



Lighting Application Specialists (LIAS) Design

CONFIDENTIAL – Commercially Sensitive

Project Name: Broomfield, Midleton R1

LIAS Reference: D-540245

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Lighting Application Notes

This preliminary design is produced by the Lighting Application Specialist (LiAS) team of Signify based on information supplied by the Customer for the purpose of identifying suitable products and costing the proposal. This design cannot be used for Construction. This design does not purport to eliminate health and safety risks as a risk assessment has not been undertaken. Depending on the level of information received, a number of assumptions may have been applied in order to create an indicative lighting proposal and costing model, according to lighting industry guidelines and incorporating industry best practice methods. These assumptions are documented below and will require confirmation by the Principle Designer nor are we the PSDP (which is not Signify) during the detailed design phase.

Project Specific Comments/Assumptions

- Lighting Calculation has been produced to achieve Lighting Class as specified by Client
- Where column heights have not been provided/specified, these have been assumed to be mixed.
- It has been assumed that luminaires will be mounted post-top on outreach brackets).

Generic Comments/Assumptions (unless otherwise stated above)

- Preliminary Design proposals produced by the Signify LiAS Team are not to be used for installation purposes. It is the responsibility of the Principle Designer and/or Principle Contractor to ensure all Installation and Maintenance can be done in a safe manner, carried out by competent persons, based on their agreed Risk Assessments and Method Statements.
- The Luminaire Maintenance Factors have been based on 6-year cleaning intervals within an E3/E4 Environmental Zone and it is assumed that lamp/luminaire failures will be replaced on a 'spot replacement'.
- Energy consumptions have been based on the luminaire/s having Constant Light Output (CLO) enabled and the quoted wattage/s are the average over 100,000 hours (without dimming).
- The design calculations produced by Signify do not account for the effect obstructions, such as trees, will cause.
- Signify has not been provided with utility plans showing Buried, Above Ground or Overhead utilities. Therefore, all column/luminaire locations are indicative and are subject to review/verification by the Principle Designer.
- Unless stated otherwise, Signify has not visited site. Therefore, all column/luminaire locations are indicative and are subject to an onsite verification arranged/performed by the Principle Designer.
- Signify has not produced any Private Cable Network electrical calculations or reviewed the DNO network to confirm power supplies to the proposed lighting.
- Signify has not performed any asset condition testing and therefore assumes that any existing lighting columns/wall mounted brackets are structurally capable of supporting the weight & windage of the proposed luminaire/s. This must be verified by the Principle Designer before installation works commence.
- Unless stated otherwise, Signify is not supplying the new lighting columns (including brackets etc) and therefore it is the responsibility of the Principle Designers to confirm that all proposed equipment is suitable for the intended locations (e.g. raise & lower, ground condition, foundation type, saline environment, etc).
- Unless stated otherwise, luminaires will be supplied in their standard colour.
- **WARNING** - All proposed locations are only adversary and will need to be measured and set back from any ESN low voltage assets 230v, any larger ESN assets such as 400v or above. We advise you refer to the ESN guidance docs on set back from ESN assets before setting out the site or sending anyone to work. This will be down to the installation contractor to set out the column locations on site.

DATE: 16 November 2023
DESIGNER: Seán Campbell
PROJECT No: D-540245
PROJECT NAME: Broomfield, Midleton R1



Using new locations indicated on the drawing plotted, All wattages with CLO Active & Dimming Profile 2A 12am to 6am (E3/E4 zone 6yr clean) @Various mounting height, MF 0.76 Height 6m, Lantern A - 16Watts, Lantern B - 21Watts, Lantern C - 6Watts, Lantern D - 56Watts, Grid 1 P4, Grid 2 - P4, Grid 3 - C4, Grid 4- C4, Grid 5 - C4, Grid 6 - C4.

This preliminary design is produced by the application specialist Lighting (LiAS) team of Signify based information supplied by the client for the purpose identifying suitable products of and costing the proposal. Design cannot be used for this Construction as the PSDP will require sign off of all design works. Signify are not the PSDP on this project or any project. This design does not purport to eliminate health and safety risks as a risk assessment has not been undertaken. Depending on the level of information received, several assumptions may have been applied in order to create an

Broomfield, Midleton R1



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We are a carbon neutral company

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Onsite install and commissioning on mobile app

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COLOR KINETICS

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	587925.99	575016.84	352.00	271.00	1.51	1.54
2	Grid 2	587890.34	574838.75	382.83	178.51	1.53	1.50
3	Grid 3	588102.83	575235.25	46.34	24.28	1.66	0.97
4	Grid 4	587941.77	575107.21	22.99	77.40	1.00	1.43
5	Grid 5	587881.40	574903.28	22.61	67.28	2.06	1.92
6	Grid 6	587871.85	574848.59	24.45	55.63	1.63	2.65

