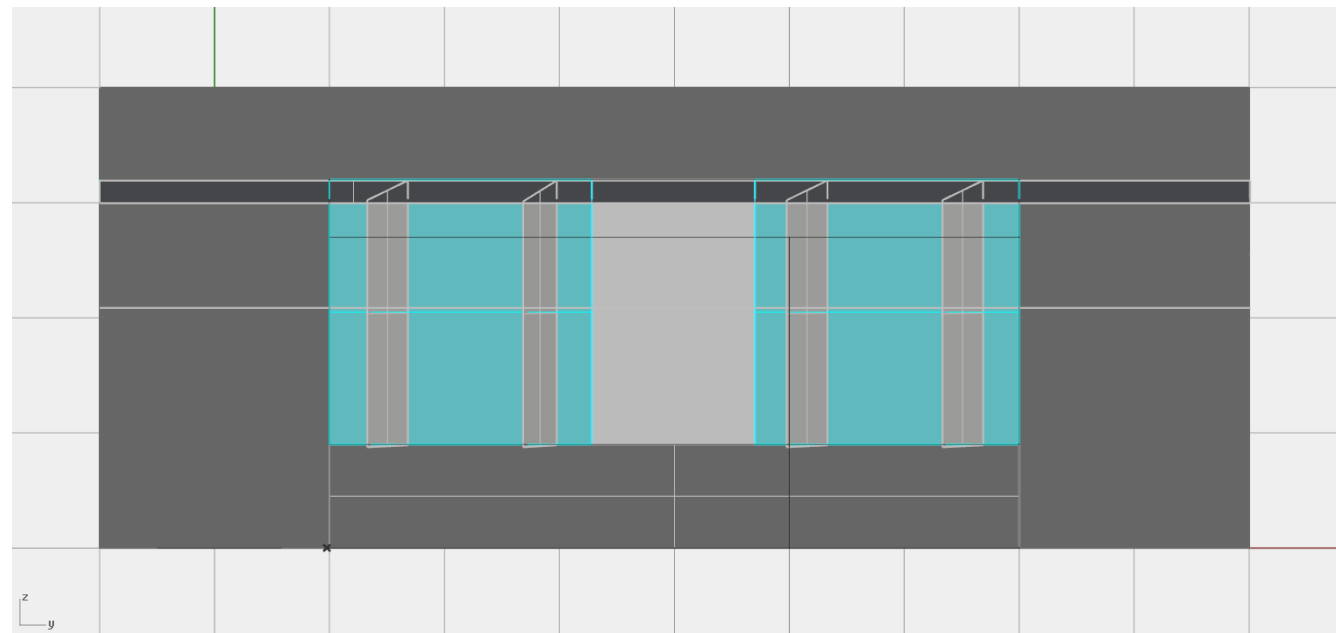


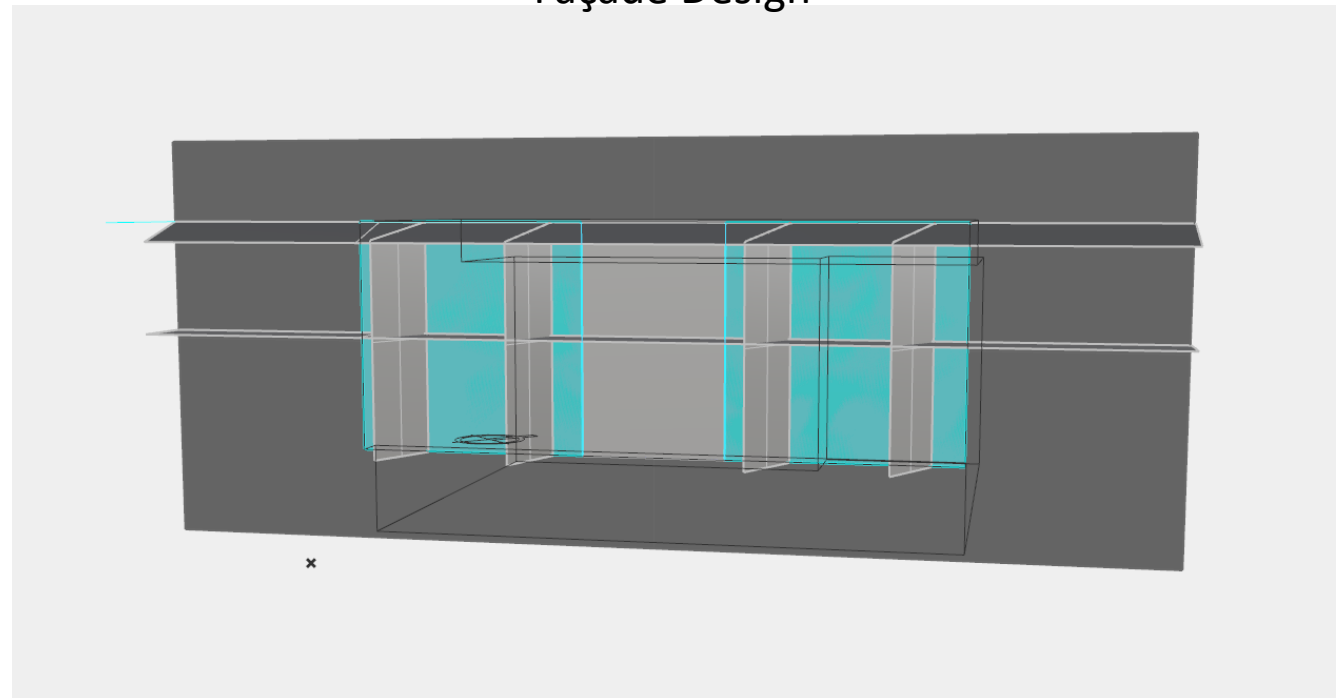
Energy+Daylight Simulation

The shading elements and facade openings were designed to minimize the solar heat gain coming from the southeast direction. Through minimizing solar infiltration to indoor spaces, the amount of energy consumption is directly affected.

Due to the orientation of the façade, horizontal shading elements focus on minimizing solar infiltration from the south, while the vertical element focus on the exposure from the east.



