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Hayward, CA 94545
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Attn: Sean McDonald, CEO, IronRidge Inc.

Date: February 10th, 2025

Re: Report #7.16 XR10: Engineering Certification and Span Tables for the IronRidge XR10 Rail Flush Mount System, for Gable and Hip roofs, Rev B.

This letter certifies the loading criteria and design basis used for the structural analysis of the IronRidge XR System as shown in Report # 7.16 XR10 " Engineering Certification and Span Tables for the IronRidge XR10 Rail Flush Mount System, for Gable and Hip roofs, Rev B". All information, data, and analysis therein are based on, and comply with, the following building codes and typical specifications. The Span Tables provided in the referenced report may be used when all conditions of the design criteria provided therein are met.

Building Codes:

1. ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures, by American Society of Civil Engineers
2. 2022 Oregon Structural Specialty Code
3. AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012 by ICC-ES
4. Aluminum Design Manual 2020, by The Aluminum Association, Inc.
5. ANSI/AWC NDS-2018, National Design Specification for Wood Construction, by the American Wood Council

Please note our evaluation only applies to IronRidge products and excludes the structural adequacy of the chosen roof attachments, PV modules, or underlying roof supporting members. It shall be the responsibility of the installer or system designer to verify the structural capacity and adequacy of the referenced system components with respect to the applied or resultant loads of the chosen array configuration.

Sincerely,

Matthew S Kuzila, P.E.

Digitally Sealed 02.10.2025

Re: Report #7.16 XR10: Engineering Certification and Span Tables for the IronRidge XR10 Rail Flush Mount System, for Gable and Hip Roofs, Rev B.

This report addresses the structural performance and code compliance of IronRidge's XR Rail Flush Mount System. The contents of the report shall be reviewed in its entirety before application to any project design. The XR Rail Flush Mount System is a proprietary rooftop mounting system used to support photovoltaic (PV) modules installed in portrait or landscape orientation and set parallel to the underlying roof surface. PV modules are supported by extruded aluminum XR Rails and secured to the rails with IronRidge mounting clamps. The XR Rails are side mounted to a roof attachment with 3/8" stainless steel bonding hardware and the attachment is secured directly to the underlying roof structure. Assembly details of a typical XR Rail Flush Mount System installation and its core components are shown in Exhibit EX-0015.

The IronRidge XR Rail Flush Mount System is designed and certified to the structural requirements of the reference standards listed below, for the load conditions and configurations tabulated in the attached span tables.

- Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-16
- SEAOC (Structural Engineers Association of California) report PV2-2017 Wind Design for Solar Arrays
- AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012 by ICC-ES
- Aluminum Design Manual (ADM) 2015/2020, by the Aluminum Association, Inc.

The span tables provided in this report are certified based on the structural performance of IronRidge XR Rails only with no consideration of the structural adequacy of the chosen roof attachments, PV modules, or the underlying roof supporting members. It is the responsibility of the installer or system designer to verify the structural capacity and adequacy of the aforementioned system components in regards to the applied or resultant loads of any chosen array configuration. This report certifies the IronRidge products referenced within this document and provides no determination of the project specific conditions including site loads, building profile, & roof zones, which remain the responsibility of the installer or system designer.

The span tables included in this report provide the maximum allowable spans of XR Rail Flush Mount System for the respective loads and configurations listed, covering wind exposure categories B, C, & D, roof zones provided in ASCE 7 for enclosed and partially enclosed gable & hip roof profiles with roof slopes of 8° to 60°.

The tabulated spans are applicable when the following conditions are met:

- A. *Span* is the distance between two adjacent attachment points and is to be measured with respect to the center of the attachment fastener.
- B. Each module shall be supported by 2 rails (2 rail system) or 3 rails (3 rail system). Spans are calculated based on 2 rail systems and are conservatively deemed applicable for 3 rail systems.
- C. The underlying roof slope, measured between the roof surface and horizontal plane, is 8° to 60°.
- D. The *mean roof height*, defined as the average of the roof eave height and the roof ridge height measured from grade for roofs with pitches above 10 degrees and defined as the eave height for roofs with pitches less than or equal to 10 degrees, does not exceed 30 feet.

- E. A clearance from the underside of the array to the roof surface of 2" minimum shall be provided and the height of the array, the distance from the module top surface to the roof surface (defined as h_2), shall not exceed 10".
- F. Module length and area shall not exceed the maximum values listed on the respective span tables. The maximum module length within the scope of this report is 98.5 inches. The maximum module length specified within ASCE 7-16 is 80.4 inches. Wind pressure loads used to generate the span tables for modules with lengths above this value are based on the wind tunnel study "Wind Loads on photovoltaic arrays mounted on sloped roofs of low-rise building, parallel to the roof surface." referenced in ASCE 7 Section C29.4.4.
- G. All Flush Mount components shall be installed in a professional workmanlike manner per IronRidge's *Flush Mount Installation Manual* and other applicable standards for the general roof construction.

The parameters and adjustments allowed in the span tables are defined as the following:

1. The Flush Mount System is designed as a Risk Category II structure as defined by ASCE 7-16 Table 1.5-1.
2. Wind speed shall conform to ASCE 7-16 Fig. 26.5-1B (for Risk Category II) and applicable state & local county/city amendments to the IBC. No special wind topographic features are included and both topographic coefficient (K_{zI}) and wind ground elevation factor (K_e) are taken as 1.0.
3. Snow load used in the span tables is the *ground snow* and shall conform to ASCE 7-16 Fig. 7.2-1 and applicable state & local county/city amendments to the IBC. If the local jurisdiction specified snow load is in the format of a *flat roof snow*, it shall first be converted to a *ground snow* following the local building code/ amendments before the application of the attached span tables.
4. No special snow conditions are considered including unbalanced, drifting, sliding, retention, or ponding snow. No rain-on-snow surcharge load is considered. The span tables do not apply to buildings which are intentionally kept below freezing, kept just above freezing, or unheated without first converting the snow load based on the difference in Thermal Factor and snow sliding. The Thermal Factor, C_t , is assumed to be 1.0, the roof exposure factor is assumed to be 1.0, and the Sliding Factor is based on ASCE 7-16 Figure 7.4-1 for a warm roof with unobstructed slippery surfaces.
5. The span tables reflect the ASCE 7 prescribed earthquake loads with the maximum magnitudes being:
 - a) For ground snow no greater than 42psf: $S_s \leq 2.0g$ for Site Class A, B, C, & D.
 - b) For ground snow greater than 65psf: $S_s \leq 1.0g$ for Site Class A, B, C, & D.
 - c) For ground snow between 42 and 65psf: $S_s \leq 1.5g$ for Site Class A, B, C, & D.
6. Roof zones are defined by ASCE 7-16 Figure 30.3-2B to Figure 30.3-2I and are organized into three *groups* in which the zones are assumed to share the same External Pressure Coefficients (GC_p). Roof zones comprising each group along with each roof zone's size and location to be used with the spans in this report are depicted in Figures 2 and 3 below each span table.
7. The maximum rail cantilever length, measured from the rail end to the nearest attachment point, shall be the lesser of the following two conditions: 40% of the allowable span provided for the respective load & configuration condition from the span tables, or 36".

8. Allowable span length in the charts may be multiplied by a factor of 1.08 if the rails are continuous over a minimum of three spans. This factor may not be used in determining maximum cantilever length.
9. No splices are allowed in the rail cantilever. For each XR splice type install per the following requirements:
 - a) XR Bonded Splice cannot be installed in the center 1/3 of interior spans, or the outer 2/3 of end spans.
 - b) BOSS Splice can be installed at any location within a span.
10. Shaded cells of the span tables indicate conditions in which UFO Mid Clamp connection capacity is exceeded if such conditions are encountered contact techsupport@ironridge.com.
11. Systems using CAMO module clamps shall be installed with the following guidance:
 - a) For single module installations (orphan modules), CAMO clamps shall not be installed in regions that experience ground snow loads in exceedance of what is listed in the following table. Such scenarios are shown by asterisks in the applicable span tables.

Maximum Ground Snow load for Orphan Modules using CAMO per ASCE 7-16				
Module Area	21.7 ft ²	23.5 ft ²	28.0 ft ²	30.5 ft ²
Ground Snow	60 psf	55 psf	40 psf	40 psf

 - b) CAMO will function within a module's design load ratings. Be sure the specific module being used with CAMO meets the dimensional requirements shown in the figure below and that the module selected is suitable for the environmental conditions of a particular project.

