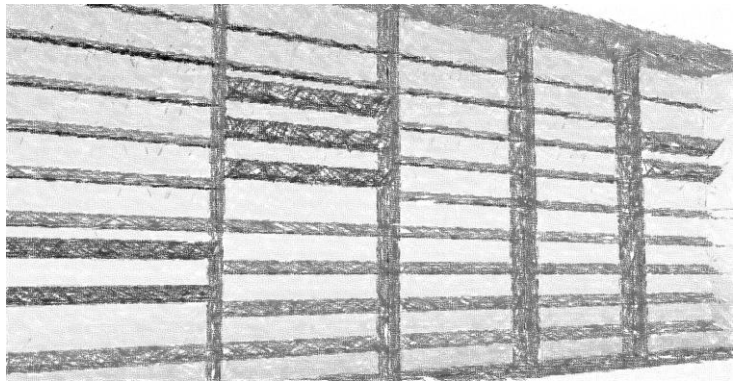
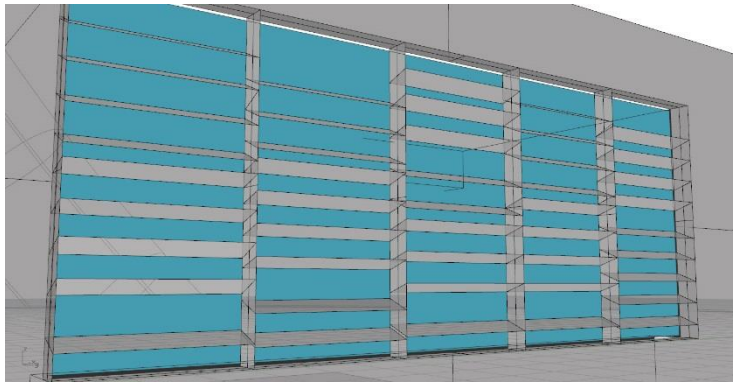
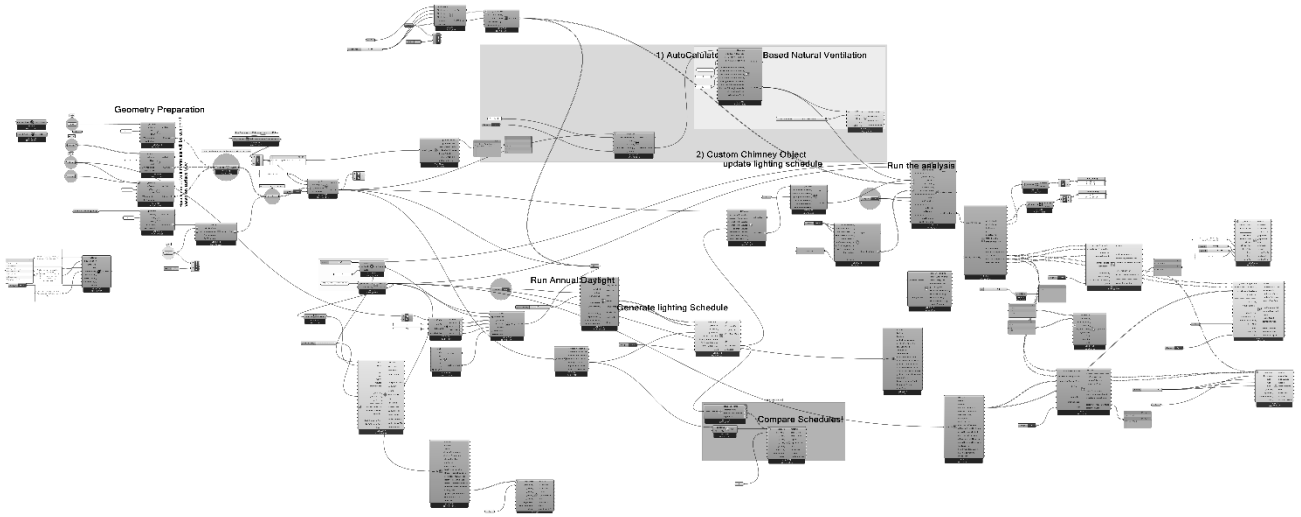


