

EXTERNAL LIGHTING

Installation : DLC CHIPPENHAM

Project number : LS-1286
Customer : EBS
Processed by : LS
Date : 19.02.2026

Project description:
SAMPLE CALCULATION BASED ON:

All external luminaires for the car park, MUGA and Padel are installed with a flat glass position - i.e. no upward tilt therefore no direct upward light (ULR).

Car Park - Designed to achieve 10 - 15 lux maintained average and 25% uniformity.
23w asymmetric optic luminaires on 6m columns.

MUGA lighting - Designed to achieve 300 lux maintained average and 50% uniformity.
Twin 300w asymmetric optic floodlight luminaires on 8m columns.

Padel Court Lighting - Designed to achieve 300 lux maintained average and 50% uniformity.
Single 225w asymmetric optic floodlight luminaires on 6m padel frame columns.

Lighting Design Disclaimer – Relux Software Calculations

Please note that the lighting calculations and simulations provided in this document have been generated using Relux Lighting Design Software.

These calculations are intended to support the design process and offer a visual and quantitative representation of proposed lighting layouts based on current design inputs and assumptions.

While Relux is a reliable industry-standard tool, the results presented here are estimations and may not precisely reflect real-world conditions.

Factors such as installation variations, product tolerances, site-specific conditions, and future changes in the environment can affect actual lighting performance.

These calculations should not be interpreted as a final or certified engineering design.

It is the responsibility of the client, project engineers, and other relevant stakeholders to verify all data, confirm compliance with applicable codes and standards, and conduct on-site validation where necessary.

We recommend using this report as part of a broader design and decision-making process.

No liability is accepted for any discrepancies between the simulated and actual lighting performance.

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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1 Luminaire data

1.1 NORTHCLIFFE, Auva LED1x3250 J005 T740 LSM2 ()

1.1.1 Data sheet

Manufacturer: NORTHCLIFFE

Auva LED1x3250 J005 T740 LSM2

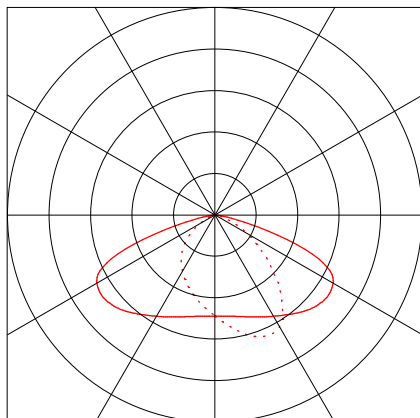
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 148.51 lm/W
Classification : A30 ↓100% ↑0%
CIE Flux Codes : 41 79 99 100 100
Glare : G*6 / D6
Power : 22.2 W
Luminous flux : 3296.8 lm

Equipped with

Quantity : 1
Designation : LED
Colour : 4000
Luminous flux : 3297 lm
Colour reproduction : 70

Dimensions : 525 mm x 205 mm x 102 mm



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1 Luminaire data

1.2 BELL Lighting Limited, Skyline Virtus 150W-300W 4000K Asy... (11491)

1.2.1 Data sheet

Manufacturer: BELL Lighting Limited

11491 Skyline Virtus 150W-300W 4000K Asymmetric Floodlight

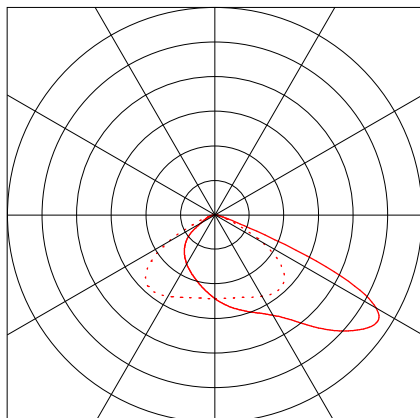
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 153.58 lm/W
Classification : A40 ↓100% ↑0%
CIE Flux Codes : 41 84 99 100 100
UGR 4H 8H : 39.2 / 33.1
Power : 300.1 W
Luminous flux : 46089.6 lm

Equipped with

Quantity : 1
Designation : LED 840
Colour : 4000K
Luminous flux : 46090 lm
Colour reproduction : 80

