



Halewood Carpark

Installation : LED

Project number : 23337

Customer :

Processed by : John Estabrook

Date : 03.04.2025

All calculations unless stated have been based upon an open plan area without any obstructions above the working plane. With regards to CIBSE/ BS EN 12464-1:2021 we have shown illuminance levels and ratios for your ultimate approval. UGR and luminance values are available for your approval if necessary. It may be necessary in some instances to check UGR values even if the luminance values are below the compliant threshold.

Emergency lighting has been designed in accordance with BS5266-1:2016 but is an indicative layout only - additional lighting may be required. All emergency lighting is to be checked and confirmed with a local building/fire control officer and ultimately approved by the owner of the building. Any emergency lighting calculations that have been completed have been based on 0.5 lux for open areas and 1 lux for escape routes (where details of escape routes have been given).

Please be aware of L2 requirements and check that conformity has been met where required. In addition, ensuring that fire tents are used where needed to conform to current building regulations is vital; please contact our sales office for a quotation.

All luminaires used are subject to approval/certification of client/end user.

Common design parameters (shown below) have been used in order to carry out all calculations.

If any part of this scheme or luminaire choice within this scheme is deemed not suitable for the application, please contact us for re-calculations to be carried out prior to an order being placed.

All calculations have been based upon rated lumen outputs and may vary with ambient on site temperatures.

Please ensure that this lighting scheme complies with all requirements, and if further details/calculations are required please contact us via the below details.

Final quantities are to be confirmed prior to an order/installation and we will not be held responsible for any errors or omissions.

Nominal Values Used:

Maintenance Factor - 0.8

Reflectance Values (Office Type Interior): 70\50\20

Reflectance Values (Warehouse Type Interior): 50\30\20

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

John Estabrook - Lighting Design Manager - johne@tamlite.co.uk
Tamlite Lighting

Object : Halewood Carpark
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1 Luminaire data

1.1 Tamlite Lighting, CITY RL T4 (CTRT4570NWGPC)

1.1.1 Data sheet

Manufacturer: Tamlite Lighting



CTRT4570NWGPC Road lanterns CITY RL T4

CITY RL T4 - Road lantern - Area optic - 40W - 4000K - Fixed output - Photocell

Luminaire data

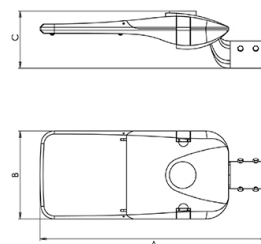
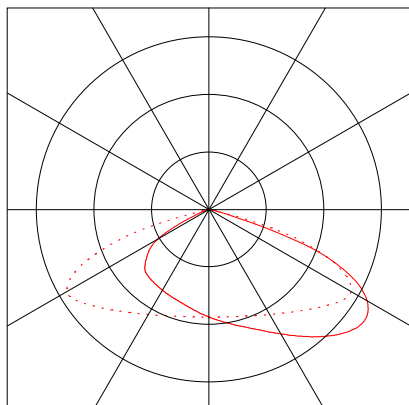
Absolute Photometry

Luminaire efficacy : 142.5 lm/W
Classification : A30 ↓100.0% ↑0.0%
CIE Flux Codes : 32 70 97 100 100
UGR 4H 8H : 35.1 / 34.5
Control gear : LED Driver
Power : 40 W
Luminous flux : 5700 lm

