

Sovereign Business Park Huyton Exterior R2

Installation : Obtrusive Light Report - Version 2

Project number : LD2421

Customer : WPL Consulting - Chris Proctor

Processed by : Will Sheard

Date : 03.12.2025

Project description:

This PDF is for Day 1 Obtrusive light to the lower houses on the perimeter of the site.

For design results please refer to the latest print off calculation result PDF.

Day one obtrusive light calculations are shown to prove compliance with ILP GN01 / EN 12464-2:2014 restrictions for Environment Zone E3.

No vegetation can be part of these calculations.

This is improved from E4 on previous report as new info for a 1.8m high fence has been put in place where the site plan and google earth shows it. We have also now separated results into house names and multiple sides to the houses where windows are present. We have shown a 3D visualisation for No.59 Bridgewater Way rear where the highest vertical lux rating is seen as that house is closer to the fenceline than others.

Full installation vertical tilt and aiming angles or aiming coordinates guidance must be confirmed with lighting design department prior placing an order.

Be advised that if luminaire aiming or site commissioning is required for the aforementioned project, please contact BELL Lighting for a site-specific quote. These services are not included in the provided quotation.

Engineer assessment of column capabilities required to understand if it is possible to mount proposed floodlights on the installed columns. Suitable columns or any additional brackets are excluded and to be provided by others (unless otherwise specified).

If our proposals are based on Google Maps, competitor's proposals, photographs or unscaled drawings, results are indicative only and full site survey will be required prior to placing an order. Please verify usage and target lux levels (specified on results overview page), dimensions, heights and if all areas requiring lighting design are included. Any assumptions made at design stage should be verified prior to ordering and please do not hesitate to contact us if any alterations or additional details required. Design concluded assuming no obstruction to lighting or light fittings other than specified on plans/information provided. Any additional luminaires for the above will be subject to an additional cost.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