Dimensions : 380 mm x 380 mm x 75 mm



1 Luminaire data

1.3 BELL Lighting Limited, Skyline Virtus 150W-300W 4000K Asy... (11491)

1.3.1 Data sheet

Manufacturer: BELL Lighting Limited

EX1 11491 Skyline Virtus 150W-300W 4000K Asymmetric Floodlight

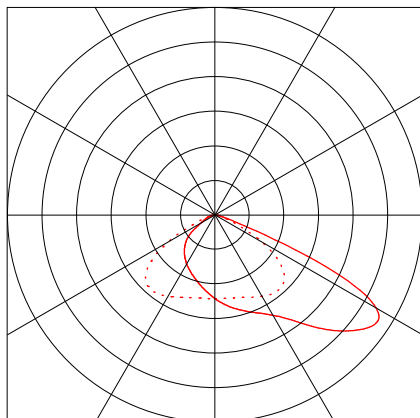
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 153.64 lm/W
Classification : A40 ↓100% ↑0%
CIE Flux Codes : 41 84 99 100 100
UGR 4H 8H : 38.2 / 32.1
Power : 225 W
Luminous flux : 34567.7 lm

Equipped with

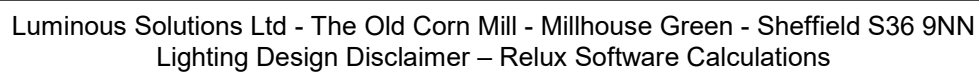
Quantity : 1
Designation : LED 840
Colour : 4000K
Luminous flux : 34568 lm
Colour reproduction : 80

