

DATE: 21 October 2019
DESIGNER: Michael Lannon
PROJECT No: 3114
PROJECT NAME: Academy Street, Navan



Grid 1 – Internal road/footpath - Lighting class P5
Grid 2 – Internal road/footpath - Lighting class P5
Grid 3 – Internal road/footpath - Lighting class P5
Grid 4 – Conflict area – Lighting class C3
Grid 5 – Conflict area – Lighting class C3
Grid 6 – Conflict area – Lighting class C3

Outdoor Lighting Report

PREPARED BY: MorleyWalsh Consulting Engineers
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Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Grid 1	684464.16	769722.83	287.83	353.45	1.49	1.49
2	Grid 2	684751.00	769773.97	343.63	280.98	1.49	1.49
3	Grid 3	684682.36	769601.70	319.50	173.32	1.49	1.49
4	Grid 4	684479.37	770065.35	53.52	27.98	1.49	1.47
5	Grid 5	684686.43	770040.21	36.48	27.98	1.46	1.47
6	Grid 6	684737.61	770037.93	36.48	27.98	1.46	1.47

Luminaires

Luminaire A Data



Supplier	C U Phosco
Type	P852-12-F2-NW-D0750-29W
Lamp(s)	740P NW
Lamp Flux (klm)	3.25
File Name	P852-12-F2-NW-D0750-29W.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	983.9, 149.4, 0.0
No. in Project	142

Luminaire B Data



Supplier	C U Phosco
Type	P862-32-F2B-NW-F0550-56W
Lamp(s)	740P NW
Lamp Flux (klm)	6.74
File Name	P862-32-F2B-NW-F0550-56W.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	811.7, 68.3, 0.0
No. in Project	8

Luminaire C Data



Supplier	C U Phosco
Type	P852K-12-F2-NW-CB0200-9W
Lamp(s)	740C NW
Lamp Flux (klm)	1.07
File Name	P852K-12-F2-NW-CB0200-9W.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	761.9, 260.5, 34.9
No. in Project	3