Equipped with

Quantity : 1
Designation : LED
Colour : 4000K
Colour reproduction : 80

Dimensions : 230 mm x 595 mm x 190 mm



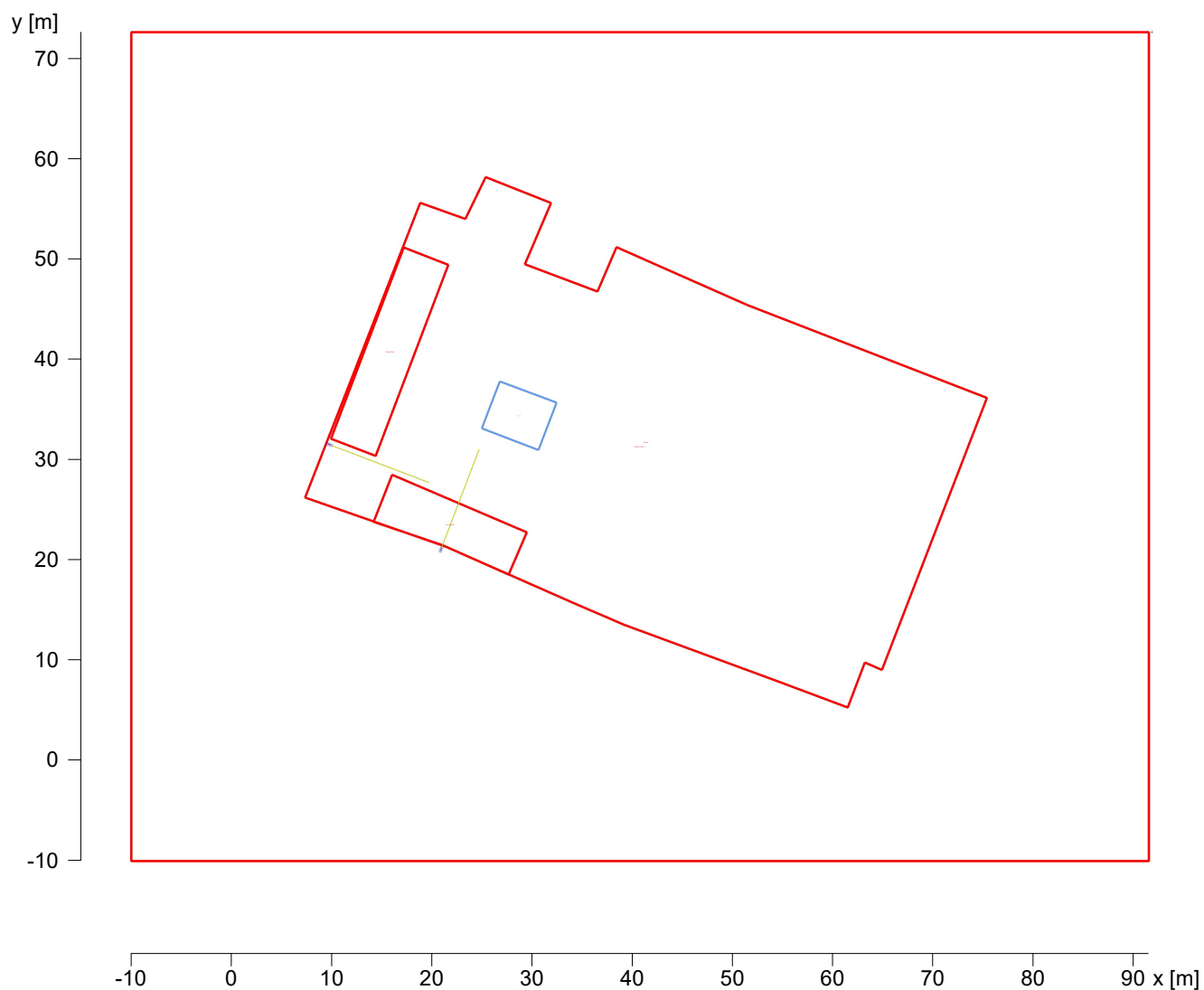
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2 Room1

2.1 Description, Room1

2.1.1 Floor plan



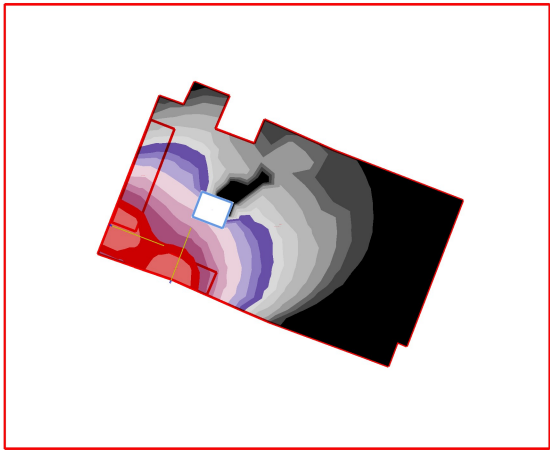
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2 Room1

2.2 Summary, Room1

2.2.1 Result overview, Carpark



-10 0 10 20 30 40 50 60 70 80 90 x [m]



