



## 7.84 KW DC PV SYSTEM

Optimal Location

28 280W Solar PV Panels  
iTek: iT-280

J. GOOCH

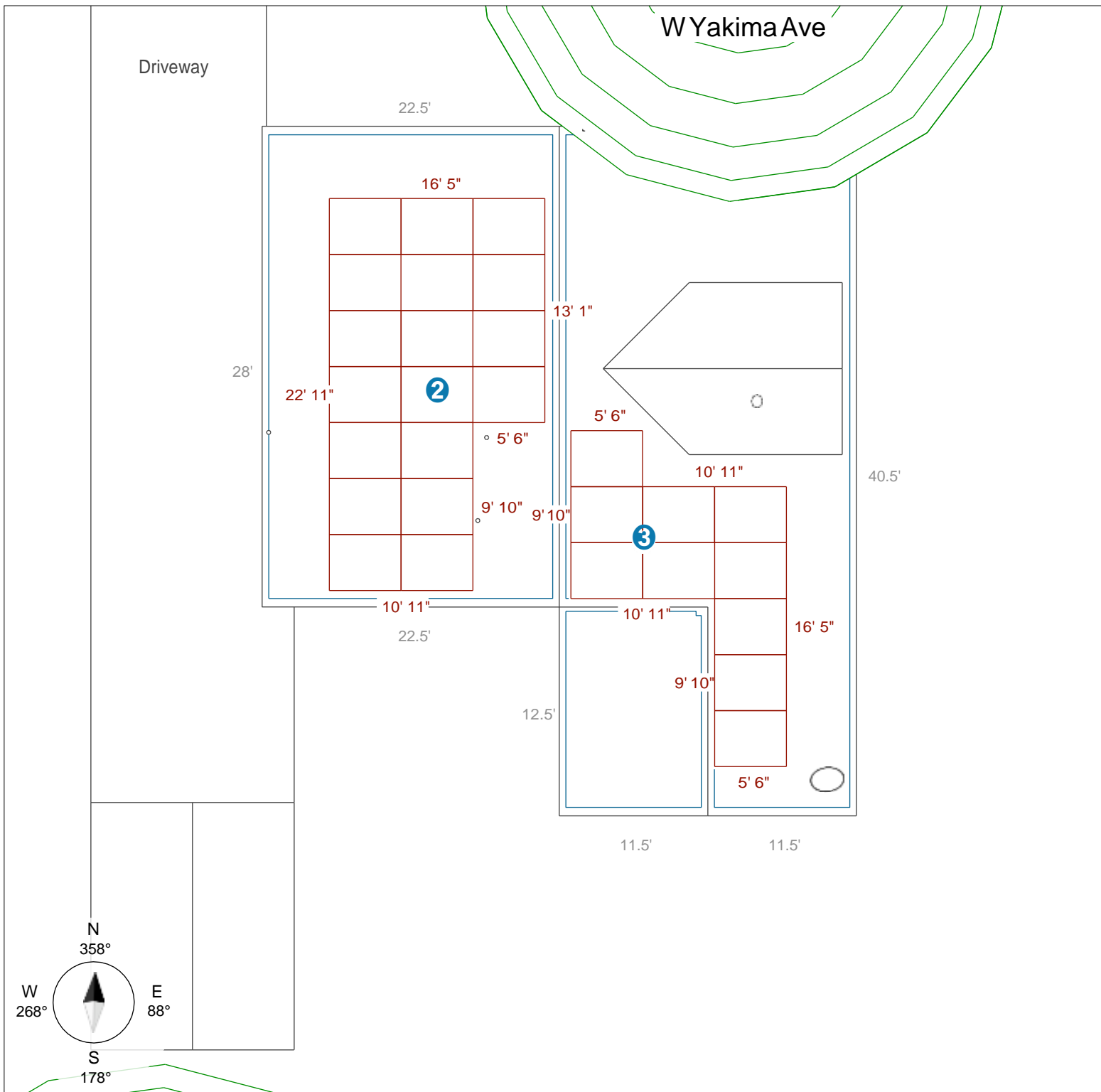
S. ALMASON

3208 W Yakima Ave  
Yakima, WA 98902

Array	Modules	Azimuth	Tilt	Yield kWh/kW/yr
②	18	268° W	40°	938
③	10	88° E	40°	948

## SITE PLAN

Design by SolaraSolar.com  
 Drawn: PV, JL. Checked: SM.  
 Date: 1/19/2016 Rev1  
 Sheet size: 8.5" x 11"  
 Scale: 1/8" = 1' 0" (1:96)





