



## **APPENDIX 9-1**

***PUBLIC LIGHTING REPORT***

**DATE:** 16 August 2022  
**DESIGNER:** Alex Naper  
**PROJECT No:** SES 09922 Rev C  
**PROJECT NAME:** MOOR – Maynooth Outer Orbital Road - Sky Castle Ltd



Distributor road section designed in accordance with EN13201-2:2015 Category P2 with longitudinal uniformity meeting requirements of EN13201-2:2015 Category M4.

Junction sections designed in accordance with EN13201-2:2015 Category C3.

Link road section designed in accordance with EN13201-2:2015 Category P3 with longitudinal uniformity meeting requirements of EN13201-2:2015 Category M5.

Rev B: Updated layout.  
Rev C: Existing HID luminaires added

## **Outdoor Lighting Report**

**PREPARED BY:** Sabre Electrical Services Ltd.  
Unit 11,  
Bellview Industrial Estate,  
Tolka Valley Road,  
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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	693864.63	739395.68	54.00	68.83	1.50	1.50
2	Grid 2	693959.70	739297.35	46.43	43.42	1.50	1.50
3	Grid 3	693909.10	739363.32	172.43	109.41	1.50	1.50
4	Grid 4	694078.43	739267.61	52.41	43.42	1.50	1.50
5	Grid 5	694125.23	739254.25	195.00	54.00	1.50	1.50
6	Grid 6	694300.72	739246.43	52.41	43.42	1.50	1.50
7	Grid 7	694463.49	739145.49	52.41	43.42	1.50	1.50
8	Grid 8	694656.84	739000.69	120.00	99.00	1.50	1.50
9	Grid 9	694343.70	739623.78	118.04	98.84	1.48	1.50
10	Grid 10	694576.26	739100.39	175.00	374.26	1.50	1.50
11	Grid 11	694437.37	739569.37	219.63	99.00	2.75	1.50
12	Grid 12	694056.27	739503.77	144.00	295.00	1.50	1.50
13	Grid 13	693911.77	739445.58	108.00	146.74	1.50	1.50
14	Grid 14	694395.42	739629.43	69.00	184.00	1.50	1.50
15	Grid 15	694318.46	739267.24	69.00	321.76	1.50	1.50
16	Grid 16	694619.02	738523.02	114.00	138.00	1.50	1.50
17	Grid 17	694628.61	738660.04	114.00	362.00	1.50	1.50
18	Grid 18	694779.13	739002.56	274.00	189.00	1.50	1.50
19	Grid 19	694333.57	739208.13	365.00	85.44	1.50	1.50
20	Grid 20	693513.62	739293.26	151.01	375.94	1.50	1.50

### Luminaires



#### Luminaire A Data

Supplier	C U Phosco
Type	P863-128-R2E-730-W3-425-55W
Lamp(s)	730SS
Lamp Flux (klm)	7.78
File Name	P863-128-R2E-730-W3-425-55W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	463.7, 84.3, 0.0
No. in Project	28

#### Luminaire B Data

Supplier	C U Phosco
Type	E950-28-P4A-730-C550-14W
Lamp(s)	730N
Lamp Flux (klm)	2.08
File Name	E950-28-P4A-730-C0550-14W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	2



#### Luminaire C Data

Supplier	C U Phosco
Type	P862-256-R2E-730-W3-425-107W
Lamp(s)	730SS
Lamp Flux (klm)	14.97
File Name	P862-256-R2E-730-W3-425-107W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	458.4, 47.0, 0.0
No. in Project	27



#### Luminaire D Data

Supplier	C U Phosco
Type	P862-256-R2E-730-W3-250-64W
Lamp(s)	730SS
Lamp Flux (klm)	8.84
File Name	P862-256-R2E-730-W3-250-64W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	458.4, 47.0, 0.0
No. in Project	4

## Luminaires



### Luminaire E Data

Supplier	C U Phosco
Type	P862-256-R2E-730-W3-300-76W
Lamp(s)	730SS
Lamp Flux (klm)	10.70
File Name	P862-256-R2E-730-W3-300-76W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	458.4, 47.0, 0.0
No. in Project	37



### Luminaire F Data

Supplier	C U Phosco
Type	P863-128-R4-730-W3-300-40W
Lamp(s)	730SS
Lamp Flux (klm)	5.53
File Name	P863-128-R4-730-W3-300-40W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	386.2, 27.2, 0.4
No. in Project	10

### Luminaire J Data

Supplier	
Type	2685 SNN-1C#
Lamp(s)	1 ST 150 17500 2000 E40
LampFlux(klm)/Colour	17.50 1950 / 23
File Name	Arc 2685 SNN 1C# 1 ST 150 17500 1950 E 40.Idt
Maintenance Factor	0.75
Imax70,80,90(cd/klm)	352.0, 100.0, 5.0
No. in Project	6

