

Project Title:	South Wokingham Strategic Development Location Phase 2, Phase R11
Project No/ Document Reference:	A389-TN014
Date:	04 July 2025
Author:	Rebecca Fletcher

Response to Ecology officer comments on lighting

1. Introduction

- 1.1. This Technical Note has been produced by Abley Letchford (AL) to respond to comments raised by the ecology officer in relation to lighting in the R11 Reserved Matters application

2. Comments Raised

It is good that the lighting specification given in the Lighting Lux Plans is for a warm white colour spectrum (2700K). I cannot see any mark-up indicating the use of baffles/shields to minimise light spill in the public open space likely to be wildlife corridors for light sensitive species. I recommend that the plans include in the specification that:

Lanterns LC15, LC16, LC31, LC32, LC47, LC51, LC55, LC57, and LC64 be fitted with rearward baffles; and

Lanterns LC40, LC44, LC44A, LC50, LC50A, LC54, and LC56 be fitted with forwards baffles.

3. Response

- 3.1. Internal rear louvres have been specified to reduce light spill have been specified for the columns mentioned – refer to drawings A389-R11-RM-1301 and 1302 revision B.



Proposed 6m aluminium lighting company conical tapered column with post top mounted Philips Luma Gen 2 micro BGP702, DM10 optic with BL1 rear louvre, 10 LED, 2700K and 2000 lumen output. lantern to be installed with 0 degree tilt. (R&L denotes Raise and Lower Columns)

- 3.2. We are concerned that introducing front louvres would reduce the light from being directed onto the area required. We are also unsure whether the lantern specified, in accordance with WBC standards, has the option of front louvres.
- 3.3. We have undertaken calculations for vertical grids placed in front of the columns identified above. These calculations show that at the level that bats typically fly (approximately 1.5m above ground level), the maximum of 0.4lux is not exceeded.



Appendix – Vertical Grid Calculations

DATE: 2 July 2025
DESIGNER: DFL
PROJECT No: 3812
PROJECT NAME: South Wokingham



Location: South Wokingham Parcel R11

GN08/23 - Bats and Artificial Lighting at Night - Emax on the vertical of 0.4 lux has been used as this is the level of natural light typically found on a moon lit night. See section 4.54 of GN08/23

Iso Lux contours shown are indicative and do not take into account the blocking effects of landscaping, trees, manmade objects or changes in topography.

Iso Lux contours shown are with the maintenance factor of all light sources set to 1.0 to represent the most adverse light spill.

3812-DFL-HLG-XX-CA-EO-13003-S3-P01

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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	PSER 001	483190.73	167805.53	21.41	6.00	0.50	0.50
2	PSER 002	483212.52	167772.53	20.09	6.00	0.50	0.50
3	PSER 003	483119.52	167580.49	19.56	6.00	0.50	0.50
4	PSER 004	483060.74	167466.59	17.79	6.00	0.49	0.50
5	PSER 005	483028.72	167865.14	28.37	6.00	0.50	0.50

Luminaire

Luminaire A Data

Supplier	
Type	BGP702 DM10 BL1
Lamp(s)	LED-HB 5.2S 727
Lamp Flux (klm)	2.00
File Name	Luma Gen2 Micro_BGP702_DM10 BL1_2000_10LED_5.2S_CLO_L90_727.ies
Maintenance Factor	1.00
Imax70,80,90(cd/klm)	512.4, 86.8, 0.0
No. in Project	72

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
19	A	483030.42	167544.52	6.00	193.00	0.00	0.00	0.40			
39	A	483036.55	167524.82	6.00	205.00	0.00	0.00	0.40			
40	A	483043.56	167497.13	6.00	31.00	0.00	0.00	0.40			
41	A	483055.99	167477.69	6.00	342.00	0.00	0.00	0.40			
42	A	483080.70	167490.72	6.00	131.00	0.00	0.00	0.40			
43	A	482967.62	167536.83	6.00	350.00	0.00	0.00	0.40			
44	A	482967.61	167493.42	6.00	296.00	0.00	0.00	0.40			
45	A	482974.69	167500.36	6.00	20.00	0.00	0.00	0.40			
46	A	482879.63	167609.71	6.00	143.00	0.00	0.00	0.40			
47	A	482854.12	167570.63	6.00	15.00	0.00	0.00	0.40			
48	A	483108.44	167618.22	6.00	236.00	0.00	0.00	0.40			
12	A	482993.28	167744.17	6.00	220.00	0.00	0.00	0.40			
50	A	483123.62	167608.86	6.00	261.00	0.00	0.00	0.40			
51	A	483169.57	167676.22	6.00	72.00	0.00	0.00	0.40			
52	A	483188.09	167672.86	6.00	98.00	0.00	0.00	0.40			
53	A	483215.59	167680.82	6.00	189.00	0.00	0.00	0.40			

