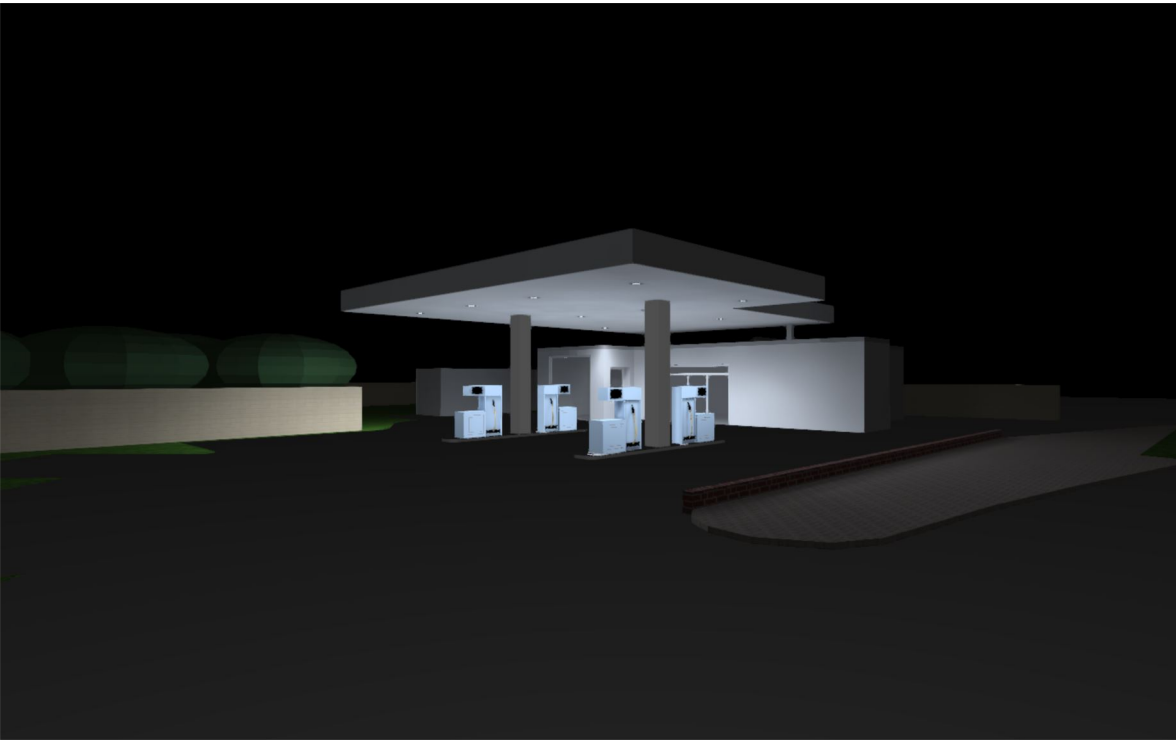




**Motor_Fuel_Group-Turks_Canopy_Raise_5.1m-
JdB20220120-V1-External**

Preliminary remarks

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.

Canopy lights only

Notes on planning:

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

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Site 1

Canopy area

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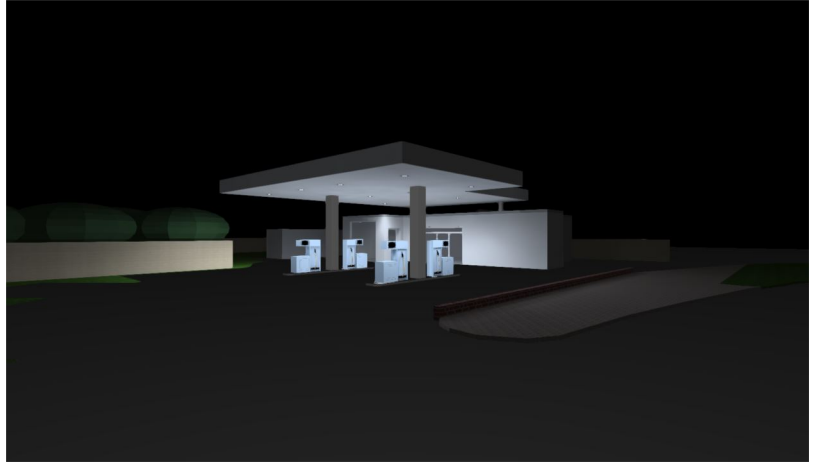
Sales Director UK
Howell Griffiths

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Images

Site 1 (55)



Site 1 (56)

