



> PROGRESSIVE ENGINEERING

<b>PROJECT TITLE:</b>	PARKWEST
<b>CLIENT:</b>	GREENSEED LIMITED
<b>DOCUMENT TITLE:</b>	PUBLIC LIGHTING REPORT
<b>DOCUMENT NUMBER:</b>	D19021-EDC-XX-XX-RP-E-0001
<b>DATE:</b>	08/10/2021
<b>ORIGINATOR:</b>	AK
<b>REV:</b>	P01 – ISSUED FOR PLANNING

## 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	585.52	418.14	375.55	337.28	1.50	1.50
2	Grid 2	861.70	470.68	26.02	240.00	1.45	1.50
3	Grid 3	585.52	710.68	374.88	18.56	1.50	1.43
4	Grid 4	658.47	568.65	65.59	28.69	1.49	1.43
5	Grid 5	724.06	568.65	137.64	18.28	1.50	1.41
6	Grid 6	656.94	551.35	16.56	28.08	1.38	1.48
7	Grid 7	852.80	450.22	46.84	22.70	1.46	1.42
8	Grid 8	687.96	654.46	30.19	56.21	1.44	1.48
9	Grid 9	776.03	586.93	85.67	67.09	1.48	1.49
10	Grid 10	610.01	602.91	166.02	51.62	1.50	1.47
11	Grid 11	744.96	586.88	13.75	16.04	1.37	1.46
12	Grid 12	933.96	639.39	24.77	71.39	1.46	1.49
13	Grid 13	887.74	634.80	46.31	8.60	1.49	1.43

### Luminaires

#### Luminaire A Data



Supplier	Cree Lighting
Type	TRSA-02-150-6L40741W
Lamp(s)	12Du6L41W4K
Lamp Flux (klm)	6.56
File Name	TRSA-02-150-6L-407 41W-481-QL21-S03.I ES
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	476.2, 35.8, 0.0
No. in Project	28

#### Luminaire B Data



Supplier	Cree Lighting
Type	TRSA-02-200-6L40741W
Lamp(s)	12lu6L41W4K
Lamp Flux (klm)	6.56
File Name	TRSA-02-200-6L-407 41W-1408-QL20-S05 .IES
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	462.5, 41.7, 0.0
No. in Project	18

#### Luminaire C Data



Supplier	Cree Lighting
Type	TRSA-02-075-2L407 8W
Lamp(s)	4lu2L8W4K
Lamp Flux (klm)	1.16
File Name	TRSA-02-075-2L-407 8W-1088-QL20-R18.I ES
Maintenance Factor	0.76
Imax70,80,90(cd/klm)	418.0, 31.4, 0.0
No. in Project	38

#### Luminaire D Data



Supplier	Cree Lighting
Type	URBAN Modern E - Type 5SH -D15
Lamp(s)	5 MT-G2 25W 4K
LampFlux(klm)/Colour	3.26 4000/70
File Name	UMDE5SHB40K_24BKD15-PL07330-001.L DT
Maintenance Factor	0.76
Imax70,80,90(cd/klm)	348.7, 82.5, 0.0
No. in Project	8

### Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	882.67	714.28	8.00	91.00	0.00	0.00	0.00			
2	A	847.94	713.26	8.00	89.00	0.00	0.00	0.00			
3	A	829.59	714.21	8.00	89.00	0.00	0.00	0.00			
4	A	804.22	713.26	8.00	91.00	0.00	0.00	0.00			
5	A	771.61	713.19	8.00	90.00	0.00	0.00	0.00			
6	A	737.76	713.24	8.00	90.00	0.00	0.00	0.00			
7	A	708.96	714.50	8.00	91.00	0.00	0.00	0.00			
8	A	679.76	714.45	8.00	90.00	0.00	0.00	0.00			
9	A	658.36	714.47	8.00	90.00	0.00	0.00	0.00			
10	A	628.26	714.33	8.00	84.00	0.00	0.00	0.00			
11	A	930.66	715.47	8.00	89.00	0.00	0.00	0.00			
12	A	956.20	715.51	8.00	90.00	0.00	0.00	0.00			
13	A	941.05	700.01	8.00	0.00	0.00	0.00	0.00			
14	A	939.95	677.33	8.00	0.00	0.00	0.00	0.00			
15	A	910.81	713.19	8.00	91.00	0.00	0.00	0.00			
16	A	596.52	713.71	8.00	89.00	0.00	0.00	0.00			
17	A	937.63	649.86	8.00	1.00	0.00	0.00	0.00			
18	A	868.46	702.95	8.00	0.00	5.00	0.00	0.00			
19	A	879.22	690.02	8.00	180.00	0.00	0.00	0.00			
20	A	870.23	662.32	8.00	1.00	0.00	0.00	0.00			
21	B	869.43	635.98	8.00	3.00	0.00	0.00	0.00			
22	B	869.19	607.78	8.00	0.00	0.00	0.00	0.00			
23	B	880.33	577.42	8.00	180.00	0.00	0.00	0.00			
24	B	868.79	555.62	8.00	0.00	0.00	0.00	0.00			
25	B	868.69	527.69	8.00	1.00	0.00	0.00	0.00			
26	B	868.73	499.70	8.00	0.00	0.00	0.00	0.00			
27	B	862.10	475.83	8.00	357.00	0.00	0.00	0.00			
28	B	887.80	474.68	8.00	180.00	0.00	0.00	0.00			
29	C	851.81	628.59	6.00	270.00	0.00	0.00	0.00			
30	C	730.67	618.24	6.00	42.00	0.00	0.00	0.00			
31	C	749.61	611.71	6.00	230.00	0.00	0.00	0.00			
32	C	767.77	608.78	6.00	269.00	0.00	0.00	0.00			
33	C	744.28	628.34	6.00	270.00	0.00	0.00	0.00			
34	C	764.86	628.34	6.00	270.00	0.00	0.00	0.00			
35	C	720.45	632.08	6.00	233.00	0.00	0.00	0.00			
36	C	692.75	628.11	6.00	269.00	0.00	0.00	0.00			

