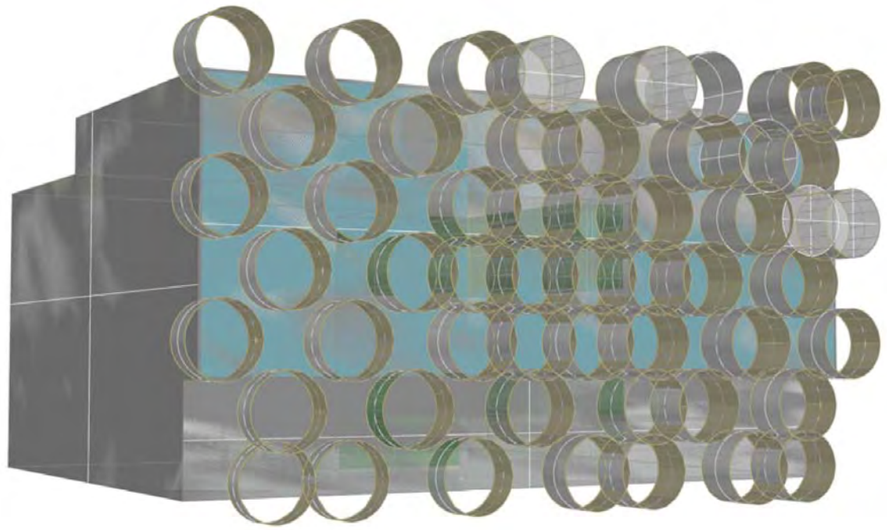
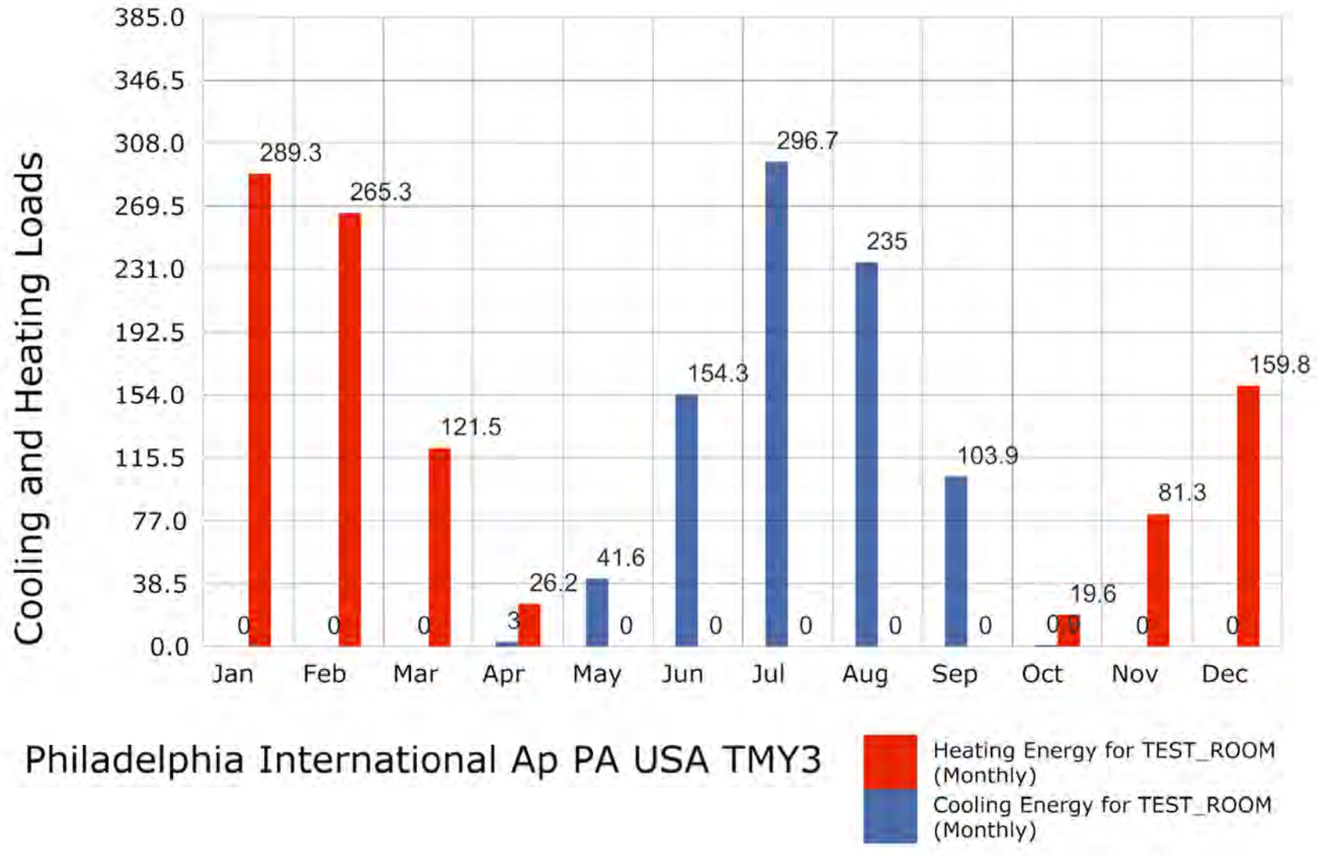
