

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 1</b>		Roof Height: 0-30 ft		Panel Orientation: Portrait							
		Roof Angle: $0 < \theta \leq 7$ degrees									
		Exposure Category: B									
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	78	78	78	78	78	72	67	62	59	55
	10	77	77	77	77	77	72	67	62	59	55
	20	63	63	63	63	63	63	63	62	59	55
	30	53	53	53	53	53	53	53	53	53	53
	40	47	47	47	47	47	47	47	47	47	47
	50	42	42	42	42	42	42	42	42	42	42
	60	39	39	39	39	39	39	39	39	39	39
	70	36	36	36	36	36	36	36	36	36	36
	80	34	34	34	34	34	34	34	34	34	34
90	32	32	32	32	32	32	32	32	32	32	
Zone 2	0	78	73	66	61	56	52	49	46	43	41
	10	77	73	66	61	56	52	49	46	43	41
	20	63	63	63	61	56	52	49	46	43	41
	30	53	53	53	53	53	52	49	46	43	41
	40	47	47	47	47	47	47	47	46	43	41
	50	42	42	42	42	42	42	42	42	42	41
	60	39	39	39	39	39	39	39	39	39	39
	70	36	36	36	36	36	36	36	36	36	36
	80	34	34	34	34	34	34	34	34	34	34
90	32	32	32	32	32	32	32	32	32	32	
Zone 3	0	64	57	52	48	44	41	39	36	34	32
	10	64	57	52	48	44	41	39	36	34	32
	20	63	57	52	48	44	41	39	36	34	32
	30	53	53	52	48	44	41	39	36	34	32
	40	47	47	47	47	44	41	39	36	34	32
	50	42	42	42	42	42	41	39	36	34	32
	60	39	39	39	39	39	39	39	36	34	32
	70	36	36	36	36	36	36	36	36	34	32
	80	34	34	34	34	34	34	34	34	34	32
90	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 design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 2</b>		Roof Height: 0-30 ft		Panel Orientation: Portrait							
		Roof Angle: $0 < \theta \leq 7$ degrees									
		Exposure Category: C									
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	78	78	76	70	64	60	56	52	49	46
	10	77	77	76	70	64	60	56	52	49	46
	20	63	63	63	63	62	60	56	52	49	46
	30	53	53	53	53	53	53	53	52	49	46
	40	47	47	47	47	47	47	47	47	47	46
	50	42	42	42	42	42	42	42	42	42	42
	60	39	39	39	39	39	39	39	39	39	39
	70	36	36	36	36	36	36	36	36	36	36
	80	34	34	34	34	34	34	34	34	34	34
90	32	32	32	32	32	32	32	32	32	32	
Zone 2	0	67	61	55	51	47	44	41	38	36	34
	10	67	61	55	51	47	44	41	38	36	34
	20	63	61	55	51	47	44	41	38	36	34
	30	53	53	53	51	47	44	41	38	36	34
	40	47	47	47	47	47	44	41	38	36	34
	50	42	42	42	42	42	42	41	38	36	34
	60	39	39	39	39	39	39	39	38	36	34
	70	36	36	36	36	36	36	36	36	36	34
	80	34	34	34	34	34	34	34	34	34	34
90	32	32	32	32	32	32	32	32	32	32	
Zone 3	0	53	48	44	40	37	35	32	30	29	27
	10	53	48	44	40	37	35	32	30	29	27
	20	53	48	44	40	37	35	32	30	29	27
	30	53	48	44	40	37	35	32	30	29	27
	40	47	47	44	40	37	35	32	30	29	27
	50	42	42	42	40	37	35	32	30	29	27
	60	39	39	39	39	37	35	32	30	29	27
	70	36	36	36	36	36	35	32	30	29	27
	80	34	34	34	34	34	34	32	30	29	27
90	32	32	32	32	32	32	32	30	29	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 design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 3</b>		Roof Height:	0-30 ft		Panel Orientation: Portrait						
		Roof Angle:	0 < $\theta$ ≤ 7		degrees						
		Exposure Category:	D								
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	78	77	69	64	59	54	51	48	45	42
	10	77	77	69	64	59	54	51	48	45	42
	20	63	63	63	62	59	54	51	48	45	42
	30	53	53	53	53	53	53	51	48	45	42
