

Design Criteria for Span Tables:

Values in the maximum allowable rail span tables provided herein are subject to the following general criteria and additional criteria shown on individual span tables sheets. Values in span tables are based on the same engineering methodology and calculation algorithms used for U-Builder and are provided here for reference.

Building Assumptions

- Building Risk Category: II
- Mean Roof Height: 30 ft
- Roof Pitch: 0°-45°
- Site Elevation: 0 ft

Wind Design Assumptions

- Wind loads used are based on ASCE 7-16 Sec 29.4.4 with Provisions from SEAOC PV2-2017
- Exposure Category B, C, or D
- Basic Wind Speed = 90 – 180 mph
- Level terrain. Topographic factor, $k_{zt} = 1.0$
- $\gamma_E = 1.0$ for 'Interior' spans, $\gamma_E = 1.5$ for 'Exposed' spans (ASCE 7-16, Fig. 29.4-7)

Snow Design Assumptions

- Ground Snow Load = 0-100 psf
- Exposure Factor coefficients of Partially Exposed condition
- Thermal Factor = 1.0
- Results based on uniform snow load

Seismic Design Assumptions

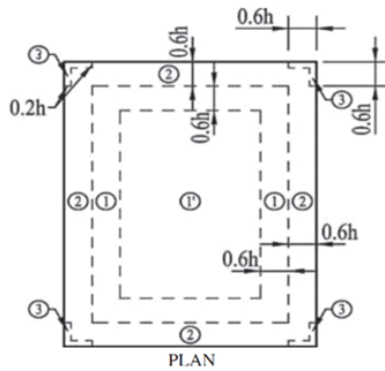
- 0.2-s Spectral Response Acceleration, $S_S \leq 3$
- $S_S = 1.25$ and 3 per criteria shown on individual span tables sheets.
- $S_1 = 0.5$
- Seismic site class D

Array Assumptions

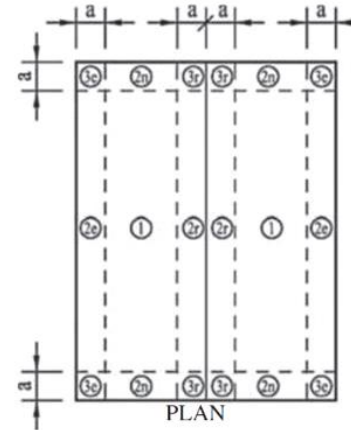
- Module orientation and Rail direction per criteria shown on individual span tables sheets.
- Maximum module dimensions of 40.1" x 67" (~19 sq.ft, 47.65 lbs) and 41" x 80" (~23 sq.ft, 58.6 lbs) per criteria shown on individual span tables sheets.
- Minimum distance between modules and roof edge is at least twice the module height above roof surface.
- Modules are parallel to roof surface and maximum height above roof surface is 5" to 10" depending on attachment type.
- Gaps between module rows and columns is 0.25" in to 1" depending on clamp type.
- The most restrictive of all roof zone spans shall be used when any part of the module is attributed to that span.
- 'Exposed' spans as defined in ASCE 7-16 sec. 29.4.4 shall be used when any part of an exposed module or panel as is attributed to that span.

Span Tables

Zone should be considered as per ASCE 7-16, Fig. 30.3-2A to 30.3-2D



Gable Roofs $\theta \leq 7^\circ$

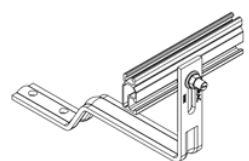


Gable Roofs $7^\circ < \theta \leq 45^\circ$

Grouping of ASCE 7-16 Roof Zones (Gable and Flat)

- **Roof Tilt 0° - 7°**
 - Roof Zone 1 = 1
 - Roof Zone 2 = 2
 - Roof Zone 3 = 3
- **Roof Tilt 7° - 27°**
 - Roof Zone 1 = 1, 2e
 - Roof Zone 2 = 2n, 2r, 3e
 - Roof Zone 3 = 3r
- **Roof Tilt 27° - 45°**
 - Roof Zone 1 = 1, 2e, 2r
 - Roof Zone 2 = 2n, 3r
 - Roof Zone 3 = 3e

Rails can be installed in these possible orientations.

*AT1	
Y+	Alternate orientation not allowed
Y-	

10 Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.



ASCE 7-16
Design Standard

11

11

30 ft

30 ft

 $S_S = 1.25$ $S_S = 1.25$

19 sq.ft

19 sq.ft

PORTRAIT

PORTRAIT

CROSS-SLOPE

CROSS-SLOPE

SML

SML

PRO SERIES

PRO SERIES

Solarhooks AT1

Solarhooks AT1

SPAN TABLES

[illegible]

* Cells with an astrisks indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

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Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

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Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

[illegible]

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ASCE 7-16
Design Standard

II
Risk Category

30 ft
Roof Height

Ss = 1.25
Seismic

23 sq.ft
Module Area

PORTRAIT
Orientation

CROSS-SLOPE
Rail Direction

SML
Rail Type

PRO SERIES
Clamp

Solarhooks AT1
Attachment

SPAN TABLES

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
				90						95						100						105						110						115						120						130						140						150						160						170						180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
0	B	0-7	Interior	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	

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CROSS-SLOPE
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SPAN TABLES