0 0.1 0.15 0.2 0.3 0.5 0.75 1 1.5 2 3 5 7.5 10 15 20
Illuminance [lx]

General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Height (phot centre) [m]:	5.12 m
Maintenance factor	0.80

Total luminous flux	11400 lm
Total power	80 W
Total power per area (8384.94 m²)	0.01 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	2.9 lx
Minimum illuminance	E_{min}	0 lx
Maximum illuminance	E_{max}	29.5 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:--- (---)
Diversity U_d	E_{min}/E_{max}	1:--- (---)

Type No. Make

Tamlite Lighting

Object : Halewood Carpark
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2 Room1

2.2 Summary, Room1

2.2.1 Result overview, Carpark

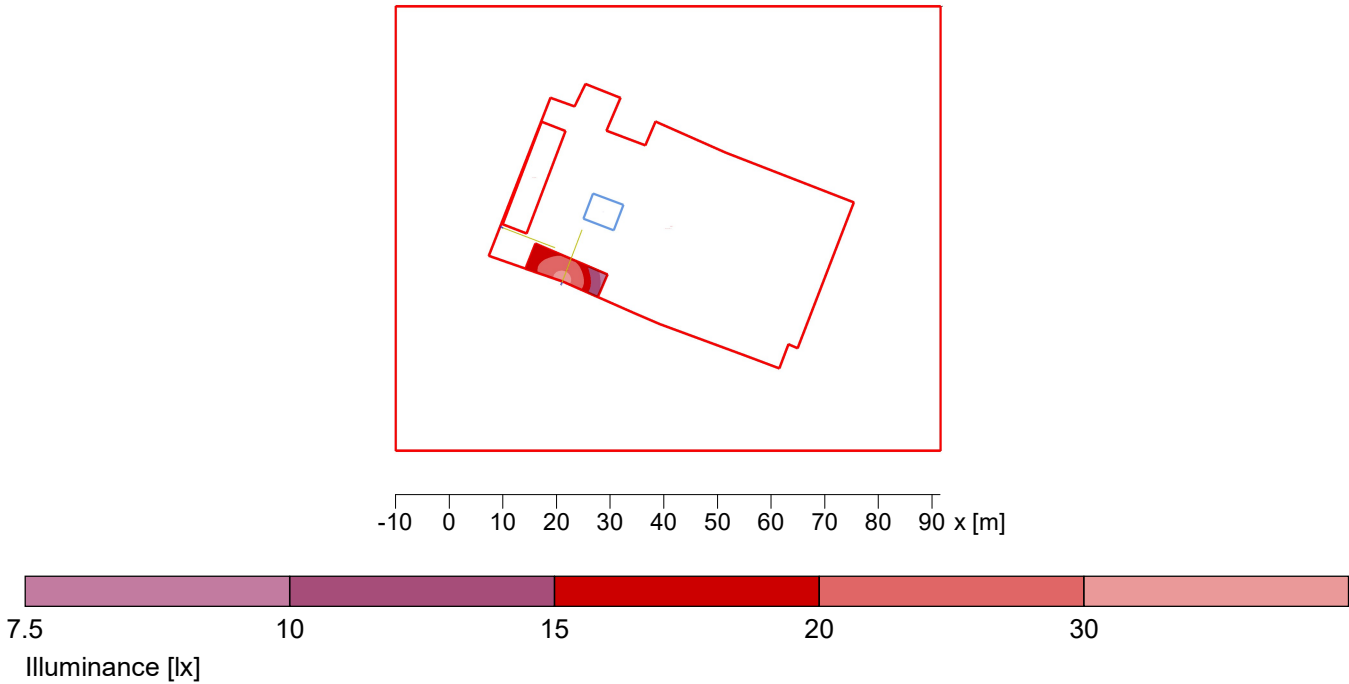
1	2 x	Order No.	: CTRT4570NWGPC
		Luminaire name	: CITY RL T4
		Equipment	: 1 x LED 40 W / 5700 lm





