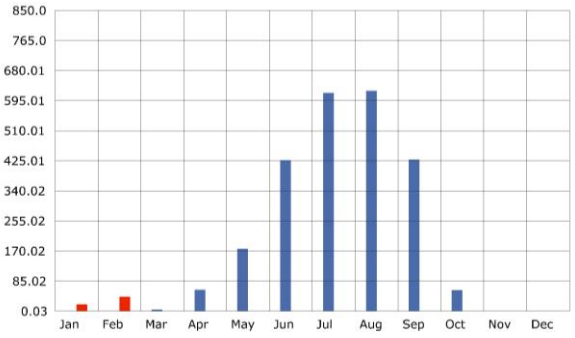
REPORT: ENERGY LOADS & DAYLIGHTING

1. **Analysis of the energy loads without shading to recognize problem periods**.

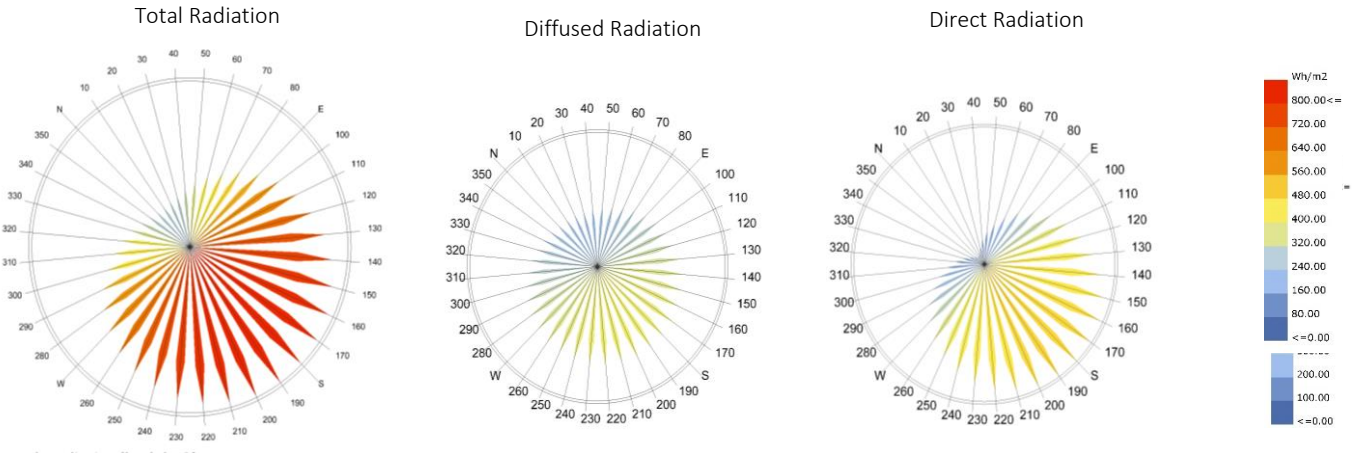


60% glazing

Largest energy load is for cooling in the period from June to September. As a base façade was chosen 60% glazing.

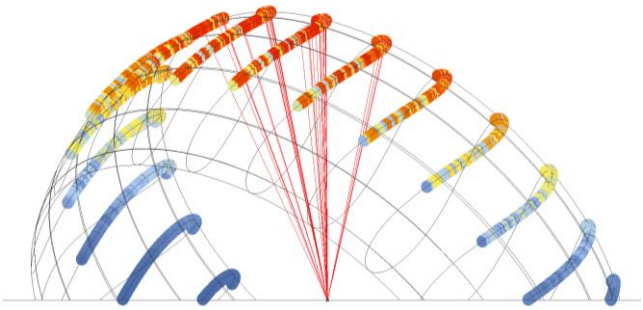
2. **Shading design.**

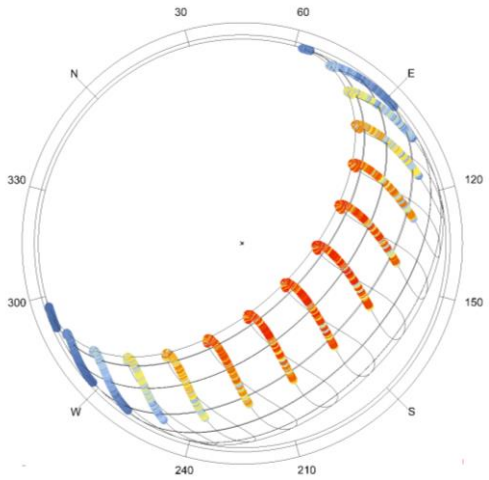
Shades are framing 4 windows from the top, left and right sides. Vertical elements were rotated to be perpendicular to the direction of biggest radiation (using radiation rose).



The depth of the vertical element is chosen to protect the whole width of the windows.

Same approach is used in designing horizontal element. Using Sunpath simulation and radiation analysis were found sun position with larges radiation values. The approximate angle of these sun positions is 67^{O}, according to it were design the depth of shade.