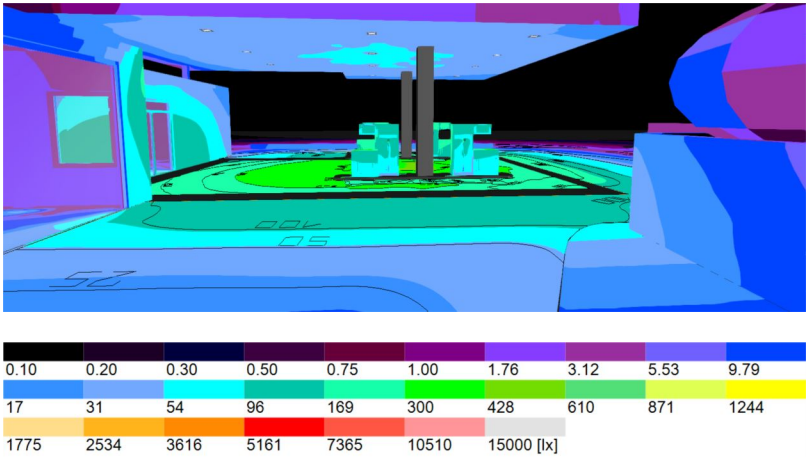


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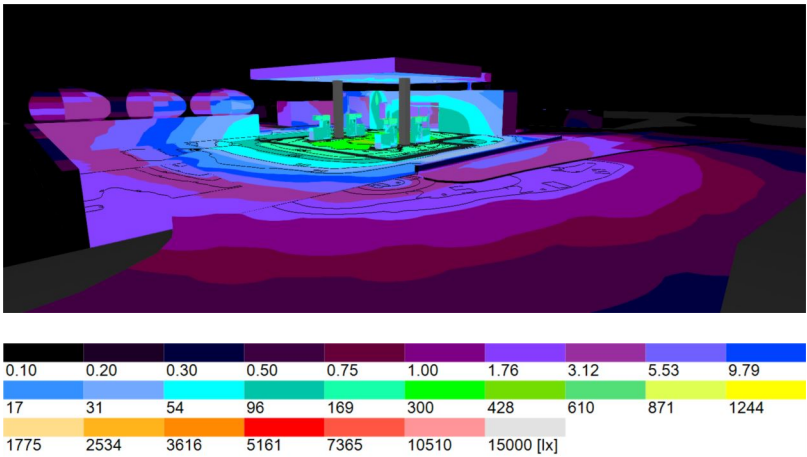


Images

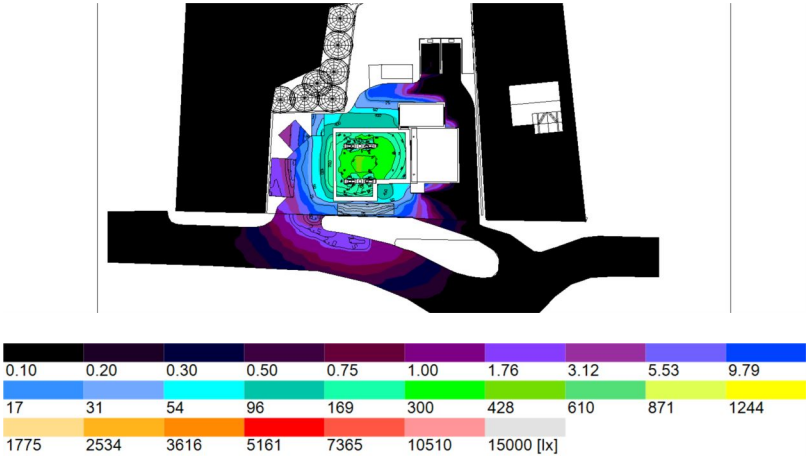
Site 1 (58)



Site 1 (59)



Site 1 (60)



