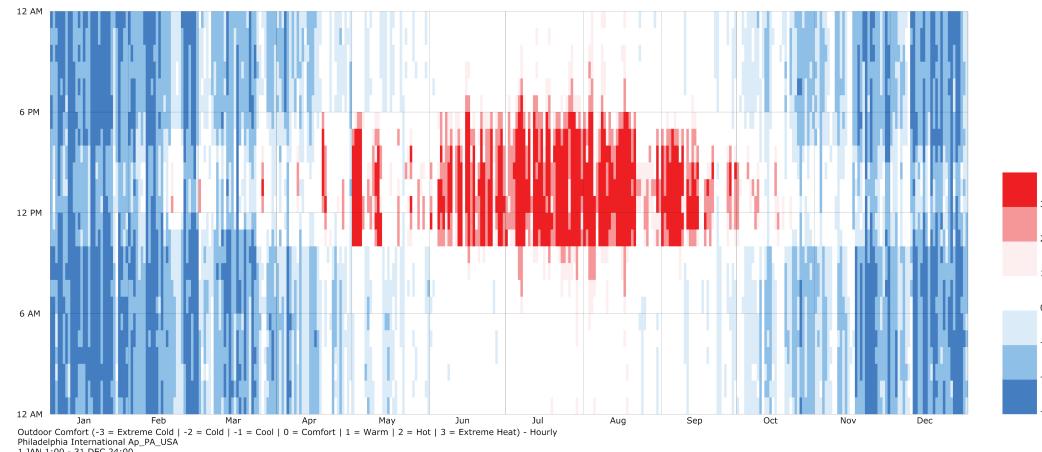


ARCH 633: Outdoor Comfort Calculation

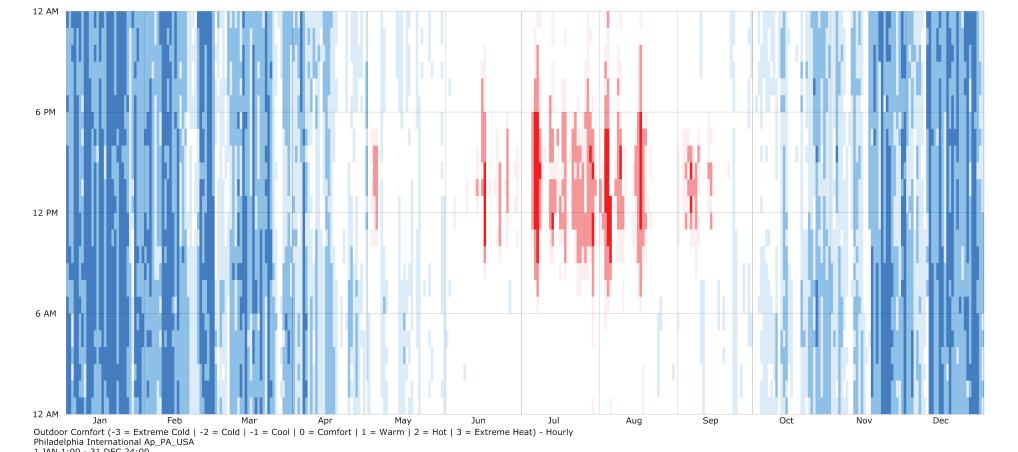
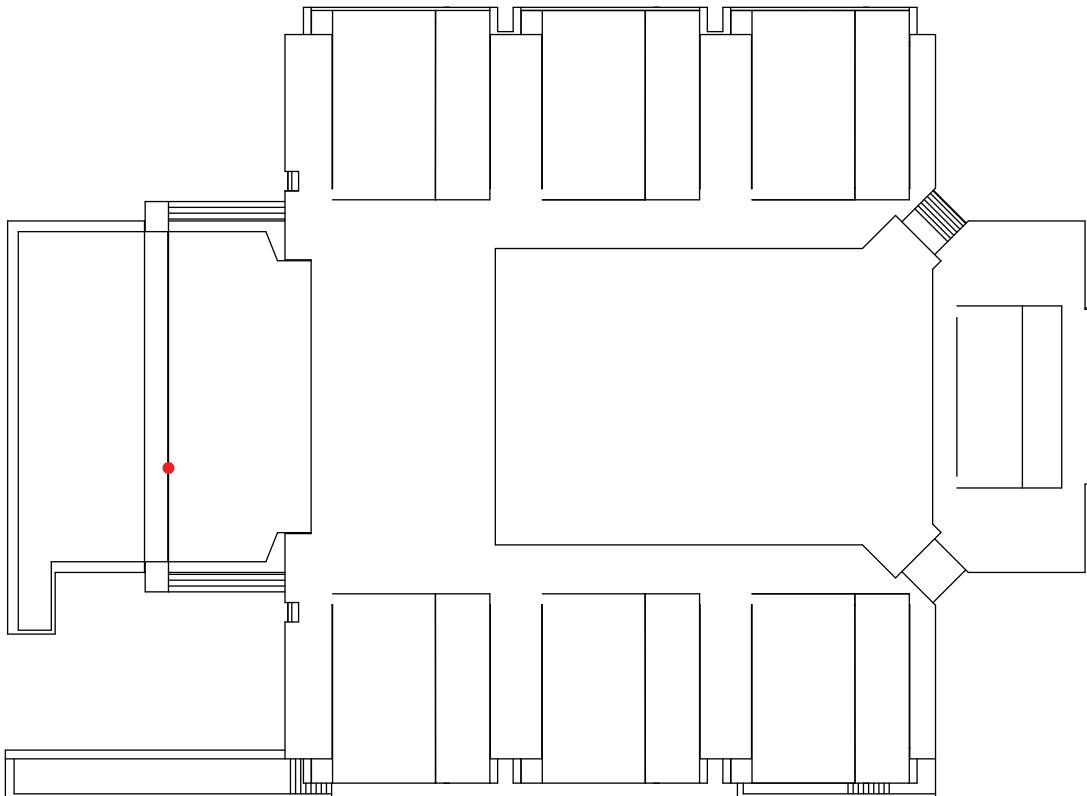
Zheng Yang Zhu