Layout Continued

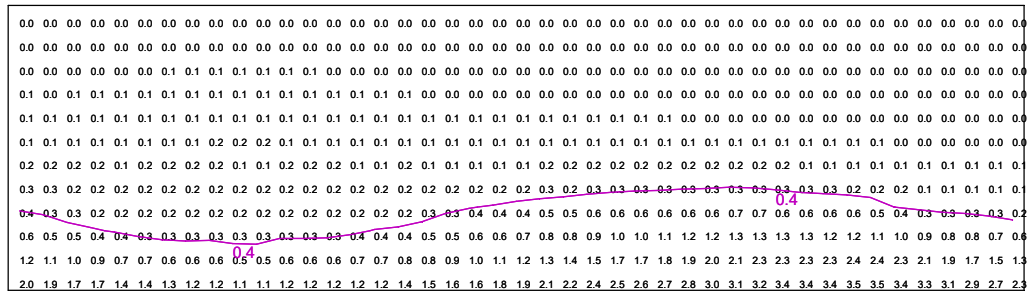
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
54	A	483161.03	167761.78	6.00	117.00	0.00	0.00	0.40			
55	A	483184.47	167775.37	6.00	121.00	0.00	0.00	0.40			
56	A	483186.76	167796.23	6.00	38.00	0.00	0.00	0.40			
57	A	483028.48	167845.53	6.00	139.00	0.00	0.00	0.40			
58	A	483046.24	167849.89	6.00	235.00	5.00	0.00	0.40			
60	A	482964.04	167751.93	6.00	299.00	0.00	0.00	0.40			
61	A	483005.88	167729.75	6.00	230.00	0.00	0.00	0.40			
62	A	482977.20	167769.57	6.00	351.00	0.00	0.00	0.40			
63	A	482861.71	167584.45	6.00	147.00	0.00	0.00	0.40			
64	A	483070.93	167820.08	6.00	197.00	5.00	0.00	0.40			
1	A	482870.56	167649.79	6.00	308.00	0.00	0.00	0.40			
2	A	483118.02	167794.17	8.00	245.00	0.00	0.00	0.40			
3	A	483141.58	167779.45	8.00	233.00	0.00	0.00	0.40			
4	A	482910.22	167659.71	6.00	107.00	0.00	0.00	0.40			
5	A	482939.71	167667.93	6.00	107.00	0.00	0.00	0.40			
6	A	482972.23	167684.07	6.00	127.00	5.00	0.00	0.40			
72	A	483198.62	167773.18	6.00	17.00	0.00	0.00	0.40			
73	A	483116.68	167598.76	6.00	328.00	0.00	0.00	0.40			
7	A	483019.06	167726.46	6.00	132.00	0.00	0.00	0.40			
8	A	483037.17	167744.88	6.00	144.00	0.00	0.00	0.40			
9	A	483056.70	167782.45	6.00	153.00	0.00	0.00	0.40			
10	A	483061.95	167808.42	6.00	307.00	0.00	0.00	0.40			
11	A	482881.96	167637.28	6.00	136.00	0.00	0.00	0.40			
12	A	482991.01	167702.20	6.00	139.00	0.00	0.00	0.40			
13	A	482952.93	167596.01	6.00	317.00	0.00	0.00	0.40			
14	A	482983.36	167623.22	6.00	304.00	0.00	0.00	0.40			
15	A	482967.08	167622.35	6.00	47.00	0.00	0.00	0.40			
16	A	483101.31	167753.21	6.00	335.00	0.00	0.00	0.40			
17	A	483111.13	167771.50	6.00	318.00	0.00	0.00	0.40			
18	A	483108.06	167727.24	6.00	236.00	0.00	0.00	0.40			
20	A	482825.33	167656.40	8.00	67.00	0.00	0.00	0.40			
21	A	482842.41	167646.80	8.00	70.00	0.00	0.00	0.40			
22	A	482872.12	167620.26	8.00	49.00	0.00	0.00	0.40			
23	A	482916.03	167587.57	8.00	45.00	0.00	0.00	0.40			
25	A	482965.49	167546.36	8.00	76.00	0.00	0.00	0.40			
26	A	483000.06	167553.79	8.00	117.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
27	A	483030.98	167559.74	8.00	104.00	0.00	0.00	0.40			
28	A	483073.32	167603.80	8.00	149.00	0.00	0.00	0.40			
29	A	483084.34	167619.49	6.00	148.00	0.00	0.00	0.40			
30	A	483126.87	167664.78	8.00	122.00	0.00	0.00	0.40			
31	A	483146.46	167677.04	8.00	125.00	0.00	0.00	0.40			
32	A	483160.24	167702.38	8.00	182.00	0.00	0.00	0.40			
33	A	483157.55	167733.96	8.00	187.00	0.00	0.00	0.40			
34	A	483144.41	167758.67	8.00	30.00	0.00	0.00	0.40			
35	A	483115.14	167811.54	8.00	155.00	0.00	0.00	0.40			
36	A	483087.32	167809.68	6.00	243.00	0.00	0.00	0.40			
37	A	483124.82	167837.37	6.00	164.00	0.00	0.00	0.30			
38	A	482941.78	167562.24	8.00	45.00	0.00	0.00	0.40			
39	A	483084.90	167732.18	6.00	62.00	0.00	0.00	0.40			
40	A	482805.28	167664.46	8.00	57.00	0.00	0.00	0.40			
67	A	483063.60	167586.58	8.00	149.00	0.00	0.00	0.40			
70	A	483098.01	167639.28	8.00	140.00	0.00	0.00	0.40			
71	A	483049.12	167568.33	8.00	130.00	0.00	0.00	0.40			
72	A	482893.79	167604.03	8.00	61.00	0.00	0.00	0.40			
71	A	482862.23	167651.39	8.00	228.00	0.00	0.00	0.40			
72	A	483048.18	167763.81	6.00	157.00	0.00	0.00	0.40			

