Span Tables

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 7-10 Sec 30.4.2
- Exposure Category B, C, or D
- Basic Wind Speed = 90 – 180 mph
- Level terrain. Topographic factor, kzt = 1.0

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

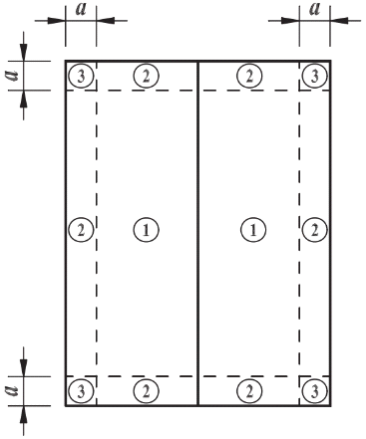
- 0.2-s Spectral Response Acceleration
- S_S = 1.25 and 3 per criteria shown on individual span tables sheets.
- S_1 = 0.5
- Seismic site class D

Array Assumptions

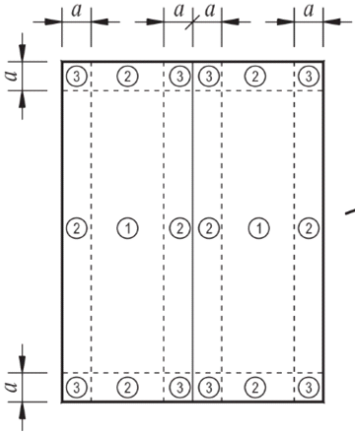
- Module orientation and Rail direction per criteria shown on individual span tables sheets.
- Maximum module dimensions of 40.1” x 67” (~19 sq.ft, 47.65 lbs) and 41” x 80” (~23 sq.ft, 58.6 lbs) per criteria shown on individual span tables sheets.
- Minimum distance between modules and roof edge is at 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.

Span Tables

Zone should be considered as per ASCE 7-10, Fig. 30.4-2A to 30.4-2D

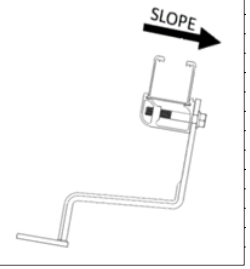


Gable Roofs θ ≤ 7°



Gable Roofs 7°< θ ≤ 45°

Rails can be installed in these possible orientations.

	*CT2
Y+	Alternate orientation not allowed
Y-	

UNIRAC

ASCE 7-10	II	30 ft	Ss = 1.25	18.66 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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	86	86	80	86	86	67	86	85	57	86	82	49	86	77	43	86	68	39	86	61	35	84	49	30	79	41	26	68	35	22	59	31	19	51	27	17	45	24	15
		7-27	86	86	75	86	86	66	86	85	58	86	82	52	86	79	46	86	71	42	86	64	38	86	52	32	82	43	28	76	37	24	66	33	21	57	29	18	50	25	16
		27-45	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	84	84	84	78	78	78	68	68	68	59	59	59	52	52	52	46	46	46	41	41	41	37	36	36
	C	0-7	86	81	47	86	73	41	86	63	36	86	55	33	84	49	30	81	44	27	77	40	25	64	33	21	54	29	18	46	25	16	40	22	21	35	19	18	31	17	16
		7-27	86	81	50	86	75	44	86	66	39	86	58	35	86	52	32	84	46	29	81	42	27	72	35	23	61	30	19	52	26	17	45	23	15	39	20	20	35	18	17
		27-45	87	87	87	86	86	86	80	80	80	74	74	74	68	68	68	63	63	63	58	58	58	50	50	50	43	43	43	38	37	37	34	33	33	30	29	29	27	26	26
	D	0-7	86	67	38	86	58	34	85	50	31	82	44	28	77	40	25	70	36	23	63	33	21	53	28	18	45	24	15	38	21	20	34	18	17	30	16	15	26	14	~~13~~
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		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	32	37	37	28	36	36	24	35	33	21	34	29	18	32	25	16
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		27-45	52	52	52	51	51	51	49	49	49	47	47	47	45	45	45	43	43	43	42	42	42	38	38	38	35	35	35	33	33	33	30	30	30	28	28	28	26	26	26
	D	0-7	37	37	37	37	37	34	37	37	31	37	37	28	37	37	25	37	36	23	37	33	21	37	28	18	37	24	15	37	21	20	34	18	17	30	16	15	26	14	~~13~~
		7-27	40	40	40	40	40	37	40	40	33	40	40	30	40	40	27	39	38	24	38	35	22	36	30	19	34	25	16	33	22	14	31	19	19	29	17	16	28	15	15
		27-45	53	53	53	50	50	50	48	48	48	46	46	46	44	44	44	42	42	42	40	40	40	36	36	36	33	33	33	30	30	30	28	27	27	26	24	24	23	21	21
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		27-45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	44	44	44	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	32	32	32			
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		27-45	47	47	47	45	45	45	43	43	43	41	41	41	40	40	40	38	38	38	36	36	36	33	33	33	31	31	31	28	28	28	26	26	26	24	24	24			

* 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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ASCE 7-10	II	30 ft	Ss = 1.25	18.66 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	22	24	24	19	24	24	17	24	24	15
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	24	26	26	21	26	26	18	25	25	16
		27-45	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	40	40	40	39	39	39	37	37	37	35	35	35	33	33	33	31	31	31	29	29	29	27	27	27
	C	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	24	24	18	24	24	16	24	22	21	24	19	18	24	17	16
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	23	26	26	19	25	25	17	24	23	15	23	20	20	23	18	17
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		7-27	29	29	29	29	29	29	29	29	29	29	29	29	29	29	27	29	29	24	29	29	22	28	28	19	27	25	16	26	22	14	25	19	19	24	17	16	23	15	15
		27-45	42	42	42	41	41	41	39	39	39	38	38	38	36	36	36	35	35	35	34	34	34	31	31	31	29	29	29	27	27	27	25	25	25	23	23	23	21	21	21
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		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	21	22	22	18	22	22	16
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	C	0-7	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16	18	18	21	18	18	18	18	17	16
		7-27	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	19	20	20	17	20	20	15	19	19	20	19	18	17
		27-45	34	34	34	33	33	33	32	32	32	32	32	32	31	31	31	30	30	30	29	29	29	27	27	27	26	26	26	24	24	24	23	23	23	22	22	22	20	20	20
	D	0-7	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	18	20	20	15	20	20	20	20	18	17	20	17	15	20	14	~~13~~
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	19	22	22	16	21	21	14	20	19	19	20	17	16	19	15	15
		27-45	35	35	35	34	34	34	33	33	33	32	32	32	31	31	31	30	30	30	29	29	29	27	27	27	25	25	25	24	24	24	22	22	22	21	21	21	19	19	19
90	B	0-7	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	16	16	16	16	15
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16
		27-45	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	28	28	28	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23
	C	0-7	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	21	16	16	18	16	16	16
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	17	18	18	15	18	18	20	17	17	17
		27-45	30	30	30	30	30	30	30	30	30	29	29	29	28	28	28	28	28	28	27	27	27	26	26	26	24	24	24	23	23	23	22	22	22	20	20	20	19	19	19
	D	0-7	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	15	18	18	20	18	18	17	18	16	15	18	14	~~13~~
		7-27	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	16	19	19	14	19	19	19	18	17	16	18	15	15
		27-45	32	32	32	32	32	32	31	31	31	30	30	30	29	29	29	28	28	28	27	27	27	25	25	25	24	24	24	22	22	22	21	21	21	20	20	20	18	18	18
100	B	0-7	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
		7-27	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	16	16	16	16	16
		27-45	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23	22	22	22	21	21	21
	C	0-7	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	21	14	14	18	14	14	16
		7-27	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	15	16	16	20	16	16	17
		27-45	27	27	27	27	27	27	27	27	27	27	27	27	26	26	26	26	26	26	25	25	25	24	24	24	23	23	23	22	22	22	20	20	20	19	19	19	18	18	18
	D	0-7	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	20	16	16	17	16	16	15	16	14	~~13~~
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16	18	18	14	17	17	19	17	17	16	16	15	15
		27-45	30	30	30	29	29	29	29	29	29	28	28	28	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23	21	21	21	20	20	20	19	19	19	18	18	18

