

DATE: 6 July 2026
DESIGNER: Don Kinghan
PROJECT No: MMA19767
PROJECT NAME: Talbot Way, Letchworth - Private



Lighting designed to the recommendations of BS5489-1:2020 - R4

Main spine road illuminated to Lighting Class P4
Maintained average illuminances >5.0Lux
Minimum point illuminance >1.0Lux
Overall uniformity > 0.20 (20%)

Side roads illuminated to Lighting Class P5
Maintained average illuminances >3.0Lux
Minimum point illuminance >0.6Lux
Overall uniformity > 0.20 (20%)

Bollard lighting along woodland boundary as instructed due to ecology concerns - not to a BS5489-1:2020 standard - for way guidance only.

Outdoor Lighting Report

PREPARED BY: MMA Lighting Consultancy Ltd
99 Old Bath Road
Summer Field House
Charvil
Reading
Berkshire
RG10 9QN
Email: info@mma-consultancy.co.uk
Web: www.mma-consultancy.co.uk

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	Spine road A (P4)	209356.88	93525.13	54.00	207.00	1.50	1.50
2	Road 1a	209366.42	93534.91	81.00	18.00	1.50	1.50
3	Road 1b	209425.81	93563.43	18.00	57.00	1.50	1.50
4	Road 1c	209423.60	93604.04	21.00	99.00	1.50	1.50
5	Road 1d (P5)	209343.20	93613.84	39.00	15.00	1.50	1.50
6	Road 2 (P4)	209289.51	93516.80	72.00	45.00	1.50	1.50
7	Road 3a (P5)	209266.41	93566.95	78.00	18.00	1.50	1.50
8	Road 3b (P5)	209312.29	93564.01	12.00	30.00	1.50	1.50
9	Road 4 (P5)	209233.19	93612.61	57.00	24.00	1.50	1.50
10	Spine road B (P5)	209223.93	93679.19	39.00	48.00	1.50	1.50
11	Road 5a (P5)	209198.07	93667.74	42.00	15.00	1.50	1.50
12	Road 6a (P5)	209269.49	93674.17	42.00	12.00	1.50	1.50
13	Grid 13	209346.98	93667.63	21.00	99.00	1.50	1.50

Luminaires

Luminaire A Data



Supplier	D W Windsor
Type	Kirium One 24LED 2.7K Asymmetrical Area 300mA UMSUG 42 0020 000
Lamp(s)	24x2.7k LED
Lamp Flux (klm)	3.09
File Name	Kirium One 24LED 27K Asymmetrical Area_ 300mA UMSUG 42 0020 0000 100.ies
Maintenance Factor	0.83
Lum. Int. Class	G1
No. in Project	10

Luminaire B Data



Supplier	D W Windsor
Type	Kirium One 12LED 2.7K Medium Road Type 2 300mA UMSUG 42 0010 00
Lamp(s)	12x2.7k LED
Lamp Flux (klm)	1.65
File Name	Kirium One 12LED 27K Medium Road Type 2_300mA UMSUG 42 0010 0000 100.ies
Maintenance Factor	0.83
Lum. Int. Class	G2
No. in Project	14

Luminaire C Data



Supplier	D W Windsor
Type	Kirium Bollard 160-Asymmetrical-3LED-700 mA-2.7k-8W
Lamp(s)	2.7kx 3LED
Lamp Flux (klm)	0.48
File Name	Kirium 160 Bollard- Asymmetrical-2.7k-700 mA-8W.ies
Maintenance Factor	0.83
Lum. Int. Class	G1
No. in Project	15

