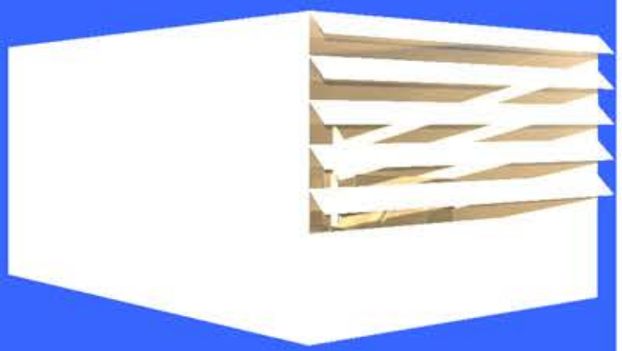
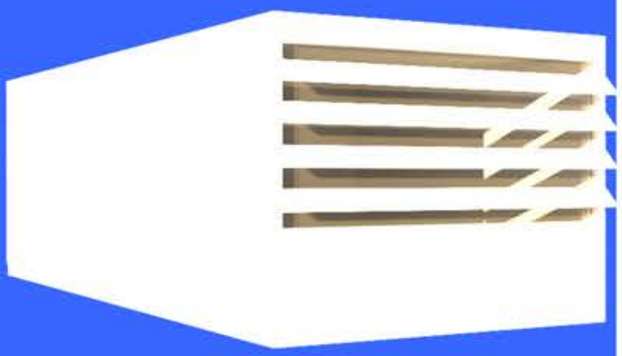
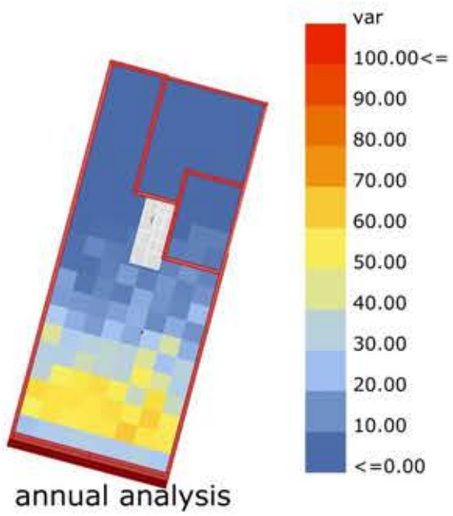
# Building Performance Simulation
# Assignment 6
# Annual Daylight Analysis of your Dream Room



