

22112 - Clondalkin RFC

Clondalkin RFC - Lighting Calculation

Object

Clondalkin RFC, Kindswood Farm, Moneenalion Commons Lower, Clondalkin, Dublin 22

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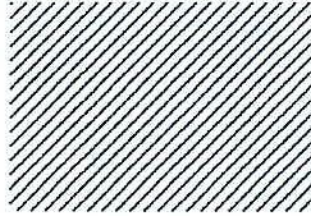
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Contacts



Lighting Designer
Conor O'Byrne

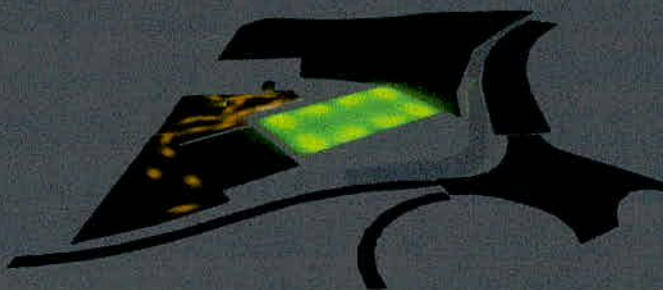
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Description

This report presents the results of a calculation of light levels for the proposed lighting at Clondalkin RFC. It shows light levels on the main pitch, car park and other areas as well as light spill onto the adjacent R136 and N7 ramps.

Calculation surfaces are positioned in three dimensions based on A.03.03.9 site layout provided by Cummins + Voortman and the elevation data and height contours contained within. Luminaire positions are also based on the layout in that drawing.

Specifications for all luminaires used are included in the report.

The results show a negligible (avg <1 Lux) spill beyond the site boundary onto the R136 and N7 ramps.

The resulting lux value chart and iso lines have been incorporated into Wink drawings 22112.01 Clondalkin RFC and accompany this report in PDF and DWG format.

Lighting Designer

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Luminaire list

Φ_{total}	P_{total}	Luminous efficacy
5329436 lm	45646.5 W	116.8 lm/W

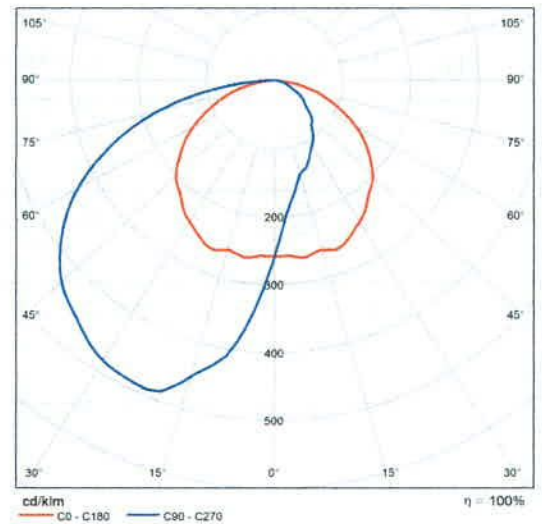
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
47	Linea Light Group	65395M07	Opti-Pole Bollards 8W DC	9.5 W	216 lm	22.7 lm/W
20	Linea Light Group	84508A72	Parker Street & Urban 48 LED 91 W DC Autocontrol System	100.0 W	7817 lm	78.2 lm/W
32	Not yet a DIALux member	84434N23	Biglamp PRO Projector 3x450W DC	1350.0 W	161342 lm	119.5 lm/W

Product data sheet

Linea Light Group - Opti-Pole Bollards 8W DC



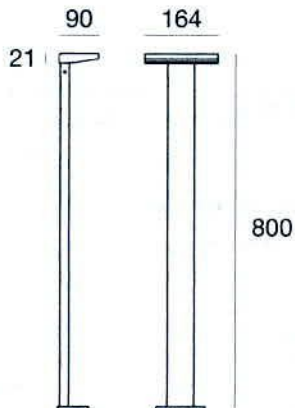
Article No.	65395M07
P	9.5 W
Φ_{Lamp}	216 lm
$\Phi_{\text{Luminaire}}$	216 lm
η	100.00 %
Luminous efficacy	22.7 lm/W
CCT	2700 K
CRI	80



Polar LDC



Bollard & Pole | 80-265 V
 18 topLED 8 W DC - 9.5 W AC | CRI 80
 65395M07



Technical data	
Type	Bollard
Installation position	Floor
Installation environment	Outdoor
Light Source	LED
Optics	Asymmetric Wallwasher
Light emission direction	downward
Power	8 W
Source lumens	744 lm
Frequency	50 - 60 Hz
CCT / Tone	2700 K
Colour rendering index	80 Ra
C.C. / C.V.	AC
Safety class	2
IP	IP65
IK	IK08
Glow wire test	850°
Direct mounting on normally flammable surfaces	Yes
CE	Yes
Driver included	Driver
Dimmable article	No
Directional	No
Tilting	No
Walk-over	No
Drive-over	No
Cable included	No
Resin potting	Yes
Type of light emission	Single emission
Net weight	2,3 Kg
Electrostatic discharge protection	4 KV
Surge protection	0,5 KV
Optics technology	Optilight TM
Product technological characteristics	Acquastop - UV Resistant

Finishing casing	
Material	Die-cast Aluminium EN AB - 46100
Colour	grey RAL 9006
Processing	Open pore anodizing + Powder Coating

Finishing diffuser	
Material	UV Resistant Polymethylmethacrylate
Colour	transparent

Finishing base	
Material	Galvanised Iron
Colour	grey RAL 9006
Processing	Powder coating

Bollard & Pole | 80-265 V | 18 topLED 8 W DC - 9.5 W AC | CRI 80 | Base 65395M07

Single emission bollard & pole for outdoor application. The super warm LED light source with a asymmetric wallwasher light distribution is composed of 18 topLEDs with CCT of 2700 K and a CRI 80; the source luminous flux is 744 lm, with a 93.0 lm/W nominal luminous efficacy.

The device body is made of die-cast aluminium en ab - 46100 and features a grey ral 9006 finish, processed by means of open pore anodizing + powder coating; the diffuser is made of uv resistant polymethylmethacrylate. The ingress protection degree is IP65; the total weight is of 2,3 kg.

The total absorbed power is 9.5 W.

The device features protection class II and can be floor-mounted.

Compliant with the EN 60598-1 standard and its specific provisions.

Energy efficiency class

Illuminotechnical Features

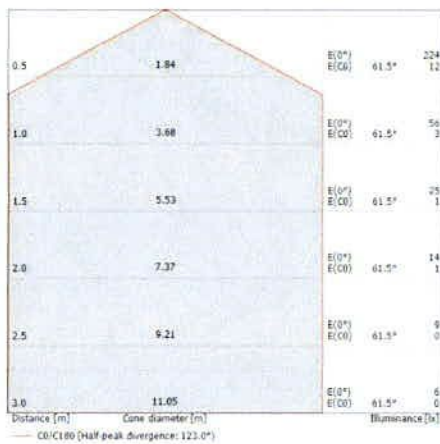
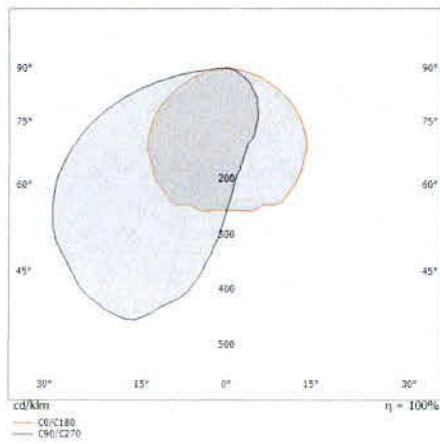
Light Output Ratio (LOR)	29 %
Source lumens	744 lm
Delivered lumens	217 lm
Consumption	9.5 W
Luminaire efficacy	22 lm/W
Colour temperature	2700 K
Standard Deviation of Colour Matching	3 Step MacAdam
Colour rendering index	80 Ra

LED Life / Failure Ratio

L70 B10 C0 145770h (at Tj 65 Ta 25)

OPTICAL

Light distribution simmetry	Symmetrical 2
C0/C180 optics	123°

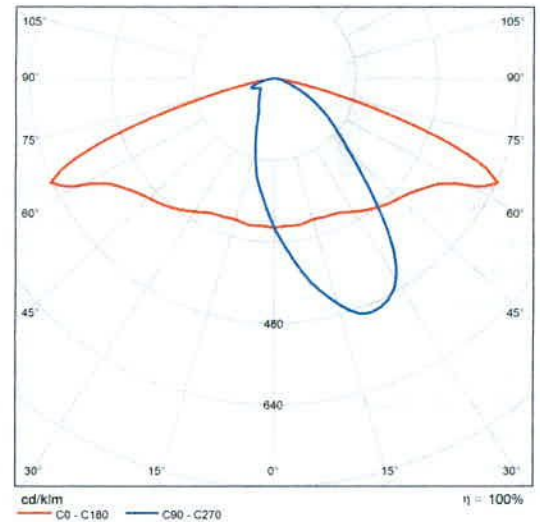


Product data sheet

Linea Light Group - Parker Street & Urban 48 LED 91 W DC Autocontrol System



Article No.	84508A72
P	100.0 W
Φ_{Lamp}	7817 lm
$\Phi_{\text{Luminaire}}$	7817 lm
η	100.00 %
Luminous efficacy	78.2 lm/W
CCT	2200 K
CRI	80

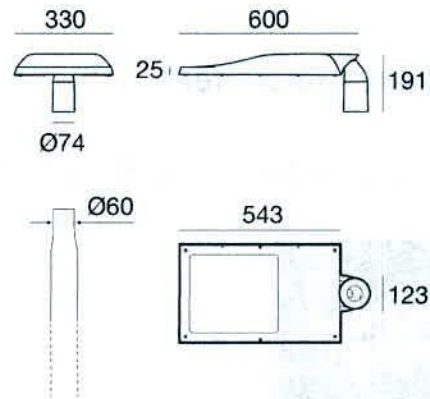


Polar LDC

Parker



Bollard & Pole | 198-264 V
48 x powerLEDs 91 W DC - 100 W AC | CRI 80
84508A72



Technical data	
Type	Bollard & Pole
Installation position	Pole
Installation environment	Outdoor
Light Source	LED
Optics	Street
Light emission direction	downward
Power	91 W
Source lumens	9001 lm
Frequency	50 - 60 Hz
CCT / Tone	2200 K
Colour rendering index	80 Ra
C.C. / C.V.	AC
Safety class	1
IP	IP66
IK	IK08
Glow wire test	850°
Direct mounting on normally flammable surfaces	Yes
CE	Yes
Driver included	Driver
Dimmable article	Autocontrol
Directional	Swivelling
total angle (vertical plane)	15 °
total angle (horizontal plane)	0 °
Tilting	No
Walk-over	No
Drive-over	No
Cable included	Yes
Cable length	1 m
Resin potting	No
Type of light emission	Single emission
Surface exposed to lateral wind	0.04 m ²
Plant surface exposed to the wind	0.18 m ²
Net weight	8.5 Kg
Electrostatic discharge protection	Yes
Surge protection	Yes
Product technological characteristics	TCS

Finishing casing	
Material	Die-cast Aluminium EN AB - 46100
Colour	Anthracite Gray RAL 7016
Processing	Powder coating

Finishing diffuser	
Material	Extra clear glass
Colour	transparent
Processing	Silk-screening

Cables Electrification	
Cable connector	No



**Bollard & Pole | 198-264 V | 48 x powerLEDs 91 W DC - 100 W AC | CRI 80 | Base
84508A72**

Single emission bollard & pole for outdoor application. The ancient white LED light source with a street light distribution is composed of 48 powered LEDs with CCT of 2200 K and a CRI 80; the source luminous flux is 9001 lm, with a 98.9 lm/W nominal luminous efficacy.

The device body is made of die-cast aluminium en ab - 46100 and features a anthracite gray ral 7016 finish, processed by means of powder coating; the diffuser is made of extra clear glass with a silk-screening treatment. The ingress protection degree is IP66; the total weight is of 8.5 kg.

The total absorbed power is 100 W. The power supply cable is included and features a 1 m length.

The device features protection class I and can be pole-mounted.

Compliant with the EN 60598-1 standard and its specific provisions.

Energy efficiency class

This product contains a light source of energy efficiency class F.

Illuminotechnical Features

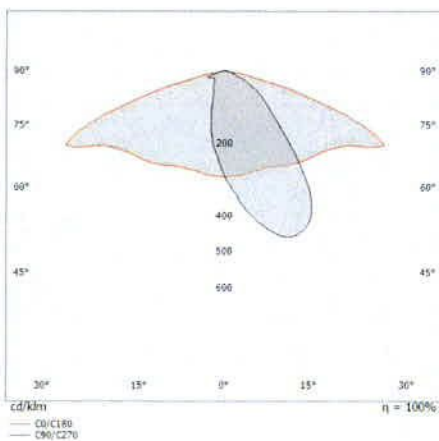
Light Output Ratio (LOR)	86 %
Source lumens	9001 lm
Delivered lumens	7818 lm
Consumption	100 W
Luminaire efficacy	78 lm/W
Colour temperature	2200 K
Standard Deviation of Colour Matching	1/16 ANSI BIN
Colour rendering index	80 Ra
Standard Operating Ambient Temperature	-20 / +50

LED Life / Failure Ratio

L70 B10 C0 361980h

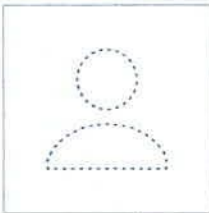
OPTICAL

Light distribution symmetry	Symmetrical 2
C0/C180 optics	145°

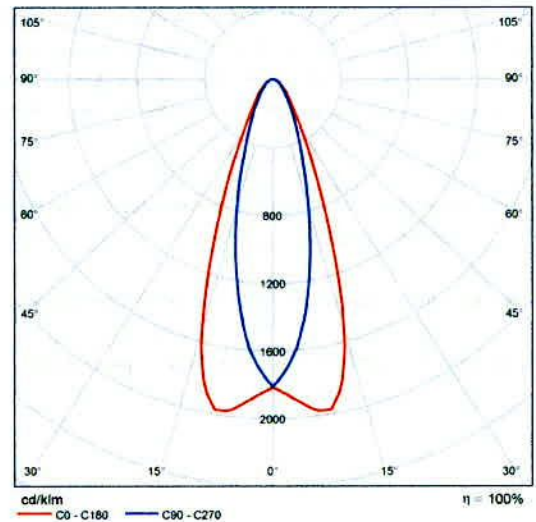


Product data sheet

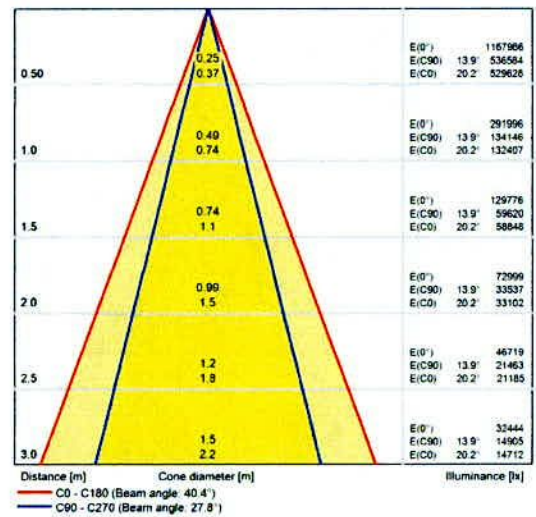
Not yet a DIALux member - Biglamp PRO Projector 3x450W DC



Article No.	84434N23
P	1350.0 W
Φ_{Lamp}	161337 lm
$\Phi_{Luminaire}$	161342 lm
η	100.00 %
Luminous efficacy	119.5 lm/W
CCT	4000 K
CRI	70



Polar LDC



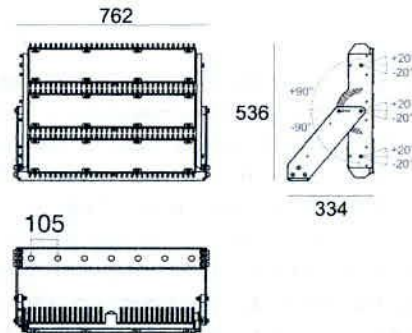
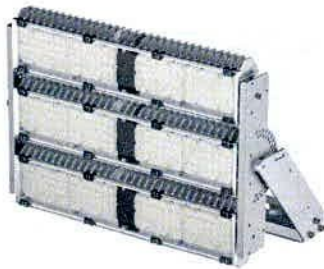
Cone diagram

Biglamp Pro



Projectors

56 + 56 + 56 x powerLEDs 1350 W DC 3600 mA | CRI 70
84434N23



Technical data	
Type	Surface
Installation position	Wall lights - Ceiling - Floor
Installation environment	Outdoor
Light Source	LED
Optics	Elliptical 23° x 40° + Elliptical 23° x 40° + Elliptical 23° x 40°
Light emission direction	frontal
Power	1350 W
Source lumens	236343 lm
Current intensity	mA
CCT / Tone	4000 K
Colour rendering index	70 Ra
C.C. / C.V.	CC
Safety class	3
IP	IP66
IK	IK08
Glow wire test	850°
Direct mounting on normally flammable surfaces	Yes
CE	Yes
Driver included	No
Dimmable article	DALI - 1-10V
Directional	Swivelling
total angle (vertical plane)	20 °
total angle (horizontal plane)	0 °
Tilting	Yes
total angle (horizontal plane)	0 °
total angle (vertical plane)	90 °
Walk-over	No
Drive-over	No
Cable included	Yes
Cable length	1 m
Resin potting	No
Type of light emission	Multiple emission
Surface exposed to lateral wind	0,018 m ²
Plant surface exposed to the wind	0,134 m ²
Net weight	37 Kg
Electrostatic discharge protection	No
Surge protection	No
Product technological characteristics	TCS
Ordinary temperature on the glass	40 °C

Finishing casing

Material	Die-cast Aluminium EN AB - 46100
Colour	Aluminium

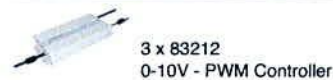
Finishing diffuser

Material	Extra clear glass - Tempered
Colour	transparent

Finishing bracket

Material	Galvanised Iron
Colour	grey RAL 9006
Processing	Cataphoresis + Powder painting

Electronics



Cables Electrification

Cable connector	No
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Biglamp Pro



Projectors I 56 + 56 + 56 x powerLEDs 1350 W DC 3600 mA | CRI 70
84434N23

Multiple emission projectors for outdoor application. The natural white LED light source with a elliptical 23° x 40° light distribution is composed of 56 powered LEDs with CCT of 4000 K and a CRI 70; the source luminous flux is 78781 lm, with a 175.1 lm/W nominal luminous efficacy
The natural white LED light source with a elliptical 23° x 40° light distribution is composed of 56 powered LEDs with CCT of 4000 K and a CRI 70; the source luminous flux is 78781 lm, with a 175.1 lm/W nominal luminous efficacy
The natural white LED light source with a elliptical 23° x 40° light distribution is composed of 56 powered LEDs with CCT of 4000 K and a CRI 70; the source luminous flux is 78781 lm, with a 175.1 lm/W nominal luminous efficacy.

