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BIM Thesis Presentation
10 April 2013



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<https://www.google.com/imghp?hl=en&tab=wi>

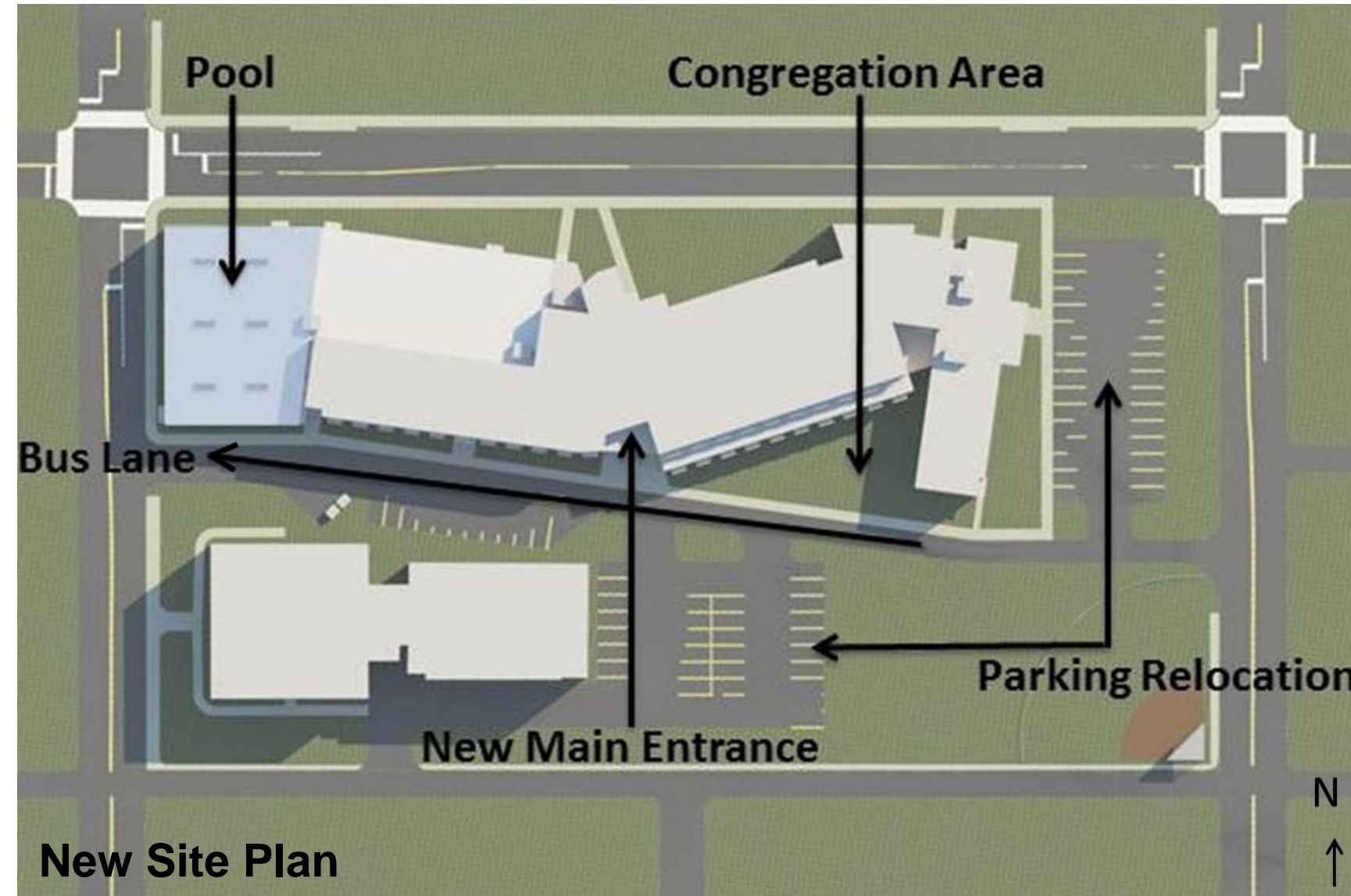
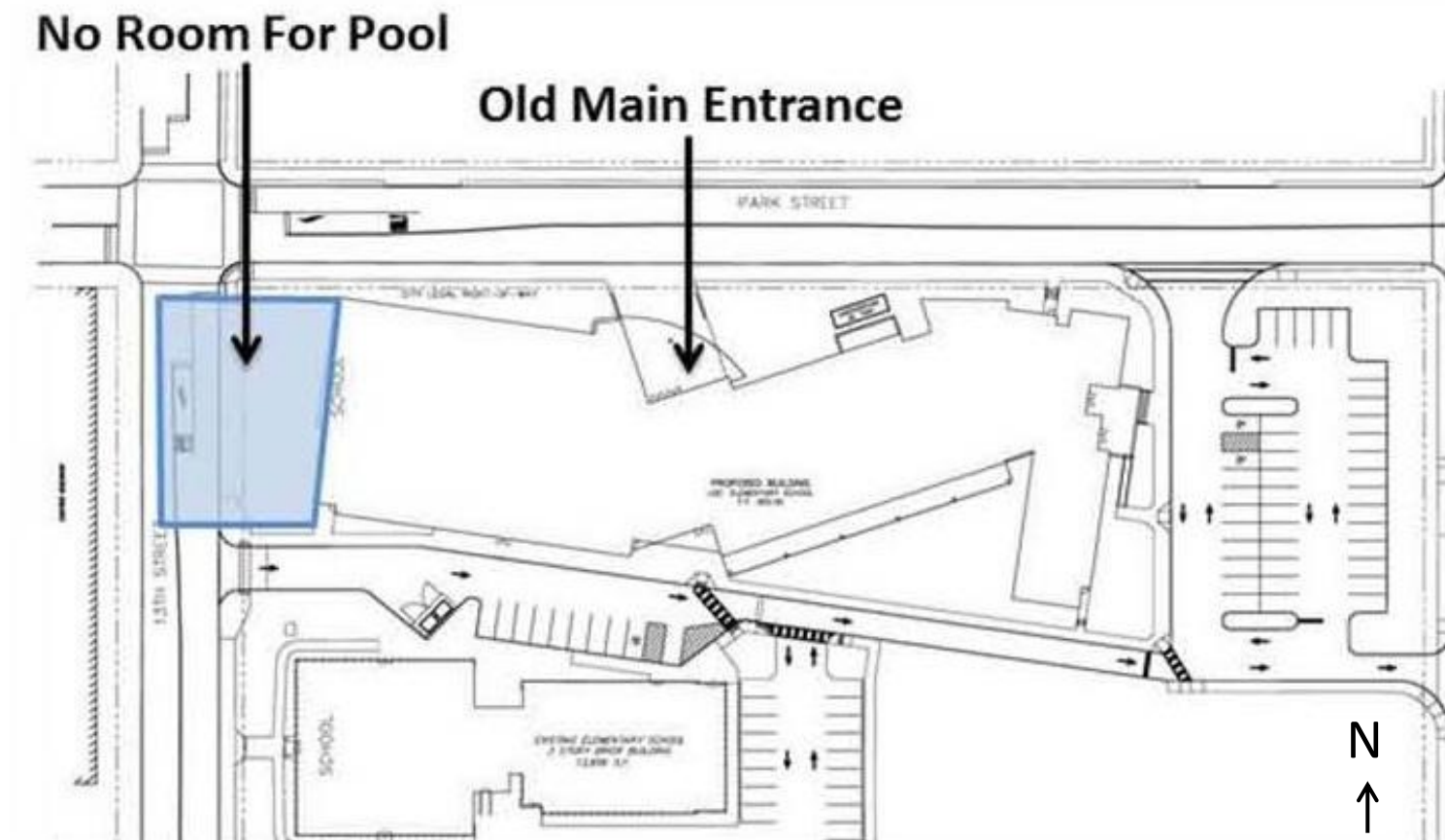
Owner Core Values

-  Safety & Security
-  Lifecycle & Maintenance
-  Cost Effective



Nexus Goals

-  Integration
-  Reduce, Reuse, Recover
-  Learning Tool



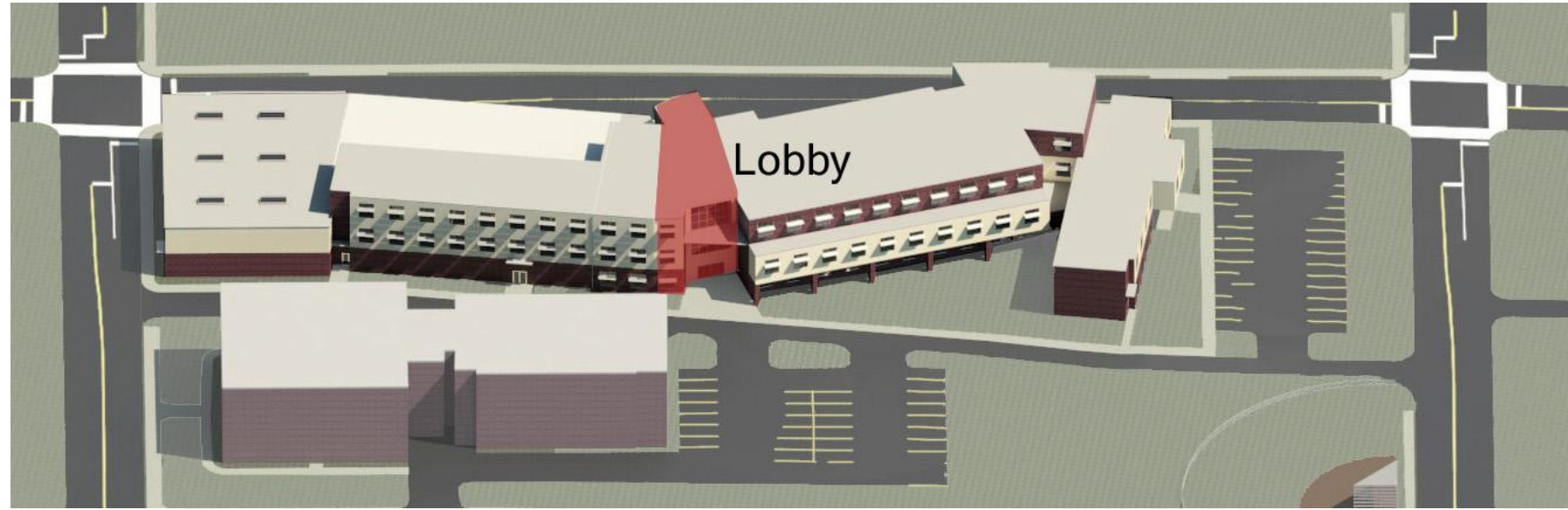
Original Site Plan

New Site Plan

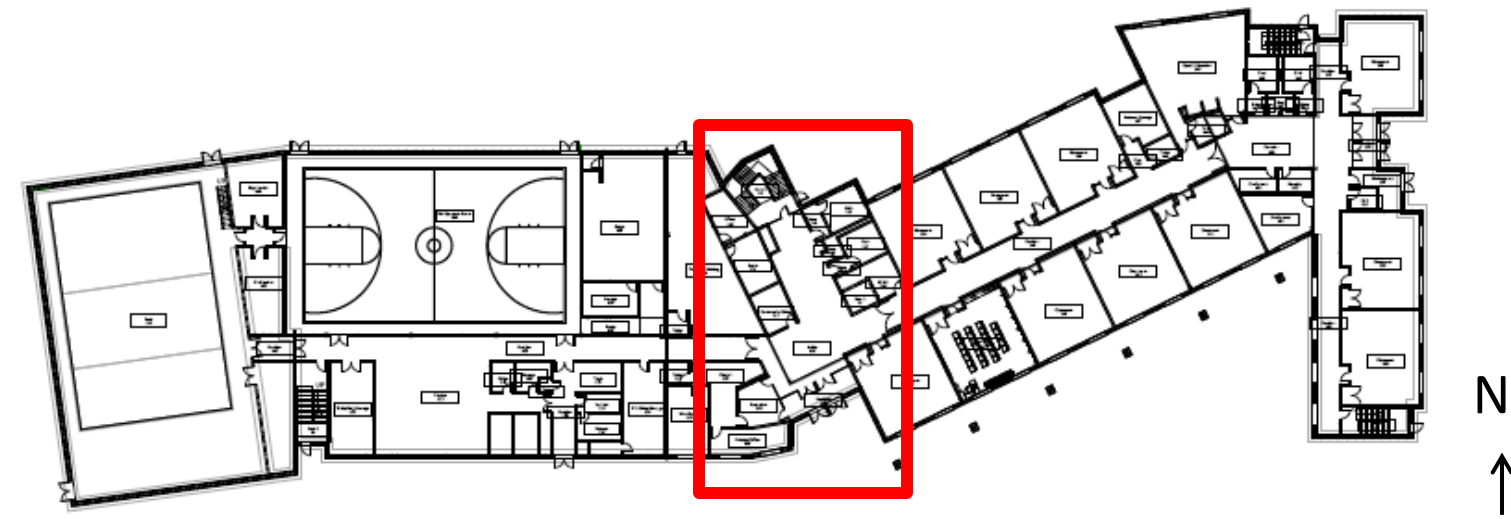
Lobby

Community

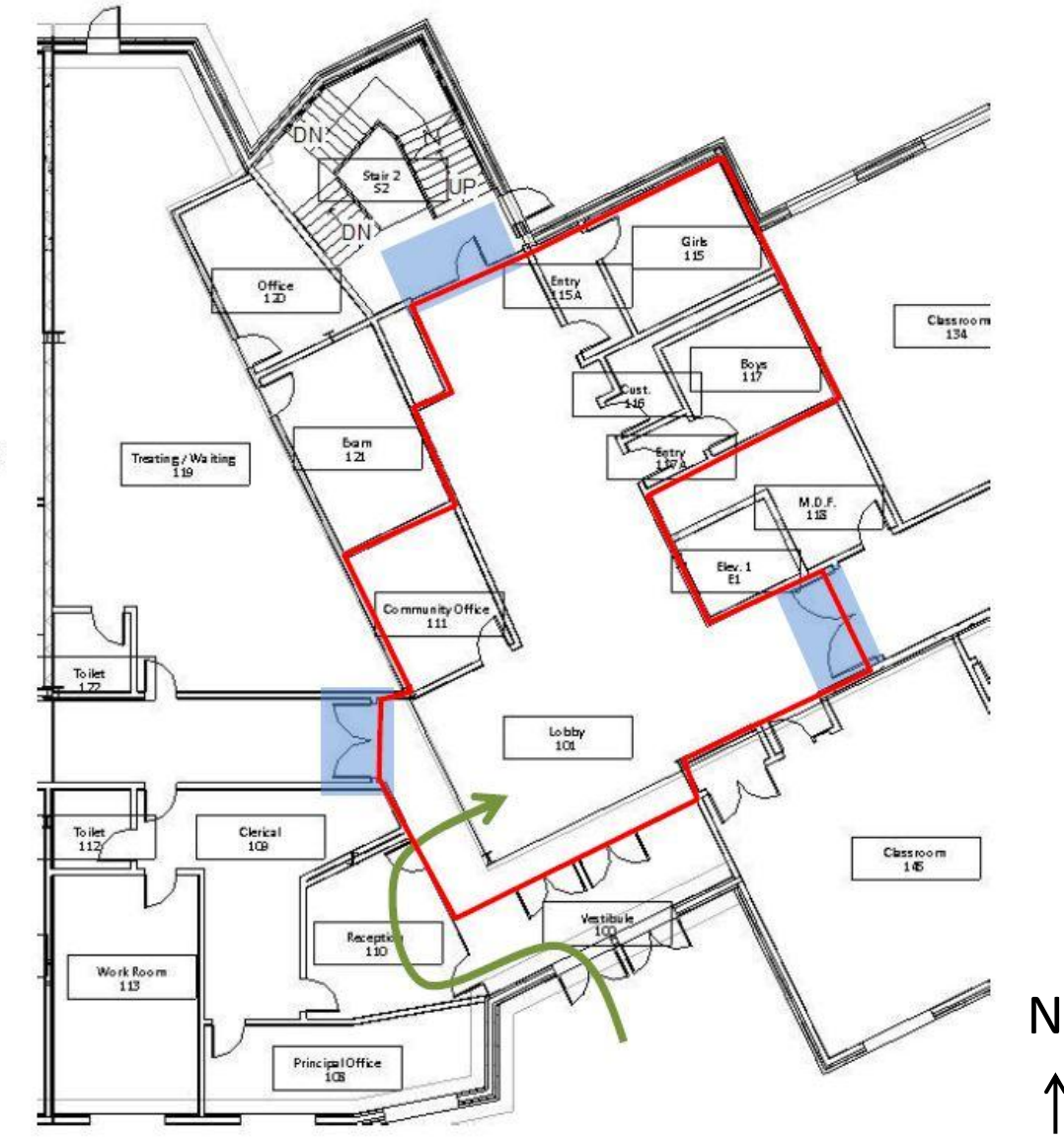
Education



Lobby

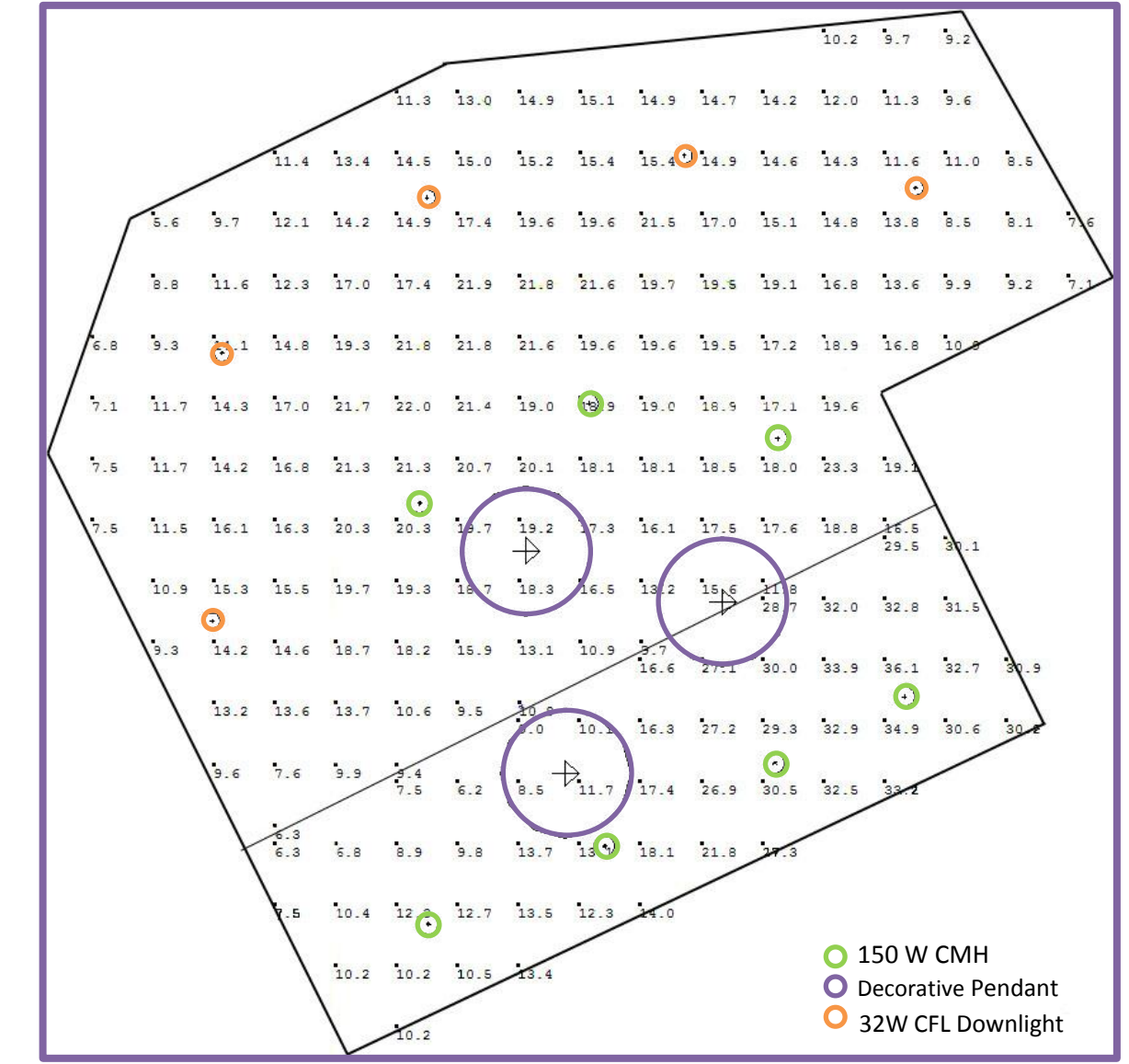
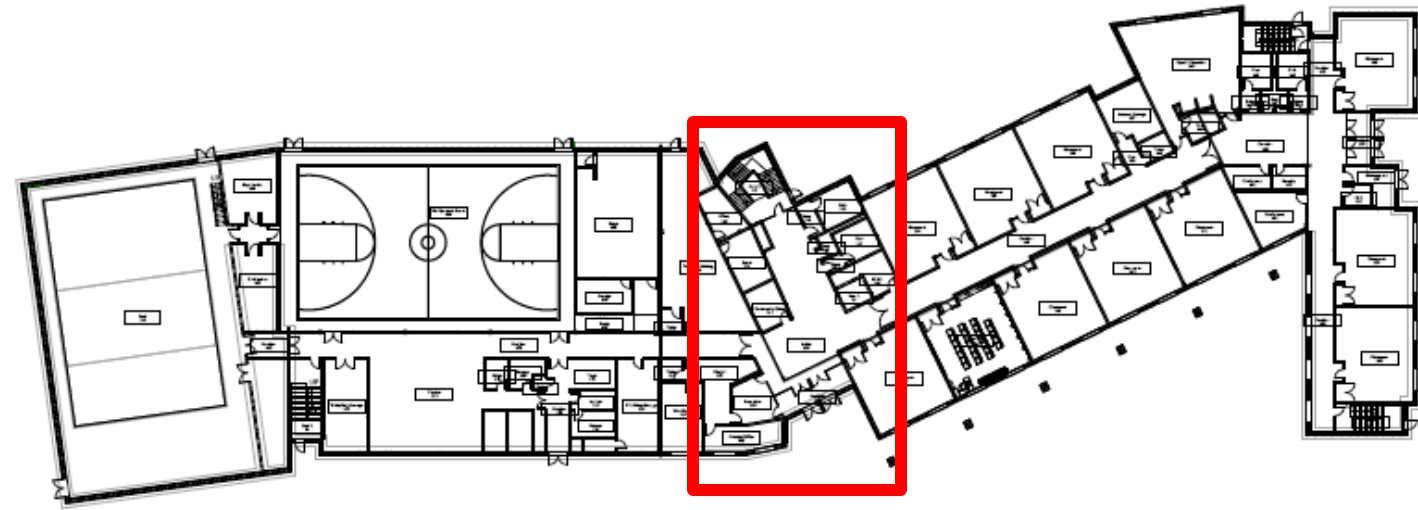


- ↑ Visitor Entry
- Security/Fire Doors
- Secure Perimeter



Target Illuminance	Actual Illuminance
15 fc	15.03 fc
Target LPD	Actual LPD
1.8 W/ft ²	1.098 W/ft ²