Dimensions : 380 mm x 380 mm x 75 mm





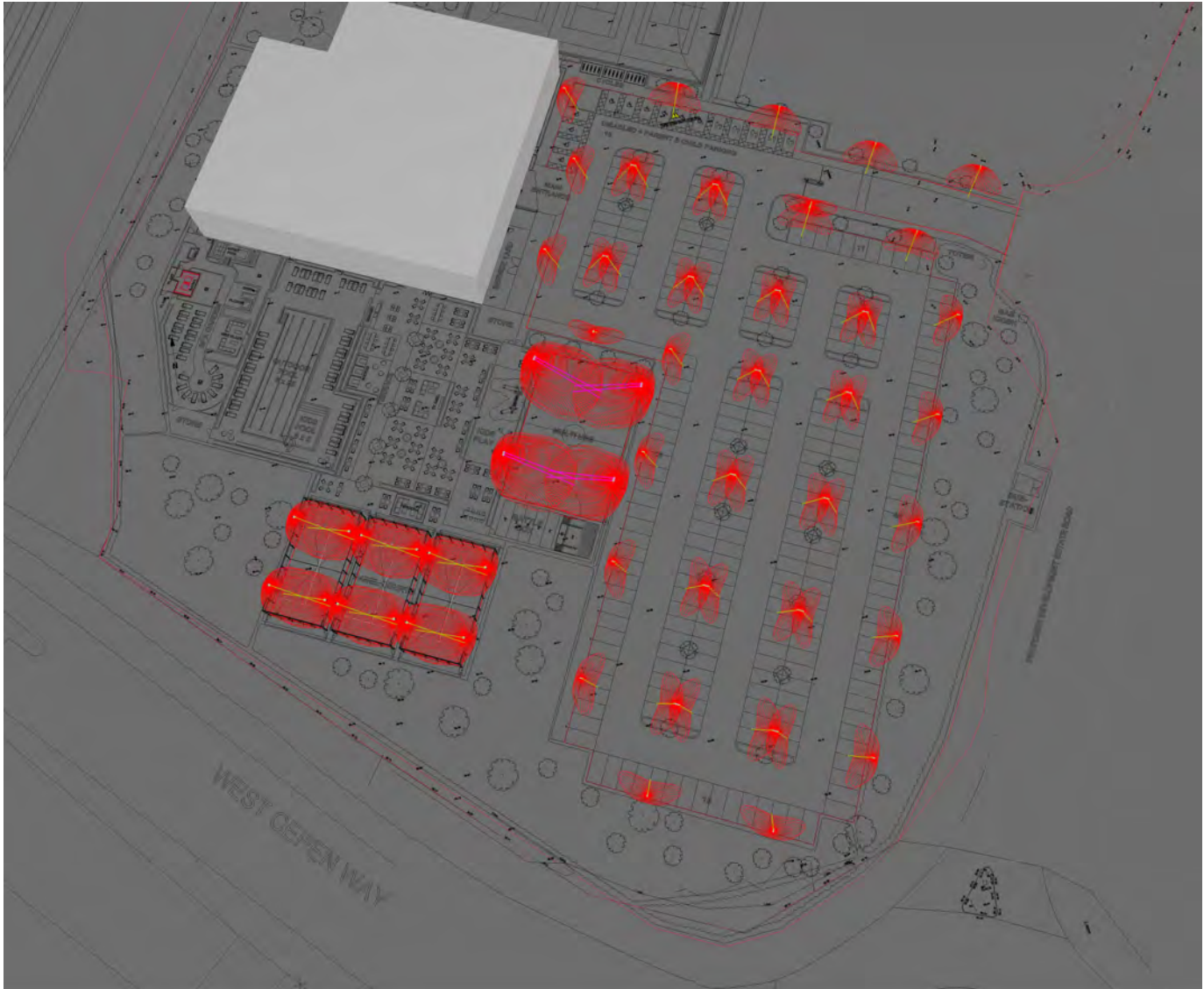
2.1.1 Floor plan





2.1 Description, Exterior 1

2.1.2 3D view, View 1



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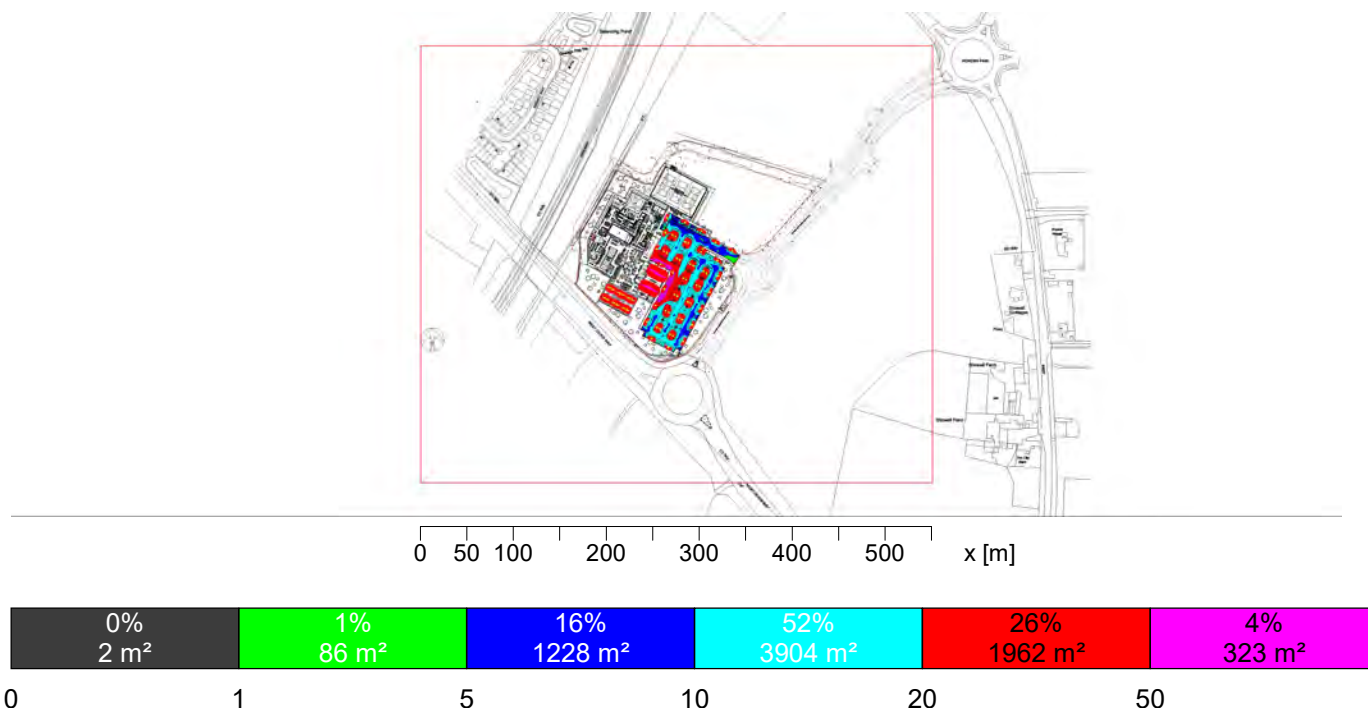


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2 Exterior 1

2.2 Summary, Exterior 1, Light scene 1(C)

2.2.1 Result overview, Car Park



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.85
Total luminous flux	948386 lm
Total power	6210.8 W
Total power per area (258500.00 m²)	0.02 W/m²
Upward light ratio (RUL)	0 %

Illuminance

Average illuminance	$\bar{E}_m$	18.6 lx
Minimum illuminance	E_{min}	4.7 lx
Maximum illuminance	E_{max}	84.7 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.93 (0.25)
Diversity U_d	E_{min}/E_{max}	1:17.9 (0.06)

