

# Shading Grid

## Integrated Daylighting & Energy Simulation

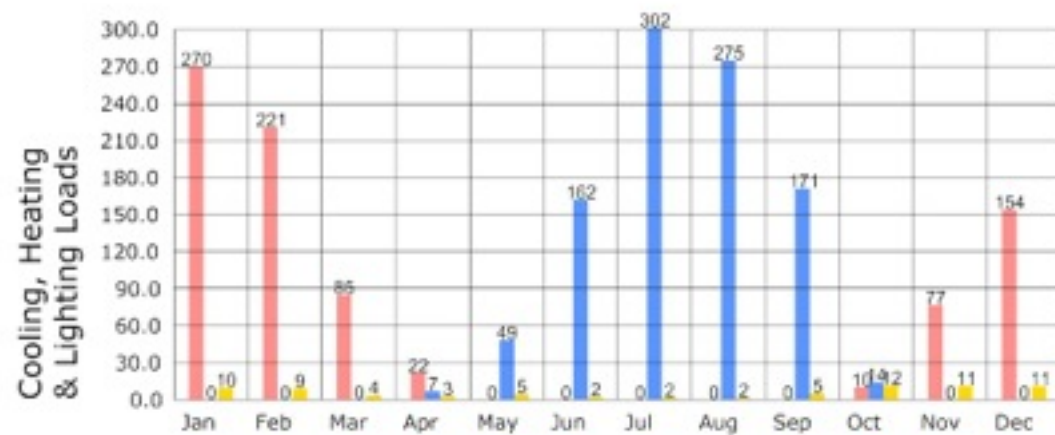
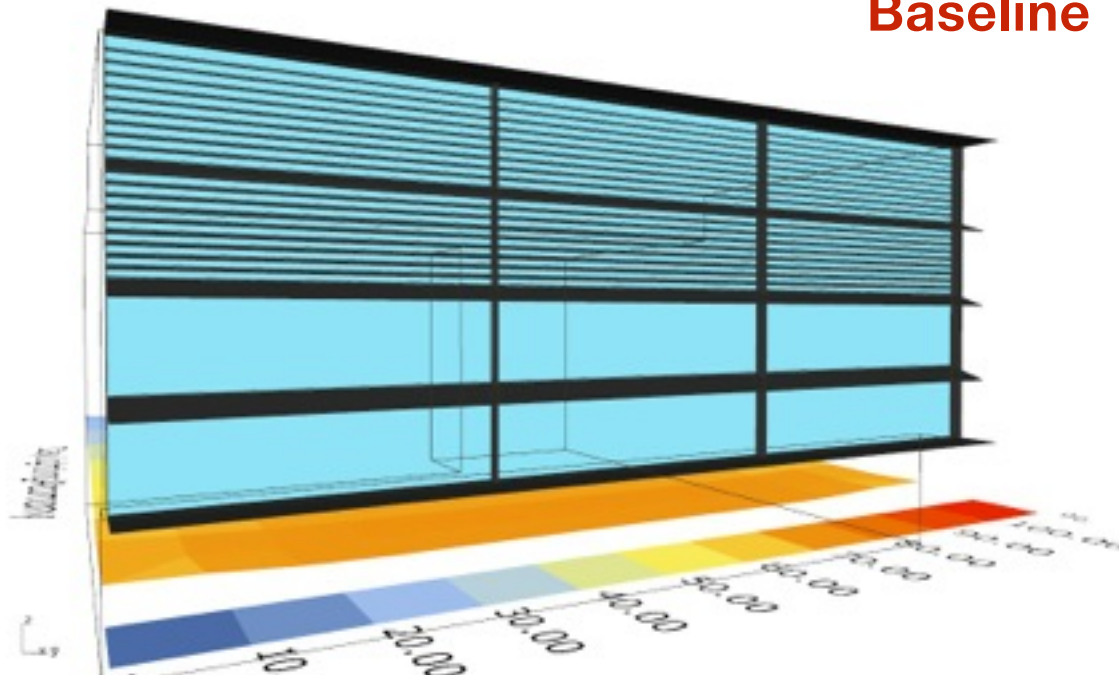
To minimize energy and lighting loads, the grid shading system allows designer to optimize shading only by changing numbers, depths and angles of shading.

By manipulating elements, the total energy loads has been decreased by 280 in total, and the lighting loads has been dropped by 50.

