11/17/2017

Attn: Mr. Marshall Green
Quick Mount PV
2700 Mitchell Dr.
Walnut Creek, CA, 94598

RE: Quick Mount PV QHook Mount System for use with
Unirac Solarmount Light Flush-to-Roof Rail System SEI Project No.: 17054.00

Dear Mr. Green

Structural Enginuity Inc. (SEI) has completed its review of the Quickmount PV QHook Mount System for use in conjunction with the Unirac Solarmount Light Flush-to-Roof Rail System. The QHook product line includes the Quick Hook for Side Mount Rails (QMHSS & QMHLS) mounts.

The review was based on the following reference data:

- Unirac, Design & Engineering Guide – Solarmount: Flush-to-Roof Design, May 19, 2016
- Applied Materials & Engineering, Laboratory Load Test of the QMHSS with 6061 Base Plate, Project Number 114490C, March 18, 2015
- Applied Materials & Engineering, Laboratory Load Test of the QMHLS with 6061 Base Plate, Project Number 114490C, March 10, 2015
- Structural Enginuity, Inc., Quick Mount PV Quick Hook Compliance Letter, Project Number 16054.00, October 16, 2017

SEI has determined that the QHook Mount is suitable for use with the Unirac Solarmount Light System. The approved installation and allowable loads for the Quick Mount PV QHook products is outlined in the Structural Enginuity, Inc. letters referenced above. The allowable load values are shown below, no additional load duration factors may be applied to these values.

Table 1: QHook Allowable Loads

Load Direction	Mount Type	Allowable Load
Uplift	QMHSS	506 lb.
	QMHLS	418 lb.
Lateral	QMHSS	367 lb.
	QMHLS	323 lb.
Compression	QMHSS	378 lb.
	QMHLS	338 lb.

SEI has prepared allowable rail span charts for the Unirac Solarmount Light System used in conjunction with the Quick Mount PV QHook products. These span tables serve as a quick reference for looking up maximum rail spans based on building and site conditions and follow the 2016 CBC, 2015 IBC/IRC and applicable ASCE 7-10 load cases. The tables take into account the strength of the rail system as well as the allowable tension, compression, and lateral forces of the QHook Mount. A site specific analysis is required if the site conditions or building characteristics do not meet the requirements listed in the attached tables. In all cases, the tables are meant to be used in conjunction with Unirac Solarmount System Structural Report and Calculations and all requirements listed are still applicable for these tables including edge zones and edge distances.

Please contact our office if you have any further questions relating to this matter.

Sincerely,

Peter Martin
Engineer II
pmartin@structuralenginuityinc.com

Allan T. Myket, P.E.
President/Founder
amyket@structuralenginuityinc.com

LICENSED PROFESSIONAL ENGINEER
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11/28/2017

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 1A Roof Height: 0 - 30 feet Roof Angle: $7 < \theta \leq 27$ degrees Panel Orientation: Portrait

Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	96	72	54	44	37	84	84	72	54	44	37	72	72	72	54	44	37
	115	96	84	71	54	43	36	78	78	71	54	43	36	72	72	71	54	43	36
	120	96	84	69	53	43	36	78	78	69	53	43	36	66	66	66	53	43	36
	130	96	84	67	52	42	35	72	72	67	52	42	35	58	58	58	52	42	35
	140	84	84	64	50	41	35	72	72	64	50	41	35	49	49	49	49	41	35
	150	84	84	62	49	40	34	66	66	62	49	40	34	43	43	43	43	40	34
	160	78	78	60	47	39	33	58	58	58	47	39	33	37	37	37	37	37	33
	170	78	77	57	46	38	32	51	51	51	46	38	32	33	33	33	33	33	32
	180	72	72	55	44	37	32	45	45	45	44	37	32	29	29	29	29	29	29
	200	66	65	50	41	35	30	36	36	36	36	35	30	23	23	23	23	23	23

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 1B Roof Height: 0 - 30 feet Roof Angle: $7 < \theta \leq 27$ degrees Panel Orientation: Portrait

Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	94	64	49	39	33	84	84	64	49	39	33	68	68	64	49	39	33
	115	96	84	63	48	39	32	78	78	63	48	39	32	62	62	62	48	39	32
	120	96	84	62	47	38	32	78	78	62	47	38	32	56	56	56	47	38	32
	130	96	84	60	46	37	32	72	72	60	46	37	32	48	48	48	46	37	32
	140	84	81	58	45	37	31	64	64	58	45	37	31	41	41	41	41	37	31
	150	84	77	55	43	36	30	55	55	55	43	36	30	35	35	35	35	35	30
	160	78	73	53	42	35	30	48	48	48	42	35	30	31	31	31	31	31	30
	170	78	69	51	41	34	29	42	42	42	41	34	29	27	27	27	27	27	27
	180	72	65	49	39	33	28	37	37	37	37	33	28	24	24	24	24	24	24
	200	59	58	45	37	31	27	30	30	30	30	30	27	19	19	19	19	19	19

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 2A

Roof Height: 0 - 30 feet
Roof Angle: $7 < \theta \leq 27$ degrees

Panel Orientation: Portrait

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	84	67	51	42	35	72	72	67	51	42	35	57	57	57	51	42	35
	115	84	84	65	51	41	35	72	72	65	51	41	35	52	52	52	51	41	35
	120	84	84	64	50	41	34	72	72	64	50	41	34	48	48	48	48	41	34
	130	84	84	61	48	40	34	63	63	61	48	40	34	40	40	40	40	40	34
	140	78	78	58	46	38	33	54	54	54	46	38	33	35	35	35	35	35	33
	150	78	74	55	44	37	32	47	47	47	44	37	32	30	30	30	30	30	30
	160	72	69	53	43	36	31	41	41	41	41	36	31	26	26	26	26	26	26
	170	66	65	50	41	35	30	36	36	36	36	35	30	23	23	23	23	23	23
	180	62	61	48	39	33	29	32	32	32	32	32	29	21	21	21	21	21	21
	200	50	50	43	36	31	27	26	26	26	26	26	26	17	17	17	17	17	17

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 2B

Roof Height: 0 - 30 feet
Roof Angle: 7 < θ ≤ 27 degrees

Panel Orientation: Portrait

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	84	60	46	37	32	72	72	60	46	37	32	47	47	47	46	37	32
	115	84	83	58	45	37	31	68	68	58	45	37	31	43	43	43	43	37	31
	120	84	80	57	44	36	31	62	62	57	44	36	31	39	39	39	39	36	31
	130	84	75	55	43	35	30	52	52	52	43	35	30	33	33	33	33	33	30
	140	78	70	52	41	34	29	45	45	45	41	34	29	29	29	29	29	29	29
	150	76	66	50	40	33	28	39	39	39	39	33	28	25	25	25	25	25	25
	160	66	62	47	38	32	28	34	34	34	34	32	28	22	22	22	22	22	22
	170	58	58	45	37	31	27	30	30	30	30	30	27	19	19	19	19	19	19
	180	51	51	43	35	30	26	26	26	26	26	26	26	17	17	17	17	17	17
	200	41	41	39	32	28	24	21	21	21	21	21	21	14	14	14	14	14	14

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 3A		Roof Height: 0 - 30 feet Roof Angle: 7 < θ ≤ 27 degrees												Panel Orientation: Portrait					
Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
D		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	84	84	64	50	41	34	72	72	64	50	41	34	48	48	48	48	41	34
	115	84	84	62	49	40	34	66	66	62	49	40	34	44	44	44	44	40	34
	120	84	84	61	48	39	34	63	63	61	48	39	34	40	40	40	40	39	34
	130	78	78	58	46	38	33	53	53	53	46	38	33	34	34	34	34	34	33
	140	72	72	55	44	37	32	45	45	45	44	37	32	29	29	29	29	29	29
	150	72	68	52	42	35	31	39	39	39	39	35	31	25	25	25	25	25	25
	160	66	63	49	40	34	30	34	34	34	34	34	30	22	22	22	22	22	22
	170	59	59	47	39	33	29	30	30	30	30	30	29	20	20	20	20	20	20
	180	52	52	44	37	32	28	27	27	27	27	27	27	17	17	17	17	17	17
	200	42	42	39	34	29	26	22	22	22	22	22	22	14	14	14	14	14	14