**Layout**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	C	693893.29	739395.63	10.00	306.00	0.00	0.00	0.50			
2	C	693884.52	739362.91	10.00	136.00	0.00	0.00	0.50			
3	C	693933.49	739398.17	10.00	128.00	0.00	0.00	0.50			
4	A	693913.80	739367.43	8.00	47.00	0.00	0.00	0.50			
5	A	693958.11	739331.85	8.00	45.00	0.00	0.00	0.50			
6	A	693982.74	739327.61	8.00	248.00	0.00	0.00	0.50			
7	A	694008.53	739306.37	8.00	69.00	0.00	0.00	0.50			
8	A	693937.48	739346.51	8.00	53.00	0.00	0.00	0.50			
9	A	694040.33	739296.89	8.00	76.00	0.00	0.00	0.50			
10	A	694074.42	739291.17	8.00	78.00	0.00	0.00	0.50			
11	A	694108.62	739295.82	8.00	263.00	0.00	0.00	0.50			
12	A	694130.13	739283.09	8.00	82.00	0.00	0.00	0.50			
13	A	694163.81	739278.39	8.00	83.00	0.00	0.00	0.50			
14	B	693980.93	739311.36	6.00	151.00	0.00	0.00	0.40			
15	B	694112.38	739277.66	6.00	169.00	0.00	0.00	0.40			
16	A	694197.52	739273.55	8.00	85.00	0.00	0.00	0.50			
17	A	694231.04	739268.57	8.00	85.00	0.00	0.00	0.50			
18	A	694263.20	739263.98	8.00	85.00	0.00	0.00	0.50			
19	A	694296.89	739259.28	8.00	77.00	0.00	0.00	0.50			
20	A	694325.52	739253.15	8.00	73.00	0.00	0.00	0.50			
21	A	694350.78	739235.67	8.00	57.00	0.00	0.00	0.50			
22	F	694336.89	739268.29	8.00	317.00	0.00	0.00	0.50			
23	A	694379.13	739215.14	8.00	64.00	0.00	0.00	0.50			
24	A	694408.87	739198.81	8.00	60.00	0.00	0.00	0.50			
25	A	694438.79	739182.31	8.00	62.00	0.00	0.00	0.50			
26	A	694468.63	739165.98	8.00	61.00	0.00	0.00	0.50			
27	A	694498.75	739159.64	8.00	250.00	0.00	0.00	0.50			
28	A	694513.73	739141.44	8.00	55.00	0.00	0.00	0.50			
29	A	694482.37	739138.84	8.00	322.00	0.00	0.00	0.50			
30	D	694702.40	739062.93	10.00	304.00	0.00	0.00	0.50			
31	E	694686.20	739062.69	10.00	260.00	0.00	0.00	0.50			
32	D	694726.91	739065.21	10.00	227.00	0.00	0.00	0.50			
33	E	694703.44	739081.44	10.00	2.00	0.00	0.00	0.50			
34	E	694723.50	739097.46	10.00	191.00	0.00	0.00	0.50			
35	A	694663.96	739056.65	10.00	63.00	0.00	0.00	0.50			
36	D	694730.09	739046.72	10.00	102.00	0.00	0.00	0.50			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
37	D	694705.42	739037.94	10.00	23.00	0.00	0.00	0.50			
38	E	694707.20	739017.51	10.00	355.00	0.00	0.00	0.50			
39	E	694709.77	738982.63	10.00	2.00	0.00	0.00	0.50			
40	E	694753.36	739070.04	10.00	284.00	0.00	0.00	0.50			
41	E	694792.18	739081.88	10.00	291.00	0.00	0.00	0.50			
42	E	694830.26	739095.30	10.00	292.00	0.00	0.00	0.50			
43	E	694712.76	738943.79	10.00	2.00	0.00	0.00	0.50			
44	E	694708.66	738905.08	10.00	354.00	0.00	0.00	0.50			
45	E	694699.89	738866.95	10.00	348.00	0.00	0.00	0.50			
46	E	694692.32	738828.99	10.00	348.00	0.00	0.00	0.50			
47	E	694685.87	738789.77	10.00	349.00	0.00	0.00	0.50			
48	E	694681.26	738750.46	10.00	349.00	0.00	0.00	0.50			
49	E	694676.11	738711.51	10.00	349.00	0.00	0.00	0.50			
50	J	694686.56	738669.65	10.00	170.00	5.00	0.00	2.00			
51	J	694683.53	738647.14	10.00	170.00	5.00	0.00	2.00			
52	J	694681.45	738629.74	10.00	170.00	5.00	0.00	2.00			
53	J	694679.68	738609.10	10.00	170.00	5.00	0.00	2.00			
54	J	694674.47	738565.02	10.00	179.00	5.00	0.00	2.00			
55	E	694866.18	739112.99	10.00	304.00	0.00	0.00	0.50			
56	E	694900.50	739133.56	10.00	295.00	0.00	0.00	0.50			
57	E	694932.80	739154.34	10.00	303.00	0.00	0.00	0.50			
58	E	694924.94	739131.59	10.00	118.00	0.00	0.00	0.50			
59	A	694543.95	739124.55	8.00	55.00	0.00	0.00	0.50			
60	A	694574.07	739108.02	8.00	55.00	0.00	0.00	0.50			
61	A	694604.26	739091.24	8.00	55.00	0.00	0.00	0.50			
62	A	694634.40	739074.35	8.00	55.00	0.00	0.00	0.50			
63	E	694700.33	739131.26	10.00	2.00	0.00	0.00	0.50			
64	E	694714.20	739165.97	10.00	192.00	0.00	0.00	0.50			
65	E	694707.49	739198.13	10.00	189.00	0.00	0.00	0.50			
66	E	694700.32	739232.09	10.00	189.00	0.00	0.00	0.50			
67	E	694692.51	739267.89	10.00	189.00	0.00	0.00	0.50			
68	E	694668.67	739290.87	10.00	20.00	0.00	0.00	0.50			
69	E	694675.95	739328.25	10.00	194.00	0.00	0.00	0.50			
70	E	694662.56	739367.87	10.00	204.00	0.00	0.00	0.50			
71	E	694650.61	739399.35	10.00	211.00	0.00	0.00	0.50			
72	E	694637.49	739432.77	10.00	200.00	0.00	0.00	0.50			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
73	E	694444.07	739585.34	10.00	78.00	0.00	0.00	0.50			
74	C	694419.89	739630.01	10.00	357.00	0.00	0.00	0.50			
75	E	694455.92	739603.76	10.00	249.00	0.00	0.00	0.50			
76	C	694392.79	739610.16	10.00	274.00	0.00	0.00	0.50			
77	C	694409.11	739590.31	10.00	84.00	0.00	0.00	0.50			
78	C	694442.13	739661.78	10.00	171.00	0.00	0.00	0.50			
79	C	694433.45	739719.16	10.00	349.00	0.00	0.00	0.50			
81	E	694523.13	739574.51	10.00	243.00	0.00	0.00	0.50			
82	E	694554.52	739552.85	10.00	227.00	0.00	0.00	0.50			
83	E	694487.52	739592.02	10.00	243.00	0.00	0.00	0.50			
84	E	694582.12	739527.05	10.00	219.00	0.00	0.00	0.50			
85	E	694605.19	739497.98	10.00	214.00	0.00	0.00	0.50			
86	E	694623.32	739466.11	10.00	205.00	0.00	0.00	0.50			
87	C	693969.92	739420.83	10.00	122.00	0.00	0.00	0.50			
88	C	694007.60	739441.66	10.00	120.00	0.00	0.00	0.50			
89	C	694046.60	739460.24	10.00	117.00	0.00	0.00	0.50			
90	C	694085.95	739477.73	10.00	117.00	0.00	0.00	0.50			
91	C	694125.32	739495.25	10.00	115.00	0.00	0.00	0.50			
92	C	694164.72	739512.72	10.00	116.00	0.00	0.00	0.50			
93	C	694203.98	739530.23	10.00	118.00	0.00	0.00	0.50			
94	C	694243.41	739547.73	10.00	118.00	0.00	0.00	0.50			
95	C	694282.64	739565.09	10.00	111.00	0.00	0.00	0.50			
96	C	694321.57	739580.88	10.00	111.00	0.00	0.00	0.50			
97	C	694362.99	739590.09	10.00	88.00	0.00	0.00	0.50			
98	C	694439.58	739760.92	10.00	353.00	0.00	0.00	0.50			
99	C	694448.02	739803.25	10.00	349.00	0.00	0.00	0.50			
100	C	693760.38	739284.08	10.00	119.00	0.00	0.00	0.50			
101	C	693784.47	739320.17	10.00	309.00	0.00	0.00	0.50			
102	C	693725.22	739289.87	10.00	300.00	0.00	0.00	0.50			
103	F	693734.04	739298.83	8.00	38.00	0.00	0.00	0.50			
104	C	693847.09	739361.25	10.00	309.00	0.00	0.00	0.50			
105	C	693825.29	739321.26	10.00	128.00	0.00	0.00	0.50			
106	C	693690.52	739271.34	10.00	295.00	0.00	0.00	0.50			
111	F	694357.76	739301.16	8.00	338.00	0.00	0.00	0.50			
112	F	694368.26	739339.59	8.00	349.00	0.00	0.00	0.50			
113	F	694377.23	739377.91	8.00	338.00	0.00	0.00	0.50			

**Layout Continued**

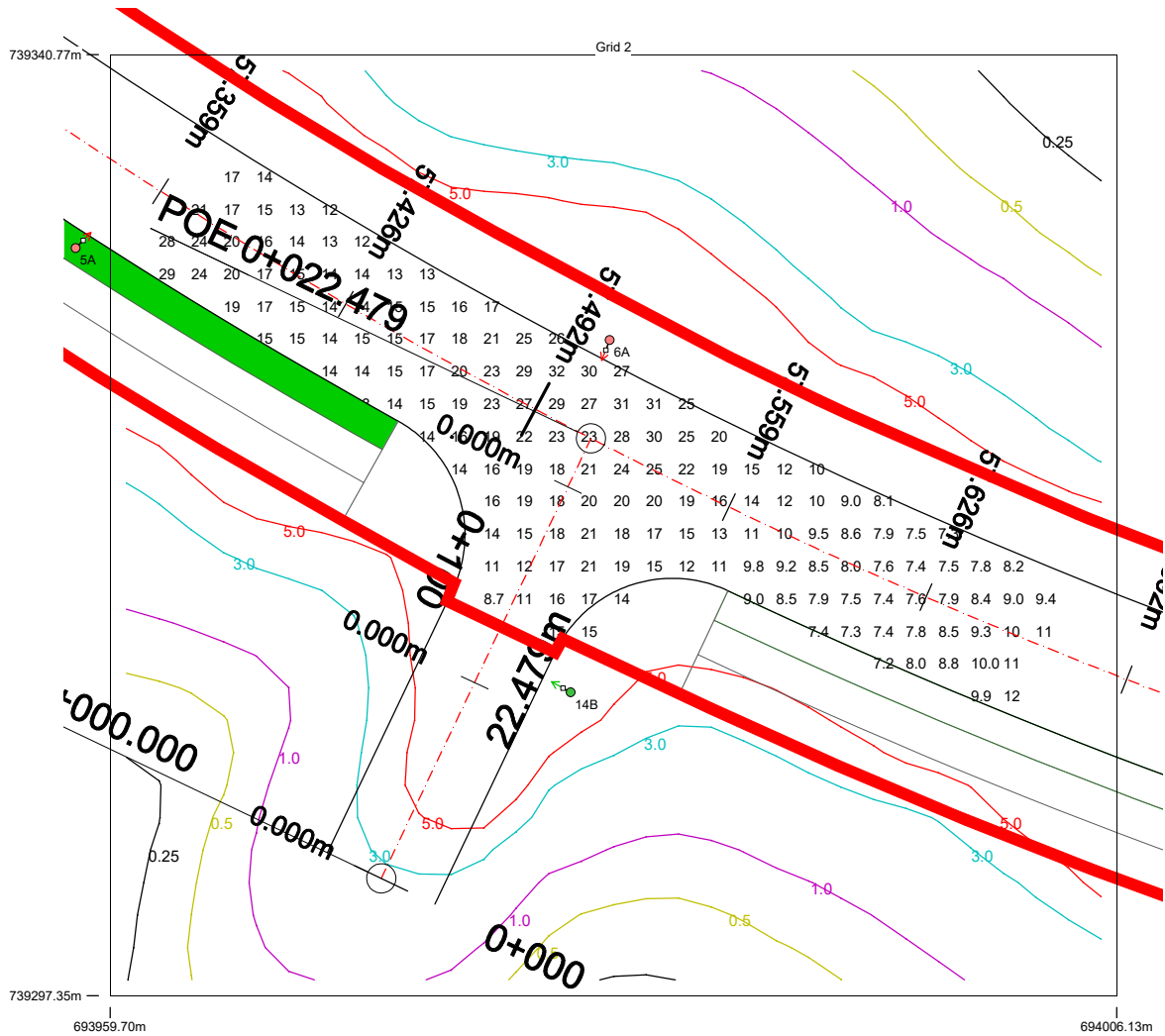
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
114	F	694385.75	739416.30	8.00	340.00	0.00	0.00	0.50			
115	F	694393.60	739454.76	8.00	339.00	0.00	0.00	0.50			
116	F	694401.10	739493.28	8.00	345.00	0.00	0.00	0.50			
117	F	694408.06	739531.35	8.00	351.00	0.00	0.00	0.50			
118	F	694414.57	739569.78	8.00	351.00	0.00	0.00	0.50			
119	J	694670.51	738542.82	10.00	170.00	5.00	0.00	2.00			





