



11/17/2017

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

RE: Quick Mount PV QBlock Mount System for use with
Unirac Solarmount 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 QBlock Mount System for use in conjunction with the Unirac Solarmount Flush-to-Roof Rail System. The QBlock product line includes the E-Mount (QMSE), E-Mount Lag (QMSE-LAG), Classic Composition Mount (QMSC), and the Classic Shake Mount (QMLC).

The review was based on the following reference data:

- Unirac, Design & Engineering Guide – Solarmount: Flush-to-Roof Design, May 19, 2016
- Applied Materials & Engineering, Quick Mount PV Load Testing, Project Number 108443C, May 22, 2009
- Applied Materials & Engineering, Quick Mount PV Load Testing, Project Number 108443C, May 22, 2009
- Applied Materials & Engineering, Laboratory Load Testing of the QMSE-Lag, Project Number 114490C, October 29, 2014
- ICC Evaluation Service, Quick Mount PV Roof Mounts, ESR-2835, April 2015
- ICC Evaluation Service, Quick Mount PV Roof Mounts, ESR-3744, November 2016

SEI has determined that the QMSE, QMSE-Lag, QMSC, and QMLC mounts are suitable for use with the Unirac Solarmount System. The approved installation and allowable loads for the Quick Mount PV QBlock products is outlined in the ICC reports (ESR-2835 & ESR-3744). These values are shown below, no additional load duration factors may be applied to these values.

Table 1: QMSE, QMSC, & QMLC Roof Mounts

Load Direction	Specific Gravity of Lumber Rafter	Allowable Load
Uplift	0.5	811
	0.36	436
Lateral	0.5	671
	0.36	634

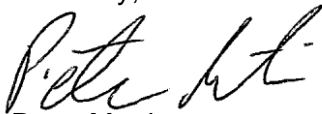
Table 2: QMSE-LAG Roof Mount

Load Direction	Specific Gravity of Lumber Rafter	Allowable Load
Uplift	0.5	732
	-	-
Lateral	0.5	526
	-	-

SEI has prepared allowable rail span charts for the Unirac Solarmount System used in conjunction with the Quick Mount PV QBlock 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 uplift and lateral forces of the QBlock mounts. 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

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Allan T. Myket, P.E.
President/Founder

amyket@structuralenginuityinc.com



11/28/2017

Structural Enginuity Inc.

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 1A		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
Exposure B	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	150	150	120	90	66	54	132	132	120	90	66	54	108	108	108	90	66	54
	115	150	132	120	90	66	54	120	120	120	90	66	54	108	108	108	90	66	54
	120	150	132	120	90	66	54	120	120	120	90	66	54	102	102	102	90	66	54
	130	150	132	120	90	66	54	108	108	108	90	66	54	90	90	90	90	66	54
	140	132	132	120	90	66	54	108	108	108	90	66	54	79	79	79	79	66	54
	150	132	132	120	90	66	54	102	102	102	90	66	54	68	68	68	68	66	54
	160	120	120	120	90	66	54	90	90	90	90	66	54	60	60	60	60	60	54
	170	120	120	120	90	66	54	82	82	82	82	66	54	53	53	53	53	53	53
	180	108	108	108	90	66	54	73	73	73	73	66	54	47	47	47	47	47	47
	200	102	102	102	90	66	54	58	58	58	58	58	54	38	38	38	38	38	38

