



Technical Submittal 14

External Lighting

DOCUMENT STATUS

Document Status				
Revision	P01	P02	P03	P04
Date	16/12/2024	12/05/2025	22/07/2025	25/02/2026
Author	B Dickinson	B Dickinson	B Dickinson	B Dickinson
Checked	B Green	B Green	B Green	S Renwick
Verified	D Hudson	D Hudson	D Hudson	D Hudson

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Executive Summary

The purpose of this technical submittal is to provide the reader with an overview of the **External Lighting** and materials to be provided within the MCFC North Stand Development.

This update captures the new XR & XS lighting columns. No change to the other fittings previously approved.

Appendix A - Basis of Design

- Document No: NSE-MEE-NS-XX-TS-E-008001 RIBA Stage 4a Interim
Revision: P01
- Document No: NSE-MEE-NS-XX-TS-E-008002 RIBA Stage 4a
Revision: P01
- Document No: NSE-MEE-NS-XX-LS-E-008001 RIBA Stage 4a Interim
Revision: P02

Appendix B - Manufacturers Details

Company Name: Park Lighting
Email: stephenhollingworth@park-electrical.co.uk
Tel: 07842 433 983
Web: www.parklightingdesign.co.uk

Appendix C - Technical Literature

As per technical data attached - see appendix H.

Appendix D - Compliance

In line with the electrical specification and equipment schedule:

- Document No: NSE-MEE-NS-XX-TS-E-008001 RIBA Stage 4a Interim
Revision: P01
- Document No: NSE-MEE-NS-XX-TS-E-008002 RIBA Stage 4a
Revision: P01
- Document No: NSE-MEE-NS-XX-LS-E-008001 RIBA Stage 4a Interim
Revision: P02

Appendix E - Non -Compliance

N/A

Appendix F - Programme

The Purpose of this technical submission is to inform the Etihad client team and professional team of SES intent regards to procurement of systems and equipment to enable input into the MEP design and therefore complete the systems MEP design.

The Technical submission is by no means intended to show full systems design by the way of MEP design drawings and schematics.

Drawings and Schematics will follow once technical submissions have reached A or B status and the technical information from within the approved submission has been inputted into the MEP design.

Appendix G - Drawing Reference

NSE-SEE-ZZ-00-DR-Z-000103

Appendix H - Attachments

SY1023-27 Manchester City Football Club External Technical Submission

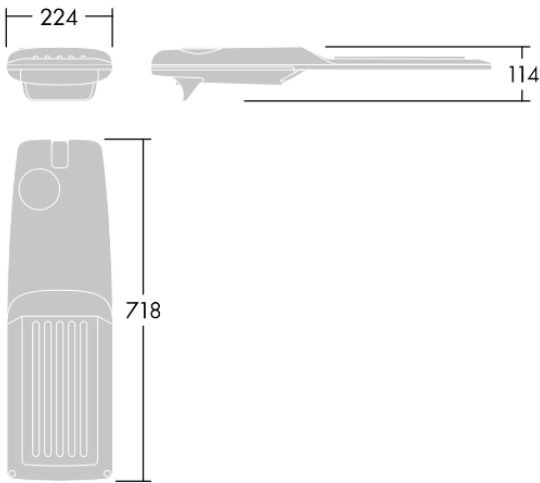


Rev: D

XA	Column Top Luminaire
XA-2A (i)	Column Top Luminaire
XA-2A (ii)	Column Top Luminaire
XB-1	Column Top Luminaire
XC	Ground Spike Mounted Spotlight Luminaire
XD	Column Mounted Spotlight Luminaire
XD-1	Column Mounted Spotlight Luminaire
XF	Concealed Linear LED
XF-1	Concealed Linear LED
XF-2	Concealed Linear LED
XH	Spotlight Luminaire
XJ	Spotlight Luminaire
XK	Ground Recessed Linear Luminaire
XM	Ceiling Recessed Fixed LED Downlight
XO	Ground Recessed Uplight Luminaire
XR	Column Top Luminaire
XS	Column Top Luminaire