Huyton Exterior R2 - Obtrusive Light New

Description, Huyton Exterior R2 - Obtrusive Light New

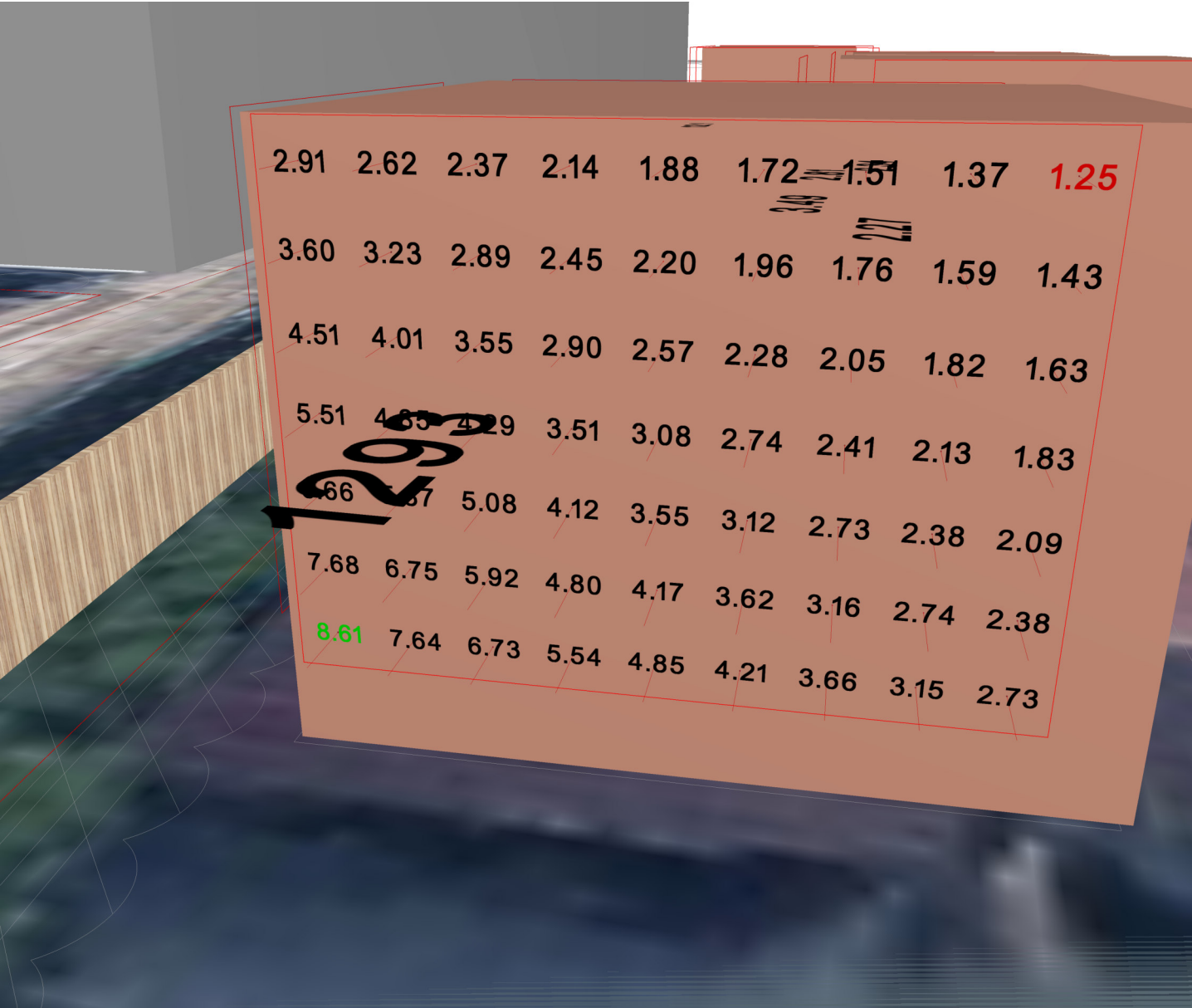
Floor plan





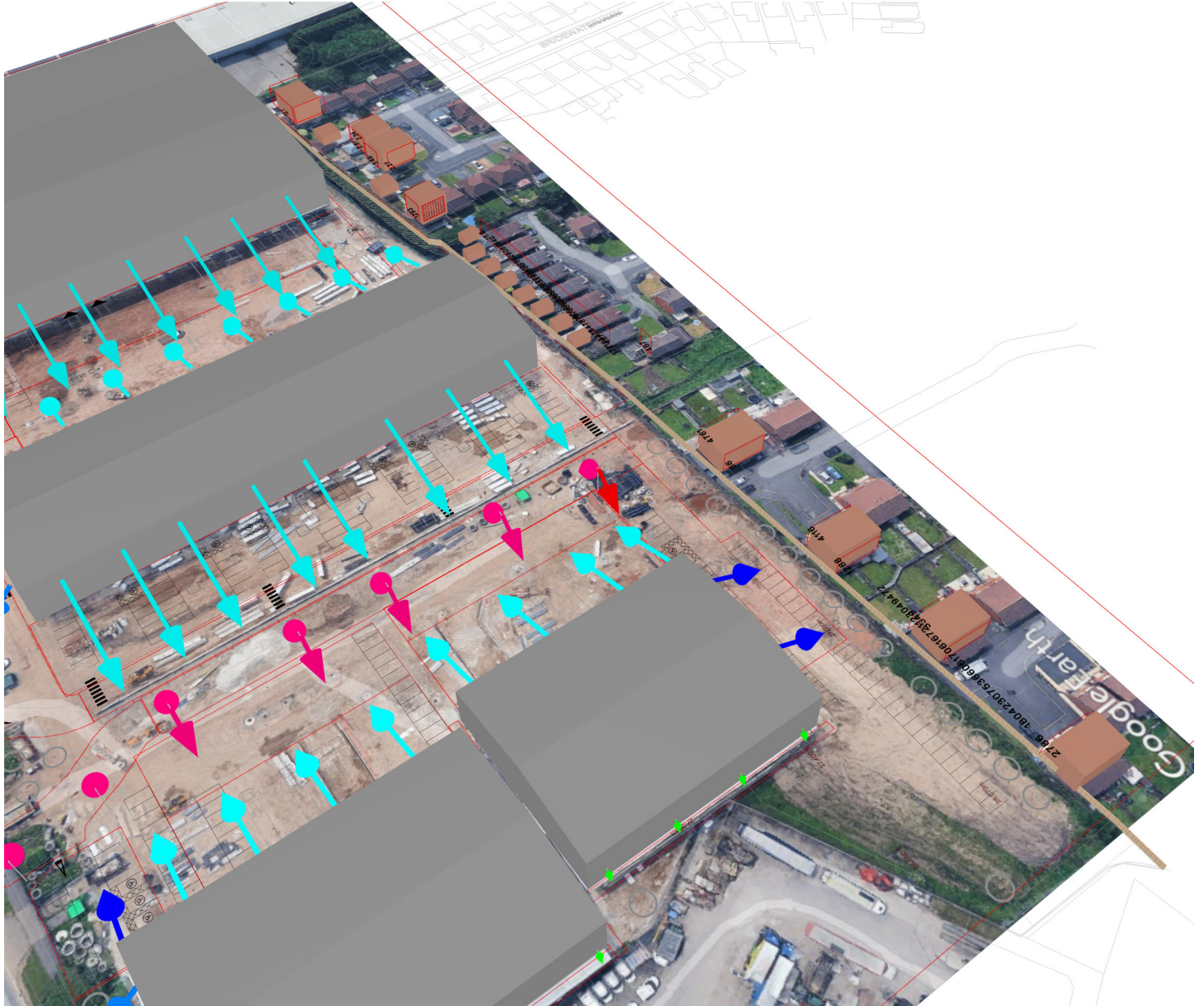
Description, Huyton Exterior R2 - Obtrusive Light New

3D view, View 1



Description, Huyton Exterior R2 - Obtrusive Light New

3D view, View 2



The logo for BELL lighting features a green swoosh above the word "BELL" in bold green capital letters, followed by "lighting" in a black sans-serif font.

