

DATE: 26 August 2021
DESIGNER: Michael Lannon
PROJECT No: 3143
PROJECT NAME: Clonminch, Tullamore



Lighting class Design to EN13201 / BS 5489

Grid 1 (Roadway & Footpath) - Lighting class P4

Grid 2 (Roadway & Footpath) - Lighting class P4

Grid 3 (Roadway & Footpath) - Lighting class P4

Grid 4 (Roadway & Footpath) - Lighting class S2

Grid 5 (Roadway & Footpath) - Lighting class S2

Grid 6 (Roadway & Footpath) - Lighting class S2

Grid 7 (Roadway & Footpath) - Lighting class S2

Outdoor Lighting Report

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	-1968.91	2477.74	354.75	228.55	1.49	1.49
2	Grid 2	-1968.89	2705.33	354.75	228.55	1.49	1.49
3	Grid 3	-2094.50	2552.67	128.51	155.01	1.49	1.49
4	Grid 4	-2114.05	2454.08	72.01	117.74	1.47	1.47
5	Grid 5	-2224.04	2569.43	130.27	368.10	1.48	1.49
6	Grid 6	-2287.15	2937.20	86.42	368.10	1.49	1.49
7	Grid 7	-2423.19	3303.75	169.59	371.14	1.47	1.48
8	Grid 8	-2679.98	3673.33	293.29	371.14	1.47	1.48

Luminaires

Luminaire A Data



Supplier	C U Phosco
Type	P852-12-F2-NW-CB0650-25W
Lamp(s)	740C NW
Lamp Flux (klm)	3.09
File Name	P852-12-F2-NW-CB0650-25W.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	761.9, 260.5, 34.9
No. in Project	144

Luminaire B Data



Supplier	C U Phosco
Type	P862-64-F2B-NW-F500-98W
Lamp(s)	740P NW
Lamp Flux (klm)	12.38
File Name	P862-64-F2B-NW-F500-98W.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	768.2, 74.3, 0.0
No. in Project	86