Layout

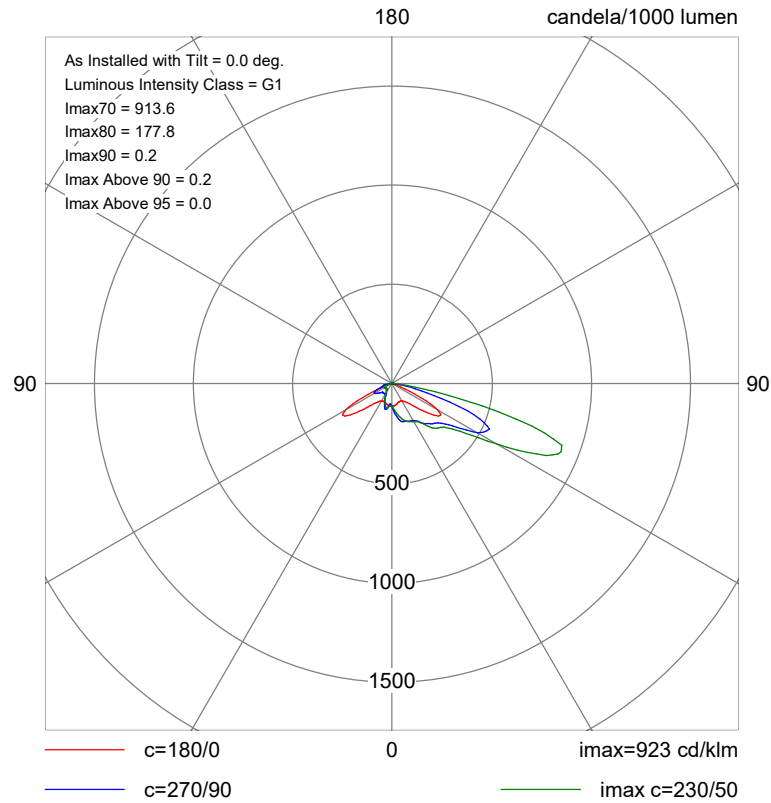
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
SR1/1	A	209363.79	93550.15	6.00	188.00	0.00	0.00	0.40			
SR1/2	A	209350.51	93568.62	6.00	13.00	0.00	0.00	0.40			
SR1/3	A	209354.55	93592.91	6.00	200.00	0.00	0.00	0.40			
SR1/4	A	209331.78	93608.47	6.00	38.00	0.00	0.00	0.40			
SR1/5	A	209321.13	93633.68	6.00	235.00	0.00	0.00	0.40			
SR1/6	A	209300.23	93638.18	6.00	57.00	0.00	0.00	0.40			
SR1/7	A	209281.06	93650.59	6.00	56.00	0.00	0.00	0.40			
SR1/8	A	209261.68	93665.06	6.00	55.00	0.00	0.00	0.40			
SR1/9	A	209242.27	93682.23	6.00	42.00	0.00	0.00	0.40			
R1/1	B	209375.25	93540.66	6.00	101.00	0.00	0.00	0.40			
R2/1	B	209345.89	93534.79	6.00	103.00	0.00	0.00	0.40			
R1/2	C	209415.52	93549.11	1.00	89.00	0.00	0.00	0.00			
R1/4	C	209434.82	93572.61	1.00	191.00	0.00	0.00	0.00			
R1/6	C	209441.07	93609.35	1.00	191.00	0.00	0.00	0.00			
R1/7	C	209426.58	93619.54	1.00	250.00	0.00	0.00	0.00			
R1/9	C	209391.52	93641.62	1.00	226.00	0.00	0.00	0.00			
R1/10	C	209377.44	93654.72	1.00	229.00	0.00	0.00	0.00			
R1/8	B	209351.81	93637.50	6.00	319.00	0.00	0.00	0.40			
R2/2	B	209318.89	93543.28	6.00	30.00	0.00	0.00	0.40			
R2/3	B	209300.76	93547.60	6.00	122.00	0.00	0.00	0.40			
R2/4	B	209318.06	93563.27	6.00	284.00	0.00	0.00	0.40			
R3/1	B	209301.21	93606.84	6.00	318.00	0.00	0.00	0.40			
R3/3	B	209273.17	93583.21	6.00	304.00	0.00	0.00	0.40			
R3/2	B	209309.31	93589.33	6.00	220.00	0.00	0.00	0.40			
R4/1	B	209257.26	93647.44	6.00	322.00	0.00	0.00	0.40			
R4/2	B	209238.58	93632.92	6.00	304.00	0.00	0.00	0.40			
SR1/11	B	209212.53	93728.84	6.00	313.00	0.00	0.00	0.40			
SR1/10	A	209222.15	93704.45	6.00	39.00	0.00	0.00	0.40			
R5/1	B	209209.83	93687.33	6.00	302.00	0.00	0.00	0.40			
R6/1	B	209282.21	93691.10	6.00	139.00	0.00	0.00	0.40			
R6/2	C	209307.41	93706.15	1.00	234.00	0.00	0.00	0.00			
R6/4	C	209278.98	93734.77	1.00	219.00	0.00	0.00	0.00			
R1/3	C	209438.27	93552.64	1.00	147.00	0.00	0.00	0.00			
R1/5	C	209435.14	93591.42	1.00	166.00	0.00	0.00	0.00			
R1/8	C	209410.13	93626.78	1.00	233.00	0.00	0.00	0.00			
R1/11	C	209358.70	93668.51	1.00	230.00	0.00	0.00	0.00			

Layout Continued

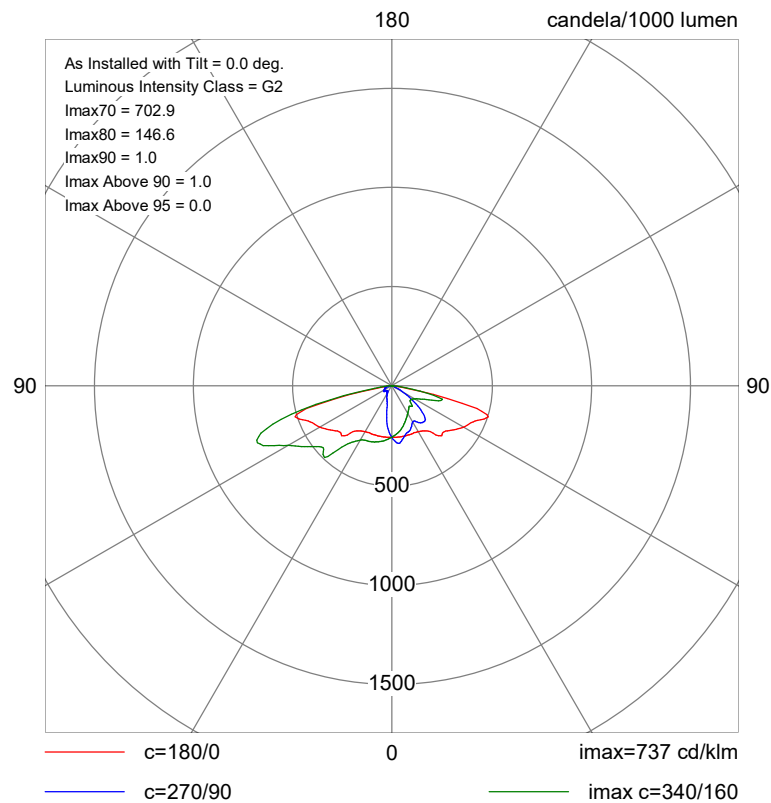
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
R1/12	C	209343.05	93680.70	1.00	232.00	0.00	0.00	0.00			
R1/13	C	209326.44	93693.32	1.00	230.00	0.00	0.00	0.00			
R6/3	C	209291.31	93719.79	1.00	215.00	0.00	0.00	0.00			