Type No. \Make

1 50 x	NORTHCLIFFE
	Order No. :
	Luminaire name : Auva LED1x3250 J005 T740 LSM2
	Equipment : 1 x LED 22.2 W / 3297 lm

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

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2 Exterior 1

2.2 Summary, Exterior 1, Light scene 1(C)

2.2.1 Result overview, Car Park

BELL Lighting Limited

2	8 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 300.1 W / 46090 lm
3	12 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 225 W / 34568 lm

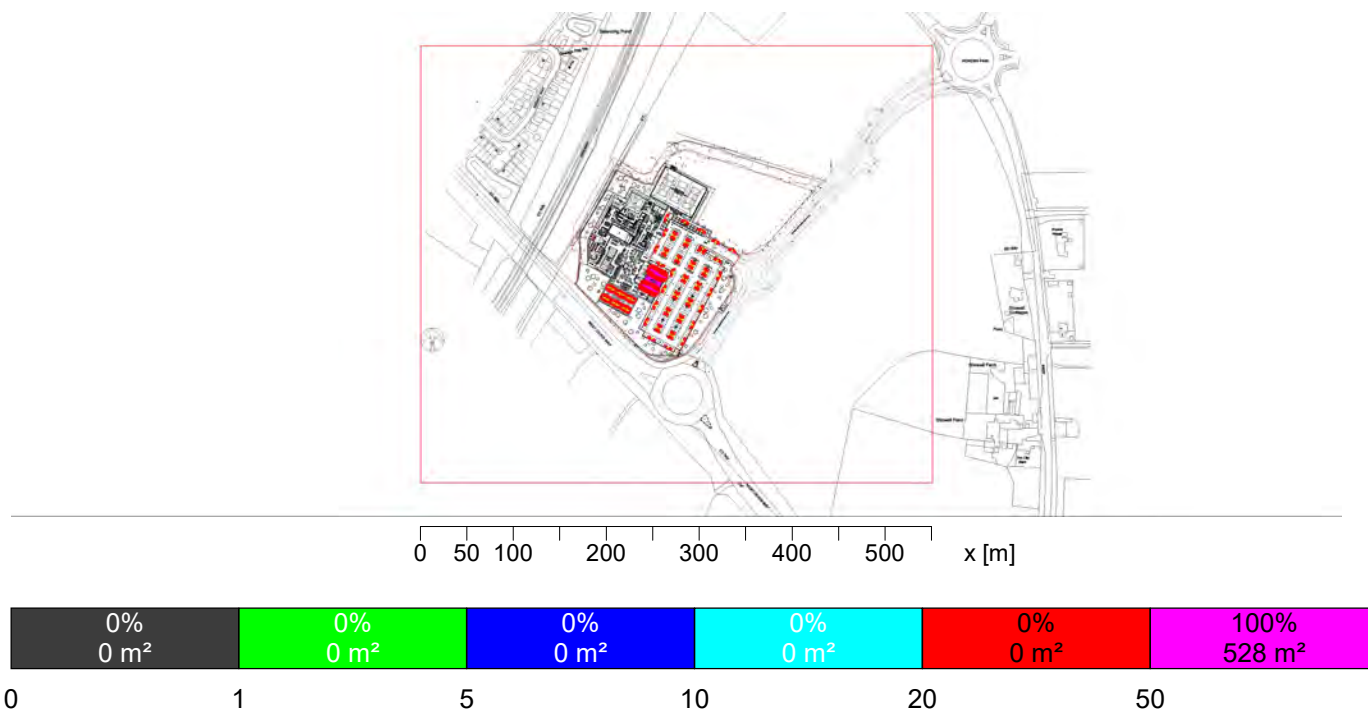
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2.2 Summary, Exterior 1, Light scene 1(C)

2.2.2 Result overview, MUGA PITCH



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.85
Total luminous flux	948386 lm
Total power	6210.8 W
Total power per area (258500.00 m²)	0.02 W/m²
Upward light ratio (RUL)	0 %

Illuminance

Average illuminance	$\bar{E}_m$	313 lx
Minimum illuminance	E_{min}	232 lx
Maximum illuminance	E_{max}	358 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.35 (0.74)
Diversity U_d	E_{min}/E_{max}	1:1.55 (0.65)

Type No. \ Make

1	50 x	NORTHCLIFFE
	Order No.	:
	Luminaire name	: Auva LED1x3250 J005 T740 LSM2
	Equipment	: 1 x LED 22.2 W / 3297 lm