JeeEun Lee

11/09/15

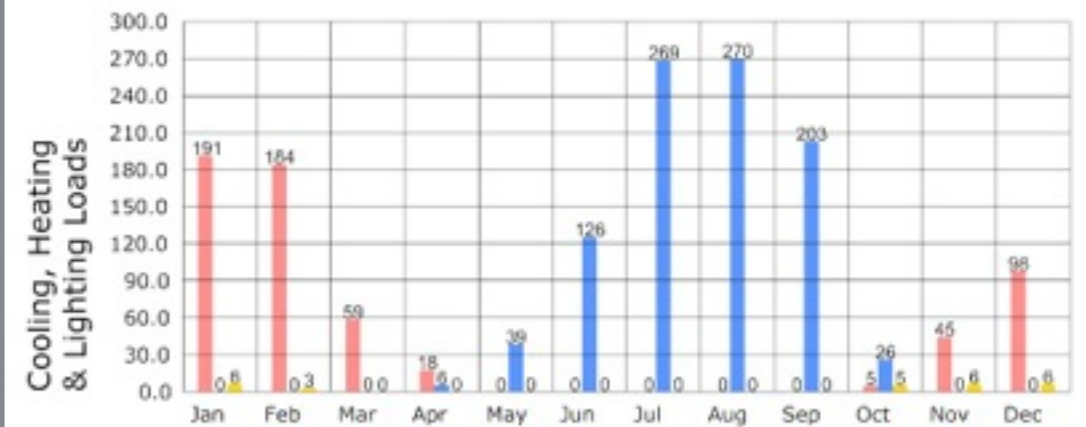
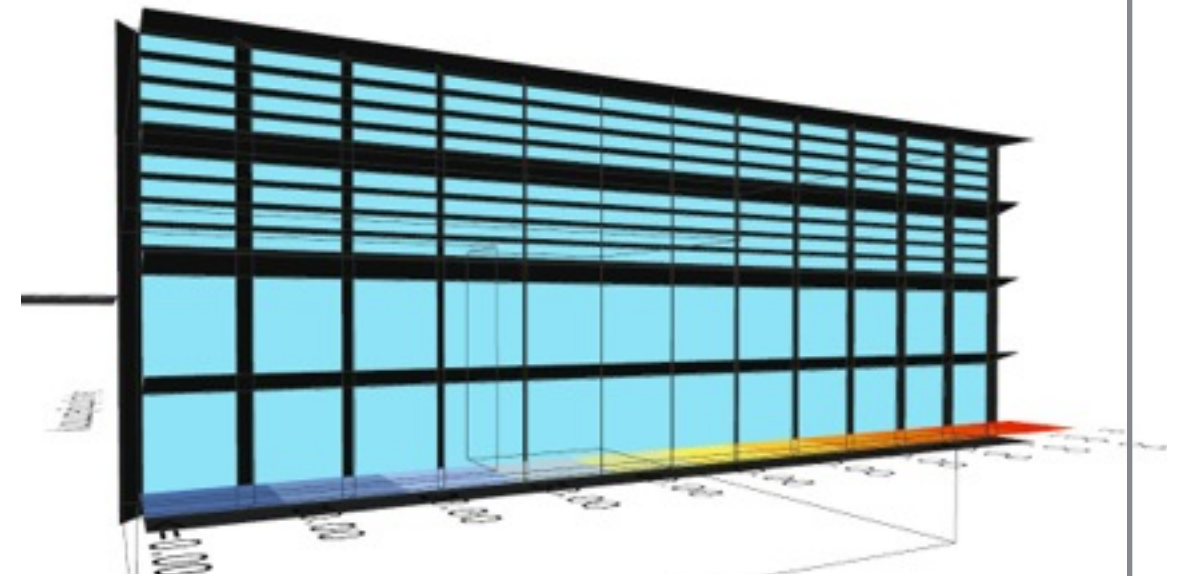
Baseline



Philadelphia International Ap PA USA TMY3

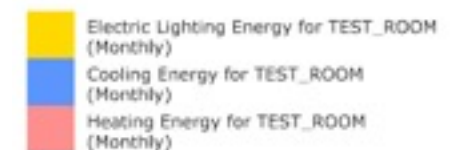
Cooling Loads: 980  
Heating Loads: 839  
Cooling&Heating: 1819  
Lighting Loads: 77

Final

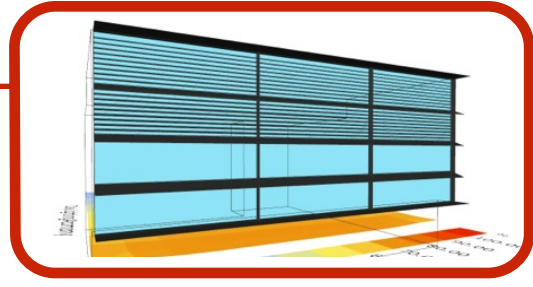


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Cooling Loads: 939 (-41)  
Heating Loads: 600 (-239)  
Cooling&Heating: 1539 (-280)  
Lighting Loads: 27 (-50)

