

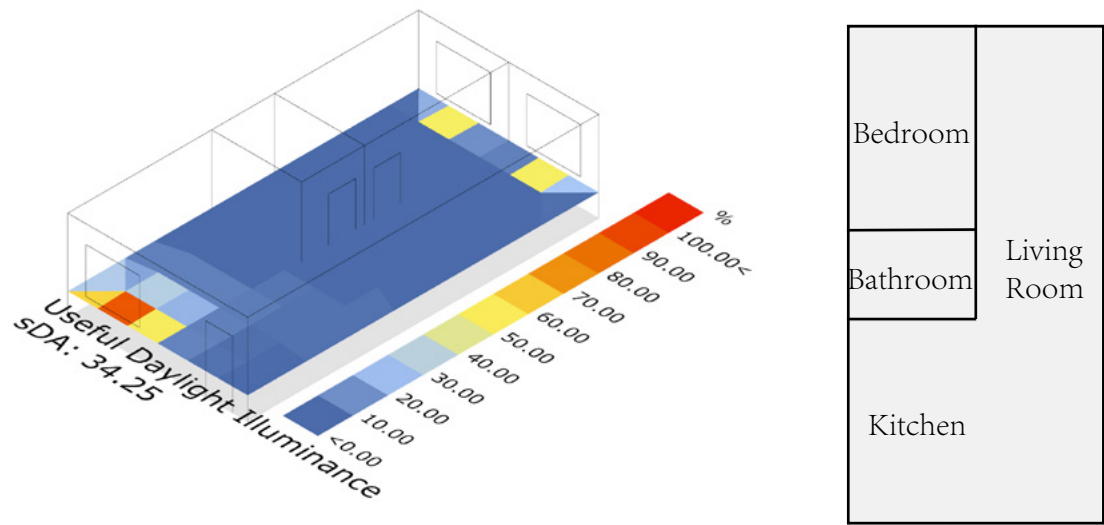
Daylighting Simulation

Building Performance Simulation Assignment 5
Yuchi Wang

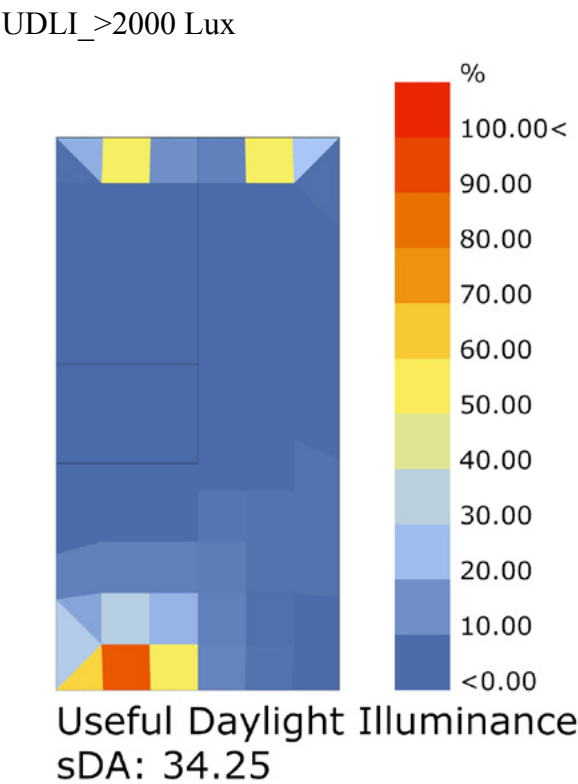
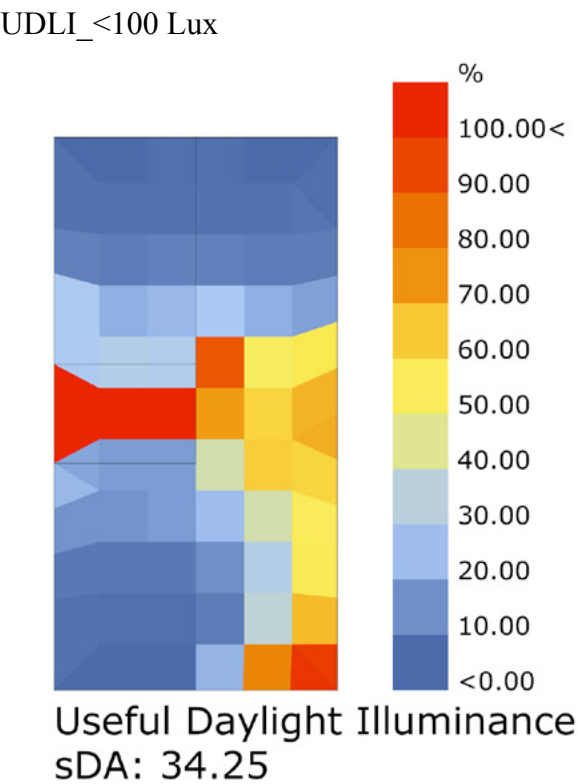
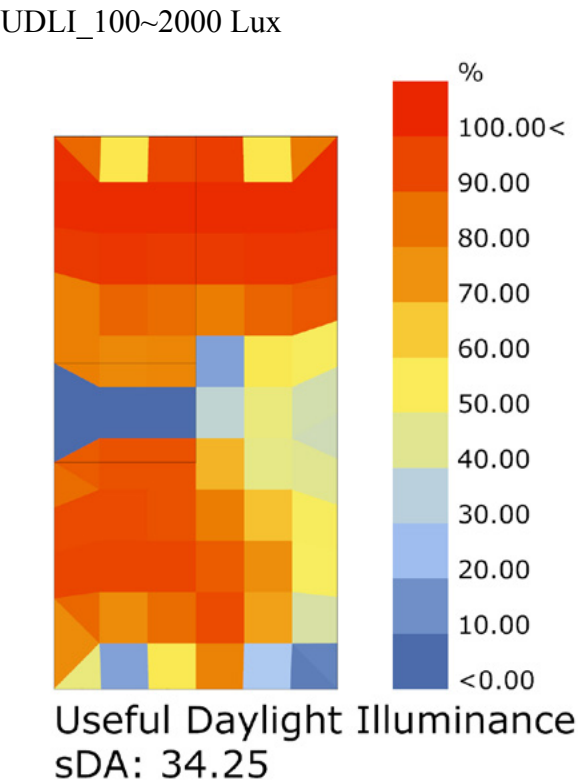
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Base Case Analysis

