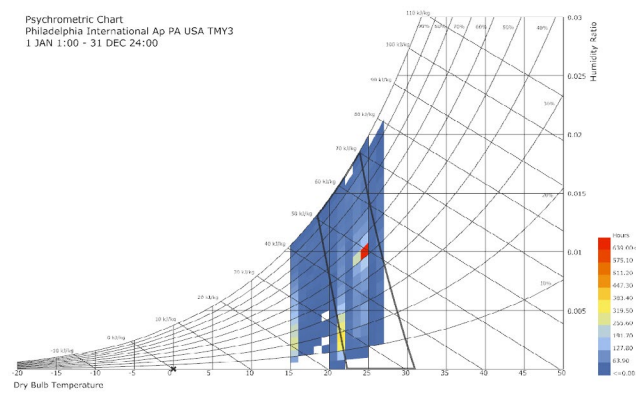


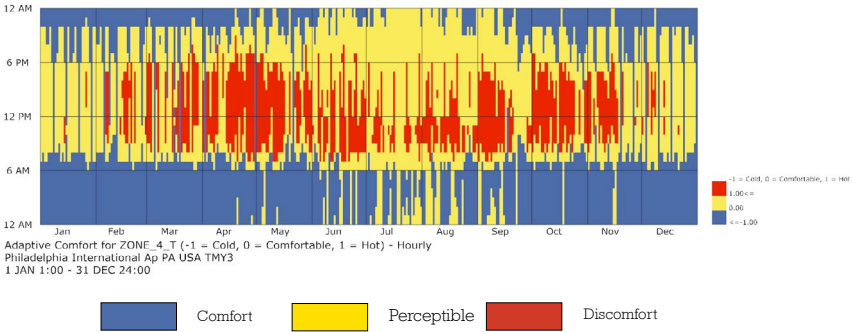
Best Orientation



Orientation : East

Psychrometric Chart of the room

Comfortable: 42.80%
Hot: 17.24%
Cold: 39.97%



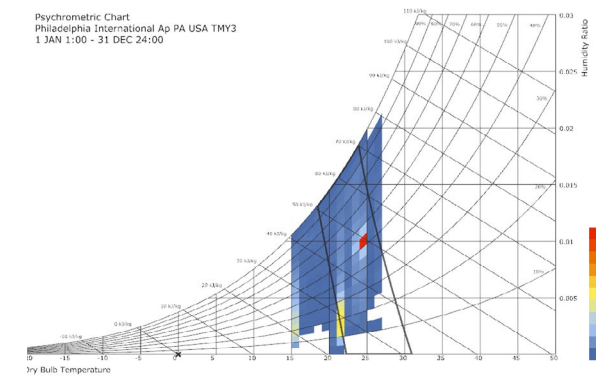
Comfort Perceptible Discomfort

Result

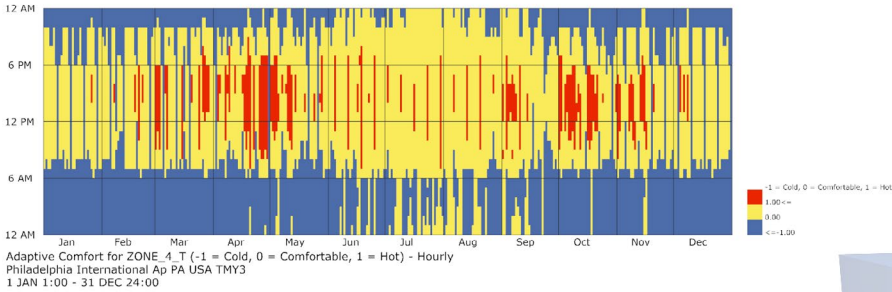
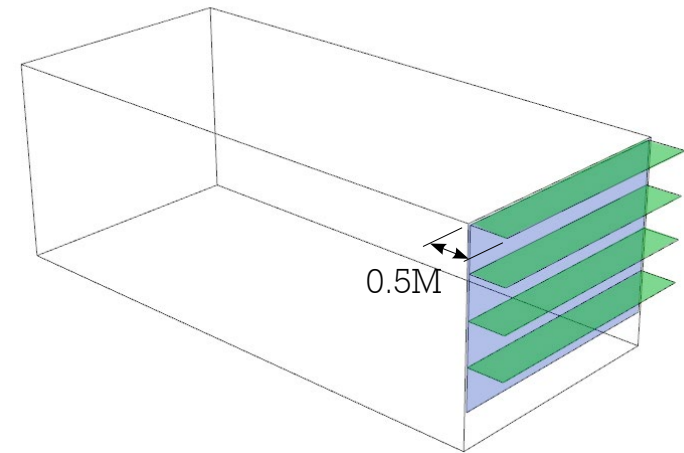
By changing the orientation of the room, it is hard to improve comfortness in an abvious way.