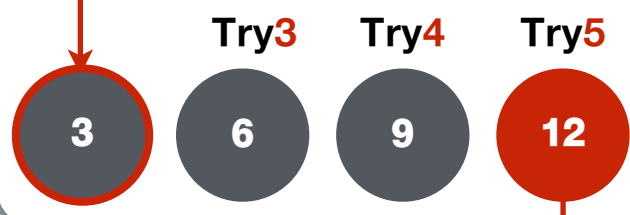


## Vertical Angle



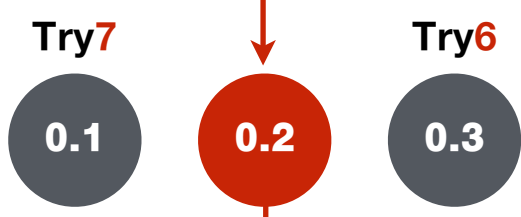
**BASELINE**

## Horizontal Number

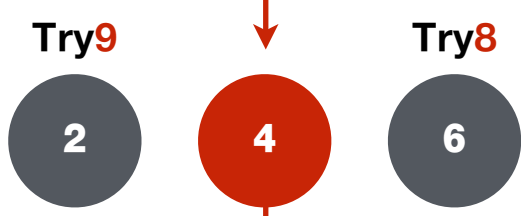


To figure out which element increase or decrease energy and lighting loads, I changed the elements one by one.