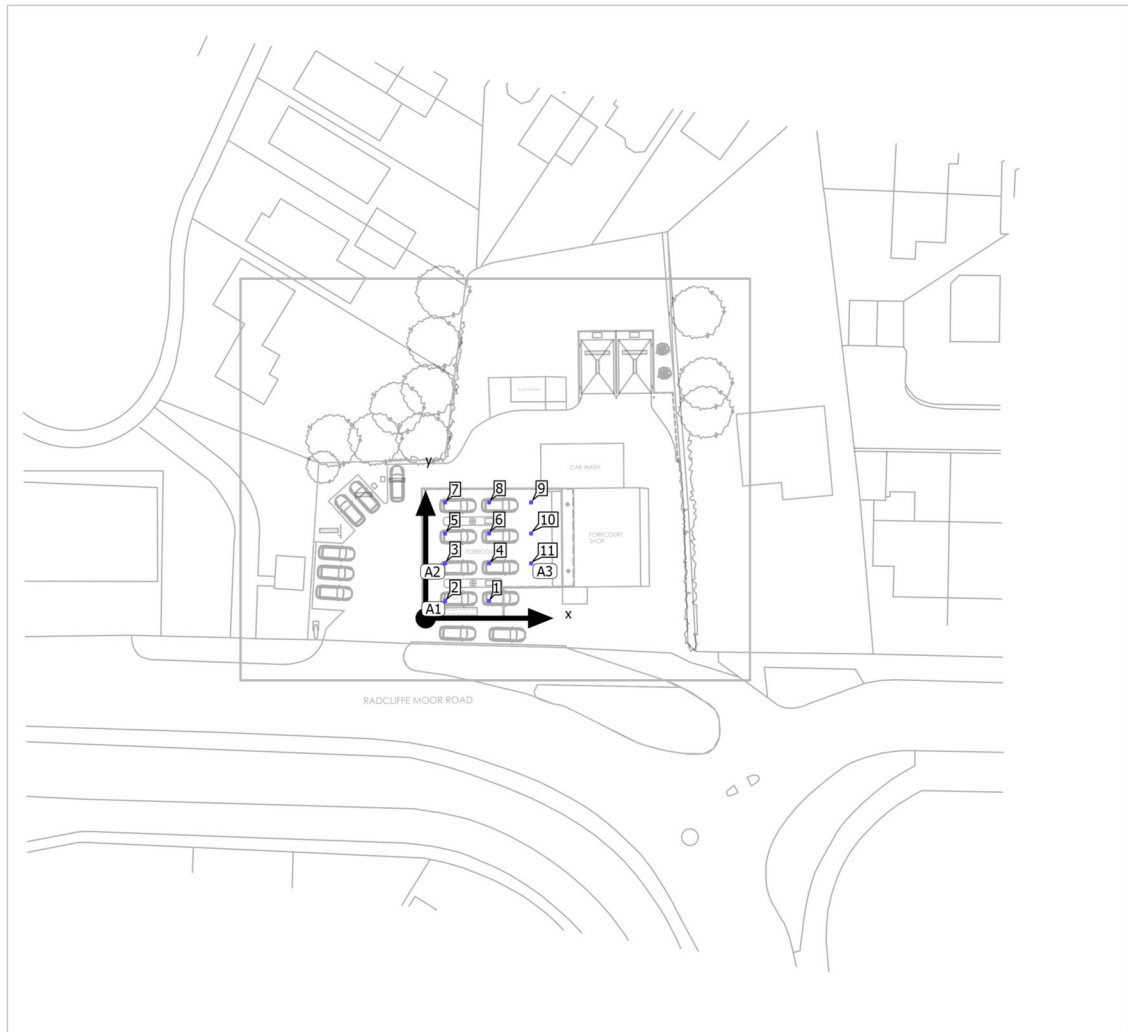
Luminaire list

Φ_{total} 113961 lm	P_{total} 995.0 W	Luminous efficacy 114.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
3	Not yet a DIALux member	#16759 (Luci02-S-MB01-40LED-N0-93W (EOS2,5700K) Rev0)	16759 - Luci Series V2. Symm. 75W default - 40LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2	75.0 W	8645 lm	115.3 lm/W
6	Not yet a DIALux member	#16760 LUCI02-S-MB01-50LED-N0-125W (EOS2,5700K)	16760 - Luci Series V2. Symm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2	102.0 W	11552 lm	113.3 lm/W
2	Not yet a DIALux member	#16762 LUCI02-A-MB02-50LED-N0-125W (EOS2,5700K) Rev0	16762 - Luci Series V2. ASymm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2	79.0 W	9357 lm	118.4 lm/W

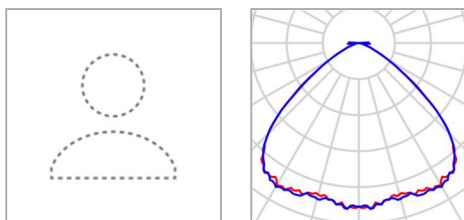
Site 1

Luminaire layout plan



Site 1

Luminaire layout plan



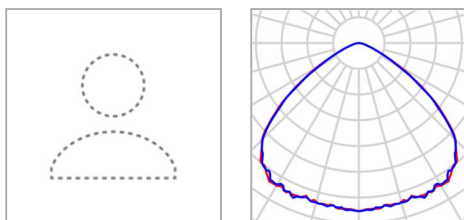
Manufacturer	Not yet a DIALux member	P	75.0 W
Article No.	#16759 (Luci02-S-MB01-40LED-N0-93W (EOS2,5700K) Rev0)	$\Phi_{\text{Luminaire}}$	8645 lm
Article name	16759 - Luci Series V2. Symm. 75W default - 40LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2		
Fitting	1x 80% (75W) - Default		

3 x Not yet a DIALux member 16759 - Luci Series V2. Symm. 75W default - 40LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	12.723 m / 13.982 m / 5.100 m	12.723 m	13.982 m	5.100 m	9
X-direction	3 pcs., Centre - centre, Distances not equal	12.723 m	10.224 m	5.100 m	10
		12.723 m	6.624 m	5.100 m	11
Arrangement	A3				

Site 1

Luminaire layout plan



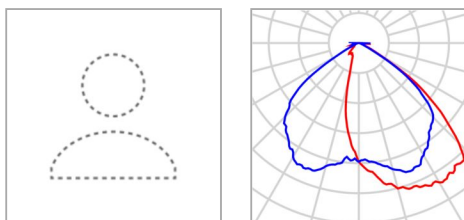
Manufacturer	Not yet a DIALux member	P	102.0 W
Article No.	#16760 LUCI02-S-MB01-50LED-N0-125W (EOS2,5700K)	$\Phi_{\text{Luminaire}}$	11552 lm
Article name	16760 - Luci Series V2. Symm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2		
Fitting	1x 80% (102W) - Default		

6 x Not yet a DIALux member 16760 - Luci Series V2. Symm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	2.337 m / 6.624 m / 5.100 m	2.337 m	6.624 m	5.100 m	3
X-direction	2 pcs., Centre - centre, Distances not equal	7.657 m	6.624 m	5.100 m	4
		2.337 m	10.224 m	5.100 m	5
Y-direction	3 pcs., Centre - centre, Distances not equal	7.657 m	10.224 m	5.100 m	6
		2.337 m	13.982 m	5.100 m	7
Arrangement	A2	7.657 m	13.982 m	5.100 m	8

