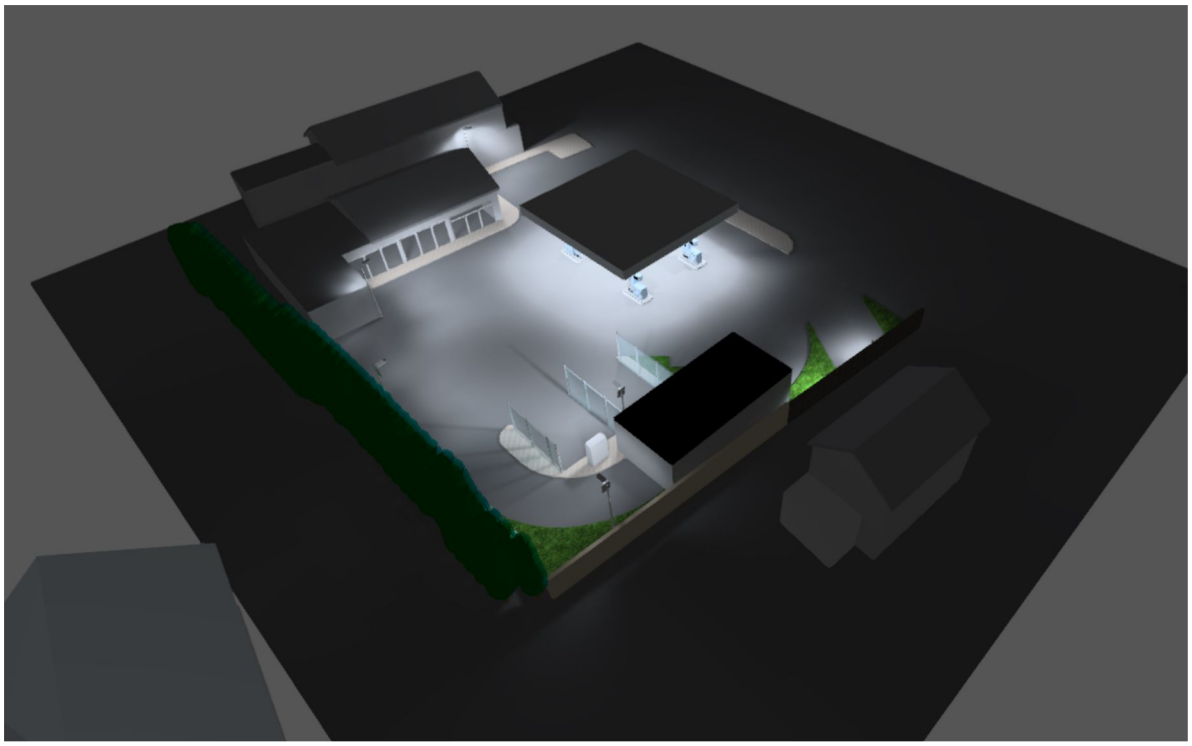
Date 24-11-2023



ADS Design - Woodlands Service Station, Fleetwood Road, FY5 4BL - External - JdB20231124 - V1

Preface

No rights can be derived from this lighting simulation or design. It is the clients and
installers responsibility to ensure that all Bever products are installed and used in
compliance with any local codes or regulations in the country of use including but not
confined to any electrical, hazardous zone and environmental considerations.

Notes on planning:

The energy consumption quantities do not take into account light scenes and their dimming levels.

Table of Contents

Site 1

Site 1

Canopy

Contacts

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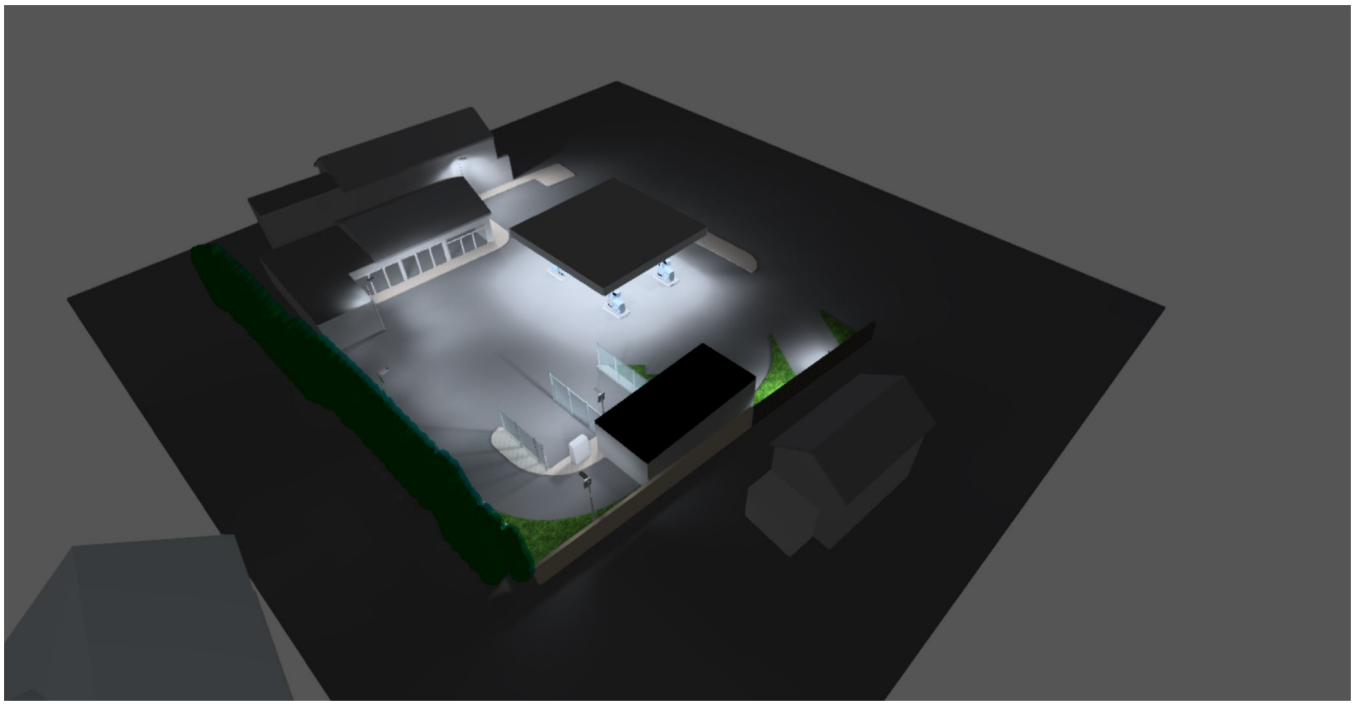
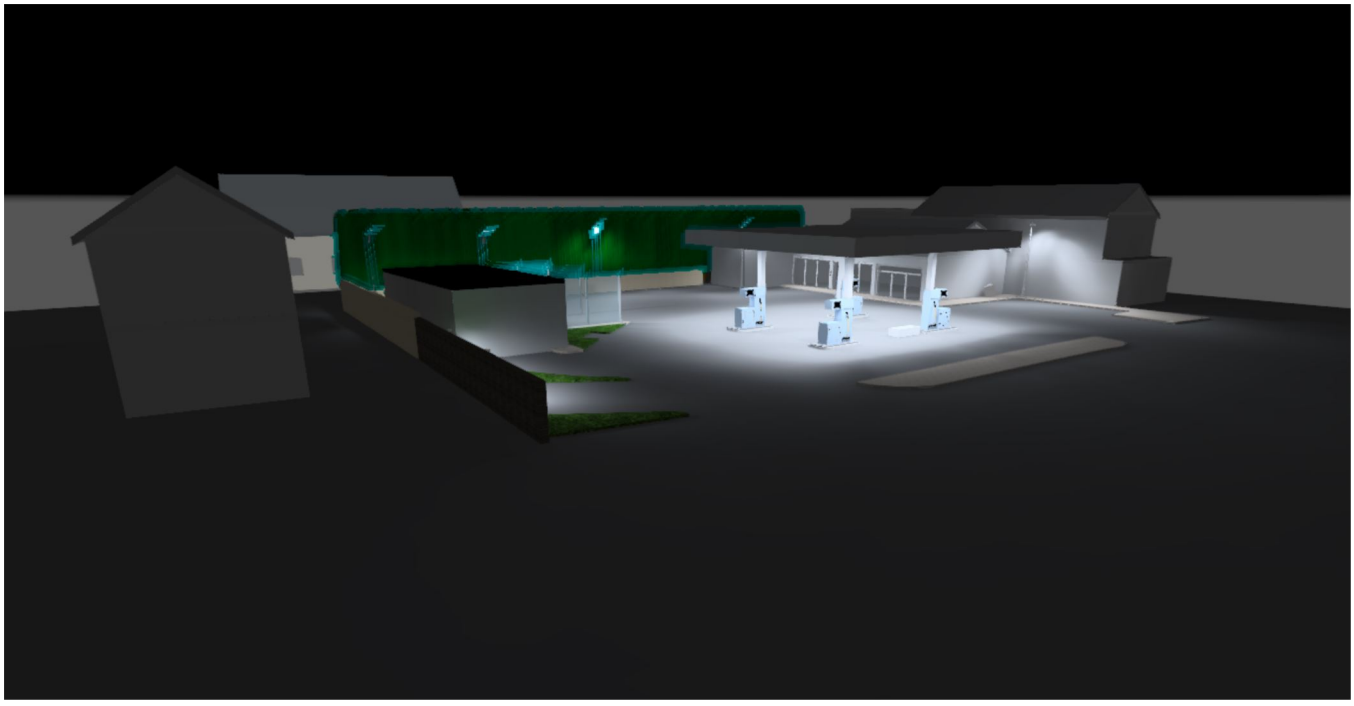
Images