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 1.25	18.66 sq.ft	LANDSCAPE	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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	102	102	96	102	102	91	102	102	87	102	98	83	102	94	80	102	91	65	102	88	60	100	82	50	95	71	43	90	59	37	86	52	33	82	46	29	76	41	26
		7-27	102	102	93	102	102	89	102	102	86	102	99	83	102	95	80	102	92	72	102	88	64	102	83	54	98	76	46	93	63	40	89	55	35	85	48	31	81	43	28
		27-45	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	101	101	101	99	99	99	94	93	93	90	88	88	86	84	84	78	78	78	69	69	69	62	61	61
	C	0-7	102	97	82	102	93	73	102	89	61	102	85	55	100	82	50	97	78	46	94	67	42	88	56	35	83	48	30	79	42	26	68	36	23	59	32	31	53	28	27
		7-27	102	97	82	102	93	76	102	89	66	102	86	60	102	83	54	100	80	49	97	72	45	91	59	38	86	51	33	82	44	28	76	39	25	66	34	33	59	30	29
		27-45	103	103	103	102	102	102	99	99	99	97	96	96	94	93	93	92	90	90	89	87	87	84	82	82	73	73	73	64	63	63	57	55	55	50	48	48	45	43	43
	D	0-7	102	90	64	102	86	57	101	83	51	97	79	46	94	68	42	91	61	38	88	56	35	83	47	30	76	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	102	91	70	102	87	62	102	84	55	101	80	50	97	73	45	94	64	41	91	59	38	86	50	32	81	43	27	73	37	24	63	32	31	55	29	28	49	25	25
		27-45	101	101	101	98	98	98	95	94	94	92	90	90	90	87	87	87	84	84	84	82	82	72	72	72	62	61	61	55	53	53	48	46	46	43	41	41	39	36	36
10	B	0-7	91	91	91	91	91	91	91	91	87	91	91	83	91	91	80	91	91	65	91	88	60	91	82	50	91	71	43	90	59	37	86	52	33	82	46	29	76	41	26
		7-27	91	91	91	91	91	89	91	91	86	91	91	83	91	91	80	91	91	72	91	88	64	91	83	54	91	76	46	91	63	40	89	55	35	85	48	31	81	43	28
		27-45	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	101	101	101	99	99	99	94	93	93	90	88	88	86	84	84	78	78	78	69	69	69	62	61	61
	C	0-7	91	91	82	91	91	73	91	89	61	91	85	55	91	82	50	91	78	46	91	67	42	88	56	35	83	48	30	79	42	26	68	36	23	59	32	31	53	28	27
		7-27	91	91	82	91	91	76	91	89	66	91	86	60	91	83	54	91	80	49	91	72	45	91	59	38	86	51	33	82	44	28	76	39	25	66	34	33	59	30	29
		27-45	102	102	102	102	102	102	99	99	99	97	96	96	94	93	93	92	90	90	89	87	87	84	82	82	73	73	73	64	63	63	57	55	55	50	48	48	45	43	43
	D	0-7	91	90	64	91	86	57	91	83	51	91	79	46	91	68	42	91	61	38	88	56	35	83	47	30	76	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	91	91	70	91	87	62	91	84	55	91	80	50	91	73	45	91	64	41	91	59	38	86	50	32	81	43	27	73	37	24	63	32	31	55	29	28	49	25	25
		27-45	101	101	101	98	98	98	95	94	94	92	90	90	90	87	87	87	84	84	84	82	82	72	72	72	62	61	61	55	53	53	48	46	46	43	41	41	39	36	36
20	B	0-7	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	65	72	72	60	72	72	50	72	71	43	72	59	37	72	52	33	72	46	29	72	41	26
		7-27	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	72	73	73	64	73	73	54	73	73	46	72	63	40	69	55	35	66	48	31	63	43	28
		27-45	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	94	94	94	93	93	93	90	90	90	88	88	88	84	84	84	77	77	77	69	69	69	62	61	61
	C	0-7	72	72	72	72	72	72	72	72	61	72	72	55	72	72	50	72	72	46	72	67	42	72	56	35	72	48	30	72	42	26	68	36	23	59	32	31	53	28	27
		7-27	73	73	73	73	73	73	73	73	66	73	73	60	73	73	54	73	73	49	73	72	45	71	59	38	67	51	33	64	44	28	61	39	25	57	34	33	54	30	29
		27-45	96	96	96	95	95	95	93	93	93	92	92	92	90	90	90	89	89	89	87	87	87	81	81	81	73	73	73	64	63	63	57	55	55	50	48	48	45	43	43
	D	0-7	72	72	64	72	72	57	72	72	51	72	72	46	72	68	42	72	61	38	72	56	35	72	47	30	72	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	73	73	70	73	73	62	73	73	55	73	73	50	73	73	45	73	64	41	71	59	38	67	50	32	63	43	27	60	37	24	56	32	31	53	29	28	49	25	25
		27-45	95	95	95	93	93	93	91	91	91	90	90	90	88	87	87	86	84	84	83	82	82	72	72	72	62	61	61	55	53	53	48	46	46	43	41	41	39	36	36
30	B	0-7	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	65	70	70	60	70	70	50	70	70	43	70	59	37	70	52	33	70	46	29	70	41	26
		7-27	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	72	73	73	64	73	73	54	73	73	46	72	63	40	69	55	35	66	48	31	63	43	28
		27-45	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	89	89	89	88	88	88	85	85	85	80	80	80	74	74	74	68	68	68	63	63	63	59	59	59
	C	0-7	70	70	70	70	70	70	70	70	61	70	70	55	70	70	50	70	70	46	70	67	42	70	56	35	70	48	30	70	42	26	68	36	23	59	32	31	53	28	27
		7-27	73	73	73	73	73	73	73	73	66	73	73	60	73	73	54	73	73	49	73	72	45	71	59	38	67	51	33	64	44	28	61	39	25	57	34	33	54	30	29
		27-45	90	90	90	90	90	90	88	88	88	87	87	87	85	85	85	83	83	83	79	79	79	72	72	72	65	65	65	60	60	60	55	55	55	50	48	48	45	43	43
	D	0-7	72	72	64	72	72	57	72	72	51	72	72	46	72	68	42	72	61	38	72	56	35	72	47	30	72	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	73	73	70	73	73	62	73	73	55	73	73	50	73	73	45	73	64	41	71	59	38	67	50	32	63	43	27	60	37	24	56	32	31	53	29	28	49	25	25
		27-45	90	90	90	89	89	89	87	87	87	85	85	85	82	82	82	78	78	78	74	74	74	67	67	67	60	60	60	55	53	53	48	46	46	43	41	41	39	36	36
40	B	0-7	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	50	58	58	43	58	58	37	58	52	33	58	46	29	58	41	26
		7-27	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	54	62	62	46	61	61	40	59	55	35	56	48	31	54	43	28
		27-45	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	84	84	84	82	82	82	76	76	76	71	71	71	66	66	66	62	62	62	58	58	58	54	54	54
	C	0-7	58	58	58	58	58	58	58	58	58	58	58	55	58	58	50	58	58	46	58	58	42	58	56	35	58	48	30	58	42	26	58	36	23	56	32	31	53	28	27
		7-27	62	62	62	62	62	62	62	62	62	62	62	60	62	62	54	62	62	49	62	62	45	60	59	38	57	51	33	55	44	28	53	39	25	50	34	33	48	30	29
		27-45	86	86	86	85	85	85	82	82	82	79	79	79	76	76	76	73	73	73	70	70	70	64	64	64	59	59	59	55	55	55	51	51	51	47	47	47	43	43	43
	D	0-7	63	63	63	63	63	57	63	63	51	63	63	46	63	63	42	63	61	38	63	56	35	63	47	30	63	40	25	62	35	33	56	31	29	50	27	26	44	24	23
		7-27	66	66	66	66	66	62	66	66	55	66	66	50	66	66	45	65	64	41	64	59	38	61	50	32	58	43	27	55	37	24	52	32	31	49	29	28	47	25	25
		27-45	86	86	86	84	84	84	81	81	81	77	77	77	73	73	73	70	70	70	67	67	67	61	61	61	56	56	56	51	51	51	47	46	46	43	41	41	39	36	36
50	B	0-7	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	43	48	48	37	48	48	33	48	46	29	48	41	26
		7-27	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	46	52	52	40	51	51	35	49	48	31	47	43	28
		27-45	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	74	74	74	72	72	72	68	68	68	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50
	C	0-7	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	48	42	48	48	35	48	48	30	48	42	26	48	36	23	48	32	31	47	28	27
		7-27	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	49	52	52	45	52	52	38	50	50	33	48	44	28	46	39	25	44	34	33	42	30	29
		27-45	77	77	77	75	75	75	73	73	73	70	70	70	68	68	68	65	65	65	63	63	63	58	58	58	54	54	54	50	50	50	47	47	47	44	44	44	41	41	41
	D	0-7	53	53	53	53	53	53	53	53	51	53	53	46	53	53	42	53	53	38	53	53	35	53	47	30	53	40	25	53	35	33	51	31	29	50	27	26	44	24	23
		7-27	57	57	57	57	57	57	57	57	55	57	57	50	57	57	45	56	56	41	55	55	38	53	50	32	51	43	27	48	37	24	46	32	31	44	29	28	42	25	25
		27-45	79	79	79	75	75	75	72	72	72	69	69	69	66	66	66	64	64	64	61	61	61	56	56	56	52	52	52	48	48	48	44	44	44	40	40	40	37	36	36

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 1.25	18.66 sq.ft	LANDSCAPE	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	37	40	40	33	40	40	29	40	40	26
		7-27	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	40	44	44	35	43	43	31	42	42	28
		27-45	69	69	69	69	69	69	69	69	69	69	69	69	68	68	68	66	66	66	65	65	65	61	61	61	58	58	58	55	55	55	52	52	52	49	49	49	46	46	46
	C	0-7	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	35	40	40	30	40	40	26	40	36	23	40	32	31	40	28	27
		7-27	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	38	44	44	33	42	42	28	41	39	25	39	34	33	38	30	29
		27-45	69	69	69	67	67	67	65	65	65	63	63	63	61	61	61	59	59	59	57	57	57	54	54	54	50	50	50	47	47	47	44	44	44	41	41	41	38	38	38
	D	0-7	44	44	44	44	44	44	44	44	44	44	44	44	44	44	42	44	44	38	44	44	35	44	44	30	44	40	25	44	35	33	44	31	29	44	27	26	43	24	23
		7-27	48	48	48	48	48	48	48	48	48	48	48	48	48	48	45	48	48	41	48	48	38	47	47	32	45	43	27	43	37	24	42	32	31	40	29	28	38	25	25
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		27-45	54	54	54	53	53	53	51	51	51	50	50	50	48	48	48	47	47	47	45	45	45	43	43	43	40	40	40	38	38	38	35	35	35	33	33	33	31	31	31
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		27-45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	44	44	44	43	43	43	41	41	41	39	39	39	37	37	37	36	36	36
	C	0-7	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	23	25	25	31	25	25	27
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	D	0-7	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	33	27	27	29	27	27	26	27	24	23
		7-27	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	27	30	30	24	29	29	31	29	29	28	28	25	25
		27-45	51	51	51	49	49	49	48	48	48	47	47	47	45	45	45	44	44	44	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	31	31	31	30	30	30

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 1.25	22.78 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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	74	74	67	74	74	56	74	74	48	74	74	41	74	65	36	74	57	32	74	51	30	74	41	25	67	34	21	57	29	18	49	26	16	43	23	14	37	20	19
		7-27	74	74	63	74	74	55	74	74	49	74	74	43	74	66	39	74	59	35	74	53	32	74	43	27	74	36	23	64	31	20	55	27	17	48	24	15	42	21	21
		27-45	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	71	71	71	66	66	66	57	57	57	50	50	50	44	44	44	39	39	39	34	34	34	31	30	30
	C	0-7	74	71	39	74	61	34	74	53	30	74	46	27	74	41	25	71	36	23	64	33	21	53	28	17	45	24	15	39	21	20	34	18	17	29	16	15	26	14	13
		7-27	74	72	42	74	63	37	74	55	33	74	49	30	74	43	27	74	39	24	72	35	22	60	30	19	51	25	16	43	22	14	37	19	18	33	17	16	29	15	14
		27-45	76	76	76	73	73	73	67	67	67	62	62	62	57	57	57	52	52	52	48	48	48	42	42	42	36	36	36	32	31	31	28	27	27	25	24	24	23	21	21
	D	0-7	74	56	32	74	48	28	74	42	25	72	37	23	65	33	21	58	30	19	53	28	17	44	23	15	37	20	19	32	17	16	28	15	14	25	20	13	22	18	11
		7-27	74	58	34	74	51	31	74	44	27	74	39	25	73	35	22	66	32	20	59	29	19	49	25	16	42	21	20	36	18	18	31	16	16	27	14	14	24	19	12
		27-45	70	70	70	63	63	63	58	58	58	53	53	53	49	49	49	45	45	45	41	41	41	35	35	35	31	30	30	27	26	26	24	23	23	21	20	20	19	18	18
10	B	0-7	52	52	52	52	52	52	52	52	48	52	52	41	52	52	36	52	52	32	52	51	30	52	41	25	52	34	21	52	29	18	49	26	16	43	23	14	37	20	19
		7-27	52	52	52	52	52	52	52	52	49	52	52	43	52	52	39	52	52	35	52	52	32	52	43	27	52	36	23	52	31	20	49	27	17	46	24	15	42	21	21
		27-45	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	70	70	70	66	66	66	57	57	57	50	50	50	44	44	44	39	39	39	34	34	34	31	30	30
	C	0-7	52	52	39	52	52	34	52	52	30	52	46	27	52	41	25	52	36	23	52	33	21	52	28	17	45	24	15	39	21	20	34	18	17	29	16	15	26	14	13
		7-27	52	52	42	52	52	37	52	52	33	52	49	30	52	43	27	52	39	24	52	35	22	51	30	19	48	25	16	43	22	14	37	19	18	33	17	16	29	15	14
		27-45	74	74	74	72	72	72	67	67	67	62	62	62	57	57	57	52	52	52	48	48	48	42	42	42	36	36	36	32	31	31	28	27	27	25	24	24	23	21	21
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		27-45	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	57	57	57	55	55	55	50	50	50	46	46	46	42	42	42	38	38	38	34	34	34	31	30	30
	C	0-7	36	36	36	36	36	34	36	36	30	36	36	27	36	36	25	36	36	23	36	33	21	36	28	17	36	24	15	36	21	20	34	18	17	29	16	15	26	14	13
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		27-45	60	60	60	58	58	58	55	55	55	52	52	52	50	50	50	47	47	47	45	45	45	40	40	40	36	36	36	32	31	31	28	27	27	25	24	24	23	21	21
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	C	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	24	24	21	24	24	17	24	24	15	24	21	20	24	18	17	24	16	15	23	14	13
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		27-45	39	39	39	38	38	38	36	36	36	35	35	35	34	34	34	33	33	33	31	31	31	29	29	29	27	27	27	25	25	25	23	23	23	22	22	22	20	20	20
	D	0-7	26	26	26	26	26	26	26	26	25	26	26	23	26	26	21	26	26	19	26	26	17	26	23	15	26	20	19	26	17	16	26	15	14	25	20	13	22	18	11
		7-27	28	28	28	28	28	28	28	28	27	28	28	25	28	28	22	28	28	20	28	28	19	26	25	16	25	21	20	24	18	18	23	16	16	22	14	14	21	19	12
		27-45	39	39	39	38	38	38	36	36	36	34	34	34	33	33	33	32	32	32	30	30	30	28	28	28	26	26	26	24	24	24	22	22	22	20	20	20	19	18	18