Site 1

Luminaire layout plan



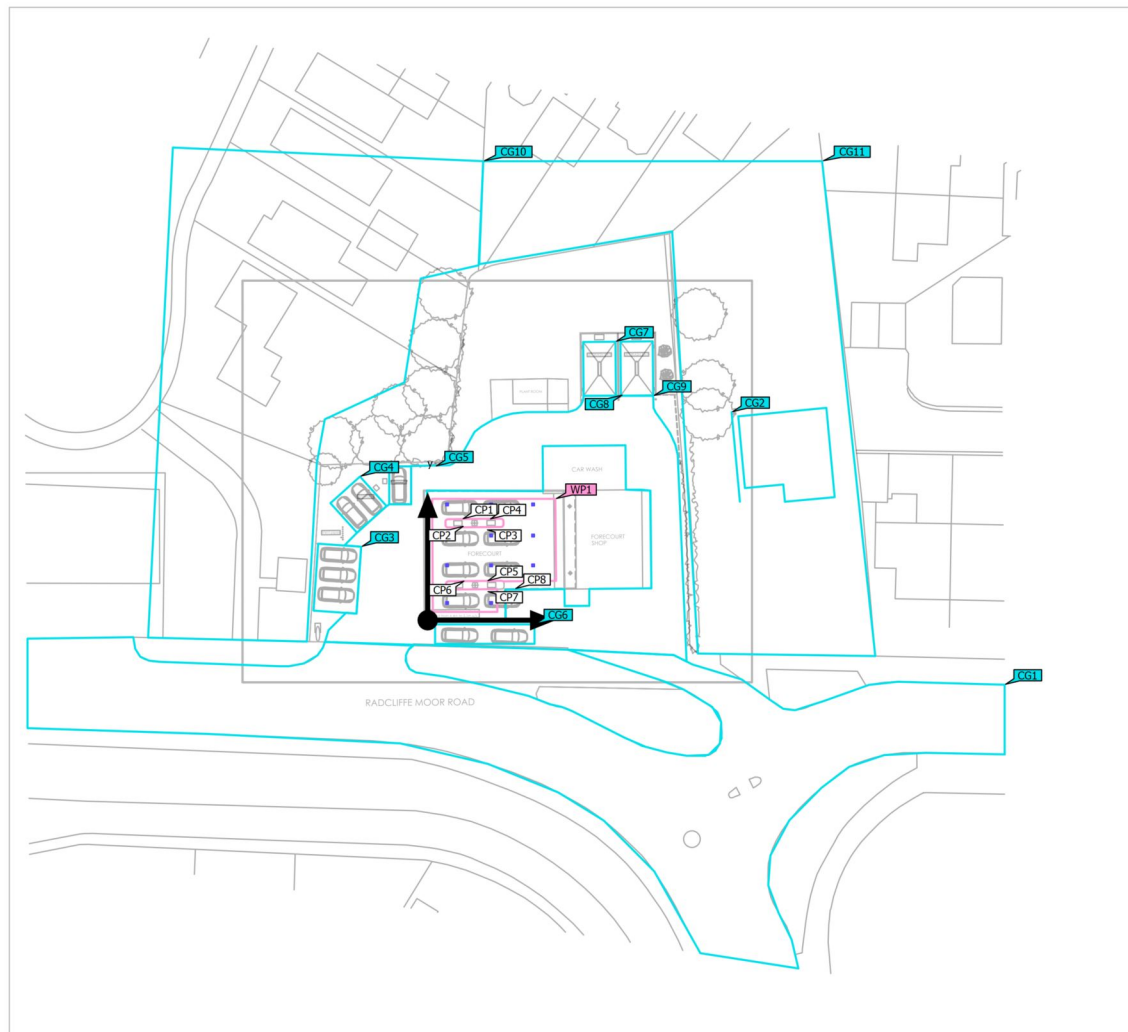
Manufacturer	Not yet a DIALux member	P	79.0 W
Article No.	#16762 LUCI02-A-MB02-50LED-N0-125W (EOS2,5700K) Rev0	$\Phi_{\text{Luminaire}}$	9357 lm
Article name	16762 - Luci Series V2. ASymm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2		
Fitting	1x 60% (79W)		

2 x Not yet a DIALux member 16762 - Luci Series V2. ASymm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	7.657 m / 2.082 m / 5.100 m	7.657 m	2.082 m	5.100 m	1
X-direction	2 pcs., Centre - centre, Distances not equal	2.337 m	2.082 m	5.100 m	2
Arrangement	A1				

Site 1 (Light scene 1)

Calculation objects



Site 1 (Light scene 1)

Calculation objects

Working planes

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	g_1	g_2	Index
Working plane (Canopy area) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 1.000 m	301 lx (≥ 300 lx) ✓	124 lx	440 lx	0.41	0.28	WP1

Calculation surfaces

Properties	$\bar{E}$	E_{min}	E_{max}	g_1	g_2	Index
Spill plot - Radcliffe Moor road Perpendicular illuminance Height: 0.000 m	0.36 lx	0.002 lx	6.64 lx	0.006	0.000	CG1
Calculation surface 3 Perpendicular illuminance Height: 3.300 m	0.091 lx	0.00 lx	0.47 lx	0.00	0.00	CG2
Parking area Perpendicular illuminance Height: 0.000 m	3.79 lx	2.21 lx	7.89 lx	0.58	0.28	CG3
Parking area Perpendicular illuminance Height: 0.000 m	8.10 lx	3.28 lx	23.7 lx	0.40	0.14	CG4
Parking area Perpendicular illuminance Height: 0.000 m	46.4 lx	24.8 lx	88.9 lx	0.53	0.28	CG5
Parking area Perpendicular illuminance Height: 0.000 m	29.6 lx	14.2 lx	51.8 lx	0.48	0.27	CG6
Jet wash Perpendicular illuminance Height: 0.000 m	0.10 lx	0.017 lx	0.60 lx	0.17	0.028	CG7
Jet wash Perpendicular illuminance Height: 0.000 m	0.011 lx	0.004 lx	0.060 lx	0.36	0.067	CG8
Main area Perpendicular illuminance Height: 0.000 m	37.4 lx	0.002 lx	239 lx	0.000	0.000	CG9

Site 1 (Light scene 1)

Calculation objects

Spill plot - left Perpendicular illuminance Height: 0.000 m	0.016 lx	0.00 lx	0.096 lx	0.00	0.00	CG10
Spill plot - right Perpendicular illuminance Height: 0.000 m	0.000 lx	0.00 lx	0.006 lx	-	-	CG11