Illuminance (lux)

PSER 001



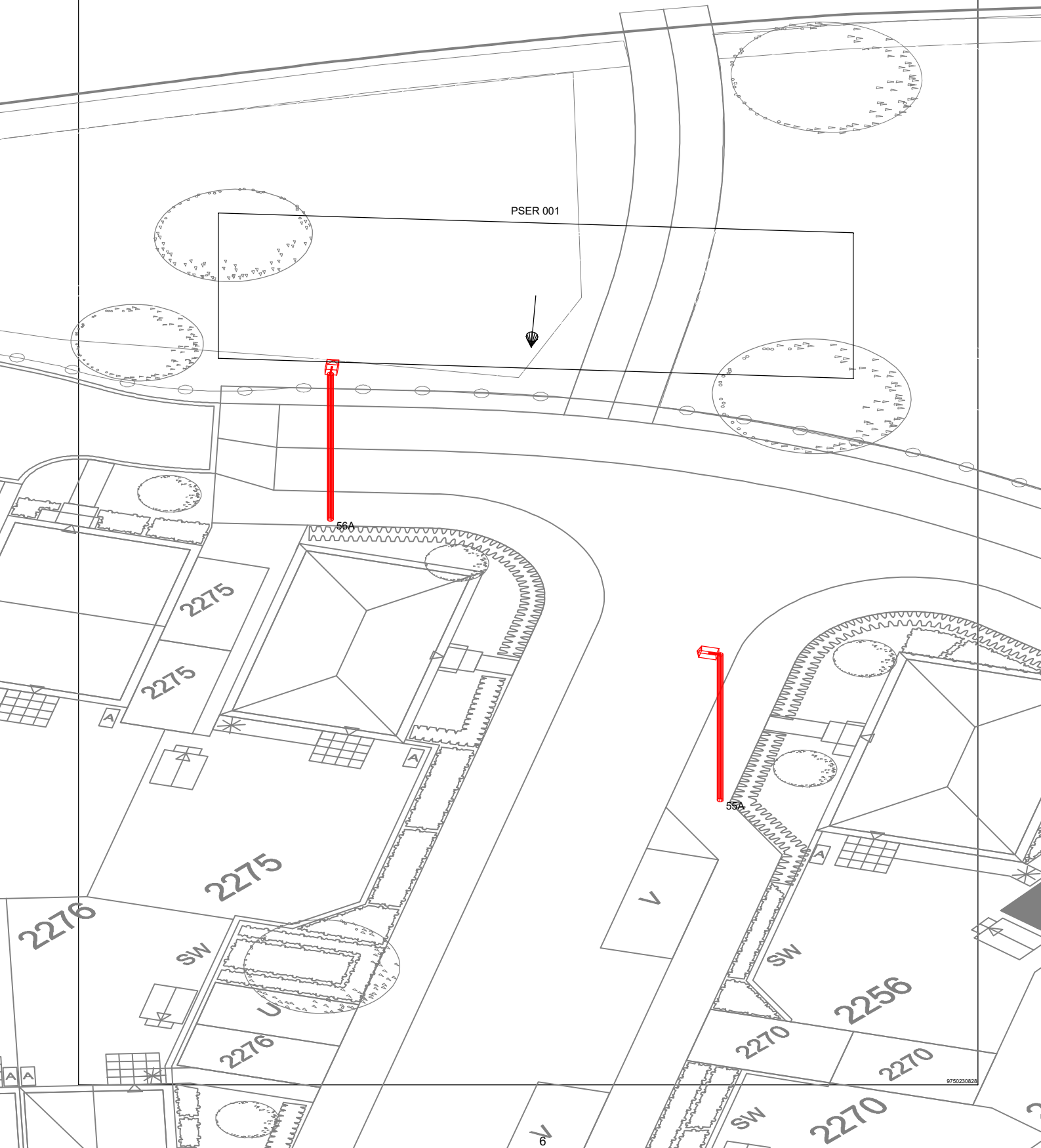
Results

Eav	0.44
Emin	0.00
E _{max}	3.50
Emin/E _{max}	0.00
Emin/Eav	0.00

Vertical Illuminance (lux)

Observer direction = 0 deg. Height = 0.00

PSER 001



Illuminance (lux)

PSER 002

[illegible]