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				90			95			100			105			110			115			120			130			140			150			160			170			180			
				Roof Wind Zone																																							
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3				
0	B	0-7	Interior	98	98	98	98	98	98	98	98	95	98	98	98	91	98	98	87	98	96	83	98	92	80	98	85	73	92	80	60	86	75	52	81	64	45	77	57	40	72	50	36
			Exposed	98	98	86	98	95	82	98	90	78	98	86	75	96	83	65	92	79	59	88	76	54	82	65	46	76	56	39	67	48	51	58	42	45	51	37	40	45	50	35	
		7-20	Interior	98	98	98	98	98	98	98	98	92	98	96	87	98	91	83	98	87	79	96	83	76	88	77	62	83	64	53	78	56	46	74	49	40	66	43	35	58	38	47	
			Exposed	98	91	83	98	86	78	94	82	74	89	78	63	86	74	57	83	63	52	80	58	48	75	49	41	64	42	35	56	36	45	49	48	40	43	42	35	38	38	34	
		20-27	Interior	98	98	98	98	98	98	98	98	98	98	98	98	98	94	98	95	89	98	91	85	98	84	78	94	78	66	88	71	53	84	59	44	79	52	38	76	46	32		
			Exposed	98	98	93	98	94	88	98	89	83	98	85	79	98	81	75	93	77	64	90	74	56	84	59	45	79	51	37	75	44	31	66	38	40	58	51	35	51	45	31	
	27-45	Interior	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	92	83	98	86	77	86	80	71	81	75	56	76	65	48	64	57	42		
		Exposed	99	99	98	99	99	93	99	98	88	99	93	84	97	89	80	92	85	77	88	82	73	81	76	57	75	63	47	61	55	40	54	48	34	47	42	45	42	38	38		
	C	0-7	Interior	98	98	89	98	98	85	98	93	81	98	89	77	98	85	73	95	82	64	91	79	58	84	72	49	79	60	42	73	52	37	62	45	48	54	40	42	48	53	38	
			Exposed	98	85	73	94	81	62	89	77	56	85	73	50	81	65	46	78	59	42	75	54	38	63	46	49	54	39	42	46	51	36	40	45	92	54	39	28	48	35	25	
		7-20	Interior	98	95	86	98	89	81	98	84	77	92	80	72	88	77	62	85	72	56	82	62	51	77	53	43	71	45	37	60	39	49	52	51	43	46	45	38	41	40	33	
			Exposed	88	76	61	84	71	55	81	60	49	77	54	44	74	49	40	70	44	37	62	41	51	53	34	43	45	45	37	39	39	32	51	34	28	45	30	25	40	27	22	
20-27		Interior	98	98	97	98	98	91	98	92	86	98	88	82	98	84	78	97	80	74	92	77	61	86	64	49	81	54	40	77	47	34	72	41	28	62	36	38	55	49	33		
		Exposed	98	83	78	95	79	72	91	75	58	87	65	51	84	59	45	81	54	40	78	49	35	72	42	29	61	36	37	53	47	32	46	41	28	40	36	26	54	32	22		
27-45	Interior	99	99	99	99	99	96	99	99	91	99	99	96	87	99	92	83	96	88	79	91	84	76	84	78	62	78	72	51	70	59	43	58	52	37	51	45	32	45	40	42		
	Exposed	99	92	83	95	87	78	89	83	75	85	79	96	84	91	76	56	77	71	50	73	62	45	58	52	37	50	45	31	43	39	40	38	51	34	50	45	29	45	40	25		
D	0-7	Interior	98	95	82	98	90	78	98	86	74	95	82	65	91	79	59	87	76	53	84	72	49	78	58	41	72	50	35	59	43	46	52	38	40	46	50	36	41	45	32		
		Exposed	91	79	58	86	75	52	82	68	47	79	60	42	75	54	38	71	49	53	62	45	48	52	38	41	45	49	35	39	43	30	51	37	27	45	33	23	40	29	21		
	7-20	Interior	98	86	79	94	82	75	89	78	63	85	73	57	82	63	52	79	57	47	76	52	43	69	44	36	58	38	47	50	49	41	44	43	36	38	38	32	52	34	28		
		Exposed	82	62	51	78	56	46	75	50	41	71	45	37	63	41	51	57	37	47	52	51	43	44	44	36	38	37	34	49	32	27	43	28	24	38	25	21	34	22	18		
	20-27	Interior	98	94	88	98	89	83	98	85	79	97	80	75	93	77	62	89	73	55	86	63	49	80	53	39	76	46	32	69	40	41	59	35	36	52	46	32	46	41	28		
		Exposed	93	77	62	88	71	53	85	60	46	81	54	40	78	49	36	75	45	32	72	41	28	59	35	36	51	45	31	44	39	27	39	34	24	51	30	21	46	27	19		
27-45	Interior	99	99	93	99	98	88	99	93	84	97	89	80	92	85	76	87	81	72	83	78	61	77	70	50	64	57	42	55	50	35	48	43	46	43	38	39	38	51	34			
	Exposed	92	84	76	86	80	71	82	76	58	78	72	51	74	62	46	63	56	41	58	52	37	49	44	30	42	38	36	49	32	48	43	28	42	38	24	38	34	21				
10	B	0-7	Interior	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	80	87	85	73	87	80	60	86	75	52	81	64	45	77	57	40	72	50	36		
			Exposed	87	87	86	87	87	82	87	87	78	87	86	75	87	83	65	87	79	59	87	76	54	82	65	46	76	56	39	67	48	51	58	42	45	51	37	40	45	50	35	
		7-20	Interior	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	
			Exposed	87	87	83	87	86	78	87	82	74	87	78	63	86	74	57	83	63	52	80	58	48	75	49	41	64	42	35	56	36	45	49	48	40	43	42	35	38	38	34	
		20-27	Interior	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95		
			Exposed	95	95	93	95	94	88	95	89	83	95	85	79	95	81	75	93	77	64	90	74	56	84	59	45	79	51	37	75	44	31	66	38	40	58	51	35	51	45	31	
	27-45	Interior	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
		Exposed	98	98	98	98	98	93	98	88	98	88	98	93	84	97	89	80	92	85	77	88	82	73	81	76	57	75	63	47	61	55	40	54	48	34	47	42	45	42	38	38	
	C	0-7	Interior	87	87	87	87	87	85	87	87	81	87	87	77	87	85	73	87	82	64	87	79	58	84	72	49	79	60	42	73	52	37	62	45	48	54	40	42	48	53	38	
			Exposed	87	85	73	87	81	62	87	77	56	85	73	50	81	65	46	78	59	42	75	54	38	63	46	49	54	39	42	46	51	36	40	45	92	54	39	28	48	35	25	
		7-20	Interior	87	87	86	87	87	81	87	84	77	87	80	72	87	77	62	85	72	56	82	62	51	77	53	43	71	45	37	60	39	49	52	51	43	46	45	38	41	40	33	
			Exposed	87	76	61	84	71	55	81	60	49	77	54	44	74	49	40	70	44	37	62	41	51	53	34	43	45	45	37	39	39	32	51	34	28	45	30	25	40	27	22	
20-27		Interior	95	95	95	95	95	91	95	92	86	95	88	82	95	84	78	95	80	74	92	77	61	86	64	49	81	54	40	77	47	34	72	41	28	62	36	38	55	49	33		
		Exposed	95	83	78	95	79	72	91	75	58	87	65	51	84	59	45	81	54	40	78	49	35	72	42	29	61	36	37	53	47	32	46	41	28	40	36	26	54	32	22		
27-45	Interior	98	98	98	98	98	96	98	98	91	98	96	87	98	92	83	96	88	79	91	84	76	84	78	62	78	72	51	70	59	43	58	52	37	51	45	32	45	40	42			
	Exposed	98	92	83	95	8																																					