2.2 Summary, Room1

2.2.2 Result overview, Charging Bays



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Height (phot.center) [m]:	5.12 m
Maintenance factor	0.80
Total luminous flux	11400 lm
Total power	80 W
Total power per area (8384.94 m²)	0.01 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	20.5 lx
Minimum illuminance	E_{min}	7.6 lx
Maximum illuminance	E_{max}	33.2 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:2.69 (0.37)
Diversity U_d	E_{min}/E_{max}	1:4.35 (0.23)

Type No.Make

Tamlite Lighting

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2.2 Summary, Room1

2.2.2 Result overview, Charging Bays

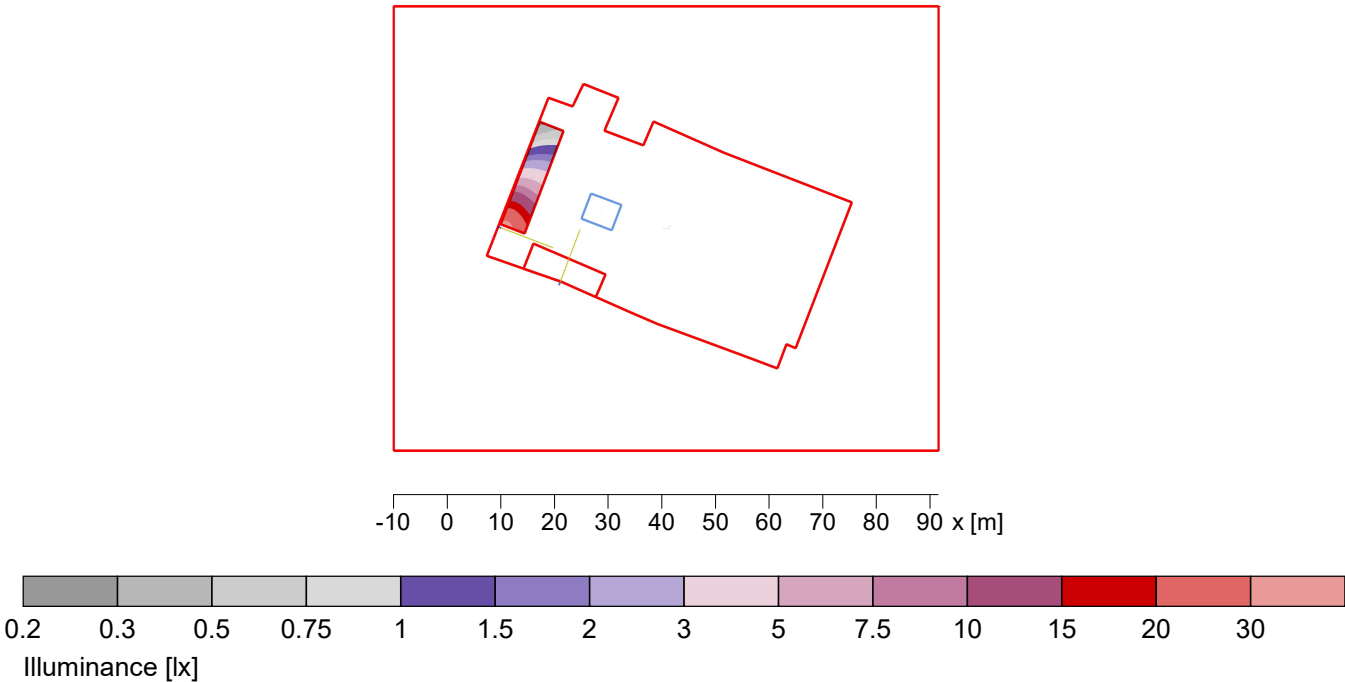
1	2 x	Order No.	: CTRT4570NWGPC
		Luminaire name	: CITY RL T4
		Equipment	: 1 x LED 40 W / 5700 lm





2.2 Summary, Room1

2.2.3 Result overview, Charging Bays



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Height (phot.center) [m]:	5.12 m
Maintenance factor	0.80
Total luminous flux	11400 lm
Total power	80 W
Total power per area (8384.94 m²)	0.01 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	8.2 lx
Minimum illuminance	E_{min}	0.3 lx
Maximum illuminance	E_{max}	32.1 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:31.1 (0.03)
Diversity U_d	E_{min}/E_{max}	1:122 (0.01)

