



Westgate 2040, Drogheda - Public Lighting Scheme

Outdoor Lighting Report

Document written by: William Schulmeistrat - *Electrical Engineer 10/11/23*

Design Approach

The external artificial lighting design within the redline area has been designed with both architectural and maintenance considerations in mind. The same light fittings and poles have been specified throughout all areas in order to give the same look and feel throughout and to give the impression that the area is one. Corten steel poles have been proposed throughout with 3no. luminaires on each pole to make the lighting an attractive part of the scheme. Lights will be mounted at different heights on the pole at .5m above/below each other. The heights of the lights can be installed at any required height on the pole.

Lighting in all areas has been calculated using lighting design software and includes all roads, footpaths, cycle lanes and pedestrian walkways including the lower footpath below the raised walkway.

In regard to the maintaining of the lights, all the street and urban area light fittings are the same type from Urbis Schreder and are readily available. It is proposed light fittings will be powder coated to a RAL similar to the brown corten steel poles.

There are a few areas where recessed uplighters have been proposed and have been chosen to negate the need for additional poles for feature lighting.

It is proposed to utilise the existing mini pillars within the redline area for power provision to the new proposed lighting. These are indicated on the site services drawing provided. Commando sockets shall be mounted to all lighting poles to allow for connection of seasonal festive lighting and festoon lighting in certain pedestrian areas as indicated. Metered supplies will be required to all lighting poles in this regard.

The consideration of existing light positions and strip-out works involved in the new lighting scheme installation has not been included as part of this submission.

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The lighting scheme has been designed to following:

Roads and footpaths // BS 5489-1:2020, C2 20 lux average, 40% uniformity

Roads and footpaths // BS 5489-1:2020, P2 10-15 lux average, 2 lux minimum

Roads and footpaths // BS 5489-1:2020, P3 7.5-11.25 lux average, 1.5 lux minimum

Ecology Considerations

It was highlighted by the ecologist, the importance of reducing the lighting levels around the area of the waterfront due to the presence of bats in the area. The idea of low-level block lights mounted on the water side of the waterfront path was considered, however the architect confirmed there is no structure or raised retaining wall along the water edge in which to mount low level brick lights. Louth county council have highlighted that bollards should not be proposed for the lighting design due to damage and maintenance reasons.

The current design utilises the light spill from the street lighting along Father Connelly Way to light the footpath along the waterfront. Please note that it is not possible to get the required 1.5/2 lux along the water side of the footpath and get 0 lux on the water. There will be some light spill lighting from the land side.

An alternative option would be to mount low bollards along the waterfront with back shields to prevent any light spill the water. It should be confirmed if preference should be made for maintenance or ecological requirements.

DATE: 9 November 2023
DESIGNER: Jacek Maslowski
PROJECT No: OP214977LD19388
PROJECT NAME: Westgate Public Lighting, Drogheda, Co. Louth

Schröder
Experts in lightability™

The scheme has been designed to:

Roads and footpaths // BS 5489-1:2020, C2
20 lux average, 40% uniformity

Roads and footpaths // BS 5489-1:2020, P2
10 - 15 lux average, 2 lux minimum

Roads and footpaths // BS 5489-1:2020, P3
7.50 - 11.25 lux average, 1.50 lux minimum

Maintenance factor calculated as per GN11:

>6m = 0.89

<6m = 0.81

Outdoor Lighting Report

This design has been prepared in accordance with the HEA/HEMSA Guidance Note - CDM2015 Regulations, Issue 1.1 dated 09/04/15 - Procedure 2 for an outline design. The information in this report does not account for installation considerations, site conditions or provide any form of risk assessment. Urbis' design service is advisory only and it is the responsibility of the recipient of this information to verify that the design is suitable for the intended application. No account is taken for the blocking effect caused by buildings, trees etc. The calculation shown assumes that the whole area considered is in the same plane.

PREPARED BY: Urbis Schreder Limited
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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	7.5 LUX - P3 - FAIR STREET	710460.59	775366.55	110.22	19.58	1.47	1.40
2	7.5 LUX - P3 - SCHOLLES LAN...	710530.42	775256.33	13.28	82.77	1.48	1.48
3	7.5 LUX - P3 - ST PATRICKS...	710497.38	775145.06	64.82	116.52	1.47	1.49
4	10 LUX - P2 - FATHER CONNO...	710413.87	775191.34	93.45	134.84	1.42	1.50
5	P3 - 7.5 LUX - DOMINIC STR...	710546.48	775090.81	20.24	156.09	1.45	1.49
6	7.5 LUX - P3 - WEST STREET	710440.14	775308.55	26.74	190.85	1.49	1.49
7	20 LUX - C2 - GEORGES STRE...	710363.48	775186.59	44.01	230.75	1.47	1.50
8	10 LUX - P2 - FATHER CONNO...	710392.36	775178.63	206.66	35.55	1.50	1.48
9	7.5 LUX - P3 - ABBEY SQUAR...	710456.74	775234.77	88.80	22.43	1.48	1.50
10	10 LUX - P2 - FOOTPATH	710408.47	775183.95	2.25	108.17	1.13	1.48
11	10 LUX - P2 - FOOTPATH	710441.40	775304.68	13.20	67.49	1.47	1.50

Luminaires

Luminaire A Data



Supplier	Schröder
Type	CITEA NG2 MIDI 5393 Flat glass 80 LH351 C@290mA WW 730 230V 1
Lamp(s)	80 LH351C@290mA WW 730 230V 1x02-5 8-003 - DRIVER_SIGNIFY_FP_1
LampFlux(klm)/Colour	10.23 3000K/70
File Name	CITEA NG2 MIDI 5393 80 LH351C 290mA WW 730 68.5W 529162 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	423.1, 68.6, 0.0
No. in Project	21

Luminaire B Data



Supplier	Schröder
Type	CITEA NG2 MINI 5393 Flat glass 10 LH351 C@300mA WW 730 230V 0
Lamp(s)	10 LH351C@300mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	1.35 3000K/70
File Name	CITEA NG2 MINI 5393 10 LH351C 300mA WW 730 10.5W 510192 Flat glass Nothing...
Maintenance Factor	0.89
Imax70,80,90(cd/klm)	497.7, 90.0, 0.0
No. in Project	42

Luminaire C Data



Supplier	Schröder
Type	CITEA NG2 MINI 5392 Flat glass 10 LH351 C@380mA WW 730 230V 0
Lamp(s)	10 LH351C@380mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	1.72 3000K/70
File Name	CITEA NG2 MINI 5392 10 LH351C 380mA WW 730 13.1W 510162 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	508.7, 155.2, 0.0
No. in Project	30

Luminaire D Data



Supplier	Schröder
Type	VALINTA GROOVE MINI 6665 Flat glass Wi de beam 16 OSOLON SQUARE
Lamp(s)	16 OSOLON SQUARE GIANT@350mA WW 830 230V 00-53-397
LampFlux(klm)/Colour	1.94 WW 3000K/80
File Name	VALINTA GROOVE MINI 6665 16 OSOLON SQUARE GIANT 350mA WW 830 18.2W ...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	6.5, 0.5, 0.0
No. in Project	15

Luminaires

Luminaire E Data



Supplier	Schröder
Type	CITEA NG2 MINI 5392 Flat glass 10 LH351 C@300mA WW 730 230V 0
Lamp(s)	10 LH351C@300mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	1.39 3000K/70
File Name	CITEA NG2 MINI 5392 10 LH351C 300mA WW 730 10.5W 510162 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	508.7, 155.2, 0.0
No. in Project	39

Luminaire F Data



Supplier	Schröder
Type	CITEA NG2 MINI 5393 Flat glass 10 LH351 C@500mA WW 730 230V 0
Lamp(s)	10 LH351C@500mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	2.11 3000K/70
File Name	CITEA NG2 MINI 5393 10 LH351C 500mA WW 730 17.1W 510192 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	497.7, 90.0, 0.0
No. in Project	24

Luminaire G Data



Supplier	Schröder
Type	TERRA MIDI LED 5136 Flat glass Back Light, Tilt 16 XP-G3@500m
Lamp(s)	16 XP-G3@500mA WW 830 230V 00-22-362
LampFlux(klm)/Colour	2.47 WW 3000K/80
File Name	TERRA MIDI LED 5136 16 XP-G3 500mA WW 830 25.7W 375552 Flat glass Tilt BL ...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	0.0, 0.0, 0.0
No. in Project	3

Luminaire H Data



Supplier	Schröder
Type	TERRA MIDI LED 6326 Flat glass Fixe 16 X P-G3@500mA WW 830 230
Lamp(s)	16 XP-G3@500mA WW 830 230V
LampFlux(klm)/Colour	3.82 WW 3000K/80
File Name	TERRA MIDI LED 6326 16 XP-G3 500mA WW 830 25.7W 399282 Flat glass Fixe 23...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	0.0, 0.0, 0.0
No. in Project	4

Layout

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1/1	E	710490.71	775366.06	5.50	168.00	0.00	0.00	1.00			
2/1	E	710490.71	775366.06	5.00	258.00	0.00	0.00	1.00			
3/1	E	710490.71	775366.06	4.50	348.00	0.00	0.00	1.00			
4/2	E	710516.10	775356.57	5.50	166.00	0.00	0.00	1.00			
5/2	E	710516.10	775356.57	5.00	256.00	0.00	0.00	1.00			
6/2	E	710516.10	775356.57	4.50	346.00	0.00	0.00	1.00			
7/3	E	710530.52	775352.30	5.50	170.00	0.00	0.00	1.00			
8/3	E	710530.52	775352.30	5.00	260.00	0.00	0.00	1.00			
9/3	E	710530.52	775352.30	4.50	350.00	0.00	0.00	1.00			
10/4	E	710555.95	775346.71	5.50	175.00	0.00	0.00	1.00			
11/4	E	710555.95	775346.71	5.00	265.00	0.00	0.00	1.00			
12/4	E	710555.95	775346.71	4.50	355.00	0.00	0.00	1.00			
13/5	E	710555.35	775320.92	5.50	254.00	0.00	0.00	1.00			
14/5	E	710555.35	775320.92	5.00	344.00	0.00	0.00	1.00			
15/5	E	710555.35	775320.92	4.50	74.00	0.00	0.00	1.00			
16/6	E	710548.42	775294.51	5.50	77.00	0.00	0.00	1.00			
17/6	E	710548.42	775294.51	5.00	167.00	0.00	0.00	1.00			
18/6	E	710548.42	775294.51	4.50	257.00	0.00	0.00	1.00			
19/7	E	710541.43	775267.73	5.50	255.00	0.00	0.00	1.00			
20/7	E	710541.43	775267.73	5.00	345.00	0.00	0.00	1.00			
21/7	E	710541.43	775267.73	4.50	75.00	0.00	0.00	1.00			
22/8	E	710549.17	775217.11	5.50	75.00	0.00	0.00	1.00			
23/8	E	710549.17	775217.11	5.00	165.00	0.00	0.00	1.00			
24/8	E	710549.17	775217.11	4.50	255.00	0.00	0.00	1.00			
25/9	E	710540.13	775189.49	5.50	71.00	0.00	0.00	1.00			
26/9	E	710540.13	775189.49	5.00	161.00	0.00	0.00	1.00			
27/9	E	710540.13	775189.49	4.50	251.00	0.00	0.00	1.00			
28/10	E	710532.38	775163.42	5.50	74.00	0.00	0.00	1.00			
29/10	E	710532.38	775163.42	5.00	164.00	0.00	0.00	1.00			
30/10	E	710532.38	775163.42	4.50	254.00	0.00	0.00	1.00			
31/11	E	710532.58	775147.83	5.50	1.00	0.00	0.00	1.00			
32/11	E	710532.58	775147.83	5.00	91.00	0.00	0.00	1.00			
33/11	E	710532.58	775147.83	4.50	181.00	0.00	0.00	1.00			
34/12	E	710555.48	775139.67	5.50	326.00	0.00	0.00	1.00			
35/12	E	710555.48	775139.67	5.00	56.00	0.00	0.00	1.00			
36/12	E	710555.48	775139.67	4.50	146.00	0.00	0.00	1.00			