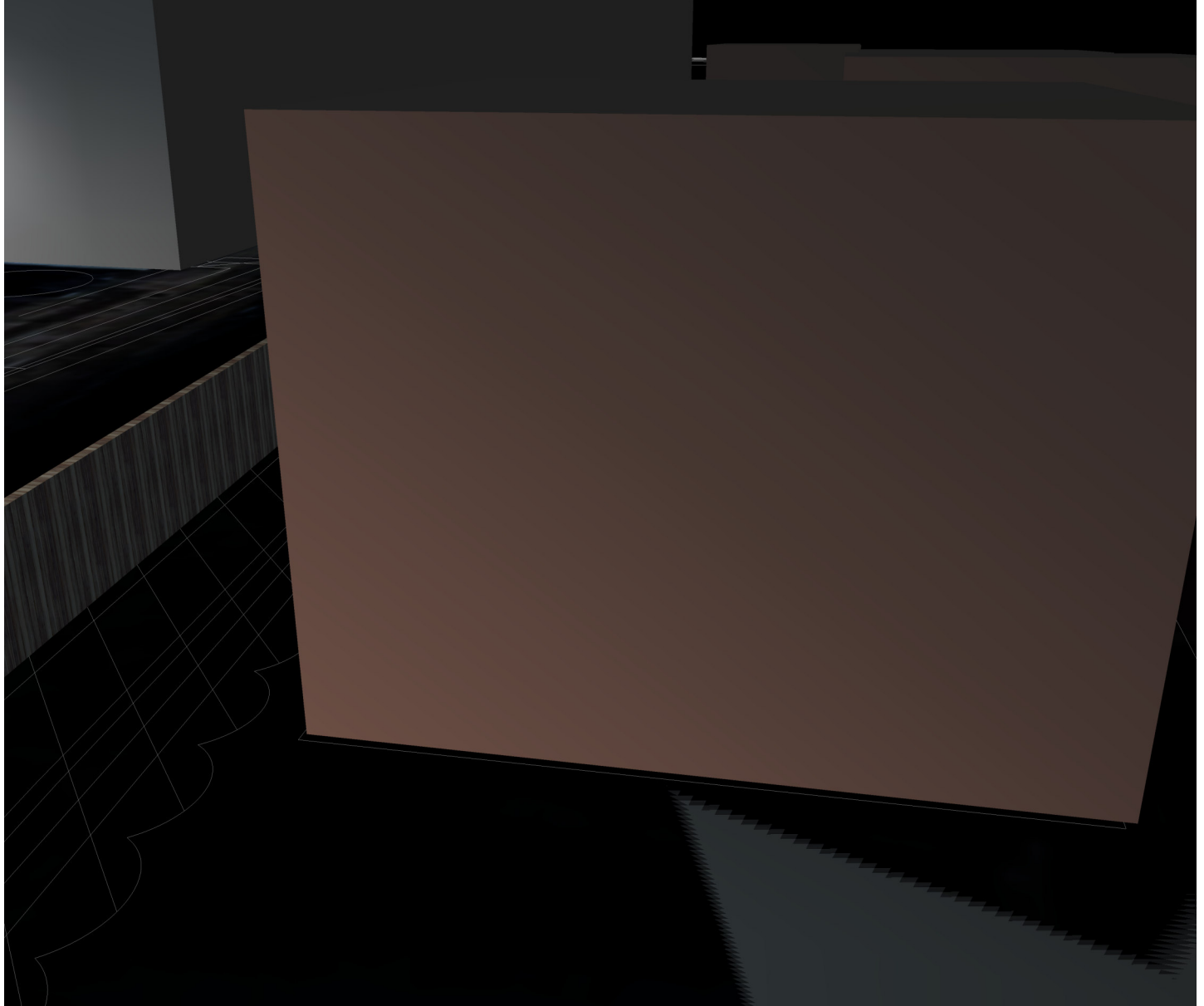
Boundary line, Horizontal Spillage (E)



Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 17 lx
Minimum illuminance	E_{min}	: 0 lx
Maximum illuminance	E_{max}	: 137 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	: ---
Diversity U_d	E_{min}/E_{max}	: ---

Calculation results, Huyton Exterior R2 - Obtrusive Light New

3D luminance, View 1



Luminance in the scene

Minimum: : 0 cd/m²
Maximum: : 368 cd/m²

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Calculation results, Huyton Exterior R2 - Obtrusive Light New

Summary obtrusive light

General

Standard : EN 12464-2:2014 Outdoor (Glare:I simple)
 Time period : Pre-curfew
 Initial values calculated : 1.00
 Calculation algorithm used : Average indirect fraction

