

**DATE:** 21 February 2024  
**DESIGNER:** Dan Staunton  
**PROJECT No:** 23-11-12-01C  
**PROJECT NAME:** LRD Drumlark, Co. Cavan



Proposed Development at Drumlark, Co. Cavan

IS EN 13201-2:2015 / BS 5489-1:2020  
Road & Paths - Class P4  
L1532 Road - Class P3/C5

IS EN 12464-2:2014  
Creche Carpark - 5.9.2 - Medium Traffic

## Outdoor Lighting Report

Based on:  
Lumen Output at 100,000 hours  
Spot Lamp Replacement  
Normal Environment  
6 Year Cleaning Cycle  
Ground is Level

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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	Road	10.28	-21.51	346.89	371.80	1.50	1.50
2	Creche Carpark	152.23	97.62	65.07	51.70	1.48	1.48
3	L1532 Road	289.86	172.57	51.14	158.27	1.46	1.49
4	Path	240.89	141.32	57.30	62.64	1.04	0.87

### Luminaires

#### Luminaire A Data

Supplier	
Type	Veelite Metro Streetlight 27w LED Forward Throw A Optic
Lamp(s)	12LED 3000K G4
Lamp Flux (klm)	3.39
File Name	5MTA10LGA-FTA-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	401.3, 47.0, 0.5
No. in Project	16

#### Luminaire B Data

Supplier	
Type	Veelite Metro Streetlight 27w LED Street Optic R01
Lamp(s)	12LED 3000K G4
Lamp Flux (klm)	3.22
File Name	5MTA10LGA-R01-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	680.3, 387.6, 0.6
No. in Project	21

#### Luminaire C Data

Supplier	
Type	Veelite Metro Streetlight 36w LED Street Optic R03
Lamp(s)	16 LED 3000K G4
Lamp Flux (klm)	4.54
File Name	5MTA12LGA-R03-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	537.8, 56.5, 0.3
No. in Project	6

#### Luminaire D Data

Supplier	
Type	Veelite Metro Streetlight 19w LED Street Optic R01
Lamp(s)	8LED 3000K G4
Lamp Flux (klm)	2.15
File Name	5MTA08LGA-R01-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	680.3, 387.6, 0.6
No. in Project	20

#### Luminaire E Data

Supplier	
Type	Veelite Metro Streetlight 36w LED Forward Throw A Optic
Lamp(s)	16LED 3000K G4
Lamp Flux (klm)	4.52
File Name	5MTA12LGA-FTA-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	401.3, 47.0, 0.5
No. in Project	1

#### Luminaire F Data

Supplier	
Type	Veelite LED Bollard 6w LED Asymmetric XW
Lamp(s)	1 x 4LED 3000K
Lamp Flux (klm)	0.47
File Name	5BLE00305 - LED Bollard 1 x 4LED 6W Asymmetric XW Optic.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	895.2, 629.1, 39.2
No. in Project	10