Grey finish close to RAL 9006



5YR

Warranty

IP66

Protection

100000hr

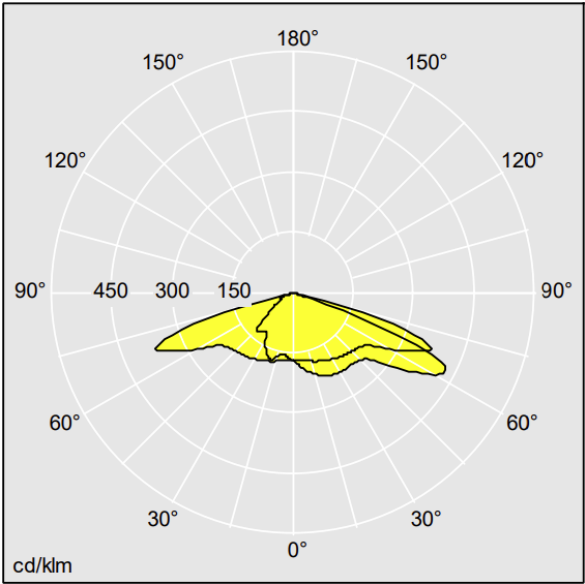
Lamp Life

IK09

Toughness

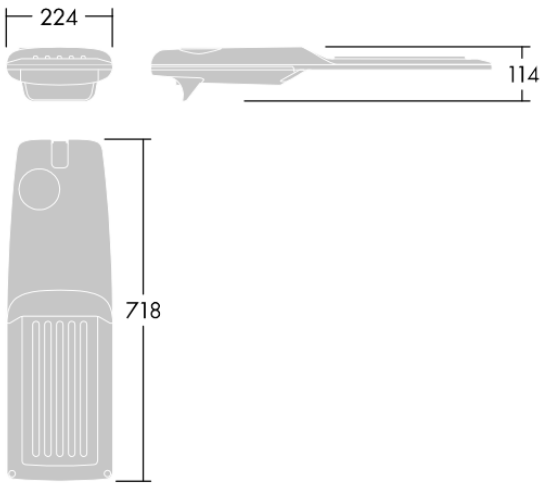
Performance Data

Manufacturer	THORN
Range / Part Code	ISARO PRO / IP 48L50 740 EWR HFX CL1 M76 GY-S
Total Luminous Flux	11504LM
Connected Load	70.4W
Luminaire Efficiency	163LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	100000hrs(L95)
Colour Temperature	4000K
Colour Rendering	CRI 70



REF: XA-2A (i)

Column Top Luminaire



Grey finish close to RAL 9006

5YR

Warranty

IP66

Protection

100000hr

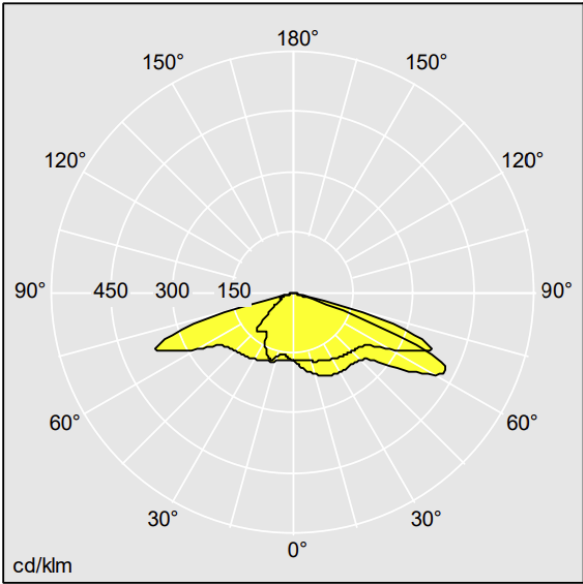
Lamp Life

IK09

Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	ISARO PRO / IP 48L50 740 EWR HFX CL1 M42 GY-S
Total Luminous Flux	11504LM
Connected Load	70.4W
Luminaire Efficiency	163LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	100000hrs(L95)
Colour Temperature	4000K
Colour Rendering	CRI 70

