

voltec 385 toiture plate COSEC Lumes, Rue des Écoles, Lumes

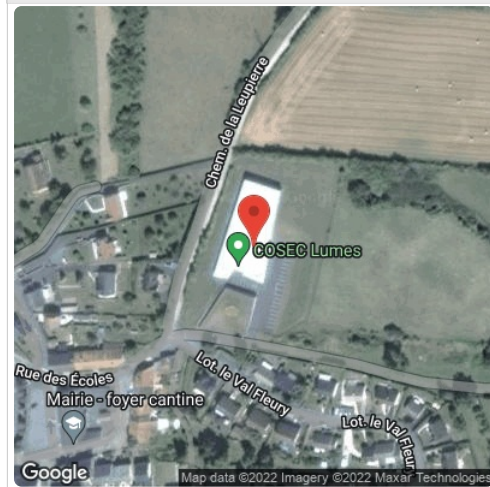
Report

Project Name	COSEC Lumes
Project Address	Rue des Écoles, Lumes
Prepared By	Kamar Amine kamin008@fiu.edu

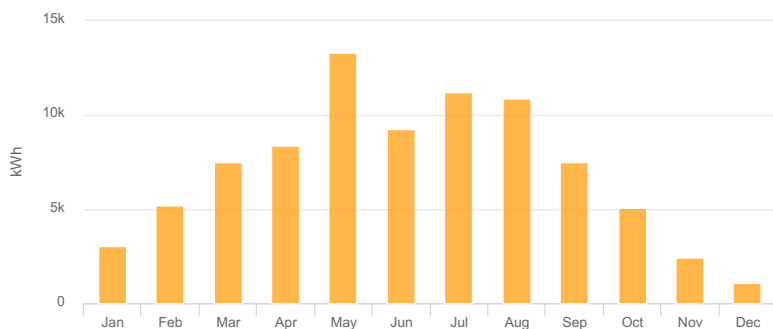
System Metrics

Design	voltec 385 toiture plate
Module DC Nameplate	75.8 kW
Inverter AC Nameplate	62.7 kW Load Ratio: 1.21
Annual Production	84.84 MWh
Performance Ratio	87.2%
kWh/kWp	1,118.6
Weather Dataset	TMY, unknown, ECMWF/ERA (custom)
Simulator Version	618879a04b-a65f959b90-668837a848-460061af17

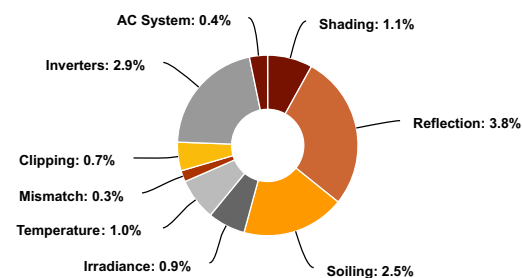
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,169.8	
	POA Irradiance	1,282.7	9.7%
	Shaded Irradiance	1,268.7	-1.1%
	Irradiance after Reflection	1,221.1	-3.8%
	Irradiance after Soiling	1,190.6	-2.5%
	Total Collector Irradiance	1,190.6	0.0%
Energy (kWh)	Nameplate	90,314.1	
	Output at Irradiance Levels	89,491.8	-0.9%
	Output at Cell Temperature Derate	88,584.1	-1.0%
	Output After Mismatch	88,342.0	-0.3%
	Optimal DC Output	88,342.0	0.0%
	Constrained DC Output	87,728.3	-0.7%
	Inverter Output	85,214.6	-2.8%
	Energy to Grid	84,840.1	-0.4%
Temperature Metrics			
	Avg. Operating Ambient Temp		12.3 °C
	Avg. Operating Cell Temp		19.3 °C
Simulation Metrics			
	Operating Hours	4211	
	Solved Hours	4211	

Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, unknown, ECMWF/ERA (custom)											
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
	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	3.00%											
Module Characterizations	Module					Uploaded By			Characterization			
	TARKA 126 VSBD 385 (Voltec Solar)					HelioScope			Spec Sheet Characterization, PAN			
Component Characterizations	Device			Uploaded By					Characterization			

Components		
Component	Name	Count
Inverters	IQ8D-72-x-208 (Enphase)	99 (62.7 kW)
AC Branches	1000 MCM (Aluminum)	11 (1,029.3 m)
Module	Voltec Solar, TARKA 126 VSBD 385 (385W)	197 (75.8 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	2-4	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Portrait (Vertical)	15°	193.27425°	1.5 m	1x1	197	197	75.8 kW