Type No.\Make

Tamlite Lighting

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2.2 Summary, Room1

2.2.3 Result overview, Charging Bays

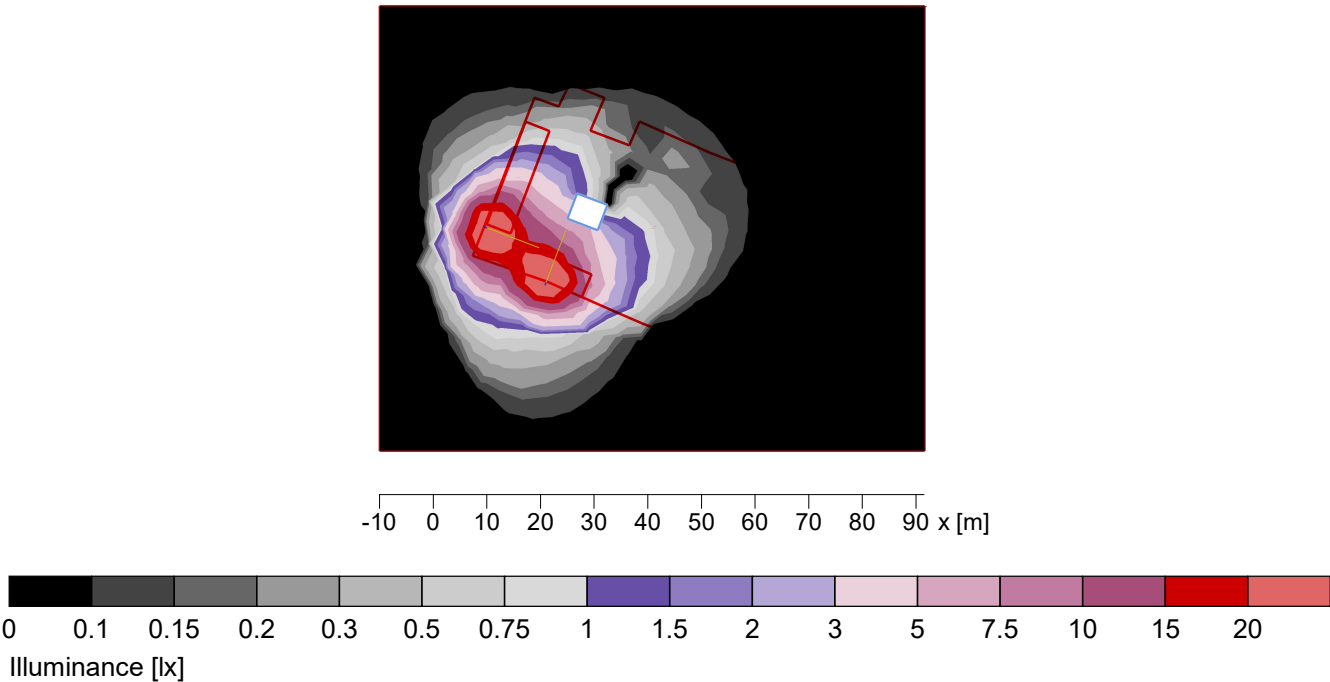
1	2 x	Order No.	: CTRT4570NWGPC
		Luminaire name	: CITY RL T4
		Equipment	: 1 x LED 40 W / 5700 lm





2.2 Summary, Room1

2.2.4 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height (phot centre)	5.12 m
Maintenance factor	0.80
Luminaire luminous flux	11400 lm
Total power	80.0 W
Total power per area (8384.94 m²)	0.01 W/m² (0.90 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

$\bar{E}_m$	Horizontal
E_{min}	1.06 lx
$E_{min}/\bar{E}_m (U_o)$	0 lx
$E_{min}/E_{max} (U_d)$	---
Position	---
	0.00 m

Type No. \Make

Tamlite Lighting

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2.2 Summary, Room1

2.2.4 Result overview, Evaluation area 1

1	2 x	Order No.	: CTRT4570NWGPC
		Luminaire name	: CITY RL T4
		Equipment	: 1 x LED 40 W / 5700 lm