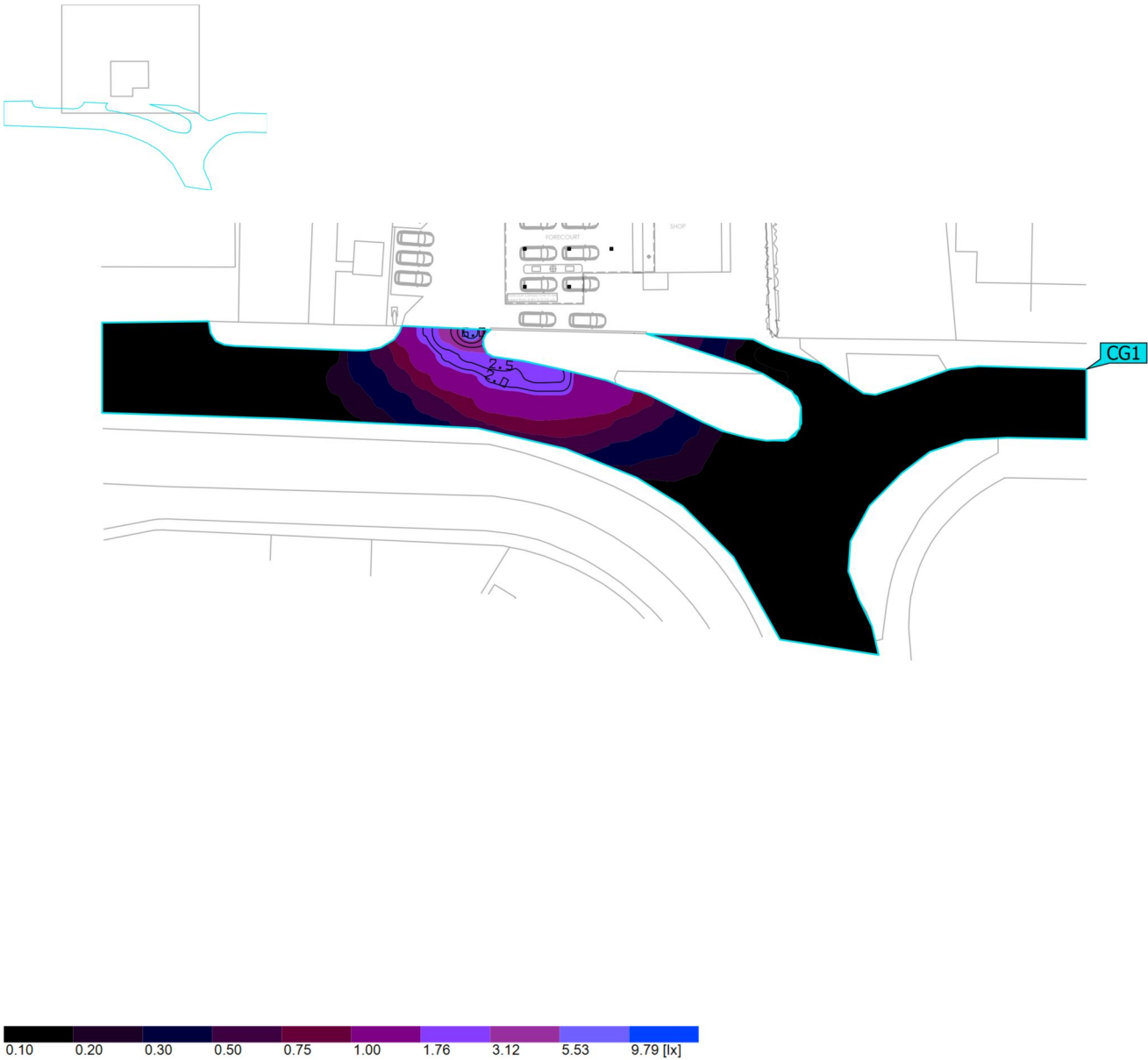
Calculation points

Properties	Calculated	Index
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	127 lx	CP1
Nozzle Vertical illuminance Rotation: 269.7°, Height: 1.500 m	180 lx	CP2
Nozzle Vertical illuminance Rotation: 269.7°, Height: 1.500 m	184 lx	CP3
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	129 lx	CP4
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	202 lx	CP5
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	200 lx	CP6
Nozzle Vertical illuminance Rotation: 270.1°, Height: 1.500 m	149 lx	CP7
Nozzle Vertical illuminance Rotation: 270.1°, Height: 1.500 m	151 lx	CP8

Utilisation profile: General circulation areas at outdoor workplaces, Pedestrian passages, vehicle turning, loading and unloading points

Site 1 (Light scene 1)