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 1B		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36															
Exposure B	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	150	150	120	90	66	54	114	114	114	90	66	54	71	71	71	71	66	54
	115	150	132	120	90	66	54	103	103	103	90	66	54	65	65	65	65	65	54
	120	150	132	120	90	66	54	94	94	94	90	66	54	59	59	59	59	59	54
	130	150	132	120	90	66	54	78	78	78	78	66	54	50	50	50	50	50	50
	140	132	132	120	90	66	54	67	67	67	67	66	54	42	42	42	42	42	42
	150	116	116	116	90	66	54	58	58	58	58	58	54	37	37	37	37	37	37
	160	100	100	100	90	66	54	50	50	50	50	50	50	32	32	32	32	32	32
	170	88	88	88	88	66	54	44	44	44	44	44	44	28	28	28	28	28	28
	180	77	77	77	77	66	54	39	39	39	39	39	39	25	25	25	25	25	25
	200	61	61	61	61	61	54	31	31	31	31	31	31	20	20	20	20	20	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 1C		Roof Height:	0 - 30 feet											Panel Orientation:	Portrait					
		Roof Angle:	7 < θ ≤ 27 degrees											Rafter Species:	Douglas Fir					
														Specific Gravity:	0.5					
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	150	150	120	90	66	54	132	132	120	90	66	54	108	108	108	90	66	54	
	115	150	132	120	90	66	54	120	120	120	90	66	54	108	108	108	90	66	54	
	120	150	132	120	90	66	54	120	120	120	90	66	54	99	99	99	90	66	54	
	130	150	132	120	90	66	54	108	108	108	90	66	54	83	83	83	83	66	54	
	140	132	132	120	90	66	54	108	108	108	90	66	54	71	71	71	71	66	54	
	150	132	132	120	90	66	54	97	97	97	90	66	54	62	62	62	62	62	54	
	160	120	120	120	90	66	54	84	84	84	84	66	54	54	54	54	54	54	54	
	170	120	120	120	90	66	54	74	74	74	74	66	54	47	47	47	47	47	47	
	180	108	108	108	90	66	54	66	66	66	66	66	54	42	42	42	42	42	42	
	200	102	102	102	90	66	54	53	53	53	53	53	53	34	34	34	34	34	34	

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 2A		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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	150	132	120	90	66	54	108	108	108	90	66	54	90	90	90	90	66	54
	115	132	132	120	90	66	54	108	108	108	90	66	54	84	84	84	84	66	54
	120	132	132	120	90	66	54	108	108	108	90	66	54	77	77	77	77	66	54
	130	132	132	120	90	66	54	101	101	101	90	66	54	65	65	65	65	65	54
	140	120	120	120	90	66	54	87	87	87	87	66	54	55	55	55	55	55	54
	150	120	120	120	90	66	54	75	75	75	75	66	54	48	48	48	48	48	48
	160	108	108	108	90	66	54	65	65	65	65	65	54	42	42	42	42	42	42
	170	102	102	102	90	66	54	58	58	58	58	58	54	37	37	37	37	37	37
	180	100	100	100	90	66	54	51	51	51	51	51	51	33	33	33	33	33	33
	200	80	80	80	80	66	54	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 2B		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36															
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	150	132	120	90	66	54	78	78	78	78	66	54	49	49	49	49	49	49
	115	132	132	120	90	66	54	71	71	71	71	66	54	45	45	45	45	45	45
	120	132	132	120	90	66	54	65	65	65	65	65	54	41	41	41	41	41	41
	130	110	110	110	90	66	54	55	55	55	55	55	54	35	35	35	35	35	35
	140	93	93	93	90	66	54	47	47	47	47	47	47	30	30	30	30	30	30
	150	80	80	80	80	66	54	40	40	40	40	40	40	26	26	26	26	26	26
	160	69	69	69	69	66	54	35	35	35	35	35	35	23	23	23	23	23	23
	170	61	61	61	61	61	54	31	31	31	31	31	31	20	20	20	20	20	20
	180	54	54	54	54	54	54	28	28	28	28	28	28	18	18	18	18	18	18
	200	43	43	43	43	43	43	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 2C		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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	150	132	120	90	66	54	108	108	108	90	66	54	83	83	83	83	66	54
	115	132	132	120	90	66	54	108	108	108	90	66	54	76	76	76	76	66	54
	120	132	132	120	90	66	54	108	108	108	90	66	54	69	69	69	69	66	54
	130	132	132	120	90	66	54	92	92	92	90	66	54	58	58	58	58	58	54
	140	120	120	120	90	66	54	78	78	78	78	66	54	50	50	50	50	50	50
	150	120	120	120	90	66	54	68	68	68	68	66	54	43	43	43	43	43	43
	160	108	108	108	90	66	54	59	59	59	59	59	54	38	38	38	38	38	38
	170	102	102	102	90	66	54	52	52	52	52	52	52	34	34	34	34	34	34
	180	90	90	90	90	66	54	46	46	46	46	46	46	30	30	30	30	30	30
	200	72	72	72	72	66	54	37	37	37	37	37	37	24	24	24	24	24	24

