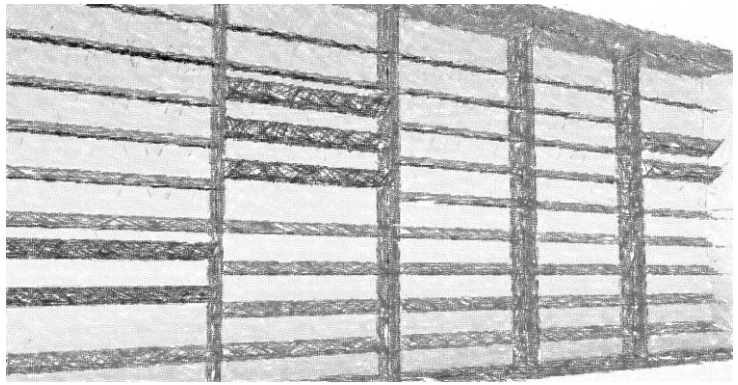
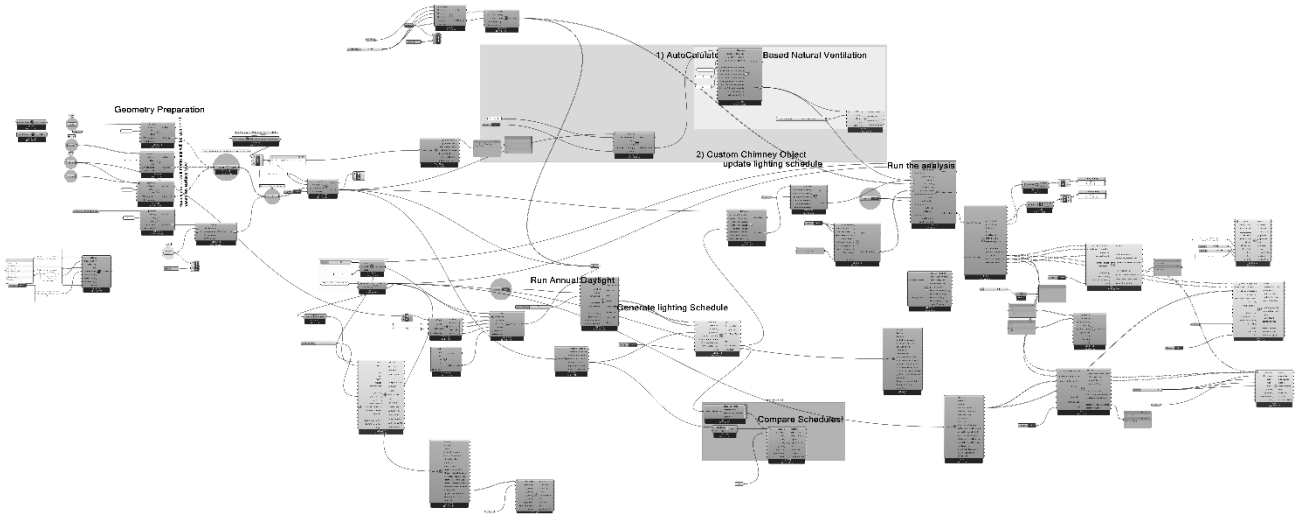
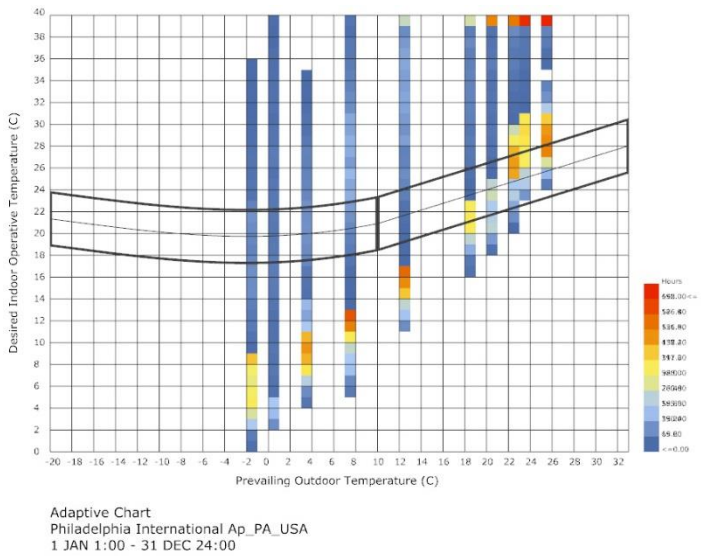