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	B	684509.17	770066.35	6.00	145.00	0.00	0.00	0.40			
2	A	684501.96	770038.48	6.00	165.00	0.00	0.00	0.40			
3	A	684494.83	770011.76	6.00	166.00	0.00	0.00	0.40			
4	A	684490.67	769985.67	6.00	179.00	0.00	0.00	0.40			
5	A	684495.12	769960.34	6.00	195.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
6	A	684507.94	769938.00	6.00	213.00	0.00	0.00	0.40			
7	A	684527.44	769921.44	6.00	231.00	0.00	0.00	0.40			
8	A	684551.97	769907.02	6.00	233.00	0.00	0.00	0.40			
9	A	684574.24	769882.39	6.00	208.00	0.00	0.00	0.40			
10	A	684604.48	769851.60	6.00	247.00	0.00	0.00	0.40			
11	A	684625.15	769848.85	6.00	262.00	0.00	0.00	0.40			
12	A	684639.60	769850.53	6.00	351.00	0.00	0.00	0.40			
13	A	684622.09	769876.05	6.00	98.00	0.00	0.00	0.40			
14	A	684579.27	769878.99	6.00	25.00	0.00	0.00	0.40			
15	A	684570.40	769893.12	6.00	33.00	0.00	0.00	0.40			
16	A	684547.78	769916.99	6.00	58.00	0.00	0.00	0.40			
17	A	684513.02	769943.92	6.00	7.00	0.00	0.00	0.40			
18	A	684545.93	769943.29	6.00	263.00	0.00	0.00	0.40			
19	A	684528.20	769948.86	6.00	268.00	0.00	0.00	0.40			
20	A	684560.19	769948.84	6.00	238.00	0.00	0.00	0.40			
21	A	684560.22	769906.09	6.00	41.00	0.00	0.00	0.40			
22	A	684642.20	769898.43	6.00	270.00	0.00	0.00	0.40			
24	A	684576.97	769852.75	6.00	47.00	0.00	0.00	0.40			
25	A	684571.90	769802.96	6.00	5.00	0.00	0.00	0.40			
26	A	684580.91	769777.51	6.00	215.00	0.00	0.00	0.40			
27	A	684598.81	769766.01	6.00	146.00	0.00	0.00	0.40			
28	A	684612.32	769760.30	6.00	331.00	0.00	0.00	0.40			
29	A	684646.00	769752.88	6.00	236.00	0.00	0.00	0.40			
30	A	684669.56	769741.03	6.00	253.00	0.00	0.00	0.40			
31	A	684683.14	769752.26	6.00	349.00	0.00	0.00	0.40			
32	A	684701.01	769760.24	6.00	82.00	0.00	0.00	0.40			
33	A	684640.02	769775.77	6.00	347.00	0.00	0.00	0.40			
34	A	684672.35	769768.42	6.00	78.00	0.00	0.00	0.40			
35	A	684655.12	769803.39	6.00	325.00	0.00	0.00	0.40			
36	A	684660.72	769833.04	6.00	321.00	0.00	0.00	0.40			
37	A	684649.49	769845.68	6.00	265.00	1.00	0.00	0.40			
38	A	684683.44	769838.64	6.00	258.00	0.00	0.00	0.40			
39	A	684709.83	769837.17	6.00	266.00	0.00	0.00	0.40			
40	A	684738.54	769833.65	6.00	257.00	0.00	0.00	0.40			
41	A	684762.21	769828.36	6.00	262.00	0.00	0.00	0.40			
42	A	684788.96	769825.80	6.00	278.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
43	A	684815.78	769830.41	6.00	288.00	0.00	0.00	0.40			
44	A	684840.63	769839.49	6.00	293.00	0.00	0.00	0.40			
45	A	684723.80	769757.44	6.00	84.00	0.00	0.00	0.40			
46	A	684745.36	769729.31	6.00	173.00	0.00	0.00	0.40			
47	A	684761.08	769712.14	6.00	256.00	0.00	0.00	0.40			
48	A	684700.74	769721.76	6.00	152.00	0.00	0.00	0.40			
49	A	684714.57	769715.84	6.00	335.00	0.00	0.00	0.40			
50	A	684735.30	769714.34	6.00	306.00	0.00	0.00	0.40			
51	A	684767.61	769723.52	6.00	1.00	0.00	0.00	0.40			
52	A	684772.16	769749.86	6.00	3.00	0.00	0.00	0.40			