Luminaires

Luminaire A Data



Supplier	Philips
Type	BGP291 DW50
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	2.40
File Name	LumiStreet Gen2 Micro_BGP291_DW50_2_400_10LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.76
Imax70,80,90(cd/klm)	609.4, 39.0, 0.0
No. in Project	67

Luminaire B Data



Supplier	Philips
Type	BGP291 DX51
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	3.40
File Name	LumiStreet Gen2 Micro_BGP291_DX51_34_00_20LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.76
Imax70,80,90(cd/klm)	480.9, 32.0, 0.0
No. in Project	26

Luminaire C Data



Supplier	Philips
Type	BGP291 DRXN1
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	0.80
File Name	LumiStreet Gen2 Micro_BGP291_DRXN1_800_6LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.76
Imax70,80,90(cd/klm)	1155.3, 26.3, 0.0
No. in Project	28

Luminaire D Data



Supplier	Philips
Type	BGP292 DW50
Lamp(s)	LED-HB 5.2S 740
Lamp Flux (klm)	10.00
File Name	LumiStreet Gen2 Mini_BGP292_DW50_100_00_40LED_5.2S_CLO_L90_740.ies
Maintenance Factor	0.76
Imax70,80,90(cd/klm)	609.4, 39.0, 0.0
No. in Project	14