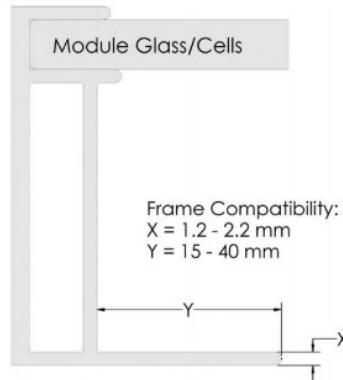


Figure 1: CAMO Module Frame Dimensional Requirements

Spans for Exposed and Edge Modules

Span values for Exposed and Edge module conditions, as defined below, are included in the attached span tables and shall be used when each condition exists.

- A module is defined as Exposed (per Section 29.4.4 of ASCE 7) if the distance from any of its free edges (an edge with no connectivity to other modules) to its facing roof edge (such as eave, ridge, rake, or hip) is greater than $0.5h$ (h is ASCE defined building height) AND if the distance from the same free edge to any other adjacent array or panel is greater than 4 feet.
- A module is defined as an Edge Module when its distance from any side of the module to its facing perimeter roof edge (such as eave, ridge, rake, or hip) is less than 2 times the height of the array ($2h_2$) where h_2 is measured from the roof surface to the top surface of the module.

The maximum allowable span for Exposed or Edge modules shall be the lesser of the following two:

1. The span value for the Exposed or Edge module condition.
2. The span value determined by site wind speed and ground snow load.

The allowable spans and cantilever shall only be applied to the portion of rail directly under Exposed or Edge Modules. Additionally, the shaded cells for the Exposed and Edge module conditions indicate conditions in which UFO Mid Clamp connection capacity is exceeded. If such conditions are encountered, contact techsupport@ironridge.com.

Prepared By:

Matthew S Kuzila, PE & Nancy E Schubert, PE

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	37	35	35	35	88	82	73	74	63	57		
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	88	88	84	85	69	64		
	28-60	89	89	89	86	86	86	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	41	39	39	39	89	89	86	83	76	67			
95 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	37	35	35	35	88	76	67	70	59	53		
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	88	84	77	81	65	60		
	28-60	89	89	89	86	86	86	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	89	81	78	71	64				
100 mph	8-20	88	88	83	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	37	35	35	35	85	71	63	66	56	50		
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	88	79	72	76	61	56		
	28-60	89	89	89	86	86	86	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	87	76	73	68	60				
105 mph	8-20	88	87	78	79	79	78	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	37	35	35	35	79	66	59	63	53	47		
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	88	74	67	73	58	53		
	28-60	89	89	89	86	86	86	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	89	82	71	69	64				
110 mph	8-20	88	82	73	79	79	73	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	75	62	55	60	45	45			
	21-27	88	88	84	85	84	84	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	88	69	63	55	50	50		
	28-60	89	89	87	86	86	86	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	85	77	67	66	61	54				
115 mph	8-20	88	77	68	79	77	68	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	71	59	52	57	47	43			
	21-27	88	86	79	85	85	79	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	84	65	59	66	52	48		
	28-60	89	89	82	86	86	82	76	76	76	69	69	69	63	63	63	58	58	58</td																											

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	88	85	76	79	79	76	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	37	35	35	35	78	65	58	62	52	47		
	21-27	88	88	87	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	88	72	66	57	52	52		
	28-60	89	89	89	86	86	86	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	41	39	39	39	89	80	70	68	63	56			
95 mph	8-20	88	80	71	79	79	71	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	73	60	54	59	49	44			
	21-27	88	88	81	85	85	81	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	86	67	61	68	54	49		
	28-60	89	89	84	86	86	84	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	83	75	66	64	59	53				
100 mph	8-20	88	74	66	79	74	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	69	56	50	56	46	42					
	21-27	88	82	76	85	82	76	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	81	63	57	64	51	46		
	28-60	89	89	89	79	86	79	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	78	70	61	61	56	50				
105 mph	8-20	83	69	61	79	69	61	66	66	66	61	65	65	61	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	65	53	47	53	43	40		
	21-27	88	77	71	85	77	71	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	76	59	53	61	48	44		
	28-60	89	85	74	86	85	74	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	73	66	58	57	53	47				
110 mph	8-20	78	65	58	78	65	58	66	65	65	58	65	65	59	59	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	61	50	44	51	41	38			
	21-27	88	72	66	85	72	66	74	72	72	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	72	56	50	58	45	42		
	28-60	89	80	70	86	80	70	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	68	62	55	54	51	45				
115 mph	8-20	74	61	54	74	61	54	66	61	61	54	65	61	59	59	54	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	58	47	42	48	40	35			
	21-27	87	68	62	85	68	62	74	68	68	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	68	52	47	56	43	40		
	28-60	84	76	66	84	76	66	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50</td																							

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	88	76	68	79	76	68	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	37	35	35	35	70	58	51	57	47	42		
	21-27	88	85	78	85	85	78	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	83	65	59	66	52	47		
	28-60	89	89	81	86	86	81	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	41	39	39	39	80	72	63	62	58	51			
95 mph	8-20	85	71	63	79	71	63	66	66	63	65	65	63	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	66	54	48	54	44	40			
	21-27	88	79	72	85	79	72	74	74	72	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	78	60	55	62	49	45		
	28-60	89	87	76	86	86	76	76	76	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	41	39	39	39	74	67	59	58	54	48				
100 mph	8-20	79	66	59	79	66	59	66	66	59	65	65	59	59	59	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	62	50	45	51	42	38				
	21-27	88	74	67	85	74	67	74	74	67	66	66	66	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	73	56	51	59	46	42		
	28-60	89	81	71	86	81	71	76	76	71	69	69	69	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	69	63	55	51	46	46				
105 mph	8-20	75	62	55	75	62	55	66	62	55	65	62	55	59	59	55	53	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	59	47	42	49	40	35			
	21-27	88	69	63	85	69	63	74	69	63	66	66	63	61	61	61	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	69	53	48	56	44	40		
	28-60	85	77	67	85	77	67	76	76	67	69	69	67	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	65	60	52	49	43	35				
110 mph	8-20	71	58	52	71	58	52	66	58	52	65	58	52	59	58	52	53	53	52	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	56	44	40	38	32	32			
	21-27	83	65	59	83	65	59	74	65	59	66	65	59	61	61	59	55	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	65	50	45	53	42	38		
	28-60	80	72	63	80	72	63	75	72	63	68	68	63	62	62	62	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	61	56	49	49	46	41				
115 mph	8-20	67	55	49	67	55	49	66	55	49	65	55	49	59	55	49	53	53	49	49	49	45	45	43	43	43	40	40	40	39	39	37	37	35	35	35	53	42	38	44	35	29				
	21-27	79	61	56	79	61	56	74	61	56	66	61	56	61	60	56	55	55	51	51	51	47	47	44	44	44	42	42	42	40	40	38	38	38	37	37	37	62	47	43	51	40	35			
	28-60	75	68	60	75	68	60	74	68	60	67	67	60	61	61	60	57	57	57	54	54	50	50	47	47</td																					

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	85	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	85	80	71	71	61	55		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	86	81	82	67	62			
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	86	86	84	80	73	65			
95 mph	8-20	85	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	85	74	65	67	57	51			
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	82	75	77	63	58			
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	86	86	86	78	75	69	61		
100 mph	8-20	85	85	81	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	83	69	61	64	54	48			
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	77	70	73	59	54			
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	86	84	71	65	58	58			
105 mph	8-20	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	77	64	57	61	51	46				
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	72	66	70	56	51			
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	86	79	69	67	62	55			
110 mph	8-20	85	80	71	76	71	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	72	60	54	58	48	43				
	21-27	86	86	82	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	67	61	53	49	43				
	28-60	86	86	84	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	86	83	75	65	59	52			
115 mph	8-20	85	75	67	76	75	67	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	69	57	50	55	46	41			
	21-27	86	83	77	81	81	77	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	81	63	58	64	50	46			
	28-60	86	86	80	82	82	80	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41														

