112	796 / 467 / 163	959 / 594 / 135	731 / 455 / 160	876 / 574 / 131	892 / 691 / 82	974 / 878 / 68	864 / 656 / 128	942 / 842 / 108	833 / 498 / 154	1005 / 631 / 127	768 / 486 / 151	924 / 612 / 124										
		15	1	907 / 736 / 78	1027 / 935 / 65	880 / 701 / 122	980 / 888 / 101	874 / 530 / 146	1059 / 671 / 121	810 / 520 / 144	977 / 654 / 119	929 / 786 / 75	1074 / 988 / 62	902 / 750 / 117	1027 / 940 / 96	920 / 565 / 140	1122 / 717 / 116	848 / 551 / 137	1026 / 692 / 113									

Exposure Category : B

ASCE Group Zone

Panel Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

































# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft				70in x 41in				Load: Up / Down / Side , lbs															
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		70	1	1203 / 292 / 270	1205 / 427 / 252	1169 / 272 / 385	1175 / 404 / 364	912 / 200 / 499	1038 / 316 / 499	552 / 195 / 413	667 / 307 / 413	1177 / 316 / 264	1223 / 465 / 249	1157 / 297 / 381	1178 / 434 / 356	936 / 222 / 499	1073 / 348 / 413	573 / 216 / 413	699 / 338 / 413	1174 / 343 / 261	1226 / 497 / 243	1145 / 323 / 377	1195 / 470 / 352	960 / 244 / 499	1109 / 382 / 499

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

30-60ft

70in x 41in

Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	1466 / 253 / 319	1409 / 382 / 307	1428 / 236 / 459	1375 / 357 / 442	1081 / 179 / 625	1159 / 282 / 625	603 / 176 / 514	707 / 277 / 514	1466 / 280 / 319	1391 / 414 / 303	1428 / 261 / 459	1357 / 388 / 436	1081 / 198 / 625	1190 / 311 / 625	622 / 195 / 514	736 / 305 / 514	1447 / 304 / 315	1402 / 448 / 299	1428 / 288 / 459	1356 / 420 / 431	1090 / 218 / 625	1223 / 341 / 625	643 / 214 / 514	766 / 334 / 514
	2	1409 / 382 / 307	1434 / 549 / 286	1375 / 369 / 442	1399 / 533 / 414	1168 / 294 / 625	1322 / 449 / 616	716 / 277 / 514	876 / 427 / 514	1391 / 414 / 303	1453 / 594 / 282	1357 / 401 / 436	1418 / 577 / 408	1200 / 324 / 625	1333 / 480 / 600	746 / 305 / 514	921 / 469 / 514	1402 / 448 / 299	1473 / 641 / 278	1366 / 434 / 431	1438 / 622 / 402	1233 / 355 / 625	1362 / 517 / 591	777 / 334 / 514	968 / 513 / 514
	3	1267 / 679 / 262	1353 / 967 / 246	1229 / 418 / 379	1312 / 601 / 356	1170 / 355 / 575	1276 / 506 / 533	810 / 377 / 514	1005 / 571 / 507	1279 / 733 / 258	1376 / 1042 / 241	1241 / 452 / 373	1333 / 649 / 350	1190 / 385 / 566	1288 / 538 / 516	849 / 415 / 514	1036 / 611 / 495	1292 / 788 / 254	1399 / 1117 / 237	1254 / 487 / 368	1356 / 697 / 345	1212 / 415 / 558	1320 / 578 / 508	889 / 454 / 514	1053 / 642 / 476

Exposure Category : C

Panal Angle	ASCE Group Zone	
	Gable	
0 - 7.5	1 = 1	
	2 = 2	
	3 = 3	
7.5 - 15	1 = 1	
	2 = 2	
	3 = 3	
15 - 30	1 = 1	
	2 = 2	
	3 = 3	
30 - 45	1 = 1	
	2 = 2	
	3 = 3	

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64'' to 71''	48'' to 63''	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      70in x 41in      Load: Up / Down / Side , lbs

Exposure Category : D	Wind Speed [mph] 140				150				160								
	0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
0	Group	Panal Angle		Ground Snow		170		180		190		200		ASCE Group Zone			
	1	0		0		0		0		0		0		Gable			
	2	0		0		0		0		0		0		1 = 1			
5	1	0		0		0		0		0		0		2 = 2			
	2	0		0		0		0		0		0		3 = 3			
	3	0		0		0		0		0		0		1 = 1			
10	1	0		0		0		0		0		0		2 = 2			
	2	0		0		0		0		0		0		3 = 3			
	3	0		0		0		0		0		0		1 = 1			
0	1	0		0		0		0		0		0		2 = 2			
	2	0		0		0		0		0		0		3 = 3			
	3	0		0		0		0		0		0		1 = 1			
5	1	0		0		0		0		0		0		2 = 2			
	2	0		0		0		0		0		0		3 = 3			
	3	0		0		0		0		0		0		1 = 1			
10	1	0		0		0		0		0		0		2 = 2			
	2	0		0		0		0		0		0		3 = 3			
	3	0		0		0		0		0		0		1 = 1			

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		30-60ft		70in x 41in		Load: Up / Down / Side , lbs																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		1	928 / 629 / 92	1036 / 846 / 81	902 / 597 / 150	997 / 800 / 131	895 / 476 / 249	976 / 608 / 207	741 / 464 / 224	894 / 589 / 185	962 / 698 / 89	1054 / 909 / 76	935 / 665 / 144	1028 / 872 / 124	919 / 519 / 234	1046 / 660 / 194	795 / 508 / 211	963 / 642 / 174	994 / 766 / 85	1094 / 987 / 72	967 / 731 / 138	1055 / 938 / 116	948 / 563 / 222	1107 / 707 / 182	845 / 549 / 199

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees









## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      70in x 41in      Load: Up / Down / Side , lbs

Wind Speed [mph]		95										100								105							
		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
100	1	1360 / 308 / 299	1332 / 449 / 280	1340 / 290 / 434	1303 / 426 / 408	1034 / 218 / 581	1168 / 342 / 581	617 / 214 / 478	740 / 333 / 478	1343 / 335 / 295	1347 / 488 / 277	1324 / 317 / 429	1318 / 463 / 403	1059 / 241 / 581	1205 / 376 / 581	640 / 236 / 478	775 / 367 / 478	1326 / 363 / 291	1364 / 527 / 273	1308 / 344 / 424	1317 / 494 / 393	1085 / 265 / 581	1244 / 412 / 581	664 / 259 / 478	810 / 402 / 478		
	2	1332 / 449 / 280	1393 / 636 / 258	1297 / 434 / 403	1359 / 617 / 372	1178 / 355 / 581	1296 / 513 / 543	751 / 333 / 478	942 / 513 / 478	1347 / 488 / 277	1419 / 688 / 255	1313 / 472 / 398	1385 / 667 / 367	1217 / 391 / 581	1331 / 555 / 536	787 / 367 / 478	995 / 563 / 478	1364 / 527 / 273	1445 / 740 / 251	1329 / 510 / 393	1411 / 719 / 362	1257 / 429 / 581	1348 / 590 / 521	824 / 402 / 478	1051 / 615 / 478		
	3	1242 / 796 / 240	1337 / 1115 / 221	1203 / 491 / 346	1293 / 695 / 320	1168 / 418 / 521	1268 / 576 / 469	864 / 453 / 478	1032 / 644 / 444	1261 / 859 / 236	1367 / 1201 / 218	1220 / 531 / 341	1322 / 749 / 315	1178 / 446 / 506	1307 / 621 / 462	909 / 498 / 478	1055 / 679 / 428	1280 / 924 / 232	1397 / 1288 / 214	1239 / 572 / 336	1351 / 805 / 310	1206 / 480 / 499	1325 / 657 / 447	957 / 544 / 478	1089 / 722 / 416		

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\theta$  = Angle of roof from horizontal, in degrees















## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

74in x 41.2in

Load: Up / Down / Side , lbs

Wind Speed [mph]		95										100										105															
Panal Angle		0 - 7.5			7.5 - 15			15 - 30			30 - 45			0 - 7.5			7.5 - 15			15 - 30			30 - 45			0 - 7.5			7.5 - 15			15 - 30			30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge				
45	1	1002 / 215 / 238	1000 / 316 / 225	971 / 221 / 334	970 / 295 / 319	708 / 195 / 399	799 / 215 / 399	449 / 217 / 331	511 / 217 / 331	992 / 228 / 236	1005 / 342 / 221	971 / 221 / 334	984 / 324 / 315	725 / 195 / 399	824 / 239 / 399	449 / 217 / 331	534 / 231 / 331	983 / 251 / 234	1020 / 373 / 218	962 / 233 / 331	989 / 350 / 309	742 / 195 / 399	851 / 263 / 399	460 / 217 / 331	558 / 254 / 331												

Exposure Category : B

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 0-30ft | 74in x 41.2in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95										100								105							
		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45			
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge			
	100	1	1510 / 153 / 330	1510 / 238 / 330	1472 / 158 / 475	1472 / 222 / 475	1128 / 153 / 651	1128 / 170 / 651	563 / 174 / 536	613 / 174 / 536	1510 / 164 / 330	1510 / 263 / 330	1472 / 158 / 475	1472 / 245 / 475	1128 / 153 / 651	1128 / 188 / 651	563 / 174 / 536	631 / 185 / 536	1510 / 182 / 330	1510 / 289 / 330	1472 / 169 / 475	1472 / 270 / 475	1128 / 153 / 651	1128 / 207 / 651	572 / 174 / 536	651 / 204 / 536	
2		1510 / 238 / 330	1470 / 364 / 322	1472 / 229 / 475	1434 / 352 / 463	1128 / 177 / 651	1190 / 280 / 651	619 / 174 / 536	722 / 264 / 536	1510 / 263 / 330	1450 / 396 / 317	1472 / 254 / 475	1416 / 383 / 457	1128 / 196 / 651	1220 / 309 / 651	638 / 185 / 536	750 / 291 / 536	1510 / 289 / 330	1432 / 428 / 313	1472 / 280 / 475	1397 / 414 / 451	1128 / 216 / 651	1253 / 339 / 651	658 / 204 / 536	780 / 319 / 536		
3		1311 / 443 / 287	1289 / 648 / 274	1284 / 268 / 414	1252 / 398 / 396	1115 / 229 / 634	1185 / 338 / 599	679 / 232 / 536	812 / 361 / 536	1291 / 479 / 282	1300 / 700 / 269	1265 / 291 / 408	1262 / 431 / 390	1125 / 250 / 625	1203 / 367 / 590	704 / 256 / 536	849 / 397 / 536	1291 / 525 / 282	1311 / 752 / 265	1265 / 319 / 408	1273 / 464 / 384	1151 / 275 / 625	1223 / 396 / 581	730 / 281 / 536	888 / 434 / 536		

Wind Speed [mph]		110								115							
		100	1	1510 / 200 / 330	1490 / 313 / 326	1472 / 186 / 475	1472 / 296 / 475	1128 / 153 / 651	1136 / 227 / 651	585 / 174 / 536	671 / 224 / 536	1510 / 219 / 330	1490 / 341 / 326	1472 / 204 / 475	1453 / 319 / 469	1128 / 156 / 651	1159 / 248 / 651
2	1490 / 313 / 326		1441 / 460 / 309	1453 / 302 / 469	1406 / 446 / 445	1144 / 237 / 651	1286 / 370 / 651	679 / 224 / 536	811 / 348 / 536	1490 / 341 / 326	1450 / 493 / 304	1453 / 330 / 469	1415 / 478 / 439	1167 / 259 / 651	1321 / 403 / 651	700 / 244 / 536	844 / 379 / 536
3	1271 / 563 / 278		1344 / 819 / 265	1246 / 344 / 402	1284 / 498 / 378	1163 / 296 / 616	1242 / 425 / 572	757 / 307 / 536	928 / 473 / 536	1266 / 602 / 274	1356 / 873 / 261	1230 / 369 / 396	1316 / 541 / 378	1174 / 318 / 607	1263 / 455 / 563	785 / 334 / 536	970 / 514 / 536