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	-2083.24	2572.71	6.00	120.00	0.00	0.00	0.40			
2	A	-2073.00	2603.39	6.00	301.00	0.00	0.00	0.40			
3	A	-2055.62	2584.74	6.00	122.00	0.00	0.00	0.40			
4	A	-2043.23	2612.79	6.00	264.00	0.00	0.00	0.40			
5	A	-2051.21	2628.67	6.00	178.00	0.00	0.00	0.40			
6	A	-2069.25	2640.40	6.00	272.00	0.00	0.00	0.40			
7	A	-2086.64	2628.28	6.00	7.00	0.00	0.00	0.40			
8	A	-2031.90	2590.87	6.00	89.00	0.00	0.00	0.40			
9	A	-2020.83	2614.27	6.00	281.00	0.00	0.00	0.40			
10	A	-2000.02	2592.09	6.00	102.00	0.00	0.00	0.40			
11	A	-1969.40	2617.10	6.00	281.00	0.00	0.00	0.40			
12	A	-1977.97	2592.99	6.00	89.00	0.00	0.00	0.40			
13	A	-1993.73	2615.55	6.00	277.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
14	A	-1947.87	2599.27	6.00	124.00	0.00	0.00	0.40			
15	A	-1981.63	2653.85	6.00	266.00	0.00	0.00	0.40			
16	A	-1925.80	2644.43	6.00	303.00	0.00	0.00	0.40			
17	A	-1921.83	2618.55	6.00	127.00	0.00	0.00	0.40			
18	A	-1907.34	2651.37	6.00	283.00	0.00	0.00	0.40			
19	A	-1905.71	2627.54	6.00	120.00	0.00	0.00	0.40			
20	A	-1867.81	2658.17	6.00	282.00	0.00	0.00	0.40			
21	A	-1845.84	2661.85	6.00	287.00	0.00	0.00	0.40			
22	A	-1804.46	2658.80	6.00	139.00	0.00	0.00	0.40			
23	A	-1943.04	2644.59	6.00	222.00	0.00	0.00	0.40			
24	A	-1967.65	2676.65	6.00	356.00	0.00	0.00	0.40			
25	A	-1958.25	2692.64	6.00	189.00	0.00	0.00	0.40			
26	A	-1949.76	2705.03	6.00	95.00	0.00	0.00	0.40			
27	A	-1927.68	2739.63	6.00	30.00	0.00	0.00	0.40			
28	A	-1924.65	2720.18	6.00	285.00	0.00	0.00	0.40			
29	A	-1894.71	2726.39	6.00	289.00	0.00	0.00	0.40			
30	A	-1870.29	2721.05	6.00	110.00	0.00	0.00	0.40			
31	A	-1851.87	2735.19	6.00	280.00	0.00	0.00	0.40			
32	A	-1830.50	2697.17	6.00	189.00	0.00	0.00	0.40			
33	A	-1825.27	2671.92	6.00	313.00	0.00	0.00	0.40			
34	A	-1796.68	2716.08	6.00	331.00	0.00	0.00	0.40			
35	A	-1788.48	2685.25	6.00	164.00	0.00	0.00	0.40			
36	A	-1753.93	2679.19	6.00	249.00	0.00	0.00	0.40			
37	A	-1882.04	2632.19	6.00	97.00	0.00	0.00	0.40			
38	A	-1826.52	2644.31	6.00	111.00	0.00	0.00	0.40			
39	A	-1796.33	2644.92	6.00	42.00	0.00	0.00	0.40			
40	A	-1788.07	2629.41	6.00	5.00	0.00	0.00	0.40			
41	A	-1782.98	2601.25	6.00	10.00	0.00	0.00	0.40			
42	A	-1780.52	2579.14	6.00	6.00	0.00	0.00	0.40			
43	A	-1767.84	2556.76	6.00	191.00	0.00	0.00	0.40			
44	A	-1748.30	2547.31	6.00	99.00	0.00	0.00	0.40			
45	A	-1779.83	2540.95	6.00	99.00	0.00	0.00	0.40			
46	A	-1803.91	2535.76	6.00	122.00	0.00	0.00	0.40			