53	A	684762.46	769767.92	6.00	85.00	0.00	0.00	0.40			
54	A	684749.14	769757.47	6.00	153.00	0.00	0.00	0.40			
55	A	684793.02	769687.97	6.00	157.00	0.00	0.00	0.40			
56	A	684807.44	769681.61	6.00	327.00	0.00	0.00	0.40			
57	A	684833.92	769679.19	6.00	188.00	0.00	0.00	0.40			
58	A	684827.77	769701.05	6.00	343.00	0.00	0.00	0.40			
59	A	684832.33	769728.44	6.00	354.00	0.00	0.00	0.40			
60	A	684819.53	769732.23	6.00	73.00	0.00	0.00	0.40			
61	A	684800.71	769745.16	6.00	72.00	0.00	0.00	0.40			
62	A	684850.99	769753.92	6.00	150.00	0.00	0.00	0.40			
63	A	684863.09	769764.52	6.00	111.00	0.00	0.00	0.40			
64	A	684879.71	769760.17	6.00	47.00	0.00	0.00	0.40			
65	A	684889.17	769743.26	6.00	22.00	0.00	0.00	0.40			
66	A	684860.20	769732.90	6.00	255.00	0.00	0.00	0.40			
67	A	684882.23	769728.45	6.00	291.00	0.00	0.00	0.40			
68	A	684890.33	769713.39	6.00	29.00	0.00	0.00	0.40			
69	A	684918.42	769696.89	6.00	58.00	0.00	0.00	0.40			
70	A	684943.54	769676.46	6.00	133.00	0.00	0.00	0.40			
71	A	684932.81	769651.62	6.00	154.00	0.00	0.00	0.40			
72	A	684931.58	769611.72	6.00	67.00	0.00	0.00	0.40			
73	A	684913.71	769626.95	6.00	103.00	0.00	0.00	0.40			
74	A	684880.89	769643.45	6.00	57.00	0.00	0.00	0.40			
75	A	684864.54	769651.21	6.00	68.00	0.00	0.00	0.40			
76	A	684855.55	769633.18	6.00	158.00	0.00	0.00	0.40			
77	A	684849.41	769669.44	6.00	252.00	0.00	0.00	0.40			
78	A	684953.53	769713.72	6.00	309.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
79	A	684960.94	769729.37	6.00	343.00	0.00	0.00	0.40			
80	A	684985.65	769772.27	6.00	342.00	0.00	0.00	0.40			
81	A	684969.23	769746.47	6.00	22.00	0.00	0.00	0.40			
82	A	684955.10	769764.15	6.00	227.00	0.00	0.00	0.40			
83	A	684918.33	769741.00	6.00	127.00	0.00	0.00	0.40			
84	A	684935.32	769754.20	6.00	125.00	0.00	0.00	0.40			
85	A	684945.98	769778.27	6.00	258.00	0.00	0.00	0.40			
86	A	684758.67	769800.78	6.00	350.00	0.00	0.00	0.40			
87	A	684867.92	769790.33	6.00	195.00	0.00	0.00	0.40			
88	A	684861.06	769809.04	6.00	190.00	0.00	0.00	0.40			
89	A	684863.58	769855.25	6.00	313.00	0.00	0.00	0.40			
90	A	684872.56	769877.36	6.00	348.00	0.00	0.00	0.40			
91	A	684875.45	769905.30	6.00	353.00	0.00	0.00	0.40			
92	A	684899.45	769856.16	6.00	73.00	0.00	0.00	0.40			
93	A	684919.17	769851.15	6.00	41.00	0.00	0.00	0.40			
94	A	684943.39	769854.19	6.00	89.00	0.00	0.00	0.40			
95	A	684917.56	769832.52	6.00	355.00	0.00	0.00	0.40			
96	A	684912.41	769808.73	6.00	19.00	0.00	0.00	0.40			
97	A	684936.51	769792.90	6.00	219.00	0.00	0.00	0.40			
98	A	684964.91	769785.06	6.00	139.00	0.00	0.00	0.40			
99	A	684978.51	769808.40	6.00	167.00	0.00	0.00	0.40			
100	A	684979.79	769838.09	6.00	184.00	0.00	0.00	0.40			
101	A	684985.08	769859.51	6.00	163.00	0.00	0.00	0.40			
102	A	684995.81	769880.12	6.00	254.00	0.00	0.00	0.40			
103	A	685002.01	769831.47	6.00	306.00	0.00	0.00	0.40			
