

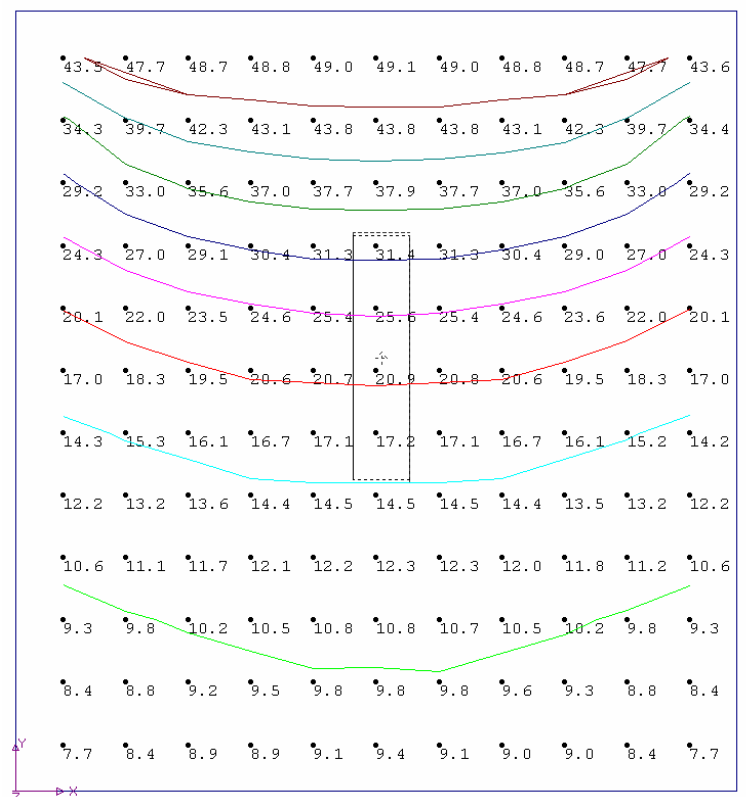
APPENDIX D

**DAYLIGHTING CALCULATIONS FOR PRIVATE
OFFICE**

DAYLIGHTING GRIDS

Below are the various tests I performed for the daylighting study in the private office for the 3100 Research Cluster. I used a 60% transparency for the window because of the tinted glass in place. I only tested the two days of the year which each affect the space in different ways. June 21st was not shown because the building will not be used as often in the summer months compared to the usual school semester. It is also unnecessary because of the expected sun contribution during those months. Direct sun doesn't really enter these offices because of their orientation and location, but the sun's reflected light makes a large impact on these spaces. Each are labeled the day and time and orientation with the average, maximum, and minimum illuminance values in footcandles. Only the critical times are shown below.