47	A	-1799.95	2515.93	6.00	196.00	0.00	0.00	0.40			
48	A	-1831.95	2539.97	6.00	284.00	0.00	0.00	0.40			
49	A	-1833.91	2554.31	6.00	185.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
50	A	-1861.57	2552.77	6.00	177.00	0.00	0.00	0.40			
51	A	-1839.37	2580.77	6.00	188.00	0.00	0.00	0.40			
52	A	-1859.89	2603.29	6.00	13.00	0.00	0.00	0.40			
53	A	-1859.22	2634.83	6.00	3.00	0.00	0.00	0.40			
54	A	-1887.57	2526.22	6.00	290.00	0.00	0.00	0.40			
55	A	-1907.13	2521.37	6.00	230.00	0.00	0.00	0.40			
56	A	-1906.84	2542.27	6.00	187.00	0.00	0.00	0.40			
57	A	-1905.99	2564.12	6.00	183.00	0.00	0.00	0.40			
58	A	-1925.26	2574.79	6.00	1.00	0.00	0.00	0.40			
59	A	-1908.97	2596.10	6.00	204.00	0.00	0.00	0.40			
60	A	-1933.98	2606.78	6.00	37.00	0.00	0.00	0.40			
61	A	-1779.73	2700.35	6.00	144.00	0.00	0.00	0.40			
62	A	-1765.06	2712.14	6.00	122.00	0.00	0.00	0.40			
63	A	-1772.43	2735.55	6.00	279.00	0.00	0.00	0.40			
64	A	-1729.27	2749.10	6.00	281.00	0.00	0.00	0.40			
65	A	-1740.81	2720.11	6.00	115.00	0.00	0.00	0.40			
66	A	-1728.70	2688.95	6.00	101.00	0.00	0.00	0.40			
67	A	-1702.33	2692.76	6.00	96.00	0.00	0.00	0.40			
68	A	-1719.04	2726.76	6.00	114.00	0.00	0.00	0.40			
69	A	-1709.88	2715.47	6.00	18.00	0.00	0.00	0.40			
70	A	-1686.00	2735.38	6.00	106.00	0.00	0.00	0.40			
71	A	-1685.19	2721.77	6.00	284.00	0.00	0.00	0.40			
72	A	-1648.68	2698.45	6.00	101.00	0.00	0.00	0.40			
73	A	-1673.17	2693.62	6.00	105.00	0.00	0.00	0.40			
74	A	-1947.07	2628.84	6.00	318.00	0.00	0.00	0.40			
75	A	-1802.50	2743.27	6.00	290.00	0.00	0.00	0.40			
76	A	-1784.84	2757.02	6.00	164.00	0.00	0.00	0.40			
77	A	-1791.62	2796.79	6.00	30.00	0.00	0.00	0.40			
78	A	-1830.85	2865.06	6.00	87.00	0.00	0.00	0.40			
79	A	-1807.97	2813.06	6.00	270.00	0.00	0.00	0.40			
80	A	-1834.65	2816.00	6.00	264.00	0.00	0.00	0.40			
81	A	-1831.97	2840.81	6.00	91.00	0.00	0.00	0.40			
82	A	-1813.11	2831.65	6.00	169.00	0.00	0.00	0.40			
83	A	-1808.61	2857.15	6.00	169.00	0.00	0.00	0.40			
84	A	-1804.15	2881.67	6.00	172.00	0.00	0.00	0.40			
85	A	-1824.42	2906.53	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
86	A	-1802.57	2902.35	6.00	256.00	0.00	0.00	0.40			
87	A	-1669.96	2799.82	6.00	228.00	0.00	0.00	0.40			
88	A	-1780.27	2898.11	6.00	256.00	0.00	0.00	0.40			
89	A	-1742.25	2877.93	6.00	79.00	0.00	0.00	0.40			
90	A	-1723.61	2887.26	6.00	256.00	0.00	0.00	0.40			
91	A	-1673.58	2878.67	6.00	311.00	0.00	0.00	0.40			
92	A	-1699.54	2882.66	6.00	269.00	0.00	0.00	0.40			
93	A	-1758.03	2893.75	6.00	260.00	0.00	0.00	0.40			
