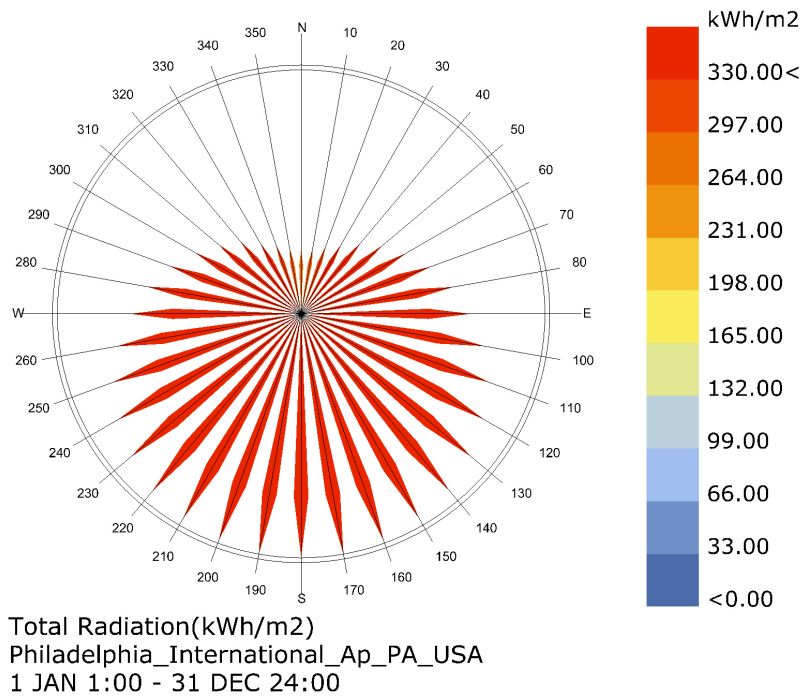


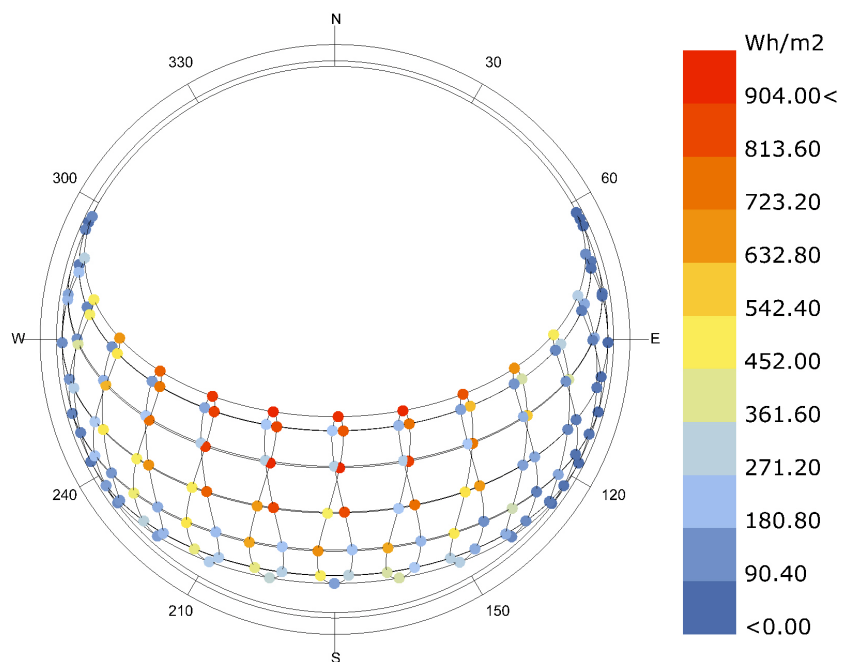
Important Passive Design Strategies:

- 1) Blocking the solar radiation that reaches extreme heat during the summer month.
- 2) Radiation can be harmful as heat gain, but useful for generating electricity with the use of photovoltaic panels.

Radiation Rose Philadelphia, PA



Sun Path Philadelphia, PA



3) Wind energy could be a useful source of alternative energy if positioned to collect the consistent winds coming from the West.

Wind rose plot showing wind speed frequency by direction. The plot is circular with concentric rings representing frequency. The color scale on the right indicates wind speed in m/s, ranging from <0.00 (dark blue) to 9.00 (red). The plot shows a primary wind direction from the West-Northwest (WNW) and a secondary peak from the West (W).

Direction	Frequency	Wind Speed (m/s)
N	4.14	4.08
NNE	3.19	3.09
NE	4.35	4.16
ENE	6.52	4.04
E	6.7	3.22
ESE	3.21	2.89
SE	2.67	3.32
SSE	3.33	3.74
S	6.63	4.22
SSW	4.05	9.21
SW	4.14	7.85
WSW	3.81	9.54
W	4.34	10.37
WNW	5.48	8.23
NW	5.36	4.5
NNW	5.91	4.14

Outdoor Comfort
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