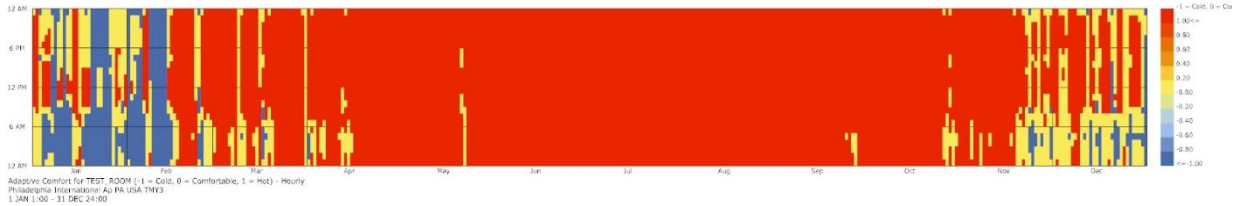
Indoor comfort analysis round II



Baseline (28.13%)



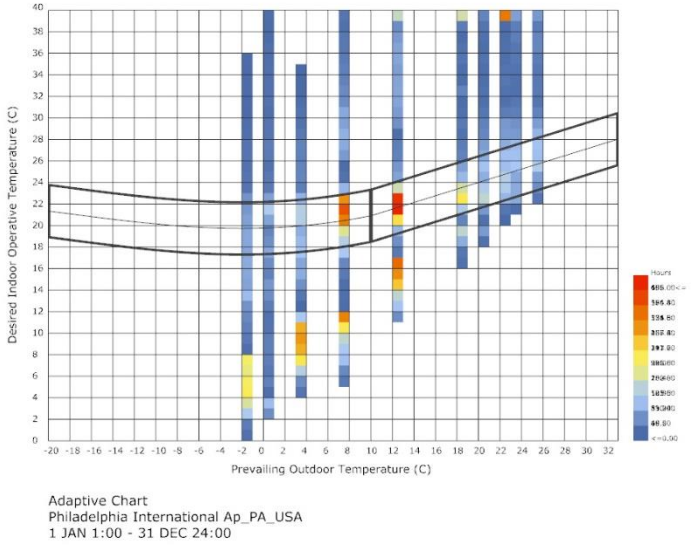
Adaptive Chart



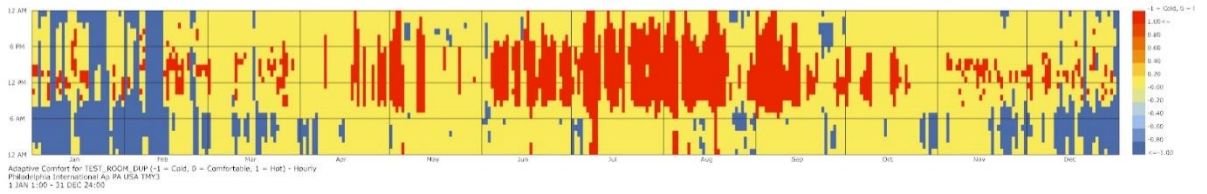
Adaptive Comfort

37.86%

Add Natural Ventilation(65.99%)

