

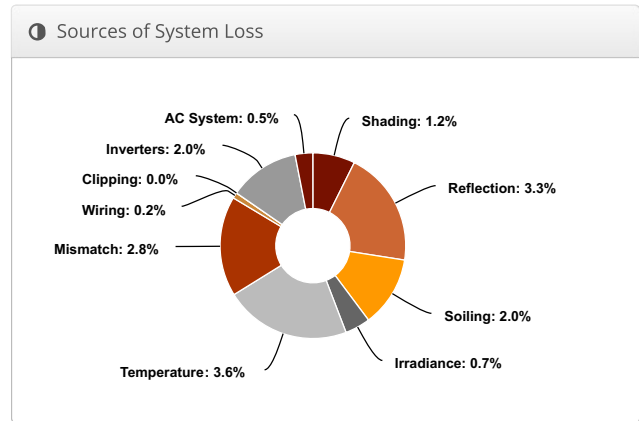
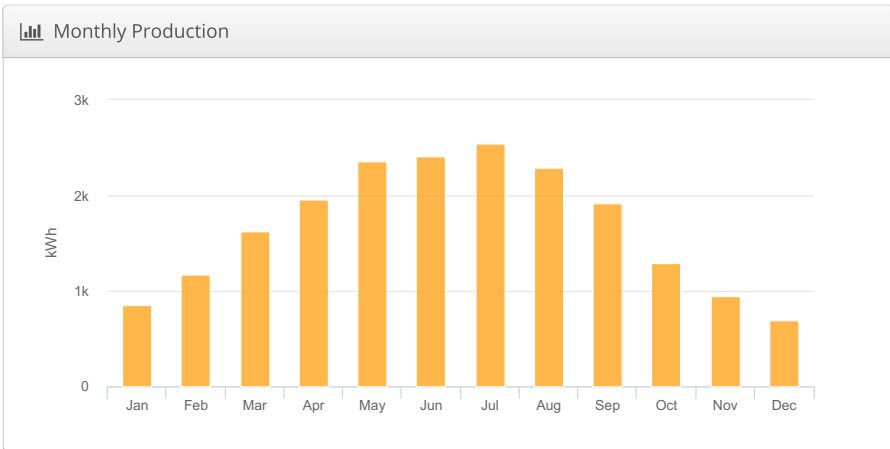
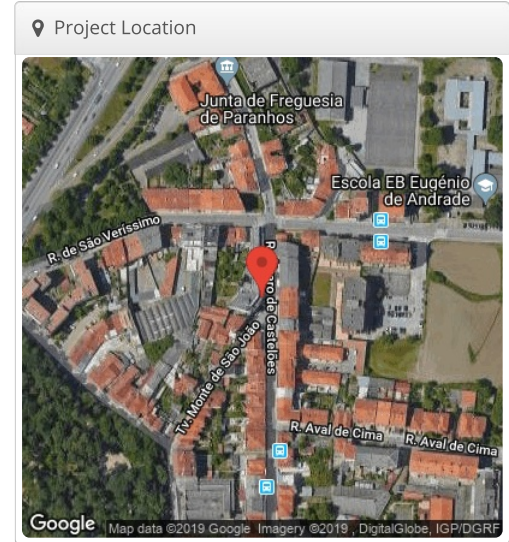
## Design 1 Cprismenergia, Rua Álvaro de Castelões 651, Porto

Report	
Project Name	Cprismenergia
Project Description	Sistema fotovoltaico
Project Address	Rua Álvaro de Castelões 651, Porto
Prepared By	Henrique Pinho compendiumprism@gmail.com



**CPrism Energia**  
Comércio e Equipamentos de Energia

System Metrics	
Design	Design 1
Module DC Nameplate	13.5 kW
Inverter AC Nameplate	15.0 kW Load Ratio: 0.90
Annual Production	20.08 MWh
Performance Ratio	85.3%
kWh/kWp	1,490.3
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	3952c1f3a1-0df2bc3909-c2e13ce5bf-f0cfeafbbc



### Annual Production

	Description	Output	% Delta
Irradiance (kWh/m <sup>2</sup> )	Annual Global Horizontal Irradiance	1,579.7	
	POA Irradiance	1,747.8	10.6%
	Shaded Irradiance	1,726.9	-1.2%
	Irradiance after Reflection	1,670.5	-3.3%
	Irradiance after Soiling	1,637.1	-2.0%
	<b>Total Collector Irradiance</b>	<b>1,637.1</b>	<b>0.0%</b>
Energy (kWh)	Nameplate	22,174.8	
	Output at Irradiance Levels	22,015.6	-0.7%
	Output at Cell Temperature Derate	21,229.2	-3.6%
	Output After Mismatch	20,627.3	-2.8%
	Optimal DC Output	20,594.2	-0.2%
	Constrained DC Output	20,594.0	0.0%
	Inverter Output	20,182.2	-2.0%
	<b>Energy to Grid</b>	<b>20,081.2</b>	<b>-0.5%</b>

Temperature Metrics	
Avg. Operating Ambient Temp	17.0 °C
Avg. Operating Cell Temp	26.1 °C

Simulation Metrics	
Operating Hours	4562
Solved Hours	4562

### Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Sandia Model											
Temperature Model Parameters	Rack Type	a	b	Temperature Delta								
	Fixed Tilt	-3.56	-0.075	3°C								
	Flush Mount	-2.81	-0.0455	0°C								
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											
Module Characterizations	Module	Characterization										
	AC-275M/156-60S (Axitec)	Spec Sheet Characterization, PAN										
Component Characterizations	Device	Characterization										
	STP 15000TL-30 (SMA)	Spec Sheet										

### Components

Component	Name	Count
Inverters	STP 15000TL-30 (SMA)	1 (15.0 kW)
Strings	10 AWG (Copper)	3 (42.4 m)
Module	Axitec, AC-275M/156-60S (275W)	49 (13.5 kW)

### Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	8-23	Along Racking

### Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Portrait (Vertical)	15°	195°	1.0 m	1x1	49	49	13.5 kW

### Detailed Layout