Wind Speed [mph]		120								130							
		100	1	1510 / 239 / 330	1470 / 366 / 322	1472 / 223 / 475	1434 / 342 / 463	1128 / 170 / 651	1183 / 270 / 651	614 / 174 / 536	714 / 265 / 536	1510 / 219 / 330	1490 / 341 / 326	1472 / 204 / 475	1453 / 319 / 469	1128 / 156 / 651	1159 / 248 / 651
2	1470 / 366 / 322		1460 / 527 / 300	1434 / 354 / 463	1425 / 511 / 432	1191 / 281 / 651	1339 / 431 / 643	723 / 265 / 536	878 / 411 / 536	1490 / 341 / 326	1450 / 493 / 304	1453 / 330 / 469	1415 / 478 / 439	1167 / 259 / 651	1321 / 403 / 651	700 / 244 / 536	844 / 379 / 536
3	1291 / 651 / 274		1368 / 928 / 256	1254 / 400 / 396	1327 / 576 / 372	1186 / 340 / 599	1283 / 485 / 555	814 / 362 / 536	1001 / 550 / 530	1266 / 602 / 274	1356 / 873 / 261	1230 / 369 / 396	1316 / 541 / 378	1174 / 318 / 607	1263 / 455 / 563	785 / 334 / 536	970 / 514 / 536

ASCE Group Zone	
Panal Angle	Gable
<b>0 - 7.5</b>	1 = 1
	2 = 2
	3 = 3
<b>7.5 - 15</b>	1 = 1
	2 = 2
	3 = 3
<b>15 - 30</b>	1 = 1
	2 = 2
	3 = 3
<b>30 - 45</b>	1 = 1
	2 = 2
	3 = 3

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 0-30ft | 74in x 41.2in | Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	1510 / 259 / 330	1450 / 390 / 317	1472 / 242 / 475	1416 / 366 / 457	1128 / 185 / 651	1207 / 293 / 651	629 / 183 / 536	736 / 287 / 536	1510 / 303 / 330	1446 / 447 / 313	1472 / 283 / 475	1400 / 419 / 451	1128 / 217 / 651	1259 / 340 / 651	661 / 214 / 536	784 / 334 / 536	1490 / 345 / 326	1454 / 499 / 304	1453 / 323 / 469	1408 / 468 / 439	1162 / 251 / 651	1314 / 391 / 651	695 / 247 / 536	835 / 383 / 536
	2	1450 / 390 / 317	1470 / 561 / 296	1416 / 378 / 457	1435 / 544 / 426	1216 / 305 / 651	1357 / 459 / 634	746 / 287 / 536	913 / 444 / 536	1446 / 447 / 313	1490 / 629 / 287	1391 / 427 / 445	1456 / 611 / 414	1269 / 354 / 651	1395 / 516 / 616	795 / 334 / 536	986 / 513 / 536	1454 / 499 / 304	1535 / 709 / 282	1419 / 483 / 439	1478 / 679 / 402	1326 / 407 / 651	1412 / 566 / 590	848 / 383 / 536	1065 / 588 / 536
	3	1295 / 691 / 269	1380 / 983 / 252	1258 / 426 / 390	1339 / 612 / 366	1198 / 362 / 590	1304 / 515 / 546	844 / 392 / 536	1033 / 586 / 523	1327 / 785 / 265	1430 / 1113 / 248	1288 / 485 / 384	1386 / 694 / 359	1242 / 413 / 581	1345 / 576 / 528	908 / 453 / 536	1069 / 642 / 497	1360 / 882 / 261	1455 / 1225 / 239	1320 / 547 / 378	1411 / 767 / 347	1268 / 460 / 563	1387 / 636 / 511	976 / 519 / 536	1117 / 704 / 477

Wind Speed [mph]		170								180							
100	1	1450 / 383 / 317	1484 / 559 / 300	1434 / 364 / 463	1436 / 525 / 432	1201 / 287 / 651	1354 / 439 / 643	731 / 282 / 536	890 / 436 / 536	1432 / 428 / 313	1493 / 612 / 291	1397 / 401 / 451	1445 / 576 / 420	1243 / 326 / 651	1377 / 483 / 625	769 / 319 / 536	947 / 492 / 536
	2	1484 / 559 / 300	1557 / 780 / 274	1428 / 535 / 426	1523 / 759 / 396	1348 / 451 / 634	1449 / 623 / 572	904 / 436 / 536	1121 / 650 / 523	1493 / 612 / 291	1579 / 850 / 265	1458 / 594 / 420	1545 / 828 / 384	1371 / 494 / 616	1486 / 680 / 555	963 / 492 / 536	1162 / 704 / 503
	3	1371 / 966 / 252	1508 / 1361 / 235	1331 / 601 / 366	1462 / 853 / 341	1294 / 506 / 546	1428 / 696 / 493	1022 / 575 / 523	1164 / 765 / 457	1407 / 1067 / 248	1533 / 1472 / 226	1365 / 665 / 359	1487 / 925 / 329	1341 / 561 / 537	1468 / 755 / 476	1056 / 623 / 503	1207 / 823 / 437

Wind Speed [mph]		190								200							
100	1	1451 / 474 / 309	1525 / 675 / 287	1405 / 444 / 445	1475 / 636 / 414	1287 / 366 / 651	1399 / 526 / 607	810 / 359 / 536	1008 / 551 / 536	1471 / 521 / 304	1534 / 729 / 278	1423 / 489 / 439	1484 / 687 / 402	1333 / 409 / 651	1422 / 568 / 590	853 / 400 / 536	1072 / 613 / 536
	2	1525 / 675 / 287	1599 / 919 / 256	1468 / 646 / 408	1567 / 896 / 372	1415 / 546 / 607	1522 / 736 / 537	1026 / 551 / 536	1185 / 746 / 477	1534 / 729 / 278	1648 / 1004 / 252	1500 / 709 / 402	1588 / 963 / 359	1438 / 590 / 590	1557 / 792 / 520	1092 / 613 / 536	1202 / 783 / 450
	3	1443 / 1171 / 243	1587 / 1611 / 222	1400 / 732 / 353	1539 / 1015 / 323	1367 / 607 / 520	1535 / 828 / 467	1102 / 679 / 490	1269 / 877 / 417	1481 / 1277 / 239	1610 / 1718 / 213	1436 / 800 / 347	1562 / 1084 / 311	1392 / 652 / 502	1573 / 885 / 449	1133 / 724 / 470	1335 / 928 / 397

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees







K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 0-30ft | 74in x 41.2in | Load: Up / Down / Side , lbs

Main data table with columns for Wind Speed [mph], Panal Angle, Group, Array Interior, and Array Edge. It contains detailed load values for wind speeds 140-200 mph and panal angles 0-7.5, 7.5-15, 15-30, and 30-45 degrees.

ASCE Group Zone table mapping Panal Angle to Gable groupings (1=1, 2=2, 3=3).

Exposure Category : C

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Color-coded span table: x ≥ 72" (green), 64" to 71" (yellow), 48" to 63" (blue), x ≤ 47" (grey)

Notation (ASCE 7-22)
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.
B = Horizontal dimension of building measured normal to wind direction, in ft(m).
h = Mean roof height, in ft(m).
θ = Angle of roof from horizontal, in degrees









# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								74in x 41.2in								Load: Up / Down / Side , lbs							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		70	1	1258 / 257 / 284	1223 / 383 / 268	1223 / 239 / 404	1179 / 357 / 382	905 / 173 / 515	1016 / 276 / 515	537 / 191 / 427	639 / 269 / 427	1244 / 282 / 281	1237 / 417 / 265	1209 / 262 / 400	1193 / 389 / 377	926 / 192 / 515	1047 / 305 / 515	556 / 191 / 427	668 / 296 / 427	1230 / 307 / 278	1237 / 447 / 258	1196 / 285 / 395	1207 / 422 / 373	947 / 212 / 515	1080 / 335 / 515

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		74in x 41.2in		Load: Up / Down / Side , lbs																			
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		1	875 / 619 / 91	952 / 806 / 77	840 / 581 / 140	925 / 770 / 120	784 / 454 / 162	953 / 586 / 135	726 / 446 / 162	870 / 566 / 134	904 / 683 / 86	987 / 878 / 72	876 / 649 / 135	949 / 832 / 113	838 / 497 / 153	1010 / 630 / 126	773 / 486 / 152	928 / 612 / 125	929 / 744 / 82	1039 / 944 / 68	902 / 708 / 128	993 / 896 / 106	886 / 535 / 143	1070 / 677 / 118	814 / 520 / 142

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft				74in x 41.2in				Load: Up / Down / Side , lbs															
Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		30	1	930 / 589 / 99	1026 / 797 / 87	904 / 559 / 160	999 / 762 / 142	888 / 445 / 266	980 / 586 / 227	726 / 446 / 245	870 / 566 / 202	960 / 656 / 95	1068 / 878 / 83	934 / 624 / 154	1029 / 832 / 134	928 / 497 / 255	1010 / 630 / 211	773 / 486 / 230	928 / 612 / 189	989 / 720 / 91	1092 / 944 / 78	962 / 687 / 148	1053 / 896 / 126	945 / 535 / 240	1070 / 677 / 198

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

74in x 41.2in

Load: Up / Down / Side, lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		140		[Data for 140 mph]																					
150		[Data for 150 mph]																							
160		[Data for 160 mph]																							
170		[Data for 170 mph]																							
180		[Data for 180 mph]																							
190		[Data for 190 mph]																							
200		[Data for 200 mph]																							

Exposure Category : D

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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K2 80-X Dual Rail System (ASCE 7-22)

Main table containing wind speed data for various exposure categories and ASCE group zones. Columns include Wind Speed [mph], Panal Angle, and various load values for different ground snow conditions and wind directions.

Exposure Category : D

ASCE Group Zone

Table mapping Panal Angle to ASCE Group Zone. It shows the zone number for different combinations of Panal Angle and ASCE Group Zone.

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Color-coded span ranges: x ≥ 72" (green), 64" to 71" (blue), 48" to 63" (yellow), x ≤ 47" (grey).

Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances. B = Horizontal dimension of building measured normal to wind direction, in ft(m). h = Mean roof height, in ft(m). Θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 0-30ft | 74in x 41.2in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	1419 / 280 / 313	1364 / 417 / 298	1383 / 261 / 449	1319 / 390 / 427	1035 / 196 / 598	1156 / 308 / 598	607 / 192 / 494	720 / 302 / 494	1402 / 306 / 309	1377 / 452 / 294	1383 / 289 / 449	1331 / 424 / 422	1056 / 216 / 598	1190 / 340 / 598	628 / 213 / 494	752 / 332 / 494	1384 / 332 / 306	1391 / 489 / 290	1366 / 314 / 444	1344 / 458 / 416	1080 / 238 / 598	1225 / 373 / 598	650 / 234 / 494	785 / 364 / 494
	2	1364 / 417 / 298	1412 / 591 / 274	1329 / 403 / 427	1378 / 573 / 395	1165 / 321 / 598	1317 / 483 / 582	730 / 302 / 494	905 / 466 / 494	1377 / 452 / 294	1435 / 640 / 270	1342 / 438 / 422	1400 / 621 / 389	1200 / 353 / 598	1331 / 516 / 567	763 / 332 / 494	953 / 512 / 494	1391 / 489 / 290	1458 / 689 / 266	1338 / 467 / 411	1424 / 669 / 384	1237 / 387 / 598	1345 / 549 / 551	797 / 364 / 494	1004 / 559 / 494
	3	1244 / 731 / 251	1344 / 1041 / 235	1224 / 456 / 367	1302 / 647 / 340	1160 / 382 / 543	1262 / 536 / 496	833 / 411 / 494	1020 / 607 / 476	1279 / 801 / 251	1370 / 1121 / 231	1239 / 494 / 362	1327 / 698 / 334	1184 / 414 / 535	1297 / 579 / 488	875 / 452 / 494	1041 / 641 / 458	1295 / 861 / 247	1397 / 1202 / 227	1255 / 532 / 356	1353 / 750 / 329	1208 / 447 / 527	1334 / 622 / 480	919 / 494 / 494	1073 / 682 / 446