10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

[illegible]

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

[illegible]

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																						
				90			95			100			105			110			115			120			130			140			150			160			170			180		
				Roof Wind Zone																																						
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3							
90	B	0-7	Interior	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16					
			Exposed	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16					
		7-20	Interior	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	26				
			Exposed	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	26	24					
		20-27	Interior	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29				
			Exposed	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29					
	27-45	Interior	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27					
		Exposed	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27						
	C	0-7	Interior	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	23					
			Exposed	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	23						
		7-20	Interior	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	24						
			Exposed	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	24						
		20-27	Interior	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29					
			Exposed	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29					
	27-45	Interior	27	27	27	27																																				

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.



ASCE 7-16
Design Standard

II
Risk Category

30 ft
Roof Height

Ss = 3.00
Seismic

19 sq.ft
Module Area

LANDSCAPE
Orientation

CROSS-SLOPE
Rail Direction

SML
Rail Type

PRO SERIES
Clamp

Solarhooks AT1
Attachment

SPAN TABLES

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																													
				90						95						100						105						110						115						120						130						140						150						160						170						180					
				Roof Wind Zone																																																																													
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																																							
0	B	0-7	Interior	98	98	98	98	98	98	98	98	98	96	98	98	98	92	98	98	87	98	97	84	98	93	80	98	86	75	93	81	61	87	76	53	82	66	46	77	58	41	73	51	36																																					
			Exposed	98	98	87	98	96	83	98	91	79	98	87	75	97	83	70	92	80	61	89	77	56	82	68	47	77	57	40	71	49	35	59	43	46	52	38	40	46	34	36																																							
		7-20	Interior	99	99	99	99	99	99	99	99	99	99	99	99	92	84	99	88	80	98	84	77	89	78	63	84	68	54	79	57	47	75	50	41	68	44	36	59	39	48																																								
			Exposed	99	92	84	99	87	79	95	82	75	90	78	65	86	75	59	83	65	54	80	59	49	75	50	41	66	43	36	57	37	46	50	49	41	44	43	36	39	38	32																																							
		20-27	Interior	99	99	99	99	99	99	99	99	99	99	99	99	99	95	99	96	90	99	92	86	99	85	79	95	79	71	89	72	54	84	60	45	80	53	39	76	47	33																																								
			Exposed	99	99	94	99	95	89	99	90	84	99	86	80	99	82	76	94	78	71	91	75	57	85	61	46	80	52	38	75	45	31	68	39	41	59	35	36	52	46	32																																							
	C	27-45	Interior	100	100	100	100	100	100	100	100	100	100	100	100	99	100	99	100	100	95	100	100	93	84	94	86	78	87	81	72	81	76	57	76	68	49	67	59	43																																									
			Exposed	100	100	99	100	100	93	100	99	89	100	94	85	98	90	81	93	86	78	89	83	74	82	76	58	76	65	48	63	56	41	55	49	35	48	43	30	43	39	39																																							
		0-7	Interior	98	98	90	98	98	86	98	94	81	98	90	78	98	86	74	95	83	65	92	79	60	85	73	50	79	61	43	74	53	37	63	46	49	56	41	43	49	36	39																																							
			Exposed	98	86	74	94	82	64	90	78	57	86	75	52	82	67	47	79	60	43	76	55	39	64	47	50	55	40	43	47	35	37	41	46	32	36	40	29	49	36	25																																							
		7-20	Interior	99	96	87	99	90	82	99	85	78	93	81	74	89	77	63	86	74	57	83	64	53	77	54	44	72	46	38	61	40	50	53	35	44	47	46	38	42	41	34																																							
			Exposed	89	77	63	85	72	56	81	61	50	78	55	45	75	50	41	71	45	38	64	42	34	54	35	44	46	38	40	40	39	35	29	46	34	25	41	27	22																																									
D	20-27	Interior	99	99	98	99	99	92	99	93	87	99	89	83	99	84	79	98	81	75	93	77	64	87	65	50	82	56	41	77	48	34	73	42	29	63	37	38	56	50	34																																								