The device body is made of die-cast aluminium en ab - 46100 and features a aluminium finish; the diffuser is made of extra clear glass - tempered. The ingress protection degree is IP66; the total weight is of 37 kg. The power supply driver is not provided and is to be ordered separately.

The total absorbed power is 1350 W. The power supply cable is included and features a 1 m lenght.

The device features protection class III and can be wall lights, ceiling or floor-mounted.

Compliant with the EN 60598-1 standard and its specific provisions.

Energy efficiency class

This product contains 3 light sources of energy efficiency class E.

Illuminotechnical Features

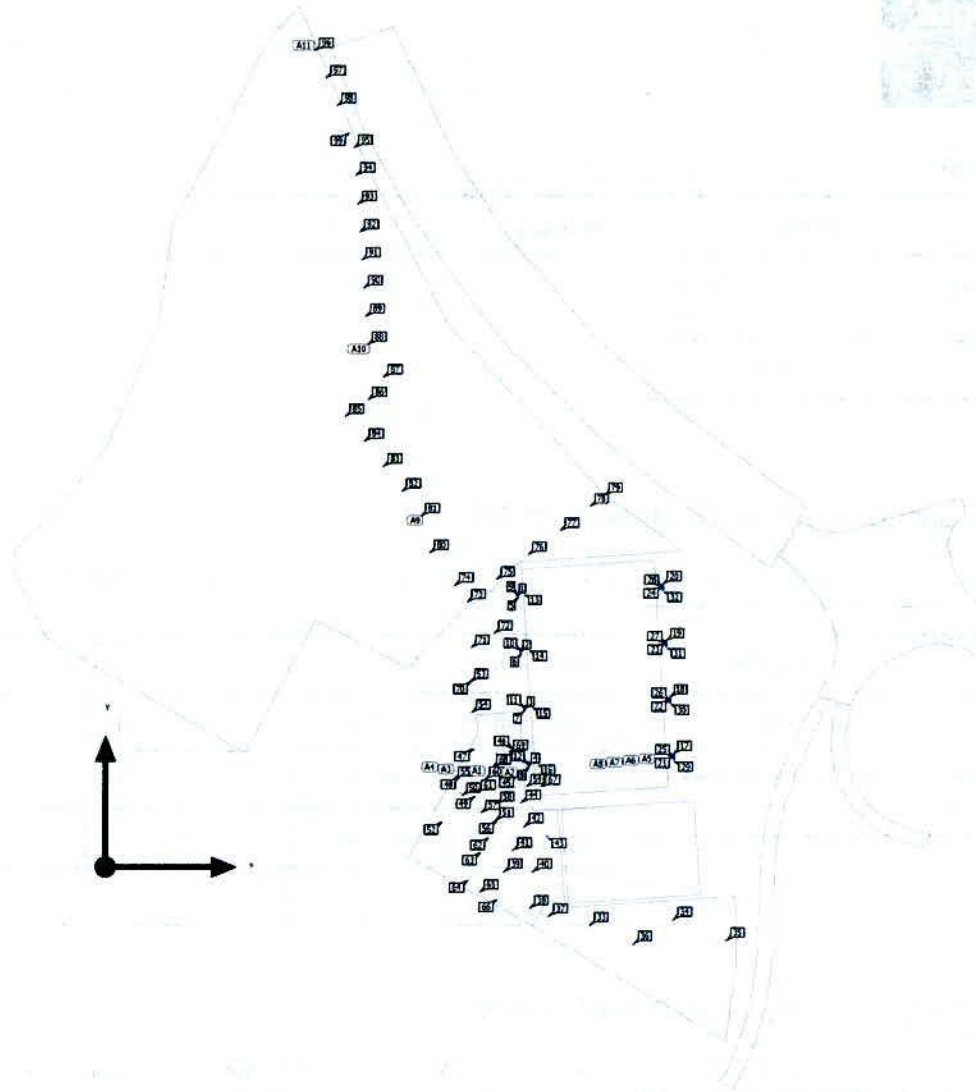
Source lumens	236343 lm
Colour temperature	4000 K
Standard Deviation of Colour Matching	5 Step MacAdam
Colour rendering index	70 Ra
Standard Operating Ambient Temperature	-20 / +50

LED Life / Failure Ratio

L90 B10 C0 90000h (at Tj 65 Ta 25)

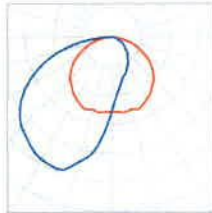
Site

Luminaire layout plan



Site

Luminaire layout plan



Manufacturer	Linea Light Group	P	9.5 W
Article No.	65395M07	Φ Luminaire	216 lm
Article name	Opti-Pole Bollards 8W DC		
Fitting	1x LED-LD041-SC		

5 x Linea Light Group Opti-Pole Bollards 8W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	166.754 m / 185.767 m / -0.300 m	166.754 m	185.767 m	-0.300 m	81
X-direction	5 pcs., Centre - centre, 16.519 m	156.645 m	198.831 m	-0.300 m	82
		146.535 m	211.896 m	-0.300 m	83
Arrangement	A9	136.426 m	224.960 m	-0.300 m	84
		126.317 m	238.024 m	-0.300 m	85

8 x Linea Light Group Opti-Pole Bollards 8W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	138.106 m / 276.053 m / -0.300 m	138.106 m	276.053 m	-0.300 m	88
X-direction	8 pcs., Centre - centre, 14.877 m	137.002 m	290.889 m	-0.300 m	89
		135.899 m	305.725 m	-0.300 m	90
Arrangement	A10	134.796 m	320.560 m	-0.300 m	91

Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
133.693 m	335.396 m	-0.300 m	92
132.590 m	350.232 m	-0.300 m	93
131.487 m	365.067 m	-0.300 m	94
130.384 m	379.903 m	-0.300 m	95

4 x Linea Light Group Opti-Pole Bollards 8W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	109.474 m / 431.014 m / -0.300 m	109.474 m	431.014 m	-0.300 m	96
X-direction	4 pcs., Centre - centre, 15.756 m	115.446 m	416.434 m	-0.300 m	97
Arrangement	A11	121.419 m	401.854 m	-0.300 m	98
		127.391 m	387.275 m	-0.300 m	99

Individual luminaires

X	Y	Mounting height	Luminaire
193.086 m	98.266 m	5.000 m	53
193.838 m	82.329 m	5.000 m	54
184.473 m	46.837 m	7.100 m	55
207.107 m	24.036 m	7.100 m	56
198.988 m	28.872 m	7.100 m	57
190.926 m	33.478 m	7.100 m	58
207.669 m	42.978 m	7.100 m	59
200.900 m	46.839 m	7.100 m	60
187.827 m	39.700 m	7.100 m	61

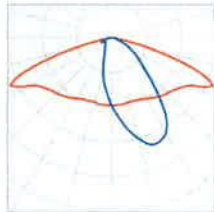
Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
202.663 m	15.292 m	7.100 m	62
198.364 m	7.380 m	7.100 m	63
191.762 m	-7.111 m	7.100 m	64
198.178 m	-13.182 m	7.100 m	65
207.185 m	-17.668 m	7.100 m	66
216.806 m	42.619 m	7.100 m	67
204.662 m	53.216 m	7.100 m	68
206.668 m	60.692 m	7.100 m	69
193.092 m	98.098 m	5.000 m	70
193.570 m	116.413 m	5.000 m	71
205.562 m	124.085 m	5.000 m	72
191.309 m	140.552 m	-0.300 m	73
184.568 m	149.404 m	-0.300 m	74
206.840 m	152.565 m	-0.300 m	75
223.496 m	165.457 m	-0.300 m	76
240.478 m	178.329 m	-0.300 m	77
256.284 m	190.915 m	-0.300 m	78
263.687 m	196.783 m	-0.300 m	79
171.351 m	166.458 m	-0.300 m	80
138.229 m	246.903 m	-0.300 m	86
146.433 m	259.003 m	-0.300 m	87

Site

Luminaire layout plan



Manufacturer	Linea Light Group	P	100.0 W
Article No.	84508A72	$\Phi_{\text{Luminaire}}$	7817 lm
Article name	Parker Street & Urban 48 LED 91 W DC Autocontrol System		
Fitting	1x LED-XTE002-22		

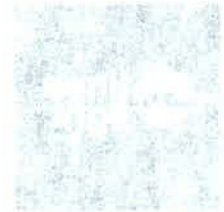
Individual luminaires

X	Y	Mounting height	Luminaire
256.684 m	-31.004 m	11.000 m	33
300.701 m	-28.112 m	11.000 m	34
328.646 m	-38.899 m	11.000 m	35
279.779 m	-40.966 m	11.000 m	36
234.800 m	-26.321 m	11.000 m	37
224.764 m	-21.834 m	9.000 m	38
211.109 m	-2.486 m	9.000 m	39
226.400 m	-2.398 m	9.000 m	40
215.769 m	9.030 m	9.000 m	41
221.943 m	21.420 m	9.000 m	42
233.909 m	16.466 m	9.000 m	43
220.082 m	34.196 m	9.000 m	44
218.097 m	48.980 m	9.000 m	45

Site

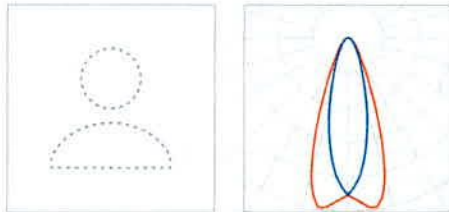
Luminaire layout plan

X	Y	Mounting height	Luminaire
215.469 m	62.947 m	9.344 m	46
194.807 m	62.519 m	9.000 m	47
187.264 m	47.821 m	9.000 m	48
195.325 m	37.211 m	9.000 m	49
188.776 m	38.122 m	9.000 m	50
206.454 m	24.662 m	9.000 m	51
177.836 m	23.676 m	9.000 m	52



Site

Luminaire layout plan



Manufacturer	Not yet a DIALux member	P	1350.0 W
Article No.	84434N23	$\Phi_{\text{Luminaire}}$	161342 lm
Article name	Biglamp PRO Projector 3x450W DC		
Fitting	1x LED-MHB004-BN		

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	217.800 m / 143.478 m / 17.500 m	217.800 m	143.478 m	17.500 m	1
X-direction	4 pcs., Centre - centre, Distances not equal	219.823 m	113.561 m	17.500 m	2
		221.847 m	83.644 m	17.500 m	3
Arrangement	A1	223.871 m	53.727 m	17.500 m	4

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	217.849 m / 142.585 m / 17.500 m	217.849 m	142.585 m	17.500 m	5
X-direction	4 pcs., Centre - centre, Distances not equal	219.873 m	112.668 m	17.500 m	6
		221.404 m	82.751 m	17.500 m	7
Arrangement	A2	223.920 m	52.834 m	17.500 m	8

Site

Luminaire layout plan

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	217.726 m / 144.407 m / 17.500 m	217.726 m	144.407 m	17.500 m	9
X-direction	4 pcs., Centre - centre, Distances not equal	219.750 m	114.490 m	17.500 m	10
		221.773 m	84.573 m	17.500 m	11
Arrangement	A3	223.797 m	54.656 m	17.500 m	12

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	217.657 m / 145.428 m / 17.500 m	217.657 m	145.428 m	17.500 m	13
X-direction	4 pcs., Centre - centre, Distances not equal	219.681 m	115.511 m	17.500 m	14
		221.704 m	85.594 m	17.500 m	15
Arrangement	A4	223.728 m	55.677 m	17.500 m	16

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	300.750 m / 60.200 m / 17.500 m	300.750 m	60.200 m	17.500 m	17
X-direction	4 pcs., Centre - centre, Distances not equal	298.726 m	90.117 m	17.500 m	18
		296.702 m	120.034 m	17.500 m	19
Arrangement	A5	294.679 m	149.951 m	17.500 m	20

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
------	------------------	---	---	-----------------	-----------

Site

Luminaire layout plan

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	300.799 m / 59.307 m / 17.500 m				
X-direction	4 pcs., Centre - centre, Distances not equal	300.799 m	59.307 m	17.500 m	21
		298.776 m	89.224 m	17.500 m	22
Arrangement	A6	296.752 m	119.141 m	17.500 m	23
		294.728 m	149.058 m	17.500 m	24

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	300.873 m / 58.378 m / 17.500 m				
X-direction	4 pcs., Centre - centre, Distances not equal	300.873 m	58.378 m	17.500 m	25
		298.849 m	88.295 m	17.500 m	26
Arrangement	A7	296.825 m	118.212 m	17.500 m	27
		294.802 m	148.129 m	17.500 m	28

4 x Not yet a DIALux member Biglamp PRO Projector 3x450W DC

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	300.942 m / 57.358 m / 17.500 m				
X-direction	4 pcs., Centre - centre, Distances not equal	300.942 m	57.358 m	17.500 m	29
		298.918 m	87.275 m	17.500 m	30
Arrangement	A8	296.894 m	117.192 m	17.500 m	31
		294.871 m	147.109 m	17.500 m	32

Site

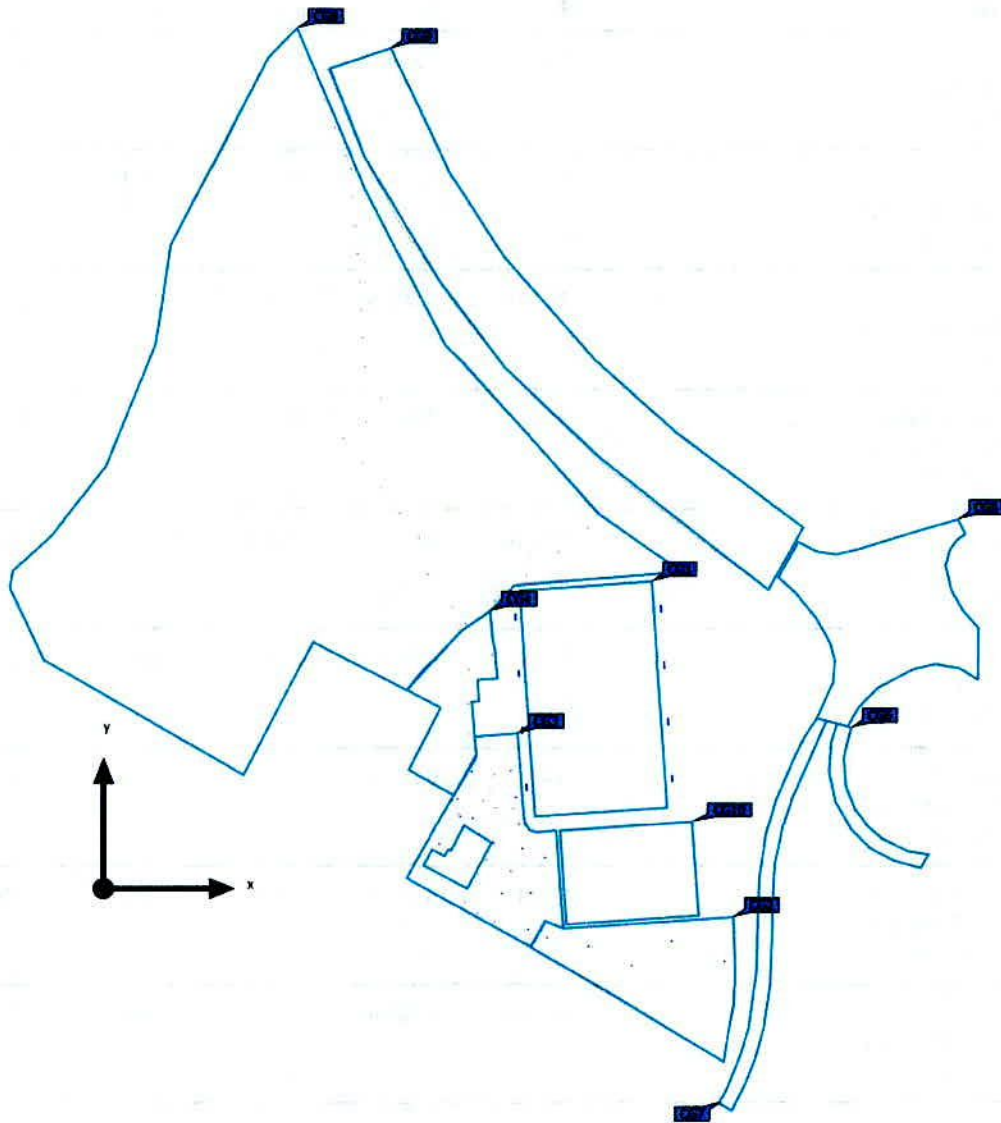
Luminaire list

Φ_{total}	P_{total}	Luminous efficacy
5329436 lm	45646.5 W	116.8 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
47	Linea Light Group	65395M07	Opti-Pole Bollards 8W DC	9.5 W	216 lm	22.7 lm/W
20	Linea Light Group	84508A72	Parker Street & Urban 48 LED 91 W DC Autocontrol System	100.0 W	7817 lm	78.2 lm/W
32	Not yet a DIALux member	84434N23	Biglamp PRO Projector 3x450W DC	1350.0 W	161342 lm	119.5 lm/W