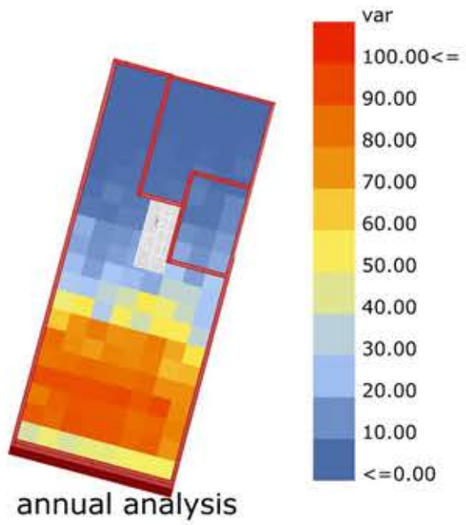


# Annual Daylight Analysis of Final Shading Design

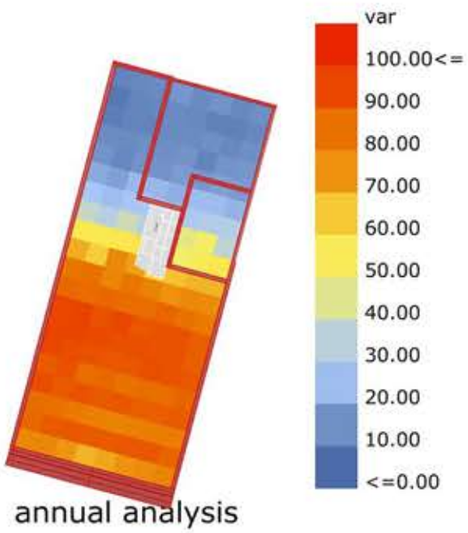
**In the first step, I ran the annual analysis for the final shading design from point in time grid based analysis. The problem with my final design was that although almost all of the glare was ommited, but the amount of daylight illuminance had become low and much of the room was not bright at all. As it can be seen from the annual daylight analysis, not a huge portion of room can have useful daylight during a year. And the highest percentage can go up to roughly 60 % in the parts that the room have daylight. So this shading can not be really useful for the desired room.**




**In the second step, I changed the number of horizontal shadings into 4 instead of 5 and I increased the spaces between each shading to improve the amount of daylight which is penetrated into the room. I ran the annual analysis for my revised shading design and with regards to the results which I am getting, it is apparently enhanced to a great deal in terms of UDI and now mcuh of the room has useful light up to even 90-100 % over a year. So the change was useful in my design, Now the question is what would be the point in time daylight in this situation? I checked that analysis for this shaidng design to see if that would cause a problem in terms of glare probability. The other thing was whether I can improve UDI for this room and still keep the problamatic parts in terms of glare covered.**

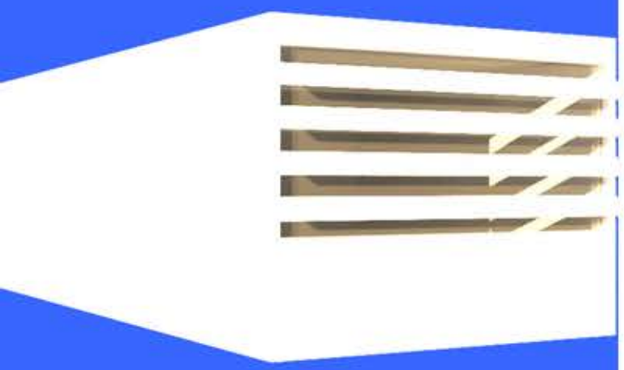


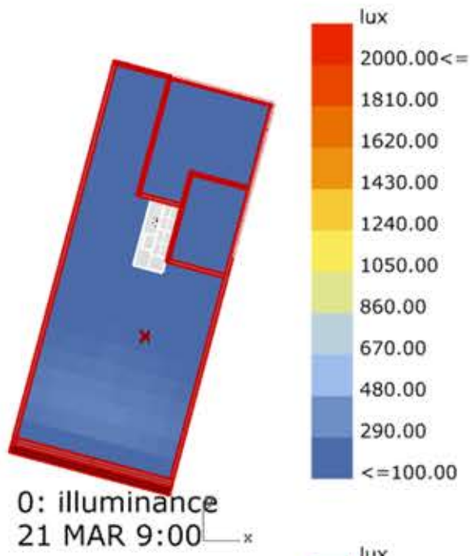

**In the final step, I changed the angle of horizontal shadings to let more of the light come into the room. I changed the angle into completely horizontal and perpendicular to window. As it can be seen from annual daylight analysis, now almost all useful part of the room can have daylight to a completely acceptable percentage. The other parts are just corridor and closed spaces and I dont really want them to be bright. So the problem with UDI is apparently solved. The only thing is that with this design I will probabely have glare in parts of the room. So I ran the point in time analysis for both of my new designs to see the result of glare in my room. Let's see what would be the best scenario.**

