Environmental Design Partnership
mechanical & electrical consulting engineers
Block B1,
Centrepoint Business Park,
Oak Road, Dublin 12, Ireland.

Tel: (01) 409 2800
Fax: (01) 409 2858
email: admin@edp-engineers.com

External Lighting Study

to accompany a Planning Application

at

43-50 Dolphin's Barn Street, Dublin 8

Prepared by:

Environmental Design Partnership Consulting Engineers.

For:

The Iveagh Trust

Rev.	Date	Author	Checked	Description
R.001	*26.02.2025*	*Osmundo Joven*	*Martin Pordes*	*Development description updated. Issued for planning.*
R.000	*19.02.2025*	*Osmundo Joven*	*Martin Pordes*	*Draft issue for review and comment*

Contents:

1.0 Introduction

1.1 Mandatory compliance and performance.

1.2 Car Parking Spaces and Internal Roadway Lighting. (Columns)

1.3 Landscaping Pathway Lighting. (Bollards)

1.4 Mitigation measures for building light spill and architectural lighting

1.5 Lighting Design Calculations and Layout.

1.6 Commissioning and Set-up.

1.7 Conclusions.

2.0 Computer Modelling Layout Drawing & Results

1.0 Introduction.

Environmental Design Partnership (EDP), Mechanical and Electrical Consulting Engineers have complied the following External Lighting Study Report on behalf of our client, The Iveagh Trust, to form part of the planning application process for the proposed development at 43-50 Dolphins Barn Street, Dublin 8.

The Iveagh Trust intend to apply to Dublin City Council for permission for a Large- Scale Residential Development on a site of c.0.358 ha at 43- 50 Dolphins Barn Street, Dublin 8. The site is bound by Dolphin's Barn Street to the east, No. 51 Dolphin's Barn Street to the northeast, No. 7 Poole Terrace to the south and boundaries of rear gardens of the residential properties located on Reuben Street and Emerald Square to the west and north of the application site respectively. The proposed development consists of the following:

- The demolition of all existing buildings on site (comprising the former factory building to the rear of the site and buildings which front onto Dolphin's Barn Street (No's 43-50)), which have a total gross floor area of c.3,243.5 sqm.

- The construction of a 1-9 storey Large Scale Residential Development (LRD) comprising 119 no. apartments (70 no. 1 bed units and 49 no. 2 bed units) and a community hub space at ground floor level totalling c.523.5 sqm.

- All apartments are provided with balconies/terraces, which are located on the eastern, western, southern and northern elevations of the building.

- The proposal includes external communal open space areas (c.707 sqm) at ground floor level, and provision of PV panels at roof level.

- The proposal provides a total of 15 no. car parking spaces (12 no. for residents, 2 no. for the community hub, including 1 no. accessible parking space, and 1 no. car sharing space). 172 no. cycle parking spaces are provided for residents, and 60 no. cycle parking spaces are provided for visitors to the residential element of the development. 2 no. long stay cycle parking spaces, and 6 no. short stay cycle parking spaces are provided associated with the community hub element of the development.

- The proposal includes for alterations and upgrade of the site boundary walls / treatment.

- The proposal includes 1 no. shared pedestrian/ vehicular entrance point from Dolphin's Barn Street, alterations to the public footpath/street along Dolphins Barn Street, the provision of 2 no. ESB sub-station's, plant and storage rooms, a comms room, a LV switch room, a life safety room, bin stores and all associated and ancillary works.

- The associated site and infrastructural works include provision for water services; foul and surface water drainage and connections; attenuation proposals; permeable paving; all landscaping works including hard and soft landscaping; blue/green roofs; boundary treatment; internal roads and footpaths; electrical services; and all associated site development works above and below ground.

- The application may be inspected online on the following website set up by the applicant: www.dolphinsbarnstreetlrd.ie

The following report outlines a comprehensive scheme design that will provide adequate, safe external lighting for vehicular and pedestrian traffic outside of normal daylight operating times, within the confines of the proposed development site.

Particular attention to and application of modern lighting equipment and techniques will ensure high levels of reliability, minimum maintenance, servicing and running costs.

The scheme has been computer modelled to allow an accurate assessment of pre-installation proofing / performance and compliance with relevant lighting guidelines, lighting standards and best practice in relation to ecological mitigation measures

1.1 Mandatory compliance and performance.

The lighting scheme will provide minimum compliance standards in accordance with the following:

- The Chartered Institution of Building Services Engineers guides and recommendations – The SSL Lighting Handbook.
- EN13201: 2015 – Road Lighting.

The car parking space and roadways have been illuminated in line with the following.

- Table 18.2 of CIBSE Guide SLL for Security Lighting of Public Areas (Medium traffic or medium crime risk car parks (10 lux average and 0.25 uniformity)
- Class P6 of IS EN 13201 for low-speed subsidiary roads with (Between 2 - 3 lux and average, 0.4 lux minimum).

In addition, the design will comply with:

- IS10101:2020 + AC1:2020 National Rules for Electrical Installations

The lighting design will also provide adequate lighting to facilitate pedestrian access throughout the site and walkways while also limiting and controlling unwanted glare and overspill, thus eliminating lighting pollution to the surrounding environment.

1.2 Car Parking Spaces and Roadway Lighting. (Columns & Wall Mounted Fittings)

Lighting columns not exceeding a height of 3 metres will provide lighting to the site roadways, car parking spaces and adjacent footpaths. The lighting columns are positioned as indicated on the accompanying calculation layouts within the site boundary.

Columns have been selected to provide the best lighting levels whilst avoiding issues with wall mounted fittings being blocked by parked cars, vans etc.

An exercise to confirm there is no light spill to neighbouring properties has been carried out as part of this assessment and report.

Wall mounted fittings have been selected for the entrance roadway that is covered by the building and the cycle parking area, again covered by the building.

All selected light fittings will have a restricted horizontal output from the working plane, as such there will be no upward light output off the fittings, eliminating light pollution and spill.

1.3 Residential Pathway Lighting. (Bollards)

Lighting bollards not exceeding 1 Metre in height will provide lighting to the residential footpaths away from the coverage of the road lighting columns. The lighting Bollards will be positioned as indicated on the accompanying calculation layout on the proposed paths and walkways within the development site.

The light fittings will have a restricted horizontal output not exceeding 90 degrees horizontal from the working plane, as such there will be no upward light output off the fittings.

1.4 Mitigation measures for building light spill and architectural lighting

Any proposed building external lighting on the facades of the building whether spilled or intentional will comply with the BCT best practice guidelines and recommendations for light mitigation. All light emitted from the building will be deflected downward and with no upward lighting component exceeding 90 degrees at an acute and appropriate angle ensuring no light trespass outside of an agreed buffer zone.

Only luminaires with very strict directional specification and dimming capability will be used. All fittings mounted on the buildings that might influence external ambient will use a warm white spectrum < 3000 Kelvins.

Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats. Mounting heights will be carefully considered to minimise light spill.

Any external security lighting will be set on motion-sensors and short (1min) timers.

As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it as required.