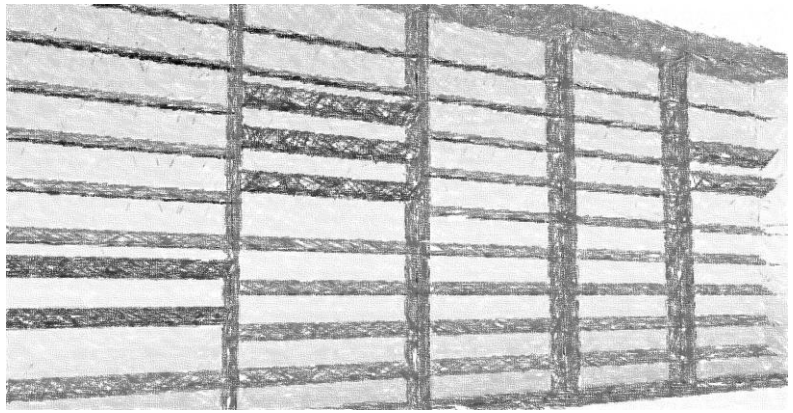


Achieve 100% Comfort for the Room



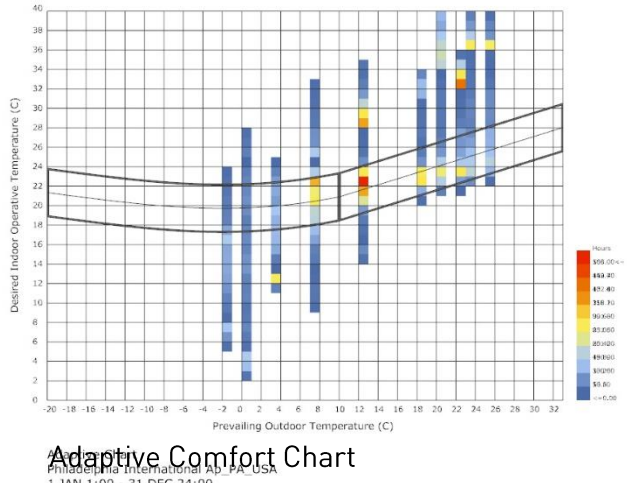
Original Shading Design (Lighting Schedule)

Adaptive Target Temperature

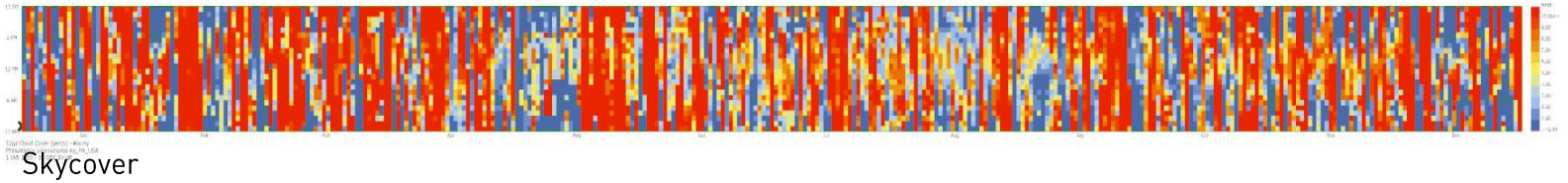


Concept

According to the PMV and adaptive comfort percentage and chart analysis, the original shading (louvers) can block the strong sunlight in the summer to some extend. However, because of large area of curtain glass wall, it is difficult to Keep warm inside during the winter. Based on this, the strategy for improvement is to reduce the glazing area to some extend and change the direction of the louvers.