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 1.25	22.78 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	18	20	20	16	20	20	14	20	20	19
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	20	22	22	17	21	21	15	21	21	21
		27-45	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33	33	33	32	32	32	31	31	31	29	29	29	27	27	27	26	26	26	24	24	24	23	23	23
	C	0-7	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	17	20	20	15	20	20	20	20	18	17	20	16	15	20	14	~~13~~
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	19	22	22	16	21	21	14	20	19	18	20	17	16	19	15	14
		27-45	34	34	34	34	34	34	33	33	33	32	32	32	31	31	31	30	30	30	29	29	29	27	27	27	25	25	25	23	23	23	22	22	22	20	20	20	19	19	19
	D	0-7	22	22	22	22	22	22	22	22	22	22	22	22	22	22	21	22	22	19	22	22	17	22	22	15	22	20	19	22	17	16	22	15	14	22	20	~~13~~	21	18	~~11~~
		7-27	24	24	24	24	24	24	24	24	24	24	24	24	24	24	22	24	24	20	24	24	19	23	23	16	22	21	20	22	18	18	21	16	16	20	14	~~14~~	19	19	~~12~~
		27-45	35	35	35	34	34	34	33	33	33	31	31	31	30	30	30	29	29	29	28	28	28	26	26	26	24	24	24	22	22	22	20	20	20	19	19	19	18	18	18
70	B	0-7	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16	17	17	14	17	17	19
		7-27	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	17	19	19	15	19	19	21
		27-45	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	29	29	29	28	28	28	26	26	26	25	25	25	24	24	24	23	23	23	21	21	21
	C	0-7	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	15	17	17	20	17	17	17	17	16	15	17	14	~~13~~
		7-27	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	16	19	19	14	18	18	18	18	17	16	17	15	14
		27-45	31	31	31	30	30	30	30	30	30	29	29	29	28	28	28	27	27	27	26	26	26	25	25	25	23	23	23	22	22	22	20	20	20	19	19	19	18	18	18
	D	0-7	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	17	19	19	15	19	19	19	19	17	16	19	15	14	19	20	~~13~~	19	18	~~11~~
		7-27	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	20	21	21	19	21	21	16	20	20	20	19	18	18	19	16	16	18	14	~~14~~	17	19	~~12~~
		27-45	32	32	32	31	31	31	30	30	30	29	29	29	28	28	28	27	27	27	26	26	26	24	24	24	22	22	22	21	21	21	19	19	19	18	18	18	17	17	17
80	B	0-7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	15	15	19			
		7-27	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	15	16	16	21			
		27-45	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27	27	26	26	26	24	24	24	23	23	23	22	22	22	21	21	21	20	20	20
	C	0-7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	20	15	15	17	15	15	15	15	14	~~13~~
		7-27	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	14	16	16	18	16	16	16	16	15	14
		27-45	28	28	28	28	28	28	27	27	27	26	26	26	26	26	26	25	25	25	24	24	24	23	23	23	22	22	22	20	20	20	19	19	19	18	18	18	17	17	17
	D	0-7	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	15	17	17	19	17	17	16	17	15	14	17	20	~~13~~	17	18	~~11~~
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16	18	18	20	18	18	18	17	16	16	16	14	~~14~~	16	19	~~12~~
		27-45	29	29	29	28	28	28	28	28	28	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23	21	21	21	20	20	20	18	18	18	17	17	17	16	16	16
90	B	0-7	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	19			
		7-27	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	21			
		27-45	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19
	C	0-7	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	20	13	13	17	13	13	15	13	13	~~13~~
		7-27	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	15	15	18	15	15	16	14	14	14
		27-45	25	25	25	25	25	25	25	25	25	24	24	24	24	24	24	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	18	18	18	17	17	17	16	16	16
	D	0-7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	19	15	15	16	15	15	14	15	20	~~13~~	15	18	~~11~~
		7-27	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	20	16	16	18	16	16	16	15	14	~~14~~	15	19	~~12~~
		27-45	27	27	27	26	26	26	26	26	26	25	25	25	24	24	24	23	23	23	23	23	23	21	21	21	20	20	20	19	19	19	17	17	17	16	16	16	15	15	15
100	B	0-7	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18			
		7-27	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	20			
		27-45	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	19	19	19	18	18	18
	C	0-7	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	17	12	12	15	12	12	~~13~~
		7-27	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	18	13	13	16	13	13	14
		27-45	23	23	23	23	23	23	23	23	23	23	23	23	22	22	22	22	22	22	21	21	21	20	20	20	19	19	19	18	18	18	17	17	17	16	16	16	15	15	15
	D	0-7	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	19	13	13	16	13	13	14	13	20	~~13~~	13	18	~~11~~
		7-27	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	20	15	15	18	15	15	16	14	14	~~14~~	14	19	~~12~~
		27-45	25	25	25	24	24	24	24	24	24	23	23	23	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	18	18	18	17	17	17	16	16	16	15	15	15

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UNIRAC

ASCE 7-10	II	30 ft	Ss = 1.25	22.78 sq.ft	LANDSCAPE	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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	101	101	95	101	101	91	101	101	86	101	98	82	101	94	78	101	90	64	101	87	58	99	81	49	94	68	42	89	58	37	85	51	32	81	45	28	75	40	25
		7-27	102	102	92	102	102	89	102	102	85	102	98	82	102	94	79	102	91	70	102	88	63	102	82	53	98	73	45	93	61	39	88	54	34	84	47	30	81	42	27
		27-45	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	100	100	100	98	98	98	94	92	92	90	87	87	85	83	83	76	76	76	68	68	68	61	60	60
	C	0-7	101	96	81	101	92	69	101	88	60	101	84	54	99	81	49	96	75	45	93	65	41	87	55	35	83	47	30	77	41	26	66	36	34	58	31	30	51	28	27
		7-27	102	97	81	102	92	74	102	89	65	102	85	58	102	82	53	100	79	48	96	70	44	91	58	37	86	50	32	82	43	28	74	38	37	65	33	32	57	29	29
		27-45	103	103	103	102	102	102	99	99	99	96	96	96	93	92	92	91	89	89	89	86	86	82	81	81	71	71	71	62	61	61	55	54	54	49	47	47	44	42	42
	D	0-7	101	90	63	101	86	56	100	82	50	96	77	45	93	66	41	90	60	38	87	55	34	82	46	29	74	39	25	63	34	33	55	30	29	49	26	25	43	35	~~22~~
		7-27	102	90	68	102	86	60	102	83	54	100	80	49	97	71	44	93	63	40	90	58	37	85	49	31	81	42	27	71	36	35	61	32	31	54	28	27	48	37	~~24~~
		27-45	100	100	100	97	97	97	94	93	93	91	90	90	89	87	87	86	84	84	82	81	81	70	70	70	61	60	60	53	52	52	47	45	45	42	40	40	38	35	35
10	B	0-7	90	90	90	90	90	90	90	90	86	90	90	82	90	90	78	90	90	64	90	87	58	90	81	49	90	68	42	89	58	37	85	51	32	81	45	28	75	40	25
		7-27	91	91	91	91	91	89	91	91	85	91	91	82	91	91	79	91	91	70	91	88	63	91	82	53	91	73	45	91	61	39	88	54	34	84	47	30	81	42	27
		27-45	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	100	100	100	98	98	98	94	92	92	90	87	87	85	83	83	76	76	76	68	68	68	61	60	60
	C	0-7	90	90	81	90	90	69	90	88	60	90	84	54	90	81	49	90	75	45	90	65	41	87	55	35	83	47	30	77	41	26	66	36	34	58	31	30	51	28	27
		7-27	91	91	81	91	91	74	91	89	65	91	85	58	91	82	53	91	79	48	91	70	44	91	58	37	86	50	32	82	43	28	74	38	37	65	33	32	57	29	29
		27-45	101	101	101	101	101	101	99	99	99	96	96	96	93	92	92	91	89	89	89	86	86	82	81	81	71	71	71	62	61	61	55	54	54	49	47	47	44	42	42
	D	0-7	90	90	63	90	86	56	90	82	50	90	77	45	90	66	41	90	60	38	87	55	34	82	46	29	74	39	25	63	34	33	55	30	29	49	26	25	43	35	~~22~~
		7-27	91	90	68	91	86	60	91	83	54	91	80	49	91	71	44	91	63	40	90	58	37	85	49	31	81	42	27	71	36	35	61	32	31	54	28	27	48	37	~~24~~
		27-45	100	100	100	97	97	97	94	93	93	91	90	90	89	87	87	86	84	84	82	81	81	70	70	70	61	60	60	53	52	52	47	45	45	42	40	40	38	35	35
20	B	0-7	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	64	71	71	58	71	71	49	71	68	42	71	58	37	71	51	32	71	45	28	71	40	25
		7-27	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	70	71	71	63	71	71	53	71	71	45	71	61	39	67	54	34	64	47	30	62	42	27
		27-45	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	94	94	94	92	92	92	89	89	89	87	87	87	82	82	82	75	75	75	68	68	68	61	60	60
	C	0-7	71	71	71	71	71	69	71	71	60	71	71	54	71	71	49	71	71	45	71	65	41	71	55	35	71	47	30	71	41	26	66	36	34	58	31	30	51	28	27
		7-27	71	71	71	71	71	71	71	71	65	71	71	58	71	71	53	71	71	48	71	70	44	69	58	37	66	50	32	62	43	28	59	38	37	56	33	32	53	29	29
		27-45	95	95	95	94	94	94	93	93	93	91	91	91	89	89	89	88	88	88	86	86	86	79	79	79	71	71	71	62	61	61	55	54	54	49	47	47	44	42	42
	D	0-7	71	71	63	71	71	56	71	71	50	71	71	45	71	66	41	71	60	38	71	55	34	71	46	29	71	39	25	63	34	33	55	30	29	49	26	25	43	35	~~22~~
		7-27	71	71	68	71	71	60	71	71	54	71	71	49	71	71	44	71	63	40	69	58	37	65	49	31	62	42	27	58	36	35	55	32	31	52	28	27	48	37	~~24~~
		27-45	94	94	94	93	93	93	91	91	91	89	89	89	87	87	87	85	84	84	81	81	81	70	70	70	61	60	60	53	52	52	47	45	45	42	40	40	38	35	35
30	B	0-7	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	64	69	69	58	69	69	49	69	68	42	69	58	37	69	51	32	69	45	28	69	40	25
		7-27	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	70	71	71	63	71	71	53	71	71	45	71	61	39	67	54	34	64	47	30	62	42	27
		27-45	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	89	89	89	87	87	87	84	84	84	78	78	78	72	72	72	67	67	67	62	62	62	57	57	57
	C	0-7	69	69	69	69	69	69	69	69	60	69	69	54	69	69	49	69	69	45	69	65	41	69	55	35	69	47	30	69	41	26	66	36	34	58	31	30	51	28	27
		7-27	71	71	71	71	71	71	71	71	71	71	71	58	71	71	53	71	71	48	71	70	44	69	58	37	66	50	32	62	43	28	59	38	37	56	33	32	53	29	29
		27-45	90	90	90	89	89	89	88	88	88	86	86	86	84	84	84	81	81	81	77	77	77	70	70	70	64	64	64	58	58	58	54	54	54	49	47	47	44	42	42
	D	0-7	71	71	63	71	71	56	71	71	50	71	71	45	71	66	41	71	60	38	71	55	34	71	46	29	71	39	25	63	34	33	55	30	29	49	26	25	43	35	~~22~~
		7-27	71	71	68	71	71	60	71	71	54	71	71	49	71	71	44	71	63	40	69	58	37	65	49	31	62	42	27	58	36	35	55	32	31	52	28	27	48	37	~~24~~
		27-45	90	90	90	88	88	88	86	86	86	84	84	84	80	80	80	76	76	76	72	72	72	65	65	65	59	59	59	53	52	52	47	45	45	42	40	40	38	35	35
40	B	0-7	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	49	57	57	42	57	57	37	57	51	32	57	45	28	57	40	25
		7-27	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	53	60	60	45	59	59	39	57	54	34	55	47	30	53	42	27
		27-45	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	82	82	82	80	80	80	74	74	74	69	69	69	65	65	65	60	60	60	56	56	56	53	53	53
	C	0-7	57	57	57	57	57	57	57	57	57	57	57	54	57	57	49	57	57	45	57	57	41	57	55	35	57	47	30	57	41	26	57	36	34	55	31	30	51	28	27
		7-27	60	60	60	60	60	60	60	60	60	60	60	58	60	60	53	60	60	48	60	60	44	59	58	37	56	50	32	54	43	28	51	38	37	49	33	32	47	29	29
		27-45	85	85	85	84	84	84	80	80	80	77	77	77	74	74	74	71	71	71	68	68	68	63	63	63	58	58	58	54	54	54	49	49	49	46	46	46	42	42	42
	D	0-7	61	61	61	61	61	56	61	61	50	61	61	45	61	61	41	61	60	38	61	55	34	61	46	29	61	39	25	60	34	33	55	30	29	49	26	25	43	35	~~22~~
		7-27	65	65	65	65	65	60	65	65	54	65	65	49	65	65	44	64	63	40	62	58	37	59	49	31	56	42	27	54	36	35	51	32	31	48	28	27	46	37	~~24~~
		27-45	85	85	85	83	83	83	79	79	79	75	75	75	72	72	72	68	68	68	65	65	65	59	59	59	54	54	54	50	50	50	46	45	45	42	40	40	38	35	35
50	B	0-7	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	42	47	47	37	47	47	32	47	45	28	47	40	25			
		7-27	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	45	50	50	39	49	49	34	48	47	30	46	42	27			
		27-45	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	73	73	73	70	70	70	66	66	66	62	62	62	59	59	59	55	55	55	52	52	52	49	49	49
	C	0-7	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	45	47	47	41	47	47	35	47	47	30	47	41	26	47	36	34	47	31	30	46	28	27
		7-27	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	48	50	50	44	50	50	37	49	49	32	47	43	28	45	38	37	43	33	32	41	29	29
		27-45	75	75	75	74	74	74	71	71	71	69	69	69	66	66	66	64	64	64	61	61	61	57	57	57	53	53	53	49	49	49	46	46	46	43	43	43	40	40	40
	D	0-7	51	51	51	51	51	51	51	51	50	51	51	45	51	51	41	51	51	38	51	51	34	51	46	29	51	39	25	51	34	33	50	30	29	49	26	25	43	35	~~22~~
		7-27	56	56	56	56	56	56	56	56	54	56	56	49	56	56	44	55	55	40	54	54	37	52	49	31	50	42	27	47	36	35	45	32	31	43	28	27	41	37	~~24~~
		27-45	77	77	77	74	74	74	71	71	71	68	68	68	65	65	65	62	62	62	60	60	60	55	55	55	50	50	50	46	46	46	43	43	43	40	40	40	37	35	35