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 3A		Roof Height:	0 - 30 feet											Panel Orientation: Portrait					
		Roof Angle:	7 < θ ≤ 27 degrees											Rafter Species: Douglas Fir Specific Gravity: 0.5					
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 > 7° to 27°	110	132	132	120	90	66	54	108	108	108	90	66	54	77	77	77	77	66	54
	115	132	132	120	90	66	54	102	102	102	90	66	54	70	70	70	70	66	54
	120	132	132	120	90	66	54	100	100	100	90	66	54	64	64	64	64	64	54
	130	120	120	120	90	66	54	85	85	85	85	66	54	54	54	54	54	54	54
	140	108	108	108	90	66	54	73	73	73	73	66	54	47	47	47	47	47	47
	150	108	108	108	90	66	54	63	63	63	63	63	54	40	40	40	40	40	40
	160	102	102	102	90	66	54	55	55	55	55	55	54	35	35	35	35	35	35
	170	90	90	90	90	66	54	48	48	48	48	48	48	30	30	30	30	30	30
	180	83	83	83	83	66	54	43	43	43	43	43	43	28	28	28	28	28	28
	200	67	67	67	67	66	54	35	35	35	35	35	35	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 3B		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36															
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 > 7° to 27°	110	132	132	120	90	66	54	65	65	65	65	65	54	41	41	41	41	41	41
	115	120	120	120	90	66	54	59	59	59	59	59	54	38	38	38	38	38	38
	120	109	109	109	90	66	54	54	54	54	54	54	54	35	35	35	35	35	35
	130	91	91	91	90	66	54	46	46	46	46	46	46	29	29	29	29	29	29
	140	77	77	77	77	66	54	39	39	39	39	39	39	25	25	25	25	25	25
	150	66	66	66	66	66	54	34	34	34	34	34	34	22	22	22	22	22	22
	160	58	58	58	58	58	54	30	30	30	30	30	30	19	19	19	19	19	19
	170	51	51	51	51	51	51	26	26	26	26	26	26	17	17	17	17	17	17
	180	45	45	45	45	45	45	23	23	23	23	23	23	15	15	15	15	15	15
200	36	36	36	36	36	36	19	19	19	19	19	19	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 3C		Roof Height: 0 - 30 feet											Panel Orientation: Portrait							
		Roof Angle: $7 < \theta \leq 27$ degrees											Rafter Species: Douglas Fir							
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 > 7° to 27°	110	132	132	120	90	66	54	108	108	108	90	66	54	70	70	70	70	66	54	
	115	132	132	120	90	66	54	99	99	99	90	66	54	63	63	63	63	63	54	
	120	132	132	120	90	66	54	91	91	91	90	66	54	58	58	58	58	58	54	
	130	120	120	120	90	66	54	77	77	77	77	66	54	49	49	49	49	49	49	
	140	108	108	108	90	66	54	65	65	65	65	65	54	42	42	42	42	42	42	
	150	108	108	108	90	66	54	57	57	57	57	57	54	36	36	36	36	36	36	
	160	97	97	97	90	66	54	50	50	50	50	50	50	32	32	32	32	32	32	
	170	85	85	85	85	66	54	44	44	44	44	44	44	28	28	28	28	28	28	
	180	75	75	75	75	66	54	39	39	39	39	39	39	25	25	25	25	25	25	
	200	60	60	60	60	60	54	31	31	31	31	31	31	20	20	20	20	20	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 4A		Roof Height: 0 - 30 feet											Panel Orientation: Portrait							
		Roof Angle: $27 < \theta \leq 45$ degrees											Rafter Species: Douglas Fir							
Exposure B		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	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42	
	115	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42	
	120	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42	
	130	132	132	120	90	54	42	132	132	120	90	54	42	132	132	120	90	54	42	
	140	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42	
	150	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42	
	160	120	120	108	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42	
	170	108	108	108	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42	
	180	108	108	108	90	54	42	102	102	102	90	54	42	102	102	102	90	54	42	
	200	102	102	96	90	54	42	84	84	84	84	54	42	84	84	84	84	54	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 4B		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36															
Exposure B	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	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42
	115	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42
	120	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42
	130	132	132	120	90	54	42	116	116	116	90	54	42	116	116	116	90	54	42
	140	120	120	120	90	54	42	98	98	98	90	54	42	98	98	98	90	54	42
	150	103	103	103	90	54	42	84	84	84	84	54	42	84	84	84	84	54	42
	160	89	89	89	89	54	42	73	73	73	73	54	42	73	73	73	73	54	42
	170	78	78	78	78	54	42	64	64	64	64	54	42	64	64	64	64	54	42
	180	69	69	69	69	54	42	57	57	57	57	54	42	57	57	57	57	54	42
	200	55	55	55	55	54	42	45	45	45	45	45	42	45	45	45	45	45	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 4C		Roof Height: 0 - 30 feet												Panel Orientation: Portrait						
		Roof Angle: $27 < \theta \leq 45$ degrees												Rafter Species: Douglas Fir						
Exposure B		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	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42	
	115	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42	
	120	132	132	132	90	54	42	132	132	132	90	54	42	132	132	132	90	54	42	
	130	132	132	120	90	54	42	132	132	120	90	54	42	132	132	120	90	54	42	
	140	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42	
	150	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42	
	160	120	120	108	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42	
	170	108	108	108	90	54	42	107	107	107	90	54	42	107	107	107	90	54	42	
	180	108	108	108	90	54	42	95	95	95	90	54	42	95	95	95	90	54	42	
	200	92	92	92	90	54	42	76	76	76	76	54	42	76	76	76	76	54	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 5A		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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	132	132	120	90	54	42	132	132	120	90	54	42	132	132	120	90	54	42
	115	132	132	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	120	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	130	120	120	120	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	140	108	108	108	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	150	108	108	108	90	54	42	102	102	102	90	54	42	102	102	102	90	54	42
