

DATE: 8 July 2022
DESIGNER: James Duffin
PROJECT No: EVO331011-AC-001-A
PROJECT NAME: Land Off Providence Hill, Bursledon

ENERVEO

Land Off Providence Hill, Bursledon

Lighting Class - P6

Hampshire
Lantern - Urbis Schreder Axia 3.1
Colour Temperature - 4000K
Maintenance Factor - 0.85

Outdoor Lighting Report

PREPARED BY: James Duffin BA (Hons) IEng MILP
Lighting Designer
Enerveo
Solent Park, 1st Floor,
Walton Road,
Portsmouth.
PO6 1UJ
e-mail: james.duffin@enerveo.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	Grid 1 - P6	448576.64	110615.34	54.00	219.00	1.50	1.50
2	Grid 2 - P6	448499.02	110814.77	81.00	27.00	1.50	1.50
3	Grid 3 - P6	448692.32	110604.25	74.51	267.00	1.49	1.50
4	Grid 4 - P6	448581.49	110624.68	108.00	75.00	1.50	1.50
5	Grid 5 - Vertical Plots 45...	448582.91	110659.33	10.76	5.00	1.34	1.25
6	Grid 6 - Vertical Plot 82	448541.14	110699.35	9.42	5.00	1.35	1.25
7	Grid 7 - Vertical Plots 53...	448537.86	110737.16	10.58	5.00	1.32	1.25
8	Grid 8 - Vertical Plots 59...	448519.45	110795.91	15.94	5.00	1.45	1.25
9	Grid 9 - Vertical Plots 62...	448538.20	110819.65	18.54	5.00	1.43	1.25
10	Grid 10 - Vertical Plots 6...	448519.86	110816.82	10.59	5.00	1.32	1.25
11	Grid 11 - Vertical Plots 1...	448567.25	110797.16	9.35	5.00	1.34	1.25
12	Grid 12 - Vertical Plots 1...	448602.20	110714.36	9.34	5.00	1.33	1.25
13	Grid 13 - Vertical Plots 2...	448651.57	110656.24	9.30	5.00	1.33	1.25
14	Grid 14 - Vertical Plots 2...	448677.96	110622.33	18.52	5.00	1.42	1.25
15	Grid 15 - Vertical 25-30 (...)	448670.43	110614.81	10.55	5.00	1.32	1.25
16	Grid 16 - Vertical Plots 3...	448654.28	110593.73	18.51	5.00	1.42	1.25
17	Grid 17	448617.37	110624.27	10.58	5.00	1.32	1.25
18	Grid 18 - Cul de sac - P6	448484.24	110653.70	75.00	27.00	1.50	1.50
19	Grid 19 - Vertical Plots 8...	448483.52	110681.51	60.38	5.00	1.47	1.25

Luminaires

Luminaire A Data

Supplier	Urbis Schreder
Type	AXIA 3.1 5266 Integrated lenses Rear louvers 8 OSLO SQUARE
Lamp(s)	8 OSLO SQUARE GIANT@300mA NW 740 230V 01-37-041
LampFlux(klm)/Colour	0.89 NW 4000K/70
File Name	AXIA 3.1 5266 8 OSLO SQUARE GIANT 300mA NW 740 8.4W 457662 Integrated I...
Maintenance Factor	0.85
Imax70,80,90(cd/klm)	1216.3, 169.4, 0.0
No. in Project	10

Luminaire B Data

Supplier	Urbis Schreder
Type	AXIA 3.1 5267 Integrated lenses Rear louvers 16 OSLO SQUARE
Lamp(s)	16 OSLO SQUARE GIANT@200mA NW 740 230V 01-37-041
LampFlux(klm)/Colour	1.10 NW 4000K/70
File Name	AXIA 3.1 5267 16 OSLO SQUARE GIANT 200mA NW 740 11.2W 457672 Integrated I...
Maintenance Factor	0.85
Imax70,80,90(cd/klm)	1281.8, 174.5, 0.0
No. in Project	7

Luminaire C Data

Supplier	Urbis Schreder
Type	AXIA 3.1 5295 Integrated lenses - 8 OSLO SQUARE GIANT@300mA
Lamp(s)	8 OSLO SQUARE GIANT@300mA NW 740 230V 01-37-041
LampFlux(klm)/Colour	1.15 NW 4000K/70
File Name	AXIA 3.1 5295 8 OSLO SQUARE GIANT 300mA NW 740 8.4W 435822 Integrated I...
Maintenance Factor	0.85
Imax70,80,90(cd/klm)	711.2, 23.8, 0.0
No. in Project	11