1.5 Lighting Design Calculations and Layout.

The attached lighting design calculation results and layout drawing indicates the location and number of the residential pathway and roadway light fittings. The location of fittings indicates the ideal positioning of the fittings to achieve an average level of illuminance that is acceptable and compliant with the requirements of the various guides and recommendations.

The results sheets show that the proposed design complies with the design lux levels selected for the project, in accordance with best practice for the specific area types.

A specific calculation of the neighbouring properties to the north of the proposed site, adjacent to the car parking area where 3m lighting columns have been selected has been undertaken. The column fittings are all fitted with a light shield to ensure there is no light sill into the neighbouring properties. The results indicate that the lighting levels in the neighbouring properties are well within the guidelines set in *CIE150:2017 Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installation.*

1.6 Commissioning and Set-up.

The complete scheme will be commissioned and calibrated to engineer's satisfaction to provide adequate illumination and optimum mitigation and lux level achievements.

1.7 Conclusions.

The proposed external lighting scheme will produce optimum lighting levels complying with all mandatory requirements and mitigation recommendations.

The scheme energy consumption will be highly efficient and in keeping with the sustainable energy design strategy of the complete development.

The attached excerpts are from our Dialux analysis and modelling, this is the method used to confirm the exact positioning of all light fittings, minimising light spillage and calculating initial light output while final commissioning is completed on site to confirm compliance performance results recorded and witnessed by consulting engineer

Luminaire Type 1 – Column Mounted Luminaire (Internal Car Parking / Roadway)

HWD/B3K0860L-F0

ASD LIGHTING
UK Designed Developed Manufactured



Code Specification

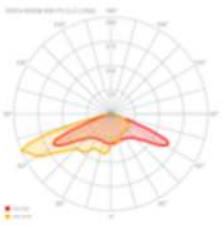
ASD Lighting Mini Highway Diamond™ Elite, Side Entry 76mm, Black (RAL 9005), 3000K, 8 LED, 600mA, CLO, F0 Optic, IP66/IK10. 116mm Height, 233mm Width, 476mm Length, Body: Die-cast aluminium (powder coated), Diffuser: Vandal resistant clear polycarbonate.
Applications not limited to: Airport, Car Park, Commercial & Amenity, Education, Healthcare, Hospitality, Industrial & Warehousing, Rail & Transport, Social Housing, Sports Venue, Urban & Street Lighting.
CE, UKCA, BS EN 60598, ENEC, Class I, Class II (on request).

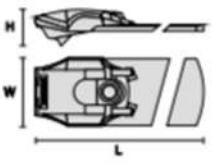
Technical Information

Colour	Black (RAL 9005)
CCT	3000 K
System Power	15.9 W
Delivered Lumens	1745.1 lm
Efficacy	109.75 lm/W
Weight	4.97 KG
Design Life	100k hours to L90

Dimensions

Height	116mm
Length	476mm
Width	233mm





2025/02/20 09:42:59 GMT

ASD Lighting PLC, Mangham Road, Barbot Hall Industrial Estate, Rotherham, S61 4RJ, United Kingdom

ASDLIGHTING.COM +44 (0) 1709 374898 info@asdlighting.com

HWD/B3K0860L-F0

ASD LIGHTING
UK Designed Developed Manufactured

Range Information

The Mini Highway Diamond is part of the Highway Diamond™ Elite family of luminaires with an unsurpassed flexibility of lumen outputs, optical distributions and specification features.

Range Specification

- UK designed, developed and manufactured
- Five year LED guarantee (extended warranties available)
- Ten day delivery lead time on average
- Five body sizes in the range
- 4.57kg weight with spigot (< 20 LED)
- 4.97kg weight with spigot
- < 0.04m2 windage
- Post top Ø 60 mm - Ø 76 mm, tilt 0° / 5° / 10° / 15° / 20°
- Side entry Ø 60 mm - Ø 76 mm, tilt -5° / 0° / 5° / 10° / 15°
- Side entry Ø 28 mm - Ø 42 mm, tilt -10° / -5° / 0° / 5° / 10°
- Inbuilt anti-tamper facility to secure gear compartment
- Tool-free entry to gear compartment
- Tool-free driver gear tray replacement
- Tool-free maintenance
- Surge protection

Range Options

- Emergency option available
- Mini Cell option available
- PIR option available
- Wall bracket option available
- Corner wall bracket option available
- Front, side & rear light shield options available
- 3 & 7 NEMA Socket option available
- Auto-disconnect (optional extra)
- Additional surge protection on request

ASD Lighting PLC, Mangham Road, Barbot Hall Industrial Estate, Rotherham, S61 4RJ, United Kingdom
ASDLIGHTING.COM +44 (0) 1709 374898 info@asdlighting.com

Luminaire Type 2 – Wall Mounted Luminaire (Covered Entrance Road / Bike Parking)

ASD LIGHTING

UK Designed & Manufactured.

Issue - 02
03 - 2024.

asdlighting.com



STEALTH ELITE

EXTERIOR WALL PACK

ASDLIGHTING.COM

LED Types
- 4000K.
- 3000K available on request.
- LED options.
- 5 year guarantee.

Materials
- Body: Die cast aluminium (powder coated).
- Diffuser: Vandal resistant polycarbonate.
- Glass diffuser option available.

Installation
- Wall mount (4.5kg).
- BESA fixing and rear cable entry. 3 way mains terminal block. 4 way terminal block for photocell versions.
- Side conduit entry.
- Anti-tamper screws as standard.
- Spirit level attached to the back plate to ensure a level installation.



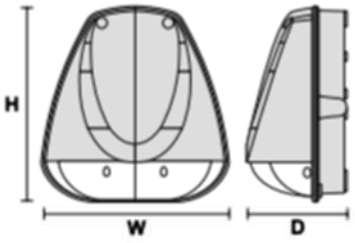
Standards
- IP65.
- IK10 (Glass variant IK08).
- 'F' Mark.
- CE.
- BS EN 60598.
- Class I.

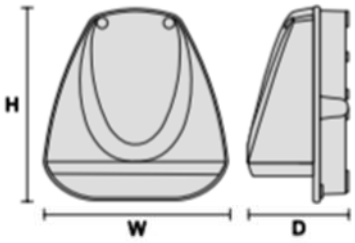






Dimensions





Clear & opal versions

Height	Width	Depth
343mm	330mm	176mm

Glass version

Height	Width	Depth
343mm	330mm	176mm

Luminaire Type 3 – Bollard Luminaire (Landscaped Area Walkways)

LIRALIGHTING®
Enjoy Our Light

MASTER BLASTER

General data:

Luminaire body:	aluminium
Mounting type:	ground fundation
Ingress protection IP:	IP66
Operating temperature range:	from -40°C to +40°C
Lifetime L80B10:	100 000h
Impact protection:	IK10

Electrical data:

Nominal voltage:	220-240V AC
Nominal freguency:	50-60Hz
Luminaire nominal power:	14W
Protection class:	I
Connection wire:	connector
Wiring:	through
Dimming:	DALI, 1-10V
Power supply:	inside the luminaire