Site

Calculation objects



Site

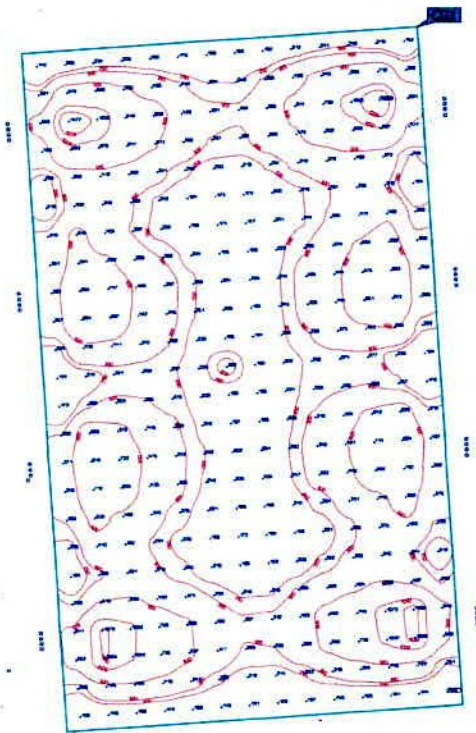
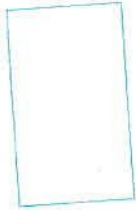
Calculation objects

Calculation surfaces

Properties	E	E_{min}	E_{max}	g_1	g_2	Index
Pitch Horizontal illuminance Height: 0.000 m	390 lx	108 lx	1481 lx	0.28	0.073	CG1
Car Park Horizontal illuminance Height: 5.100 m	6.69 lx	0.13 lx	72.2 lx	0.019	0.002	CG2
Car Park 2 Horizontal illuminance Height: 3.100 m	25.0 lx	0.006 lx	124 lx	0.000	0.000	CG3
Bike Parking & Pedestrian Area Horizontal illuminance Height: 1.000 m	3.67 lx	0.099 lx	15.4 lx	0.027	0.006	CG4
Roundabout Horizontal illuminance Height: 6.250 m	0.31 lx	0.000 lx	0.56 lx	0.00	0.00	CG5
N7 On Ramp Horizontal illuminance Height: 4.350 m	0.35 lx	0.000 lx	0.51 lx	0.00	0.00	CG6
N7 Off Ramp Horizontal illuminance Height: 5.250 m	0.48 lx	0.082 lx	0.98 lx	0.17	0.084	CG7
Back Pitches and Bike Path Horizontal illuminance Height: -0.900 m	1.81 lx	0.017 lx	136 lx	0.009	0.000	CG8
N136 Horizontal illuminance Height: 0.000 m	0.29 lx	0.025 lx	1.41 lx	0.086	0.018	CG9
Training Pitch Horizontal illuminance Height: 2.000 m	7.75 lx	1.17 lx	28.0 lx	0.15	0.042	CG10

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

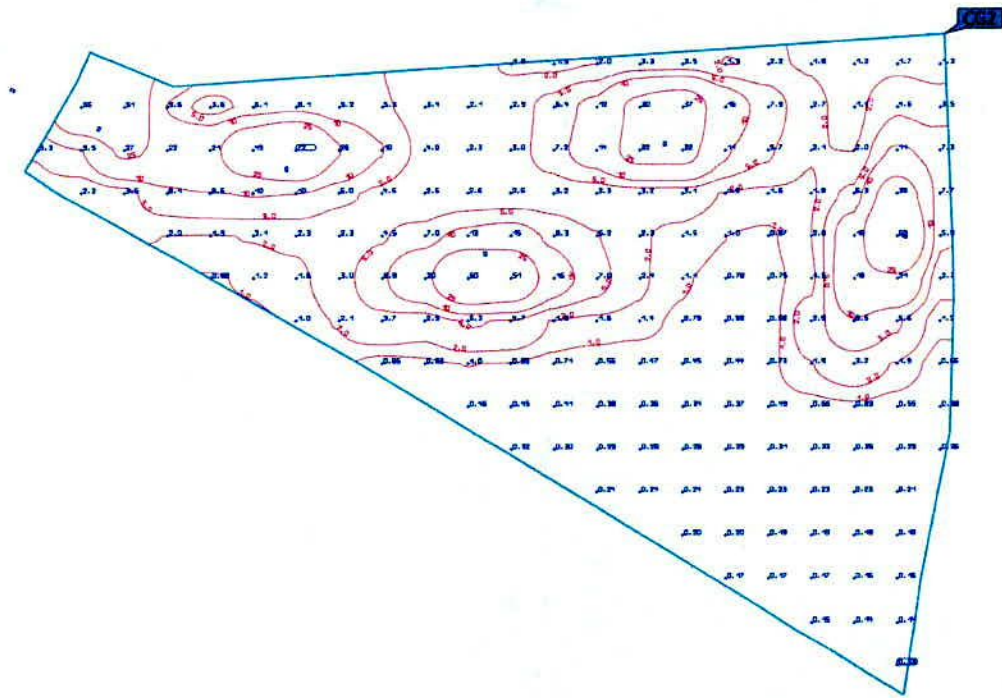
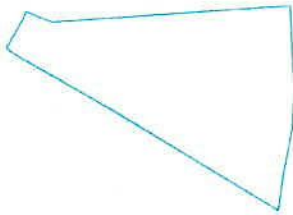
Site
Pitch



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Pitch Horizontal illuminance Height: 0.000 m	390 lx	108 lx	1481 lx	0.28	0.073	CG1

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

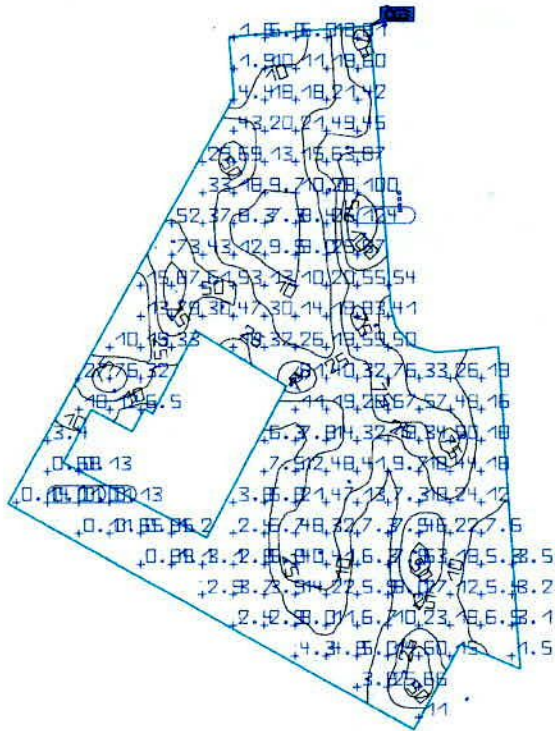
Site
Car Park



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Car Park Horizontal illuminance Height: 5.100 m	6.69 lx	0.13 lx	72.2 lx	0.019	0.002	CG2

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

Site
Car Park 2

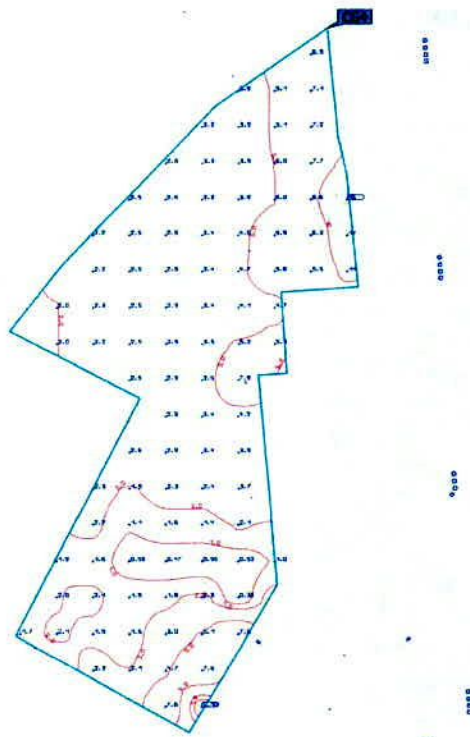


Properties	E	E _{min}	E _{max}	g ₁	g ₂	Index
Car Park 2 Horizontal illuminance Height: 3.100 m	25.0 lx	0.006 lx	124 lx	0.000	0.000	CG3

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

Site

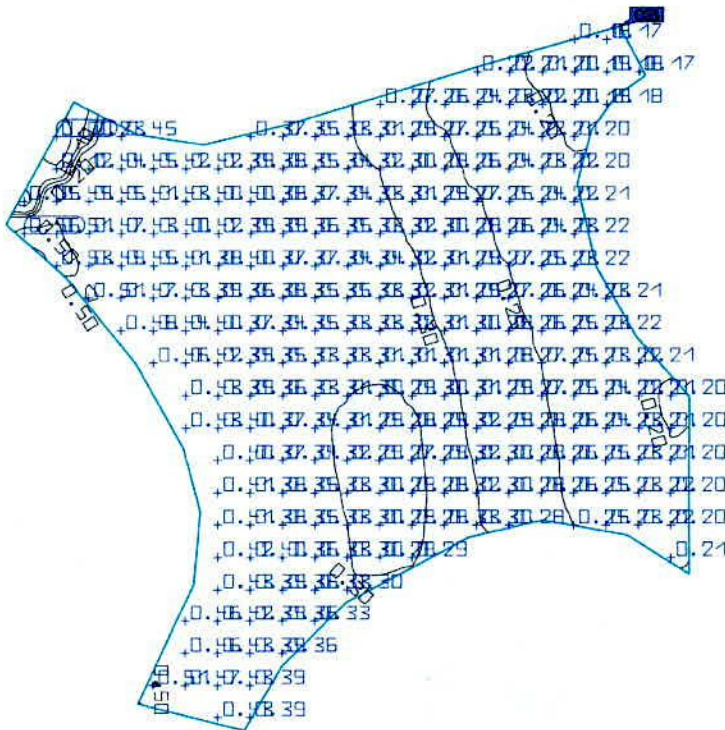
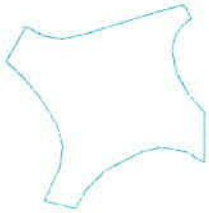
Bike Parking & Pedestrian Area



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Bike Parking & Pedestrian Area Horizontal illuminance Height: 1.000 m	3.67 lx	0.099 lx	15.4 lx	0.027	0.006	CG4

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

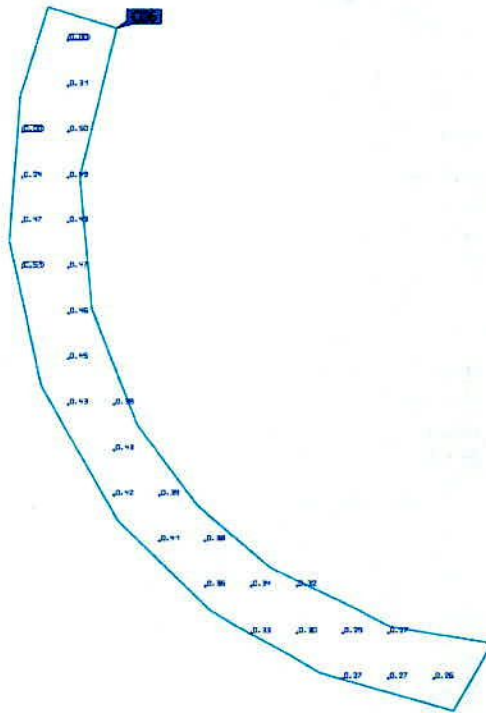
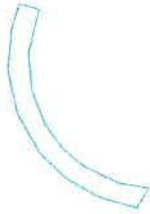
Site
Roundabout



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Roundabout Horizontal illuminance Height: 6.250 m	0.31 lx	0.000 lx	0.56 lx	0.00	0.00	CG5

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

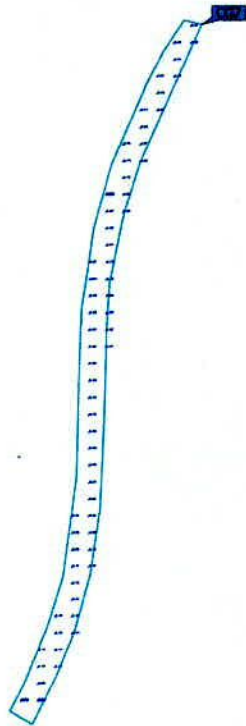
Site
N7 On Ramp



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
N7 On Ramp Horizontal illuminance Height: 4.350 m	0.35 lx	0.000 lx	0.51 lx	0.00	0.00	CG6

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

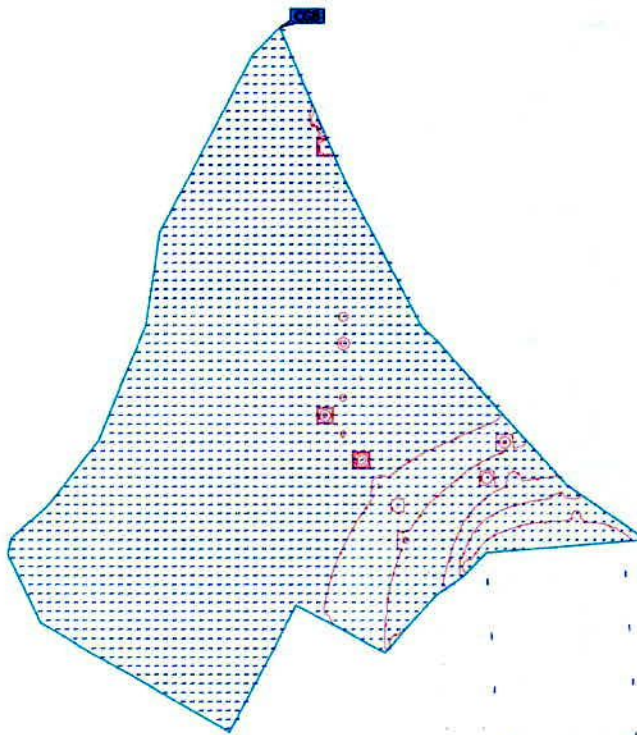
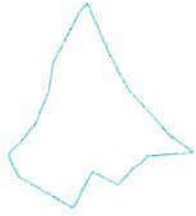
Site
N7 Off Ramp



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
N7 Off Ramp Horizontal illuminance Height: 5.250 m	0.48 lx	0.082 lx	0.98 lx	0.17	0.084	CG7