**Layout Continued**

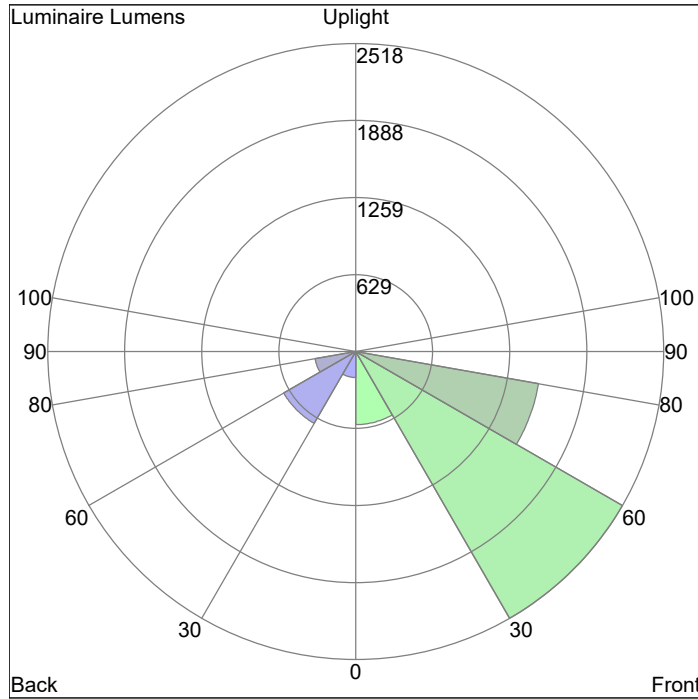
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
37	C	710.76	628.11	6.00	271.00	0.00	0.00	0.00			
38	C	683.23	633.43	6.00	301.00	0.00	0.00	0.00			
39	C	665.52	627.94	6.00	270.00	0.00	0.00	0.00			
40	C	648.21	628.08	6.00	269.00	0.00	0.00	0.00			
41	C	629.89	628.01	6.00	269.00	0.00	0.00	0.00			
42	C	661.58	616.15	6.00	119.00	0.00	0.00	0.00			
43	C	639.83	611.31	6.00	298.00	0.00	0.00	0.00			
44	D	703.07	642.91	6.00	269.00	0.00	0.00	0.00			
45	C	735.75	605.90	4.00	269.00	0.00	0.00	0.00			
46	C	716.06	609.24	4.00	250.00	0.00	0.00	0.00			
47	C	696.76	615.12	4.00	254.00	0.00	0.00	0.00			
48	C	679.73	615.71	4.00	275.00	0.00	0.00	0.00			
49	C	661.21	610.48	4.00	304.00	0.00	0.00	0.00			
50	C	649.03	600.74	4.00	304.00	0.00	0.00	0.00			
51	C	632.72	636.01	4.00	357.00	0.00	0.00	0.00			
52	C	639.99	640.98	4.00	180.00	0.00	0.00	0.00			
53	D	782.85	636.56	6.00	266.00	0.00	0.00	0.00			
54	D	789.92	612.65	4.00	267.00	0.00	0.00	0.00			
55	D	840.60	605.27	4.00	304.00	0.00	0.00	0.00			
56	D	828.84	616.41	4.00	304.00	0.00	0.00	0.00			
57	D	752.37	594.52	4.00	304.00	0.00	0.00	0.00			
58	D	857.75	591.98	4.00	304.00	0.00	0.00	0.00			
59	C	700.04	687.22	6.00	0.00	0.00	0.00	0.00			
60	D	796.60	636.67	6.00	268.00	0.00	0.00	0.00			
61	C	700.18	667.64	6.00	358.00	0.00	0.00	0.00			
62	C	700.30	705.44	6.00	0.00	0.00	0.00	0.00			
63	C	694.90	699.05	6.00	269.00	0.00	0.00	0.00			
64	C	711.48	699.15	6.00	270.00	0.00	0.00	0.00			
65	C	695.96	653.84	6.00	90.00	0.00	0.00	0.00			
66	C	710.04	653.77	6.00	91.00	0.00	0.00	0.00			
67	C	777.94	648.12	4.00	0.00	0.00	0.00	0.00			
68	C	800.28	648.19	4.00	182.00	0.00	0.00	0.00			
69	C	816.52	630.74	6.00	242.00	0.00	0.00	0.00			
70	C	808.92	622.41	6.00	89.00	0.00	0.00	0.00			
71	C	811.79	611.05	6.00	270.00	0.00	0.00	0.00			
72	B	853.46	573.27	8.00	90.00	0.00	0.00	0.00			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
74	B	825.04	573.35	8.00	94.00	0.00	0.00	0.00			
75	B	801.16	573.43	8.00	94.00	0.00	0.00	0.00			
76	B	745.18	581.54	8.00	269.00	0.00	0.00	0.00			
77	B	716.52	572.88	8.00	72.00	0.00	0.00	0.00			
78	B	787.22	581.70	8.00	270.00	0.00	0.00	0.00			
79	B	767.60	573.35	8.00	88.00	0.00	0.00	0.00			
80	B	698.82	577.41	8.00	69.00	0.00	0.00	0.00			
81	B	682.25	580.20	8.00	103.00	0.00	0.00	0.00			
82	B	660.38	580.93	8.00	304.00	0.00	0.00	0.00			
82	A	659.00	548.62	8.00	44.00	0.00	0.00	1.00			
83	A	634.01	579.06	8.00	44.00	0.00	0.00	1.00			
84	A	666.48	567.56	8.00	219.00	0.00	0.00	1.00			
85	A	649.59	584.64	8.00	219.00	0.00	0.00	1.00			
86	A	852.85	476.01	8.00	267.00	0.00	0.00	1.00			
87	A	897.45	473.90	8.00	267.00	0.00	0.00	1.00			
88	A	861.97	452.93	8.00	84.00	0.00	0.00	1.00			
89	A	889.01	451.51	8.00	86.00	0.00	0.00	1.00			
90	C	895.53	635.57	6.00	91.00	0.00	0.00	0.00			
92	C	923.48	635.34	6.00	91.00	0.00	0.00	0.00			
92	C	909.56	642.86	8.00	271.00	0.00	0.00	0.00			