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 3B

Roof Height: 0 - 30 feet
Roof Angle: 7 < θ ≤ 27 degrees

Panel Orientation: Portrait

Exposure	Ultimate Wind Speed,	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
D	V (mph)	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	84	80	57	45	36	31	62	62	57	45	36	31	40	40	40	40	36	31
	115	84	78	56	44	36	30	57	57	56	44	36	30	36	36	36	36	36	30
	120	84	75	54	43	35	30	52	52	52	43	35	30	33	33	33	33	33	30
	130	78	70	52	41	34	29	44	44	44	41	34	29	28	28	28	28	28	28
	140	72	65	49	39	33	28	37	37	37	37	33	28	24	24	24	24	24	24
	150	64	61	46	38	32	27	32	32	32	32	32	27	21	21	21	21	21	21
	160	55	55	44	36	31	27	28	28	28	28	28	27	18	18	18	18	18	18
	170	49	49	42	34	29	26	25	25	25	25	25	25	16	16	16	16	16	16
	180	43	43	39	33	28	25	22	22	22	22	22	22	14	14	14	14	14	14
	200	34	34	34	30	26	23	18	18	18	18	18	18	12	12	12	12	12	12

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 4A Roof Height: 0 - 30 feet Roof Angle: 27 < θ ≤ 45 degrees Panel Orientation: Portrait

Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	84	84	73	59	49	42	84	84	73	59	49	42	84	84	73	59	49	42
	115	84	84	71	57	48	42	84	84	71	57	48	42	84	84	71	57	48	42
	120	84	84	69	56	47	41	84	84	69	56	47	41	84	84	69	56	47	41
	130	84	82	64	53	45	39	84	82	64	53	45	39	84	82	64	53	45	39
	140	78	76	60	50	43	38	78	76	60	50	43	38	78	76	60	50	43	38
	150	72	70	57	48	41	36	72	70	57	48	41	36	72	70	57	48	41	36
	160	65	65	53	45	39	35	65	65	53	45	39	35	65	65	53	45	39	35
	170	59	59	50	43	37	33	59	59	50	43	37	33	59	59	50	43	37	33
	180	53	53	47	40	36	32	53	53	47	40	36	32	53	53	47	40	36	32
	200	44	44	41	36	32	29	44	44	41	36	32	29	44	44	41	36	32	29

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 4B		Roof Height: 0 - 30 feet Roof Angle: 27 < θ ≤ 45 degrees												Panel Orientation: Portrait					
Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	84	84	65	53	44	38	84	84	65	53	44	38	84	84	65	53	44	38
	115	84	83	63	51	43	37	84	83	63	51	43	37	84	83	63	51	43	37
	120	84	80	61	50	42	36	84	80	61	50	42	36	84	80	61	50	42	36
	130	81	73	58	47	40	35	81	73	58	47	40	35	81	73	58	47	40	35
	140	72	68	54	45	39	34	72	68	54	45	39	34	72	68	54	45	39	34
	150	65	62	51	43	37	32	65	62	51	43	37	32	65	62	51	43	37	32
	160	58	58	48	40	35	31	58	58	48	40	35	31	58	58	48	40	35	31
	170	52	52	45	38	33	30	52	52	45	38	33	30	52	52	45	38	33	30
	180	47	47	42	36	32	29	47	47	42	36	32	29	47	47	42	36	32	29
	200	39	39	37	32	29	26	39	39	37	32	29	26	39	39	37	32	29	26

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 5A Roof Height: 0 - 30 feet Roof Angle: $27 < \theta \leq 45$ degrees Panel Orientation: Portrait

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	84	82	64	53	45	39	84	82	64	53	45	39	84	82	64	53	45	39
	115	84	78	62	51	44	38	78	78	62	51	44	38	78	78	62	51	44	38
	120	78	74	60	50	43	37	78	74	60	50	43	37	78	74	60	50	43	37
	130	69	68	55	47	40	36	69	68	55	47	40	36	69	68	55	47	40	36
	140	61	61	51	44	38	34	61	61	51	44	38	34	61	61	51	44	38	34
	150	54	54	47	41	36	32	54	54	47	41	36	32	54	54	47	41	36	32
	160	49	49	44	38	34	31	49	49	44	38	34	31	49	49	44	38	34	31
	170	44	44	41	36	32	29	44	44	41	36	32	29	44	44	41	36	32	29
	180	39	39	38	34	30	28	39	39	38	34	30	28	39	39	38	34	30	28
	200	32	32	32	30	27	25	32	32	32	30	27	25	32	32	32	30	27	25

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 5B

Roof Height: 0 - 30 feet
Roof Angle: 27 < θ ≤ 45 degrees
Panel Orientation: Portrait