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

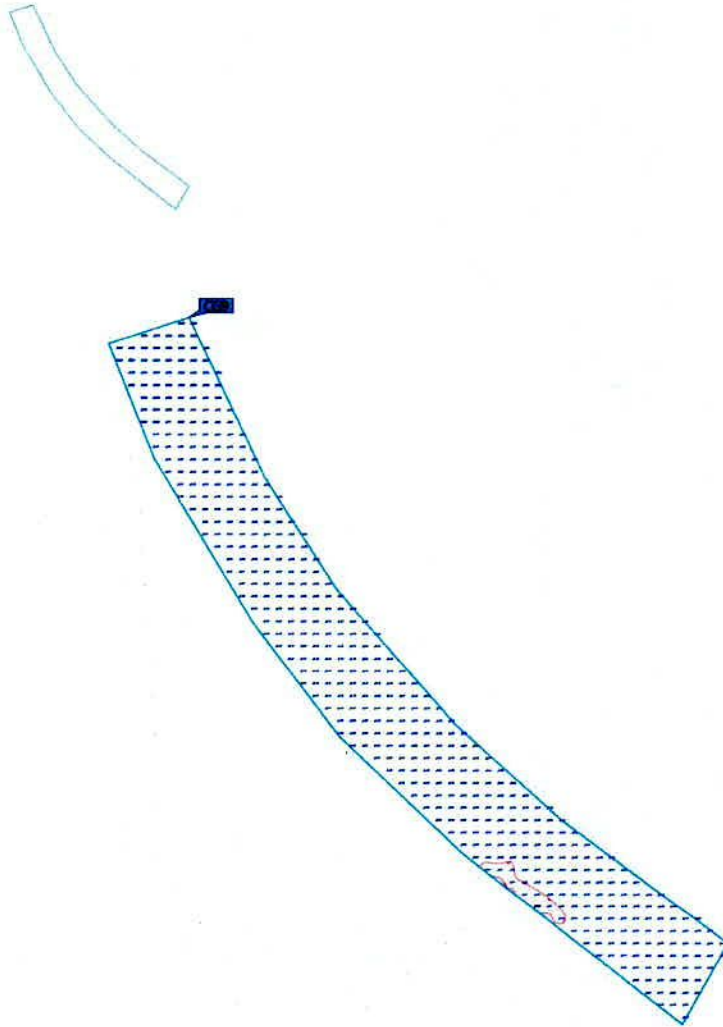
Site
Back Pitches and Bike Path



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Back Pitches and Bike Path Horizontal illuminance Height: -0.900 m	1.81 lx	0.017 lx	136 lx	0.009	0.000	CG8

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

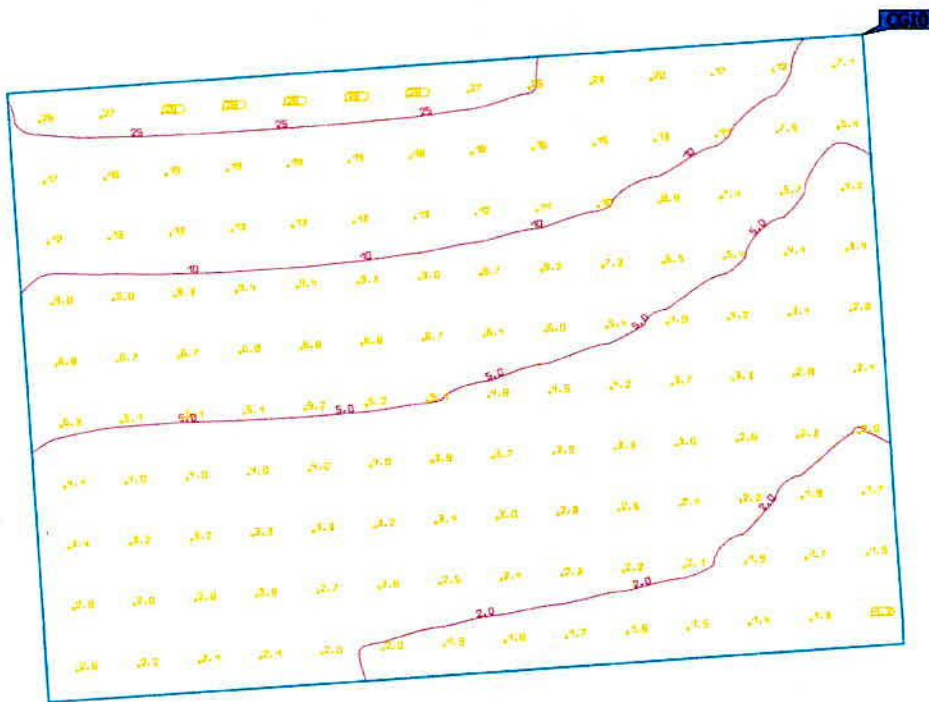
Site
N136



Properties	E	E_{min}	E_{max}	g_1	g_2	Index
N136 Horizontal illuminance Height: 0.000 m	0.29 lx	0.025 lx	1.41 lx	0.086	0.018	CG9

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

Site
Training Pitch



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Training Pitch Horizontal illuminance Height: 2.000 m	7.75 lx	1.17 lx	28.0 lx	0.15	0.042	CG10

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

Clondalkin RFC

120m x 70m

Project code: 0400695151/D464997
Date: 30-06-2022

Designer: Signify

Description: Proposal based on:
Philips BVP528 OptiVisionGen3 LED Floodlight.
32 no. Floodlights used in total.
The column positions are fixed and are 18m in height.
Column setback from side line is 4m

Rugby:
500Lux Maintained Avg achieved with Uniformity;
Min/Ave=>0.74
Min/Max=>0.50

With the Maintenance Factor of 0.90.
Spill light calculated with Maintenance Factor of 1.00

The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties and electrical supply.

Signify

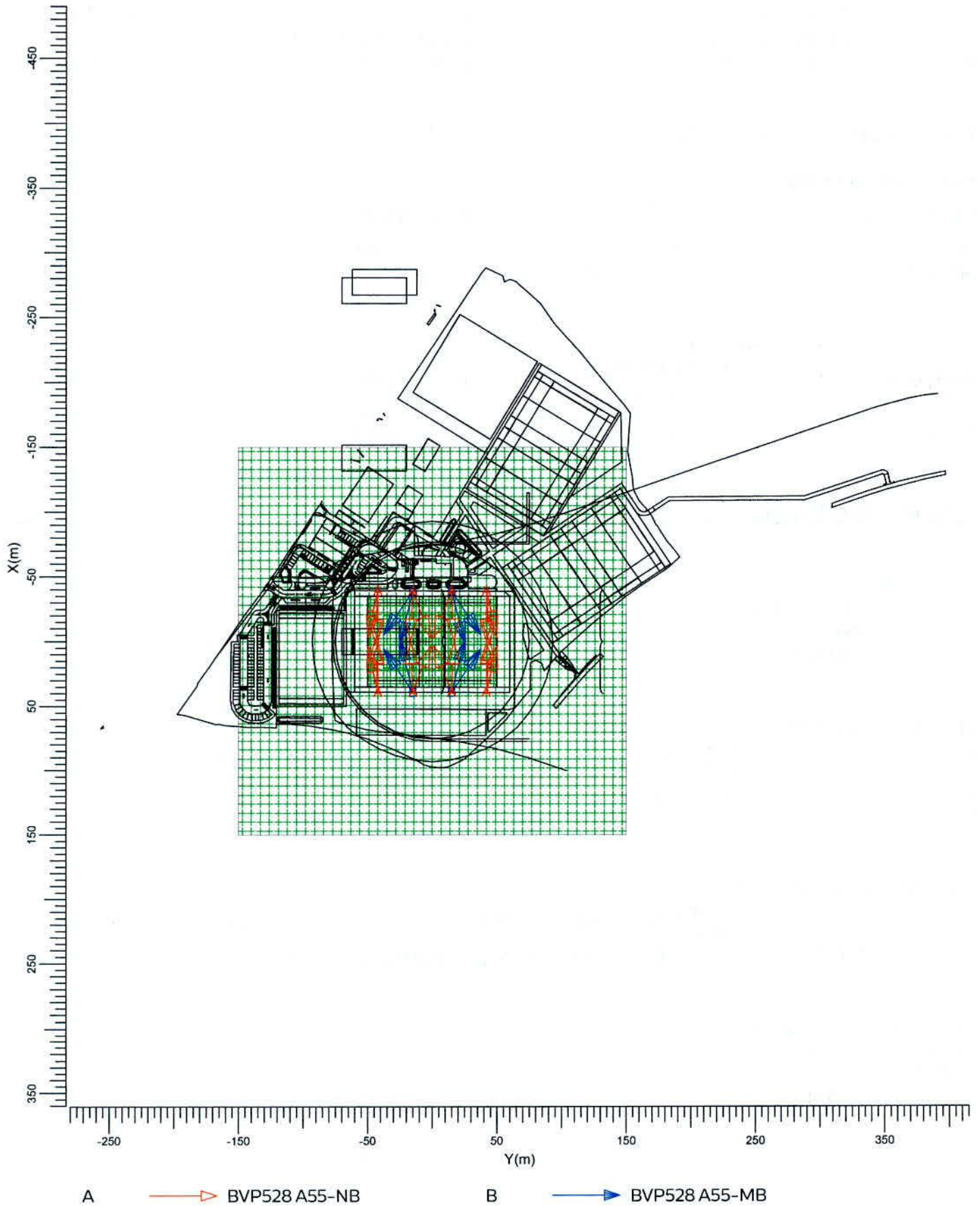
Ireland
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E-Mail: david.mulqueen@Signify.com

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1. Project Description

1.1 Top Project Overview



Scale
1:4000

2. Summary

2.1 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	24	BVP528 A55-NB	1 * LED2220/757 OUT T15 50K	1500.0	1 * 222600
B	8	BVP528 A55-MB	1 * LED2220/757 OUT T15 50K	1500.0	1 * 222600

The total installed power: 48.00 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code		Power (kWatt)
	A	B	
Pitch	24	8	48.00
Spill Light	24	8	48.00

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code		Power (kWatt)
	A	B	
Corners	16	0	24.00
Middle	8	8	24.00

2.2 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	Pitch	0.90
2	Spill Light	1.00

(II)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave	Max	Min/Ave	Min/Max
Rugby Pitch 5x5	1	Surface Illuminance	lux	501		0.74	0.50
Spill Light	2	Surface Illuminance	lux		811.2		

Glare Rating for Grid of Observers:

Calculation	Switching Mode	Observer Grid	Reference Grid	Reflectance	GR-Max
Rugby Pitch 10x10 Glare	1	Rugby Pitch 10x10	Rugby Pitch 10x10	0.25	42.7

Obtrusive Light Calculations:

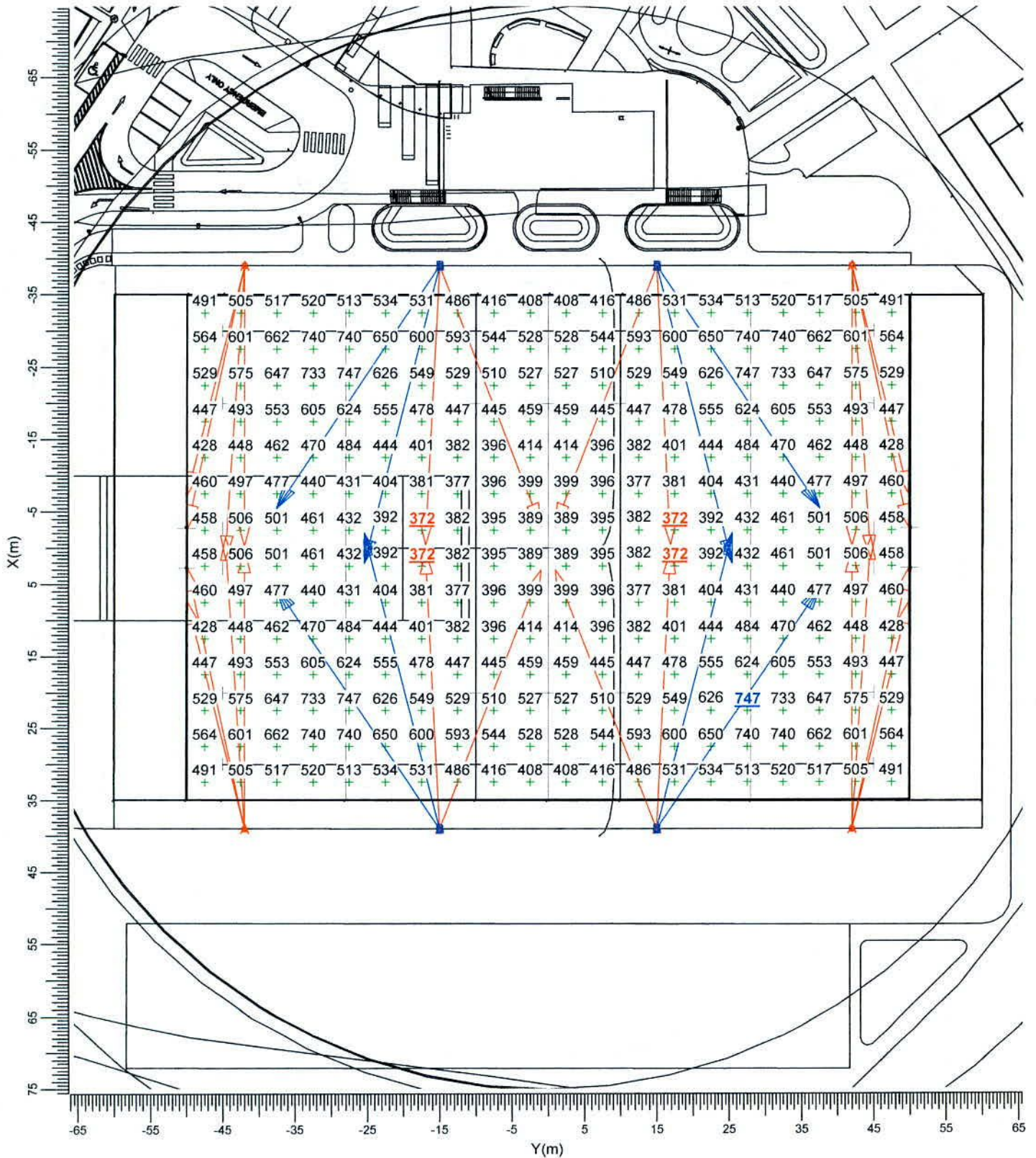
Switching Mode	ULR
1	0.00
2	0.00

3. Calculation Results

3.1 Rugby Pitch 5x5: Graphical Table

Pitch

Grid : Rugby Pitch 5x5 at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A BVP528 A55-NB B BVP528 A55-MB

Average
501

Min/Ave
0.74

Min/Max
0.50

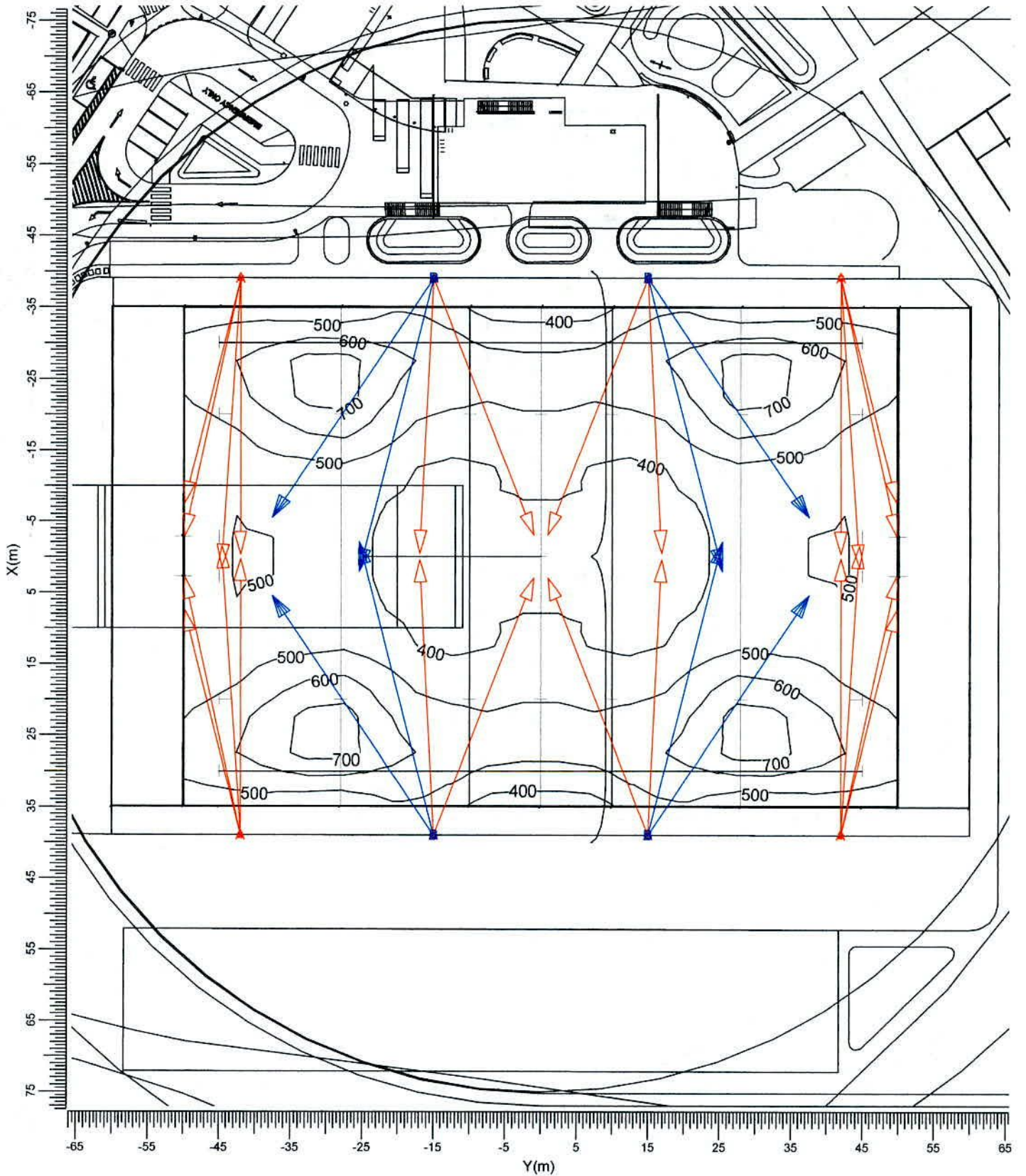
Project maintenance factor
0.90

Scale
1:750

3.2 Rugby Pitch 5x5: Iso Contour

Pitch

Grid : Rugby Pitch 5x5 at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A  BVP528 A55-NB