	40	47	47	47	47	47	47	47	47	45	42
	50	42	42	42	42	42	42	42	42	42	42
	60	39	39	39	39	39	39	39	39	39	39
	70	36	36	36	36	36	36	36	36	36	36
	80	34	34	34	34	34	34	34	34	34	34
90	32	32	32	32	32	32	32	32	32	32	
Zone 2	0	61	55	50	46	43	40	37	35	33	31
	10	61	55	50	46	43	40	37	35	33	31
	20	61	55	50	46	43	40	37	35	33	31
	30	53	53	50	46	43	40	37	35	33	31
	40	47	47	47	46	43	40	37	35	33	31
	50	42	42	42	42	42	40	37	35	33	31
	60	39	39	39	39	39	39	37	35	33	31
	70	36	36	36	36	36	36	36	35	33	31
	80	34	34	34	34	34	34	34	34	33	31
90	32	32	32	32	32	32	32	32	32	31	
Zone 3	0	48	44	40	37	34	32	30	28	26	25
	10	48	44	40	37	34	32	30	28	26	25
	20	48	44	40	37	34	32	30	28	26	25
	30	48	44	40	37	34	32	30	28	26	25
	40	47	44	40	37	34	32	30	28	26	25
	50	42	42	40	37	34	32	30	28	26	25
	60	39	39	39	37	34	32	30	28	26	25
	70	36	36	36	36	34	32	30	28	26	25
	80	34	34	34	34	34	32	30	28	26	25
90	32	32	32	32	32	32	30	28	26	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 design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 4</b>		Roof Height:	0-30 ft		Panel Orientation: Portrait							
		Roof Angle:	7 < $\theta$ ≤ 27		degrees							
		Exposure Category:	B									
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)										
		100	110	120	130	140	150	160	170	180	190	
Zone 1	0	78	78	78	78	78	73	69	64	61	57	
	10	73	71	70	68	67	65	64	62	61	57	
	20	57	57	57	57	56	55	54	53	53	52	
	30	48	48	48	48	48	48	48	48	48	47	46
	40	42	42	42	42	42	42	42	42	42	42	42
	50	38	38	38	38	38	38	38	38	38	38	38
	60	35	35	35	35	35	35	35	35	35	35	35
	70	33	33	33	33	33	33	33	33	33	33	33
	80	31	31	31	31	31	31	31	31	31	31	31
90	29	29	29	29	29	29	29	29	29	29	29	
Zone 2	0	78	73	66	61	57	53	49	46	44	41	
	10	73	71	66	61	57	53	49	46	44	41	
	20	57	57	57	57	56	53	49	46	44	41	
	30	48	48	48	48	48	48	48	46	44	41	
	40	42	42	42	42	42	42	42	42	42	41	
	50	38	38	38	38	38	38	38	38	38	38	
	60	35	35	35	35	35	35	35	35	35	35	
	70	33	33	33	33	33	33	33	33	33	33	
	80	31	31	31	31	31	31	31	31	31	31	
90	29	29	29	29	29	29	29	29	29	29	29	
Zone 3	0	64	58	53	49	45	42	40	37	35	33	
	10	64	58	53	49	45	42	40	37	35	33	
	20	57	57	53	49	45	42	40	37	35	33	
	30	48	48	48	48	45	42	40	37	35	33	
	40	42	42	42	42	42	42	40	37	35	33	
	50	38	38	38	38	38	38	38	37	35	33	
	60	35	35	35	35	35	35	35	35	35	33	
	70	33	33	33	33	33	33	33	33	33	33	
	80	31	31	31	31	31	31	31	31	31	31	
90	29	29	29	29	29	29	29	29	29	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 design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 5</b>		Roof Height:	0-30 ft		Panel Orientation: Portrait						
		Roof Angle:	7 < $\theta$ ≤ 27		degrees						
		Exposure Category:	C								
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	78	78	78	71	66	62	58	54	51	48
	10	70	68	67	65	63	61	58	54	51	48
	20	57	57	56	55	54	53	52	51	49	48
	30	48	48	48	48	48	47	46	45	45	44
	40	42	42	42	42	42	42	42	42	41	40
	50	38	38	38	38	38	38	38	38	38	38
	60	35	35	35	35	35	35	35	35	35	35
	70	33	33	33	33	33	33	33	33	33	33
	80	31	31	31	31	31	31	31	31	31	31
90	29	29	29	29	29	29	29	29	29	29	
Zone 2	0	67	61	56	51	48	44	41	39	37	35
