



New Gym at Millom

Installation :

Project number : 21233
Customer : Barrow-In-Furness
Processed by : B Archer
Date : 30.10.2024

All calculations unless stated have been based upon an open plan area without any obstructions above the working plane. With regards to CIBSE/ BSEN12464-1:2011 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.

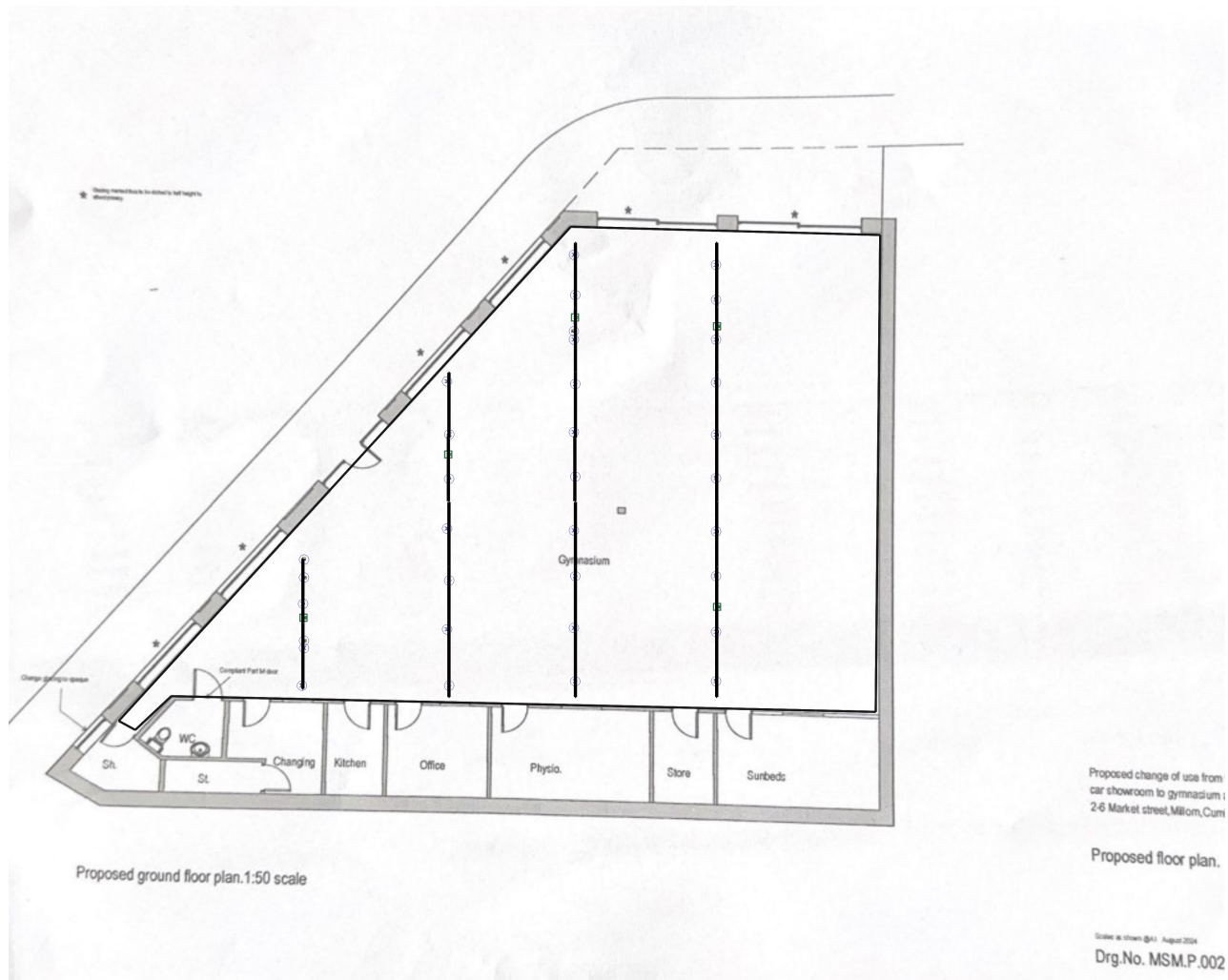
This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

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Description, Floor 1

.1 Floor plan



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1 Gym

1.1 Description, Gym

1.1.1 Floor plan



Wall	x	y	Length	Reflectance
1	6.66 m	8.42 m	20.66 m	50.0 %
2	7.17 m	8.14 m	0.58 m	50.0 %
3	8.28 m	9.18 m	1.52 m	50.0 %
4	30.01 m	8.69 m	21.73 m	50.0 %
5	30.15 m	23.40 m	14.71 m	50.0 %
6	20.61 m	23.66 m	9.55 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		3.50 m		
Height of ref. plane		0.00 m		



1 Gym

1.2 Summary, Gym

1.2.1 Result overview, Evaluation area 1



-13.9 -8.9 -3.9 1.1 6.1 11.1 x [m]



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux	95200.00 lm
Total power	850.0 W
Total power per area (237.89 m²)	3.57 W/m² (1.16 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

\bar{E}_m	Horizontal	cylindrical
E_{min}	308 lx	129 lx
$E_{min}/\bar{E}_m (U_o)$	132 lx	64 lx
$E_{min}/\bar{E}_m (U_d)$	0.43	0.50
$E_{min}/E_{max} (U_d)$	0.22	
E_z/E_h		0.40
Position	0.00 m	0.45 m
RUG (--- ---)	---	

Hints:
- Luminaires of the same type with equal height and orientation were not found.