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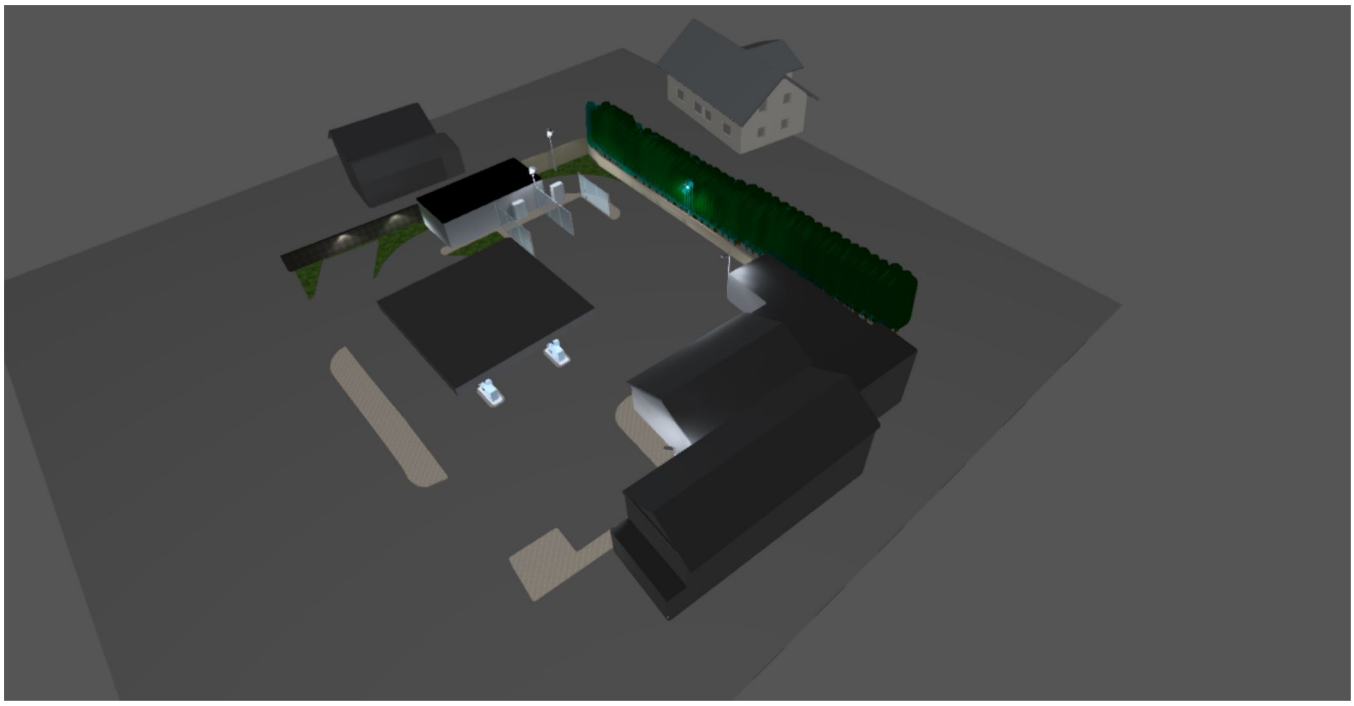


Luminaire list

Φ_{total}	P_{total}	Luminous efficacy
122405 lm	892.0 W	137.2 lm/W

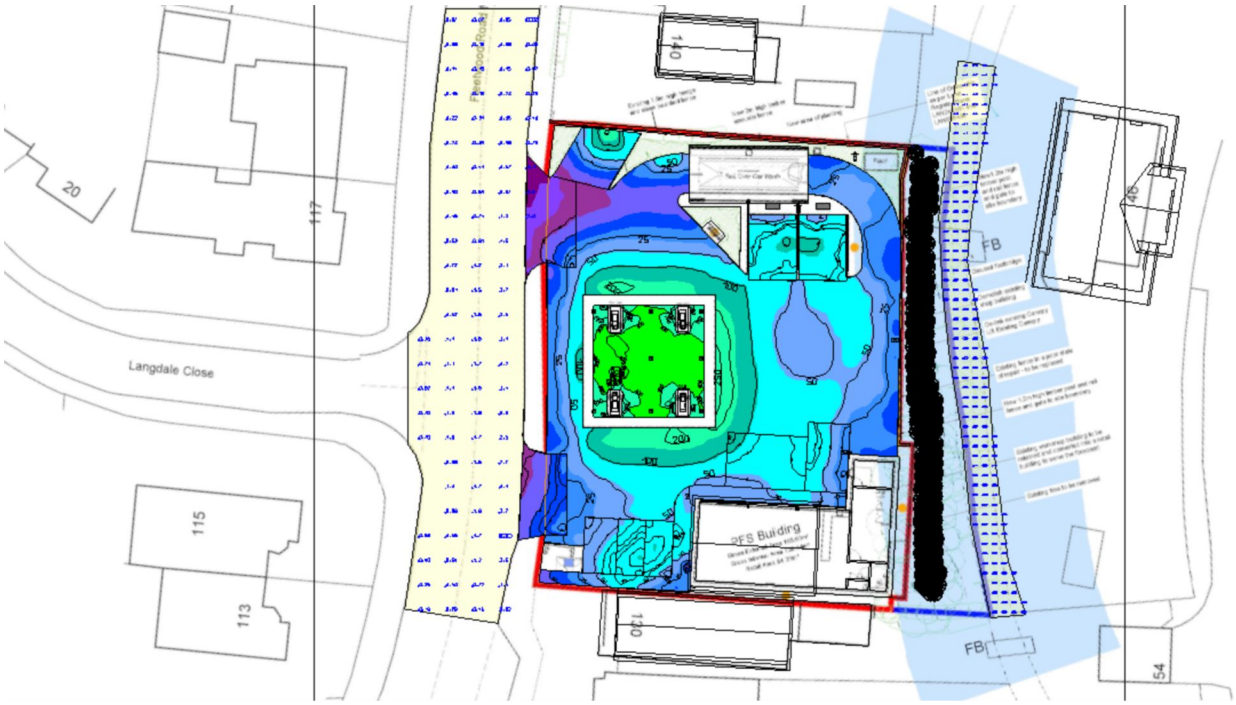
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy	Index
1	Not yet a DIALux member	# 16882 [Ambiente 01-A-WB01-25LED-N0-50W (EOS2 5700K)]	Luci Series Ambiente. A-Symm. Wide Beam. 25LED - N0. 50W default. 5700K. EOS2.	50.0 W	5527 lm	110.5 lm/W	
1	Not yet a DIALux member	# 16882 [Ambiente 01-A-WB01-25LED-N0-50W (EOS2 5700K)]	Luci Series Ambiente. A-Symm. Wide Beam. 25LED - N0. 50W default. 5700K. EOS2.	20.0 W	2146 lm	107.3 lm/W	
3	Not yet a DIALux member	#16884 [Ambiente 01-A-WB01-40LED-N0-70W (EOS2 5700K)]	Luci Series Ambiente. A-Symm. Wide Beam. 40LED - N0. 70W default. 5700K. EOS2.	70.0 W	8122 lm	116.0 lm/W	REDE
2	Not yet a DIALux member	#19369	CubiQ-WM01-A-MB02-13LED-20W (EOS, 5700K)	12.0 W	1452 lm	121.0 lm/W	
5	Not yet a DIALux member	16760 LUCI02-S-MB01-50LED-N0-80W (Smart,5700K)	LS Downlight. Symm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart	53.6 W	8168 lm	152.4 lm/W	