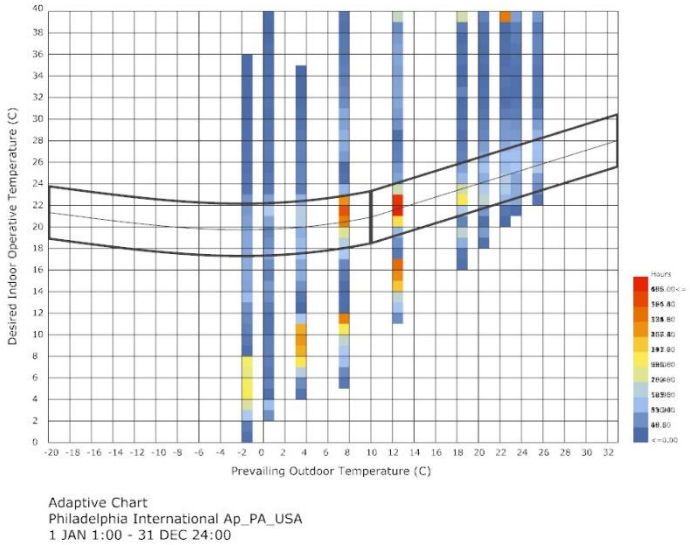


Adaptive Chart

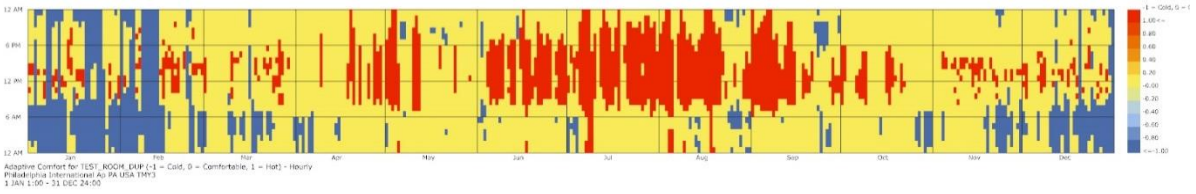


Adaptive Comfort

Add Natural Ventilation(65.99%)

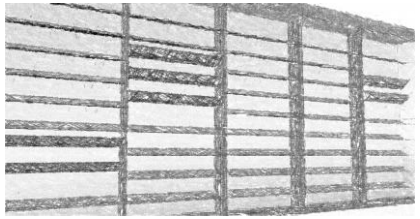


Adaptive Chart



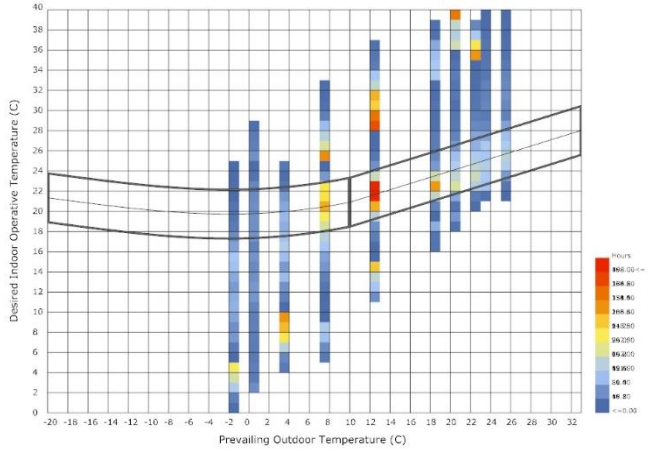
Adaptive Comfort

Original Shading Design (64.20% comfort)

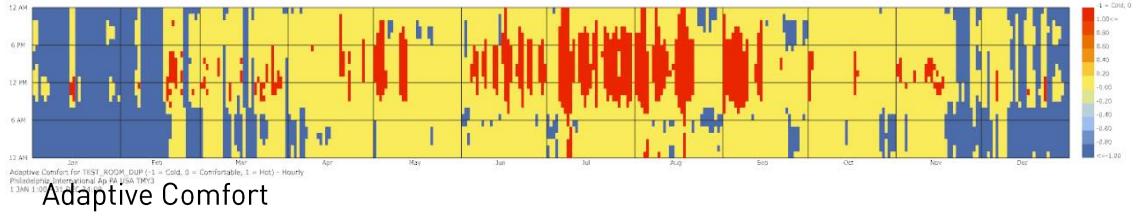


Concept

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.