Total luminous flux : 1367399 lm
 Total power : 9003.2 W

Light pollution

Maximum vertical illuminance

E3			
No.	Measuring surface	Grid	$E_{i,max}$
2	62 Bridgewater Way	20 x 8	0.68 lx ✓
3	62 Bridgewater Way rear	10 x 5	0.14 lx ✓
4	62 Bridgewater Way front	10 x 5	0.52 lx ✓
5	64 Bridgewater Way	9 x 6	0.66 lx ✓
6	64 Bridgewater Way side	9 x 6	0.02 lx ✓
7	66 Bridgewater Way	9 x 7	1.17 lx ✓
8	66 Bridgewater Way side	10 x 6	1.31 lx ✓
9	59 Bridgewater Way side	9 x 7	7.74 lx ✓
10	59 Bridgewater Way front	9 x 7	0.7 lx ✓
11	59 Bridgewater Way rear	9 x 7	8.61 lx ✓
12	Newsham Rd house row	87 x 8	2.9 lx ✓
13	26 Newsham Rd	7 x 8	3.47 lx ✓
14	18-20 Rudgate Rd rear	18 x 8	2.83 lx ✓
15	18-20 Rudgate Rd front	18 x 8	1.34 lx ✓
16	15-17 Rudgate Rd front	18 x 8	2.03 lx ✓
17	15-17 Rudgate Rd rear	18 x 8	0.76 lx ✓
18	10-12 Holland Grove rear	18 x 8	1.51 lx ✓
19	10-12 Holland Grove front	18 x 8	0 lx ✓
20	7-9 Holland Grove front	18 x 8	0.58 lx ✓

Maximum vertical luminance

E3				
No.	Measuring surface	Grid	Rho [%]	$L_{i,max}$
2	62 Bridgewater Way	20 x 8	20 %	0.04 cd/m ² ✓
3	62 Bridgewater Way rear	10 x 5	20 %	0.01 cd/m ² ✓
4	62 Bridgewater Way front	10 x 5	20 %	0.03 cd/m ² ✓
5	64 Bridgewater Way	9 x 6	20 %	0.04 cd/m ² ✓
6	64 Bridgewater Way side	9 x 6	20 %	0 cd/m ² ✓
7	66 Bridgewater Way	9 x 7	20 %	0.07 cd/m ² ✓
8	66 Bridgewater Way side	10 x 6	20 %	0.08 cd/m ² ✓
9	59 Bridgewater Way side	9 x 7	20 %	0.49 cd/m ² ✓
10	59 Bridgewater Way front	9 x 7	20 %	0.04 cd/m ² ✓
11	59 Bridgewater Way rear	9 x 7	20 %	0.55 cd/m ² ✓
12	Newsham Rd house row	87 x 8	20 %	0.18 cd/m ² ✓
13	26 Newsham Rd	7 x 8	20 %	0.22 cd/m ² ✓
14	18-20 Rudgate Rd rear	18 x 8	20 %	0.18 cd/m ² ✓
15	18-20 Rudgate Rd front	18 x 8	20 %	0.09 cd/m ² ✓
16	15-17 Rudgate Rd front	18 x 8	20 %	0.13 cd/m ² ✓
17	15-17 Rudgate Rd rear	18 x 8	20 %	0.05 cd/m ² ✓
18	10-12 Holland Grove rear	18 x 8	20 %	0.1 cd/m ² ✓
19	10-12 Holland Grove front	18 x 8	20 %	0 cd/m ² ✓
20	7-9 Holland Grove front	18 x 8	20 %	0.04 cd/m ² ✓

