

LiDI Wallis Avenue, Rochdale

Installation :

Project number :

Customer :

Processed by : Signify

Date : 28.05.2026

Project description:
Maintenance Factor 0.79

No obstructions are considered in these lighting calculations.

Lighting levels to 15 Lux Ave with 25% uniformity.

The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties and electrical supply.

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.

Table of contents

First Page	1
Table of contents	2
1 Carpark	
1.1 Description, Carpark	
1.1.1 Floor plan	3
1.2 Summary, Carpark	
1.2.1 Result overview, Canopy	4
1.2.2 Result overview, Rear Walkway	6
1.2.3 Result overview, Delivery Lane	8
1.2.4 Result overview, Carpark	10
1.2.5 Result overview, Plant Area Walkway	12
1.3 Calculation results, Carpark	
1.3.1 Pseudo colours, Canopy (E)	14
1.3.2 Pseudo colours, Rear Walkway (E)	15
1.3.3 Pseudo colours, Delivery Lane (E)	16
1.3.4 Pseudo colours, Carpark (E)	17
1.3.5 Pseudo colours, Plant Area Walkway (E)	18
2 Carpark Spill Light	
2.1 Summary, Carpark Spill Light	
2.1.1 Result overview, Evaluation area 1	19
2.2 Calculation results, Carpark Spill Light	
2.2.1 Pseudo colours, Reference plane 1.1 (E)	21
2.2.2 3D luminance, View 1	22
2.2.3 3D pseudo colours, View 1 (E)	23

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1 Carpark

1.1 Description, Carpark

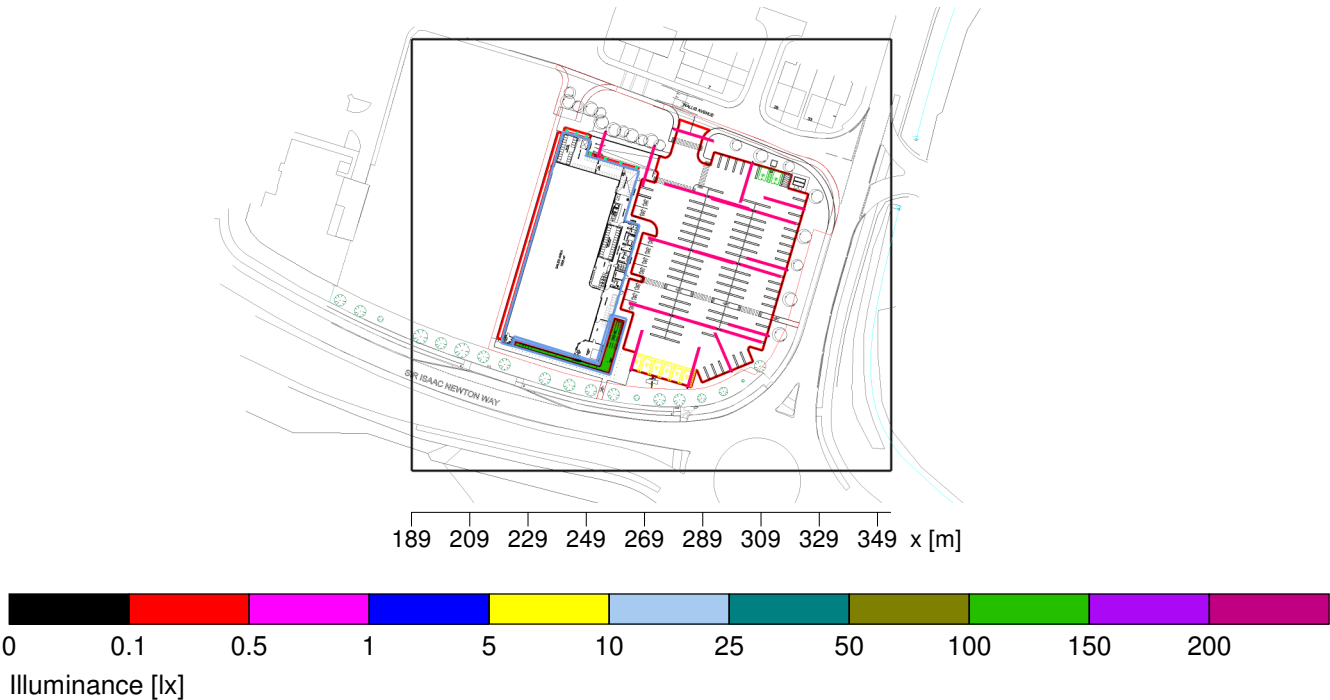
1.1.1 Floor plan



1 Carpark

1.2 Summary, Carpark

1.2.1 Result overview, Canopy



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79

Total luminous flux	243400 lm
Total power	1733.4 W
Total power per area (24328.70 m²)	0.07 W/m²
Upward light ratio (RUL)	1 %

Illuminance

Average illuminance	$\bar{E}_m$	107 lx
Minimum illuminance	E_{min}	73 lx
Maximum illuminance	E_{max}	127 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.46 (0.69)
Diversity U_d	E_{min}/E_{max}	1:1.74 (0.58)

Type No. Make

Philips	
2 22 x	Order No. :
	Luminaire name : LL-A 3000K
	Equipment : 1 x LED49-4S/830 35.4 W / 4900 lm
3 18 x	Order No. :
	Luminaire name : LL-Canopy 4000K
	Equipment : 1 x LED20S/840 16.2 W / 1900 lm

The ULR value has been calculated without obstruction by other objects.