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	81	73	58	47	40	35	81	73	58	47	40	35	81	73	58	47	40	35
	115	76	70	55	46	39	34	76	70	55	46	39	34	76	70	55	46	39	34
	120	71	67	53	45	38	33	71	67	53	45	38	33	71	67	53	45	38	33
	130	62	61	49	42	36	32	62	61	49	42	36	32	62	61	49	42	36	32
	140	55	55	46	39	34	30	55	55	46	39	34	30	55	55	46	39	34	30
	150	49	49	42	37	32	29	49	49	42	37	32	29	49	49	42	37	32	29
	160	43	43	39	34	30	27	43	43	39	34	30	27	43	43	39	34	30	27
	170	39	39	37	32	29	26	39	39	37	32	29	26	39	39	37	32	29	26
	180	35	35	34	30	27	25	35	35	34	30	27	25	35	35	34	30	27	25
	200	29	29	29	27	24	22	29	29	29	27	24	22	29	29	29	27	24	22

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 6A Roof Height: 0 - 30 feet Roof Angle: $27 < \theta \leq 45$ degrees Panel Orientation: Portrait

Exposure	Ultimate Wind Speed,	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
D	V (mph)	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	78	75	60	50	43	38	78	75	60	50	43	38	78	75	60	50	43	38
	115	74	71	57	48	42	37	74	71	57	48	42	37	74	71	57	48	42	37
	120	69	67	55	47	40	36	69	67	55	47	40	36	69	67	55	47	40	36
	130	60	60	51	43	38	34	60	60	51	43	38	34	60	60	51	43	38	34
	140	53	53	47	40	36	32	53	53	47	40	36	32	53	53	47	40	36	32
	150	47	47	43	38	33	30	47	47	43	38	33	30	47	47	43	38	33	30
	160	42	42	40	35	31	28	42	42	40	35	31	28	42	42	40	35	31	28
	170	37	37	37	33	29	27	37	37	37	33	29	27	37	37	37	33	29	27
	180	34	34	34	30	28	25	34	34	34	30	28	25	34	34	34	30	28	25
	200	28	28	28	27	24	23	28	28	28	27	24	23	28	28	28	27	24	23

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 6B Roof Height: 0 - 30 feet Roof Angle: $27 < \theta \leq 45$ degrees Panel Orientation: Portrait

Exposure D	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	71	67	54	45	38	34	71	67	54	45	38	34	71	67	54	45	38	34
	115	66	63	51	43	37	33	66	63	51	43	37	33	66	63	51	43	37	33
	120	61	60	49	42	36	32	61	60	49	42	36	32	61	60	49	42	36	32
	130	54	54	45	39	34	30	54	54	45	39	34	30	54	54	45	39	34	30
	140	47	47	42	36	32	28	47	47	42	36	32	28	47	47	42	36	32	28
	150	42	42	38	34	30	27	42	42	38	34	30	27	42	42	38	34	30	27
	160	37	37	35	31	28	25	37	37	35	31	28	25	37	37	35	31	28	25
	170	33	33	33	29	26	24	33	33	33	29	26	24	33	33	33	29	26	24
	180	30	30	30	27	25	23	30	30	30	27	25	23	30	30	30	27	25	23
	200	25	25	25	24	22	20	25	25	25	24	22	20	25	25	25	24	22	20

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 7A	Roof Height: 0 - 30 feet Roof Angle: 7 < θ ≤ 27 degrees													Panel Orientation: Landscape					
Exposure	Ultimate Wind Speed,	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B	V (mph)	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	96	96	84	70	58	96	96	96	84	70	58	84	84	84	84	70	58
	115	96	96	96	84	69	58	96	96	96	84	69	58	78	78	78	78	69	58
	120	96	96	96	84	68	57	84	84	84	84	68	57	78	78	78	78	68	57
	130	96	96	96	82	67	56	84	84	84	82	67	56	78	78	78	78	67	56
	140	96	96	96	80	65	55	84	84	84	80	65	55	72	72	72	72	65	55
	150	96	96	84	77	64	54	78	78	78	77	64	54	66	66	66	66	64	54
	160	96	96	84	75	62	53	78	78	78	75	62	53	59	59	59	59	59	53
	170	84	84	84	73	60	52	72	72	72	72	60	52	52	52	52	52	52	52
	180	84	84	84	70	59	50	72	72	72	70	59	50	47	47	47	47	47	47
	200	78	78	78	66	55	48	58	58	58	58	55	48	37	37	37	37	37	37