Layout Continued

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
37/13	B	710447.21	775221.35	5.50	251.00	0.00	0.00	1.00			
38/13	B	710447.21	775221.35	5.00	341.00	0.00	0.00	1.00			
39/13	B	710447.21	775221.35	4.50	71.00	0.00	0.00	1.00			
40/14	B	710455.98	775247.05	5.50	250.00	0.00	0.00	1.00			
41/14	B	710455.98	775247.05	5.00	340.00	0.00	0.00	1.00			
42/14	B	710455.98	775247.05	4.50	70.00	0.00	0.00	1.00			
43/15	B	710463.75	775269.05	5.50	252.00	0.00	0.00	1.00			
44/15	B	710463.75	775269.05	5.00	342.00	0.00	0.00	1.00			
45/15	B	710463.75	775269.05	4.50	72.00	0.00	0.00	1.00			
46/16	C	710438.90	775197.82	5.50	255.00	0.00	0.00	1.00			
47/16	C	710438.90	775197.82	5.00	345.00	0.00	0.00	1.00			
48/16	C	710438.90	775197.82	4.50	75.00	0.00	0.00	1.00			
49/17	E	710459.50	775376.30	5.50	161.00	0.00	0.00	1.00			
50/17	E	710459.50	775376.30	5.00	254.00	0.00	0.00	1.00			
51/17	E	710459.50	775376.30	4.50	344.00	0.00	0.00	1.00			
52/18	C	710589.19	775198.79	5.50	75.00	0.00	0.00	1.00			
53/18	C	710589.19	775198.79	5.00	165.00	0.00	0.00	1.00			
54/18	C	710589.19	775198.79	4.50	255.00	0.00	0.00	1.00			
55/19	C	710582.50	775173.81	5.50	75.00	0.00	0.00	1.00			
56/19	C	710582.50	775173.81	5.00	165.00	0.00	0.00	1.00			
57/19	C	710582.50	775173.81	4.50	255.00	0.00	0.00	1.00			
58/20	C	710575.35	775149.42	5.50	73.00	0.00	0.00	1.00			
59/20	C	710575.35	775149.42	5.00	163.00	0.00	0.00	1.00			
60/20	C	710575.35	775149.42	4.50	253.00	0.00	0.00	1.00			
61/21	C	710567.42	775124.46	5.50	73.00	0.00	0.00	1.00			
62/21	C	710567.42	775124.46	5.00	163.00	0.00	0.00	1.00			
63/21	C	710567.42	775124.46	4.50	253.00	0.00	0.00	1.00			
64/22	C	710561.60	775099.03	5.50	72.00	0.00	0.00	1.00			
65/22	C	710561.60	775099.03	5.00	162.00	0.00	0.00	1.00			
66/22	C	710561.60	775099.03	4.50	252.00	0.00	0.00	1.00			
67/23	B	710452.41	775294.38	5.50	155.00	0.00	0.00	1.00			
68/23	B	710452.41	775294.38	5.00	245.00	0.00	0.00	1.00			
69/23	B	710452.41	775294.38	4.50	335.00	0.00	0.00	1.00			
70/24	B	710477.52	775282.67	5.50	154.00	0.00	0.00	1.00			
71/24	B	710477.52	775282.67	5.00	244.00	0.00	0.00	1.00			
72/24	B	710477.52	775282.67	4.50	334.00	0.00	0.00	1.00			

Layout Continued

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
73/25	C	710500.74	775270.59	5.50	155.00	0.00	0.00	1.00			
74/25	C	710500.74	775270.59	5.00	245.00	0.00	0.00	1.00			
75/25	C	710500.74	775270.59	4.50	335.00	0.00	0.00	1.00			
76/26	B	710525.78	775257.52	5.50	153.00	0.00	0.00	1.00			
77/26	B	710525.78	775257.52	5.00	243.00	0.00	0.00	1.00			
78/26	B	710525.78	775257.52	4.50	333.00	0.00	0.00	1.00			
79/27	C	710550.37	775244.83	5.50	155.00	0.00	0.00	1.00			
80/27	C	710550.37	775244.83	5.00	245.00	0.00	0.00	1.00			
81/27	C	710550.37	775244.83	4.50	335.00	0.00	0.00	1.00			
82/28	C	710593.11	775219.49	5.50	159.00	0.00	0.00	1.00			
83/28	C	710593.11	775219.49	5.00	249.00	0.00	0.00	1.00			
84/28	C	710593.11	775219.49	4.50	339.00	0.00	0.00	1.00			
85/29	C	710572.14	775230.44	5.50	146.00	0.00	0.00	1.00			
86/29	C	710572.14	775230.44	5.00	236.00	0.00	0.00	1.00			
87/29	C	710572.14	775230.44	4.50	326.00	0.00	0.00	1.00			
88/30	A	710399.75	775200.73	9.50	74.00	5.00	0.00	1.00			
89/30	A	710399.75	775200.73	9.00	164.00	5.00	0.00	1.00			
90/30	A	710399.75	775200.73	8.50	254.00	5.00	0.00	1.00			
91/31	A	710409.60	775230.14	9.50	77.00	5.00	0.00	1.00			
92/31	A	710409.60	775230.14	9.00	167.00	5.00	0.00	1.00			
93/31	A	710409.60	775230.14	8.50	257.00	5.00	0.00	1.00			
94/32	A	710419.63	775260.24	9.50	73.00	5.00	0.00	1.00			
95/32	A	710419.63	775260.24	9.00	163.00	5.00	0.00	1.00			
96/32	A	710419.63	775260.24	8.50	253.00	5.00	0.00	1.00			
97/33	A	710429.57	775289.76	9.50	74.00	5.00	0.00	1.00			
98/33	A	710429.57	775289.76	9.00	164.00	5.00	0.00	1.00			
99/33	A	710429.57	775289.76	8.50	254.00	5.00	0.00	1.00			
100/34	A	710438.61	775319.20	9.50	74.00	5.00	0.00	1.00			
101/34	A	710438.61	775319.20	9.00	164.00	5.00	0.00	1.00			
102/34	A	710438.61	775319.20	8.50	254.00	5.00	0.00	1.00			
103/35	A	710448.06	775350.57	9.50	74.00	5.00	0.00	1.00			
104/35	A	710448.06	775350.57	9.00	164.00	5.00	0.00	1.00			
105/35	A	710448.06	775350.57	8.50	254.00	5.00	0.00	1.00			
106/36	A	710453.06	775386.29	9.50	74.00	5.00	0.00	1.00			
107/36	A	710453.06	775386.29	9.00	164.00	5.00	0.00	1.00			
108/36	A	710453.06	775386.29	8.50	254.00	5.00	0.00	1.00			

Layout Continued

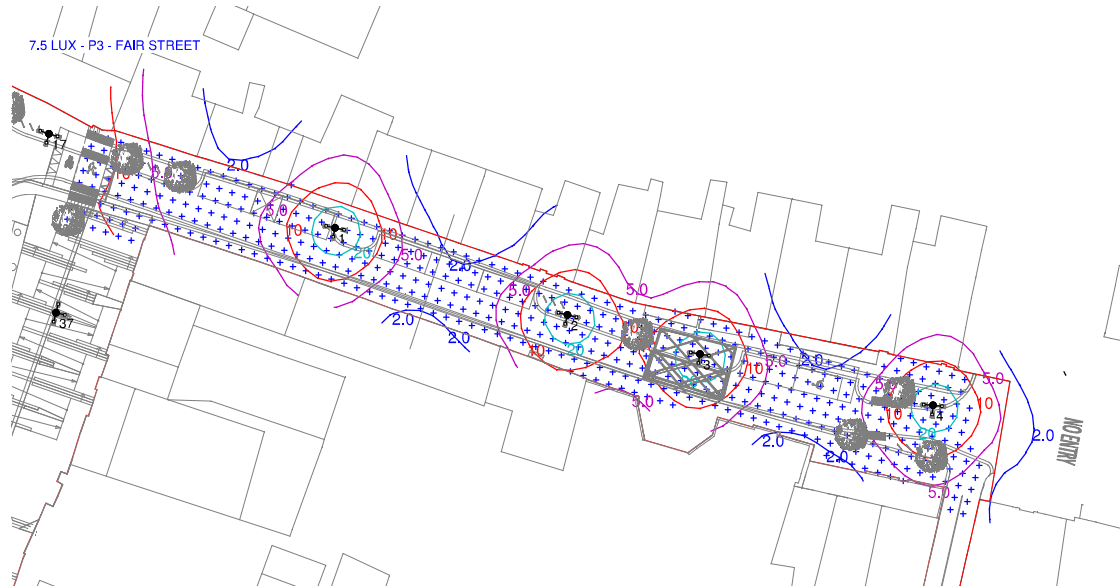
ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
109/37	B	710460.28	775356.79	5.50	256.00	0.00	0.00	1.00			
110/37	B	710460.28	775356.79	5.00	346.00	0.00	0.00	1.00			
111/37	B	710460.28	775356.79	4.50	76.00	0.00	0.00	1.00			
112/38	F	710545.29	775096.41	5.50	146.00	0.00	0.00	1.00			
113/38	F	710545.29	775096.41	5.00	236.00	0.00	0.00	1.00			
114/38	F	710545.29	775096.41	4.50	326.00	0.00	0.00	1.00			
115/39	F	710523.83	775111.09	5.50	142.00	0.00	0.00	1.00			
116/39	F	710523.83	775111.09	5.00	232.00	0.00	0.00	1.00			
117/39	F	710523.83	775111.09	4.50	322.00	0.00	0.00	1.00			
118/40	F	710502.55	775117.06	5.50	326.00	0.00	0.00	1.00			
119/40	F	710502.55	775117.06	5.00	56.00	0.00	0.00	1.00			
120/40	F	710502.55	775117.06	4.50	146.00	0.00	0.00	1.00			
121/41	F	710467.67	775147.16	5.50	323.00	0.00	0.00	1.00			
122/41	F	710467.67	775147.16	5.00	53.00	0.00	0.00	1.00			
123/41	F	710467.67	775147.16	4.50	143.00	0.00	0.00	1.00			
124/42	F	710449.28	775164.34	5.50	315.00	0.00	0.00	1.00			
125/42	F	710449.28	775164.34	5.00	45.00	0.00	0.00	1.00			
126/42	F	710449.28	775164.34	4.50	135.00	0.00	0.00	1.00			
127/43	F	710430.68	775179.71	5.50	343.00	0.00	0.00	1.00			
128/43	F	710430.68	775179.71	5.00	73.00	0.00	0.00	1.00			
129/43	F	710430.68	775179.71	4.50	163.00	0.00	0.00	1.00			
130/44	F	710486.46	775130.82	5.50	321.00	0.00	0.00	1.00			
131/44	F	710486.46	775130.82	5.00	51.00	0.00	0.00	1.00			
132/44	F	710486.46	775130.82	4.50	141.00	0.00	0.00	1.00			
133/45	B	710488.30	775235.12	5.50	161.00	0.00	0.00	1.00			
134/45	B	710488.30	775235.12	5.00	251.00	0.00	0.00	1.00			
135/45	B	710488.30	775235.12	4.50	341.00	0.00	0.00	1.00			
136/46	B	710464.24	775248.48	5.50	254.00	0.00	0.00	1.00			
137/46	B	710464.24	775248.48	5.00	344.00	0.00	0.00	1.00			
138/46	B	710464.24	775248.48	4.50	74.00	0.00	0.00	1.00			
139/47	B	710530.53	775214.93	5.50	337.00	0.00	0.00	1.00			
140/47	B	710530.53	775214.93	5.00	67.00	0.00	0.00	1.00			
141/47	B	710530.53	775214.93	4.50	157.00	0.00	0.00	1.00			
142/48	B	710424.65	775251.50	5.50	262.00	0.00	0.00	1.00			
143/48	B	710424.65	775251.50	5.00	352.00	0.00	0.00	1.00			
144/48	B	710424.65	775251.50	4.50	82.00	0.00	0.00	1.00			

Layout Continued

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
145/49	B	710418.76	775228.77	5.50	258.00	0.00	0.00	1.00			
146/49	B	710418.76	775228.77	5.00	348.00	0.00	0.00	1.00			
147/49	B	710418.76	775228.77	4.50	78.00	0.00	0.00	1.00			
148/50	B	710411.61	775201.21	5.50	261.00	0.00	0.00	1.00			
149/50	B	710411.61	775201.21	5.00	351.00	0.00	0.00	1.00			
150/50	B	710411.61	775201.21	4.50	81.00	0.00	0.00	1.00			
151/51	B	710451.60	775324.34	5.50	76.00	0.00	0.00	1.00			
152/51	B	710451.60	775324.34	5.00	166.00	0.00	0.00	1.00			
153/51	B	710451.60	775324.34	4.50	256.00	0.00	0.00	1.00			
154/52	F	710563.83	775080.45	5.50	146.00	0.00	0.00	1.00			
155/52	F	710563.83	775080.45	5.00	236.00	0.00	0.00	1.00			
156/52	F	710563.83	775080.45	4.50	326.00	0.00	0.00	1.00			
157	D	710517.41	775106.28	2.00	232.00	0.00	180.00	0.00			
158	D	710523.63	775102.23	2.00	232.00	0.00	180.00	0.00			
159	D	710529.09	775098.29	2.00	232.00	0.00	180.00	0.00			
160	D	710534.86	775094.35	2.00	232.00	0.00	180.00	0.00			
161	D	710540.74	775090.26	2.00	232.00	0.00	180.00	0.00			
162	D	710534.95	775088.08	2.00	55.00	0.00	180.00	0.00			
163	D	710528.92	775091.62	2.00	55.00	0.00	180.00	0.00			
164	D	710522.94	775095.18	2.00	55.00	0.00	180.00	0.00			
165	D	710516.99	775098.88	2.00	55.00	0.00	180.00	0.00			
166	D	710501.39	775231.57	2.00	252.00	0.00	180.00	0.00			
167	D	710507.86	775229.73	2.00	252.00	0.00	180.00	0.00			
168	D	710514.63	775227.75	2.00	252.00	0.00	180.00	0.00			
169	D	710502.94	775225.11	2.00	75.00	0.00	180.00	0.00			
170	D	710509.50	775223.05	2.00	75.00	0.00	180.00	0.00			
171	D	710516.44	775220.98	2.00	75.00	0.00	180.00	0.00			
172	G	710442.75	775301.08	0.00	340.00	0.00	0.00	0.00			
173	G	710439.44	775290.23	0.00	340.00	0.00	0.00	0.00			
174	H	710467.91	775246.33	0.00	340.00	0.00	0.00	0.00			
175	H	710466.36	775242.07	0.00	340.00	0.00	0.00	0.00			
176	G	710463.54	775235.97	0.00	255.00	0.00	0.00	0.00			
177	H	710498.95	775232.43	0.00	340.00	0.00	0.00	0.00			
178	H	710497.22	775225.61	0.00	340.00	0.00	0.00	0.00			

Horizontal Illuminance (lux)