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1 Carpark

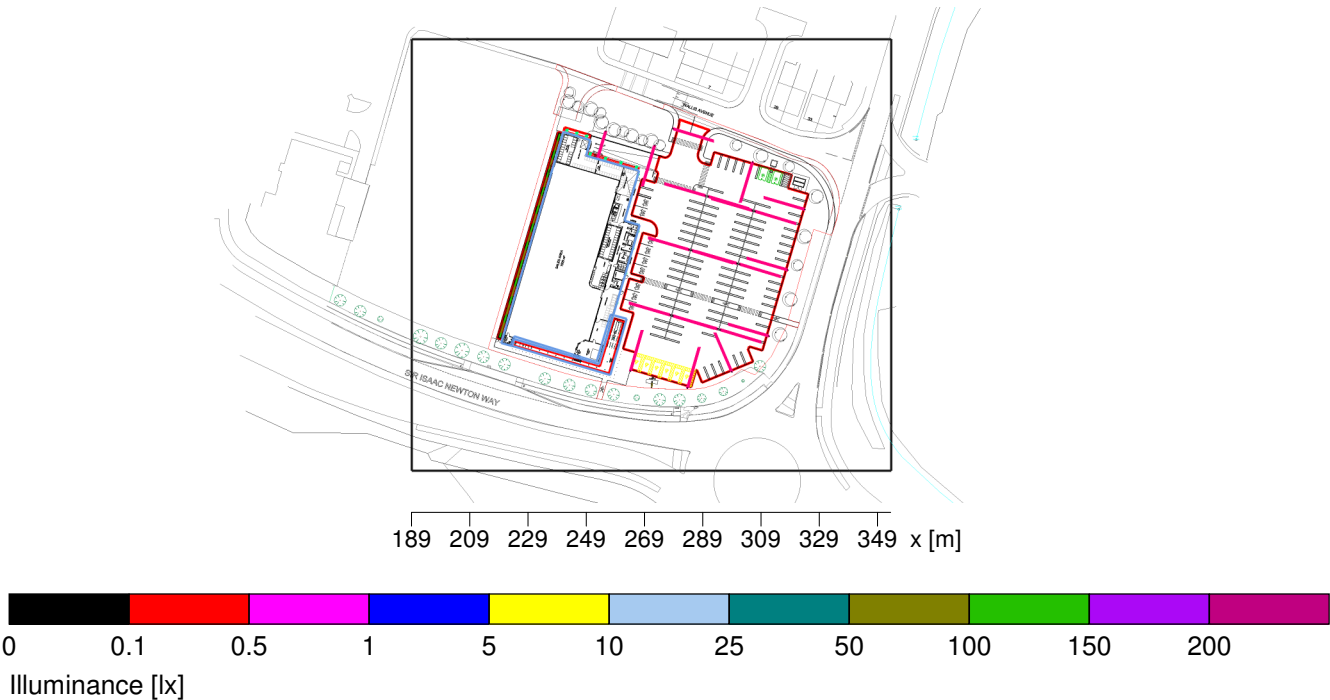
1.2 Summary, Carpark

1.2.1 Result overview, Canopy

4	26 x	Order No.	:	
		Luminaire name	:	LL-E 3000K
		Equipment	:	1 x LED42S/830 25.5 W / 3900 lm

1.2 Summary, Carpark

1.2.2 Result overview, Rear Walkway



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79

Total luminous flux	243400 lm
Total power	1733.4 W
Total power per area (24328.70 m²)	0.07 W/m²
Upward light ratio (RUL)	1 %

Illuminance

Average illuminance	$\bar{E}_m$	93 lx
Minimum illuminance	E_{min}	50 lx
Maximum illuminance	E_{max}	125 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.87 (0.53)
Diversity U_d	E_{min}/E_{max}	1:2.51 (0.4)

Type No.Make

Philips	
2 22 x	Order No. :
	Luminaire name : LL-A 3000K
	Equipment : 1 x LED49-4S/830 35.4 W / 4900 lm
3 18 x	Order No. :
	Luminaire name : LL-Canopy 4000K
	Equipment : 1 x LED20S/840 16.2 W / 1900 lm

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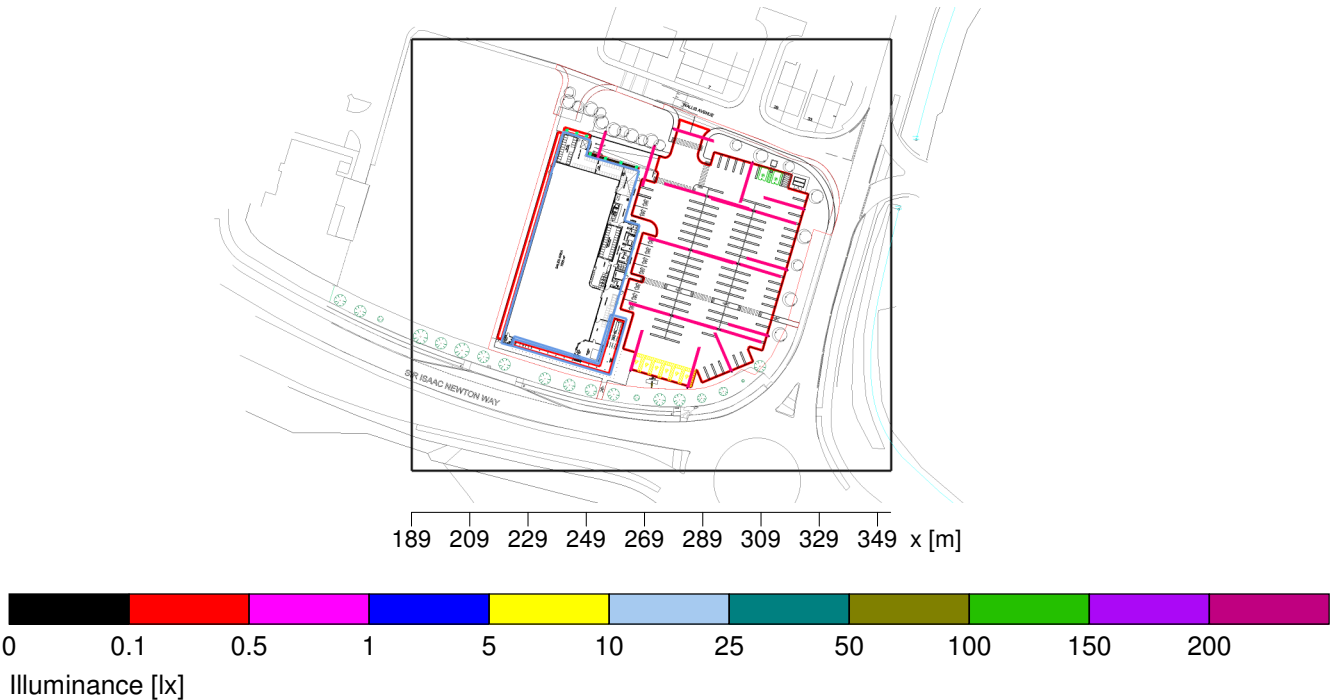
1.2 Summary, Carpark

1.2.2 Result overview, Rear Walkway

4	26 x	Order No.	:	
		Luminaire name	:	LL-E 3000K
		Equipment	:	1 x LED42S/830 25.5 W / 3900 lm

1.2 Summary, Carpark

1.2.3 Result overview, Delivery Lane



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79
Total luminous flux	243400 lm
Total power	1733.4 W
Total power per area (24328.70 m²)	0.07 W/m²
Upward light ratio (RUL)	1 %

Illuminance

Average illuminance	$\bar{E}_m$	125 lx
Minimum illuminance	E_{min}	82 lx
Maximum illuminance	E_{max}	156 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.52 (0.66)
Diversity U_d	E_{min}/E_{max}	1:1.89 (0.53)

Type No. Make

Philips	
2 22 x	Order No. :
	Luminaire name : LL-A 3000K
	Equipment : 1 x LED49-4S/830 35.4 W / 4900 lm
3 18 x	Order No. :
	Luminaire name : LL-Canopy 4000K
	Equipment : 1 x LED20S/840 16.2 W / 1900 lm

The ULR value has been calculated without obstruction by other objects.