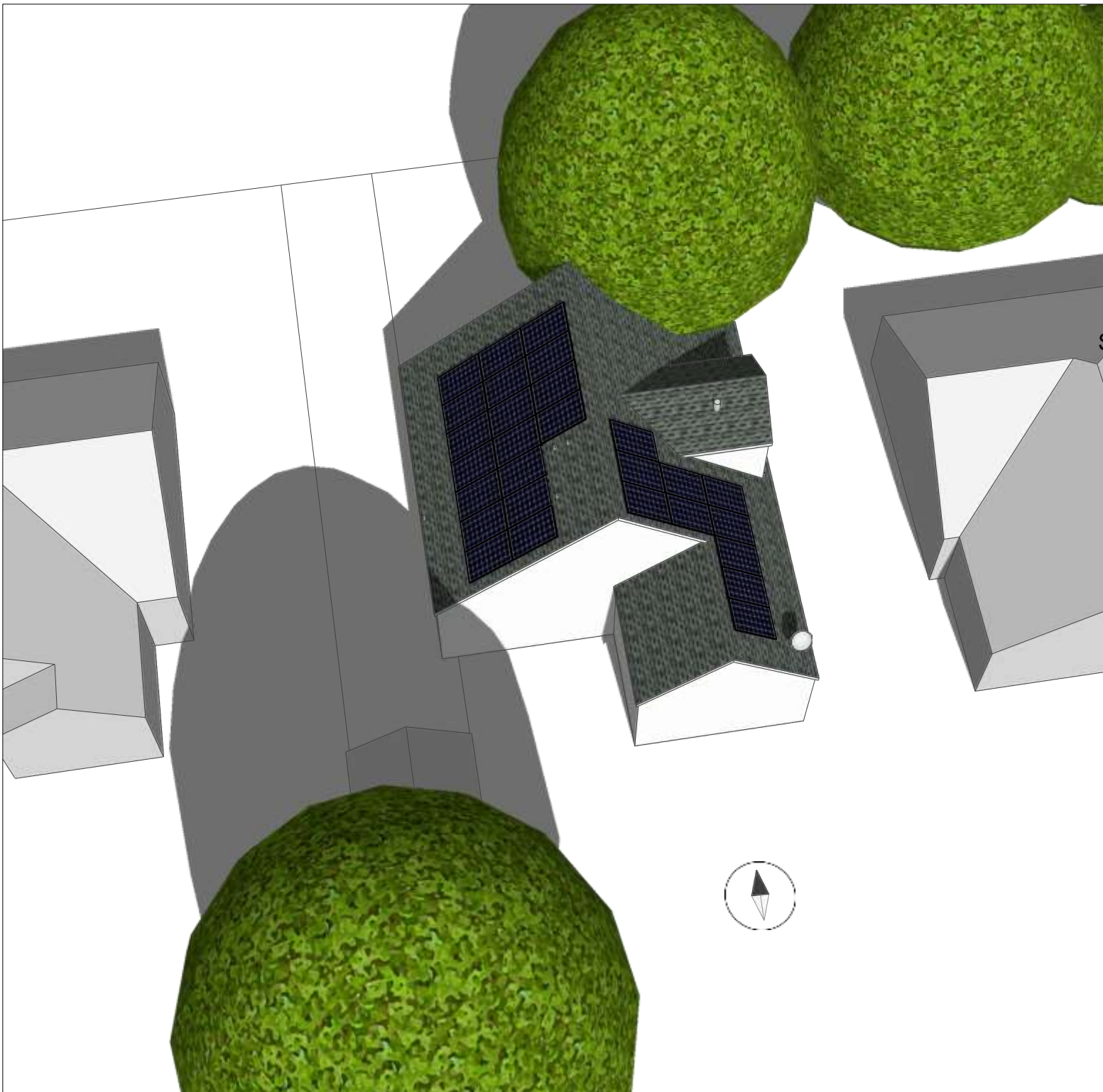
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**PERSPECTIVE  
VIEW**