Wind Speed [mph]		110								115							
100	1	1366 / 358 / 302	1386 / 519 / 282	1349 / 339 / 438	1358 / 494 / 411	1105 / 261 / 598	1262 / 407 / 598	673 / 256 / 494	819 / 397 / 494	1366 / 391 / 302	1400 / 556 / 278	1332 / 365 / 433	1371 / 530 / 406	1131 / 285 / 598	1284 / 437 / 590	697 / 279 / 494	854 / 432 / 494
	2	1386 / 519 / 282	1460 / 729 / 259	1351 / 503 / 406	1426 / 708 / 373	1275 / 423 / 598	1378 / 590 / 543	832 / 397 / 494	1057 / 609 / 494	1400 / 556 / 278	1484 / 779 / 255	1365 / 539 / 400	1450 / 757 / 367	1297 / 454 / 590	1390 / 621 / 527	869 / 432 / 494	1086 / 645 / 482
	3	1312 / 922 / 243	1425 / 1284 / 223	1271 / 571 / 351	1379 / 803 / 323	1233 / 480 / 519	1347 / 655 / 464	965 / 539 / 494	1105 / 722 / 434	1329 / 983 / 239	1452 / 1367 / 220	1287 / 610 / 345	1405 / 856 / 318	1259 / 513 / 512	1384 / 698 / 457	1000 / 578 / 488	1135 / 762 / 422

Wind Speed [mph]		120								130							
100	1	1366 / 418 / 298	1414 / 594 / 274	1320 / 392 / 427	1385 / 566 / 400	1157 / 310 / 598	1306 / 467 / 582	722 / 303 / 494	892 / 468 / 494	1366 / 391 / 302	1400 / 556 / 278	1332 / 365 / 433	1371 / 530 / 406	1131 / 285 / 598	1284 / 437 / 590	697 / 279 / 494	854 / 432 / 494
	2	1414 / 594 / 274	1507 / 829 / 251	1380 / 576 / 395	1474 / 807 / 362	1320 / 485 / 582	1423 / 662 / 519	907 / 468 / 494	1099 / 672 / 464	1400 / 556 / 278	1484 / 779 / 255	1365 / 539 / 400	1450 / 757 / 367	1297 / 454 / 590	1390 / 621 / 527	869 / 432 / 494	1086 / 645 / 482
	3	1346 / 1045 / 235	1480 / 1450 / 216	1304 / 650 / 340	1432 / 909 / 312	1264 / 538 / 496	1420 / 742 / 449	1023 / 610 / 476	1169 / 800 / 410	1329 / 983 / 239	1452 / 1367 / 220	1287 / 610 / 345	1405 / 856 / 318	1259 / 513 / 512	1384 / 698 / 457	1000 / 578 / 488	1135 / 762 / 422

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees



## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      74in x 41.2in      Load: Up / Down / Side, lbs

Wind Speed [mph]	95								100								105													
	0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45							
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge					
0	1	517 / 344 / 88	645 / 490 / 78	490 / 319 / 102	611 / 457 / 91	530 / 288 / 117	662 / 352 / 104	449 / 300 / 129	594 / 337 / 120	543 / 374 / 86	668 / 520 / 75	515 / 347 / 100	643 / 493 / 89	558 / 281 / 114	687 / 374 / 99	483 / 300 / 129	628 / 364 / 118	565 / 401 / 83	695 / 552 / 73	540 / 375 / 98	670 / 525 / 86	582 / 289 / 111	716 / 397 / 96	519 / 300 / 129	656 / 388 / 114					
	5	1	548 / 344 / 88	645 / 490 / 78	524 / 319 / 118	611 / 457 / 106	530 / 288 / 145	662 / 352 / 128	449 / 300 / 147	594 / 337 / 138	565 / 374 / 86	668 / 520 / 75	539 / 347 / 116	643 / 493 / 104	558 / 281 / 142	687 / 374 / 123	483 / 300 / 147	628 / 364 / 135	576 / 401 / 83	695 / 552 / 73	555 / 375 / 114	670 / 525 / 100	582 / 289 / 138	716 / 397 / 119	519 / 300 / 147	656 / 388 / 131				
		10	1	648 / 327 / 99	729 / 479 / 91	622 / 303 / 146	703 / 450 / 135	564 / 284 / 186	662 / 352 / 167	442 / 296 / 177	594 / 337 / 168	665 / 358 / 98	747 / 516 / 89	638 / 332 / 144	721 / 485 / 132	590 / 281 / 185	687 / 374 / 160	476 / 296 / 177	628 / 364 / 164	682 / 389 / 97	766 / 552 / 87	654 / 362 / 141	739 / 520 / 129	603 / 289 / 179	716 / 397 / 155	512 / 296 / 177	656 / 388 / 159			
			15	1	591 / 431 / 82	721 / 583 / 70	564 / 403 / 96	690 / 550 / 83	610 / 311 / 109	743 / 420 / 93	545 / 298 / 126	683 / 410 / 110	621 / 464 / 80	746 / 612 / 68	589 / 431 / 93	714 / 579 / 80	642 / 335 / 107	769 / 441 / 89	571 / 318 / 123	703 / 428 / 106	592 / 431 / 82	721 / 583 / 70	570 / 403 / 111	690 / 550 / 96	610 / 311 / 135	743 / 420 / 115	545 / 298 / 144	683 / 410 / 126		
				20	1	647 / 493 / 78	768 / 640 / 65	613 / 459 / 91	743 / 612 / 78	664 / 354 / 104	792 / 461 / 86	596 / 339 / 120	727 / 449 / 102	621 / 464 / 80	746 / 612 / 68	589 / 431 / 93	714 / 579 / 80	642 / 335 / 107	769 / 441 / 89	571 / 318 / 123	703 / 428 / 106	647 / 493 / 78	768 / 640 / 65	613 / 459 / 91	743 / 612 / 78	664 / 354 / 104	792 / 461 / 86	596 / 339 / 120	727 / 449 / 102	
					25	1	730 / 481 / 91	795 / 640 / 78	705 / 452 / 135	775 / 612 / 117	664 / 354 / 167	792 / 461 / 139	596 / 339 / 168	727 / 449 / 142	718 / 453 / 94	787 / 612 / 81	687 / 422 / 137	760 / 579 / 120	642 / 335 / 173	769 / 441 / 144	571 / 318 / 172	703 / 428 / 147	730 / 481 / 91	795 / 640 / 78	705 / 452 / 135	775 / 612 / 117	664 / 354 / 167	792 / 461 / 139	596 / 339 / 168	727 / 449 / 142

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      74in x 41.2in      Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	666 / 517 / 76	797 / 672 / 64	642 / 490 / 90	764 / 637 / 75	685 / 372 / 100	822 / 484 / 83	621 / 359 / 118	757 / 472 / 99	708 / 568 / 72	850 / 733 / 60	683 / 540 / 85	816 / 697 / 71	729 / 408 / 94	877 / 527 / 78	670 / 399 / 112	804 / 512 / 93	752 / 619 / 68	897 / 787 / 56	720 / 585 / 80	863 / 751 / 67	768 / 441 / 89	925 / 566 / 73

Exposure Category : B

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 30-60ft | 74in x 41.2in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95										100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
100	1	1510 / 186 / 329	1510 / 296 / 329	1472 / 173 / 474	1472 / 276 / 474	1128 / 153 / 651	1128 / 212 / 651	575 / 174 / 536	656 / 209 / 536	1510 / 206 / 329	1490 / 322 / 324	1472 / 192 / 474	1453 / 301 / 467	1128 / 153 / 651	1144 / 235 / 651	590 / 174 / 536	678 / 231 / 536	1510 / 228 / 329	1470 / 349 / 320	1472 / 212 / 474	1453 / 331 / 467	1128 / 162 / 651	1170 / 258 / 651	605 / 174 / 536	702 / 253 / 536		
	2	1510 / 296 / 329	1439 / 437 / 311	1472 / 286 / 474	1403 / 423 / 449	1128 / 221 / 651	1261 / 346 / 651	663 / 209 / 536	788 / 326 / 536	1490 / 322 / 324	1451 / 474 / 307	1453 / 312 / 467	1416 / 459 / 443	1151 / 244 / 651	1298 / 381 / 651	686 / 231 / 536	822 / 359 / 536	1470 / 349 / 320	1464 / 512 / 303	1434 / 338 / 461	1429 / 496 / 437	1178 / 269 / 651	1337 / 418 / 651	710 / 253 / 536	859 / 393 / 536		
	3	1271 / 528 / 277	1318 / 768 / 264	1246 / 322 / 401	1280 / 474 / 383	1142 / 277 / 616	1232 / 404 / 581	736 / 287 / 536	898 / 444 / 536	1271 / 579 / 277	1333 / 828 / 260	1246 / 354 / 401	1294 / 513 / 376	1156 / 301 / 607	1256 / 438 / 572	766 / 316 / 536	943 / 487 / 536	1277 / 623 / 272	1348 / 889 / 255	1241 / 382 / 395	1309 / 552 / 370	1187 / 330 / 607	1281 / 472 / 563	798 / 347 / 536	990 / 533 / 536		

Wind Speed [mph]		110										115							
100	1	1510 / 250 / 329	1450 / 377 / 316	1472 / 233 / 474	1434 / 358 / 461	1128 / 179 / 651	1196 / 282 / 651	622 / 176 / 536	726 / 277 / 536	1510 / 273 / 329	1450 / 410 / 316	1472 / 255 / 474	1416 / 384 / 455	1128 / 196 / 651	1224 / 308 / 651	639 / 193 / 536	752 / 302 / 536		
	2	1450 / 377 / 316	1477 / 550 / 298	1416 / 365 / 455	1442 / 533 / 431	1205 / 294 / 651	1359 / 449 / 643	736 / 277 / 536	897 / 429 / 536	1450 / 410 / 316	1491 / 589 / 294	1416 / 397 / 455	1456 / 571 / 425	1233 / 320 / 651	1363 / 475 / 625	762 / 302 / 536	936 / 466 / 536		
	3	1284 / 668 / 268	1387 / 967 / 255	1247 / 411 / 389	1324 / 591 / 364	1202 / 355 / 599	1285 / 498 / 546	830 / 378 / 536	1013 / 566 / 523	1312 / 725 / 268	1404 / 1030 / 251	1274 / 447 / 389	1362 / 642 / 364	1218 / 380 / 590	1310 / 532 / 537	864 / 411 / 536	1049 / 606 / 516		

Wind Speed [mph]		120										130							
100	1	1510 / 297 / 329	1440 / 439 / 311	1472 / 278 / 474	1397 / 412 / 449	1128 / 213 / 651	1252 / 334 / 651	657 / 210 / 536	778 / 328 / 536	1510 / 273 / 329	1450 / 410 / 316	1472 / 255 / 474	1416 / 384 / 455	1128 / 196 / 651	1224 / 308 / 651	639 / 193 / 536	752 / 302 / 536		
	2	1440 / 439 / 311	1505 / 628 / 290	1405 / 425 / 449	1470 / 610 / 419	1262 / 348 / 651	1385 / 507 / 616	789 / 328 / 536	977 / 504 / 536	1450 / 410 / 316	1491 / 589 / 294	1416 / 397 / 455	1456 / 571 / 425	1233 / 320 / 651	1363 / 475 / 625	762 / 302 / 536	936 / 466 / 536		
	3	1320 / 771 / 264	1420 / 1094 / 247	1282 / 477 / 383	1378 / 682 / 358	1234 / 406 / 581	1335 / 566 / 528	900 / 445 / 536	1072 / 639 / 503	1312 / 725 / 268	1404 / 1030 / 251	1274 / 447 / 389	1362 / 642 / 364	1218 / 380 / 590	1310 / 532 / 537	864 / 411 / 536	1049 / 606 / 516		

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\theta$  = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 30-60ft | 74in x 41.2in | Load: Up / Down / Side , lbs