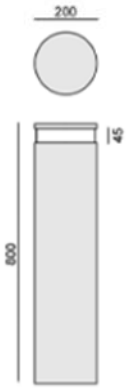
Optical data:

Optical system:	lens
Material:	PMMA
Light emission:	direct
Light distribution:	asymmetrical/ symmetrical

Lighting data:

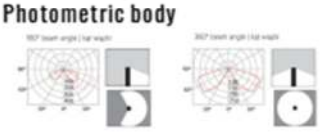
Light source:	LED
Colour rendering index:	CRI>80
Colour rendering index:	SDCM<3
Tolerance of luminous flux:	+/-10%

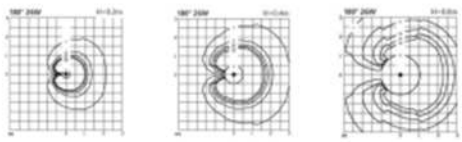




Master Blaster, a family of outdoor bollards that combine elegance, simplicity and functionality. The luminaire body is made of aluminum. Ingress protection IP66, impact protection IK10, protection class I. For a uniform design, the same luminaire head, equipped with an integrated optical system, was used in bollards of different heights:
H1000mm, H800mm, H600mm, H400mm, H200mm. Direct light emission. Available light distribution: asymmetrical. The luminaires are perfect for the illumination of alleys, bicycle paths, squares, parks and gardens.

Photometric body





LIRALIGHTING®
Enjoy Our Light

E- elctronics
O- On- Off
D- DALI

C - colour



Catalogue code	Luminaire light flux	Power	Effectiveness	Color temperature	CRI/RA	Weight	Beam angle	Box dimensions
9186.83EC	911lm	14W	68lm/W	3000K	≥80	10kg	180°	210x210x820mm
9187.83EC	1821lm	26W	73lm/W	3000K	≥80	10kg	360°	210x210x820mm

Accessories

Foundation Type B anchor plate catalogue code 90.16.09



Creation Date: 13.02.2025
We reserve the right to change, at any time and without prior notice the technical specifications provided on the card. The color options of the finishes presented in the catalog may differ from the actual ones. Light flux tolerance +/- 10%.

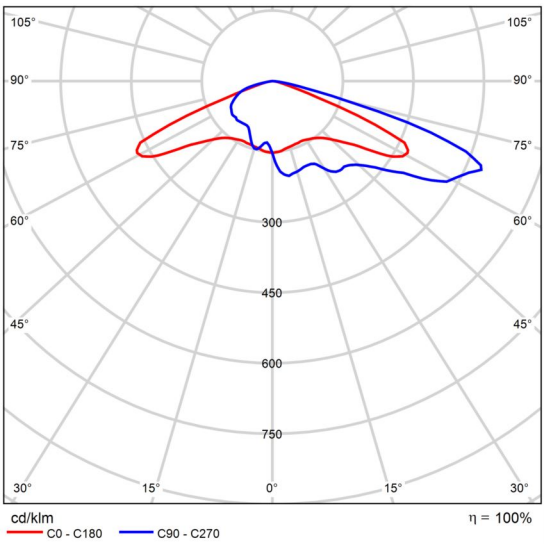
2.0 Computer Modelling Layout Drawing & Results

The following pages are the DIALux results from the modelling of the proposed column and bollard fittings in the roadway and footpath areas plus the neighbouring property spill light results.

Product data sheet

ASD Lighting PLC - HWD4-#3K08 600-F0-CLO Gen 7

Article No.	HWD4-#3K08 600-F0-CLO.
P	15.9 W
Φ_{Lamp}	1745 lm
$\Phi_{Luminaire}$	1748 lm
η	100.18 %
Luminous efficacy	109.9 lm/W
CCT	3000 K
CRI	72



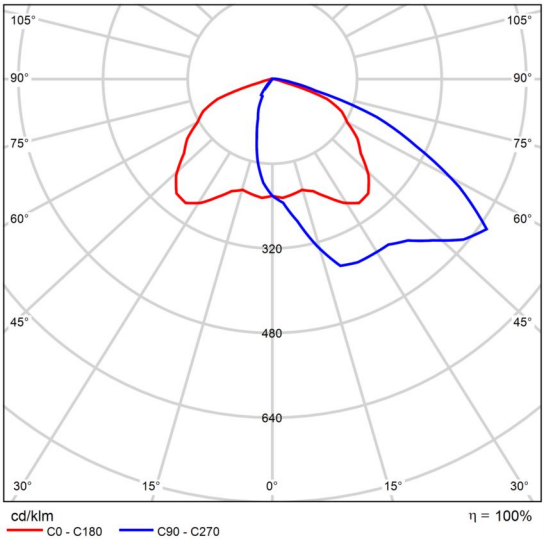
Polar LDC

DIALux

Product data sheet

ASD Lighting PLC - STEALTH ELITE 3000K SO LENS LED1500

Article No.	SEL-#3LED1500-S0
P	13.5 W
Φ_{Lamp}	1508 lm
$\Phi_{Luminaire}$	1503 lm
η	99.66 %
Luminous efficacy	111.3 lm/W
CCT	3000 K
CRI	70



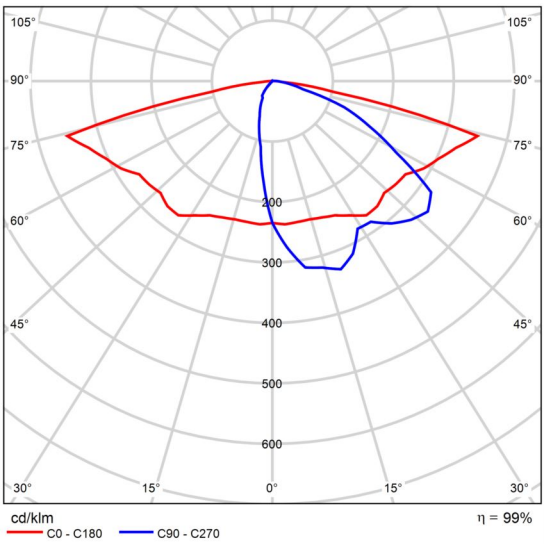
Polar LDC

DIALux

Product data sheet

ASD Lighting PLC - STEALTH ELITE 3000K T LENS LED1500

Article No.	SEL-#3LED1500-T
P	13.3 W
Φ_{Lamp}	1495 lm
$\Phi_{Luminaire}$	1484 lm
η	99.23 %
Luminous efficacy	111.5 lm/W
CCT	3000 K
CRI	70