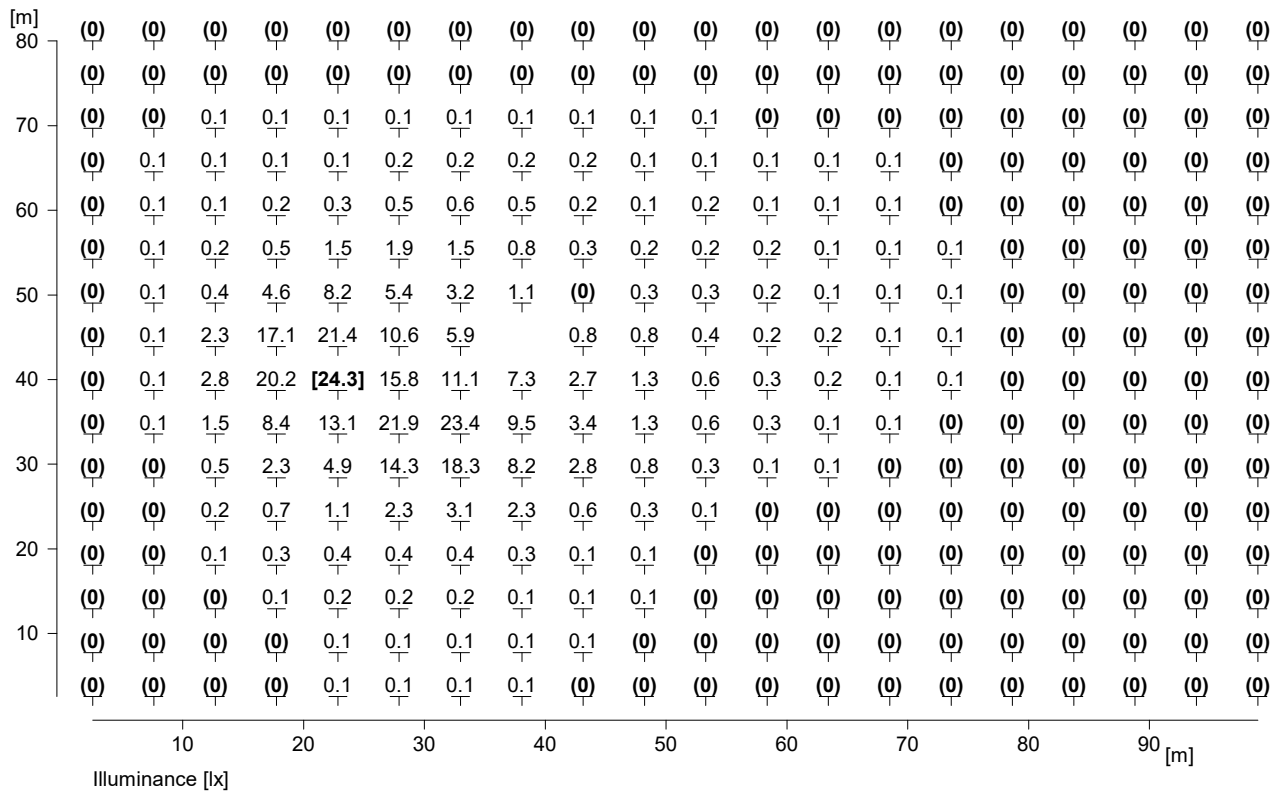
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2 Room1