Luminaire Z Data

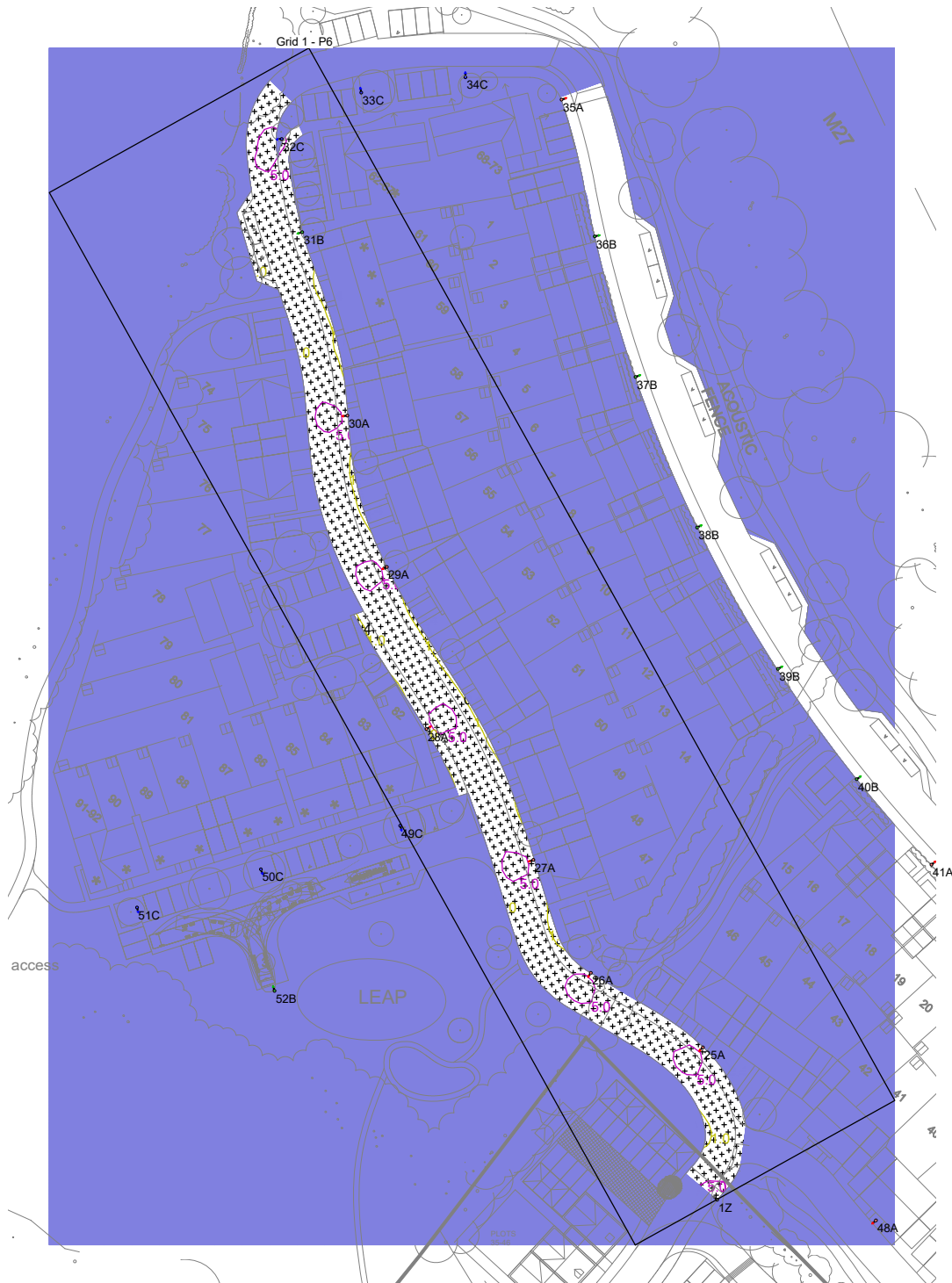
Supplier	Mini Luma R4 LO
Type	12-40 DS-CW 1 1100-11100 CW LED
Lamp(s)	1.40 CW/72
LampFlux(klm)/Colour	1.40 CW/72
File Name	Mini Luma 1B R4 LO DS-CW 1 1400 CW LED.Idt
Maintenance Factor	0.75
Imax70,80,90(cd/klm)	502.9, 33.0, 0.0
No. in Project	1

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	Z	448591.55	110623.56	6.00	142.00	5.00	0.00	0.40			
25	A	448588.94	110651.26	6.00	223.00	0.00	0.00	0.40			
26	A	448568.58	110664.83	6.00	236.00	0.00	0.00	0.40			
27	A	448558.12	110685.37	6.00	200.00	0.00	0.00	0.40			
28	A	448538.69	110709.14	6.00	31.00	0.00	0.00	0.40			
29	A	448531.50	110738.61	6.00	204.00	0.00	0.00	0.40			
30	A	448524.29	110766.12	6.00	185.00	0.00	0.00	0.40			
31	B	448516.11	110799.47	6.00	195.00	0.00	0.00	0.40			
32	C	448512.38	110816.42	6.00	184.00	0.00	0.00	0.40			
33	C	448526.83	110824.85	6.00	99.00	0.00	0.00	0.40			
34	C	448545.77	110827.65	6.00	91.00	0.00	0.00	0.40			
35	A	448563.25	110823.59	6.00	18.00	0.00	0.00	0.40			
36	B	448569.29	110798.73	6.00	13.00	0.00	0.00	0.40			
37	B	448576.70	110773.17	6.00	20.00	0.00	0.00	0.40			
39	B	448602.59	110720.08	6.00	29.00	0.00	0.00	0.40			
40	B	448616.89	110700.04	6.00	35.00	0.00	0.00	0.40			
41	A	448630.48	110684.48	6.00	39.00	0.00	0.00	0.40			
38	B	448587.88	110745.78	6.00	27.00	0.00	0.00	0.40			
42	A	448650.50	110661.75	6.00	37.00	0.00	0.00	0.40			
43	C	448666.65	110642.50	6.00	41.00	0.00	0.00	0.40			
44	C	448684.29	110626.44	6.00	44.00	0.00	0.00	0.40			
45	C	448676.57	110610.59	6.00	322.00	0.00	0.00	0.40			
46	C	448666.29	110596.28	6.00	313.00	0.00	0.00	0.40			
47	C	448645.41	110595.56	6.00	225.00	0.00	0.00	0.40			
48	A	448620.40	110619.80	6.00	220.00	0.00	0.00	0.40			
49	C	448533.92	110691.57	6.00	286.00	0.00	0.00	0.40			
50	C	448508.59	110683.65	6.00	289.00	0.00	0.00	0.40			
51	C	448486.07	110676.69	6.00	285.00	0.00	0.00	0.40			
52	B	448511.08	110661.54	6.00	109.00	0.00	0.00	0.40			