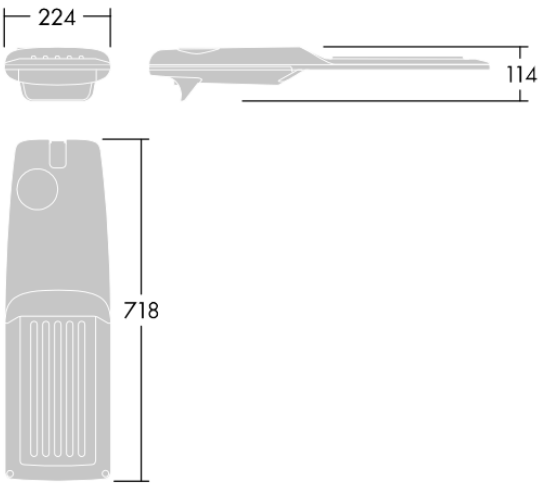


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Column Top Luminaire



Grey finish close to RAL 9006



5YR

Warranty

IP66

Protection

100000hr

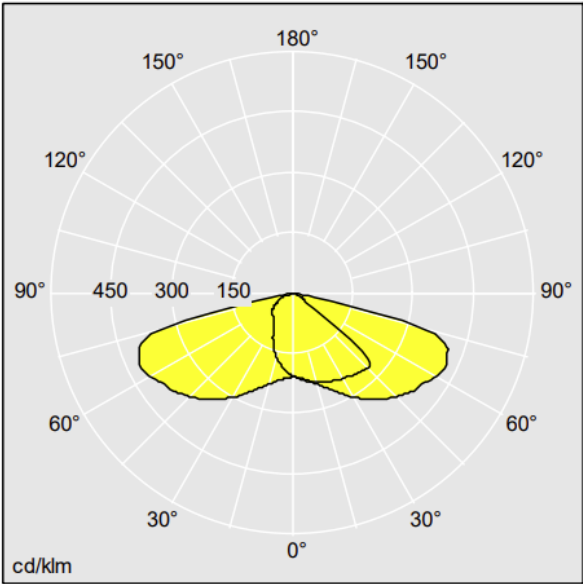
Lamp Life

IK09

Toughness

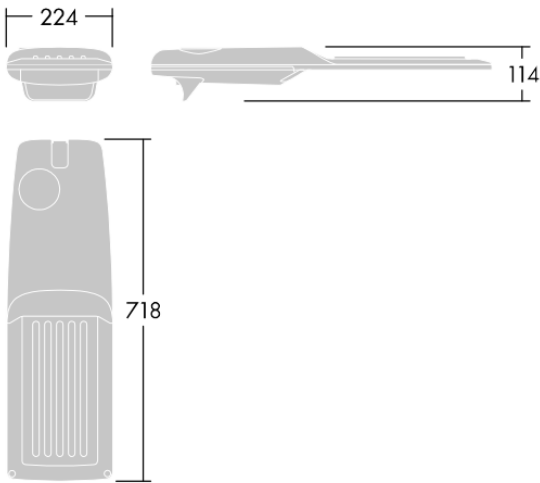
Performance Data

Manufacturer	THORN
Range / Part Code	ISARO PRO / IP 48L50 740 NR HFX CL1 M42 GY-S
Total Luminous Flux	11646LM
Connected Load	70.4W
Luminaire Efficiency	165LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	100000hrs(L95)
Colour Temperature	4000K
Colour Rendering	CRI 70