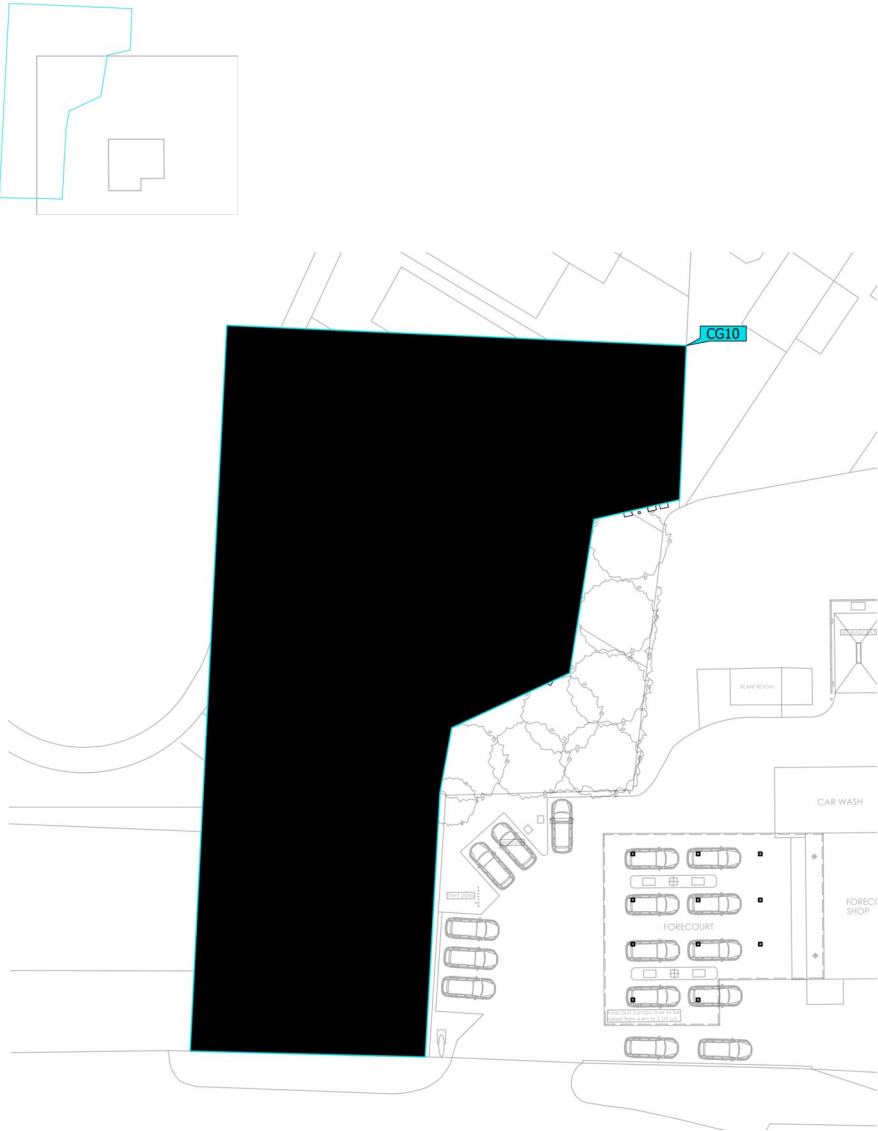
Spill plot - Radcliffe Moor road



Properties	$\bar{E}$	E_{min}	E_{max}	g_1	g_2	Index
Spill plot - Radcliffe Moor road Perpendicular illuminance Height: 0.000 m	0.36 lx	0.002 lx	6.64 lx	0.006	0.000	CG1

Utilisation profile: General circulation areas at outdoor workplaces, Pedestrian passages, vehicle turning, loading and unloading points

Site 1 (Light scene 1)
Spill plot - left

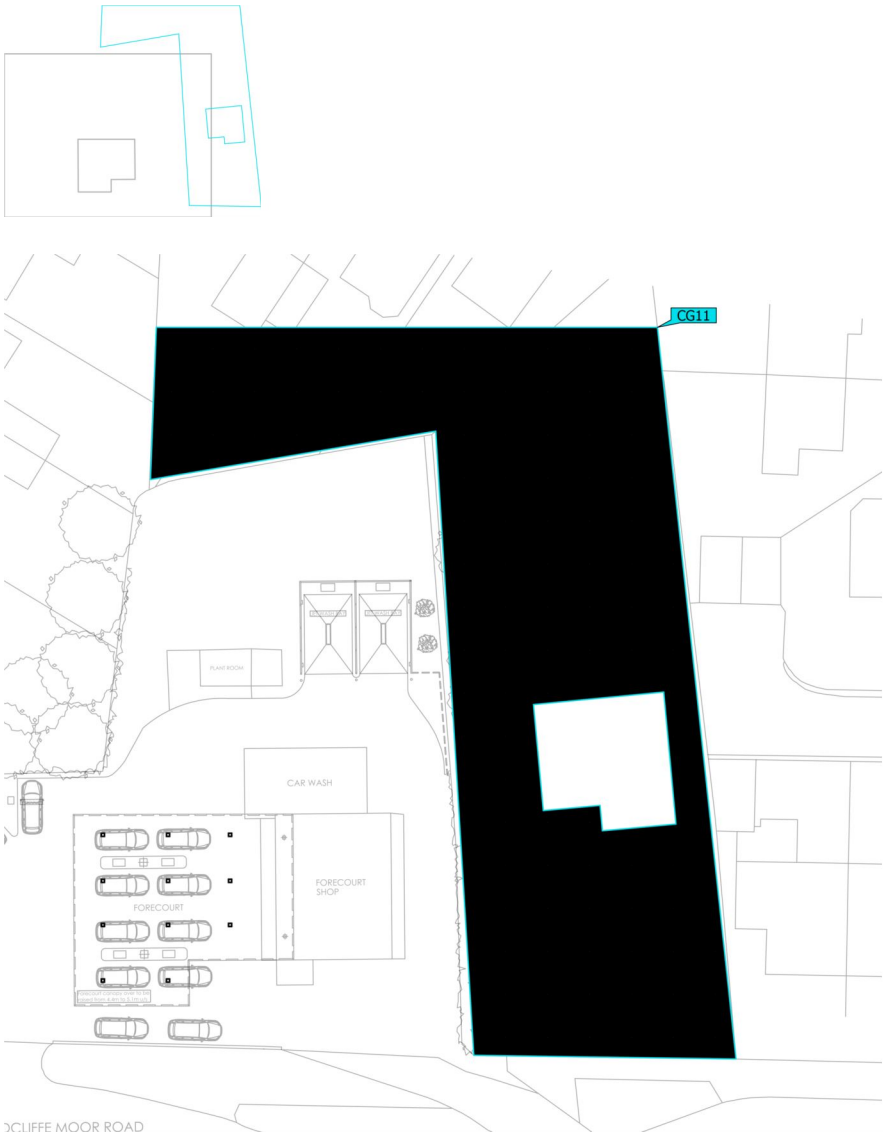


0.10 [lx]

Properties	$\bar{E}$	E_{min}	E_{max}	g_1	g_2	Index
Spill plot - left Perpendicular illuminance Height: 0.000 m	0.016 lx	0.00 lx	0.096 lx	0.00	0.00	CG10