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Summary obtrusive light

Glare rating obtrusive light

No.	Luminaire	No.	Dist. [m]	I [cd]	Orient./Tilt [°]
Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd				(235.51m / 7.89m / 1.60m)	
1	Skyline Virtus 20...	(73)	88.1 m	1096 cd ✓	0.0°/ 10.0°
2	Lumo 25W CCT (400...	(1.1)	12.4 m	12 cd ✓	270.0°/ 0.0°
3	Lumo 25W CCT (400...	(1.2)	10.4 m	12 cd ✓	270.0°/ 0.0°
4	Lumo 25W CCT (400...	(1.3)	22.7 m	11 cd ✓	270.0°/ 0.0°
5	Lumo 25W CCT (400...	(1.4)	37.0 m	6 cd ✓	270.0°/ 0.0°
6	Lumo 25W CCT (400...	(3.1)	90.1 m	0 cd ✓	0.0°/ 0.0°
Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd				(209.44m / -1.34m / 1.60m)	
1	Skyline Virtus 20...	(73)	63.9 m	1869 cd ✓	0.0°/ 10.0°
2	Skyline Virtus 20...	(72)	69.2 m	1580 cd ✓	0.0°/ 10.0°
3	Skyline Virtus 20...	(71)	77.0 m	871 cd ✓	0.0°/ 10.0°
4	Skyline Virtus 20...	(70)	86.8 m	456 cd ✓	0.0°/ 10.0°
5	Lumo 25W CCT (400...	(1.3)	18.4 m	3 cd ✓	270.0°/ 0.0°
6	Lumo 25W CCT (400...	(1.4)	20.3 m	3 cd ✓	270.0°/ 0.0°
7	Lumo 25W CCT (400...	(3.2)	69.4 m	0 cd ✓	0.0°/ 0.0°
8	Lumo 25W CCT (400...	(3.3)	76.0 m	0 cd ✓	0.0°/ 0.0°
9	Lumo 25W CCT (400...	(3.4)	84.4 m	0 cd ✓	0.0°/ 0.0°
Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd				(200.50m / -1.22m / 1.60m)	
1	Skyline Virtus 20...	(73)	55.3 m	2317 cd ✓	0.0°/ 10.0°
2	Skyline Virtus 20...	(72)	61.3 m	1720 cd ✓	0.0°/ 10.0°
3	Skyline Virtus 20...	(71)	70.0 m	766 cd ✓	0.0°/ 10.0°
4	Skyline Virtus 20...	(70)	80.6 m	376 cd ✓	0.0°/ 10.0°
5	Skyline Virtus 20...	(69)	92.5 m	215 cd ✓	0.0°/ 10.0°
6	Skyline Virtus 20...	(68)	105 m	142 cd ✓	0.0°/ 10.0°
7	Skyline Virtus 20...	(67)	118 m	101 cd ✓	0.0°/ 10.0°
8	Skyline Virtus 10...	(66)	132 m	23 cd ✓	0.0°/ 10.0°
9	Lumo 25W CCT (400...	(1.2)	33.9 m	3 cd ✓	270.0°/ 0.0°
10	Lumo 25W CCT (400...	(1.3)	22.5 m	3 cd ✓	270.0°/ 0.0°
11	Lumo 25W CCT (400...	(1.4)	17.6 m	3 cd ✓	270.0°/ 0.0°
12	Lumo 25W CCT (400...	(3.3)	68.6 m	0 cd ✓	0.0°/ 0.0°
Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd				(213.48m / -3.20m / 1.60m)	
1	Lumo 25W CCT (400...	(1.3)	19.6 m	2 cd ✓	270.0°/ 0.0°
Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd				(195.59m / -3.97m / 1.60m)	
1	Skyline Virtus 20...	(73)	51.6 m	2566 cd ✓	0.0°/ 10.0°
2	Alto 50W 4000K NE...	(45)	151 m	224 cd ✓	0.0°/ 15.0°
3	Skyline Virtus 10...	(66)	133 m	20 cd ✓	0.0°/ 10.0°
4	Lumo 25W CCT (400...	(1.4)	20.7 m	2 cd ✓	270.0°/ 0.0°
Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd				(173.65m / 1.53m / 1.60m)	
1	Skyline Virtus 20...	(73)	29.6 m	6898 cd ✓	0.0°/ 10.0°
2	Skyline Virtus 20...	(72)	38.6 m	1296 cd ✓	0.0°/ 10.0°
3	Skyline Virtus 20...	(22)	32.9 m	1293 cd ✓	180.0°/ 15.0°
4	Skyline Virtus 20...	(23)	46.3 m	415 cd ✓	180.0°/ 15.0°
5	Skyline Virtus 20...	(71)	50.5 m	356 cd ✓	0.0°/ 10.0°
6	Skyline Virtus 20...	(24)	58.0 m	225 cd ✓	180.0°/ 15.0°
7	Skyline Virtus 20...	(70)	63.8 m	188 cd ✓	0.0°/ 10.0°
8	Skyline Virtus 20...	(25)	72.7 m	127 cd ✓	180.0°/ 15.0°
9	Skyline Virtus 20...	(69)	77.7 m	109 cd ✓	0.0°/ 10.0°
10	Skyline Virtus 20...	(26)	86.9 m	80 cd ✓	180.0°/ 15.0°
11	Skyline Virtus 20...	(68)	91.9 m	66 cd ✓	0.0°/ 10.0°
12	Skyline Virtus 20...	(27)	99.2 m	56 cd ✓	180.0°/ 15.0°
13	Skyline Virtus 20...	(67)	106 m	44 cd ✓	0.0°/ 10.0°
14	Skyline Virtus 20...	(28)	114 m	37 cd ✓	180.0°/ 15.0°

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Calculation results, Huyton Exterior R2 - Obtrusive Light New

Summary obtrusive light

15 Lumo 25W CCT (400...	(1.4)	29.8 m	5 cd ✓	270.0° / 0.0°
16 Lumo 25W CCT (400...	(1.3)	43.5 m	4 cd ✓	270.0° / 0.0°
17 Lumo 25W CCT (400...	(1.2)	57.8 m	3 cd ✓	270.0° / 0.0°
18 Lumo 25W CCT (400...	(3.1)	29.9 m	1 cd ✓	0.0° / 0.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