REF: XB-1

Column Top Luminaire



Grey finish close to RAL 9006

5YR

Warranty

IP66

Protection

100000hr

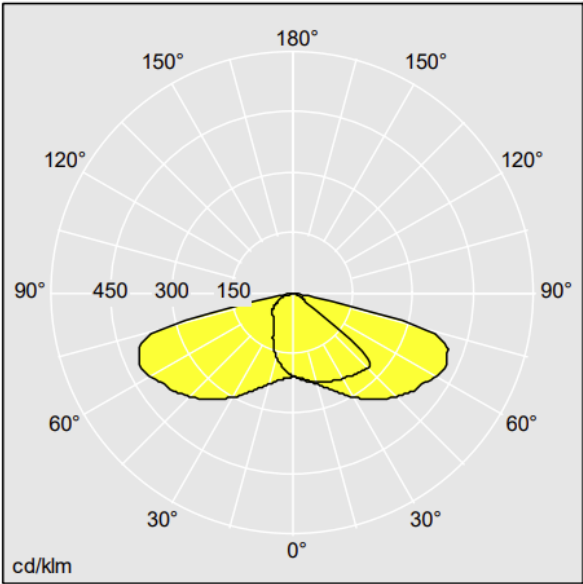
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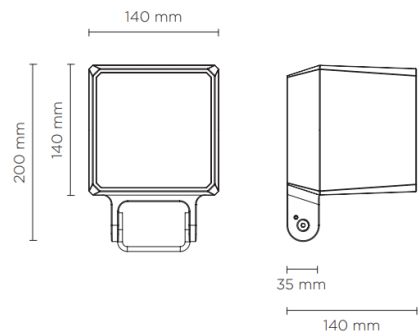
IK09

Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	ISARO PRO / IP 48L50 740 NR HFX CL1 M42 GY-S (2no.)
Total Luminous Flux	11646LM
Connected Load	70.4W
Luminaire Efficiency	165LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	100000hrs(L95)
Colour Temperature	4000K
Colour Rendering	CRI 70





Grey finish RAL 9006

5YR

Warranty

 IP66

Protection

TBC

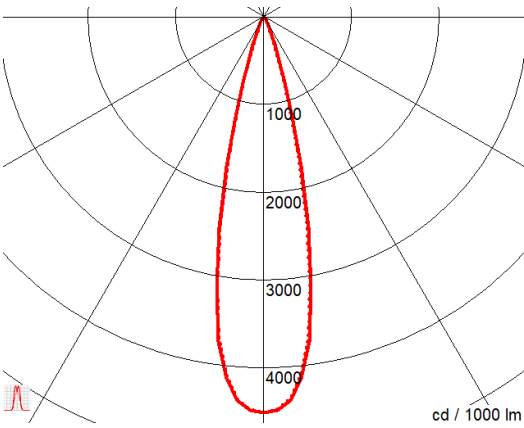
Lamp Life

 IK10

Toughness

Performance Data

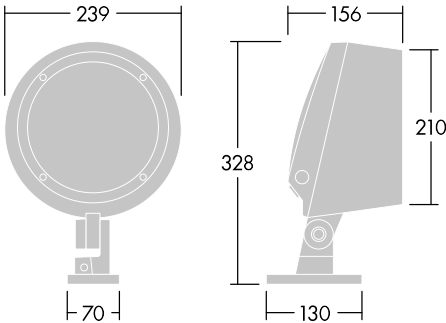
Manufacturer	PUK
Range / Part Code	QUBO MEDIUM HP
Total Luminous Flux	1950LM
Connected Load	20W
Luminaire Efficiency	97.5LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	TBC
Colour Temperature	3000K
Colour Rendering	CRI 80