Major surfaces	\bar{E}_m	U_o
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Type No. \Make

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1 Gym

1.2 Summary, Gym

1.2.1 Result overview, Evaluation area 1

2	34 x	Tamlite Lighting	
		Order No.	: SNT280WNWB
		Luminaire name	: SONATA
		Equipment	: 1 x 25 W / 2800 lm

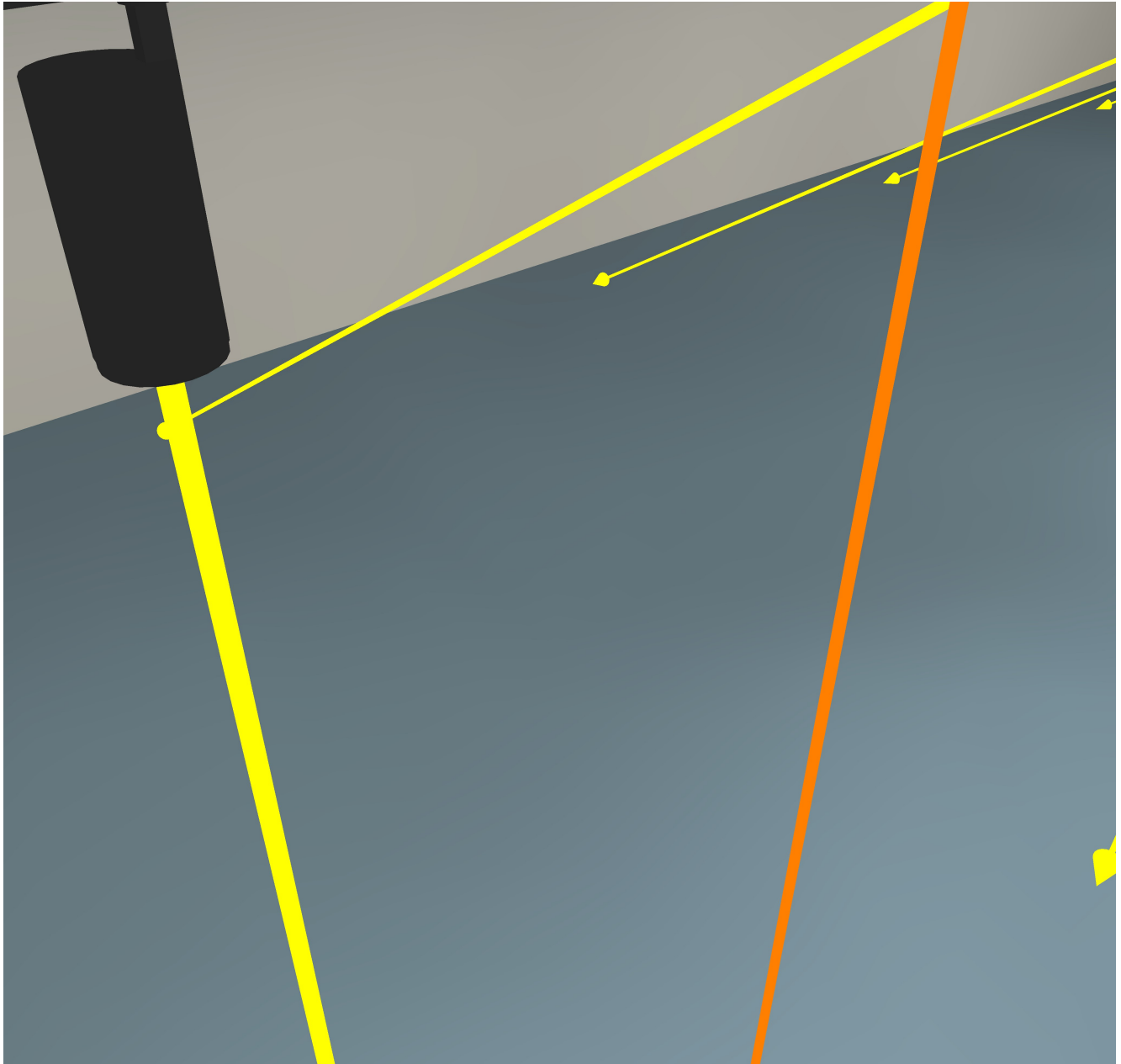




1 Gym

1.3 Calculation results, Gym

1.3.1 3D luminance, View 1



Luminance in the scene

Minimum: : 0 cd/m²

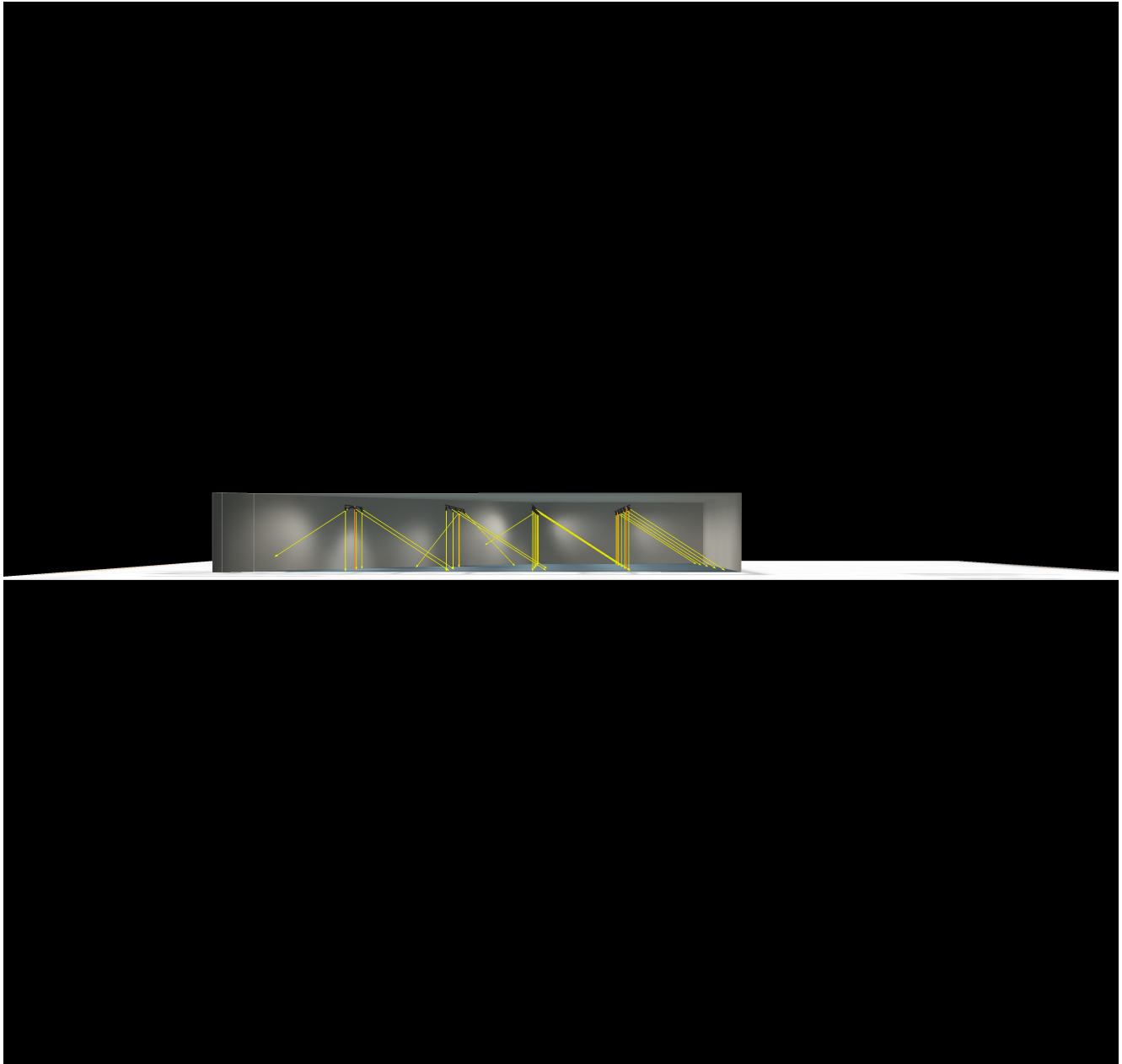
Maximum: : 101 cd/m²

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1.3 Calculation results, Gym