## Horizontal Illuminance (lux)

Grid 2

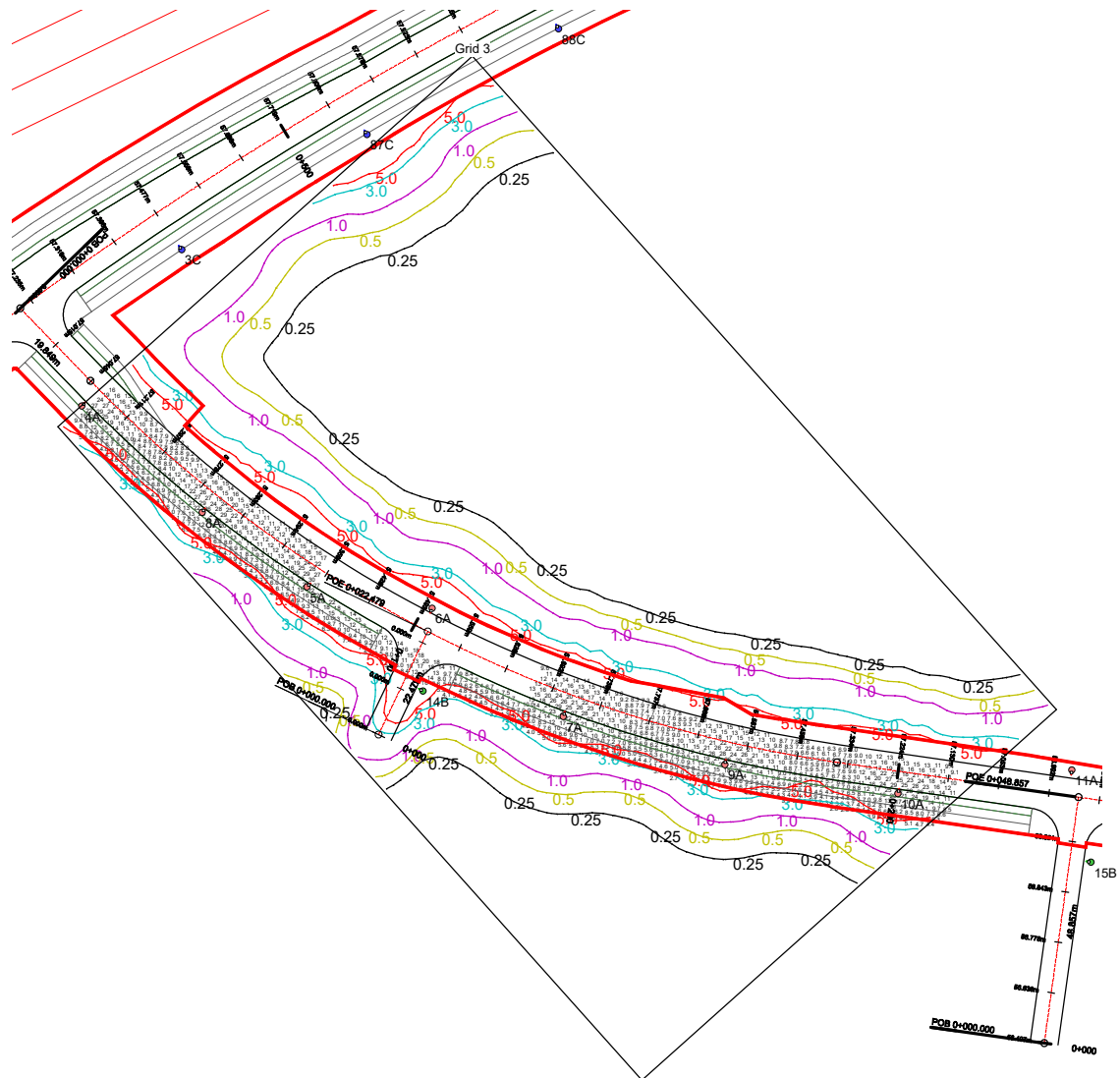


### Results

Eav	15.62
Emin	7.25
Emax	32.15
Emin/Emax	0.23
Emin/Eav	0.46

# Horizontal Illuminance (lux)

Grid 3

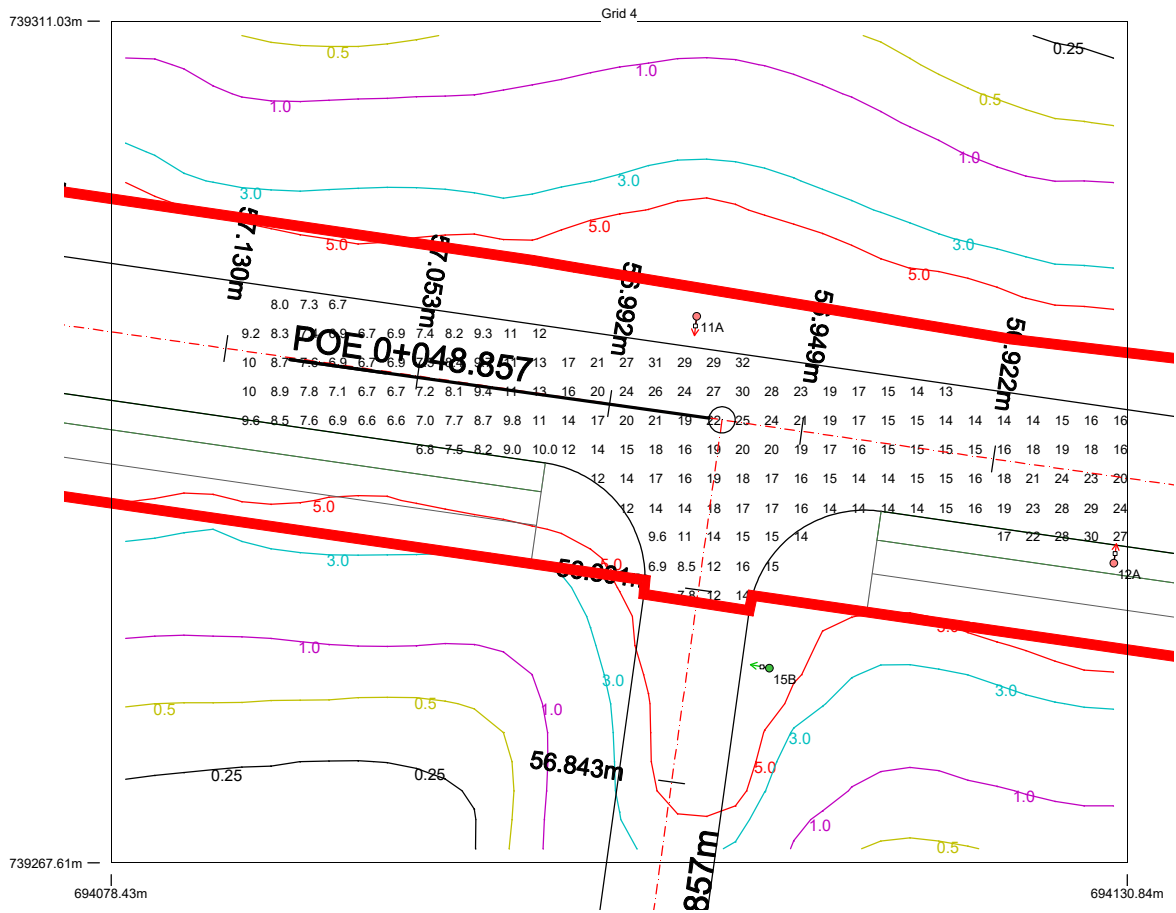


## Results

Eav	11.59
Emin	2.58
Emax	29.50
Emin/Emax	0.09
Emin/Eav	0.22

# Horizontal Illuminance (lux)

Grid 4

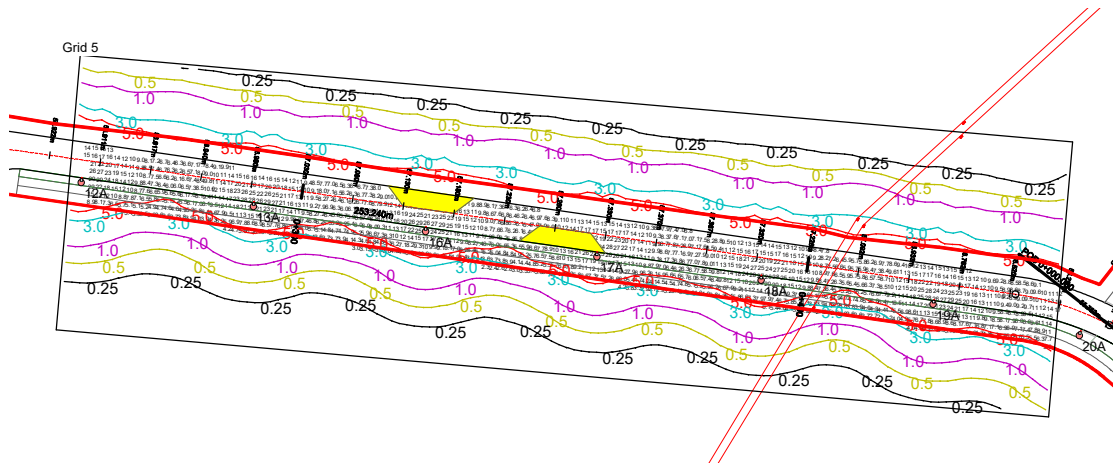


### Results

Eav	15.06
Emin	6.56
Emax	31.93
Emin/Emax	0.21
Emin/Eav	0.44

## Horizontal Illuminance (lux)

Grid 5



### Results

Eav	10.71
Emin	2.25
Emax	29.30