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 7B Roof Height: 0 - 30 feet Roof Angle: $7 < \theta \leq 27$ degrees Panel Orientation: Landscape

Exposure	Ultimate Wind Speed,	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B	V (mph)	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	96	96	78	62	52	96	96	96	78	62	52	84	84	84	78	62	52
	115	96	96	96	77	62	52	96	96	96	77	62	52	78	78	78	77	62	52
	120	96	96	96	76	61	51	84	84	84	76	61	51	78	78	78	76	61	51
	130	96	96	95	73	60	50	84	84	84	73	60	50	76	76	76	73	60	50
	140	96	96	92	71	58	49	84	84	84	71	58	49	65	65	65	65	58	49
	150	96	96	84	69	57	48	78	78	78	69	57	48	56	56	56	56	56	48
	160	96	96	84	67	55	47	77	77	77	67	55	47	49	49	49	49	49	47
	170	84	84	82	65	54	46	67	67	67	65	54	46	43	43	43	43	43	43
	180	84	84	78	63	53	45	60	60	60	60	53	45	38	38	38	38	38	38
	200	78	78	72	59	50	43	48	48	48	48	48	43	31	31	31	31	31	31

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 8A Roof Height: 0 - 30 feet Roof Angle: $7 < \theta \leq 27$ degrees Panel Orientation: Landscape

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	96	96	82	67	56	84	84	84	82	67	56	78	78	78	78	67	56
	115	96	96	96	81	66	56	84	84	84	81	66	56	72	72	72	72	66	56
	120	96	96	84	79	65	55	78	78	78	78	65	55	72	72	72	72	65	55
	130	96	96	84	77	63	54	78	78	78	77	63	54	64	64	64	64	63	54
	140	84	84	84	74	61	52	72	72	72	72	61	52	55	55	55	55	55	52
	150	84	84	84	71	59	51	72	72	72	71	59	51	48	48	48	48	48	48
	160	84	84	84	68	57	49	65	65	65	65	57	49	42	42	42	42	42	42
	170	78	78	78	65	55	48	57	57	57	57	55	48	37	37	37	37	37	37
	180	78	78	76	63	53	46	51	51	51	51	51	46	33	33	33	33	33	33
	200	72	72	69	58	50	44	41	41	41	41	41	41	27	27	27	27	27	27

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 8B Roof Height: 0 - 30 feet Roof Angle: 7 < θ ≤ 27 degrees Panel Orientation: Landscape

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	96	95	73	60	50	84	84	84	73	60	50	76	76	76	73	60	50
	115	96	96	93	72	59	50	84	84	84	72	59	50	69	69	69	69	59	50
	120	96	96	84	71	58	49	78	78	78	71	58	49	63	63	63	63	58	49
	130	96	96	84	68	56	48	78	78	78	68	56	48	53	53	53	53	53	48
	140	84	84	83	66	55	47	71	71	71	66	55	47	46	46	46	46	46	46
	150	84	84	79	63	53	45	62	62	62	62	53	45	40	40	40	40	40	40
	160	84	84	75	61	51	44	54	54	54	54	51	44	35	35	35	35	35	35
	170	78	78	72	59	49	43	47	47	47	47	47	43	31	31	31	31	31	31
	180	78	78	68	56	48	42	42	42	42	42	42	42	27	27	27	27	27	27
	200	66	66	62	52	44	39	34	34	34	34	34	34	22	22	22	22	22	22

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 9A Roof Height: 0 - 30 feet Roof Angle: $7 < \theta \leq 27$ degrees Panel Orientation: Landscape

Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
D		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	96	84	79	65	55	78	78	78	78	65	55	72	72	72	72	65	55
	115	96	96	84	78	64	54	78	78	78	78	64	54	66	66	66	66	64	54
	120	96	96	84	76	63	53	78	78	78	76	63	53	64	64	64	64	63	53
	130	84	84	84	73	61	52	72	72	72	72	61	52	54	54	54	54	54	52
	140	84	84	84	70	59	50	66	66	66	66	59	50	46	46	46	46	46	46
	150	84	84	83	67	57	49	62	62	62	62	57	49	40	40	40	40	40	40
	160	78	78	78	64	55	47	55	55	55	55	55	47	35	35	35	35	35	35
	170	78	78	74	61	52	46	48	48	48	48	48	46	31	31	31	31	31	31
	180	72	72	70	59	50	44	43	43	43	43	43	43	28	28	28	28	28	28
	200	66	66	63	53	47	41	34	34	34	34	34	34	22	22	22	22	22	22