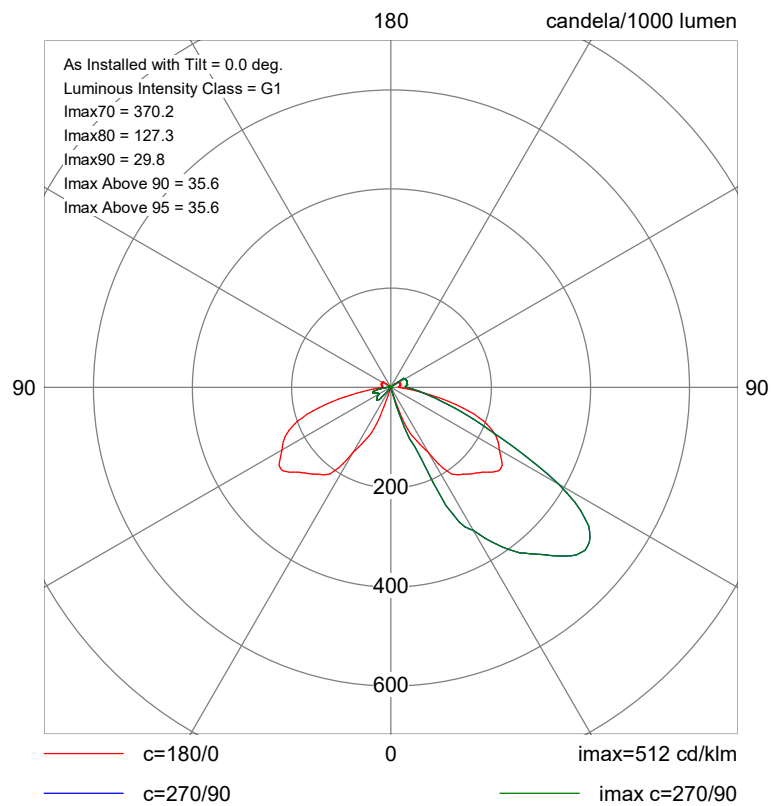
Polar Diagrams

Luminaire A Kirium One 24LED 2.7K Asymmetrical Area 300mA UMSUG 42 0020 000



Luminaire B Kirium One 12LED 2.7K Medium Road Type 2 300mA UMSUG 42 0010 00



Polar Diagrams Continued**Luminaire C Kirium Bollard 160-Asymmetrical-3LED-700mA-2.7k-8W**

Horizontal Illuminance (lux)

Spine road A (P4)



Results

Eav	5.52
Emin	1.08
Emax	12.81
Emin/Emax	0.08
Emin/Eav	0.20

Horizontal Illuminance (lux)

Road 1a

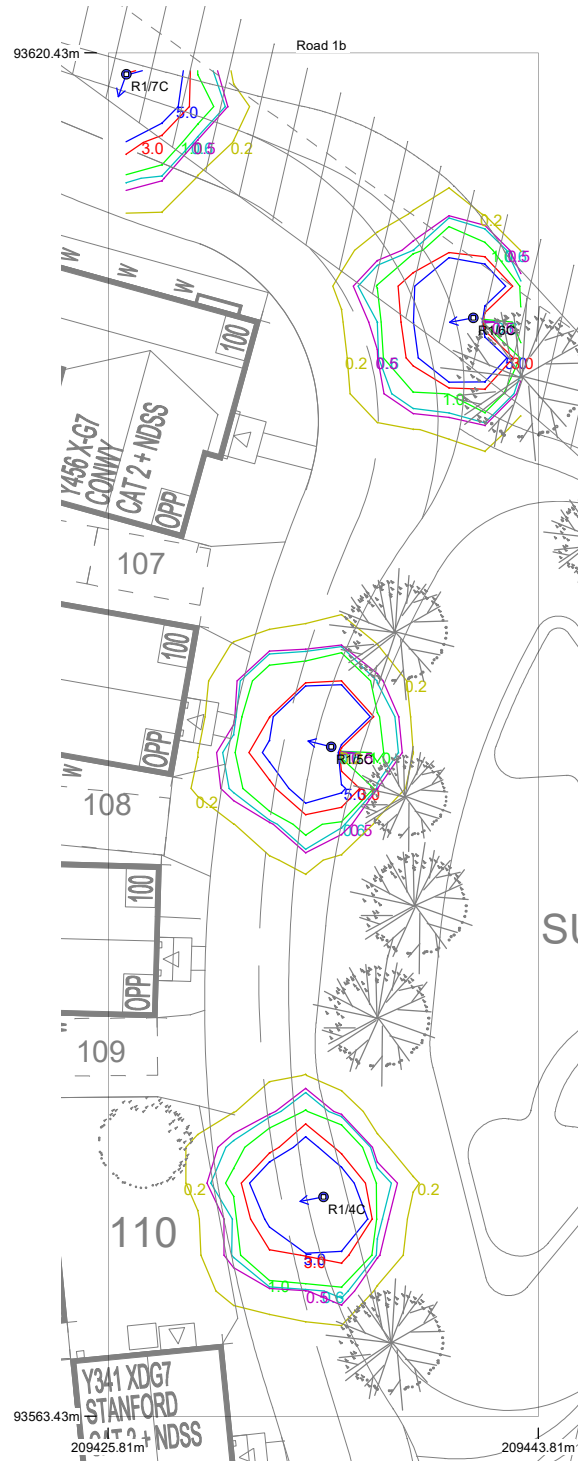


Results

Eav	2.53
Emin	0.02
Emax	63.43
Emin/Emax	0.00
Emin/Eav	0.01

Horizontal Illuminance (lux)