B  BVP528 A55-MB

Average
501

Min/Ave
0.74

Min/Max
0.50

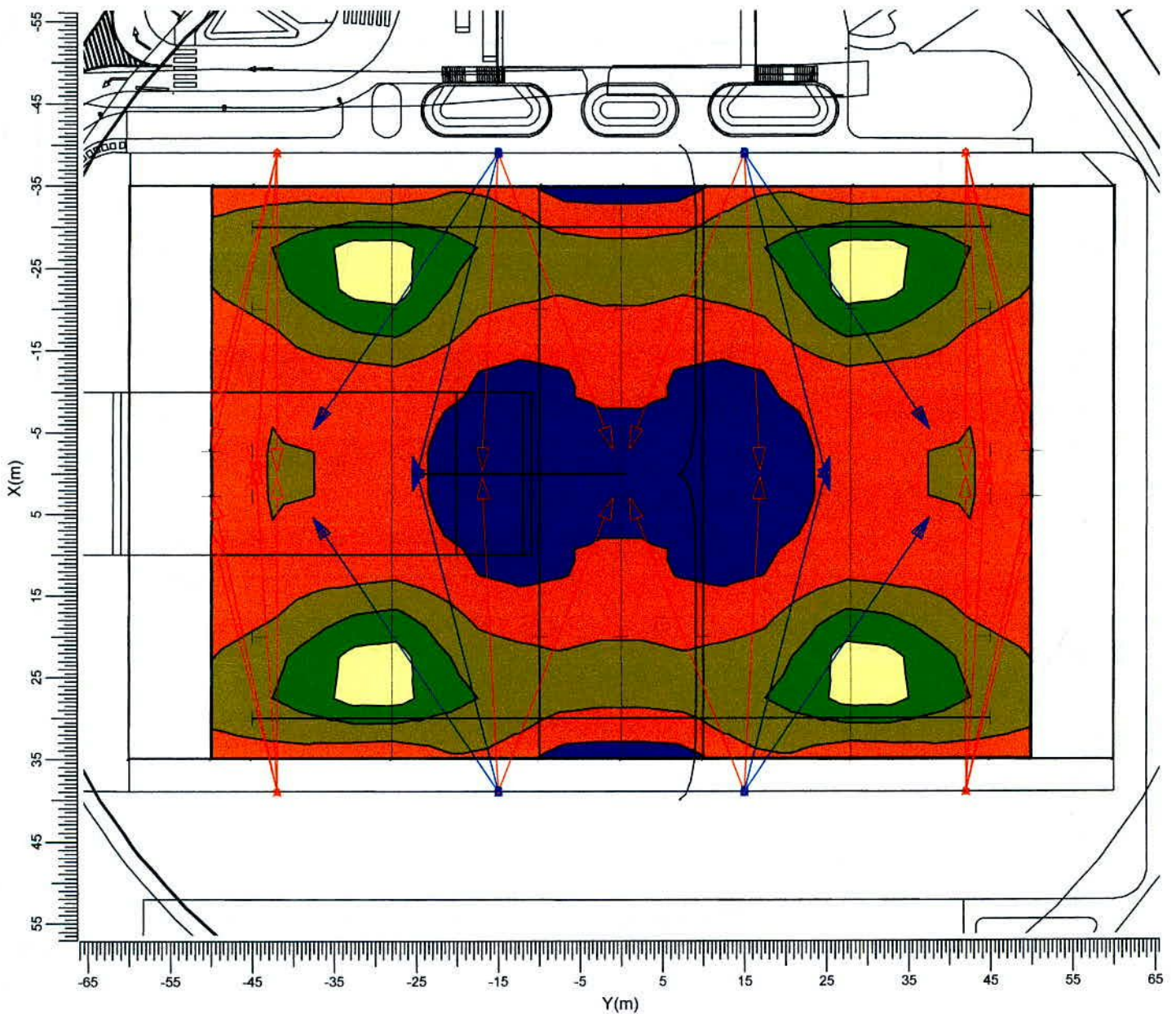
Project maintenance factor
0.90

Scale
1:750

3.3 Rugby Pitch 5x5: Filled Iso Contour

Pitch

Grid : Rugby Pitch 5x5 at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A BVP528 A55-NB

B BVP528 A55-MB

Average
501

Min/Ave
0.74

Min/Max
0.50

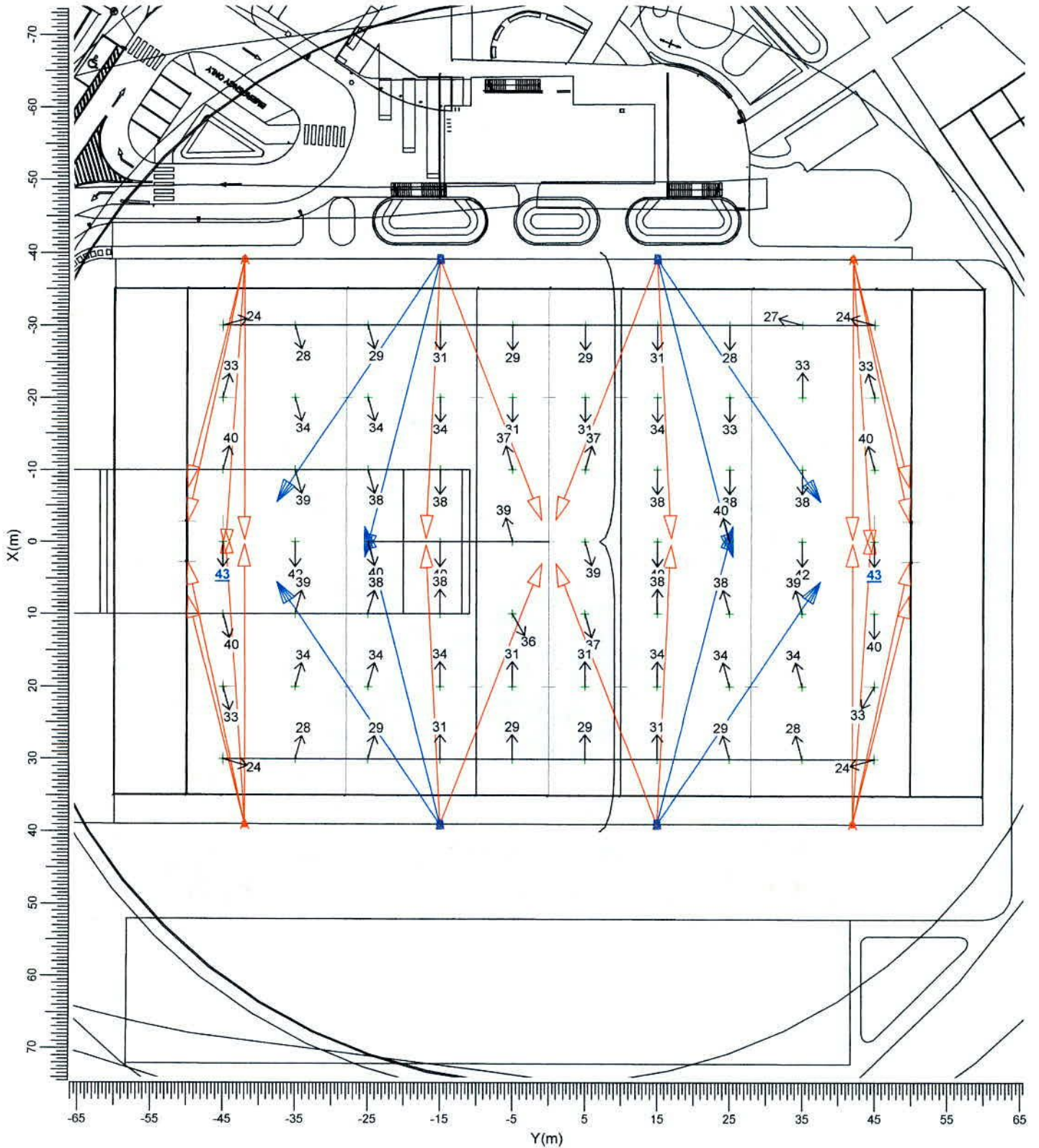
Project maintenance factor
0.90

Scale
1:750

3.4 Rugby Pitch 10x10 Glare: Graphical Table

Pitch

Grid of Observers : Rugby Pitch 10x10
Calculation : Glare Rating
Grid for Background Luminance: Rugby Pitch 10x10 (Reflectance: 0.25)
Vertical Viewing Angle : -2.0 deg



A  BVP528 A55-NB B  BVP528 A55-MB

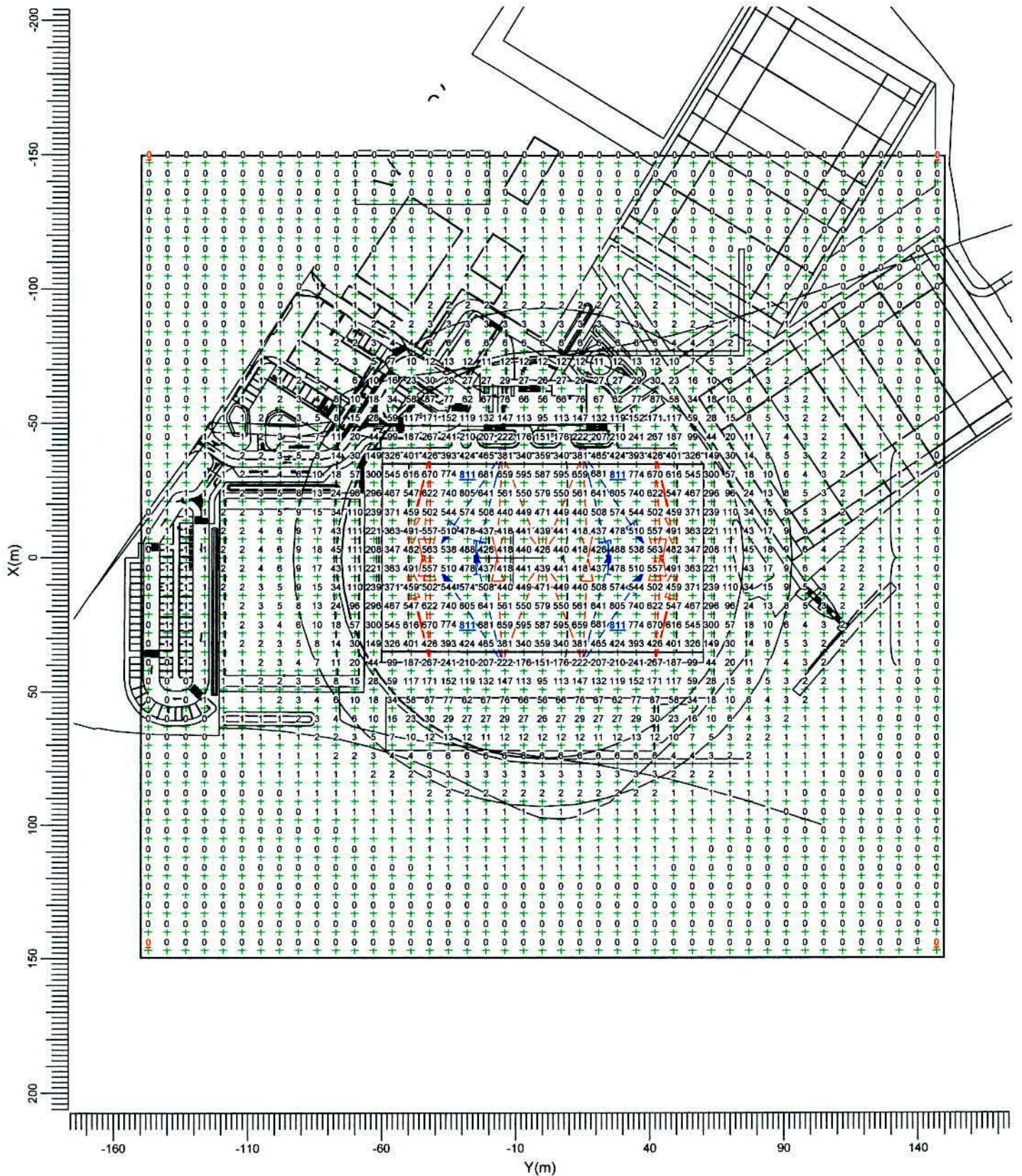
Project maintenance factor
0.90

Scale
1:750

3.5 Spill Light: Graphical Table

Spill Light

Grid : Spill Light at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A BVP528 A55-NB

B BVP528 A55-MB

Maximum
811.2

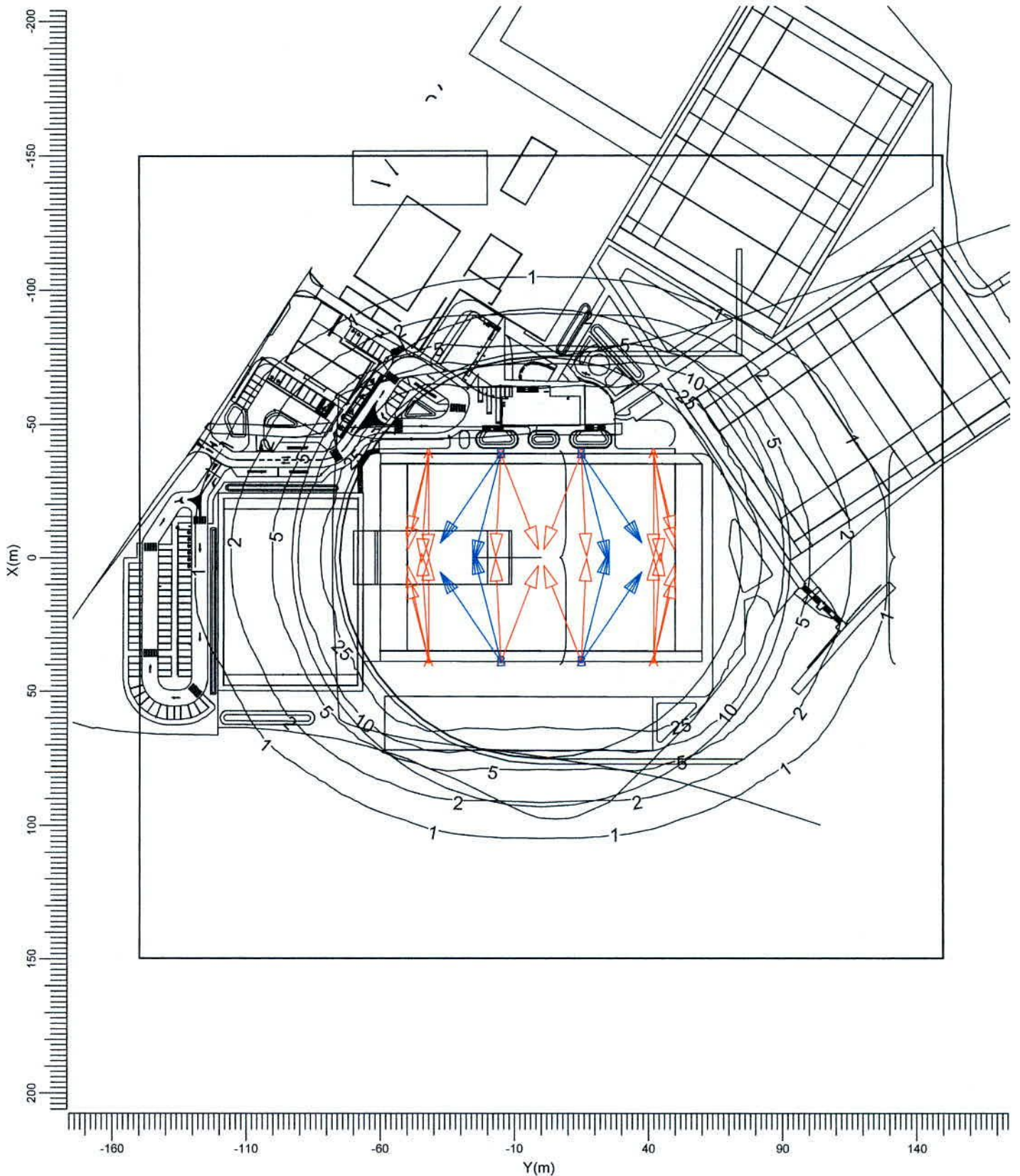
Project maintenance factor
1.00

Scale
1:2000

3.6 Spill Light: Iso Contour

Spill Light

Grid : Spill Light at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A  BVP528 A55-NB B  BVP528 A55-MB

