

**DATE:** 14 June 2024  
**DESIGNER:** HORIZON ENG  
**PROJECT No:** 20152  
**PROJECT NAME:** COURTSTOWN LRD

**LIGHTING  
REALITY**

Document Reference:  
20152-DD-001-REVN-PUBLIC LIGHTING DESIGN REPORT

Residential Public Lighting Design Criteria  
Minimum Average Lux = 5.0 lux (Class P4)  
Minimum Lux = 1.0 lux (Class P4)

Residential Spine Road Lighting Design Criteria  
Minimum Average Lux = 10.0 lux (Class P2)  
Minimum Lux = 2.0 lux (Class P2)

Interface to Main Road Lighting Design Criteria  
Minimum Average Lux = 15 lux (Class C3)  
Minimum Uniformity Ratio = 0.4 (Class C3)

## **PUBLIC LIGHTING DESIGN REPORT**

## 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 - RESIDENTIAL P4	-412.18	323.26	370.63	237.53	1.49	1.49
2	Grid 2 - SPINE ROAD - CLAS...	-383.69	392.95	367.34	197.04	1.50	1.49
3	Grid 3 - ENTRANCE	-415.65	561.69	82.62	53.71	1.48	1.49

### Luminaires

#### Luminaire A Data



Supplier	Philips
Type	BGP702 DW50
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	4.20
File Name	Luma Gen2 Micro_BGP702_DW50_4200_20LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	595.5, 51.0, 0.0
No. in Project	42

#### Luminaire B Data



Supplier	Philips
Type	BGP704 DW50
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	16.00
File Name	Luma Gen2 Medium_BGP704_DW50_16000_80LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	595.5, 51.0, 0.0
No. in Project	10

#### Luminaire C Data



Supplier	Philips
Type	BGP704 DW50
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	18.50
File Name	Luma Gen2 Medium_BGP704_DW50_18500_80LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	595.5, 51.0, 0.0
No. in Project	3

### Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	-376.79	554.73	6.00	0.00	5.00	0.00	0.00			
2	A	-375.45	525.23	6.00	357.00	5.00	0.00	0.00			
3	A	-374.78	487.53	6.00	0.00	5.00	0.00	0.00			
4	A	-367.21	459.54	6.00	181.00	5.00	0.00	0.00			
6	A	-370.97	413.36	6.00	174.00	5.00	0.00	0.00			
5	A	-388.91	442.49	6.00	86.00	5.00	0.00	0.00			
7	A	-386.68	369.90	6.00	345.00	5.00	0.00	0.00			
8	A	-348.07	444.11	6.00	261.00	5.00	0.00	0.00			