Adding Louvers

Four Louvers



Orientation: East

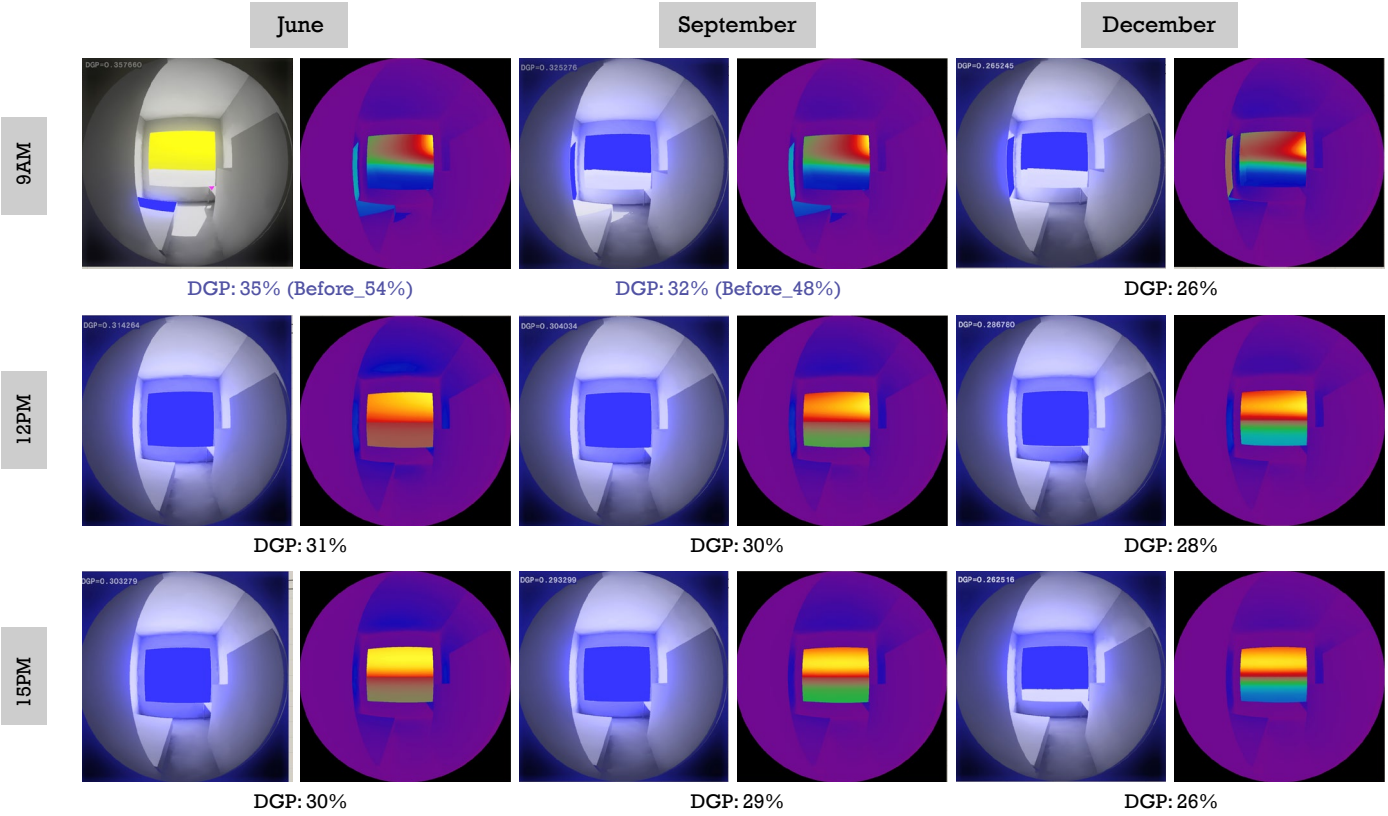


Comfortable: 51.69%
Hot: 7.28%
Cold: 41.03%

Installing three louvers on the eastside window makes to improve comfortness obviously.

42.80% → 51.69%

Glare Studies



Solution

Intolerable time zones are eliminated by reducing the size of the window, making the room more comfortable to reside.

Design Proposal



Based on the analysis, the best way to improve the condition especially for the time from 9AM to 12PM is reducing the size of the entire window on East side. Since the window is too big, it helps to gain excessive heat into the room. Therefore, reducing the size of a window as 80% is appropriate to keep the nice view and reducing excessive energy through the window.

Second, adding louvers in front of the window is quite effective to improve comfortness on the room. When the louvers added, the comfortness is obviously improved.

These two design factors can improve this room in an efficient and effective way rather than changing orientation.