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	85	84	74	76	76	74	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	75	63	56	60	50	45		
	21-27	86	86	85	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	70	64	69	55	51			
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	86	78	68	66	61	54			
95 mph	8-20	85	78	69	76	76	69	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	70	59	52	56	47	42		
	21-27	86	86	79	81	81	79	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	83	65	60	65	52	47			
	28-60	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	81	73	64	62	57	51				
100 mph	8-20	85	72	64	76	72	64	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	66	55	49	54	44	40		
	21-27	86	80	74	81	80	74	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	78	61	56	62	49	45			
	28-60	86	86	77	82	82	77	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	75	68	60	59	54	48			
105 mph	8-20	81	67	60	76	67	60	64	64	64	60	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	63	51	46	51	42	38		
	21-27	86	75	69	81	75	69	71	71	69	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	73	57	52	59	46	42			
	28-60	86	82	72	82	82	72	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	71	64	56	55	51	46			
110 mph	8-20	75	63	56	75	63	56	64	63	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	59	48	43	49	40	35		
	21-27	86	70	64	81	70	64	71	70	64	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	70	54	49	56	44	40			
	28-60	86	78	68	82	78	68	73	73	73	68	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	67	61	53	53	49	43			
115 mph	8-20	71	60	53	71	60	53	64	60	64	63	60	53	56	53	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	56	45	41	46	38	32			
	21-27	85	66	61	81	66	61	71	66	61	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	66	51	46	53	42	38			
	28-60	82	74	64	82	74	64	73	73	73	64	66	66	60	60	60	56	56	56	51	51</td																									

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	85	74	66	76	74	66	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	68	56	50	55	45	41			
	21-27	86	82	76	81	81	76	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	80	63	57	63	50	46				
	28-60	86	86	79	82	82	79	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	78	70	61	60	56	49				
95 mph	8-20	84	69	61	76	69	61	64	64	61	63	63	61	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	64	52	46	52	43	39			
	21-27	86	77	70	81	77	70	71	71	70	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	75	58	53	60	47	43				
	28-60	86	84	74	82	82	74	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	72	65	57	56	52	46				
100 mph	8-20	77	64	57	76	64	57	64	64	57	63	63	57	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	60	49	44	49	40	36				
	21-27	86	71	65	81	71	65	71	71	70	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	70	55	50	44	41	41				
	28-60	86	79	69	82	79	69	73	73	69	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	68	61	54	50	44	44				
105 mph	8-20	72	60	53	72	60	53	64	60	53	63	60	53	56	56	53	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	57	46	41	47	38	33				
	21-27	86	67	61	81	67	61	71	67	61	64	64	61	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	67	51	46	54	42	39				
	28-60	83	74	65	82	74	65	73	73	65	66	66	65	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	63	58	50	47	42	42				
110 mph	8-20	68	56	50	68	56	50	64	56	50	63	56	50	56	56	50	51	51	50	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	54	43	39	45	36	30				
	21-27	80	63	57	80	63	57	71	63	57	64	63	57	58	58	57	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	63	48	44	51	40	36				
	28-60	78	70	61	78	70	61	73	70	61	65	65	61	60	60	60	56	56	56	51	51	51	48	48	45	45	45	43	43	43	41	41	39	39	38	38	60	55	48	48	45	40				
115 mph	8-20	65	53	47	65	53	47	64	53	47	63	53	47	56	53	47	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	51	41	36	43	33	27					
	21-27	76	59	54	76	59	54	71	59	54	64	59	54	58	58	54	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	67	51	46	54	42	39				
	28-60	73	66	58	73	66	58	71	66	58	64	64	58	59	59	58	55	55	55	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	56	52	45	45	43	38				
120 mph	8-20	61	50	45	6																																									

Rail: XR10	Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure B																																													
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	80	80	80	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	80	71	63	62	54	48				
	21-27	81	81	81	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	81	79	73	59	55	55				
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	80	80	75	71	65	58				
95 mph	8-20	80	80	78	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	80	66	58	59	50	45				
	21-27	81	81	81	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	81	73	67	68	55	51				
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	80	80	70	67	61	54				
100 mph	8-20	80	80	72	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	75	61	54	56	48	43				
	21-27	81	81	81	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	81	68	63	52	48	48				
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	80	75	66	58	51	51				
105 mph	8-20	80	76	67	70	70	67	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	69	57	51	53	45	41				
	21-27	81	81	78	75	75	75	65	65	65	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	81	64	59	61	49	46	
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	79	71	62	60	55	49				
110 mph	8-20	80	71	63	70	70	63	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	64	54	48	51	43	39				
	21-27	81	79	73	75	75	73	65	65	65	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	77	60	58	47	43	43	
	28-60	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	75	67	58	57	52	46					
115 mph	8-20	80	67	59	70	67	59	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	61	51	45	48	41	36				
	21-27	81	74	69	75	74	69	65	65	65	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	72	57	52	56	45	41	
	28-60	80	80	71	75	75	71	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	70	63	55	54	50	44				
120 mph	8-20	78	63	56	70	63	56	58</																																						

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	80	75	66	70	70	66	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	68	56	50	52	44	40			
	21-27	81	81	77	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	80	63	57	60	49	45			
	28-60	80	80	78	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	78	69	61	59	54	48		
95 mph	8-20	80	69	61	70	69	61	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	62	52	46	50	42	38			
	21-27	81	77	71	75	75	71	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	74	58	53	57	46	42			
	28-60	80	80	73	75	75	73	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	72	65	57	55	51	45		
100 mph	8-20	80	64	57	70	64	57	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	59	49	43	47	39	33			
	21-27	81	71	66	75	71	66	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	69	54	50	54	43	40			
	28-60	80	78	69	75	75	69	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	68	61	53	52	48	43		
105 mph	8-20	74	60	53	70	60	53	58	58	58	53	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	55	46	41	45	37	30			
	21-27	81	67	61	75	67	61	65	65	65	61	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	65	51	46	52	41	38		
	28-60	80	74	64	75	74	64	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	63	57	50	49	45	41		
110 mph	8-20	68	56	50	68	56	50	58	56	50	57	56	50	52	52	50	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	52	43	39	43	33	27			
	21-27	80	63	58	75	63	58	65	63	63	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	62	48	44	39	34	25			
	28-60	78	69	61	75	69	61	67	67	67	61	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	60	54	47	47	43	39		
115 mph	8-20	63	53	47	63	53	47	58	53	47	57	53	47	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	50	41	35	41	30	25				
	21-27	75	59	54	75	59	54	65	59	54	65	59	54	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	58	45	41	47	37	30			
	28-60	74	66	58	74	66	58	67	66	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39																

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	80	66	59	70	66	59	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	60	50	45	40	35				
	21-27	81	74	68	75	74	68	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	71	56	51	55	44	41			
	28-60	80	80	70	75	75	70	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	70	62	55	53	49	44		
95 mph	8-20	76	62	55	70	62	55	58	58	55	57	57	55	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	56	47	42	45	38	31			
	21-27	81	68	63	75	68	63	65	65	63	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	67	52	47	52	42	38			
	28-60	80	75	66	75	75	66	67	67	66	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	65	58	51	50	46	41			
100 mph	8-20	69	57	51	69	57	51	58	57	51	57	57	51	52	52	51	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	53	44	39	34	28	28			
	21-27	81	64	58	75	64	58	65	64	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	62	49	44	50	40	35				
	28-60	79	70	62	75	70	62	67	67	62	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	60	55	48	47	44	39			
105 mph	8-20	64	54	48	64	54	48	58	54	48	57	54	48	52	52	48	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	50	41	36	30	25	25			
	21-27	76	60	55	75	60	55	65	60	55	58	58	55	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	59	46	42	47	38	31			
	28-60	74	66	58	74	66	58	67	66	66	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	57	51	45	42	37	31			
110 mph	8-20	60	50	45	60	50	45	58	50	45	57	50	45	52	50	45	47	47	45	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	47	39	31	28	23	23			
	21-27	72	56	51	72	56	51	65	56	51	58	56	51	53	53	51	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	56	43	39	45	34	27			
	28-60	70	63	55	70	63	55	66	63	55	59	59	54	54	54	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	53	49	43	42	40	34				
115 mph	8-20	57	47	42	57	47	42	57	47	42	57	47	42	52	47	42	47	47	42	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	45	36	28	25	21	21			
	21-27	68	53	48	68	53	48	65	53	48	58	53	48	52	48	48	44	44	44	42	42	42	39	39	39	37	37	35	35	35	34	34	34	32	32	53	41	37	43	30	24					
	28-60	66	59	52	66	59	52	65	59	52	58	58	52	54	54	52	50	50	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	50	46	40	38							