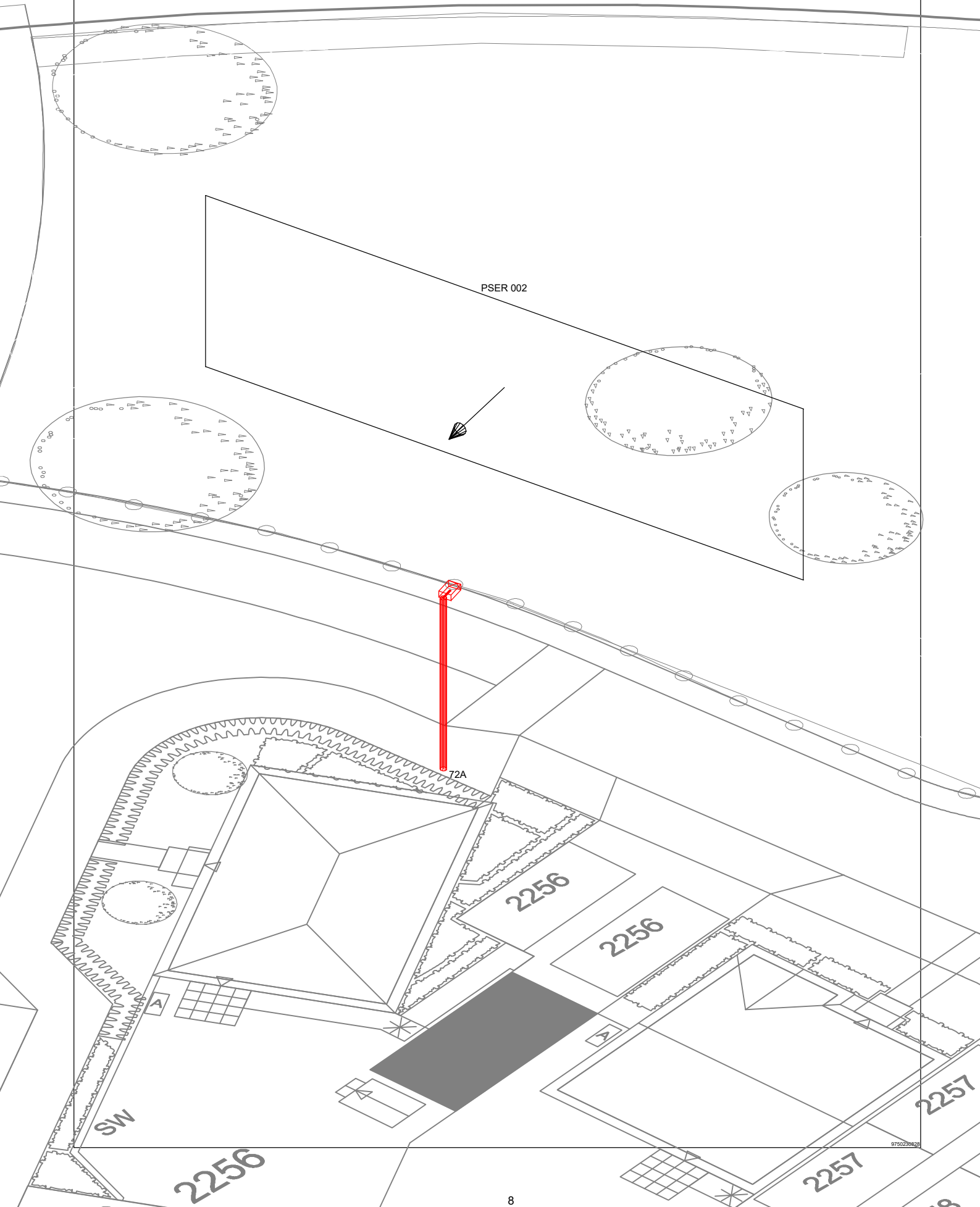
Results

Eav	0.07
Emin	0.00
Emax	0.44
Emin/Emax	0.00
Emin/Eav	0.00

Vertical Illuminance (lux)

Observer direction = 0 deg. Height = 0.00

PSER 002



Illuminance (lux)