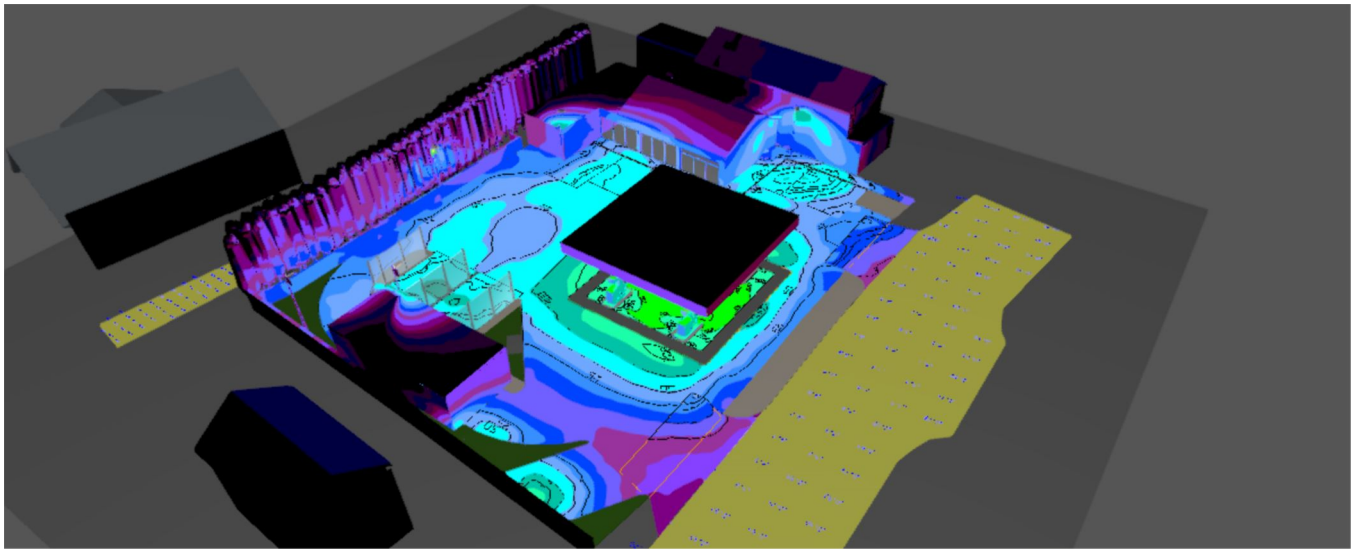
Luminaire list

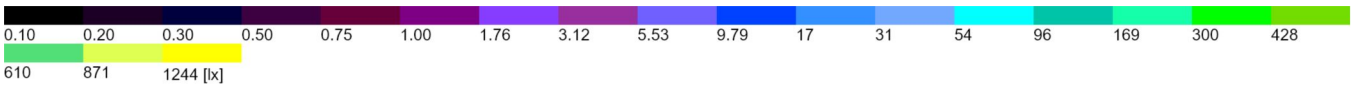
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy	Index
1	Not yet a DIALux member	16760 LUCI02-S-MB01-50LED-N0-80W (Smart,5700K)	LS Downlight. Symm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart	80.0 W	11552 lm	144.4 lm/W	
3	Not yet a DIALux member	16762 LUCI02-A-MB02-50LED-80W (Smart,5700K) Rev1	LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart	80.0 W	11690 lm	146.1 lm/W	