Utilisation profile: General circulation areas at outdoor workplaces, Pedestrian passages, vehicle turning, loading and unloading points

Site 1 (Light scene 1)
Spill plot - right



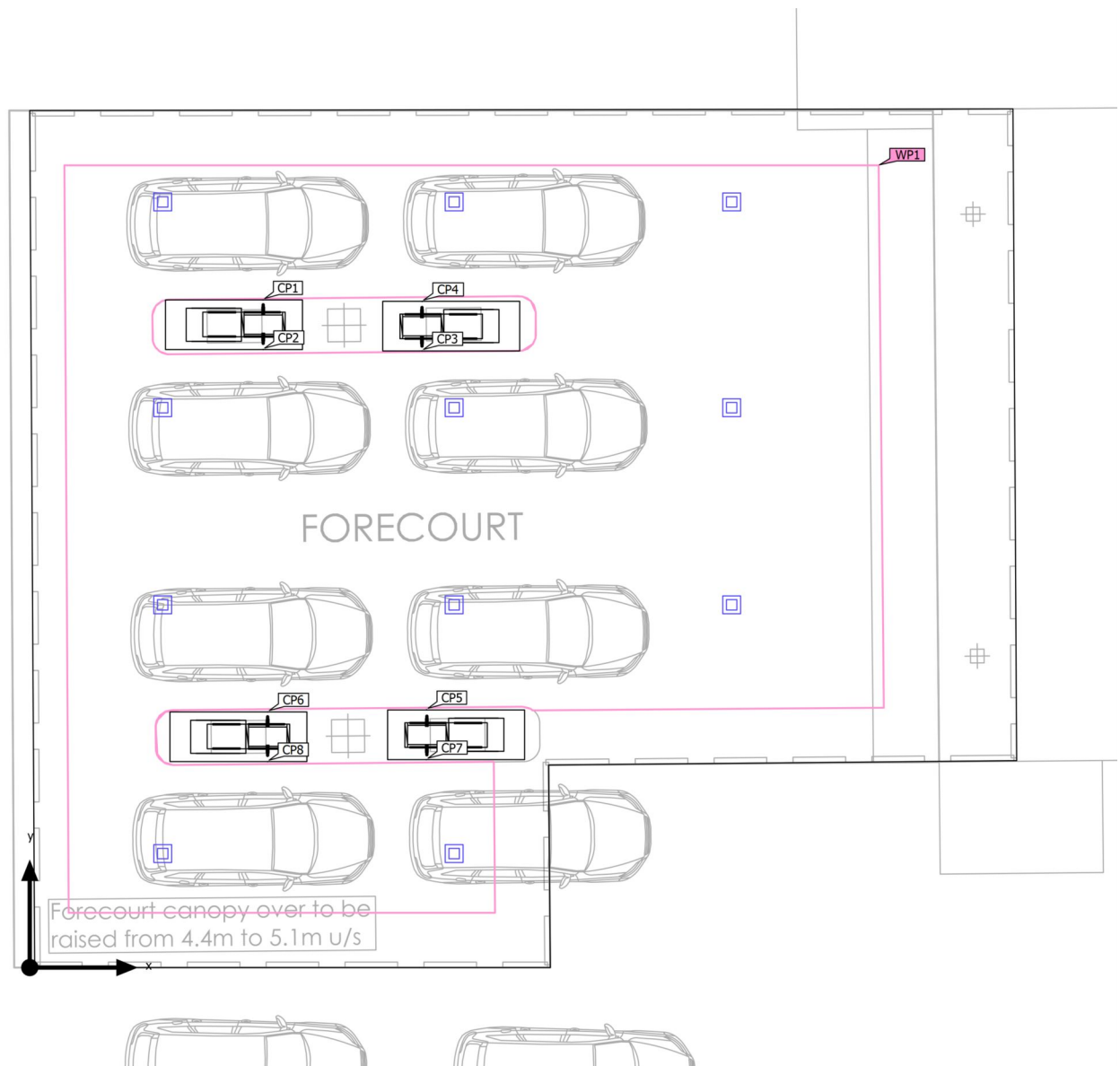
0.10 [lx]

Properties	$\bar{E}$	E_{min}	E_{max}	g_1	g_2	Index
Spill plot - right Perpendicular illuminance Height: 0.000 m	0.000 lx	0.00 lx	0.006 lx	-	-	CG11

Utilisation profile: General circulation areas at outdoor workplaces, Pedestrian passages, vehicle turning, loading and unloading points

Canopy area (Light scene 1)

Summary



Canopy area (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$E_{\text{perpendicular}}$	301 lx	≥ 300 lx	✓	WP1
	g_1	0.41	-	-	WP1
	Lighting power density	6.08 W/m ²	-	-	
		2.02 W/m ² /100 lx	-	-	
Consumption values	Consumption	[8000 - 8700] kWh/a	max. 8350 kWh/a	✗	
Room	Lighting power density	4.18 W/m ²	-	-	
		1.39 W/m ² /100 lx	-	-	