Road 1b

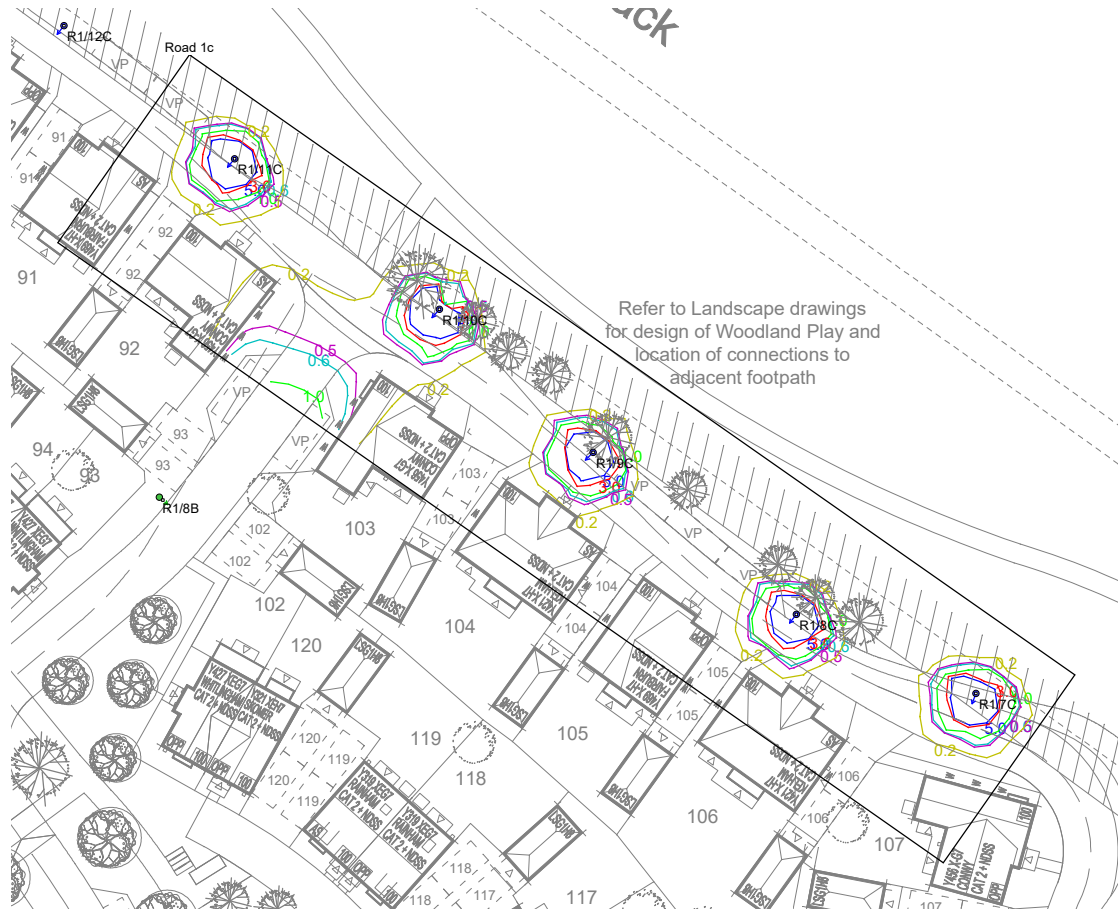


Results

Eav	2.82
Emin	0.03
Emax	66.41
Emin/Emax	0.00
Emin/Eav	0.01

Horizontal Illuminance (lux)

Road 1c

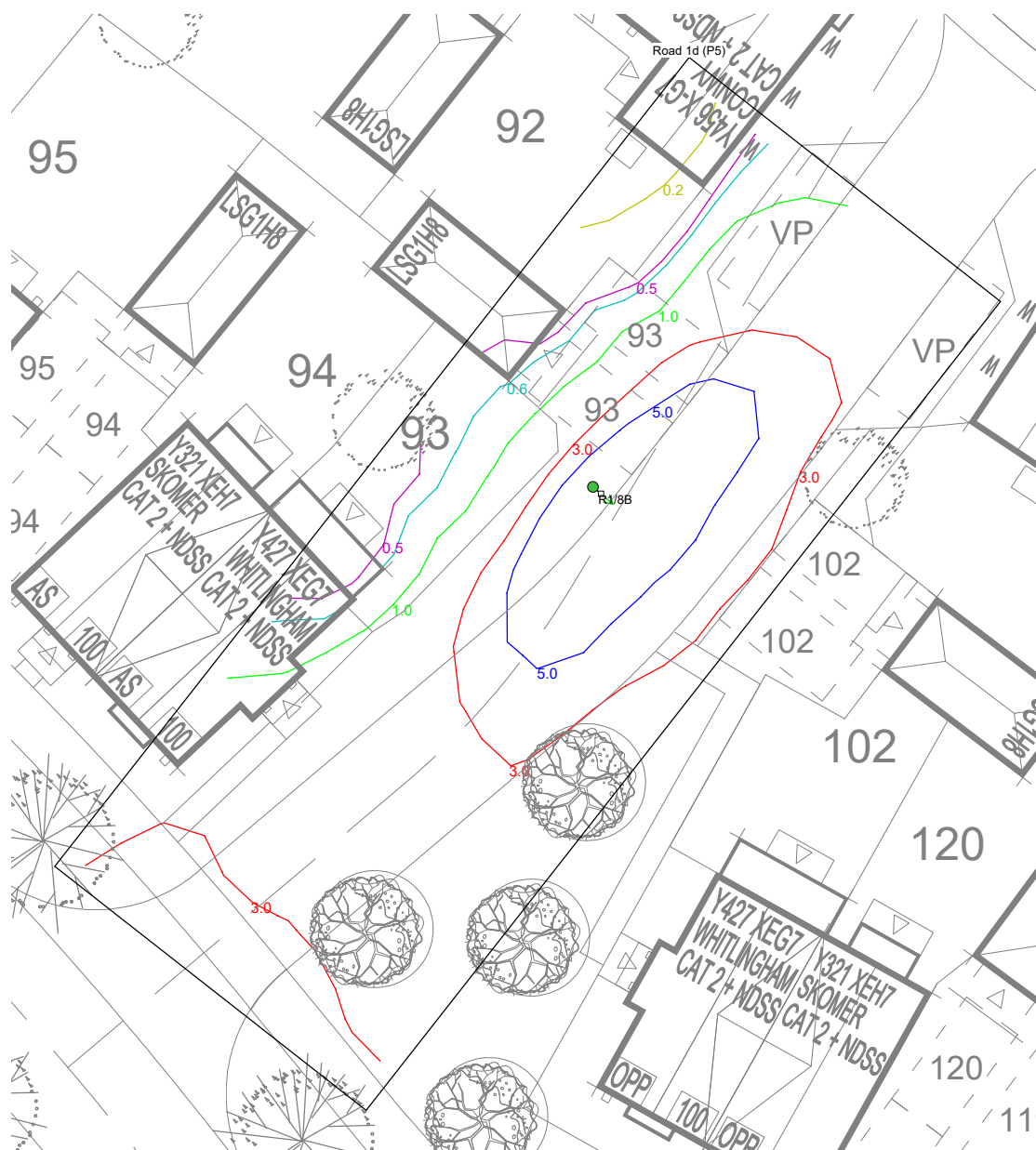


Results

Eav	2.35
Emin	0.02
E _{max}	79.45
E _{min} /E _{max}	0.00
E _{min} /E _{av}	0.01

Horizontal Illuminance (lux)