			(154.65m / -8.77m / 1.60m)	
1 Skyline Virtus 20...	(73)	25.1 m	750 cd ✓	0.0° / 10.0°
2 Skyline Virtus 20...	(72)	39.4 m	240 cd ✓	0.0° / 10.0°
3 Alto 50W 4000K NE...	(46)	162 m	193 cd ✓	270.0° / 15.0°
4 Skyline Virtus 20...	(71)	54.1 m	107 cd ✓	0.0° / 10.0°
5 Skyline Virtus 20...	(70)	68.9 m	54 cd ✓	0.0° / 10.0°
6 Skyline Virtus 20...	(69)	83.8 m	29 cd ✓	0.0° / 10.0°
7 Skyline Virtus 20...	(68)	98.7 m	19 cd ✓	0.0° / 10.0°
8 Skyline Virtus 10...	(44)	140 m	17 cd ✓	180.0° / 15.0°
9 Alto 50W 4000K NE...	(45)	151 m	15 cd ✓	0.0° / 15.0°
10 Skyline Virtus 20...	(67)	114 m	12 cd ✓	0.0° / 10.0°
11 Skyline Virtus 10...	(66)	129 m	4 cd ✓	0.0° / 10.0°
12 Lumo 25W CCT (400...	(3.3)	49.4 m	3 cd ✓	0.0° / 0.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

(133.64m / -9.67m / 1.60m)

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

(119.53m / -10.15m / 1.60m)

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

			(105.40m / -10.89m / 1.60m)	
1 Alto 75W 4000K NE...	(36)	87.6 m	2169 cd ✓	0.0° / 15.0°
2 Alto 75W 4000K NE...	(35)	62.3 m	2152 cd ✓	0.0° / 15.0°
3 Alto 75W 4000K NE...	(37)	105 m	1704 cd ✓	0.0° / 15.0°
4 Skyline Virtus 20...	(21)	72.6 m	1499 cd ✓	0.0° / 10.0°
5 Alto 75W 4000K NE...	(38)	130 m	1079 cd ✓	0.0° / 15.0°
6 Alto 75W 4000K NE...	(39)	149 m	1070 cd ✓	0.0° / 15.0°
7 Skyline Virtus 20...	(20)	78.4 m	1036 cd ✓	0.0° / 10.0°
8 Alto 75W 4000K NE...	(40)	166 m	950 cd ✓	0.0° / 15.0°
9 Alto 75W 4000K NE...	(48)	46.6 m	770 cd ✓	0.0° / 15.0°
10 Skyline Virtus 20...	(19)	89.5 m	490 cd ✓	0.0° / 10.0°
11 Skyline Virtus 20...	(6)	27.4 m	487 cd ✓	180.0° / 15.0°
12 Skyline Virtus 20...	(18)	102 m	272 cd ✓	0.0° / 10.0°
13 Alto 75W 4000K NE...	(42)	161 m	216 cd ✓	0.0° / 15.0°
14 Skyline Virtus 20...	(17)	119 m	198 cd ✓	0.0° / 10.0°
15 Skyline Virtus 20...	(7)	42.6 m	156 cd ✓	180.0° / 15.0°
16 Skyline Virtus 20...	(16)	132 m	139 cd ✓	0.0° / 10.0°
17 Skyline Virtus 20...	(15)	144 m	106 cd ✓	0.0° / 10.0°
18 Skyline Virtus 20...	(14)	156 m	83 cd ✓	0.0° / 10.0°
19 Skyline Virtus 20...	(8)	58.1 m	67 cd ✓	180.0° / 15.0°
20 Skyline Virtus 10...	(34)	78.5 m	34 cd ✓	270.0° / 10.0°
21 Skyline Virtus 20...	(9)	77.9 m	26 cd ✓	180.0° / 15.0°
22 Skyline Virtus 10...	(43)	165 m	21 cd ✓	0.0° / 10.0°
23 Skyline Virtus 20...	(10)	89.9 m	18 cd ✓	180.0° / 15.0°
24 Skyline Virtus 10...	(33)	96.6 m	18 cd ✓	270.0° / 10.0°
25 Skyline Virtus 20...	(11)	106 m	10 cd ✓	180.0° / 15.0°
26 Skyline Virtus 20...	(12)	118 m	8 cd ✓	180.0° / 15.0°
27 Skyline Virtus 20...	(13)	131 m	6 cd ✓	180.0° / 15.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

(97.47m / -17.50m / 1.60m)

1 Skyline Virtus 20...	(22)	105 m	3042 cd ✓	180.0° / 15.0°
2 Alto 75W 4000K NE...	(35)	64.3 m	2887 cd ✓	0.0° / 15.0°
3 Alto 75W 4000K NE...	(48)	45.6 m	1815 cd ✓	0.0° / 15.0°
4 Alto 75W 4000K NE...	(36)	90.9 m	1726 cd ✓	0.0° / 15.0°
5 Skyline Virtus 20...	(21)	68.9 m	1241 cd ✓	0.0° / 10.0°

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Calculation results, Huyton Exterior R2 - Obtrusive Light New