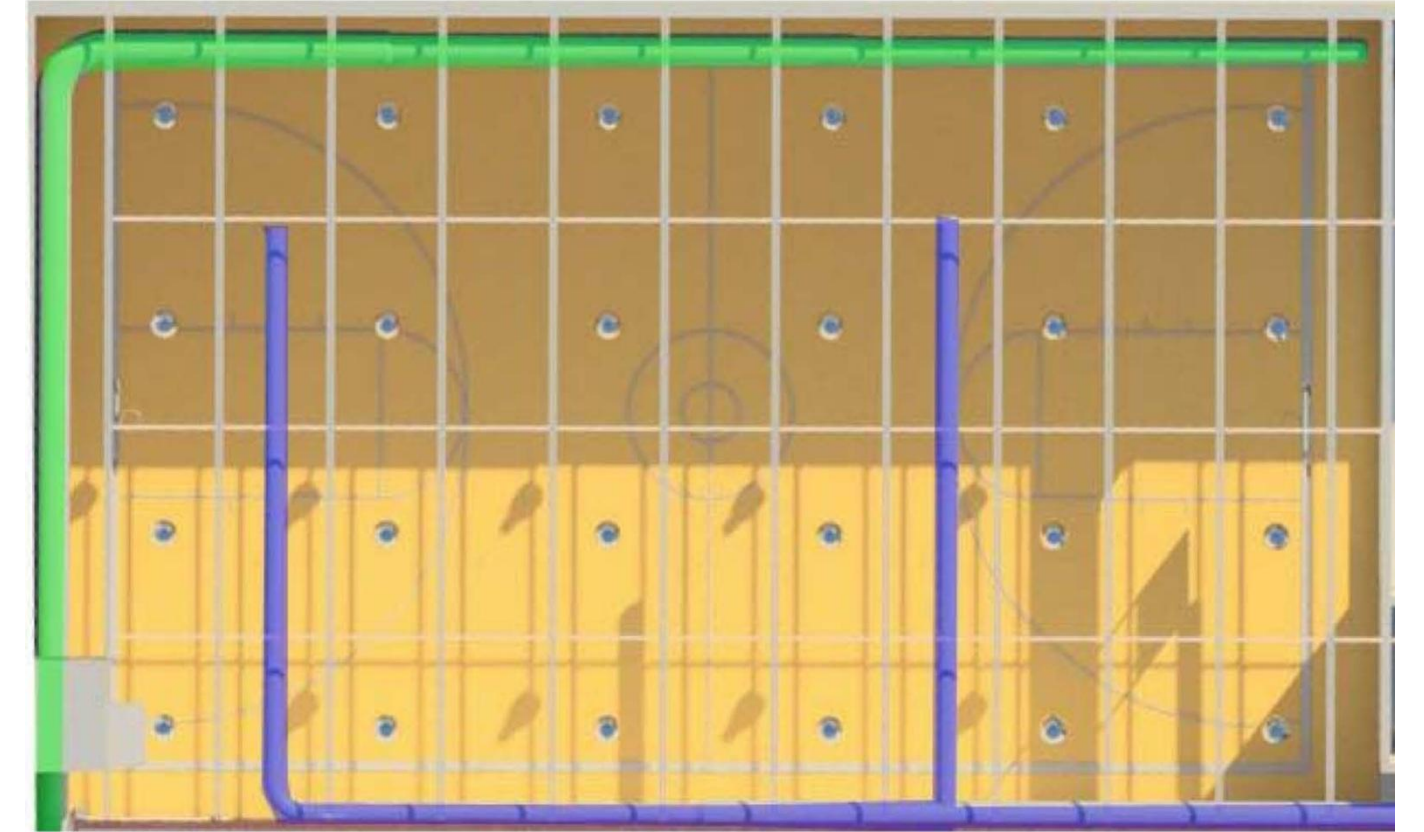
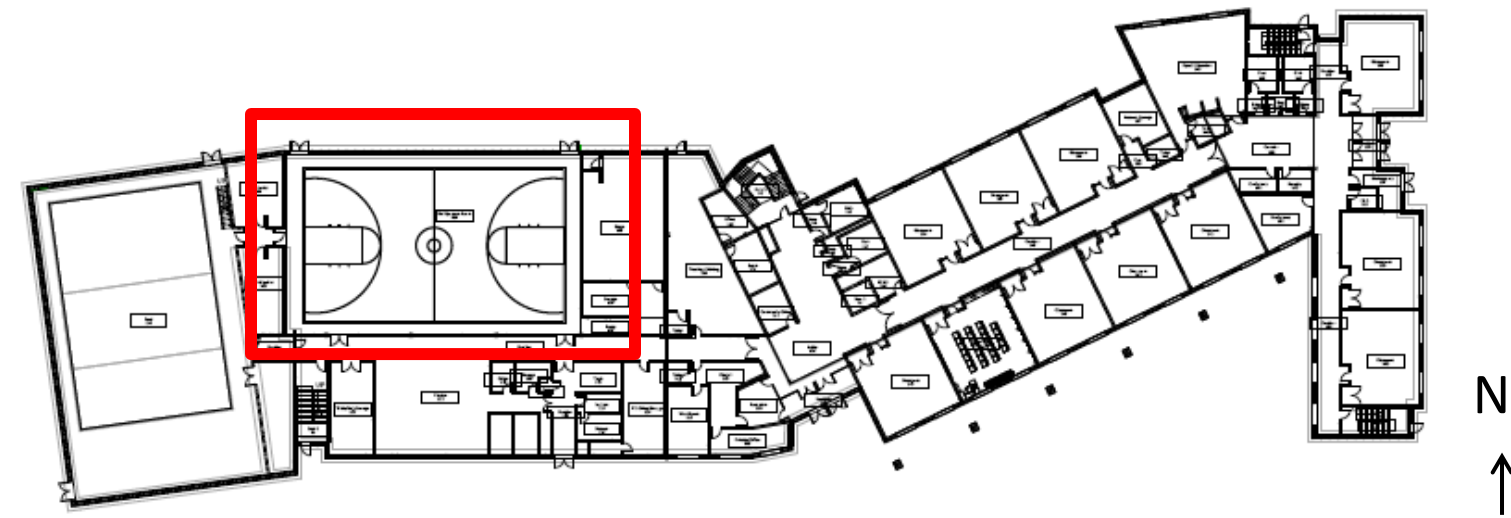
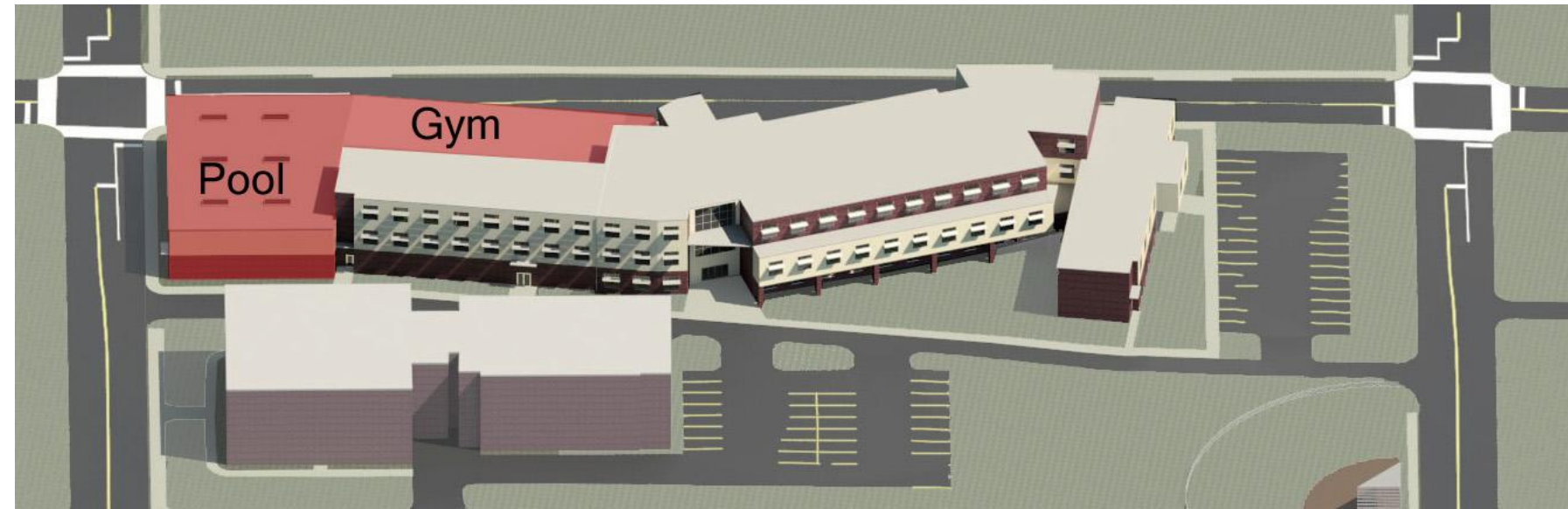
-Table 3-



Lobby

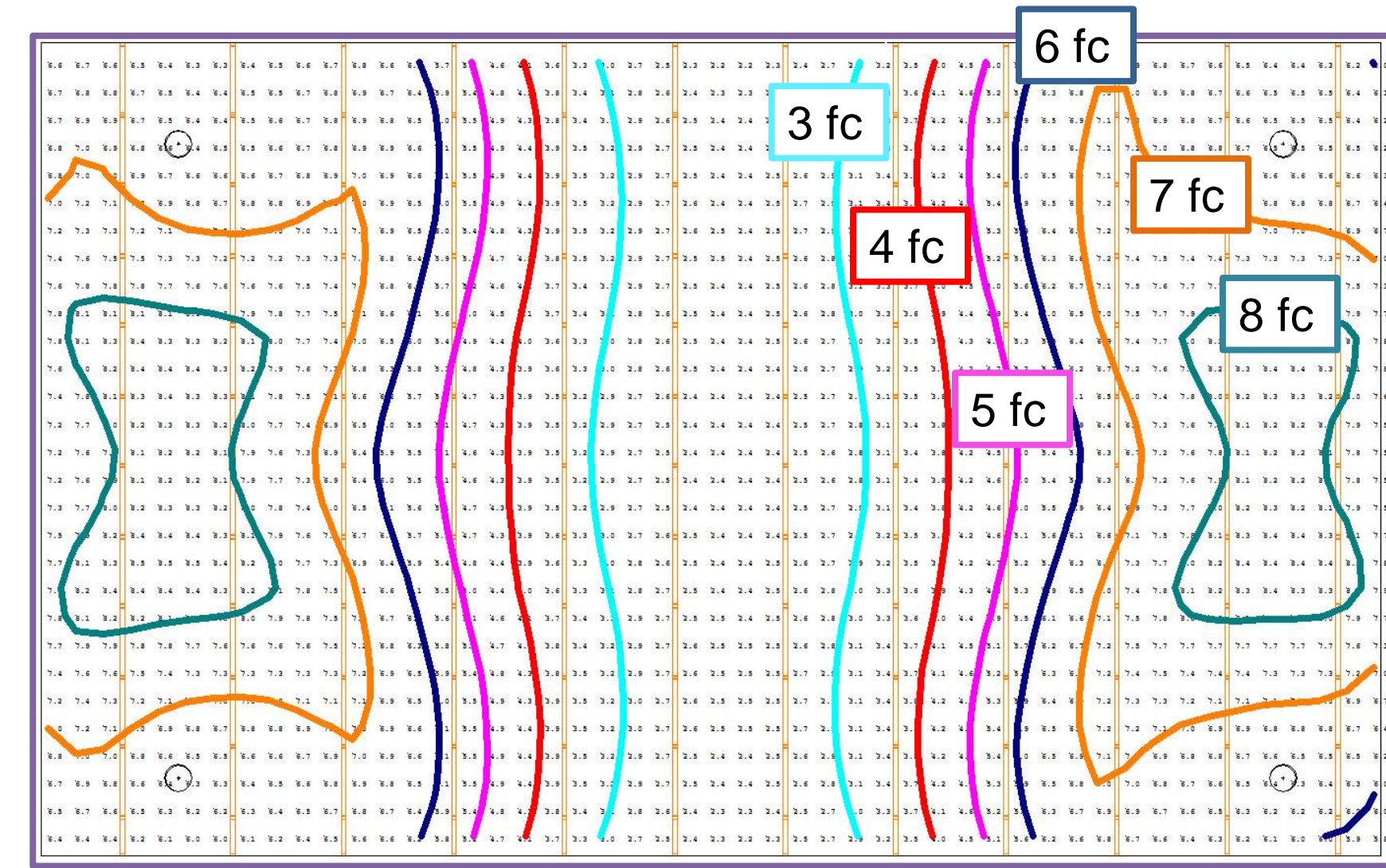
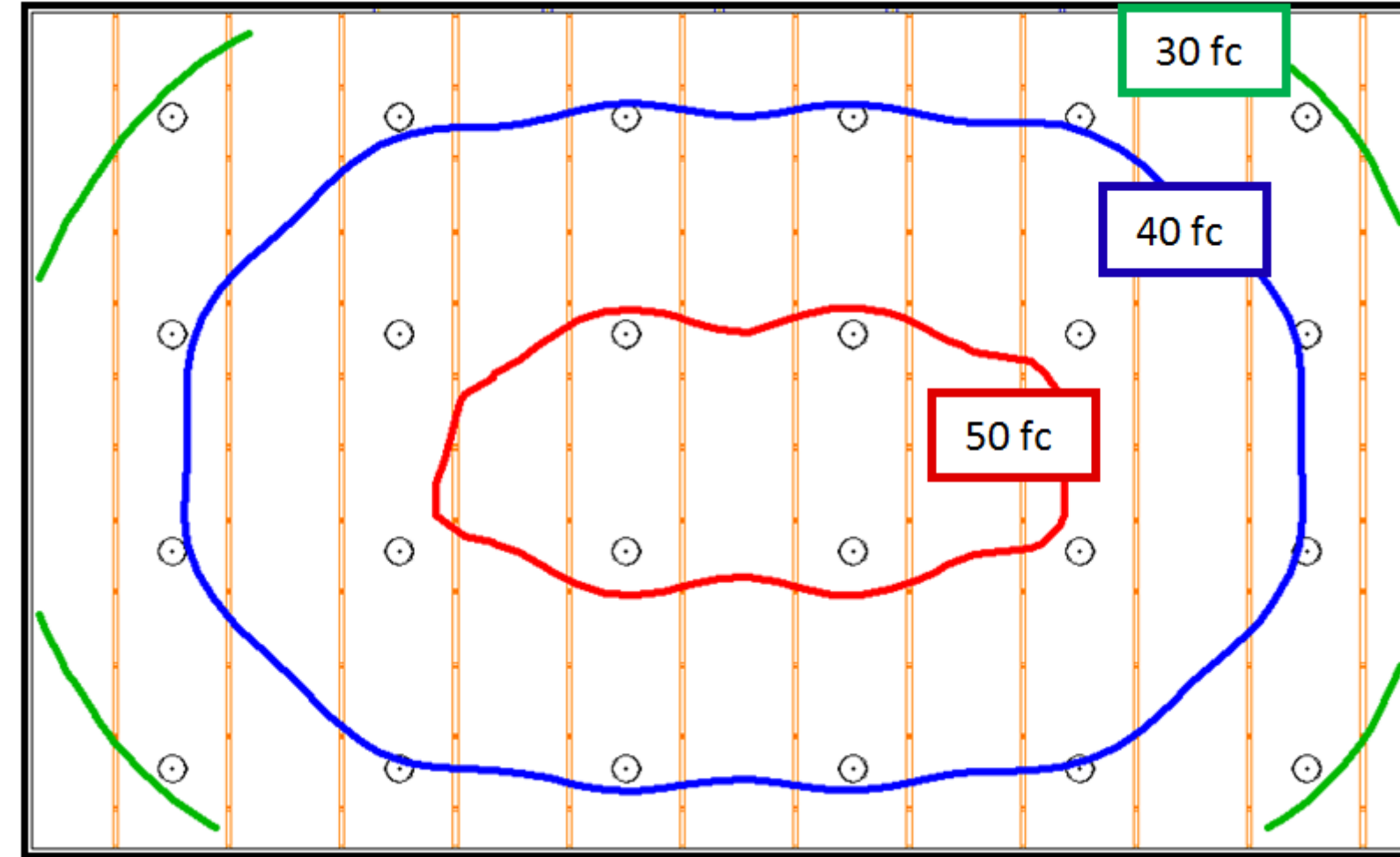
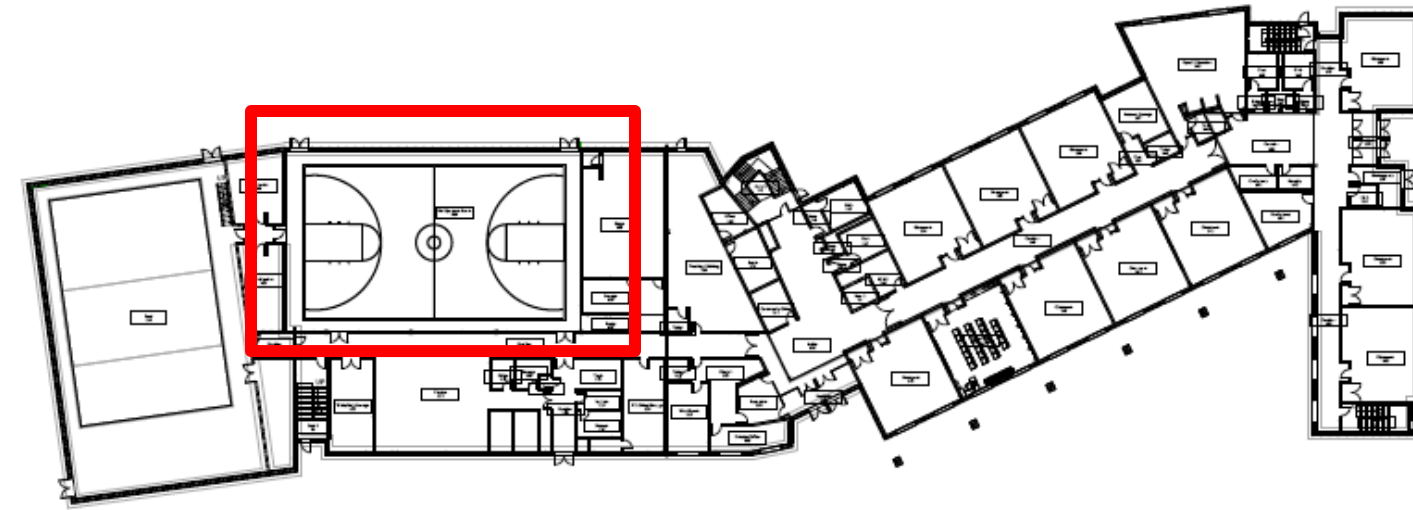
Community

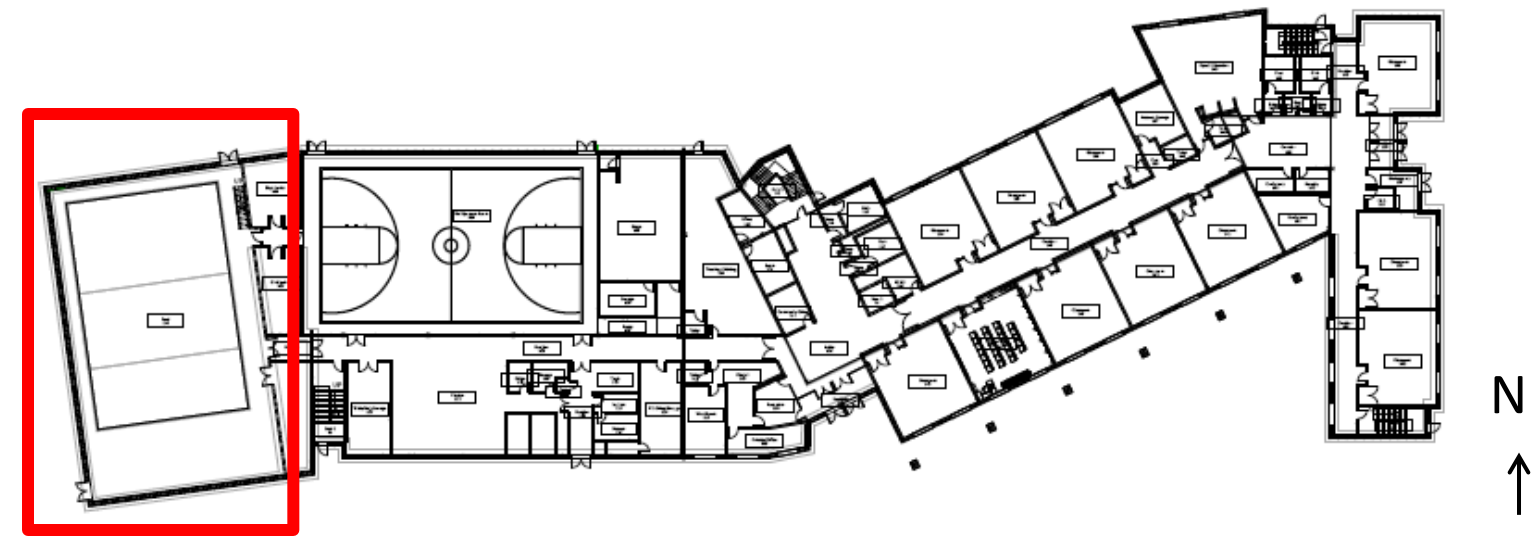
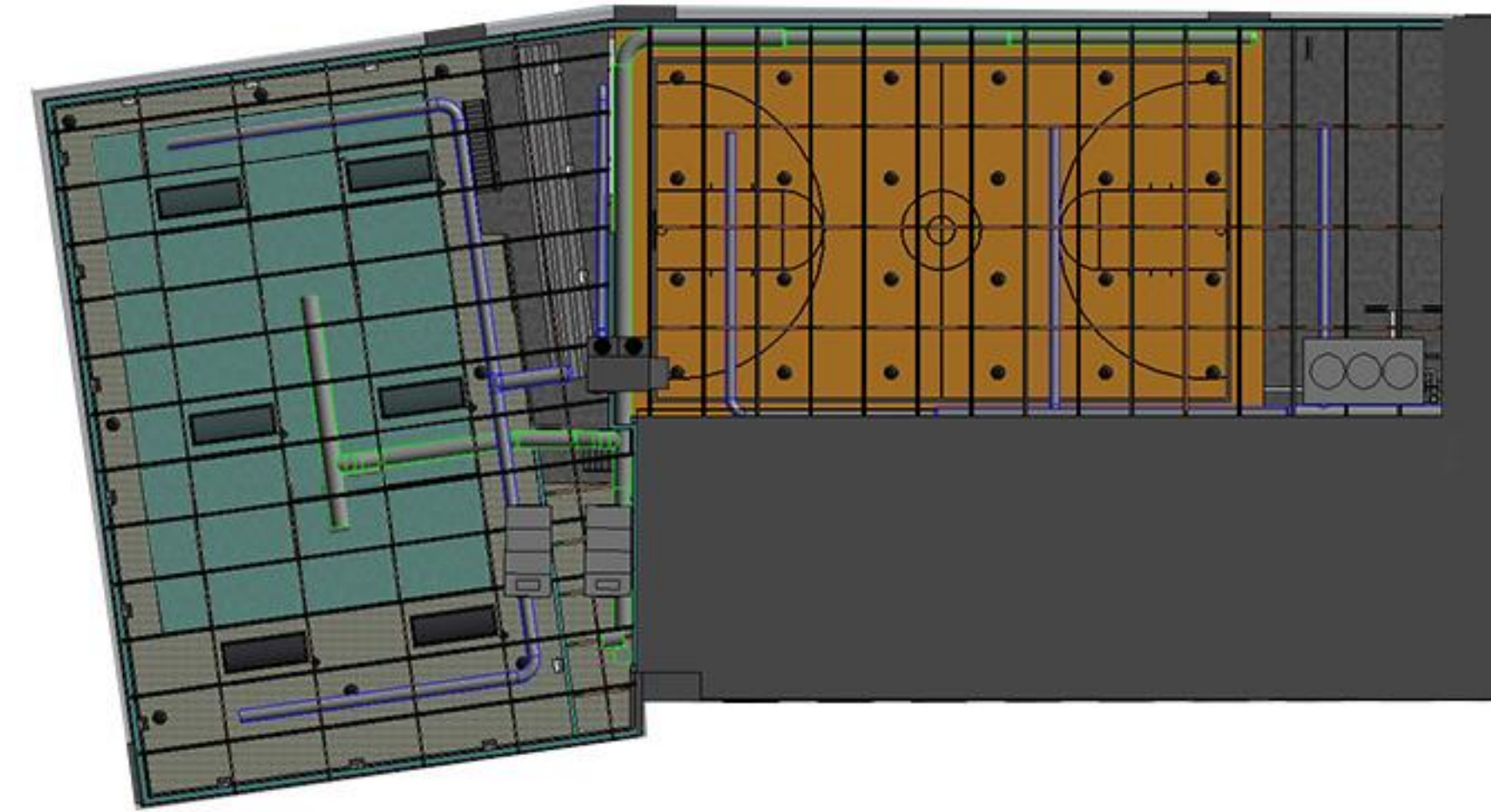
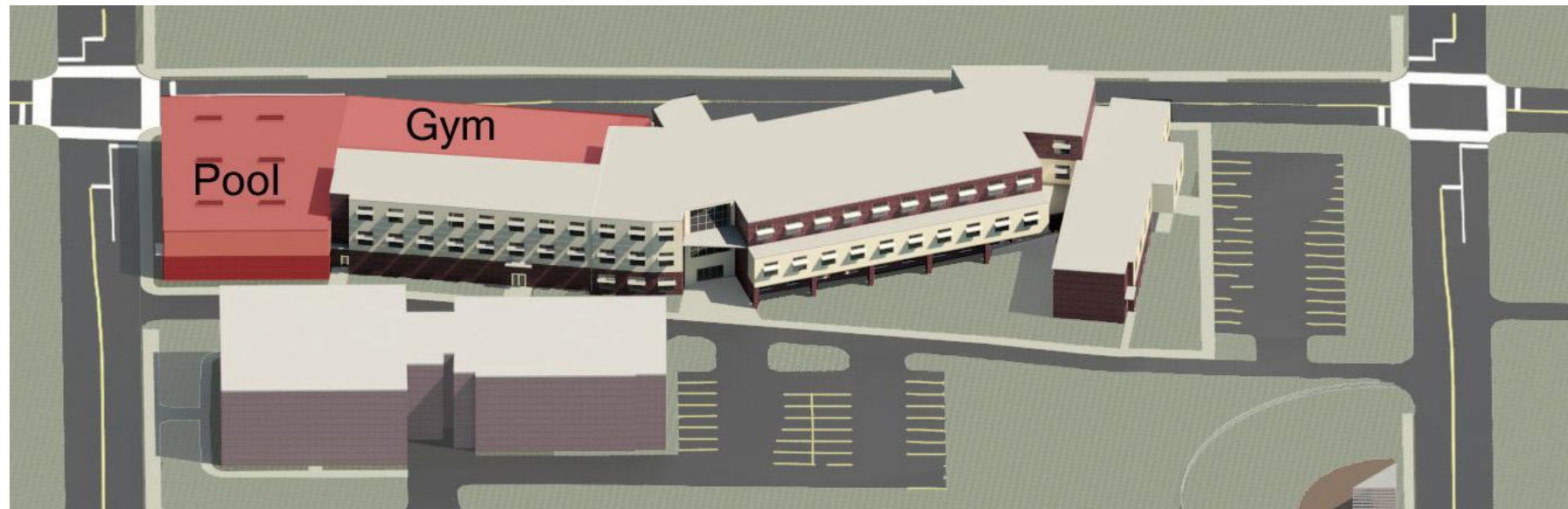
Education