Emin/Emax	0.08
Emin/Eav	0.21

# Horizontal Illuminance (lux)

Grid 6



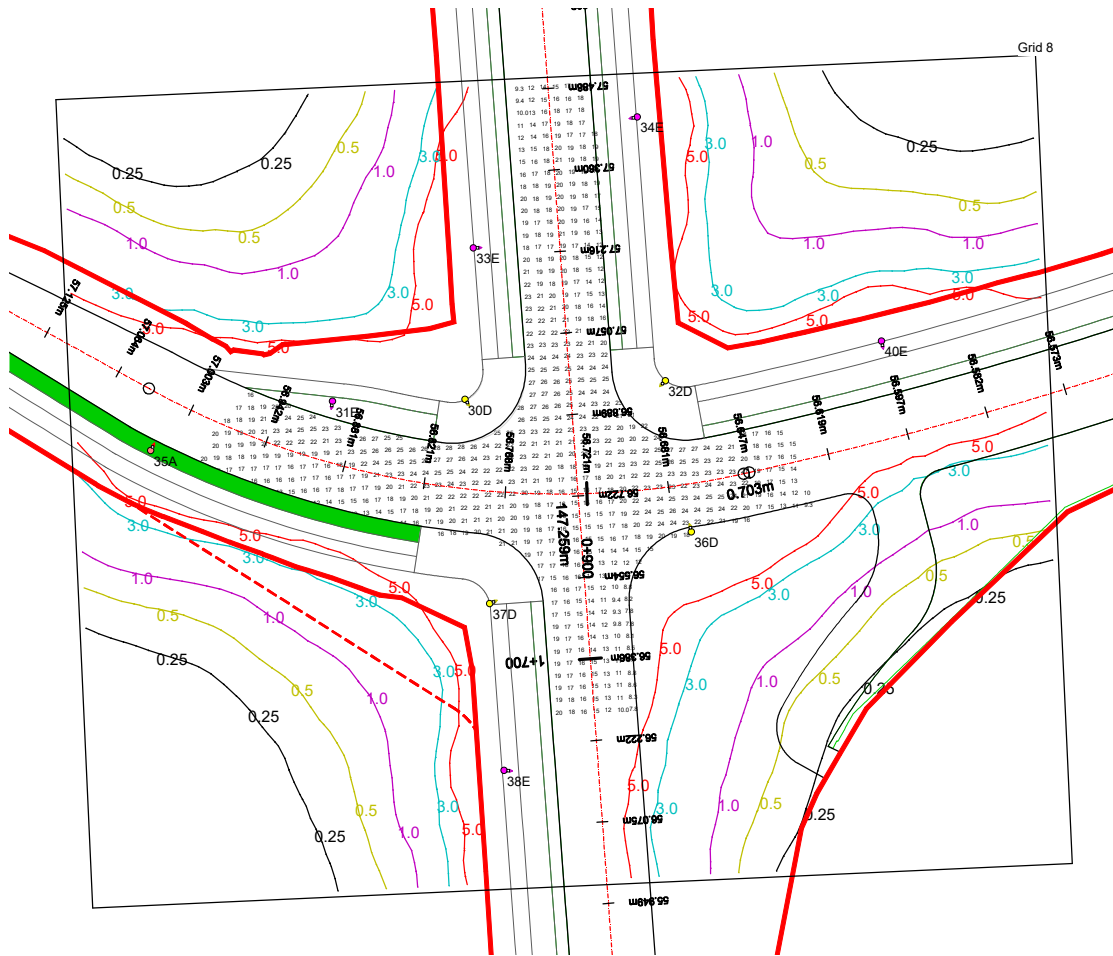
## Results

Eav	15.46
Emin	6.87
Emax	32.79
Emin/Emax	0.21
Emin/Eav	0.44



# Horizontal Illuminance (lux)

Grid 8



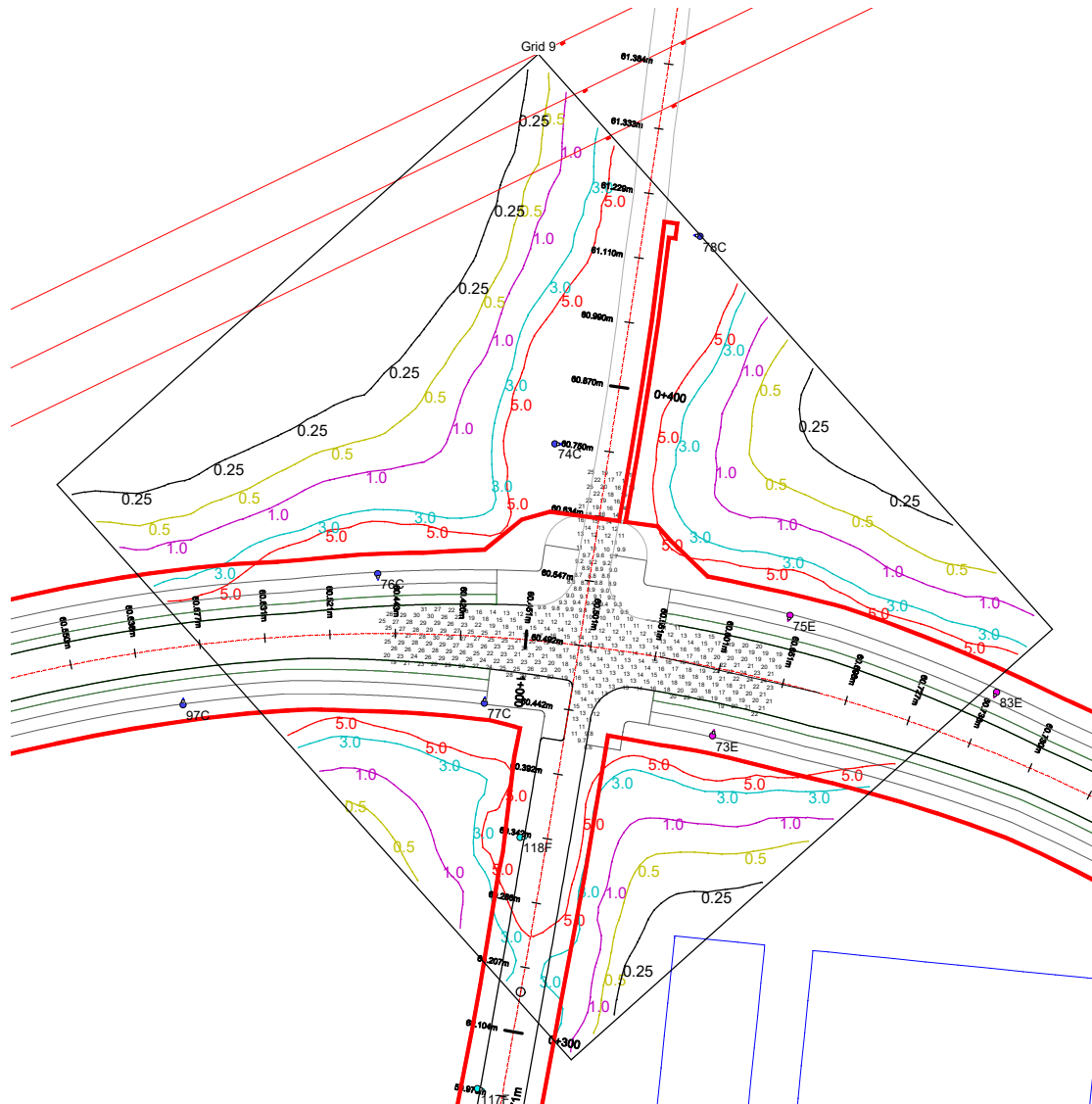
## Results

Eav	18.98
Emin	7.75
Emax	28.42
Emin/Emax	0.27
Emin/Eav	0.41



# Horizontal Illuminance (lux)

Grid 9

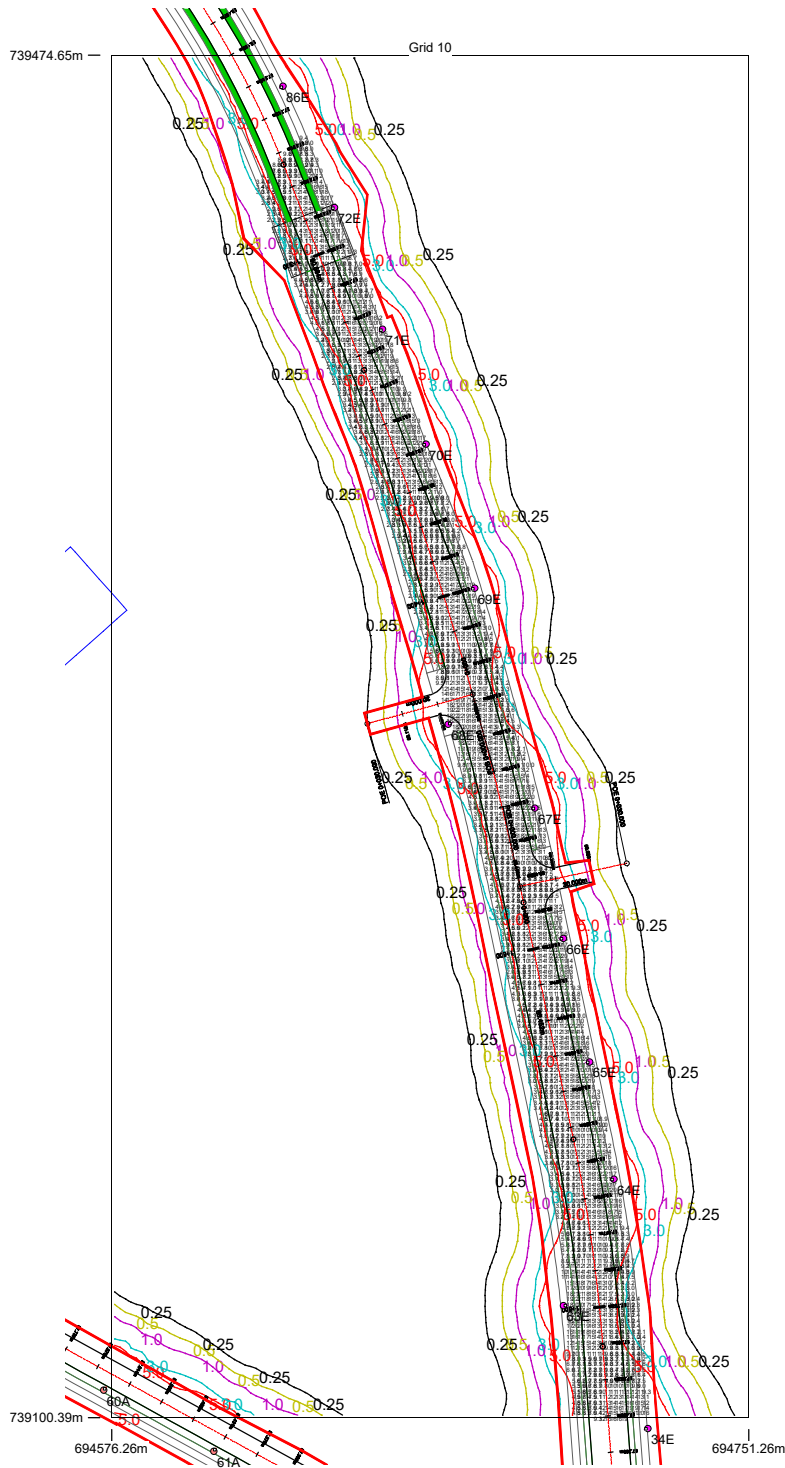


## Results

Eav	17.49
Emin	8.56
E <sub>max</sub>	30.79
E <sub>min</sub> /E <sub>max</sub>	0.28
E <sub>min</sub> /E <sub>av</sub>	0.49