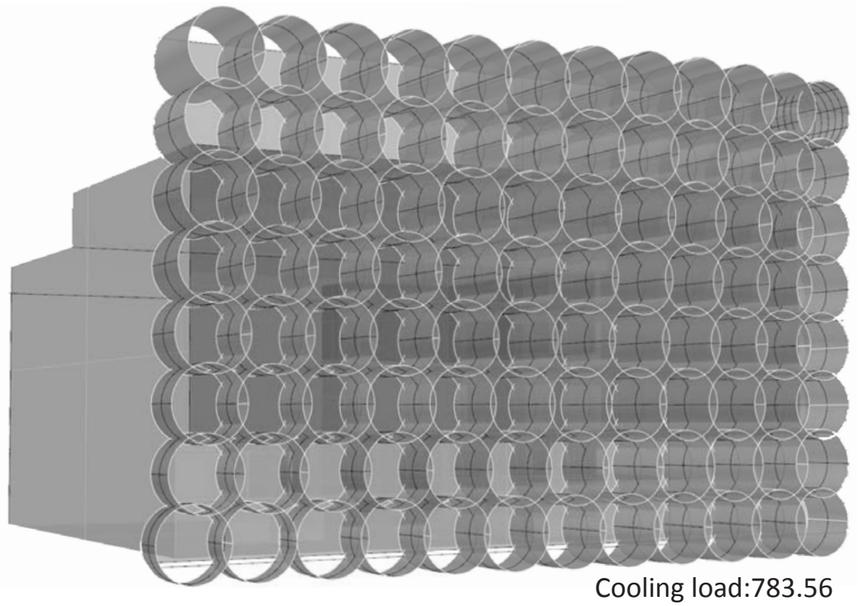
Cylinders Shading
_heating and cooling load