Target Illuminance	Actual Illuminance
40 fc	41 fc
Target LPD	Actual LPD
1.4 W/ft ²	1.4 W/ft ²

-Table 4-





Project Background

Goals

Site Plan

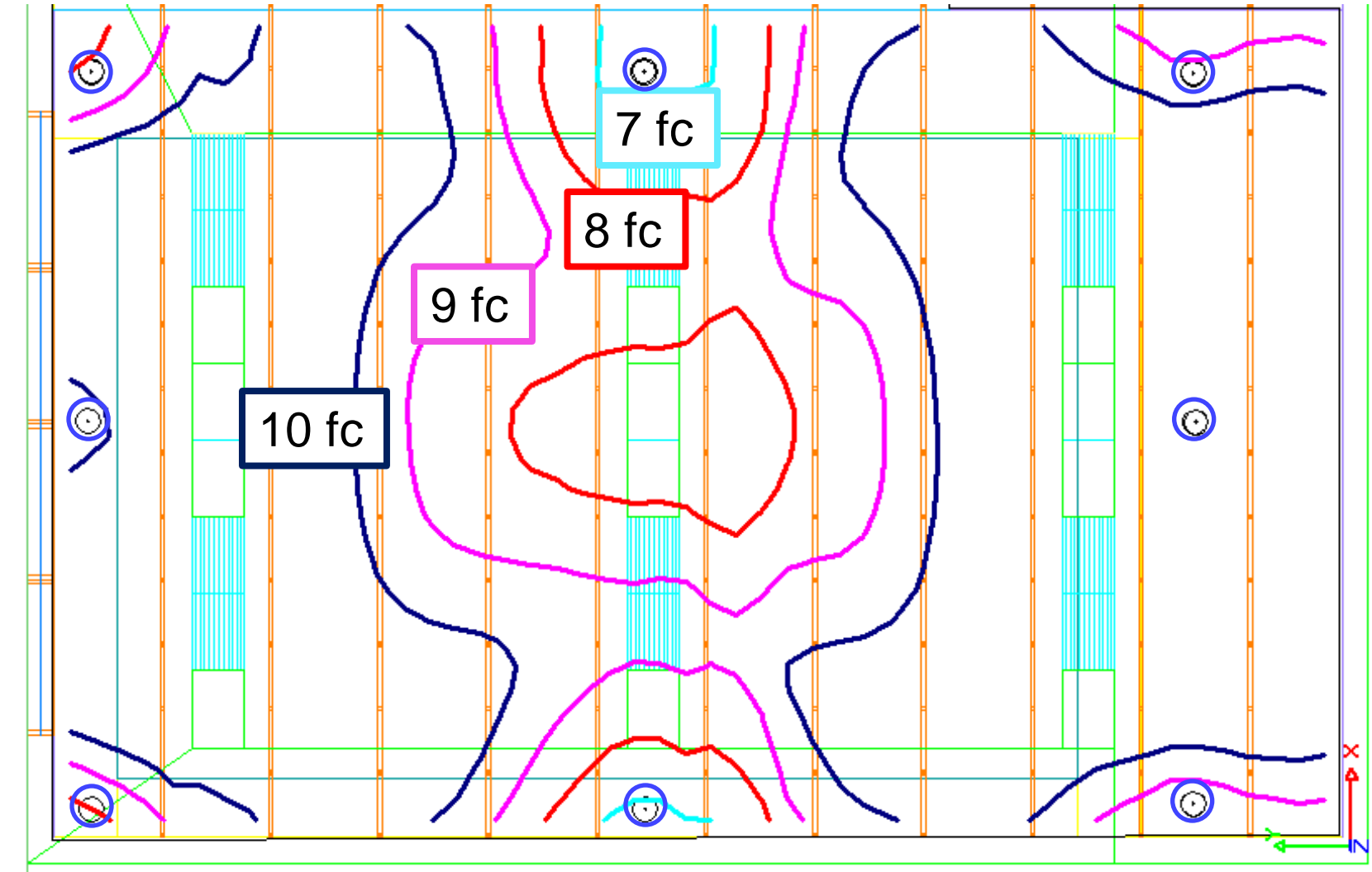
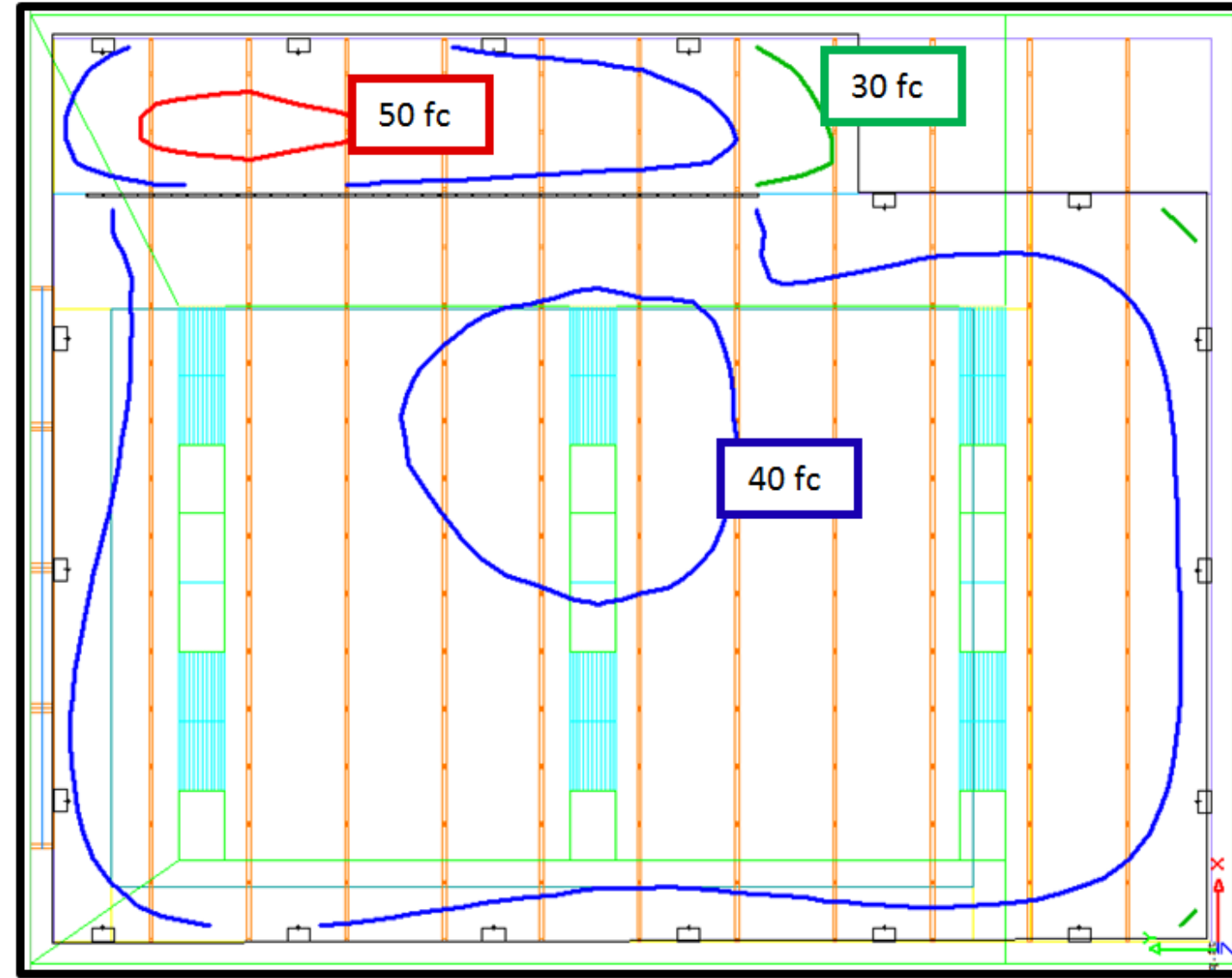
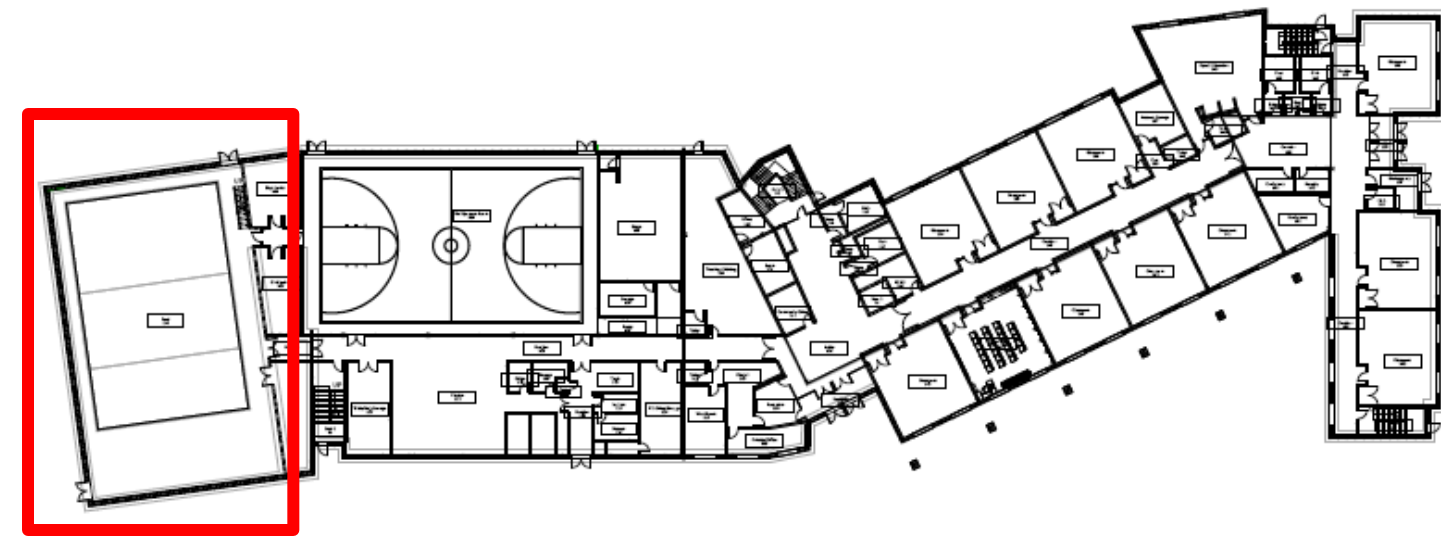
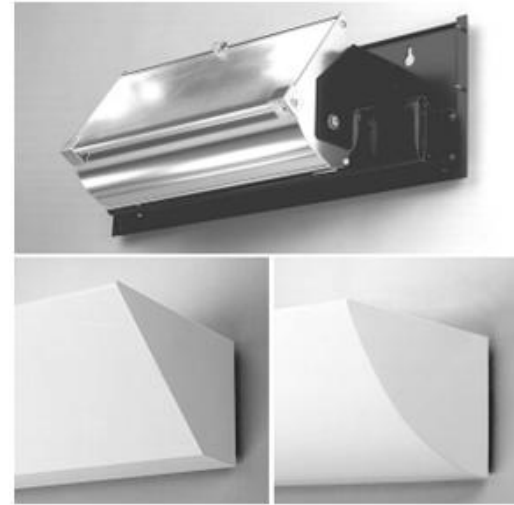
Building Analysis

Conclusion

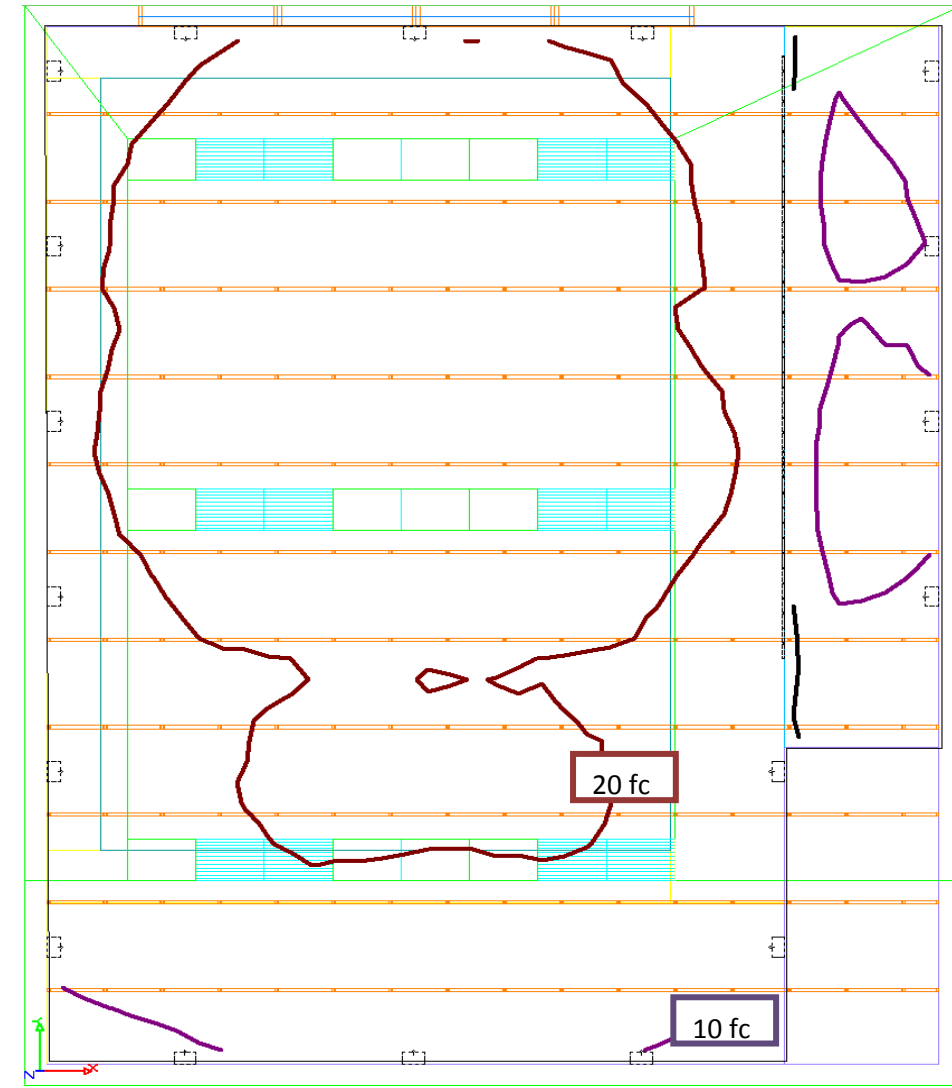
Appendix

Target Illuminance	Actual Illuminance
40 fc	42 fc
Target LPD	Actual LPD
2.7 W/ft ²	1.99 W/ft ²