PSER 003

[illegible]

Results

Eav	0.10
Emin	0.00
Emax	1.34
Emin/Emax	0.00
Emin/Eav	0.00

DATE: 2 July 2025
PROJECT No: 3812

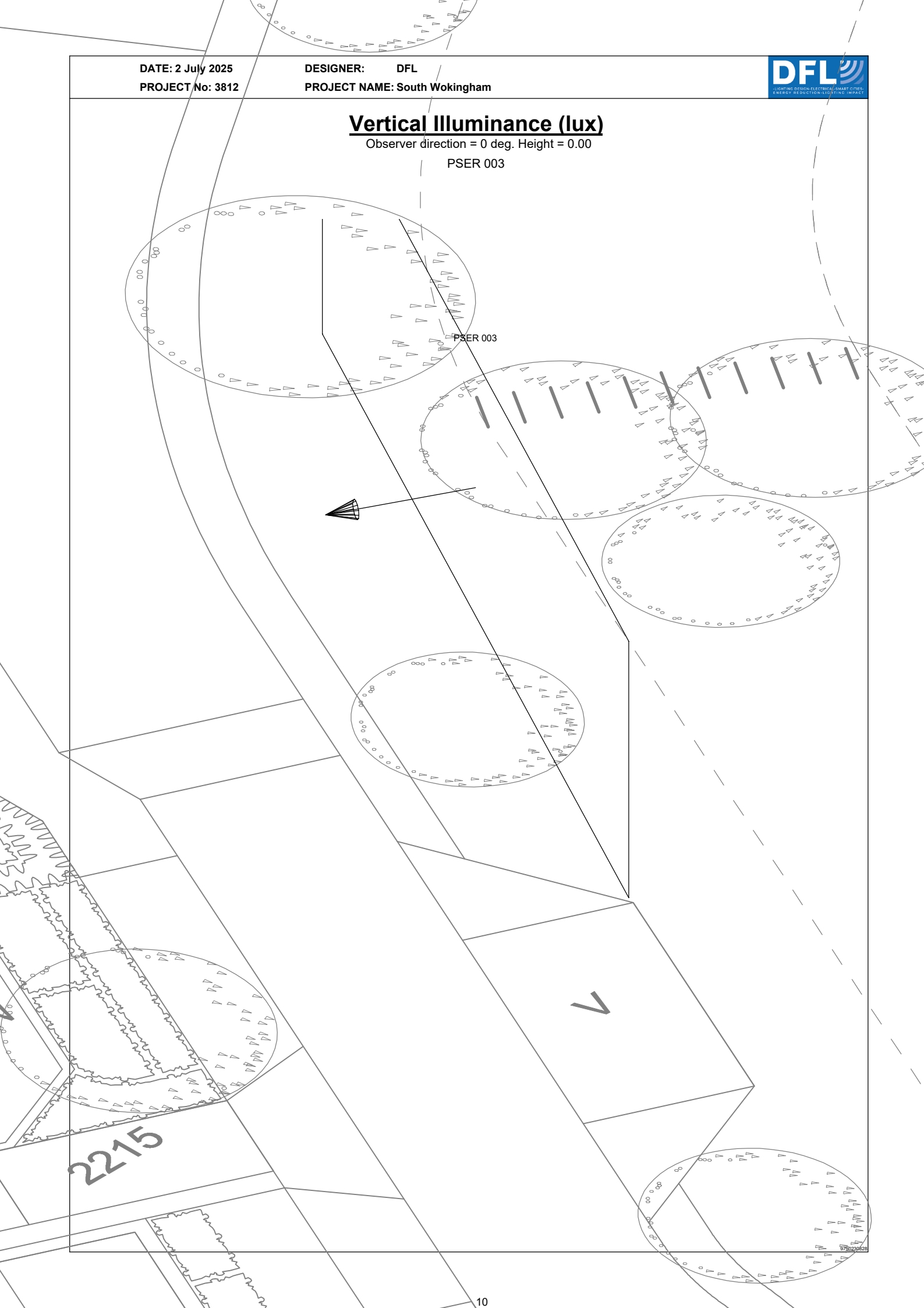
DESIGNER: DFL
PROJECT NAME: South Wokingham