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	78	78	78	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	78	66	58	58	50	45				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	78	73	68	67	55	51					
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	76	76	70	66	60	53						
95 mph	8-20	78	78	72	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	77	61	54	55	47	42						
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	78	68	63	63	51	47					
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	76	74	65	62	56	50						
100 mph	8-20	78	76	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	70	57	50	52	44	40						
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	78	63	58	60	48	45					
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	76	70	61	58	53	47						
105 mph	8-20	78	71	63	67	67	63	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	65	53	47	49	42	38					
	21-27	78	78	73	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	76	59	54	57	46	42					
	28-60	76	76	74	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	74	66	57	55	51	45						
110 mph	8-20	78	66	59	67	66	59	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	60	50	44	40	34	34					
	21-27	78	73	68	71	71	68	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	71	56	51	54	43	40					
	28-60	76	76	70	72	72	70	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	69	62	54	52	48	43						
115 mph	8-20	78	62	55	67	62	55	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	56	47	42	45	38	30						
	21-27	78	69	64	71	69	64	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	67	52	48	52	41	38					
	28-60	76	75	66	72	72	66	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	65	59	51	50	46	41						
120 mph	8-20	73	59	52	67	59	52	56	56	56	55	55	52	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34																		

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	78	69	61	67	67	61	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	63	52	46	48	41	37				
	21-27	78	77	71	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	74	58	53	56	45	42					
	28-60	76	76	73	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	72	64	56	54	50	44						
95 mph	8-20	78	64	57	67	64	57	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	34	34	33	33	31	31	30	30	58	48	43	46	39	32						
	21-27	78	71	66	71	71	66	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	35	35	34	34	32	32	31	31	69	54	53	49	42	39						
	28-60	76	76	68	72	72	68	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	67	60	53	51	47	42						
100 mph	8-20	75	60	53	67	60	53	56	56	53	55	55	53	49	49	49	45	45	45	41	41	41	38	38	36	36	34	34	33	33	31	31	30	30	54	45	40	44	36	28						
	21-27	78	66	61	71	66	61	62	62	61	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	35	35	34	34	32	32	31	31	64	50	46	50	40	37						
	28-60	76	73	64	72	72	64	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	63	56	49	48	44	40						
105 mph	8-20	68	56	49	67	56	49	56	56	49	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	34	34	33	33	31	31	30	30	51	43	38	42	31	25							
	21-27	78	62	57	71	62	57	62	62	57	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	35	35	34	34	32	32	31	31	60	47	43	48	38	32						
	28-60	76	68	60	72	68	60	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	59	53	46	42	38	31						
110 mph	8-20	63	52	46	63	52	46	56	52	46	55	52	46	49	49	46	45	45	45	41	41	41	38	38	36	36	34	34	33	33	31	31	30	30	48	40	33	40	28	23						
	21-27	74	58	53	71	58	53	62	58	53	56	56	53	51	51	51	46	46	46	43	43	43	40	40	37	37	35	35	34	34	32	32	31	31	57	45	41	45	35	28						
	28-60	73	65	56	72	65	56	64	64	64	56	58	56	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	55	50	44	43	40	35						
115 mph	8-20	59	49	44	59	49	44	56	49	44	55	49	44	44	49	44	45	45	44	41	41	41	38	38	36	36	34	34	33	33	31	31	30	30	46	38	28	25	21							
	21-27	70	55	50	70	55	50	62	55	50	56	55	50	51	51	50	46	46	46	43	43	43	40	40	37	37	35	35	34	34	32	32	31	31	54	42	39	44	31	25						
	28-60	68	61	53	68	61	53	63	61	53	57	53	52	52	52	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	52	47	42	38	31	21							
120 mph	8-20	56	46	42	56	46	42	56	46	42	42	55	46	42	49	46	42	45	45	42	41	41	41	38	38	36	36	34	34	33	33	31	31	30	30	44	34	26								

Rail: XR10		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	78	62	54	67	62	54	56	56	54	55	55	54	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	56	47	42	44	38	30				
	21-27	78	68	63	71	68	63	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	40	37	37	37	35	35	35	34	34	32	32	31	31	66	52	47	51	41	38			
	28-60	76	75	65	72	72	65	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	42	40	40	38	38	36	36	34	34	33	33	65	58	51	49	45	41					
95 mph	8-20	70	57	51	67	57	51	56	56	51	55	55	51	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	52	43	39	42	33	26				
	21-27	78	63	58	71	63	58	62	62	62	58	56	56	51	51	51	46	46	46	43	43	43	40	40	40	37	37	37	35	35	35	34	34	32	32	31	31	62	48	44	48	39	34			
	28-60	76	70	61	72	70	61	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	42	40	40	38	38	36	36	34	34	33	33	60	54	47	46	43	38					
100 mph	8-20	64	53	47	64	53	47	56	53	47	55	53	47	49	49	47	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	49	41	35	40	29	24				
	21-27	75	59	54	71	59	54	62	59	54	56	56	54	51	51	51	46	46	46	43	43	43	40	40	40	37	37	37	35	35	35	34	34	32	32	31	31	58	45	41	46	36	29			
	28-60	74	65	57	72	65	57	64	64	64	57	58	58	53	53	53	49	49	49	45	45	45	42	42	42	40	40	38	38	36	36	34	34	33	33	56	51	44	44	41	36					
105 mph	8-20	59	50	44	59	50	44	56	50	44	55	50	44	49	49	44	45	45	44	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	46	38	29	38	26	21				
	21-27	71	55	51	71	55	51	62	55	51	56	55	51	51	51	50	46	46	46	43	43	43	40	40	40	37	37	37	35	35	35	34	34	32	32	31	31	55	43	39	44	32	26			
	28-60	69	62	54	69	62	54	64	62	54	57	57	54	52	52	52	49	49	49	45	45	45	42	42	42	40	40	38	38	36	36	34	34	33	33	53	48	42	39	32	25					
110 mph	8-20	56	47	42	56	47	42	56	47	42	55	47	42	49	47	42	45	45	42	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	44	34	26	36	23	19				
	21-27	66	52	48	66	52	48	62	52	48	56	52	48	51	51	48	46	46	46	43	43	43	40	40	40	37	37	37	35	35	35	34	34	32	32	31	31	52	40	36	42	28	23			
	28-60	65	58	51	65	58	51	62	58	51	56	56	51	52	51	51	48	48	48	45	45	45	42	42	42	40	40	38	38	36	36	34	34	33	33	50	45	40	40	37	28					
115 mph	8-20	53	44	39	53	44	39	53	44	39	53	44	39	49	44	39	45	44	39	41	41	39	38	36	36	36	34	34	33	33	31	31	30	30	30	42	29	24	33	21	18					
	21-27	63	49	45	63	49	45	62	49	45	56	49	45	51	49	45	46	46	45	43	43	43	40	40	40	37	37	37	35	35	35	34	34	32	32	31	31	49	38	30	40	26	20			
	28-60	61	55	48	61	55	48	61	55	48	55	55	48	51	51	48	47	47	45	45	45	42	42	42	40	40	38	38	36	36	34	34	33	33	47	43	38	33	25	25						
120 mph	8-20	50	42	37																																										

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	88	88	87	78	70	67			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	42	40	40	38	38	38	37	37	88	88	88	78	78	78			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	89	89	86	86	72				
95 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	88	86	81	74	66	63			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	42	40	40	38	38	38	37	37	88	88	88	73	73	73			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	89	89	88	88	80	68			
100 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	88	80	76	70	62	60			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	42	40	40	38	38	38	37	37	88	88	88	85	69	69			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	89	89	82	75	64				
105 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	85	75	71	67	59	57			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	42	40	40	38	38	38	37	37	88	84	81	65	65	65			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	89	89	77	75	71	60			
110 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	80	71	67	63	56	54			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	42	40	40	38	38	38	37	37	88	79	76	62	62	62			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	89	89	89	73	71	67	56			
115 mph	8-20	88	87	83	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	76	67	63	53	51	51			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	42	40	40	38	38	38	37	37	88	75	73	59	59	59			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39										