2017.10.07



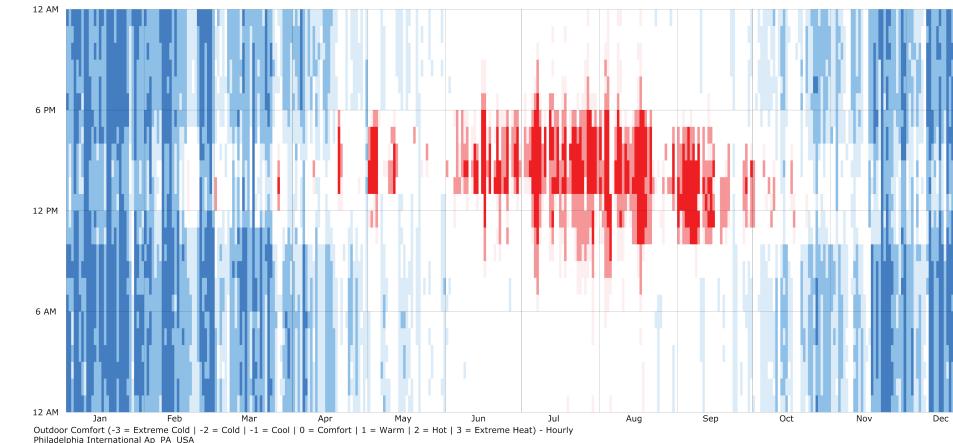
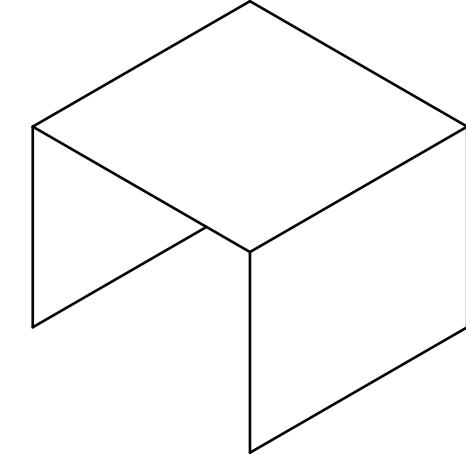
Original

Comfortable: 40.40%, Short Period Comfort: 21.24%, Heat Stress: 3.63%, Cold Stress: 34.73 %



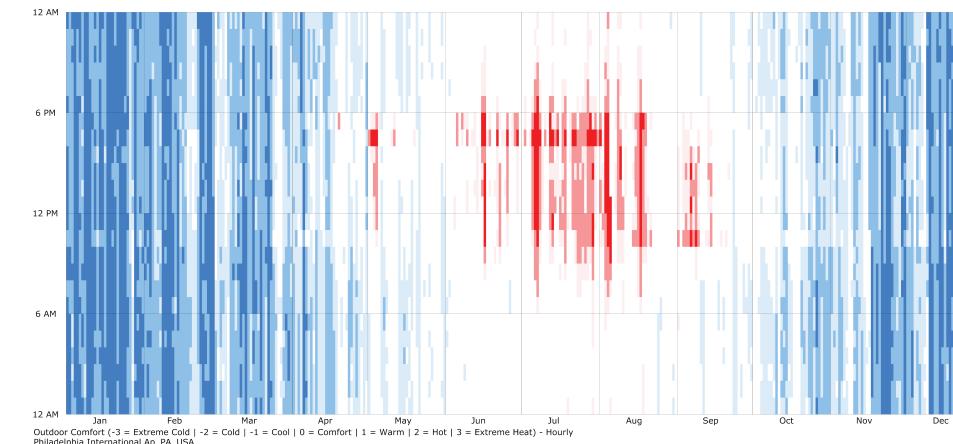
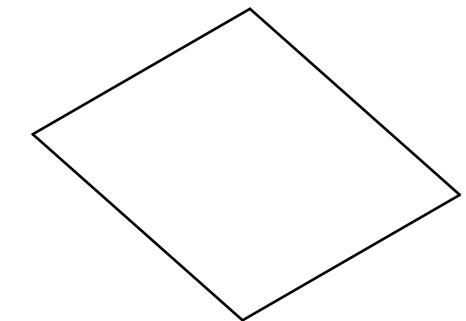
Geometry 1

Comfortable: 41.28%, Short Period Comfort: 21.24%, Heat Stress: 3.14%, Cold Stress: 34.34 %



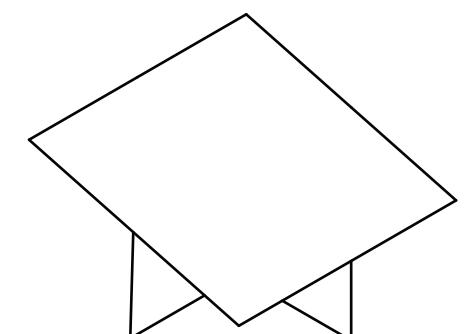
Geometry 2

Comfortable: 40.39%, Short Period Comfort: 19.89%, Heat Stress: 6.77%, Cold Stress: 32.96 %



Geometry 3

Comfortable: 40.40%, Short Period Comfort: 21.24%, Heat Stress: 3.63%, Cold Stress: 34.73 %



Conclusion:

It is impossible to achieve 100% comfort level due to the existence of both cold and hot stress. With only passive strategies, it is difficult to heat and cool a place at a exact time.