Vertical Illuminance (lux)

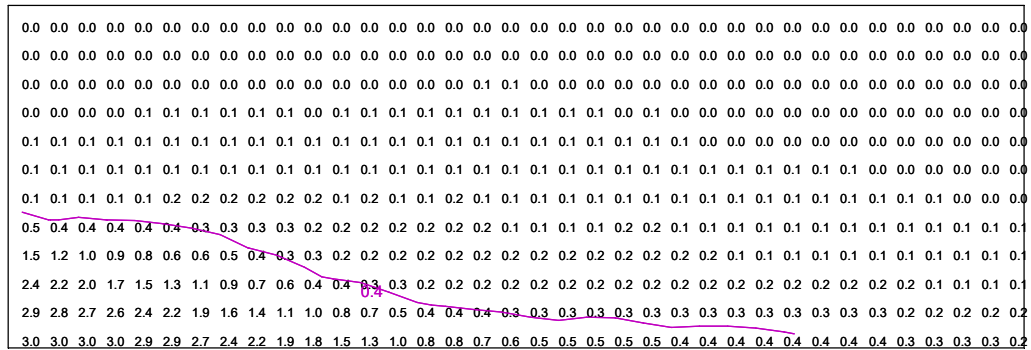
Observer direction = 0 deg. Height = 0.00

PSER 003



Illuminance (lux)