**Layout Continued**

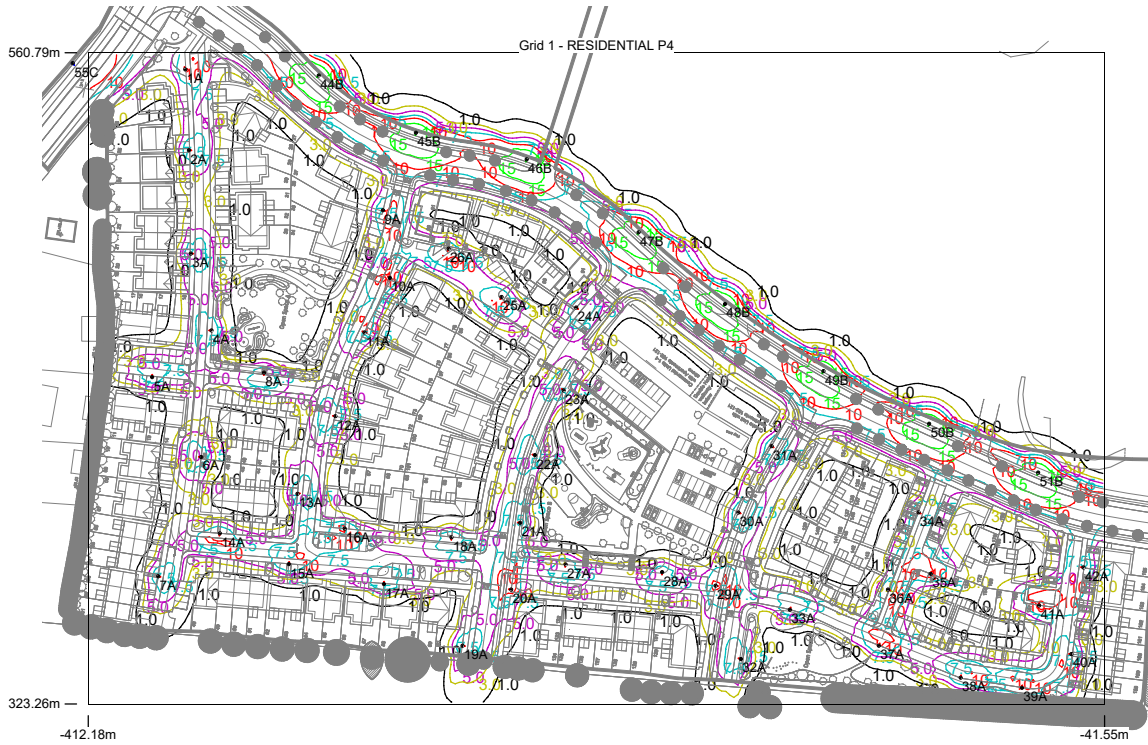
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
15	A	-339.04	374.28	6.00	80.00	5.00	0.00	0.00			
10	A	-302.22	478.68	6.00	145.00	5.00	0.00	0.00			
11	A	-311.45	458.77	6.00	152.00	5.00	0.00	0.00			
12	A	-322.06	428.24	6.00	170.00	5.00	0.00	0.00			
13	A	-335.91	399.95	6.00	8.00	5.00	0.00	0.00			
17	A	-304.38	367.02	6.00	87.00	10.00	0.00	0.00			
18	A	-279.73	384.08	6.00	265.00	10.00	0.00	0.00			
24	A	-234.28	467.87	6.00	320.00	5.00	0.00	0.00			
23	A	-238.85	437.61	6.00	139.00	5.00	0.00	0.00			
22	A	-249.34	414.06	6.00	167.00	5.00	0.00	0.00			
21	A	-254.68	389.38	6.00	174.00	5.00	0.00	0.00			
19	A	-275.69	344.52	6.00	350.00	5.00	0.00	0.00			
27	A	-238.14	374.21	6.00	262.00	5.00	0.00	0.00			
28	A	-202.91	371.40	6.00	265.00	5.00	0.00	0.00			
31	A	-163.01	417.34	6.00	328.00	10.00	0.00	0.00			
30	A	-175.16	393.09	6.00	341.00	10.00	0.00	0.00			
29	A	-183.45	366.42	6.00	351.00	5.00	0.00	0.00			
32	A	-174.24	339.71	6.00	165.00	5.00	0.00	0.00			
33	A	-156.34	357.66	6.00	70.00	5.00	0.00	0.00			
37	A	-123.89	344.53	6.00	69.00	5.00	0.00	0.00			
38	A	-94.10	332.85	6.00	79.00	5.00	0.00	0.00			
39	A	-71.74	329.16	6.00	83.00	5.00	0.00	0.00			
40	A	-53.68	341.49	6.00	176.00	5.00	0.00	0.00			
42	A	-49.30	373.11	6.00	175.00	5.00	0.00	0.00			
25	A	-261.45	471.70	6.00	236.00	0.00	0.00	0.00			
34	A	-109.46	393.14	6.00	333.00	5.00	0.00	0.00			
35	A	-104.99	370.74	6.00	70.00	10.00	0.00	0.00			
43	B	-358.79	578.98	8.00	234.00	5.00	0.00	0.00			
44	B	-328.16	552.52	8.00	227.00	5.00	0.00	0.00			
45	B	-292.70	531.63	8.00	256.00	5.00	0.00	0.00			
46	B	-252.29	521.93	8.00	248.00	5.00	0.00	0.00			
47	B	-211.52	495.30	8.00	243.00	5.00	0.00	0.00			
48	B	-180.01	469.14	8.00	232.00	5.00	0.00	0.00			
49	B	-144.10	444.70	8.00	240.00	5.00	0.00	0.00			
50	B	-105.56	425.52	8.00	250.00	5.00	0.00	0.00			
51	B	-65.85	407.70	8.00	248.00	5.00	0.00	0.00			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
54	C	-390.25	590.96	10.00	326.00	5.00	0.00	0.00			
55	C	-417.83	556.99	10.00	308.00	5.00	0.00	0.00			
53	C	-366.13	607.78	8.00	153.00	5.00	0.00	0.00			
16	A	-318.69	387.25	6.00	264.00	10.00	0.00	0.00			
26	A	-280.81	489.35	6.00	251.00	0.00	0.00	0.00			
41	A	-65.48	359.17	6.00	87.00	0.00	0.00	0.00			
36	A	-120.55	365.00	6.00	336.00	0.00	0.00	0.00			
9	A	-304.75	503.37	6.00	341.00	0.00	0.00	0.00			
14	A	-364.18	385.53	6.00	257.00	0.00	0.00	0.00			
20	A	-257.98	365.03	6.00	173.00	5.00	0.00	0.00			
52	B	-24.60	397.13	8.00	265.00	5.00	0.00	0.00			