Summary obtrusive light

6	Alto 75W 4000K NE...	(37)	109 m	1162 cd	✓	0.0°/ 15.0°
7	Alto 75W 4000K NE...	(39)	153 m	743 cd	✓	0.0°/ 15.0°
8	Alto 75W 4000K NE...	(38)	135 m	704 cd	✓	0.0°/ 15.0°
9	Skyline Virtus 20...	(20)	76.0 m	695 cd	✓	0.0°/ 10.0°
10	Alto 75W 4000K NE...	(40)	170 m	674 cd	✓	0.0°/ 15.0°
11	Skyline Virtus 20...	(6)	35.2 m	467 cd	✓	180.0°/ 15.0°
12	Skyline Virtus 20...	(19)	88.7 m	327 cd	✓	0.0°/ 10.0°
13	Skyline Virtus 20...	(7)	50.1 m	196 cd	✓	180.0°/ 15.0°
14	Skyline Virtus 20...	(18)	102 m	187 cd	✓	0.0°/ 10.0°
15	Skyline Virtus 20...	(17)	120 m	144 cd	✓	0.0°/ 10.0°
16	Skyline Virtus 20...	(16)	133 m	105 cd	✓	0.0°/ 10.0°
17	Skyline Virtus 20...	(8)	65.4 m	99 cd	✓	180.0°/ 15.0°
18	Skyline Virtus 20...	(15)	146 m	79 cd	✓	0.0°/ 10.0°
19	Alto 75W 4000K NE...	(42)	167 m	72 cd	✓	0.0°/ 15.0°
20	Skyline Virtus 20...	(14)	158 m	62 cd	✓	0.0°/ 10.0°
21	Alto 75W 4000K NE...	(41)	167 m	56 cd	✓	180.0°/ 15.0°
22	Skyline Virtus 10...	(34)	74.1 m	51 cd	✓	270.0°/ 10.0°
23	Skyline Virtus 20...	(9)	85.1 m	46 cd	✓	180.0°/ 15.0°
24	Skyline Virtus 20...	(10)	96.9 m	31 cd	✓	180.0°/ 15.0°
25	Skyline Virtus 10...	(33)	91.4 m	29 cd	✓	270.0°/ 10.0°
26	Skyline Virtus 20...	(11)	113 m	20 cd	✓	180.0°/ 15.0°
27	Skyline Virtus 10...	(43)	168 m	16 cd	✓	0.0°/ 10.0°
28	Skyline Virtus 20...	(12)	125 m	15 cd	✓	180.0°/ 15.0°
29	Skyline Virtus 20...	(13)	138 m	11 cd	✓	180.0°/ 15.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

(66.75m / -10.66m / 1.60m)

1	Skyline Virtus 20...	(6)	48.9 m	4761 cd	✓	180.0°/ 15.0°
2	Skyline Virtus 20...	(7)	58.8 m	1448 cd	✓	180.0°/ 15.0°
3	Alto 75W 4000K NE...	(48)	29.0 m	1040 cd	✓	0.0°/ 15.0°
4	Alto 50W 4000K NE...	(49)	29.0 m	962 cd	✓	180.0°/ 15.0°
5	Alto 75W 4000K NE...	(62)	52.0 m	926 cd	✓	180.0°/ 15.0°
6	Skyline Virtus 20...	(8)	70.8 m	552 cd	✓	180.0°/ 15.0°
7	Skyline Virtus 20...	(9)	87.7 m	262 cd	✓	180.0°/ 15.0°
8	Alto 75W 4000K NE...	(35)	52.1 m	260 cd	✓	0.0°/ 15.0°
9	Alto 75W 4000K NE...	(63)	79.6 m	225 cd	✓	180.0°/ 15.0°
10	Skyline Virtus 20...	(10)	98.4 m	192 cd	✓	180.0°/ 15.0°
11	Skyline Virtus 20...	(11)	114 m	129 cd	✓	180.0°/ 15.0°
12	Alto 75W 4000K NE...	(36)	79.6 m	115 cd	✓	0.0°/ 15.0°
13	Alto 75W 4000K NE...	(64)	98.7 m	113 cd	✓	180.0°/ 15.0°
14	Skyline Virtus 20...	(12)	125 m	99 cd	✓	180.0°/ 15.0°
15	Skyline Virtus 20...	(18)	82.3 m	98 cd	✓	0.0°/ 10.0°
16	Skyline Virtus 20...	(13)	137 m	74 cd	✓	180.0°/ 15.0°
17	Alto 75W 4000K NE...	(37)	98.7 m	51 cd	✓	0.0°/ 15.0°
18	Skyline Virtus 20...	(16)	115 m	51 cd	✓	0.0°/ 10.0°
19	Alto 75W 4000K NE...	(39)	142 m	50 cd	✓	0.0°/ 15.0°
20	Alto 75W 4000K NE...	(65)	125 m	40 cd	✓	180.0°/ 15.0°
21	Skyline Virtus 20...	(15)	129 m	35 cd	✓	0.0°/ 10.0°
22	Skyline Virtus 20...	(14)	142 m	26 cd	✓	0.0°/ 10.0°
23	Alto 75W 4000K NE...	(38)	125 m	15 cd	✓	0.0°/ 15.0°
24	Lumo 25W CCT (400...	(1.4)	135 m	1 cd	✓	270.0°/ 0.0°
25	Lumo 25W CCT (400...	(1.3)	150 m	1 cd	✓	270.0°/ 0.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

(56.81m / -9.69m / 1.60m)