Wind Speed [mph]		140										150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
100	1	1490 / 318 / 324	1447 / 468 / 307	1453 / 297 / 467	1401 / 439 / 443	1141 / 231 / 651	1282 / 362 / 651	675 / 228 / 536	806 / 354 / 536	1470 / 365 / 320	1460 / 527 / 298	1434 / 342 / 461	1433 / 502 / 437	1182 / 270 / 651	1345 / 420 / 651	714 / 265 / 536	864 / 411 / 536	1450 / 415 / 316	1495 / 595 / 294	1416 / 389 / 455	1447 / 559 / 425	1227 / 311 / 651	1373 / 468 / 634	755 / 305 / 536	926 / 471 / 536		
	2	1447 / 468 / 307	1519 / 667 / 285	1411 / 453 / 443	1462 / 639 / 407	1293 / 376 / 651	1408 / 540 / 607	817 / 354 / 536	1019 / 544 / 536	1460 / 527 / 298	1548 / 747 / 277	1425 / 511 / 431	1491 / 716 / 395	1339 / 430 / 643	1433 / 597 / 581	877 / 411 / 536	1109 / 629 / 536	1495 / 595 / 294	1577 / 827 / 268	1439 / 569 / 419	1519 / 793 / 383	1368 / 480 / 625	1478 / 662 / 563	941 / 471 / 536	1146 / 684 / 510		
	3	1328 / 818 / 260	1437 / 1158 / 242	1290 / 506 / 376	1394 / 723 / 352	1250 / 432 / 572	1360 / 600 / 520	936 / 481 / 536	1094 / 671 / 490	1367 / 927 / 255	1470 / 1285 / 234	1327 / 576 / 370	1426 / 805 / 340	1283 / 485 / 555	1410 / 669 / 502	1001 / 549 / 530	1152 / 743 / 470	1409 / 1041 / 251	1531 / 1439 / 229	1367 / 648 / 364	1485 / 903 / 334	1316 / 537 / 537	1460 / 737 / 484	1042 / 605 / 510	1189 / 800 / 444		

Wind Speed [mph]		170										180							
100	1	1440 / 459 / 307	1510 / 656 / 285	1395 / 431 / 443	1461 / 617 / 413	1275 / 355 / 651	1383 / 510 / 607	799 / 348 / 536	992 / 535 / 536	1464 / 512 / 303	1525 / 716 / 277	1417 / 481 / 437	1497 / 686 / 407	1325 / 402 / 651	1411 / 559 / 590	846 / 393 / 536	1062 / 603 / 536		
	2	1510 / 656 / 285	1606 / 907 / 260	1476 / 637 / 413	1573 / 885 / 376	1398 / 530 / 607	1524 / 727 / 546	1009 / 535 / 536	1178 / 735 / 483	1525 / 716 / 277	1635 / 987 / 251	1491 / 697 / 401	1603 / 963 / 364	1427 / 580 / 590	1543 / 778 / 520	1081 / 603 / 536	1206 / 781 / 457		
	3	1427 / 1138 / 242	1564 / 1566 / 221	1384 / 711 / 352	1517 / 986 / 322	1348 / 589 / 520	1509 / 805 / 467	1082 / 659 / 490	1254 / 866 / 424	1470 / 1256 / 238	1628 / 1724 / 216	1426 / 786 / 346	1548 / 1066 / 310	1404 / 652 / 511	1557 / 871 / 449	1136 / 722 / 477	1336 / 927 / 404		

Wind Speed [mph]		190										200							
100	1	1467 / 557 / 294	1564 / 789 / 272	1441 / 532 / 431	1512 / 744 / 395	1360 / 445 / 643	1439 / 607 / 572	895 / 441 / 536	1122 / 666 / 530	1493 / 612 / 290	1578 / 849 / 264	1444 / 576 / 419	1526 / 802 / 383	1376 / 482 / 625	1490 / 665 / 563	947 / 491 / 536	1154 / 713 / 510		
	2	1564 / 789 / 272	1662 / 1064 / 242	1506 / 756 / 389	1631 / 1040 / 352	1457 / 630 / 572	1585 / 840 / 502	1129 / 658 / 523	1230 / 822 / 430	1578 / 849 / 264	1719 / 1161 / 238	1545 / 827 / 383	1658 / 1116 / 340	1485 / 679 / 555	1626 / 901 / 484	1162 / 704 / 503	1297 / 871 / 411		
	3	1515 / 1377 / 234	1658 / 1846 / 208	1443 / 848 / 334	1609 / 1167 / 304	1437 / 704 / 493	1634 / 953 / 440	1173 / 773 / 457	1411 / 985 / 384	1532 / 1471 / 225	1649 / 1920 / 195	1486 / 925 / 328	1671 / 1270 / 298	1467 / 755 / 476	1678 / 1016 / 423	1206 / 822 / 437	1480 / 1036 / 364		

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees









## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      74in x 41.2in      Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	878 / 378 / 117	944 / 538 / 106	855 / 356 / 191	910 / 505 / 173	746 / 265 / 306	895 / 410 / 300	514 / 254 / 266	663 / 399 / 266	891 / 410 / 114	955 / 574 / 103	868 / 387 / 188	930 / 545 / 169	777 / 293 / 306	913 / 438 / 291	542 / 281 / 266	716 / 440 / 266	905 / 442 / 112	976 / 616 / 101	873 / 414 / 183	941 / 580 / 164	809 / 323 / 306	930 / 466 / 283

Exposure Category : C

Wind Speed [mph]		110								115								120								130							
30	1	918 / 475 / 110	996 / 658 / 99	886 / 445 / 179	960 / 620 / 161	843 / 354 / 306	956 / 499 / 277	601 / 339 / 266	775 / 489 / 247	932 / 507 / 108	1017 / 700 / 96	899 / 476 / 176	980 / 660 / 158	878 / 386 / 306	972 / 526 / 268	633 / 369 / 266	810 / 516 / 239	1017 / 700 / 96	1124 / 929 / 84	985 / 674 / 156	1092 / 899 / 136	977 / 540 / 265	1069 / 683 / 219	816 / 506 / 235	991 / 641 / 195								

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof			30-60ft				74in x 41.2in				Load: Up / Down / Side , lbs																																							
Wind Speed [mph]			140												150												160																							
Panal Angle			0 - 7.5				7.5 - 15				15 - 30				30 - 45				0 - 7.5				7.5 - 15				15 - 30				30 - 45				0 - 7.5				7.5 - 15				15 - 30				30 - 45			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge															
30	1	959 / 573 / 104	1045 / 773 / 91	925 / 538 / 169	1019 / 739 / 151	907 / 433 / 291	1000 / 575 / 251	708 / 434 / 266	866 / 562 / 223	986 / 637 / 100	1095 / 862 / 88	950 / 600 / 163	1056 / 817 / 144	943 / 482 / 280	1034 / 627 / 236	761 / 477 / 251	923 / 608 / 209	1011 / 699 / 95	1131 / 939 / 84	985 / 667 / 158	1091 / 891 / 138	978 / 531 / 268	1067 / 673 / 222	809 / 516 / 237	984 / 656 / 197																									
	35	1	1081 / 755 / 97	1214 / 1015 / 86	1061 / 738 / 166	1181 / 983 / 145	1051 / 591 / 283	1149 / 744 / 234	881 / 556 / 249	1059 / 693 / 203	1127 / 842 / 94	1241 / 1091 / 80	1095 / 813 / 158	1209 / 1059 / 267	1083 / 643 / 220	1237 / 809 / 233	939 / 601 / 233	1130 / 747 / 190	1158 / 915 / 89	1278 / 1173 / 75	1140 / 897 / 152	1247 / 1141 / 128	1108 / 690 / 250	1317 / 868 / 207	988 / 640 / 217	1208 / 805 / 179																								
		40	1	1032 / 538 / 186	1127 / 746 / 168	1010 / 512 / 267	1091 / 707 / 239	975 / 415 / 369	1068 / 562 / 323	697 / 403 / 310	866 / 562 / 280	1061 / 603 / 180	1156 / 821 / 160	1026 / 569 / 256	1119 / 779 / 228	1004 / 462 / 354	1108 / 619 / 308	763 / 468 / 310	923 / 608 / 262	1089 / 668 / 174	1197 / 903 / 154	1054 / 632 / 247	1159 / 859 / 220	1032 / 508 / 339	1145 / 673 / 292	809 / 516 / 298	984 / 656 / 247																							
			30	1	1047 / 768 / 92	1148 / 997 / 79	1009 / 726 / 151	1109 / 949 / 129	1000 / 571 / 254	1135 / 724 / 210	861 / 557 / 225	1039 / 699 / 185	1081 / 836 / 89	1174 / 1061 / 74	1043 / 792 / 146	1136 / 1013 / 122	1017 / 608 / 239	1196 / 769 / 198	908 / 596 / 213	1100 / 747 / 176																														
				35	1	1115 / 903 / 86	1217 / 1135 / 71	1075 / 856 / 141	1175 / 1085 / 117	1043 / 648 / 227	1249 / 810 / 187	950 / 630 / 202	1155 / 789 / 166	1132 / 955 / 82	1263 / 1186 / 67	1093 / 907 / 134	1216 / 1137 / 111	1080 / 684 / 216	1315 / 858 / 178	999 / 668 / 192	1221 / 840 / 159																													
					40	1	1185 / 869 / 158	1310 / 1135 / 136	1133 / 815 / 222	1270 / 1085 / 195	1128 / 648 / 300	1249 / 810 / 246	950 / 630 / 253	1155 / 789 / 209	1210 / 930 / 152	1320 / 1186 / 128	1172 / 884 / 217	1283 / 1137 / 183	1146 / 684 / 285	1315 / 858 / 235	999 / 668 / 241	1221 / 840 / 200																												

Exposure Category : C

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	$64''$ to $71''$	$48''$ to $63''$	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 30-60ft | 74in x 41.2in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
100	1	1510 / 261 / 329	1450 / 393 / 316	1472 / 244 / 474	1416 / 368 / 455	1128 / 187 / 651	1209 / 294 / 651	630 / 184 / 536	738 / 289 / 536	1510 / 289 / 329	1431 / 426 / 311	1472 / 269 / 474	1397 / 400 / 449	1128 / 207 / 651	1242 / 325 / 651	650 / 203 / 536	768 / 318 / 536	1490 / 313 / 324	1441 / 461 / 307	1472 / 296 / 474	1395 / 432 / 443	1137 / 228 / 651	1276 / 356 / 651	671 / 224 / 536	800 / 349 / 536
	2	1450 / 393 / 316	1472 / 564 / 294	1416 / 380 / 455	1438 / 547 / 425	1218 / 306 / 651	1360 / 461 / 634	748 / 289 / 536	915 / 446 / 536	1431 / 426 / 311	1492 / 610 / 290	1397 / 413 / 449	1457 / 593 / 419	1251 / 338 / 651	1370 / 493 / 616	779 / 318 / 536	962 / 490 / 536	1441 / 461 / 307	1511 / 657 / 285	1406 / 446 / 443	1477 / 639 / 413	1286 / 370 / 651	1399 / 531 / 607	812 / 349 / 536	1011 / 536 / 536
	3	1297 / 695 / 268	1383 / 988 / 251	1260 / 428 / 389	1342 / 615 / 364	1201 / 364 / 590	1307 / 518 / 546	846 / 394 / 536	1037 / 589 / 523	1309 / 750 / 264	1405 / 1064 / 247	1272 / 463 / 383	1363 / 663 / 358	1221 / 395 / 581	1339 / 559 / 537	887 / 433 / 536	1054 / 621 / 503	1344 / 819 / 264	1428 / 1141 / 242	1284 / 499 / 376	1385 / 712 / 352	1243 / 425 / 572	1350 / 591 / 520	929 / 474 / 536	1084 / 661 / 490

Wind Speed [mph]		110								115															
100	1	1490 / 343 / 324	1452 / 495 / 303	1453 / 320 / 467	1405 / 465 / 437	1160 / 249 / 651	1311 / 389 / 651	693 / 245 / 536	833 / 381 / 536	1470 / 368 / 320	1463 / 531 / 298	1434 / 345 / 461	1416 / 499 / 431	1185 / 272 / 651	1348 / 423 / 651	716 / 267 / 536	867 / 414 / 536	1463 / 531 / 298	1552 / 753 / 277	1428 / 515 / 431	1495 / 721 / 395	1342 / 434 / 643	1438 / 601 / 581	881 / 414 / 536	1114 / 634 / 536
	2	1452 / 495 / 303	1532 / 705 / 281	1417 / 480 / 437	1497 / 685 / 407	1323 / 404 / 651	1429 / 571 / 599	845 / 381 / 536	1061 / 584 / 536	1463 / 531 / 298	1552 / 753 / 277	1428 / 515 / 431	1495 / 721 / 395	1342 / 434 / 643	1438 / 601 / 581	881 / 414 / 536	1114 / 634 / 536	1371 / 934 / 255	1475 / 1295 / 234	1330 / 580 / 370	1430 / 812 / 340	1287 / 488 / 555	1416 / 674 / 502	1006 / 553 / 530	1141 / 738 / 464
	3	1357 / 876 / 260	1451 / 1218 / 238	1317 / 543 / 376	1408 / 762 / 346	1265 / 457 / 563	1383 / 632 / 511	972 / 516 / 536	1113 / 700 / 477	1371 / 934 / 255	1475 / 1295 / 234	1330 / 580 / 370	1430 / 812 / 340	1287 / 488 / 555	1416 / 674 / 502	1006 / 553 / 530	1141 / 738 / 464								