## Horizontal Illuminance (lux)

Grid 1 - RESIDENTIAL P4

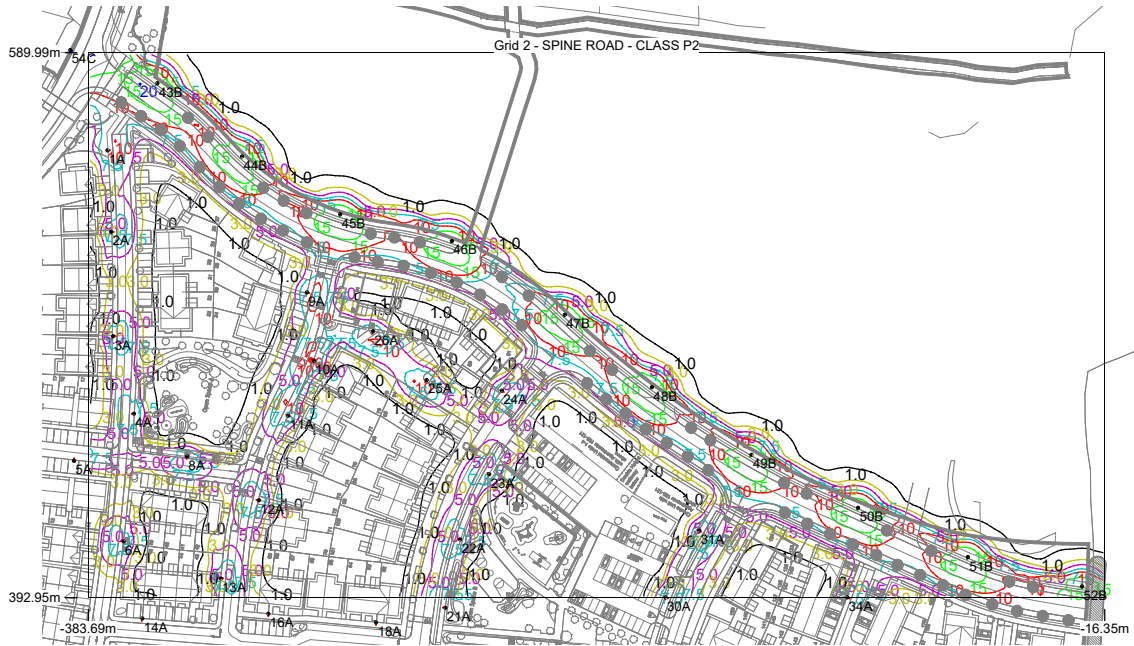


### Results

Eav	6.13
Emin	1.21
E <sub>max</sub>	12.47
E <sub>min</sub> /E <sub>max</sub>	0.10
E <sub>min</sub> /E <sub>av</sub>	0.20