December 21, 4 PM, Overcast



Illuminance Values

Avg - 22.02 fc

Max - 49.1 fc

Min - 7.7 fc

December 21, 4 PM, Clear Sky, North Facing Windows



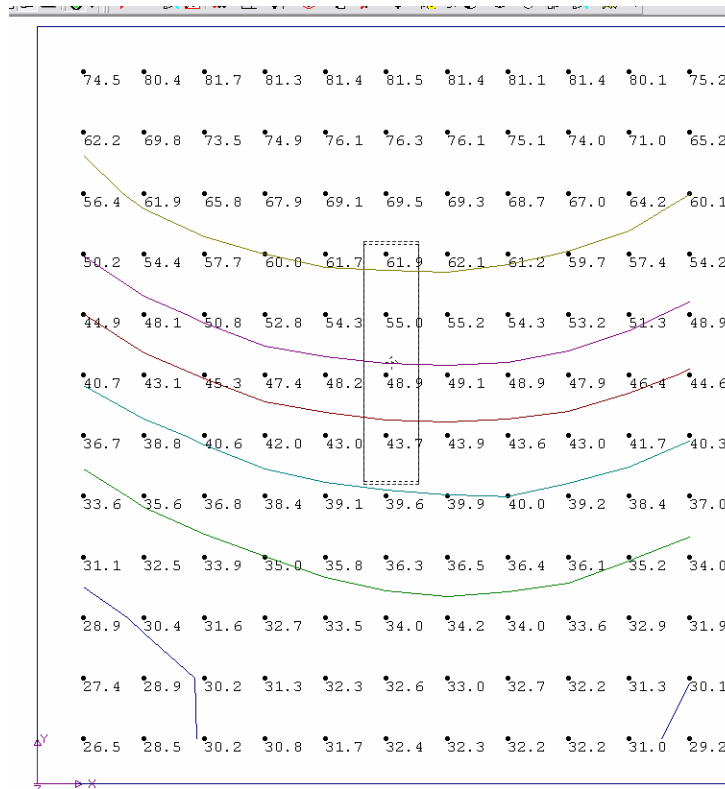
Illuminance Values

Avg - 48.43 fc

Max - 86.1 fc

Min - 25.6 fc

December 21, 4 PM, Clear Sky, East Facing Windows



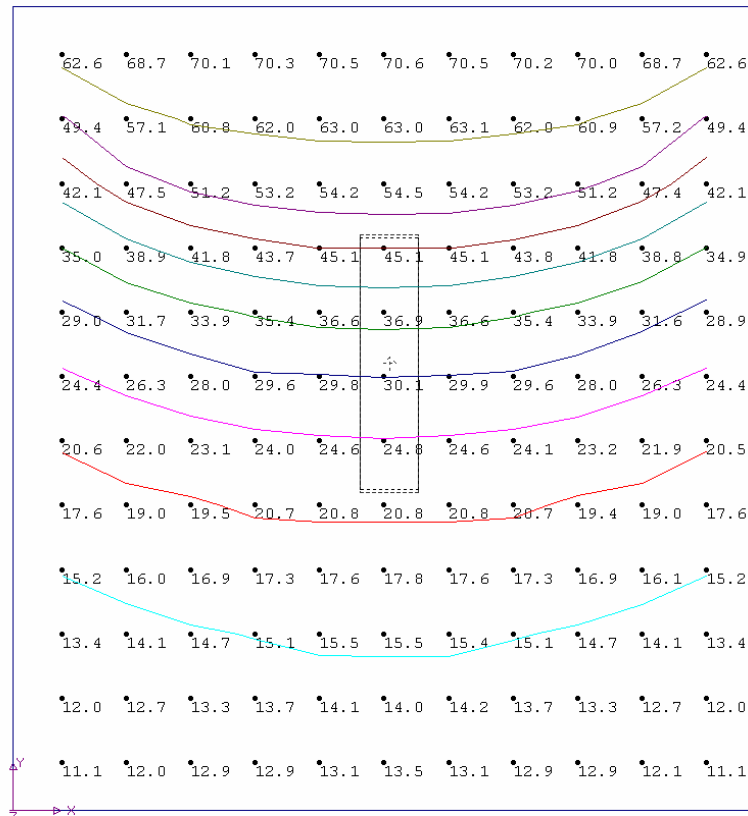
Illuminance Values

Avg - 48.55 fc

Max - 81.7 fc

Min - 26.5 fc

March 21, 5 PM, Overcast



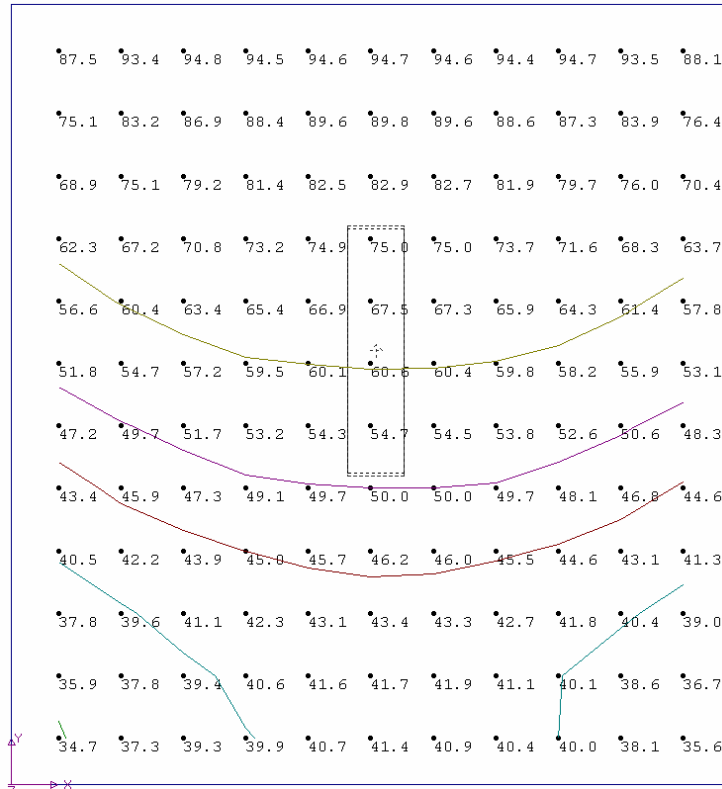
Illuminance Values

Avg - 31.68 fc

Max - 70.6 fc

Min - 11.1 fc

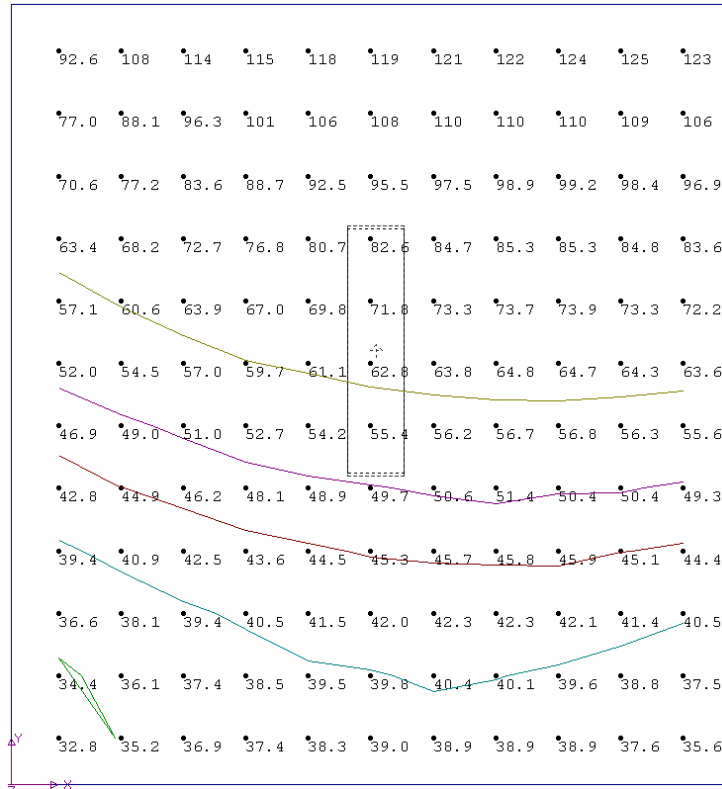
March 21, 5 PM, Clear Sky, East Facing Windows



Illuminance Values

Avg - 59.28 fc
Max - 94.8 fc
Min - 34.7 fc

March 21, 5 PM, Clear Sky, North Facing Windows



Illuminance Values

Avg - 65.06 fc
Max - 125 fc
Min - 32.8 fc