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	D	588124.67	575252.04	8.00	215.00	0.00	0.00	0.50			
2	A	588140.13	575230.99	6.00	212.00	0.00	0.00	0.50			
3	B	588152.70	575218.71	6.00	216.00	0.00	0.00	0.50			
4	A	588168.77	575188.87	6.00	202.00	0.00	0.00	0.50			
5	A	588176.78	575169.94	6.00	208.00	0.00	0.00	0.50			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
6	A	588172.22	575141.56	6.00	292.00	0.00	0.00	0.50			
7	A	588147.25	575129.59	6.00	293.00	0.00	0.00	0.50			
8	A	588142.65	575250.38	6.00	145.00	0.00	0.00	0.50			
9	A	588158.96	575275.23	6.00	306.00	0.00	0.00	0.50			
10	B	588166.18	575202.47	6.00	17.00	0.00	0.00	0.50			
11	B	588199.39	575213.98	6.00	202.00	0.00	0.00	0.50			
12	B	588191.26	575201.77	6.00	113.00	0.00	0.00	0.50			
13	B	588177.67	575196.74	6.00	113.00	0.00	0.00	0.50			
14	B	588188.78	575145.64	6.00	17.00	0.00	0.00	0.50			
15	B	588221.99	575157.15	6.00	202.00	0.00	0.00	0.50			
16	B	588213.85	575145.51	6.00	113.00	0.00	0.00	0.50			
17	B	588200.56	575140.18	6.00	113.00	0.00	0.00	0.50			
18	A	588131.72	575109.45	6.00	113.00	0.00	0.00	0.50			
19	C	588123.61	575098.32	6.00	209.00	0.00	0.00	0.50			
20	A	588122.05	575132.34	6.00	205.00	0.00	0.00	0.50			
21	A	588103.28	575152.04	6.00	25.00	0.00	0.00	0.50			
22	B	588087.86	575170.98	6.00	37.00	0.00	0.00	0.50			
23	A	588081.71	575196.72	6.00	219.00	0.00	0.00	0.50			
24	A	588069.14	575187.45	6.00	276.00	0.00	0.00	0.50			
25	C	588106.52	575232.90	6.00	128.00	0.00	0.00	0.50			
26	A	588074.36	575208.85	6.00	124.00	0.00	0.00	0.50			
27	B	588094.50	575228.23	6.00	218.00	0.00	0.00	0.50			
28	A	588102.13	575121.95	6.00	279.00	0.00	0.00	0.50			
29	A	588072.55	575123.19	6.00	270.00	0.00	0.00	0.50			
30	A	588044.21	575124.18	6.00	274.00	0.00	0.00	0.50			
31	B	588028.85	575126.82	6.00	261.00	0.00	0.00	0.50			
32	A	588015.73	575128.68	6.00	183.00	0.00	0.00	0.50			
33	A	588008.27	575153.09	6.00	3.00	0.00	0.00	0.50			
34	D	587990.83	575136.30	8.00	237.00	0.00	0.00	0.50			
35	D	587971.99	575124.12	8.00	145.00	0.00	0.00	0.50			
36	D	587992.89	575149.28	8.00	146.00	0.00	0.00	0.50			
37	D	587952.91	575104.58	8.00	138.00	0.00	0.00	0.50			
38	A	587944.65	575082.15	6.00	136.00	0.00	0.00	0.50			
39	A	588005.00	575114.27	6.00	181.00	0.00	0.00	0.50			
40	B	588002.13	575079.41	6.00	90.00	0.00	0.00	0.50			
41	B	588008.96	575095.95	6.00	181.00	0.00	0.00	0.50			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
42	C	588131.76	575081.08	6.00	202.00	0.00	0.00	0.50			
43	C	588139.40	575064.46	6.00	201.00	0.00	0.00	0.50			
44	A	588166.17	575053.40	6.00	112.00	0.00	0.00	0.50			
45	A	588191.06	575065.07	6.00	112.00	0.00	0.00	0.50			
46	A	588214.98	575076.80	6.00	118.00	0.00	0.00	0.50			
47	A	588240.39	575087.85	6.00	112.00	0.00	0.00	0.50			
48	A	588192.16	575048.46	6.00	285.00	0.00	0.00	0.50			
49	A	588235.34	575063.71	6.00	290.00	0.00	0.00	0.50			
50	A	588169.83	575046.98	6.00	291.00	0.00	0.00	0.50			
51	A	588141.08	575037.12	6.00	291.00	0.00	0.00	0.50			
52	A	588112.31	575033.07	6.00	271.00	0.00	0.00	0.50			
53	A	588085.35	575032.42	6.00	-90.69	0.00	0.00	0.20			
54	A	588059.45	575032.79	6.00	268.00	0.00	0.00	0.20			
55	A	588027.92	575032.87	6.00	-90.69	0.00	0.00	0.20			
56	A	588029.12	575047.31	6.00	20.00	0.00	0.00	1.00			
57	A	588066.49	575048.73	6.00	88.42	0.00	0.00	0.20			
58	A	588089.23	575047.60	6.00	88.42	0.00	0.00	0.20			
59	A	588117.05	575046.77	6.00	92.00	0.00	0.00	0.20			
60	A	588141.88	575045.91	6.00	88.42	0.00	0.00	0.20			
61	A	588214.39	575056.16	6.00	290.00	0.00	0.00	0.50			
62	A	588255.76	575057.19	6.00	196.00	0.00	0.00	0.50			
63	A	588262.56	575034.38	6.00	196.99	0.00	0.00	1.00			
64	A	588269.36	575012.65	6.00	196.99	0.00	0.00	1.00			
65	A	588262.64	574994.48	6.00	109.53	0.00	0.00	0.20			
66	A	588233.65	574984.20	6.00	109.53	0.00	0.00	0.20			
67	A	588204.67	574973.92	6.00	109.53	0.00	0.00	0.20			