2.3 Calculation results, Room1

2.3.1 Table, Reference plane 1.1 (E)



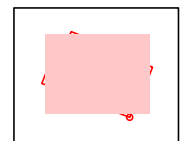
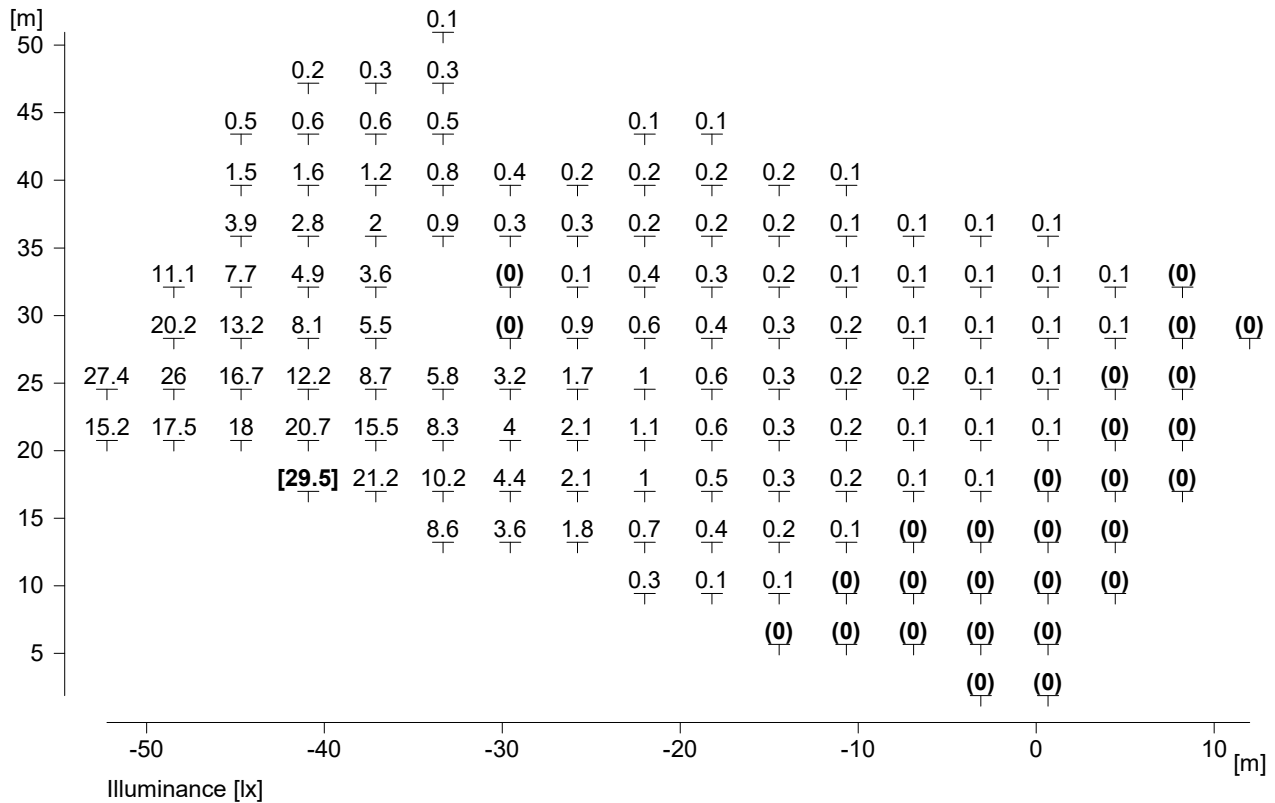
Height reference plane : 0.00 m
Average illuminance $\bar{E}_m$: 1.1 lx
Minimum illuminance E_{min} : 0 lx
Maximum illuminance E_{max} : 24.3 lx
Uniformity U_o $E_{min}/\bar{E}_m$: ---
Diversity U_d E_{min}/E_{max} : ---

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2.3 Calculation results, Room1