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 1.25	22.78 sq.ft	LANDSCAPE	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	39	39	32	39	39	28	39	39	25
		7-27	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	39	43	43	34	42	42	30	41	41	27
		27-45	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	65	65	65	63	63	63	60	60	60	57	57	57	54	54	54	51	51	51	48	48	48	45	45	45
	C	0-7	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	35	39	39	30	39	39	26	39	36	34	39	31	30	39	28	27
		7-27	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	37	43	43	32	41	41	28	40	38	37	39	33	32	37	29	29
		27-45	67	67	67	66	66	66	64	64	64	62	62	62	60	60	60	58	58	58	56	56	56	52	52	52	49	49	49	46	46	46	43	43	43	40	40	40	37	37	37
	D	0-7	43	43	43	43	43	43	43	43	43	43	43	43	43	43	41	43	43	38	43	43	34	43	43	29	43	39	25	43	34	33	43	30	29	43	26	25	42	35	~~22~~
		7-27	47	47	47	47	47	47	47	47	47	47	47	47	47	47	44	47	47	40	47	47	37	46	46	31	44	42	27	42	36	35	41	32	31	39	28	27	37	37	~~24~~
		27-45	69	69	69	66	66	66	64	64	64	62	62	62	59	59	59	57	57	57	55	55	55	51	51	51	47	47	47	44	44	44	40	40	40	37	37	37	35	35	35
70	B	0-7	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	32	34	34	28	34	34	25
		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	34	37	37	30	37	37	27
		27-45	61	61	61	61	61	61	61	61	61	61	61	61	60	60	60	59	59	59	57	57	57	55	55	55	52	52	52	49	49	49	47	47	47	44	44	44	42	42	42
	C	0-7	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	30	34	34	26	34	34	34	34	31	30	34	28	27
		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	32	37	37	28	36	36	37	35	33	32	34	29	29
		27-45	61	61	61	60	60	60	58	58	58	56	56	56	55	55	55	53	53	53	51	51	51	48	48	48	45	45	45	43	43	43	40	40	40	38	38	38	35	35	35
	D	0-7	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	34	37	37	29	37	37	25	37	34	33	37	30	29	37	26	25	37	35	~~22~~
		7-27	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	40	41	41	37	41	41	31	40	40	27	38	36	35	37	32	31	35	28	27	34	37	~~24~~
		27-45	63	63	63	61	61	61	59	59	59	57	57	57	55	55	55	53	53	53	51	51	51	47	47	47	44	44	44	41	41	41	38	38	38	36	36	36	33	33	33
80	B	0-7	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	28	30	30	25
		7-27	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	30	32	32	27
		27-45	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	54	54	54	53	53	53	50	50	50	48	48	48	46	46	46	44	44	44	41	41	41	39	39	39
	C	0-7	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	26	30	30	34	30	30	30	30	28	27
		7-27	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	28	32	32	37	32	32	32	31	29	29
		27-45	55	55	55	54	54	54	53	53	53	52	52	52	50	50	50	49	49	49	48	48	48	45	45	45	42	42	42	40	40	40	38	38	38	35	35	35	33	33	33
	D	0-7	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	29	33	33	25	33	33	33	33	30	29	33	26	25	33	35	~~22~~
		7-27	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	31	36	36	27	35	35	35	34	32	31	33	28	27	31	37	~~24~~
		27-45	58	58	58	56	56	56	54	54	54	52	52	52	51	51	51	49	49	49	47	47	47	44	44	44	41	41	41	39	39	39	36	36	36	34	34	34	32	32	32
90	B	0-7	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	25
		7-27	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	27
		27-45	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	47	47	47	45	45	45	43	43	43	41	41	41	39	39	39	37	37	37
	C	0-7	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	26	27	27	34	27	27	30	27	27	27
		7-27	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	28	29	29	37	29	29	32	28	28	29
		27-45	49	49	49	49	49	49	49	49	49	48	48	48	47	47	47	45	45	45	44	44	44	42	42	42	40	40	40	38	38	38	35	35	35	34	34	34	32	32	32
	D	0-7	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	25	29	29	25	29	29	33	29	29	29	29	26	25	29	35	~~22~~
		7-27	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	31	32	32	27	32	32	35	31	31	31	30	28	27	29	37	~~24~~
		27-45	53	53	53	52	52	52	50	50	50	49	49	49	47	47	47	46	46	46	44	44	44	42	42	42	39	39	39	37	37	37	34	34	34	32	32	32	30	30	30
100	B	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
		27-45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	43	43	43	42	42	42	40	40	40	38	38	38	37	37	37	35	35	35
	C	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	34	24	24	30	24	24	27
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	37	26	26	32	26	26	29
		27-45	45	45	45	45	45	45	45	45	45	44	44	44	43	43	43	42	42	42	41	41	41	39	39	39	37	37	37	35	35	35	34	34	34	32	32	32	30	30	30
	D	0-7	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	25	27	27	25	27	27	33	27	27	29	27	26	25	27	35	~~22~~
		7-27	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	27	29	29	27	29	29	35	29	29	31	28	28	27	27	37	~~24~~
		27-45	49	49	49	48	48	48	47	47	47	46	46	46	44	44	44	43	43	43	42	42	42	39	39	39	37	37	37	35	35	35	33	33	33	31	31	31	29	29	29

* 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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UNIRAC

ASCE 7-10	II	30 ft	Ss = 3.00	18.66 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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	86	86	80	86	86	67	86	85	57	86	82	49	86	77	43	86	68	39	86	61	35	84	49	30	79	41	26	68	35	22	59	31	19	51	27	17	45	24	15
		7-27	86	86	75	86	86	66	86	85	58	86	82	52	86	79	46	86	71	42	86	64	38	86	52	32	82	43	28	76	37	24	66	33	21	57	29	18	50	25	16
		27-45	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	84	84	84	78	78	78	68	68	68	59	59	59	52	52	52	46	46	46	41	41	41	37	36	36
	C	0-7	86	81	47	86	73	41	86	63	36	86	55	33	84	49	30	81	44	27	77	40	25	64	33	21	54	29	18	46	25	16	40	22	21	35	19	18	31	17	16
		7-27	86	81	50	86	75	44	86	66	39	86	58	35	86	52	32	84	46	29	81	42	27	72	35	23	61	30	19	52	26	17	45	23	15	39	20	20	35	18	17
		27-45	87	87	87	86	86	86	80	80	80	74	74	74	68	68	68	63	63	63	58	58	58	50	50	50	43	43	43	38	37	37	34	33	33	30	29	29	27	26	26
	D	0-7	86	67	38	86	58	34	85	50	31	82	44	28	77	40	25	70	36	23	63	33	21	53	28	18	45	24	15	38	21	20	34	18	17	30	16	15	26	14	~~13~~
		7-27	86	69	41	86	61	37	86	53	33	85	47	30	82	42	27	78	38	24	71	35	22	59	30	19	50	25	16	43	22	14	37	19	19	33	17	16	29	15	15
		27-45	83	83	83	76	76	76	69	69	69	63	63	63	58	58	58	54	54	54	49	49	49	42	42	42	37	36	36	33	31	31	29	27	27	26	24	24	23	21	21
10	B	0-7	62	62	62	62	62	62	62	62	57	62	62	49	62	62	43	62	62	39	62	61	35	62	49	30	62	41	26	62	35	22	59	31	19	51	27	17	45	24	15
		7-27	63	63	63	63	63	63	63	63	58	63	63	52	63	63	46	63	63	42	63	63	38	63	52	32	63	43	28	63	37	24	59	33	21	55	29	18	50	25	16
		27-45	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	83	83	83	78	78	78	68	68	68	59	59	59	52	52	52	46	46	46	41	41	41	37	36	36
	C	0-7	62	62	47	62	62	41	62	62	36	62	55	33	62	49	30	62	44	27	62	40	25	62	33	21	54	29	18	46	25	16	40	22	21	35	19	18	31	17	16
		7-27	63	63	50	63	63	44	63	63	39	63	58	35	63	52	32	63	46	29	63	42	27	61	35	23	57	30	19	52	26	17	45	23	15	39	20	20	35	18	17
		27-45	86	86	86	85	85	85	80	80	80	74	74	74	68	68	68	63	63	63	58	58	58	50	50	50	43	43	43	38	37	37	34	33	33	30	29	29	27	26	26
	D	0-7	62	62	38	62	58	34	62	50	31	62	44	28	62	40	25	62	36	23	62	33	21	53	28	18	45	24	15	38	21	20	34	18	17	30	16	15	26	14	~~13~~
		7-27	63	63	41	63	61	37	63	53	33	63	47	30	63	42	27	63	38	24	61	35	22	56	30	19	50	25	16	43	22	14	37	19	19	33	17	16	29	15	15
		27-45	83	83	83	76	76	76	69	69	69	63	63	63	58	58	58	54	54	54	49	49	49	42	42	42	37	36	36	33	31	31	29	27	27	26	24	24	23	21	21
20	B	0-7	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	39	43	43	35	43	43	30	43	41	26	43	35	22	43	31	19	43	27	17	43	24	15
		7-27	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	42	44	44	38	44	44	32	44	43	28	43	37	24	41	33	21	39	29	18	38	25	16
		27-45	72	72	72	72	72	72	72	72	72	72	72	72	71	71	71	68	68	68	65	65	65	60	60	60	54	54	54	50	50	50	46	46	46	41	41	41	37	36	36
	C	0-7	43	43	43	43	43	41	43	43	36	43	43	33	43	43	30	43	43	27	43	40	25	43	33	21	43	29	18	43	25	16	40	22	21	35	19	18	31	17	16
		7-27	44	44	44	44	44	44	44	44	39	44	44	35	44	44	32	44	44	29	44	42	27	42	35	23	40	30	19	38	26	17	36	23	15	34	20	20	33	18	17
		27-45	72	72	72	70	70	70	66	66	66	63	63	63	59	59	59	56	56	56	53	53	53	48	48	48	43	43	43	38	37	37	34	33	33	30	29	29	27	26	26
	D	0-7	43	43	38	43	43	34	43	43	31	43	43	28	43	40	25	43	36	23	43	33	21	43	28	18	43	24	15	38	21	20	34	18	17	30	16	15	26	14	~~13~~
		7-27	44	44	41	44	44	37	44	44	33	44	44	30	44	42	27	43	38	24	42	35	22	40	30	19	38	25	16	36	22	14	34	19	19	32	17	16	29	15	15
		27-45	70	70	70	66	66	66	62	62	62	59	59	59	55	55	55	52	52	52	49	49	49	42	42	42	37	36	36	33	31	31	29	27	27	26	24	24	23	21	21
30	B	0-7	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	39	42	42	35	42	42	30	42	41	26	42	35	22	42	31	19	42	27	17	42	24	15
		7-27	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	42	44	44	38	44	44	32	44	43	28	43	37	24	41	33	21	39	29	18	38	25	16
		27-45	61	61	61	61	61	61	61	61	61	61	61	61	60	60	60	58	58	58	56	56	56	51	51	51	48	48	48	44	44	44	41	41	41	38	38	38	35	35	35
	C	0-7	42	42	42	42	42	41	42	42	36	42	42	33	42	42	30	42	42	27	42	40	25	42	33	21	42	29	18	42	25	16	40	22	21	35	19	18	31	17	16
		7-27	44	44	44	44	44	44	44	44	39	44	44	35	44	44	32	44	44	29	44	42	27	42	35	23	40	30	19	38	26	17	36	23	15	34	20	20	33	18	17
		27-45	61	61	61	59	59	59	56	56	56	54	54	54	51	51	51	49	49	49	47	47	47	43	43	43	39	39	39	36	36	36	33	33	33	30	29	29	27	26	26
	D	0-7	43	43	38	43	43	34	43	43	31	43	43	28	43	40	25	43	36	23	43	33	21	43	28	18	43	24	15	38	21	20	34	18	17	30	16	15	26	14	~~13~~
		7-27	44	44	41	44	44	37	44	44	33	44	44	30	44	42	27	43	38	24	42	35	22	40	30	19	38	25	16	36	22	14	34	19	19	32	17	16	29	15	15
		27-45	60	60	60	57	57	57	54	54	54	51	51	51	49	49	49	46	46	46	44	44	44	40	40	40	36	36	36	33	31	31	29	27	27	26	24	24	23	21	21
40	B	0-7	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	30	35	35	26	35	35	22	35	31	19	35	27	17	35	24	15
		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	32	37	37	28	36	36	24	35	33	21	34	29	18	32	25	16
		27-45	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	50	50	50	48	48	48	45	45	45	42	42	42	39	39	39	37	37	37	34	34	34	32	32	32
	C	0-7	35	35	35	35	35	35	35	35	35	35	35	33	35	35	30	35	35	27	35	35	25	35	33	21	35	29	18	35	25	16	35	22	21	34	19	18	31	17	16
		7-27	37	37	37	37	37	37	37	37	37	37	37	35	37	37	32	37	37	29	37	37	27	36	35	23	34	30	19	33	26	17	31	23	15	30	20	20	29	18	17
		27-45	52	52	52	51	51	51	49	49	49	47	47	47	45	45	45	43	43	43	42	42	42	38	38	38	35	35	35	33	33	33	30	30	30	28	28	28	26	26	26
	D	0-7	37	37	37	37	37	34	37	37	31	37	37	28	37	37	25	37	36	23	37	33	21	37	28	18	37	24	15	37	21	20	34	18	17	30	16	15	26	14	~~13~~
		7-27	40	40	40	40	40	37	40	40	33	40	40	30	40	40	27	39	38	24	38	35	22	36	30	19	34	25	16	33	22	14	31	19	19	29	17	16	28	15	15
		27-45	53	53	53	50	50	50	48	48	48	46	46	46	44	44	44	42	42	42	40	40	40	36	36	36	33	33	33	30	30	30	28	27	27	26	24	24	23	21	21
50	B	0-7	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	26	28	28	22	28	28	19	28	27	17	28	24	15			
		7-27	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	28	31	31	24	30	30	21	29	29	18	28	25	16			
		27-45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	44	44	44	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	32	32	32			
	C	0-7	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	28	28	25	28	28	21	28	28	18	28	25	16	28	22	21	28	19	18			
		7-27	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	29	31	31	27	31	31	23	30	30	19	28	26	17	27	23	15	26	20	20			
		27-45	46	46	46	45	45	45	43	43	43	42	42	42	40	40	40	39	39	39	38	38	38	35	35	35	32	32	32	30	30	30	28	28	28	26	26	26			
	D	0-7	31	31	31	31	31	31	31	31	31	31	31	28	31	31	25	31	31	23	31	31	21	31	28	18	31	24	15	31	21	20	31	18	17	30	16	15			
		7-27	34	34	34	34	34	34	34	34	33	34	34	30	34	34	27	34	34	24	33	33	22	32	30	19	30	25	16	29	22	14	28	19	19	26	17	16			
		27-45	47	47	47	45	45	45	43	43	43	41	41	41	40	40	40	38	38	38	36	36	36	33	33	33	31	31	31	28	28	28	26	26	26	24	24	24			