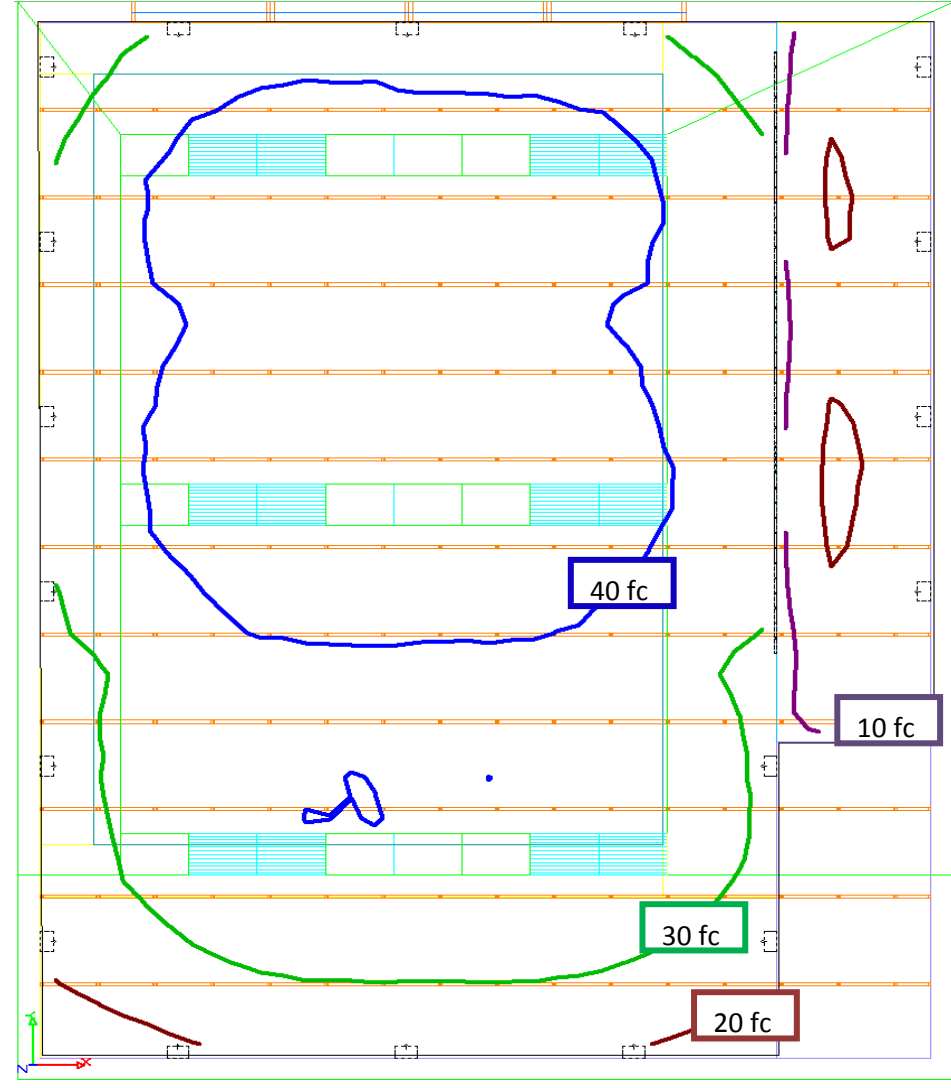
-Table 5-



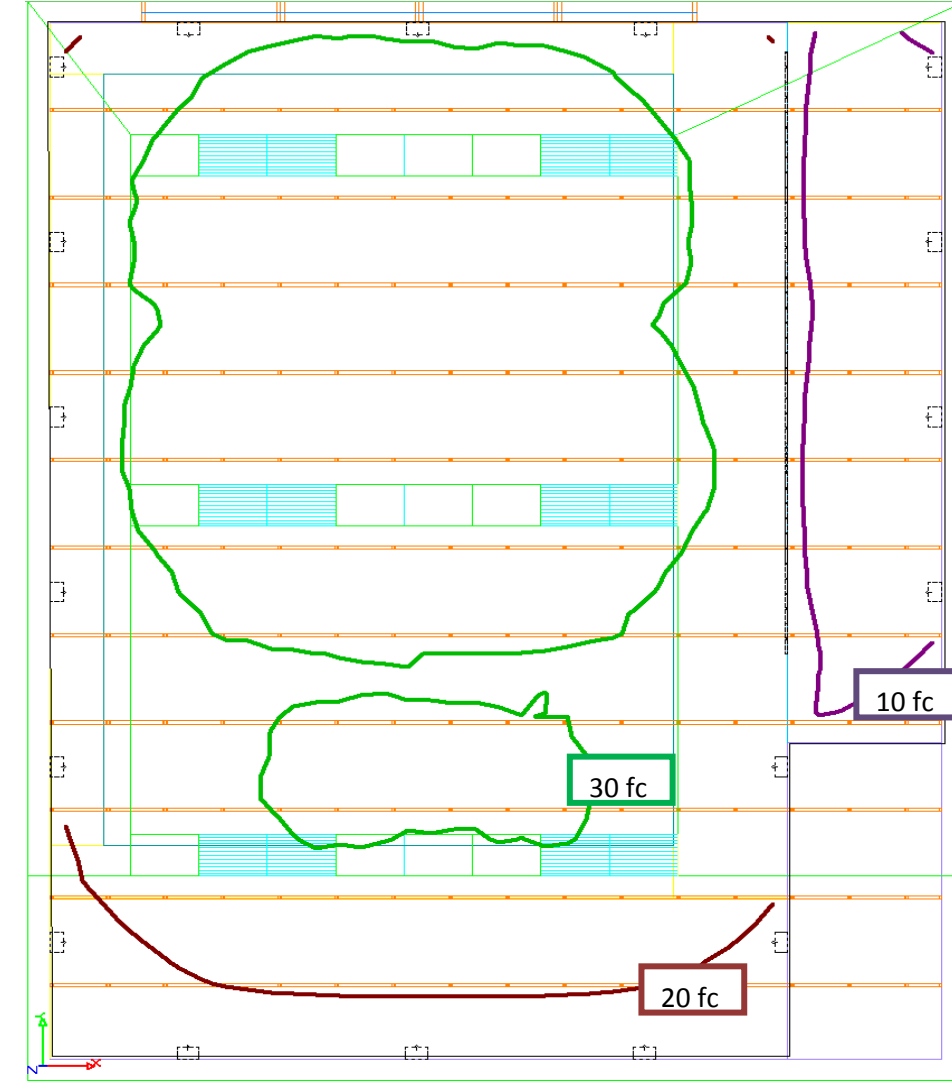
Daylight Only



Winter Solstice – Clear Sky, Noon

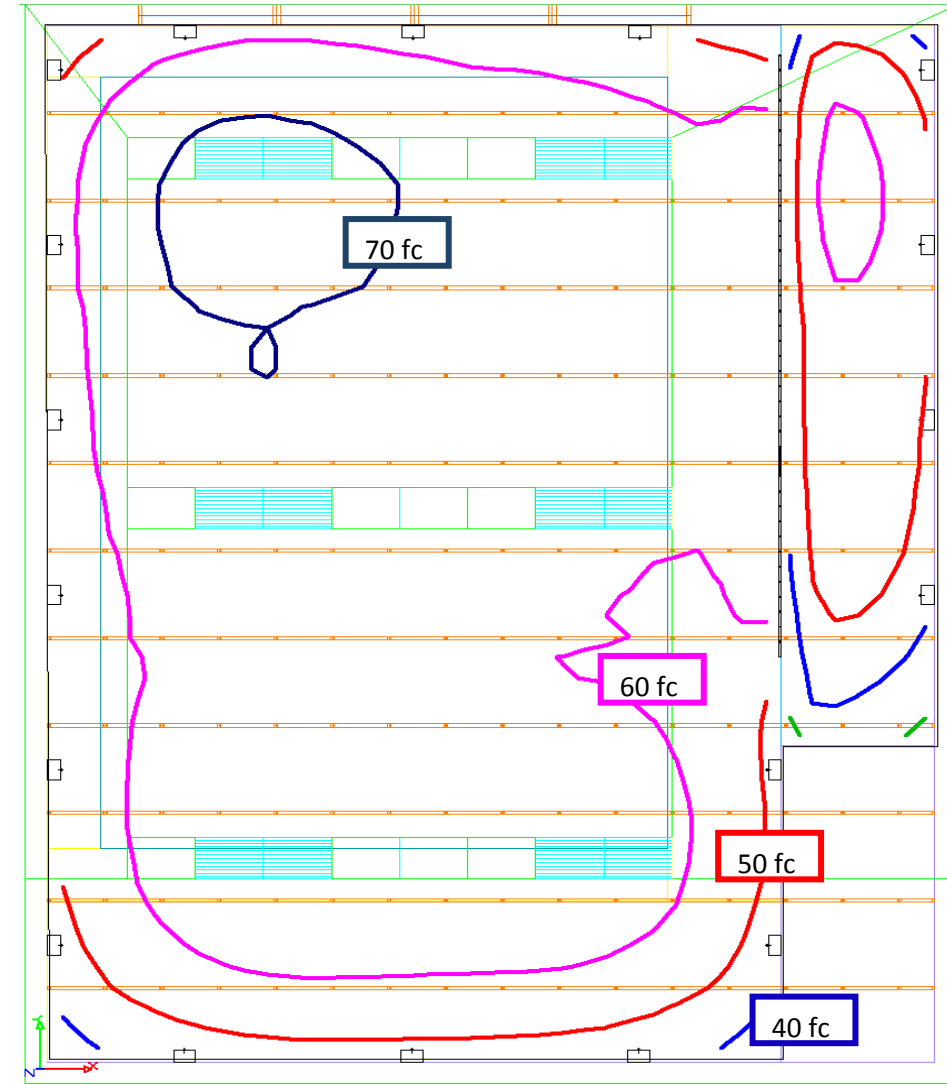


Summer Solstice – Clear Sky, Noon

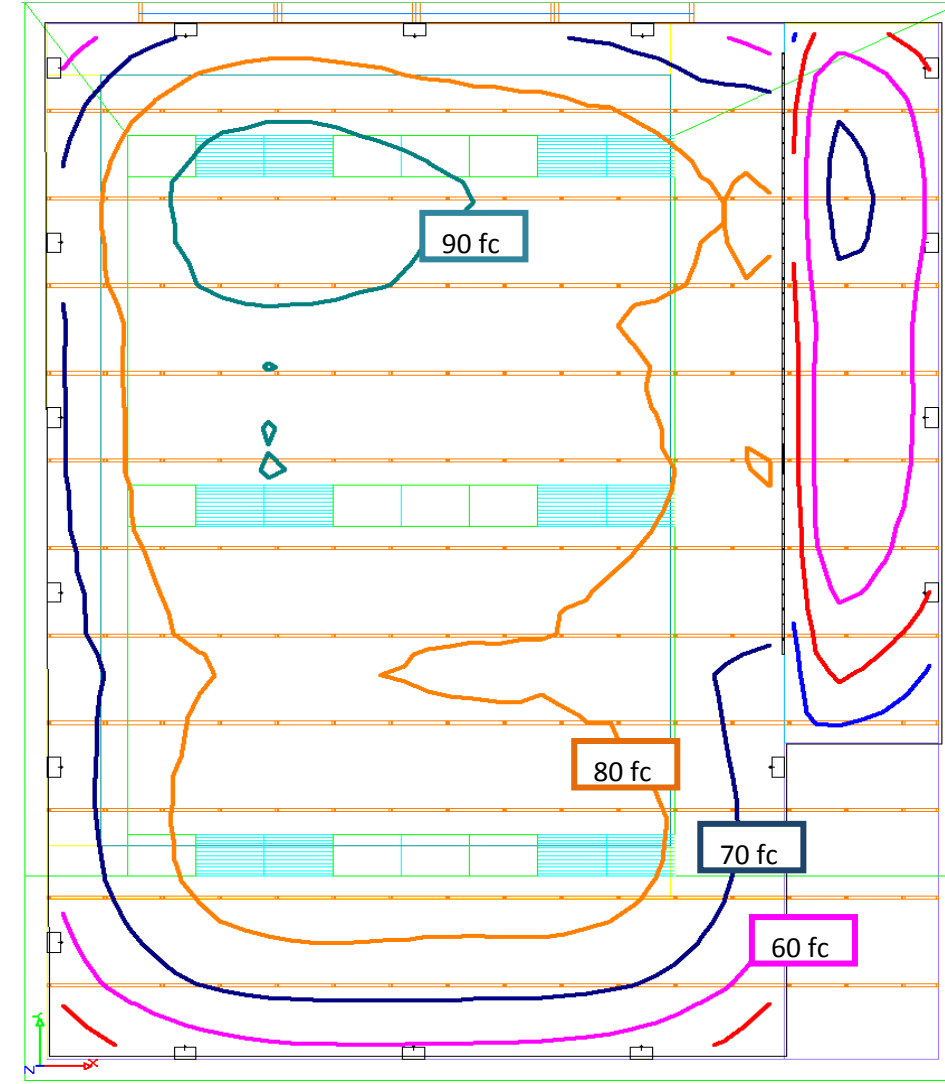


Spring/Fall Equinox – Clear Sky, Noon

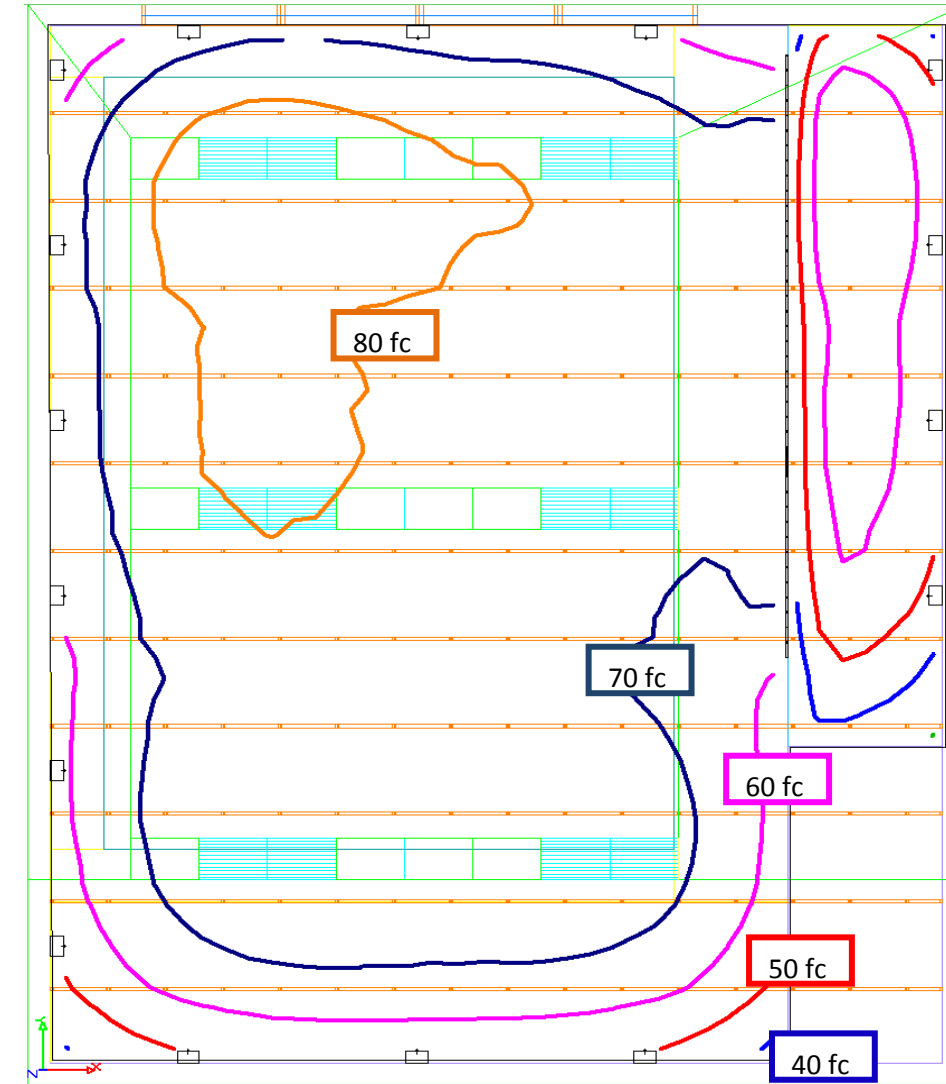
Daylight & Electric



Winter Solstice – Clear Sky, Noon

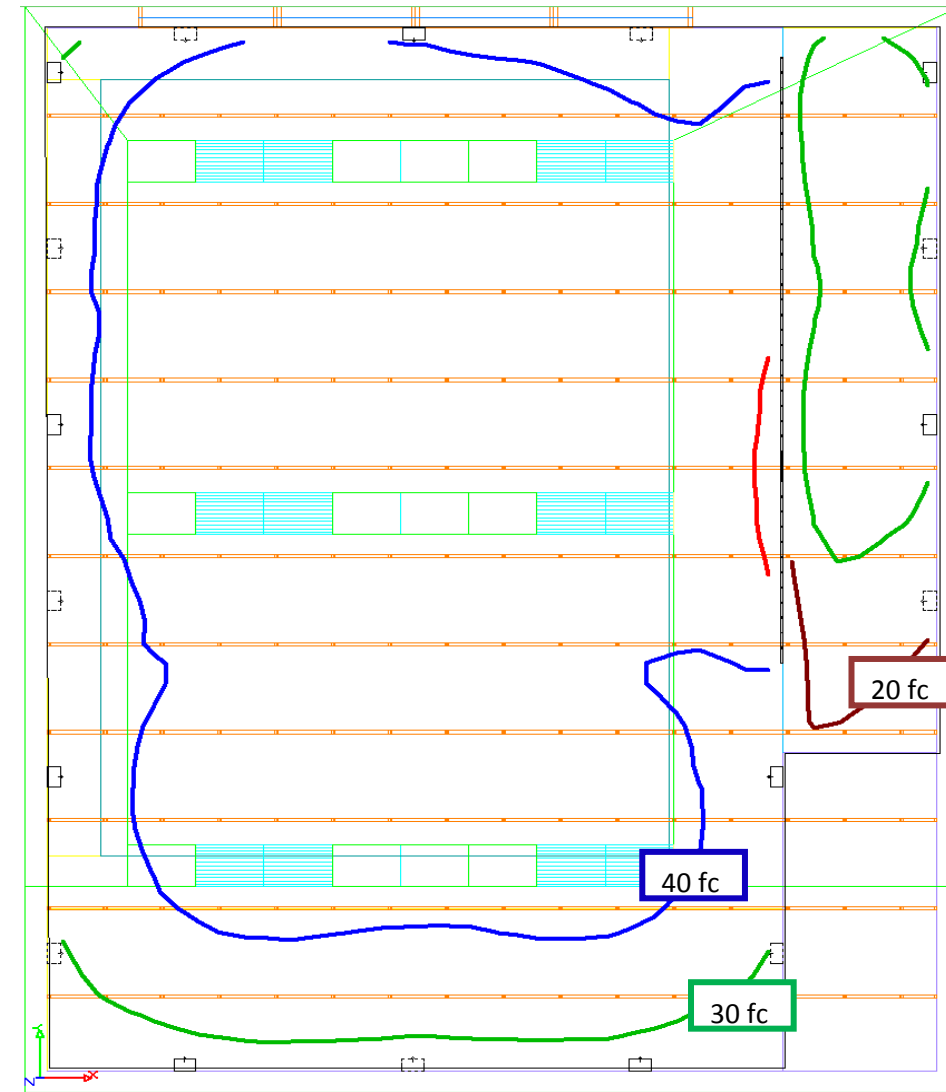


Summer Solstice – Clear Sky, Noon



Spring/Fall Equinox – Clear Sky, Noon

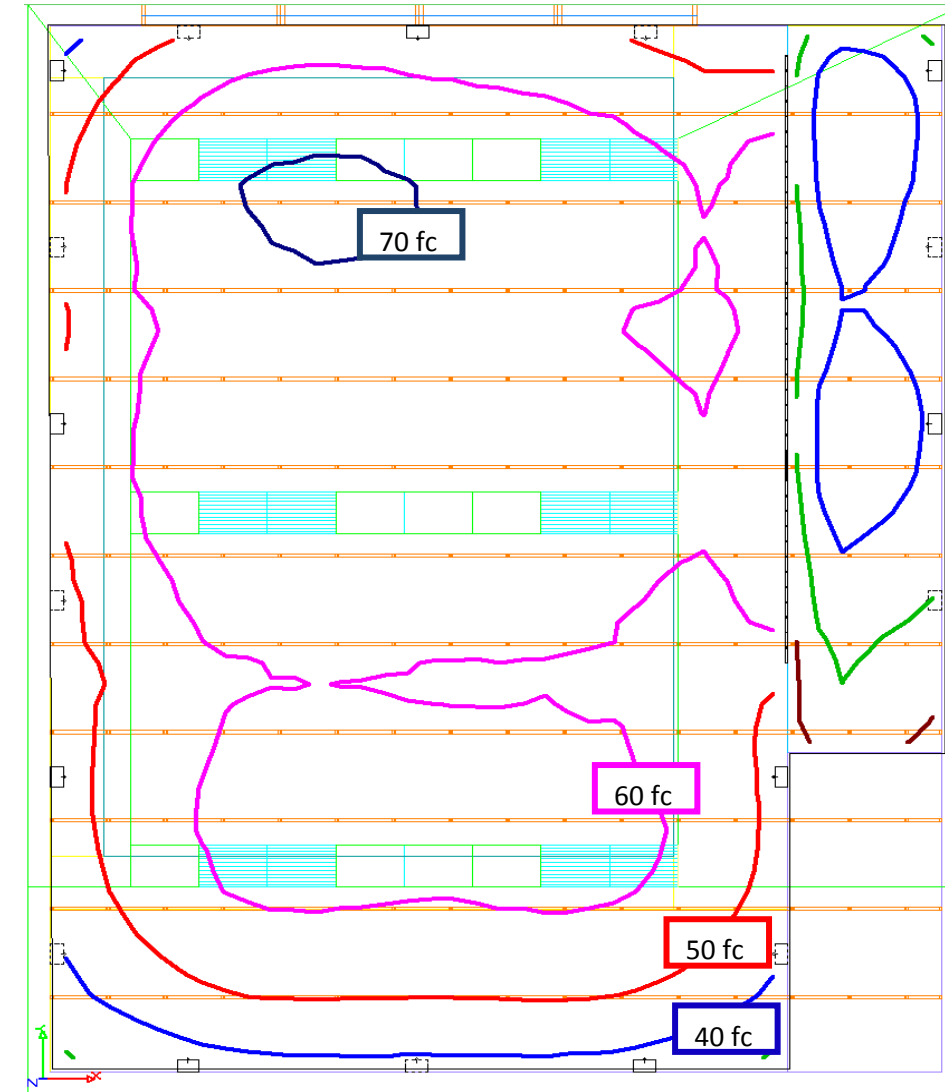
Daylight & Electric at 1/2 output



Winter Solstice – Clear Sky, Noon



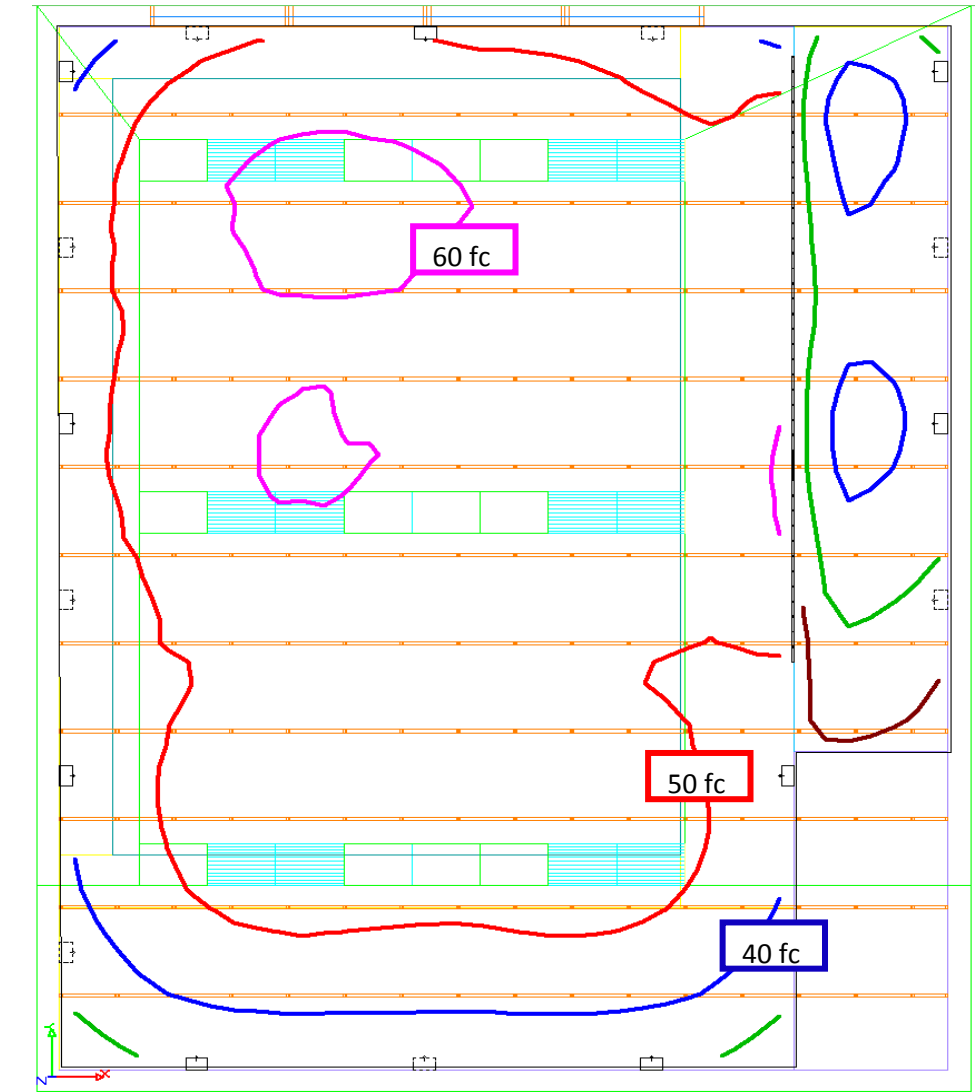
Goals



Summer Solstice – Clear Sky, Noon

Site Plan

Building Analysis



Spring/Fall Equinox – Clear Sky, Noon

Conclusion