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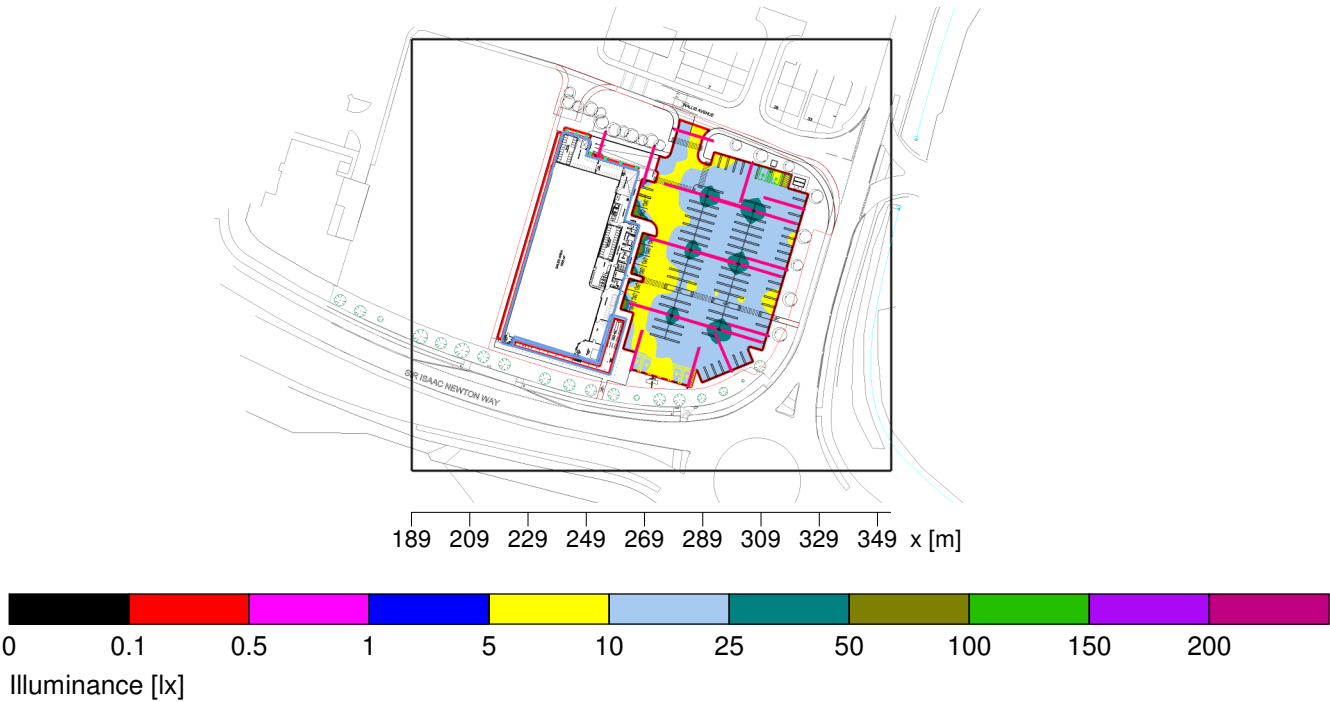
1.2 Summary, Carpark

1.2.3 Result overview, Delivery Lane

4	26 x	Order No.	:	
		Luminaire name	:	LL-E 3000K
		Equipment	:	1 x LED42S/830 25.5 W / 3900 lm

1.2 Summary, Carpark

1.2.4 Result overview, Carpark



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79
Total luminous flux	243400 lm
Total power	1733.4 W
Total power per area (24328.70 m²)	0.07 W/m²
Upward light ratio (RUL)	1 %

Illuminance

Average illuminance	$\bar{E}_m$	15.3 lx
Minimum illuminance	E_{min}	4.9 lx
Maximum illuminance	E_{max}	78.6 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.12 (0.32)
Diversity U_d	E_{min}/E_{max}	1:16 (0.06)

Type No.Make

Philips	
2 22 x	Order No. :
	Luminaire name : LL-A 3000K
	Equipment : 1 x LED49-4S/830 35.4 W / 4900 lm
3 18 x	Order No. :
	Luminaire name : LL-Canopy 4000K
	Equipment : 1 x LED20S/840 16.2 W / 1900 lm

The ULR value has been calculated without obstruction by other objects.

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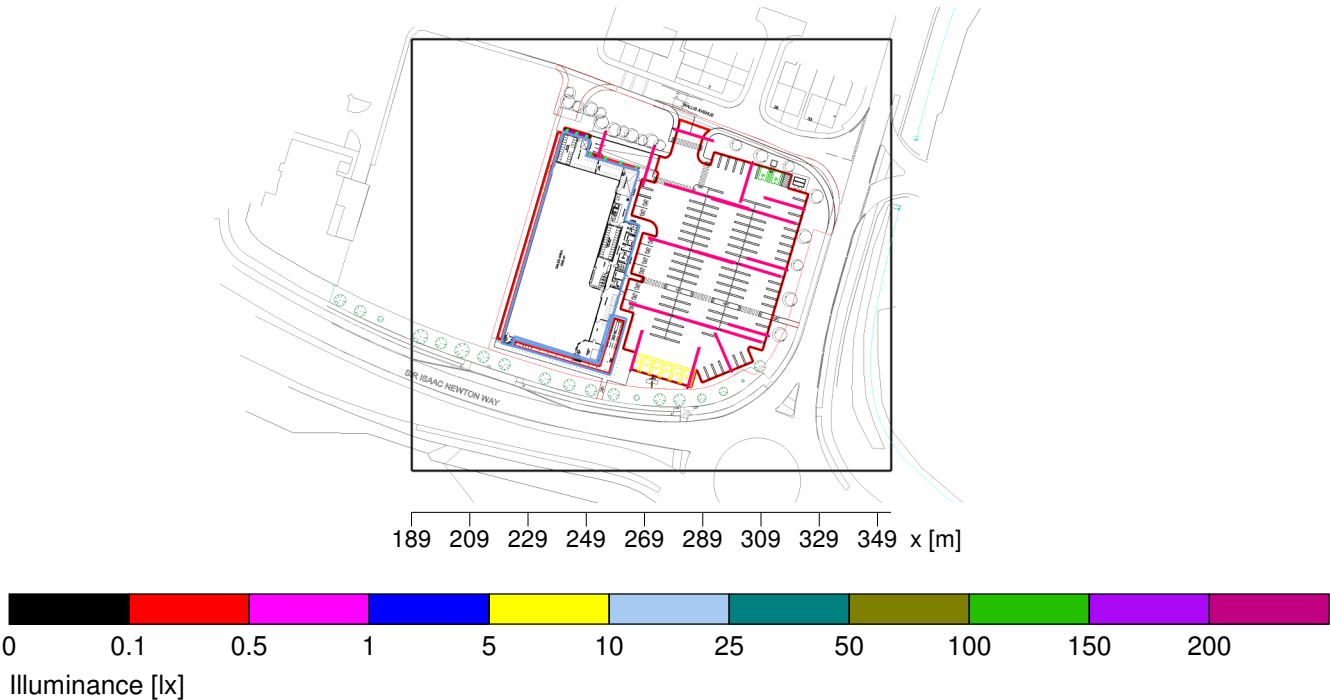
1.2 Summary, Carpark

1.2.4 Result overview, Carpark

4	26 x	Order No.	:	
		Luminaire name	:	LL-E 3000K
		Equipment	:	1 x LED42S/830 25.5 W / 3900 lm

1.2 Summary, Carpark

1.2.5 Result overview, Plant Area Walkway



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79
Total luminous flux	243400 lm
Total power	1733.4 W
Total power per area (24328.70 m²)	0.07 W/m²
Upward light ratio (RUL)	1 %

Illuminance

Average illuminance	$\bar{E}_m$	161 lx
Minimum illuminance	E_{min}	113 lx
Maximum illuminance	E_{max}	196 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.42 (0.7)
Diversity U_d	E_{min}/E_{max}	1:1.73 (0.58)

Type No. Make

Philips	
2 22 x	Order No. :
	Luminaire name : LL-A 3000K
	Equipment : 1 x LED49-4S/830 35.4 W / 4900 lm
3 18 x	Order No. :
	Luminaire name : LL-Canopy 4000K
	Equipment : 1 x LED20S/840 16.2 W / 1900 lm

The ULR value has been calculated without obstruction by other objects.