Horizontal Illuminance (lux)

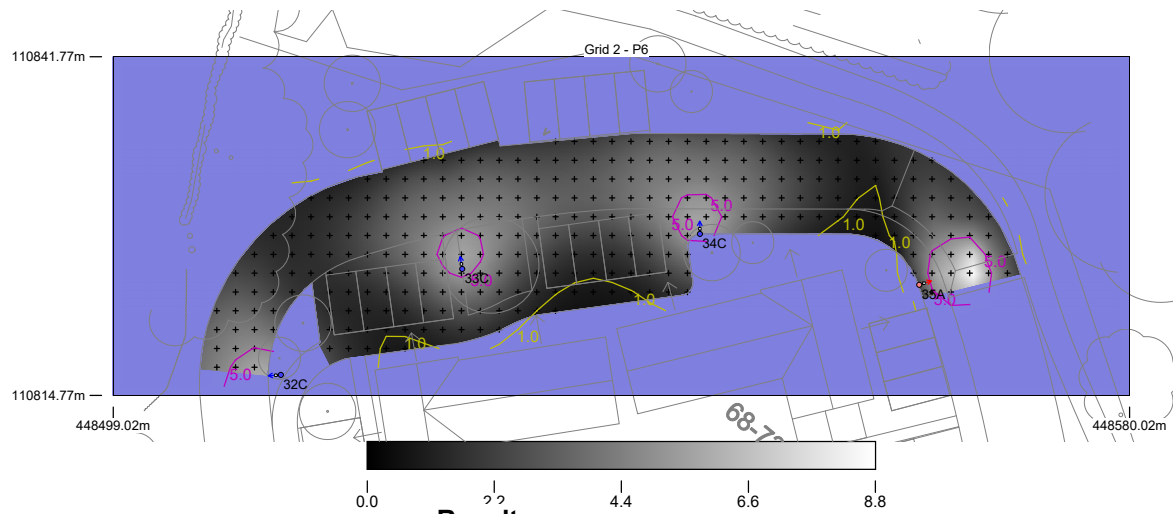
Grid 1 - P6

**Results**

Eav	2.79
Emin	0.59
Emax	8.25
Emin/Emax	0.07
Emin/Eav	0.21

Horizontal Illuminance (lux)

