Location & Original Data - **Location 1**

F
78　　　　　　68

9 a.m.　　　　　3 p.m.　　　　　7 p.m.

Origin without shading

-3 = Extreme Cold | -2 = Cold | -1 = Cool | 0 = Comfort | 1 = Warm | 2 = Hot | 3 = Extreme Heat
3.00<
2.00
1.00
0.00
-1.00
-2.00
< -3.00

Outdoor Comfort (-3 = Extreme Cold | -2 = Cold | -1 = Cool | 0 = Comfort | 1 = Warm | 2 = Hot | 3 = Extreme Heat) - Hourly
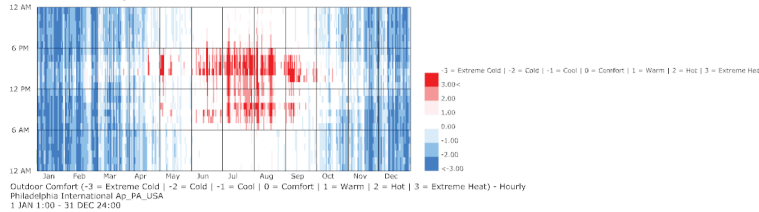Philadelphia International Ap_PA_USA
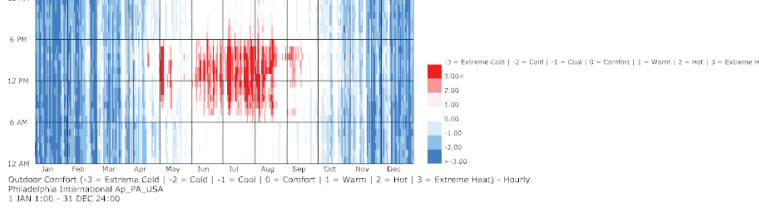1 JAN 1:00 - 31 DEC 24:00
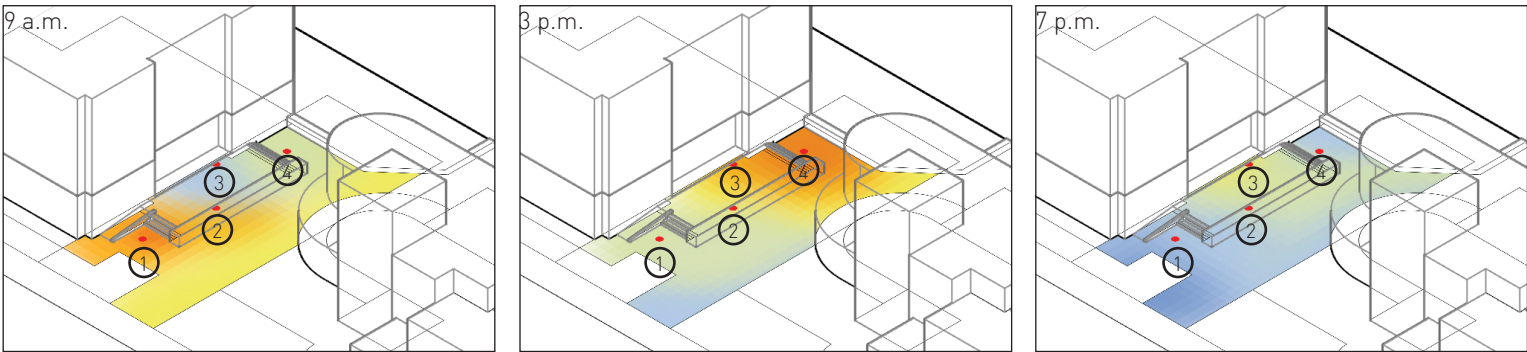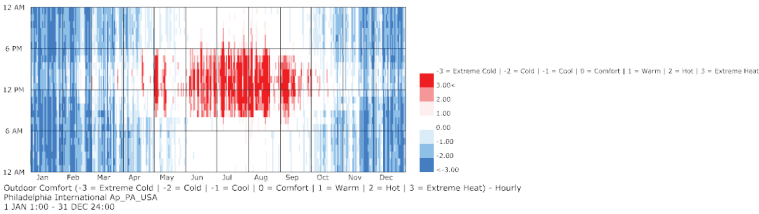
Comfortable: 38.47%; Short period comfortable: 19.21%; Heat stress: 9.83%; Cold stress: 32.49%
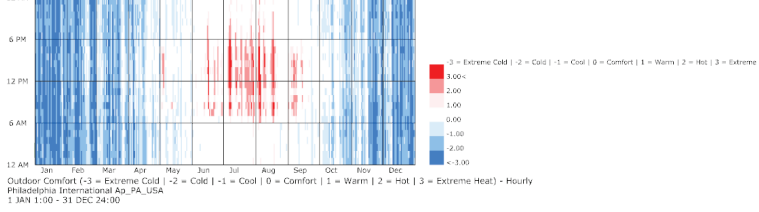
Shading Test 1

Comfortable: 40.31%; Short period comfortable: 20.3%; Heat stress: 6.59%; Cold stress: 32.81%

Shading Test 2

Comfortable: 37.58%; Short period comfortable: 20.26%; Heat stress: 7.45%; Cold stress: 34.7%
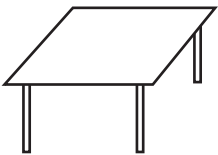
Shading Test 3

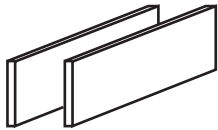Comfortable: 40.88%; Short period comfortable: 21.2%; Heat stress: 3.62%; Cold stress: 34.3%

Canopy:
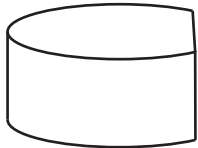Comfortable: 40.31% + Short Period Comf:20.3%

Side-Wall:
Comfortable: 37.58% + Short Period Comf:20.26%

Chamber:
Comfortable: 40.88% + Short Period Comf:21.2%

Conclusion:

100% comfort is not achievable. In my test model, the highest percentage is **40.88%+ 21.2%=62.02%.** It is not achievable for some reasons. Based on the graphic and data, we see cold stress a lot. It is hard to eliminate by providing shading design. As well as in GH definition. My object can only affect the MRT, which is only 1 factor of 4. Therefore, it can not fundamentally change the comfort condition.