104	A	685022.63	769794.76	6.00	111.00	0.00	0.00	0.40			
105	A	684993.49	769821.36	6.00	282.00	0.00	0.00	0.40			
106	A	685008.75	769853.16	6.00	339.00	0.00	0.00	0.40			
107	A	685016.82	769869.96	6.00	248.00	0.00	0.00	0.40			
108	A	685054.52	769852.41	6.00	158.00	0.00	0.00	0.40			
109	A	685028.23	769858.02	6.00	69.00	0.00	0.00	0.40			
110	A	685061.82	769890.22	6.00	204.00	0.00	0.00	0.40			
111	A	685031.13	769900.15	6.00	298.00	0.00	0.00	0.40			
112	A	685009.77	769886.65	6.00	351.00	0.00	0.00	0.40			
113	A	684990.01	769906.40	6.00	225.00	0.00	0.00	0.40			
114	A	684962.39	769918.19	6.00	254.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
115	A	684935.81	769924.53	6.00	249.00	0.00	0.00	0.40			
116	A	684909.86	769934.88	6.00	250.00	0.00	0.00	0.40			
117	A	684877.13	769932.76	6.00	290.00	0.00	0.00	0.40			
118	A	684862.37	769933.09	6.00	69.00	0.00	0.00	0.40			
119	A	684837.55	769934.89	6.00	90.00	0.00	0.00	0.40			
120	A	684810.46	769947.39	6.00	30.00	0.00	0.00	0.40			
121	A	684804.11	769974.35	6.00	336.00	0.00	0.00	0.40			
122	A	684816.46	769995.50	6.00	330.00	0.00	0.00	0.40			
123	A	684814.14	770015.14	6.00	22.00	0.00	0.00	0.40			
124	A	684799.98	770025.07	6.00	81.00	0.00	0.00	0.40			
125	A	684777.10	770018.75	6.00	70.00	0.00	0.00	0.40			
125	B	684761.79	770039.75	6.00	28.00	0.00	0.00	0.40			
127	A	684698.93	770044.27	6.00	358.00	0.00	0.00	0.40			
128	A	684715.51	770022.32	6.00	91.00	0.00	0.00	0.40			
129	A	684737.07	770020.69	6.00	55.00	0.00	0.00	0.40			
130	A	684737.96	770008.12	6.00	0.00	2.00	0.00	0.40			
131	A	684739.77	769990.78	6.00	270.00	0.00	0.00	0.40			
132	A	684711.16	769990.44	6.00	282.00	0.00	0.00	0.40			
133	A	684682.23	769991.28	6.00	290.00	1.00	0.00	0.40			
134	A	684662.03	769988.12	6.00	222.00	2.00	0.00	0.40			
135	A	684624.86	769992.38	6.00	306.00	2.00	0.00	0.40			
136	A	684602.22	769993.50	6.00	275.00	0.00	0.00	0.40			
137	A	684587.53	769990.90	6.00	267.00	0.00	0.00	0.40			
138	A	684658.93	770031.89	6.00	270.00	0.00	0.00	0.40			
139	A	684666.46	770010.72	6.00	180.00	0.00	0.00	0.40			
140	A	684756.60	769993.62	6.00	272.00	0.00	0.00	0.40			
141	A	684776.69	769982.52	6.00	56.00	0.00	0.00	0.40			
142	A	684571.37	769831.84	6.00	0.00	0.00	0.00	0.40			
143	A	684591.21	769865.45	6.00	54.00	0.00	0.00	0.40			
143	A	684649.84	769865.48	6.00	175.00	0.00	0.00	0.40			
144	B	684489.65	770074.34	6.00	78.00	0.00	0.00	0.40			
145	B	684515.40	770071.25	6.00	98.00	0.00	0.00	0.40			
146	B	684694.00	770050.37	6.00	83.00	0.00	0.00	0.40			
147	B	684714.17	770048.00	6.00	89.00	0.00	0.00	0.40			
148	B	684745.49	770044.80	6.00	83.00	0.00	0.00	0.40			
149	B	684769.13	770053.41	6.00	126.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	C	685070.64	769902.45	6.00	0.00	0.00	0.00	0.40			
2	C	685082.27	769923.32	6.00	342.00	0.00	0.00	0.40			
3	C	685087.80	769943.42	6.00	335.00	0.00	0.00	0.40			
153	A	684758.96	770017.04	6.00	109.00	0.00	0.00	0.40			