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UNIRAC

ASCE 7-10	II	30 ft	Ss = 3.00	18.66 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	22	24	24	19	24	24	17	24	24	15
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	24	26	26	21	26	26	18	25	25	16
		27-45	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	40	40	40	39	39	39	37	37	37	35	35	35	33	33	33	31	31	31	29	29	29	27	27	27
	C	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	24	24	18	24	24	16	24	22	21	24	19	18	24	17	16
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	23	26	26	19	25	25	17	24	23	15	23	20	20	23	18	17
		27-45	41	41	41	40	40	40	39	39	39	38	38	38	37	37	37	35	35	35	34	34	34	32	32	32	30	30	30	28	28	28	26	26	26	24	24	24	23	23	23
	D	0-7	26	26	26	26	26	26	26	26	26	26	26	26	26	26	25	26	26	23	26	26	21	26	26	18	26	24	15	26	21	20	26	18	17	26	16	15	25	14	~~13~~
		7-27	29	29	29	29	29	29	29	29	29	29	29	29	29	29	27	29	29	24	29	29	22	28	28	19	27	25	16	26	22	14	25	19	19	24	17	16	23	15	15
		27-45	42	42	42	41	41	41	39	39	39	38	38	38	36	36	36	35	35	35	34	34	34	31	31	31	29	29	29	27	27	27	25	25	25	23	23	23	21	21	21
70	B	0-7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	19	21	21	17	21	21	15
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	21	22	22	18	22	22	16
		27-45	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	36	36	36	35	35	35	33	33	33	32	32	32	30	30	30	29	29	29	27	27	27	26	26	26
	C	0-7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	18	21	21	16	21	21	21	21	19	18	21	17	16
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	19	22	22	17	22	22	15	21	20	20	20	18	17
		27-45	37	37	37	36	36	36	35	35	35	34	34	34	33	33	33	32	32	32	31	31	31	29	29	29	28	28	28	26	26	26	24	24	24	23	23	23	21	21	21
	D	0-7	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	21	23	23	18	23	23	15	23	21	20	23	18	17	23	16	15	23	14	~~13~~
		7-27	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	25	25	22	25	25	19	24	24	16	23	22	14	22	19	19	22	17	16	21	15	15
		27-45	38	38	38	37	37	37	36	36	36	35	35	35	33	33	33	32	32	32	31	31	31	29	29	29	27	27	27	25	25	25	23	23	23	22	22	22	20	20	20
80	B	0-7	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	17	18	18	15
		7-27	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	18	20	20	16
		27-45	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33	33	33	32	32	32	31	31	31	29	29	29	28	28	28	27	27	27	25	25	25	24	24	24
	C	0-7	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16	18	18	21	18	18	18	18	17	16
		7-27	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	19	20	20	17	20	20	15	19	19	20	19	18	17
		27-45	34	34	34	33	33	33	32	32	32	32	32	32	31	31	31	30	30	30	29	29	29	27	27	27	26	26	26	24	24	24	23	23	23	22	22	22	20	20	20
	D	0-7	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	18	20	20	15	20	20	20	20	18	17	20	16	15	20	14	~~13~~
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	19	22	22	16	21	21	14	20	19	19	20	17	16	19	15	15
		27-45	35	35	35	34	34	34	33	33	33	32	32	32	31	31	31	30	30	30	29	29	29	27	27	27	25	25	25	24	24	24	22	22	22	21	21	21	19	19	19
90	B	0-7	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	16	16	16	16	15
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16
		27-45	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	28	28	28	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23
	C	0-7	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	21	16	16	18	16	16	16
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	17	18	18	15	18	18	20	17	17	17
		27-45	30	30	30	30	30	30	30	30	30	29	29	29	28	28	28	28	28	28	27	27	27	26	26	26	24	24	24	23	23	23	22	22	22	20	20	20	19	19	19
	D	0-7	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	15	18	18	20	18	18	17	18	16	15	18	14	~~13~~
		7-27	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	16	19	19	14	19	19	19	18	17	16	18	15	15
		27-45	32	32	32	32	32	32	31	31	31	30	30	30	29	29	29	28	28	28	27	27	27	25	25	25	24	24	24	22	22	22	21	21	21	20	20	20	18	18	18
100	B	0-7	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
		7-27	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	16	16	16	16	16
		27-45	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23	22	22	22	21	21	21
	C	0-7	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	21	14	14	18	14	14	16
		7-27	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	15	16	16	20	16	16	17
		27-45	27	27	27	27	27	27	27	27	27	27	27	27	26	26	26	26	26	26	25	25	25	24	24	24	23	23	23	22	22	22	20	20	20	19	19	19	18	18	18
	D	0-7	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	20	16	16	17	16	16	15	16	14	~~13~~
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16	18	18	14	17	17	19	17	17	16	16	15	15
		27-45	30	30	30	29	29	29	29	29	29	28	28	28	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23	21	21	21	20	20	20	19	19	19	18	18	18