7.5 LUX - P3 - FAIR STREET

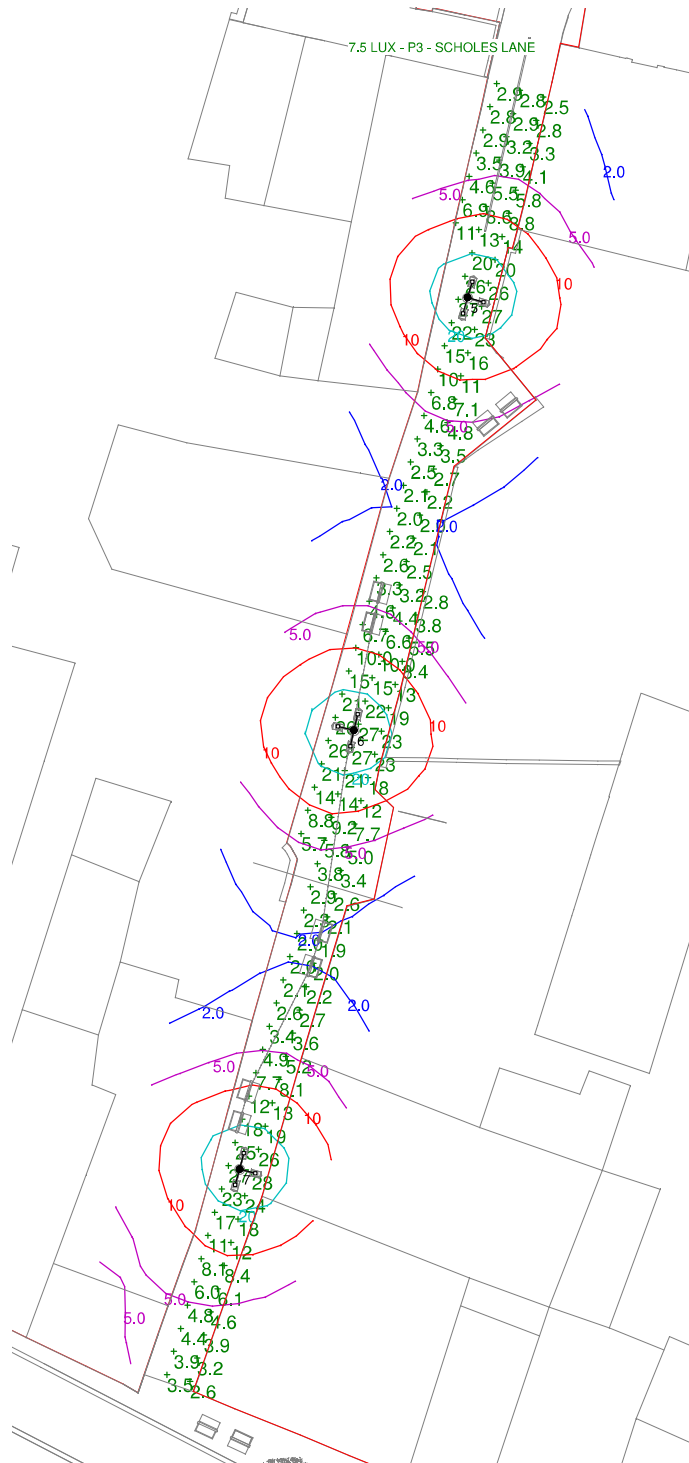


Results

Eav	9.10
Emin	1.79
Emax	28.45
Emin/Emax	0.06
Emin/Eav	0.20

Horizontal Illuminance (lux)

7.5 LUX - P3 - SCHOLES LANE

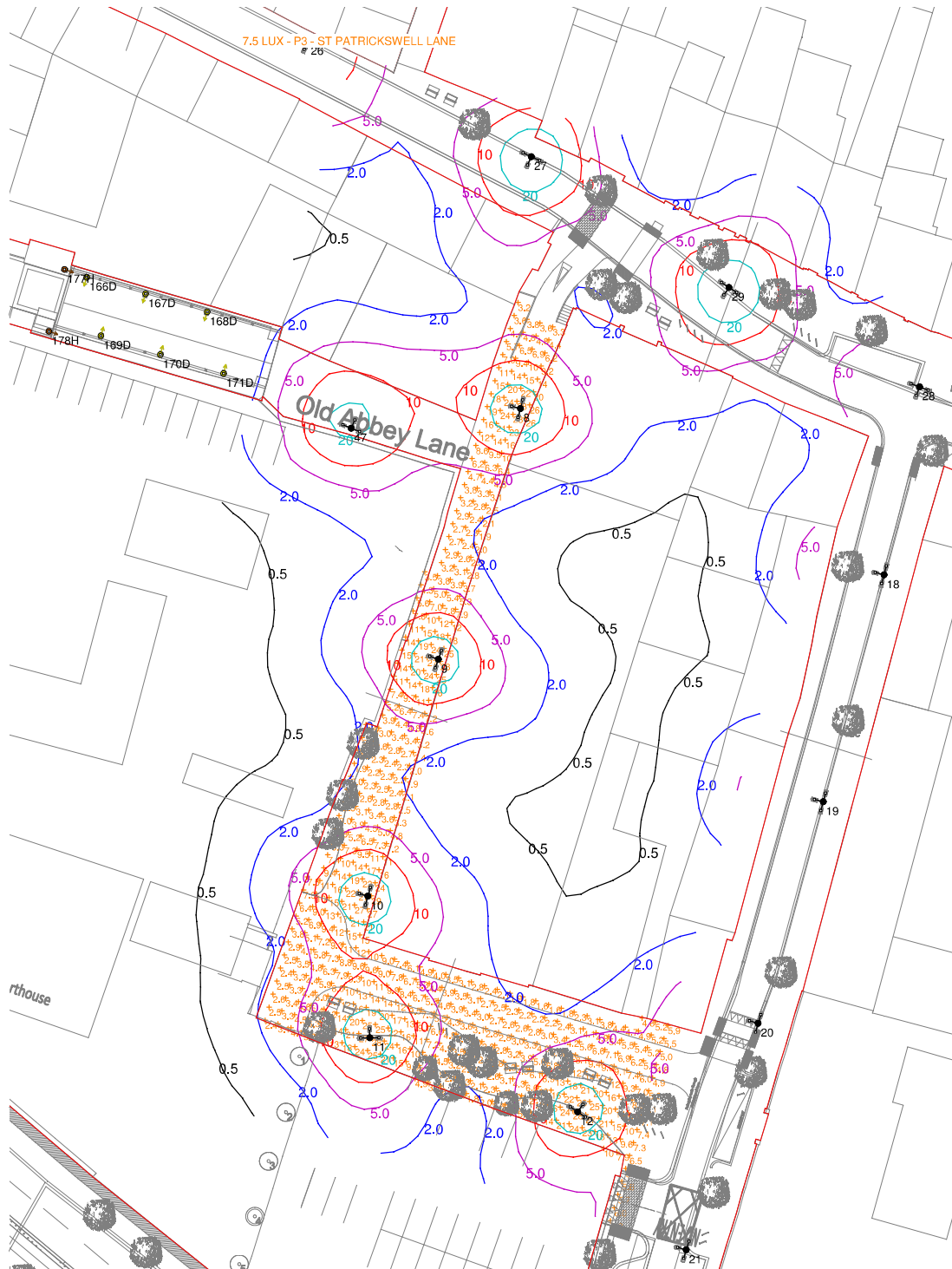


Results

Eav	9.77
Emin	1.93
Emax	27.71
Emin/Emax	0.07
Emin/Eav	0.20

Horizontal Illuminance (lux)

7.5 LUX - P3 - ST PATRICKSWELL LANE



Results

Eav	8.69
Emin	1.59
Emax	28.63
Emin/Emax	0.06
Emin/Eav	0.18

Horizontal Illuminance (lux)

10 LUX - P2 - FATHER CONNOLLY WAY

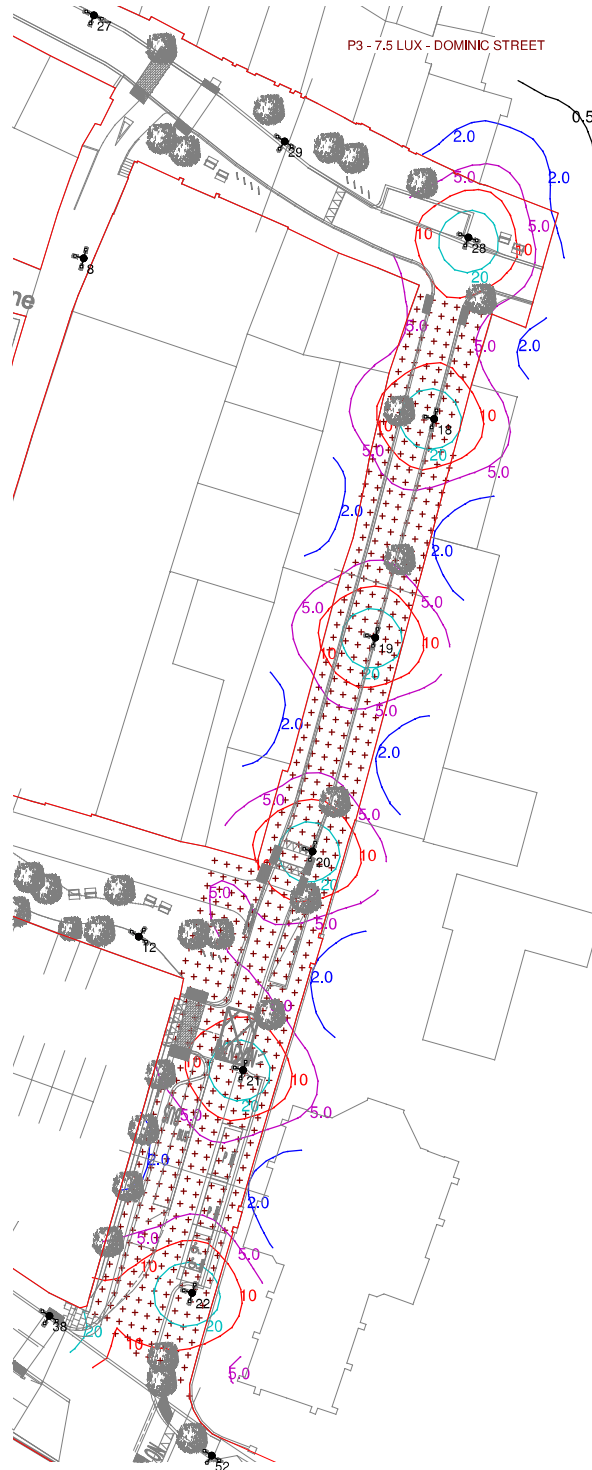


Results

Eav	10.15
Emin	2.02
Emax	34.36
Emin/Emax	0.06
Emin/Eav	0.20

Horizontal Illuminance (lux)

P3 - 7.5 LUX - DOMINIC STREET

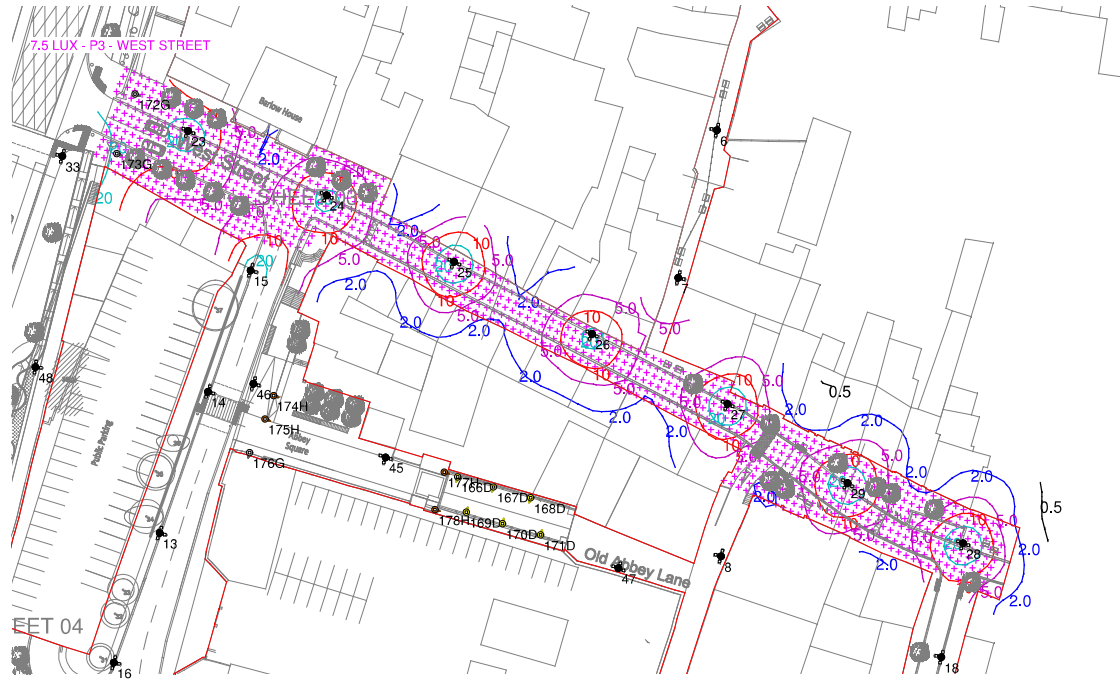


Results

Eav	10.19
Emin	1.75
Emax	34.95
Emin/Emax	0.05
Emin/Eav	0.17

Horizontal Illuminance (lux)