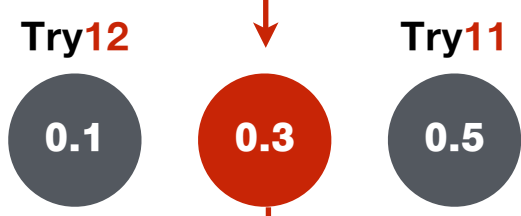
## Vertical Depth



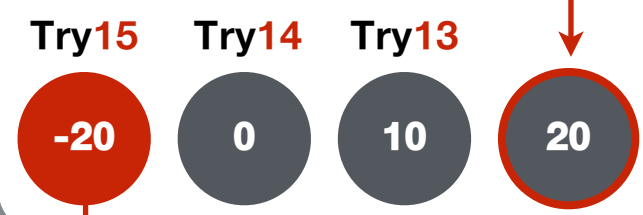
## Vertical Number



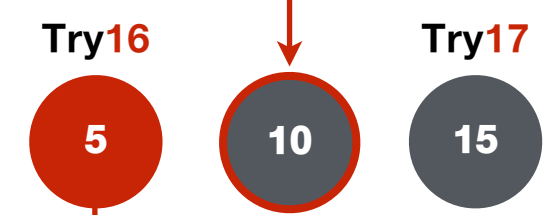
## Shading A Depth



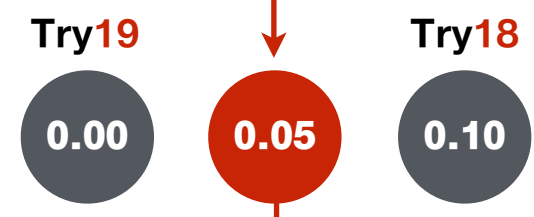
## Shading A Angle



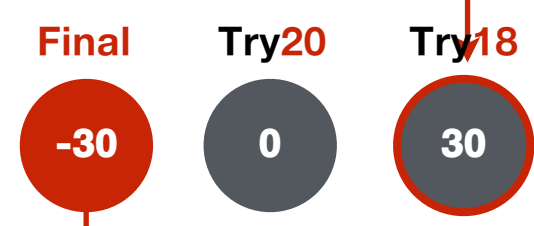
## Shading B Number



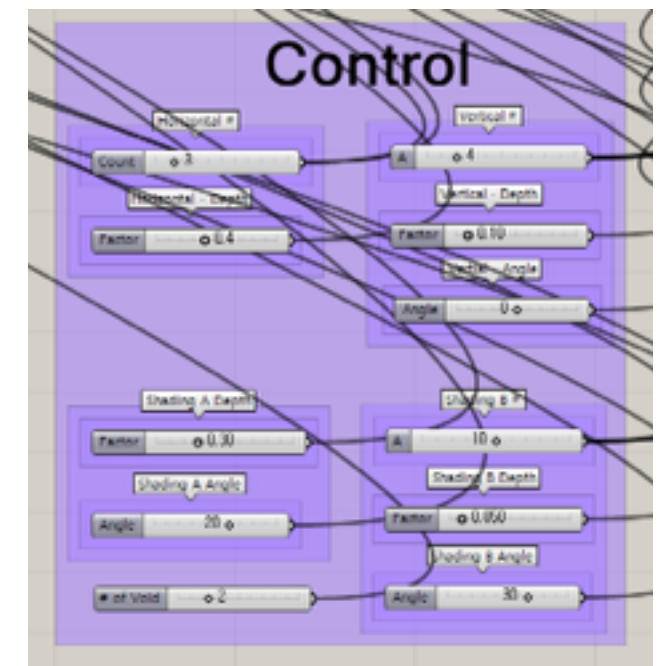
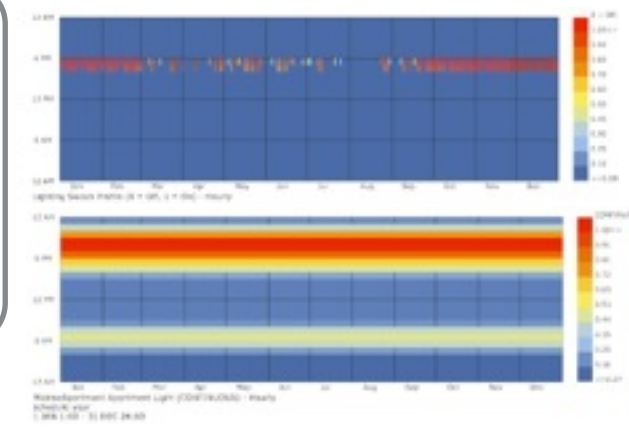
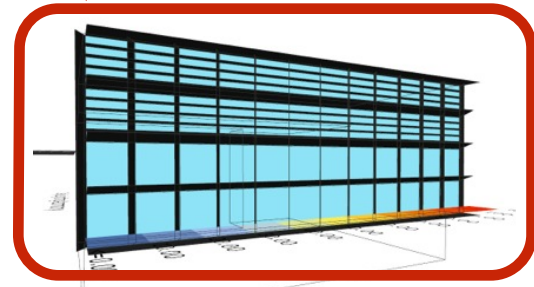
## Shading B Depth



## Shading B Depth

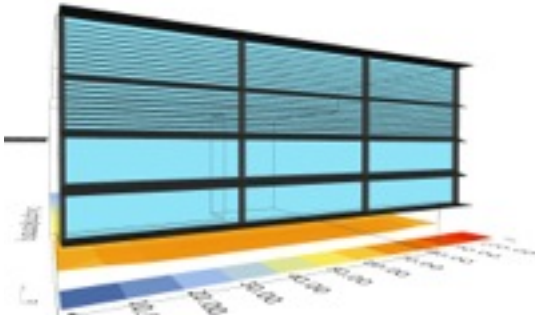


**FINAL**

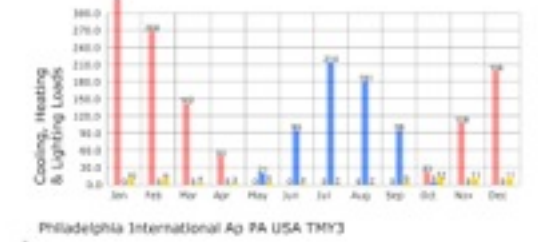
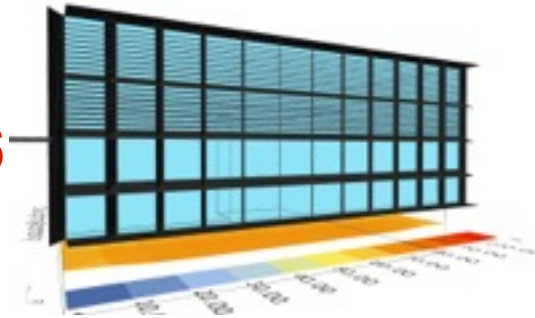