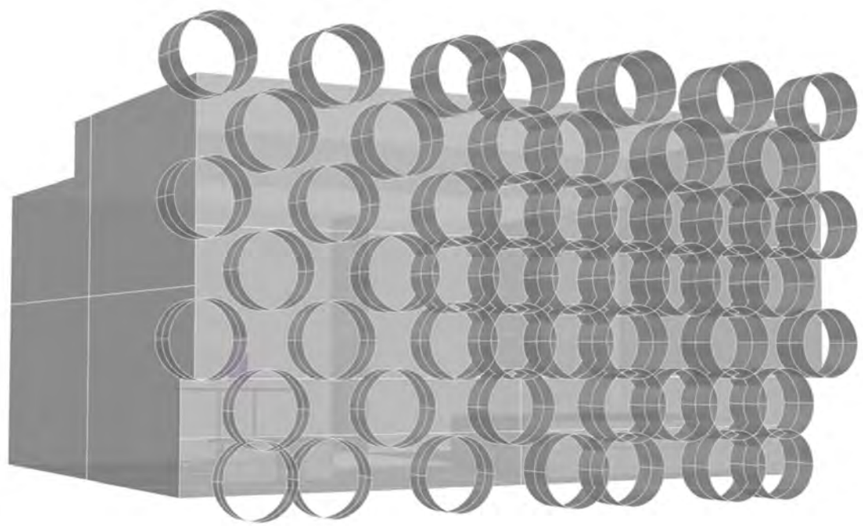


The heating and cooling energy of the origin cylinder shape shadings are (H)1231 kwh (C)784 kwh. To reduce the heating load without adding cooling load, the shadings are adjust according to the sun paths during winter months. The sun paths during winter months have greater effects on the lower part of the window surface so the shading units are reduced to allow more radiant heat. The shading units are added on the upper right to balance the adding radiant heat during summer. The best result is(H) 963 kwh (C) 835 kwh, and the total is 1798kwh.