Firstly, the annual daylight analysis is used to analysis the daylighting condition in the room, then I use Useful Daylight Illuminance to evaluate the base case. We can find that the inner spaces cannot receive enough daylight. This is the main problem for exsited house.

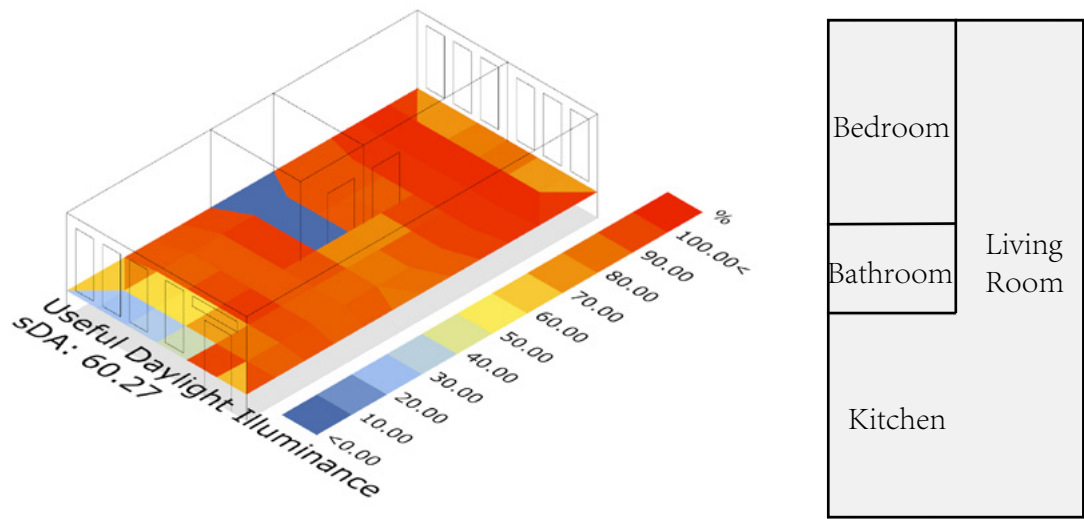


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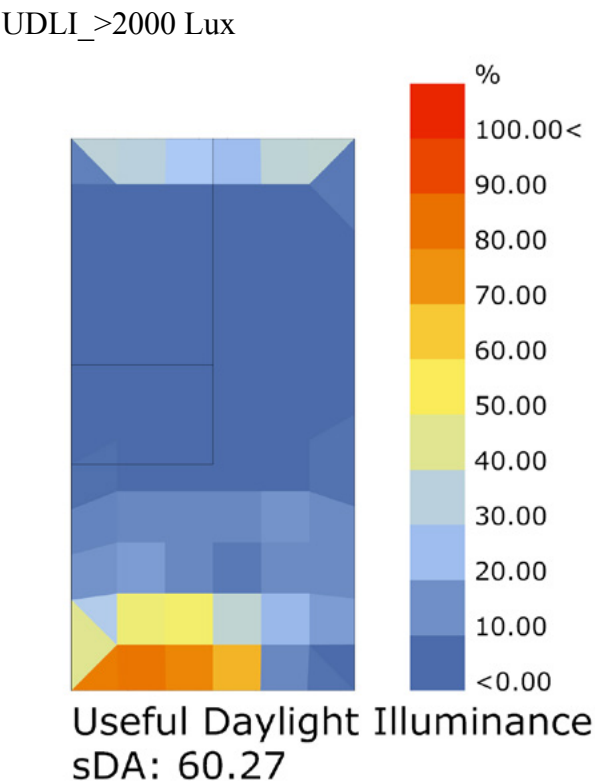
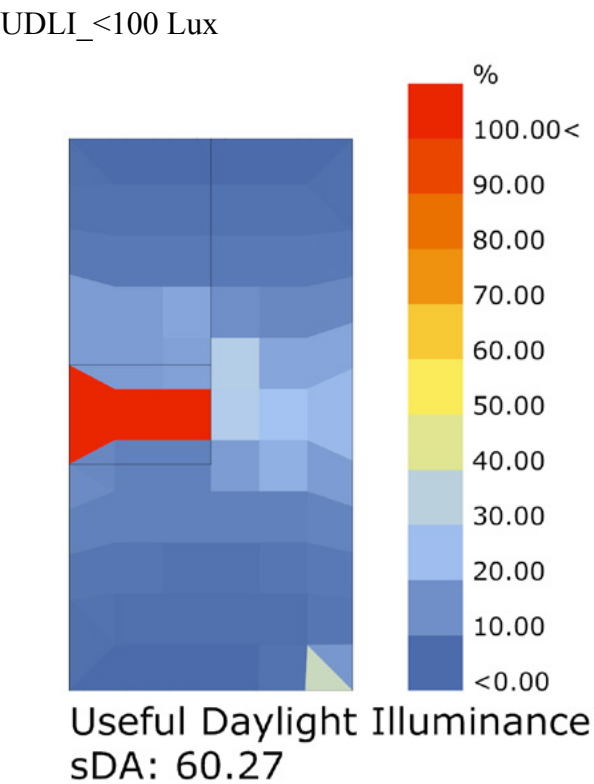
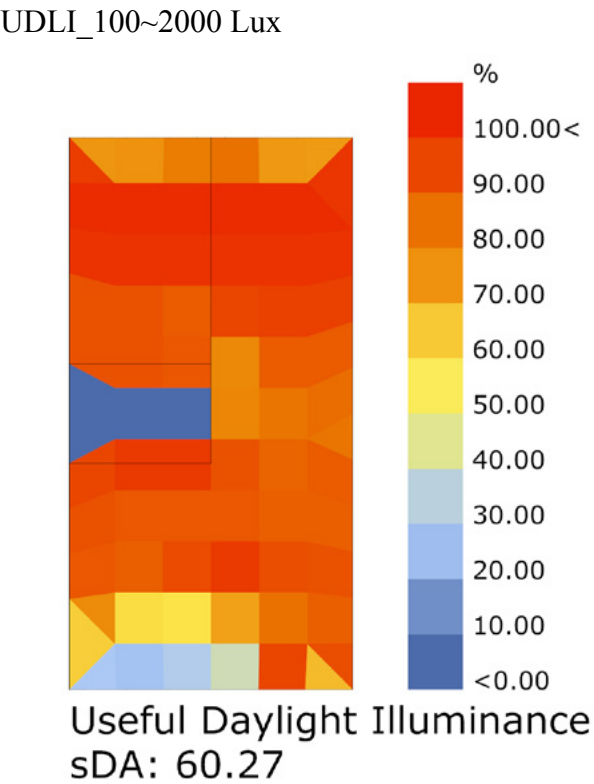


Base Case Analysis

After I changed the window proportion, we can find that the spatial daylighting autonomy increased a lot. For the diagram about UDLI 100~2000 Lux, we can find the middle part of the room still has the potential to improve. One possible way is to add east side window. In order to avoid the north part of the room becoming over lighted, the east window should only focus on the middle part to increase the particular part of sunlight.