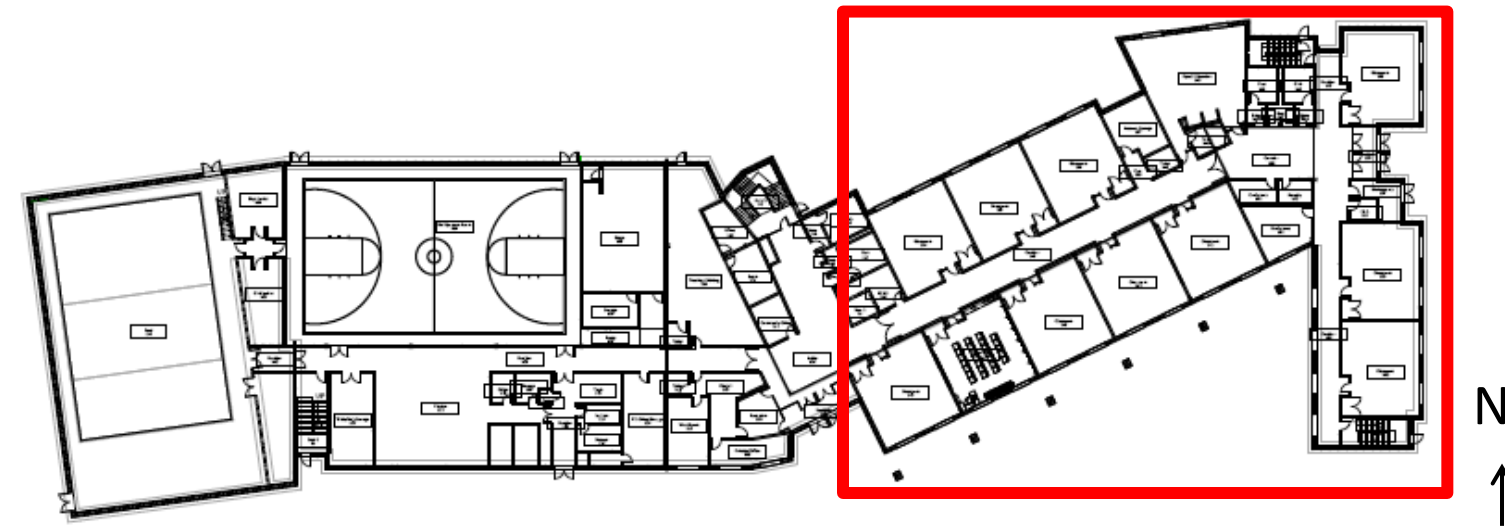
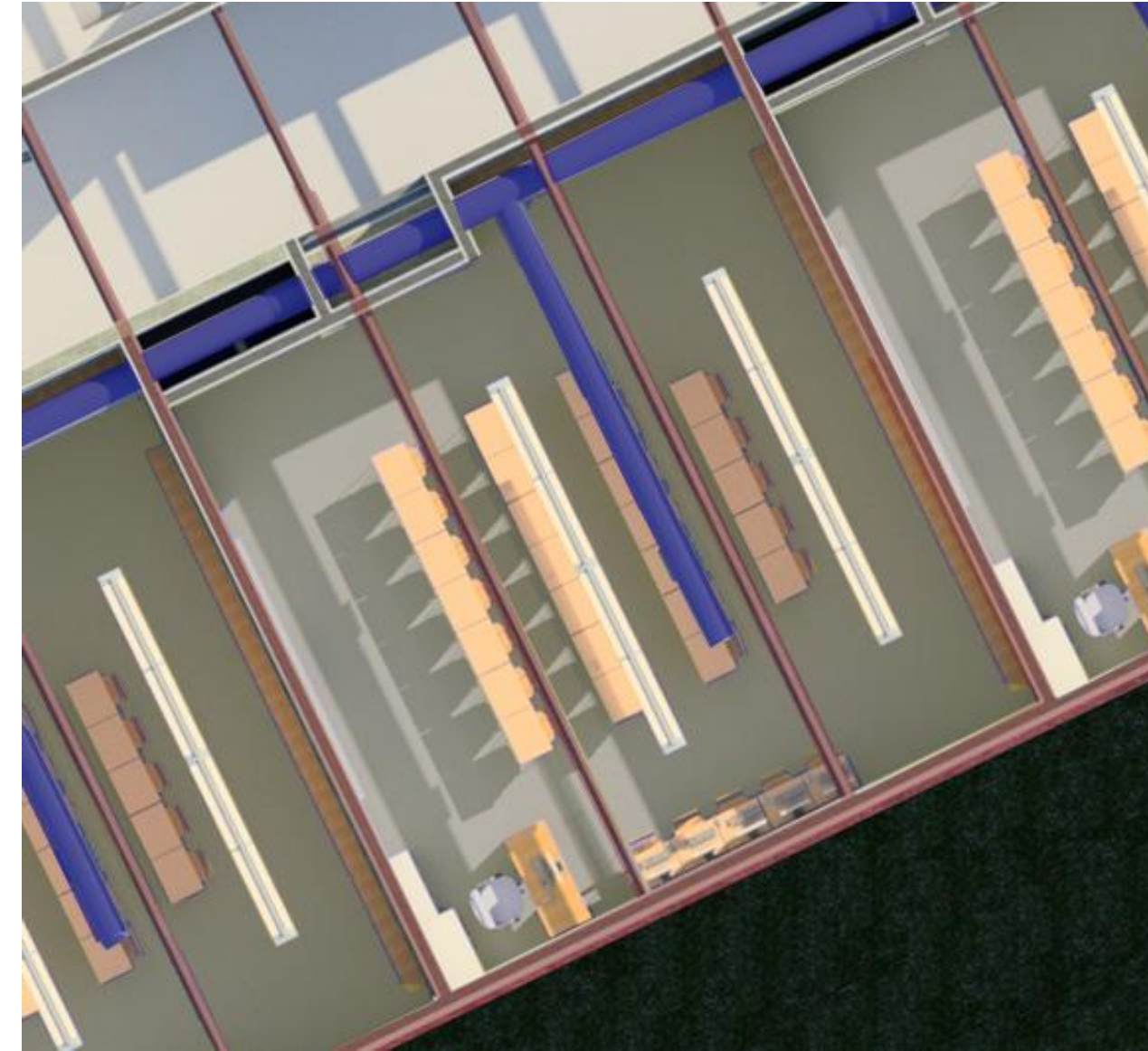
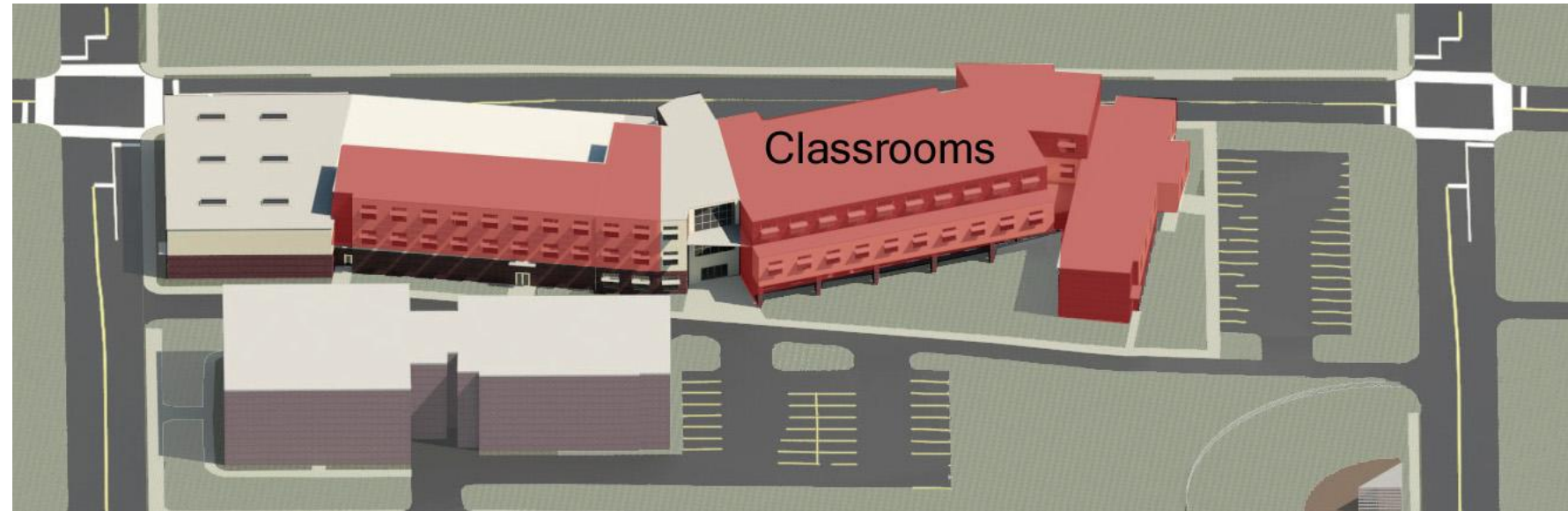
Appendix

Project Background

Lobby

Community

Education



Project Background

Goals

Site Plan

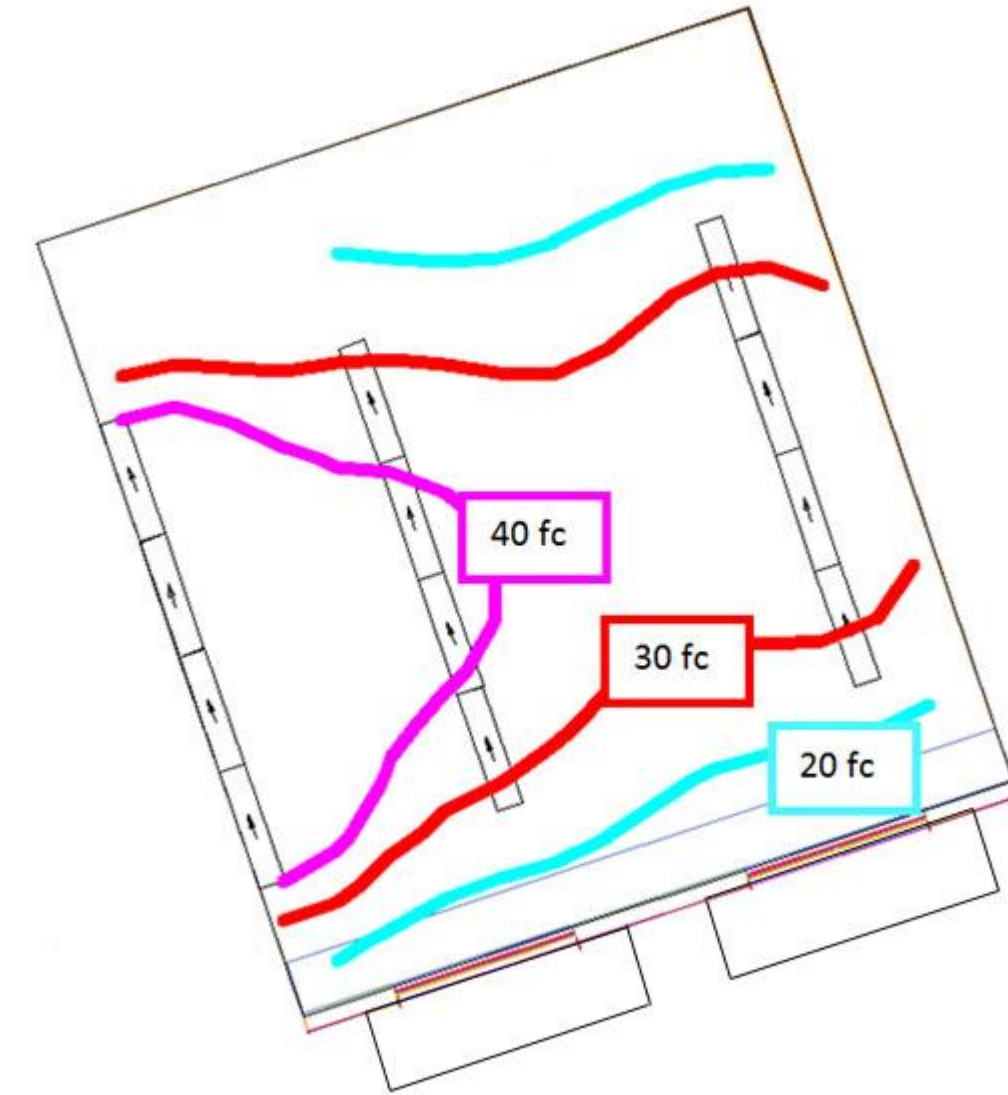
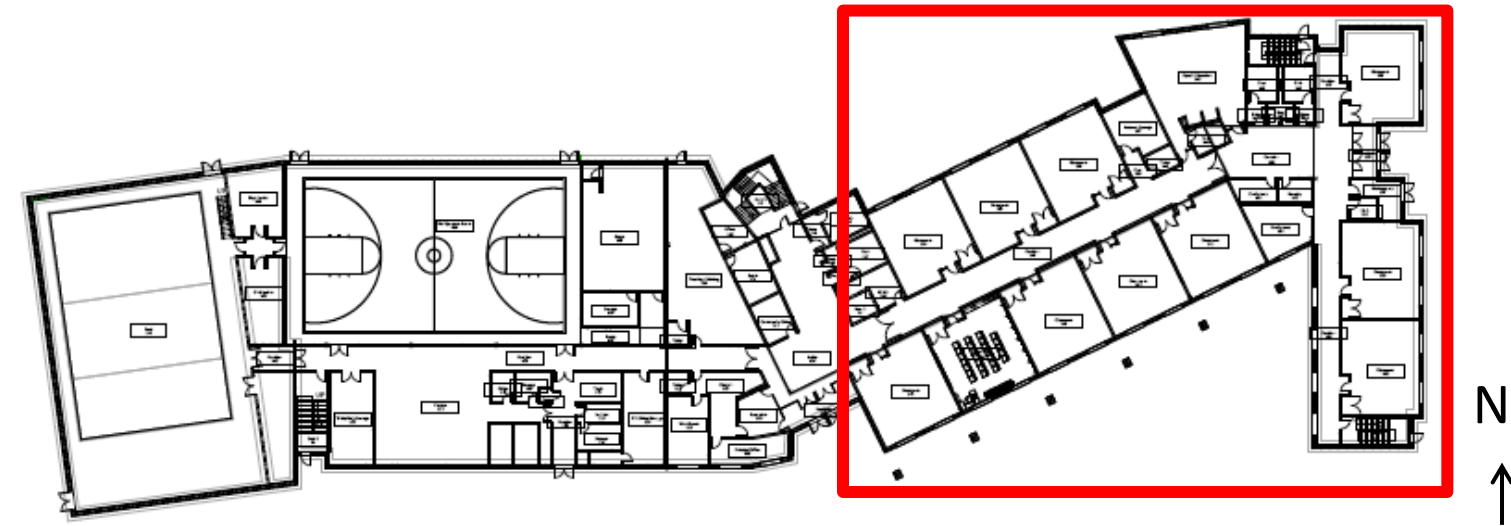
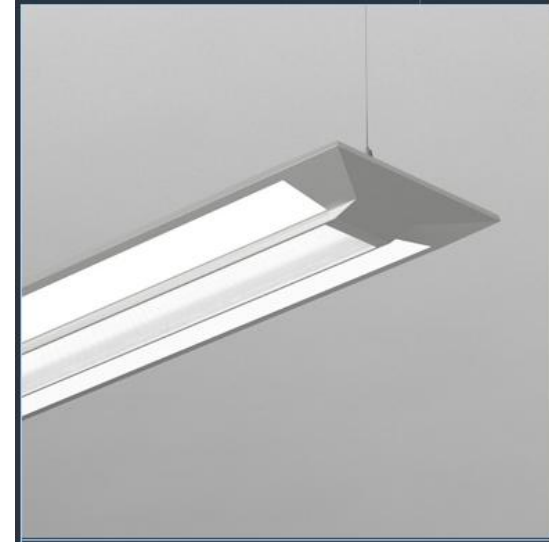
Building Analysis

Conclusion

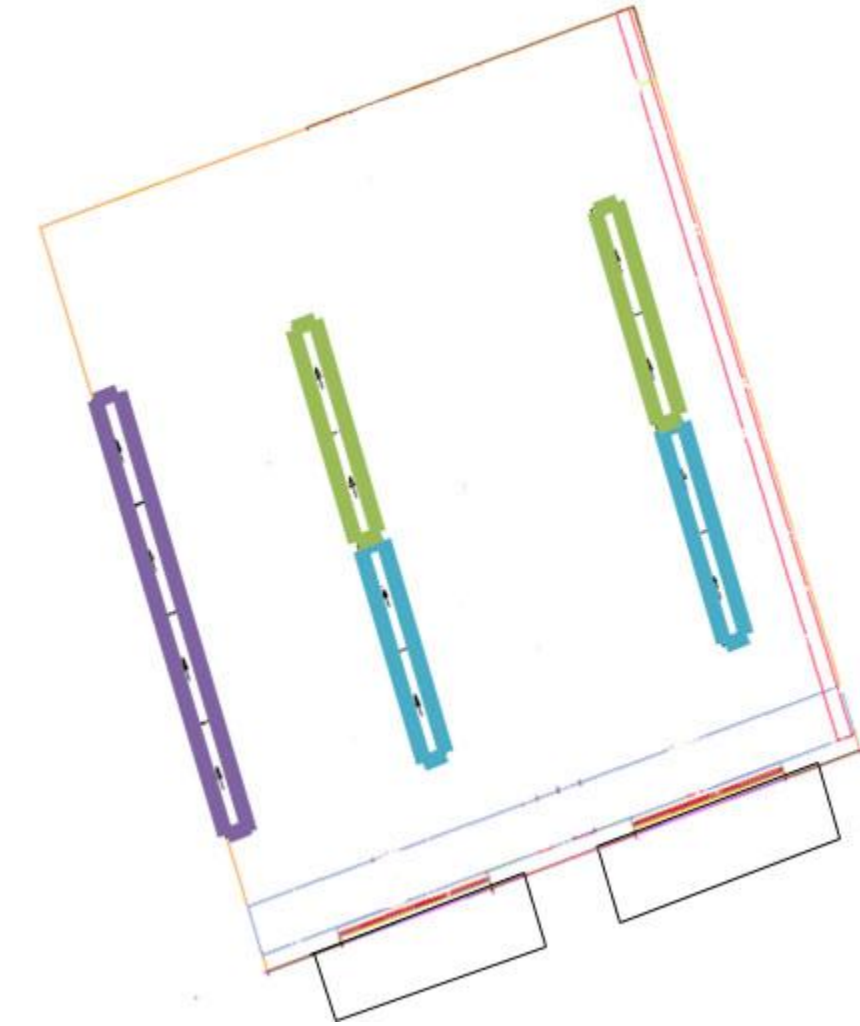
Appendix

Target Illuminance	Actual Illuminance
30 fc	31 fc
Target LPD	Actual LPD
1.4 W/ft ²	0.94 W/ft ²

-Table 5-



- Zone 1
- Zone 2
- Zone 3



Owner Core Values

- Safety & Security
- Lifecycle & Maintenance
- Cost Effective



Nexus Goals

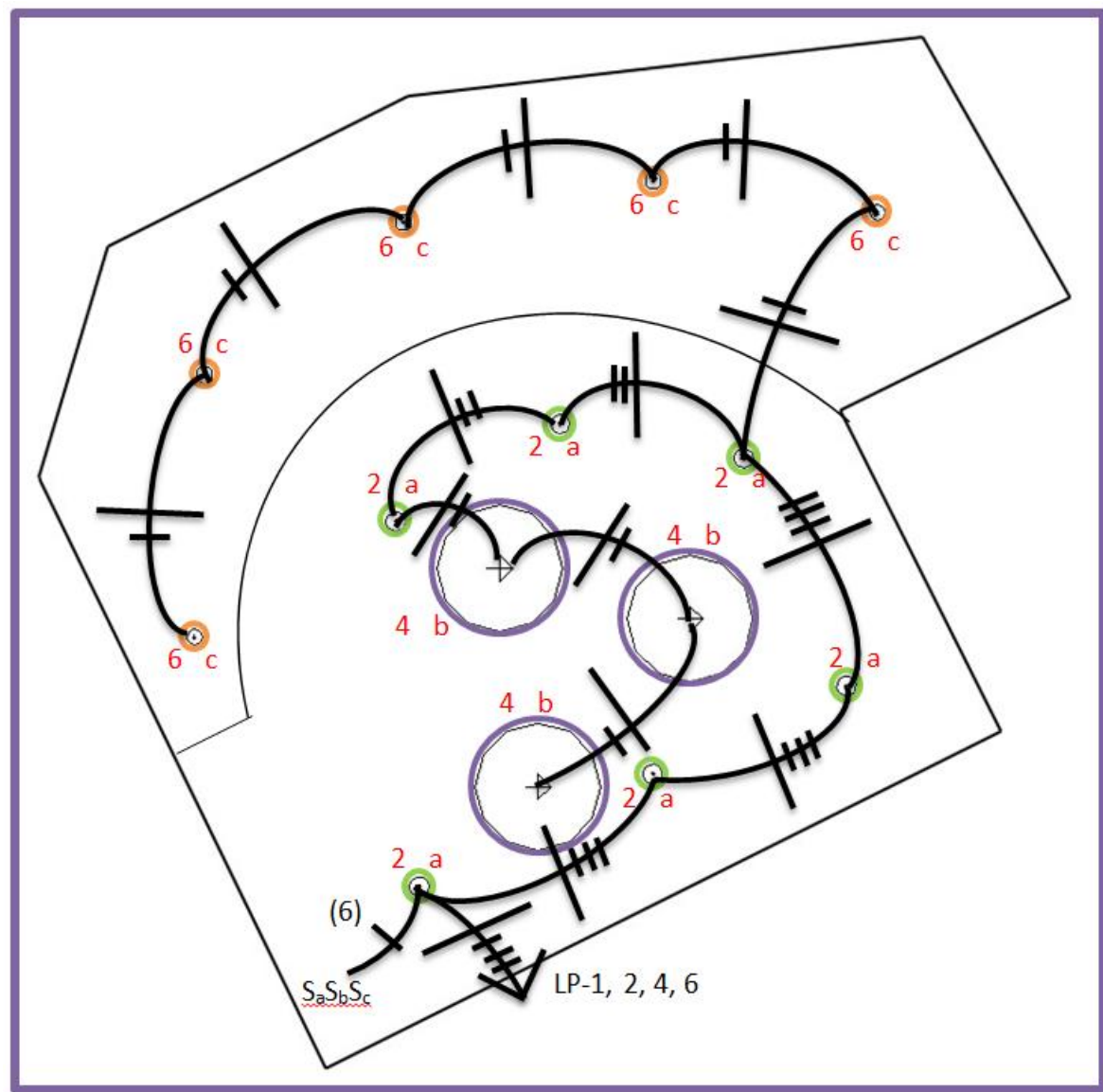
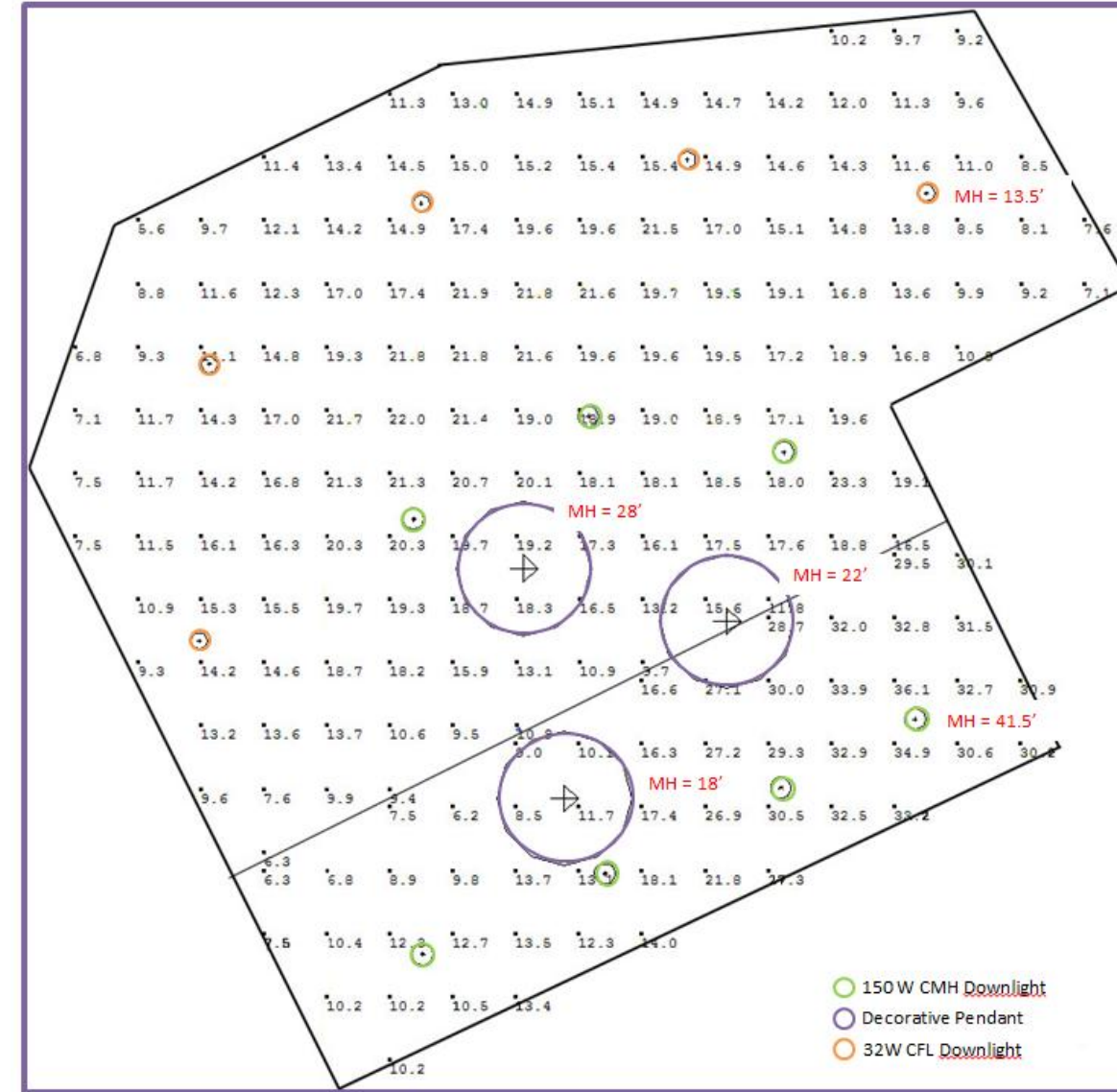
- Integration
- Reduce, Reuse, Recover
- Learning Tool

THANKS!