Grid 2 - P6

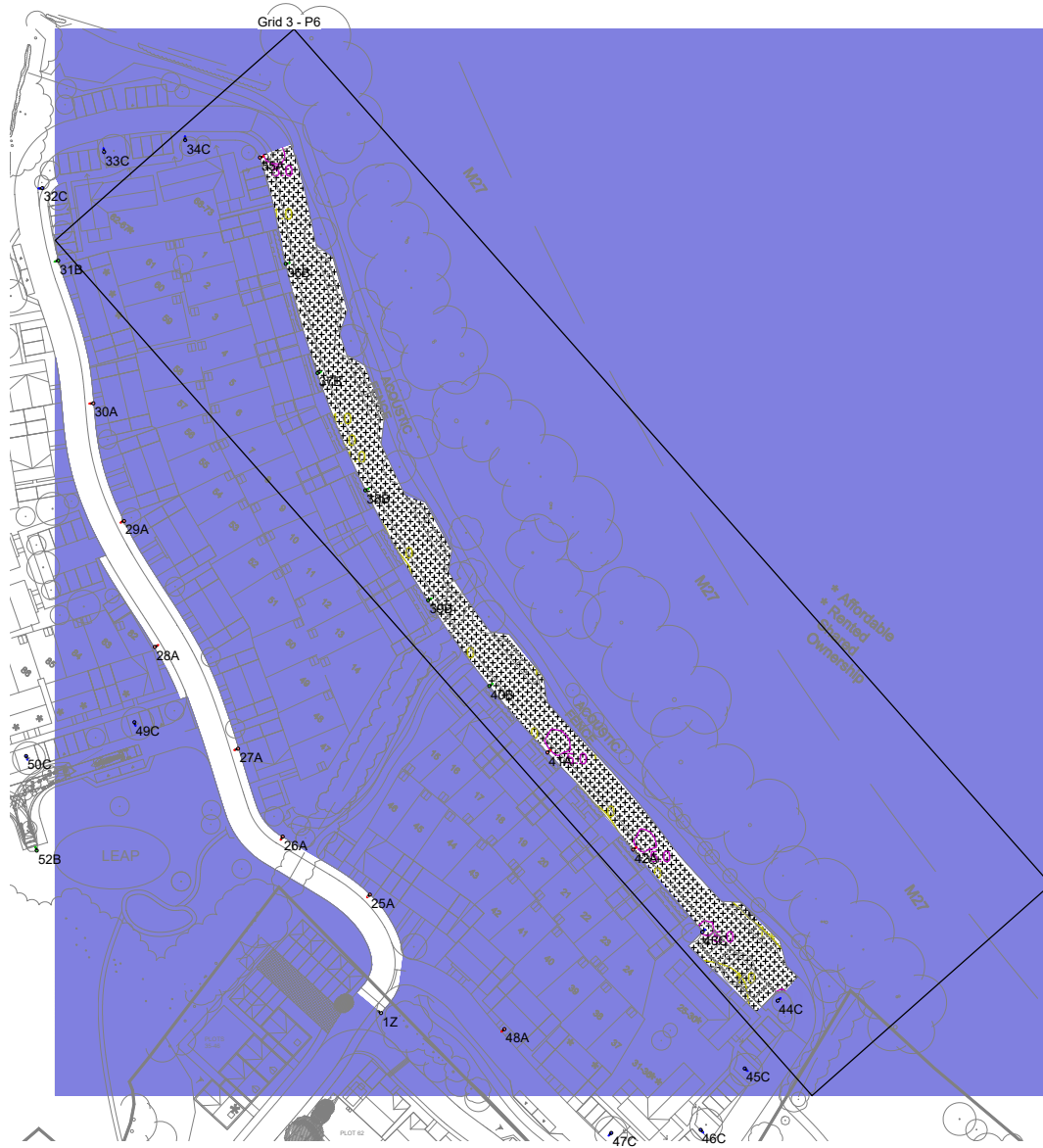


Results

Eav	2.86
Emin	0.61
E _{max}	8.75
Emin/E _{max}	0.07
Emin/Eav	0.21

Horizontal Illuminance (lux)

Grid 3 - P6

**Results**

Eav	2.75
Emin	0.54
Emax	8.95
Emin/Emax	0.06
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 4 - P6

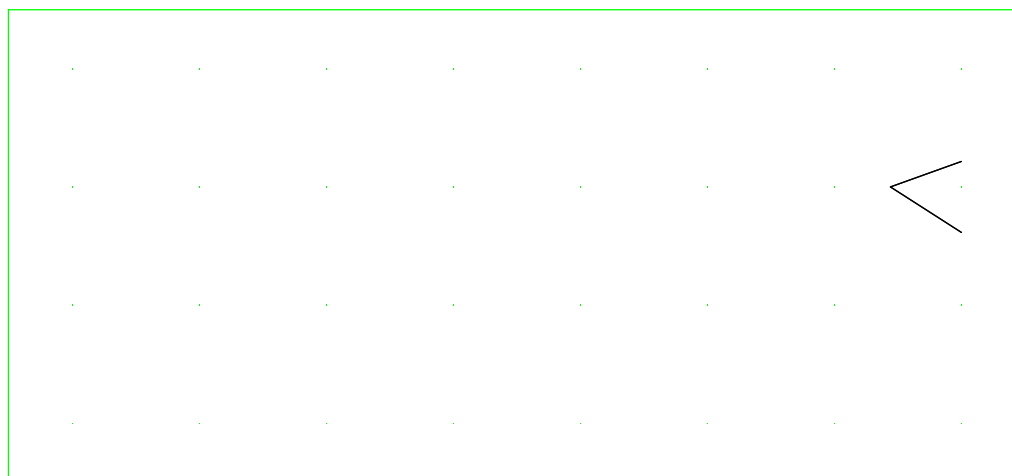


Results

Eav	2.37
Emin	0.49
Emax	8.20
Emin/Emax	0.06
Emin/Eav	0.21

Illuminance (lux)

Grid 5 - Vertical Plots 45-46

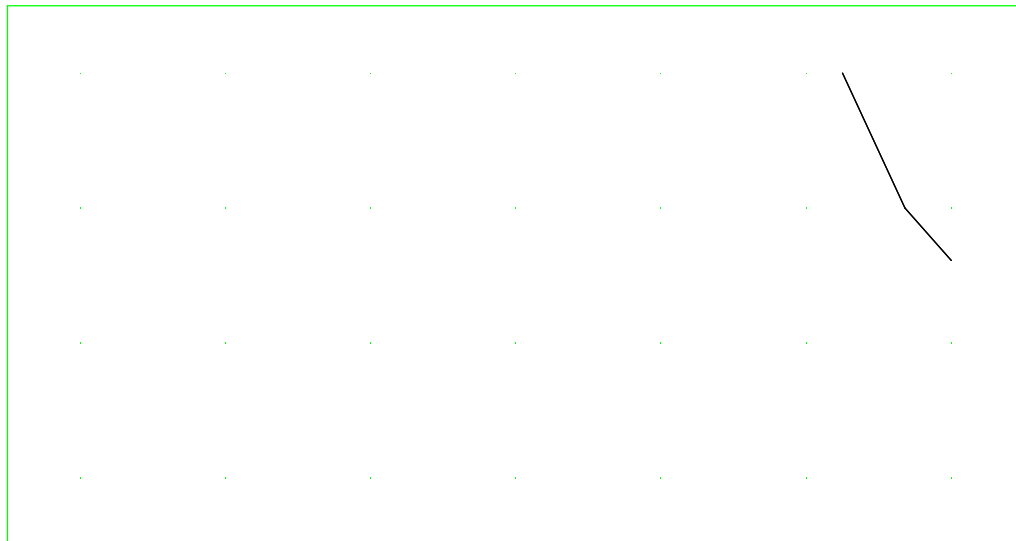


Results

Eav	0.15
Emin	0.02
E _{max}	0.48
E _{min} /E _{max}	0.04
E _{min} /E _{av}	0.13

Illuminance (lux)