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	88	88	88	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	37	35	35	35	83	74	70	66	58	56		
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	88	83	83	79	64	64			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	89	89	76	74	60	59			
95 mph	8-20	88	88	85	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	37	35	35	35	78	69	65	62	55	52		
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	88	77	74	60	57	60			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	89	86	71	69	65	55			
100 mph	8-20	88	84	80	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	73	64	61	59	52	49			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	88	72	70	57	57	57			
	28-60	89	89	86	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	84	80	66	61	51	51			
105 mph	8-20	88	79	75	79	79	75	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	69	60	57	56	49	47			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	86	68	66	54	54	54			
	28-60	89	89	81	86	86	81	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	79	75	61	62	58	48			
110 mph	8-20	83	74	70	79	74	70	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	65	57	54	53	46	45			
	21-27	88	83	83	85	83	83	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	81	64	63	51	51	51			
	28-60	89	89	76	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	74	70	57	59	55	46				
115 mph	8-20	79	70	66	79	70	66	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	62	54	51	51	44	43			
	21-27	88	78	78	85	78	78	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	76	60	60	49	49	49			
	28-60	89	88	72	86	86	72	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41													

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	88	86	82	79	79	79	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	75	66	63	60	53	51			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	88	74	74	58	58	58			
	28-60	89	89	89	86	86	86	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	86	83	68	67	63	53			
95 mph	8-20	88	80	76	79	79	76	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	70	62	58	57	50	48			
	21-27	88	88	88	85	85	85	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	88	69	68	55	55	55			
	28-60	89	89	82	86	86	82	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	80	76	63	59	49	49			
100 mph	8-20	85	75	71	79	75	71	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	66	58	55	54	47	45			
	21-27	88	84	84	85	84	84	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	82	65	64	52	52	52			
	28-60	89	89	77	86	86	77	76	76	76	68	68	68	63	63	63	58	58	58	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	75	71	58	60	55	46			
105 mph	8-20	79	70	67	79	70	67	66	66	66	65	65	65	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	62	54	51	51	45	43			
	21-27	88	79	79	85	79	79	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	77	61	61	60	49	49			
	28-60	89	89	72	86	86	72	76	76	76	68	68	68	63	63	63	58	58	58	54	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	71	66	54	52	44	44		
110 mph	8-20	75	66	63	75	66	63	66	66	63	65	65	63	59	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	59	51	48	49	43	41			
	21-27	88	74	74	85	74	74	74	74	74	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	72	57	57	47	47	47			
	28-60	86	83	68	86	83	68	76	76	76	68	68	68	63	63	63	58	58	58	54	54	54	50	50	47	47	47	45	45	45	43	43	41	41	39	39	39	39	67	62	51	54	49	41		
115 mph	8-20	71	62	59	71	62	59	66	62	59	65	62	59	59	53	53	53	49	49	49	45	45	45	43	43	40	40	40	39	39	37	37	35	35	35	56	48	46	47	41	39					
	21-27	88	70	70	85	70	70	74	70	70	66	66	66	61	61	61	55	55	55	51	51	51	47	47	47	44	44	42	42	40	40	38	38	38	37	37	37	68	54	54	45	45	45			
	28-60	82	78	64	82	78	64	76	76	76	68	68	68	63	63	63	58	58	58	54	54	54	50	50	47	47	47	45	45	45	43	43	41	41												

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
90 mph	8-20	85	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	85	85	85	75	68	65		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	35	35	35	86	86	86	75	75	
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	38	38	38	38	86	86	86	83	70
95 mph	8-20	85	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	85	84	79	71	64	61		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	35	35	35	86	86	86	71	71	
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	38	38	38	38	86	86	86	80	78
100 mph	8-20	85	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	85	78	74	67	60	58		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	35	35	35	86	86	86	82	67	
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	38	38	38	38	86	86	86	73	62
105 mph	8-20	85	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	83	73	69	64	57	55		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	35	35	35	86	82	82	78	63	63
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	38	38	38	38	86	86	86	72	69
110 mph	8-20	85	85	85	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	83	73	69	64	57	55		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	35	35	35	86	82	82	78	63	63
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	38	38	38	38	86	86	86	72	69
115 mph	8-20	85	85	80	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	73	65	62	58	51	49		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58																																

= Shaded cells indicate conditions in which IIEO Mid Clamp connection capacity is exceeded. If such

* = Note: additional installation requirement for CAMO module clamp. See Note 11 on Page 3 for details.

– Note: additional installation requirement for CAMIO module clamp. See Note 11 on Page 3 for details.

REV 07/10/2024

Grouping of ASCE 7-16 Roof Zones (Hip)									
Roof Slope	8° - 20°			21° - 27°			28° - 60°		
Group	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
ASCE 7-16 Roof Zones	1	2r	2e 3	1	2e 2r	3	1	2e	2r 3

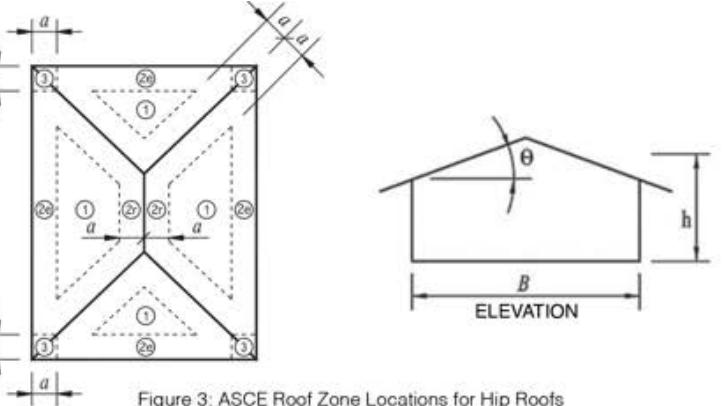


Figure 3: ASCE Roof Zone Locations for Hip Roofs

Notation

$a = 10\%$ of least horizontal dimension or $0.4h$, whichever is smaller, but not less than either 4% of least horizontal dimension or 3 ft (0.9 m). If an overhang exists, the edge distance shall be measured from the outside edge of the overhang. The horizontal dimensions used to compute the edge distance shall not include any overhang distances.

B = Horizontal dimension of building measured normal to wind direction, in ft (m).

h = Mean roof height, in ft (m), except that eave height shall be used for $\theta \leq 10^\circ$.

θ = Angle of plane of roof from horizontal, in degrees.

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	85	84	80	76	76	76	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	35	34	34	34	72	64	61	58	51	49		
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	72	69	56	56	56			
	28-60	86	86	86	82	82	82	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	84	81	66	61	57	51			
95 mph	8-20	85	78	74	76	76	74	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	68	60	57	55	48	46			
	21-27	86	86	86	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	86	67	65	53	53	53			
	28-60	86	86	80	82	82	80	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	78	75	61	57	48	46			
100 mph	8-20	83	73	69	76	73	69	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	64	56	53	52	45	43			
	21-27	86	82	82	81	81	81	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	80	63	62	50	50	50			
	28-60	86	86	75	82	82	75	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	73	70	57	58	45	45			
105 mph	8-20	77	68	65	76	68	65	64	64	64	63	63	63	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	60	53	50	49	43	41			
	21-27	86	77	77	81	77	77	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	75	59	59	58	47	47			
	28-60	86	86	70	82	82	70	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	69	65	53	51	42	42			
110 mph	8-20	73	64	61	73	64	61	64	64	64	61	63	61	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	57	49	47	41	39	39			
	21-27	86	72	72	81	72	72	71	71	71	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	71	55	55	45	45	45			
	28-60	84	81	66	82	81	66	73	73	73	66	66	66	60	60	60	56	56	56	51	51	51	48	48	48	45	45	43	43	43	41	41	39	39	38	38	38	65	61	50	48	40	40			
115 mph	8-20	69	61	58	69	61	58	64	61	58	63	61	58	56	56	56	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	35	35	34	34	34	54	47	44	45	39	38			
	21-27	86	68	68	81	68	68	71	68	68	64	64	64	58	58	58	53	53	53	49	49	49	45	45	43	43	43	40	40	40	38	38	37	37	35	35	35	66	52	53	43	43	43			
	28-60	79	76	62	79	76	62	73	73	73	62	66	66	60	60	60	56	56	56	51	51	51	48	48																						

