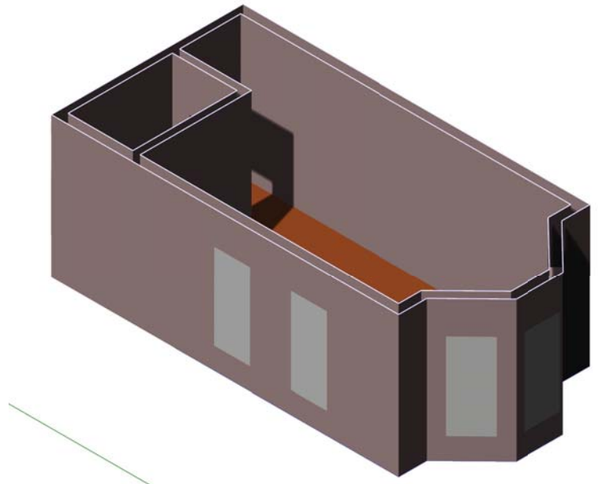
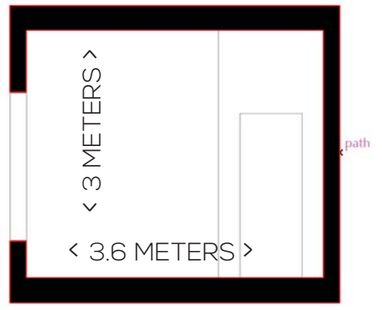
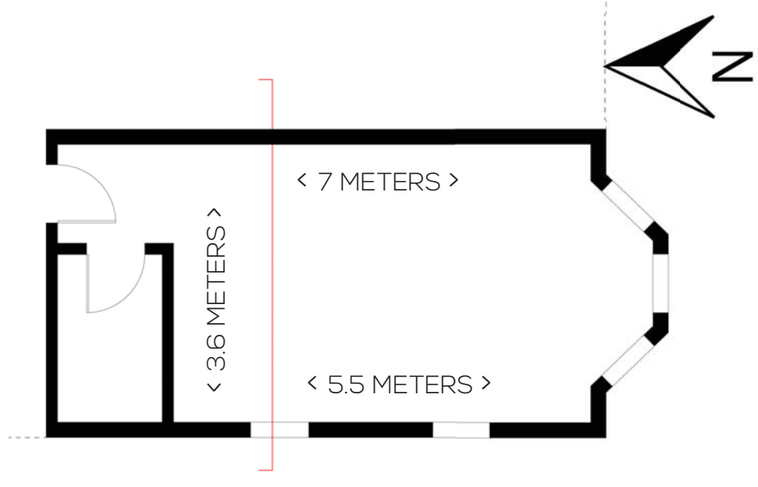
DAYLIGHT ANALYSIS