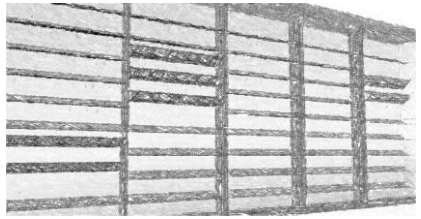


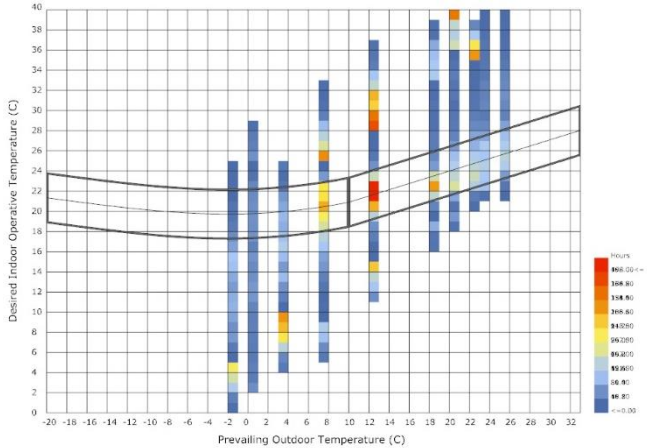
Adaptive Chart



Adaptive Comfort

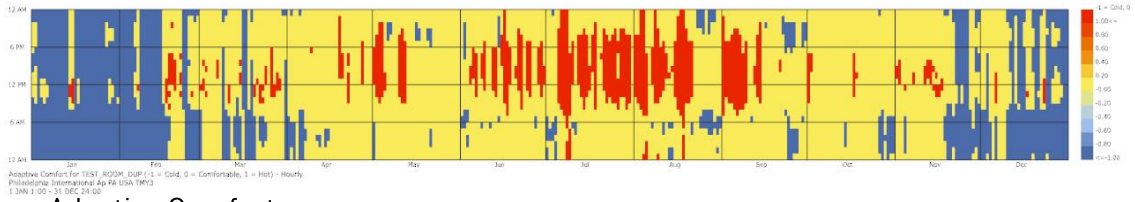
Original Shading Design (64.20% comfort)





Adaptive Chart
Philadelphia International Ap_PA_USA
1 JAN 1:00 - 31 DEC 24:00

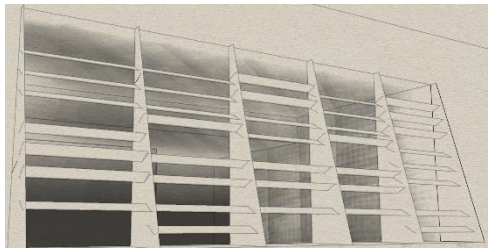
Adaptive Chart



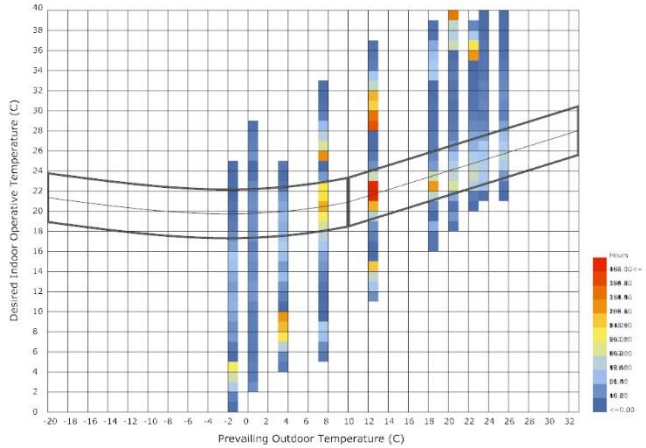
Adaptive Comfort

7.02%

Changing Shading + Material(71.22% comfort)