1.3.2 3D luminance, View from the front



Luminance in the scene

Minimum: : 0 cd/m²

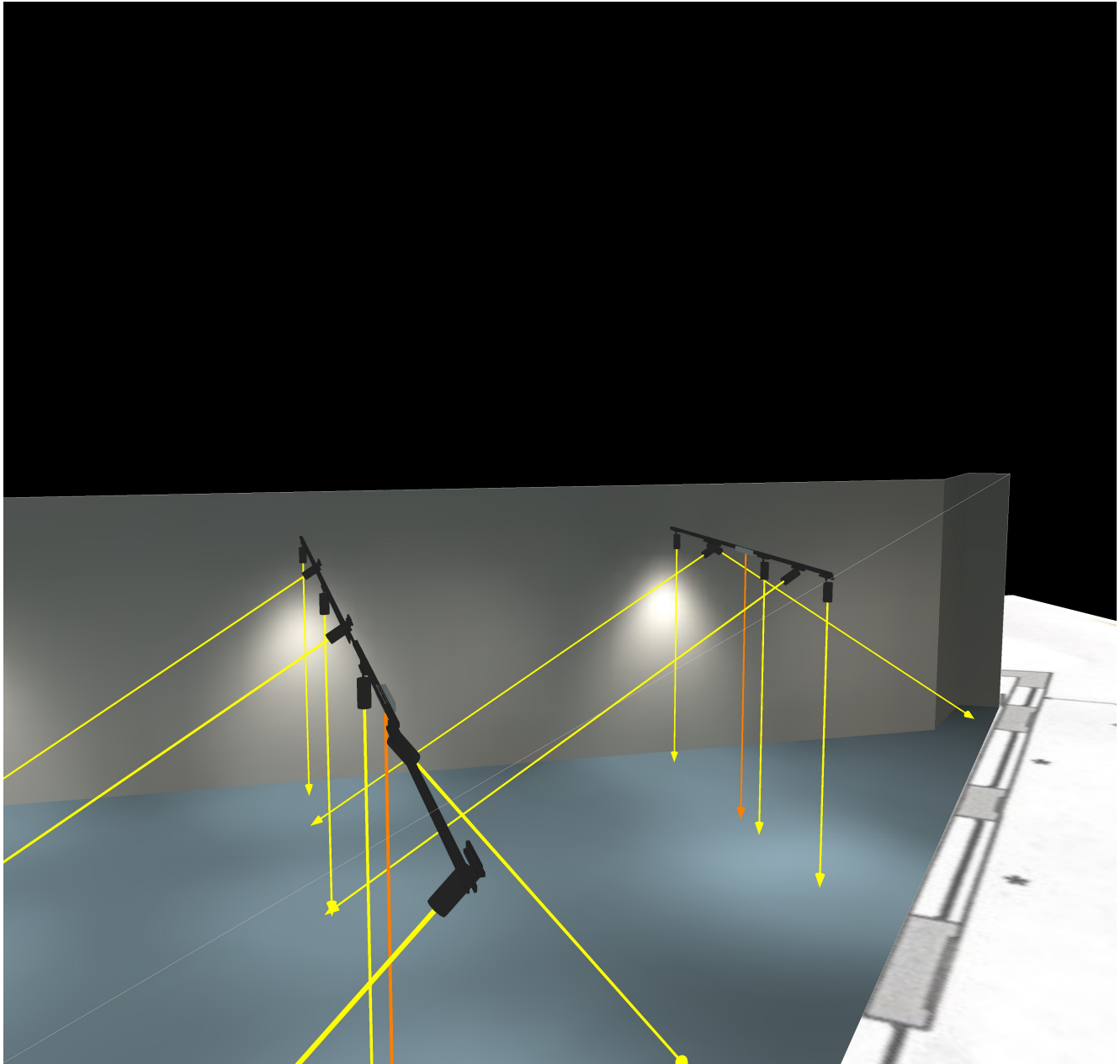
Maximum: : 101 cd/m²

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1.3 Calculation results, Gym

1.3.3 3D luminance, View 3



Luminance in the scene

Minimum: : 0 cd/m²

Maximum: : 101 cd/m²

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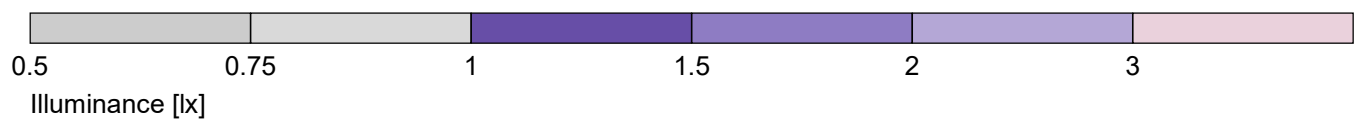
1 Gym

1.4 Summary, Gym

1.4.1.1 Result overview (emergency lighting)



-13.9 -8.9 -3.9 1.1 6.1 11.1 x [m]

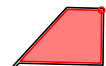


General

Calculation algorithm used : Direct component
Maintenance factor : 0.8
Height (phot. centre) : 2.97 m
Maximum I : 46 cd <= 900 cd

Anti panic area:

No.	Surface	Emin [lx]	Emax [lx]	Ud
Anti panic area 1.1				
Calculation field: 24.05m x 15.83m (13 x 9 pts), Height = 0.00m				
1		0.50 lx	3.78 lx	1: 7.51
		>= 0.5 lx		>= 1 : 40