68	A	588181.05	574972.15	6.00	112.00	0.00	0.00	0.50			
69	A	588152.93	574962.62	6.00	112.00	0.00	0.00	0.50			
70	A	588130.82	574971.48	6.00	287.00	0.00	0.00	0.50			
71	A	588105.70	574961.48	6.00	89.79	0.00	0.00	0.20			
72	A	588076.05	574961.59	6.00	89.79	0.00	0.00	0.20			
73	A	588046.40	574961.70	6.00	89.79	0.00	0.00	0.20			
74	A	588016.14	574961.44	6.00	96.00	0.00	0.00	0.20			
78	A	588131.83	575017.00	6.00	207.00	0.00	0.00	0.50			
79	C	588145.32	574978.56	6.00	11.00	0.00	0.00	0.50			
80	A	587989.28	574966.68	6.00	284.00	0.00	0.00	0.20			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
81	A	587961.65	574962.83	6.00	-82.81	0.00	0.00	0.20			
82	A	587934.64	574959.54	6.00	-82.81	0.00	0.00	0.20			
83	D	587909.14	574956.39	8.00	-82.81	0.00	0.00	0.20			
84	D	587896.26	574906.91	8.00	167.00	0.00	0.00	0.50			
85	B	587918.97	574913.40	6.00	262.00	0.00	0.00	0.50			
86	A	587937.93	574909.18	6.00	277.00	0.00	0.00	0.50			
87	A	587963.07	574912.28	6.00	277.00	0.00	0.00	0.50			
88	B	588000.59	574923.14	6.00	274.00	0.00	0.00	0.50			
89	A	587920.77	574888.96	6.00	350.00	0.00	0.00	0.50			
90	D	587894.07	574877.01	8.00	264.00	0.00	0.00	0.50			
91	A	587944.08	574870.23	6.00	95.00	0.00	0.00	0.50			
92	A	587969.62	574873.38	6.00	96.00	0.00	0.00	0.50			
93	A	587994.05	574877.79	6.00	97.00	0.00	0.00	0.50			
92	D	588129.68	575266.28	8.00	124.00	0.00	0.00	0.50			
93	D	588102.30	575244.75	8.00	124.00	0.00	0.00	0.50			
95	D	587903.11	574965.53	8.00	175.00	0.00	0.00	0.50			
96	D	587899.88	574935.18	8.00	175.00	0.00	0.00	0.50			
97	D	587893.25	574888.00	8.00	175.00	0.00	0.00	0.50			
98	D	587889.58	574854.27	8.00	175.00	0.00	0.00	0.50			
99	A	588185.01	575150.29	6.00	208.00	0.00	0.00	0.50			
100	B	588043.84	575185.97	6.00	0.00	0.00	0.00	0.50			
101	C	588040.71	575173.78	6.00	149.00	0.00	0.00	0.50			
102	C	588026.11	575168.57	6.00	278.00	0.00	0.00	0.50			
103	C	588127.40	575072.35	6.00	272.00	0.00	0.00	0.50			
104	C	588116.37	575086.07	6.00	272.00	0.00	0.00	0.50			
105	C	588113.79	575099.68	6.00	272.00	0.00	0.00	0.50			
106	C	588109.50	575072.53	6.00	272.00	0.00	0.00	0.50			
107	A	588098.21	575104.53	6.00	0.36	0.00	0.00	0.50			
108	A	588098.21	575083.12	6.00	0.36	0.00	0.00	0.50			
109	A	588098.40	575062.76	6.00	0.36	0.00	0.00	0.50			
110	A	588044.63	575049.52	6.00	88.40	0.00	0.00	0.20			
111	C	588124.04	575039.05	6.00	20.00	0.00	0.00	0.20			
112	B	588046.46	575042.66	6.00	272.00	0.00	0.00	0.20			
113	C	588086.96	575041.21	6.00	263.00	0.00	0.00	0.20			
114	C	588086.91	575041.62	6.00	88.40	0.00	0.00	0.20			
115	C	588112.36	575033.43	6.00	82.00	0.00	0.00	0.20			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
117	C	588140.59	574991.79	6.00	12.00	0.00	0.00	0.20			
118	B	588135.65	575006.60	6.00	194.00	0.00	0.00	0.20			
119	B	588140.26	574991.72	6.00	197.00	0.00	0.00	0.20			
120	B	588237.08	575076.21	6.00	117.00	0.00	0.00	0.50			
121	B	588090.28	575161.19	6.00	308.00	0.00	0.00	0.50			
122	C	588103.17	575143.64	6.00	220.00	0.00	0.00	0.50			
123	C	588105.41	575129.52	6.00	352.00	0.00	0.00	0.50			
122	A	587986.30	574913.73	6.00	280.00	0.00	0.00	0.50			
123	C	587906.01	574917.08	6.00	97.51	0.00	0.00	0.20			
124	C	587928.60	574920.06	6.00	97.51	0.00	0.00	0.20			
125	C	587951.19	574923.04	6.00	97.51	0.00	0.00	0.20			
126	C	587973.78	574926.02	6.00	97.51	0.00	0.00	0.20			
127	C	587996.38	574929.00	6.00	97.51	0.00	0.00	0.20			
128	C	588003.26	574925.10	6.00	74.00	0.00	0.00	0.20			
129	C	587925.29	574862.10	6.00	107.00	0.00	0.00	0.20			
130	C	587908.57	574862.73	6.00	85.00	0.00	0.00	0.20			
131	C	587892.96	574864.08	6.00	85.00	0.00	0.00	0.20			
132	C	587933.09	574888.46	6.00	183.00	0.00	0.00	0.20			
133	B	587907.12	574879.69	6.00	265.00	0.00	0.00	0.20			
134	B	587925.04	574868.30	6.00	101.00	0.00	0.00	0.20			
135	B	588004.37	574871.38	6.00	97.00	0.00	0.00	0.20			
136	B	588161.17	575203.80	6.00	216.00	0.00	0.00	0.50			