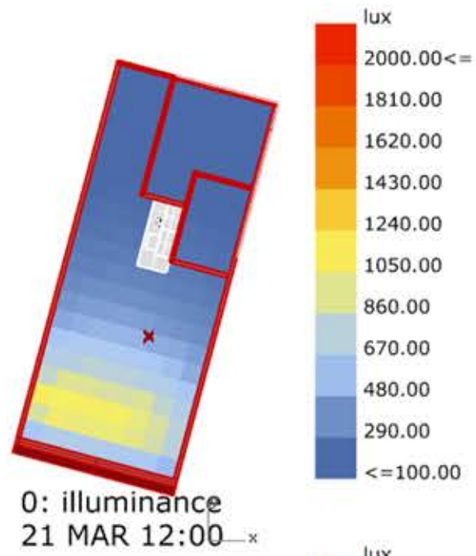


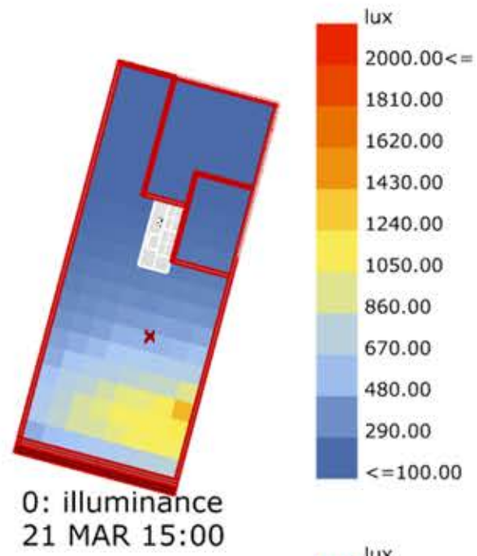
# Poin in time Analysis for First Improved Design

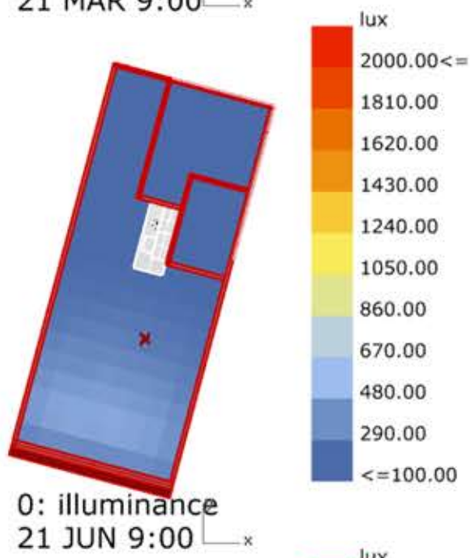
In this case, it seems that we would not have any glare issues and the illuminace levels of daylight is pretty much acceptable. So that can be a good shading design solution for glare issues.