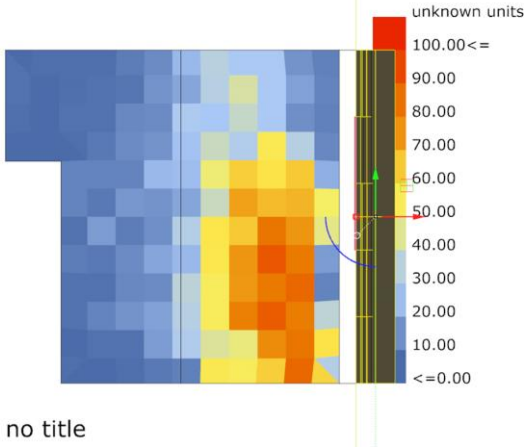


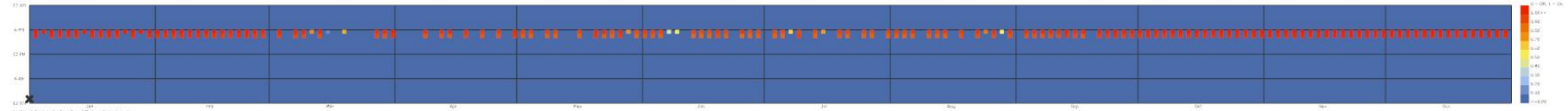
Adaptive Comfort Chart



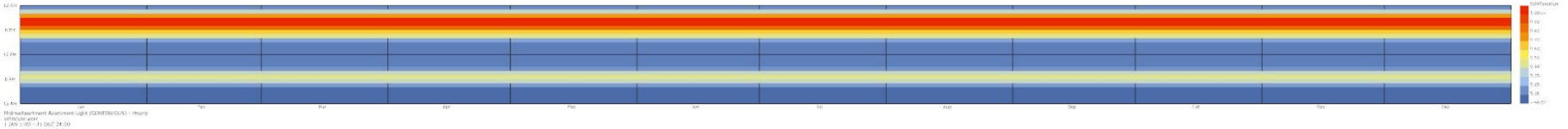
Skycover

SDA = 50





Lightschedule



Original Shading Design (70.63% comfort)

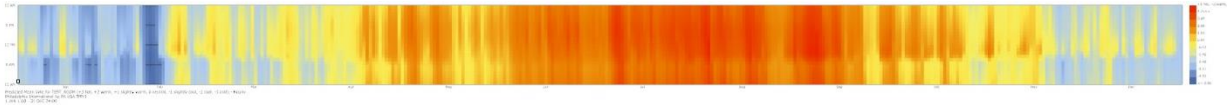
Without using any cooling, heating systems or natural ventilation

Adaptive Target Temperature

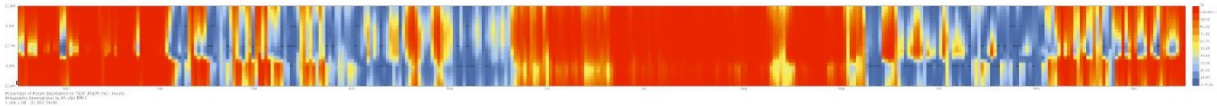
Comfort Time _ PMV Comfort

Comfort Time _ Adaptive Comfort

Condition of Person



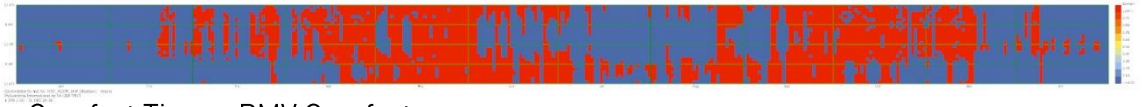
Predicted Mean Vote



Percent People Dissatisfied

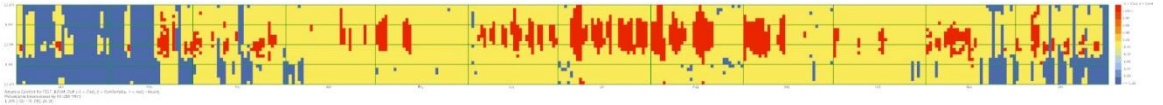
Without using any cooling or heating systems