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 9B Roof Height: 0 - 30 feet Roof Angle: $7 < \theta \leq 27$ degrees Panel Orientation: Landscape

Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
D		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	96	84	71	58	49	78	78	78	71	58	49	63	63	63	63	58	49
	115	96	96	84	70	57	49	78	78	78	70	57	49	58	58	58	58	57	49
	120	96	96	84	68	56	48	78	78	78	68	56	48	53	53	53	53	53	48
	130	84	84	83	66	54	46	70	70	70	66	54	46	45	45	45	45	45	45
	140	84	84	78	63	53	45	60	60	60	60	53	45	38	38	38	38	38	38
	150	84	84	74	60	51	44	52	52	52	52	51	44	33	33	33	33	33	33
	160	78	78	70	58	49	42	45	45	45	45	45	42	29	29	29	29	29	29
	170	77	77	66	55	47	41	40	40	40	40	40	40	26	26	26	26	26	26
	180	69	69	63	52	45	40	35	35	35	35	35	35	23	23	23	23	23	23
	200	55	55	55	48	42	37	28	28	28	28	28	28	18	18	18	18	18	18

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 10A		Roof Height: 0 - 30 feet Roof Angle: 27 < θ ≤ 45 degrees												Panel Orientation: Landscape					
Exposure	Ultimate Wind Speed,	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B	V (mph)	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	96	96	96	84	78	67	96	96	96	84	78	67	96	96	96	84	78	67
	115	96	96	96	84	77	66	96	96	96	84	77	66	96	96	96	84	77	66
	120	96	96	96	84	75	65	96	96	96	84	75	65	96	96	96	84	75	65
	130	96	96	84	84	72	63	96	96	84	84	72	63	96	96	84	84	72	63
	140	96	96	84	80	69	60	84	84	84	80	69	60	84	84	84	80	69	60
	150	84	84	84	76	66	58	84	84	84	76	66	58	84	84	84	76	66	58
	160	84	84	84	72	63	55	84	84	84	72	63	55	84	84	84	72	63	55
	170	84	84	79	68	60	53	78	78	78	68	60	53	78	78	78	68	60	53
	180	78	78	75	65	57	51	78	78	75	65	57	51	78	78	75	65	57	51
	200	70	70	66	58	52	47	70	70	66	58	52	47	70	70	66	58	52	47

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 10B	Roof Height: 0 - 30 feet Roof Angle: 27 < θ ≤ 45 degrees													Panel Orientation: Landscape					
Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
B		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	96	96	96	84	70	60	96	96	96	84	70	60	96	96	96	84	70	60
	115	96	96	96	82	69	59	96	96	96	82	69	59	96	96	96	82	69	59
	120	96	96	96	80	67	58	96	96	96	80	67	58	96	96	96	80	67	58
	130	96	96	84	76	64	56	96	96	84	76	64	56	96	96	84	76	64	56
	140	96	96	84	72	62	54	84	84	84	72	62	54	84	84	84	72	62	54
	150	84	84	81	68	59	52	84	84	81	68	59	52	84	84	81	68	59	52
	160	84	84	76	64	56	50	84	84	76	64	56	50	84	84	76	64	56	50
	170	83	83	71	61	53	48	78	78	71	61	53	48	78	78	71	61	53	48
	180	76	76	67	58	51	46	76	76	67	58	51	46	76	76	67	58	51	46
	200	63	63	59	52	46	42	63	63	59	52	46	42	63	63	59	52	46	42

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 11A Roof Height: 0 - 30 feet Roof Angle: $27 < \theta \leq 45$ degrees Panel Orientation: Landscape