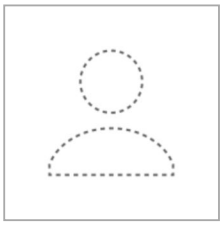


Polar LDC

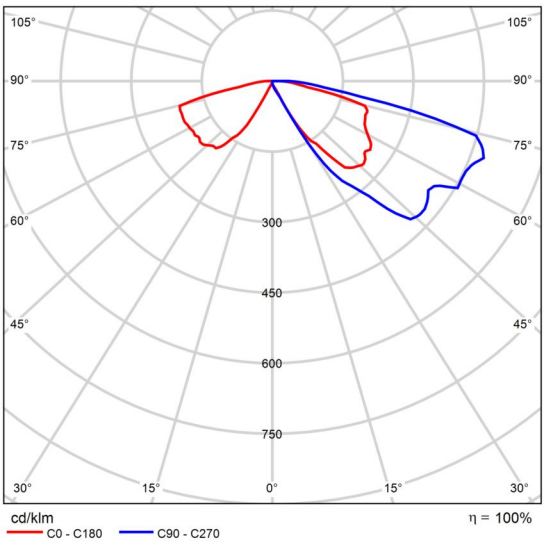
DIALux

Product data sheet

LIRALIGHTING - MASTER BLASTER 180 14W



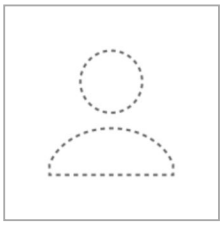
Article No.	9186.
P	14.0 W
Φ_{Lamp}	802 lm
$\Phi_{Luminaire}$	803 lm
η	100.12 %
Luminous efficacy	57.4 lm/W
CCT	3000 K
CRI	90



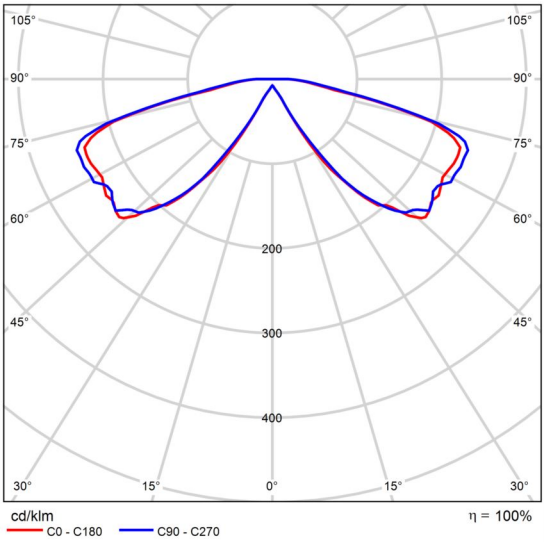
Polar LDC

Product data sheet

LIRALIGHTING - MASTER BLASTER 360 26W



Article No.	9187.
P	26.0 W
Φ_{Lamp}	1603 lm
$\Phi_{Luminaire}$	1605 lm
η	100.13 %
Luminous efficacy	61.7 lm/W
CCT	3000 K
CRI	90



Polar LDC

Glare evaluation according to RUG

ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	23.2	25.1	23.6	25.4	25.7	23.2	25.1	23.6	25.4	25.7
	3H	26.2	27.9	26.6	28.2	28.5	26.3	28.0	26.7	28.3	28.6
	4H	27.5	29.1	27.8	29.4	29.7	27.6	29.2	28.0	29.5	29.8
	6H	27.9	29.4	28.3	29.7	30.1	28.1	29.6	28.5	29.9	30.3
	8H	27.9	29.4	28.3	29.7	30.1	28.2	29.6	28.5	29.9	30.3
	12H	28.0	29.4	28.4	29.7	30.1	28.2	29.6	28.6	29.9	30.3
4H	2H	24.4	26.0	24.8	26.4	26.7	24.4	26.0	24.8	26.4	26.7
	3H	27.6	29.0	28.0	29.3	29.7	27.7	29.1	28.1	29.4	29.8
	4H	28.9	30.1	29.3	30.5	30.9	29.0	30.3	29.4	30.6	31.0
	6H	29.4	30.5	29.8	30.9	31.3	29.5	30.7	30.0	31.1	31.5
	8H	29.4	30.5	29.9	30.9	31.3	29.6	30.7	30.1	31.1	31.5
	12H	29.5	30.5	30.0	30.9	31.3	29.7	30.7	30.2	31.1	31.5
8H	4H	29.4	30.4	29.8	30.8	31.3	29.5	30.5	29.9	30.9	31.4
	6H	29.9	30.8	30.4	31.2	31.7	30.1	30.9	30.6	31.4	31.9
	8H	30.1	30.8	30.5	31.3	31.8	30.2	31.0	30.7	31.5	31.9
	12H	30.2	30.8	30.7	31.3	31.8	30.4	31.0	30.9	31.5	32.0
12H	4H	29.4	30.3	29.8	30.8	31.2	29.5	30.4	29.9	30.9	31.3
	6H	30.0	30.7	30.5	31.2	31.7	30.1	30.9	30.6	31.3	31.8
	8H	30.1	30.8	30.6	31.3	31.8	30.3	31.0	30.8	31.4	31.9
Variation of the observer position for the luminaire distances S											
S = 1.0H S = 1.5H S = 2.0H		+0.1 / -0.1 +0.2 / -0.2 +0.2 / -0.4					+0.1 / -0.1 +0.2 / -0.2 +0.2 / -0.3				
Standard table		BK08					BK08				
Correction summand		13.6					13.7				
Corrected glare indices referring to 1603lm Total luminous flux											

RUG diagram (SHR: 0.25)

Dolphin's Barn Outdoor Space

Luminaire layout plan

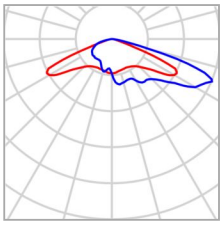


DIALux

Dolphin's Barn Outdoor Space

Luminaire layout plan





Manufacturer	ASD Lighting PLC
Article No.	HWD4-#3K08 600-F0-CLO.
Article name	HWD4-#3K08 600-F0-CLO Gen 7
Fitting	8x LED

P	15.9 W
$\Phi_{Luminaire}$	1748 lm

4 x ASD Lighting PLC HWD4-#3K08 600-F0-CLO Gen 7

Type	Line arrangement
1st luminaire (X/Y/Z)	-5.125 m / 32.647 m / 3.000 m
X-direction	4 pcs., Centre - centre, 6.622 m

X	Y	Mounting height	Luminaire
-5.125 m	32.647 m	3.000 m	48
0.809 m	35.587 m	3.000 m	49
6.743 m	38.526 m	3.000 m	50
12.677 m	41.466 m	3.000 m	51

Individual luminaires

X	Y	Mounting height	Luminaire
25.158 m	44.731 m	3.015 m	2
20.703 m	40.449 m	3.015 m	6
16.453 m	29.824 m	3.000 m	7
20.714 m	27.287 m	3.000 m	8
-4.800 m	24.222 m	3.000 m	11

DIALux

Dolphin's Barn Outdoor Space

Luminaire layout plan

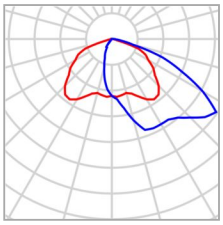
X	Y	Mounting height	Luminaire
17.441 m	23.208 m	3.000 m	13
3.535 m	22.868 m	3.015 m	14
9.941 m	22.508 m	3.000 m	15