Type No.\Make

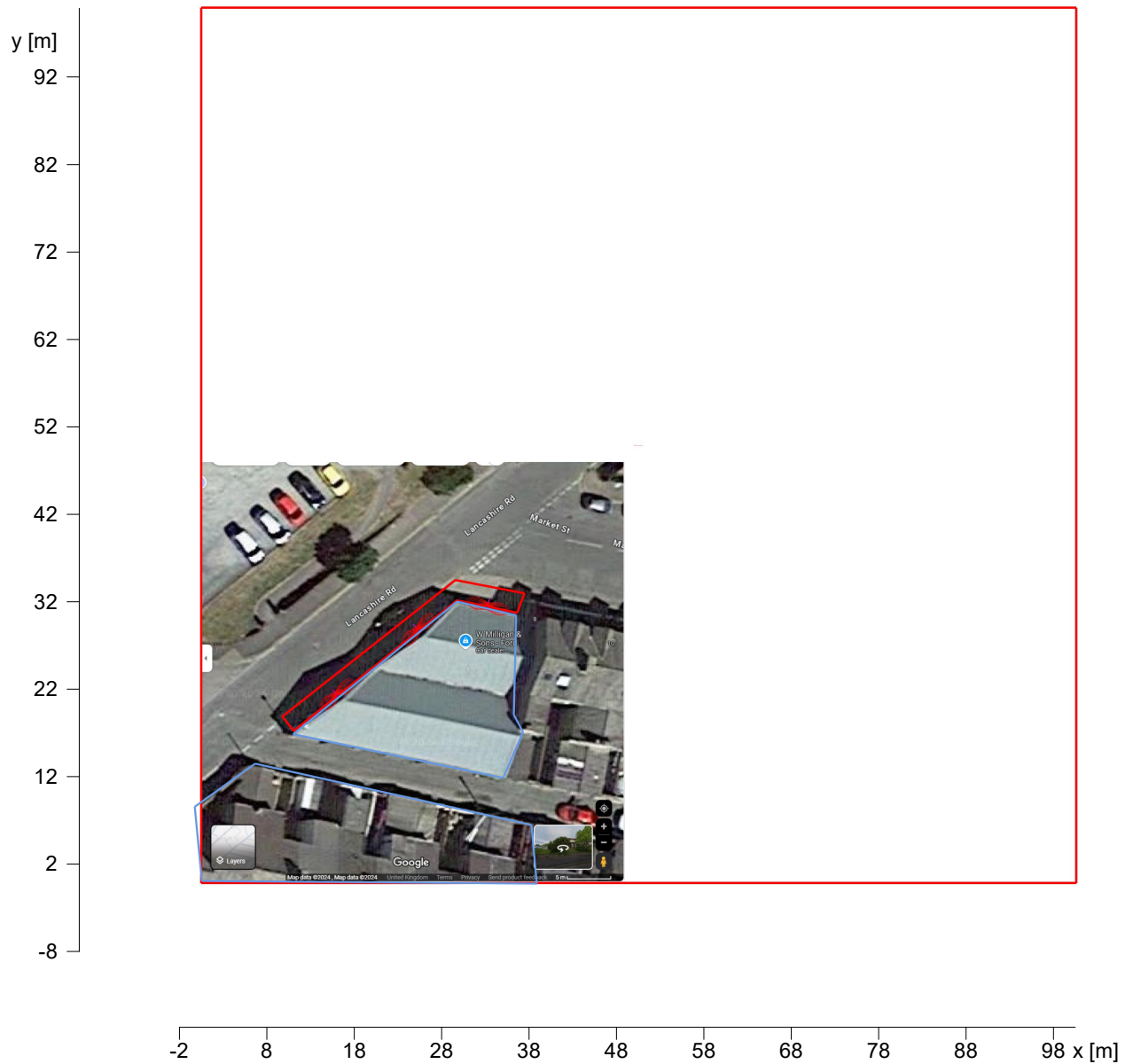
Tamlite Lighting				
4	5E x	Order No.	: !ELTDLNM3	-- Emergency Lighting --
		Luminaire name	: ELTDLNM3	
		Equipment	: 1 x 2 W / 1 lm	
		Emergency	: 190 lm (19000.0 %)	