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	96	96	84	84	72	63	96	96	84	84	72	63	96	96	84	84	72	63
	115	96	96	84	82	70	61	96	96	84	82	70	61	96	96	84	82	70	61
	120	84	84	84	79	68	60	84	84	84	79	68	60	84	84	84	79	68	60
	130	84	84	84	75	65	57	84	84	84	75	65	57	84	84	84	75	65	57
	140	84	84	82	70	61	54	84	84	82	70	61	54	84	84	82	70	61	54
	150	84	84	76	65	58	51	78	78	76	65	58	51	78	78	76	65	58	51
	160	77	77	70	61	54	49	77	77	70	61	54	49	77	77	70	61	54	49
	170	70	70	65	57	51	46	70	70	65	57	51	46	70	70	65	57	51	46
	180	63	63	61	54	48	44	63	63	61	54	48	44	63	63	61	54	48	44
	200	52	52	52	47	43	40	52	52	52	47	43	40	52	52	52	47	43	40

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

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Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 11B

Roof Height: 0 - 30 feet
Roof Angle: 27 < θ ≤ 45 degrees
Panel Orientation: Landscape

Exposure C	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	96	96	84	76	64	56	96	96	84	76	64	56	96	96	84	76	64	56
	115	96	96	84	73	63	55	96	96	84	73	63	55	96	96	84	73	63	55
	120	84	84	84	71	61	53	84	84	84	71	61	53	84	84	84	71	61	53
	130	84	84	79	67	58	51	84	84	79	67	58	51	84	84	79	67	58	51
	140	84	84	73	62	55	48	84	84	73	62	55	48	84	84	73	62	55	48
	150	77	77	68	59	52	46	77	77	68	59	52	46	77	77	68	59	52	46
	160	69	69	63	55	49	44	69	69	63	55	49	44	69	69	63	55	49	44
	170	62	62	58	51	46	41	62	62	58	51	46	41	62	62	58	51	46	41
	180	56	56	54	48	43	39	56	56	54	48	43	39	56	56	54	48	43	39
	200	46	46	46	42	39	35	46	46	46	42	39	35	46	46	46	42	39	35

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHSS Products

Table 12A		Roof Height: 0 - 30 feet Roof Angle: 27 < θ ≤ 45 degrees												Panel Orientation: Landscape					
Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
D		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	84	84	84	80	68	60	84	84	84	80	68	60	84	84	84	80	68	60
	115	84	84	84	77	66	58	84	84	84	77	66	58	84	84	84	77	66	58
	120	84	84	84	74	64	57	84	84	84	74	64	57	84	84	84	74	64	57
	130	84	84	81	69	61	54	78	78	78	69	61	54	78	78	78	69	61	54
	140	78	78	74	64	57	51	78	78	74	64	57	51	78	78	74	64	57	51
	150	75	75	69	60	53	48	72	72	69	60	53	48	72	72	69	60	53	48
	160	67	67	63	56	50	45	67	67	63	56	50	45	67	67	63	56	50	45
	170	60	60	58	52	47	43	60	60	58	52	47	43	60	60	58	52	47	43
	180	54	54	54	49	44	40	54	54	54	49	44	40	54	54	54	49	44	40
	200	44	44	44	42	39	36	44	44	44	42	39	36	44	44	44	42	39	36

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Light Rails for use with QMHLS Products

Table 12B		Roof Height: 0 - 30 feet Roof Angle: 27 < θ ≤ 45 degrees												Panel Orientation: Landscape					
Exposure	Ultimate Wind Speed, V (mph)	Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
		Ground Snow Load (psf)						Ground Snow Load (psf)						Ground Snow Load (psf)					
D		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	84	84	84	71	61	54	84	84	84	71	61	54	84	84	84	71	61	54
	115	84	84	82	69	59	52	84	84	82	69	59	52	84	84	82	69	59	52
	120	84	84	79	66	58	51	84	84	79	66	58	51	84	84	79	66	58	51
	130	84	84	72	62	54	48	78	78	72	62	54	48	78	78	72	62	54	48
	140	75	75	67	58	51	45	75	75	67	58	51	45	75	75	67	58	51	45
	150	67	67	61	54	48	43	67	67	61	54	48	43	67	67	61	54	48	43
	160	60	60	57	50	45	41	60	60	57	50	45	41	60	60	57	50	45	41
	170	53	53	52	47	42	38	53	53	52	47	42	38	53	53	52	47	42	38
	180	48	48	48	43	39	36	48	48	48	43	39	36	48	48	48	43	39	36
	200	40	40	40	38	35	32	40	40	40	38	35	32	40	40	40	38	35	32

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable tension, compression, and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"