Wind Speed [mph]		120								130															
100	1	1450 / 394 / 316	1474 / 566 / 294	1416 / 370 / 455	1427 / 533 / 425	1210 / 296 / 651	1349 / 446 / 634	739 / 290 / 536	902 / 448 / 536	1470 / 368 / 320	1463 / 531 / 298	1434 / 345 / 461	1416 / 499 / 431	1185 / 272 / 651	1348 / 423 / 651	716 / 267 / 536	867 / 414 / 536	1463 / 531 / 298	1552 / 753 / 277	1428 / 515 / 431	1495 / 721 / 395	1342 / 434 / 643	1438 / 601 / 581	881 / 414 / 536	1114 / 634 / 536
	2	1474 / 566 / 294	1548 / 789 / 268	1440 / 550 / 425	1515 / 768 / 389	1362 / 463 / 634	1468 / 640 / 572	917 / 448 / 536	1140 / 668 / 523	1463 / 531 / 298	1552 / 753 / 277	1428 / 515 / 431	1495 / 721 / 395	1342 / 434 / 643	1438 / 601 / 581	881 / 414 / 536	1114 / 634 / 536	1371 / 934 / 255	1475 / 1295 / 234	1330 / 580 / 370	1430 / 812 / 340	1287 / 488 / 555	1416 / 674 / 502	1006 / 553 / 530	1141 / 738 / 464
	3	1385 / 993 / 251	1498 / 1373 / 229	1344 / 618 / 364	1453 / 861 / 334	1309 / 520 / 546	1449 / 716 / 493	1026 / 584 / 516	1185 / 786 / 457	1371 / 934 / 255	1475 / 1295 / 234	1330 / 580 / 370	1430 / 812 / 340	1287 / 488 / 555	1416 / 674 / 502	1006 / 553 / 530	1141 / 738 / 464								

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees











## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof				30-60ft					74in x 41.2in					Load: Up / Down / Side , lbs											
Wind Speed [mph]		95												100						105					
Panal Angle		0 - 7.5			7.5 - 15			15 - 30			30 - 45			0 - 7.5			7.5 - 15			15 - 30			30 - 45		
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	865 / 437 / 109	942 / 612 / 98	841 / 413 / 176	907 / 576 / 157	786 / 322 / 287	903 / 463 / 263	556 / 305 / 249	736 / 456 / 239	883 / 474 / 107	958 / 653 / 95	858 / 448 / 172	931 / 621 / 154	823 / 356 / 287	925 / 494 / 255	589 / 337 / 249	770 / 483 / 230	900 / 511 / 105	983 / 699 / 93	867 / 479 / 168	946 / 659 / 149	854 / 388 / 284	936 / 519 / 245

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1 2 = 2 3 = 3
7.5 - 15	1 = 1 2 = 2 3 = 3
15 - 30	1 = 1 2 = 2 3 = 3
30 - 45	1 = 1 2 = 2 3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	$64'' \text{ to } 71''$	$48'' \text{ to } 63''$	$x \leq 47''$
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# K2 80-X Dual Rail System (ASCE 7-22)

**Open Gable Roof**      **30-60ft**      **74in x 41.2in**      **Load: Up / Down / Side , lbs**

		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		70	1	1224 / 549 / 233	1301 / 759 / 210	1177 / 514 / 332	1267 / 723 / 304	1135 / 428 / 478	1222 / 581 / 422	769 / 414 / 398	954 / 608 / 381	1241 / 613 / 224	1332 / 841 / 201	1208 / 581 / 324	1298 / 802 / 292	1166 / 478 / 461	1267 / 644 / 405	837 / 480 / 398	982 / 655 / 355	1274 / 684 / 219	1381 / 933 / 196	1225 / 641 / 312	1327 / 879 / 280	1197 / 529 / 444	1310 / 706 / 388

**Exposure Category : D**

		170								180							
70	1	1291 / 746 / 210	1409 / 1011 / 187	1257 / 710 / 304	1374 / 968 / 272	1227 / 578 / 428	1351 / 766 / 371	954 / 604 / 385	1111 / 755 / 316	1324 / 817 / 204	1458 / 1102 / 181	1290 / 779 / 296	1400 / 1040 / 260	1255 / 626 / 411	1389 / 823 / 355	975 / 643 / 364	1173 / 803 / 299

		ASCE Group Zone	
Panal Angle	Gable		
0 - 7.5	1 = 1		
	2 = 2		
7.5 - 15	3 = 3		
	1 = 1		
15 - 30	2 = 2		
	3 = 3		
30 - 45	1 = 1		
	2 = 2		
	3 = 3		

		190								200							
70	1	1358 / 888 / 199	1505 / 1192 / 176	1304 / 836 / 284	1446 / 1127 / 252	1299 / 682 / 399	1423 / 876 / 338	1021 / 685 / 346	1227 / 845 / 281	1391 / 959 / 193	1525 / 1259 / 167	1336 / 904 / 276	1491 / 1212 / 244	1324 / 726 / 383	1452 / 925 / 321	1071 / 724 / 329	1293 / 896 / 268

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\Theta$  = Angle of roof from horizontal, in degrees

# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      74in x 41.2in      Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		100	1	1402 / 317 / 308	1371 / 462 / 288	1366 / 296 / 442	1343 / 439 / 421	1065 / 225 / 598	1203 / 352 / 598	637 / 221 / 494	764 / 344 / 494	1384 / 346 / 304	1386 / 502 / 285	1349 / 323 / 437	1340 / 470 / 410	1091 / 248 / 598	1242 / 387 / 598	660 / 243 / 494	799 / 379 / 494	1366 / 375 / 300	1403 / 542 / 281	1332 / 350 / 431	1355 / 508 / 404	1118 / 273 / 598	1282 / 425 / 598
	2	1371 / 462 / 288	1452 / 662 / 269	1336 / 447 / 415	1397 / 634 / 382	1214 / 366 / 598	1332 / 527 / 559	776 / 344 / 494	972 / 529 / 494	1386 / 502 / 285	1457 / 706 / 261	1352 / 486 / 410	1422 / 685 / 377	1253 / 403 / 598	1368 / 571 / 551	812 / 379 / 494	1027 / 581 / 494	1403 / 542 / 281	1483 / 760 / 257	1368 / 525 / 404	1449 / 738 / 371	1294 / 441 / 598	1384 / 606 / 535	850 / 415 / 494	1085 / 635 / 494
	3	1273 / 816 / 246	1390 / 1159 / 230	1233 / 504 / 355	1323 / 711 / 328	1200 / 429 / 535	1319 / 599 / 488	891 / 468 / 494	1063 / 663 / 458	1291 / 880 / 242	1396 / 1227 / 222	1251 / 545 / 350	1351 / 766 / 322	1209 / 457 / 519	1337 / 636 / 472	939 / 514 / 494	1085 / 699 / 440	1310 / 945 / 238	1426 / 1314 / 218	1269 / 586 / 344	1380 / 822 / 317	1237 / 493 / 512	1377 / 683 / 464	988 / 562 / 494	1121 / 742 / 428

Wind Speed [mph]		110								115							
100	1	1355 / 404 / 296	1419 / 582 / 277	1315 / 378 / 426	1371 / 547 / 399	1146 / 299 / 598	1306 / 457 / 590	711 / 293 / 494	875 / 452 / 494	1363 / 434 / 292	1436 / 623 / 273	1318 / 406 / 421	1387 / 586 / 393	1175 / 326 / 598	1313 / 484 / 574	738 / 319 / 494	916 / 491 / 494
	2	1419 / 582 / 277	1510 / 814 / 253	1384 / 564 / 399	1454 / 780 / 361	1302 / 469 / 582	1399 / 640 / 519	890 / 452 / 494	1103 / 666 / 476	1436 / 623 / 273	1514 / 856 / 246	1382 / 596 / 388	1481 / 833 / 355	1328 / 503 / 574	1436 / 684 / 512	932 / 491 / 494	1120 / 696 / 458
	3	1329 / 1011 / 234	1456 / 1403 / 215	1287 / 628 / 339	1410 / 879 / 311	1265 / 529 / 504	1394 / 717 / 449	1002 / 590 / 476	1155 / 785 / 416	1349 / 1078 / 230	1487 / 1492 / 211	1306 / 671 / 333	1439 / 936 / 306	1293 / 565 / 496	1433 / 764 / 441	1028 / 624 / 464	1204 / 827 / 404

Wind Speed [mph]		120								130							
100	1	1372 / 464 / 288	1433 / 656 / 265	1344 / 441 / 421	1404 / 626 / 388	1205 / 354 / 598	1338 / 517 / 567	766 / 346 / 494	957 / 532 / 494	1363 / 434 / 292	1436 / 623 / 273	1318 / 406 / 421	1387 / 586 / 393	1175 / 326 / 598	1313 / 484 / 574	738 / 319 / 494	916 / 491 / 494
	2	1433 / 656 / 265	1541 / 911 / 242	1399 / 636 / 382	1508 / 887 / 350	1335 / 529 / 559	1449 / 717 / 496	975 / 532 / 494	1134 / 723 / 440	1436 / 623 / 273	1514 / 856 / 246	1382 / 596 / 388	1481 / 833 / 355	1328 / 503 / 574	1436 / 684 / 512	932 / 491 / 494	1120 / 696 / 458
	3	1368 / 1145 / 226	1518 / 1581 / 207	1325 / 714 / 328	1469 / 993 / 301	1322 / 601 / 488	1473 / 811 / 433	1053 / 657 / 452	1239 / 854 / 387	1349 / 1078 / 230	1487 / 1492 / 211	1306 / 671 / 333	1439 / 936 / 306	1293 / 565 / 496	1433 / 764 / 441	1028 / 624 / 464	1204 / 827 / 404

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Load: Up / Down / Side , lbs																			
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
	1	772 / 284 / 123	812 / 403 / 112	754 / 288 / 186	788 / 379 / 175	577 / 281 / 228	708 / 311 / 228	429 / 298 / 210	533 / 298 / 210	774 / 300 / 121	829 / 438 / 110	754 / 288 / 186	805 / 413 / 172	601 / 281 / 228	739 / 342 / 226	429 / 298 / 210	575 / 318 / 210	785 / 326 / 119	840 / 470 / 107	763 / 305 / 185	815 / 443 / 167	627 / 281 / 228	757 / 367 / 220	443 / 298 / 210	620 / 350 / 210

Exposure Category : B

Wind Speed [mph]		110								115							
Ground Snow	1	797 / 354 / 117	857 / 505 / 106	774 / 331 / 182	832 / 477 / 164	653 / 281 / 228	769 / 389 / 213	469 / 298 / 210	660 / 381 / 209	802 / 378 / 114	875 / 540 / 104	779 / 355 / 178	842 / 506 / 160	681 / 285 / 228	779 / 410 / 205	501 / 298 / 210	685 / 402 / 202
	2	857 / 505 / 106	939 / 691 / 93	837 / 488 / 163	919 / 671 / 144	774 / 402 / 211	874 / 521 / 175	673 / 377 / 207	804 / 487 / 171	875 / 540 / 104	963 / 735 / 91	846 / 518 / 159	933 / 708 / 139	785 / 423 / 203	909 / 549 / 170	692 / 395 / 198	831 / 509 / 165