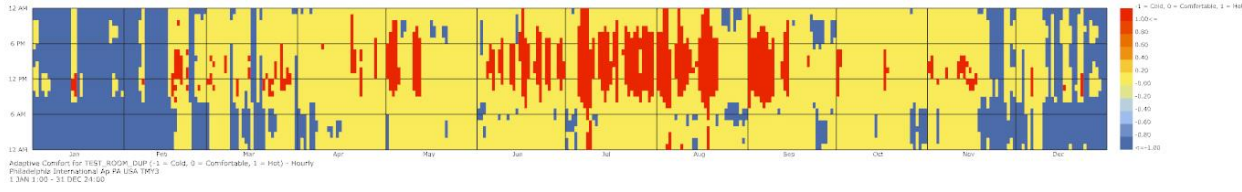


1. Tilt Shading
2. Thicker Wall (Ashrae 2010 – Comfort Zone 7)
3. Low-e Glass



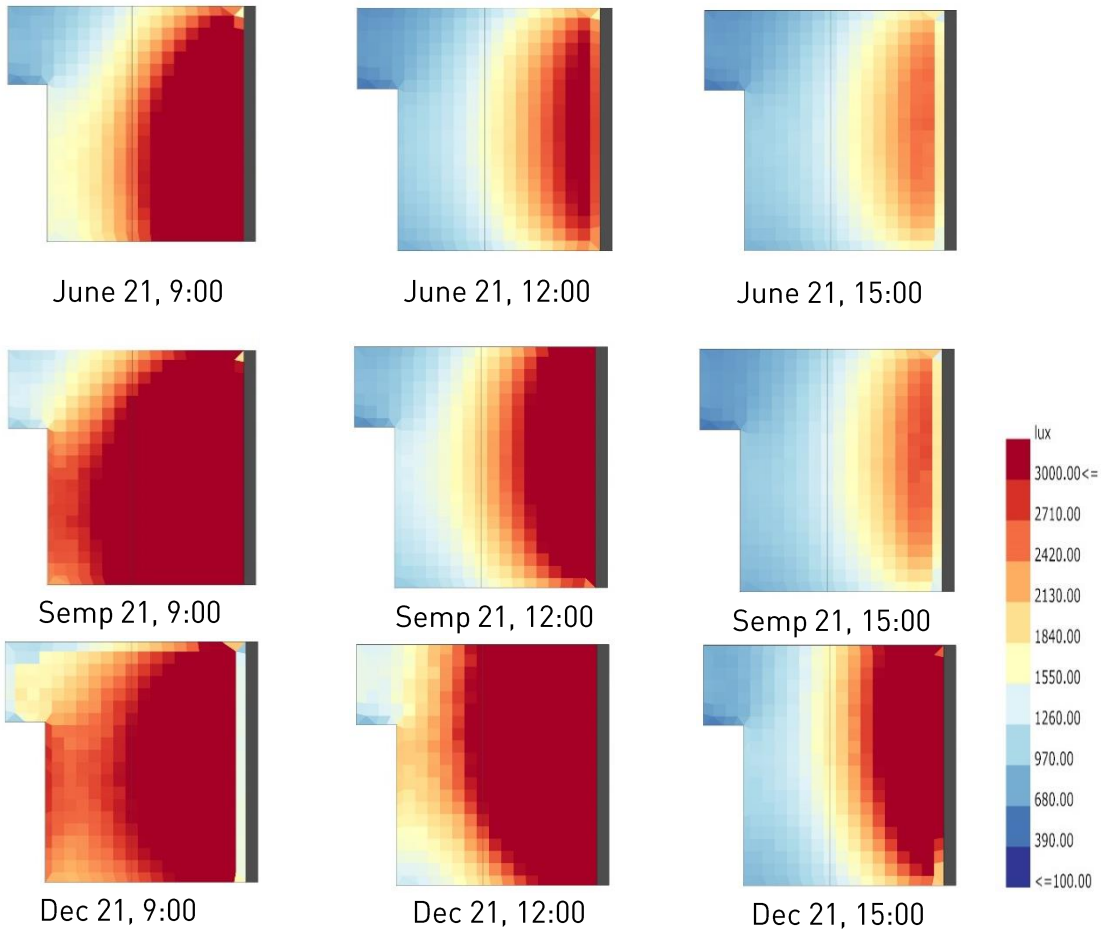
Adaptive Chart
Philadelphia International Ap_PA_USA
1 JAN 1:00 - 31 DEC 24:00

Adaptive Chart



Daylighting Analysis Comparison

BASELINE



Add New Shading System