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1.2 Summary, Carpark

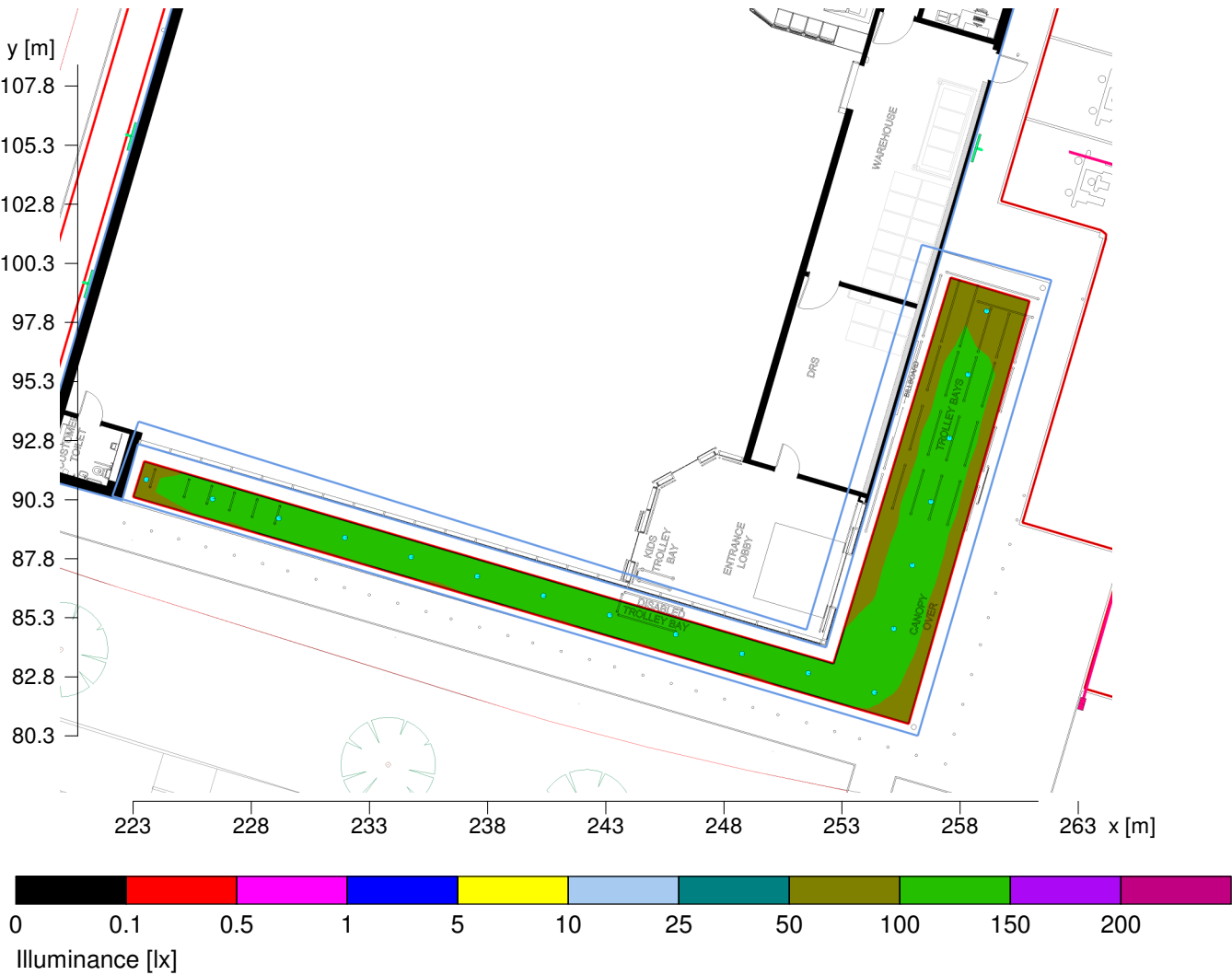
1.2.5 Result overview, Plant Area Walkway

4	26 x	Order No.	:	
		Luminaire name	:	LL-E 3000K
		Equipment	:	1 x LED42S/830 25.5 W / 3900 lm