## Luminaire Classification System (LCS) Graphs

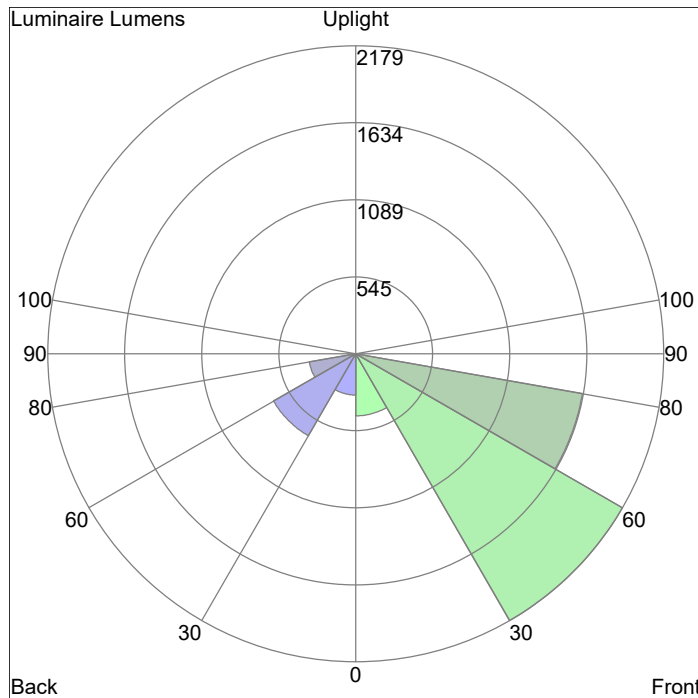
### Luminaire A TRSA-02-150-6L40741W



LCS	Lumens	%Lamp	%Lum
FL	598.9	9.1	10.2
FM	2517.8	38.4	42.7
FH	1518.3	23.1	25.8
FVH	18.1	0.3	0.3
BL	213.5	3.3	3.6
BM	678.6	10.3	11.5
BH	336.7	5.1	5.7
BVH	10.3	0.2	0.2
UL	0.0	0.0	0.0
UH	0.0	0.0	0.0
<b>Total</b>	<b>5892.2</b>	<b>89.8</b>	<b>100.0</b>

BUG rating=B2-U0-G1

### Luminaire B TRSA-02-200-6L40741W

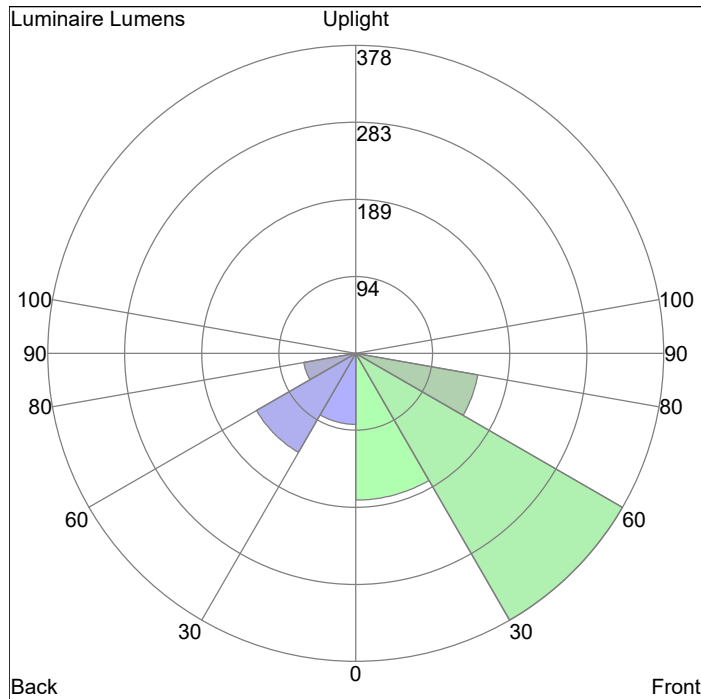


LCS	Lumens	%Lamp	%Lum
FL	440.1	6.7	7.9
FM	2178.8	33.2	39.1
FH	1628.8	24.8	29.2
FVH	22.1	0.3	0.4
BL	292.8	4.5	5.3
BM	669.7	10.2	12.0
BH	332.4	5.1	6.0
BVH	10.1	0.2	0.2
UL	0.0	0.0	0.0
UH	0.1	0.0	0.0
<b>Total</b>	<b>5575.1</b>	<b>85.0</b>	<b>100.0</b>