Site 1

Images

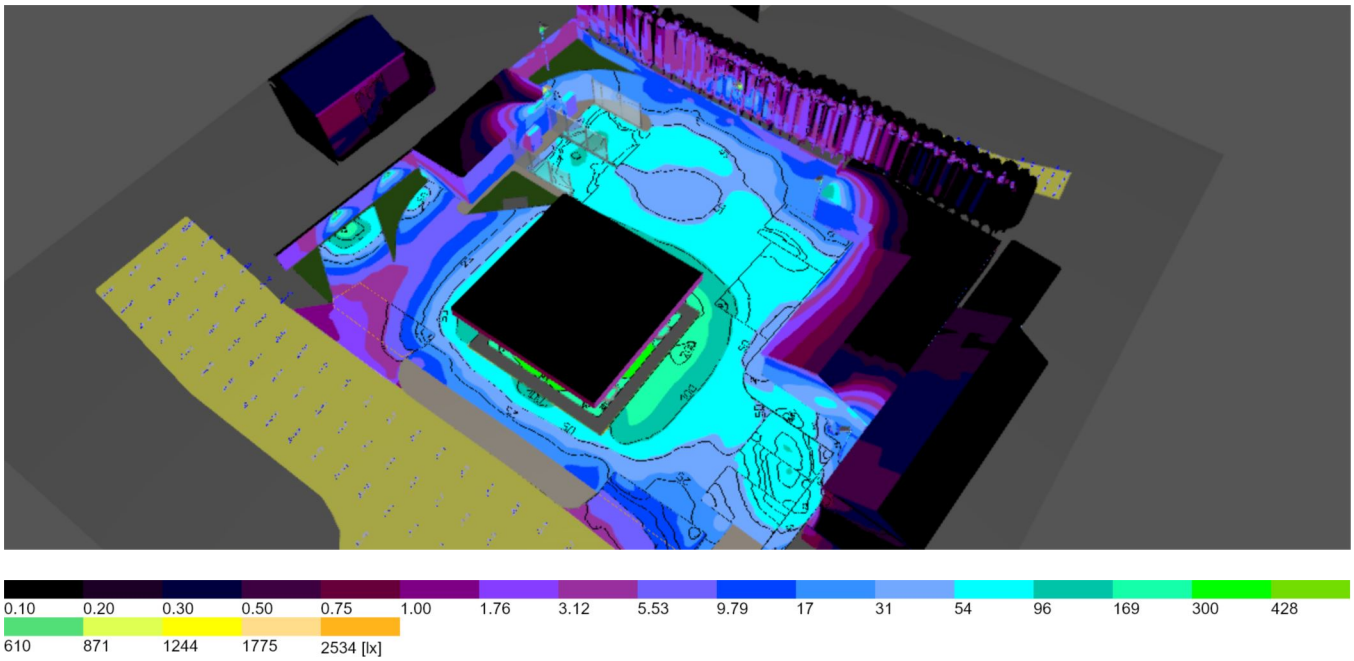






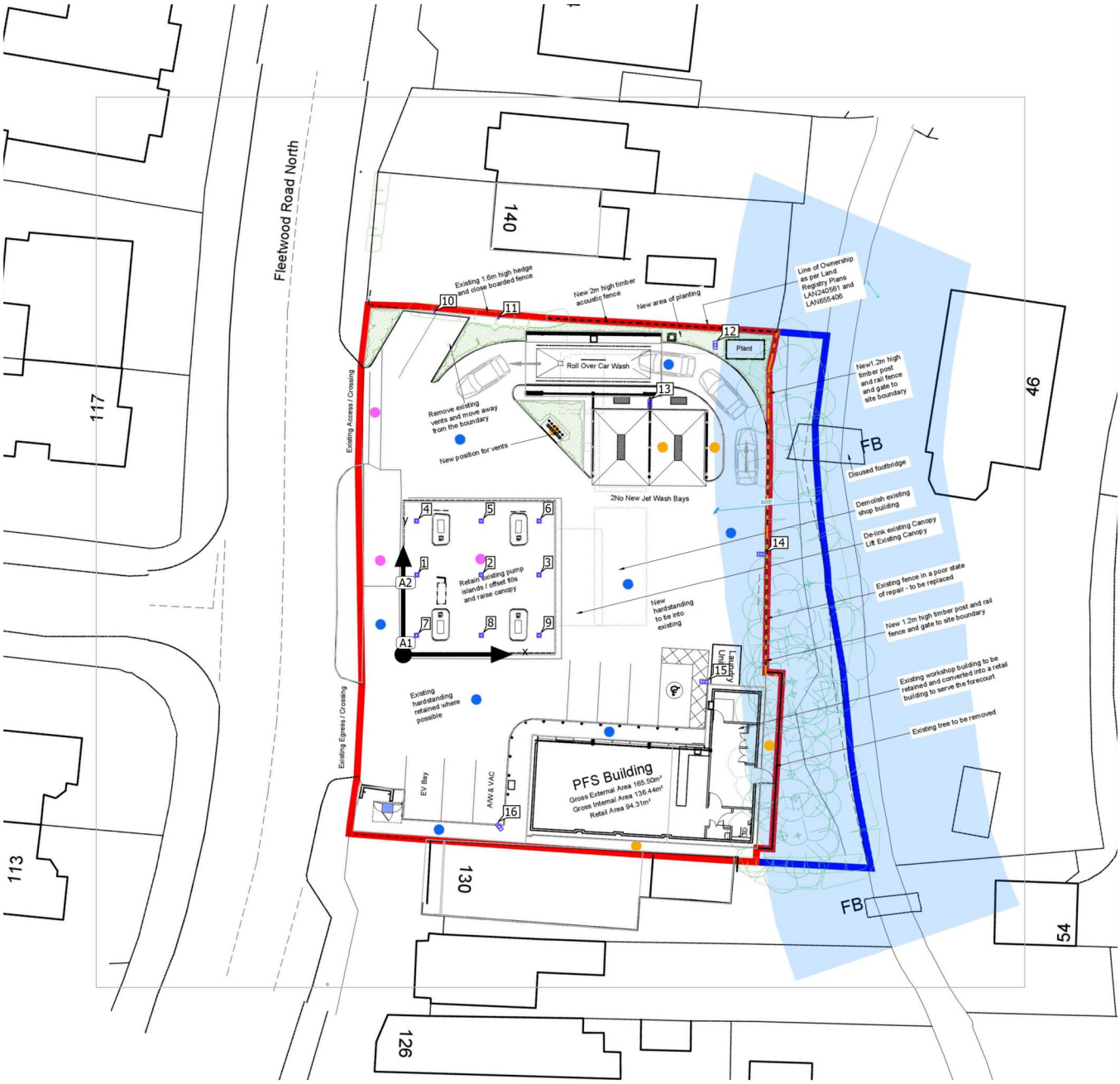
Site 1

Images



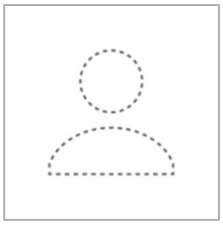
Site 1

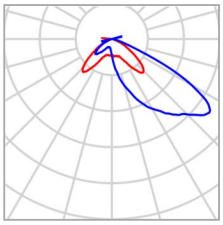
Luminaire layout plan



Site 1

Luminaire layout plan





Manufacturer	Not yet a DIALux member
Article No.	# 16882 [Ambiente01-A-WB01-25LED-N0-50W (EOS2 5700K)]
Article name	Luci Series Ambiente. A-Symm. Wide Beam. 25LED - N0. 50W default. 5700K. EOS2.
Fitting	1x 100% (50W) - Default

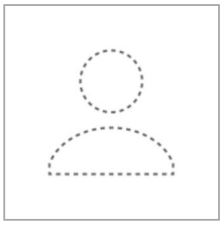
P	50.0 W
$\Phi_{Luminaire}$	5527 lm

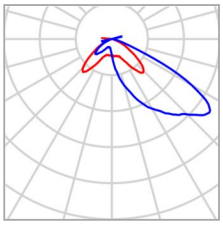
Individual luminaires

X	Y	Mounting height	Luminaire
28.215 m	7.894 m	5.000 m	14

Site 1

Luminaire layout plan





Manufacturer	Not yet a DIALux member
Article No.	# 16882 [Ambiente01-A-WB01-25LED-N0-50W (EOS2 5700K)]
Article name	Luci Series Ambiente. A-Symm. Wide Beam. 25LED - N0. 50W default. 5700K. EOS2.
Fitting	1x 40% (20W)

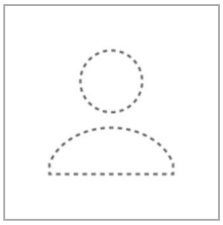
P	20.0 W
$\Phi_{Luminaire}$	2146 lm

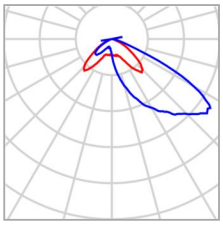
Individual luminaires

X	Y	Mounting height	Luminaire
24.570 m	24.353 m	5.000 m	12

Site 1

Luminaire layout plan





Manufacturer	Not yet a DIALux member
Article No.	#16884 [Ambiente01-A-WB01-40LED-N0-70W (EOS2 5700K)]
Article name	Luci Series Ambiente. A-Symm. Wide Beam. 40LED - N0. 70W default. 5700K. EOS2.
Fitting	1x 100% (70W) - Default
Index	REDE

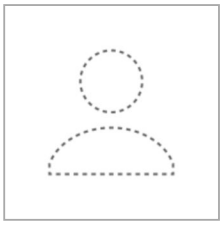
P	70.0 W
$\Phi_{Luminaire}$	8122 lm

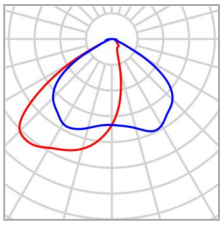
Individual luminaires

X	Y	Mounting height	Luminaire
19.418 m	19.754 m	5.000 m	13
23.697 m	-2.144 m	5.000 m	15
7.568 m	-13.571 m	5.000 m	16

Site 1

Luminaire layout plan





Manufacturer	Not yet a DIALux member
Article No.	#19369
Article name	CubiQ-WM01-A-MB02-13LED-20W (EOS, 5700K)
Fitting	1x 60% (12W)

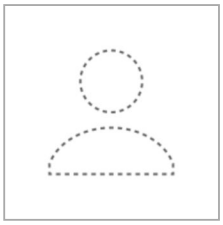
P	12.0 W
$\Phi_{Luminaire}$	1452 lm

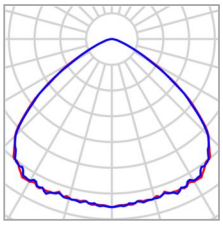
Individual luminaires

X	Y	Mounting height	Luminaire
2.471 m	26.958 m	1.800 m	10
7.488 m	26.480 m	1.800 m	11

Site 1

Luminaire layout plan





Manufacturer	Not yet a DIALux member
Article No.	16760 LUCI02-S-MB01-50LED-N0-80W (Smart,5700K)
Article name	LS Downlight. Symm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart
Fitting	1x 50% (53W)

P	53.6 W
$\Phi_{Luminaire}$	8168 lm

6 x Not yet a DIALux member LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart

Type	Field Arrangement
1st luminaire (X/Y/Z)	6.148 m / 1.509 m / 4.400 m
X-direction	3 pcs., Centre - centre, Distances not equal
Y-direction	2 pcs., Centre - centre, Distances not equal
Arrangement	A1

X	Y	Mounting height	Luminaire
6.148 m	10.509 m	4.400 m	5
10.698 m	10.509 m	4.400 m	6
6.148 m	1.509 m	4.400 m	8

3 x Not yet a DIALux member LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart

Type	Line arrangement
1st luminaire (X/Y/Z)	6.140 m / 6.267 m / 4.400 m

X	Y	Mounting height	Luminaire
6.140 m	6.267 m	4.400 m	2

Site 1

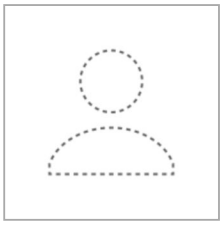
Luminaire layout plan

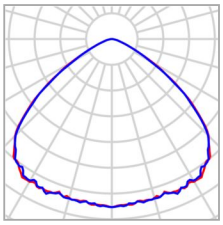
X-direction	3 pcs., Centre - centre, Distances not equal
Arrangement	A2

X	Y	Mounting height	Luminaire
10.690 m	6.267 m	4.400 m	3

Site 1

Luminaire layout plan





Manufacturer	Not yet a DIALux member
Article No.	16760 LUCI02-S-MB01-50LED-N0-80W (Smart,5700K)
Article name	LS Downlight. Symm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart
Fitting	1x 80% (80W) - Default

P	80.0 W
$\Phi_{Luminaire}$	11552 lm

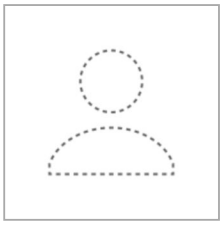
6 x Not yet a DIALux member LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart

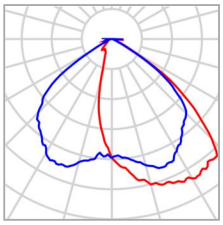
Type	Field Arrangement
1st luminaire (X/Y/Z)	10.698 m / 1.509 m / 4.400 m
X-direction	3 pcs., Centre - centre, Distances not equal
Y-direction	2 pcs., Centre - centre, Distances not equal
Arrangement	A1

X	Y	Mounting height	Luminaire
10.698 m	1.509 m	4.400 m	9

Site 1

Luminaire layout plan





Manufacturer	Not yet a DIALux member
Article No.	16762 LUCI02-A-MB02-50LED-80W (Smart,5700K) Rev1
Article name	LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart
Fitting	1x 80% (80W) - Default

P	80.0 W
$\Phi_{Luminaire}$	11690 lm

6 x Not yet a DIALux member LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart

Type	Field Arrangement
1st luminaire (X/Y/Z)	1.048 m / 1.509 m / 4.400 m
X-direction	3 pcs., Centre - centre, Distances not equal
Y-direction	2 pcs., Centre - centre, Distances not equal
Arrangement	A1

X	Y	Mounting height	Luminaire
1.048 m	10.509 m	4.400 m	4
1.048 m	1.509 m	4.400 m	7

3 x Not yet a DIALux member LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart

Type	Line arrangement
1st luminaire (X/Y/Z)	1.073 m / 6.267 m / 4.400 m

X	Y	Mounting height	Luminaire
1.073 m	6.267 m	4.400 m	1

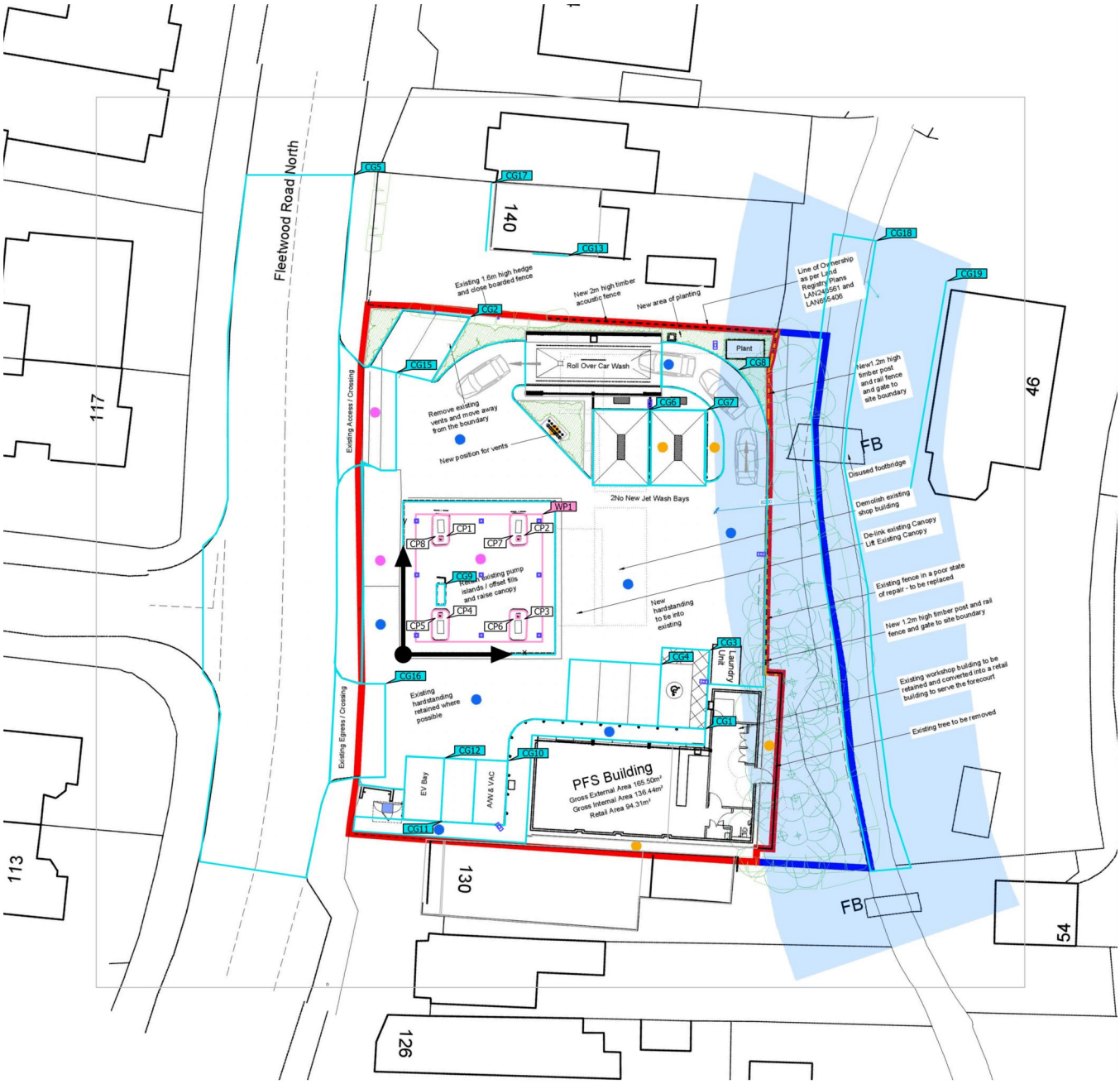
Site 1

Luminaire layout plan

X-direction	3 pcs., Centre - centre, Distances not equal
Arrangement	A2

Site 1 (Light scene 1)

Calculation objects



Site 1 (Light scene 1)

Calculation objects

Working planes

Properties	$\bar{E}$	E_{min}	E_{max}	U_o (g_1)	g_2	Index
Working plane (Canopy) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 1.000 m	322 lx	77.7 lx	421 lx	0.24	0.18	WP1

Calculation surfaces

Properties	$\bar{E}$	E_{min}	E_{max}	U_o (g_1)	g_2	Index
Pavement around the shop Perpendicular illuminance Height: 0.100 m	46.5 lx	6.82 lx	81.1 lx	0.15	0.084	CG1
Parking places Perpendicular illuminance Height: 0.000 m	53.9 lx	3.10 lx	204 lx	0.058	0.015	CG2
Disabled parking space Perpendicular illuminance Height: 0.000 m	51.4 lx	19.2 lx	86.2 lx	0.37	0.22	CG3
Parking places Perpendicular illuminance Height: 0.000 m	69.9 lx	42.7 lx	142 lx	0.61	0.30	CG4
Spill plot - Fleetwood Road North Perpendicular illuminance Height: 0.000 m	1.08 lx	0.020 lx	3.87 lx	0.019	0.005	CG5
Jetwash Perpendicular illuminance Height: 0.000 m	78.0 lx	42.5 lx	103 lx	0.54	0.41	CG6
Jetwash Perpendicular illuminance Height: 0.000 m	78.8 lx	40.0 lx	105 lx	0.51	0.38	CG7
Main area Perpendicular illuminance Height: 0.000 m	65.3 lx	3.84 lx	274 lx	0.059	0.014	CG8
Filling points Perpendicular illuminance Height: 0.400 m	411 lx	403 lx	417 lx	0.98	0.97	CG9