	10	67	61	56	51	48	44	41	39	37	35
	20	57	57	56	51	48	44	41	39	37	35
	30	48	48	48	48	48	44	41	39	37	35
	40	42	42	42	42	42	42	41	39	37	35
	50	38	38	38	38	38	38	38	38	37	35
	60	35	35	35	35	35	35	35	35	35	35
	70	33	33	33	33	33	33	33	33	33	33
	80	31	31	31	31	31	31	31	31	31	31
90	29	29	29	29	29	29	29	29	29	29	
Zone 3	0	54	49	45	41	38	36	33	31	30	28
	10	54	49	45	41	38	36	33	31	30	28
	20	54	49	45	41	38	36	33	31	30	28
	30	48	48	45	41	38	36	33	31	30	28
	40	42	42	42	41	38	36	33	31	30	28
	50	38	38	38	38	38	36	33	31	30	28
	60	35	35	35	35	35	35	33	31	30	28
	70	33	33	33	33	33	33	33	31	30	28
	80	31	31	31	31	31	31	31	31	30	28
90	29	29	29	29	29	29	29	29	29	28	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 6</b>		Roof Height:	0-30 ft		Panel Orientation: Portrait						
		Roof Angle:	7 < $\theta$ ≤ 27		degrees						
		Exposure Category:	D								
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	78	78	71	65	61	56	53	50	47	44
	10	69	67	65	63	61	56	53	50	47	44
	20	57	56	55	54	52	51	50	49	47	44
	30	48	48	48	48	47	46	45	44	43	42
	40	42	42	42	42	42	42	41	41	40	39
	50	38	38	38	38	38	38	38	38	37	37
	60	35	35	35	35	35	35	35	35	35	35
	70	33	33	33	33	33	33	33	33	33	33
	80	31	31	31	31	31	31	31	31	31	31
90	29	29	29	29	29	29	29	29	29	29	
Zone 2	0	62	56	51	47	44	41	38	36	34	32
	10	62	56	51	47	44	41	38	36	34	32
	20	57	56	51	47	44	41	38	36	34	32
	30	48	48	48	47	44	41	38	36	34	32
	40	42	42	42	42	42	41	38	36	34	32
	50	38	38	38	38	38	38	38	36	34	32
	60	35	35	35	35	35	35	35	35	34	32
	70	33	33	33	33	33	33	33	33	33	32
	80	31	31	31	31	31	31	31	31	31	31
90	29	29	29	29	29	29	29	29	29	29	
Zone 3	0	50	45	41	38	35	33	31	29	27	26
	10	50	45	41	38	35	33	31	29	27	26
	20	50	45	41	38	35	33	31	29	27	26
	30	48	45	41	38	35	33	31	29	27	26
	40	42	42	41	38	35	33	31	29	27	26
	50	38	38	38	38	35	33	31	29	27	26
	60	35	35	35	35	35	33	31	29	27	26
	70	33	33	33	33	33	33	31	29	27	26
	80	31	31	31	31	31	31	31	29	27	26
90	29	29	29	29	29	29	29	29	27	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 design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 7</b>		Roof Height: 0-30 ft					Panel Orientation: Portrait				
		Roof Angle: $27 < \theta \leq 45$ degrees									
		Exposure Category: B									
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	78	76	72	69	65	62	59	56	54	51
	10	70	68	65	63	61	59	57	55	53	51
	20	60	58	57	56	54	53	51	50	48	47
	30	52	52	51	50	49	48	47	46	45	44
	40	46	46	46	46	45	44	43	43	42	41
	50	42	42	42	42	42	41	41	40	39	38
	60	39	39	39	39	39	39	38	38	37	36
	70	36	36	36	36	36	36	36	36	35	35
	80	34	34	34	34	34	34	34	34	34	33
90	32	32	32	32	32	32	32	32	32	32	
Zone 2	0	78	76	72	69	65	62	58	54	51	49
	10	70	68	65	63	61	59	57	54	51	49
	20	60	58	57	56	54	53	51	50	48	47
	30	52	52	51	50	49	48	47	46	45	44
	40	46	46	46	46	45	44	43	43	42	41
	50	42	42	42	42	42	41	41	40	39	38
	60	39	39	39	39	39	39	38	38	37	36
	70	36	36	36	36	36	36	36	36	35	35
	80	34	34	34	34	34	34	34	34	34	33
90	32	32	32	32	32	32	32	32	32	32	
Zone 3	0	78	76	72	69	65	62	58	54	51	49
	10	70	68	65	63	61	59	57	54	51	49
	20	60	58	57	56	54	53	51	50	48	47