Grid 6 - Vertical Plot 82

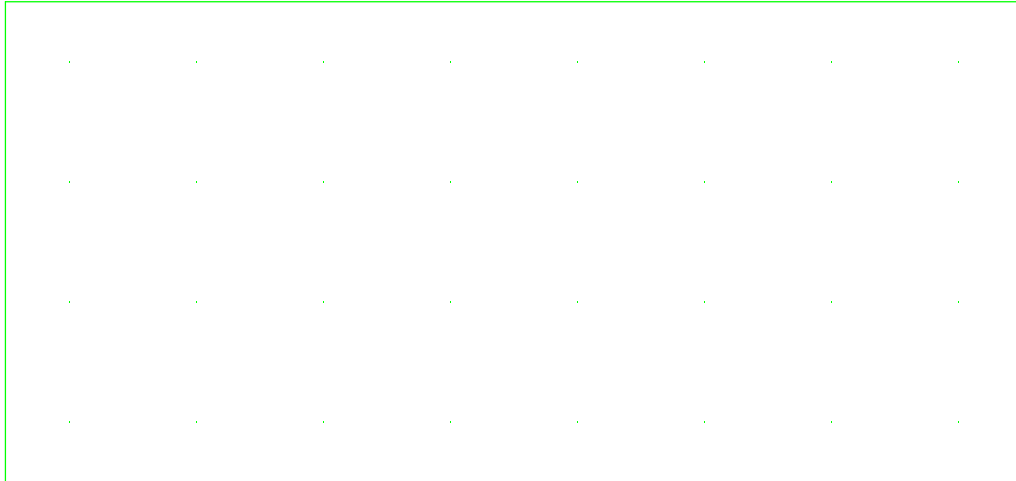


Results

Eav	0.14
Emin	0.01
Emax	0.90
Emin/Emax	0.01
Emin/Eav	0.05

Illuminance (lux)

Grid 7 - Vertical Plots 53-54

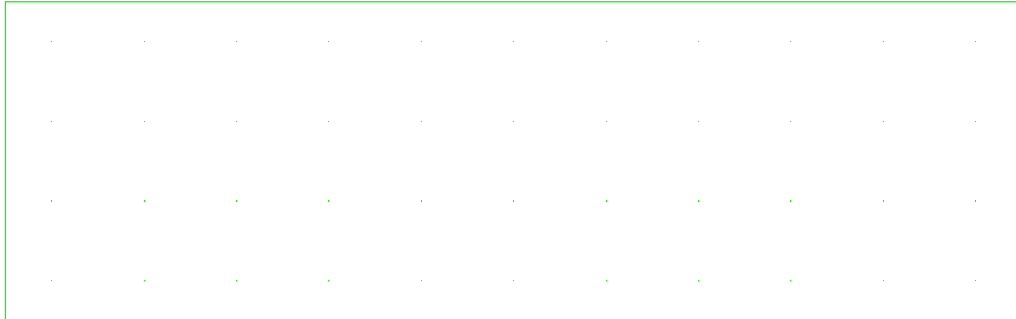


Results

Eav	0.03
Emin	0.01
E _{max}	0.09
Emin/E _{max}	0.09
Emin/Eav	0.30

Illuminance (lux)

Grid 8 - Vertical Plots 59-61

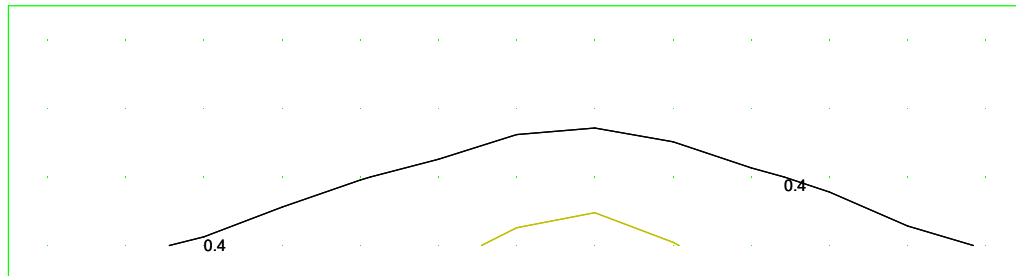


Results

Eav	0.06
Emin	0.01
E _{max}	0.28
Emin/E _{max}	0.02
Emin/Eav	0.09

Illuminance (lux)

Grid 9 - Vertical Plots 62-67 (North)