**Layout**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	C	305.23	302.78	8.00	189.00	0.00	0.00	0.50			
2	C	310.71	275.57	8.00	190.00	0.00	0.00	0.50			
3	A	274.57	302.23	6.00	283.00	0.00	0.00	0.50			
4	B	244.27	295.35	6.00	283.00	0.00	0.00	0.50			
5	A	200.86	282.22	6.00	11.00	0.00	0.00	0.50			
6	B	216.74	289.06	6.00	283.00	0.00	0.00	0.50			
7	A	200.13	311.42	6.00	209.00	0.00	0.00	0.50			
8	B	215.02	249.99	6.00	185.00	0.00	0.00	0.50			
9	B	206.70	205.34	6.00	160.00	5.00	0.00	0.50			
10	B	185.61	170.71	6.00	141.00	0.00	0.00	0.50			
11	B	172.78	133.81	6.00	171.00	0.00	0.00	0.50			
12	B	160.68	110.82	6.00	345.00	0.00	0.00	0.50			
13	B	186.06	110.20	6.00	270.00	0.00	0.00	0.50			
14	A	219.09	93.58	6.00	180.00	0.00	0.00	0.50			
15	A	219.19	65.29	6.00	180.00	0.00	0.00	0.50			
16	A	219.30	42.60	6.00	179.00	0.00	0.00	0.50			
17	A	219.04	17.59	6.00	179.00	0.00	0.00	0.50			
18	D	229.53	61.10	6.00	179.00	0.00	0.00	0.50			
19	D	226.50	101.68	6.00	179.00	0.00	0.00	0.50			
20	D	222.75	130.64	6.00	193.00	0.00	0.00	0.50			
21	D	217.15	165.02	6.00	179.00	0.00	0.00	0.50			
22	D	202.76	145.76	6.00	108.00	0.00	0.00	0.50			
23	D	182.76	141.53	6.00	257.00	0.00	0.00	0.50			
24	C	300.84	247.59	8.00	5.00	0.00	0.00	0.50			
25	D	212.76	199.08	6.00	180.00	0.00	0.00	0.50			
26	B	138.41	123.18	6.00	90.00	5.00	0.00	0.50			
27	A	91.51	129.00	6.00	357.00	0.00	0.00	0.50			
28	B	111.30	123.18	6.00	90.00	0.00	0.00	0.50			
29	A	93.07	155.35	6.00	356.00	0.00	0.00	0.50			
30	A	93.42	176.68	6.00	0.00	0.00	0.00	0.50			
31	B	106.74	199.89	6.00	315.00	0.00	0.00	0.50			
32	B	131.02	225.77	6.00	334.00	0.00	0.00	0.50			
33	B	136.17	256.06	6.00	6.00	0.00	0.00	0.50			
34	B	132.73	283.34	6.00	6.00	0.00	0.00	0.50			
35	B	126.38	296.06	6.00	101.00	0.00	0.00	0.50			
36	D	168.35	249.04	6.00	267.00	0.00	0.00	0.50			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
37	D	200.49	235.05	6.00	79.00	0.00	0.00	0.50			
38	A	100.77	103.12	6.00	172.00	0.00	0.00	0.50			
39	A	94.22	77.30	6.00	175.00	0.00	0.00	0.50			
40	A	118.97	61.70	6.00	171.00	5.00	0.00	0.50			
41	B	131.14	63.89	6.00	264.00	0.00	0.00	0.50			
42	D	60.59	84.53	6.00	251.00	0.00	0.00	0.50			
43	D	64.99	104.78	6.00	344.00	0.00	0.00	0.50			
44	D	72.38	120.80	6.00	249.00	0.00	0.00	0.50			
45	D	73.29	140.14	6.00	357.00	0.00	0.00	0.50			
46	D	81.45	159.16	6.00	264.00	0.00	0.00	0.50			
47	D	88.07	199.89	6.00	271.00	0.00	0.00	0.50			
48	D	74.74	179.03	6.00	357.00	0.00	0.00	0.50			
49	D	51.03	56.24	6.00	346.00	0.00	0.00	0.50			
50	A	86.96	52.15	6.00	163.00	0.00	0.00	0.50			
51	B	65.44	48.74	6.00	270.00	0.00	0.00	0.50			
52	B	102.07	48.72	6.00	270.00	5.00	0.00	0.50			
53	A	132.43	48.70	6.00	270.00	0.00	0.00	0.50			
54	B	153.59	23.08	6.00	176.00	0.00	0.00	0.50			
55	B	160.12	66.94	6.00	162.00	0.00	0.00	0.50			
56	A	172.34	61.78	6.00	61.00	5.00	0.00	0.50			
57	B	33.21	34.01	6.00	358.00	0.00	0.00	0.50			
58	C	187.56	134.09	6.00	271.00	0.00	0.00	0.50			
59	C	184.59	113.23	6.00	92.00	0.00	0.00	0.50			
60	C	300.05	216.07	8.00	3.00	0.00	0.00	0.50			
61	E	312.48	197.35	8.00	175.00	0.00	0.00	0.50			
62	D	224.53	224.08	8.00	176.00	0.00	0.00	0.50			
63	D	226.41	178.33	8.00	185.00	0.00	0.00	0.50			
64	D	234.37	145.46	8.00	55.00	0.00	0.00	0.50			
65	F	255.81	147.61	1.00	85.00	0.00	0.00	0.00			
66	F	263.02	151.12	1.00	270.00	0.00	0.00	0.00			
67	F	273.43	149.90	1.00	101.00	0.00	0.00	0.00			
68	F	278.73	155.01	1.00	283.00	0.00	0.00	0.00			
69	F	288.80	160.21	1.00	133.00	0.00	0.00	0.00			
70	F	285.73	168.66	1.00	0.00	0.00	0.00	0.00			
71	F	288.51	180.97	1.00	183.00	0.00	0.00	0.00			
72	F	282.59	187.16	1.00	3.00	0.00	0.00	0.00			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
73	F	288.21	197.58	1.00	125.00	0.00	0.00	0.00			
74	F	291.53	203.57	1.00	287.00	0.00	0.00	0.00			