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

Object : EXTERNAL LIGHTING
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2.2 Summary, Exterior 1, Light scene 1(C)

2.2.2 Result overview, MUGA PITCH

		BELL Lighting Limited	
2	8 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 300.1 W / 46090 lm
3	12 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 225 W / 34568 lm

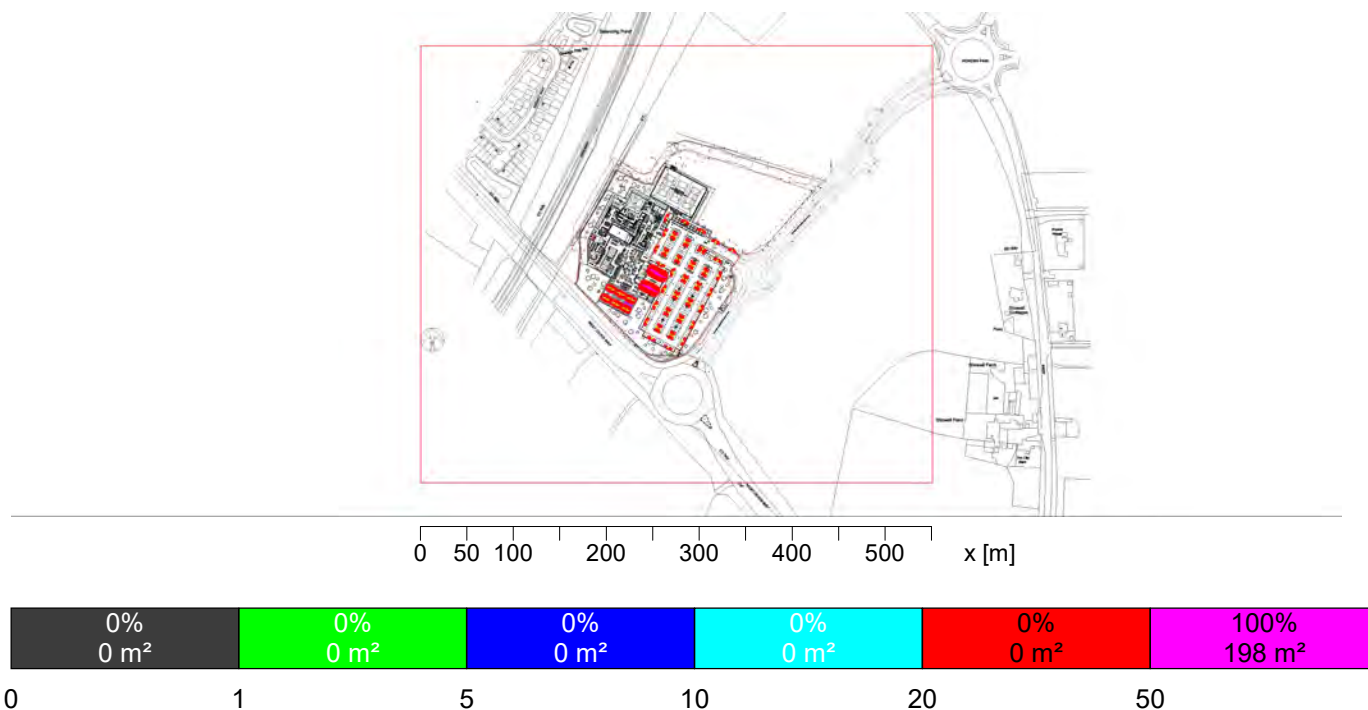
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2.2 Summary, Exterior 1, Light scene 1(C)

2.2.3 Result overview, PADEL COURT 1



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.07 m
Maintenance factor	0.85
Total luminous flux	948386 lm
Total power	6210.8 W
Total power per area (258500.00 m²)	0.02 W/m²
Upward light ratio (RUL)	0 %

Illuminance

Average illuminance	$\bar{E}_m$	312 lx
Minimum illuminance	E_{min}	189 lx
Maximum illuminance	E_{max}	439 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.65 (0.61)
Diversity U_d	E_{min}/E_{max}	1:2.32 (0.43)

Type No. \ Make

1	50 x	NORTHCLIFFE
	Order No.	:
	Luminaire name	: Auva LED1x3250 J005 T740 LSM2
	Equipment	: 1 x LED 22.2 W / 3297 lm

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

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2.2 Summary, Exterior 1, Light scene 1(C)