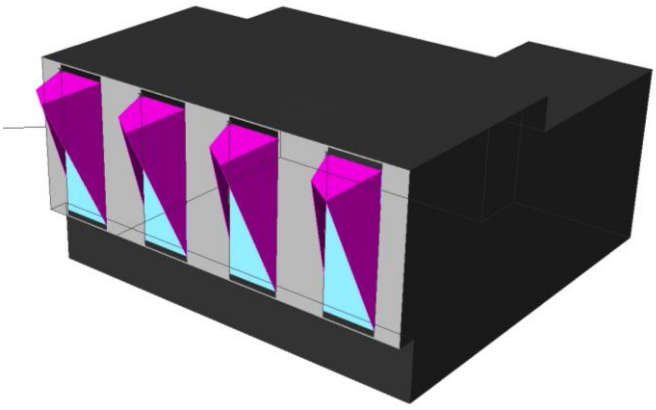
Sun position with largest total radiation. Analysis period 1 of June-31 of August

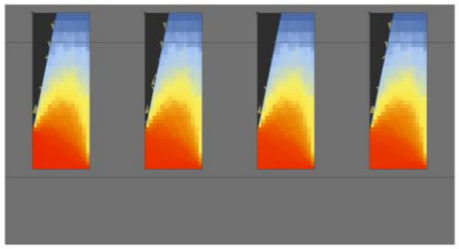
3. Results

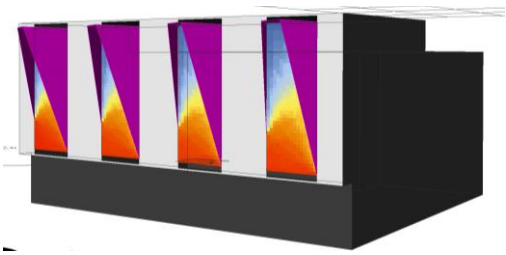
Total Colling Loads 779 kWh

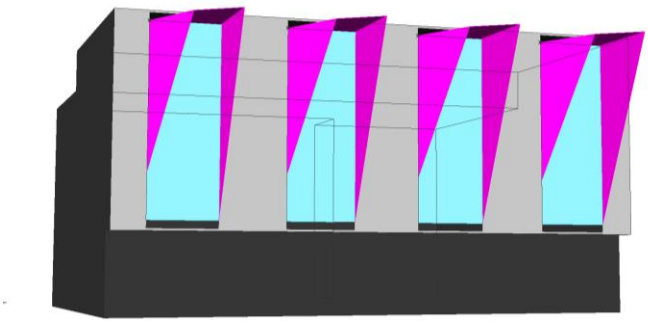
Total Heating Loads 450 kWh

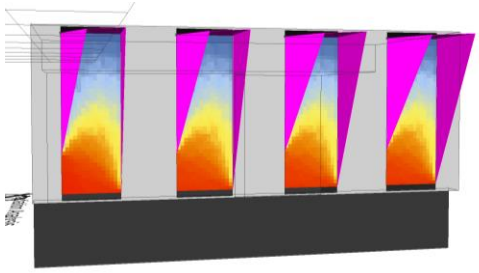
Total Lighting Load 172 kWh

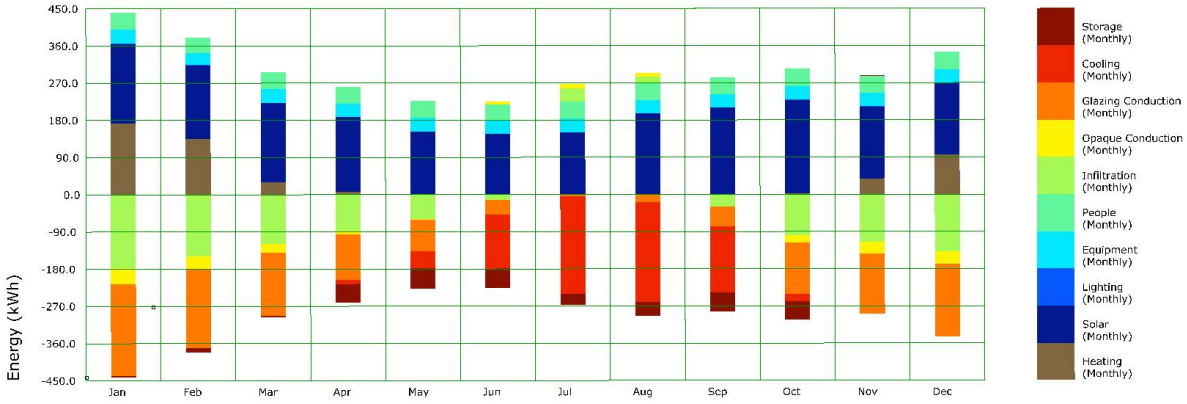




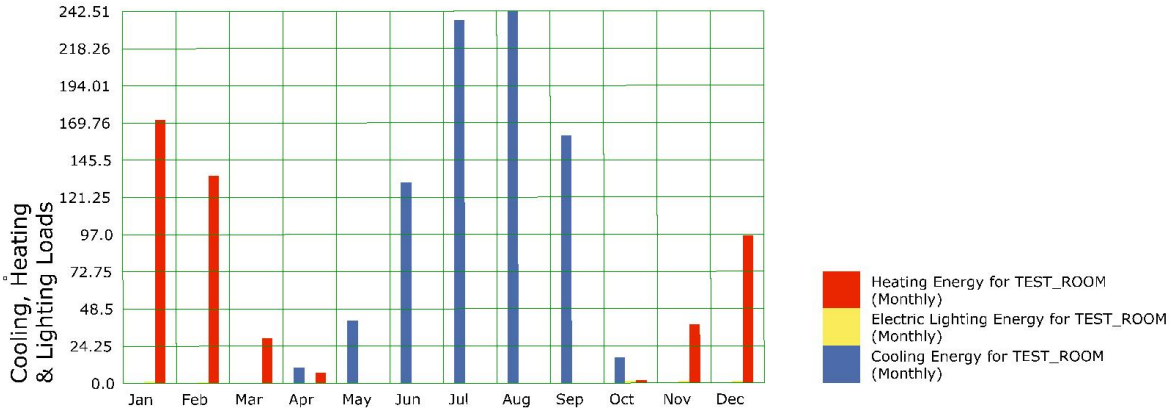








Energy Balance



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4. Daylight Analysis