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation																																													
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3				
90 mph	8-20	80	80	80	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	80	80	76	66	60	57	
	21-27	81	81	75	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	81	81	81	81	66	66	
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	80	80	80	76	74	62	
95 mph	8-20	80	80	80	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	80	74	71	62	56	54	
	21-27	81	81	75	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	81	81	81	77	71	69	58
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	80	80	80	77	71	69	58
100 mph	8-20	80	80	80	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	80	69	66	59	53	51	
	21-27	81	81	75	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	81	78	78	73	59	59	
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	80	80	80	72	67	65	55
105 mph	8-20	80	80	80	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	74	65	62	56	50	48	
	21-27	81	81	75	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	81	73	73	69	56	56	
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	80	80	80	68	64	61	52
110 mph	8-20	80	80	76	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	69	61	58	54	48	46	
	21-27	81	81	75	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	81	69	69	65	53	53	
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	80	78	63	61	58	49	
115 mph	8-20	80	76	72	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	65	58	55	51	45	44	
	21-27	81	81	75	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	81	65	62	50	50	50	
	28-60	80	80	78	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	75	74	60	58	55	46	
120 mph	8-20	80	71	68	70	70	68	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	61	55	52	49	43	42	
	21-27	81	80	80	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	79	61	61	59	48	48	
	28-60	80	80	74	75	75	74	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	72	69	57	55	52	44	
130 mph	8-20	73	64	61	70	64	61	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31	56	49	47	45	40	38	
	21-27	81	72	72	75	72	72	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	42	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	71	55	55	54	44	44	
	28-60	80	80	67	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	44	41	41	41	39	39	39	37	37	37	36	36	36	34	34	34	65	62	51	51	47	40		
140 mph	8-20	65	58	55	65	58</																																									

= min 72" span = min 64" span = min 48" span

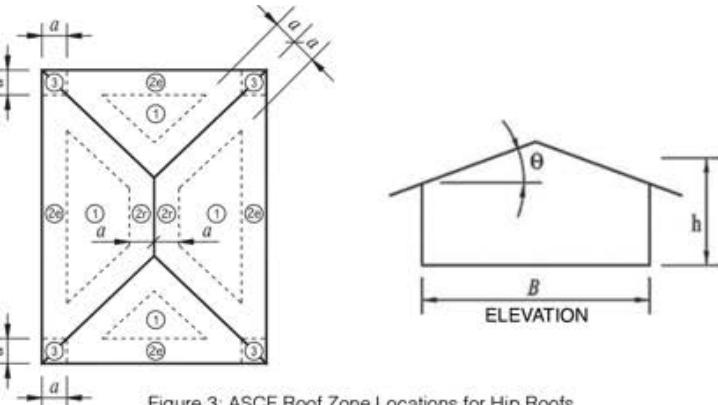
= Shaded cells indicate conditions in which UFO Mid Clamp connection capacity is exceeded. If such conditions are encountered contact techsupport@ironridge.com.

* = Note: additional installation requirement for CAMO module clamp. See Note 11 on Page 3 for details.

34 26

Grouping of ASCE 7-16 Roof Zones (Hip)

Roof Slope	8° - 20°			21° - 27°			28° - 60°		
Group	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
ASCE 7-16 Roof	1	2r	2e 3	1	2e 2r	3	1	2e	2r 3



Mastitis

Notation $a = 10\%$ of least horizontal dimension or $0.4h$, whichever is smaller, but not less than either 4% of least horizontal dimension or 3 ft (0.9 m). If an overhang exists, the edge distance shall be measured from the outside edge of the overhang. The horizontal dimensions used to compute the edge distance shall not include any overhang distances.

B—Horizontal dimension of building measured normal to wind direction, in ft (m)

B = Horizontal dimension of building measured normal to wind direction, in ft (m).

h = Mean roof height, in ft (m), except that eave height is used for buildings under 3 ft (0.9 m) in height.

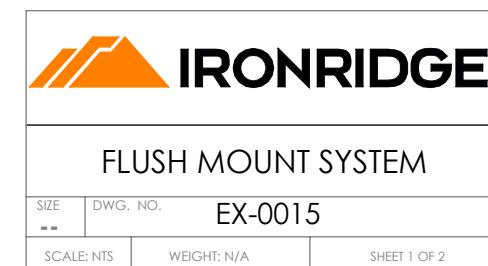
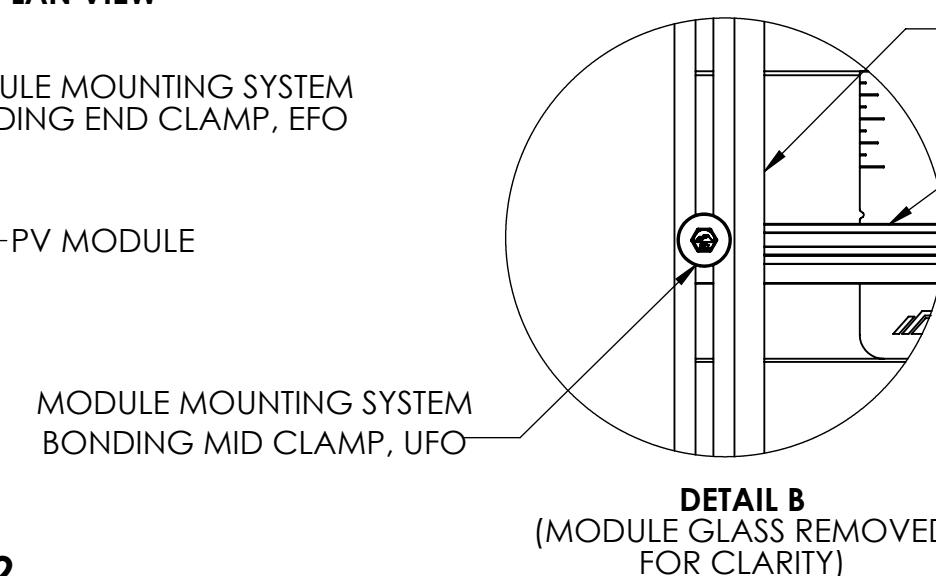
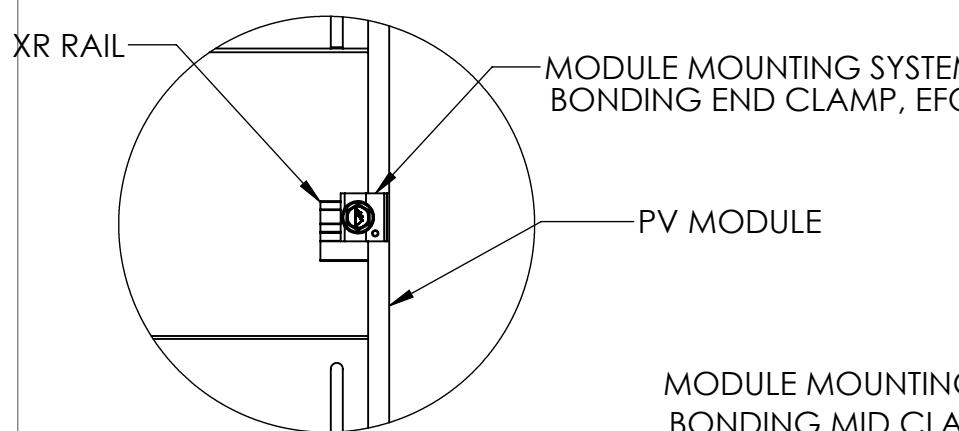
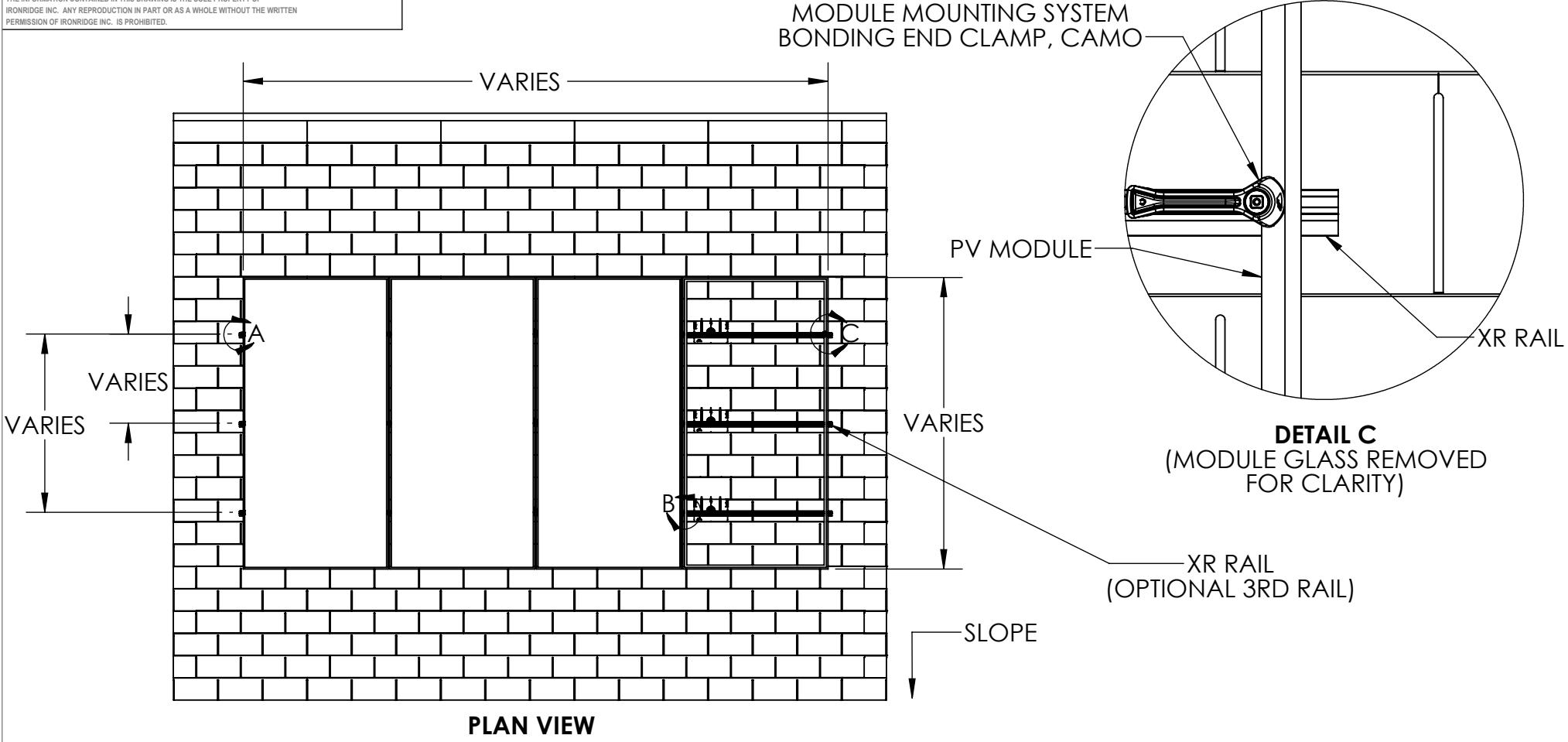
Rail: XR10	Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure C																																													
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	80	80	79	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	72	64	60	55	49	47			
	21-27	81	81	81	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	81	72	68	55	55					
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	80	66	63	60	51			
95 mph	8-20	80	78	74	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	67	59	56	52	47	45			
	21-27	81	81	81	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	81	67	64	52	52					
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	78	76	62	59	56	47		
100 mph	8-20	80	73	69	70	70	69	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	62	55	53	50	44	42			
	21-27	81	81	81	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	80	62	60	49	49					
	28-60	80	80	80	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	73	71	58	56	53	44		
105 mph	8-20	78	68	65	70	68	65	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	59	52	49	47	42	40			
	21-27	81	77	77	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	75	58	57	46	46					
	28-60	80	80	71	75	75	71	67	67	67	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	68	66	54	53	42			
110 mph	8-20	73	64	61	70	64	61	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	56	49	47	45	40	38			
	21-27	81	72	72	75	72	72	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	70	55	55	54	44	44				
	28-60	80	80	66	75	75	66	67	67	66	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	65	62	50	47	40			
115 mph	8-20	68	60	57	68	60	57	58	58	58	57	57	57	52	52	52	47	47	47	43	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	53	46	44	38	35				
	21-27	81	68	68	75	68	68	65	65	65	58	58	58	53	53	53	48	48	48	44	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	66	52	51	42	42					
	28-60	79	77	63	75	75	63	67	67	63	60	60	60	55	55	55	51	51	51	47	47	47	44	44	41	41	41	39	39	39	37	37	36	36	34	34	34	34	61	58	47	45	38			
120 mph	8-20	64	57	54	6																																									