## Horizontal Illuminance (lux)

Road

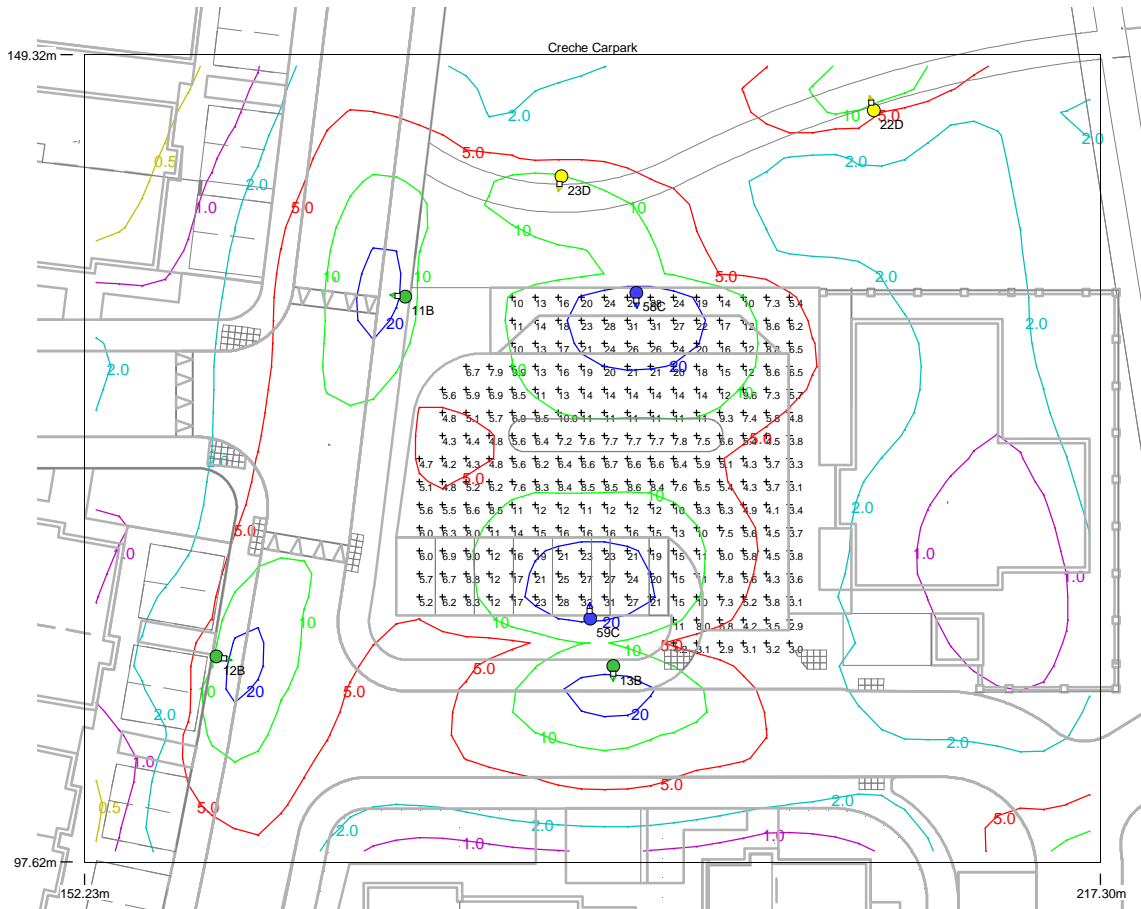


### Results

Eav	6.17
Emin	1.21
Emax	28.41
Emin/Emax	0.04
Emin/Eav	0.20

## Horizontal Illuminance (lux)

### Creche Carpark

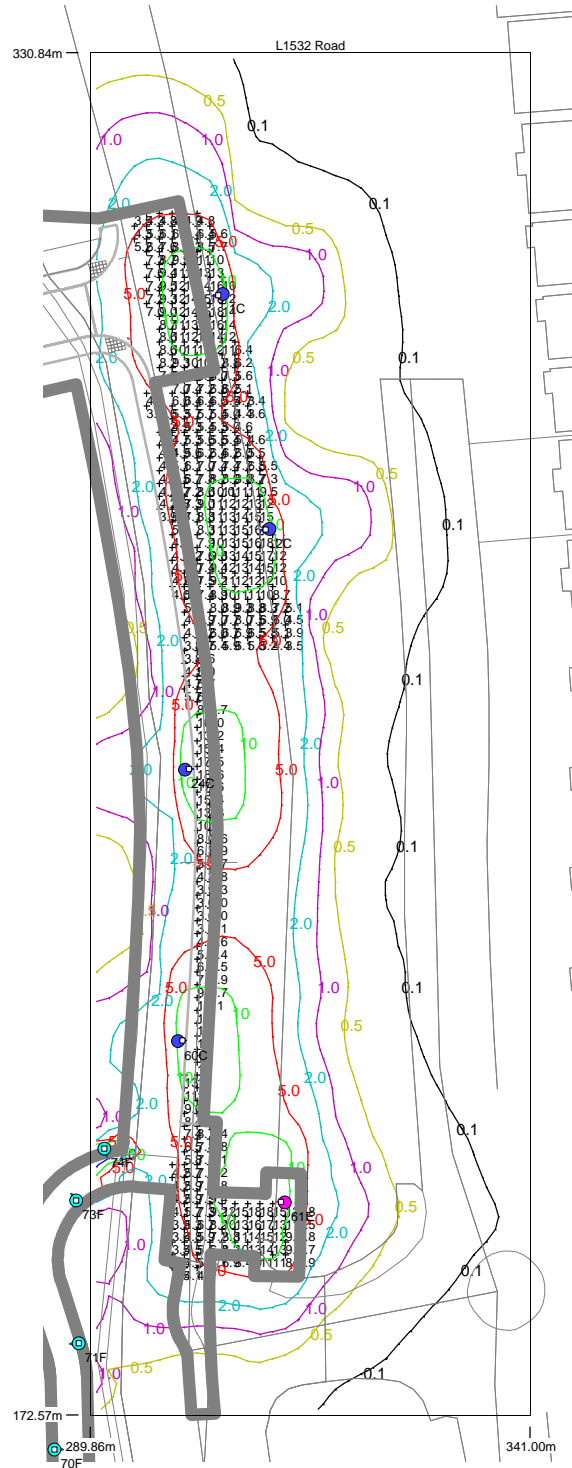