Road 1d (P5)

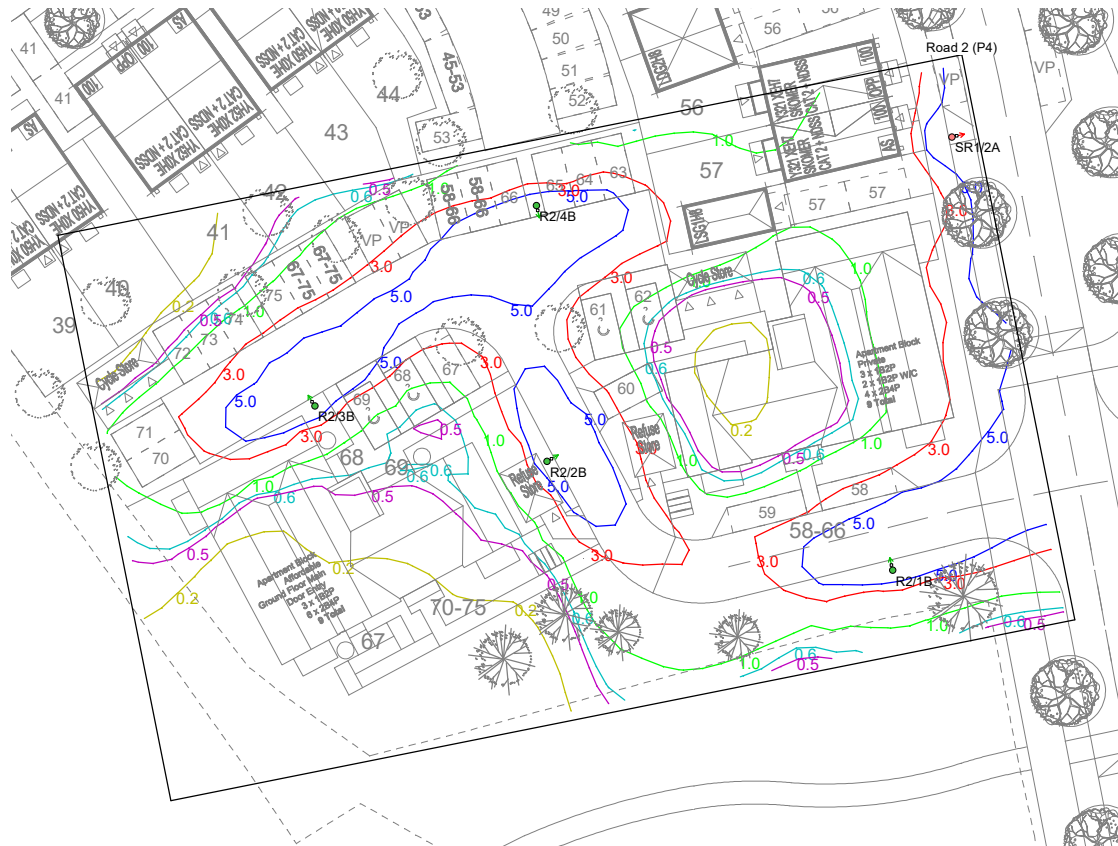


Results

Eav	3.83
Emin	1.01
Emax	11.00
Emin/Emax	0.09
Emin/Eav	0.26

Horizontal Illuminance (lux)

Road 2 (P4)



Results

Eav	5.45
Emin	2.11
Emax	11.23
Emin/Emax	0.19
Emin/Eav	0.39

Horizontal Illuminance (lux)

Road 3a (P5)