	160	102	102	102	90	54	42	90	90	90	90	54	42	90	90	90	90	54	42
	170	101	101	96	90	54	42	83	83	83	83	54	42	83	83	83	83	54	42
	180	89	89	89	89	54	42	74	74	74	74	54	42	74	74	74	74	54	42
	200	71	71	71	71	54	42	59	59	59	59	54	42	59	59	59	59	54	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 5B		Roof Height: 0 - 30 feet		Panel Orientation: Portrait																
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36																
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	132	132	120	90	54	42	116	116	116	90	54	42	116	116	116	90	54	42	
	115	129	129	120	90	54	42	105	105	105	90	54	42	105	105	105	90	54	42	
	120	117	117	117	90	54	42	95	95	95	90	54	42	95	95	95	90	54	42	
	130	97	97	97	90	54	42	80	80	80	80	54	42	80	80	80	80	54	42	
	140	83	83	83	83	54	42	68	68	68	68	54	42	68	68	68	68	54	42	
	150	71	71	71	71	54	42	58	58	58	58	54	42	58	58	58	58	54	42	
	160	62	62	62	62	54	42	51	51	51	51	51	42	51	51	51	51	51	42	
	170	54	54	54	54	54	42	45	45	45	45	45	42	45	45	45	45	45	42	
	180	48	48	48	48	48	42	40	40	40	40	40	40	40	40	40	40	40	40	40
	200	38	38	38	38	38	38	32	32	32	32	32	32	32	32	32	32	32	32	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 5C		Roof Height: 0 - 30 feet											Panel Orientation: Portrait						
		Roof Angle: $27 < \theta \leq 45$ degrees											Rafter Species: Douglas Fir						
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)					
C		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	132	132	120	90	54	42	132	132	120	90	54	42	132	132	120	90	54	42
	115	132	132	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	120	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	130	120	120	120	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	140	108	108	108	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	150	108	108	108	90	54	42	98	98	98	90	54	42	98	98	98	90	54	42
	160	102	102	102	90	54	42	85	85	85	85	54	42	85	85	85	85	54	42
	170	91	91	91	90	54	42	75	75	75	75	54	42	75	75	75	75	54	42
	180	81	81	81	81	54	42	66	66	66	66	54	42	66	66	66	66	54	42
	200	65	65	65	65	54	42	53	53	53	53	53	42	53	53	53	53	53	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 6A		Roof Height: 0 - 30 feet		Panel Orientation: Portrait															
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	115	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	120	120	120	120	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	130	108	108	108	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	140	108	108	108	90	54	42	102	102	102	90	54	42	102	102	102	90	54	42
	150	102	102	102	90	54	42	90	90	90	90	54	42	90	90	90	90	54	42
	160	90	90	90	90	54	42	79	79	79	79	54	42	79	79	79	79	54	42
	170	84	84	84	84	54	42	70	70	70	70	54	42	70	70	70	70	54	42
	180	75	75	75	75	54	42	62	62	62	62	54	42	62	62	62	62	54	42
	200	60	60	60	60	54	42	50	50	50	50	50	42	50	50	50	50	50	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 6B		Roof Height: 0 - 30 feet											Panel Orientation: Portrait							
		Roof Angle: $27 < \theta \leq 45$ degrees											Rafter Species: Western Cedar							
													Specific Gravity: 0.36							
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	118	118	118	90	54	42	96	96	96	90	54	42	96	96	96	90	54	42	
	115	106	106	106	90	54	42	87	87	87	87	54	42	87	87	87	87	54	42	
	120	97	97	97	90	54	42	79	79	79	79	54	42	79	79	79	79	54	42	
	130	81	81	81	81	54	42	66	66	66	66	54	42	66	66	66	66	54	42	
	140	69	69	69	69	54	42	56	56	56	56	54	42	56	56	56	56	54	42	
	150	59	59	59	59	54	42	49	49	49	49	49	42	42	49	49	49	49	49	42
	160	52	52	52	52	52	42	42	42	42	42	42	42	42	42	42	42	42	42	42
	170	45	45	45	45	45	42	37	37	37	37	37	37	37	37	37	37	37	37	37
	180	40	40	40	40	40	40	33	33	33	33	33	33	33	33	33	33	33	33	33
	200	32	32	32	32	32	32	27	27	27	27	27	27	27	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 6C		Roof Height: 0 - 30 feet											Panel Orientation: Portrait						
		Roof Angle: $27 < \theta \leq 45$ degrees											Rafter Species: Douglas Fir						
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	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	115	120	120	120	90	54	42	120	120	120	90	54	42	120	120	120	90	54	42
	120	120	120	120	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	130	108	108	108	90	54	42	108	108	108	90	54	42	108	108	108	90	54	42
	140	108	108	108	90	54	42	95	95	95	90	54	42	95	95	95	90	54	42
	150	99	99	99	90	54	42	82	82	82	82	54	42	82	82	82	82	54	42
	160	87	87	87	87	54	42	71	71	71	71	54	42	71	71	71	71	54	42
	170	76	76	76	76	54	42	63	63	63	63	54	42	63	63	63	63	54	42
	180	67	67	67	67	54	42	56	56	56	56	54	42	56	56	56	56	54	42
	200	54	54	54	54	54	42	45	45	45	45	45	42	45	45	45	45	45	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 7A		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
Exposure B	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	150	150	150	120	120	90	150	150	150	120	120	90	132	132	132	120	120	90
	115	150	150	150	120	120	90	150	150	150	120	120	90	120	120	120	120	120	90
	120	150	150	150	120	120	90	132	132	132	120	120	90	120	120	120	120	120	90
	130	150	150	150	120	120	90	132	132	132	120	120	90	120	120	120	120	120	90
	140	150	150	150	120	120	90	132	132	132	120	120	90	108	108	108	108	108	90
	150	150	150	132	120	120	90	120	120	120	120	120	90	102	102	102	102	102	90
	160	150	150	132	120	120	90	120	120	120	120	120	90	90	90	90	90	90	90
	170	132	132	132	120	120	90	108	108	108	108	108	90	84	84	84	84	84	84
	180	132	132	132	120	120	90	108	108	108	108	108	90	75	75	75	75	75	75
	200	120	120	120	120	120	90	90	90	90	90	90	90	60	60	60	60	60	60