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees











# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

83in x 41.5in

Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		70	1	1332 / 190 / 301	1316 / 291 / 297	1311 / 198 / 433	1296 / 274 / 428	963 / 184 / 556	995 / 203 / 556	539 / 207 / 463	598 / 207 / 463	1332 / 203 / 301	1300 / 318 / 293	1311 / 198 / 433	1281 / 300 / 423	963 / 184 / 556	1019 / 225 / 556	539 / 207 / 463	620 / 221 / 463	1332 / 225 / 301	1284 / 346 / 290	1311 / 211 / 433	1266 / 326 / 418	963 / 184 / 556	1044 / 248 / 556

Exposure Category : B

Wind Speed [mph]		110								115																							
70	1	1332 / 248 / 301	1280 / 374 / 286	1311 / 233 / 433	1252 / 353 / 413	963 / 184 / 556	1070 / 272 / 556	565 / 207 / 463	667 / 266 / 463	1332 / 271 / 301	1289 / 403 / 283	1296 / 252 / 428	1260 / 381 / 408	977 / 187 / 556	1097 / 297 / 556	582 / 207 / 463	692 / 291 / 463	1280 / 374 / 286	1346 / 545 / 268	1245 / 361 / 408	1311 / 528 / 383	1079 / 284 / 556	1234 / 437 / 549	676 / 266 / 463	834 / 415 / 463	1289 / 403 / 283	1344 / 577 / 261	1254 / 389 / 403	1310 / 559 / 373	1107 / 310 / 556	1259 / 470 / 542	702 / 291 / 463	873 / 451 / 463

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)

a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

83in x 41.5in

Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	2	604 / 424 / 92	726 / 573 / 79	573 / 394 / 107	701 / 545 / 94	621 / 305 / 122	746 / 411 / 103	547 / 324 / 140	686 / 403 / 123	630 / 455 / 89	757 / 609 / 76	602 / 427 / 105	725 / 575 / 90	649 / 328 / 119	778 / 437 / 100	581 / 320 / 137	712 / 426 / 118	660 / 490 / 87	785 / 643 / 73	631 / 460 / 102	753 / 609 / 86	676 / 351 / 115	808 / 462 / 96

Exposure Category : C

Wind Speed [mph]		110								115							
0	1	678 / 515 / 84	812 / 675 / 70	654 / 488 / 99	779 / 640 / 83	696 / 369 / 110	836 / 485 / 92	642 / 364 / 131	771 / 475 / 110	707 / 548 / 82	845 / 712 / 68	677 / 516 / 96	812 / 677 / 81	726 / 393 / 107	870 / 512 / 89	666 / 385 / 127	797 / 497 / 106

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof			0-30ft		83in x 41.5in		Load: Up / Down / Side , lbs		100								105									
Wind Speed [mph]			95								100								105							
Panal Angle			0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1

Exposure Category : C

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 0-30ft | 83in x 41.5in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge																		
		15	1	833 / 444 / 110	904 / 615 / 98	802 / 414 / 170	878 / 583 / 153	725 / 349 / 213	804 / 459 / 178	595 / 330 / 204	739 / 448 / 177	845 / 477 / 107	922 / 656 / 95	821 / 450 / 167	895 / 623 / 148	734 / 370 / 205	837 / 486 / 171	638 / 362 / 203	772 / 476 / 171	857 / 510 / 105	949 / 704 / 93	832 / 482 / 163	912 / 663 / 144	748 / 394 / 198	868 / 511 / 164
25	3	977 / 1062 / 93	1011 / 1304 / 75	944 / 657 / 150	1066 / 890 / 132	930 / 540 / 221	1108 / 696 / 185	840 / 533 / 204	1025 / 681 / 170	978 / 1109 / 88	1026 / 1364 / 72	969 / 705 / 146	1101 / 950 / 129	954 / 574 / 213	1156 / 733 / 178	875 / 562 / 196	1060 / 710 / 162	990 / 1165 / 85	1054 / 1442 / 69	995 / 753 / 143	1135 / 1010 / 125	1000 / 613 / 208	1200 / 766 / 170	916 / 594 / 190	1105 / 745 / 156

Exposure Category : D

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft		83in x 41.5in		Load: Up / Down / Side , lbs																				
Wind Speed [mph]		95								100								105								
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		
		30	1	898 / 416 / 119	973 / 590 / 108	875 / 393 / 192	939 / 555 / 173	801 / 303 / 310	924 / 446 / 289	553 / 285 / 267	739 / 448 / 267	913 / 451 / 117	986 / 629 / 104	890 / 426 / 189	961 / 599 / 169	836 / 335 / 310	943 / 476 / 281	584 / 316 / 267	772 / 476 / 258	929 / 487 / 114	1009 / 674 / 102	896 / 456 / 183	973 / 636 / 164	873 / 369 / 310	972 / 511 / 275	617 / 347 / 267
30	1	944 / 522 / 112	1032 / 720 / 100	911 / 490 / 180	995 / 679 / 161	894 / 397 / 304	990 / 540 / 266	651 / 380 / 267	832 / 526 / 238	960 / 557 / 110	1054 / 764 / 98	926 / 524 / 176	1017 / 722 / 157	906 / 420 / 295	1007 / 568 / 257	693 / 415 / 267	859 / 548 / 229									
30	1	985 / 506 / 118	1071 / 703 / 106	952 / 476 / 193	1034 / 664 / 174	922 / 385 / 337	1016 / 528 / 297	651 / 366 / 290	832 / 526 / 268	998 / 540 / 116	1091 / 747 / 103	965 / 508 / 189	1054 / 706 / 170	941 / 412 / 331	1042 / 561 / 290	685 / 399 / 290	859 / 548 / 257									

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      0-30ft      83in x 41.5in      Load: Up / Down / Side , lbs

Wind Speed [mph]	95									100								105							
	0 - 7.5		7.5 - 15		15 - 30		30 - 45			0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	1030 / 381 / 221	1093 / 547 / 203	999 / 357 / 313	1059 / 516 / 288	871 / 271 / 406	1018 / 418 / 398	571 / 260 / 334	723 / 407 / 334	1038 / 412 / 217	1109 / 589 / 199	1007 / 387 / 306	1075 / 555 / 281	902 / 300 / 406	1041 / 451 / 389	599 / 287 / 334	766 / 449 / 334	1046 / 444 / 212	1124 / 630 / 194	1015 / 417 / 300	1090 / 595 / 275	935 / 330 / 406	1052 / 478 / 376

Exposure Category : D

Panel Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

### Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

83in x 41.5in

Load: Up / Down / Side , lbs

Exposure Category : D

Wind Speed [mph]		140								150								160									
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		1	1103 / 581 / 199	1199 / 801 / 178	1069 / 548 / 281	1148 / 751 / 250	1035 / 445 / 389	1139 / 604 / 342	760 / 443 / 334	924 / 601 / 294	1132 / 650 / 192	1226 / 878 / 169	1097 / 615 / 272	1189 / 835 / 241	1063 / 494 / 372	1178 / 663 / 324	833 / 514 / 334	981 / 647 / 274	1161 / 719 / 185	1267 / 964 / 162	1125 / 681 / 263	1230 / 918 / 231	1102 / 547 / 359	1214 / 718 / 307	867 / 554 / 314	1041 / 695 / 257	

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      0-30ft      83in x 41.5in      Load: Up / Down / Side, lbs

Wind Speed [mph]		140								150								160							
		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		70	1	1267 / 521 / 253	1345 / 729 / 230	1237 / 493 / 364	1313 / 695 / 333	1166 / 406 / 517	1268 / 565 / 467	777 / 394 / 432	986 / 601 / 427	1295 / 588 / 246	1390 / 819 / 224	1248 / 551 / 351	1337 / 770 / 319	1207 / 460 / 505	1309 / 628 / 448	842 / 457 / 432	1009 / 647 / 398	1324 / 657 / 240	1414 / 896 / 214	1275 / 616 / 342	1381 / 856 / 311	1233 / 508 / 486	1348 / 688 / 429

Exposure Category : D

ASCE Group Zone	
Panel Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less than 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof     30-60ft     83in x 41.5in     Load: Up / Down / Side , lbs

		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	653/481	777/633	619/448	745/599	668/345	800/455	600/331	734/444	675/511	809/670	651/484	776/636	692/366	833/482	633/357	760/467	702/543	839/706	677/515	805/670	720/389	863/507

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      83in x 41.5in      Load: Up / Down / Side , lbs

			140								150								160							
			0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Panal Angle	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
				1		953 / 715 / 92	1041 / 922 / 77	926 / 680 / 143	1003 / 874 / 120	878 / 519 / 162	1060 / 660 / 134	806 / 505 / 161	977 / 644 / 134	982 / 784 / 87	1098 / 997 / 72	955 / 748 / 136	1051 / 948 / 113	933 / 563 / 152	1128 / 713 / 125	861 / 550 / 151	1047 / 699 / 126	1008 / 848 / 82	1157 / 1062 / 67	981 / 811 / 129	1110 / 1014 / 106	991 / 608 / 143

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
---------------	------------	------------	---------------

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 $\Theta$  = Angle of roof from horizontal, in degrees







# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

30-60ft

83in x 41.5in

Load: Up / Down / Side , lbs

Ground Snow	Group	140								150								160							
		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Wind Speed [mph]	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	
45	1	1123 / 639 / 191	1231 / 875 / 170	1089 / 604 / 271	1194 / 832 / 243	1066 / 491 / 375	1182 / 660 / 328	824 / 505 / 334	977 / 644 / 277	1156 / 713 / 184	1262 / 956 / 161	1121 / 676 / 262	1225 / 911 / 231	1098 / 543 / 358	1208 / 713 / 306	861 / 550 / 314	1047 / 699 / 261	1189 / 787 / 177	1307 / 1047 / 155	1152 / 747 / 252	1269 / 1000 / 221	1142 / 601 / 345	1245 / 769 / 289	920 / 597 / 297	1109 / 747 / 244
45	1	1220 / 859 / 170	1370 / 1151 / 150	1183 / 817 / 243	1311 / 1085 / 212	1169 / 648 / 328	1275 / 820 / 272	973 / 640 / 281	1178 / 801 / 231	1249 / 929 / 164	1388 / 1216 / 141	1212 / 885 / 234	1350 / 1167 / 203	1209 / 702 / 315	1353 / 879 / 259	1020 / 678 / 264	1239 / 849 / 217	ASCE Group Zone							
		Panal Angle		Gable																					
		0 - 7.5		1 = 1																					
		7.5 - 15		2 = 2																					
		15 - 30		3 = 3																					
		30 - 45		1 = 1																					
				2 = 2																					
				3 = 3																					

Exposure Category : D

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160										
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45				
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
		30	1	986 / 422 / 131	1047 / 595 / 118	954 / 395 / 214	1014 / 560 / 193	869 / 307 / 357	996 / 455 / 335	594 / 293 / 308	767 / 461 / 308	1007 / 478 / 128	1081 / 667 / 114	975 / 449 / 208	1046 / 630 / 187	926 / 359 / 357	1030 / 506 / 320	646 / 343 / 308	823 / 509 / 293	1029 / 534 / 124	1115 / 739 / 110	996 / 502 / 201	1079 / 699 / 180	966 / 407 / 350	1061 / 555 / 306	700 / 396 / 308	871 / 550 / 276	
40	1			1081 / 392 / 234	1139 / 561 / 214	1050 / 368 / 331	1106 / 530 / 303	921 / 282 / 434	1073 / 435 / 424	603 / 271 / 357	763 / 425 / 357	1093 / 443 / 226	1163 / 628 / 206	1062 / 417 / 321	1130 / 594 / 293	973 / 330 / 434	1097 / 483 / 405	651 / 316 / 357	834 / 494 / 357	1118 / 500 / 221	1203 / 703 / 201	1087 / 471 / 314	1154 / 658 / 282	1029 / 382 / 434	1134 / 535 / 390	701 / 365 / 357	881 / 550 / 346	
				30	1	1051 / 590 / 120	1148 / 810 / 106	1017 / 556 / 195	1111 / 767 / 174	987 / 446 / 335	1103 / 609 / 295	758 / 452 / 308	923 / 592 / 261	1072 / 646 / 116	1180 / 879 / 102	1037 / 609 / 189	1142 / 835 / 168	1017 / 489 / 324	1130 / 654 / 299	809 / 497 / 280	969 / 630 / 246	1117 / 427 / 111	1247 / 1769 / 81	1174 / 973 / 67	1352 / 1264 / 124	1216 / 770 / 244	1474 / 962 / 200	1119 / 748 / 216