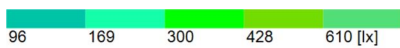
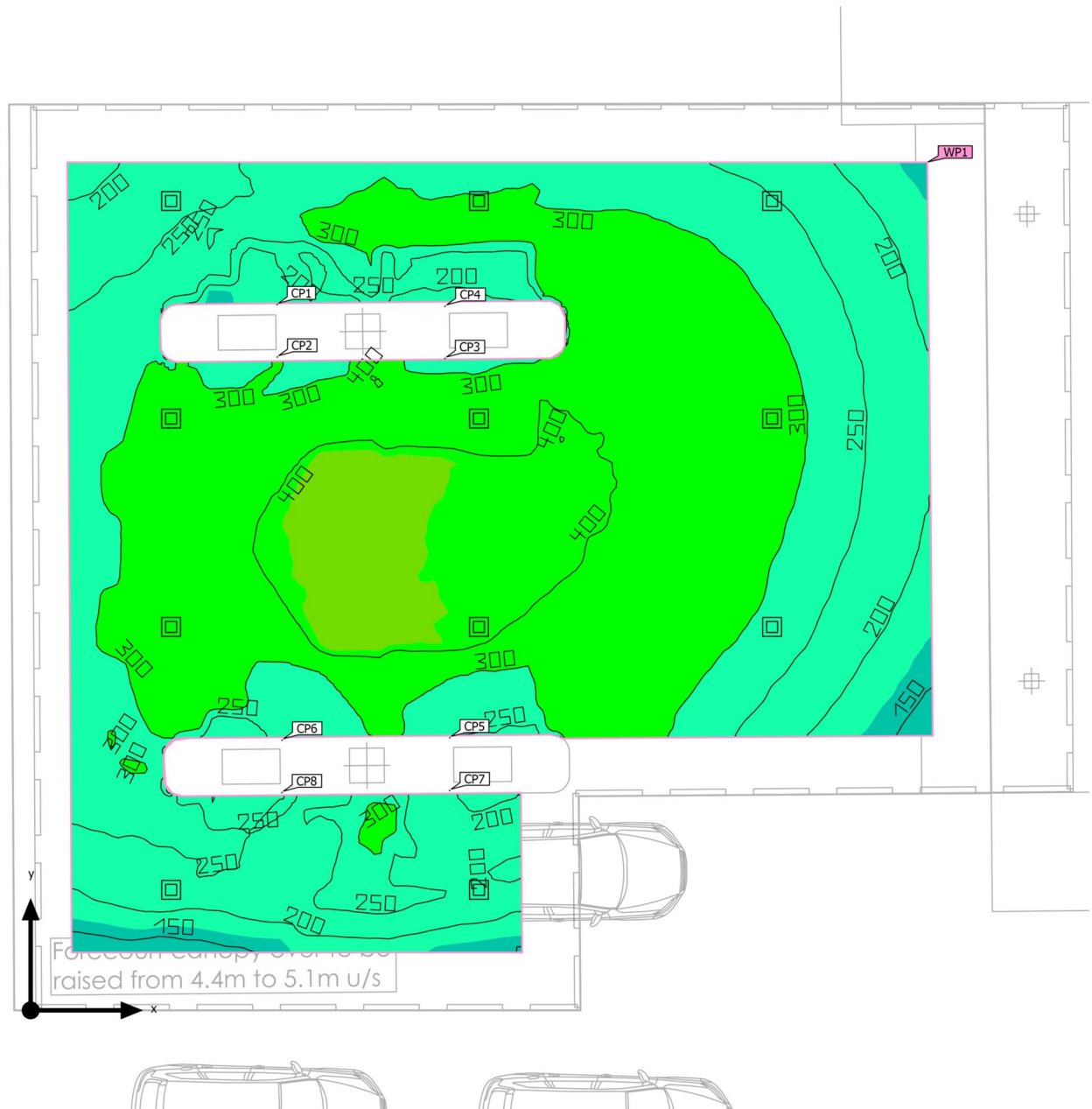
Utilisation profile: Fuel filling stations, Air pressure and water checking points and other service areas

Luminaire list

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
3	Not yet a DIALux member	#16759 (Luci02-S-MB01-40LED-N0-93W (EOS2,570 OK) Rev0)	16759 - Luci Series V2. Symm. 75W default - 40LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2	75.0 W	8645 lm	115.3 lm/W
6	Not yet a DIALux member	#16760 LUCI02-S-MB01-50LED-N0-125W (EOS2,570 OK)	16760 - Luci Series V2. Symm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2	102.0 W	11552 lm	113.3 lm/W
2	Not yet a DIALux member	#16762 LUCI02-A-MB02-50LED-N0-125W (EOS2,570 OK) Rev0	16762 - Luci Series V2. ASymm. 102W default - 50LEDs. White. Medium Beam. N0 LEDs. 5700K. EOS2	79.0 W	9357 lm	118.4 lm/W

Canopy area (Light scene 1)

Calculation objects



Canopy area (Light scene 1)

Calculation objects

Working planes

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	g_1	g_2	Index
Working plane (Canopy area) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 1.000 m	301 lx (≥ 300 lx) ✓	124 lx	440 lx	0.41	0.28	WP1

Calculation points

Properties	Calculated	Index
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	127 lx	CP1
Nozzle Vertical illuminance Rotation: 269.7°, Height: 1.500 m	180 lx	CP2
Nozzle Vertical illuminance Rotation: 269.7°, Height: 1.500 m	184 lx	CP3
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	129 lx	CP4
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	202 lx	CP5
Nozzle Vertical illuminance Rotation: 90.1°, Height: 1.500 m	200 lx	CP6
Nozzle Vertical illuminance Rotation: 270.1°, Height: 1.500 m	149 lx	CP7
Nozzle Vertical illuminance Rotation: 270.1°, Height: 1.500 m	151 lx	CP8

Utilisation profile: Fuel filling stations, Air pressure and water checking points and other service areas

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.
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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
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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).
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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.
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D

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: %
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Glossary

Daylight quotient effective area	A calculation surface within which the daylight quotient is calculated.
E	
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: %
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 ($lm/m^2 = lx$). 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.

Glossary

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 year
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/m² 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).

Glossary

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
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 $RMF \times LMF \times LLMF \times LSF$.
P	
P	(Engl. power) Electric power consumption Unit: watt Abbreviation: W
R	
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.

Glossary

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.
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.