Horizontal Illuminance (lux)

Grid 1

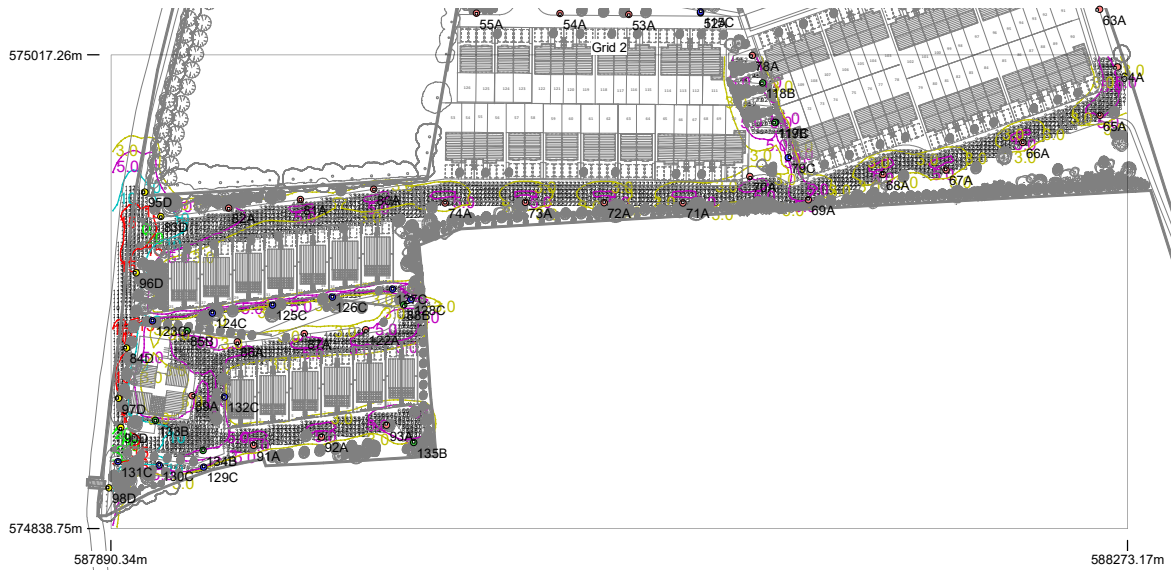


Results

Eav	6.03
Emin	0.77
Emax	19.98
Emin/Emax	0.04
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 2

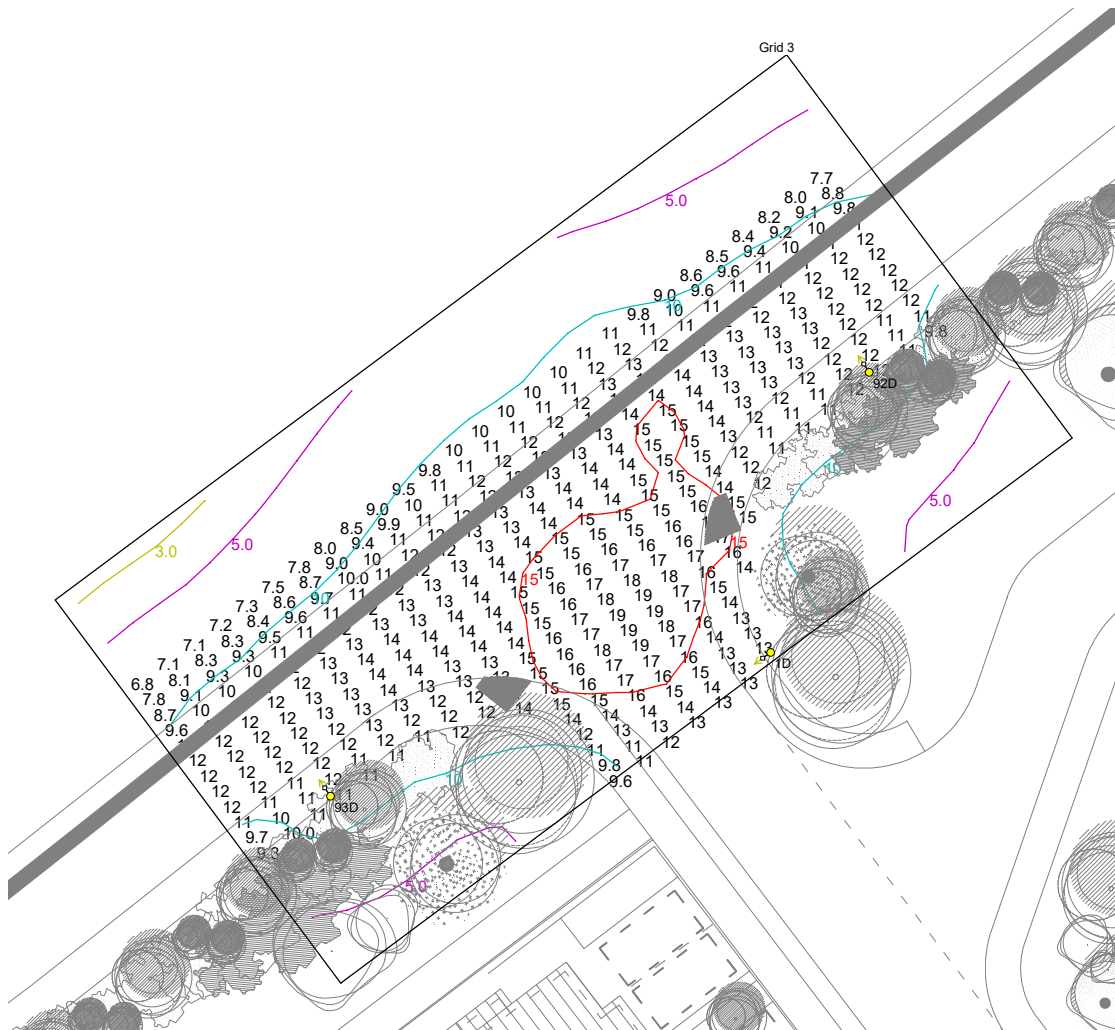


Results

Eav	6.07
Emin	1.33
Emax	22.40
Emin/Emax	0.06
Emin/Eav	0.22

Horizontal Illuminance (lux)