1 Carpark

1.3 Calculation results, Carpark

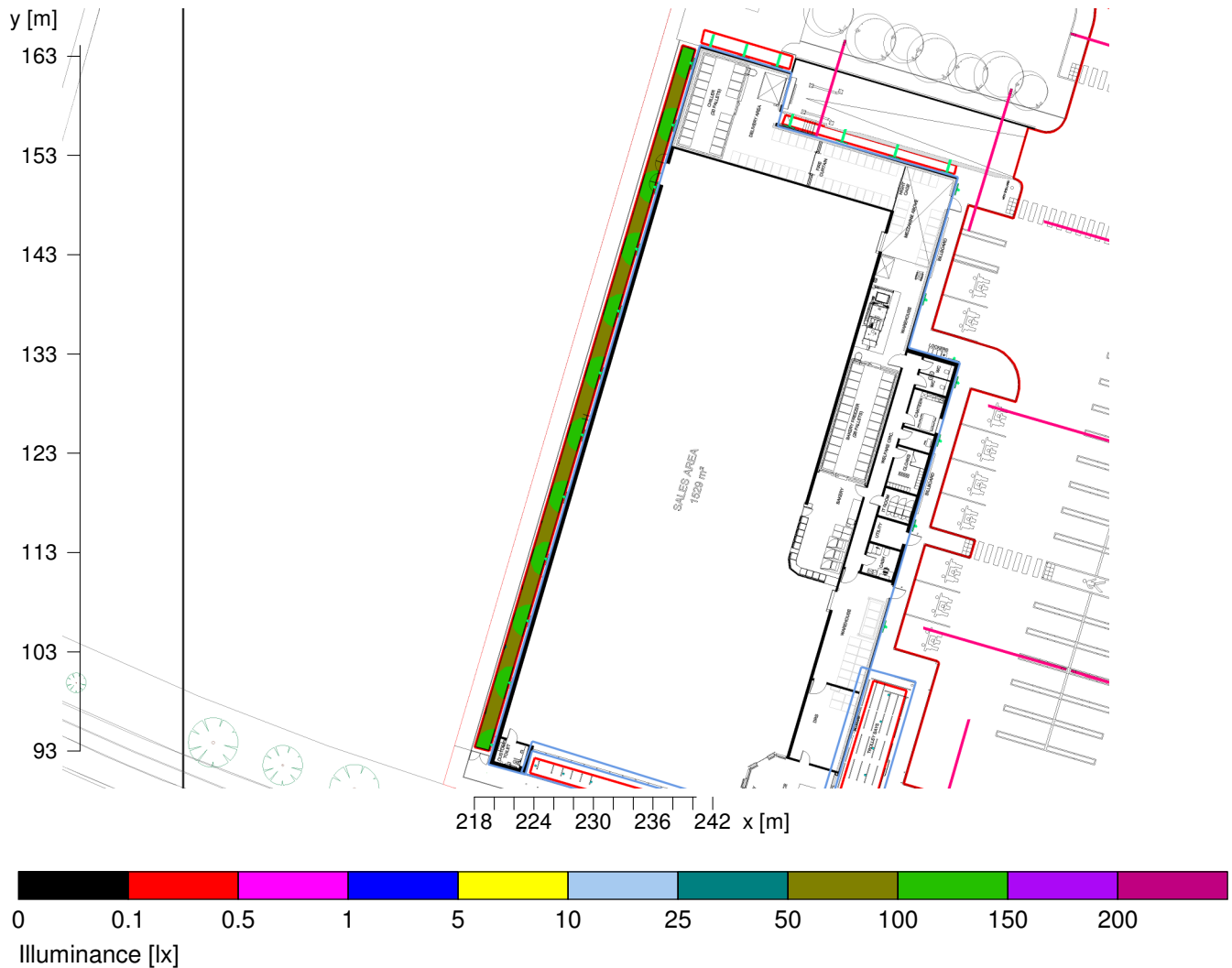
1.3.1 Pseudo colours, Canopy (E)



Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 107 lx
Minimum illuminance	E_{min}	: 73 lx
Maximum illuminance	E_{max}	: 127 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	: 1 : 1.46 (0.69)
Diversity U_d	E_{min}/E_{max}	: 1 : 1.74 (0.58)

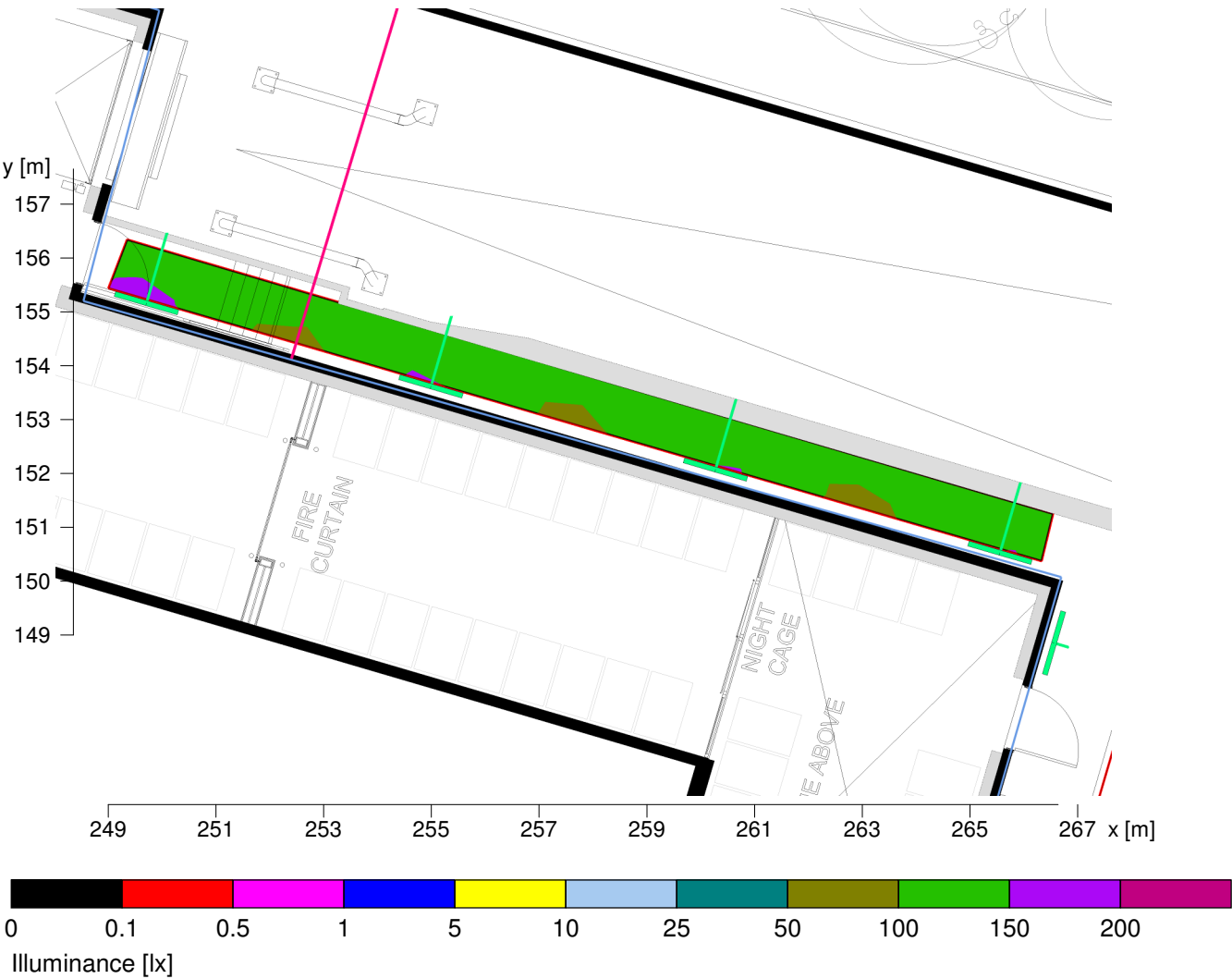
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1.3.2 Pseudo colours, Rear Walkway (E)



Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 93 lx
Minimum illuminance	E_{min}	: 50 lx
Maximum illuminance	E_{max}	: 125 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	: 1 : 1.87 (0.53)
Diversity U_d	E_{min}/E_{max}	: 1 : 2.51 (0.40)