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 7B		Roof Height:	0 - 30 feet											Panel Orientation:	Landscape					
		Roof Angle:	7 < θ ≤ 27 degrees											Rafter Species:	Western Cedar					
														Specific Gravity:	0.36					
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)						
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50	
Roofs > 7° to 27°	110	150	150	150	120	120	90	150	150	150	120	120	90	113	113	113	113	113	90	
	115	150	150	150	120	120	90	150	150	150	120	120	90	103	103	103	103	103	90	
	120	150	150	150	120	120	90	132	132	132	120	120	90	94	94	94	94	94	90	
	130	150	150	150	120	120	90	125	125	125	120	120	90	79	79	79	79	79	79	
	140	150	150	150	120	120	90	107	107	107	107	107	90	68	68	68	68	68	68	
	150	150	150	132	120	120	90	92	92	92	92	92	90	59	59	59	59	59	59	
	160	150	150	132	120	120	90	80	80	80	80	80	80	51	51	51	51	51	51	
	170	132	132	132	120	120	90	70	70	70	70	70	70	45	45	45	45	45	45	
	180	123	123	123	120	120	90	62	62	62	62	62	62	40	40	40	40	40	40	
	200	98	98	98	98	98	90	50	50	50	50	50	50	32	32	32	32	32	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 7C		Roof Height:	0 - 30 feet											Panel Orientation:	Landscape					
		Roof Angle:	7 < θ ≤ 27 degrees											Rafter Species:	Douglas Fir					
														Specific Gravity:	0.5					
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	Roofs > 7° to 27°	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50	
		110	150	150	150	120	120	90	150	150	150	120	120	90	132	132	132	120	120	90
		115	150	150	150	120	120	90	150	150	150	120	120	90	120	120	120	120	120	90
		120	150	150	150	120	120	90	132	132	132	120	120	90	120	120	120	120	120	90
		130	150	150	150	120	120	90	132	132	132	120	120	90	120	120	120	120	120	90
		140	150	150	150	120	120	90	132	132	132	120	120	90	108	108	108	108	108	90
		150	150	150	132	120	120	90	120	120	120	120	120	90	98	98	98	98	98	90
		160	150	150	132	120	120	90	120	120	120	120	120	90	86	86	86	86	86	86
		170	132	132	132	120	120	90	108	108	108	108	108	90	76	76	76	76	76	76
		180	132	132	132	120	120	90	105	105	105	105	105	90	67	67	67	67	67	67
200	120	120	120	120	120	90	84	84	84	84	84	84	54	54	54	54	54	54		