BUG rating=B2-U1-G1

**Luminaire Classification System (LCS) Graphs Continued**

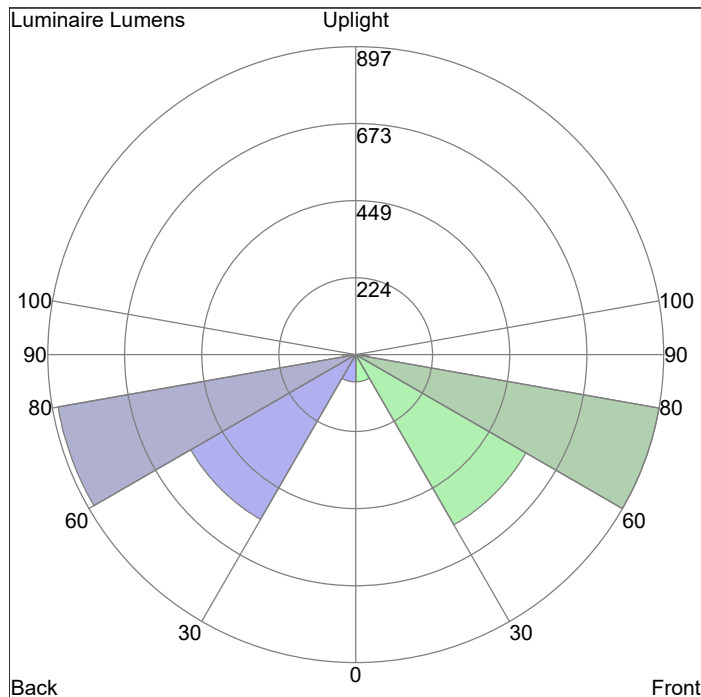
**Luminaire C TRSA-02-075-2L407 8W**



LCS	Lumens	%Lamp	%Lum
FL	180.0	15.6	17.9
FM	377.5	32.7	37.6
FH	152.1	13.2	15.1
FVH	2.2	0.2	0.2
BL	87.2	7.5	8.7
BM	140.1	12.1	13.9
BH	64.5	5.6	6.4
BVH	1.8	0.2	0.2
UL	0.0	0.0	0.0
UH	0.0	0.0	0.0
Total	1005.3	87.0	100.0

BUG rating=B1-U0-G0

**Luminaire D URBAN Modern E - Type 5SH -D15**

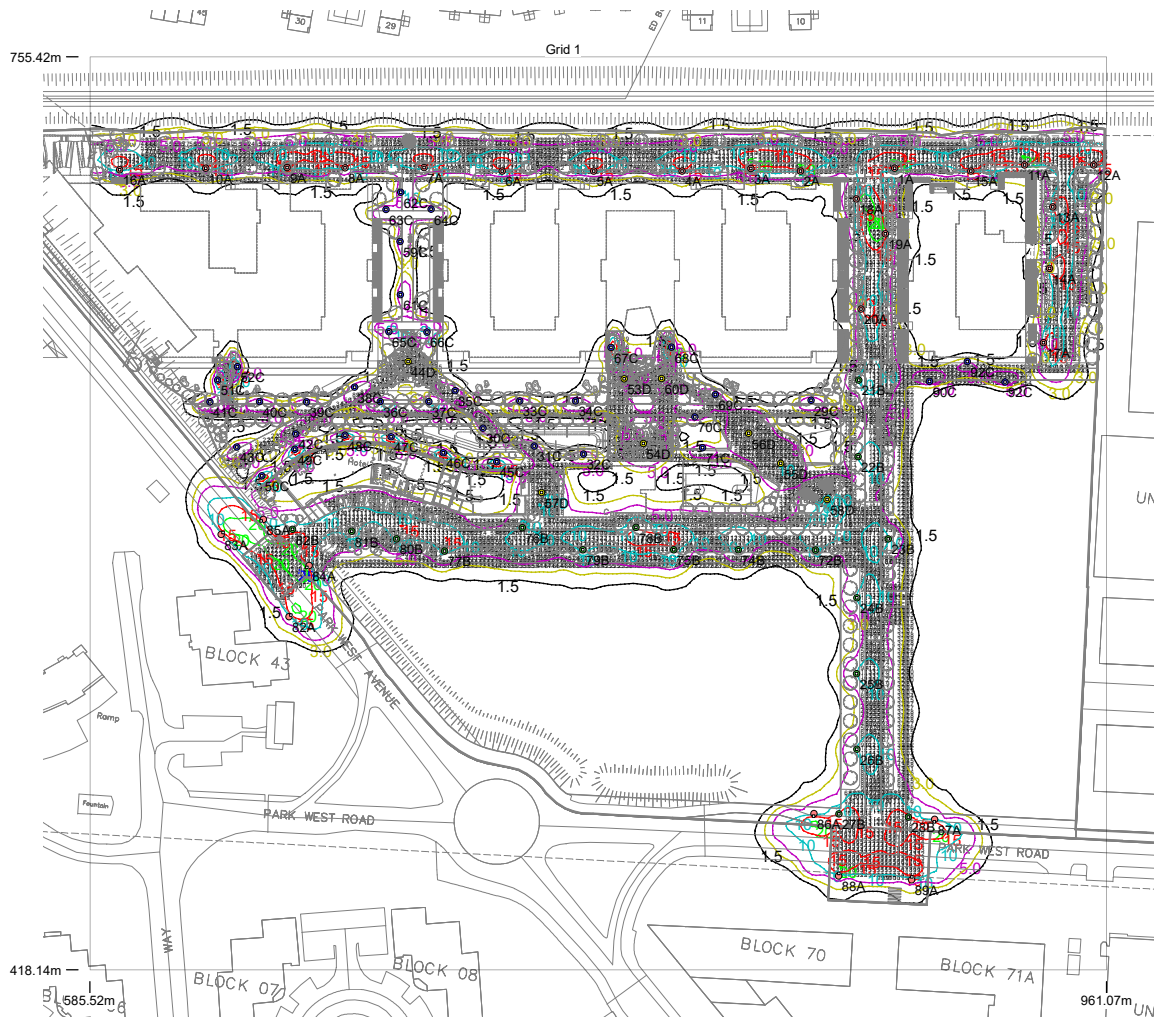


LCS	Lumens	%Lamp	%Lum
FL	79.5	2.4	2.5
FM	572.8	17.6	18.3
FH	897.2	27.5	28.6
FVH	36.9	1.1	1.2
BL	80.0	2.5	2.5
BM	554.3	17.0	17.7
BH	880.0	27.0	28.0
BVH	37.2	1.1	1.2
UL	0.0	0.0	0.0
UH	0.0	0.0	0.0
Total	3138.1	96.3	100.0