### Results

Eav	11.22
Emin	2.90
Emax	32.27
Emin/Emax	0.09
Emin/Eav	0.26

## Horizontal Illuminance (lux)

L1532 Road

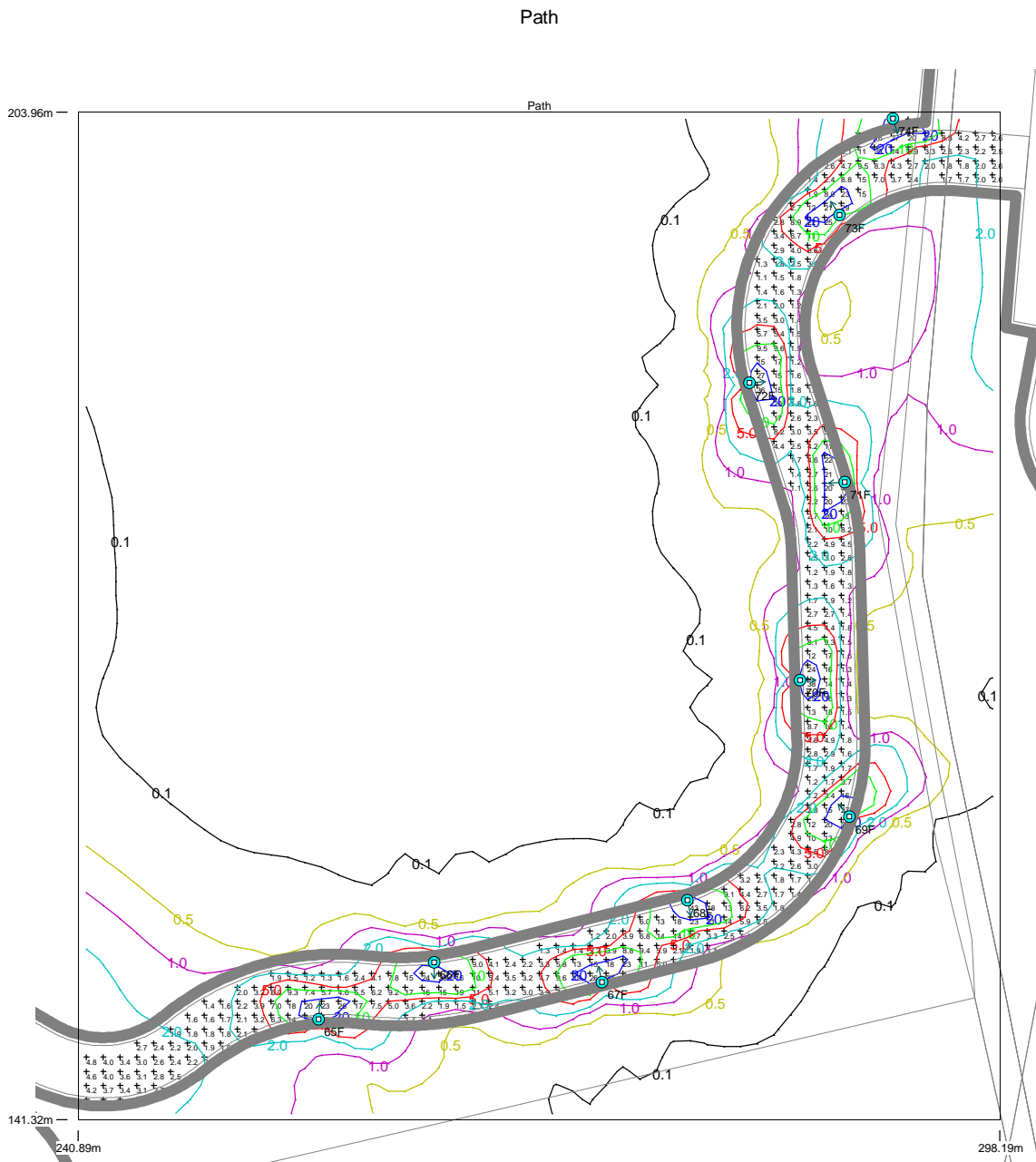


### Results

Eav	8.56
Emin	3.42
Emax	18.11
Emin/Emax	0.19
Emin/Eav	0.40



## Horizontal Illuminance (lux)



### Results

Eav	7.44
Emin	1.10
E <sub>max</sub>	43.32
E <sub>min</sub> /E <sub>max</sub>	0.03
E <sub>min</sub> /E <sub>av</sub>	0.15

# Horizontal Illuminance (lux)

Road