Façade Design

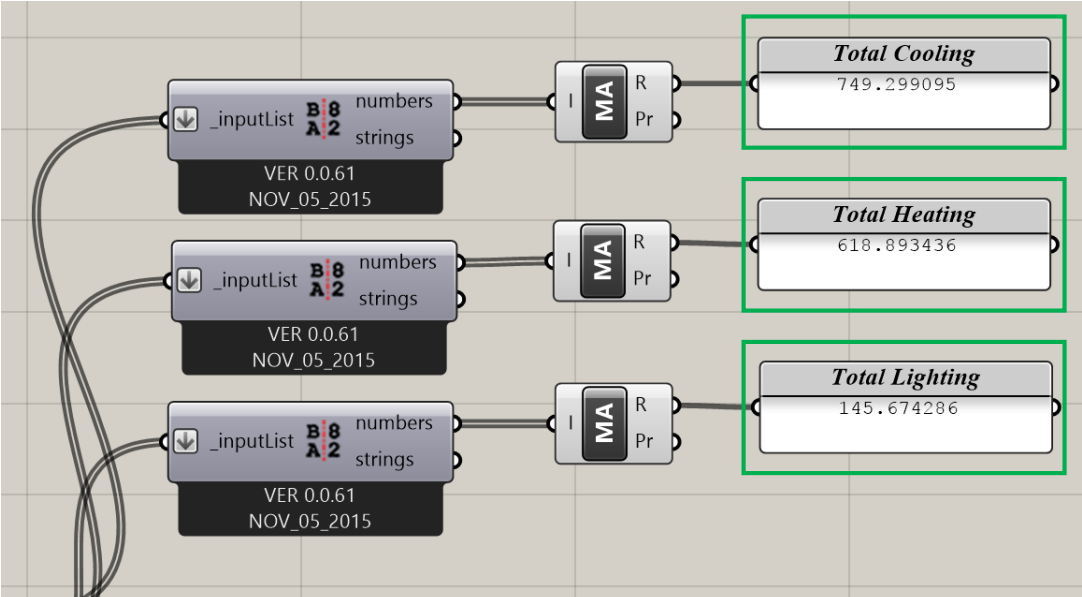
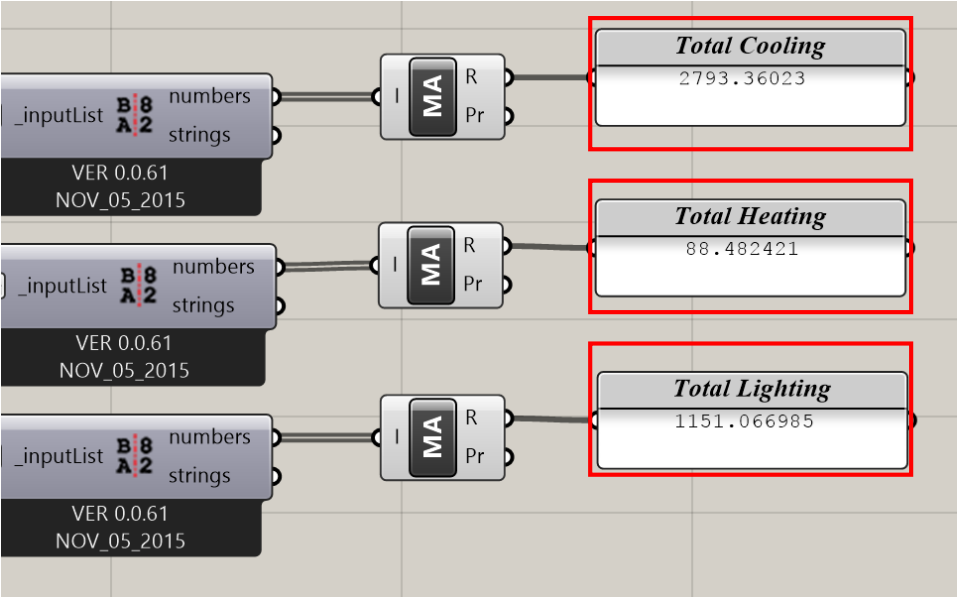
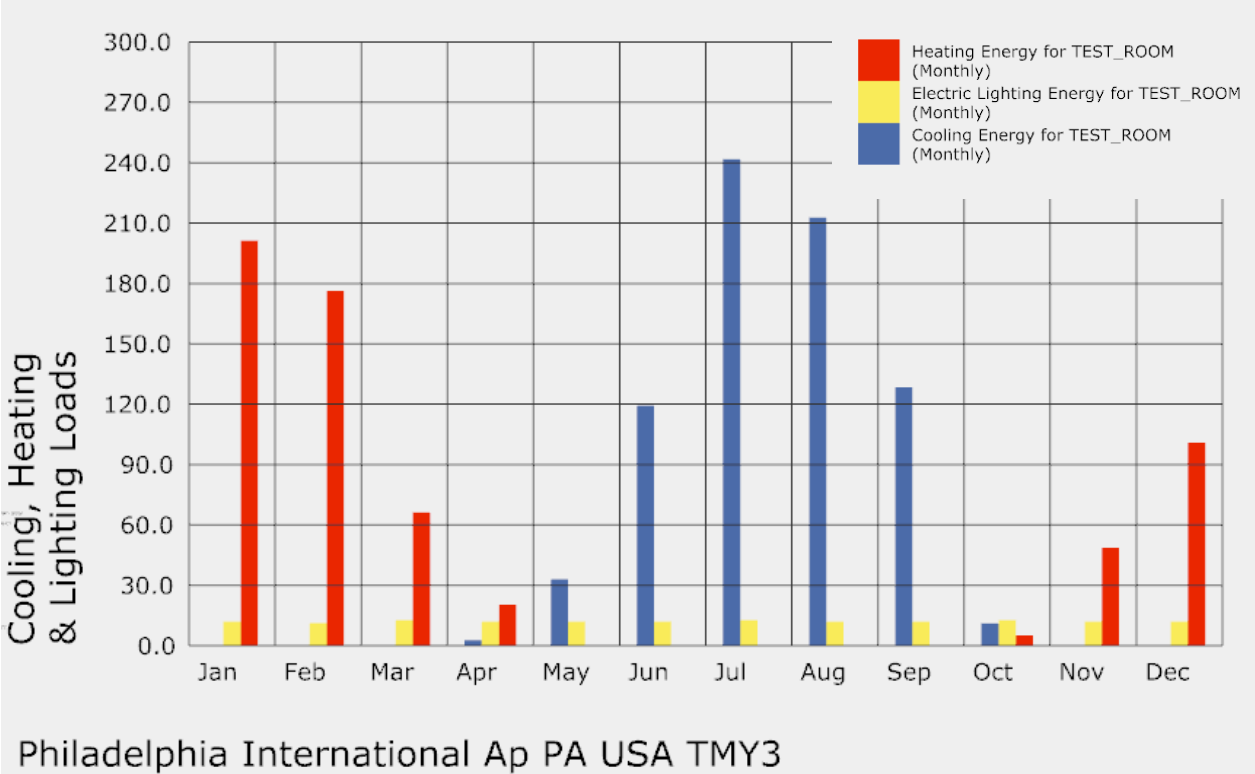


The key aspect is to design the shading elements that balances between cooling, heating, and daylighting energy demand.