Horizontal Illuminance (lux)

Grid 1



Results

Eav	5.71
Emin	1.04
Emax	32.91
Emin/Emax	0.03
Emin/Eav	0.18

Horizontal Illuminance (lux)

Grid 2

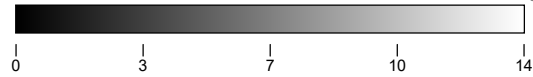


Results

Eav	5.57
Emin	1.11
Emax	34.30
Emin/Emax	0.03
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 3

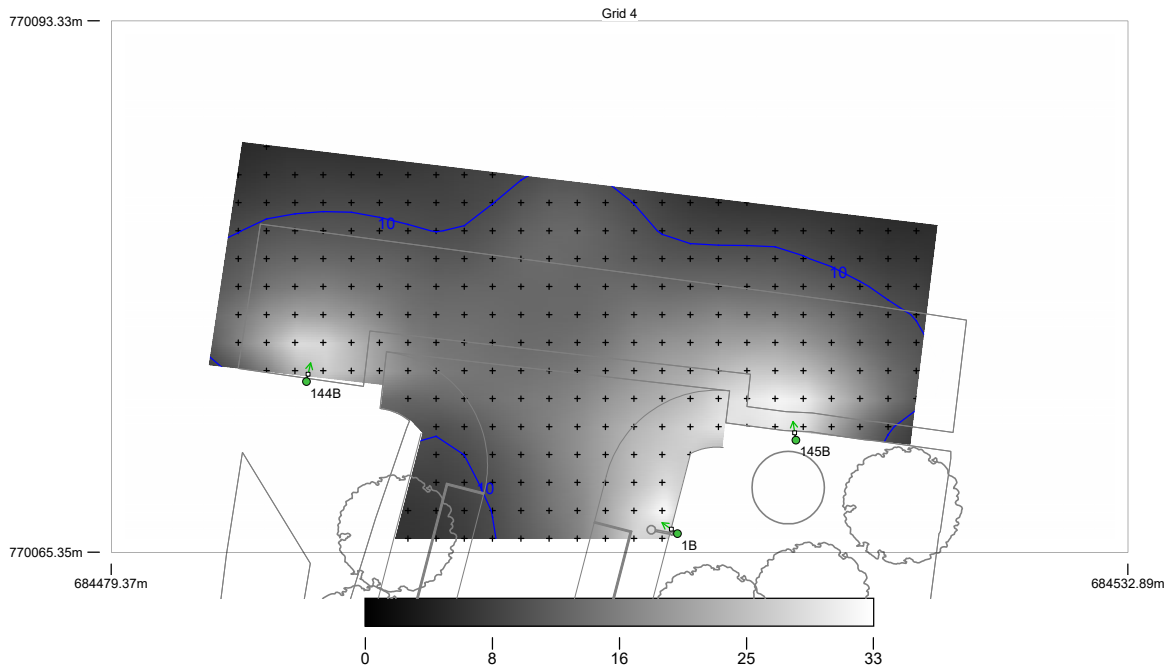


Results

Eav	5.44
Emin	1.07
Emax	13.81
Emin/Emax	0.08
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 4

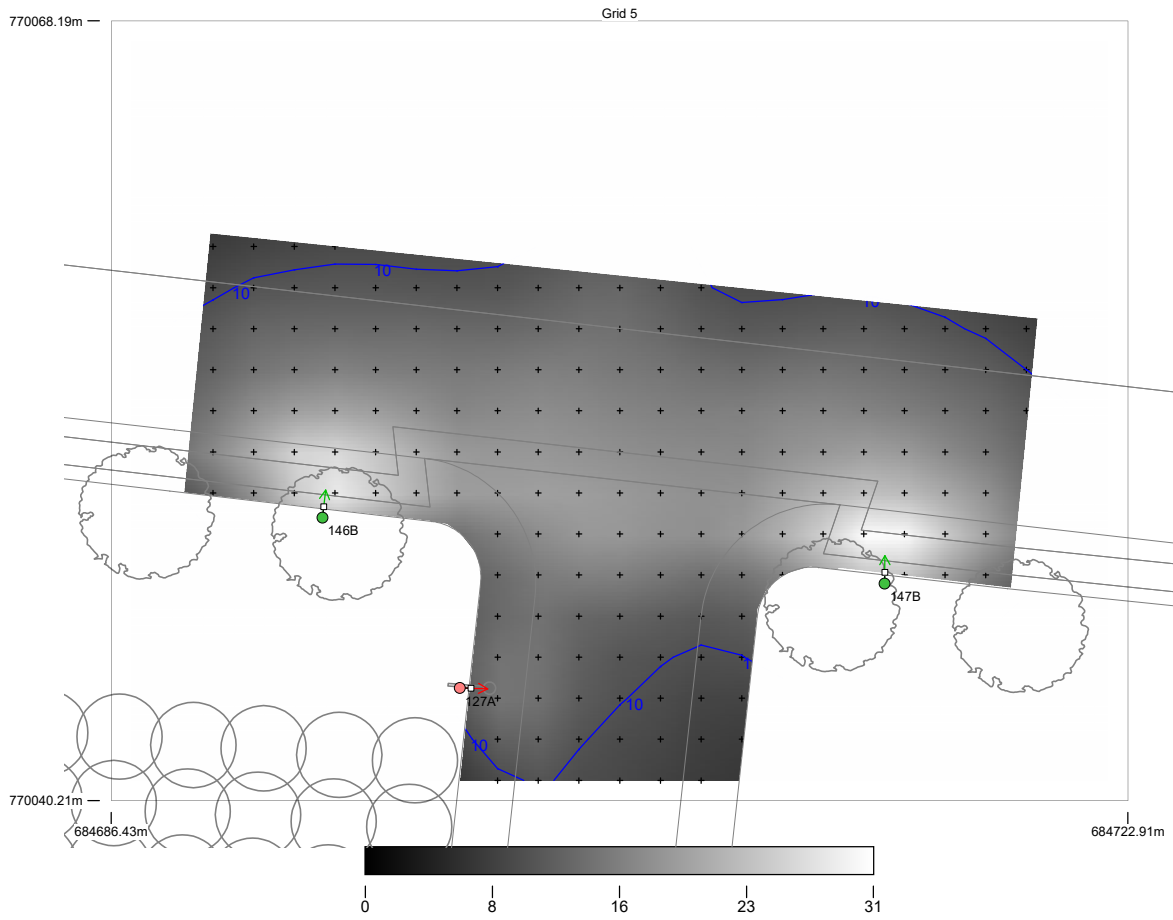


Results

Eav	15.02
Emin	5.99
E _{max}	32.76
E _{min} /E _{max}	0.18
E _{min} /E _{av}	0.40