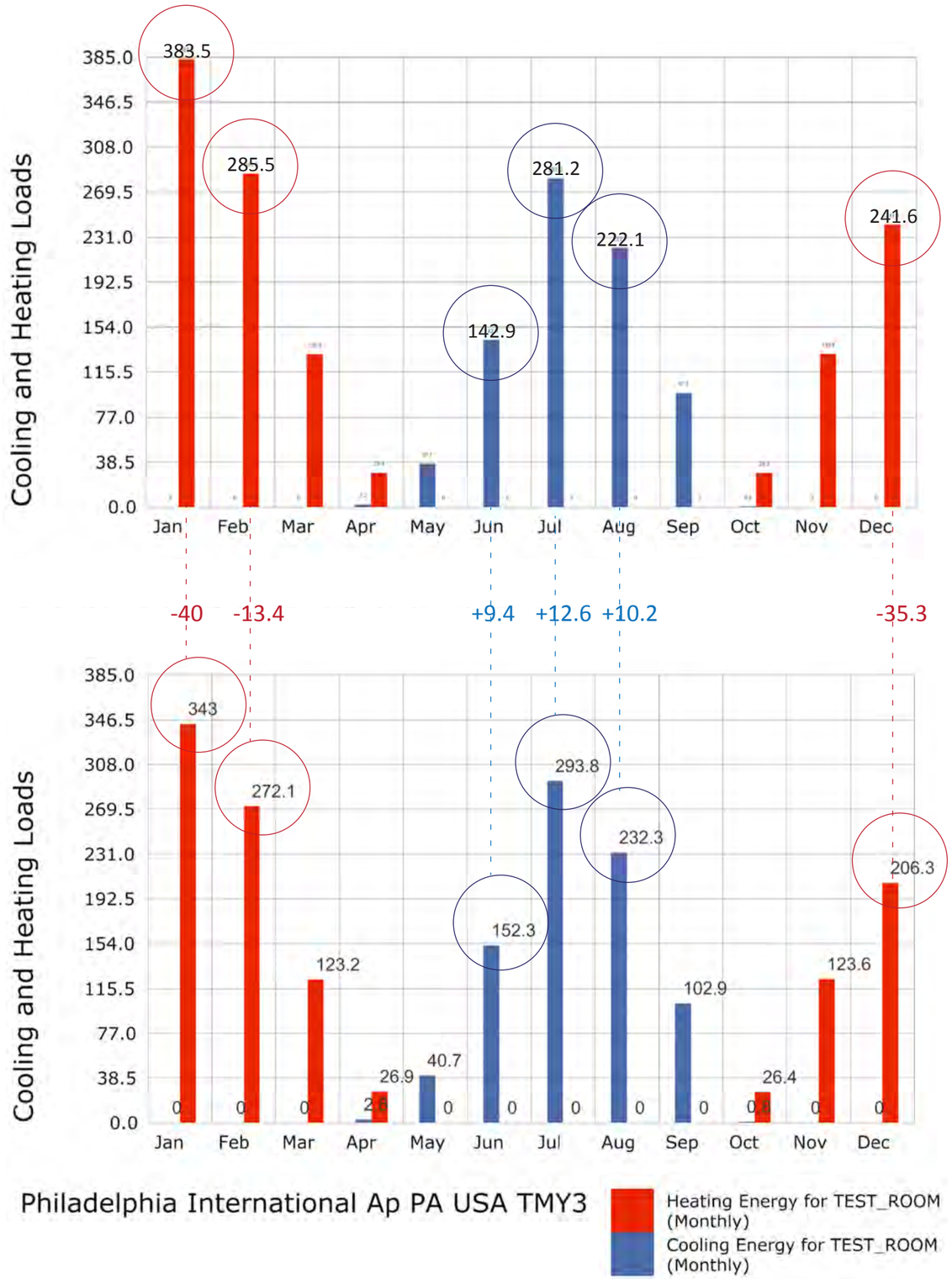


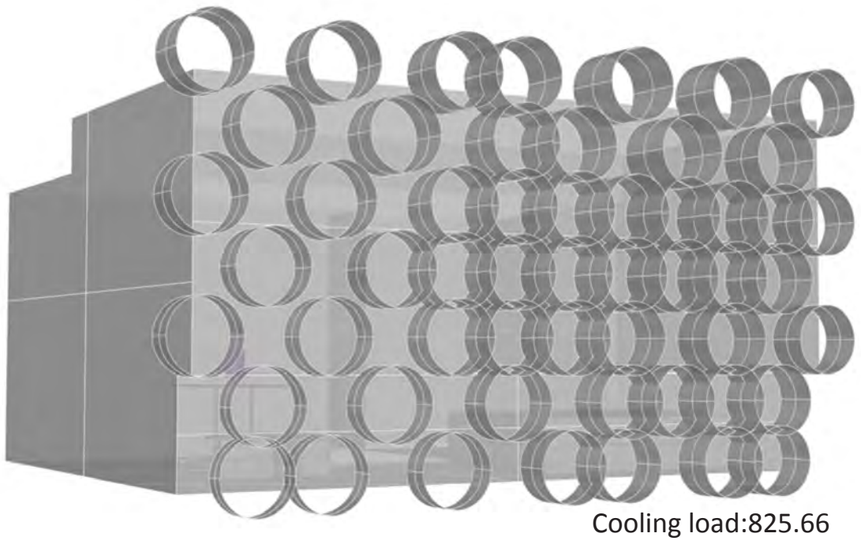
Cooling load:783.56
Heating load:1230.69
C+H=2014.25

Reduce heating loads by allowing more direct sunlight and adjust the shading according to sunpath of Dec, Jan and Feb from 9 am to 15 pm.