		Exposed	99	84	78	96	80	74	92	76	59	88	71	52	85	60	46	81	55	41	79	50	36	73	43	29	62	36	38	54	48	33	47	42	29	41	37	26	37	33	22																																								
	27-45	Interior	100	100	100	100	100	97	100	92	100	97	87	100	93	84	97	89	80	93	85	77	85	79	64	78	73	52	72	60	44	59	53	38	52	46	32	46	41	43																																									
		Exposed	100	93	83	96	88	79	90	84	75	86	80	68	82	76	58	78	72	52	75	63	46	59	53	38	51	46	32	44	40	41	39	35	35	34	46	30	46	41	26																																								
	10	B	0-7	Interior	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88																																						
				Exposed	88	88	87	88	88	83	88	88	79	88	87	75	88	83	70	88	80	61	88	77	56	82	68	47	77	57	40	71	49	35	59	43	46	52	38	40	46	34	36																																						
7-20			Interior	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88																																						
			Exposed	88	88	84	88	87	79	88	82	75	88	78	65	86	75	59	83	65	54	80	59	49	75	50	41	66	43	36	57	37	46	50	49	41	44	43	36	39	38	32																																							
20-27			Interior	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96																																							
			Exposed	96	96	94	96	95	89	96	90	84	96	86	80	96	82	76	94	78	71	91	75	57	85	61	46	80	52	38	75	45	31	68	39	41	59	35	36	52	46	32																																							
C		27-45	Interior	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98																																							
			Exposed	98	98	98	98	98	93	98	98	89	98	94	85	98	90	81	93	86	78	89	83	74	82	76	58	76	65	48	63	56	41	55	49	35	48	43	30	43	39	39																																							
		0-7	Interior	88	88	88	88	88	86	88	88	81	88	88	78	88	66	74	88	83	65	88	79	60	85	73	50	79	61	43	74	53	37	63	46	49	56	41	43	49	36	39																																							
			Exposed	88	86	74	88	82	64	88	78	57	86	75	52	82	67	47	79	60	43	76	55	39	64	47	50	55	40	43	47	35	37	41	46	32	36	40	29	49	36	25																																							
		7-20	Interior	88	88	87	88	88	82	88	85	78	88	81	74	88	77	63	86	74	57	83	64	53	77	54	44	72	46	38	61	40	50	53	35	44	47	46	38	42	41	34																																							
			Exposed	88	77	63	85	72	56	81	61	50	78	55	45	75	50	41	71	45	38	64	42	34	54	35	44	46	38	40	40	39	35	29	46	34	25	41	27	22																																									
D	20-27	Interior	96	96	96	96	96	92	96	93	87	96	89	83	96	84	79	96	81	75	93	77	64	87	65	50	82	56	41	77	48	34	73	42	29	63	37	38	56	50	34																																								
		Exposed	96	84	78	96	80	74	92	76	59	88	71	52	85	60	46	81	55	41	79	50	36	73	43	29	62	36	38	54	48	33	47	42	29	41	37	26	37	33	22																																								
	27-45	Interior	98	98	98	98	98	97	98	98	92	98	97	87	98	93	84	97	89	80	93	85	77	85	79	64	78	73	52	72	60	44	59	53	38	52	46	32	46	41	43																																								
		Exposed	98	93	83	96	88	79	90	84	75	86	80	68	82	76	58	78	72	52	75	63	46	59	53	38	51	46	32	44	40	41	39	35	35	34	46	30	46	41	26																																								
	20	B	0-7	Interior	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72																																							
				Exposed	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72																																							
7-20			Interior	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73																																							
			Exposed	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73																																								
20-27			Interior	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88																																							
			Exposed	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88																																							
C		27-45	Interior	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84																																							
			Exposed	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84																																							
		0-7	Interior	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72</																																									

10 Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

[illegible]

* Cells with an astrisks indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
				90												95												100												105												110												115												120												130												140												150												160												170												180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

[illegible]