Site 1 (Light scene 1)

Calculation objects

A/W & VAC Perpendicular illuminance Height: 0.000 m	79.9 lx	35.2 lx	96.4 lx	0.44	0.37	CG10
Parking place Perpendicular illuminance Height: 0.000 m	76.4 lx	52.5 lx	97.1 lx	0.69	0.54	CG11
EV Bay Perpendicular illuminance Height: 0.000 m	50.3 lx	32.7 lx	73.9 lx	0.65	0.44	CG12
Spill plot - 140 side Perpendicular illuminance Height: 2.700 m	0.42 lx	0.037 lx	1.23 lx	0.088	0.030	CG13
Entrance Perpendicular illuminance Height: 0.000 m	5.38 lx	1.08 lx	31.8 lx	0.20	0.034	CG15
Exit Perpendicular illuminance Height: 0.000 m	10.4 lx	3.54 lx	21.8 lx	0.34	0.16	CG16
Spill plot - 140 front Perpendicular illuminance Height: 2.703 m	0.029 lx	0.002 lx	0.081 lx	0.069	0.025	CG17
Spill plot - Stream Perpendicular illuminance Height: 0.000 m	0.018 lx	0.000 lx	0.31 lx	0.00	0.00	CG18
Spill plot - 46 Perpendicular illuminance Height: 2.700 m	0.012 lx	0.006 lx	0.036 lx	0.50	0.17	CG19

Site 1 (Light scene 1)

Calculation objects

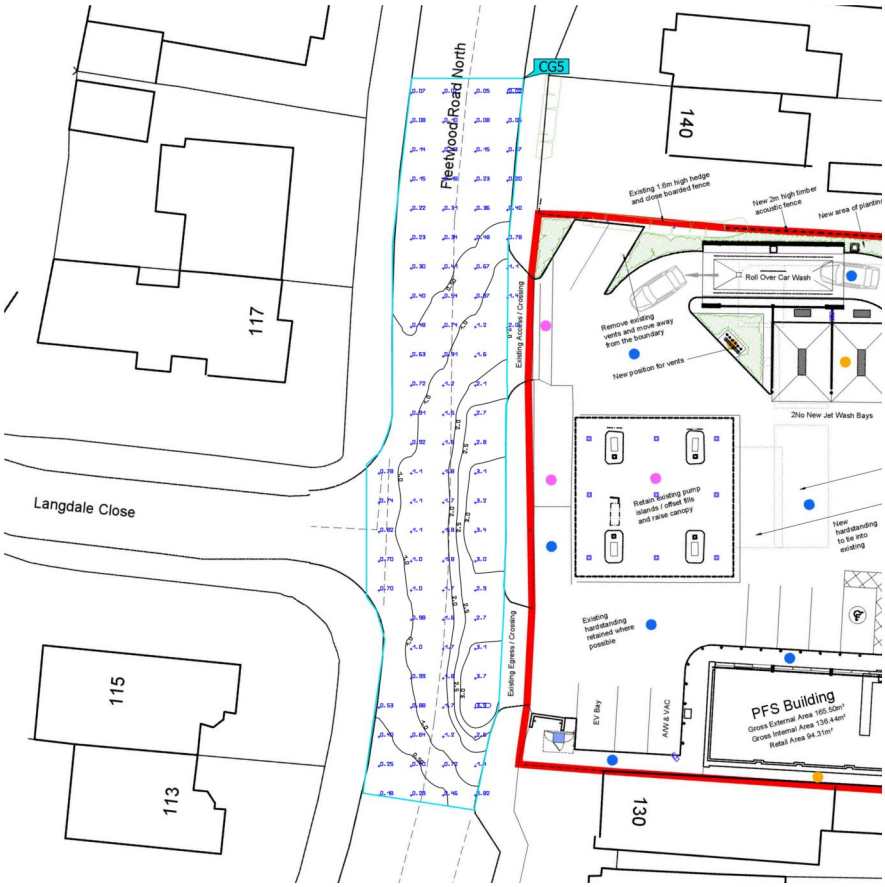
Calculation points

Properties	Calculated	Index
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	173 lx	CP1
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	153 lx	CP2
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	180 lx	CP3
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	163 lx	CP4
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	193 lx	CP5
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	165 lx	CP6
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	179 lx	CP7
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	211 lx	CP8

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Site 1 (Light scene 1)

Spill plot - Fleetwood Road North

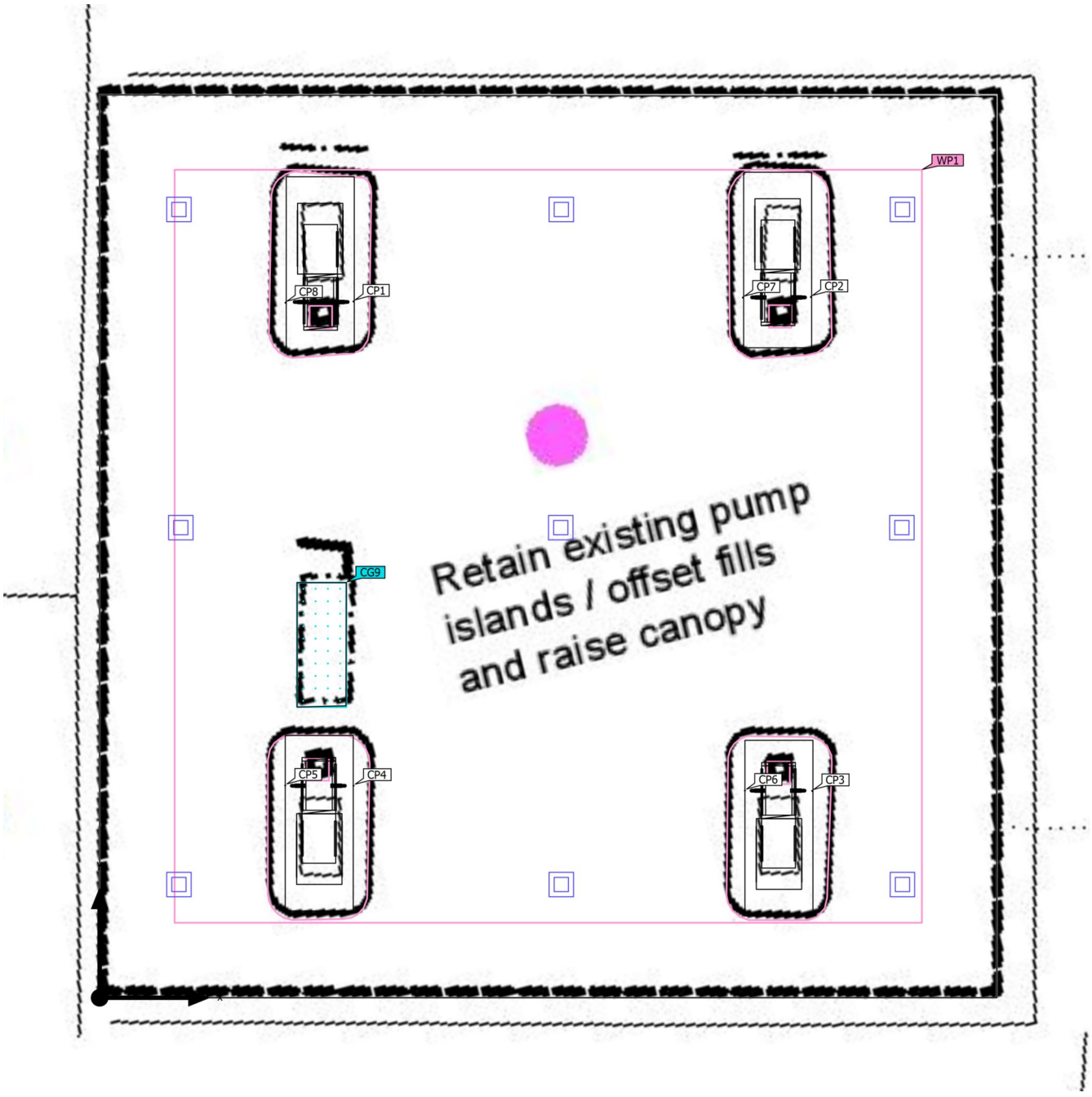


Properties	Ē	E_{min}	E_{max}	U_o (g_1)	g_2	Index
Spill plot - Fleetwood Road North Perpendicular illuminance Height: 0.000 m	1.08 lx	0.020 lx	3.87 lx	0.019	0.005	CG5