7.5 LUX - P3 - WEST STREET

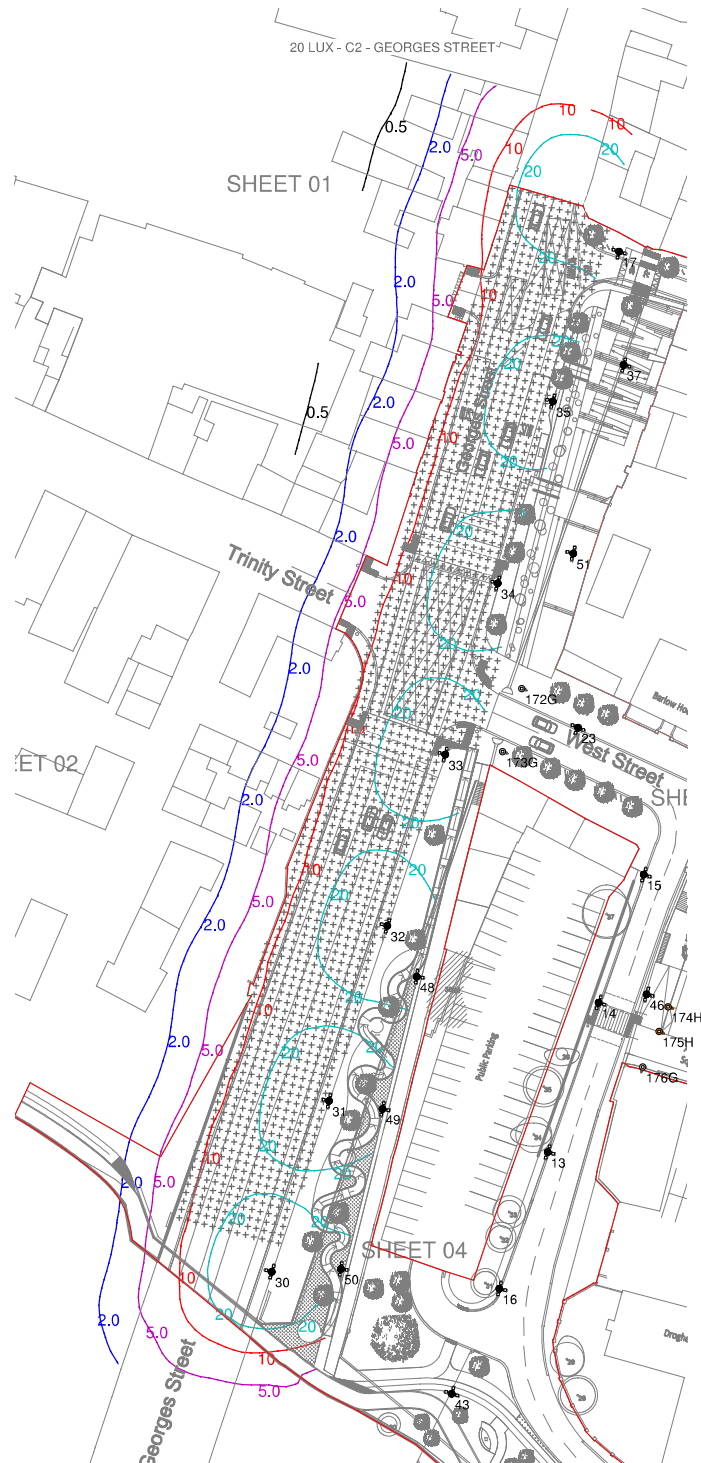


Results

Eav	9.60
Emin	1.87
Emax	34.72
Emin/Emax	0.05
Emin/Eav	0.19

Horizontal Illuminance (lux)

20 LUX - C2 - GEORGES STREET

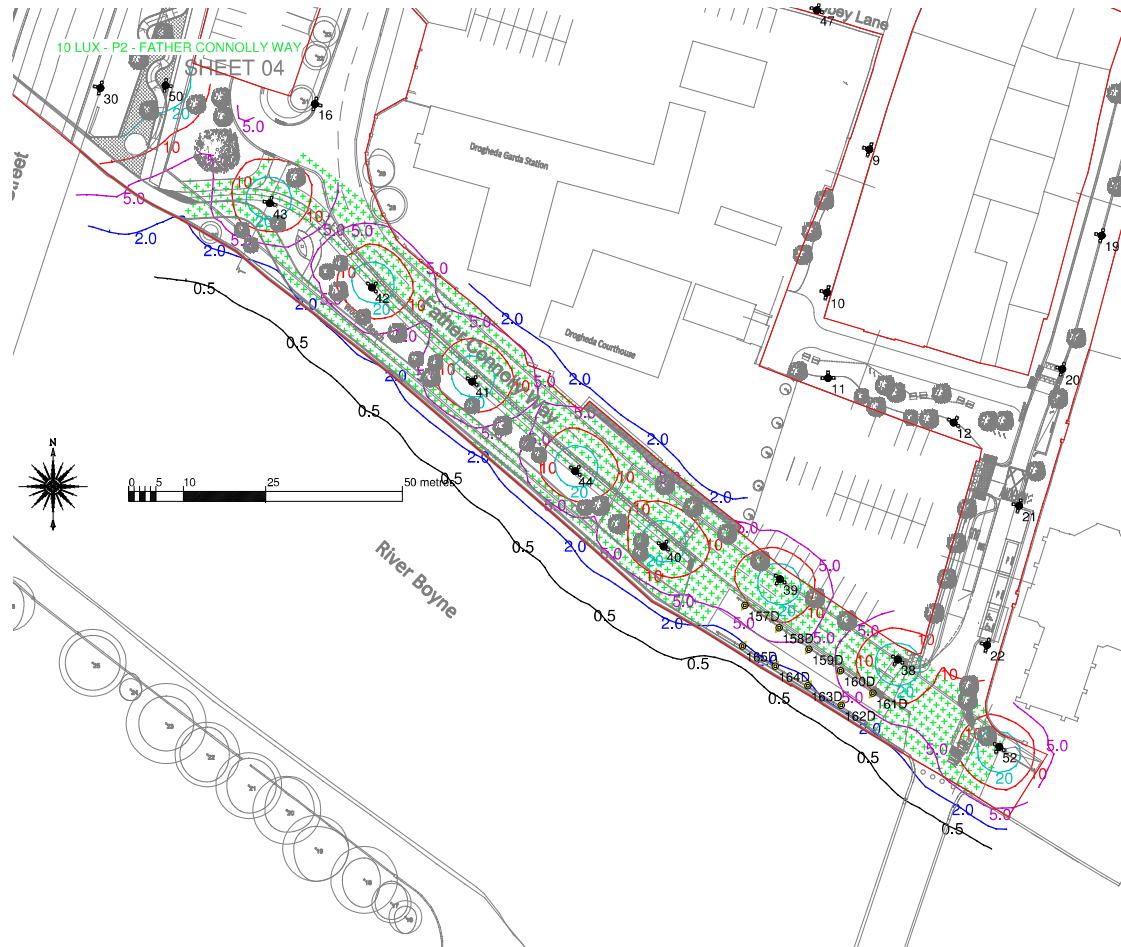


Results

Eav	21.13
Emin	8.70
Emax	54.85
Emin/Emax	0.16
Emin/Eav	0.41

Horizontal Illuminance (lux)

10 LUX - P2 - FATHER CONNOLLY WAY

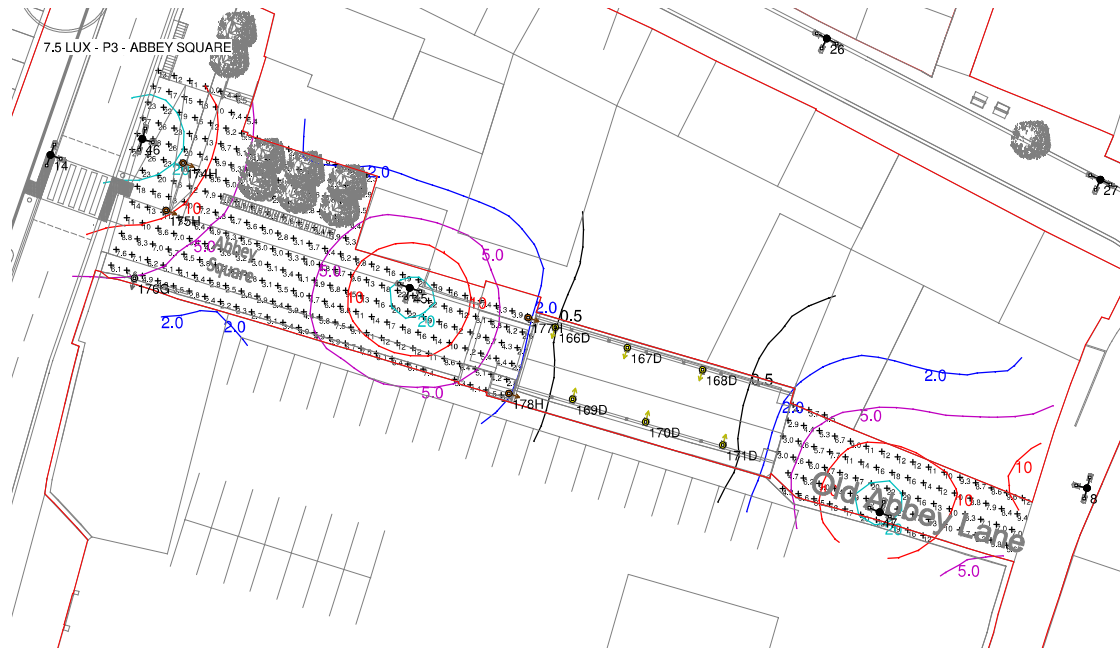


Results

Eav	10.25
Emin	2.13
Emax	33.84
Emin/Emax	0.06
Emin/Eav	0.21

Horizontal Illuminance (lux)

7.5 LUX - P3 - ABBEY SQUARE

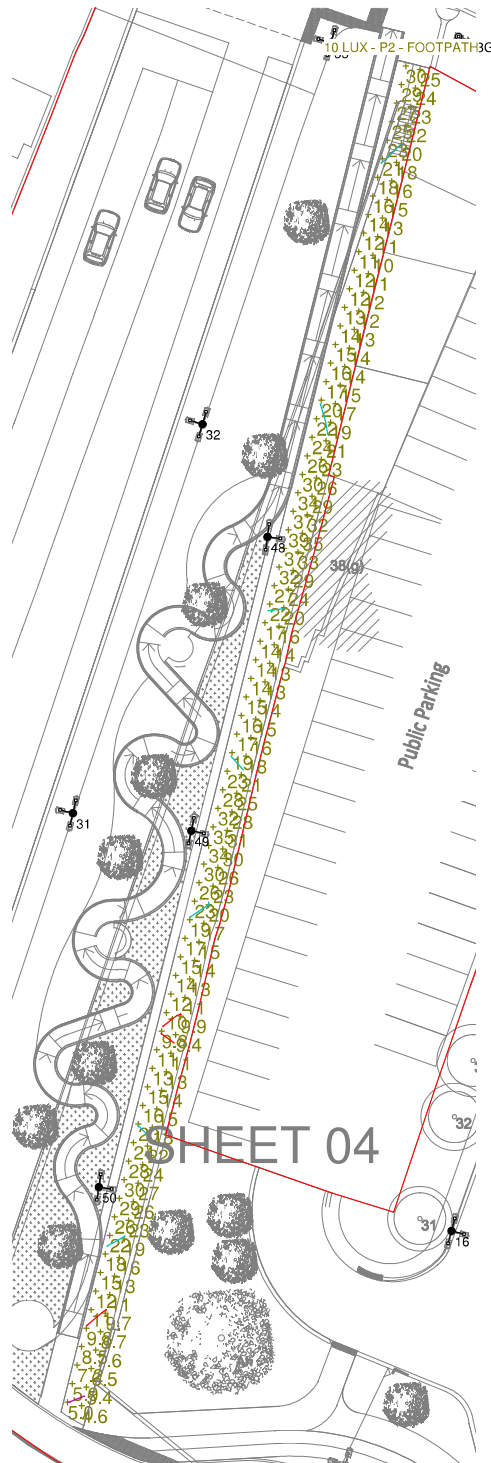


Results

Eav	9.02
Emin	1.88
E _{max}	28.86
E _{min} /E _{max}	0.07
E _{min} /E _{av}	0.21

Horizontal Illuminance (lux)