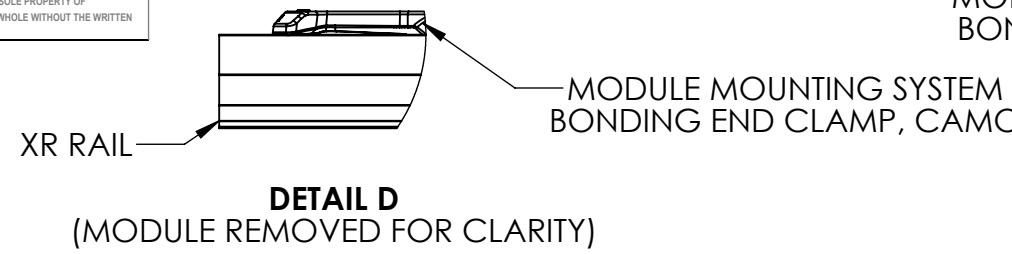
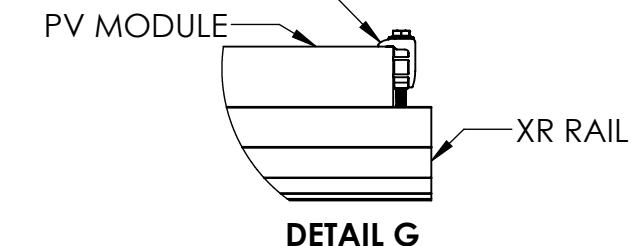
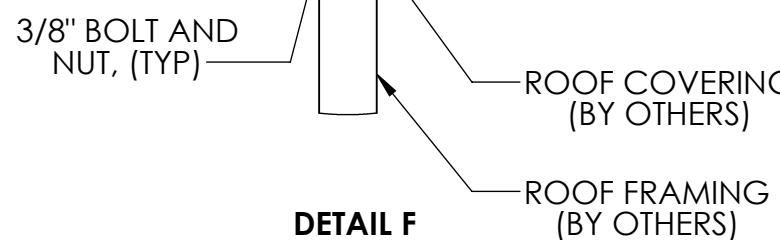
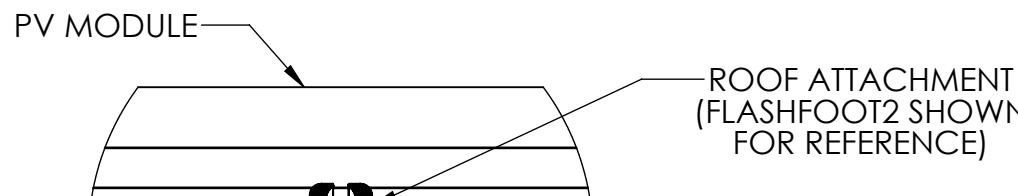
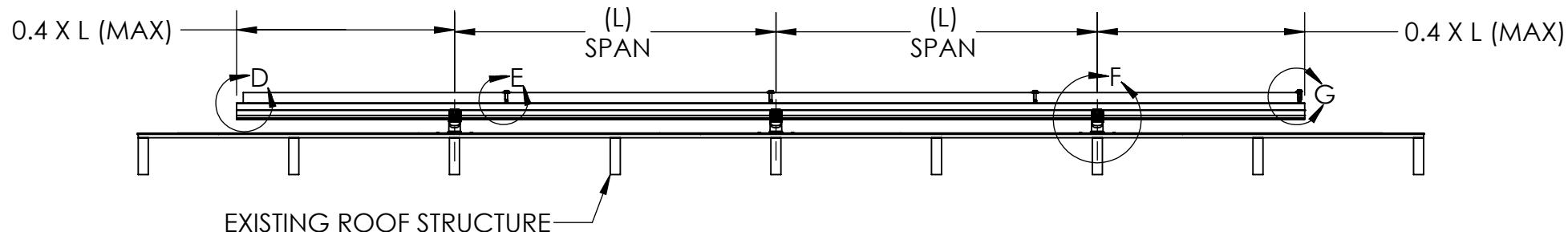
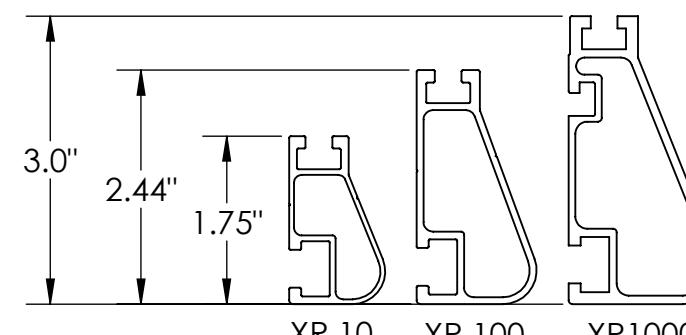
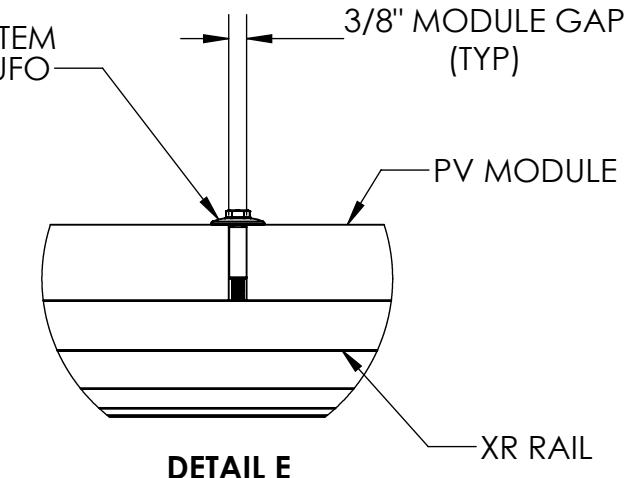
Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	80	75	71	70	70	70	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	64	57	54	51	45	43				
	21-27	81	81	81	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	81	64	64	61	50	50					
	28-60	80	80	78	75	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	75	73	59	57	54	46				
95 mph	8-20	80	69	66	70	69	66	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	60	53	50	48	43	41				
	21-27	81	78	78	75	75	75	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	77	60	58	47	47	47					
	28-60	80	80	72	75	75	72	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	70	67	55	54	51	43				
100 mph	8-20	74	65	62	70	65	62	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	56	50	47	46	40	39				
	21-27	81	73	73	75	73	73	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	71	56	54	44	44	44					
	28-60	80	80	67	75	75	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	65	63	51	48	40	40					
105 mph	8-20	69	61	58	69	61	58	58	58	58	57	57	57	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	53	47	44	43	38	36				
	21-27	81	68	68	75	68	68	65	65	65	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	67	52	51	42	42	42					
	28-60	79	78	63	75	75	63	67	67	63	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	62	58	48	45	38	36				
110 mph	8-20	64	57	54	64	57	54	58	57	54	57	57	54	52	52	52	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	50	44	42	41	35	32				
	21-27	81	64	64	75	64	64	65	64	64	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	63	49	49	40	40	40					
	28-60	75	73	59	75	73	59	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	58	55	45	46	35	35				
115 mph	8-20	61	54	51	61	54	51	58	54	51	57	54	51	52	52	51	47	47	47	43	43	40	40	38	38	38	36	36	36	34	34	33	33	31	31	31	48	42	40	38	38	38				
	21-27	78	61	61	75	61	61	65	61	61	58	58	58	53	53	53	48	48	48	44	44	42	42	39	39	39	37	37	35	35	34	34	34	32	32	59	47	47	46	38	38					
	28-60	71	69	56	71	69	56	67	67	67	60	60	60	55	55	55	51	51	51	47	47	44	44	41	41	39	39	39	37	37	36	36	34	34	34	34	55	51	42	41	41	30				
120 mph	8-20	58	51	48	58	51	48	58	51	48	57	51	48	52</td																																