DIALux

Dolphin's Barn Outdoor Space

Luminaire layout plan





Manufacturer	ASD Lighting PLC	P	13.5 W
Article No.	SEL-#3LED1500-S0	$\Phi_{Luminaire}$	1503 lm
Article name	STEALTH ELITE 3000K SO LENS LED1500		
Fitting	8x LED		

3 x ASD Lighting PLC STEALTH ELITE 3000K SO LENS LED1500

Type	Line arrangement
1st luminaire (X/Y/Z)	45.839 m / 33.811 m / 3.500 m
X-direction	3 pcs., Centre - centre, 6.401 m

X	Y	Mounting height	Luminaire
45.839 m	33.811 m	3.500 m	52
39.439 m	33.810 m	3.500 m	53
33.038 m	33.810 m	3.500 m	54

4 x ASD Lighting PLC STEALTH ELITE 3000K SO LENS LED1500

Type	Line arrangement
1st luminaire (X/Y/Z)	29.757 m / 30.653 m / 3.200 m
X-direction	4 pcs., Centre - centre, 6.110 m

X	Y	Mounting height	Luminaire
29.757 m	30.653 m	3.200 m	55
29.757 m	24.542 m	3.200 m	56
29.757 m	18.432 m	3.200 m	57
29.757 m	12.321 m	3.200 m	58

2 x ASD Lighting PLC STEALTH ELITE 3000K SO LENS LED1500

DIALux

Dolphin's Barn Outdoor Space

Luminaire layout plan

Type	Line arrangement
1st luminaire (X/Y/Z)	18.955 m / 17.102 m / 3.185 m
X-direction	2 pcs., Centre - centre, Distances not equal

X	Y	Mounting height	Luminaire
18.955 m	17.102 m	3.185 m	59
18.955 m	11.787 m	3.185 m	60

Individual luminaires

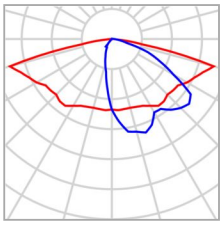
X	Y	Mounting height	Luminaire
34.338 m	8.006 m	3.200 m	23
17.437 m	6.987 m	3.200 m	25
30.050 m	3.479 m	3.500 m	27
17.437 m	1.978 m	3.200 m	29

DIALux

Dolphin's Barn Outdoor Space

Luminaire layout plan





Manufacturer	ASD Lighting PLC	P	13.3 W
Article No.	SEL-#3LED1500-T	$\Phi_{Luminaire}$	1484 lm
Article name	STEALTH ELITE 3000K T LENS LED1500		
Fitting	8x LED		

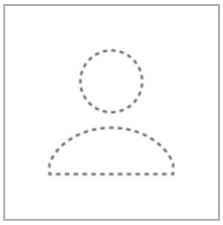
Individual luminaires

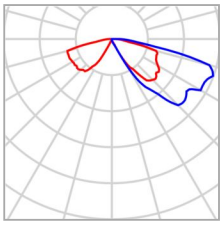
X	Y	Mounting height	Luminaire
29.771 m	45.338 m	3.200 m	1
31.981 m	41.450 m	5.015 m	3
37.278 m	41.311 m	3.500 m	4
45.717 m	41.293 m	3.500 m	5
17.378 m	19.316 m	3.200 m	18

DIALux

Dolphin's Barn Outdoor Space

Luminaire layout plan





Manufacturer	LIRALIGHTING	P	14.0 W
Article No.	9186.	$\Phi_{Luminaire}$	803 lm
Article name	MASTER BLASTER 180 14W		
Fitting	1x LED		

Individual luminaires

X	Y	Mounting height	Luminaire
-8.630 m	23.826 m	1.000 m	12
-6.899 m	20.724 m	1.000 m	17
-6.761 m	11.316 m	1.000 m	22
-6.239 m	7.128 m	1.000 m	24
-1.821 m	6.445 m	1.000 m	26
-2.243 m	2.208 m	1.000 m	28
0.653 m	-0.889 m	1.000 m	30
18.976 m	-2.612 m	1.000 m	31
28.467 m	-2.674 m	1.000 m	32
3.339 m	-4.475 m	1.000 m	33
9.412 m	-5.456 m	1.000 m	35
13.374 m	-6.036 m	1.000 m	36
28.976 m	-6.998 m	1.000 m	38

DIALux

Dolphin's Barn Outdoor Space

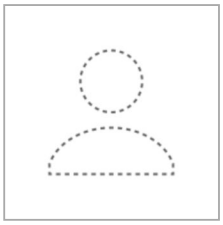
Luminaire layout plan

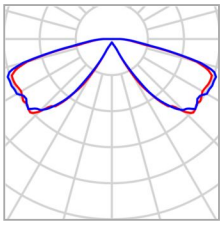
X	Y	Mounting height	Luminaire
4.776 m	-7.962 m	1.000 m	40
27.371 m	-12.940 m	1.000 m	45

DIALux

Dolphin's Barn Outdoor Space

Luminaire layout plan





Manufacturer	LIRALIGHTING	P	26.0 W
Article No.	9187.	$\Phi_{Luminaire}$	1605 lm
Article name	MASTER BLASTER 360 26W		
Fitting	1x LED		

Individual luminaires

X	Y	Mounting height	Luminaire
-11.922 m	26.577 m	1.000 m	9
-15.222 m	25.255 m	1.000 m	10
-14.322 m	21.886 m	1.000 m	16
-10.822 m	18.086 m	1.000 m	19
-6.522 m	16.311 m	1.000 m	20
-8.646 m	14.486 m	1.000 m	21
25.144 m	-5.068 m	1.000 m	34
16.878 m	-6.313 m	1.000 m	37
20.578 m	-7.246 m	1.000 m	39
25.898 m	-9.717 m	1.000 m	41
15.378 m	-10.613 m	1.000 m	42
9.092 m	-11.203 m	1.000 m	43
21.889 m	-11.446 m	1.000 m	44