BUG rating=B2-U0-G1

# Horizontal Illuminance (lux)

Grid 1



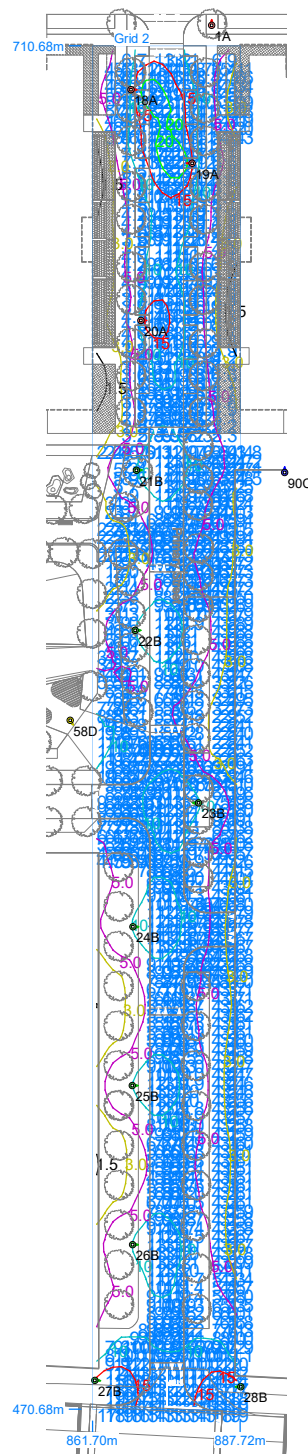
## Results

Eav	8.46
Emin	1.27
Emax	25.01
Emin/Emax	0.05
Emin/Eav	0.15
Emax/Eav	2.96



## Horizontal Illuminance (lux)

Grid 2



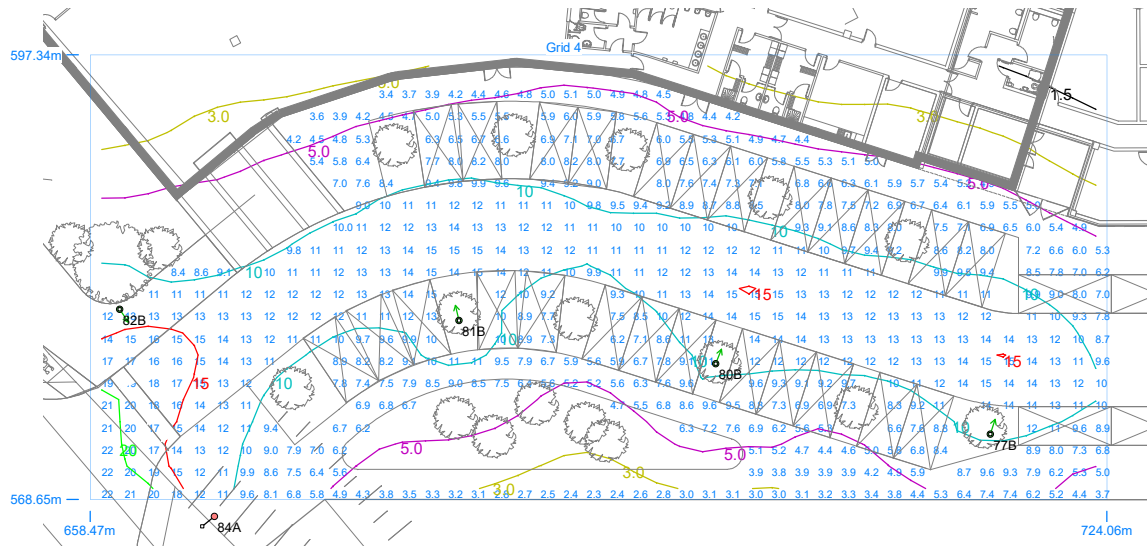
### Results

Eav	8.39
Emin	1.84
Emax	23.55
Emin/Emax	0.08
Emin/Eav	0.22
Emax/Eav	2.81



## Horizontal Illuminance (lux)

Grid 4

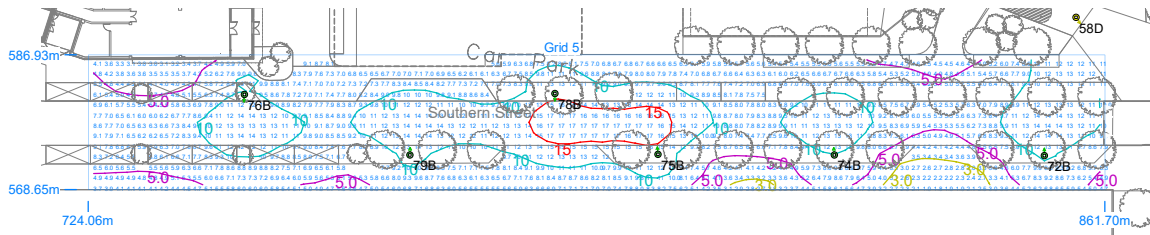