Exposure Category : B

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees



# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Ground Snow	Group	140								150								160													
		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45							
		Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge						
	45	1	1125 / 380 / 248	1185 / 548 / 228	1095 / 357 / 352	1153 / 518 / 325	949 / 272 / 462	1107 / 425 / 456	618 / 265 / 386	774 / 416 / 386	1146 / 433 / 242	1205 / 613 / 220	1116 / 408 / 345	1173 / 580 / 314	1000 / 319 / 462	1141 / 477 / 440	664 / 310 / 386	843 / 484 / 386	1169 / 488 / 237	1241 / 685 / 214	1124 / 455 / 333	1207 / 650 / 306	1054 / 369 / 462	1160 / 522 / 419	713 / 358 / 386	907 / 550 / 381					
	170	1	1178 / 538 / 228	1261 / 749 / 206	1146 / 508 / 325	1227 / 712 / 295	1099 / 417 / 456	1207 / 579 / 409	766 / 409 / 386	932 / 592 / 361	1201 / 594 / 223	1296 / 822 / 201	1168 / 562 / 318	1262 / 782 / 287	1119 / 456 / 440	1238 / 629 / 393	822 / 463 / 386	969 / 630 / 340	1218 / 648 / 237	1311 / 799 / 283	1263 / 797 / 249	1386 / 1068 / 387	1239 / 644 / 329	1362 / 836 / 336	984 / 622 / 279	1201 / 788 / 279					
	190	1	1224 / 650 / 217	1332 / 895 / 195	1191 / 616 / 310	1279 / 842 / 276	1152 / 501 / 430	1266 / 676 / 377	881 / 520 / 386	1021 / 671 / 324	1247 / 707 / 212	1368 / 968 / 189	1214 / 671 / 302	1313 / 911 / 268	1170 / 538 / 414	1312 / 732 / 366	913 / 562 / 373	1069 / 710 / 308	1322 / 901 / 276	1435 / 1157 / 241	1286 / 702 / 377	1397 / 890 / 313	1037 / 663 / 320	1255 / 829 / 263	1368 / 968 / 189	1514 / 1276 / 264	1315 / 926 / 234	1483 / 1245 / 361	1428 / 939 / 297	1085 / 700 / 304	1321 / 878 / 250

Exposure Category : B

ASCE Group Zone

Panel Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees















# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		1	939 / 607 / 107	1031 / 814 / 93	905 / 571 / 165	1004 / 779 / 146	839 / 458 / 210	982 / 591 / 174	751 / 448 / 206	899 / 573 / 170	972 / 677 / 102	1060 / 887 / 87	936 / 637 / 159	1035 / 851 / 137	870 / 501 / 197	1050 / 643 / 164	796 / 487 / 193	955 / 619 / 159	1003 / 744 / 98	1084 / 952 / 82	966 / 702 / 152	1060 / 916 / 129	916 / 540 / 185	1110 / 690 / 153	844 / 527 / 181

Exposure Category : C

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof		0-30ft								92.5in x 45.9in								Load: Up / Down / Side , lbs							
Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		70	1	1396 / 285 / 315	1364 / 427 / 299	1377 / 269 / 455	1320 / 400 / 427	1048 / 201 / 596	1177 / 320 / 596	626 / 222 / 498	745 / 313 / 498	1378 / 312 / 311	1379 / 465 / 295	1360 / 294 / 449	1333 / 435 / 422	1072 / 223 / 596	1213 / 353 / 596	648 / 222 / 498	778 / 345 / 498	1378 / 344 / 311	1393 / 503 / 291	1344 / 320 / 444	1347 / 471 / 416	1097 / 246 / 596	1251 / 387 / 596

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees









K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

0-30ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Large table with columns for Wind Speed (140, 150, 160, 170, 180, 190, 200 mph) and Panal Angle (0-7.5, 7.5-15, 15-30, 30-45 degrees). Rows include Group, Array Interior, and Array Edge load values.

ASCE Group Zone table mapping Panal Angle (0-7.5, 7.5-15, 15-30, 30-45) to Gable zone values (1=1, 2=2, 3=3).

Color-coded legend table for span lengths: x ≥ 72", 64" to 71", 48" to 63", x ≤ 47".

Notation (ASCE 7-22)
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.
B = Horizontal dimension of building measured normal to wind direction, in ft(m).
h = Mean roof height, in ft(m).
Θ = Angle of roof from horizontal, in degrees































# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

30-60ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		30	1	1009 / 498 / 124	1099 / 700 / 113	987 / 473 / 205	1064 / 661 / 184	951 / 383 / 357	1040 / 525 / 313	668 / 365 / 308	841 / 525 / 284	1036 / 561 / 120	1127 / 773 / 107	1002 / 528 / 197	1090 / 732 / 176	979 / 428 / 342	1078 / 581 / 299	731 / 425 / 308	895 / 570 / 267	1063 / 625 / 117	1166 / 853 / 103	1029 / 589 / 191	1129 / 809 / 170	1005 / 473 / 328	1114 / 634 / 284
35	2	1099 / 700 / 113	1201 / 935 / 98	1067 / 675 / 182	1169 / 906 / 159	1055 / 546 / 313	1148 / 704 / 262	855 / 519 / 281	1026 / 655 / 231	1127 / 773 / 107	1257 / 1036 / 94	1095 / 746 / 174	1224 / 1005 / 153	1095 / 604 / 299	1202 / 768 / 248	911 / 564 / 264	1095 / 708 / 216	1166 / 853 / 103	1291 / 1118 / 89	1134 / 824 / 168	1259 / 1086 / 145	1118 / 650 / 280	1280 / 827 / 233	970 / 610 / 249	1171 / 766 / 205
40	3	1090 / 1227 / 95	1133 / 1499 / 77	1072 / 776 / 159	1215 / 1044 / 140	1086 / 623 / 273	1275 / 813 / 233	961 / 623 / 249	1161 / 782 / 205	1101 / 1316 / 89	1161 / 1607 / 72	1117 / 861 / 153	1276 / 1150 / 134	1128 / 682 / 259	1364 / 880 / 219	1030 / 678 / 234	1249 / 850 / 193	1123 / 1413 / 84	1222 / 1730 / 68	1160 / 945 / 147	1343 / 1252 / 128	1187 / 748 / 248	1442 / 938 / 204	1091 / 727 / 219	1328 / 911 / 181

Exposure Category : B

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
Θ = Angle of roof from horizontal, in degrees

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      92.5in x 45.9in      Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		0	1	848 / 701 / 75	1021 / 899 / 62	815 / 666 / 89	976 / 852 / 74	871 / 503 / 98	1050 / 644 / 81	798 / 489 / 116	967 / 627 / 97	900 / 762 / 70	1089 / 974 / 59	866 / 727 / 83	1042 / 926 / 69	925 / 546 / 92	1118 / 696 / 76	852 / 534 / 109	1036 / 682 / 91	955 / 826 / 66	1147 / 1040 / 55	912 / 781 / 78	1100 / 992 / 65	982 / 592 / 86	1193 / 753 / 72

Exposure Category : C

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof     30-60ft     92.5in x 45.9in     Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105									
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45			
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge		
	15	1	873 / 459 / 116	948 / 638 / 103	849 / 433 / 181	922 / 607 / 161	779 / 359 / 239	846 / 477 / 201	617 / 340 / 226	774 / 468 / 198	892 / 498 / 114	975 / 688 / 101	859 / 466 / 176	939 / 648 / 157	799 / 387 / 232	881 / 510 / 195	666 / 376 / 226	807 / 496 / 191	903 / 532 / 111	992 / 730 / 98	878 / 503 / 173	965 / 695 / 153	812 / 411 / 224	911 / 535 / 186	700 / 404 / 221	838 / 522 / 183	
15		1	922 / 571 / 108	1018 / 778 / 95	888 / 535 / 168	981 / 735 / 148	823 / 434 / 216	949 / 564 / 180	721 / 423 / 211	866 / 546 / 175	941 / 609 / 106	1033 / 817 / 92	906 / 572 / 165	1006 / 781 / 145	840 / 459 / 209	985 / 593 / 174	746 / 445 / 204	902 / 574 / 170									
		15	1	950 / 641 / 103	1045 / 854 / 89	924 / 609 / 161	1020 / 818 / 140	848 / 479 / 201	1019 / 619 / 168	776 / 470 / 198	935 / 602 / 164	941 / 609 / 106	1033 / 817 / 92	906 / 572 / 165	1006 / 781 / 145	840 / 459 / 209	985 / 593 / 174	746 / 445 / 204	902 / 574 / 170								

**Exposure Category : C**

**ASCE Group Zone**

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      92.5in x 45.9in      Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
		15	1	969 / 679 / 101	1069 / 899 / 87	943 / 646 / 158	1031 / 852 / 135	871 / 503 / 195	1050 / 644 / 161	798 / 489 / 191	967 / 627 / 159	1005 / 754 / 97	1101 / 974 / 81	968 / 711 / 150	1063 / 926 / 127	925 / 546 / 182	1118 / 696 / 151	852 / 534 / 179	1036 / 682 / 149	1039 / 826 / 92	1147 / 1040 / 76	1001 / 781 / 144	1100 / 992 / 119	982 / 592 / 172	1193 / 753 / 143

Exposure Category : C

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof

30-60ft

92.5in x 45.9in

Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15- 30		30 - 45		0 - 7.5		7.5 - 15		15- 30		30 - 45		0 - 7.5		7.5 - 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		45	1	1208 / 592 / 224	1287 / 809 / 200	1161 / 553 / 317	1252 / 770 / 286	1124 / 454 / 445	1227 / 619 / 392	814 / 455 / 386	967 / 627 / 345	1232 / 661 / 216	1324 / 896 / 191	1198 / 626 / 309	1289 / 855 / 275	1161 / 509 / 429	1278 / 687 / 376	889 / 528 / 386	1036 / 682 / 324	1255 / 728 / 208	1379 / 995 / 186	1221 / 692 / 298	1324 / 937 / 263	1181 / 556 / 408	1327 / 753 / 360

Exposure Category : C

Wind Speed [mph]		170								180							
45	1	1294 / 806 / 202	1413 / 1078 / 177	1242 / 756 / 286	1377 / 1032 / 256	1231 / 616 / 397	1352 / 804 / 339	963 / 623 / 349	1165 / 784 / 287	1314 / 871 / 194	1467 / 1175 / 172	1280 / 830 / 279	1408 / 1110 / 244	1264 / 667 / 381	1394 / 863 / 323	1009 / 662 / 328	1226 / 832 / 271

ASCE Group Zone	
Panal Angle	Gable
	0 - 7.5
	7.5 - 15
15 - 30	30 - 45

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

Notation (ASCE 7-22)  
a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
h = Mean roof height, in ft(m).  
Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof			30-60ft		92.5in x 45.9in		Load: Up / Down / Side , lbs																			
Wind Speed [mph]			95								100								105							
Panal Angle			0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		
		0	1	726 / 557 / 86	868 / 726 / 72	702 / 529 / 103	835 / 691 / 86	751 / 402 / 115	892 / 521 / 95	685 / 391 / 135	828 / 513 / 114	756 / 592 / 83	910 / 773 / 70	731 / 564 / 99	867 / 729 / 82	775 / 424 / 109	936 / 554 / 92	716 / 418 / 131	862 / 541 / 109	783 / 626 / 80	940 / 808 / 67	759 / 598 / 96	907 / 773 / 80	812 / 453 / 106	966 / 579 / 87	745 / 443 / 126

Exposure Category : D

ASCE Group Zone	
Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**

a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

x ≥ 72"	64" to 71"	48" to 63"	x ≤ 47"
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 30-60ft | 92.5in x 45.9in | Load: Up / Down / Side , lbs

Wind Speed [mph]		140								150								160							
Panal Angle		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45	
Ground Snow	Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge
	0	1	900 / 763 / 70	1090 / 975 / 59	867 / 727 / 83	1043 / 927 / 69	926 / 547 / 92	1119 / 697 / 76	853 / 534 / 109	1037 / 683 / 91	964 / 834 / 66	1158 / 1051 / 55	920 / 789 / 78	1111 / 1002 / 65	991 / 598 / 86	1204 / 761 / 72	908 / 580 / 102	1107 / 739 / 85	1022 / 900 / 62	1233 / 1132 / 52	977 / 853 / 74	1185 / 1083 / 61	1050 / 644 / 81	1262 / 806 / 67	967 / 628 / 97