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																										
				90			95			100			105			110			115			120			130			140			150			160			170			180						
				Roof Wind Zone																																										
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3							
0	B	0-7	Interior	98	98	98	98	98	98	98	98	95	98	98	98	91	98	98	87	98	96	83	98	92	80	98	85	73	92	80	60	86	75	52	81	64	45	77	57	40	72	50	36			
			Exposed	98	98	86	98	95	82	98	90	78	98	86	75	96	83	65	92	79	59	88	76	54	82	65	46	76	56	39	67	48	51	58	42	45	51	37	40	45	50	35				
		7-20	Interior	98	98	98	98	98	98	98	98	98	92	98	86	87	98	91	83	98	87	79	96	83	76	88	77	62	83	64	53	78	56	46	74	49	40	66	43	35	58	38	47			
			Exposed	98	91	83	98	86	78	94	82	74	89	78	63	86	74	57	83	63	52	80	58	48	75	49	41	64	42	35	56	36	45	49	48	40	43	42	35	38	38	34				
		20-27	Interior	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	94	98	95	89	98	91	85	98	84	78	94	78	66	88	71	53	84	59	44	79	52	38	76	46	32
			Exposed	98	98	93	98	94	88	98	89	83	98	85	79	98	81	75	93	77	64	90	74	56	84	59	45	79	51	37	75	44	31	66	38	40	58	51	35	51	45	31				
	27-45	Interior	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99				
		Exposed	99	99	98	99	99	93	99	98	88	99	93	84	97	89	80	92	85	77	88	82	73	81	76	57	75	63	47	61	55	40	54	48	34	47	42	45	42	38	38					
	C	0-7	Interior	98	98	89	98	98	85	98	93	81	98	89	77	98	85	73	95	82	64	91	79	58	84	72	49	79	60	42	73	52	37	62	45	48	54	40	42	48	53	38				
			Exposed	98	85	73	94	81	62	89	77	56	85	73	50	81	65	46	78	59	42	75	54	38	63	46	49	54	39	42	46	51	36	40	45	32	54	39	28	48	35	25				
		7-20	Interior	98	95	86	98	89	81	98	84	77	92	80	72	88	77	62	85	72	56	82	62	51	77	53	43	71	45	37	60	39	49	52	51	43	46	45	38	41	40	33				
			Exposed	88	76	61	84	71	55	81	60	49	77	54	44	74	49	40	70	44	37	62	41	51	53	34	43	45	45	37	39	39	32	51	34	28	45	30	25	40	27	22				
20-27		Interior	98	98	97	98	98	91	98	92	86	98	88	82	98	84	78	97	80	74	92	77	61	86	64	49	81	54	40	77	47	34	72	41	28	62	36	38	55	49	33					
		Exposed	98	83	78	95	79	72	91	75	58	87	65	51	84	59	45	81	54	40	78	49	35	72	42	29	61	36	37	53	47	32	46	41	28	40	36	26	54	32	22					
27-45	Interior	99	99	99	99	99	96	99	99	91	99	99	96	87	99	92	83	96	88	79	91	84	76	84	78	62	78	72	51	70	59	43	58	52	37	51	45	32	45	40	42					
	Exposed	99	92	83	95	87	78	89	83	75	85	79	96	81	76	56	77	71	50	73	62	45	58	52	37	50	45	31	43	39	40	38	51	34	50	45	29	45	40	25						
D	0-7	Interior	98	95	82	98	90	78	98	86	74	95	82	65	91	79	59	87	76	53	84	72	49	78	58	41	72	50	35	59	43	46	52	38	40	46	50	36	41	45	32					
		Exposed	91	79	58	86	75	52	82	68	47	79	60	42	75	54	38	71	49	53	62	45	48	52	38	41	45	49	35	39	43	30	51	37	27	45	33	23	40	29	21					
	7-20	Interior	98	86	79	94	82	75	89	78	63	85	73	57	82	63	52	79	57	47	76	52	43	69	44	36	58	38	47	50	49	41	44	43	36	38	38	32	52	34	28					
		Exposed	82	62	51	78	56	46	75	50	41	71	45	37	63	41	51	57	37	47	52	51	43	44	44	36	38	37	34	49	32	27	43	28	24	38	25	21	34	22	18					
	20-27	Interior	98	94	88	98	89	83	98	85	79	97	80	75	93	77	62	89	73	55	86	63	49	80	53	39	76	46	32	69	40	41	59	35	36	52	46	32	46	41	28					
		Exposed	93	77	62	88	71	53	85	60	46	81	54	40	78	49	36	75	45	32	72	41	28	59	35	36	51	45	31	44	39	27	39	34	24	51	30	21	46	27	19					
27-45	Interior	99	99	93	99	98	88	99	93	84	97	89	80	92	85	76	87	81	72	83	78	61	77	70	50	64	57	42	55	50	35	48	43	46	43	38	39	38	51	34						
	Exposed	92	84	76	86	80	71	82	76	58	78	72	51	74	62	46	63	56	41	58	52	37	49	44	30	42	38	38	36	49	32	48	43	28	42	38	24	38	34	21						
10	B	0-7	Interior	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87				
			Exposed	87	87	86	87	87	82	87	87	78	87	86	75	87	83	65	87	79	59	87	76	54	82	65	46	76	56	39	67	48	51	58	42	45	51	37	40	45	50	35				
		7-20	Interior	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87			
			Exposed	87	87	83	87	86	78	87	82	74	87	78	63	86	74	57	83	63	52	80	58	48	75	49	41	64	42	35	56	36	45	49	48	40	43	42	35	38	38	34				
		20-27	Interior	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95			
			Exposed	95	95	93	95	94	88	95	89	83	95	85	79	95	81	75	93	77	64	90	74	56	84	59	45	79	51	37	75	44	31	66	38	40	58	51	35	51	45	31				
	27-45	Interior	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98				
		Exposed	98	98	98	98	98	93	98	88	98	88	98	93	84	97	89	80	92	85	77	88	82	73	81	76	57	75	63	47	61	55	40	54	48	34	47	42	45	42	38	38				
	C	0-7	Interior	87	87	87	87	87	85	87	87	81	87	87	77	87	85	73	87	82	64	87	79	58	84	72	49	79	60	42	73	52	37	62	45	48	54	40	42	48	53	38				
			Exposed	87	85	73	87	81	62	87	77	56	85	73	50	81	65	46	78	59	42	75	54	38	63	46	49	54	39	42	46	51	36	40	45	32	54	39	28	48	35	25				
		7-20	Interior	87	87	86	87	87	81	87	84	77	87	80	72	87	77	62	85	72	56	82	62	51	77	53	43	71	45	37	60	39	49	52	51	43	46	45	38	41	40	33				
			Exposed	87	76	61	84	71	55	81	60	49	77	54	44	74	49	40	70	44	37	62	41	51	53	34	43	45	45	37	39	39	32	51	34	28	45	30	25	40	27	22				
20-27		Interior	95	95	95	95	95	91	95	92	86	95	88	82	95	84	78	95	80	74	92	77	61	86	64	49	81	54	40	77	47	34	72	41	28	62	36	38	55	49	33					
		Exposed	95	83	78	95	79	72	91	75	58	87	65	51	84	59	45	81	54	40	78	49	35	72	42	29	61	36	37	53	47	32	46	41	28	40	36	26	54	32	22					
27-45	Interior	98	98	98	98	98	96	98	98	91	98	96	87	98	92	83	96	88	79	91	84	76	84	78	62	78	72	51	70	59	43	58	52	37	51	45	32	45	40	42						
	Exposed	98	92	83	95	87	78	89	83	75	85	79	96	81	76	56	77	71	50	73	62	45	58	52	37	50	45																			