### Results

Eav	9.51
Emin	2.35
Emax	21.90
Emin/Emax	0.11
Emin/Eav	0.25
Emax/Eav	2.30

## Horizontal Illuminance (lux)

Grid 5



### Results

Eav	8.41
Emin	1.84
Emax	17.44
Emin/Emax	0.11
Emin/Eav	0.22
Emax/Eav	2.07

## Horizontal Illuminance (lux)

Grid 6



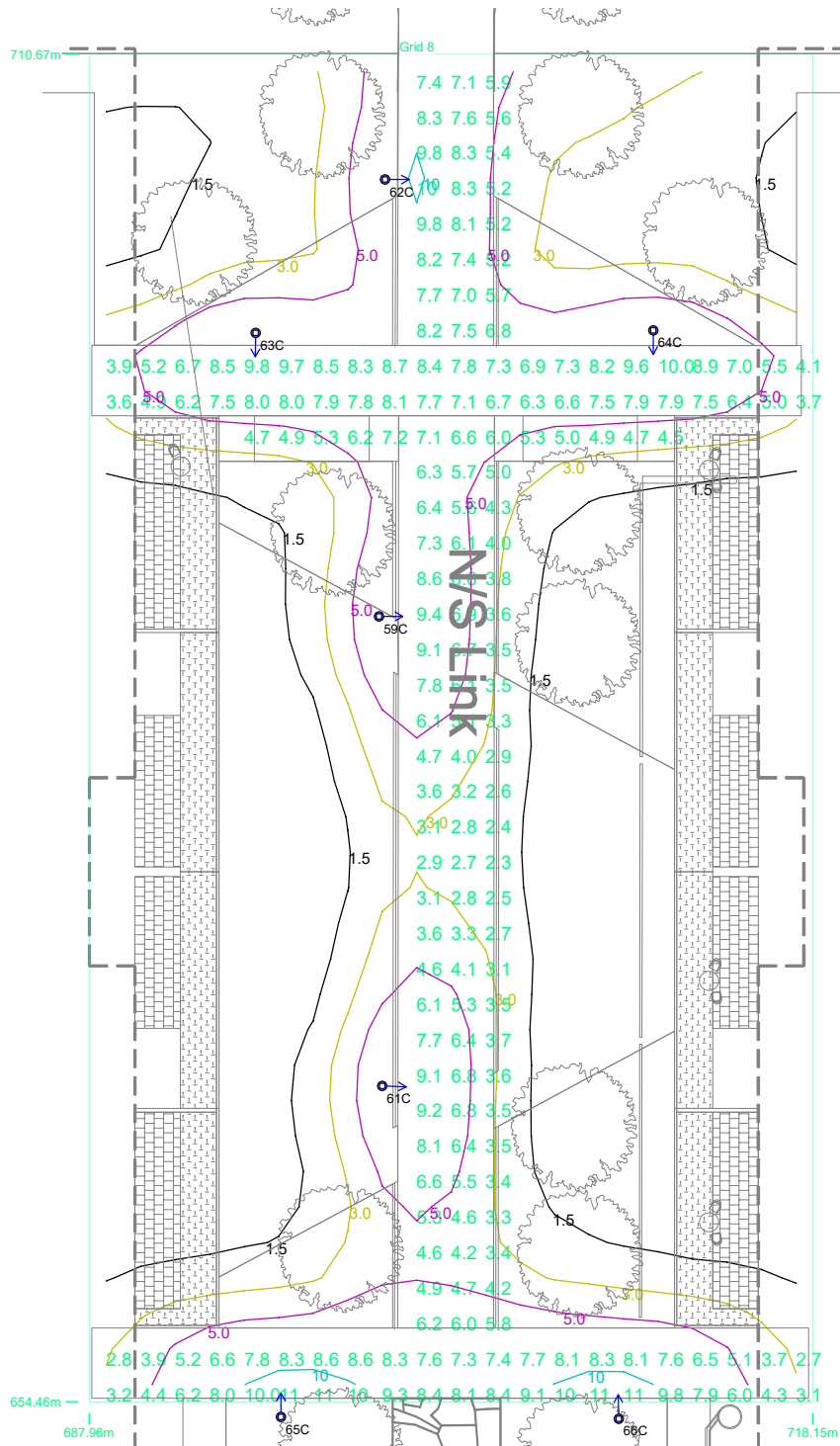
### Results

Eav	17.16
Emin	7.21
Emax	24.81
Emin/Emax	0.29
Emin/Eav	0.42
Emax/Eav	1.45



## Horizontal Illuminance (lux)

Grid 8

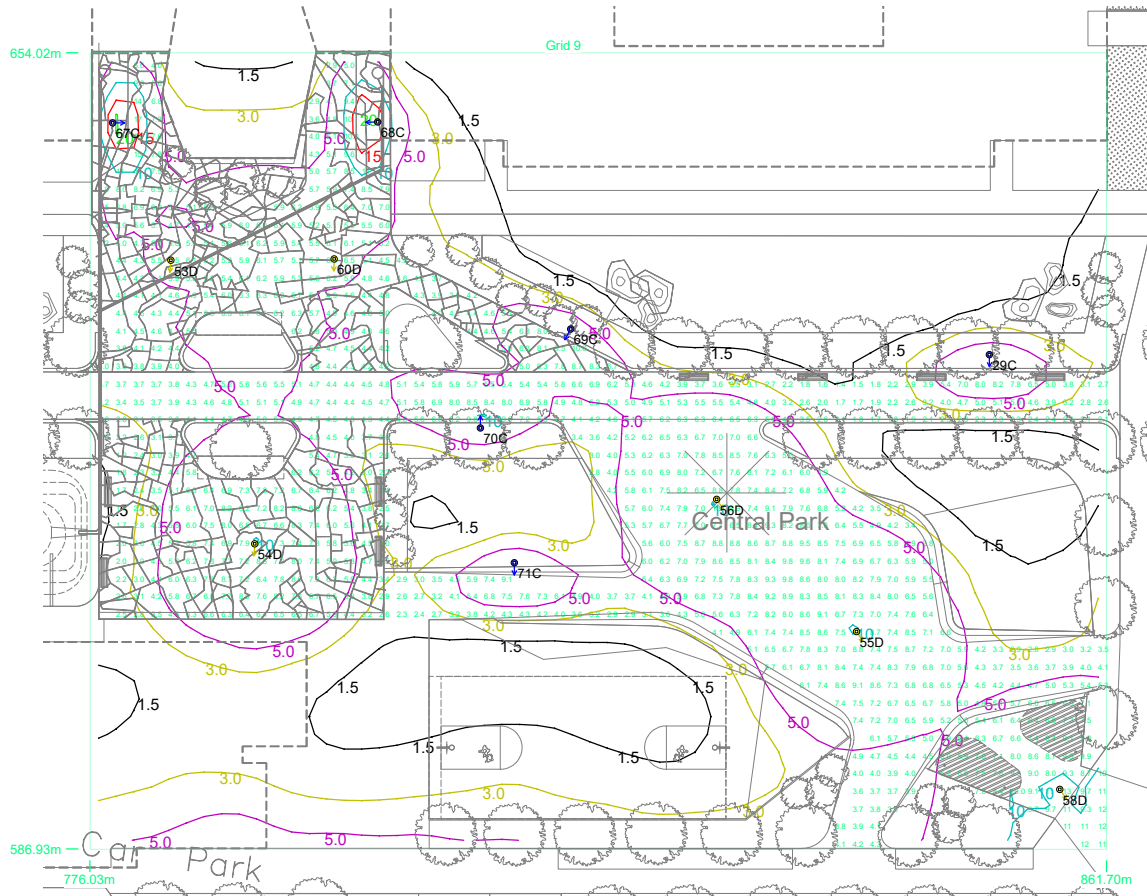


