

Trina or REC Solar 345W with All Solar Hardware, 2019

System Size		With Monitor		- 30% Tax Credit		Wp		\$/Wp		Yrly Return *		ROI		Savings Over Installed		Usual Retail	
														@ \$3.50 *	Total Savings	Estimate	Per Panel
# Panels	3	\$ 2,452	\$ 1,717	870	\$1.97	\$ 144.55	8.4%	\$ 1.15	\$ 1,000	\$ 3,452	\$ 572.19						
	4	\$ 2,973	\$ 2,081	1160	\$1.79	\$ 192.74	9.3%	\$ 1.33	\$ 1,541	\$ 4,514	\$ 520.20						
	5	\$ 3,493	\$ 2,445	1450	\$1.69	\$ 240.92	9.9%	\$ 1.44	\$ 2,082	\$ 5,575	\$ 489.01						
	6	\$ 4,013	\$ 2,809	1740	\$1.61	\$ 289.11	10.3%	\$ 1.51	\$ 2,624	\$ 6,637	\$ 468.21						
	7	\$ 4,534	\$ 3,174	2030	\$1.56	\$ 337.29	10.6%	\$ 1.56	\$ 3,165	\$ 7,698	\$ 453.36						
	8	\$ 5,054	\$ 3,538	2320	\$1.52	\$ 385.48	10.9%	\$ 1.60	\$ 3,706	\$ 8,760	\$ 442.22						
	9	\$ 5,574	\$ 3,902	2610	\$1.50	\$ 433.66	11.1%	\$ 1.63	\$ 4,247	\$ 9,822	\$ 433.55						
	10	\$ 6,095	\$ 4,266	2900	\$1.47	\$ 481.85	11.3%	\$ 1.65	\$ 4,788	\$ 10,883	\$ 426.62						
	11	\$ 6,615	\$ 4,630	3190	\$1.45	\$ 530.03	11.4%	\$ 1.67	\$ 5,330	\$ 11,945	\$ 420.95						
	12	\$ 7,135	\$ 4,995	3480	\$1.44	\$ 578.22	11.6%	\$ 1.69	\$ 5,871	\$ 13,006	\$ 416.22						
1 Branch	13	\$ 7,656	\$ 5,359	3770	\$1.42	\$ 626.40	11.7%	\$ 1.70	\$ 6,412	\$ 14,068	\$ 412.22						
	14	\$ 8,176	\$ 5,723	4060	\$1.41	\$ 674.58	11.8%	\$ 1.71	\$ 6,953	\$ 15,129	\$ 408.80						
	15	\$ 8,696	\$ 6,087	4350	\$1.40	\$ 722.77	11.9%	\$ 1.72	\$ 7,495	\$ 16,191	\$ 405.83						
	16	\$ 9,217	\$ 6,452	4640	\$1.39	\$ 770.95	11.9%	\$ 1.73	\$ 8,036	\$ 17,253	\$ 403.23						
	17	\$ 9,737	\$ 6,816	4930	\$1.38	\$ 819.14	12.0%	\$ 1.74	\$ 8,577	\$ 18,314	\$ 400.93						
	18	\$ 10,257	\$ 7,180	5220	\$1.38	\$ 867.32	12.1%	\$ 1.75	\$ 9,118	\$ 19,376	\$ 398.89						
	19	\$ 10,778	\$ 7,544	5510	\$1.37	\$ 915.51	12.1%	\$ 1.75	\$ 9,660	\$ 20,437	\$ 397.07						
	20	\$ 11,298	\$ 7,909	5800	\$1.36	\$ 963.69	12.2%	\$ 1.76	\$ 10,201	\$ 21,499	\$ 395.43						
	21	\$ 11,818	\$ 8,273	6090	\$1.36	\$ 1,012	12.2%	\$ 1.76	\$ 10,742	\$ 22,560	\$ 393.94						
	22	\$ 12,339	\$ 8,637	6380	\$1.35	\$ 1,060	12.3%	\$ 1.77	\$ 11,283	\$ 23,622	\$ 392.59						
	23	\$ 12,859	\$ 9,001	6670	\$1.35	\$ 1,108	12.3%	\$ 1.77	\$ 11,825	\$ 24,684	\$ 391.36						
	24	\$ 13,379	\$ 9,365	6960	\$1.35	\$ 1,156	12.3%	\$ 1.78	\$ 12,366	\$ 25,745	\$ 390.23						
	25	\$ 13,900	\$ 9,730	7250	\$1.34	\$ 1,205	12.4%	\$ 1.78	\$ 12,907	\$ 26,807	\$ 389.19						
	48	\$ 25,867	\$ 18,107	13920	\$1.30	\$ 2,313	12.8%	\$ 1.82	\$ 25,355	\$ 51,223	\$ 377.23						