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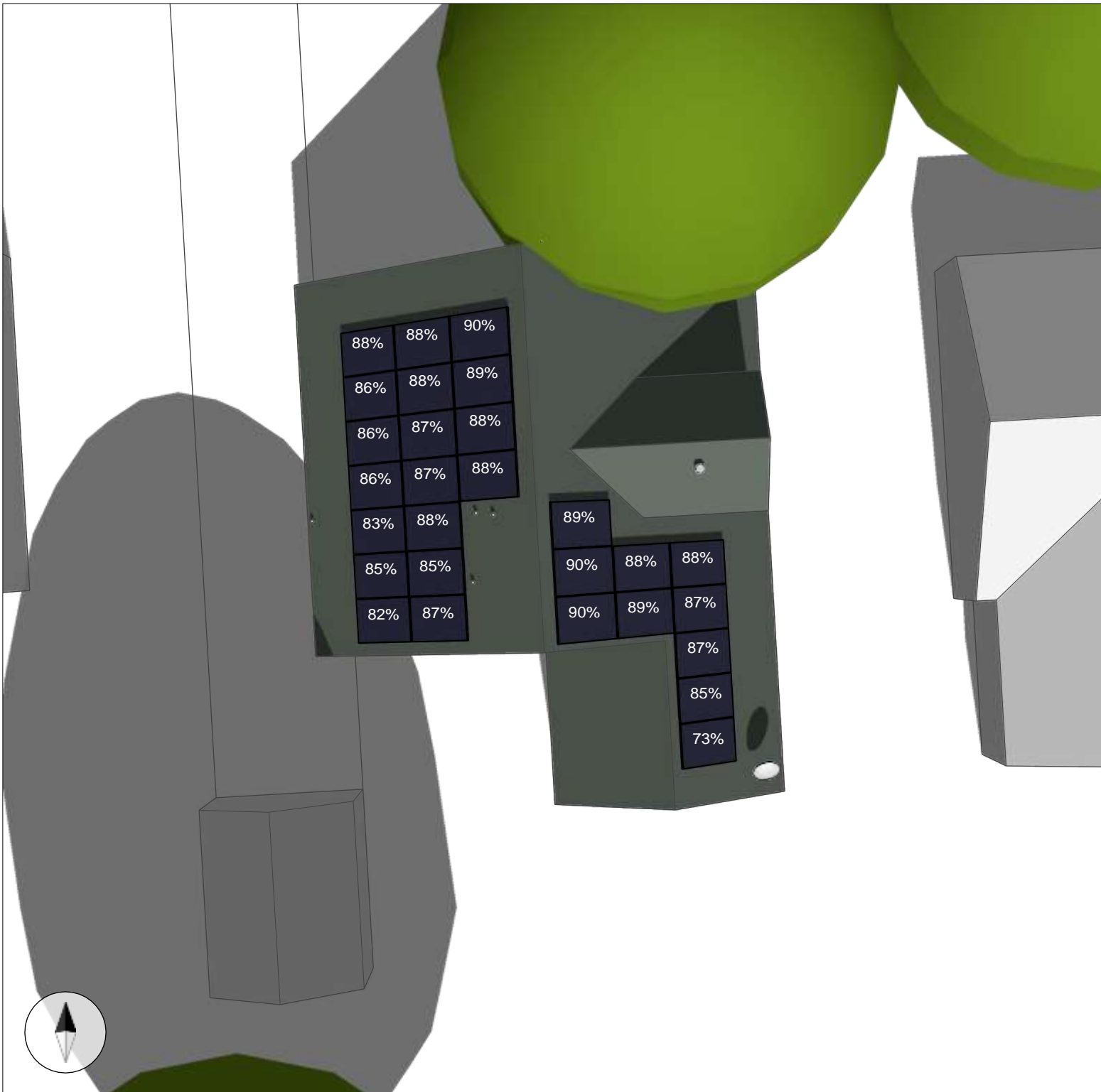


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Solar site shading analysis conducted using detailed three dimensional model to demonstrate the suitability of the site for installation of a solar energy system.

## 3D SHADING ANALYSIS

Design by SolaraSolar.com

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## SHADING ANALYSIS

ARRAY	2	3	ALL	kWh
January	57	78	65%	172
February	71	83	75%	303
March	89	84	87%	585
April	91	84	89%	768
May	91	88	90%	972
June	92	92	92%	1,036
July	94	92	93%	1,121
August	93	85	90%	948
September	91	84	89%	708
October	70	86	76%	416
November	61	80	68%	205
December	52	81	62%	149
Summer	91	88	90%	5,200
Winter	78	83	80%	2,182
Annual SAV	87	87	87%	7,383
TSRF	65	64	65%	

## PRODUCTION ESTIMATES

ARRAY	2	3	ALL
Yield (unshaded)	1,090	1,096	1,092 kWh/kW/yr
Shading derate	87	87	87%
Yield (shaded)	938	948	942 kWh/kW/yr
Azimuth	268°	88°	
Tilt	40°	40°	
Module count	18	10	28
System size	5.04	2.8	7.84 kW STC
Annual energy	4,728	2,655	7,383 kWh +/-10%

PVWatts derate factors	Default	Actual	PVWatts Data Set
Soiling	0.98	0.98	Data: TMY3
Shading	0.97	0.87	Location ID: 727810
Snow	1.00	1.00	Latitude: 46.567001°
Mismatch	0.98	0.98	Longitude: -120.550003°
Wiring	0.98	0.98	Elevation: 324 m
Connections	0.995	0.995	
Light-induced degradation	0.985	0.985	
Nameplate rating	0.99	0.99	
Availability	0.97	0.97	
<b>Overall system derate</b>	<b>0.86</b>	<b>0.771</b>	
<b>Overall system losses</b>	<b>14%</b>	<b>22.9%</b>	
Inverter efficiency	96%	97.5%	



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Production calculated using

PVWatts

[pvwatts.nrel.gov](http://pvwatts.nrel.gov)

## SYSTEM PERFORMANCE

Design by SolaraSolar.com Drawn:

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