SINGLE BEDROOM
GRAHAM NELSON
OCTOBER 22, 2017



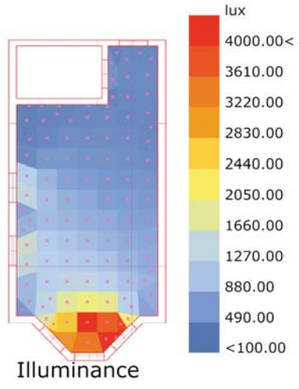
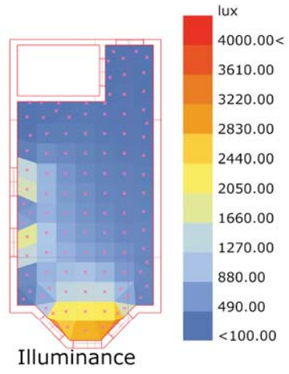
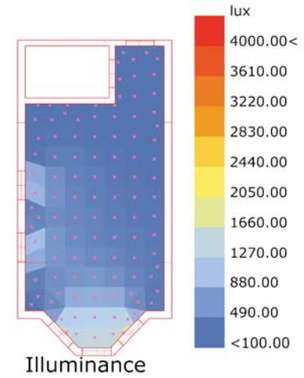
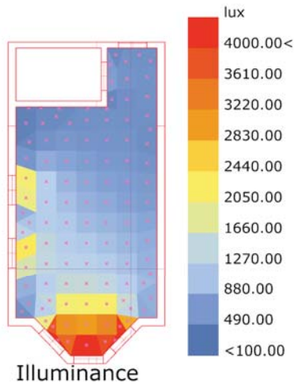
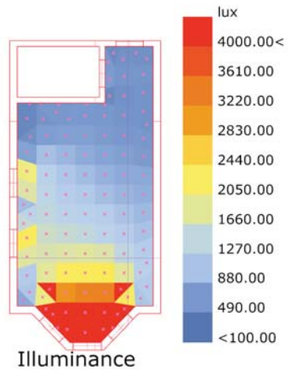
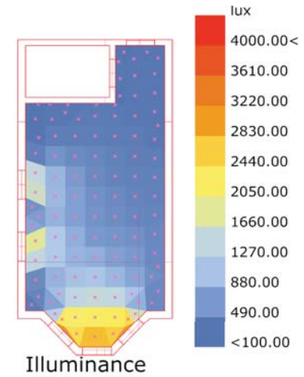
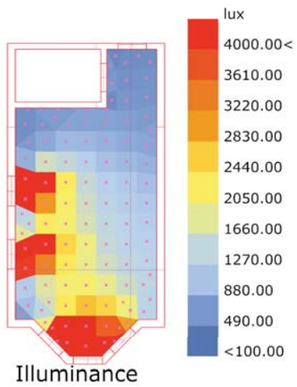
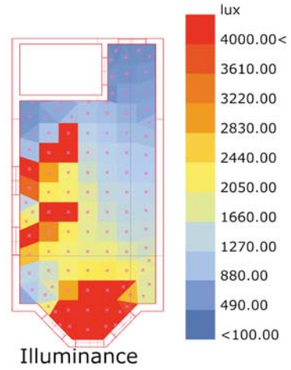
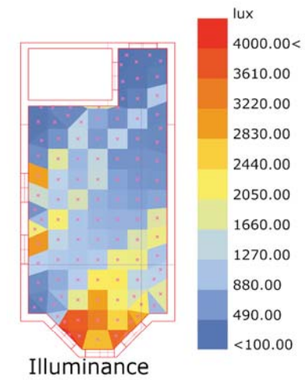




DESIGN OBJECTIVES:

This analysis seeks to observe solar illuminance and potential glare issues in a south-facing bedroom in a Philadelphia row house. The room has windows that face west, and a bay window that faces directly south. The goals are to maximize areas with sunlight between 300 and 2000 LUX. The times of most severe glare occur between December and March, and in the hours between 12:00 and 15:00. The glare is less severe in June, presumably because the solar angle is steeper. To reduce this issue, a custom shading device is installed above the windows along the perimeter of the room. Firstly it was a continuous 18", however a device modified to the angles of the sun vis a vis the windows proved more effective. This has resulted in a significant reduction in the afore-mentioned issues, which is visible in the following analysis.

EXISTING DAYLIGHT ANALYSIS

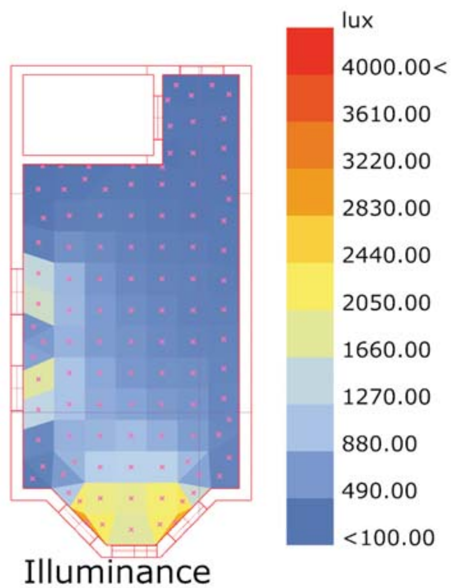
	DECEMBER 21st	MARCH 21st	JUNE 21st
9:00			
12:00 NOON			
15:00			