DIALux

Dolphin's Barn Outdoor Space

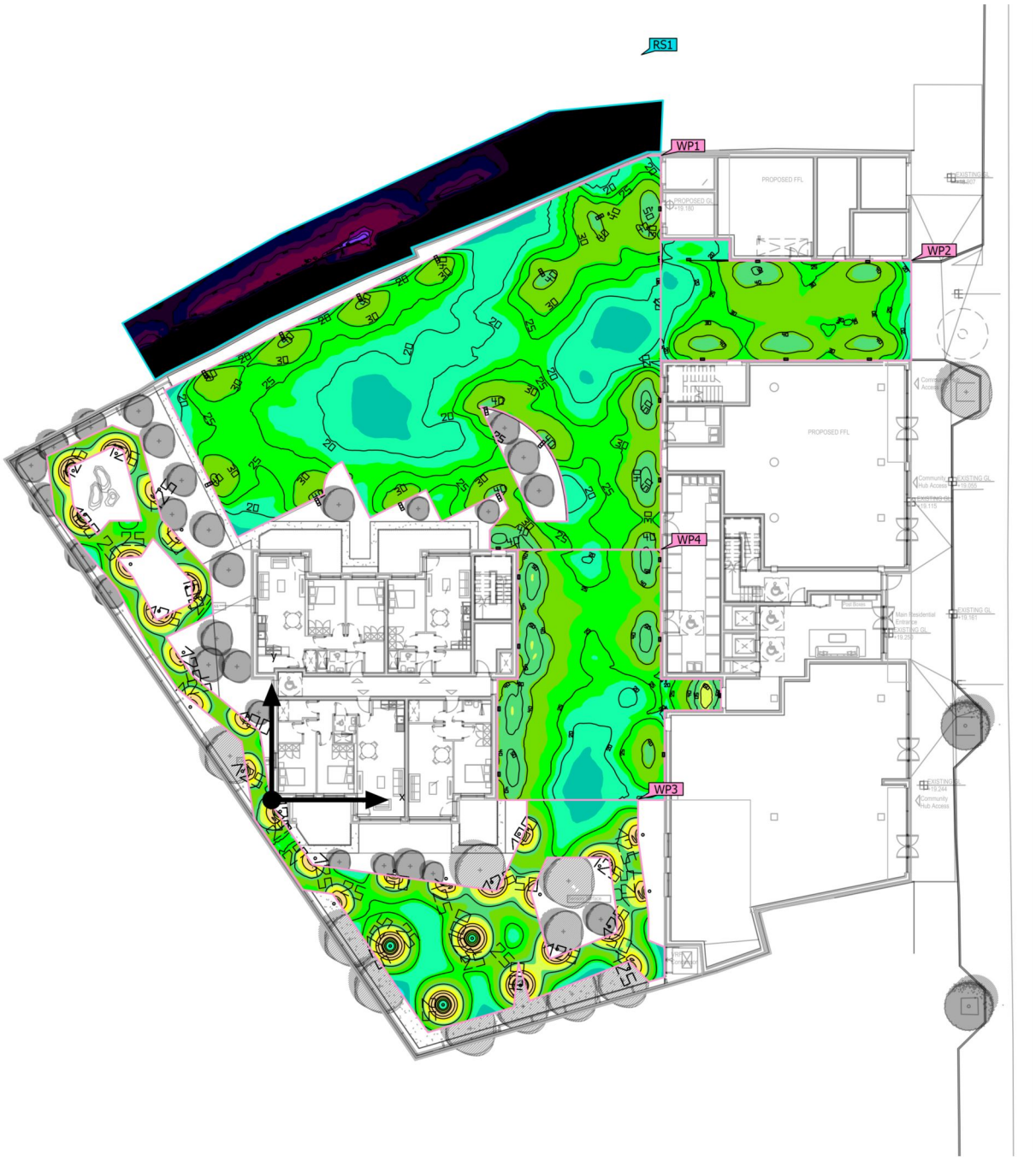
Luminaire layout plan

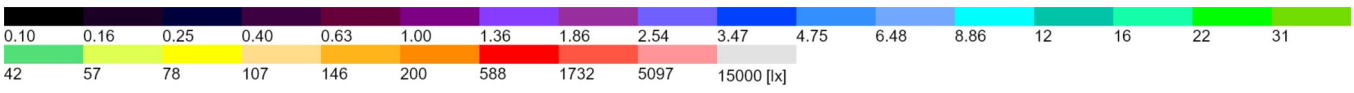
X	Y	Mounting height	Luminaire
19.078 m	-14.223 m	1.000 m	46
13.146 m	-15.713 m	1.000 m	47

DIALux

Dolphin's Barn Outdoor Space (Light scene 1)

Calculation objects





Dolphin's Barn Outdoor Space (Light scene 1)

Calculation objects

Working planes

Properties	Ē (Target)	E_{min}	E_{max}	U_o (g_1) (Target)	g_2	Index
Working plane (Main Carpark) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	25.8 lx (≥ 10.0 lx) ✓	11.4 lx	55.6 lx	0.44 (≥ 0.40) ✓	0.21	WP1
Working plane (Entrance Archway) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	31.2 lx (≥ 10.0 lx) ✓	14.5 lx	51.3 lx	0.46 (≥ 0.40) ✓	0.28	WP2
Working plane (Garden Paths) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	52.2 lx (≥ 50.0 lx) ✓	10.9 lx	153 lx	0.21 (≥ 0.20) ✓	0.071	WP3
Working plane (Bike Park Archway) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	32.0 lx (≥ 10.0 lx) ✓	14.0 lx	66.7 lx	0.44 (≥ 0.40) ✓	0.21	WP4

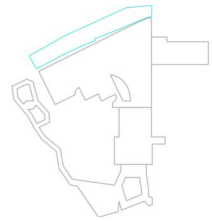
Surface result objects

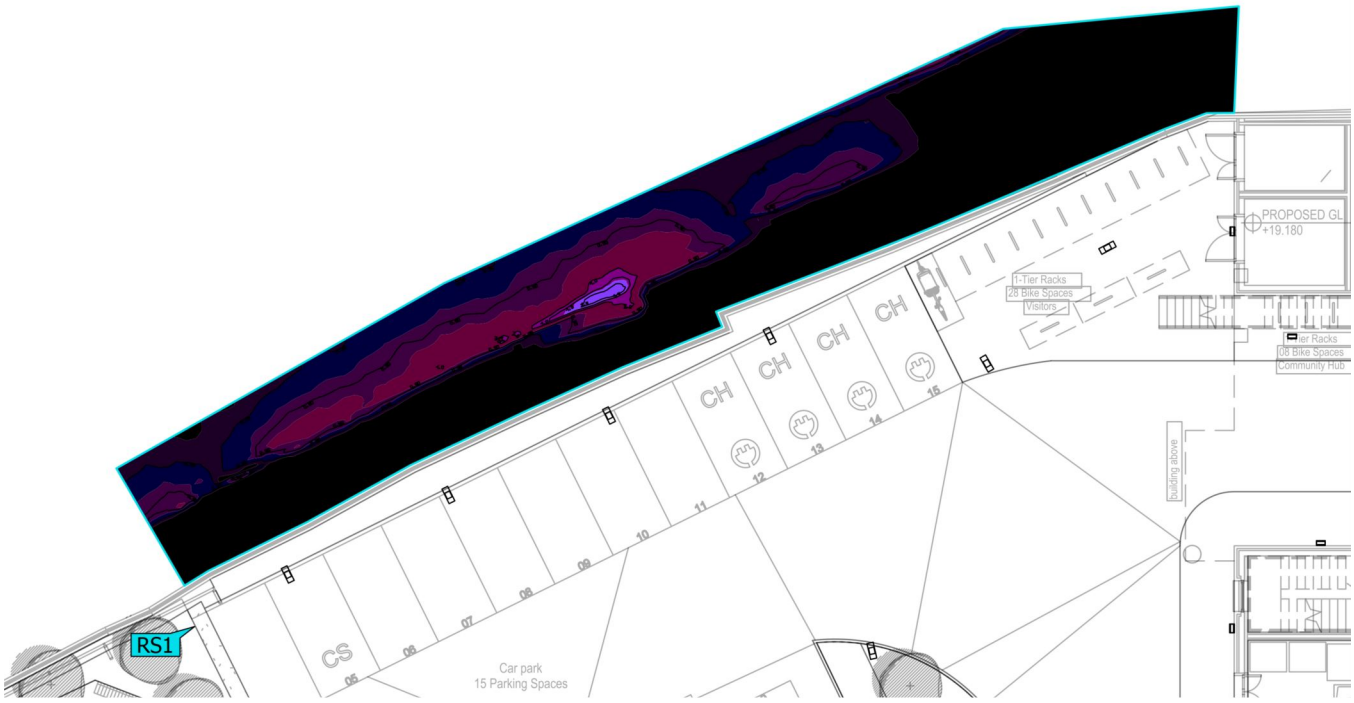
Properties	Ø	min	max	U_o (g_1)	g_2	Index
Neighbouring gardens Perpendicular illuminance (adaptive) Height: 0.000 m	0.21 lx	0.00 lx	1.67 lx	0.00	0.00	RS1
Neighbouring gardens Luminance Height: 0.000 m	0.013 cd/m²	0.00 cd/m²	0.11 cd/m²	0.00	0.00	RS1