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

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[illegible]

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[illegible]

10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																													
				90						95						100						105						110						115						120						130						140						150						160						170						180					
				Roof Wind Zone																																																																													
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																																							
0	B	0-7	Interior	98	98	98	98	98	98	98	98	98	94	98	98	89	98	98	85	98	94	81	98	90	78	97	84	70	90	78	57	84	72	49	80	61	43	75	54	38	66	48	34																																						
			Exposed	98	98	85	98	93	80	98	89	76	98	85	72	94	81	62	90	78	56	86	75	51	80	62	44	75	53	37	63	46	32	55	40	28	48	35	38	43	31	33																																							
		7-20	Interior	99	99	99	99	99	96	99	99	90	99	94	86	99	89	81	99	85	78	94	81	74	87	75	59	82	61	50	77	53	44	72	46	38	62	41	34	55	36	30																																							
			Exposed	99	99	89	81	98	84	77	92	80	71	88	76	60	84	70	54	81	60	50	78	55	45	72	46	38	61	40	33	53	34	29	46	30	38	41	27	33	36	36	30																																						
		20-27	Interior	99	99	99	99	99	99	99	99	99	99	99	99	97	99	98	91	99	93	87	99	89	83	99	82	76	92	76	59	87	64	49	82	56	41	78	49	35	74	43	30																																						
			Exposed	99	98	91	99	92	86	99	87	81	99	83	77	96	79	72	92	76	58	88	71	52	82	56	42	77	48	34	72	42	29	62	36	25	55	32	22	48	28	30																																							
	C	27-45	Interior	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	96	100	100	98	88	99	90	81	94	76	84	78	62	79	73	52	73	61	45	61	54	39																																								
			Exposed	100	100	96	100	100	91	100	96	86	100	91	82	95	87	78	90	83	75	86	80	68	79	74	53	72	60	44	58	52	37	51	46	32	45	40	27	40	36	24																																							
		0-7	Interior	98	98	88	98	96	83	98	92	79	98	87	75	97	84	69	93	80	60	89	77	55	82	67	47	77	57	40	71	49	35	59	43	30	52	38	27	46	33	36																																							
			Exposed	97	83	68	92	79	59	87	76	53	83	71	48	80	61	43	77	56	39	73	51	36	59	43	31	51	37	40	44	32	34	38	28	30	34	37	27	30	33	24																																							
		7-20	Interior	99	93	84	99	87	79	96	83	75	90	79	64	75	58	83	65	53	81	59	49	75	50	41	65	43	35	57	37	31	49	32	27	43	29	36	39	38	32																																								
			Exposed	87	75	58	83	63	52	79	57	47	76	51	42	72	46	38	65	42	35	59	39	32	50	33	27	43	28	35	37	37	30	32	32	27	29	28	29	38	25	21																																							
D	20-27	Interior	99	99	95	99	96	89	99	90	84	99	86	80	99	82	76	95	78	70	91	75	57	85	60	46	80	52	37	75	45	31	68	39	27	59	34	24	52	31	32																																								
		Exposed	99	82	76	94	77	63	89	72	54	86	62	47	82	56	41	79	51	37	77	47	33	69	39	27	58	34	23	50	29	30	44	39	27	38	34	23	34	30	21																																								
	27-45	Interior	100	100	100	100	100	94	100	100	89	100	94	85	95	85	99	90	81	94	86	78	90	83	74	82	77	58	76	65	48	62	56	40	55	49	34	48	43	30	43	38	26																																						
		Exposed	99	90	81	93	85	77	88	81	72	83	77	59	79	73	53	75	64	47	65	58	42	55	49	35	47	42	29	41	37	25	36	32	32	32	28	27	28	38	24																																								
	10	B	0-7	Interior	98	94	81	98	89	77	98	84	72	93	81	61	89	77	56	86	74	51	82	66	46	76	55	39	65	47	34	56	41	29	49	36	38	43	32	34	38	28	30																																						
				Exposed	89	77	55	85	73	49	81	63	44	77	57	40	73	51	36	64	47	33	59	43	30	50	36	39	43	31	33	37	27	29	32	36	25	28	31	22	38	28	20																																						
7-20			Interior	99	85	77	92	80	71	88	76	60	84	67	54	81	59	49	78	54	45	75	49	41	64	42	35	55	36	30	47	31	39	41	27	34	36	36	30	32	32	27																																							
			Exposed	81	59	49	77	53	44	73	47	39	66	43	35	59	39	32	54	35	29	49	32	27	42	27	34	36	36	29	31	31	26	27	22	36	24	26	32	21	18																																								
20-27			Interior	99	93	86	99	87	81	99	83	77	95	79	71	91	75	57	88	66	51	85	60	45	79	51	36	74	43	30	64	37	26	56	33	22	49	29	30	44	39	27																																							