Adaptive Target Temperature

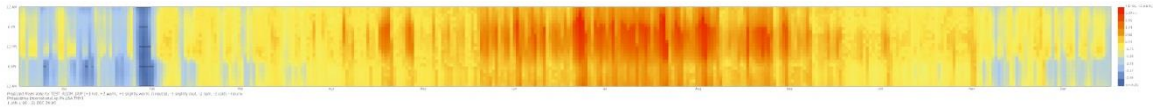


Comfort Time _ PMV Comfort

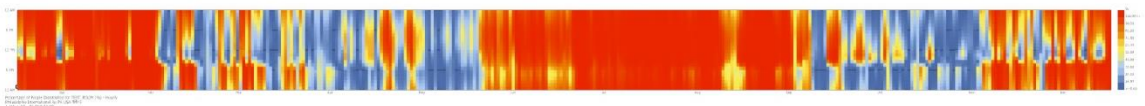
Comfort Time _ Adaptive Comfort



Condition of Person

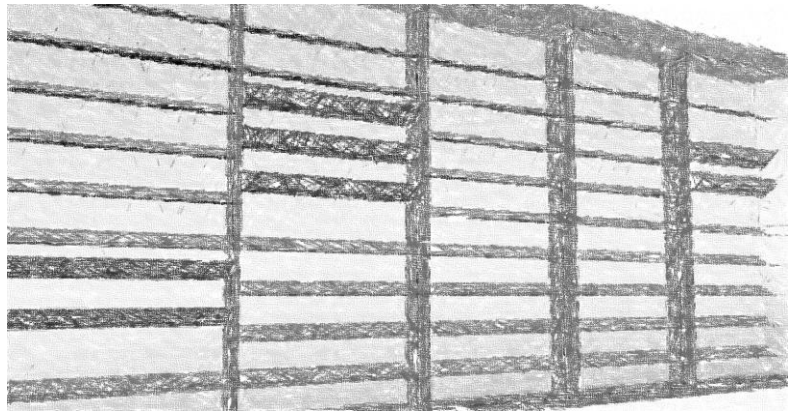


Predicted Mean Vote

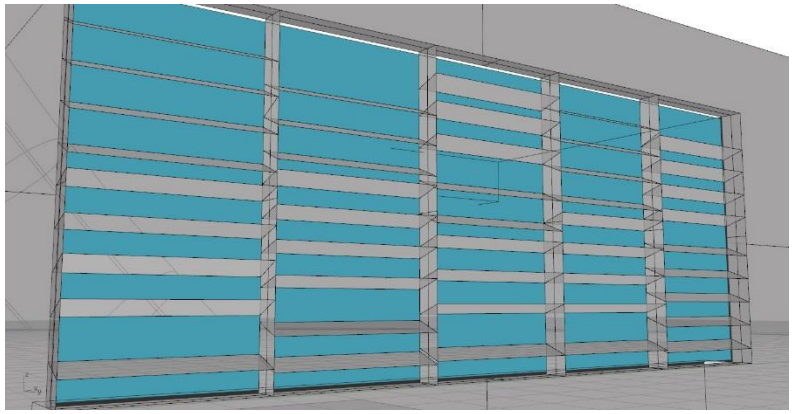


Percent People Dissatisfied

Revised Shading Design (72.93% comfort)

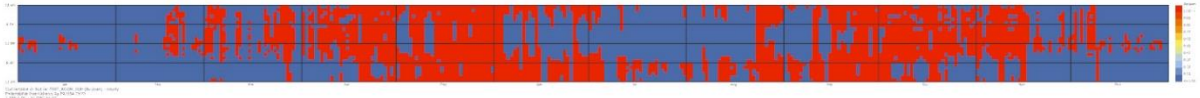


Reduce depth of Louvers

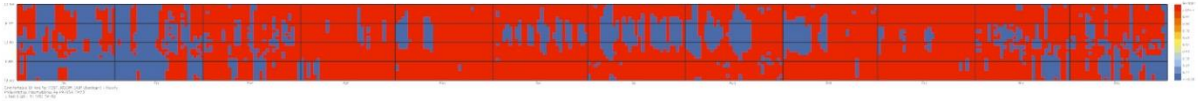


Revised Shading Design Comfort

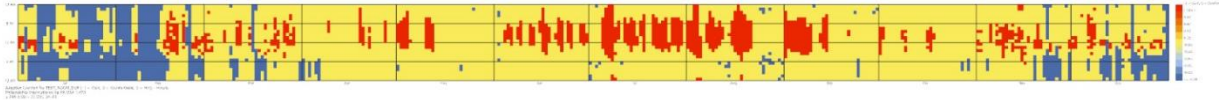
Adaptive Target Temperature



Comfort Time _ PMV Comfort



Comfort Time _ Adaptive Comfort

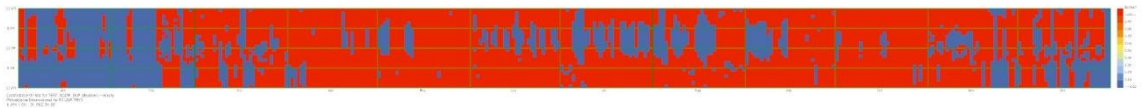


Condition of Person

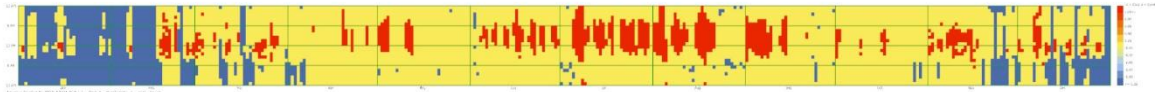
Without using any cooling or heating systems

Adaptive Target Temperature

Comfort Time _ PMV Comfort



Comfort Time _ Adaptive Comfort



Condition of Person