Maximum
811.2

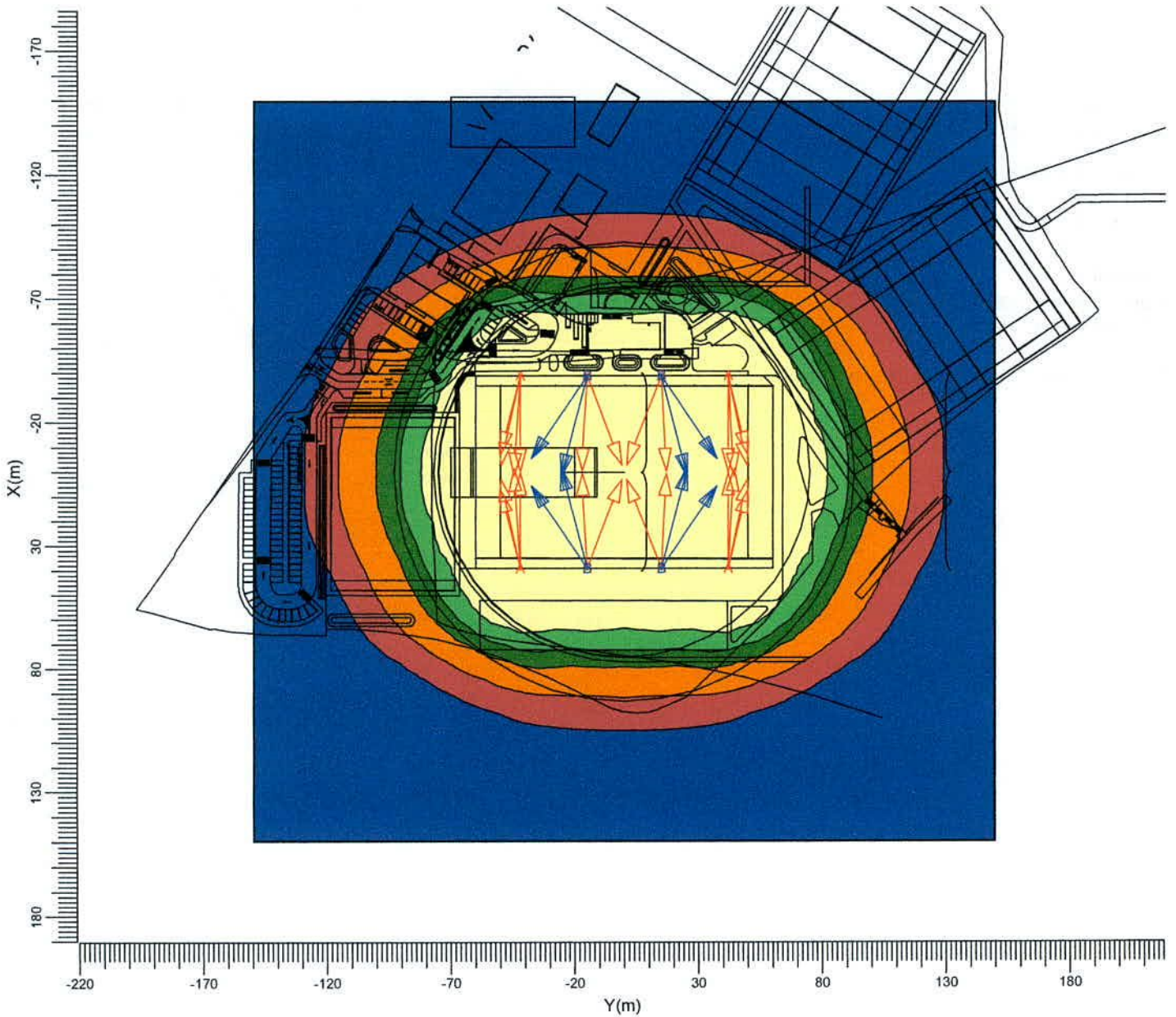
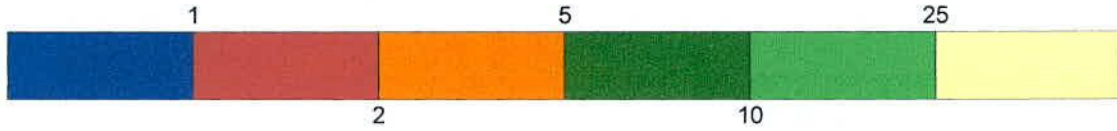
Project maintenance factor
1.00

Scale
1:2000

3.7 Spill Light: Filled Iso Contour

Spill Light

Grid : Spill Light at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A BVP528 A55-NB

B BVP528 A55-MB

Maximum
811.2

Project maintenance factor
1.00

Scale
1:2500

4. Luminaire Details

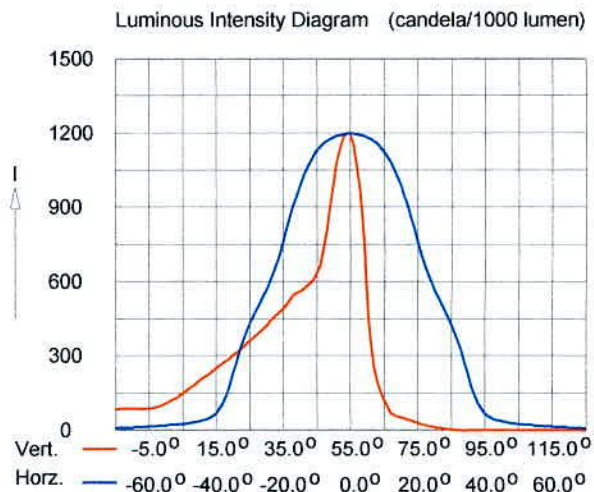
4.1 Project Luminaires

OptiVision LED
BVP528 1xLED2220/757 OUT T15 50K A55-NB

Light output ratios

DLOR	:	0.84
ULOR	:	0.00
TLOR	:	0.84
Ballast	:	N/A
Lamp flux	:	222600 lm
Luminaire wattage	:	1500.0 W
Measurement code	:	LVM2043600

Note: Luminaire data not from database.

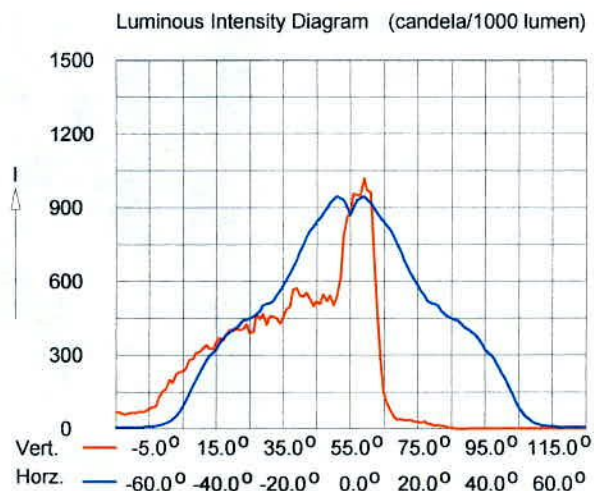


OptiVision LED
BVP528 1xLED2220/757 OUT T15 50K A55-MB

Light output ratios

DLOR	:	0.83
ULOR	:	0.00
TLOR	:	0.83
Lamp flux	:	222600 lm
Luminaire wattage	:	1500.0 W
Measurement code	:	PRELIMA55M

Note: Luminaire data not from database.



5. Installation Data

5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
A	24	BVP528 A55-NB	1 * LED2220/757 OUT T15 50K	1 * 222600
B	8	BVP528 A55-MB	1 * LED2220/757 OUT T15 50K	1 * 222600

Arrangements:

Code	Arrangement
1	Middle
2	Corners

Switching Modes:

Code	Switching Mode
1	Pitch
2	Spill Light

5.2 Luminaire Positioning and Orientation

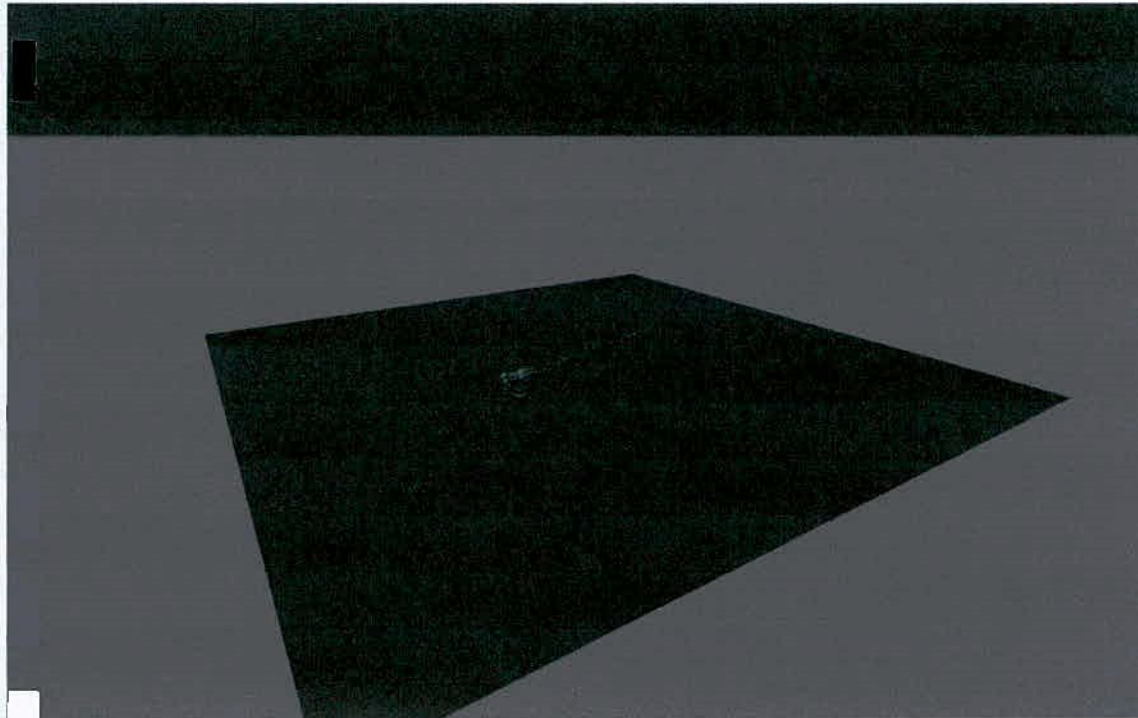
Including Aiming Points:

Qty and Code	Position			Aiming Points			ULR	Arr.	Switching Modes	
	X (m)	Y (m)	Z (m)	X (m)	Y (m)	Z (m)			1	2
1* B	-39.00	-15.00	18.00	-5.47	-37.59	0.00	0.00	1	+	+
1* A	-39.00	-15.00	18.00	-3.03	-1.00	0.00	0.00	1	+	+
1* B	-39.00	-15.00	18.00	2.11	-25.41	0.00	0.00	1	+	+
1* A	-39.00	-15.00	18.00	-0.43	-16.97	0.00	0.00	1	+	+
1* B	-39.00	15.00	18.00	-5.47	37.59	0.00	0.00	1	+	+
1* A	-39.00	15.00	18.00	-3.03	1.00	0.00	0.00	1	+	+
1* B	-39.00	15.00	18.00	2.11	25.41	0.00	0.00	1	+	+
1* A	-39.00	15.00	18.00	-0.43	16.97	0.00	0.00	1	+	+
1* B	39.00	-15.00	18.00	5.47	-37.59	0.00	0.00	1	+	+
1* A	39.00	-15.00	18.00	3.03	-1.00	0.00	0.00	1	+	+
1* B	39.00	-15.00	18.00	-2.11	-25.41	0.00	0.00	1	+	+
1* A	39.00	-15.00	18.00	0.43	-16.97	0.00	0.00	1	+	+
1* B	39.00	15.00	18.00	5.47	37.59	0.00	0.00	1	+	+
1* A	39.00	15.00	18.00	3.03	1.00	0.00	0.00	1	+	+
1* B	39.00	15.00	18.00	-2.11	25.41	0.00	0.00	1	+	+
1* A	39.00	15.00	18.00	0.43	16.97	0.00	0.00	1	+	+
1* A	-39.00	-42.00	18.00	-2.87	-49.79	0.00	0.00	2	+	+
1* A	-39.00	-42.00	18.00	-7.49	-49.84	0.00	0.00	2	+	+
1* A	-39.00	-42.00	18.00	1.52	-44.60	0.00	0.00	2	+	+
1* A	-39.00	-42.00	18.00	-0.28	-42.01	0.00	0.00	2	+	+
1* A	-39.00	42.00	18.00	-2.87	49.79	0.00	0.00	2	+	+
1* A	-39.00	42.00	18.00	-7.49	49.84	0.00	0.00	2	+	+
1* A	-39.00	42.00	18.00	1.52	44.60	0.00	0.00	2	+	+
1* A	-39.00	42.00	18.00	-0.28	42.01	0.00	0.00	2	+	+
1* A	39.00	-42.00	18.00	2.87	-49.79	0.00	0.00	2	+	+

Qty and Code	Position			Aiming Points			ULR	Arr.	Switching Modes	
	X (m)	Y (m)	Z (m)	X (m)	Y (m)	Z (m)			1	2
1*A	39.00	-42.00	18.00	7.49	-49.84	0.00	0.00	2	+	+
1*A	39.00	-42.00	18.00	-1.52	-44.60	0.00	0.00	2	+	+
1*A	39.00	-42.00	18.00	0.28	-42.01	0.00	0.00	2	+	+
1*A	39.00	42.00	18.00	2.87	49.79	0.00	0.00	2	+	+
1*A	39.00	42.00	18.00	7.49	49.84	0.00	0.00	2	+	+
1*A	39.00	42.00	18.00	-1.52	44.60	0.00	0.00	2	+	+
1*A	39.00	42.00	18.00	0.28	42.01	0.00	0.00	2	+	+

Including Aiming Angles:

Qty and Code	Position			Aiming Angles			ULR	Arr.	Switching Modes	
	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0			1	2
1*B	-39.00	-15.00	18.00	-34.0	66.0	0.0	0.00	1	+	+
1*A	-39.00	-15.00	18.00	21.3	65.0	0.0	0.00	1	+	+
1*B	-39.00	-15.00	18.00	-14.2	67.0	0.0	0.00	1	+	+
1*A	-39.00	-15.00	18.00	-2.9	65.0	0.0	0.00	1	+	+
1*B	-39.00	15.00	18.00	34.0	66.0	-0.0	0.00	1	+	+
1*A	-39.00	15.00	18.00	-21.3	65.0	-0.0	0.00	1	+	+
1*B	-39.00	15.00	18.00	14.2	67.0	-0.0	0.00	1	+	+
1*A	-39.00	15.00	18.00	2.9	65.0	-0.0	0.00	1	+	+
1*B	39.00	-15.00	18.00	-146.0	66.0	-0.0	0.00	1	+	+
1*A	39.00	-15.00	18.00	158.7	65.0	-0.0	0.00	1	+	+
1*B	39.00	-15.00	18.00	-165.8	67.0	-0.0	0.00	1	+	+
1*A	39.00	-15.00	18.00	-177.1	65.0	-0.0	0.00	1	+	+
1*B	39.00	15.00	18.00	146.0	66.0	0.0	0.00	1	+	+
1*A	39.00	15.00	18.00	-158.7	65.0	0.0	0.00	1	+	+
1*B	39.00	15.00	18.00	165.8	67.0	0.0	0.00	1	+	+
1*A	39.00	15.00	18.00	177.1	65.0	0.0	0.00	1	+	+
1*A	-39.00	-42.00	18.00	-12.2	64.0	0.0	0.00	2	+	+
1*A	-39.00	-42.00	18.00	-14.0	61.0	0.0	0.00	2	+	+
1*A	-39.00	-42.00	18.00	-3.7	66.1	0.0	0.00	2	+	+
1*A	-39.00	-42.00	18.00	-0.0	65.1	0.0	0.00	2	+	+
1*A	-39.00	42.00	18.00	12.2	64.0	0.0	0.00	2	+	+
1*A	-39.00	42.00	18.00	14.0	61.0	-0.0	0.00	2	+	+
1*A	-39.00	42.00	18.00	3.7	66.1	0.0	0.00	2	+	+
1*A	-39.00	42.00	18.00	0.0	65.1	0.0	0.00	2	+	+
1*A	39.00	-42.00	18.00	-167.8	64.0	0.0	0.00	2	+	+
1*A	39.00	-42.00	18.00	-166.0	61.0	-0.0	0.00	2	+	+
1*A	39.00	-42.00	18.00	-176.3	66.1	0.0	0.00	2	+	+
1*A	39.00	-42.00	18.00	-180.0	65.1	0.0	0.00	2	+	+
1*A	39.00	42.00	18.00	167.8	64.0	0.0	0.00	2	+	+
1*A	39.00	42.00	18.00	166.0	61.0	0.0	0.00	2	+	+
1*A	39.00	42.00	18.00	176.3	66.1	0.0	0.00	2	+	+
1*A	39.00	42.00	18.00	180.0	65.1	0.0	0.00	2	+	+