Grid 3

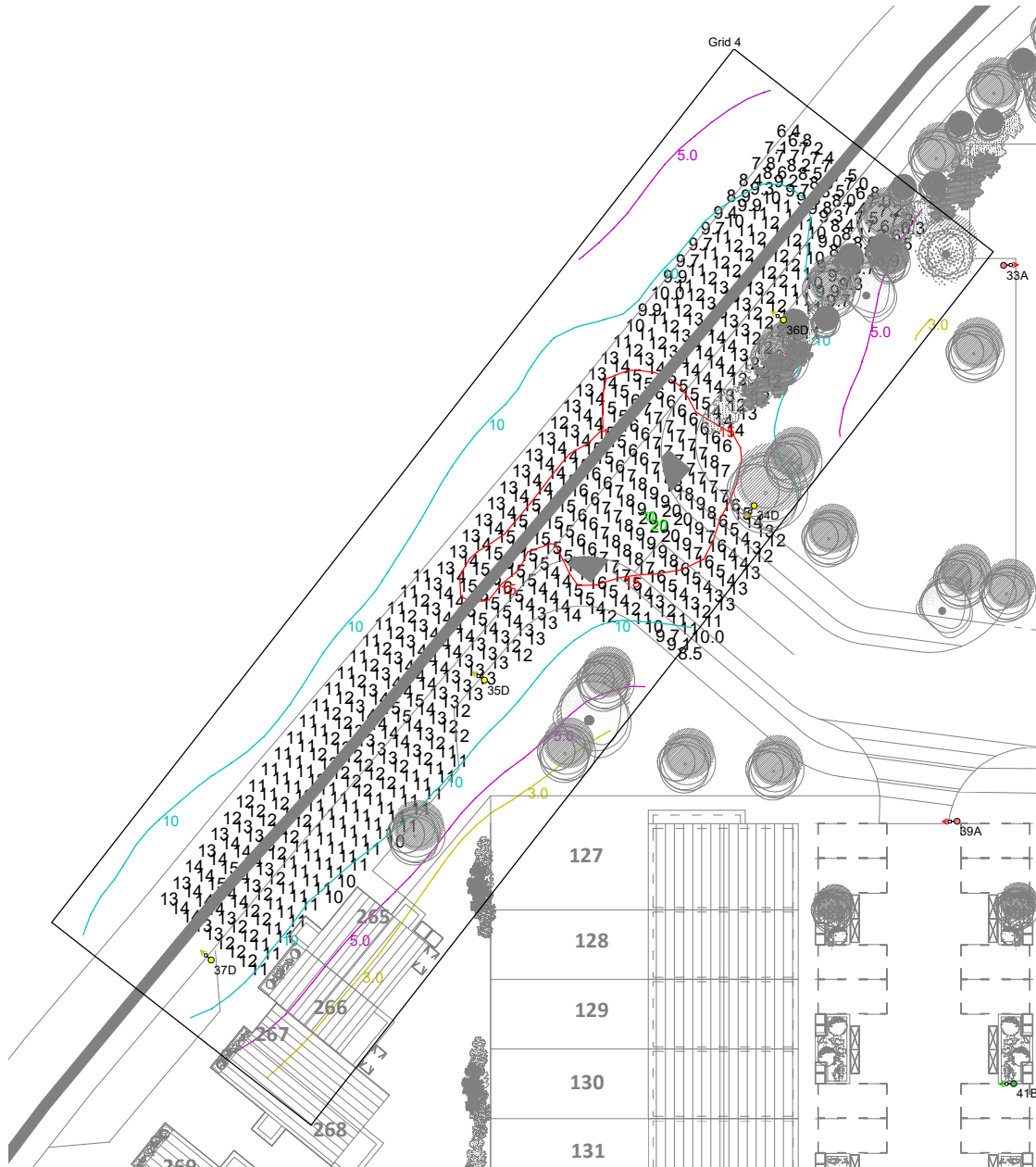


Results

Eav	12.56
Emin	6.84
Emax	19.01
Emin/Emax	0.36
Emin/Eav	0.54

Horizontal Illuminance (lux)