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 8A		Roof Height:	0 - 30 feet											Panel Orientation: Landscape					
		Roof Angle:	7 < θ ≤ 27 degrees											Rafter Species: Douglas Fir Specific Gravity: 0.5					
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	150	150	150	120	120	90	132	132	132	120	120	90	120	120	120	120	120	90
	115	150	150	150	120	120	90	132	132	132	120	120	90	108	108	108	108	108	90
	120	150	150	132	120	120	90	120	120	120	120	120	90	108	108	108	108	108	90
	130	150	150	132	120	120	90	120	120	120	120	120	90	102	102	102	102	102	90
	140	132	132	132	120	120	90	108	108	108	108	108	90	89	89	89	89	89	89
	150	132	132	132	120	120	90	108	108	108	108	108	90	77	77	77	77	77	77
	160	132	132	132	120	120	90	102	102	102	102	102	90	67	67	67	67	67	67
	170	120	120	120	120	120	90	90	90	90	90	90	90	59	59	59	59	59	59
	180	120	120	120	120	120	90	82	82	82	82	82	82	53	53	53	53	53	53
	200	108	108	108	108	108	90	66	66	66	66	66	66	43	43	43	43	43	43

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 8B		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36															
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	150	150	150	120	120	90	125	125	125	120	120	90	79	79	79	79	79	79
	115	150	150	150	120	120	90	113	113	113	113	113	90	72	72	72	72	72	72
	120	150	150	132	120	120	90	103	103	103	103	103	90	66	66	66	66	66	66
	130	150	150	132	120	120	90	87	87	87	87	87	87	56	56	56	56	56	56
	140	132	132	132	120	120	90	74	74	74	74	74	74	48	48	48	48	48	48
	150	127	127	127	120	120	90	64	64	64	64	64	64	41	41	41	41	41	41
	160	110	110	110	110	110	90	56	56	56	56	56	56	36	36	36	36	36	36
	170	97	97	97	97	97	90	49	49	49	49	49	49	32	32	32	32	32	32
	180	86	86	86	86	86	86	44	44	44	44	44	44	28	28	28	28	28	28
	200	68	68	68	68	68	68	35	35	35	35	35	35	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 8C		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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	150	150	150	120	120	90	132	132	132	120	120	90	120	120	120	120	120	90
	115	150	150	150	120	120	90	132	132	132	120	120	90	108	108	108	108	108	90
	120	150	150	132	120	120	90	120	120	120	120	120	90	108	108	108	108	108	90
	130	150	150	132	120	120	90	120	120	120	120	120	90	93	93	93	93	93	90
	140	132	132	132	120	120	90	108	108	108	108	108	90	80	80	80	80	80	80
	150	132	132	132	120	120	90	108	108	108	108	108	90	69	69	69	69	69	69
	160	132	132	132	120	120	90	94	94	94	94	94	90	61	61	61	61	61	61
	170	120	120	120	120	120	90	83	83	83	83	83	83	54	54	54	54	54	54
	180	120	120	120	120	120	90	74	74	74	74	74	74	48	48	48	48	48	48
	200	108	108	108	108	108	90	59	59	59	59	59	59	38	38	38	38	38	38