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	78	78	78	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	78	74	70	61	55	53				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	78	78	76	61	58	57				
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	76	76	76	69	64	57					
95 mph	8-20	78	78	78	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	78	69	65	58	52	50				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	78	78	72	58	54	58				
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	76	76	72	66	64	54					
100 mph	8-20	78	78	78	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	74	64	61	49	47	47				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	78	72	67	54	54	54				
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	76	76	67	62	61	51					
105 mph	8-20	78	78	75	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	69	60	57	52	47	45				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	78	68	64	52	52	52				
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	76	76	63	59	57	48					
110 mph	8-20	78	74	70	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	64	57	54	49	44	42				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	78	64	60	49	49	49				
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	74	73	59	56	54	45					
115 mph	8-20	78	70	66	67	67	66	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	60	53	51	47	42	40				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	77	60	57	46	46	46				
	28-60	76	76	73	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	70	68	56	54	51	43					
120 mph	8-20	76	66	63	67	66	66	56																																						

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	78	78	74	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	67	59	56	51	46	44				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	78	66	66	51	51	51				
	28-60	76	76	76	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	76	62	58	56	47	47					
95 mph	8-20	78	72	68	67	67	67	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	62	55	52	48	43	41				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	78	62	59	48	48	48				
	28-60	76	76	75	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	72	57	55	52	44	44					
100 mph	8-20	78	67	64	67	67	64	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	58	51	49	46	41	39				
	21-27	78	76	76	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	74	58	55	45	45	45				
	28-60	76	76	70	72	72	70	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	68	66	53	52	49	41					
105 mph	8-20	72	63	60	67	63	60	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	54	48	46	44	39	37				
	21-27	78	71	71	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	70	54	52	43	43	43				
	28-60	76	76	66	72	72	66	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	64	61	50	49	46	39					
110 mph	8-20	67	59	56	67	59	56	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	52	45	43	42	37	33				
	21-27	78	67	67	71	67	67	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	65	51	50	41	41	41				
	28-60	76	76	62	72	72	62	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	60	58	47	47	44	37					
115 mph	8-20	63	56	53	63	56	53	56	56	53	55	55	53	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	49	43	41	40	33	30				
	21-27	78	63	63	71	63	63	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	70	54	52	43	43	43				
	28-60	73	72	58	72	72	58	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	57	54	44	44	42	32					
120 mph	8-20	59	53	50	59	53	50	56	53	50	55	53</																																		

Rail: XR10		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure D																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	78	69	66	67	67	66	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	59	53	50	47	42	40				
	21-27	78	78	78	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	77	59	59	57	46	46				
	28-60	76	76	72	72	72	72	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	69	68	55	53	50	43					
95 mph	8-20	74	64	61	67	64	61	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	56	49	47	40	38					
	21-27	78	72	72	71	71	71	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	71	55	53	43	43					
	28-60	76	76	67	72	72	67	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	65	63	51	50	47	40					
100 mph	8-20	68	60	57	67	60	57	56	56	56	55	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	52	46	44	42	34					
	21-27	78	68	68	71	68	68	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	66	52	50	41	41					
	28-60	76	76	63	72	72	63	64	64	63	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	61	58	48	44	43						
105 mph	8-20	64	56	53	64	56	53	56	56	56	53	55	55	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	49	43	41	33	30					
	21-27	78	63	63	71	63	63	62	62	62	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	62	49	49	39	39					
	28-60	74	72	59	72	72	59	64	64	64	59	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	57	54	44	42	33						
110 mph	8-20	60	53	50	60	53	50	56	53	50	55	53	50	49	49	49	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	47	41	39	30	27					
	21-27	77	60	60	71	60	60	62	60	60	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	58	46	45	37	37					
	28-60	70	68	55	70	68	55	64	64	64	55	58	55	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	54	51	42	40	28						
115 mph	8-20	56	50	47	56	50	47	56	50	47	55	50	47	49	49	47	45	45	45	41	41	41	38	38	36	36	36	34	34	33	33	31	31	30	30	30	44	39	37	27	25					
	21-27	72	56	56	71	56	56	62	56	56	56	56	56	51	51	51	46	46	46	43	43	43	40	40	37	37	37	35	35	34	34	32	32	31	31	31	55	43	43	33	33					
	28-60	66	64	52	66	64	52	64	64	64	58	58	58	53	53	53	49	49	49	45	45	45	42	42	40	40	38	38	36	36	34	34	33	33	33	51	48	39	41	38						
120 mph	8-20	54	47	45	54	47	45	54	47	45	50	47	45	49	47	45	45																													



MODULE MOUNTING SYSTEM
BONDING END CLAMP, EFO**PLAN VIEW**MODULE MOUNTING SYSTEM
BONDING MID CLAMP, UFO

	IRONRIDGE
FLUSH MOUNT SYSTEM	
SIZE	DWG. NO.
--	EX-0015
SCALE: NTS	WEIGHT: N/A
SHEET 2 OF 2	