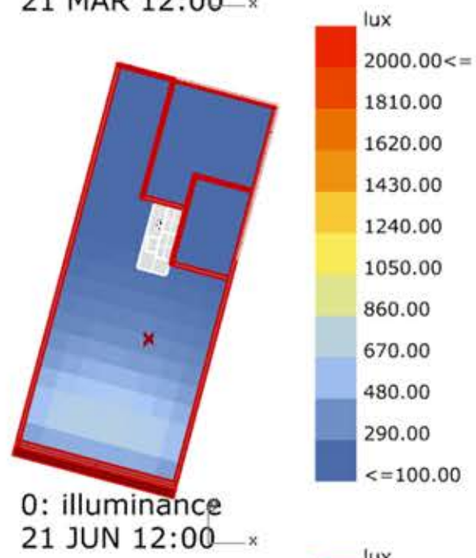


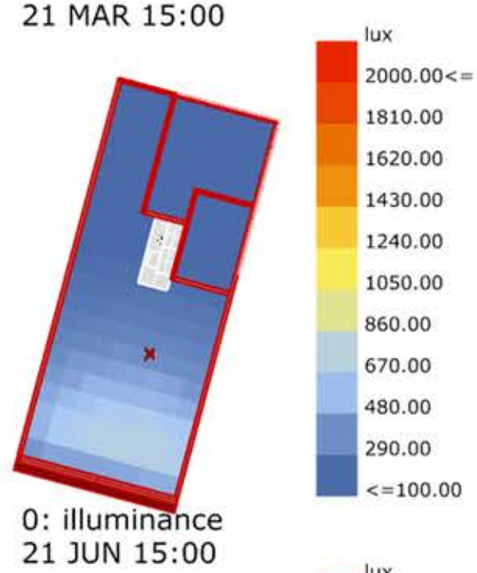



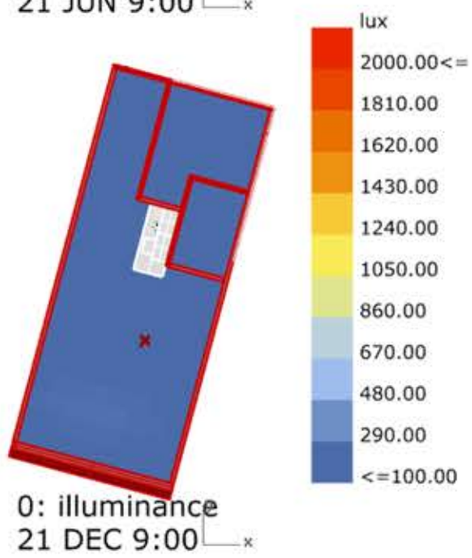



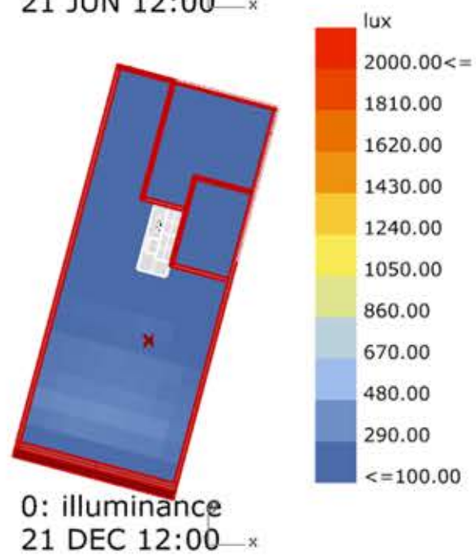



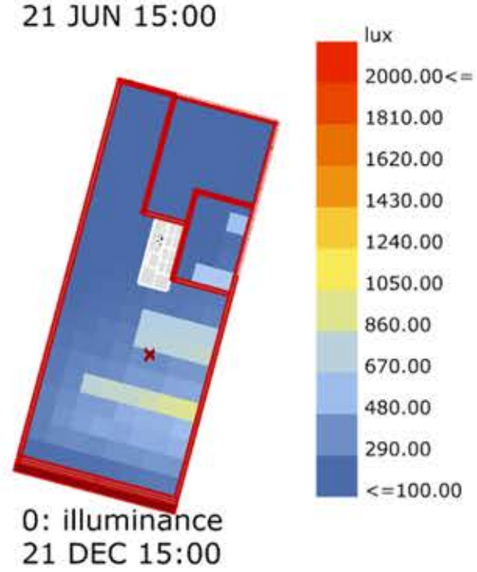



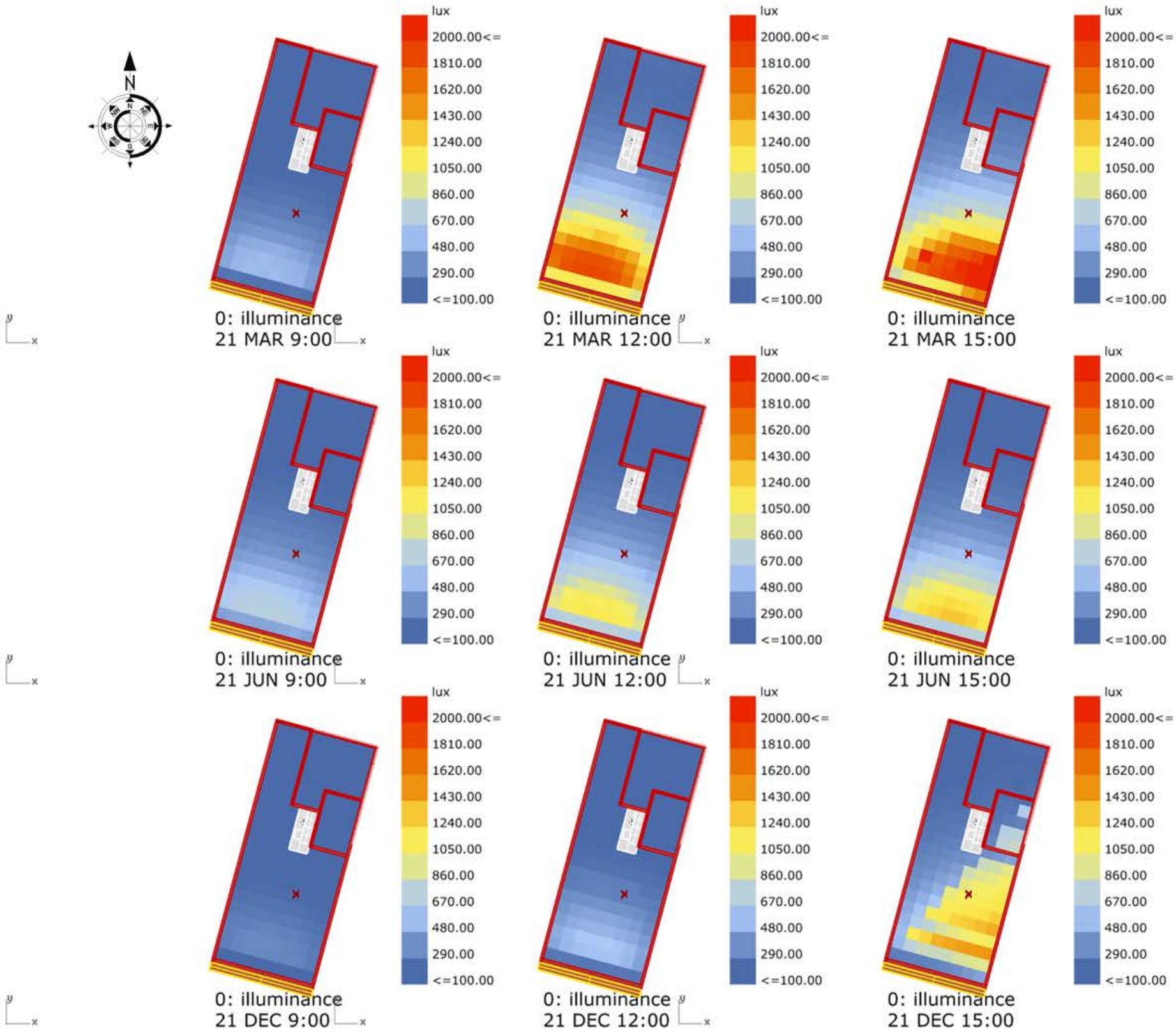



# Poin in time Analysis
# for
# Second Improved Design

In this improved case which gave me the best result for UDI, we are having problem with glare in noon and after-noon of March and probably some other times which is not analyzed. But apparently the times that we have np glare is much more than the times that we have glare. So the final solution can be just think of how I can cover the light in those problamatic times.



# Best Probable Scenario

**With regards to all the analysis and assesment of the analyzed designs, one possible scenario which seems to perform well in terms of both glare and UDI can be to have an automated shading that can change condition between these two final designs. So in times with glare issues it can be set as first design and in other tims the angle of horizontal shadings can be changed into second design. This way we can have the most percentage of UDI and simultaneously we can get rid of the high levels of illuminance which cause glare in the internal space.**