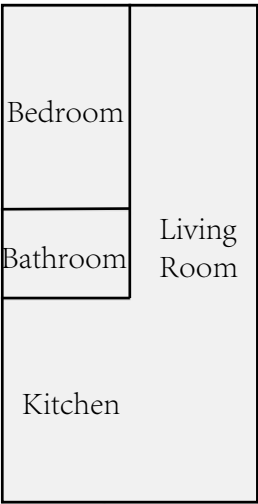
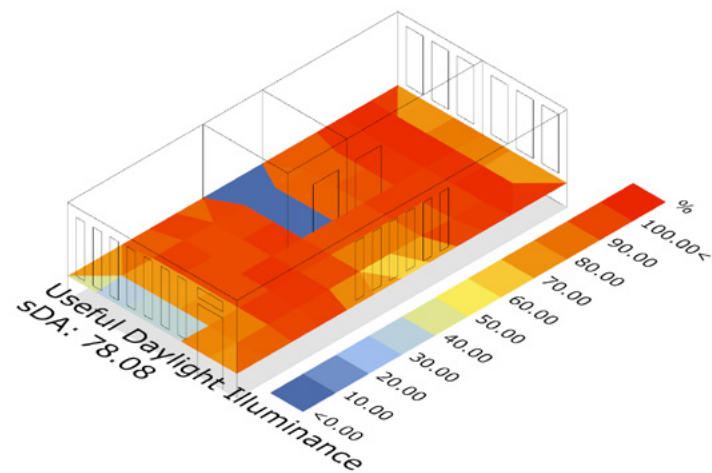


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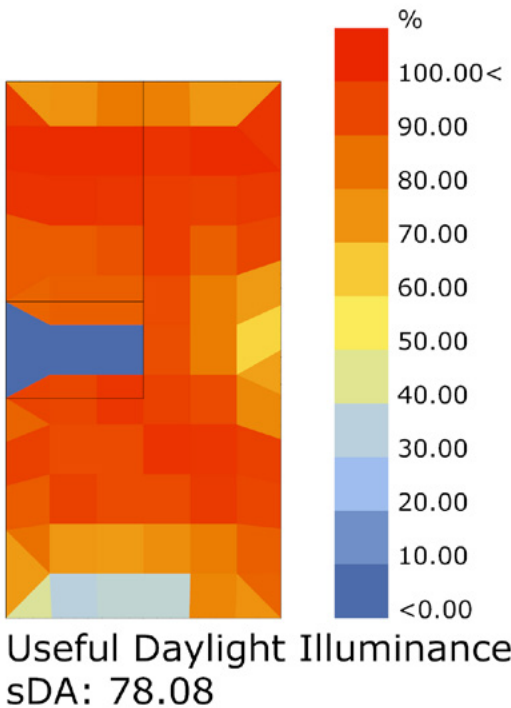


Base Case Analysis

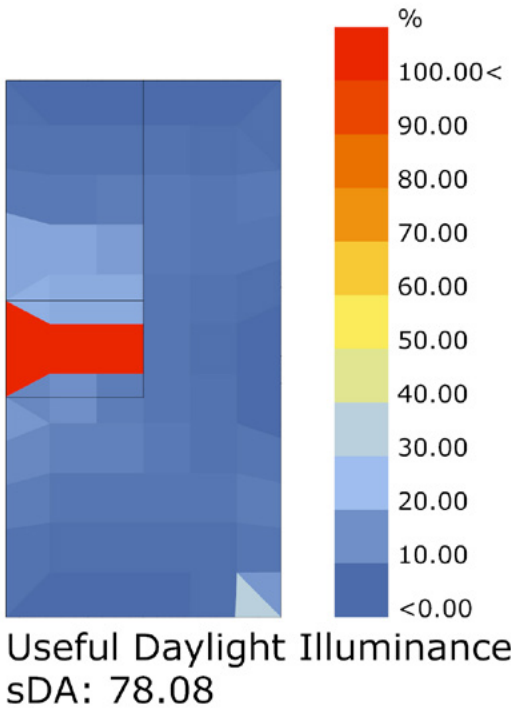
The final result comes out as shown. The spatial daylight autonomy raised to 78.08, which is quite suitable for the interior daylighting.



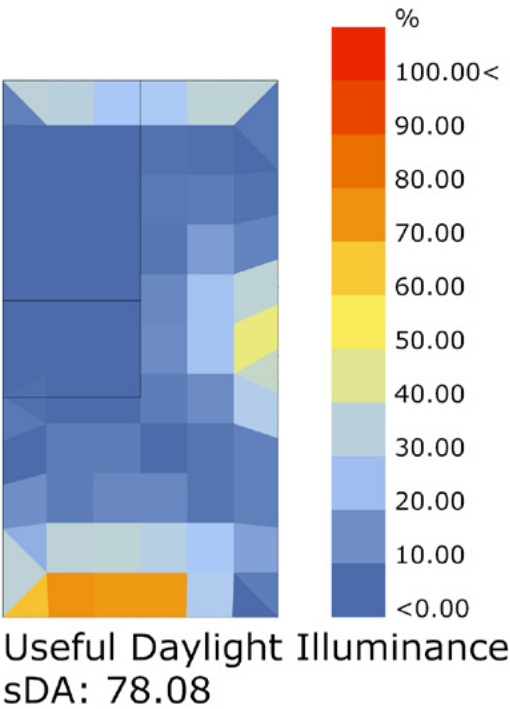
UDLI_100~2000 Lux



UDLI_<100 Lux



UDLI_>2000 Lux



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