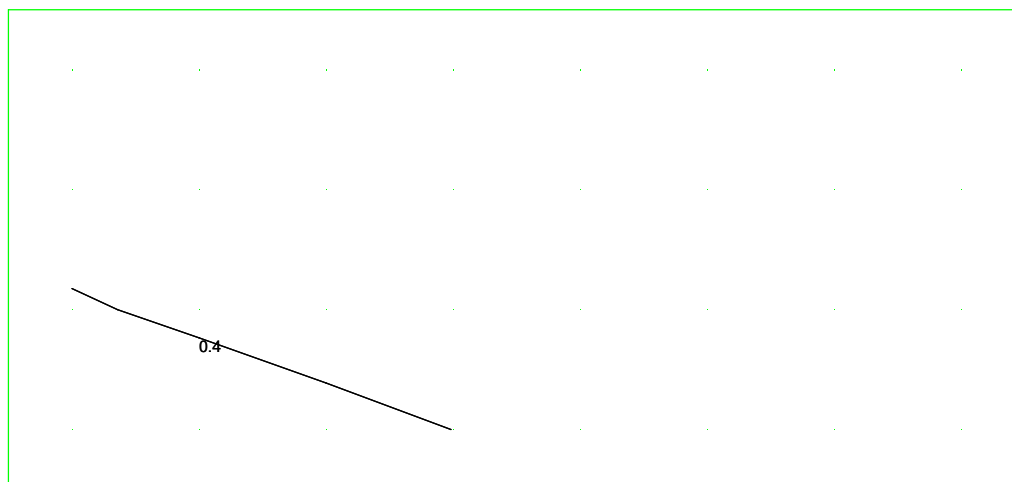


Results

Eav	0.31
Emin	0.01
Emax	1.18
Emin/Emax	0.01
Emin/Eav	0.03

Illuminance (lux)

Grid 10 - Vertical Plots 62-67 (West)

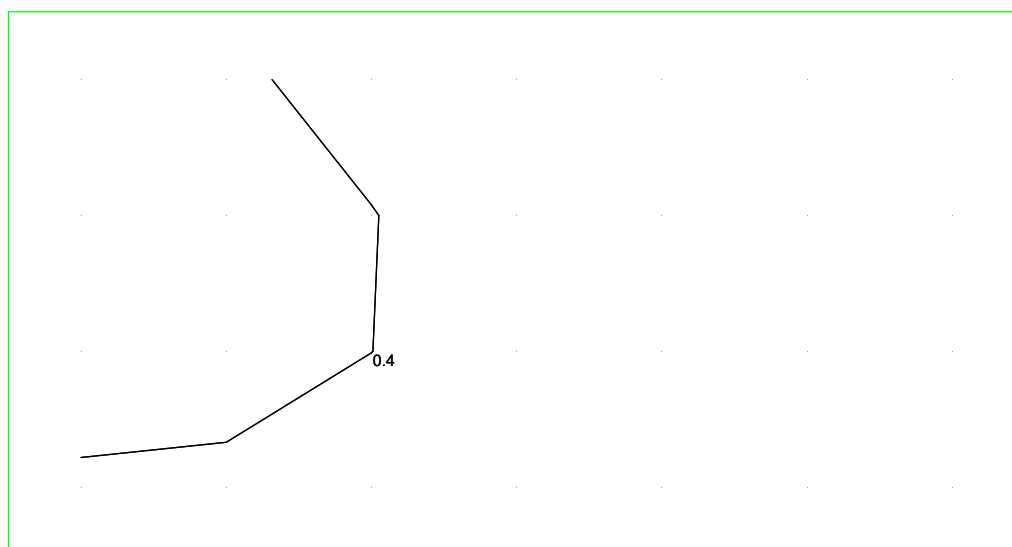


Results

Eav	0.18
Emin	0.01
E _{max}	0.89
Emin/E _{max}	0.01
Emin/Eav	0.06

Illuminance (lux)

Grid 11 - Vertical Plots 1-2

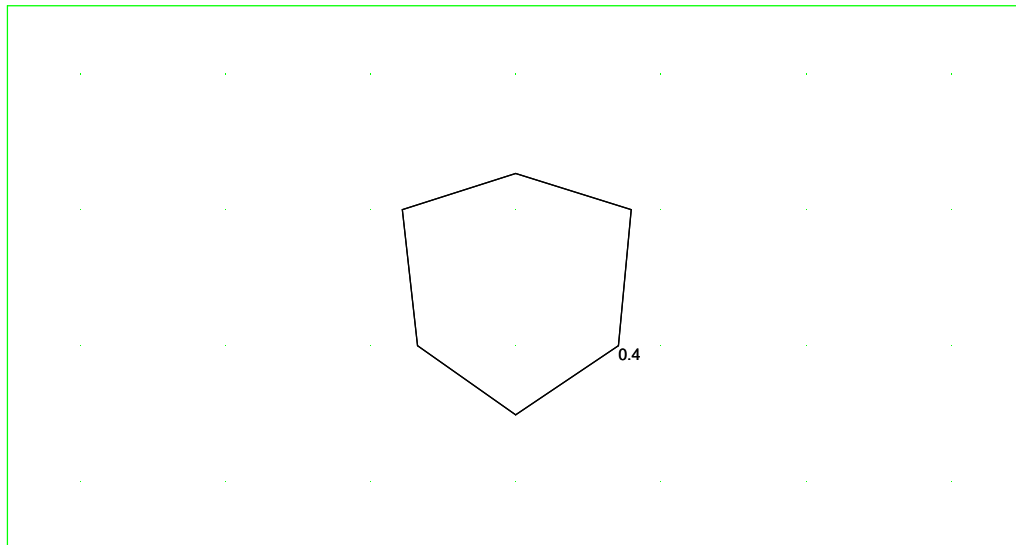


Results

Eav	0.27
Emin	0.03
E _{max}	0.85
Emin/E _{max}	0.04
Emin/Eav	0.11

Illuminance (lux)