PSER 004



Results

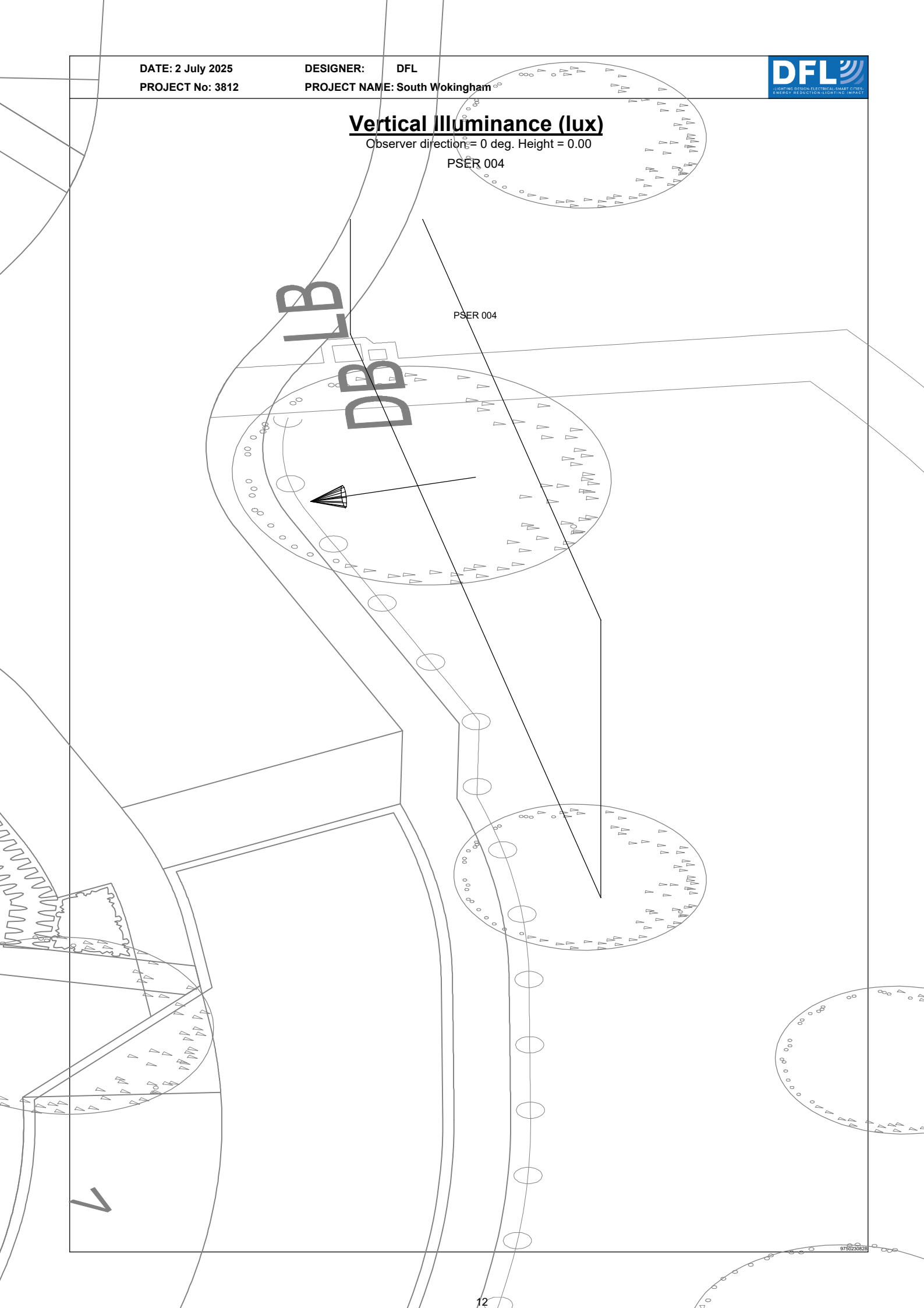
Eav	0.29
Emin	0.00
E _{max}	3.02
Emin/E _{max}	0.00
Emin/Eav	0.00

Vertical Illuminance (lux)

Observer direction = 0 deg. Height = 0.00

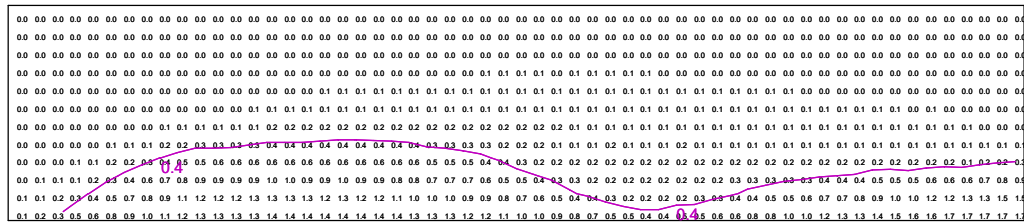
PSER 004

PSER 004



Illuminance (lux)

PSER 005



Results

Eav	0.26
Emin	0.00
E _{max}	1.72
Emin/E _{max}	0.00
Emin/Eav	0.00

DATE: 2 July 2025
PROJECT No: 3812

DESIGNER: DFL
PROJECT NAME: South Wokingham



Vertical Illuminance (lux)

Observer direction = 0 deg. Height = 0.00

PSER 005