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 9A		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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 > 7° to 27°	110	150	150	132	120	120	90	120	120	120	120	120	90	108	108	108	108	108	90
	115	150	150	132	120	120	90	120	120	120	120	120	90	102	102	102	102	102	90
	120	150	150	132	120	120	90	120	120	120	120	120	90	102	102	102	102	102	90
	130	132	132	132	120	120	90	108	108	108	108	108	90	87	87	87	87	87	87
	140	132	132	132	120	120	90	102	102	102	102	102	90	74	74	74	74	74	74
	150	132	132	132	120	120	90	100	100	100	100	100	90	65	65	65	65	65	65
	160	120	120	120	120	120	90	88	88	88	88	88	88	57	57	57	57	57	57
	170	120	120	120	120	120	90	77	77	77	77	77	77	50	50	50	50	50	50
	180	108	108	108	108	108	90	69	69	69	69	69	69	44	44	44	44	44	44
	200	102	102	102	102	102	90	55	55	55	55	55	55	36	36	36	36	36	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 9B		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36															
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 > 7° to 27°	110	150	150	132	120	120	90	104	104	104	104	104	90	66	66	66	66	66	66
	115	150	150	132	120	120	90	94	94	94	94	94	90	60	60	60	60	60	60
	120	150	150	132	120	120	90	86	86	86	86	86	86	55	55	55	55	55	55
	130	132	132	132	120	120	90	73	73	73	73	73	73	47	47	47	47	47	47
	140	123	123	123	120	120	90	62	62	62	62	62	62	40	40	40	40	40	40
	150	106	106	106	106	106	90	54	54	54	54	54	54	35	35	35	35	35	35
	160	92	92	92	92	92	90	47	47	47	47	47	47	30	30	30	30	30	30
	170	81	81	81	81	81	81	42	42	42	42	42	42	27	27	27	27	27	27
	180	72	72	72	72	72	72	37	37	37	37	37	37	24	24	24	24	24	24
	200	57	57	57	57	57	57	30	30	30	30	30	30	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 9C		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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 > 7° to 27°	110	150	150	132	120	120	90	120	120	120	120	120	90	108	108	108	108	108	90
	115	150	150	132	120	120	90	120	120	120	120	120	90	101	101	101	101	101	90
	120	150	150	132	120	120	90	120	120	120	120	120	90	92	92	92	92	92	90
	130	132	132	132	120	120	90	108	108	108	108	108	90	78	78	78	78	78	78
	140	132	132	132	120	120	90	102	102	102	102	102	90	67	67	67	67	67	67
	150	132	132	132	120	120	90	90	90	90	90	90	90	58	58	58	58	58	58
	160	120	120	120	120	120	90	79	79	79	79	79	79	51	51	51	51	51	51
	170	120	120	120	120	120	90	70	70	70	70	70	70	45	45	45	45	45	45
	180	108	108	108	108	108	90	62	62	62	62	62	62	40	40	40	40	40	40
	200	96	96	96	96	96	90	50	50	50	50	50	50	32	32	32	32	32	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 uplift and lateral values of Quick Mount products per ICC reports.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 10A		Roof Height: 0 - 30 feet						Roof Angle: $27 < \theta \leq 45$ degrees						Panel Orientation: Landscape					
		Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
Exposure B	Ultimate Wind Speed, V (mph)	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	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90
	115	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90
	120	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90
	130	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90
	140	150	150	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	150	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	160	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	170	132	132	132	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	180	120	120	120	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	200	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 10B		Roof Height: 0 - 30 feet						Roof Angle: $27 < \theta \leq 45$ degrees						Panel Orientation: Landscape					
		Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
Exposure B	Ultimate Wind Speed, V (mph)	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	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90
	115	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90
	120	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90
	130	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90
	140	150	150	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	150	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	160	132	132	132	132	90	90	116	116	116	116	90	90	116	116	116	116	90	90
	170	125	125	125	120	90	90	102	102	102	102	90	90	102	102	102	102	90	90
	180	110	110	110	110	90	90	90	90	90	90	90	90	90	90	90	90	90	90
	200	88	88	88	88	88	88	72	72	72	72	72	72	72	72	72	72	72	72

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 10C		Roof Height:	0 - 30 feet											Panel Orientation:	Landscape					
		Roof Angle:	27 < θ ≤ 45 degrees											Rafter Species:	Douglas Fir					
														Specific Gravity:	0.5					
Exposure B	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	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90	
	115	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90	
	120	150	150	150	132	90	90	150	150	150	132	90	90	150	150	150	132	90	90	
	130	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90	
	140	150	150	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90	
	150	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90	
	160	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90	
	170	132	132	132	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90	
	180	120	120	120	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90	
200	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90		