10 LUX - P2 - FOOTPATH

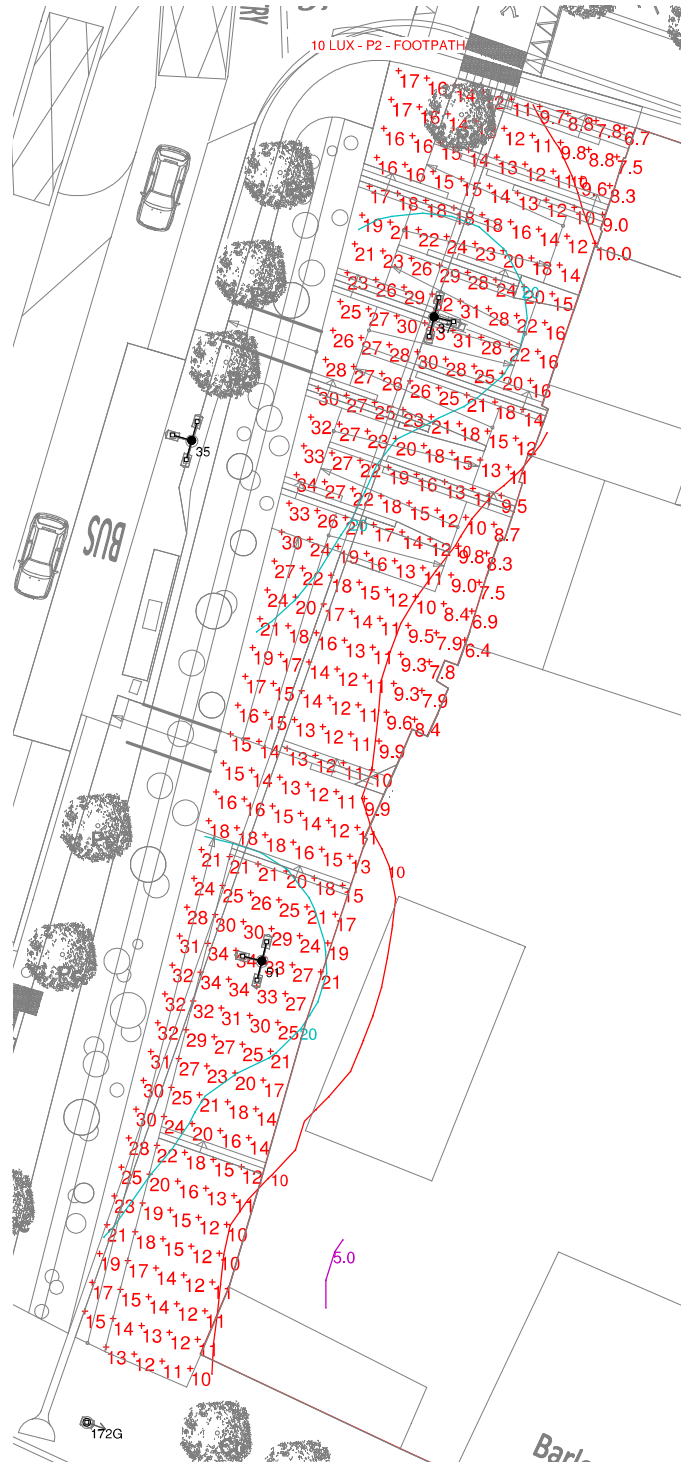


Results

Eav	18.92
Emin	4.62
Emax	38.91
Emin/Emax	0.12
Emin/Eav	0.24

Horizontal Illuminance (lux)

10 LUX - P2 - FOOTPATH

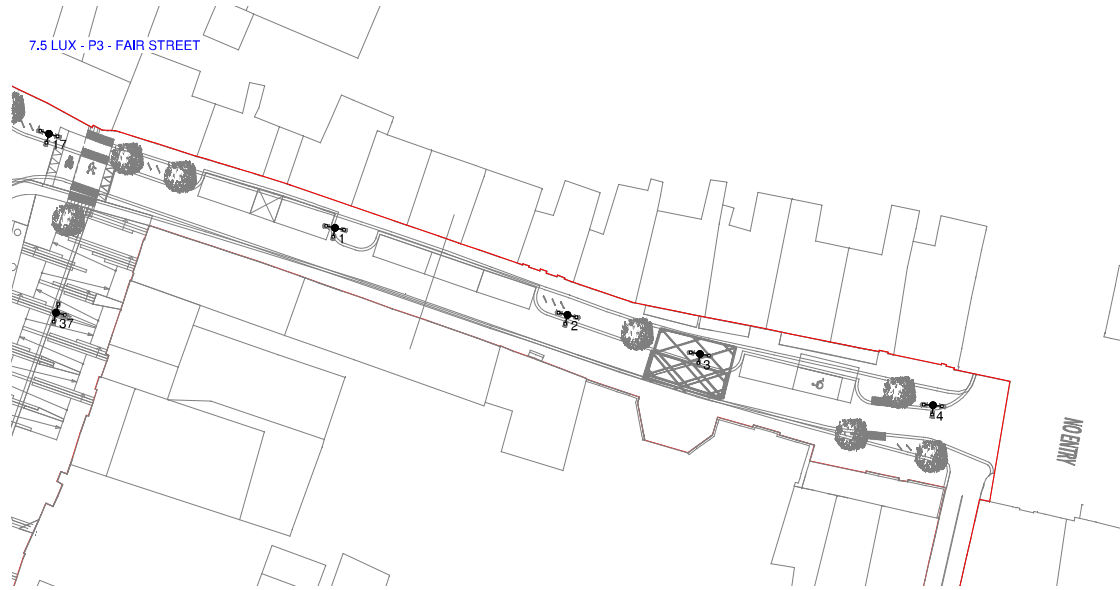


Results

Eav	18.32
Emin	6.41
Emax	34.22
Emin/Emax	0.19
Emin/Eav	0.35

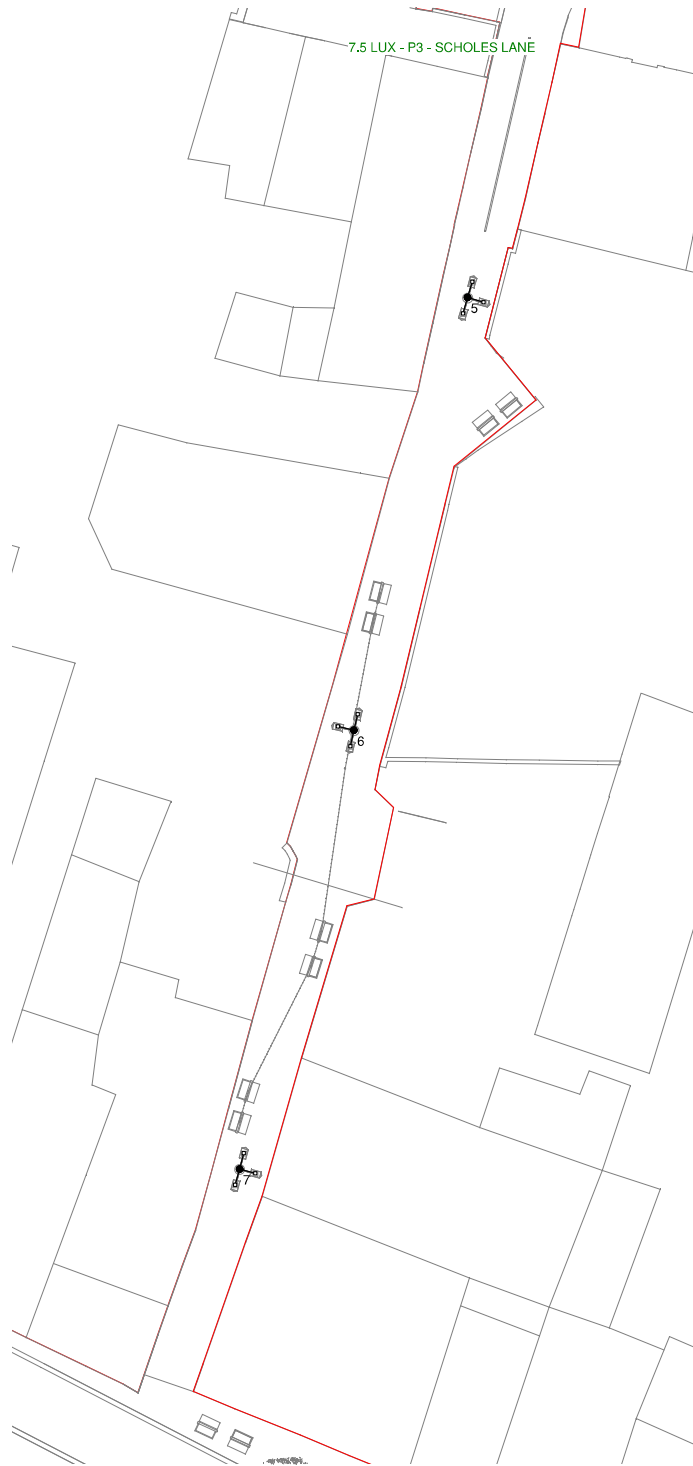
Horizontal Illuminance (lux)

7.5 LUX - P3 - FAIR STREET



Horizontal Illuminance (lux)

7.5 LUX - P3 - SCHOLES LANE



Horizontal Illuminance (lux)

7.5 LUX - P3 - ST PATRICKSWELL LANE



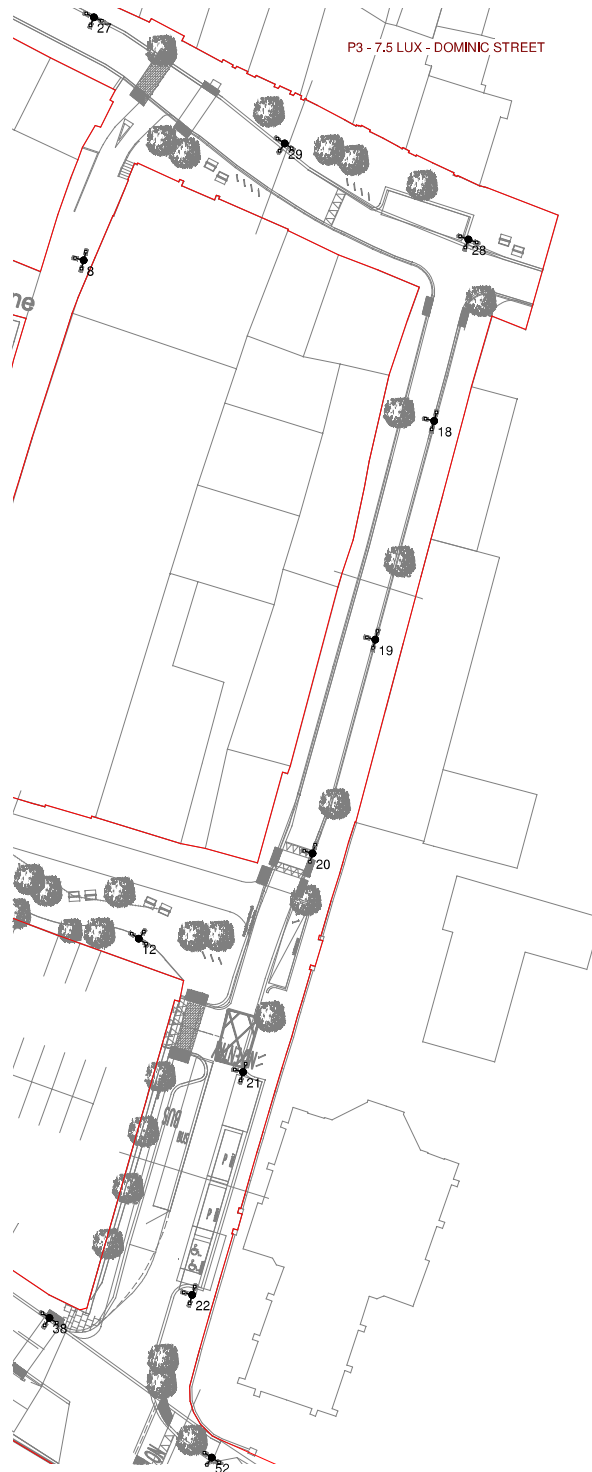
Horizontal Illuminance (lux)

10 LUX - P2 - FATHER CONNOLLY WAY



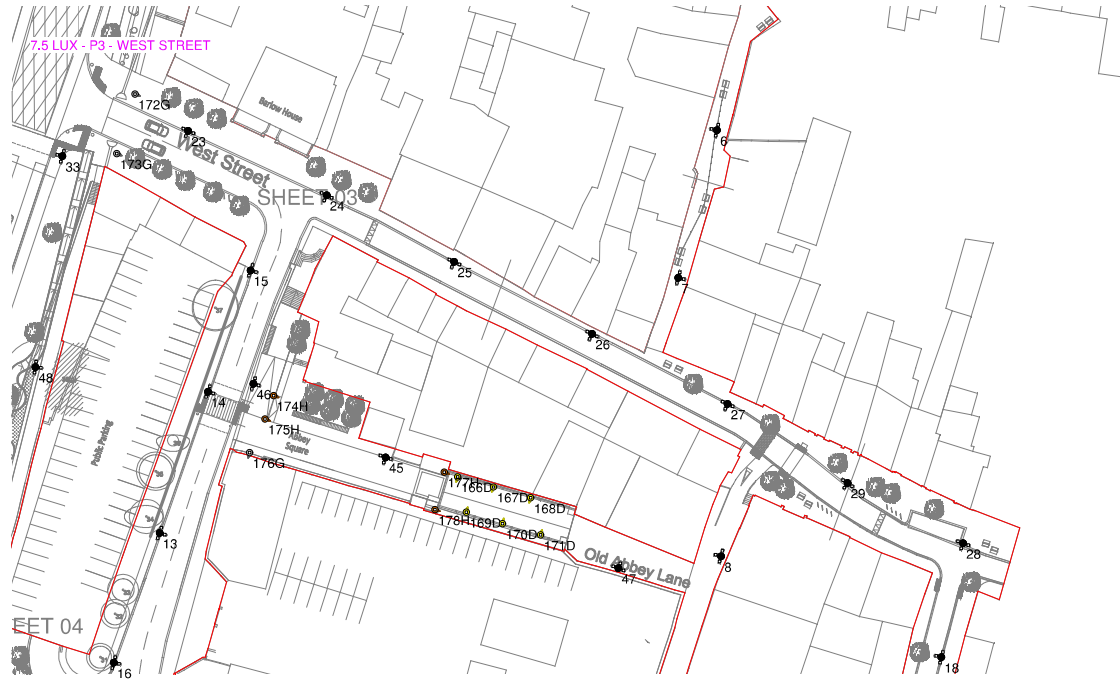
Horizontal Illuminance (lux)