	30	52	52	51	50	49	48	47	46	45	44
	40	46	46	46	46	45	44	43	43	42	41
	50	42	42	42	42	42	41	41	40	39	38
	60	39	39	39	39	39	39	38	38	37	36
	70	36	36	36	36	36	36	36	36	35	35
	80	34	34	34	34	34	34	34	34	34	33
90	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 design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"

**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 8</b>		Roof Height: 0-30 ft					Panel Orientation: Portrait				
		Roof Angle: $27 < \theta \leq 45$ degrees									
		Exposure Category: C									
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	73	69	64	61	57	54	51	49	47	44
	10	66	63	61	58	56	54	51	49	47	44
	20	57	55	54	52	50	49	47	46	44	43
	30	51	50	49	47	46	45	44	42	41	40
	40	46	46	45	44	43	42	41	40	39	38
	50	42	42	42	41	40	39	38	38	37	36
	60	39	39	39	39	38	37	37	36	35	34
	70	36	36	36	36	36	35	35	34	34	33
	80	34	34	34	34	34	34	33	33	32	32
90	32	32	32	32	32	32	32	32	31	31	30
Zone 2	0	73	69	64	60	56	52	49	46	43	41
	10	66	63	61	58	56	52	49	46	43	41
	20	57	55	54	52	50	49	47	46	43	41
	30	51	50	49	47	46	45	44	42	41	40
	40	46	46	45	44	43	42	41	40	39	38
	50	42	42	42	41	40	39	38	38	37	36
	60	39	39	39	39	38	37	37	36	35	34
	70	36	36	36	36	36	35	35	34	34	33
	80	34	34	34	34	34	34	33	33	32	32
90	32	32	32	32	32	32	32	32	31	31	30
Zone 3	0	73	69	64	60	56	52	49	46	43	41
	10	66	63	61	58	56	52	49	46	43	41
	20	57	55	54	52	50	49	47	46	43	41
	30	51	50	49	47	46	45	44	42	41	40
	40	46	46	45	44	43	42	41	40	39	38
	50	42	42	42	41	40	39	38	38	37	36
	60	39	39	39	39	38	37	37	36	35	34
	70	36	36	36	36	36	35	35	34	34	33
	80	34	34	34	34	34	34	33	33	32	32
90	32	32	32	32	32	32	32	32	31	31	30

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"



**Rail Spans for Quick Mount PV QRail Light System**

<b>Table 9</b>		Roof Height: 0-30 ft					Panel Orientation: Portrait				
		Roof Angle: $27 < \theta \leq 45$ degrees									
		Exposure Category: D									
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	69	65	60	57	54	51	48	45	43	41
	10	63	61	58	56	53	51	48	45	43	41
	20	56	54	52	50	48	47	45	44	42	41
	30	50	49	47	46	45	43	42	41	39	38
	40	46	45	44	43	42	41	39	38	37	36
	50	42	42	41	40	39	38	37	36	36	35
	60	39	39	39	38	37	36	35	35	34	33
	70	36	36	36	36	35	35	34	33	33	32
	80	34	34	34	34	34	33	33	32	31	31
	90	32	32	32	32	32	32	31	31	30	30
Zone 2	0	69	65	60	55	51	48	45	42	40	38
	10	63	61	58	55	51	48	45	42	40	38
	20	56	54	52	50	48	47	45	42	40	38
	30	50	49	47	46	45	43	42	41	39	38
	40	46	45	44	43	42	41	39	38	37	36
	50	42	42	41	40	39	38	37	36	36	35
	60	39	39	39	38	37	36	35	35	34	33
	70	36	36	36	36	35	35	34	33	33	32
	80	34	34	34	34	34	33	33	32	31	31
	90	32	32	32	32	32	32	31	31	30	30
Zone 3	0	69	65	60	55	51	48	45	42	40	38
	10	63	61	58	55	51	48	45	42	40	38
	20	56	54	52	50	48	47	45	42	40	38
	30	50	49	47	46	45	43	42	41	39	38
	40	46	45	44	43	42	41	39	38	37	36
	50	42	42	41	40	39	38	37	36	36	35
	60	39	39	39	38	37	36	35	35	34	33
	70	36	36	36	36	35	35	34	33	33	32
	80	34	34	34	34	34	33	33	32	31	31
	90	32	32	32	32	32	32	31	31	30	30

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 77"