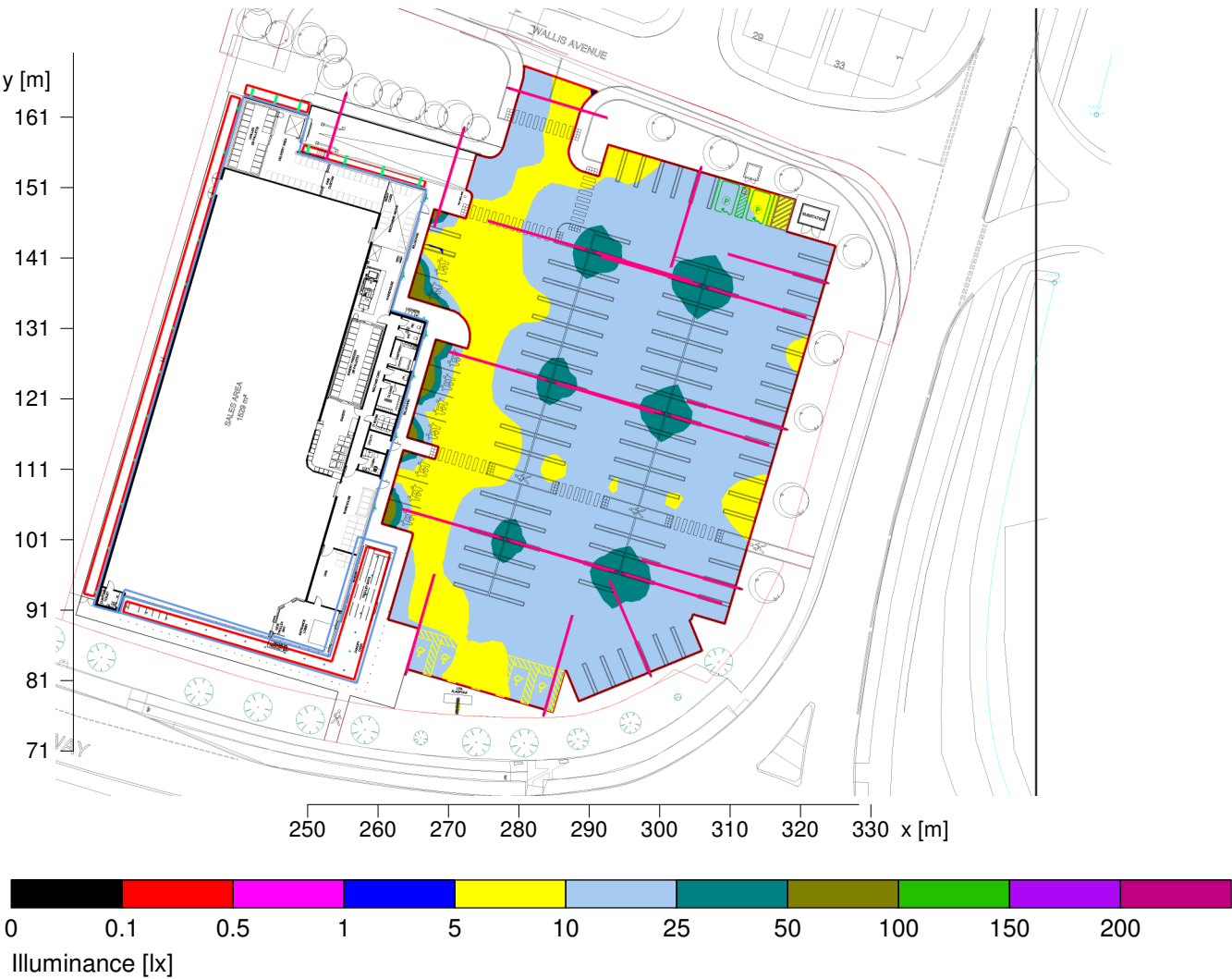
1.3 Calculation results, Carpark
1.3.3 Pseudo colours, Delivery Lane (E)



Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 125 lx
Minimum illuminance	E_{min}	: 82 lx
Maximum illuminance	E_{max}	: 156 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	: 1 : 1.52 (0.66)
Diversity U_d	E_{min}/E_{max}	: 1 : 1.89 (0.53)

1.3 Calculation results, Carpark

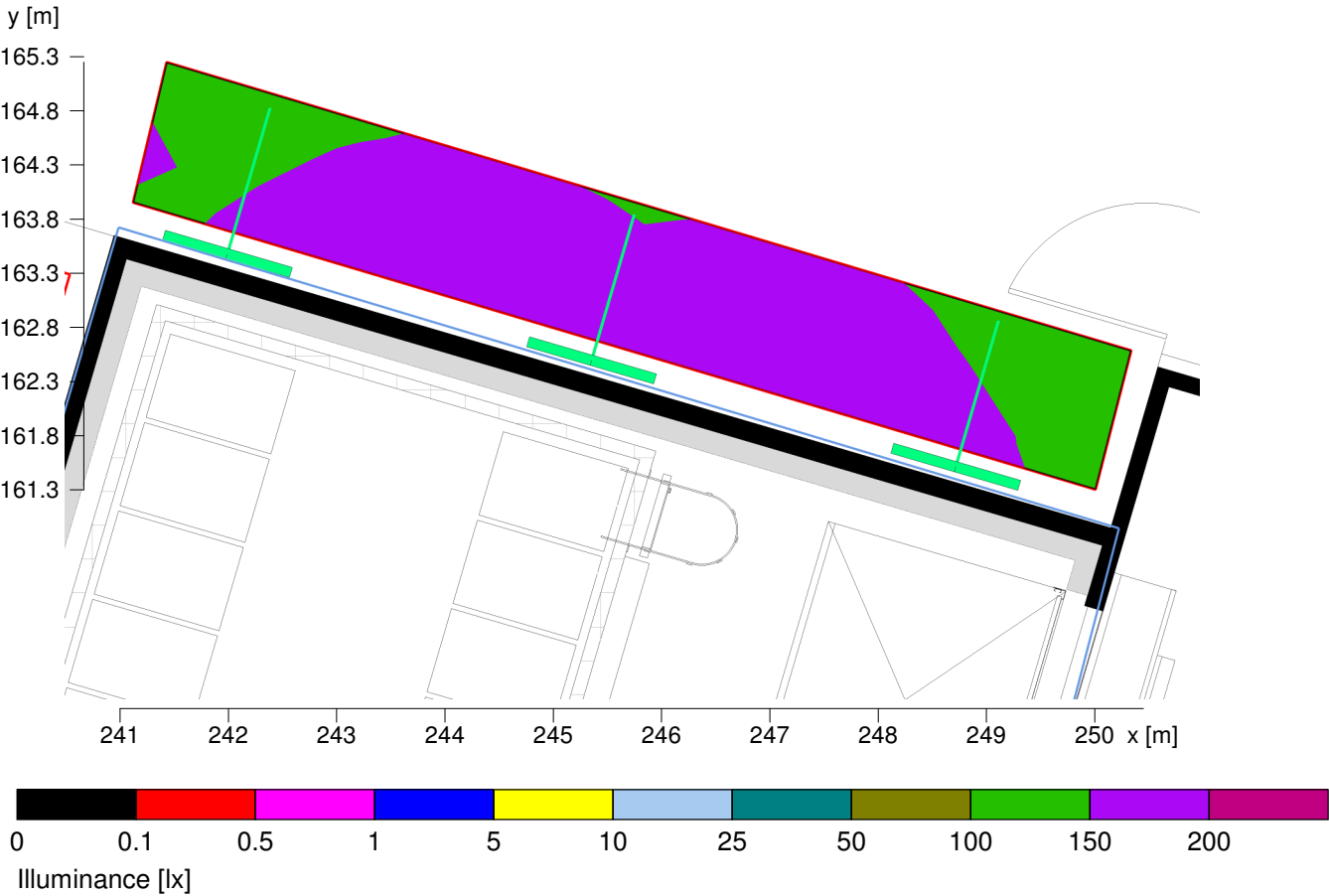
1.3.4 Pseudo colours, Carpark (E)



Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 15.3 lx
Minimum illuminance	E_{min}	: 4.90 lx
Maximum illuminance	E_{max}	: 79 lx
Uniformity U_0	$E_{min}/\bar{E}_m$	: 1 : 3.12 (0.32)
Diversity U_d	E_{min}/E_{max}	: 1 : 16.04 (0.06)

1.3 Calculation results, Carpark

1.3.5 Pseudo colours, Plant Area Walkway (E)

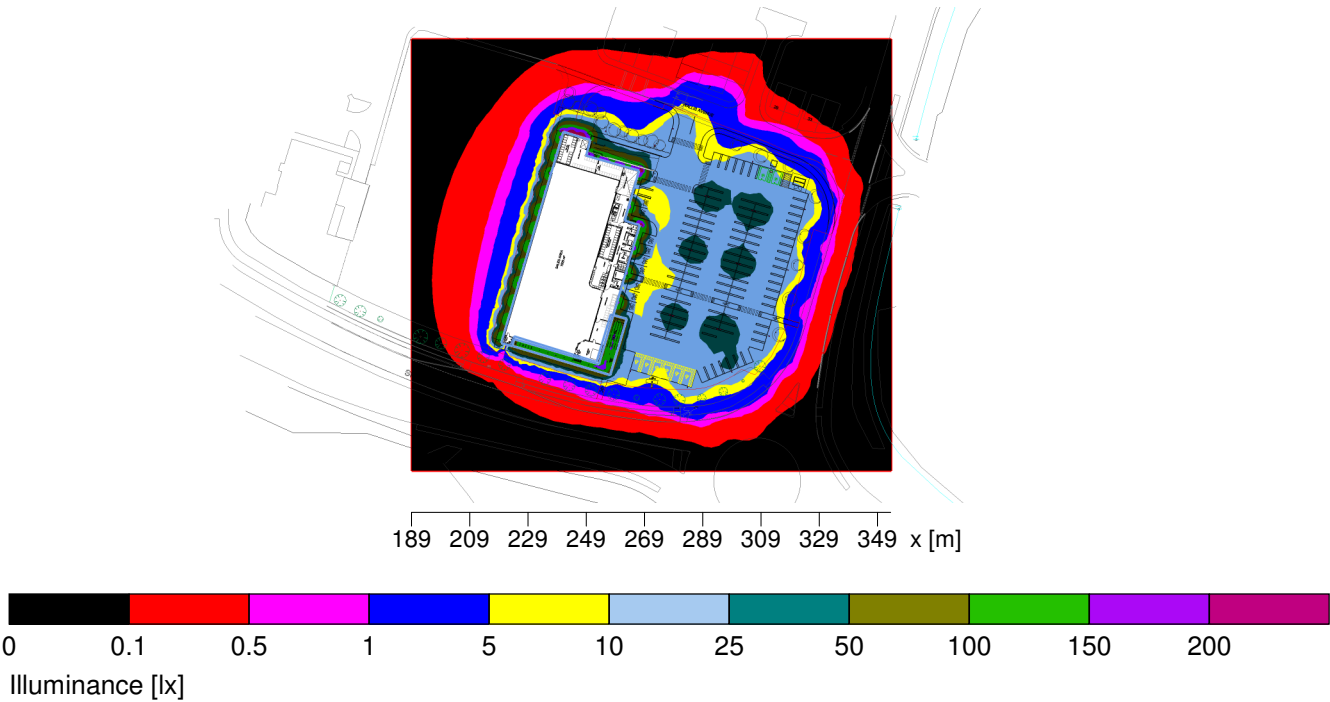


Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 161 lx
Minimum illuminance	E_{min}	: 113 lx
Maximum illuminance	E_{max}	: 196 lx
Uniformity U_0	$E_{min}/\bar{E}_m$	: 1 : 1.42 (0.70)
Diversity U_d	E_{min}/E_{max}	: 1 : 1.73 (0.58)

2 Carpark Spill Light

2.1 Summary, Carpark Spill Light

2.1.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	1.00
Total lamp luminous flux	243400.00 lm
Luminaire luminous flux	227920.72 lm
Total power	1733.4 W
Total power per area (24328.70 m²)	0.07 W/m² (0.85 W/m²/100lx)
Upward light ratio (RUL)	1 %

Evaluation area 1

Reference plane 1.1

$\bar{E}_m$	Horizontal
E_{min}	8.38 lx
$E_{min}/\bar{E}_m (U_0)$	0.01 lx
$E_{min}/E_{max} (U_d)$	0.00
Position	0.00 m

Type No.Make

2 22 x	Philips
	Order No. :
	Luminaire name : LL-A 3000K
	Equipment : 1 x LED49-4S/830 35.4 W / 4900 lm