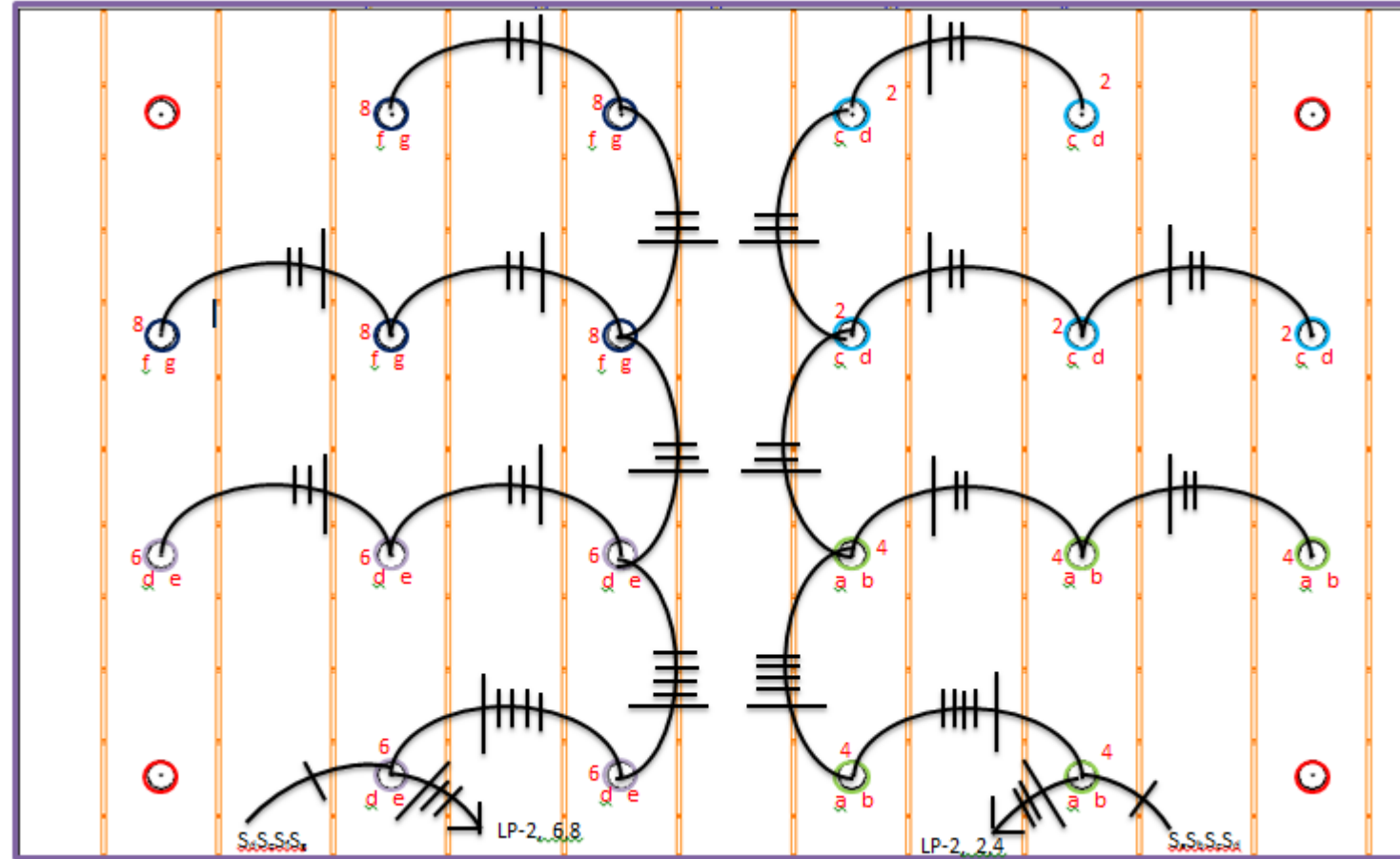
- Mom and Dad!
- Nexus Team Members
- Friends
- AE Staff and Faculty
- AEI Judges



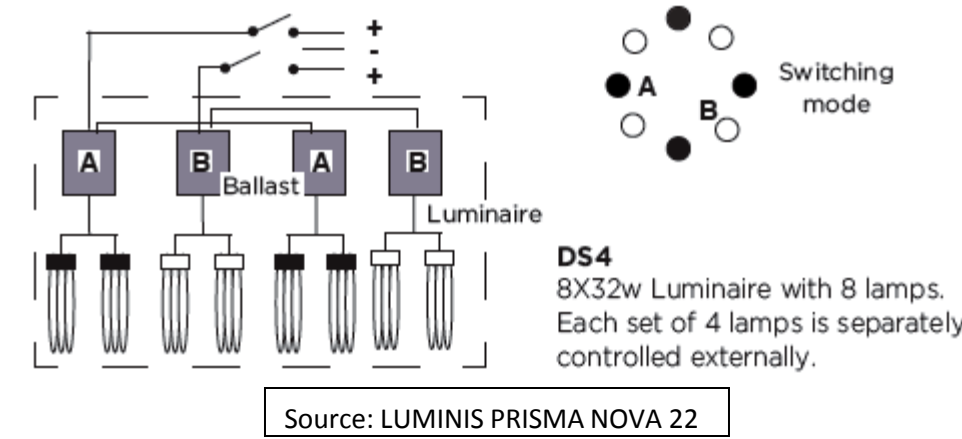
Questions?

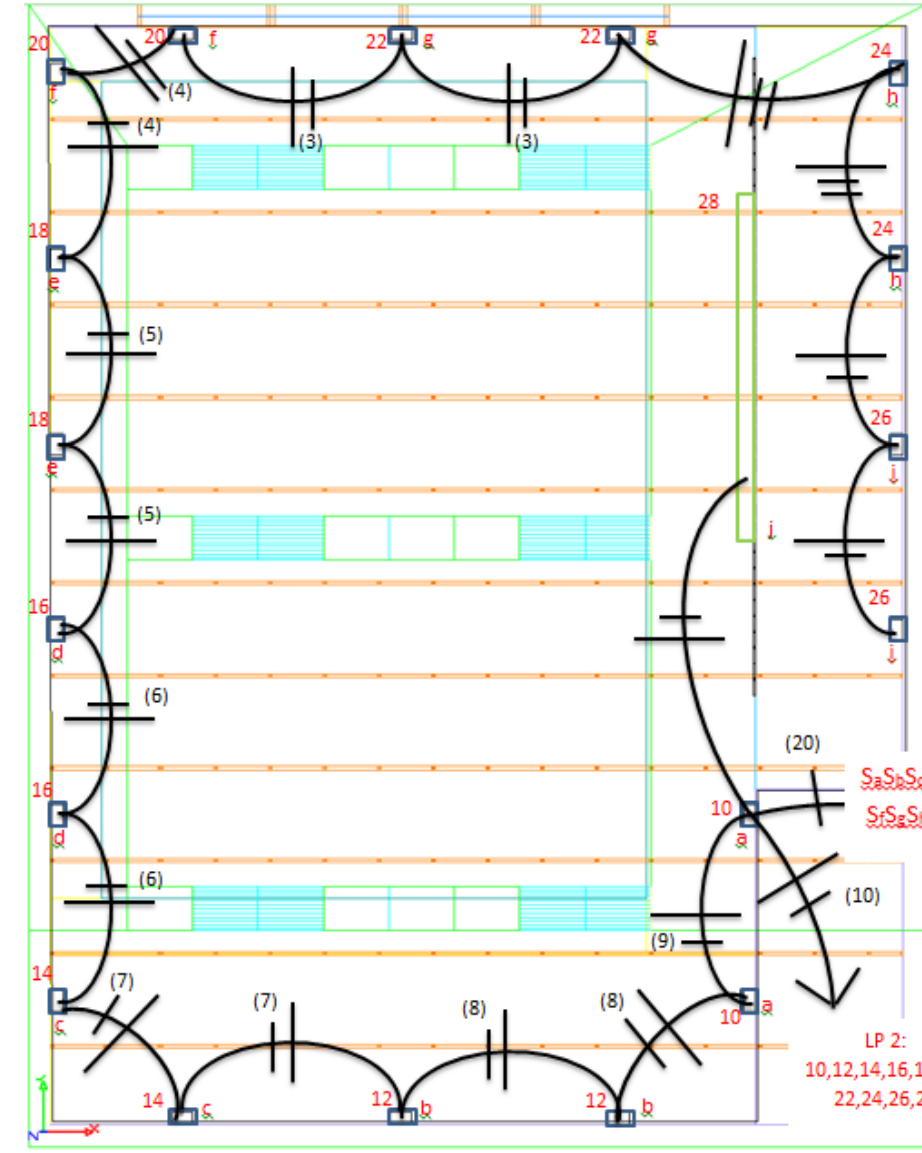
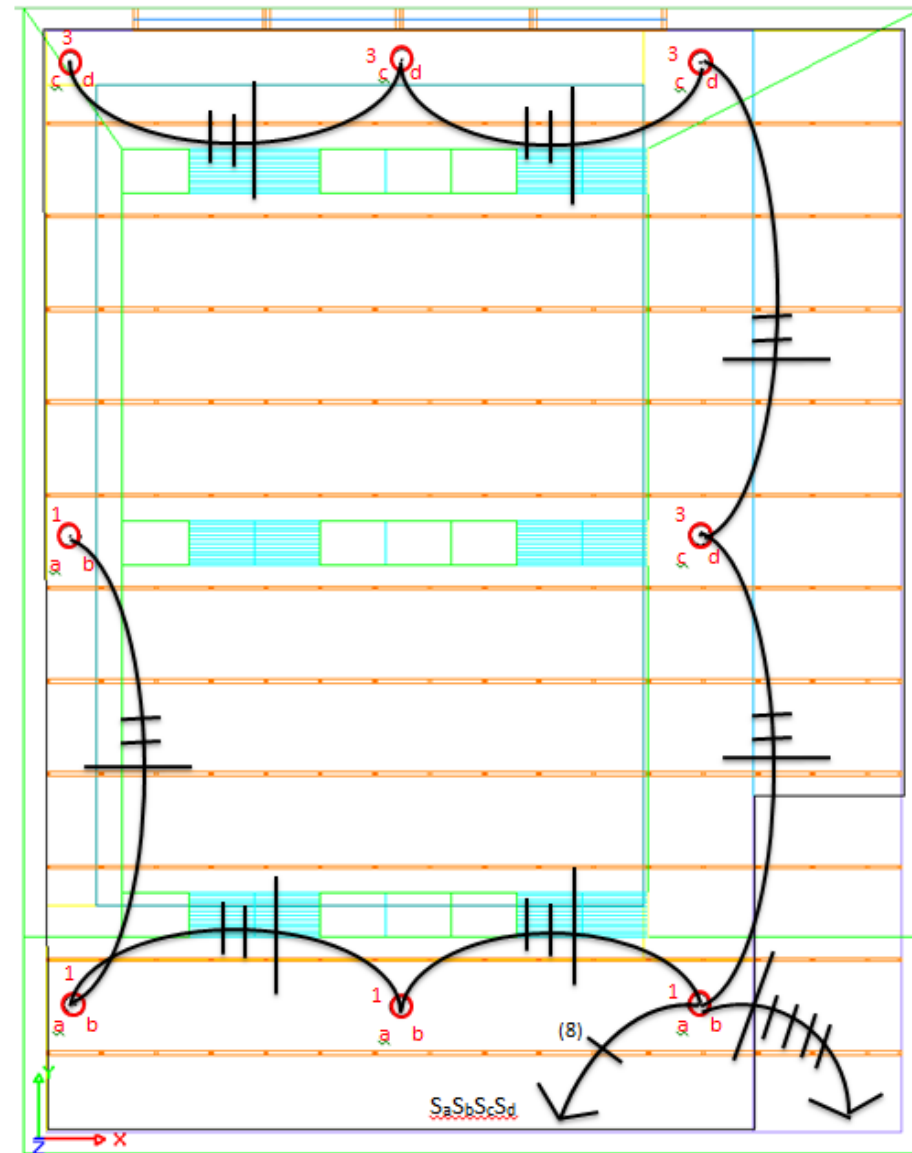


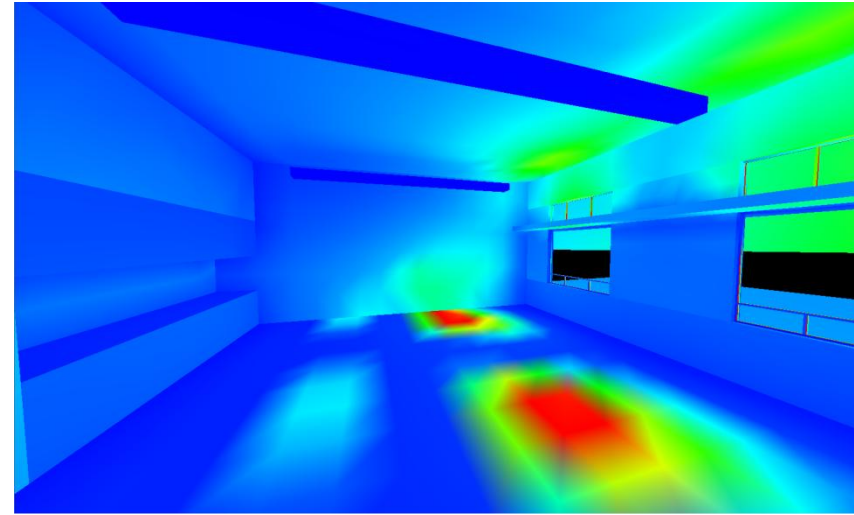
Calculation Summary					
Label	Units	Avg.	Max.	Min.	Max/Min
Lobby	FC	15.03	23.3	5.6	4.16
Vestibule	FC	20.19	36.1	6.2	5.82
Total Watts		1523.35W			
LPD		1.098 W/ft ²			



- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Emergency

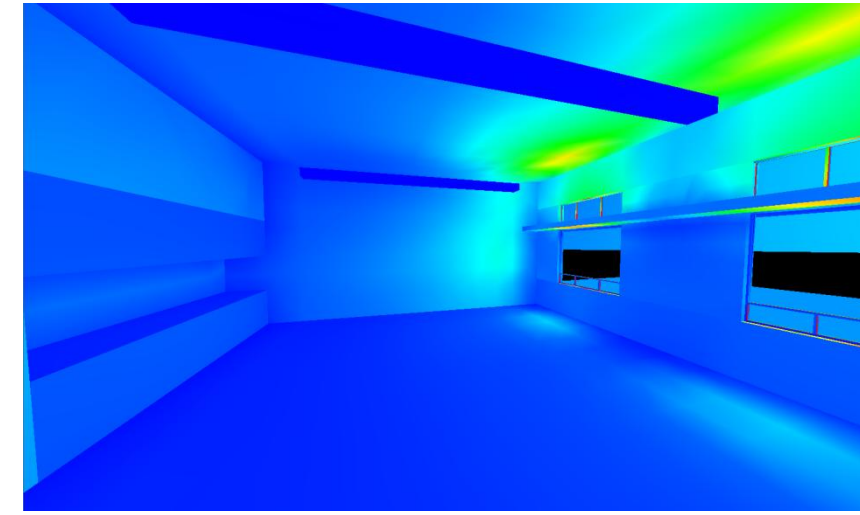






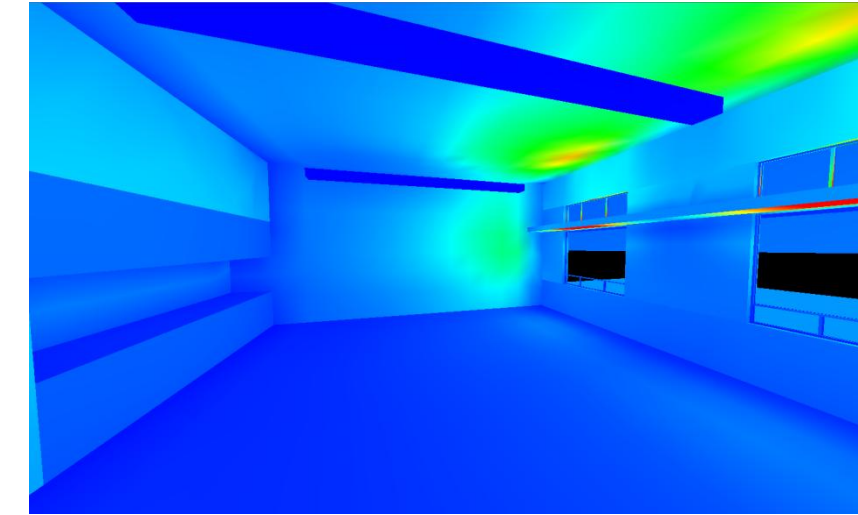
NO SHADES

Winter: Maximum – 1823 fc Average – 287.49 fc



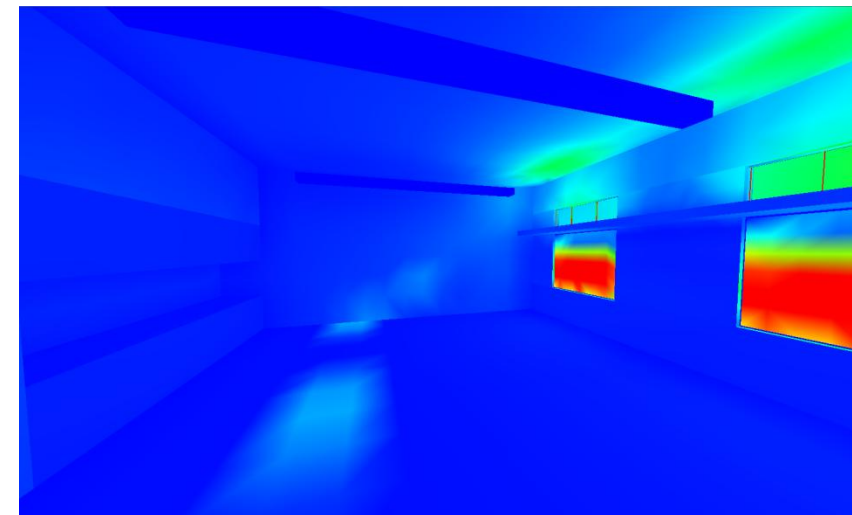
NO SHADES

Spring/Fall: Maximum – 191 fc Average – 49.92 fc



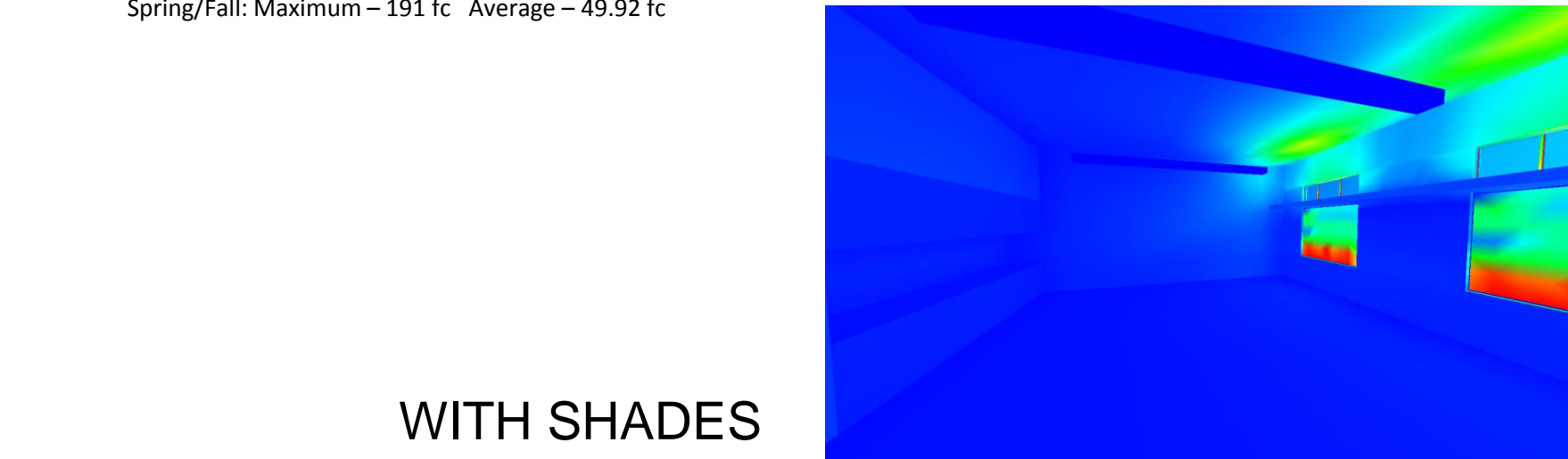
NO SHADES

Summer: Maximum – 135 fc Average – 38.29 fc



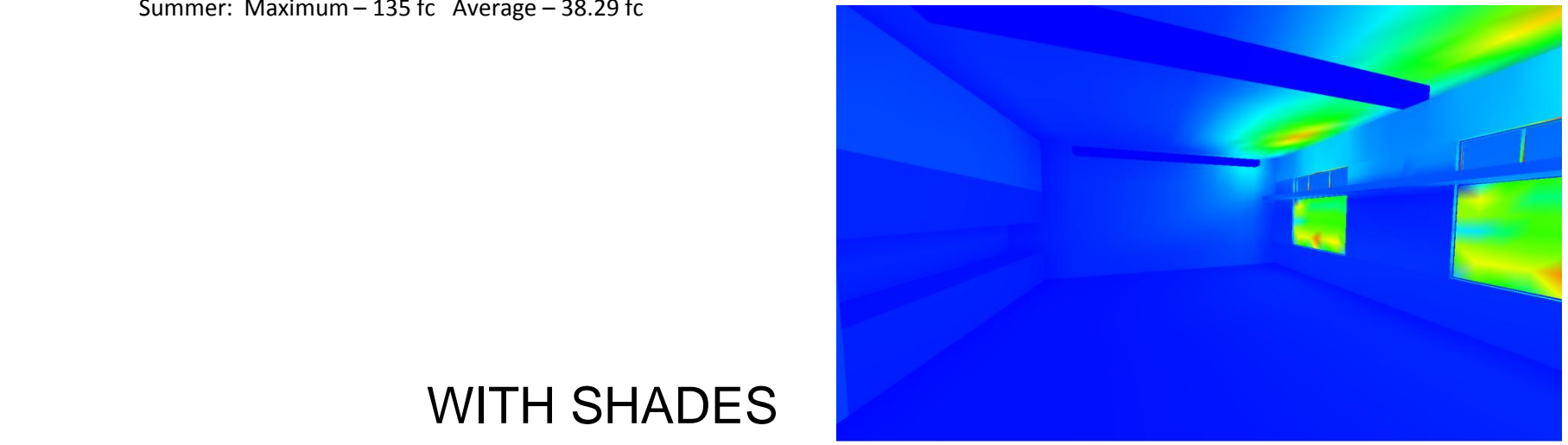
WITH SHADES

Winter: Maximum – 1661 fc Average – 65.05 fc



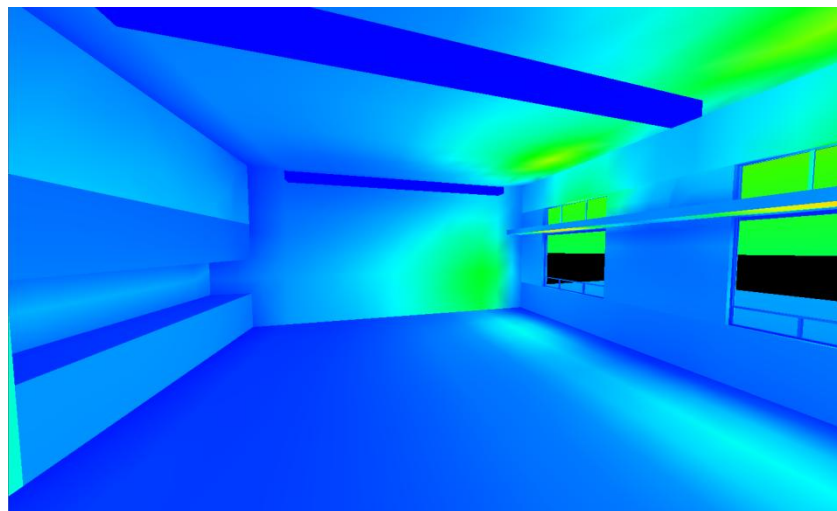
WITH SHADES

Spring/Fall: Maximum – 60.2 fc Average – 19.04 fc



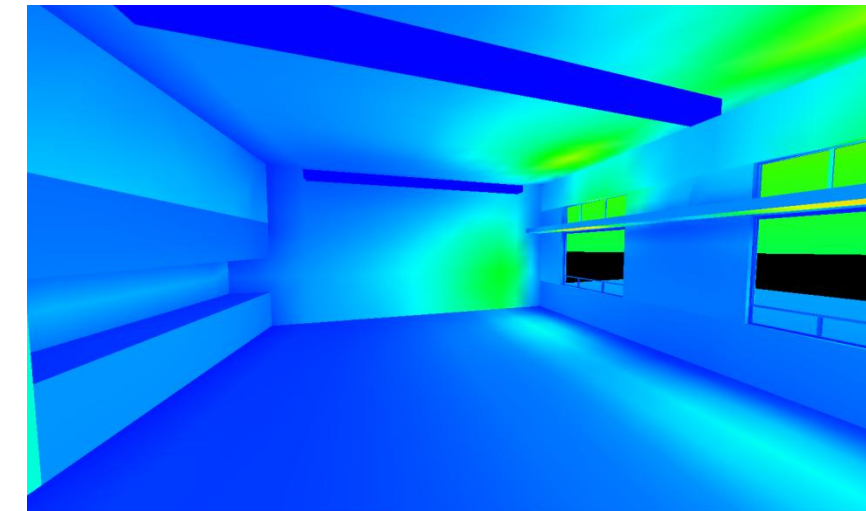
WITH SHADES

Summer: Maximum – 30.5 fc Average – 12.88 fc



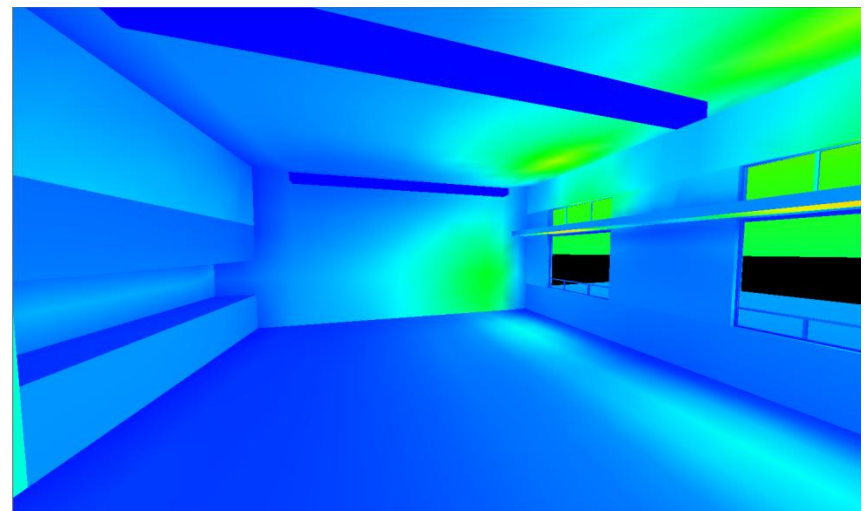
NO SHADES

Winter: Maximum – 43.7 fc Average – 9.10 fc



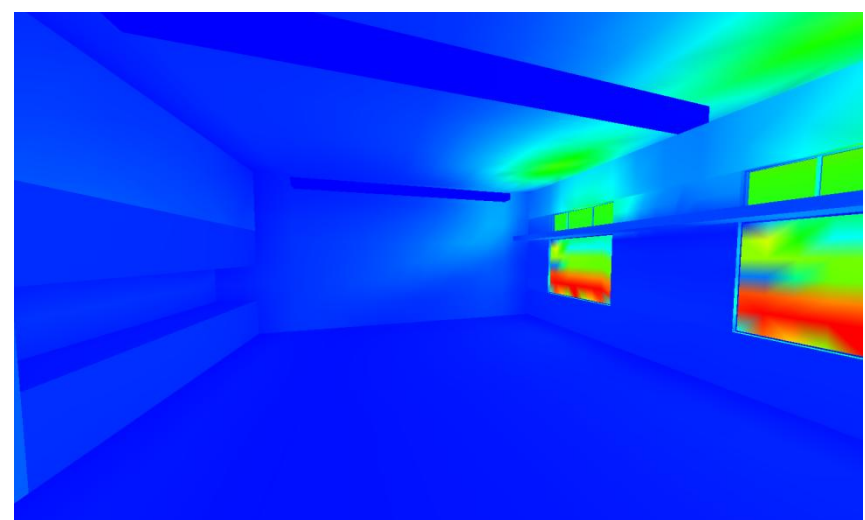
NO SHADES

Spring/Fall: Maximum – 73.9 fc Average – 15.38 fc



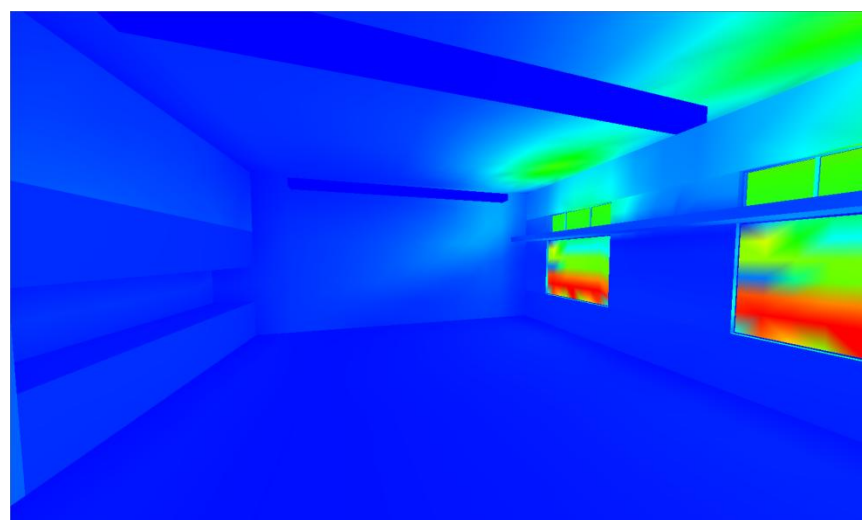
NO SHADES

Summer: Maximum – 93 fc Average – 19.36 fc



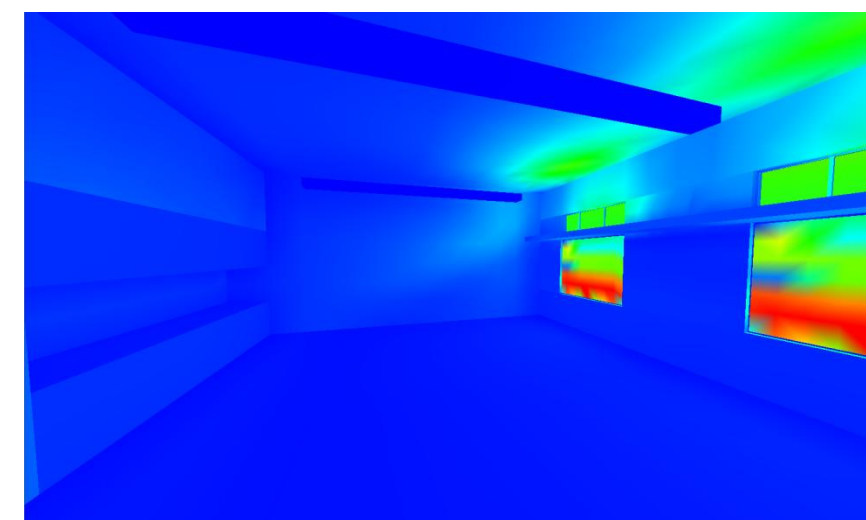
WITH SHADES

Winter: Maximum – 6.1 fc Average – 2.54 fc



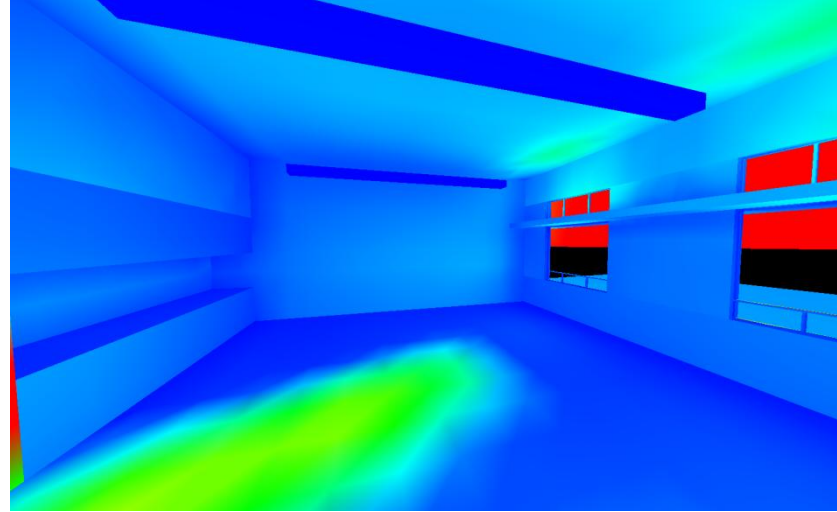
WITH SHADES

Spring/Fall: Maximum – 10.4 fc Average – 4.30 fc



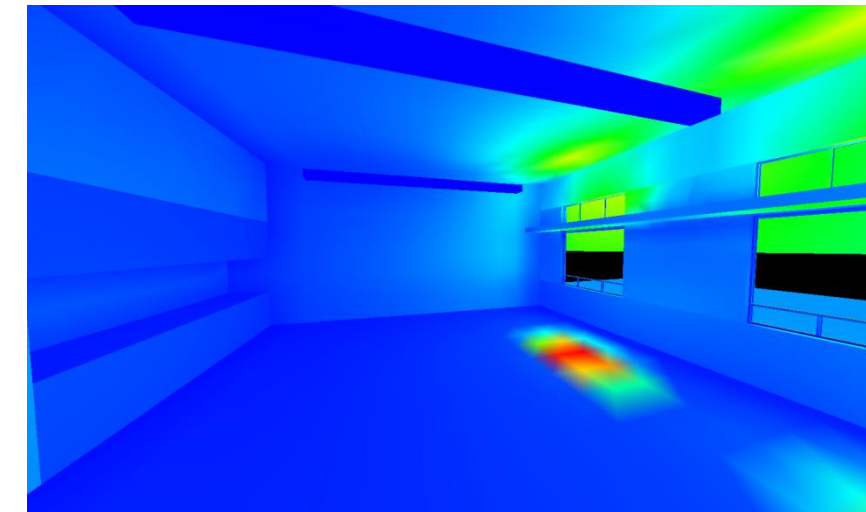
WITH SHADES

Summer: Maximum – 13.1 fc Average – 5.41 fc



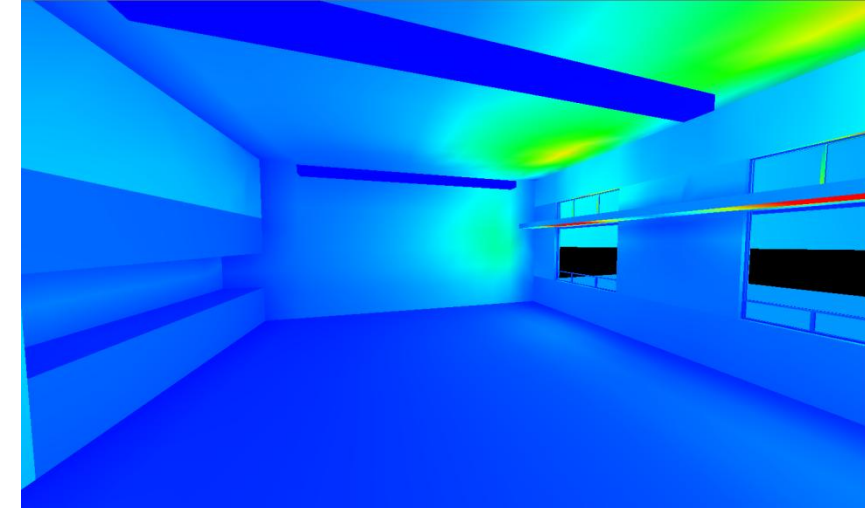
NO SHADES

Winter: Maximum – 805 fc Average – 201 fc



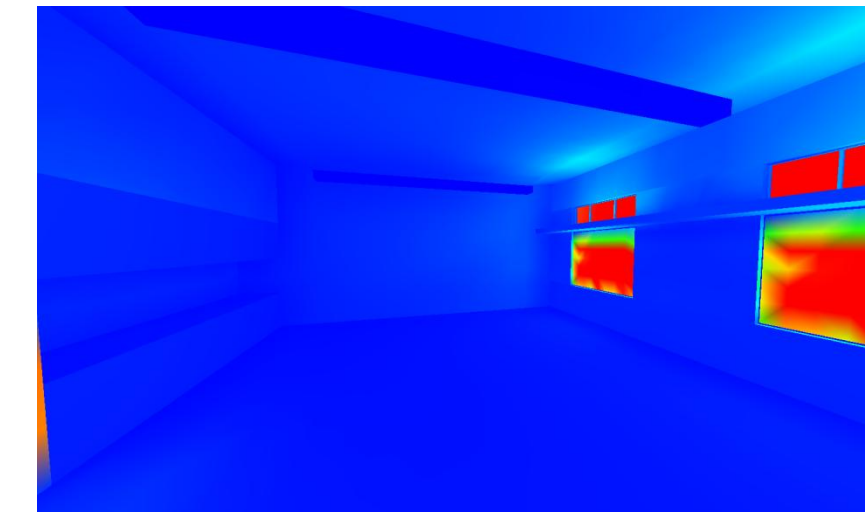
NO SHADES

Spring/Fall: Maximum – 2096 fc Average – 138.4 fc



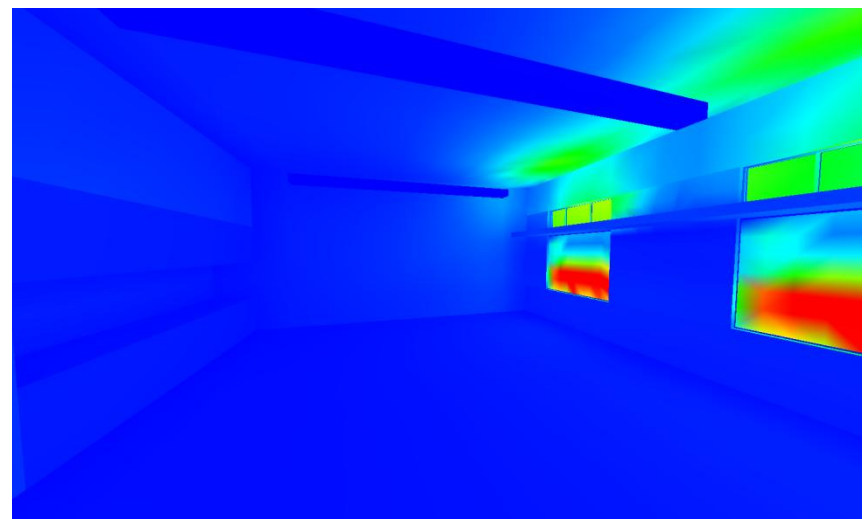
NO SHADES

Summer: Maximum – 124 fc Average – 38.48 fc



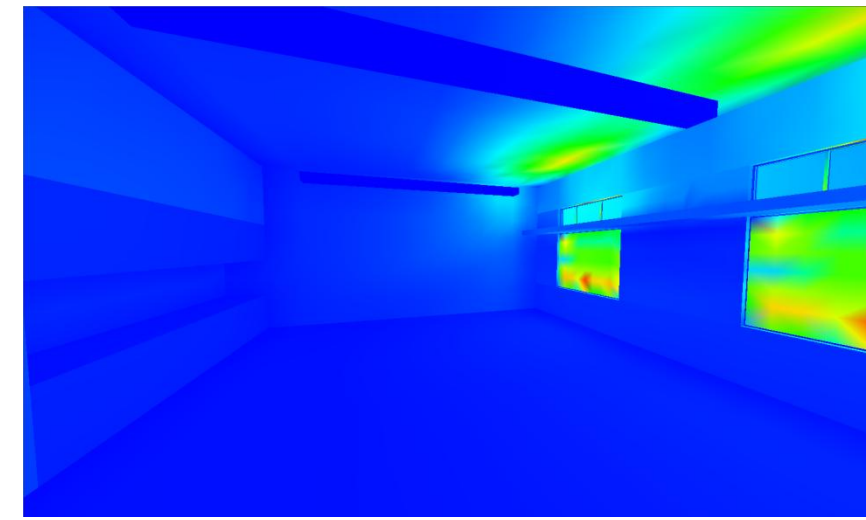
WITH SHADES

Winter: Maximum – 714 fc Average – 30.82 fc



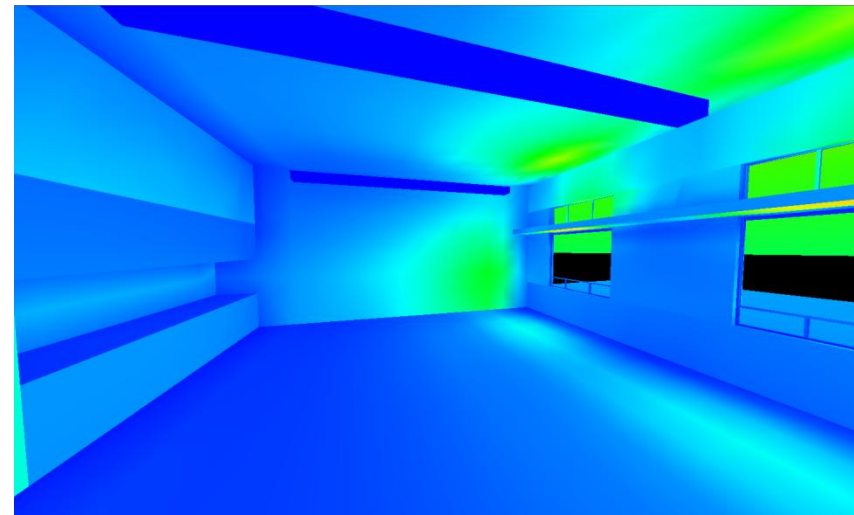
WITH SHADES

Spring/Fall: Maximum – 86.9 fc Average – 27.29 fc