Grid 12 - Vertical Plots 13-14

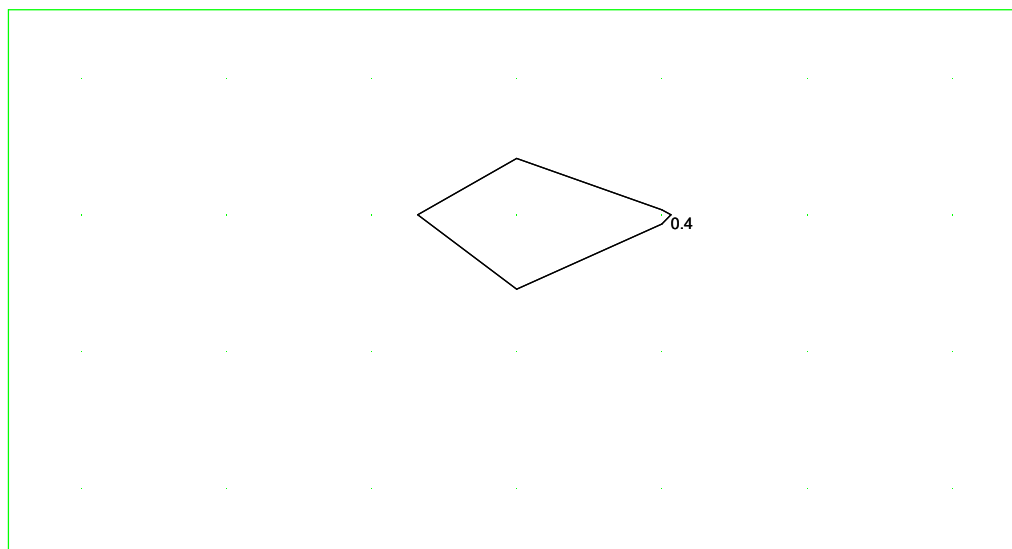


Results

Eav	0.25
Emin	0.08
E _{max}	0.50
Emin/E _{max}	0.16
Emin/Eav	0.31

Illuminance (lux)

Grid 13 - Vertical Plots 21-22



Results

Eav	0.20
Emin	0.07
E _{max}	0.54
Emin/E _{max}	0.13
Emin/Eav	0.34

Illuminance (lux)

Grid 14 - Vertical Plots 25-30 (East)

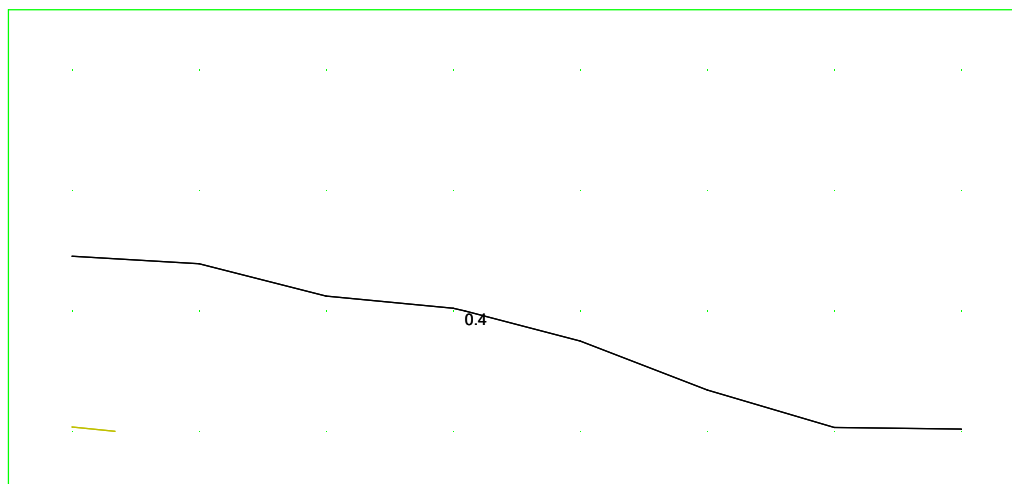


Results

Eav	0.20
Emin	0.01
Emax	0.78
Emin/Emax	0.02
Emin/Eav	0.07

Illuminance (lux)

Grid 15 - Vertical 25-30 (South)

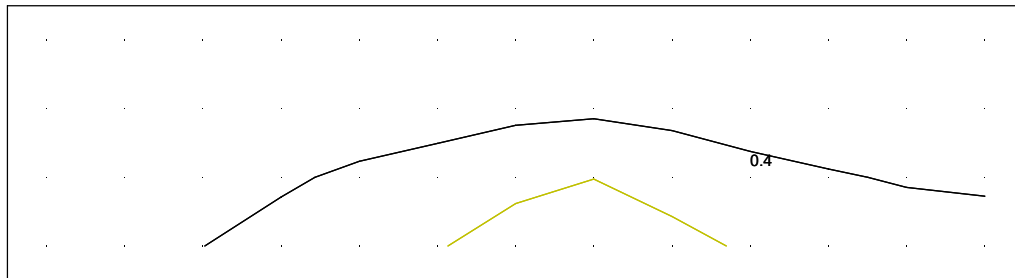


Results

Eav	0.30
Emin	0.01
Emax	1.02
Emin/Emax	0.01
Emin/Eav	0.03

Illuminance (lux)