94	A	-1678.14	2861.29	6.00	347.00	0.00	0.00	0.40			
96	A	-1683.39	2838.02	6.00	356.00	0.00	0.00	0.40			
97	A	-1687.73	2819.79	6.00	342.00	0.00	0.00	0.40			
100	A	-1653.15	2785.10	6.00	218.00	0.00	0.00	0.40			
101	A	-1674.33	2762.13	6.00	277.00	0.00	0.00	0.40			
102	A	-1642.51	2739.81	6.00	3.00	0.00	0.00	0.40			
103	A	-1658.94	2741.66	6.00	103.00	0.00	0.00	0.40			
104	A	-1706.45	2755.65	6.00	288.00	0.00	0.00	0.40			
105	A	-1700.30	2775.43	6.00	331.00	0.00	0.00	0.40			
106	A	-1691.23	2796.35	6.00	349.00	0.00	0.00	0.40			
107	A	-1721.11	2768.69	6.00	359.00	0.00	0.00	0.40			
108	A	-1740.96	2857.72	6.00	264.00	0.00	0.00	0.40			
109	A	-1750.70	2742.61	6.00	287.00	0.00	0.00	0.40			
110	A	-1720.20	2855.32	6.00	351.00	0.00	0.00	0.40			
111	A	-1787.09	2826.70	6.00	354.00	0.00	0.00	0.40			
112	A	-1782.24	2853.80	6.00	359.00	0.00	0.00	0.40			
113	A	-1757.51	2869.89	6.00	187.00	0.00	0.00	0.40			
114	B	-2054.00	2474.68	8.00	201.00	5.00	0.00	1.00			
115	B	-2075.34	2494.13	8.00	25.00	5.00	0.00	1.00			
116	B	-2071.52	2520.22	8.00	192.00	5.00	0.00	1.00			
117	B	-2078.49	2544.09	8.00	198.00	5.00	0.00	1.00			
118	B	-2100.50	2557.94	8.00	12.00	5.00	0.00	1.00			
119	B	-2113.55	2562.31	8.00	110.00	5.00	0.00	1.00			
120	B	-2096.08	2590.63	8.00	198.00	5.00	0.00	1.00			
121	B	-2119.93	2608.85	8.00	26.00	5.00	0.00	1.00			
122	B	-2116.43	2634.72	8.00	198.00	5.00	0.00	1.00			
123	B	-2138.27	2653.72	8.00	21.00	5.00	0.00	1.00			
124	B	-2135.83	2681.53	8.00	198.00	5.00	0.00	1.00			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
125	B	-2158.61	2697.34	8.00	14.00	5.00	0.00	1.00			
126	B	-2153.47	2719.68	8.00	198.00	5.00	0.00	1.00			
127	B	-2175.77	2732.04	8.00	38.00	5.00	0.00	1.00			
128	B	-2168.29	2756.65	8.00	198.00	5.00	0.00	1.00			
129	B	-2192.51	2764.65	8.00	24.00	5.00	0.00	1.00			
130	B	-2174.91	2793.61	8.00	284.00	5.00	0.00	1.00			
131	B	-2200.96	2786.95	8.00	33.00	5.00	0.00	1.00			
132	B	-2187.07	2811.21	8.00	186.00	5.00	0.00	1.00			
133	B	-2207.45	2828.54	8.00	11.00	5.00	0.00	1.00			
134	B	-2183.13	2868.76	8.00	276.00	5.00	0.00	1.00			
135	B	-2211.74	2874.40	8.00	358.00	5.00	0.00	1.00			
136	B	-2198.94	2896.84	8.00	190.00	5.00	0.00	1.00			
137	B	-2217.55	2915.76	8.00	5.00	5.00	0.00	1.00			
138	B	-2203.82	2936.76	8.00	182.00	5.00	0.00	1.00			
139	B	-2220.45	2960.78	8.00	0.00	5.00	0.00	1.00			
140	B	-2193.25	2852.18	8.00	177.00	5.00	0.00	1.00			
141	B	-2209.39	2986.30	8.00	184.00	5.00	0.00	1.00			
142	B	-2224.64	3004.35	8.00	4.00	5.00	0.00	1.00			