Horizontal Illuminance (lux)

Grid 5

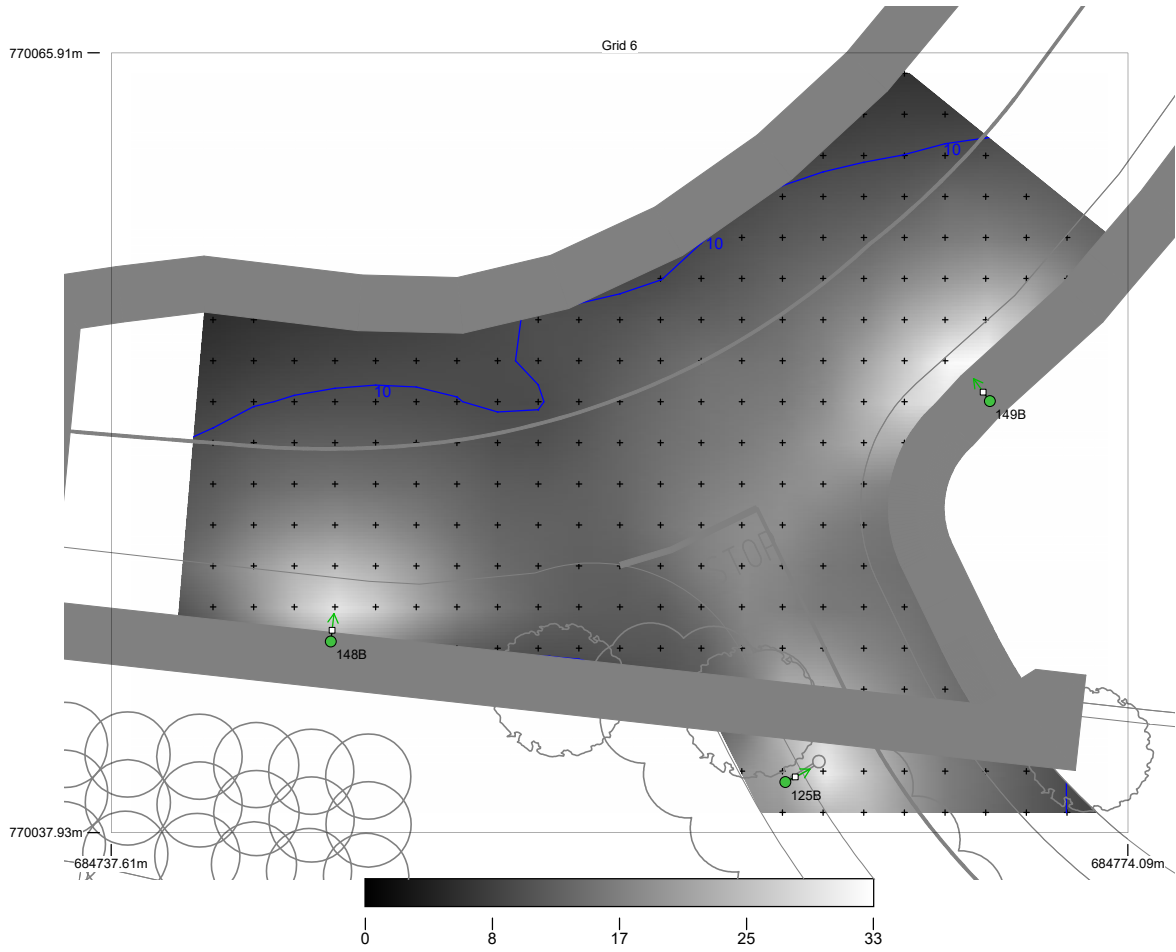


Results

Eav	15.16
Emin	7.34
Emax	31.29
Emin/Emax	0.23
Emin/Eav	0.48

Horizontal Illuminance (lux)

Grid 6



Results

Eav	15.02
Emin	6.17
Emax	33.04
Emin/Emax	0.19
Emin/Eav	0.41