Exposure Category : D

Wind Speed [mph]		170								180							
0	1	1072 / 958 / 59	1300 / 1205 / 48	1027 / 910 / 69	1253 / 1156 / 58	1116 / 694 / 77	1351 / 871 / 63	1020 / 671 / 91	1237 / 841 / 75	1130 / 1021 / 55	1380 / 1290 / 46	1084 / 973 / 66	1311 / 1220 / 54	1176 / 740 / 73	1433 / 931 / 60	1079 / 717 / 86	1317 / 902 / 71

ASCE Group Zone	
Panel Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
15 - 30	1 = 1
	2 = 2
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 Θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	$64" \text{ to } 71"$	$48" \text{ to } 63"$	$x \leq 47"$
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# K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof | 30-60ft | 92.5in x 45.9in | Load: Up / Down / Side , lbs

Wind Speed [mph]		95								100								105							
Panal Angle		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45		0 - 7.5		7.5- 15		15- 30		30 - 45	
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge	
		100	1	1552 / 351 / 341	1528 / 515 / 322	1538 / 333 / 498	1482 / 485 / 464	1244 / 262 / 698	1405 / 411 / 698	738 / 256 / 572	886 / 399 / 572	1552 / 388 / 341	1543 / 558 / 317	1517 / 363 / 491	1496 / 525 / 457	1274 / 290 / 698	1409 / 440 / 679	766 / 282 / 572	927 / 439 / 572	1530 / 419 / 336	1558 / 602 / 312	1496 / 393 / 485	1511 / 567 / 451	1305 / 319 / 698	1433 / 475 / 669
	2	1528 / 515 / 322	1604 / 732 / 297	1494 / 500 / 464	1571 / 713 / 430	1397 / 421 / 688	1501 / 594 / 629	899 / 399 / 572	1128 / 614 / 572	1543 / 558 / 317	1630 / 790 / 292	1509 / 542 / 457	1598 / 770 / 423	1422 / 457 / 679	1514 / 632 / 610	942 / 439 / 572	1176 / 665 / 565	1558 / 602 / 312	1657 / 849 / 288	1525 / 585 / 451	1598 / 814 / 410	1448 / 494 / 669	1552 / 679 / 600	986 / 481 / 572	1209 / 708 / 550
	3	1414 / 906 / 273	1531 / 1277 / 253	1376 / 562 / 396	1488 / 799 / 369	1323 / 473 / 590	1463 / 664 / 541	1034 / 542 / 572	1174 / 732 / 505	1458 / 994 / 273	1561 / 1372 / 249	1393 / 606 / 389	1517 / 860 / 362	1351 / 511 / 580	1504 / 715 / 531	1074 / 588 / 565	1210 / 779 / 491	1476 / 1065 / 268	1591 / 1467 / 244	1435 / 663 / 389	1547 / 922 / 355	1379 / 550 / 571	1547 / 766 / 521	1101 / 626 / 550	1245 / 825 / 476

Wind Speed [mph]		110								115															
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge																	
		100	1	1515 / 452 / 331	1574 / 646 / 307	1475 / 424 / 478	1526 / 609 / 444	1338 / 349 / 698	1459 / 510 / 659	824 / 339 / 572	1015 / 524 / 572	1522 / 485 / 326	1590 / 690 / 302	1477 / 455 / 471	1541 / 651 / 437	1372 / 380 / 698	1462 / 538 / 639	855 / 369 / 572	1062 / 569 / 572	1590 / 690 / 302	1682 / 951 / 273	1557 / 672 / 437	1651 / 929 / 396	1477 / 559 / 639	1601 / 763 / 571
	2	1574 / 646 / 307	1684 / 908 / 283	1541 / 628 / 444	1624 / 871 / 403	1452 / 523 / 649	1564 / 715 / 580	1032 / 524 / 572	1224 / 739 / 528	1590 / 690 / 302	1682 / 951 / 273	1557 / 672 / 437	1651 / 929 / 396	1477 / 559 / 639	1601 / 763 / 571	1080 / 569 / 572	1236 / 768 / 505	1514 / 1210 / 258	1652 / 1657 / 234	1472 / 756 / 376	1606 / 1045 / 341	1437 / 628 / 551	1600 / 853 / 492	1153 / 700 / 520	1328 / 912 / 446

Wind Speed [mph]		120								130															
Ground Snow	Group	Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge		Array Interior		Array Edge					
		100	1	1530 / 518 / 322	1606 / 735 / 297	1484 / 487 / 464	1557 / 694 / 430	1407 / 413 / 698	1487 / 574 / 629	888 / 401 / 572	1110 / 617 / 572	1522 / 485 / 326	1590 / 690 / 302	1477 / 455 / 471	1541 / 651 / 437	1372 / 380 / 698	1462 / 538 / 639	855 / 369 / 572	1062 / 569 / 572	1590 / 690 / 302	1682 / 951 / 273	1557 / 672 / 437	1651 / 929 / 396	1477 / 559 / 639	1601 / 763 / 571
	2	1606 / 735 / 297	1709 / 1010 / 268	1574 / 716 / 430	1678 / 987 / 389	1504 / 596 / 629	1639 / 811 / 561	1130 / 617 / 572	1264 / 806 / 491	1590 / 690 / 302	1682 / 951 / 273	1557 / 672 / 437	1651 / 929 / 396	1477 / 559 / 639	1601 / 763 / 571	1080 / 569 / 572	1236 / 768 / 505	1514 / 1210 / 258	1652 / 1657 / 234	1472 / 756 / 376	1606 / 1045 / 341	1437 / 628 / 551	1600 / 853 / 492	1153 / 700 / 520	1328 / 912 / 446

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

$x \geq 72''$	64" to 71"	48" to 63"	$x \leq 47''$
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**Notation (ASCE 7-22)**  
 a = 0.4h, never less 4% of least horizontal dimension or 3ft (0.9m). The horizontal dimensions used to compute the edge shall not include any overhang distances.  
 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

## K2 80-X Dual Rail System (ASCE 7-22)

Open Gable Roof      30-60ft      92.5in x 45.9in      Load: Up / Down / Side , lbs

Ground Snow	Panal Angle	140								150								160									
		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45		0 - 7.5		7.5 - 15		15 - 30		30 - 45			
Group	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge	Array Interior	Array Edge			
100	1	1538 / 551 / 317	1623 / 780 / 292	1514 / 526 / 464	1573 / 737 / 423	1423 / 440 / 688	1512 / 610 / 620	921 / 433 / 572	1161 / 665 / 572	1578 / 628 / 312	1656 / 871 / 283	1530 / 592 / 451	1605 / 824 / 410	1435 / 489 / 659	1564 / 682 / 600	992 / 502 / 572	1218 / 739 / 550	1596 / 697 / 302	1689 / 961 / 273	1546 / 658 / 437	1637 / 910 / 396	1468 / 544 / 639	1588 / 742 / 571	1068 / 575 / 572	1237 / 787 / 513		
	2	1623 / 780 / 292	1735 / 1068 / 263	1590 / 760 / 423	1706 / 1045 / 382	1530 / 634 / 620	1647 / 843 / 541	1167 / 657 / 565	1290 / 843 / 476	1656 / 871 / 283	1789 / 1185 / 253	1624 / 849 / 410	1760 / 1162 / 369	1558 / 697 / 590	1720 / 937 / 521	1208 / 719 / 535	1365 / 910 / 446	1689 / 961 / 273	1841 / 1301 / 244	1658 / 939 / 396	1778 / 1252 / 348	1609 / 771 / 571	1792 / 1029 / 502	1244 / 776 / 505	1444 / 970 / 416		
	3	1553 / 1355 / 249	1712 / 1846 / 224	1509 / 850 / 362	1665 / 1168 / 328	1495 / 706 / 531	1681 / 953 / 472	1218 / 781 / 498	1431 / 991 / 416	1623 / 1529 / 244	1770 / 2031 / 215	1577 / 961 / 355	1723 / 1288 / 314	1553 / 784 / 512	1761 / 1052 / 453	1281 / 860 / 476	1521 / 1059 / 387	1661 / 1674 / 234	1782 / 2156 / 200	1614 / 1055 / 341	1818 / 1437 / 307	1609 / 861 / 492	1838 / 1148 / 433	1341 / 921 / 446	1626 / 1138 / 364		
Wind Speed [mph]		170								180																	
100	1	1613 / 766 / 292	1753 / 1069 / 268	1563 / 724 / 423	1669 / 996 / 382	1501 / 599 / 620	1637 / 813 / 551	1148 / 654 / 572	1267 / 841 / 483	1657 / 849 / 288	1786 / 1159 / 258	1606 / 802 / 416	1730 / 1100 / 376	1533 / 654 / 600	1685 / 882 / 531	1202 / 717 / 557	1317 / 902 / 461										
	2	1753 / 1069 / 268	1890 / 1413 / 234	1692 / 1027 / 382	1865 / 1389 / 341	1661 / 844 / 551	1823 / 1097 / 472	1275 / 828 / 476	1539 / 1039 / 394	1786 / 1159 / 258	1937 / 1522 / 224	1724 / 1114 / 369	1914 / 1499 / 328	1710 / 915 / 531	1887 / 1181 / 453	1334 / 888 / 453	1623 / 1101 / 372										
	3	1733 / 1854 / 229	1782 / 2259 / 185	1650 / 1147 / 328	1873 / 1553 / 294	1663 / 937 / 472	1911 / 1240 / 413	1433 / 991 / 424	1719 / 1209 / 342	1729 / 1949 / 215	1819 / 2402 / 176	1720 / 1262 / 321	1922 / 1663 / 280	1715 / 1009 / 453	1977 / 1326 / 394	1517 / 1055 / 402	1839 / 1298 / 327										
Wind Speed [mph]		190								200																	
100	1	1674 / 917 / 278	1816 / 1246 / 249	1622 / 868 / 403	1761 / 1185 / 362	1565 / 708 / 580	1731 / 949 / 512	1221 / 760 / 528	1368 / 943 / 431	1720 / 1002 / 273	1844 / 1329 / 239	1666 / 949 / 396	1789 / 1266 / 348	1623 / 774 / 571	1774 / 1014 / 492	1254 / 809 / 505	1460 / 1011 / 416										
	2	1816 / 1246 / 249	2024 / 1661 / 219	1755 / 1199 / 355	1959 / 1603 / 314	1758 / 985 / 512	1901 / 1232 / 423	1409 / 943 / 431	1696 / 1156 / 350	1844 / 1329 / 239	2065 / 1762 / 210	1818 / 1306 / 348	2000 / 1702 / 301	1803 / 1052 / 492	1951 / 1304 / 403	1476 / 993 / 409	1796 / 1228 / 335										
	3	1758 / 2075 / 205	1848 / 2530 / 166	1753 / 1350 / 307	2016 / 1811 / 273	1802 / 1102 / 443	2089 / 1406 / 374	1593 / 1112 / 379	1907 / 1350 / 305	1783 / 2192 / 195	1869 / 2640 / 156	1823 / 1465 / 301	2056 / 1908 / 260	1848 / 1169 / 423	2190 / 1478 / 354	1657 / 1162 / 357	2007 / 1424 / 290										

Exposure Category : D

ASCE Group Zone

Panal Angle	Gable
0 - 7.5	1 = 1
	2 = 2
	3 = 3
7.5 - 15	1 = 1
	2 = 2
	3 = 3
15 - 30	1 = 1
	2 = 2
	3 = 3
30 - 45	1 = 1
	2 = 2
	3 = 3

Note: Spans in span tables can be used for both Landscape and Portrait Orientation, and spans are color-coded as follows

**Notation (ASCE 7-22)**  
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 B = Horizontal dimension of building measured normal to wind direction, in ft(m).  
 h = Mean roof height, in ft(m).  
 θ = Angle of roof from horizontal, in degrees

$x \geq 72"$	64" to 71"	48" to 63"	$x \leq 47"$
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