### Results

Eav	6.29
Emin	2.35
Emax	11.12
Emin/Emax	0.21
Emin/Eav	0.37
Emax/Eav	1.77

## Horizontal Illuminance (lux)

Grid 9



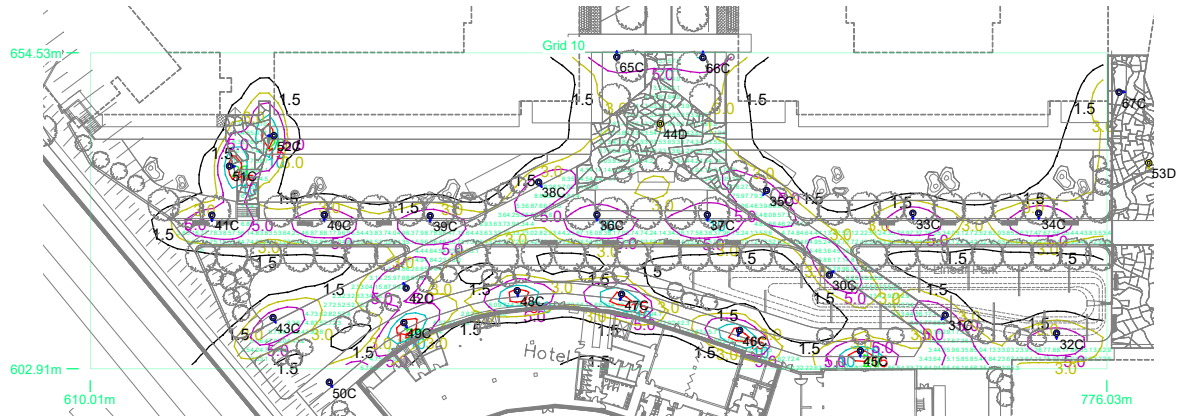
### Results

Eav	5.76
Emin	1.44
Emax	17.68
Emin/Emax	0.08
Emin/Eav	0.25
Emax/Eav	3.07



## Horizontal Illuminance (lux)

Grid 10

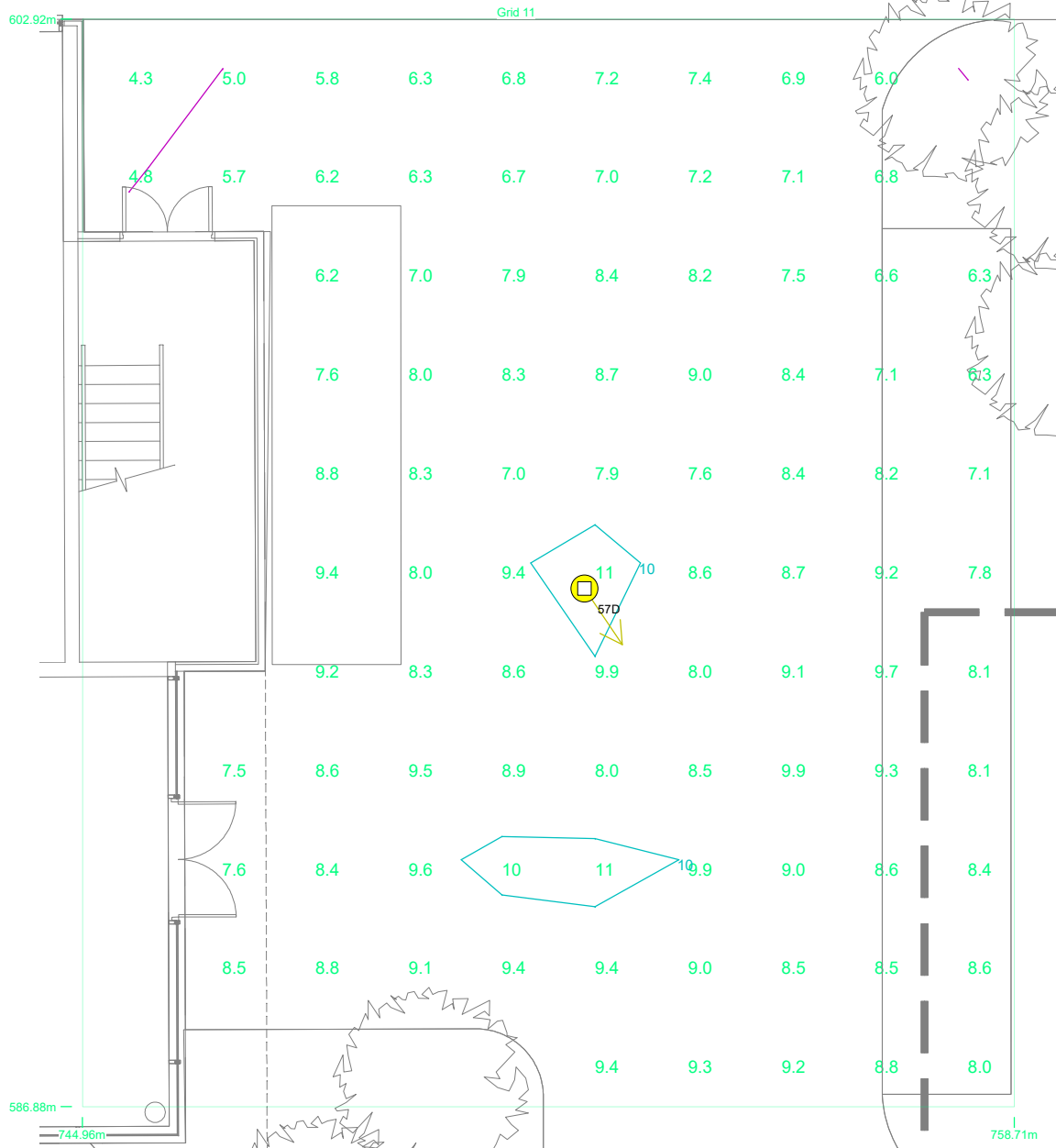


### Results

Eav	5.15
Emin	1.91
Emax	20.51
Emin/Emax	0.09
Emin/Eav	0.37
Emax/Eav	3.98