# Horizontal Illuminance (lux)

Grid 10

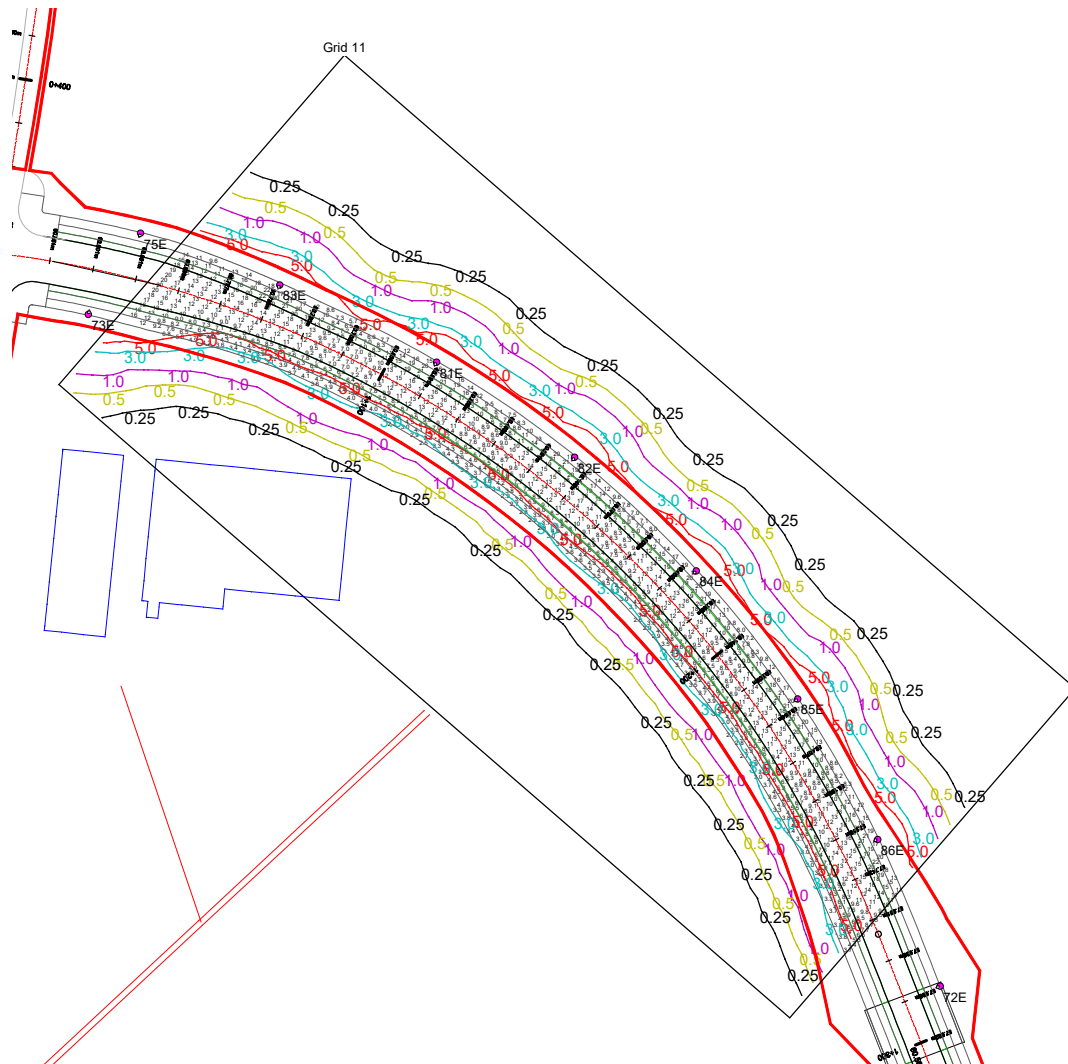


## Results

Eav	10.61
Emin	2.09
Emax	22.39
Emin/Emax	0.09
Emin/Eav	0.20

# Horizontal Illuminance (lux)

Grid 11

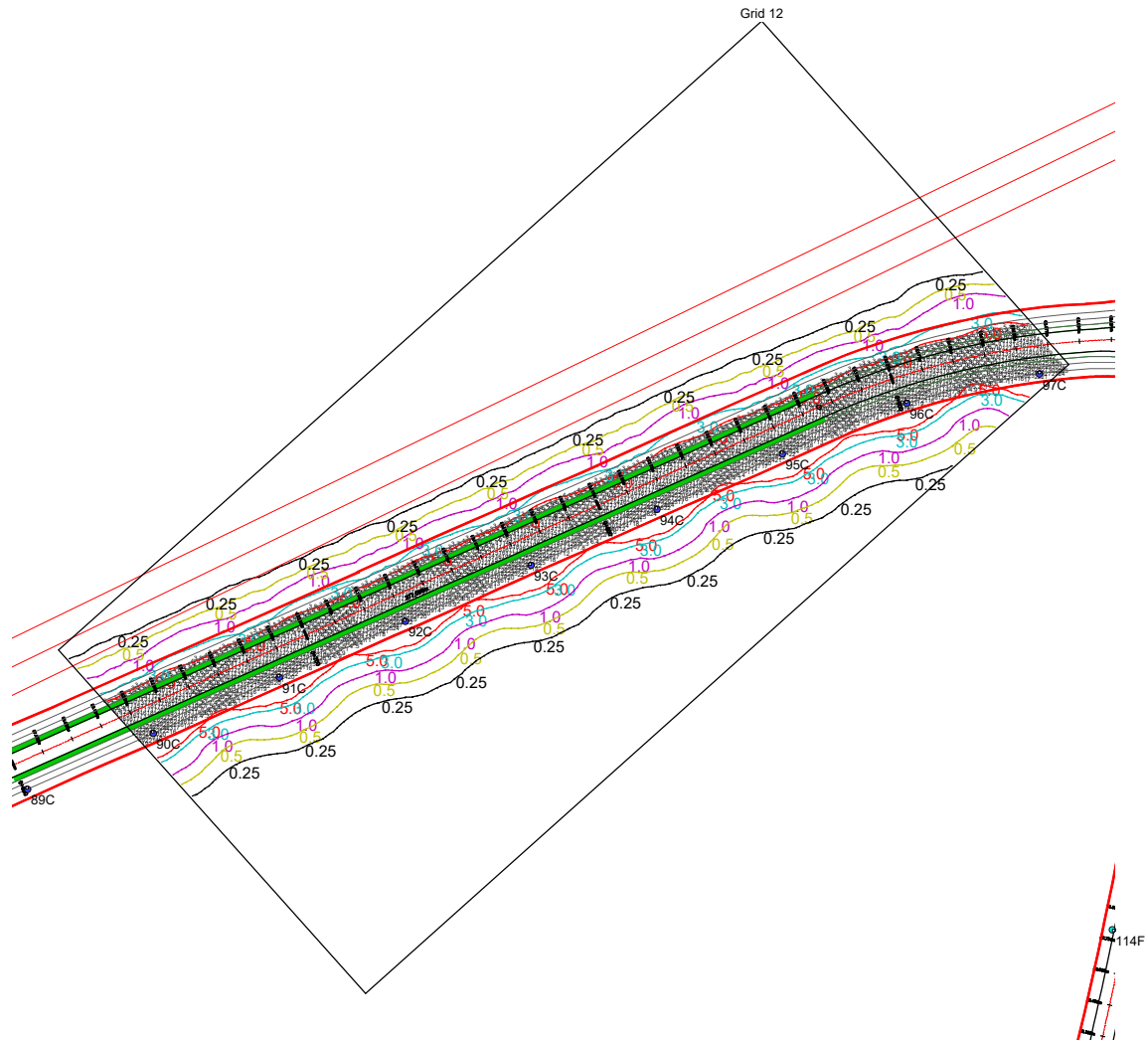


### Results

Eav	10.42
Emin	2.51
Emax	21.66
Emin/Emax	0.12
Emin/Eav	0.24

# Horizontal Illuminance (lux)

Grid 12

