



MAR 28, 2017, 08:36 PM

PROJECT TITLE: PORTLAND PUBLIC LIBRARY  
PROJECT ID: 4E88FEEA

Name:	Portland Public Library	Designed by	rocky@mainegreensun.com
Address:	5 Monument Way	RM-BALLASTED FLAT ROOF	
City, State:	Portland, ME, 04101	27 - 305 Watt Panels	
Module:	Canadian Solar CS6X-305P	127167 Sq Ft.	
	305 Watts	8.2 kW	

### ENGINEERING REPORT

#### Plan review

Average PSF:	6.99 lbs/ft <sup>2</sup>
Total weight on roof:	6175 lbs
- Racking weight:	136 lbs
- Module weight:	1366 lbs
- Ballast weight:	4672 lbs
- Max Bay Load (Dead):	182 lbs
- Max Bay Load (Dead + Snow):	1013 lbs

#### Loads Used for Design

- Building Code:	ASCE 7-10
- Wind Speed:	115 mph
- Ground Snow Load:	50 psf
- Roof Snow Load:	37.8 psf
- Seismic (Ss):	0.24
- Wind Exposure:	B

#### Loads Determined by Zip

- City, State:	Portland, ME
- Wind Speed:	115 mph
- Ground Snow Load:	70 psf

#### Inspection

Product:	RM-BALLASTED FLAT ROOF
Module Manufacturer:	Canadian Solar
Model:	CS6X-305P
Module Watts:	305 watts
Module Length:	76.93 "
Module Width:	38.70 "
Module Thickness:	1.57 "
Module Weight:	50.60 lbs
Ballast Block Weight:	32 lbs
Max Blocks per Bucket:	4
Building Height:	50 ft
Roof Type:	EPDM
Parapet Height:	>= 2 ft

## WORKSPACE 1

<b>Average PSF:</b>	6.99 lbs/ft <sup>2</sup>
<b>Total Number of Modules:</b>	27
<b>Total KW:</b>	8.2 KW
<b>Total Area:</b>	883 ft <sup>2</sup>
<b>Total weight on roof:</b>	6175 lbs
- Racking weight:	136 lbs
- Module weight:	1366 lbs
- Ballast weight:	4672 lbs

### Minimum Seismic Separation (Unattached Arrays) \*

- Array to Array:	3 in
- To Obstruction or Parapet:	6 in
- To Roof Edge (no Parapet):	9 in

### Max Array (Seismic) (For Unattached Arrays) \*

- NS Rows:	160
- EW Columns:	150

*\*In jurisdictions that follow SEAOC PV-1 methodology.*