Utilisation profile: General circulation areas at outdoor workplaces (5.1.2 Traffic areas for slow-moving vehicles (max. 10 km/h), e.g. bicycles, excavators)

Dolphin's Barn Outdoor Space (Light scene 1)

Neighbouring gardens





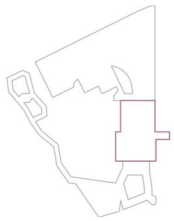


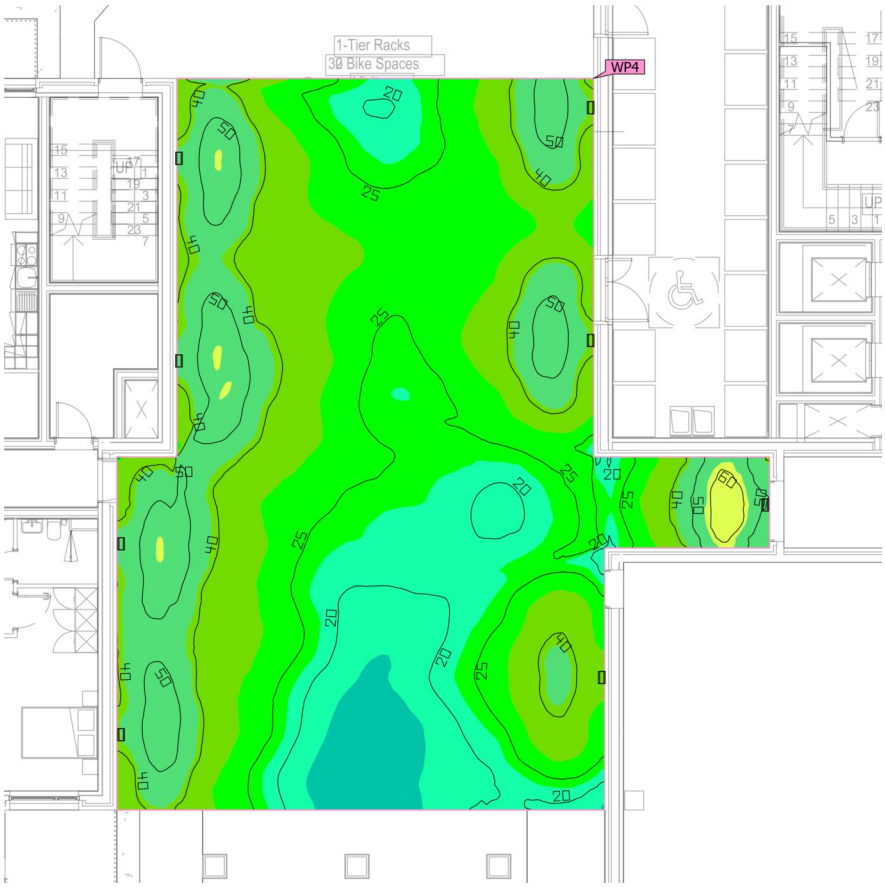
Properties	Ē	E_{min}	E_{max}	U_o (g_1)	g_2	Index
Neighbouring gardens Perpendicular illuminance (adaptive) Height: 0.000 m	0.21 lx	0.00 lx	1.67 lx	0.00	0.00	RS1

Utilisation profile: General circulation areas at outdoor workplaces (5.1.2 Traffic areas for slow-moving vehicles (max.10 km/h), e.g. bicycles, excavators)

Bike Park Archway (Light scene 1)

Working plane (Bike Park Archway)







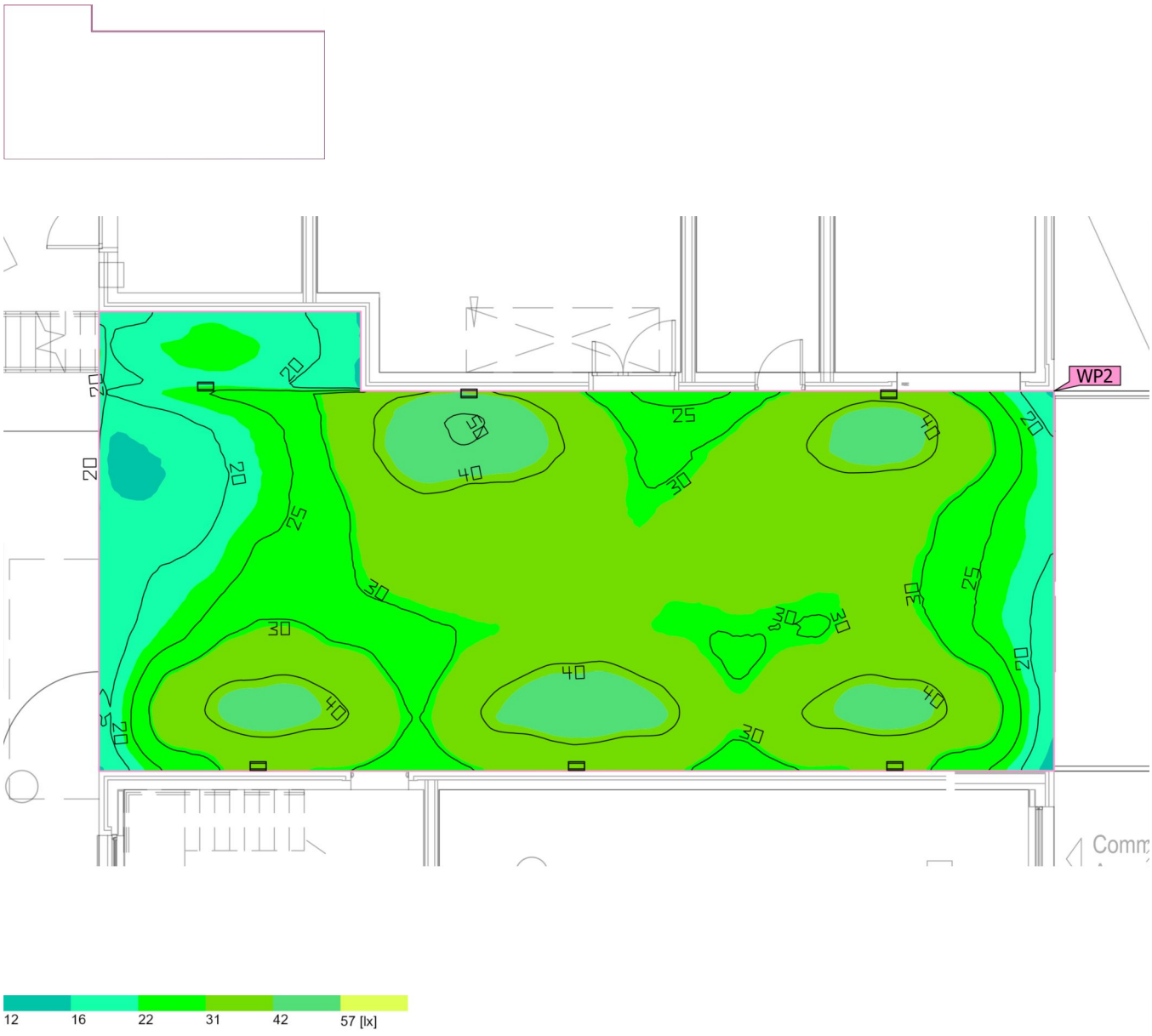
Properties	Ē (Target)	E_{min}	E_{max}	U_o (g_1) (Target)	g_2	Index
Working plane (Bike Park Archway) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	32.0 lx (≥ 10.0 lx) ✓	14.0 lx	66.7 lx	0.44 (≥ 0.40) ✓	0.21	WP4