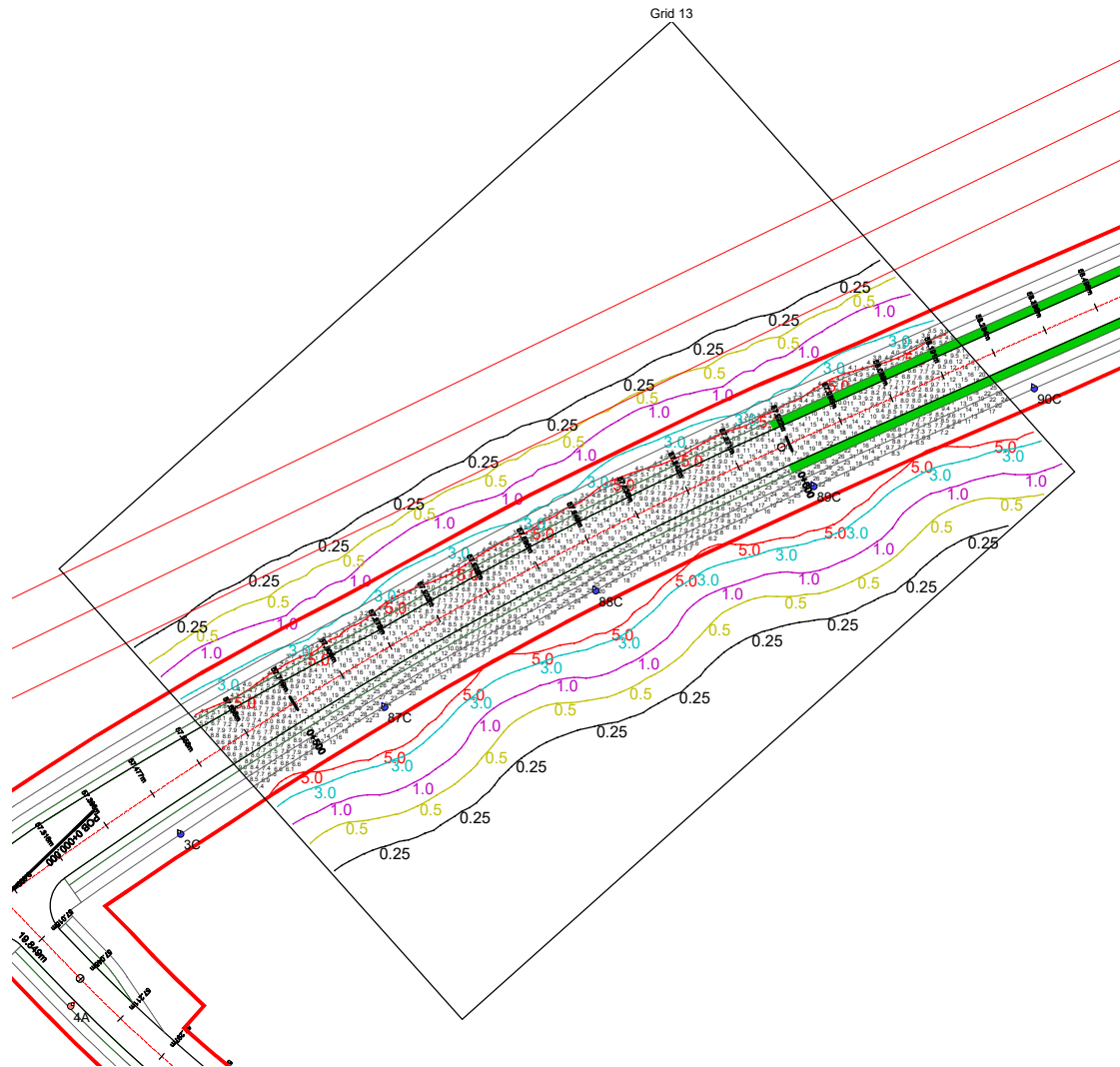


## Results

Eav	12.33
Emin	3.00
Emax	30.25
Emin/Emax	0.10
Emin/Eav	0.24

# Horizontal Illuminance (lux)

Grid 13

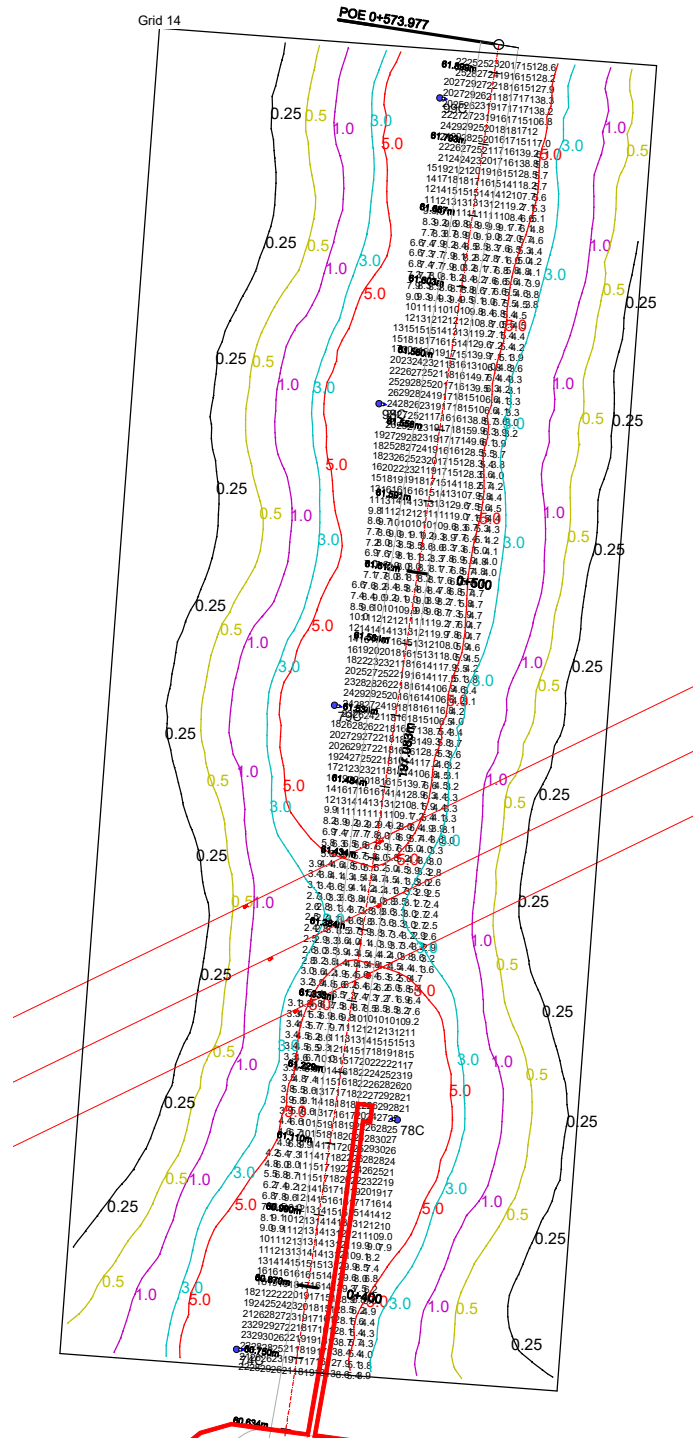


## Results

Eav	11.68
Emin	2.97
E <sub>max</sub>	29.38
E <sub>min</sub> /E <sub>max</sub>	0.10
E <sub>min</sub> /E <sub>av</sub>	0.25