143	B	-2208.84	3022.05	8.00	177.00	5.00	0.00	1.00			
144	B	-2230.07	3047.27	8.00	353.00	5.00	0.00	1.00			
145	B	-2212.70	3060.02	8.00	188.00	5.00	0.00	1.00			
146	B	-2243.37	3065.99	8.00	286.00	5.00	0.00	1.00			
147	A	-2216.93	3084.37	8.00	197.00	5.00	0.00	1.00			
148	B	-2235.04	3091.73	8.00	6.00	5.00	0.00	1.00			
149	B	-2206.92	3122.00	8.00	266.00	5.00	0.00	1.00			
150	B	-2240.52	3119.28	8.00	4.00	5.00	0.00	1.00			
151	B	-2246.89	3145.09	8.00	8.00	5.00	0.00	1.00			
152	B	-2230.56	3158.09	8.00	188.00	5.00	0.00	1.00			
153	B	-2254.15	3174.33	8.00	3.00	5.00	0.00	1.00			
154	B	-2237.22	3195.45	8.00	200.00	5.00	0.00	1.00			
155	B	-2260.73	3209.38	8.00	358.00	5.00	0.00	1.00			
156	B	-2243.50	3228.21	8.00	189.00	5.00	0.00	1.00			
157	B	-2265.38	3241.67	8.00	358.00	5.00	0.00	1.00			
158	B	-2249.18	3261.55	8.00	180.00	5.00	0.00	1.00			
159	B	-2270.64	3273.42	8.00	0.00	5.00	0.00	1.00			
160	B	-2256.15	3296.73	8.00	190.00	5.00	0.00	1.00			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
161	B	-2277.61	3309.19	8.00	2.00	5.00	0.00	1.00			
162	B	-2262.84	3333.12	8.00	186.00	5.00	0.00	1.00			
163	B	-2283.35	3346.49	8.00	358.00	5.00	0.00	1.00			
164	B	-2270.86	3371.05	8.00	198.00	5.00	0.00	1.00			
165	B	-2290.17	3384.25	8.00	14.00	5.00	0.00	1.00			
166	B	-2282.25	3410.26	8.00	198.00	5.00	0.00	1.00			
167	B	-2302.34	3427.20	8.00	7.00	5.00	0.00	1.00			
168	B	-2293.95	3451.57	8.00	198.00	5.00	0.00	1.00			
169	B	-2314.86	3469.26	8.00	7.00	5.00	0.00	1.00			
170	B	-2307.03	3491.94	8.00	198.00	5.00	0.00	1.00			
171	B	-2328.27	3513.48	8.00	11.00	5.00	0.00	1.00			
172	B	-2302.31	3512.57	8.00	289.00	5.00	0.00	1.00			
173	B	-2322.64	3542.57	8.00	196.00	5.00	0.00	1.00			
174	B	-2342.59	3564.87	8.00	18.00	5.00	0.00	1.00			
175	B	-2338.32	3592.92	8.00	198.00	5.00	0.00	1.00			
176	B	-2360.56	3612.68	8.00	19.00	5.00	0.00	1.00			
177	B	-2365.33	3643.59	8.00	227.00	5.00	0.00	1.00			
178	B	-2390.62	3652.89	8.00	36.00	5.00	0.00	1.00			
179	B	-2389.96	3672.53	8.00	220.00	5.00	0.00	1.00			
180	B	-2414.39	3675.51	8.00	64.00	5.00	0.00	1.00			
181	B	-2417.38	3696.67	8.00	225.00	5.00	0.00	1.00			
182	B	-2444.32	3702.13	8.00	48.00	5.00	0.00	1.00			
183	B	-2480.72	3731.62	8.00	7.00	5.00	0.00	1.00			
184	B	-2452.13	3729.54	8.00	232.00	5.00	0.00	1.00			
185	B	-2492.63	3746.94	8.00	44.00	5.00	0.00	1.00			
186	B	-2503.19	3774.44	8.00	225.00	5.00	0.00	1.00			
187	B	-2530.33	3778.28	8.00	52.00	5.00	0.00	1.00			
188	B	-2537.20	3803.49	8.00	240.00	5.00	0.00	1.00			