Grid 16 - Vertical Plots 31-36

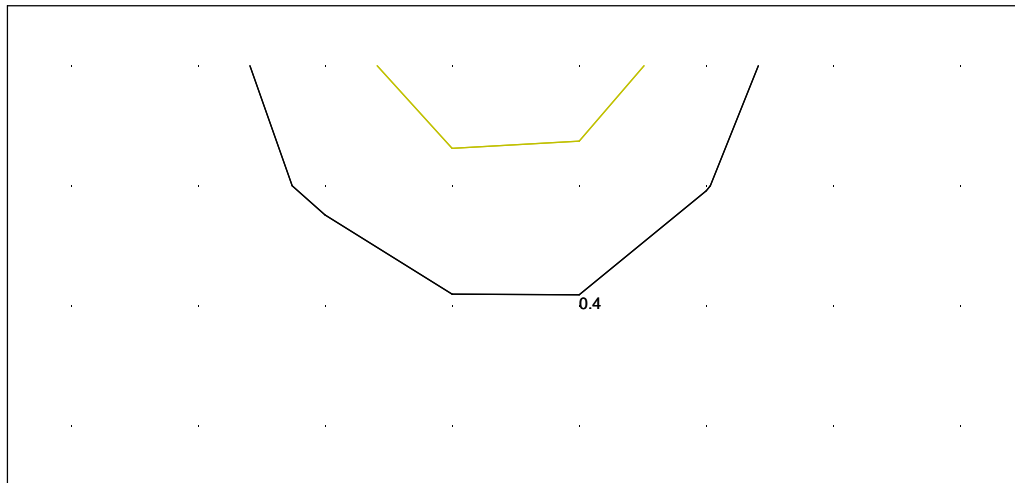


Results

Eav	0.35
Emin	0.01
Emax	1.33
Emin/Emax	0.01
Emin/Eav	0.03

Illuminance (lux)

Grid 17

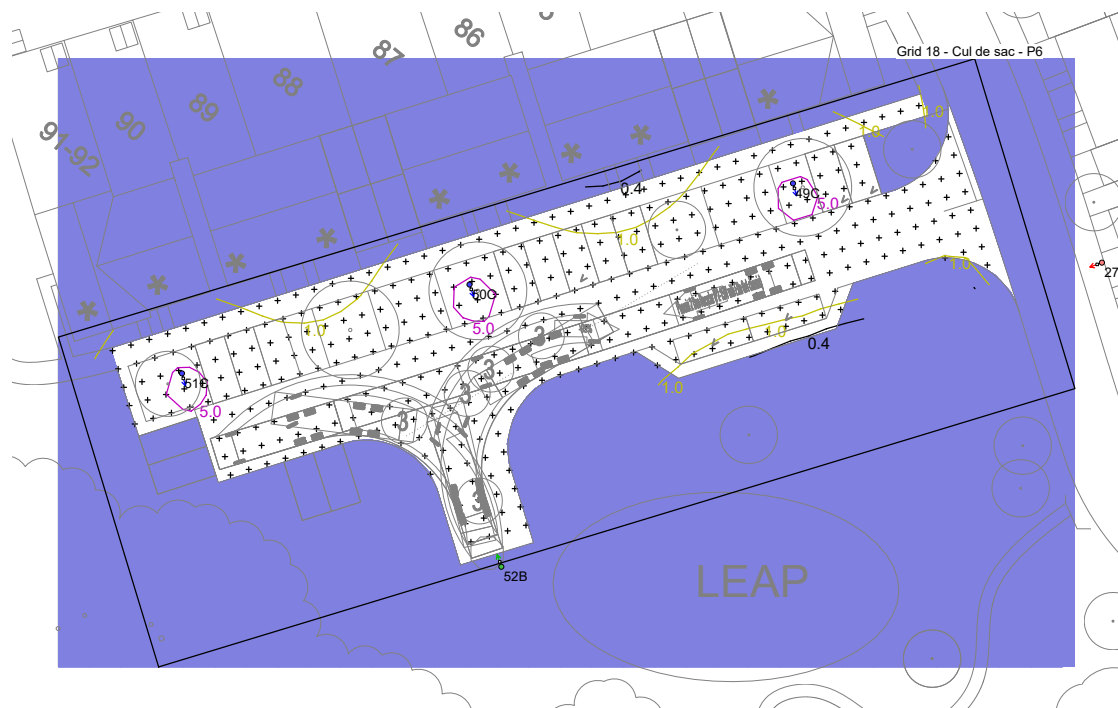


Results

Eav	0.34
Emin	0.06
E _{max}	1.54
Emin/E _{max}	0.04
Emin/Eav	0.16

Horizontal Illuminance (lux)

Grid 18 - Cul de sac - P6

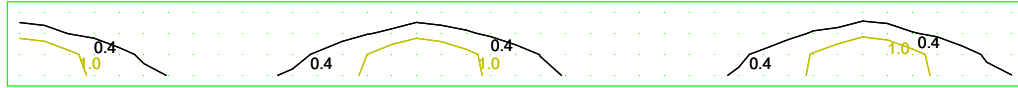


Results

Eav	2.53
Emin	0.52
Emax	5.56
Emin/Emax	0.09
Emin/Eav	0.20

Illuminance (lux)

Grid 19 - Vertical Plots 82-92



Results

Eav	0.46
Emin	0.02
Emax	1.91
Emin/Emax	0.01
Emin/Eav	0.04