# Horizontal Illuminance (lux)

Grid 14

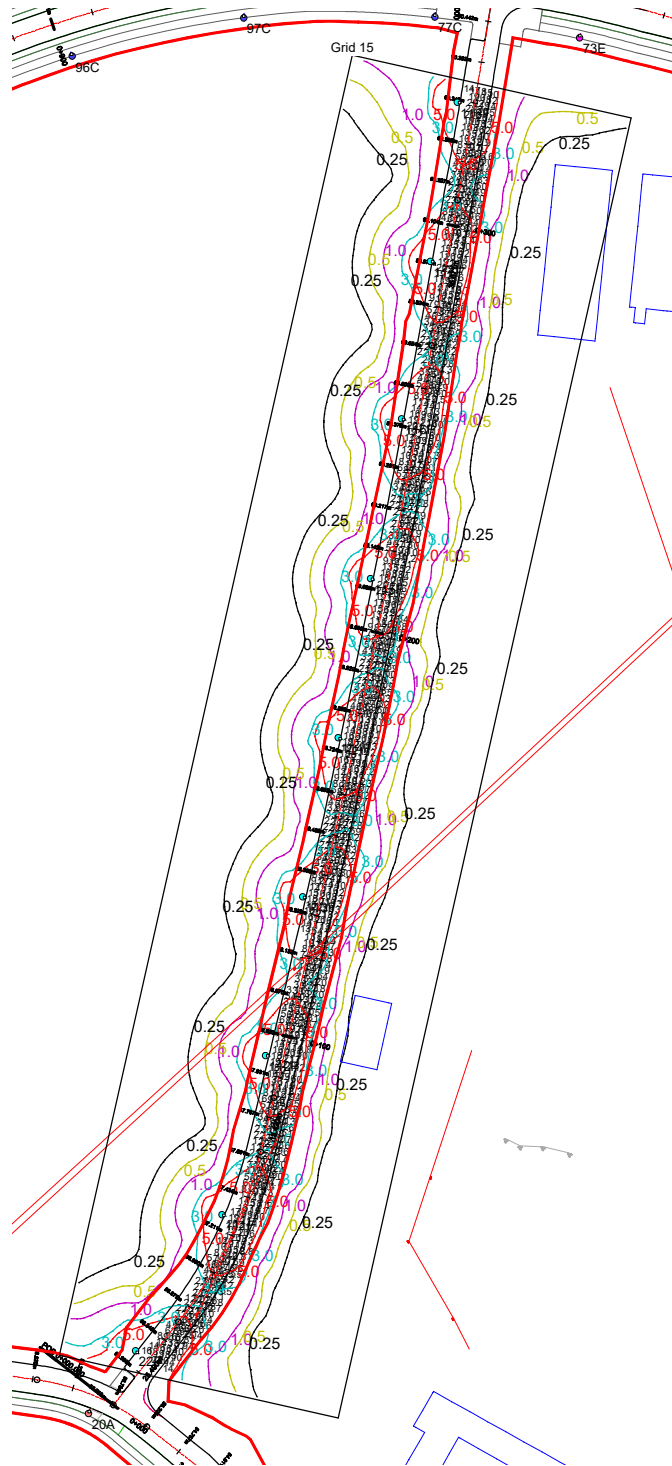


## Results

Eav	12.30
Emin	2.41
Emax	29.89
Emin/Emax	0.08
Emin/Eav	0.20

# Horizontal Illuminance (lux)

Grid 15



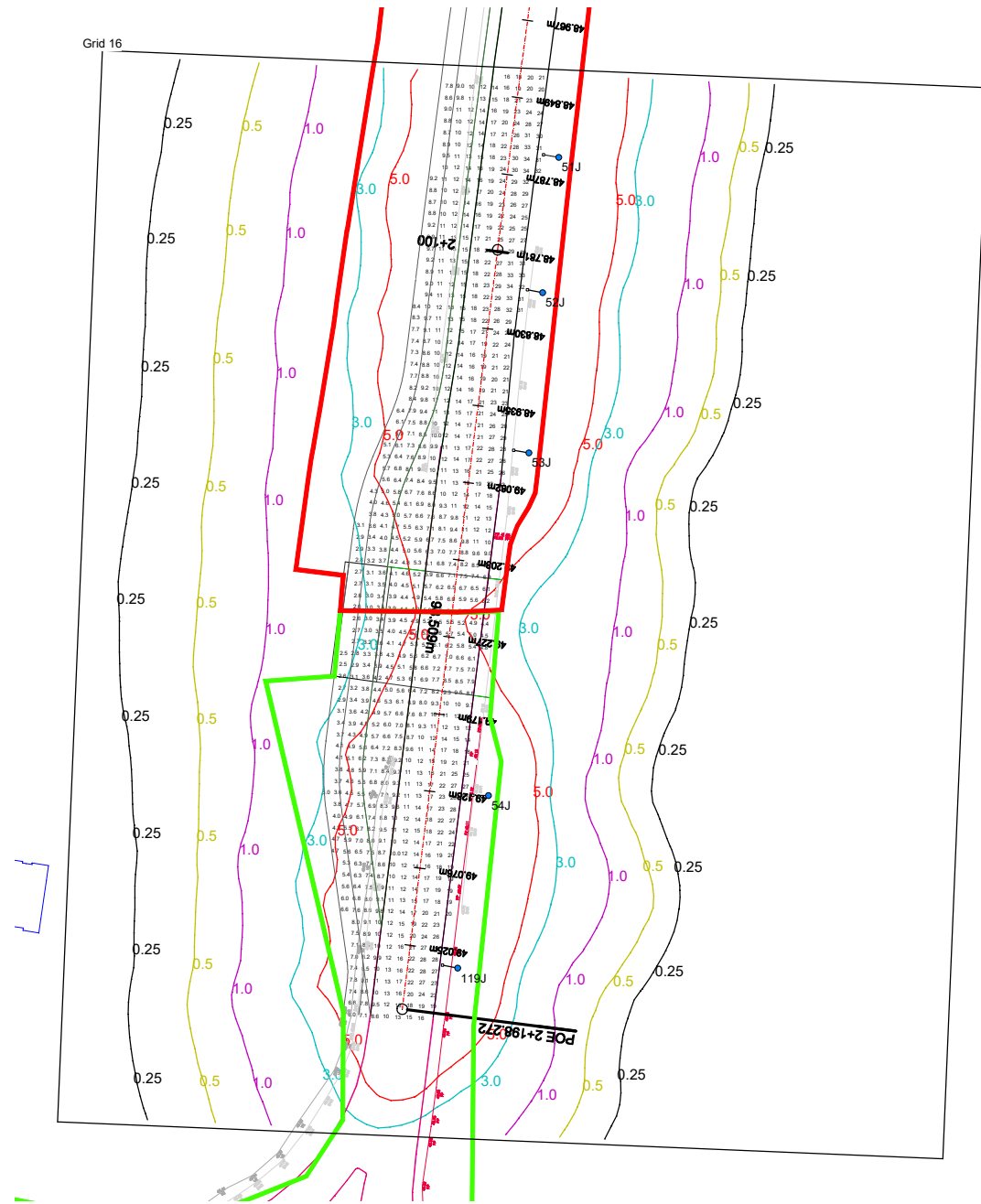
## Results

Eav	9.01
Emin	1.87
Emax	22.13
Emin/Emax	0.08
Emin/Eav	0.21



# Horizontal Illuminance (lux)

Grid 16



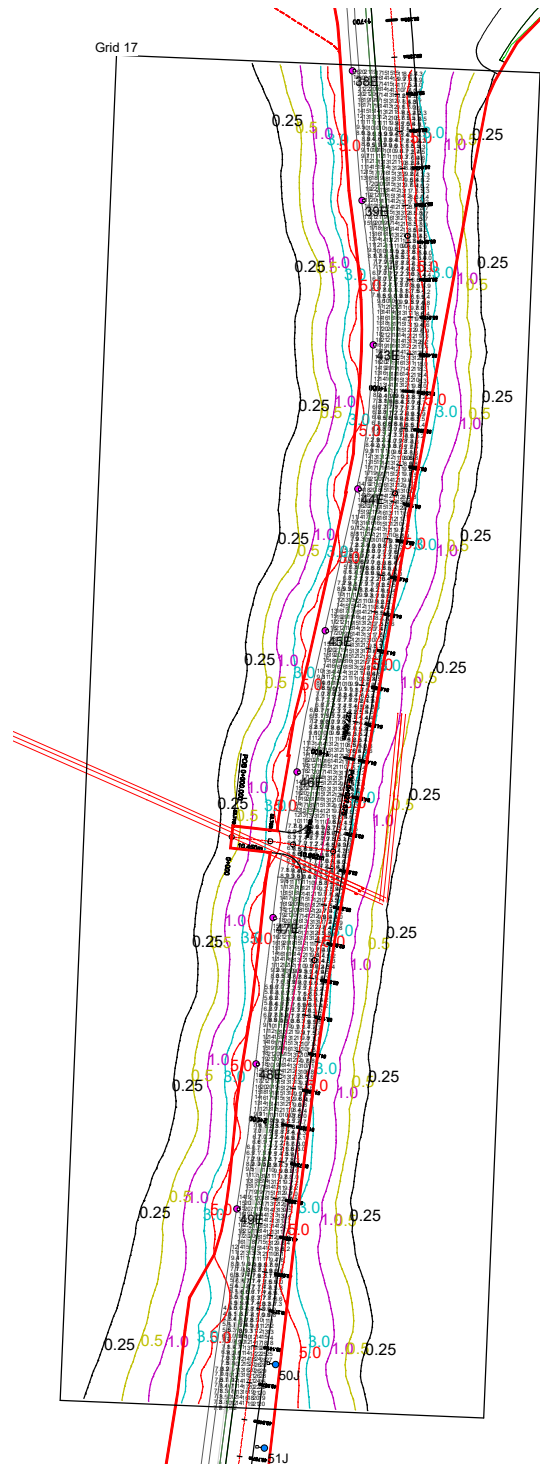
## Results

Eav	12.41
Emin	2.45
Emax	34.24
Emin/Emax	0.07
Emin/Eav	0.20



# Horizontal Illuminance (lux)

Grid 17

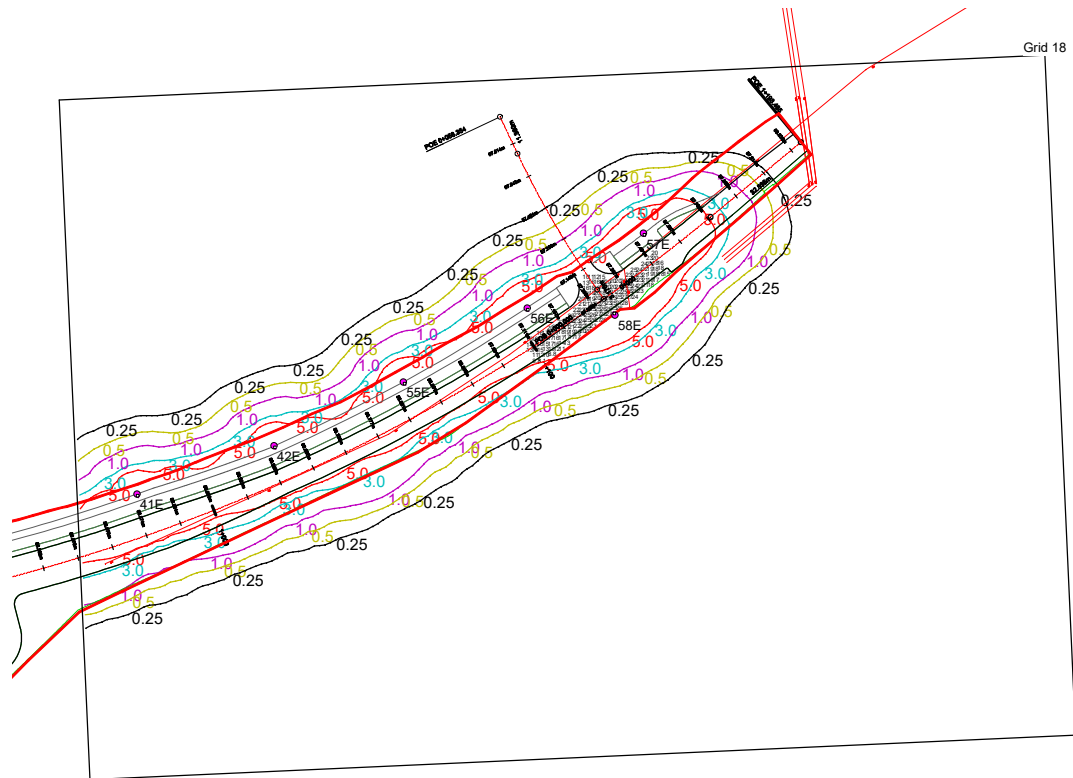


## Results

Eav	10.69