## Horizontal Illuminance (lux)

Grid 2 - SPINE ROAD - CLASS P2

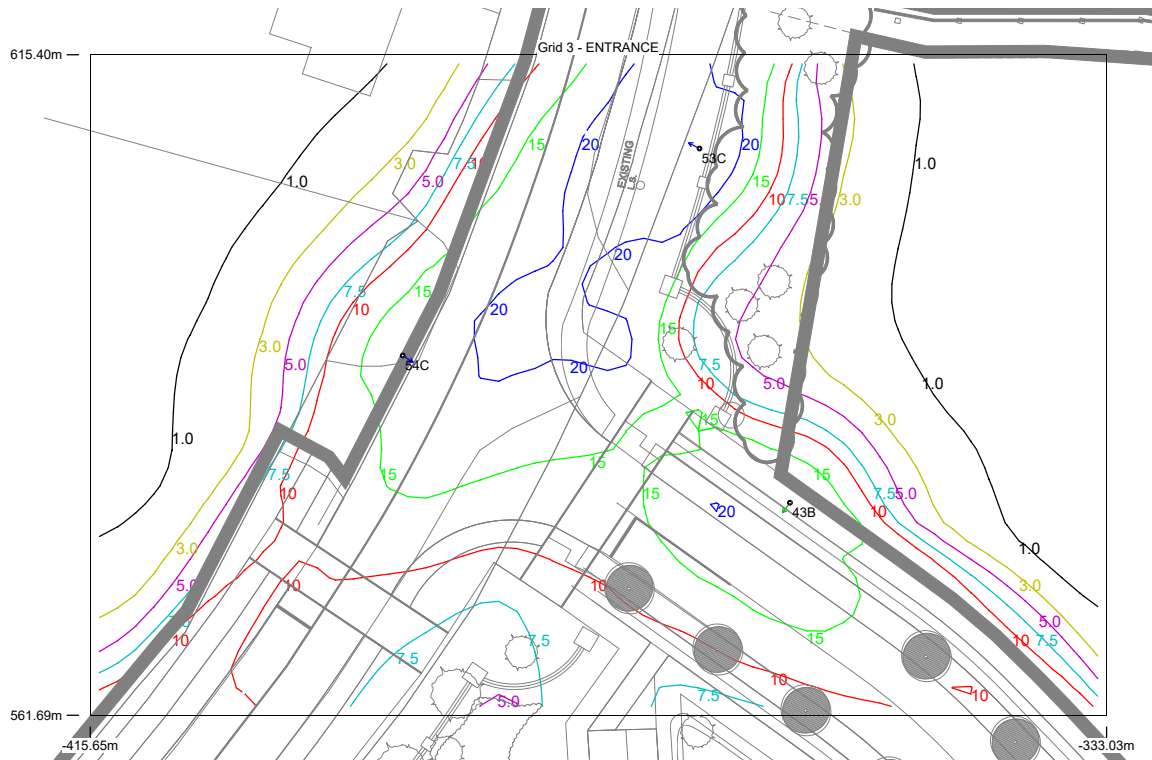


### Results

Eav	10.49
Emin	2.98
Emax	20.15
Emin/Emax	0.15
Emin/Eav	0.28

## Horizontal Illuminance (lux)

Grid 3 - ENTRANCE



### Results

Eav	16.02
Emin	6.51
Emax	26.05
Emin/Emax	0.25
Emin/Eav	0.41

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Document Reference:  
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Pathway Public Lighting Design Criteria  
Minimum Average Lux = 5.0 lux (Class P4)  
Minimum Lux = 1.0 lux (Class P4)

# PUBLIC LIGHTING DESIGN REPORT



## Layout Report

### General Data

Dimensions in Metres Angles in Degrees  
Grid Origin -234.0m x 486.5m  
Area 114.4m x 223.4m  
Sample Spacing 1.49m x 1.50m