2.2.3 Result overview, PADEL COURT 1

		BELL Lighting Limited	
2	8 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 300.1 W / 46090 lm
3	12 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 225 W / 34568 lm

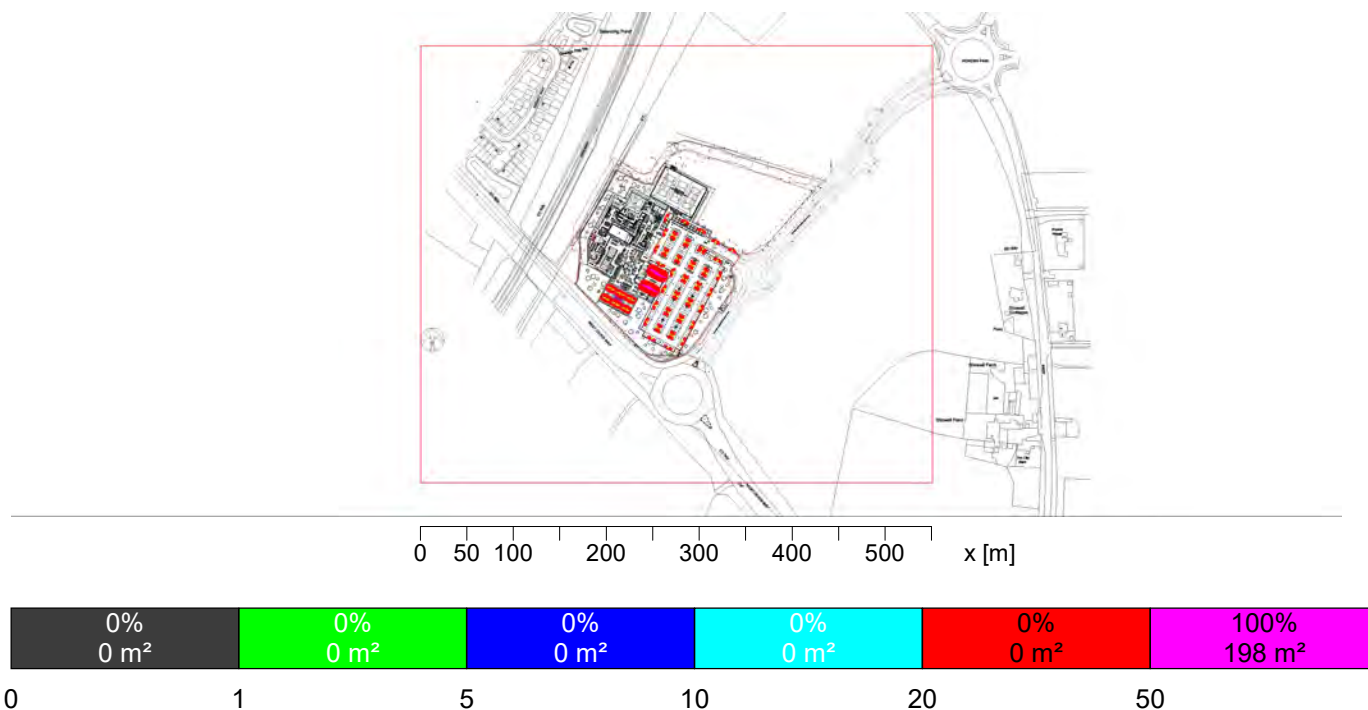
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2.2 Summary, Exterior 1, Light scene 1(C)

2.2.4 Result overview, PADEL COURT 2



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.07 m
Maintenance factor	0.85
Total luminous flux	948386 lm
Total power	6210.8 W
Total power per area (258500.00 m²)	0.02 W/m²
Upward light ratio (RUL)	0 %

Illuminance

Average illuminance	$\bar{E}_m$	335 lx
Minimum illuminance	E_{min}	241 lx
Maximum illuminance	E_{max}	438 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.39 (0.72)
Diversity U_d	E_{min}/E_{max}	1:1.82 (0.55)

Type No. \ Make

1	50 x	NORTHCLIFFE
	Order No.	:
	Luminaire name	: Auva LED1x3250 J005 T740 LSM2
	Equipment	: 1 x LED 22.2 W / 3297 lm

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

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2.2 Summary, Exterior 1, Light scene 1(C)