Grid 4

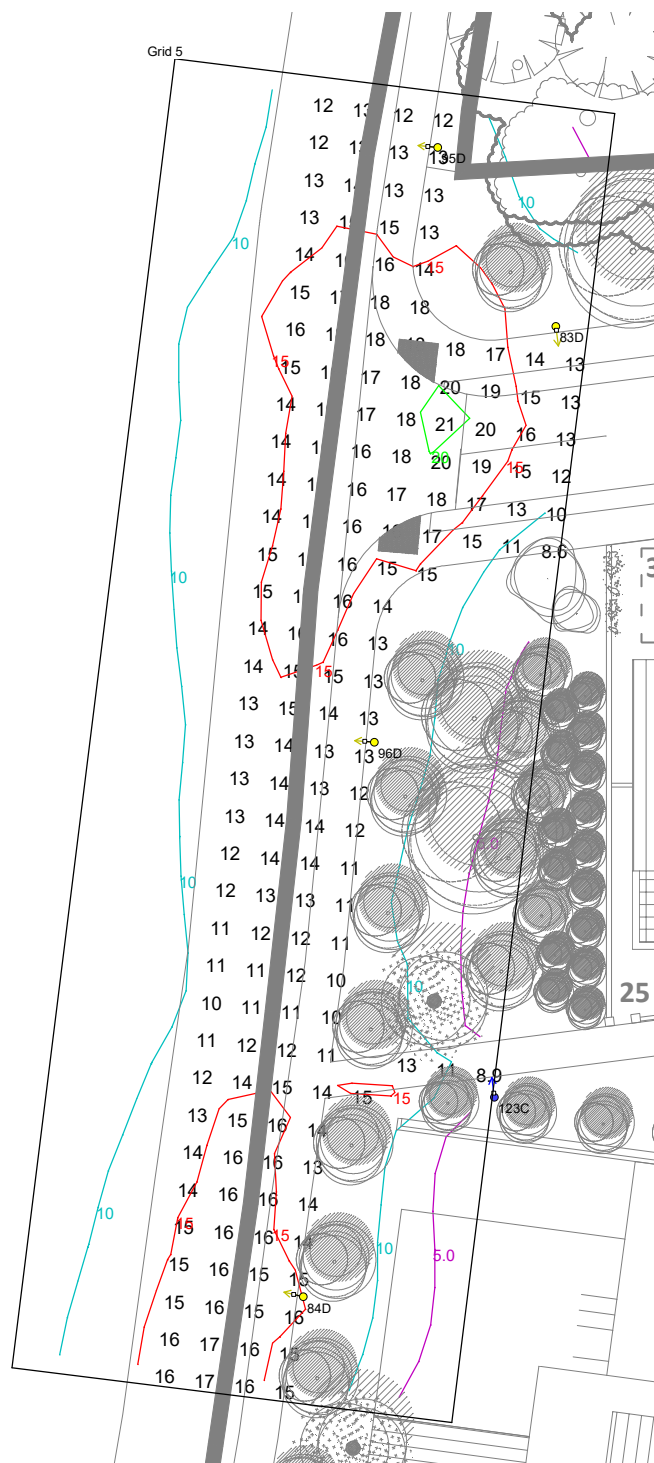


Results

Eav	12.92
Emin	6.29
Emax	20.14
Emin/Emax	0.31
Emin/Eav	0.49

Horizontal Illuminance (lux)