P3 - 7.5 LUX - DOMINIC STREET



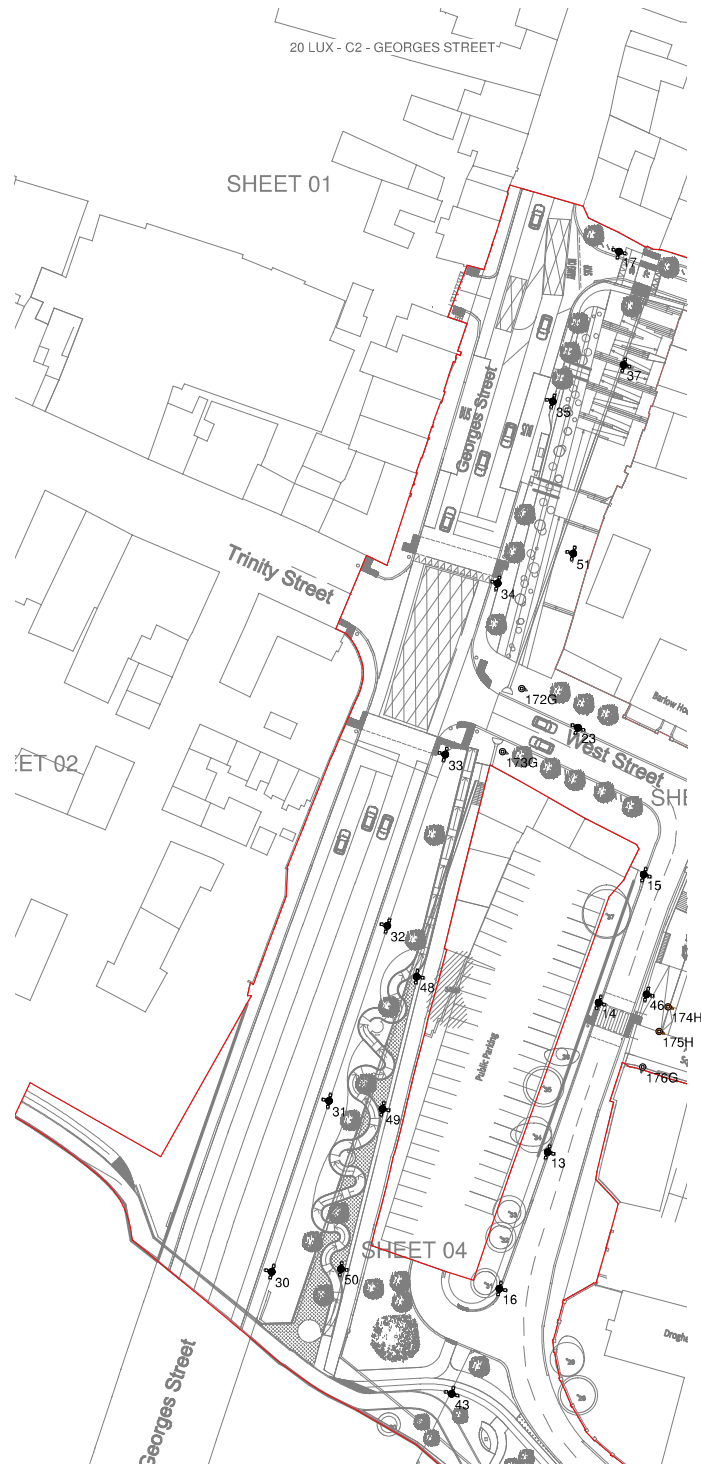
Horizontal Illuminance (lux)

7.5 LUX - P3 - WEST STREET



Horizontal Illuminance (lux)

20 LUX - C2 - GEORGES STREET



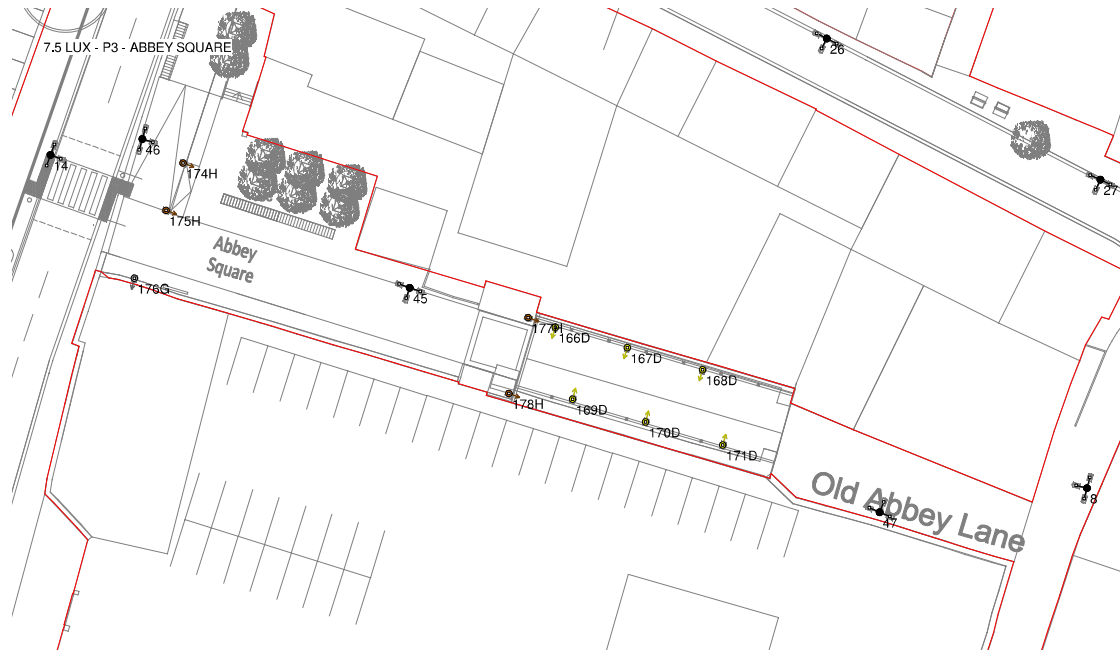
Horizontal Illuminance (lux)

10 LUX - P2 - FATHER CONNOLLY WAY



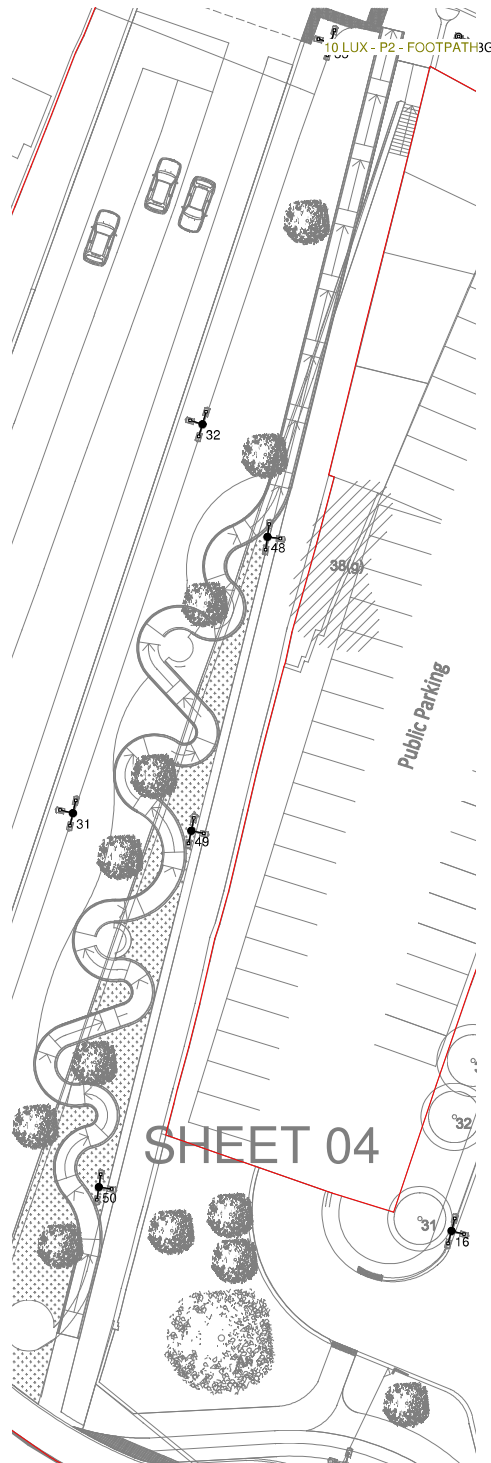
Horizontal Illuminance (lux)

7.5 LUX - P3 - ABBEY SQUARE



Horizontal Illuminance (lux)

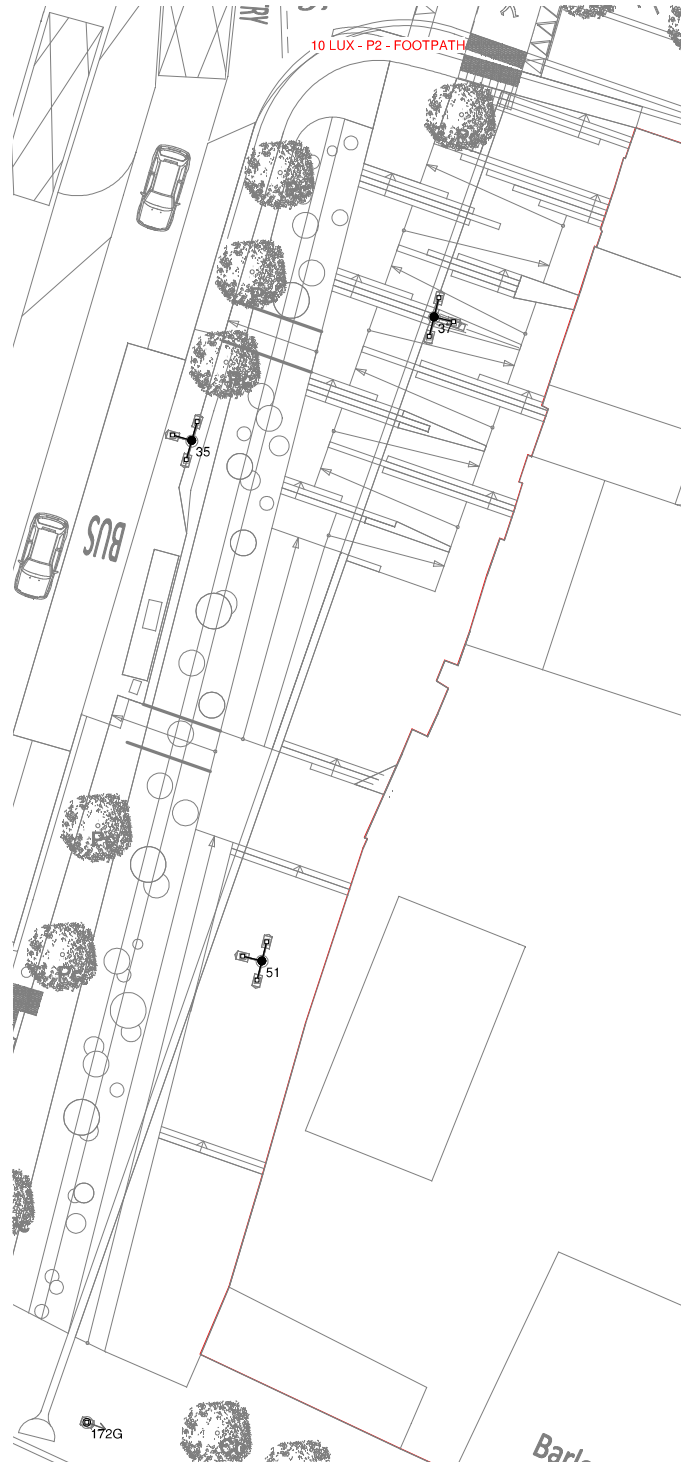
10 LUX - P2 - FOOTPATH



SHEET 04

Horizontal Illuminance (lux)

10 LUX - P2 - FOOTPATH



DATE: 9 November 2023

DESIGNER: Jacek Maslowski

PROJECT No: OP214977LD19388

PROJECT NAME: Westgate Public Lighting, Drogheda, Co. Louth - upper footpath

Schröder
Experts in lightability™

The scheme has been designed to:

Roads and footpaths // BS 5489-1:2020, P1
15 - 22.5 lux average, 3 lux minimum

Maintenance factor calculated as per GN11:

>6m = 0.89

<6m = 0.81

Outdoor Lighting Report

This design has been prepared in accordance with the HEA/HEMSA Guidance Note - CDM2015 Regulations, Issue 1.1 dated 09/04/15 - Procedure 2 for an outline design. The information in this report does not account for installation considerations, site conditions or provide any form of risk assessment. Urbis' design service is advisory only and it is the responsibility of the recipient of this information to verify that the design is suitable for the intended application. No account is taken for the blocking effect caused by buildings, trees etc. The calculation shown assumes that the whole area considered is in the same plane.