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SPAN TABLES

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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
0	B	0-7	102	102	96	102	102	91	102	102	87	102	98	83	102	94	80	102	91	65	102	88	60	100	82	50	95	71	43	90	59	37	86	52	33	82	46	29	76	41	26
		7-27	102	102	93	102	102	89	102	102	86	102	99	83	102	95	80	102	92	72	102	88	64	102	83	54	98	76	46	93	63	40	89	55	35	85	48	31	81	43	28
		27-45	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	101	101	101	99	99	99	94	93	93	90	88	88	86	84	84	78	78	78	69	69	69	62	61	61
	C	0-7	102	97	82	102	93	73	102	89	61	102	85	55	100	82	50	97	78	46	94	67	42	88	56	35	83	48	30	79	42	26	68	36	23	59	32	31	53	28	27
		7-27	102	97	82	102	93	76	102	89	66	102	86	60	102	83	54	100	80	49	97	72	45	91	59	38	86	51	33	82	44	28	76	39	25	66	34	33	59	30	29
		27-45	103	103	103	102	102	102	99	99	99	97	96	96	94	93	93	92	90	90	89	87	87	84	82	82	73	73	73	64	63	63	57	55	55	50	48	48	45	43	43
	D	0-7	102	90	64	102	86	57	101	83	51	97	79	46	94	68	42	91	61	38	88	56	35	83	47	30	76	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	102	91	70	102	87	62	102	84	55	101	80	50	97	73	45	94	64	41	91	59	38	86	50	32	81	43	27	73	37	24	63	32	31	55	29	28	49	25	25
		27-45	101	101	101	98	98	98	95	94	94	92	90	90	90	87	87	87	84	84	84	82	82	72	72	72	62	61	61	55	53	53	48	46	46	43	41	41	39	36	36
10	B	0-7	91	91	91	91	91	91	91	91	87	91	91	83	91	91	80	91	91	65	91	88	60	91	82	50	91	71	43	90	59	37	86	52	33	82	46	29	76	41	26
		7-27	91	91	91	91	91	89	91	91	86	91	91	83	91	91	80	91	91	72	91	88	64	91	83	54	91	76	46	91	63	40	89	55	35	85	48	31	81	43	28
		27-45	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	101	101	101	99	99	99	94	93	93	90	88	88	86	84	84	78	78	78	69	69	69	62	61	61
	C	0-7	91	91	82	91	91	73	91	89	61	91	85	55	91	82	50	91	78	46	91	67	42	88	56	35	83	48	30	79	42	26	68	36	23	59	32	31	53	28	27
		7-27	91	91	82	91	91	76	91	89	66	91	86	60	91	83	54	91	80	49	91	72	45	91	59	38	86	51	33	82	44	28	76	39	25	66	34	33	59	30	29
		27-45	102	102	102	102	102	102	99	99	99	97	96	96	94	93	93	92	90	90	89	87	87	84	82	82	73	73	73	64	63	63	57	55	55	50	48	48	45	43	43
	D	0-7	91	90	64	91	86	57	91	83	51	91	79	46	91	68	42	91	61	38	88	56	35	83	47	30	76	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	91	91	70	91	87	62	91	84	55	91	80	50	91	73	45	91	64	41	91	59	38	86	50	32	81	43	27	73	37	24	63	32	31	55	29	28	49	25	25
		27-45	101	101	101	98	98	98	95	94	94	92	90	90	90	87	87	87	84	84	84	82	82	72	72	72	62	61	61	55	53	53	48	46	46	43	41	41	39	36	36
20	B	0-7	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	65	72	72	60	72	72	50	72	71	43	72	59	37	72	52	33	72	46	29	72	41	26
		7-27	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	72	73	73	64	73	73	54	73	73	46	72	63	40	69	55	35	66	48	31	63	43	28
		27-45	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	94	94	94	93	93	93	90	90	90	88	88	88	84	84	84	77	77	77	69	69	69	62	61	61
	C	0-7	72	72	72	72	72	72	72	72	61	72	72	55	72	72	50	72	72	46	72	67	42	72	56	35	72	48	30	72	42	26	68	36	23	59	32	31	53	28	27
		7-27	73	73	73	73	73	73	73	73	66	73	73	60	73	73	54	73	73	49	73	72	45	71	59	38	67	51	33	64	44	28	61	39	25	57	34	33	54	30	29
		27-45	96	96	96	95	95	95	93	93	93	92	92	92	90	90	90	89	89	89	87	87	87	81	81	81	73	73	73	64	63	63	57	55	55	50	48	48	45	43	43
	D	0-7	72	72	64	72	72	57	72	72	51	72	72	46	72	68	42	72	61	38	72	56	35	72	47	30	72	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	73	73	70	73	73	62	73	73	55	73	73	50	73	73	45	73	64	41	71	59	38	67	50	32	63	43	27	60	37	24	56	32	31	53	29	28	49	25	25
		27-45	95	95	95	93	93	93	91	91	91	90	90	90	88	87	87	86	84	84	83	82	82	72	72	72	62	61	61	55	53	53	48	46	46	43	41	41	39	36	36
30	B	0-7	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	65	70	70	60	70	70	50	70	70	43	70	59	37	70	52	33	70	46	29	70	41	26
		7-27	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	72	73	73	64	73	73	54	73	73	46	72	63	40	69	55	35	66	48	31	63	43	28
		27-45	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	89	89	89	88	88	88	85	85	85	80	80	80	74	74	74	68	68	68	63	63	63	59	59	59
	C	0-7	70	70	70	70	70	70	70	70	61	70	70	55	70	70	50	70	70	46	70	67	42	70	56	35	70	48	30	70	42	26	68	36	23	59	32	31	53	28	27
		7-27	73	73	73	73	73	73	73	73	66	73	73	60	73	73	54	73	73	49	73	72	45	71	59	38	67	51	33	64	44	28	61	39	25	57	34	33	54	30	29
		27-45	90	90	90	90	90	90	88	88	88	87	87	87	85	85	85	83	83	83	79	79	79	72	72	72	65	65	65	60	60	60	55	55	55	50	48	48	45	43	43
	D	0-7	72	72	64	72	72	57	72	72	51	72	72	46	72	68	42	72	61	38	72	56	35	72	47	30	72	40	25	65	35	33	56	31	29	50	27	26	44	24	23
		7-27	73	73	70	73	73	62	73	73	55	73	73	50	73	73	45	73	64	41	71	59	38	67	50	32	63	43	27	60	37	24	56	32	31	53	29	28	49	25	25
		27-45	90	90	90	89	89	89	87	87	87	85	85	85	82	82	82	78	78	78	74	74	74	67	67	67	60	60	60	55	53	53	48	46	46	43	41	41	39	36	36
40	B	0-7	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	50	58	58	43	58	58	37	58	52	33	58	46	29	58	41	26
		7-27	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	54	62	62	46	61	61	40	59	55	35	56	48	31	54	43	28
		27-45	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	84	84	84	82	82	82	76	76	76	71	71	71	66	66	66	62	62	62	58	58	58	54	54	54
	C	0-7	58	58	58	58	58	58	58	58	58	58	58	55	58	58	50	58	58	46	58	58	42	58	56	35	58	48	30	58	42	26	58	36	23	56	32	31	53	28	27
		7-27	62	62	62	62	62	62	62	62	62	62	62	60	62	62	54	62	62	49	62	62	45	60	59	38	57	51	33	55	44	28	53	39	25	50	34	33	48	30	29
		27-45	86	86	86	85	85	85	82	82	82	79	79	79	76	76	76	73	73	73	70	70	70	64	64	64	59	59	59	55	55	55	51	51	51	47	47	47	43	43	43
	D	0-7	63	63	63	63	63	57	63	63	51	63	63	46	63	63	42	63	61	38	63	56	35	63	47	30	63	40	25	62	35	33	56	31	29	50	27	26	44	24	23
		7-27	66	66	66	66	66	62	66	66	55	66	66	50	66	66	45	65	64	41	64	59	38	61	50	32	58	43	27	55	37	24	52	32	31	49	29	28	47	25	25
		27-45	86	86	86	84	84	84	81	81	81	77	77	77	73	73	73	70	70	70	67	67	67	61	61	61	56	56	56	51	51	51	47	46	46	43	41	41	39	36	36
50	B	0-7	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	43	48	48	37	48	48	33	48	46	29	48	41	26
		7-27	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	46	52	52	40	51	51	35	49	48	31	47	43	28
		27-45	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	74	74	74	72	72	72	68	68	68	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50
	C	0-7	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	48	42	48	48	35	48	48	30	48	42	26	48	36	23	48	32	31	47	28	27
		7-27	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	49	52	52	45	52	52	38	50	50	33	48	44	28	46	39	25	44	34	33	42	30	29
		27-45	77	77	77	75	75	75	73	73	73	70	70	70	68	68	68	65	65	65	63	63	63	58	58	58	54	54	54	50	50	50	47	47	47	44	44	44	41	41	41
	D	0-7	53	53	53	53	53	53	53	53	51	53	53	46	53	53	42	53	53	38	53	53	35	53	47	30	53	40	25	53	35	33	51	31	29	50	27	26	44	24	23
		7-27	57	57	57	57	57	57	57	57	55	57	57	50	57	57	45	56	56	41	55	55	38	53	50	32	51	43	27	48	37	24	46	32	31	44	29	28	42	25	25
		27-45	79	79	79	75	75	75	72	72	72	69	69	69	66	66	66	64	64	64	61	61	61	56	56	56	52	52	52	48	48	48	44	44	44	40	40	40	37	36	36

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 3.00	18.66 sq.ft	LANDSCAPE	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	37	40	40	33	40	40	29	40	40	26
		7-27	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	40	44	44	35	43	43	31	42	42	28
		27-45	69	69	69	69	69	69	69	69	69	69	69	69	68	68	68	66	66	66	65	65	65	61	61	61	58	58	58	55	55	55	52	52	52	49	49	49	46	46	46
	C	0-7	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	35	40	40	30	40	40	26	40	36	23	40	32	31	40	28	27
		7-27	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	38	44	44	33	42	42	28	41	39	25	39	34	33	38	30	29
		27-45	69	69	69	67	67	67	65	65	65	63	63	63	61	61	61	59	59	59	57	57	57	54	54	54	50	50	50	47	47	47	44	44	44	41	41	41	38	38	38
	D	0-7	44	44	44	44	44	44	44	44	44	44	44	44	44	44	42	44	44	38	44	44	35	44	44	30	44	40	25	44	35	33	44	31	29	44	27	26	43	24	23
		7-27	48	48	48	48	48	48	48	48	48	48	48	48	48	48	45	48	48	41	48	48	38	47	47	32	45	43	27	43	37	24	42	32	31	40	29	28	38	25	25
		27-45	71	71	71	68	68	68	65	65	65	63	63	63	61	61	61	58	58	58	56	56	56	52	52	52	48	48	48	45	45	45	41	41	41	38	38	38	36	36	36
70	B	0-7	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	33	35	35	29	35	35	26
		7-27	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38	38	31	38	38	28
		27-45	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	60	60	60	59	59	59	56	56	56	53	53	53	51	51	51	48	48	48	45	45	45	43	43	43
	C	0-7	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	30	35	35	26	35	35	23	35	32	31	35	28	27
		7-27	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	33	38	38	28	37	37	25	36	34	33	34	30	29
		27-45	62	62	62	61	61	61	59	59	59	58	58	58	56	56	56	54	54	54	53	53	53	49	49	49	46	46	46	44	44	44	41	41	41	38	38	38	36	36	36
	D	0-7	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38	38	30	38	38	25	38	35	33	38	31	29	38	27	26	38	24	23
		7-27	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	41	42	42	38	42	42	32	41	41	27	39	37	24	38	32	31	36	29	28	35	25	25
		27-45	64	64	64	62	62	62	60	60	60	58	58	58	56	56	56	54	54	54	52	52	52	48	48	48	45	45	45	42	42	42	39	39	39	36	36	36	34	34	34
80	B	0-7	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	30	30	26
		7-27	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	31	33	33	28
		27-45	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	55	55	55	54	54	54	52	52	52	49	49	49	47	47	47	45	45	45	42	42	42	40	40	40
	C	0-7	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	26	30	30	23	30	30	31	30	28	27
		7-27	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	28	33	33	25	32	32	33	32	30	29
		27-45	56	56	56	56	56	56	54	54	54	53	53	53	51	51	51	50	50	50	49	49	49	46	46	46	43	43	43	41	41	41	38	38	38	36	36	36	34	34	34
	D	0-7	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	30	34	34	25	34	34	33	34	31	29	34	27	26	34	24	23
		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	32	37	37	27	36	36	24	35	32	31	33	29	28	32	25	25
		27-45	59	59	59	57	57	57	55	55	55	54	54	54	52	52	52	50	50	50	49	49	49	45	45	45	42	42	42	40	40	40	37	37	37	35	35	35	32	32	32
90	B	0-7	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	26
		7-27	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	28
		27-45	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	50	50	50	48	48	48	46	46	46	44	44	44	42	42	42	40	40	40	38	38	38
	C	0-7	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	26	27	27	23	27	27	31	27	27	27
		7-27	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	28	30	30	25	30	30	33	29	29	29
		27-45	51	51	51	51	51	51	50	50	50	49	49	49	48	48	48	46	46	46	45	45	45	43	43	43	41	41	41	38	38	38	36	36	36	34	34	34	32	32	32
	D	0-7	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	25	30	30	33	30	30	29	30	27	26	30	24	23
		7-27	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	32	33	33	27	33	33	24	32	32	31	31	29	28	30	25	25
		27-45	54	54	54	53	53	53	51	51	51	50	50	50	48	48	48	47	47	47	45	45	45	43	43	43	40	40	40	38	38	38	35	35	35	33	33	33	31	31	31
100	B	0-7	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
		7-27	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
		27-45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	44	44	44	43	43	43	41	41	41	39	39	39	37	37	37	36	36	36
	C	0-7	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	23	25	25	31	25	25	27
		7-27	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	25	27	27	33	27	27	29
		27-45	46	46	46	46	46	46	46	46	46	45	45	45	44	44	44	43	43	43	42	42	42	40	40	40	38	38	38	36	36	36	34	34	34	33	33	33	31	31	31
	D	0-7	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	33	27	27	29	27	27	26	27	24	23
		7-27	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	27	30	30	24	29	29	31	29	29	28	28	25	25
		27-45	51	51	51	49	49	49	48	48	48	47	47	47	45	45	45	44	44	44	43	43	43	40	40	40	38	38	38	36	36	36	34	34	34	31	31	31	30	30	30