## Horizontal Illuminance (lux)

Grid 11

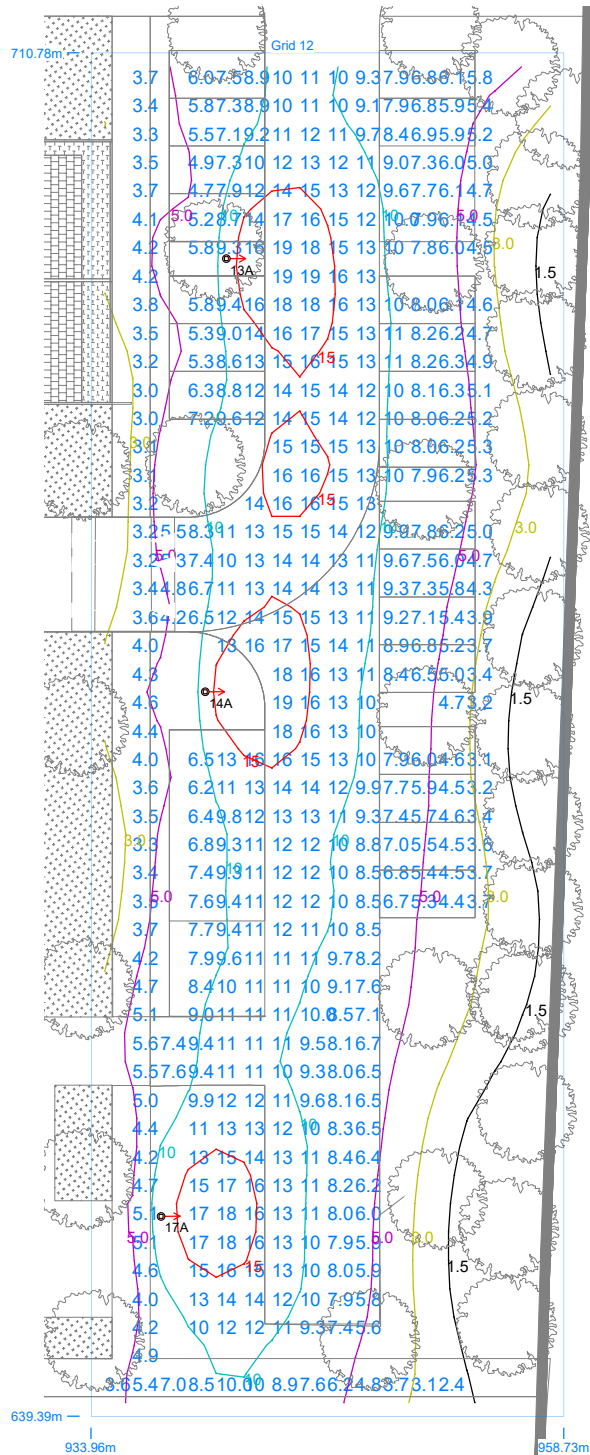


### Results

Eav	8.08
Emin	4.29
Emax	11.31
Emin/Emax	0.38
Emin/Eav	0.53
Emax/Eav	1.40

## Horizontal Illuminance (lux)

Grid 12

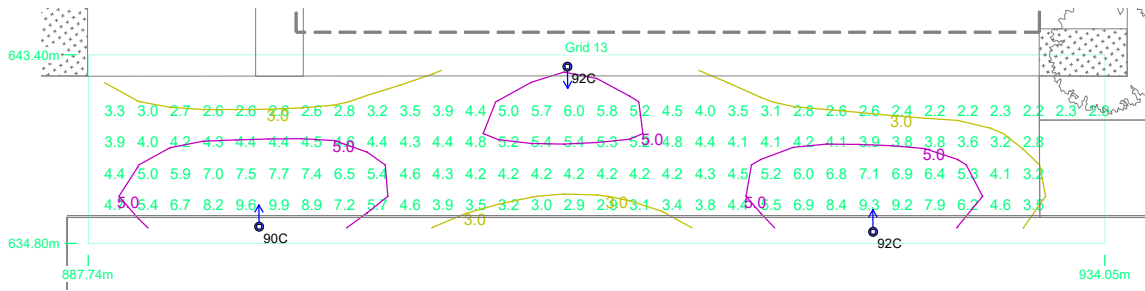


### Results

Eav	9.42
Emin	2.35
Emax	19.35
Emin/Emax	0.12
Emin/Eav	0.25
Emax/Eav	2.05

## Horizontal Illuminance (lux)

Grid 13



### Results

Eav	4.67
Emin	2.20
Emax	9.88
Emin/Emax	0.22
Emin/Eav	0.47
Emax/Eav	2.11