Grid 5

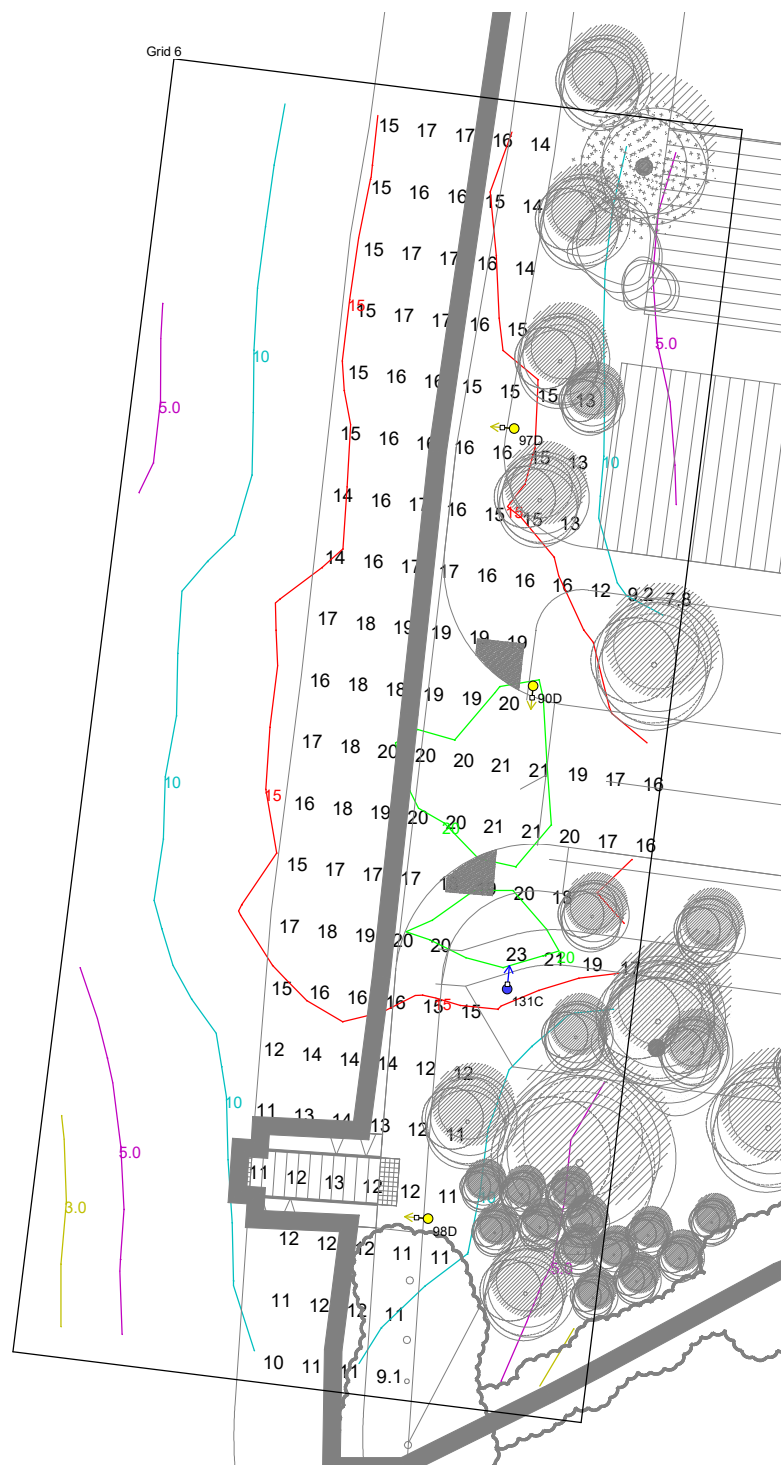


Results

Eav	14.42
Emin	8.63
Emax	20.95
Emin/Emax	0.41
Emin/Eav	0.60

Horizontal Illuminance (lux)

Grid 6

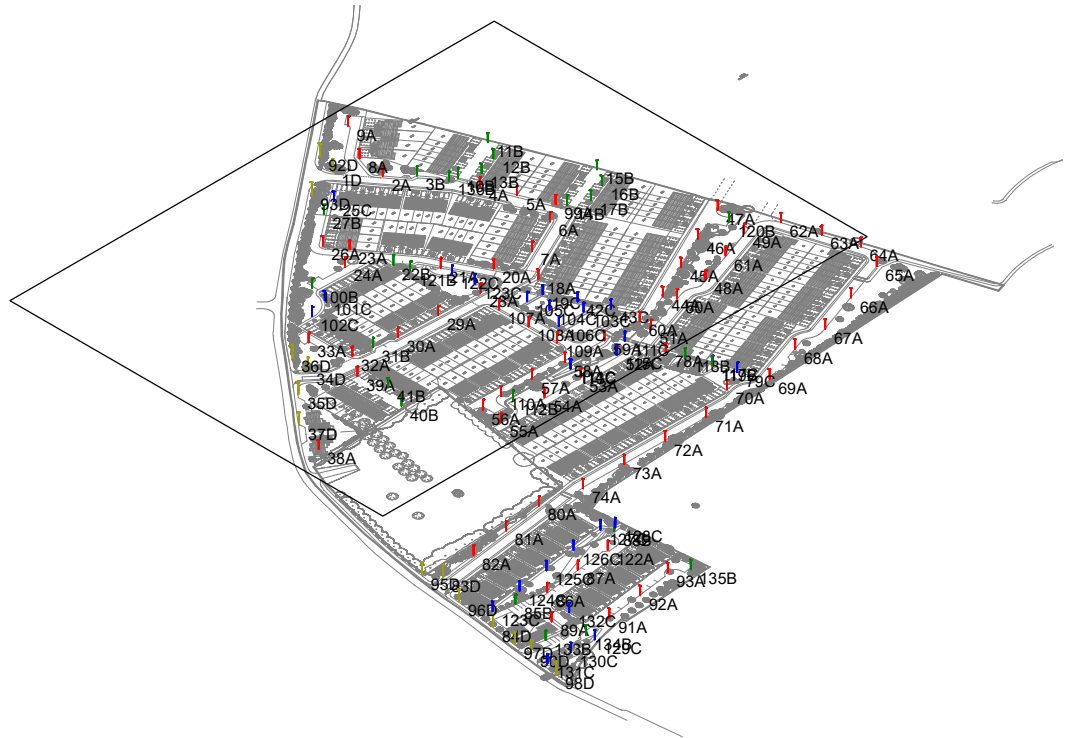


Results

Eav	15.73
Emin	7.80
E _{max}	22.97
Emin/E _{max}	0.34
Emin/Eav	0.50

Horizontal Illuminance (lux)

Grid 1



Signify

the meaning of light