1 Exterior 1

1.1 Description, Exterior 1

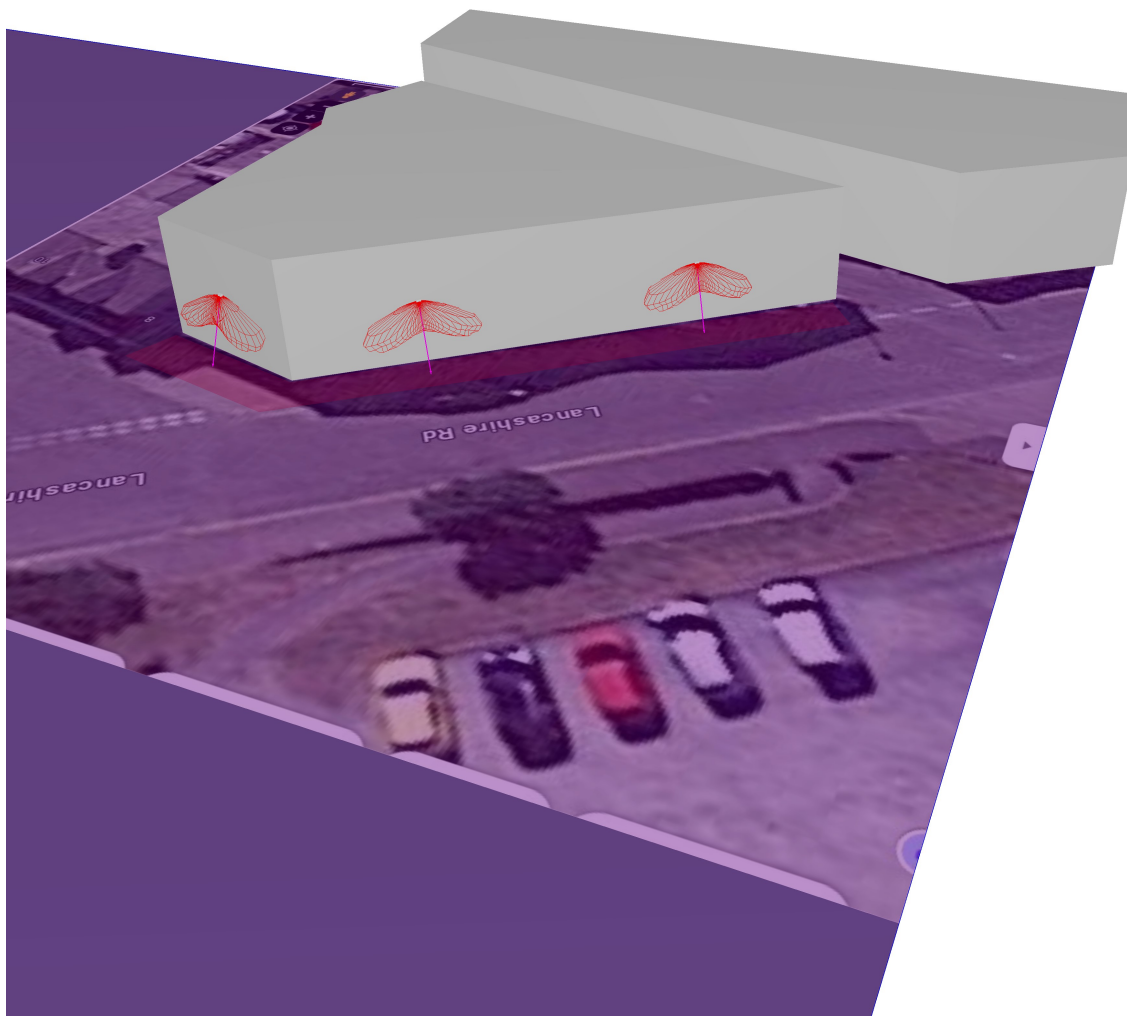
1.1.1 Floor plan





1.1 Description, Exterior 1

1.1.2 3D view, View 1

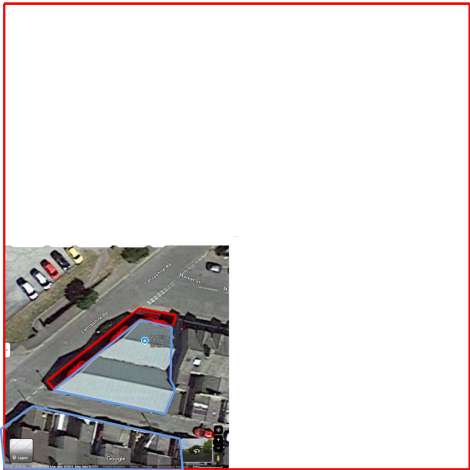




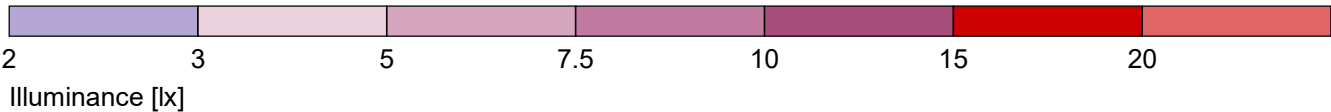
1 Exterior 1

1.2 Summary, Exterior 1

1.2.1 Result overview, Measuring area 1



-2 8 18 28 38 48 58 68 78 88 98 x [m]



General

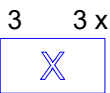
Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Height (phot centre) [m]:	2.93 m
Maintenance factor	0.80

Total luminous flux	2700 lm
Total power	21 W
Total power per area (10000.00 m²)	0.00 W/m²

Illuminance

Average illuminance	\bar{E}_m	14 lx
Minimum illuminance	E_{min}	2.4 lx
Maximum illuminance	E_{max}	22 lx
Uniformity U_o	E_{min}/\bar{E}_m	1:5.78 (0.17)
Diversity U_d	E_{min}/E_{max}	1:9.12 (0.11)

Type No. Make



Tamlite Lighting

Order No.	: CWS90T2NWB
Luminaire name	: CITY WL MINI
Equipment	: 1 x 7 W / 900 lm