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 3.00	22.78 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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	74	74	67	74	74	56	74	74	48	74	74	41	74	65	36	74	57	32	74	51	30	74	41	25	67	34	21	57	29	18	49	26	16	43	23	14	37	20	19
		7-27	74	74	63	74	74	55	74	74	49	74	74	43	74	66	39	74	59	35	74	53	32	74	43	27	74	36	23	64	31	20	55	27	17	48	24	15	42	21	21
		27-45	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	71	71	71	66	66	66	57	57	57	50	50	50	44	44	44	39	39	39	34	34	34	31	30	30
	C	0-7	74	71	39	74	61	34	74	53	30	74	46	27	74	41	25	71	36	23	64	33	21	53	28	17	45	24	15	39	21	20	34	18	17	29	16	15	26	14	~~13~~
		7-27	74	72	42	74	63	37	74	55	33	74	49	30	74	43	27	74	39	24	72	35	22	60	30	19	51	25	16	43	22	14	37	19	18	33	17	16	29	15	14
		27-45	76	76	76	73	73	73	67	67	67	62	62	62	57	57	57	52	52	52	48	48	48	42	42	42	36	36	36	32	31	31	28	27	27	25	24	24	23	21	21
	D	0-7	74	56	32	74	48	28	74	42	25	72	37	23	65	33	21	58	30	19	53	28	17	44	23	15	37	20	19	32	17	16	28	15	14	25	20	~~13~~	22	18	~~11~~
		7-27	74	58	34	74	51	31	74	44	27	74	39	25	73	35	22	66	32	20	59	29	19	49	25	16	42	21	20	36	18	18	31	16	16	27	14	~~14~~	24	19	~~12~~
		27-45	70	70	70	63	63	63	58	58	58	53	53	53	49	49	49	45	45	45	41	41	41	35	35	35	31	30	30	27	26	26	24	23	23	21	20	20	19	18	18
10	B	0-7	52	52	52	52	52	52	52	52	48	52	52	41	52	52	36	52	52	32	52	51	30	52	41	25	52	34	21	52	29	18	49	26	16	43	23	14	37	20	19
		7-27	52	52	52	52	52	52	52	52	49	52	52	43	52	52	39	52	52	35	52	52	32	52	43	27	52	36	23	52	31	20	49	27	17	46	24	15	42	21	21
		27-45	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	70	70	70	66	66	66	57	57	57	50	50	50	44	44	44	39	39	39	34	34	34	31	30	30
	C	0-7	52	52	39	52	52	34	52	52	30	52	46	27	52	41	25	52	36	23	52	33	21	52	28	17	45	24	15	39	21	20	34	18	17	29	16	15	26	14	~~13~~
		7-27	52	52	42	52	52	37	52	52	33	52	49	30	52	43	27	52	39	24	52	35	22	51	30	19	48	25	16	43	22	14	37	19	18	33	17	16	29	15	14
		27-45	74	74	74	72	72	72	67	67	67	62	62	62	57	57	57	52	52	52	48	48	48	42	42	42	36	36	36	32	31	31	28	27	27	25	24	24	23	21	21
	D	0-7	52	52	32	52	48	28	52	42	25	52	37	23	52	33	21	52	30	19	52	28	17	44	23	15	37	20	19	32	17	16	28	15	14	25	20	~~13~~	22	18	~~11~~
		7-27	52	52	34	52	51	31	52	44	27	52	39	25	52	35	22	52	32	20	51	29	19	47	25	16	42	21	20	36	18	18	31	16	16	27	14	~~14~~	24	19	~~12~~
		27-45	70	70	70	63	63	63	58	58	58	53	53	53	49	49	49	45	45	45	41	41	41	35	35	35	31	30	30	27	26	26	24	23	23	21	20	20	19	18	18
20	B	0-7	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	32	36	36	30	36	36	25	36	34	21	36	29	18	36	26	16	36	23	14	36	20	19
		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	35	37	37	32	37	37	27	37	36	23	36	31	20	34	27	17	33	24	15	31	21	21
		27-45	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	57	57	57	55	55	55	50	50	50	46	46	46	42	42	42	38	38	38	34	34	34	31	30	30
	C	0-7	36	36	36	36	36	34	36	36	30	36	36	27	36	36	25	36	36	23	36	33	21	36	28	17	36	24	15	36	21	20	34	18	17	29	16	15	26	14	~~13~~
		7-27	37	37	37	37	37	37	37	37	33	37	37	30	37	37	27	37	37	24	37	35	22	35	30	19	33	25	16	32	22	14	30	19	18	29	17	16	27	15	14
		27-45	60	60	60	58	58	58	55	55	55	52	52	52	50	50	50	47	47	47	45	45	45	40	40	40	36	36	36	32	31	31	28	27	27	25	24	24	23	21	21
	D	0-7	36	36	32	36	36	28	36	36	25	36	36	23	36	33	21	36	30	19	36	28	17	36	23	15	36	20	19	32	17	16	28	15	14	25	20	~~13~~	22	18	~~11~~
		7-27	37	37	34	37	37	31	37	37	27	37	37	25	37	35	22	36	32	20	35	29	19	33	25	16	31	21	20	30	18	18	28	16	16	26	14	~~14~~	24	19	~~12~~
		27-45	59	59	59	55	55	55	52	52	52	49	49	49	46	46	46	44	44	44	41	41	41	35	35	35	31	30	30	27	26	26	24	23	23	21	20	20	19	18	18
30	B	0-7	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	32	35	35	30	35	35	25	35	34	21	35	29	18	35	26	16	35	23	14	35	20	19
		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	35	37	37	32	37	37	27	37	36	23	36	31	20	34	27	17	33	24	15	31	21	21
		27-45	51	51	51	51	51	51	51	51	51	51	51	51	50	50	50	48	48	48	47	47	47	43	43	43	40	40	40	37	37	37	34	34	34	32	32	32	29	29	29
	C	0-7	35	35	35	35	35	34	35	35	30	35	35	27	35	35	25	35	35	23	35	33	21	35	28	17	35	24	15	35	21	20	34	18	17	29	16	15	26	14	~~13~~
		7-27	37	37	37	37	37	37	37	37	33	37	37	30	37	37	27	37	37	24	37	35	22	35	30	19	33	25	16	32	22	14	30	19	18	29	17	16	27	15	14
		27-45	51	51	51	49	49	49	47	47	47	45	45	45	43	43	43	41	41	41	39	39	39	36	36	36	33	33	33	30	30	30	27	27	27	25	24	24	23	21	21
	D	0-7	36	36	32	36	36	28	36	36	25	36	36	23	36	33	21	36	30	19	36	28	17	36	23	15	36	20	19	32	17	16	28	15	14	25	20	~~13~~	22	18	~~11~~
		7-27	37	37	34	37	37	31	37	37	27	37	37	25	37	35	22	36	32	20	35	29	19	33	25	16	31	21	20	30	18	18	28	16	16	26	14	~~14~~	24	19	~~12~~
		27-45	50	50	50	48	48	48	45	45	45	43	43	43	41	41	41	39	39	39	37	37	37	33	33	33	30	30	30	27	26	26	24	23	23	21	20	20	19	18	18
40	B	0-7	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	25	29	29	21	29	29	18	29	26	16	29	23	14	29	20	19
		7-27	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	27	31	31	23	30	30	20	29	27	17	28	24	15	27	21	21
		27-45	44	44	44	44	44	44	44	44	44	44	44	44	43	43	43	42	42	42	41	41	41	38	38	38	35	35	35	33	33	33	31	31	31	29	29	29	27	27	27
	C	0-7	29	29	29	29	29	29	29	29	29	29	29	27	29	29	25	29	29	23	29	29	21	29	28	17	29	24	15	29	21	20	29	18	17	28	16	15	26	14	~~13~~
		7-27	31	31	31	31	31	31	31	31	31	31	31	30	31	31	27	31	31	24	31	31	22	30	30	19	29	25	16	27	22	14	26	19	18	25	17	16	24	15	14
		27-45	44	44	44	43	43	43	41	41	41	39	39	39	38	38	38	36	36	36	35	35	35	32	32	32	30	30	30	27	27	27	25	25	25	23	23	23	22	21	21
	D	0-7	31	31	31	31	31	28	31	31	25	31	31	23	31	31	21	31	30	19	31	28	17	31	23	15	31	20	19	31	17	16	28	15	14	25	20	~~13~~	22	18	~~11~~
		7-27	33	33	33	33	33	31	33	33	27	33	33	25	33	33	22	33	32	20	32	29	19	30	25	16	29	21	20	27	18	18	26	16	16	25	14	~~14~~	23	19	~~12~~
		27-45	44	44	44	42	42	42	40	40	40	38	38	38	37	37	37	35	35	35	33	33	33	30	30	30	28	28	28	25	25	25	23	23	23	21	20	20	19	18	18
50	B	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	24	24	18	24	24	16	24	23	14	24	20	19
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	23	26	26	20	25	25	17	24	24	15	24	21	21
		27-45	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	37	37	37	36	36	36	34	34	34	32	32	32	30	30	30	28	28	28	26	26	26	25	25	25
	C	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	24	24	21	24	24	17	24	24	15	24	21	20	24	18	17	24	16	15	23	14	~~13~~
		7-27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	24	26	26	22	26	26	19	25	25	16	24	22	14	23	19	18	22	17	16	21	15	14
		27-45	39	39	39	38	38	38	36	36	36	35	35	35	34	34	34	33	33	33	31	31	31	29	29	29	27	27	27	25	25	25	23	23	23	22	22	22	20	20	20
	D	0-7	26	26	26	26	26	26	26	26	25	26	26	23	26	26	21	26	26	19	26	26	17	26	23	15	26	20	19	26	17	16	26	15	14	25	20	~~13~~	22	18	~~11~~
		7-27	28	28	28	28	28	28	28	28	27	28	28	25	28	28	22	28	28	20	28	28	19	26	25	16	25	21	20	24	18	18	23	16	16	22	14	~~14~~	21	19	~~12~~
		27-45	39	39	39	38	38	38	36	36	36	34	34	34	33	33	33	32	32	32	30	30	30	28	28	28	26	26	26	24	24	24	22	22	22	20	20	20	19	18	18

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 3.00	22.78 sq.ft	PORTRAIT	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	18	20	20	16	20	20	14	20	20	19
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	20	22	22	17	21	21	15	21	21	21
		27-45	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33	33	33	32	32	32	31	31	31	29	29	29	27	27	27	26	26	26	24	24	24	23	23	23
	C	0-7	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	17	20	20	15	20	20	20	20	18	17	20	16	15	20	14	~~13~~
		7-27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	19	22	22	16	21	21	14	20	19	18	20	17	16	19	15	14
		27-45	34	34	34	34	34	34	33	33	33	32	32	32	31	31	31	30	30	30	29	29	29	27	27	27	25	25	25	23	23	23	22	22	22	20	20	20	19	19	19
	D	0-7	22	22	22	22	22	22	22	22	22	22	22	22	22	22	21	22	22	19	22	22	17	22	22	15	22	20	19	22	17	16	22	15	14	22	20	~~13~~	21	18	~~11~~
		7-27	24	24	24	24	24	24	24	24	24	24	24	24	24	24	22	24	24	20	24	24	19	23	23	16	22	21	20	22	18	18	21	16	16	20	14	~~14~~	19	19	~~12~~
		27-45	35	35	35	34	34	34	33	33	33	31	31	31	30	30	30	29	29	29	28	28	28	26	26	26	24	24	24	22	22	22	20	20	20	19	19	19	18	18	18
70	B	0-7	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16	17	17	14	17	17	19
		7-27	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	17	19	19	15	19	19	21
		27-45	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	29	29	29	28	28	28	26	26	26	25	25	25	24	24	24	23	23	23	21	21	21
	C	0-7	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	15	17	17	20	17	17	17	17	16	15	17	14	~~13~~
		7-27	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	16	19	19	14	18	18	18	18	17	16	17	15	14
		27-45	31	31	31	30	30	30	30	30	30	29	29	29	28	28	28	27	27	27	26	26	26	25	25	25	23	23	23	22	22	22	20	20	20	19	19	19	18	18	18
	D	0-7	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	17	19	19	15	19	19	19	19	17	16	19	15	14	19	20	~~13~~	19	18	~~11~~
		7-27	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	20	21	21	19	21	21	16	20	20	20	19	18	18	19	16	16	18	14	~~14~~	17	19	~~12~~
		27-45	32	32	32	31	31	31	30	30	30	29	29	29	28	28	28	27	27	27	26	26	26	24	24	24	22	22	22	21	21	21	19	19	19	18	18	18	17	17	17
80	B	0-7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	15	15	19			
		7-27	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	15	16	16	21			
		27-45	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27	27	26	26	26	24	24	24	23	23	23	22	22	22	21	21	21	20	20	20
	C	0-7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	20	15	15	17	15	15	15	15	14	~~13~~
		7-27	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	14	16	16	18	16	16	16	16	15	14
		27-45	28	28	28	28	28	28	27	27	27	26	26	26	26	26	26	25	25	25	24	24	24	23	23	23	22	22	22	20	20	20	19	19	19	18	18	18	17	17	17
	D	0-7	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	15	17	17	19	17	17	16	17	15	14	17	20	~~13~~	17	18	~~11~~
		7-27	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16	18	18	20	18	18	18	17	16	16	16	14	~~14~~	16	19	~~12~~
		27-45	29	29	29	28	28	28	28	28	28	27	27	27	26	26	26	25	25	25	24	24	24	23	23	23	21	21	21	20	20	20	18	18	18	17	17	17	16	16	16
90	B	0-7	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13			
		7-27	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	21			
		27-45	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19
	C	0-7	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	20	13	13	17	13	13	15	13	13	~~13~~
		7-27	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	15	15	18	15	15	16	14	14	14
		27-45	25	25	25	25	25	25	25	25	25	24	24	24	24	24	24	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	18	18	18	17	17	17	16	16	16
	D	0-7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	19	15	15	16	15	15	14	15	20	~~13~~	15	18	~~11~~
		7-27	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	20	16	16	18	16	16	16	15	14	~~14~~	15	19	~~12~~
		27-45	27	27	27	26	26	26	26	26	26	25	25	25	24	24	24	23	23	23	23	23	23	21	21	21	20	20	20	19	19	19	17	17	17	16	16	16	15	15	15
100	B	0-7	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18			
		7-27	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	20			
		27-45	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	19	19	19	18	18	18
	C	0-7	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	17	12	12	15	12	12	~~13~~
		7-27	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	18	13	13	16	13	13	14
		27-45	23	23	23	23	23	23	23	23	23	23	23	23	22	22	22	22	22	22	21	21	21	20	20	20	19	19	19	18	18	18	17	17	17	16	16	16	15	15	15
	D	0-7	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	19	13	13	16	13	13	14	13	20	~~13~~	13	18	~~11~~
		7-27	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	20	15	15	18	15	15	16	14	14	~~14~~	14	19	~~12~~
		27-45	25	25	25	24	24	24	24	24	24	23	23	23	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	18	18	18	17	17	17	16	16	16	15	15	15