* Commercial Installers charge by the "Name Plate Array Capacity" instead of the actual capacity as determined by the inverter

Fees and Permits will run approximately \$115

Electrician will typically charge \$300-\$400 to run back to your breaker panel.

** Yearly Return based on not exporting anything back to the utility

Yearly Return from the

National Renewable Energy Laboratory

"PV Watts Calculator", See Below

Jan, 2019

Rail Sizing, 340 Watt PV Panels, 78.25" X 39.33" X 1.57"

Panels in Portrait #	39.33 Inches	Rail Width Ft & In
1	42.33	3'6"
2	83.66	7'
3	123	10'2"
4	162.3	13'5"
5	201.7	16'8"
6	241	20'
7	280.3	23'6"
8	319.6	26'6"
9	359	29'9"
10	398.3	33'
11	437.6	36'3"
12	477	39'6"
13	516.3	42'9"
14	555.6	46'
15	595	49'4"
16	634.3	52'6"

L-Leg Spans	
UniRac	
http://www.unirac.com/	
RAILS ?	SM SM-HD
MAX SPAN ?	
[portrait]	
Zone 1	96" 100"
Zone 2	96" 100"
Zone 3	96" 100"
MAX CANTILEVER ?	
[portrait]	
Zone 1	32" 32"
Zone 2	32" 32"
Zone 3	32" 32"

* Note that the spans work for all roof zones

Rails come in 11', 14', and 17' lengths
Lengths can be spliced.

Portrait

Panels in Landscape #	Length Inches	78.25 Ft & In
1	83.25	7'
2	161.5	13'6"
3	239.8	20'
4	318	26'6"
5	396.3	33'
6	474.5	39'7"
7	552.8	46'
8	631	52'7"
9	709.3	59'1"
10	787.5	65'8"



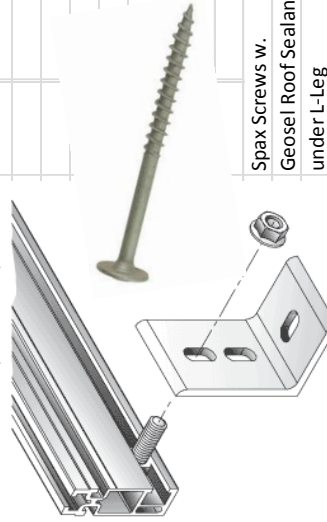
Landscape



Every 6 rafters on 16" OC
Every 4 rafters on 24" OC
So 8' spans work on most old or new roofs

For a good measurement across your roof (not down the slope), Zoom in to your address, on Google Earth or your County's GIS website. Then use the measuring tool, dragging the cursor from one point across to the other on the roof you want to measure. Then compare to the chart on the left.

L-Leg & Rail



End-clamps

Patented teeth penetrate through the anodized finish or module for a continuous bond (issue to UL2703)

Mid-clamps

Spax Screws w. Geosel Roof Sealant under L-Leg

Maximum utilization of rail with 1/4" spacing

Serrated T-bolt bonds clamp to rail