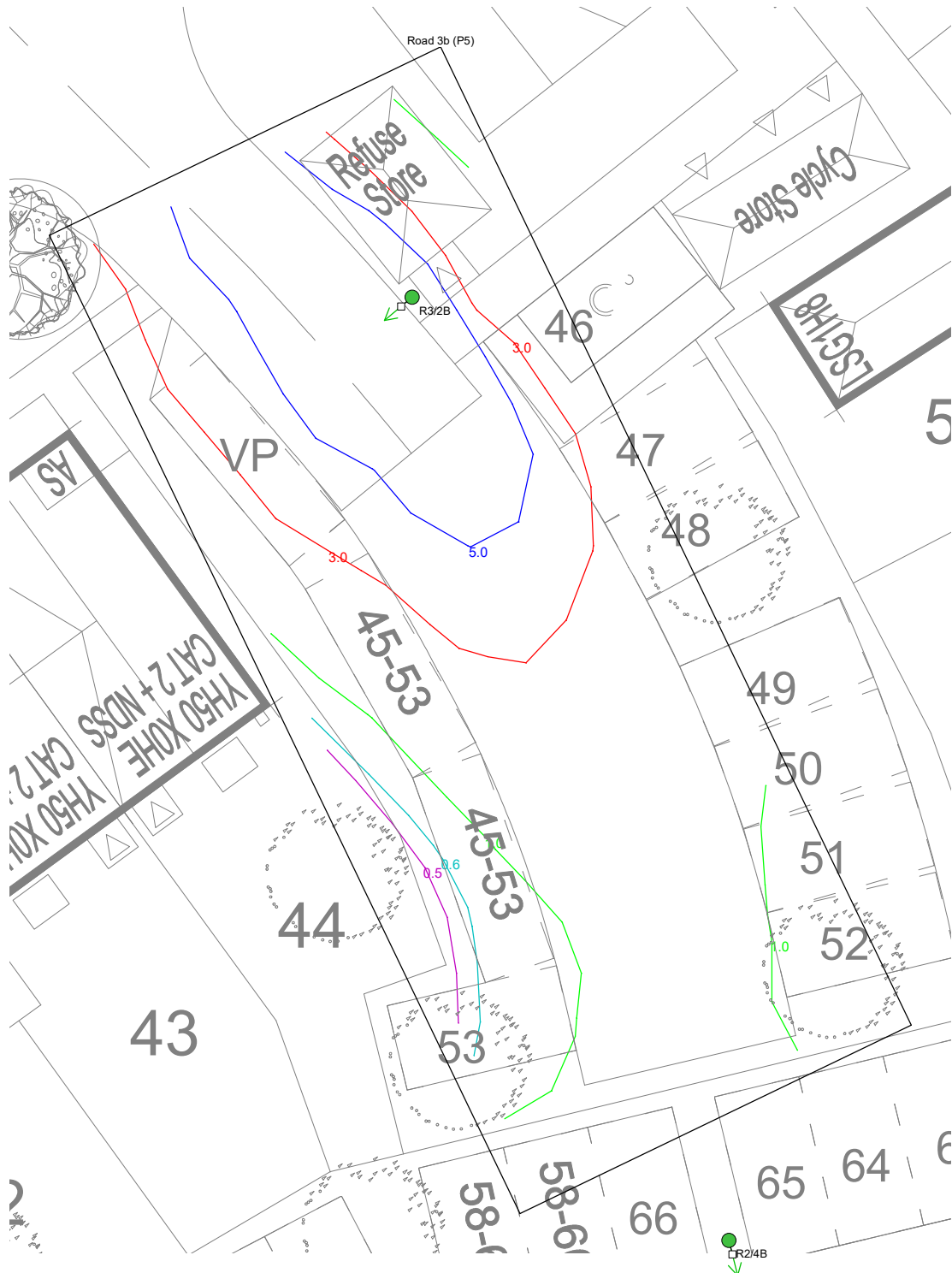


Results

Eav	4.04
Emin	1.20
Emax	10.97
Emin/Emax	0.11
Emin/Eav	0.30

Horizontal Illuminance (lux)

Road 3b (P5)

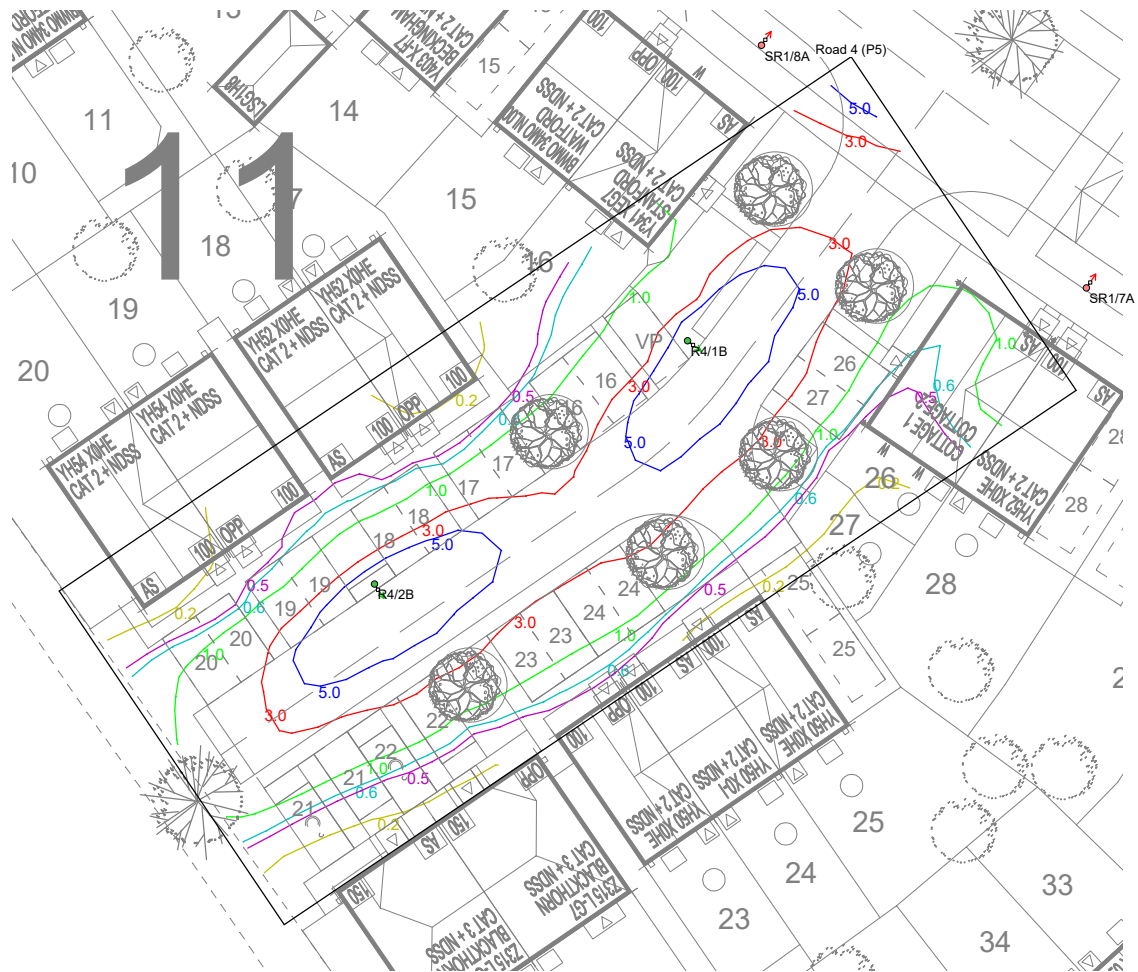


Results

Eav	3.78
Emin	1.02
E _{max}	10.69
E _{min} /E _{max}	0.10
E _{min} /E _{av}	0.27

Horizontal Illuminance (lux)

Road 4 (P5)