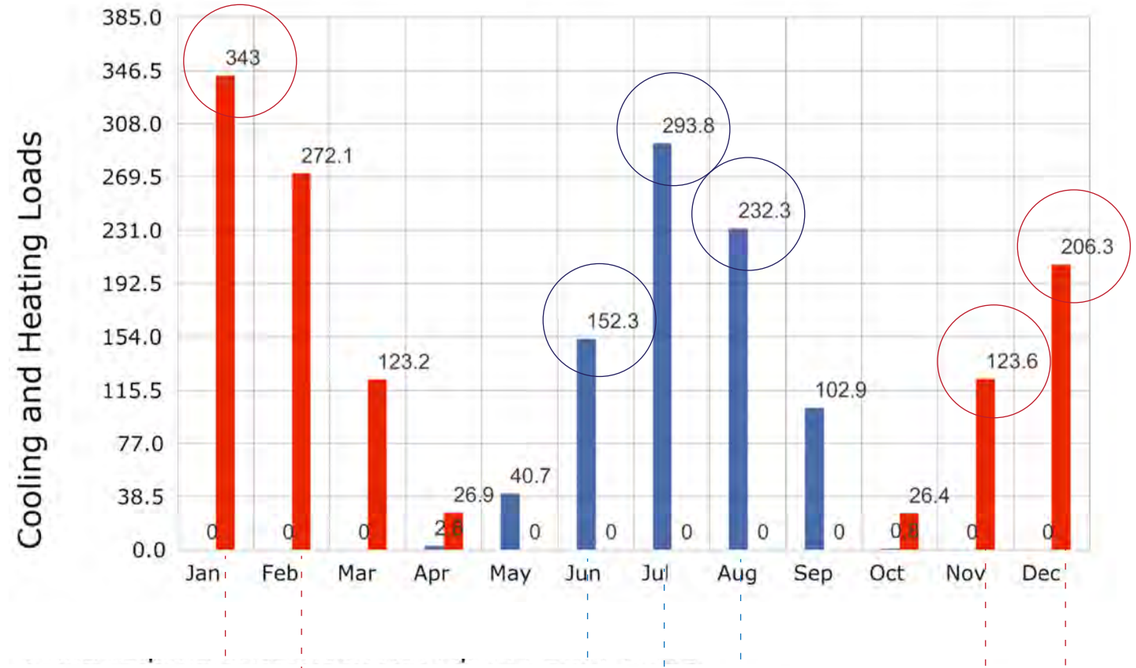


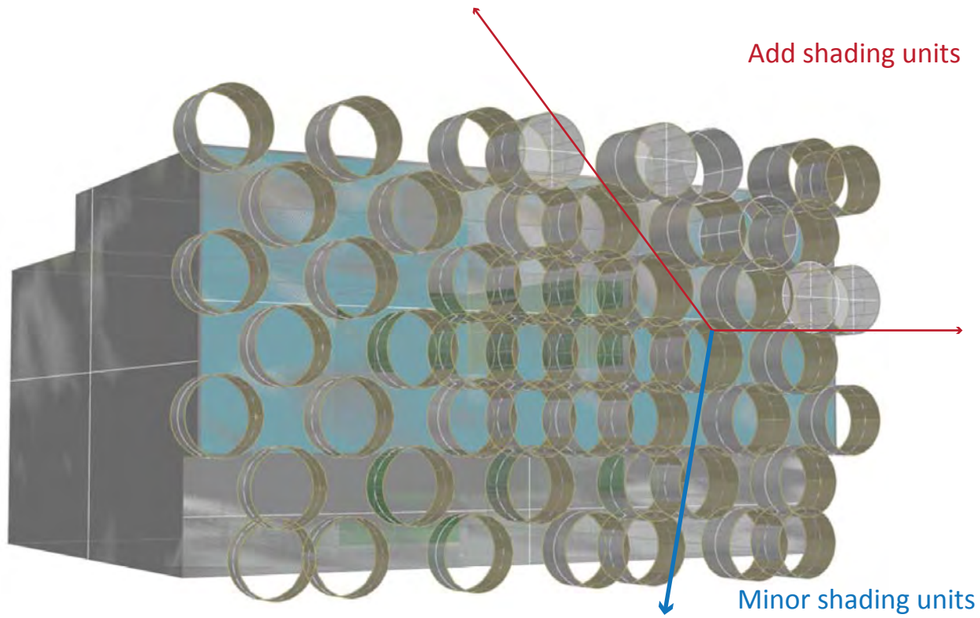
Cooling load:825.66
Heating load:1121.51
C+H=1947.17





Cooling load:825.66
Heating load:1121.51
C+H=1947.17





Cooling load:835.31
Heating load:962.85
C+H=1798.16