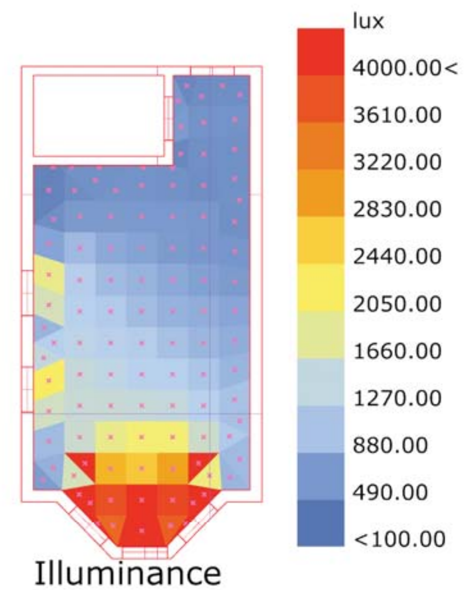
BLOCKING DIRECTIY SOUTH-FACING WINDOW

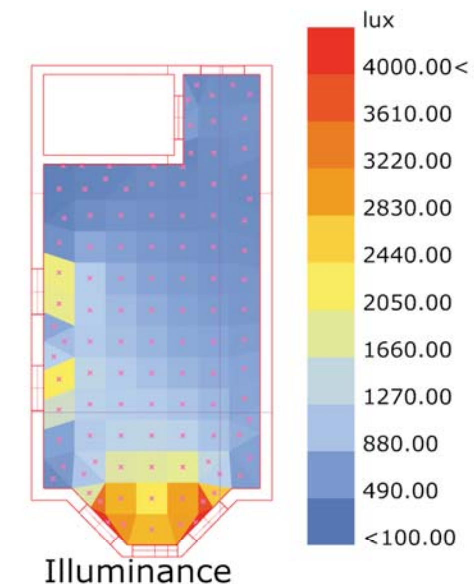
	DECEMBER 21st	MARCH 21st	JUNE 21st

9:00

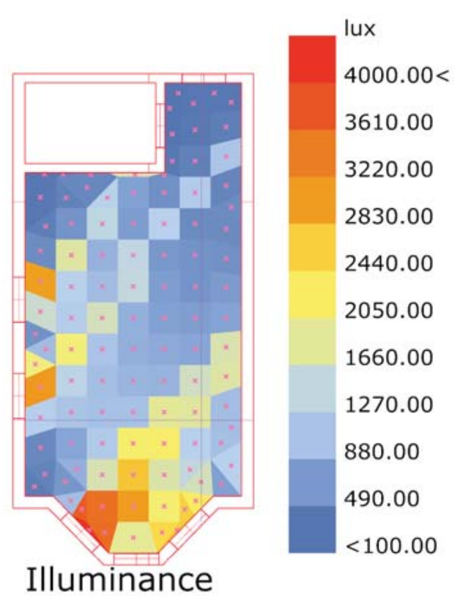
12:00 NOON

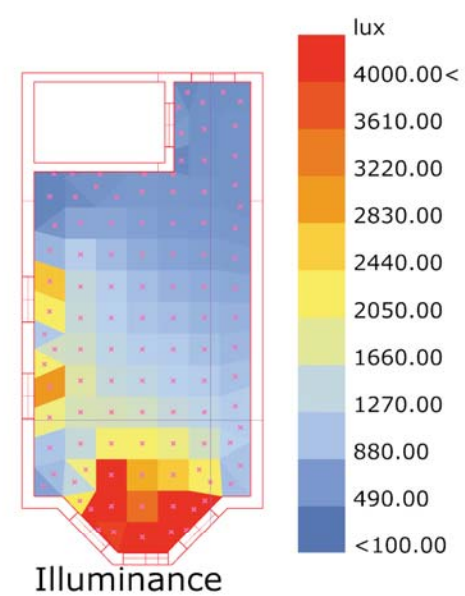


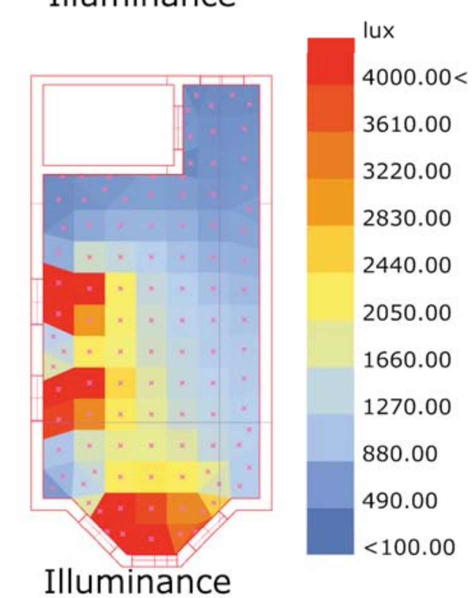




15:00





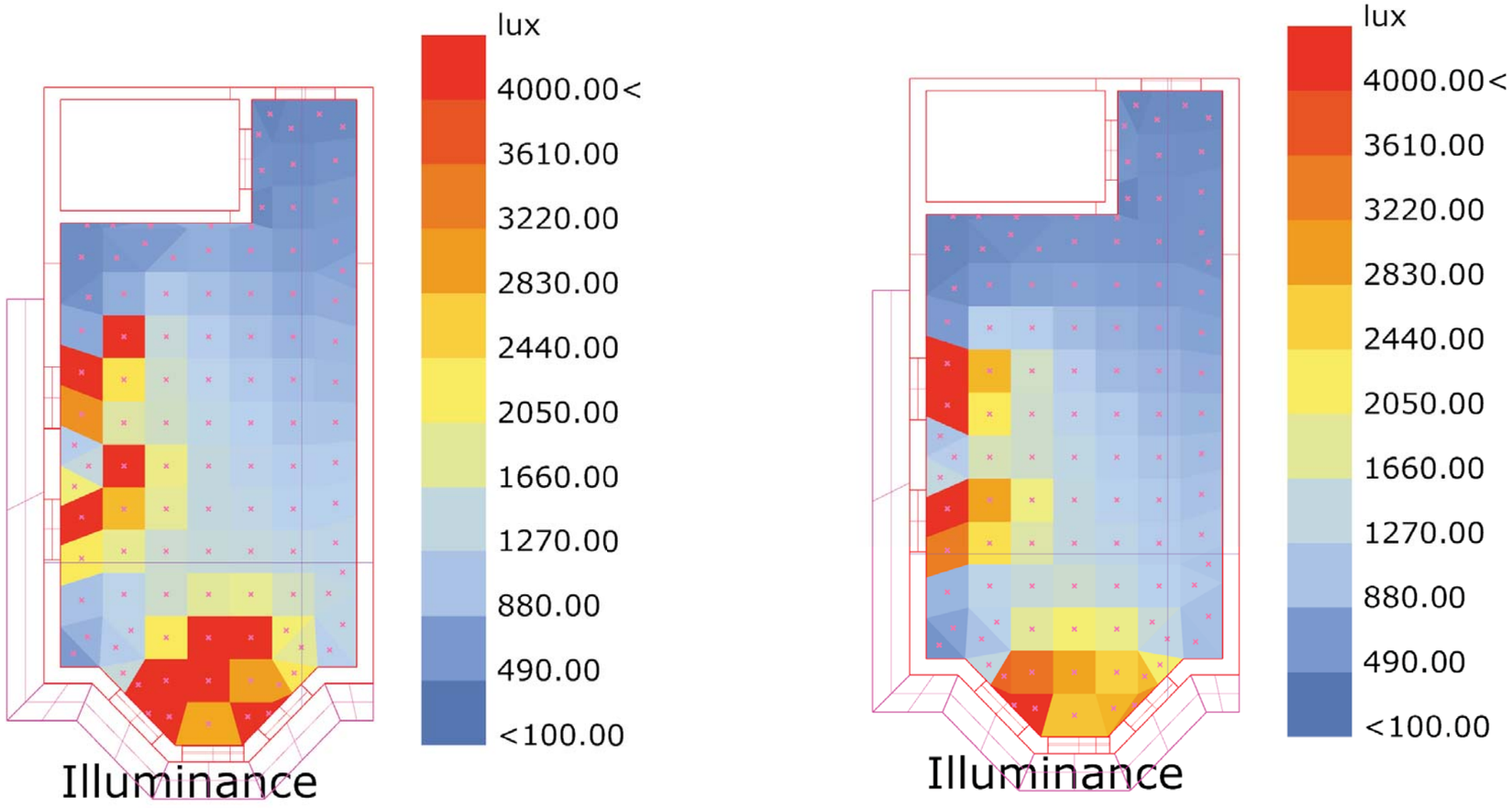


ADDITION OF CONTINUOUS 18" SUN SHADE FLUSH WITH TOP OFWINDOWS

MARCH 21st

JUNE 21st

15:00



Glare from direct-south is reduced.
No change in glare from west.

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DAYLIGHT ANALYSIS WITH CUSTOM SHADING

DECEMBER 21st | MARCH 21st | JUNE 21st

9:00

12:00 NOON

15:00