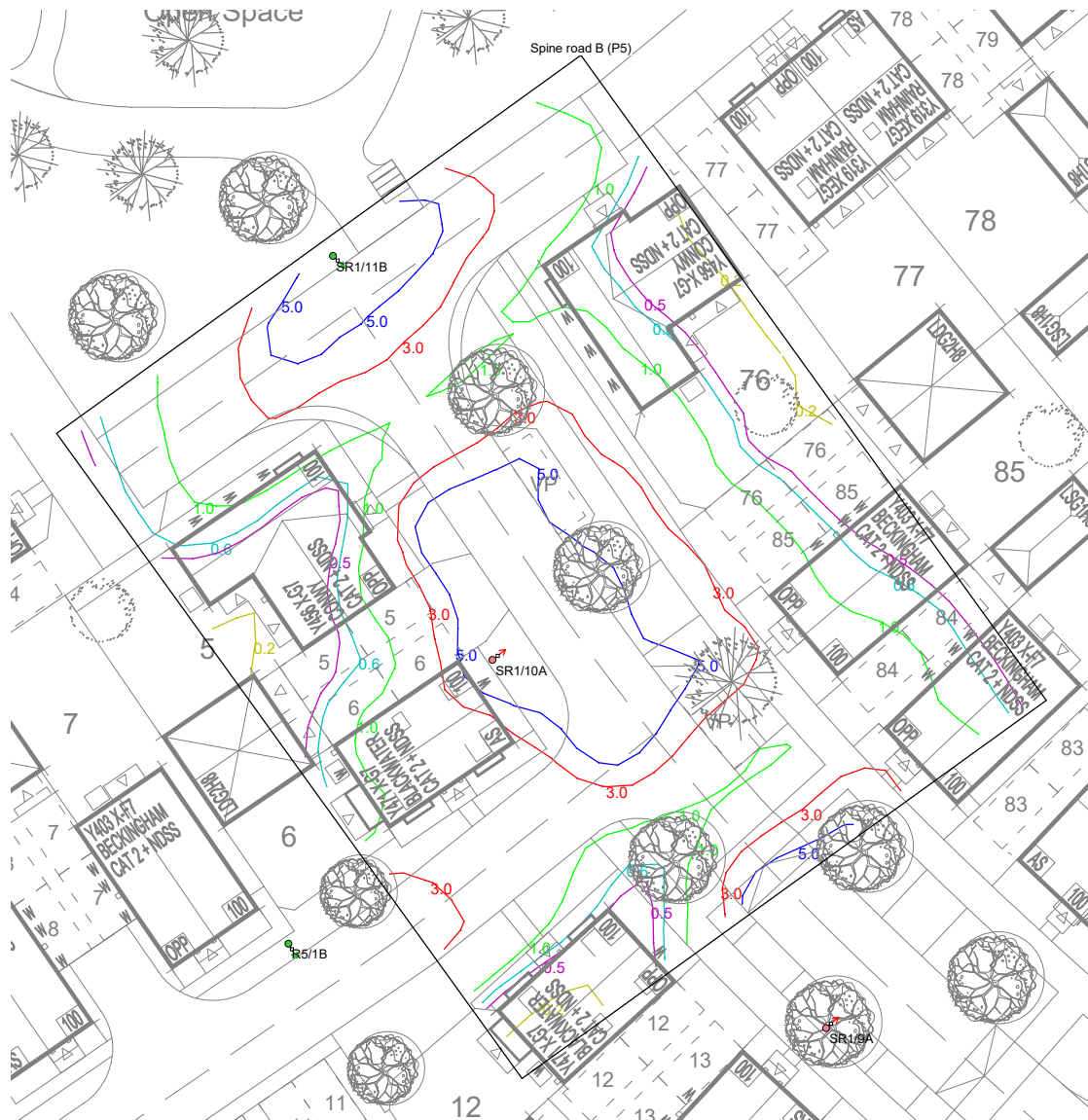


Results

Eav	4.71
Emin	1.04
Emax	11.34
Emin/Emax	0.09
Emin/Eav	0.22

Horizontal Illuminance (lux)

Spine road B (P5)