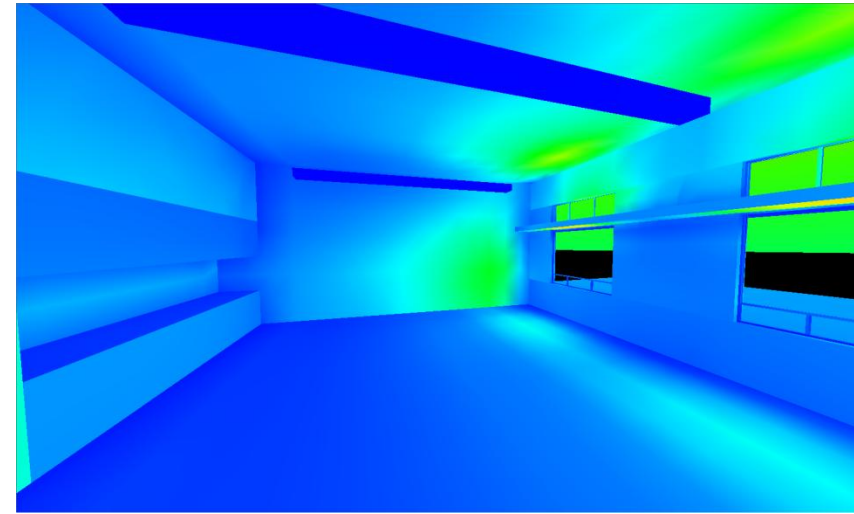
WITH SHADES

Summer: Maximum – 29.2 fc Average – 13.53 fc



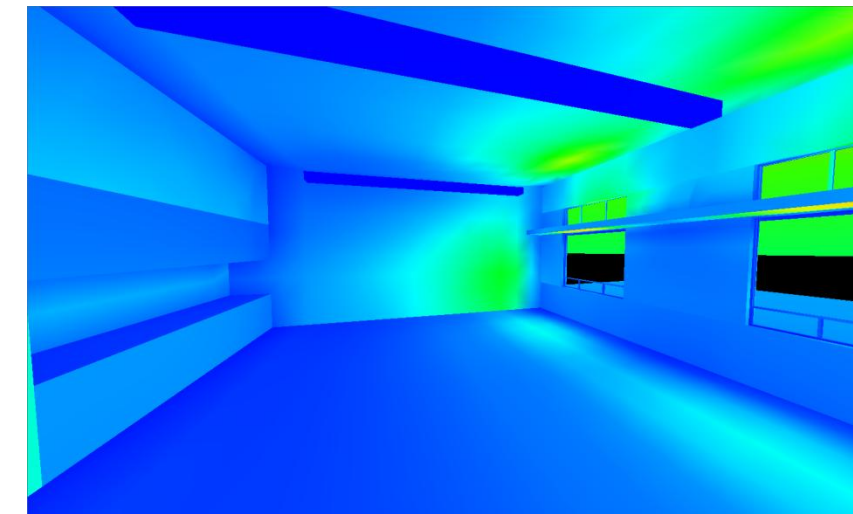
NO SHADES

Winter: Maximum – 23.8 fc Average – 4.95 fc



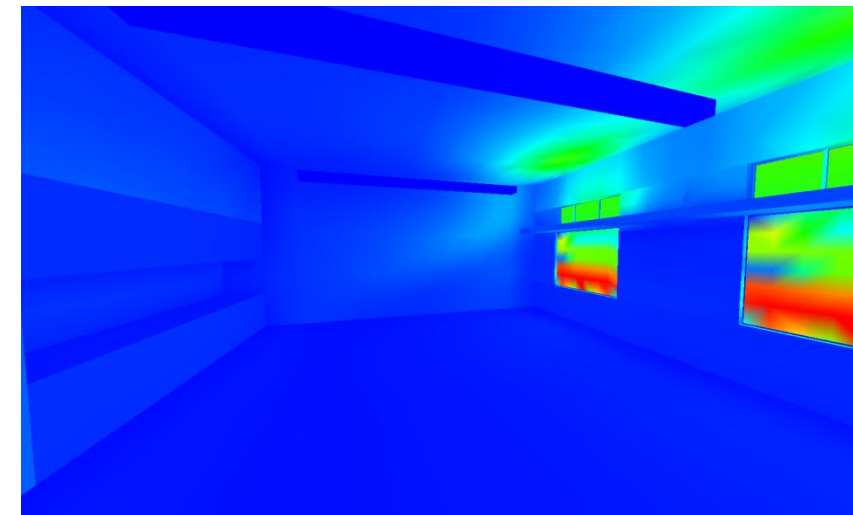
NO SHADES

Spring/Fall: Maximum – 50 fc Average – 10.41 fc



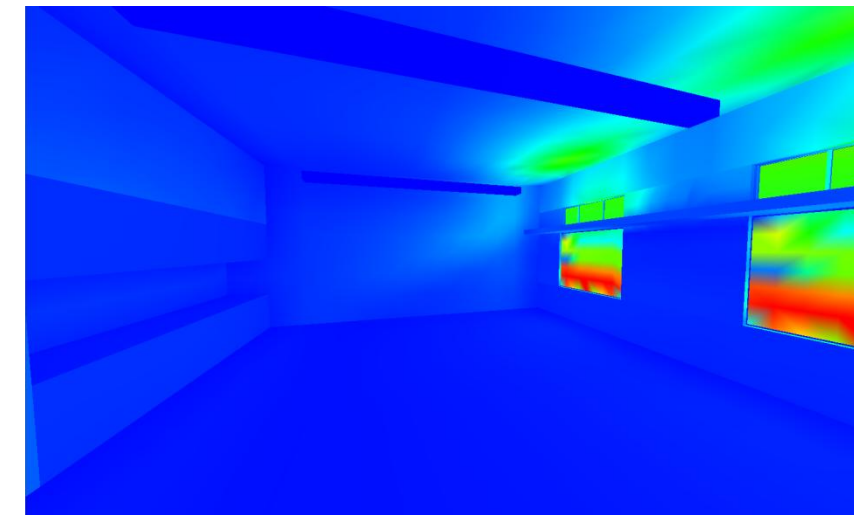
NO SHADES

Summer: Maximum – 72.3 fc Average – 15.06 fc



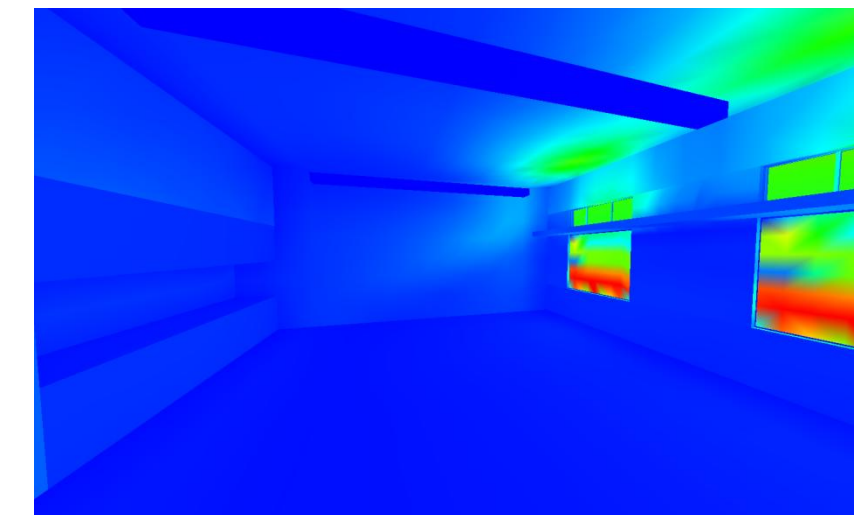
WITH SHADES

Winter: Maximum – 3.3 fc Average – 1.38 fc



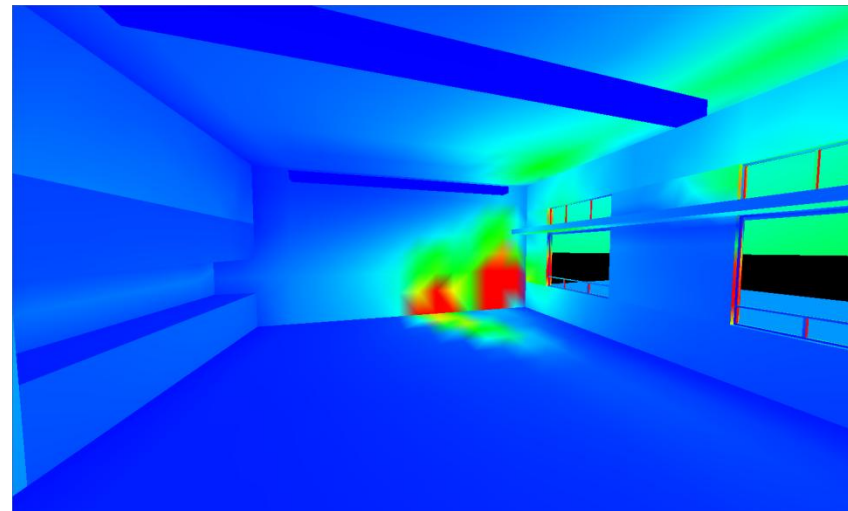
WITH SHADES

Spring/Fall: Maximum – 7 fc Average – 2.91 fc



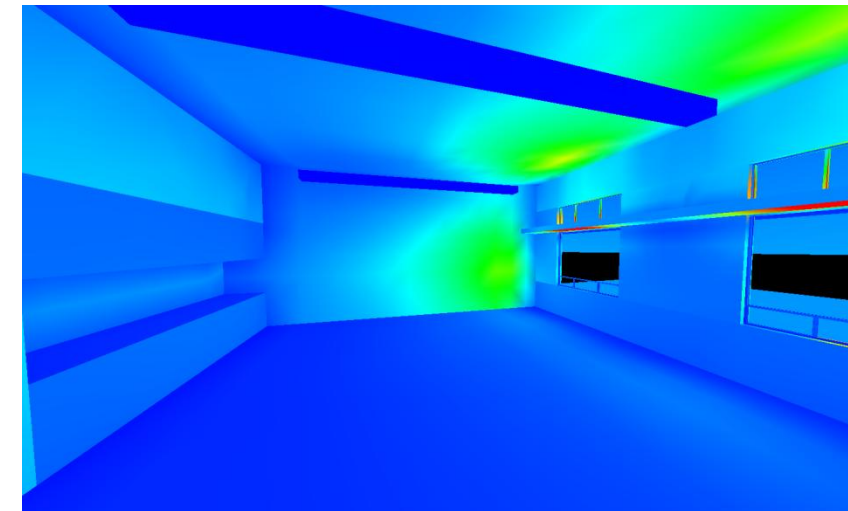
WITH SHADES

Summer: Maximum – 10.2 fc Average – 4.21 fc



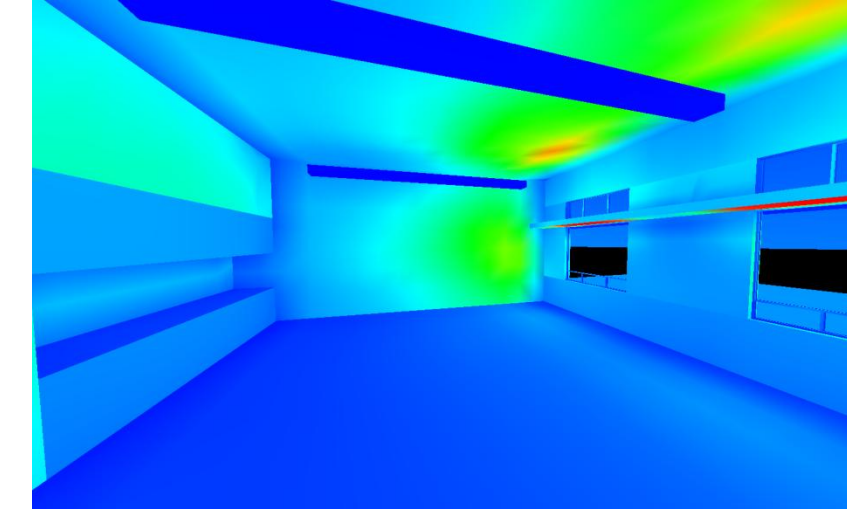
NO SHADES

Winter: Maximum – 803 fc Average – 74.05 fc



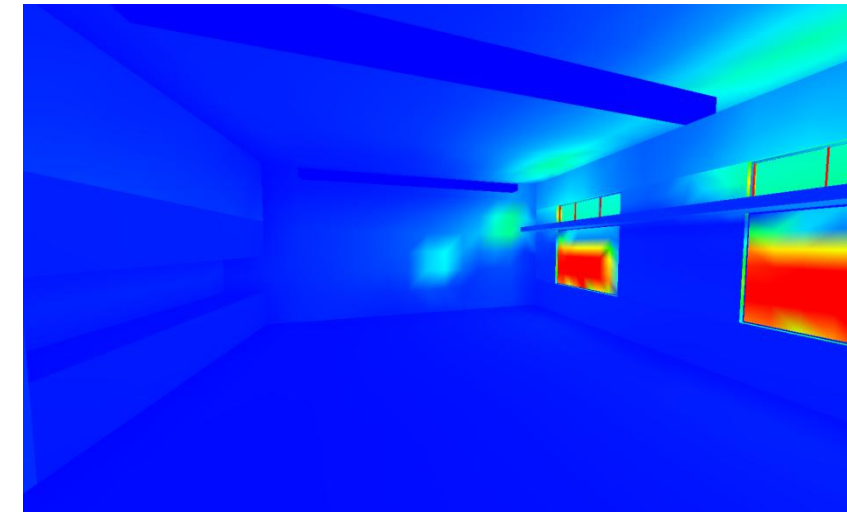
NO SHADES

Spring/Fall: Maximum – 108 fc Average – 31.94 fc



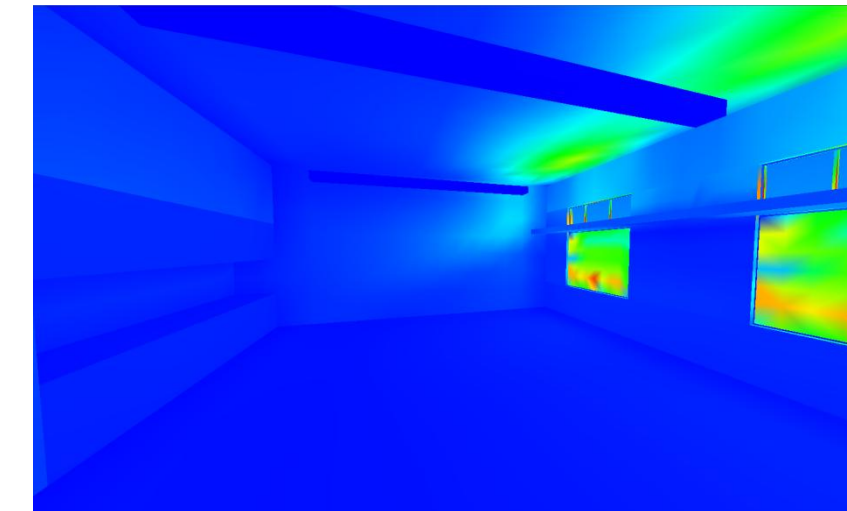
NO SHADES

Summer: Maximum – 87.2 fc Average – 28.94 fc



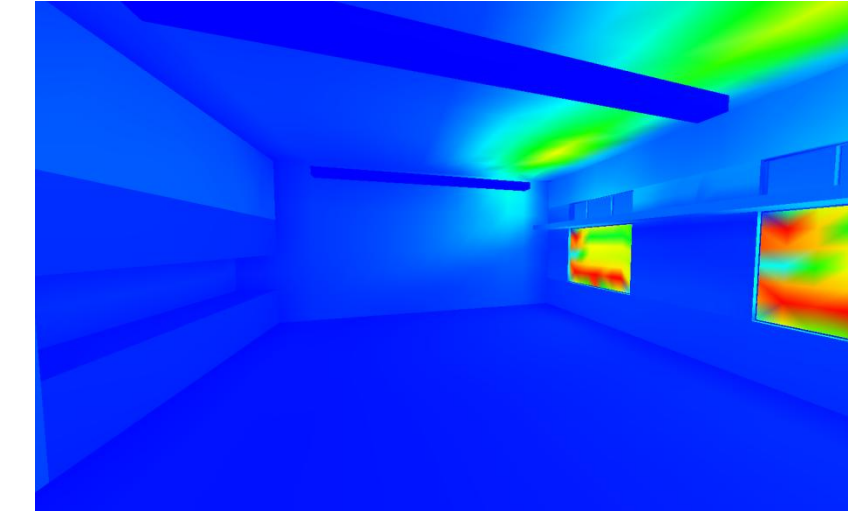
WITH SHADES

Winter: Maximum – 43.4 fc Average – 13.16 fc



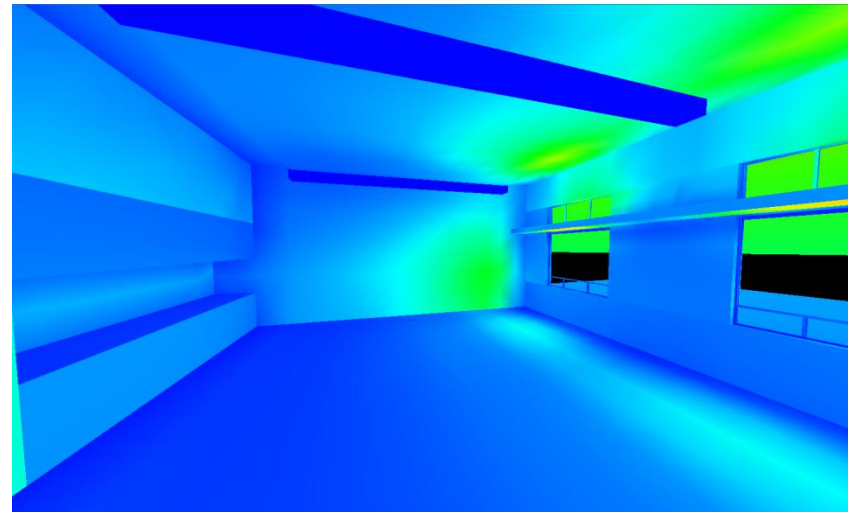
WITH SHADES

Spring/Fall: Maximum – 25.2 fc Average – 10.75 fc



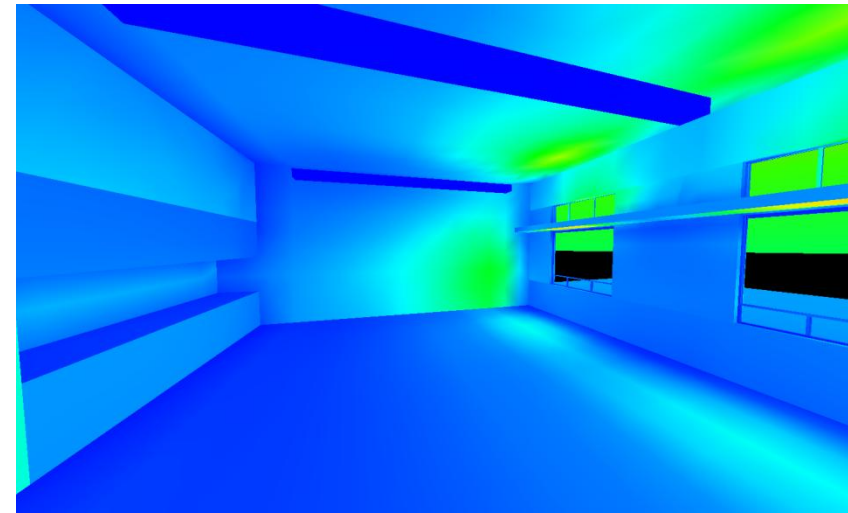
WITH SHADES

Summer: Maximum – 23.4 fc Average – 10.03 fc



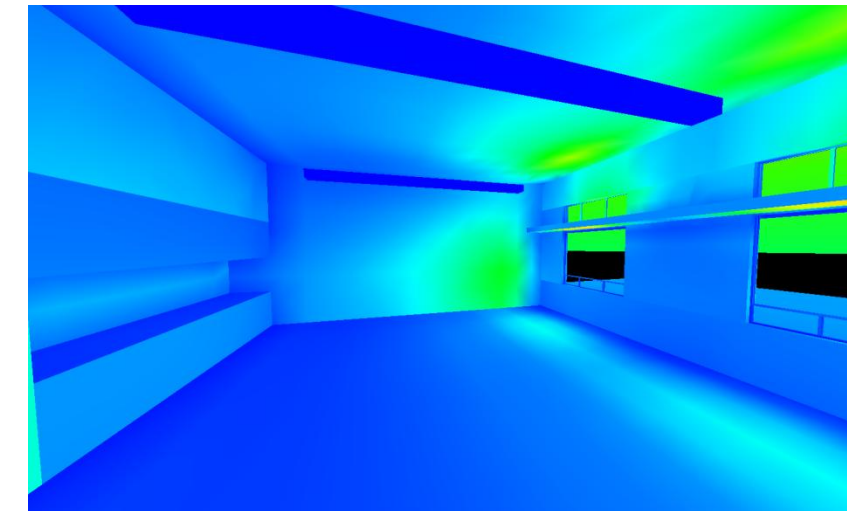
NO SHADES

Winter: Maximum – 24.4 fc Average – 5.07 fc



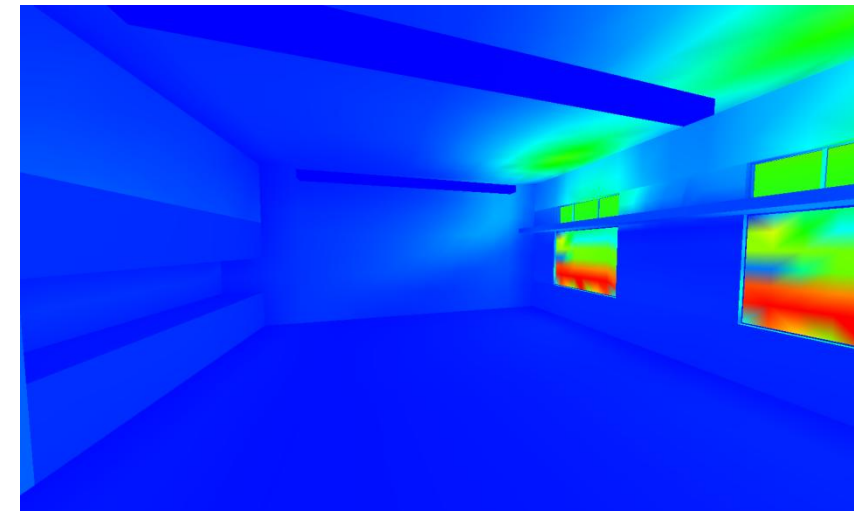
NO SHADES

Spring/Fall: Maximum – 55 fc Average – 11.45 fc



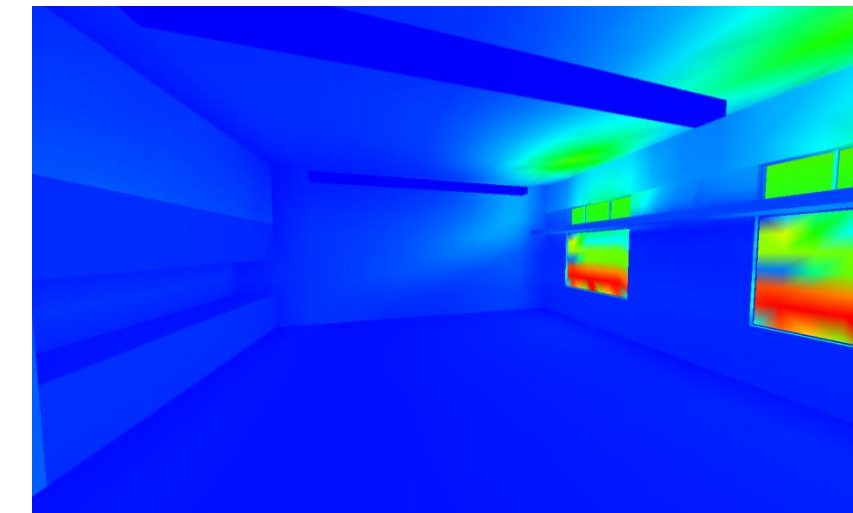
NO SHADES

Summer: Maximum – 74.5 fc Average – 15.50 fc



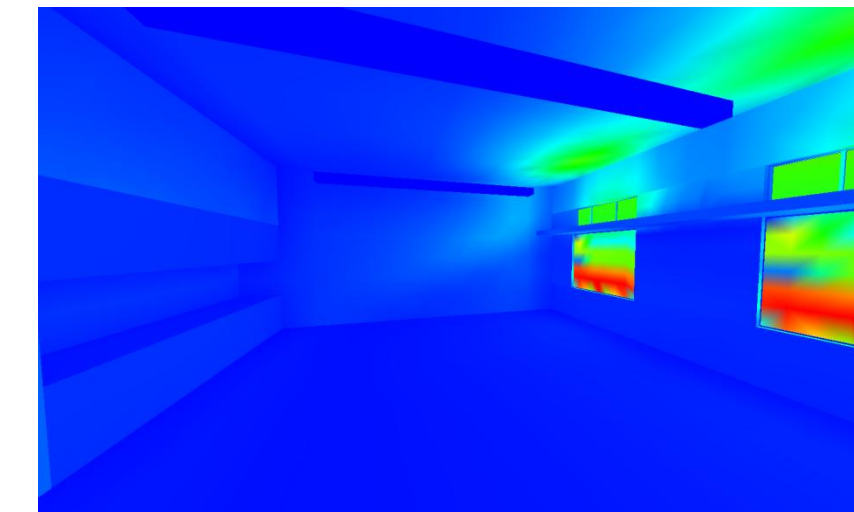
WITH SHADES

Winter: Maximum – 3.4 fc Average – 1.42 fc



WITH SHADES

Spring/Fall: Maximum – 7.7 fc Average – 3.20 fc



WITH SHADES

Summer: Maximum – 10.5 fc Average – 4.33 fc