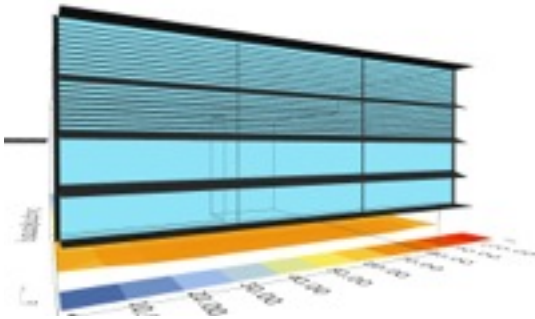
Try1



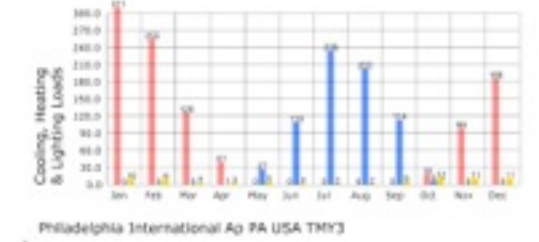
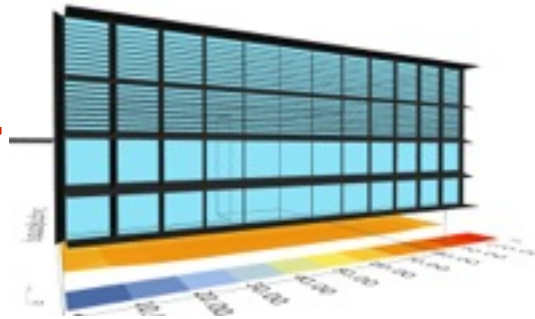
Try6



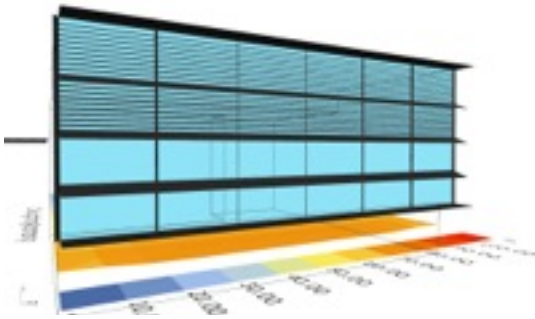
Try2



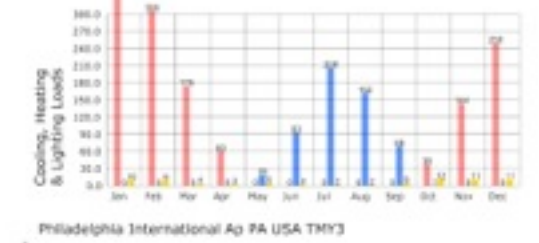
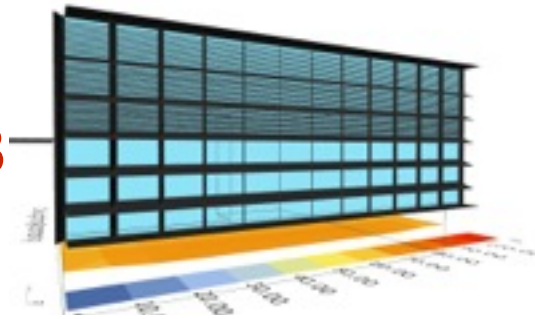
Try7



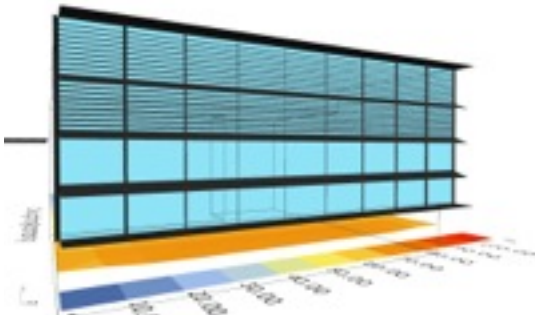
Try3



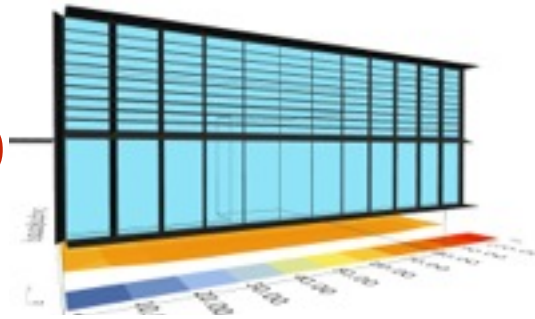
Try8



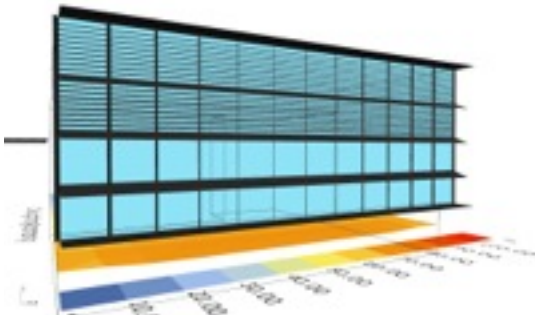
Try4



Try9



Try5



Try10