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Canopy (Light scene 1)

Summary



Ground area	144.07 m²
Maintenance factor	1.00 (fixed)

Mounting height	4.400 m
Height Working plane	0.000 m
Wall zone Working plane	1.000 m

Canopy (Light scene 1)

Summary

Results

	Symbol	Calculated	Index
Working plane	$\bar{E}_{perpendicular}$	322 lx	WP1
	U_o (g_1)	0.24	WP1
	Lighting power density	5.94 W/m²	
		1.84 W/m²/100 lx	
Energy estimation(2)	Consumption	5151 kWh/a	
Space	Lighting power density	4.08 W/m²	
		1.27 W/m²/100 lx	

(1) Based on a rectangular space of 12.039 m x 11.967 m and SHR of 0.25.
(2) Calculated using DIN:18599-4.

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
5	Not yet a DIALux member	16760 LUCI02-S-MB01-50LED-N0-80W (Smart,5700K)	LS Downlight. Symm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart	27	53.6 W	8168 lm	152.4 lm/W
1	Not yet a DIALux member	16760 LUCI02-S-MB01-50LED-N0-80W (Smart,5700K)	LS Downlight. Symm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart	28	80.0 W	11552 lm	144.4 lm/W

Canopy (Light scene 1)

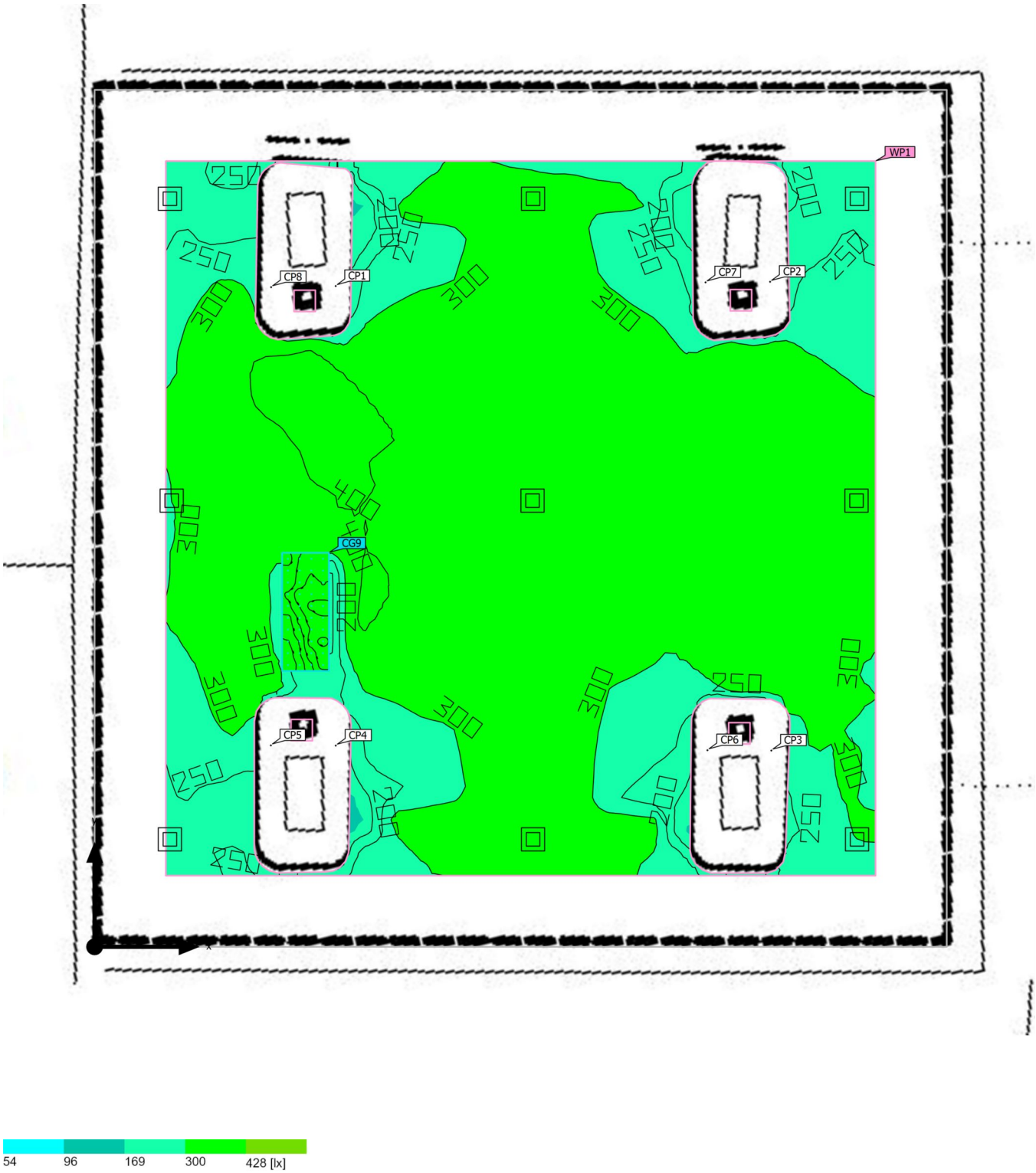
Summary

Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
3	Not yet a DIALux member	16762 LUCI02-A-MB02-50LED-80W (Smart,5700K) Rev1	LS Downlight. ASymm. 80W default - 50LEDs. White. Medium Beam. 5700K. Smart	–	80.0 W	11690 lm	146.1 lm/W

Canopy (Light scene 1)

Calculation objects



Canopy (Light scene 1)

Calculation objects

Working planes

Properties	Ē	E_{min}	E_{max}	U_o (g_1)	g_2	Index
Working plane (Canopy) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 1.000 m	322 lx	77.7 lx	421 lx	0.24	0.18	WP1

Calculation surfaces

Properties	Ē	E_{min}	E_{max}	U_o (g_1)	g_2	Index
Filling points Perpendicular illuminance Height: 0.400 m	411 lx	403 lx	417 lx	0.98	0.97	CG9

Canopy (Light scene 1)

Calculation objects

Calculation points

Properties	Calculated	Index
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	173 lx	CP1
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	153 lx	CP2
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	180 lx	CP3
Nozzle Vertical illuminance Rotation: 0.0°, Height: 1.500 m	163 lx	CP4
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	193 lx	CP5
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	165 lx	CP6
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	179 lx	CP7
Nozzle Vertical illuminance Rotation: 180.3°, Height: 1.500 m	211 lx	CP8

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Glossary

A

A	Formula symbol for a surface in the geometry

B

Background area	The background area borders the direct ambient area according to DIN EN 12464-1 and reaches up to the borders of the room. In larger rooms, the background area is at least 3 m wide. It is located horizontally at floor level.

C

CCT	(Engl. correlated colour temperature) Body temperature of a thermal radiator which serves to describe its light colour. Unit: Kelvin [K]. The lesser the numerical value the redder; the greater the numerical value the bluer the light colour. The colour temperature of gas-discharge lamps and semi-conductors are termed "correlated colour temperature" in contrast to the colour temperature of thermal radiators. Allocation of the light colours to the colour temperature ranges acc. to EN 12464-1: Light colour - colour temperature [K] warm white (ww) < 3,300 K neutral white (nw) ≥ 3,300 – 5,300 K daylight white (dw) > 5,300 K
Clearance height	The designation for the distance between upper edge of the floor and bottom edge of the ceiling (in the completely furnished status of room).
Control group	A group of luminaires that are dimmed and controlled together. For each lighting scene, a control group provides its own dimming value. All luminaires within a control group share this dimming value. The control groups with their luminaires are automatically determined by DIALux on the basis of the created light scenes and their luminaire groups.
CRI	(Engl. colour rendering index) Designation for the colour rendering index of a luminaire or a lamp acc. to DIN 6169: 1976 or CIE 13.3: 1995. The general colour rendering index Ra (or CRI) is a dimensionless figure that describes the quality of a white light source in regards to its similarity with the remission spectra of defined 8 test colours (see DIN 6169 or CIE 1974) to a reference light source.