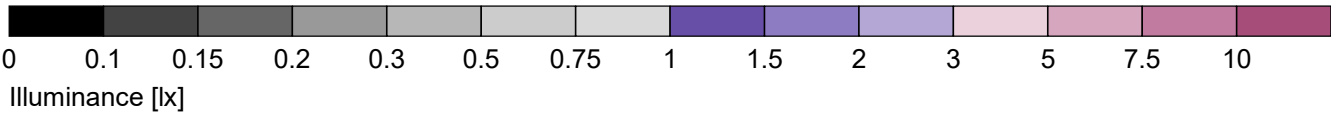


1.2 Summary, Exterior 1

1.2.2 Result overview, Evaluation area 1



-2 8 18 28 38 48 58 68 78 88 98 x [m]



General

Calculation algorithm used	Average indirect fraction
Height (phot centre)	2.93 m
Maintenance factor	0.80
Total luminous flux	2700.00 lm
Total power	21.0 W
Total power per area (10000.00 m²)	0.00 W/m² (1.22 W/m²/100lx)

Evaluation area 1	Reference plane 1.1
	Horizontal
\bar{E}_m	0.17 lx
E_{min}	0 lx
$E_{min}/\bar{E}_m (U_o)$	---
$E_{min}/E_{max} (U_d)$	---
Position	0.00 m

Type No.\Make

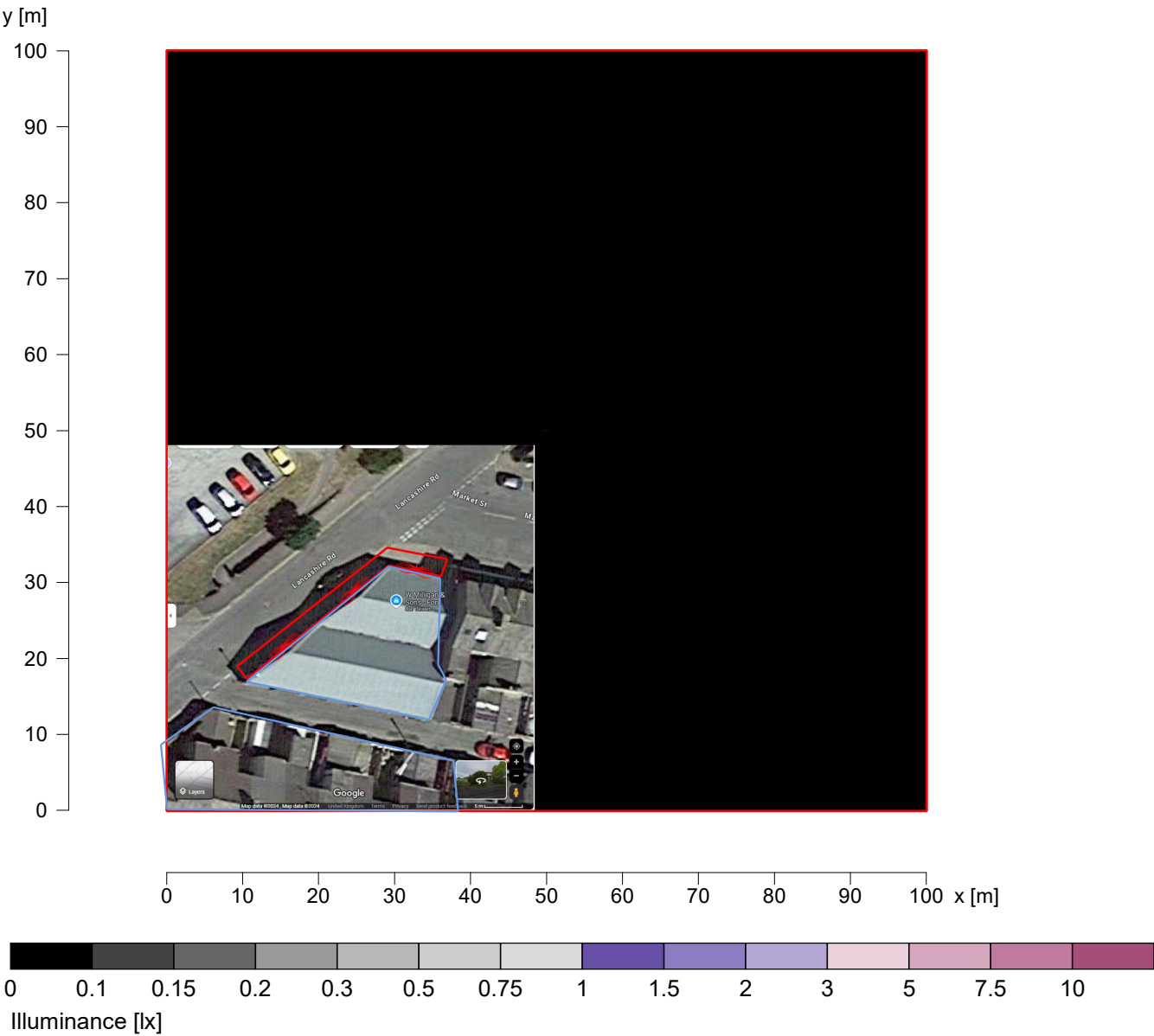
3	3 x	Tamlite Lighting
		Order No. : CWS90T2NWB
		Luminaire name : CITY WL MINI
		Equipment : 1 x 7 W / 900 lm