189	B	-2561.98	3810.79	8.00	40.00	5.00	0.00	1.00			
190	B	-2564.22	3840.85	8.00	200.00	5.00	0.00	1.00			
191	B	-2587.15	3862.81	8.00	19.00	5.00	0.00	1.00			
192	B	-2588.59	3891.99	8.00	205.00	5.00	0.00	1.00			
193	B	-2610.32	3913.32	8.00	27.00	5.00	0.00	1.00			
194	B	-2608.51	3934.59	8.00	138.00	5.00	0.00	1.00			
195	B	-2599.94	3961.53	8.00	300.00	5.00	0.00	1.00			
196	B	-2632.71	3955.00	8.00	25.00	5.00	0.00	1.00			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
197	B	-2628.85	3979.45	8.00	224.00	5.00	0.00	1.00			
198	B	-2654.09	3980.44	8.00	46.00	5.00	0.00	1.00			
199	B	-2652.83	4005.27	8.00	241.00	5.00	0.00	1.00			
200	B	-2678.61	3997.64	8.00	47.00	5.00	0.00	1.00			
201	A	-1983.37	2578.47	6.00	182.00	0.00	0.00	0.40			
202	A	-2030.59	2573.44	6.00	273.00	0.00	0.00	0.40			
203	A	-2004.30	2558.62	6.00	89.00	0.00	0.00	0.40			
204	A	-1978.63	2557.78	6.00	89.00	0.00	0.00	0.40			
205	A	-1948.32	2563.66	6.00	182.00	0.00	0.00	0.40			
206	A	-1894.62	2661.23	6.00	11.00	0.00	0.00	0.40			
207	A	-1897.69	2684.35	6.00	3.00	0.00	0.00	0.40			
208	A	-1900.75	2707.37	6.00	3.00	0.00	0.00	0.40			
209	A	-1859.76	2534.01	6.00	290.00	0.00	0.00	0.40			
210	A	-1895.56	2548.39	6.00	350.00	0.00	0.00	0.40			
211	A	-1769.01	2664.55	6.00	282.00	0.00	0.00	0.40			
212	A	-1789.44	2666.59	6.00	228.00	0.00	0.00	0.40			
213	A	-1810.65	2692.33	6.00	313.00	0.00	0.00	0.40			
214	A	-1853.44	2682.28	6.00	101.00	0.00	0.00	0.40			
215	A	-1861.29	2706.13	6.00	8.00	0.00	0.00	0.40			
216	A	-1838.41	2623.83	6.00	184.00	0.00	0.00	0.40			
217	A	-1966.96	2655.15	6.00	342.00	0.00	0.00	0.40			
218	A	-1894.64	2735.39	6.00	140.00	0.00	0.00	0.40			
219	A	-1828.02	2739.95	6.00	286.00	0.00	0.00	0.40			
220	A	-1792.26	2730.70	6.00	181.00	0.00	0.00	0.40			
221	A	-1781.27	2774.68	6.00	164.00	0.00	0.00	0.40			
222	A	-1656.83	2728.31	6.00	284.00	0.00	0.00	0.40			
223	A	-1643.03	2769.14	6.00	277.00	0.00	0.00	0.40			
221	A	-1902.91	2579.85	6.00	7.00	0.00	0.00	0.40			
222	A	-1862.85	2581.58	6.00	155.00	0.00	0.00	0.40			
223	A	-1876.12	2592.86	6.00	97.00	0.00	0.00	0.40			
224	A	-1726.54	2825.71	6.00	351.00	0.00	0.00	0.40			
225	A	-1740.08	2829.53	6.00	188.00	0.00	0.00	0.40			
226	A	-1758.74	2804.26	6.00	178.00	0.00	0.00	0.40			
227	A	-1729.21	2796.08	6.00	161.00	0.00	0.00	0.40			
228	A	-1763.32	2766.64	6.00	105.00	0.00	0.00	0.40			
229	A	-1736.13	2773.09	6.00	105.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
230	A	-1716.36	2791.61	6.00	254.00	0.00	0.00	0.40			