			Exposed	91	75	57	87	64	49	83	57	43	80	52	37	77	47	33	73	43	30	68	39	27	56	33	23	48	28	29	42	37	26	37	33	22	32	29	29	29	26	18																																							
C		27-45	Interior	100	100	91	100	96	86	100	91	82	95	87	78	90	83	75	85	79	65	82	76	57	75	63	47	60	54	39	52	47	33	46	41	28	40	36	24	36	32	32																																							
			Exposed	90	83	74	84	79	62	80	75	54	76	65	48	68	59	43	60	54	38	55	49	34	46	42	28	40	36	24	34	31	30	30	27	26	27	36	22	36	32	20																																							
		0-7	Interior	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	81	88	88	78	88	84	70	88	78	57	84	72	49	80	61	43	75	54	38	66	48	34																																							
			Exposed	88	88	85	88	88	80	88	88	76	88	85	72	88	81	62	88	78	56	86	75	51	80	62	44	75	53	37	63	46	32	55	40	28	48	35	38	43	31	33																																							
		7-20	Interior	88	88	88	88	88	88	88	88	88	88	88	86	88	88	81	88	85	78	88	81	74	87	75	59	82	61	50	77	53	44	72	46	38	62	41	34	55	36	30																																							
			Exposed	88	88	81	88	84	77	88	80	71	88	76	60	84	70	54	81	60	50	78	55	45	72	46	38	61	40	33	53	34	29	46	30	38	41	27	33	36	36	30																																							
D	20-27	Interior	96	96	96	96	96	96	96	96	96	96	96	96	96	91	96	93	86	89	83	96	82	76	92	76	59	87	64	49	82	56	41	78	49	35	74	43	30																																										
		Exposed	96	96	91	96	92	86	96	87	81	96	83	77	96	79	72	92	76	58	88	71	52	82	56	42	77	48	34	72	42	29	62	36	25	55	32	22	48	28	30																																								
	27-45	Interior	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	98	88	99	90	81	94	76	84	78	62	79	73	52	73	61	45	61	54	39																																										
		Exposed	99	99	96	99	99	91	99	96	86	99	91	82	95	87	78	90	83	75	86	80	68	79	74	53	72	60	44	58	52	37	51	46	32	45	40	27	40	36	24																																								
	20	B	0-7	Interior	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	81	88	88	78	88	84	70	88	78	57	84	72	49	80	61	43	75	54	38	66	48	34																																							
				Exposed	88	88	85	88	88	80	88	88	76	88	85	72	88	81	62	88	78	56	86	75	51	80	62	44	75	53	37	63	46	32	55	40	28	48	35	38	43	31	33																																						
7-20			Interior	88	88	88	88	88	88	88	88	88	88	88	86	88	88	81	88	85	78	88	81	74	87	75	59	82	61	50	77	53	44	72	46	38	62	41	34	55	36	30																																							
			Exposed	88	88	81	88	84	77	88	80	71	88	76	60	84	70	54	81	60	50	78	55	45	72	46	38	61	40	33	53	34	29	46	30	38	41	27	33	36	36	30																																							
20-27			Interior	96	96	96	96	96	96	96	96	96	96	96	96	96	91	96	93	86	89	83	96	82	76	92	76	59	87	64	49	82	56	41	78	49	35	74	43	30																																									
			Exposed	96	96	91	96	92	86	96	87	81	96	83	77	96	79	72	92	76	58	88	71	52	82	56	42	77	48	34	72	42	29	62	36	25	55	32	22	48	28	30																																							
C		27-45	Interior	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	98	88	99	90	81	94	76	84	78	62	79	73	52	73	61	45	61	54	39																																									
			Exposed	99	90	81	93	85	77	88	81	72	83	77	59	79	73	53	75	64	47	65	58	42	55	49	35	47	42	29	41	37	25	36	32	32	32	28	27	28	38	24																																							
		0-7	Interior	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	81	88	88	78	88	84	70	88	78	57	84	72	49	80	61	43	75																																												

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

* Cells with an astrisks indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

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30 ft

$$S_s = 1.25$$

23 sq.ft

PORTRAIT

CROSS-SLOPE

SML

UAF

Solarhooks AT1

SPAN TABLES

[illegible]

* Cells with an astrisks indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

10 Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

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10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

[illegible]

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

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Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

[illegible]

* Cells with an astrisks indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

[illegible]