### Luminaires



### Luminaire D Data

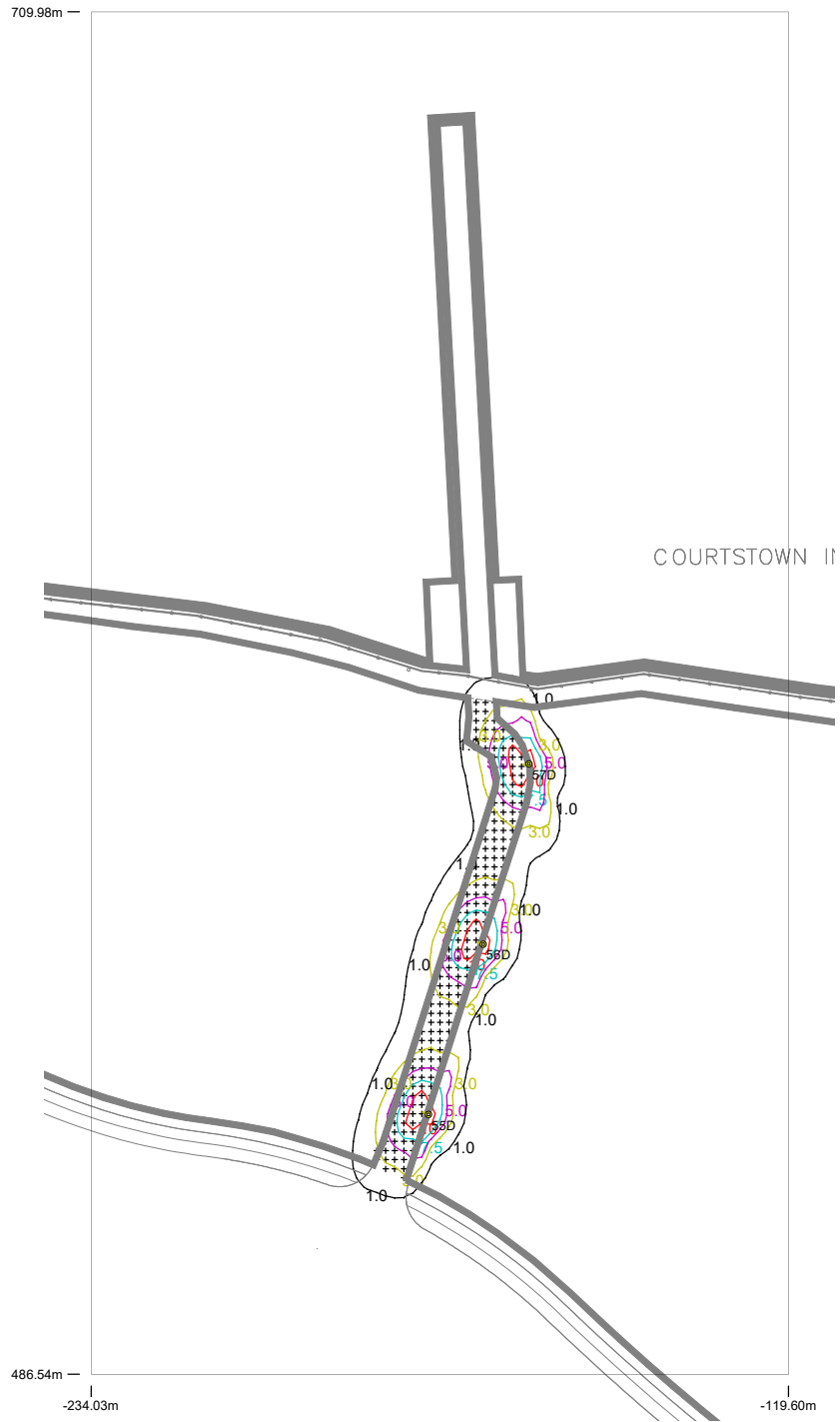
Supplier	Philips
Type	BGP702 DW50
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	2.40
File Name	Luma Gen2 Micro_BGP702_DW50_2400_1 0LED_5.2S_CLO_L90_730.lvs
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	595.5, 51.0, 0.0
No. in Project	3

### Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
55	D	-178.69	529.19	4.00	159.00	5.00	0.00	0.00			
56	D	-169.71	557.09	4.00	159.00	5.00	0.00	0.00			
57	D	-162.21	586.69	4.00	191.00	5.00	0.00	0.00			

# Horizontal Illuminance (lux)

Grid 4 - PATHWAY CLASS P4



## Results

Eav	5.33
Emin	1.43
Emax	11.20
Emin/Emax	0.13
Emin/Eav	0.27