22112 - Clondalkin RFC

Clondalkin RFC - Lighting Calculation

Object

Clondalkin RFC, Kindswood Farm, Moneenalion Commons Lower, Clondalkin, Dublin 22

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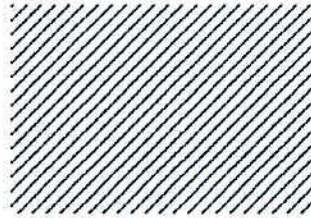
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Contacts

wink

enhancing spaces with light



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Luminaire list

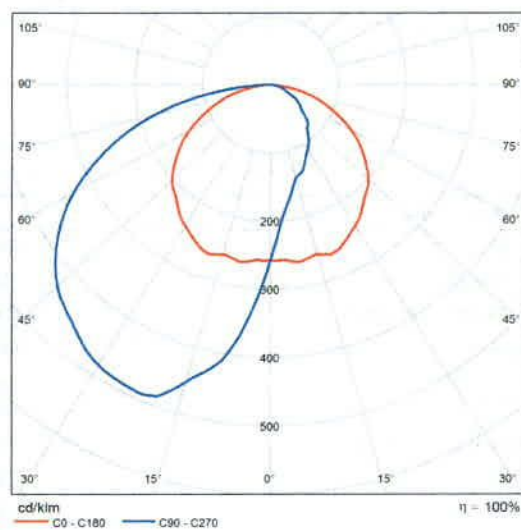
Φ_{total}		P_{total}		Luminous efficacy		
387631 lm		5035.3 W		77.0 lm/W		
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
11	Linea Light Group	65395M07	Opti-Pole Bollards 8W DC	9.5 W	216 lm	22.7 lm/W
49	Linea Light Group	84508A72	Parker Street & Urban 48 LED 91 W DC Autocontrol System	100.0 W	7817 lm	78.2 lm/W
22	Not yet a DIALux member	LPOD40	LPOD40-Dir-PCLens-AsymRefW-LPOD-350mA-3000K-0.025m-451795-A	1.4 W	101 lm	72.0 lm/W

Product data sheet

Linea Light Group - Opti-Pole Bollards 8W DC



Article No.	65395M07
P	9.5 W
Φ_{Lamp}	216 lm
$\Phi_{\text{Luminaire}}$	216 lm
η	100.00 %
Luminous efficacy	22.7 lm/W
CCT	2700 K
CRI	80

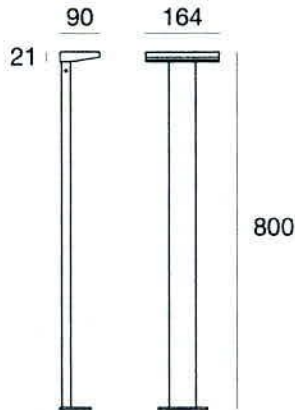


Polar LDC

Opti-Pole



Bollard & Pole | 80-265 V
 18 topLED 8 W DC - 9.5 W AC | CRI 80
65395M07



Technical data	
Type	Bollard
Installation position	Floor
Installation environment	Outdoor
Light Source	LED
Optics	Asymmetric Wallwasher
Light emission direction	downward
Power	8 W
Source lumens	744 lm
Frequency	50 - 60 Hz
CCT / Tone	2700 K
Colour rendering index	80 Ra
C.C. / C.V.	AC
Safety class	2
IP	IP65
IK	IK08
Glow wire test	850°
Direct mounting on normally flammable surfaces	Yes
CE	Yes
Driver included	Driver
Dimmable article	No
Directional	No
Tilting	No
Walk-over	No
Drive-over	No
Cable included	No
Resin potting	Yes
Type of light emission	Single emission
Net weight	2,3 Kg
Electrostatic discharge protection	4 KV
Surge protection	0,5 KV
Optics technology	Optilight TM
Product technological characteristics	Acquastop - UV Resistant

Finishing casing

Material	Die-cast Aluminium EN AB - 46100
Colour	grey RAL 9006
Processing	Open pore anodizing + Powder Coating

Finishing diffuser

Material	UV Resistant Polymethylmethacrylate
Colour	transparent

Finishing base

Material	Galvanised Iron
Colour	grey RAL 9006
Processing	Powder coating

Bollard & Pole | 80-265 V | 18 topLED 8 W DC - 9.5 W AC | CRI 80 | Base 65395M07

Single emission bollard & pole for outdoor application. The super warm LED light source with a asymmetric wallwasher light distribution is composed of 18 topLEDs with CCT of 2700 K and a CRI 80; the source luminous flux is 744 lm, with a 93.0 lm/W nominal luminous efficacy.

The device body is made of die-cast aluminium en ab - 46100 and features a grey ral 9006 finish, processed by means of open pore anodizing + powder coating; the diffuser is made of uv resistant polymethylmethacrylate. The ingress protection degree is IP65; the total weight is of 2,3 kg.

The total absorbed power is 9.5 W.

The device features protection class II and can be floor-mounted.

Compliant with the EN 60598-1 standard and its specific provisions.

Energy efficiency class

Illuminotechnical Features

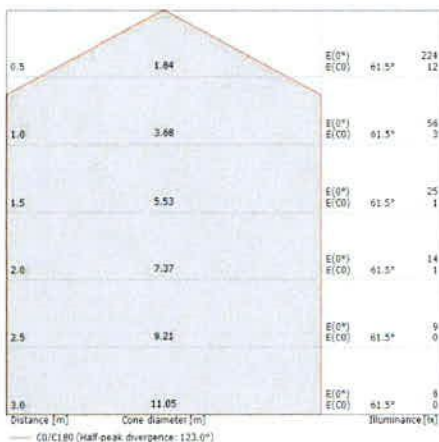
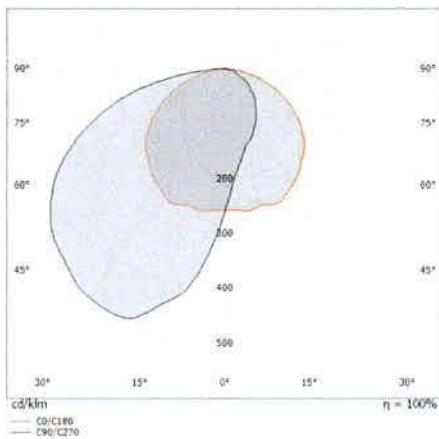
Light Output Ratio (LOR)	29 %
Source lumens	744 lm
Delivered lumens	217 lm
Consumption	9.5 W
Luminaire efficacy	22 lm/W
Colour temperature	2700 K
Standard Deviation of Colour Matching	3 Step MacAdam
Colour rendering index	80 Ra

LED Life / Failure Ratio

L70 B10 C0 145770h (at Tj 65 Ta 25)

OPTICAL

Light distribution symmetry	Symmetrical 2
C0/C180 optics	123°

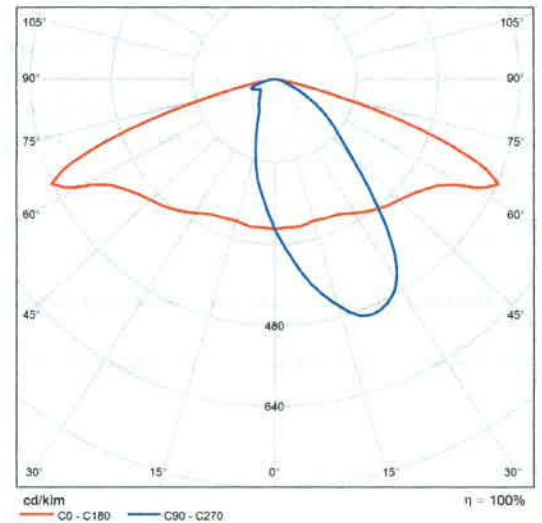


Product data sheet

Linea Light Group - Parker Street & Urban 48 LED 91 W DC Autocontrol System



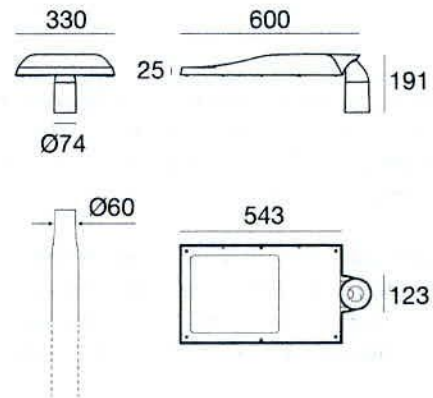
Article No.	84508A72
P	100.0 W
Φ_{Lamp}	7817 lm
$\Phi_{Luminaire}$	7817 lm
η	100.00 %
Luminous efficacy	78.2 lm/W
CCT	2200 K
CRI	80



Polar LDC



Bollard & Pole I 198-264 V
48 x powerLEDs 91 W DC - 100 W AC | CRI 80
84508A72



Technical data	
Type	Bollard & Pole
Installation position	Pole
Installation environment	Outdoor
Light Source	LED
Optics	Street
Light emission direction	downward
Power	91 W
Source lumens	9001 lm
Frequency	50 - 60 Hz
CCT / Tone	2200 K
Colour rendering index	80 Ra
C.C. / C.V.	AC
Safety class	1
IP	IP66
IK	IK08
Glow wire test	850°
Direct mounting on normally flammable surfaces	Yes
CE	Yes
Driver included	Driver
Dimmable article	Autocontrol
Directional	Swivelling
total angle (vertical plane)	15 °
total angle (horizontal plane)	0 °
Tilting	No
Walk-over	No
Drive-over	No
Cable included	Yes
Cable length	1 m
Resin potting	No
Type of light emission	Single emission
Surface exposed to lateral wind	0.04 m ²
Plant surface exposed to the wind	0.18 m ²
Net weight	8.5 Kg
Electrostatic discharge protection	Yes
Surge protection	Yes
Product technological characteristics	TCS

Finishing casing	
Material	Die-cast Aluminium EN AB - 46100
Colour	Anthracite Gray RAL 7016
Processing	Powder coating
Finishing diffuser	
Material	Extra clear glass
Colour	transparent
Processing	Silk-screening
Cables Electrification	
Cable connector	No



Bollard & Pole | 198-264 V | 48 x powerLEDs 91 W DC - 100 W AC | CRI 80 | Base
84508A72

Single emission bollard & pole for outdoor application. The ancient white LED light source with a street light distribution is composed of 48 powered LEDs with CCT of 2200 K and a CRI 80; the source luminous flux is 9001 lm, with a 98.9 lm/W nominal luminous efficacy.

The device body is made of die-cast aluminium en ab - 46100 and features a anthracite gray ral 7016 finish, processed by means of powder coating; the diffuser is made of extra clear glass with a silk-screening treatment. The ingress protection degree is IP66; the total weight is of 8.5 kg.

The total absorbed power is 100 W. The power supply cable is included and features a 1 m length.

The device features protection class I and can be pole-mounted.

Compliant with the EN 60598-1 standard and its specific provisions.

Energy efficiency class

This product contains a light source of energy efficiency class F.

Illuminotechnical Features

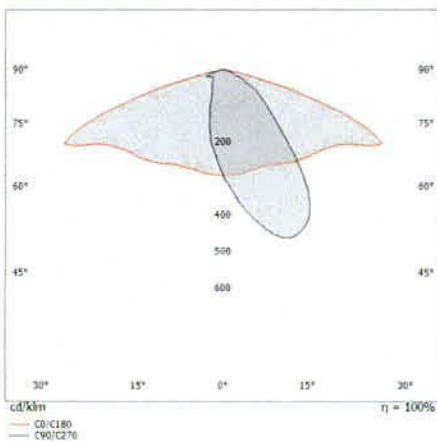
Light Output Ratio (LOR)	86 %
Source lumens	9001 lm
Delivered lumens	7818 lm
Consumption	100 W
Luminaire efficacy	78 lm/W
Colour temperature	2200 K
Standard Deviation of Colour Matching	1/16 ANSI BIN
Colour rendering index	80 Ra
Standard Operating Ambient Temperature	-20 / +50

LED Life / Failure Ratio

L70 B10 C0 361980h

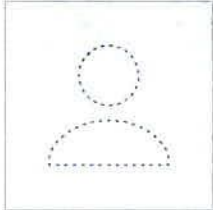
OPTICAL

Light distribution symmetry	Symmetrical 2
C0/C180 optics	145°

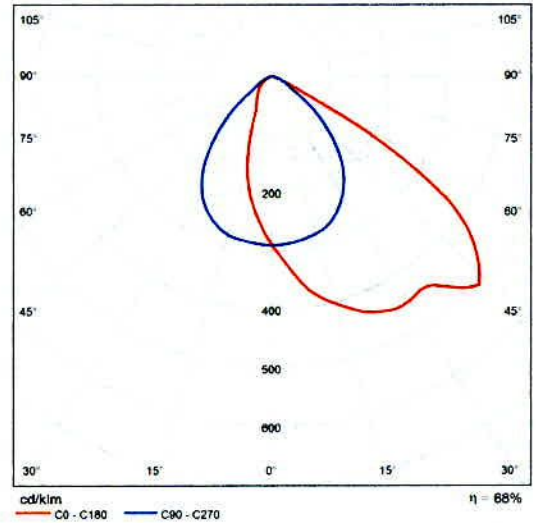


Product data sheet

Not yet a DIALux member - LPOD40-Dir-PCLens-AsymRefW-LPOD-350mA-3000K-0.025m-451795-A

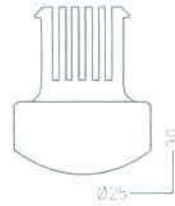


Article No.	LPOD40
P	1.4 W
Φ_{Lamp}	149 lm
$\Phi_{Luminaire}$	101 lm
η	67.65 %
Luminous efficacy	72.0 lm/W
CCT	3000 K
CRI	100



Polar LDC

DATASHEET



KLIK LED® LEDpod

Optics			Lens/Reflector	
Beam Angle			Symmetrical	Asymmetrical
lm	W	mA	System Lumens ¹	
165	1.4	350	118	106
235	2.0	500	167	151

Colour	2200°K · 2700°K · 3000°K · 3500°K · 4000°K · 5000°K · Red · Green · Blue · Amber · PC Amber
CRI	80-85
Binning	2 McAdam Step
Driver	Input 24VDC [42VDC optional] / Output 350 - 500mA Constant Current
Control	DALI · 1-10V · DMX*
Distribution	Symmetrical · Asymmetrical
Tube Size	Ø38 - Ø45mm, Max. wall 3.5mm †
Cut out	Ø25mm
Weight	0.020kg

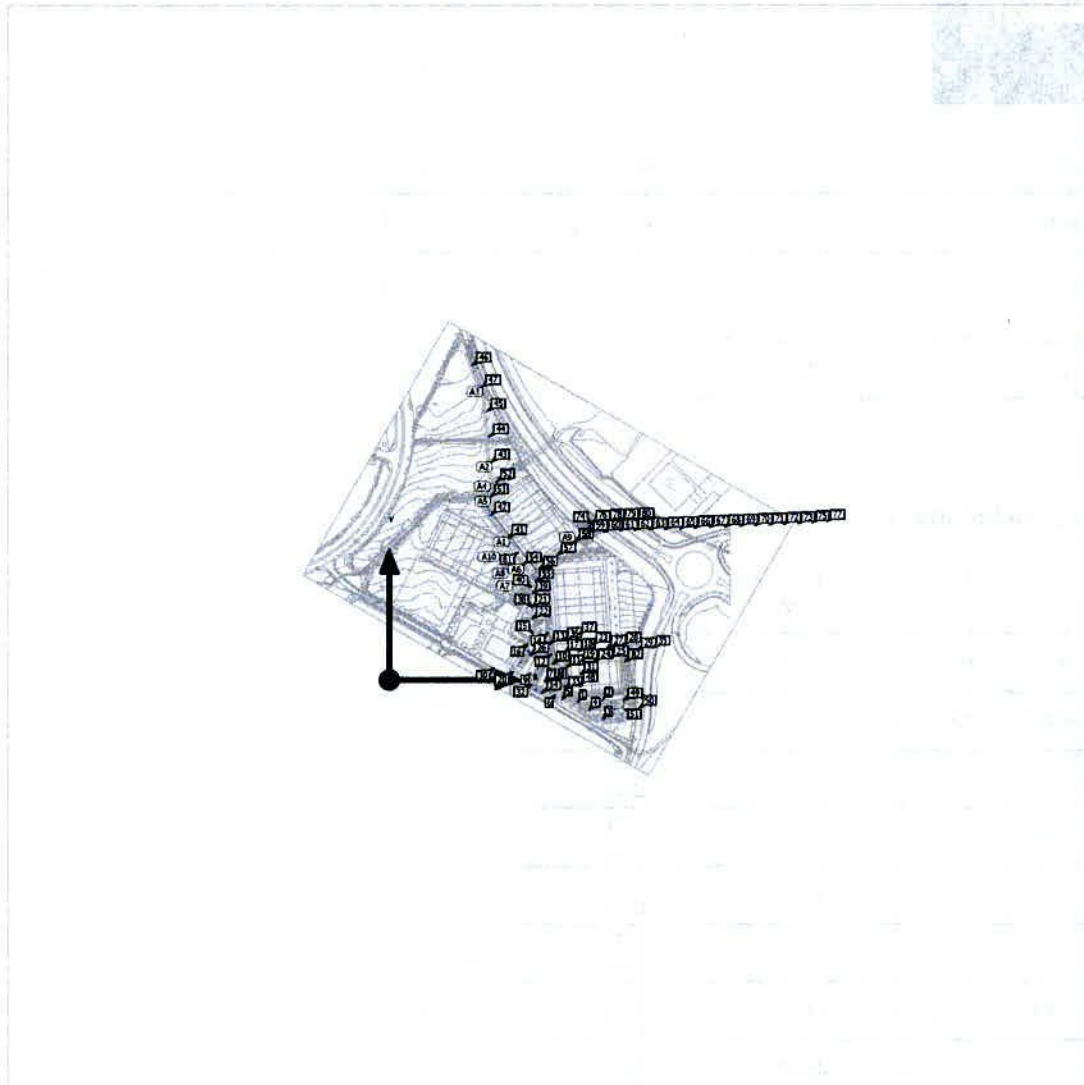
* DMX control is for overall dimming only and not for individually addressed LEDpods
 † Others sizes available upon request
¹ Lumen output based on 4000K