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 3.00	22.78 sq.ft	LANDSCAPE	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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	101	101	95	101	101	91	101	101	86	101	98	82	101	94	78	101	90	64	101	87	58	99	81	49	94	68	42	89	58	37	85	51	32	81	45	28	75	40	25
		7-27	102	102	92	102	102	89	102	102	85	102	98	82	102	94	79	102	91	70	102	88	63	102	82	53	98	73	45	93	61	39	88	54	34	84	47	30	81	42	27
		27-45	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	100	100	100	98	98	98	94	92	92	90	87	87	85	83	83	76	76	76	68	68	68	61	60	60
	C	0-7	101	96	81	101	92	69	101	88	60	101	84	54	99	81	49	96	75	45	93	65	41	87	55	35	83	47	30	77	41	26	66	36	34	58	31	30	51	28	27
		7-27	102	97	81	102	92	74	102	89	65	102	85	58	102	82	53	100	79	48	96	70	44	91	58	37	86	50	32	82	43	28	74	38	37	65	33	32	57	29	29
		27-45	103	103	103	102	102	102	99	99	99	96	96	96	93	92	92	91	89	89	89	86	86	82	81	81	71	71	71	62	61	61	55	54	54	49	47	47	44	42	42
	D	0-7	101	90	63	101	86	56	100	82	50	96	77	45	93	66	41	90	60	38	87	55	34	82	46	29	74	39	25	63	34	33	55	30	29	49	26	25	43	35	22
		7-27	102	90	68	102	86	60	102	83	54	100	80	49	97	71	44	93	63	40	90	58	37	85	49	31	81	42	27	71	36	35	61	32	31	54	28	27	48	37	24
		27-45	100	100	100	97	97	97	94	93	93	91	90	90	89	87	87	86	84	84	82	81	81	70	70	70	61	60	60	53	52	52	47	45	45	42	40	40	38	35	35
10	B	0-7	90	90	90	90	90	90	90	90	86	90	90	82	90	90	78	90	90	64	90	87	58	90	81	49	90	68	42	89	58	37	85	51	32	81	45	28	75	40	25
		7-27	91	91	91	91	91	89	91	91	85	91	91	82	91	91	79	91	91	70	91	88	63	91	82	53	91	73	45	91	61	39	88	54	34	84	47	30	81	42	27
		27-45	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	100	100	100	98	98	98	94	92	92	90	87	87	85	83	83	76	76	76	68	68	68	61	60	60
	C	0-7	90	90	81	90	90	69	90	88	60	90	84	54	90	81	49	90	75	45	90	65	41	87	55	35	83	47	30	77	41	26	66	36	34	58	31	30	51	28	27
		7-27	91	91	81	91	91	74	91	89	65	91	85	58	91	82	53	91	79	48	91	70	44	91	58	37	86	50	32	82	43	28	74	38	37	65	33	32	57	29	29
		27-45	101	101	101	101	101	101	99	99	99	96	96	96	93	92	92	91	89	89	89	86	86	82	81	81	71	71	71	62	61	61	55	54	54	49	47	47	44	42	42
	D	0-7	90	90	63	90	86	56	90	82	50	90	77	45	90	66	41	90	60	38	87	55	34	82	46	29	74	39	25	63	34	33	55	30	29	49	26	25	43	35	22
		7-27	91	90	68	91	86	60	91	83	54	91	80	49	91	71	44	91	63	40	90	58	37	85	49	31	81	42	27	71	36	35	61	32	31	54	28	27	48	37	24
		27-45	100	100	100	97	97	97	94	93	93	91	90	90	89	87	87	86	84	84	82	81	81	70	70	70	61	60	60	53	52	52	47	45	45	42	40	40	38	35	35
20	B	0-7	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	64	71	71	58	71	71	49	71	68	42	71	58	37	71	51	32	71	45	28	71	40	25
		7-27	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	70	71	71	63	71	71	53	71	71	45	71	61	39	67	54	34	64	47	30	62	42	27
		27-45	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	94	94	94	92	92	92	89	89	89	87	87	87	82	82	82	75	75	75	68	68	68	61	60	60
	C	0-7	71	71	71	71	71	69	71	71	60	71	71	54	71	71	49	71	71	45	71	65	41	71	55	35	71	47	30	71	41	26	66	36	34	58	31	30	51	28	27
		7-27	71	71	71	71	71	71	71	71	65	71	71	58	71	71	53	71	71	48	71	70	44	69	58	37	66	50	32	62	43	28	59	38	37	56	33	32	53	29	29
		27-45	95	95	95	94	94	94	93	93	93	91	91	91	89	89	89	88	88	88	86	86	86	79	79	79	71	71	71	62	61	61	55	54	54	49	47	47	44	42	42
	D	0-7	71	71	63	71	71	56	71	71	50	71	71	45	71	66	41	71	60	38	71	55	34	71	46	29	71	39	25	63	34	33	55	30	29	49	26	25	43	35	22
		7-27	71	71	68	71	71	60	71	71	54	71	71	49	71	71	44	71	63	40	69	58	37	65	49	31	62	42	27	58	36	35	55	32	31	52	28	27	48	37	24
		27-45	94	94	94	93	93	93	91	91	91	89	89	89	87	87	87	85	84	84	81	81	81	70	70	70	61	60	60	53	52	52	47	45	45	42	40	40	38	35	35
30	B	0-7	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	64	69	69	58	69	69	49	69	68	42	69	58	37	69	51	32	69	45	28	69	40	25
		7-27	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	70	71	71	63	71	71	53	71	71	45	71	61	39	67	54	34	64	47	30	62	42	27
		27-45	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	89	89	89	87	87	87	84	84	84	78	78	78	72	72	72	67	67	67	62	62	62	57	57	57
	C	0-7	69	69	69	69	69	69	69	69	60	69	69	54	69	69	49	69	69	45	69	65	41	69	55	35	69	47	30	69	41	26	66	36	34	58	31	30	51	28	27
		7-27	71	71	71	71	71	71	71	71	65	71	71	58	71	71	53	71	71	48	71	70	44	69	58	37	66	50	32	62	43	28	59	38	37	56	33	32	53	29	29
		27-45	90	90	90	89	89	89	88	88	88	86	86	86	84	84	84	81	81	81	77	77	77	70	70	70	64	64	64	58	58	58	54	54	54	49	47	47	44	42	42
	D	0-7	71	71	63	71	71	56	71	71	50	71	71	45	71	66	41	71	60	38	71	55	34	71	46	29	71	39	25	63	34	33	55	30	29	49	26	25	43	35	22
		7-27	71	71	68	71	71	60	71	71	54	71	71	49	71	71	44	71	63	40	69	58	37	65	49	31	62	42	27	58	36	35	55	32	31	52	28	27	48	37	24
		27-45	90	90	90	88	88	88	86	86	86	84	84	84	80	80	80	76	76	76	72	72	72	65	65	65	59	59	59	53	52	52	47	45	45	42	40	40	38	35	35
40	B	0-7	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	49	57	57	42	57	57	37	57	51	32	57	45	28	57	40	25
		7-27	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	53	60	60	45	59	59	39	57	54	34	55	47	30	53	42	27
		27-45	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	82	82	82	80	80	80	74	74	74	69	69	69	65	65	65	60	60	60	56	56	56	53	53	53
	C	0-7	57	57	57	57	57	57	57	57	57	57	57	54	57	57	49	57	57	45	57	57	41	57	55	35	57	47	30	57	41	26	57	36	34	55	31	30	51	28	27
		7-27	60	60	60	60	60	60	60	60	60	60	60	58	60	60	53	60	60	48	60	60	44	59	58	37	56	50	32	54	43	28	51	38	37	49	33	32	47	29	29
		27-45	85	85	85	84	84	84	80	80	80	77	77	77	74	74	74	71	71	71	68	68	68	63	63	63	58	58	58	54	54	54	49	49	49	46	46	46	42	42	42
	D	0-7	61	61	61	61	61	56	61	61	50	61	61	45	61	61	41	61	60	38	61	55	34	61	46	29	61	39	25	60	34	33	55	30	29	49	26	25	43	35	22
		7-27	65	65	65	65	65	60	65	65	54	65	65	49	65	65	44	64	63	40	62	58	37	59	49	31	56	42	27	54	36	35	51	32	31	48	28	27	46	37	24
		27-45	85	85	85	83	83	83	79	79	79	75	75	75	72	72	72	68	68	68	65	65	65	59	59	59	54	54	54	50	50	50	46	45	45	42	40	40	38	35	35
50	B	0-7	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	42	47	47	37	47	47	32	47	45	28	47	40	25			
		7-27	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	45	50	50	39	49	49	34	48	47	30	46	42	27			
		27-45	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	73	73	73	70	70	70	66	66	66	62	62	62	59	59	59	55	55	55	52	52	52	49	49	49
	C	0-7	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	45	47	47	41	47	47	35	47	47	30	47	41	26	47	36	34	47	31	30	46	28	27
		7-27	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	48	50	50	44	50	50	37	49	49	32	47	43	28	45	38	37	43	33	32	41	29	29
		27-45	75	75	75	74	74	74	71	71	71	69	69	69	66	66	66	64	64	64	61	61	61	57	57	57	53	53	53	49	49	49	46	46	46	43	43	43	40	40	40
	D	0-7	51	51	51	51	51	51	51	51	50	51	51	45	51	51	41	51	51	38	51	51	34	51	46	29	51	39	25	51	34	33	50	30	29	49	26	25	43	35	22
		7-27	56	56	56	56	56	56	56	56	54	56	56	49	56	56	44	55	55	40	54	54	37	52	49	31	50	42	27	47	36	35	45	32	31	43	28	27	41	37	24
		27-45	77	77	77	74	74	74	71	71	71	68	68	68	65	65	65	62	62	62	60	60	60	55	55	55	50	50	50	46	46	46	43	43	43	40	40	40	37	35	35

* 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.

UNIRAC

ASCE 7-10	II	30 ft	Ss = 3.00	22.78 sq.ft	LANDSCAPE	CROSS-SLOPE	NXT	NXT COMBO	Solarhooks CT2
Design Standard	Risk Category	Roof Height	Seismic	Module Area	Orientation	Rail Direction	Rail Type	Clamp	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)	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
60	B	0-7	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	39	39	32	39	39	28	39	39	25
		7-27	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	39	43	43	34	42	42	30	41	41	27
		27-45	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	65	65	65	63	63	63	60	60	60	57	57	57	54	54	54	51	51	51	48	48	48	45	45	45
	C	0-7	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	35	39	39	30	39	39	26	39	36	34	39	31	30	39	28	27
		7-27	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	37	43	43	32	41	41	28	40	38	37	39	33	32	37	29	29
		27-45	67	67	67	66	66	66	64	64	64	62	62	62	60	60	60	58	58	58	56	56	56	52	52	52	49	49	49	46	46	46	43	43	43	40	40	40	37	37	37
	D	0-7	43	43	43	43	43	43	43	43	43	43	43	43	43	43	41	43	43	38	43	43	34	43	43	29	43	39	25	43	34	33	43	30	29	43	26	25	42	35	~~22~~
		7-27	47	47	47	47	47	47	47	47	47	47	47	47	47	47	44	47	47	40	47	47	37	46	46	31	44	42	27	42	36	35	41	32	31	39	28	27	37	37	~~24~~
		27-45	69	69	69	66	66	66	64	64	64	62	62	62	59	59	59	57	57	57	55	55	55	51	51	51	47	47	47	44	44	44	40	40	40	37	37	37	35	35	35
70	B	0-7	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	32	34	34	28	34	34	25
		7-27	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	34	37	37	30	37	37	27
		27-45	61	61	61	61	61	61	61	61	61	61	61	61	60	60	60	59	59	59	57	57	57	55	55	55	52	52	52	49	49	49	47	47	47	44	44	44	42	42	42
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		7-27	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	31	32	32	27	32	32	35	31	31	31	30	28	27	29	37	~~24~~			
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	C	0-7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	34	24	24	30	24	24	27
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* 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.