Horizontal Illuminance (lux)

Grid 1



Results

Eav	5.44
Emin	1.41
Emax	14.23
Emin/Emax	0.10
Emin/Eav	0.26

Horizontal Illuminance (lux)

Grid 2

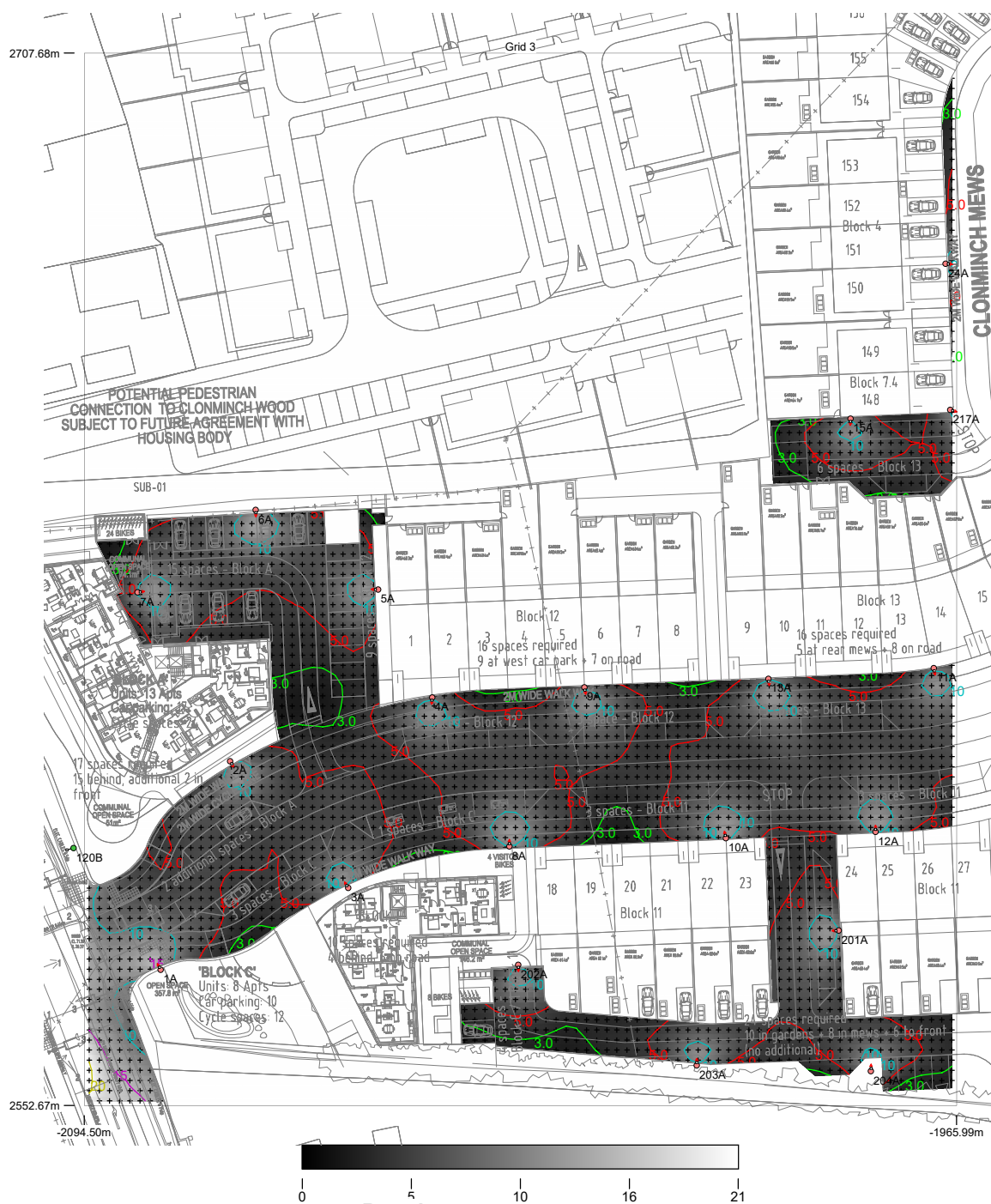


Results

Eav	5.32
Emin	1.25
Emax	13.21
Emin/Emax	0.09
Emin/Eav	0.24

Horizontal Illuminance (lux)