Emin	2.65
Emax	28.54
Emin/Emax	0.09
Emin/Eav	0.25

# Horizontal Illuminance (lux)

Grid 18

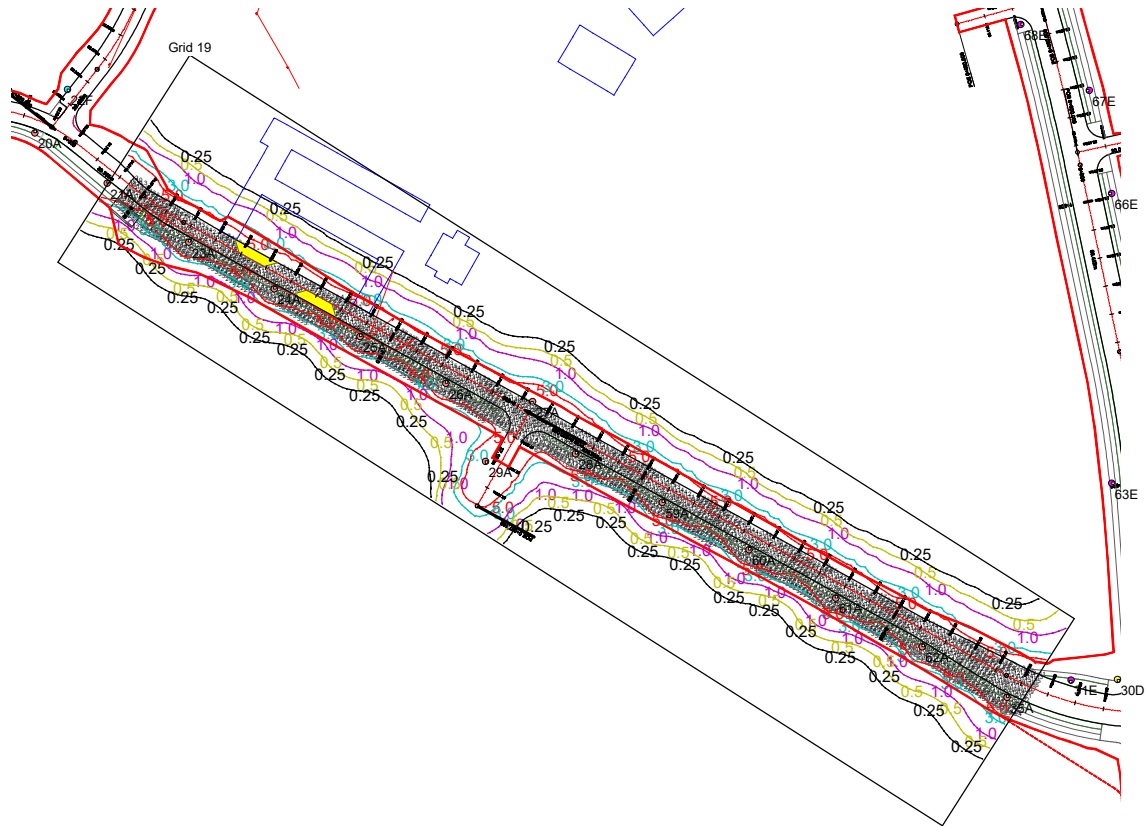


### Results

Eav	19.83
Emin	8.05
E <sub>max</sub>	27.57
E <sub>min</sub> /E <sub>max</sub>	0.29
E <sub>min</sub> /E <sub>av</sub>	0.41

## Horizontal Illuminance (lux)

Grid 19

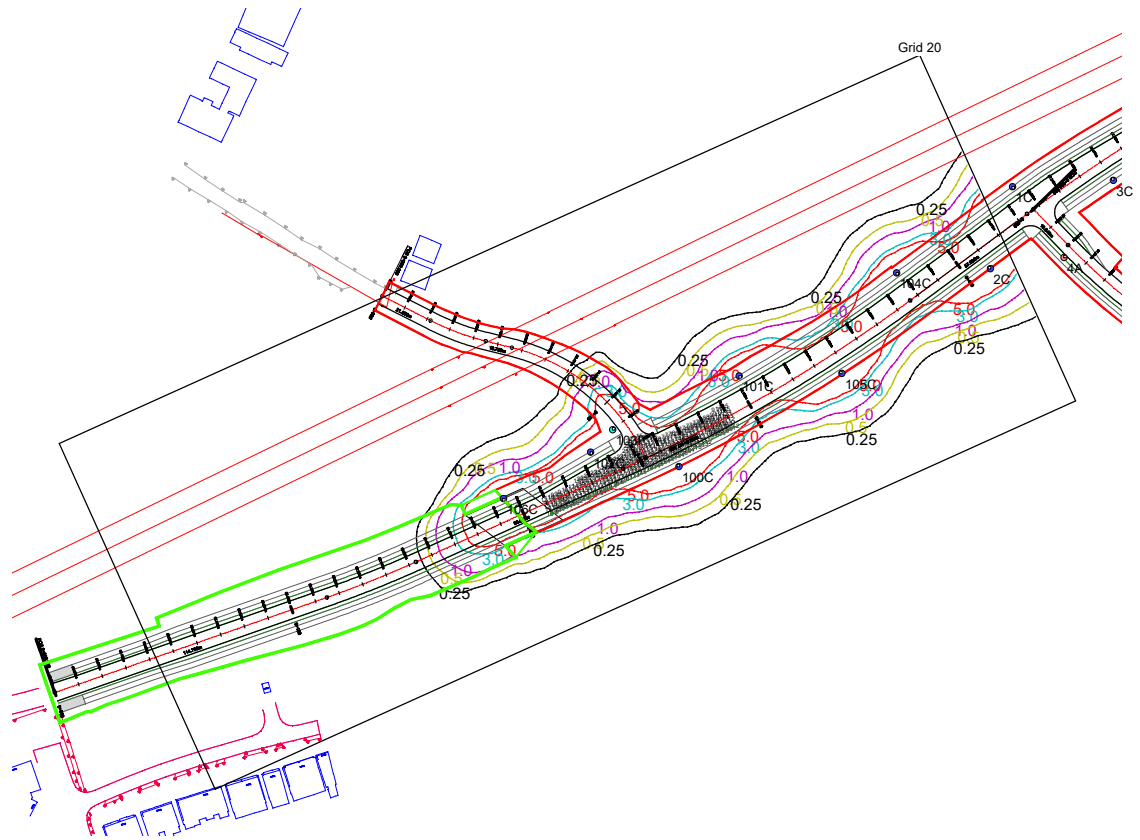


### Results

Eav	11.01
Emin	2.36
Emax	31.00
Emin/Emax	0.08
Emin/Eav	0.21

# Horizontal Illuminance (lux)

Grid 20



## Results

Eav	15.07
Emin	6.86
E <sub>max</sub>	27.68
Emin/E <sub>max</sub>	0.25
Emin/Eav	0.46