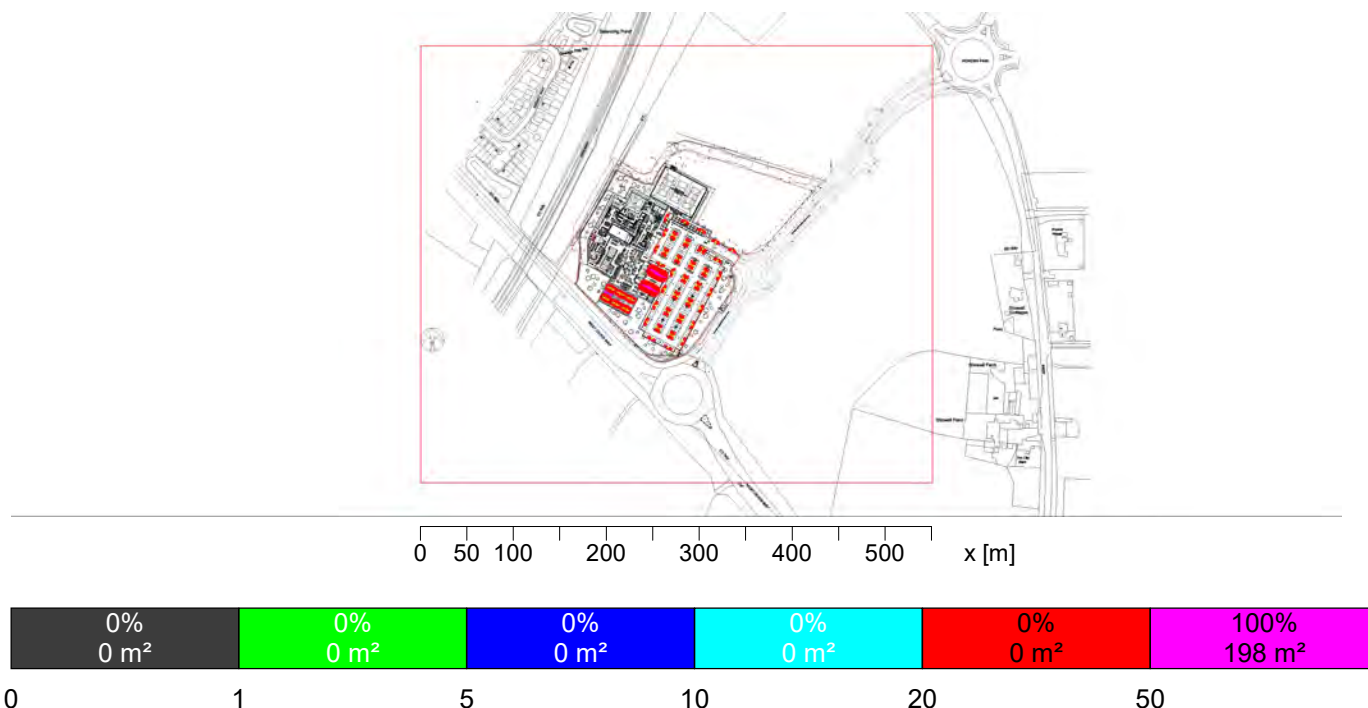
2.2.4 Result overview, PADEL COURT 2

		BELL Lighting Limited	
2	8 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 300.1 W / 46090 lm
3	12 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 225 W / 34568 lm



2.2 Summary, Exterior 1, Light scene 1(C)

2.2.5 Result overview, PADEL COURT 3



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.07 m
Maintenance factor	0.85
Total luminous flux	948386 lm
Total power	6210.8 W
Total power per area (258500.00 m²)	0.02 W/m²
Upward light ratio (RUL)	0 %

Illuminance

Average illuminance	$\bar{E}_m$	304 lx
Minimum illuminance	E_{min}	188 lx
Maximum illuminance	E_{max}	435 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.62 (0.62)
Diversity U_d	E_{min}/E_{max}	1:2.32 (0.43)

Type No. Make

1	50 x	NORTHCLIFFE
	Order No.	:
	Luminaire name	: Auva LED1x3250 J005 T740 LSM2
	Equipment	: 1 x LED 22.2 W / 3297 lm

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

Object : EXTERNAL LIGHTING
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2.2 Summary, Exterior 1, Light scene 1(C)