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2 Carpark Spill Light

2.1 Summary, Carpark Spill Light

2.1.1 Result overview, Evaluation area 1

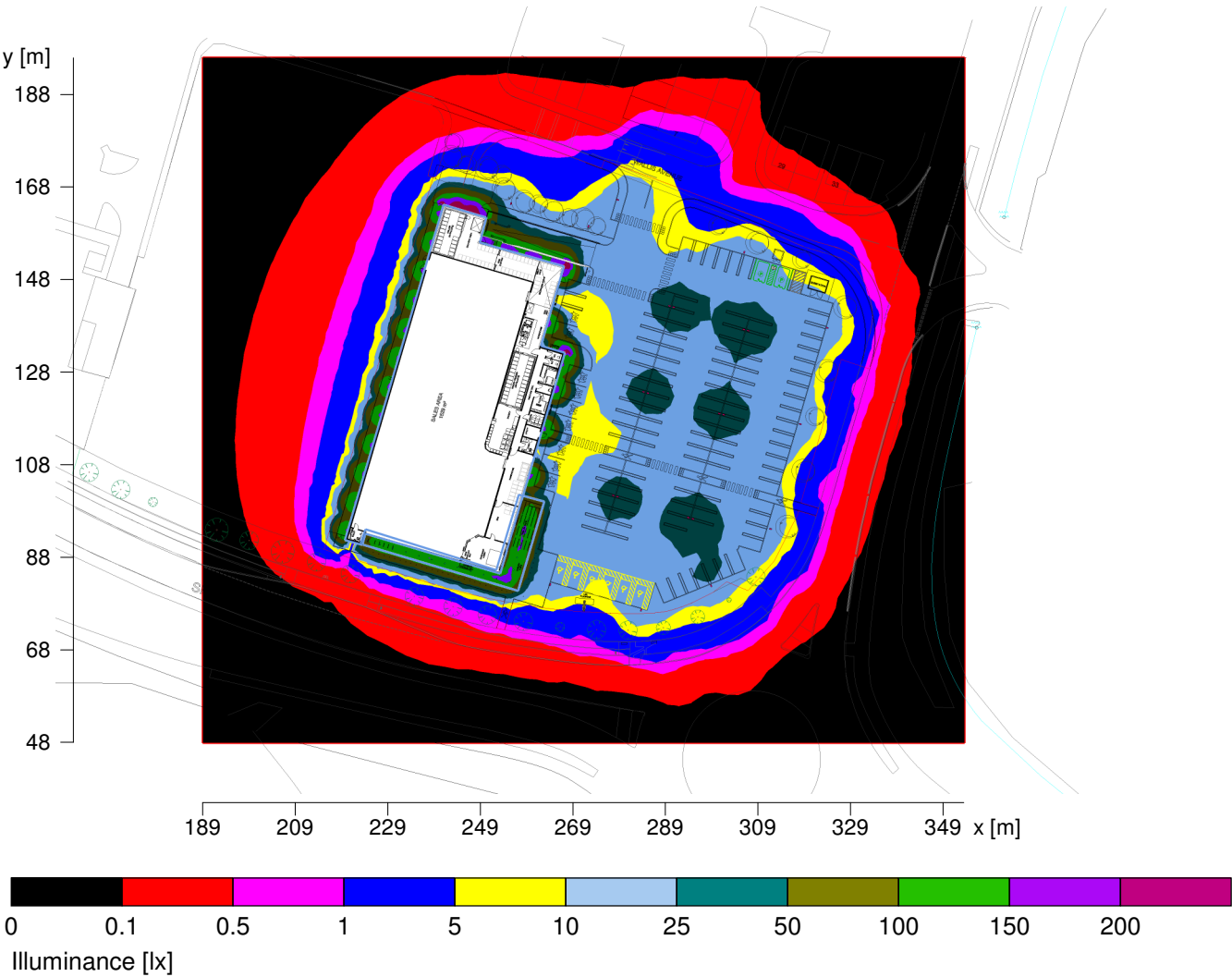
3 18 x Order No. :
 Luminaire name : LL-Canopy 4000K
Equipment : 1 x LED20S/840 16.2 W / 1900 lm

4 26 x Order No. :
 Luminaire name : LL-E 3000K
Equipment : 1 x LED42S/830 25.5 W / 3900 lm

2 Carpark Spill Light

2.2 Calculation results, Carpark Spill Light

2.2.1 Pseudo colours, Reference plane 1.1 (E)

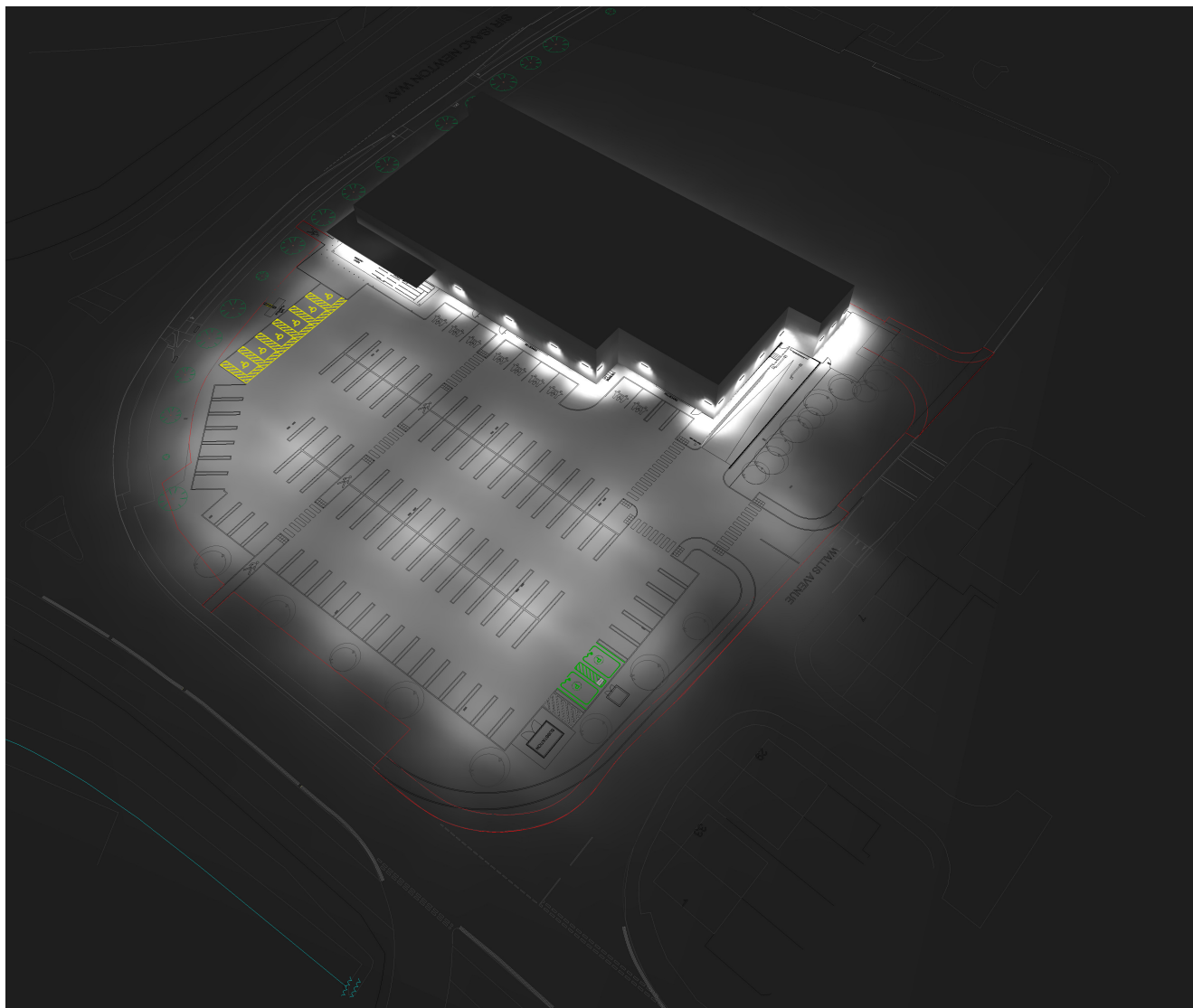


Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 8.38 lx
Minimum illuminance	E_{min}	: 0.01 lx
Maximum illuminance	E_{max}	: 201 lx
Uniformity U_0	$E_{min}/\bar{E}_m$	: 1 : 1521.65 (0.00)
Diversity U_d	E_{min}/E_{max}	: 1 : 36449.77 (0.00)

Object : LiDI Wallis Avenue, Rochdale
Installation :
Project number :
Date : 28.05.2026

2.2 Calculation results, Carpark Spill Light

2.2.2 3D luminance, View 1



Luminance in the scene

Minimum: : 0 cd/m²

Maximum: : 162 cd/m²

2.2 Calculation results, Carpark Spill Light

2.2.3 3D pseudo colours, View 1 (E)