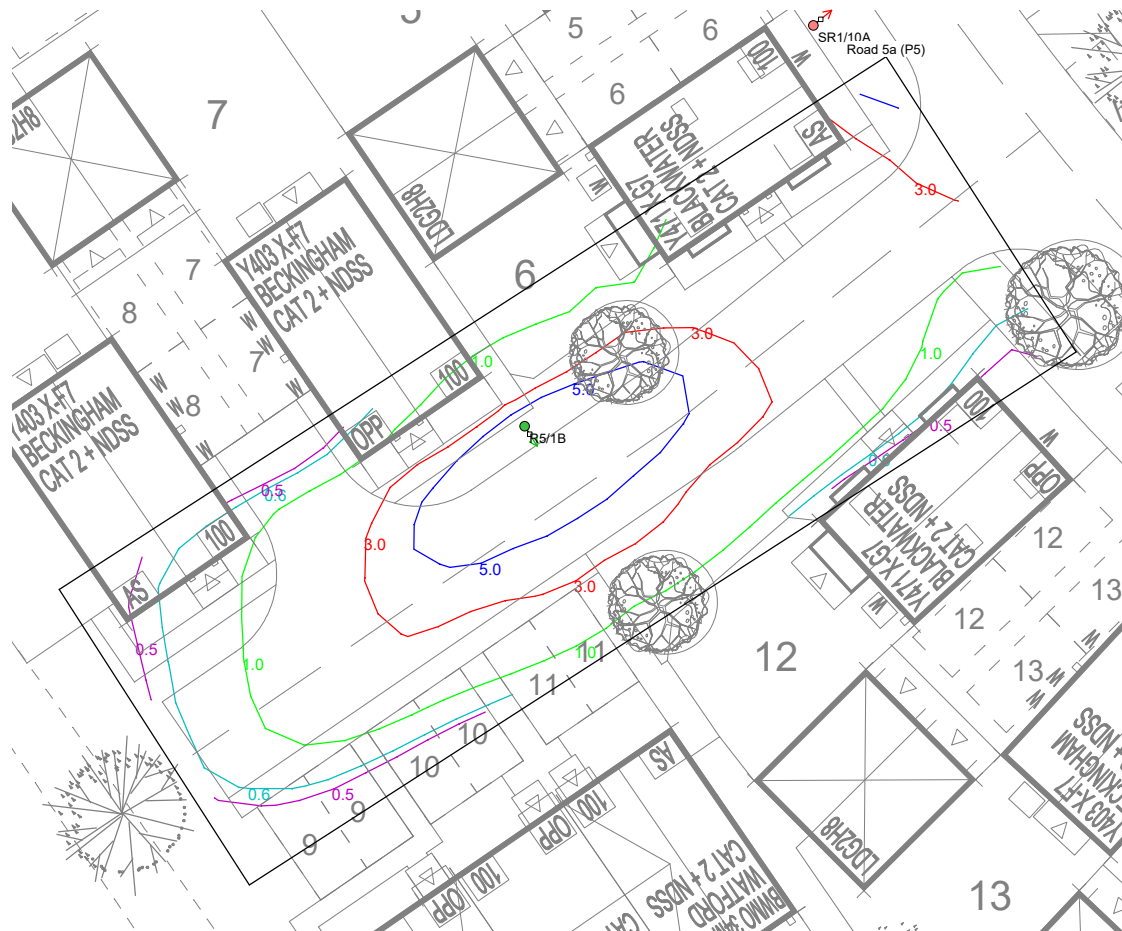


Results

Eav	3.73
Emin	0.68
Emax	12.59
Emin/Emax	0.05
Emin/Eav	0.18

Horizontal Illuminance (lux)

Road 5a (P5)

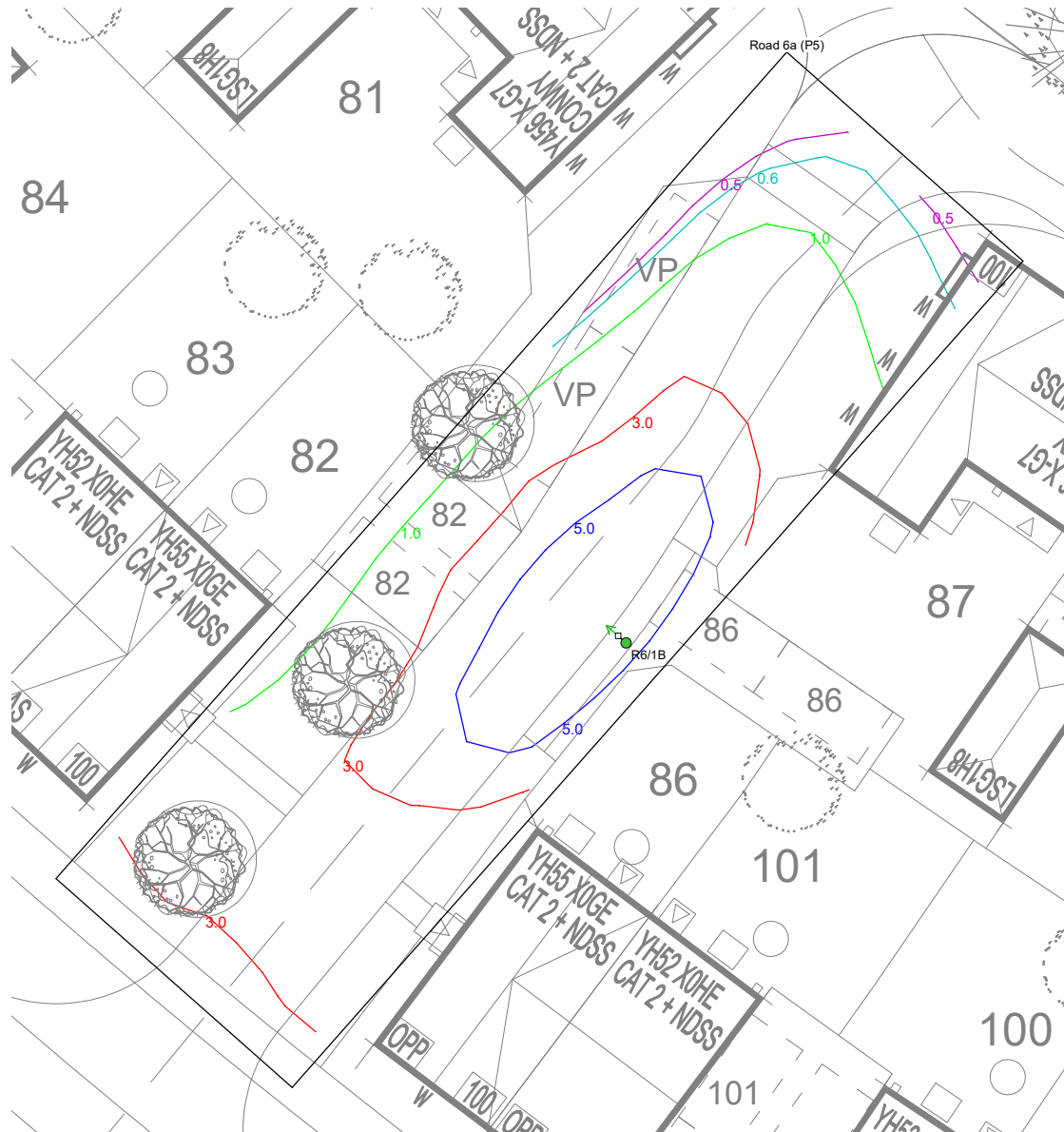


Results

Eav	3.23
Emin	0.64
Emax	9.74
Emin/Emax	0.07
Emin/Eav	0.20

Horizontal Illuminance (lux)

Road 6a (P5)



Results

Eav	3.45
Emin	0.57
Emax	9.15
Emin/Emax	0.06
Emin/Eav	0.17

Horizontal Illuminance (lux)

Grid 13



Results

Eav	2.76
Emin	0.03
Emax	85.49
Emin/Emax	0.00
Emin/Eav	0.01