1	Alto 75W 4000K NE...	(62)	52.7 m	2723 cd	✓	180.0°/ 15.0°
2	Alto 75W 4000K NE...	(63)	79.5 m	846 cd	✓	180.0°/ 15.0°
3	Skyline Virtus 20...	(21)	34.8 m	609 cd	✓	0.0°/ 10.0°
4	Alto 75W 4000K NE...	(64)	98.4 m	465 cd	✓	180.0°/ 15.0°
5	Skyline Virtus 10...	(34)	37.0 m	364 cd	✓	270.0°/ 10.0°

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6 Skyline Virtus 20...	(20)	45.3 m	291 cd ✓	0.0°/ 10.0°
7 Skyline Virtus 20...	(19)	62.2 m	124 cd ✓	0.0°/ 10.0°
8 Skyline Virtus 10...	(33)	51.6 m	89 cd ✓	270.0°/ 10.0°
9 Skyline Virtus 20...	(18)	78.7 m	67 cd ✓	0.0°/ 10.0°
10 Alto 75W 4000K NE...	(35)	52.9 m	18 cd ✓	0.0°/ 15.0°
11 Alto 75W 4000K NE...	(36)	79.6 m	11 cd ✓	0.0°/ 15.0°
12 Alto 75W 4000K NE...	(37)	98.6 m	8 cd ✓	0.0°/ 15.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

			(31.68m / -11.90m / 1.60m)	
1 Skyline Virtus 20...	(6)	80.9 m	4116 cd ✓	180.0°/ 15.0°
2 Skyline Virtus 20...	(7)	87.5 m	3173 cd ✓	180.0°/ 15.0°
3 Alto 75W 4000K NE...	(63)	88.8 m	2145 cd ✓	180.0°/ 15.0°
4 Alto 75W 4000K NE...	(62)	65.6 m	1772 cd ✓	180.0°/ 15.0°
5 Alto 75W 4000K NE...	(64)	106 m	1703 cd ✓	180.0°/ 15.0°
6 Skyline Virtus 20...	(8)	96.1 m	1679 cd ✓	180.0°/ 15.0°
7 Alto 75W 4000K NE...	(65)	132 m	1079 cd ✓	180.0°/ 15.0°
8 Skyline Virtus 20...	(9)	109 m	793 cd ✓	180.0°/ 15.0°
9 Skyline Virtus 10...	(34)	29.9 m	761 cd ✓	270.0°/ 10.0°
10 Skyline Virtus 20...	(10)	118 m	542 cd ✓	180.0°/ 15.0°
11 Alto 50W 4000K NE...	(49)	47.6 m	426 cd ✓	180.0°/ 15.0°
12 Skyline Virtus 20...	(11)	131 m	338 cd ✓	180.0°/ 15.0°
13 Skyline Virtus 20...	(12)	141 m	254 cd ✓	180.0°/ 15.0°
14 Skyline Virtus 20...	(13)	152 m	202 cd ✓	180.0°/ 15.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

			(21.96m / -10.79m / 1.60m)	
1 Skyline Virtus 10...	(34)	30.6 m	1300 cd ✓	270.0°/ 10.0°
2 Skyline Virtus 10...	(33)	30.1 m	1288 cd ✓	270.0°/ 10.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

			(3.74m / -13.88m / 1.60m)	
1 Skyline Virtus 20...	(6)	108 m	3349 cd ✓	180.0°/ 15.0°
2 Skyline Virtus 20...	(7)	113 m	2980 cd ✓	180.0°/ 15.0°
3 Skyline Virtus 20...	(8)	120 m	2372 cd ✓	180.0°/ 15.0°
4 Skyline Virtus 20...	(9)	132 m	1324 cd ✓	180.0°/ 15.0°
5 Skyline Virtus 10...	(33)	33.2 m	950 cd ✓	270.0°/ 10.0°
6 Alto 75W 4000K NE...	(62)	86.3 m	548 cd ✓	180.0°/ 15.0°
7 Skyline Virtus 10...	(34)	42.8 m	280 cd ✓	270.0°/ 10.0°
8 Alto 50W 4000K NE...	(49)	72.3 m	246 cd ✓	180.0°/ 15.0°

Approximate window @ 1.6m, E3 : Pre-curfew, Limit = 10000 cd

			(-5.65m / -13.11m / 1.60m)	
			(-29.82m / -12.86m / 1.60m)	
1 Skyline Virtus 20...	(6)	140 m	2786 cd ✓	180.0°/ 15.0°
2 Skyline Virtus 20...	(7)	144 m	2713 cd ✓	180.0°/ 15.0°
3 Skyline Virtus 20...	(8)	150 m	2493 cd ✓	180.0°/ 15.0°
4 Alto 50W 4000K NE...	(49)	103 m	212 cd ✓	180.0°/ 15.0°
5 Skyline Virtus 10...	(33)	52.9 m	110 cd ✓	270.0°/ 10.0°
6 Skyline Virtus 10...	(34)	69.4 m	56 cd ✓	270.0°/ 10.0°