2.3.2 Table, Carpark (E)



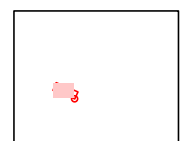
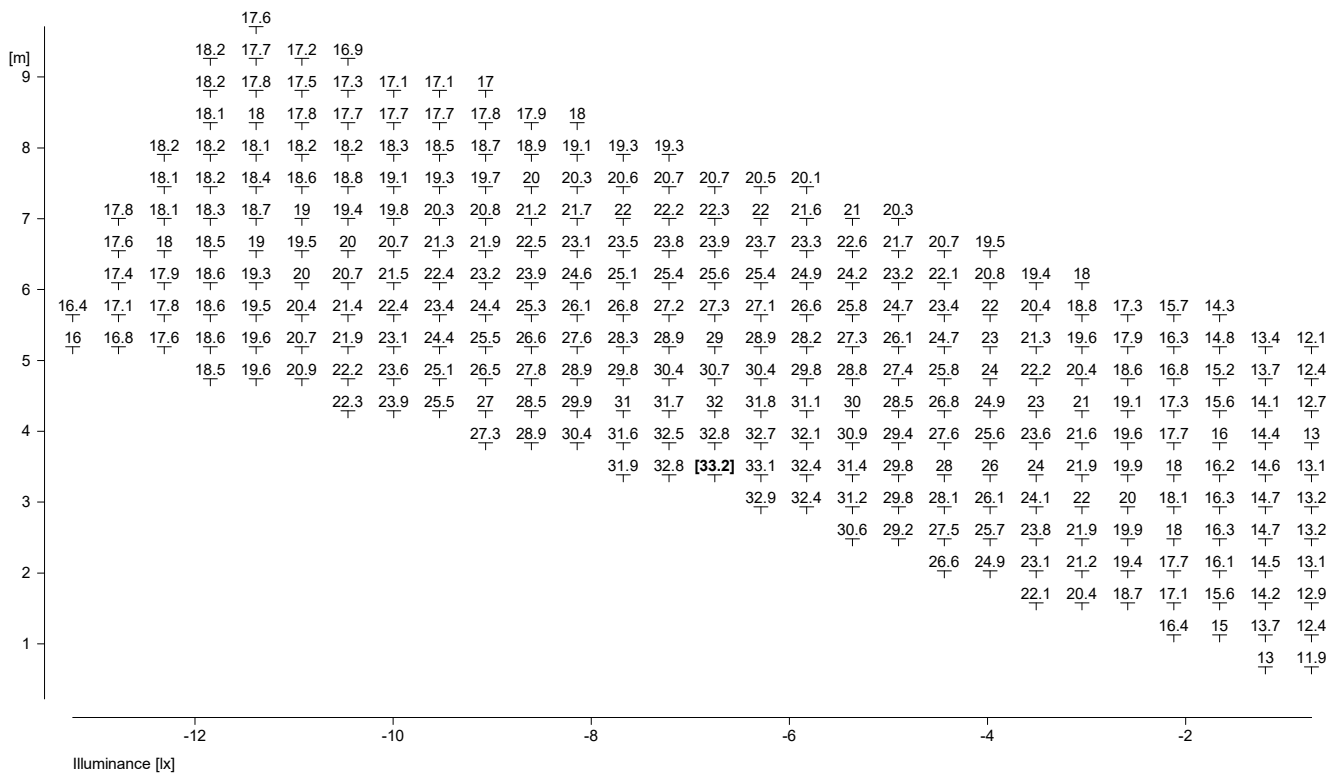
Height reference plane	: 0.00 m
Average illuminance	$\bar{E}_m$: 2.9 lx
Minimum illuminance	E_{min} : 0 lx
Maximum illuminance	E_{max} : 29.5 lx
Uniformity U_o	$E_{min}/\bar{E}_m$: ---
Diversity U_d	E_{min}/E_{max} : ---

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2.3 Calculation results, Room1

2.3.3 Table, Charging Bays (E)



Part1

Height reference plane	:	0.00 m
Average illuminance	$\bar{E}_m$	: 20.5 lx
Minimum illuminance	E_{min}	: 7.6 lx
Maximum illuminance	E_{max}	: 33.2 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	: 1 : 2.69 (0.37)
Diversity U_d	E_{min}/E_{max}	: 1 : 4.35 (0.23)



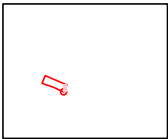
2.3 Calculation results, Room1

2.3.3 Table, Charging Bays (E)

11.2	10.1			
11.4	10.3	9.3	8.4	(7.6)
11.7	10.5	9.5	8.6	7.7
11.8	10.6	9.6	8.7	
11.9	10.7	9.7	8.7	
11.9	10.7	9.7		
11.8	10.6	9.6		
11.6	10.5	9.5		
11.3	10.2			
10.8	9.8			
10.3				

0

[m]

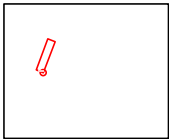
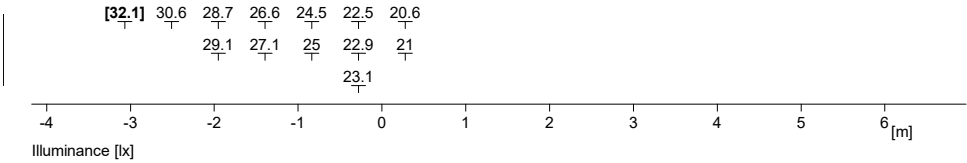


Part2



2.3 Calculation results, Room1

2.3.4 Table, Charging Bays (E)



Part2