LPOD40 20191122



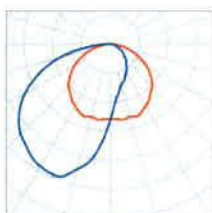
Carrum Foreshore Precinct – Melbourne, VIC · Kingston City Council · Andrew Lloyd Photography

Site
Luminaire layout plan



Site

Luminaire layout plan



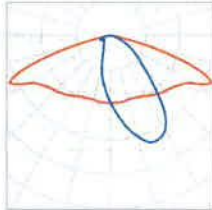
Manufacturer	Linea Light Group	P	9.5 W
Article No.	65395M07	$\Phi_{\text{Luminaire}}$	216 lm
Article name	Opti-Pole Bollards 8W DC		
Fitting	1x LED-LD041-SC		

Individual luminaires

X	Y	Mounting height	Luminaire
193.086 m	98.266 m	4.000 m	21
193.838 m	82.329 m	4.000 m	22
184.473 m	46.837 m	4.000 m	23
207.669 m	42.978 m	4.000 m	27
200.900 m	46.839 m	4.000 m	28
187.827 m	39.700 m	4.000 m	29
216.806 m	42.619 m	4.000 m	35
204.662 m	53.216 m	4.000 m	36
206.668 m	60.692 m	4.000 m	37
193.092 m	98.098 m	4.000 m	38
193.570 m	116.413 m	4.000 m	39

Site

Luminaire layout plan



Manufacturer	Linea Light Group	P	100.0 W
Article No.	84508A72	$\Phi_{\text{Luminaire}}$	7817 lm
Article name	Parker Street & Urban 48 LED 91 W DC Autocontrol System		
Fitting	1x LED-XTE002-22		

2 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	160.960 m / 192.674 m / 5.000 m	160.960 m	192.674 m	5.000 m	41
X-direction	2 pcs., Centre - centre, 38.175 m	137.457 m	222.756 m	5.000 m	42
Arrangement	A1				

3 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	137.587 m / 293.632 m / 5.000 m	137.587 m	293.632 m	5.000 m	43
X-direction	3 pcs., Centre - centre, Distances not equal	134.951 m	328.265 m	5.000 m	44
		132.314 m	362.898 m	5.000 m	45
Arrangement	A2				

2 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Site

Luminaire layout plan

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	112.297 m / 424.967 m / 5.000 m	112.297 m	424.967 m	5.000 m	46
X-direction	2 pcs., Centre - centre, 32.378 m	124.570 m	395.005 m	5.000 m	47
Arrangement	A3				

1 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	145.329 m / 267.539 m / 5.000 m	145.329 m	267.539 m	5.000 m	52
X-direction	1 pcs., Centre - centre, 23.200 m				
Arrangement	A4				

1 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	137.304 m / 246.870 m / 5.000 m	137.304 m	246.870 m	5.000 m	53
X-direction	1 pcs., Centre - centre, 24.150 m				
Arrangement	A5				

1 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	180.700 m / 155.200 m / 5.000 m	180.700 m	155.200 m	5.000 m	54
X-direction	1 pcs., Centre - centre, 29.499 m				
Arrangement	A6				

Site

Luminaire layout plan

1 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	198.188 m / 132.752 m / 5.000 m	198.188 m	132.752 m	5.000 m	55
X-direction	1 pcs., Centre - centre, 20.685 m				
Arrangement	A7				

3 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	203.586 m / 149.437 m / 5.000 m	203.586 m	149.437 m	5.000 m	56
X-direction	3 pcs., Centre - centre, 30.769 m	227.902 m	168.290 m	5.000 m	57
		252.219 m	187.144 m	5.000 m	58
Arrangement	A8				

1 x Linea Light Group Parker Street & Urban 48 LED 91 W DC Autocontrol System

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	174.800 m / 171.900 m / 5.000 m	174.800 m	171.900 m	5.000 m	81
X-direction	1 pcs., Centre - centre, 13.038 m				
Arrangement	A10				

Individual luminaires

X	Y	Mounting height	Luminaire
256.684 m	-31.004 m	6.000 m	1

Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
290.063 m	-27.721 m	6.000 m	2
289.832 m	-53.450 m	6.000 m	3
270.916 m	-41.460 m	6.000 m	4
234.800 m	-26.321 m	6.000 m	5
224.764 m	-21.834 m	6.000 m	6
211.109 m	-2.486 m	6.000 m	7
226.400 m	-2.398 m	6.000 m	8
215.769 m	9.030 m	6.000 m	9
221.943 m	21.420 m	6.000 m	10
233.909 m	16.466 m	6.000 m	11
220.082 m	34.196 m	6.000 m	12
218.097 m	48.980 m	6.000 m	13
215.469 m	62.947 m	6.000 m	14
194.807 m	62.519 m	6.000 m	15
187.264 m	47.821 m	6.000 m	16
195.325 m	37.211 m	6.000 m	17
188.776 m	38.122 m	6.000 m	18
206.454 m	24.662 m	6.000 m	19
167.912 m	9.522 m	6.000 m	20
207.107 m	24.036 m	4.000 m	24
198.988 m	28.872 m	4.000 m	25
190.926 m	33.478 m	4.000 m	26
202.663 m	15.292 m	4.000 m	30
198.364 m	7.380 m	4.000 m	31

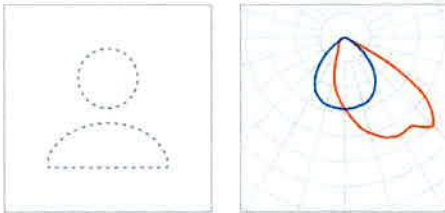
Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
191.762 m	-7.111 m	4.000 m	32
198.178 m	-13.182 m	4.000 m	33
207.185 m	-17.668 m	4.000 m	34
205.562 m	124.085 m	0.800 m	40
193.820 m	-7.277 m	6.000 m	48
317.605 m	-28.862 m	6.000 m	49
305.973 m	-39.165 m	6.000 m	50
317.583 m	-36.791 m	6.000 m	51
177.744 m	23.792 m	6.000 m	82

Site

Luminaire layout plan



Manufacturer	Not yet a DIALux member
Article No.	LPOD40
Article name	LPOD40-Dir-PCLens-AsymRefW-LPOD-350mA-3000K-0.025m-451795-A
Fitting	1x LPOD-350mA-3000K

P	1.4 W
$\Phi_{\text{Luminaire}}$	101 lm

22 x Not yet a DIALux member LPOD40-Dir-PCLens-AsymRefW-LPOD-350mA-3000K-0.025m-451795-A

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	264.192 m / 198.520 m / 0.800 m	264.192 m	198.520 m	0.800 m	59
X-direction	22 pcs., Centre - centre, 1.000 m	264.823 m	199.296 m	0.800 m	60
Arrangement	A9	265.454 m	200.071 m	0.800 m	61
		266.086 m	200.847 m	0.800 m	62
		266.717 m	201.622 m	0.800 m	63
		267.348 m	202.398 m	0.800 m	64
		267.980 m	203.173 m	0.800 m	65
		268.611 m	203.949 m	0.800 m	66
		269.242 m	204.724 m	0.800 m	67
		269.874 m	205.500 m	0.800 m	68
		270.505 m	206.275 m	0.800 m	69
		271.136 m	207.051 m	0.800 m	70

Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
271.768 m	207.826 m	0.800 m	71
272.399 m	208.602 m	0.800 m	72
273.030 m	209.377 m	0.800 m	73
273.661 m	210.153 m	0.800 m	74
274.293 m	210.929 m	0.800 m	75
274.924 m	211.704 m	0.800 m	76
275.555 m	212.480 m	0.800 m	77
276.187 m	213.255 m	0.800 m	78
276.818 m	214.031 m	0.800 m	79
277.449 m	214.806 m	0.800 m	80

Site

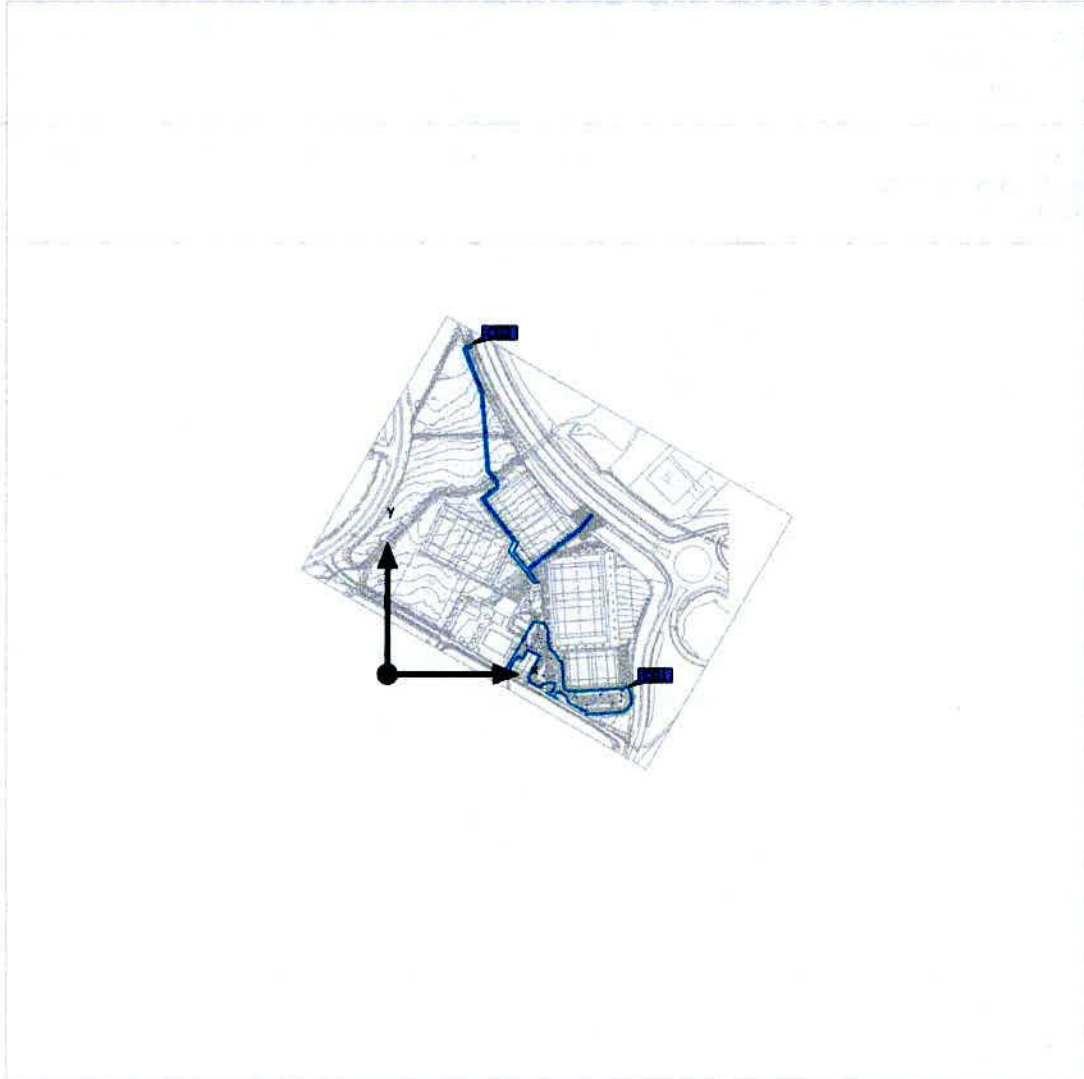
Luminaire list

Φ_{total}	P_{total}	Luminous efficacy
387631 lm	5035.3 W	77.0 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
11	Linea Light Group	65395M07	Opti-Pole Bollards 8W DC	9.5 W	216 lm	22.7 lm/W
49	Linea Light Group	84508A72	Parker Street & Urban 48 LED 91 W DC Autocontrol System	100.0 W	7817 lm	78.2 lm/W
22	Not yet a DIALux member	LPOD40	LPOD40-Dir-PCLens-AsymRefW-LPOD-350mA-3000K-0.025m-451795-A	1.4 W	101 lm	72.0 lm/W

Site

Calculation objects



Site

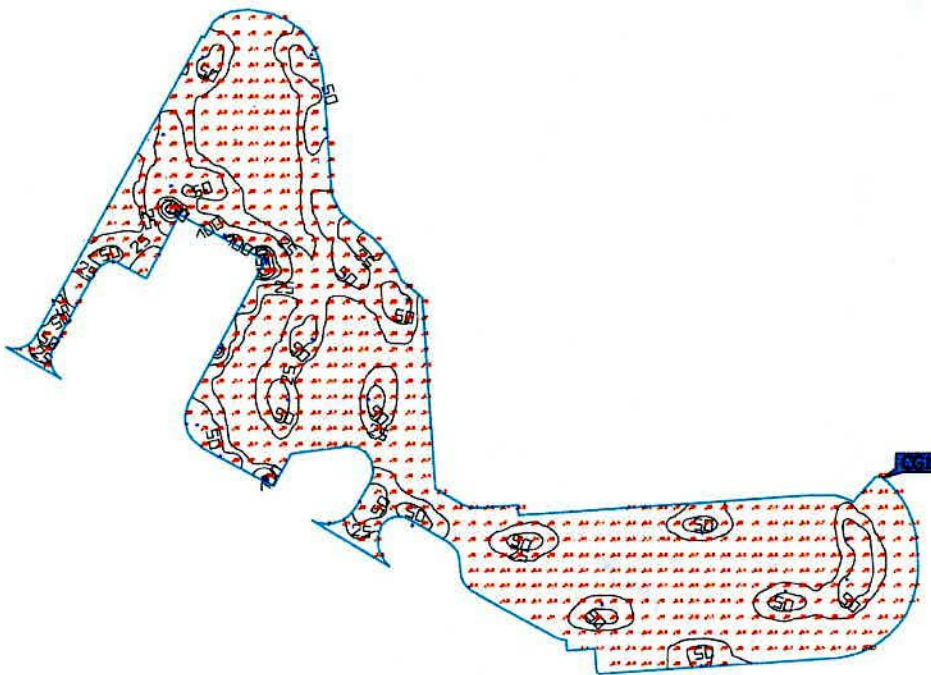
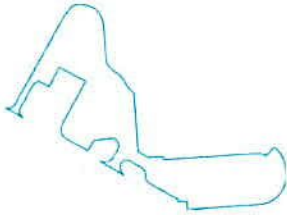
Calculation objects

Calculation surfaces

Properties	E	E _{min}	E _{max}	g ₁	g ₂	Index
Parking and Paths Perpendicular illuminance Height: 0.000 m	25.6 lx	1.03 lx	167 lx	0.040	0.006	CG1
Bike Paths Perpendicular illuminance Height: 0.000 m	8.73 lx	0.44 lx	90.0 lx	0.050	0.005	CG2

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

Site
Parking and Paths

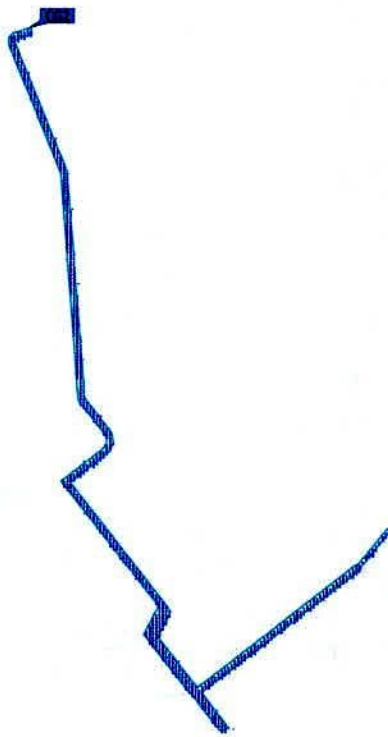


Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Parking and Paths Perpendicular illuminance Height: 0.000 m	25.6 lx	1.03 lx	167 lx	0.040	0.006	CG1

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)

Site

Bike Paths



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Bike Paths Perpendicular illuminance Height: 0.000 m	8.73 lx	0.44 lx	90.0 lx	0.050	0.005	CG2

Utilisation profile: DIALux presetting, Standard (outdoor transportation area)