2.2.5 Result overview, PADEL COURT 3

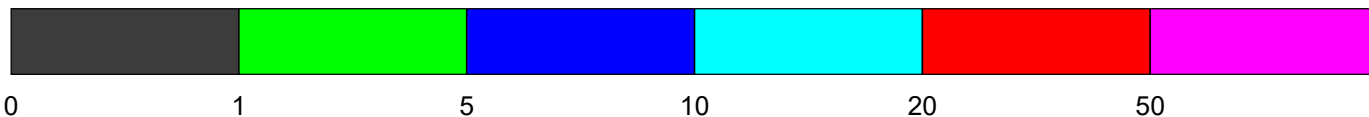
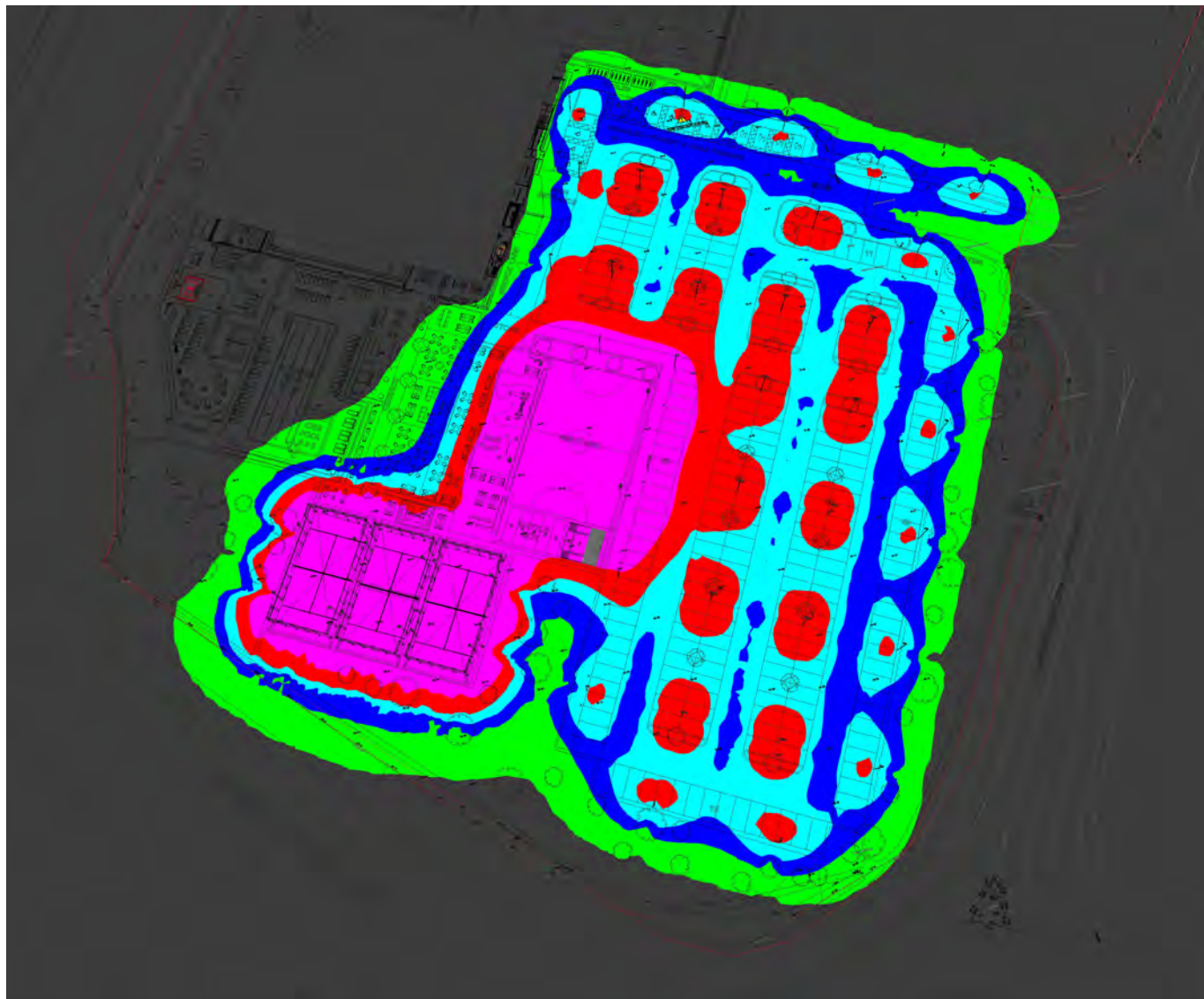
		BELL Lighting Limited	
2	8 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 300.1 W / 46090 lm
3	12 x	Order No.	: 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 225 W / 34568 lm



2 Exterior 1

2.3 Calculation results, Exterior 1, Light scene 1(C)

2.3.2 3D pseudo colours, View 1 (E)



Illuminance [lx]