Glossary

D

Daylight autonomy	Describes what percentage of the daily working time the required illuminance is met by daylight. The nominal illuminance is used from the room profile, unlike described in EN 17037. The calculation is not done in the centre of the room but at the placed sensor measuring point. A room is considered sufficiently supplied with daylight if it achieves at least 50% daylight autonomy.
Daylight factor	Ratio of the illuminance achieved solely by daylight incidence at a point in the inside to the horizontal illuminance in the outer area under an unobstructed sky. Formula symbol: D (Engl. daylight factor) Unit: %
Daylight quotient effective area	A calculation surface within which the daylight quotient is calculated.

E

Energy evaluation	Based on an hourly calculation procedure for daylight in indoor spaces, considering the project geometry and any existing daylight control systems. Orientation and location of the project are also considered. The calculation uses the specified system power of the luminaires to determine the energy demand. A linear relationship between power and luminous flux in the dimmed state is assumed for daylight-controlled luminaires. Times of use and nominal illuminance are determined from the usage profiles of the spaces. Switched-on luminaires that are explicitly excluded from control also consider the specified times-of-use. The daylight control systems use a simplified control logic that closes them at an outdoor horizontal illuminance of 27,500lx. The calendar year 2022 is used as a reference only. It is not a simulation of this year. The reference year is only used to assign the days of the week to the calculated results. The changeover to summer time is not considered. The reference sky type used is the average sky described in CIE 110 without direct sunlight. The method was developed together with the Fraunhofer Institute for Building Physics and is available for review by the Joint Working Group 1 ISO TC 274 as an extension of the previous annual regression-based method.
Eta (η)	(light output ratio) The light output ratio describes what percentage of the luminous flux of a free radiating lamp (or LED module) is emitted by the luminaire when installed. Unit: %

Glossary

G

g_1	Often also U_o (Engl. overall uniformity) Designates the overall uniformity of the illuminance on a surface. It is the quotient from E_{min} to $\bar{E}$ and is required, for instance, in standards for illumination of workstations.
g_2	Actually it designates the "non-uniformity" of the illuminance on a surface. It is the quotient of E_{min} to E_{max} and is generally only relevant for certifying the emergency lighting acc. to EN 1838.

I

Illuminance	Describes the ratio of the luminous flux that strikes a certain surface to the size of this surface (lm/m² = lx). The illuminance is not tied to an object surface. It can be determined anywhere in space (inside or outside). The illuminance is not a product feature because it is a recipient value. Luxometers are used for measuring. Unit: Lux Abbreviation: lx Formula symbol: E
Illuminance, adaptive	For the determining of the middle adaptive illuminance on a surface, this is rastered "adaptively". In the area of large illuminance differences within the surface, the raster is subdivided finer; within lesser differences, a rougher classification is made.
Illuminance, horizontal	Illuminance that is calculated or measured on a horizontal (level) surface (this can be for example a table top or the floor). The horizontal illuminance is usually identified by the formula letter E_h.
Illuminance, perpendicular	Illuminance that is calculated or measured plumb-vertical to a surface. This needs to be taken into account for tilted surfaces. If the surface is horizontal or vertical, then there is no difference between the perpendicular and the horizontal or vertical illuminance.
Illuminance, vertical	Illuminance that is calculated or measured on a vertical surface (this can be for example the front of some shelves). The vertical illuminance is usually identified by the formula letter E_v.

L

LENI	(Engl. lighting energy numeric indicator) Lighting energy numeric indicator acc. to EN 15193 Unit: kWh/(m² * a)

Glossary

LLMF	(Engl. lamp lumen maintenance factor)/acc. to CIE 97: 2005 Lamp flux maintenance factor that takes the luminous flux reduction into account of a luminaire or an LED module in the course of the operating time. The lamp flux maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no luminous flux reduction existing).
LMF	(Engl. luminaire maintenance factor)/acc. to CIE 97: 2005 Luminaire maintenance factor that takes the soiling into account of the luminaire in the course of the operating time. The luminaire maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no soiling existing).
LSF	(Engl. lamp survival factor)/acc. to CIE 97: 2005 Lamp survival factor that takes the total failure into account of a luminaire in the course of the operating time. The lamp survival factor is specified as a decimal digit and can have a maximum value of 1 (no failures existing within the time concerned or prompt replacement after the failure).
Luminance	Dimension for the "brightness impression" that the human eye has of a surface. The surface itself can emit light thereby or light striking it can be reflected (emitter value). It is the only photometric value that the human eye can perceive. Unit: Candela per square metre Abbreviation: cd/m^2 Formula symbol: L
Luminous efficacy	Ratio of the emitted luminous flux Φ [lm] to the absorbed electrical power P [W] Unit: lm/W. This ratio can be formed for the lamp or LED module (lamp or module light output), the lamp or module with control gear (system light output) and the complete luminaire (luminaire light output).
Luminous flux	Dimension for the total light output that is emitted from one light source in all directions. It is thus an "emitter value" that specifies the entire emitting output. The luminous flux of a light source can only be determined in a laboratory. A difference is made between the lamp or LED module luminous flux and the luminaire luminous flux. Unit: Lumen Abbreviation: lm Formula symbol: Φ
Luminous intensity	Describes the intensity of the light in a certain direction (emitter value). The luminous intensity is a matter of the luminous flux Φ that is emitted in a certain spherical angle Ω. The radiation characteristics of a light source are presented graphically in a light distribution curve (LDC). The luminous intensity is an SI base unit. Unit: Candela Abbreviation: cd Formula symbol: I

Glossary

M

Maintenance factor	See MF
MF	(Engl. maintenance factor)/acc. to CIE 97: 2005 Maintenance factor as decimal number between 0 and 1 that describes the ratio of the new value of a photometric planning parameter (e.g. of the illuminance) to a maintenance value after a certain time. The maintenance factor takes into account the soiling of luminaires and rooms as well as the luminous flux reduction and the failure of light sources. The maintenance factor is taken into account either overall or determined in detail acc. to CIE 97: 2005 by the formula RMF x LMF x LLMF x LSF.

P

P	(Engl. power) Electric power consumption Unit: watt Abbreviation: W

R

$R_{(UG)}$ max	Measure of the psychological glare in indoor spaces. In addition to the luminance of luminaires, the level of the $R_{(UG)}$ value also depends on the observer position, the viewing direction and the ambient luminance. The calculation is made according to the table method, see CIE 117. Among other things, EN 12464-1:2021 specifies maximum permissible $R_{(UG)}$- values $R_{(UGL)}$ for various indoor workplaces.
Reflection factor	The reflection factor of a surface describes how much of the striking light is reflected back. The reflection factor is defined by the colour of the surface.
RMF	(Engl. room maintenance factor)/acc. to CIE 97: 2005 Room maintenance factor that takes the soiling into account of the space encompassing surfaces in the course of the operating time. The room maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no soiling existing).

S

Surrounding area	The ambient area directly borders the area of the visual task and should be planned with a width of at least 0.5 m according to DIN EN 12464-1. It is at the same height as the area of the visual task.

Glossary

U

UGR (max)	(unified glare rating) Measure for the psychological glare effect in interiors. In addition to luminaire luminance, the UGR value also depends on the position of the observer, the viewing direction and the ambient luminance. Among other things, EN 12464-1 specifies maximum permissible UGR values for various indoor workplaces.
UGR observer	Calculation point in the room, for the DIALux the UGR value is determined. The location and height of the calculation point should correspond to the typical observer position (position and eye level of the user).

V

Visual task area	The area that is needed for carrying out the visual task in accordance with DIN EN 12464 -1. The height corresponds with the height at which the visual task is executed.

W

Wall zone	Circumferential area between working plane and walls which is not taken into account for the calculation.
Working plane	Virtual measuring or calculation surface at the height of the visual task that generally follows the room geometry. The working plane may also feature a wall zone.