PREPARED BY: Urbis Schreder Limited
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Lime Tree Way
Chineham
Basingstoke
RG23 8GG
Tel. 01256 354446
www.urbis-schreder.com
jacekm@urbis-schreder.com

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	15 LUX - P1 - UPPER FOOTPA...	710389.05	775195.53	25.94	103.30	0.50	0.50

Luminaires

Luminaire A Data



Supplier	Schröder
Type	CITEA NG2 MIDI 5393 Flat glass 80 LH351 C@290mA WW 730 230V 1
Lamp(s)	80 LH351C@290mA WW 730 230V 1x02-5 8-003 - DRIVER_SIGNIFY_FP_1
LampFlux(klm)/Colour	10.23 3000K/70
File Name	CITEA NG2 MIDI 5393 80 LH351C 290mA WW 730 68.5W 529162 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	423.1, 68.6, 0.0
No. in Project	21

Luminaire B Data



Supplier	Schröder
Type	CITEA NG2 MINI 5393 Flat glass 10 LH351 C@300mA WW 730 230V 0
Lamp(s)	10 LH351C@300mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	1.35 3000K/70
File Name	CITEA NG2 MINI 5393 10 LH351C 300mA WW 730 10.5W 510192 Flat glass Nothing...
Maintenance Factor	0.89
Imax70,80,90(cd/klm)	497.7, 90.0, 0.0
No. in Project	42

Luminaire C Data



Supplier	Schröder
Type	CITEA NG2 MINI 5392 Flat glass 10 LH351 C@380mA WW 730 230V 0
Lamp(s)	10 LH351C@380mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	1.72 3000K/70
File Name	CITEA NG2 MINI 5392 10 LH351C 380mA WW 730 13.1W 510162 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	508.7, 155.2, 0.0
No. in Project	30

Luminaire D Data



Supplier	Schröder
Type	VALINTA GROOVE MINI 6665 Flat glass Wi de beam 16 OSLON SQUARE
Lamp(s)	16 OSLON SQUARE GIANT@350mA WW 830 230V 00-53-397
LampFlux(klm)/Colour	1.94 WW 3000K/80
File Name	VALINTA GROOVE MINI 6665 16 OSLON SQUARE GIANT 350mA WW 830 18.2W ...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	6.5, 0.5, 0.0
No. in Project	15

Luminaire E Data



Supplier	Schröder
Type	CITEA NG2 MINI 5392 Flat glass 10 LH351 C@300mA WW 730 230V 0
Lamp(s)	10 LH351C@300mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	1.39 3000K/70
File Name	CITEA NG2 MINI 5392 10 LH351C 300mA WW 730 10.5W 510162 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	508.7, 155.2, 0.0
No. in Project	39

Luminaire F Data



Supplier	Schröder
Type	CITEA NG2 MINI 5393 Flat glass 10 LH351 C@500mA WW 730 230V 0
Lamp(s)	10 LH351C@500mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	2.11 3000K/70
File Name	CITEA NG2 MINI 5393 10 LH351C 500mA WW 730 17.1W 510192 Flat glass Nothing...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	497.7, 90.0, 0.0
No. in Project	24

Luminaires

Luminaire G Data



Supplier	Schröder
Type	TERRA MIDI LED 5136 Flat glass Back Light, Tilt 16 XP-G3@500m
Lamp(s)	16 XP-G3@500mA WW 830 230V 00-22-362
LampFlux(klm)/Colour	2.47 WW 3000K/80
File Name	TERRA MIDI LED 5136 16 XP-G3 500mA WW 830 25.7W 375552 Flat glass Tilt BL ...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	0.0, 0.0, 0.0
No. in Project	3

Luminaire H Data



Supplier	Schröder
Type	TERRA MIDI LED 6326 Flat glass Fixe 16 XP-G3@500mA WW 830 230
Lamp(s)	16 XP-G3@500mA WW 830 230V
LampFlux(klm)/Colour	3.82 WW 3000K/80
File Name	TERRA MIDI LED 6326 16 XP-G3 500mA WW 830 25.7W 399282 Flat glass Fixe 23...
Maintenance Factor	0.81
Imax70,80,90(cd/klm)	0.0, 0.0, 0.0
No. in Project	4

Layout

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
1/1	E	710490.72	775366.10	5.50	168.00	0.00	0.00	1.00			
2/1	E	710490.72	775366.10	5.00	258.00	0.00	0.00	1.00			
3/1	E	710490.72	775366.10	4.50	348.00	0.00	0.00	1.00			
4/2	E	710516.15	775356.60	5.50	166.00	0.00	0.00	1.00			
5/2	E	710516.15	775356.60	5.00	256.00	0.00	0.00	1.00			
6/2	E	710516.15	775356.60	4.50	346.00	0.00	0.00	1.00			
7/3	E	710530.67	775352.27	5.50	171.00	0.00	0.00	1.00			
8/3	E	710530.67	775352.27	5.00	261.00	0.00	0.00	1.00			
9/3	E	710530.67	775352.27	4.50	351.00	0.00	0.00	1.00			
10/4	E	710555.97	775346.73	5.50	175.00	0.00	0.00	1.00			
11/4	E	710555.97	775346.73	5.00	265.00	0.00	0.00	1.00			
12/4	E	710555.97	775346.73	4.50	355.00	0.00	0.00	1.00			
13/5	E	710555.35	775320.92	5.50	254.00	0.00	0.00	1.00			
14/5	E	710555.35	775320.92	5.00	344.00	0.00	0.00	1.00			
15/5	E	710555.35	775320.92	4.50	74.00	0.00	0.00	1.00			
16/6	E	710548.42	775294.51	5.50	77.00	0.00	0.00	1.00			
17/6	E	710548.42	775294.51	5.00	167.00	0.00	0.00	1.00			
18/6	E	710548.42	775294.51	4.50	257.00	0.00	0.00	1.00			
19/7	E	710541.43	775267.73	5.50	255.00	0.00	0.00	1.00			
20/7	E	710541.43	775267.73	5.00	345.00	0.00	0.00	1.00			
21/7	E	710541.43	775267.73	4.50	75.00	0.00	0.00	1.00			
22/8	E	710549.18	775217.09	5.50	74.00	0.00	0.00	1.00			
23/8	E	710549.18	775217.09	5.00	164.00	0.00	0.00	1.00			
24/8	E	710549.18	775217.09	4.50	254.00	0.00	0.00	1.00			
25/9	E	710540.14	775189.48	5.50	68.00	0.00	0.00	1.00			
26/9	E	710540.14	775189.48	5.00	158.00	0.00	0.00	1.00			
27/9	E	710540.14	775189.48	4.50	248.00	0.00	0.00	1.00			
28/10	E	710532.37	775163.42	5.50	72.00	0.00	0.00	1.00			
29/10	E	710532.37	775163.42	5.00	162.00	0.00	0.00	1.00			
30/10	E	710532.37	775163.42	4.50	252.00	0.00	0.00	1.00			
31/11	E	710532.52	775147.89	5.50	1.00	0.00	0.00	1.00			
32/11	E	710532.52	775147.89	5.00	91.00	0.00	0.00	1.00			
33/11	E	710532.52	775147.89	4.50	181.00	0.00	0.00	1.00			
34/12	E	710555.48	775139.67	5.50	326.00	0.00	0.00	1.00			
35/12	E	710555.48	775139.67	5.00	56.00	0.00	0.00	1.00			
36/12	E	710555.48	775139.67	4.50	146.00	0.00	0.00	1.00			

Layout Continued

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
37/13	B	710447.21	775221.35	5.50	251.00	0.00	0.00	1.00			
38/13	B	710447.21	775221.35	5.00	341.00	0.00	0.00	1.00			
39/13	B	710447.21	775221.35	4.50	71.00	0.00	0.00	1.00			
40/14	B	710455.98	775247.05	5.50	250.00	0.00	0.00	1.00			
41/14	B	710455.98	775247.05	5.00	340.00	0.00	0.00	1.00			
42/14	B	710455.98	775247.05	4.50	70.00	0.00	0.00	1.00			
43/15	B	710463.75	775269.05	5.50	252.00	0.00	0.00	1.00			
44/15	B	710463.75	775269.05	5.00	342.00	0.00	0.00	1.00			
45/15	B	710463.75	775269.05	4.50	72.00	0.00	0.00	1.00			
46/16	C	710438.90	775197.82	5.50	255.00	0.00	0.00	1.00			
47/16	C	710438.90	775197.82	5.00	345.00	0.00	0.00	1.00			
48/16	C	710438.90	775197.82	4.50	75.00	0.00	0.00	1.00			
49/17	E	710459.50	775376.30	5.50	161.00	0.00	0.00	1.00			
50/17	E	710459.50	775376.30	5.00	254.00	0.00	0.00	1.00			
51/17	E	710459.50	775376.30	4.50	344.00	0.00	0.00	1.00			
52/18	C	710589.19	775198.79	5.50	75.00	0.00	0.00	1.00			
53/18	C	710589.19	775198.79	5.00	165.00	0.00	0.00	1.00			
54/18	C	710589.19	775198.79	4.50	255.00	0.00	0.00	1.00			
55/19	C	710582.50	775173.81	5.50	75.00	0.00	0.00	1.00			
56/19	C	710582.50	775173.81	5.00	165.00	0.00	0.00	1.00			
57/19	C	710582.50	775173.81	4.50	255.00	0.00	0.00	1.00			
58/20	C	710575.35	775149.42	5.50	73.00	0.00	0.00	1.00			
59/20	C	710575.35	775149.42	5.00	163.00	0.00	0.00	1.00			
60/20	C	710575.35	775149.42	4.50	253.00	0.00	0.00	1.00			
61/21	C	710567.51	775124.40	5.50	72.00	0.00	0.00	1.00			
62/21	C	710567.51	775124.40	5.00	162.00	0.00	0.00	1.00			
63/21	C	710567.51	775124.40	4.50	252.00	0.00	0.00	1.00			
64/22	C	710561.59	775099.11	5.50	72.00	0.00	0.00	1.00			
65/22	C	710561.59	775099.11	5.00	162.00	0.00	0.00	1.00			
66/22	C	710561.59	775099.11	4.50	252.00	0.00	0.00	1.00			
67/23	B	710452.35	775294.34	5.50	155.00	0.00	0.00	1.00			
68/23	B	710452.35	775294.34	5.00	245.00	0.00	0.00	1.00			
69/23	B	710452.35	775294.34	4.50	335.00	0.00	0.00	1.00			
70/24	B	710477.53	775282.68	5.50	154.00	0.00	0.00	1.00			
71/24	B	710477.53	775282.68	5.00	244.00	0.00	0.00	1.00			
72/24	B	710477.53	775282.68	4.50	334.00	0.00	0.00	1.00			

Layout Continued

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
73/25	C	710500.70	775270.61	5.50	155.00	0.00	0.00	1.00			
74/25	C	710500.70	775270.61	5.00	245.00	0.00	0.00	1.00			
75/25	C	710500.70	775270.61	4.50	335.00	0.00	0.00	1.00			
76/26	B	710525.76	775257.52	5.50	153.00	0.00	0.00	1.00			
77/26	B	710525.76	775257.52	5.00	243.00	0.00	0.00	1.00			
78/26	B	710525.76	775257.52	4.50	333.00	0.00	0.00	1.00			
79/27	C	710550.34	775244.81	5.50	155.00	0.00	0.00	1.00			
80/27	C	710550.34	775244.81	5.00	245.00	0.00	0.00	1.00			
81/27	C	710550.34	775244.81	4.50	335.00	0.00	0.00	1.00			
82/28	C	710593.15	775219.58	5.50	162.00	0.00	0.00	1.00			
83/28	C	710593.15	775219.58	5.00	252.00	0.00	0.00	1.00			
84/28	C	710593.15	775219.58	4.50	342.00	0.00	0.00	1.00			
85/29	C	710572.09	775230.41	5.50	149.00	0.00	0.00	1.00			
86/29	C	710572.09	775230.41	5.00	239.00	0.00	0.00	1.00			
87/29	C	710572.09	775230.41	4.50	329.00	0.00	0.00	1.00			
88/30	A	710399.75	775200.73	9.50	74.00	5.00	0.00	1.00			
89/30	A	710399.75	775200.73	9.00	164.00	5.00	0.00	1.00			
90/30	A	710399.75	775200.73	8.50	254.00	5.00	0.00	1.00			
91/31	A	710409.60	775230.14	9.50	77.00	5.00	0.00	1.00			
92/31	A	710409.60	775230.14	9.00	167.00	5.00	0.00	1.00			
93/31	A	710409.60	775230.14	8.50	257.00	5.00	0.00	1.00			
94/32	A	710419.63	775260.24	9.50	73.00	5.00	0.00	1.00			
95/32	A	710419.63	775260.24	9.00	163.00	5.00	0.00	1.00			
96/32	A	710419.63	775260.24	8.50	253.00	5.00	0.00	1.00			
97/33	A	710429.57	775289.76	9.50	74.00	5.00	0.00	1.00			
98/33	A	710429.57	775289.76	9.00	164.00	5.00	0.00	1.00			
99/33	A	710429.57	775289.76	8.50	254.00	5.00	0.00	1.00			
100/34	A	710438.61	775319.20	9.50	74.00	5.00	0.00	1.00			
101/34	A	710438.61	775319.20	9.00	164.00	5.00	0.00	1.00			
102/34	A	710438.61	775319.20	8.50	254.00	5.00	0.00	1.00			
103/35	A	710448.06	775350.57	9.50	74.00	5.00	0.00	1.00			
104/35	A	710448.06	775350.57	9.00	164.00	5.00	0.00	1.00			
105/35	A	710448.06	775350.57	8.50	254.00	5.00	0.00	1.00			
106/36	A	710453.06	775386.29	9.50	74.00	5.00	0.00	1.00			
107/36	A	710453.06	775386.29	9.00	164.00	5.00	0.00	1.00			
108/36	A	710453.06	775386.29	8.50	254.00	5.00	0.00	1.00			