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 11A		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90
	115	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90
	120	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	130	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	140	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	150	132	132	132	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	160	120	120	120	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	170	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90
	180	108	108	108	108	90	90	108	108	108	108	90	90	108	108	108	108	90	90
	200	102	102	102	102	90	90	90	90	90	90	90	90	90	90	90	90	90	90

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 11B		Roof Height: 0 - 30 feet						Roof Angle: $27 < \theta \leq 45$ degrees						Panel Orientation: Landscape						
		Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3						
Exposure	Ultimate Wind Speed, V (mph)	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	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90	
	115	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90	
	120	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90	
	130	132	132	132	132	90	90	127	127	127	127	90	90	127	127	127	127	90	90	
	140	132	132	132	132	90	90	108	108	108	108	90	90	108	108	108	108	90	90	
	150	113	113	113	113	90	90	93	93	93	93	90	90	93	93	93	93	90	90	
	160	98	98	98	98	90	90	81	81	81	81	81	81	81	81	81	81	81	81	81
	170	86	86	86	86	86	86	71	71	71	71	71	71	71	71	71	71	71	71	71
	180	77	77	77	77	77	77	63	63	63	63	63	63	63	63	63	63	63	63	63
	200	61	61	61	61	61	61	51	51	51	51	51	51	51	51	51	51	51	51	51

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 11C		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir Specific Gravity: 0.5															
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	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90
	115	150	150	132	132	90	90	150	150	132	132	90	90	150	150	132	132	90	90
	120	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	130	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	140	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	150	132	132	132	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	160	120	120	120	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	170	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90
	180	108	108	108	108	90	90	106	106	106	106	90	90	106	106	106	106	90	90
	200	102	102	102	102	90	90	85	85	85	85	85	85	85	85	85	85	85	85

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 12A		Roof Height: 0 - 30 feet						Roof Angle: $27 < \theta \leq 45$ degrees						Panel Orientation: Landscape					
		Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3					
Exposure	Ultimate Wind Speed, V (mph)	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	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	115	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	120	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	130	132	132	132	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	140	120	120	120	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90
	150	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90
	160	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90
	170	108	108	108	108	90	90	102	102	102	102	90	90	102	102	102	102	90	90
	180	108	108	108	108	90	90	98	98	98	98	90	90	98	98	98	98	90	90
	200	90	90	90	90	90	90	79	79	79	79	79	79	79	79	79	79	79	79

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE, QMSC, QMLC Products

Table 12B		Roof Height: 0 - 30 feet		Panel Orientation: Landscape															
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Western Cedar Specific Gravity: 0.36															
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	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	115	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90
	120	132	132	132	132	90	90	126	126	126	126	90	90	126	126	126	126	90	90
	130	129	129	129	120	90	90	106	106	106	106	90	90	106	106	106	106	90	90
	140	110	110	110	110	90	90	90	90	90	90	90	90	90	90	90	90	90	90
	150	94	94	94	94	90	90	78	78	78	78	78	78	78	78	78	78	78	78
	160	82	82	82	82	82	82	68	68	68	68	68	68	68	68	68	68	68	68
	170	72	72	72	72	72	72	60	60	60	60	60	60	60	60	60	60	60	60
	180	64	64	64	64	64	64	53	53	53	53	53	53	53	53	53	53	53	53
	200	51	51	51	51	51	51	43	43	43	43	43	43	43	43	43	43	43	43

Notes:

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

Rail Spans (in.) for Unirac Solarmount Rails for use with QMSE-Lag Products

Table 12C		Roof Height: 0 - 30 feet						Roof Angle: $27 < \theta \leq 45$ degrees						Panel Orientation: Landscape						
		Roof Wind Pressure Zone 1						Roof Wind Pressure Zone 2						Roof Wind Pressure Zone 3						
Exposure	Ultimate Wind Speed, V (mph)	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	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90	
	115	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90	
	120	132	132	132	132	90	90	132	132	132	132	90	90	132	132	132	132	90	90	
	130	132	132	132	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90	
	140	120	120	120	120	90	90	120	120	120	120	90	90	120	120	120	120	90	90	
	150	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90	
	160	120	120	120	120	90	90	108	108	108	108	90	90	108	108	108	108	90	90	
	170	108	108	108	108	90	90	100	100	100	100	90	90	100	100	100	100	90	90	
	180	108	108	108	108	90	90	89	89	89	89	89	89	89	89	89	89	89	89	89
	200	86	86	86	86	86	86	71	71	71	71	71	71	71	71	71	71	71	71	71

Notes:

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