1 Exterior 1

1.3 Calculation results, Exterior 1

1.3.1 Pseudo colours, Floor (E)

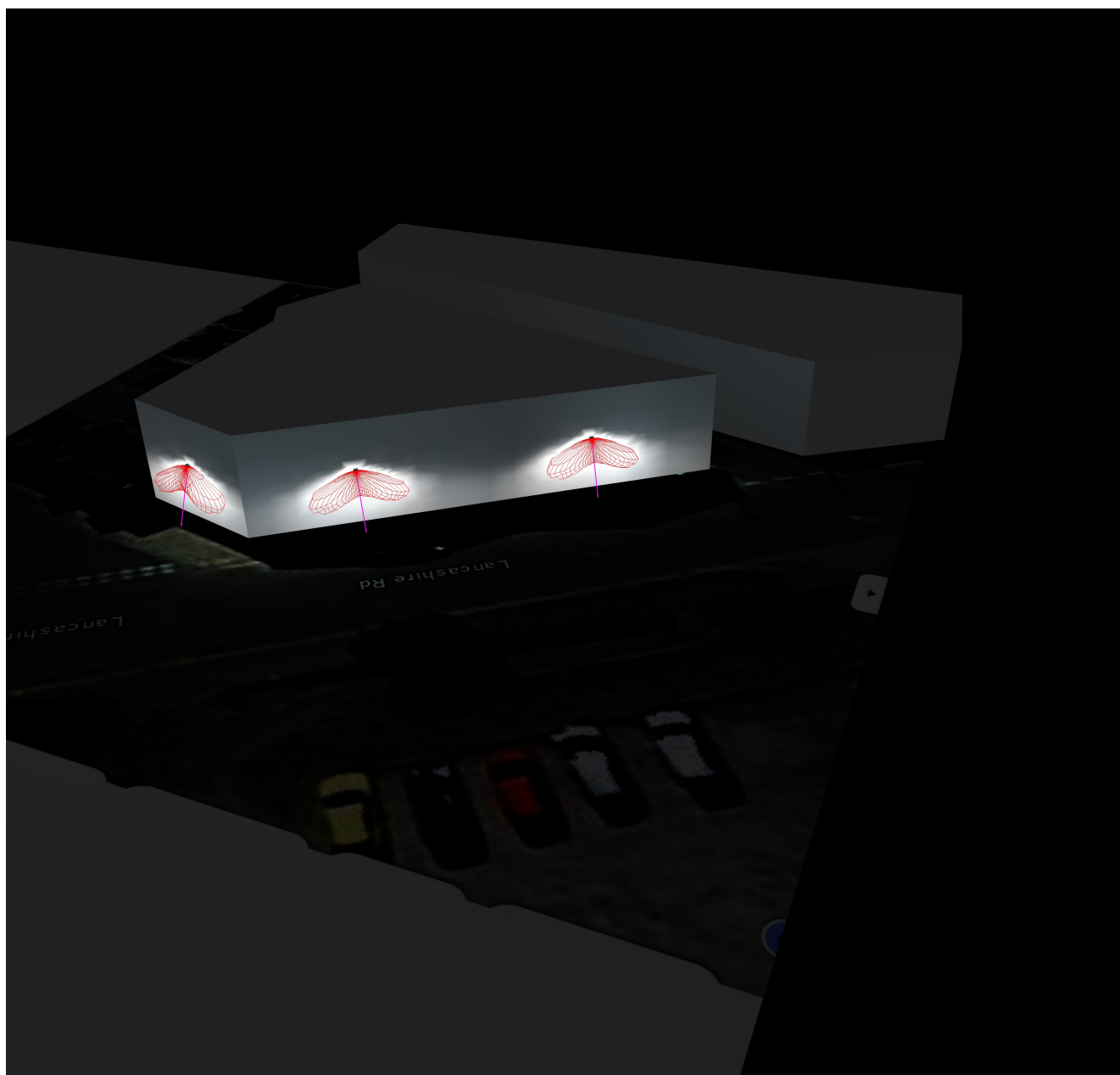


Average illuminance	\bar{E}_m	: 0.1 lx
Minimum illuminance	E_{min}	: 0 lx
Maximum illuminance	E_{max}	: 14.4 lx
Uniformity U_o	E_{min}/\bar{E}_m	: ---



1.3 Calculation results, Exterior 1

1.3.2 3D luminance, View 1



Luminance in the scene

Minimum: : 0 cd/m²

Maximum: : 84.3 cd/m²



1.3 Calculation results, Exterior 1

1.3.3 3D pseudo colours, View 1 (E)