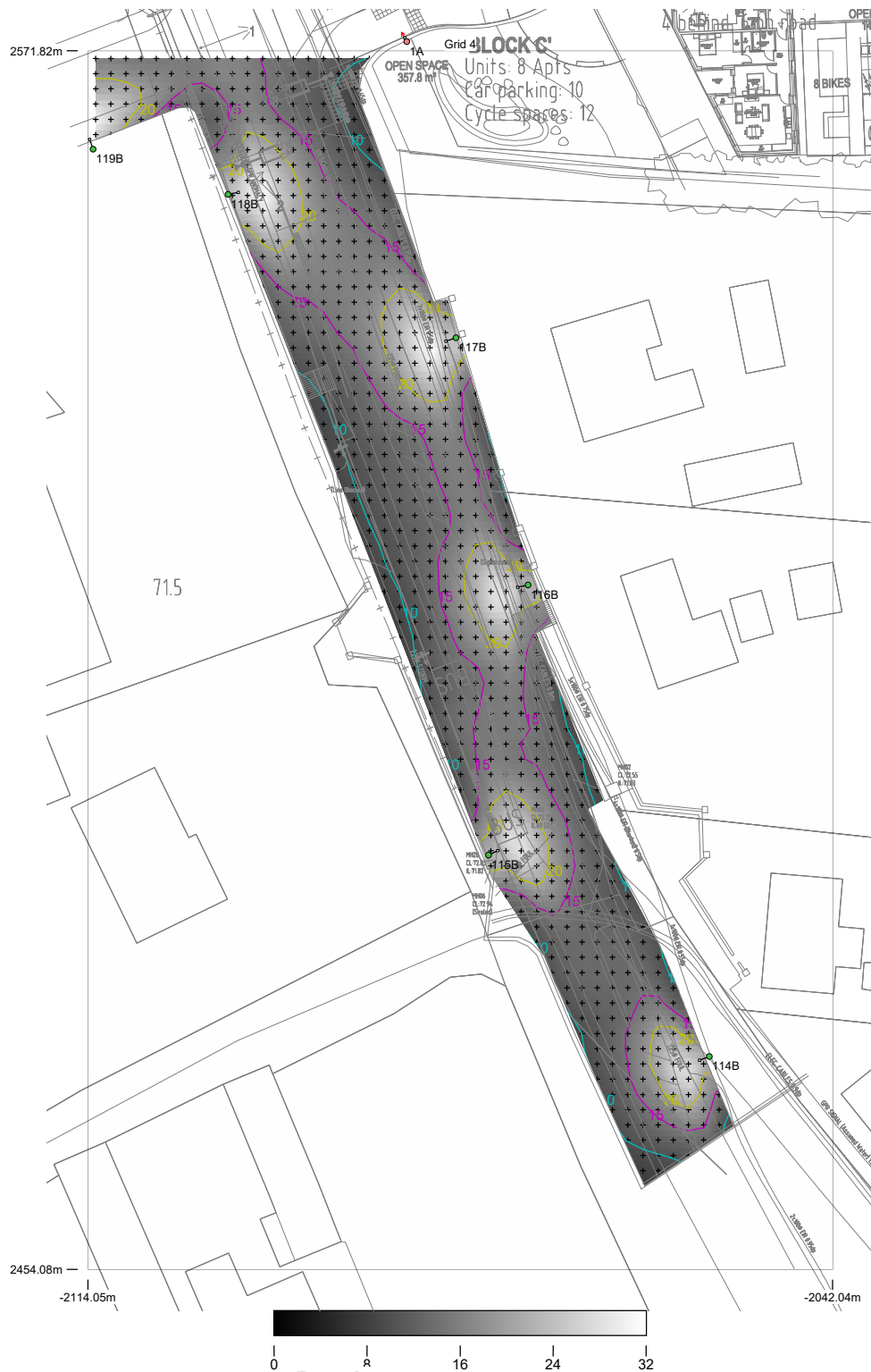
Grid 3



Eav	6.29
Emin	1.91
E _{max}	20.76
Emin/E _{max}	0.09
Emin/Eav	0.30

Horizontal Illuminance (lux)

Grid 4



Horizontal Illuminance (lux)

Grid 5



Results

Eav	16.37
Emin	7.29
Emax	35.74
Emin/Emax	0.20
Emin/Eav	0.45

Horizontal Illuminance (lux)

Grid 6



Results

Eav	16.51
Emin	7.19
Emax	35.61
Emin/Emax	0.20
Emin/Eav	0.44

Horizontal Illuminance (lux)

Grid 7



Results

Eav	15.91
Emin	7.60
Emax	34.33
Emin/Emax	0.22
Emin/Eav	0.48

Horizontal Illuminance (lux)

Grid 8



Results

Eav	15.85
Emin	7.55
Emax	34.61
Emin/Emax	0.22
Emin/Eav	0.48