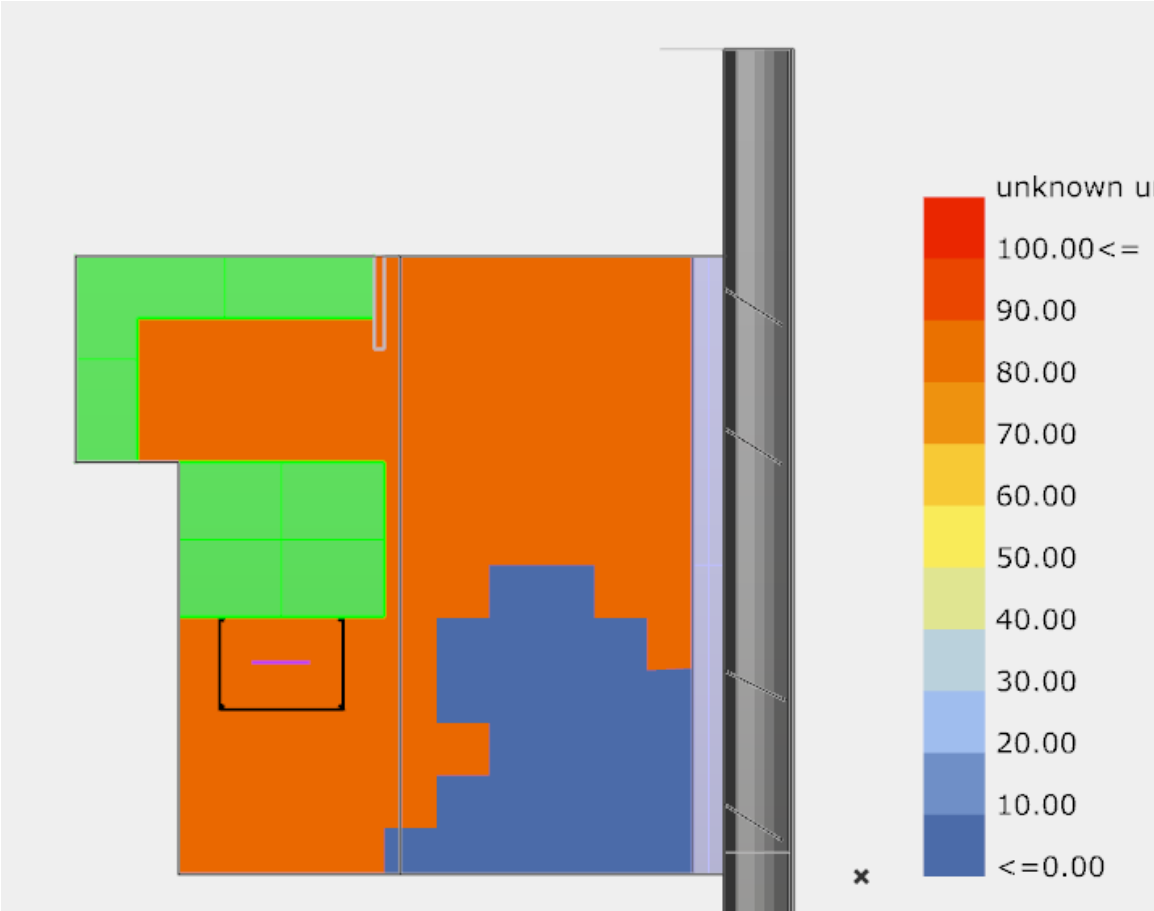
The Design significantly reduces the cooling energy required during summer months, in which energy required to cool down the space drops to 749 kWh.

The heating demand however is increased, most likely due to the reduction of solar heat gain into the space. The heating energy demand is increased to 618 kWh.

The Electrical Lighting energy is increased due to the integration of the shading elements.



Annual daylighting %



(Spatial Daylight Autonomy)sDA=80%