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																													
				90						95						100						105						110						115						120						130						140						150						160						170						180					
				Roof Wind Zone																																																																													
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																																				
0	B	0-7	Interior	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74																																	
			Exposed	74	74	56	74	74	46	74	66	39	74	56	34	74	48	31	69	42	28	60	37	25	46	31	22	36	26	18	31	23	16	27	20	21	24	17	19	21	23	16	21	23	16	21	23	16	21																																
		7-20	Interior	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70																															
			Exposed	70	68	47	70	54	38	70	44	33	64	37	30	56	33	27	49	30	25	44	27	22	35	23	19	30	20	16	26	17	21	23	23	19	20	20	16	18	18	18	18	18	18	18	18	18	18	18																															
		20-27	Interior	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66																															
			Exposed	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66																															
	C	0-7	Interior	74	74	63	74	74	52	74	72	43	74	63	37	74	54	33	73	46	30	67	41	27	51	33	23	40	28	20	33	24	17	29	21	23	26	19	20	23	16	18	20	23	16	18	20	23	16	18																															
			Exposed	74	53	33	72	45	29	62	38	26	53	34	24	45	30	21	39	28	20	35	25	18	29	21	23	25	18	20	22	16	17	19	21	46	17	18	48	22	16	42	19	19	46	19	46																																		
		7-20	Interior	70	70	54	70	62	43	70	50	36	70	42	32	61	35	29	54	32	26	48	29	24	39	25	20	32	21	17	28	18	23	24	16	20	22	21	18	19	21	18	19	21	18	19	21	18	19	21																															
			Exposed	61	35	29	52	31	26	45	28	23	40	25	21	35	23	19	32	21	17	29	19	16	25	16	20	21	21	17	18	18	45	16	18	49	21	44	42	19	42	49	19	42	49	19	42	49																																	
		20-27	Interior	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66																															
			Exposed	66	48	36	66	39	31	66	34	57	59	31	23	52	28	20	46	25	18	41	23	16	33	19	13	29	17	17	25	22	15	22	19	43	19	17	44	17	46	49	17	46	49	17	46	49																																	
	D	0-7	Interior	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62																															
			Exposed	62	62	47	62	57	39	62	48	33	51	40	29	42	35	26	35	23	23	29	21	27	24	17	23	21	14	20	18	18	16	16	16	21	43	21	19	42	21	19	42	21	19	42	21	19	42																																
		7-20	Interior	74	74	47	74	66	39	74	56	34	74	47	30	68	41	28	58	36	25	50	33	23	39	27	19	32	23	17	28	20	22	24	18	19	21	16	17	19	21	16	17	19	21	16	17	19	21	16	17																														
			Exposed	67	41	27	56	35	24	47	31	22	40	28	20	35	25	18	32	23	16	29	21	23	25	18	19	21	23	16	18	20	44	16	18	42	21	45	44	19	44	40	19	44	40																																				
		20-27	Interior	70	55	38	70	44	33	63	36	30	55	32	27	48	29	24	43	27	22	38	24	20	32	21	17	27	18	22	23	15	19	20	17	18	18	46	16	46	16	46	16	46	16	46	16	46	16																																
			Exposed	48	29	24	42	26	22	36	23	19	32	21	17	29	19	16	27	17	22	24	16	20	21	20	17	18	18	44	23	15	19	20	43	44	18	42	40	46	40	46	40	46	40	46	40																																		
10	B	0-7	Interior	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52																																
			Exposed	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52																															
		7-20	Interior	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52																														
			Exposed	52	52	47	52	52	38	52	44	33	52	37	30	52	33	27	49	30	25	44	27	22	35	23	19	30	20	16	26	17	21	23	23	19	20	20	16	18	18	18	18	18	18	18	18	18	18	18	18																														
		20-27	Interior	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58																														
			Exposed	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58																															
20	B	0-7	Interior	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55																														
			Exposed	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55																															
		7-20	Interior	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52																														
			Exposed	52	52	33	52	45	29	52	38	26	52	34	24	45	30	21	39	28	20	35	25	18	29	21	23	25	18	20	22	16	17	19	21	45	17	18	48	22	16	42	19	19	46	19	46																																		
		20-27	Interior	52	52	52	52	52	43	52																																																																							

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Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

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Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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30	B	0-7	Interior	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
			Exposed	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		7-20	Interior	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			Exposed	71	71	71	71	71	71	71	71	71	65	71	59	71	59	71	59	49	71	54	44	71	45	38	60	39	32	51	34	28	45	29	37	40	39	33	54	35	35	29																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		20-27	Interior	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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		0-7	Interior	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.



ASCE 7-16
Design Standard

II
Risk Category

30 ft
Roof Height

Ss = 3.00
Seismic

23 sq.ft
Module Area

LANDSCAPE
Orientation

CROSS-SLOPE
Rail Direction

SML
Rail Type

UAF
Clamp

Solarhooks AT1
Attachment

SPAN TABLES

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																													
				90						95						100						105						110						115						120						130						140						150						160						170						180					
				Roof Wind Zone																																																																													
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																																							
90	B	0-7	Interior	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27																																				
			Exposed	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27																																		
		7-20	Interior	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29																															
			Exposed	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29																																
		20-27	Interior	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47																															
			Exposed	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47																															
	C	0-7	Interior	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27																															
			Exposed	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27																																
		7-20	Interior	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29																													
			Exposed	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29																															
		20-27	Interior	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47																														
			Exposed	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47																															
D	0-7	Interior	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29																														
		Exposed	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29																												
	7-20	Interior	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32																												
		Exposed	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32																											
	20-27	Interior	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34																												
		Exposed	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34																											
27-45	Interior	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49																											
	Exposed	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49																																														

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.
10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.
40 Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.