Layout Continued

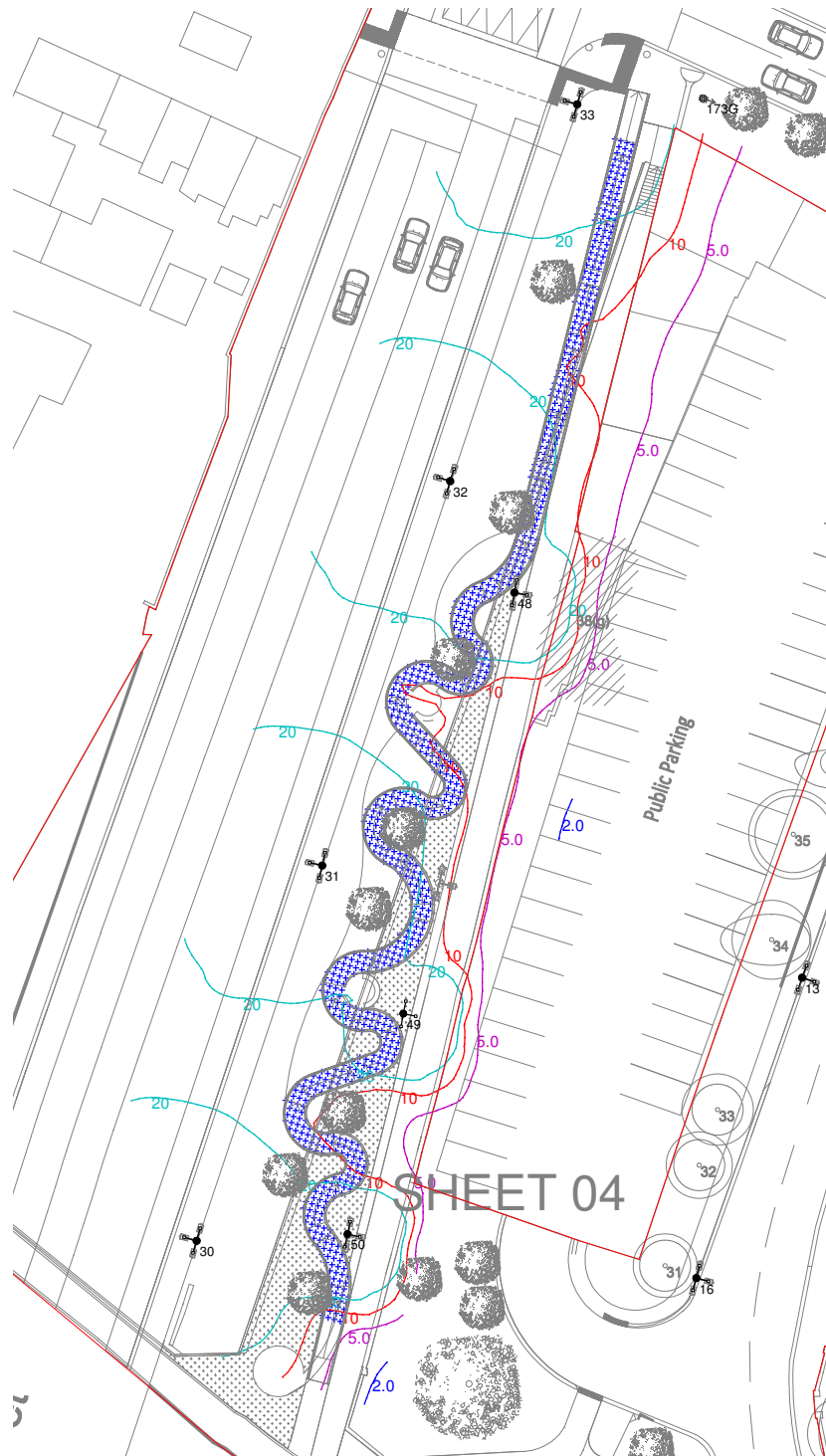
ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out- reach	Target X	Target Y	Target Z
109/37	B	710460.28	775356.79	5.50	256.00	0.00	0.00	1.00			
110/37	B	710460.28	775356.79	5.00	346.00	0.00	0.00	1.00			
111/37	B	710460.28	775356.79	4.50	76.00	0.00	0.00	1.00			
112/38	F	710545.29	775096.41	5.50	146.00	0.00	0.00	1.00			
113/38	F	710545.29	775096.41	5.00	236.00	0.00	0.00	1.00			
114/38	F	710545.29	775096.41	4.50	326.00	0.00	0.00	1.00			
115/39	F	710523.83	775111.09	5.50	142.00	0.00	0.00	1.00			
116/39	F	710523.83	775111.09	5.00	232.00	0.00	0.00	1.00			
117/39	F	710523.83	775111.09	4.50	322.00	0.00	0.00	1.00			
118/40	F	710502.55	775117.06	5.50	326.00	0.00	0.00	1.00			
119/40	F	710502.55	775117.06	5.00	56.00	0.00	0.00	1.00			
120/40	F	710502.55	775117.06	4.50	146.00	0.00	0.00	1.00			
121/41	F	710467.67	775147.16	5.50	323.00	0.00	0.00	1.00			
122/41	F	710467.67	775147.16	5.00	53.00	0.00	0.00	1.00			
123/41	F	710467.67	775147.16	4.50	143.00	0.00	0.00	1.00			
124/42	F	710449.28	775164.34	5.50	315.00	0.00	0.00	1.00			
125/42	F	710449.28	775164.34	5.00	45.00	0.00	0.00	1.00			
126/42	F	710449.28	775164.34	4.50	135.00	0.00	0.00	1.00			
127/43	F	710430.68	775179.71	5.50	343.00	0.00	0.00	1.00			
128/43	F	710430.68	775179.71	5.00	73.00	0.00	0.00	1.00			
129/43	F	710430.68	775179.71	4.50	163.00	0.00	0.00	1.00			
130/44	F	710486.46	775130.82	5.50	321.00	0.00	0.00	1.00			
131/44	F	710486.46	775130.82	5.00	51.00	0.00	0.00	1.00			
132/44	F	710486.46	775130.82	4.50	141.00	0.00	0.00	1.00			
133/45	B	710488.30	775235.12	5.50	161.00	0.00	0.00	1.00			
134/45	B	710488.30	775235.12	5.00	251.00	0.00	0.00	1.00			
135/45	B	710488.30	775235.12	4.50	341.00	0.00	0.00	1.00			
136/46	B	710464.24	775248.48	5.50	254.00	0.00	0.00	1.00			
137/46	B	710464.24	775248.48	5.00	344.00	0.00	0.00	1.00			
138/46	B	710464.24	775248.48	4.50	74.00	0.00	0.00	1.00			
139/47	B	710530.53	775214.93	5.50	337.00	0.00	0.00	1.00			
140/47	B	710530.53	775214.93	5.00	67.00	0.00	0.00	1.00			
141/47	B	710530.53	775214.93	4.50	157.00	0.00	0.00	1.00			
142/48	B	710424.65	775251.50	5.50	259.00	0.00	0.00	1.00			
143/48	B	710424.65	775251.50	5.00	349.00	0.00	0.00	1.00			
144/48	B	710424.65	775251.50	4.50	79.00	0.00	0.00	1.00			

Layout Continued

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
145/49	B	710415.96	775218.51	5.50	259.00	0.00	0.00	1.00			
146/49	B	710415.96	775218.51	5.00	349.00	0.00	0.00	1.00			
147/49	B	710415.96	775218.51	4.50	79.00	0.00	0.00	1.00			
148/50	B	710411.58	775201.24	5.50	258.00	0.00	0.00	1.00			
149/50	B	710411.58	775201.24	5.00	348.00	0.00	0.00	1.00			
150/50	B	710411.58	775201.24	4.50	78.00	0.00	0.00	1.00			
151/51	B	710451.60	775324.34	5.50	76.00	0.00	0.00	1.00			
152/51	B	710451.60	775324.34	5.00	166.00	0.00	0.00	1.00			
153/51	B	710451.60	775324.34	4.50	256.00	0.00	0.00	1.00			
154/52	F	710563.86	775080.45	5.50	146.00	0.00	0.00	1.00			
155/52	F	710563.86	775080.45	5.00	236.00	0.00	0.00	1.00			
156/52	F	710563.86	775080.45	4.50	326.00	0.00	0.00	1.00			
157	D	710517.41	775106.28	2.00	232.00	0.00	180.00	0.00			
158	D	710523.63	775102.23	2.00	232.00	0.00	180.00	0.00			
159	D	710529.09	775098.29	2.00	232.00	0.00	180.00	0.00			
160	D	710534.86	775094.35	2.00	232.00	0.00	180.00	0.00			
161	D	710540.74	775090.26	2.00	232.00	0.00	180.00	0.00			
162	D	710534.95	775088.08	2.00	55.00	0.00	180.00	0.00			
163	D	710528.92	775091.62	2.00	55.00	0.00	180.00	0.00			
164	D	710522.94	775095.18	2.00	55.00	0.00	180.00	0.00			
165	D	710516.99	775098.88	2.00	55.00	0.00	180.00	0.00			
166	D	710501.39	775231.57	2.00	252.00	0.00	180.00	0.00			
167	D	710507.86	775229.73	2.00	252.00	0.00	180.00	0.00			
168	D	710514.63	775227.75	2.00	252.00	0.00	180.00	0.00			
169	D	710502.94	775225.11	2.00	75.00	0.00	180.00	0.00			
170	D	710509.50	775223.05	2.00	75.00	0.00	180.00	0.00			
171	D	710516.44	775220.98	2.00	75.00	0.00	180.00	0.00			
172	G	710442.75	775301.08	0.00	340.00	0.00	0.00	0.00			
173	G	710439.44	775290.23	0.00	340.00	0.00	0.00	0.00			
174	H	710467.91	775246.33	0.00	340.00	0.00	0.00	0.00			
175	H	710466.36	775242.07	0.00	340.00	0.00	0.00	0.00			
176	G	710463.54	775235.97	0.00	255.00	0.00	0.00	0.00			
177	H	710498.95	775232.43	0.00	340.00	0.00	0.00	0.00			
178	H	710497.22	775225.61	0.00	340.00	0.00	0.00	0.00			

Horizontal Illuminance (lux)

15 LUX - P1 - UPPER FOOTPATH

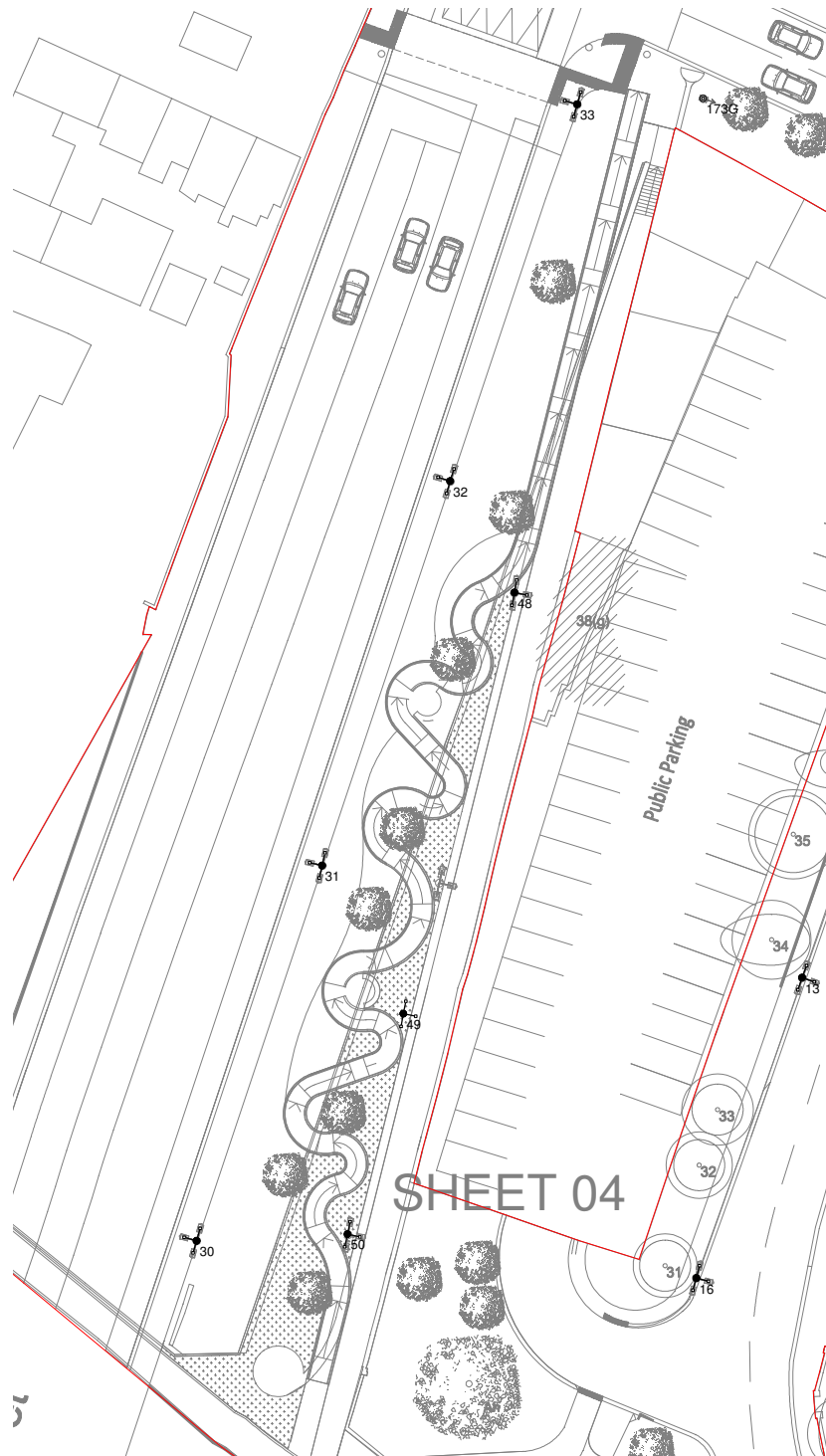


Results

Eav	25.70
Emin	6.51
Emax	259.47
Emin/Emax	0.03
Emin/Eav	0.25

Horizontal Illuminance (lux)

15 LUX - P1 - UPPER FOOTPATH



Horizontal Illuminance (lux)

15 LUX - P1 - UPPER FOOTPATH