Utilisation profile: General circulation areas at outdoor workplaces (5.1.2 Traffic areas for slow-moving vehicles (max.10 km/h), e.g. bicycles, excavators)

DIALux

Entrance Archway (Light scene 1)

Working plane (Entrance Archway)

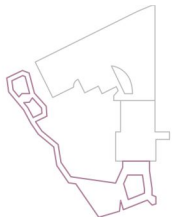


Properties	Ē (Target)	E_{min}	E_{max}	U_o (g_1) (Target)	g_2	Index
Working plane (Entrance Archway) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	31.2 lx (≥ 10.0 lx) ✓	14.5 lx	51.3 lx	0.46 (≥ 0.40) ✓	0.28	WP2

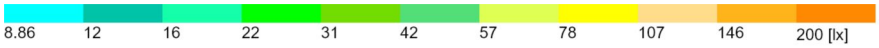
Utilisation profile: General circulation areas at outdoor workplaces (5.1.2 Traffic areas for slow-moving vehicles (max.10 km/h), e.g. bicycles, excavators)

Garden Paths (Light scene 1)

Working plane (Garden Paths)







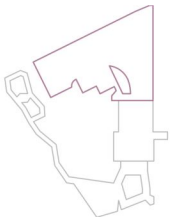
Properties	Ē (Target)	E_{min}	E_{max}	U_o (g_1) (Target)	g_2	Index
Working plane (Garden Paths) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	52.2 lx (≥ 50.0 lx) ✓	10.9 lx	153 lx	0.21 (≥ 0.20) ✓	0.071	WP3

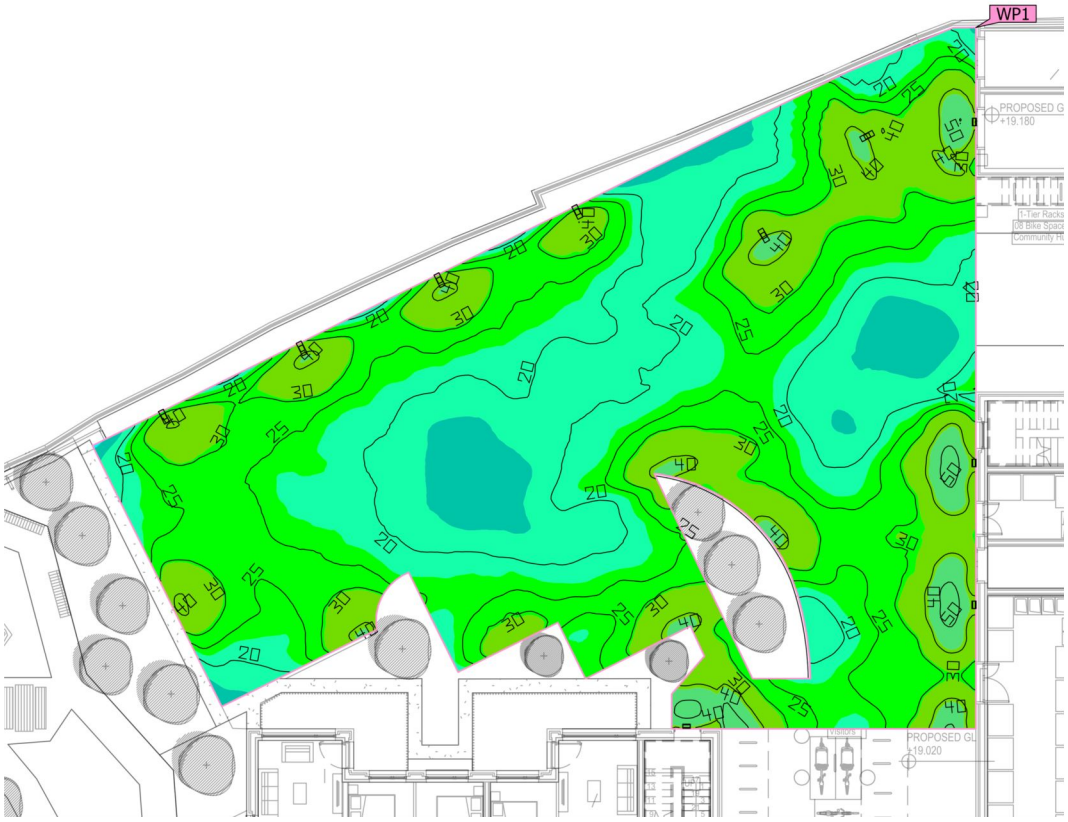
Utilisation profile: General circulation areas at outdoor workplaces (5.1.1 Walkways exclusively for pedestrians)

DIALux

Main Carpark (Light scene 1)

Working plane (Main Carpark)





Properties	Ē (Target)	E_{min}	E_{max}	U_o (g_1) (Target)	g_2	Index
Working plane (Main Carpark) Perpendicular illuminance (adaptive) Height: 0.015 m, Wall zone: 0.000 m	25.8 lx (≥ 10.0 lx) ✓	11.4 lx	55.6 lx	0.44 (≥ 0.40) ✓	0.21	WP1

Utilisation profile: General circulation areas at outdoor workplaces (5.1.2 Traffic areas for slow-moving vehicles (max.10 km/h), e.g. bicycles, excavators)