Column Mounted Spotlight Luminaire



To be grey finish close to RAL 9006



5YR

Warranty

 IP66

Protection

50000hr

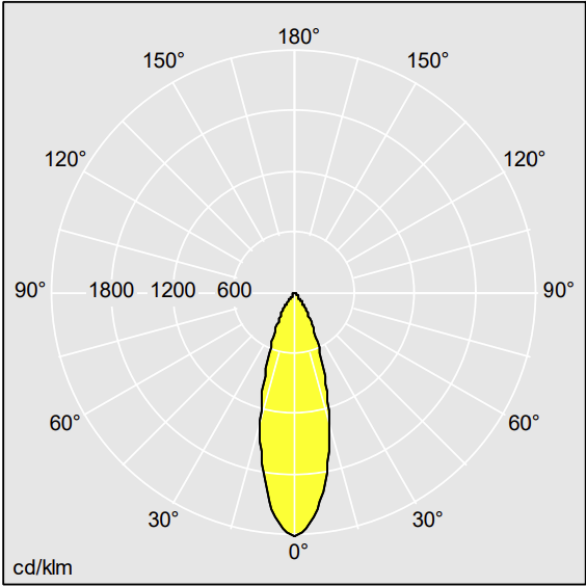
Lamp Life

 IK08

Toughness

Performance Data

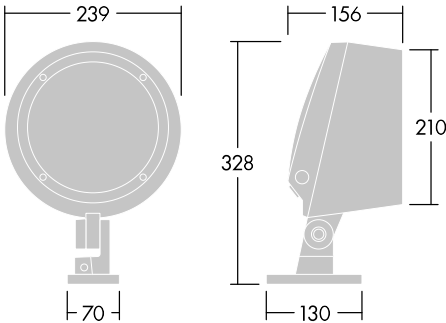
Manufacturer	THORN
Range / Part Code	CONTRAST/ CONT3 12L105 830 WB HFX SP GY (4no.)
Total Luminous Flux	3032LM
Connected Load	41W
Luminaire Efficiency	74LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	50000hrs(L80)
Colour Temperature	3000K
Colour Rendering	CRI 80



Column Mounted Spotlight Luminaire



To be grey finish close to RAL 9006



5YR

Warranty

 IP66

Protection

50000hr

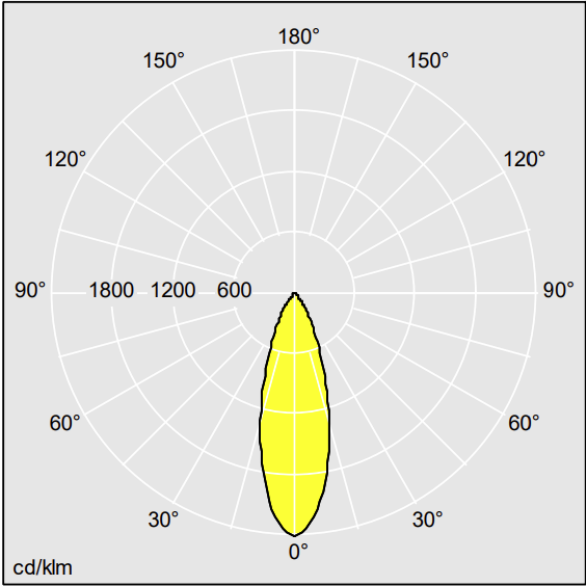
Lamp Life

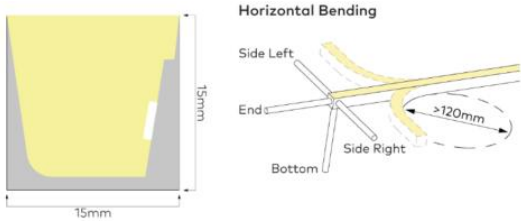
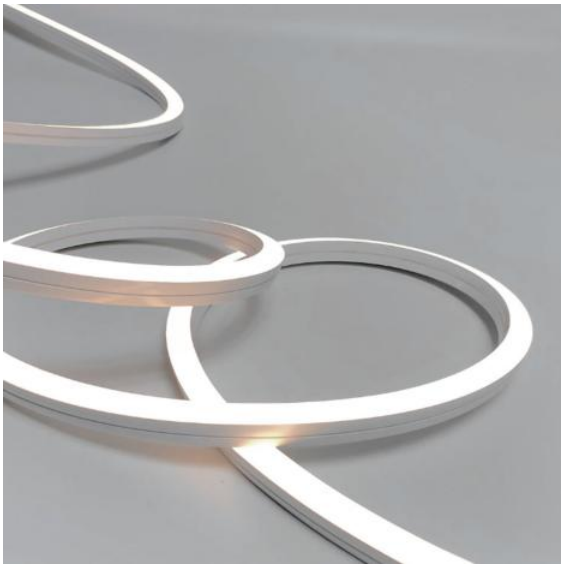
 IK08

Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	CONTRAST/ CONT3 12L105 830 WB HFX SP GY (5no.)
Total Luminous Flux	3032LM
Connected Load	41W
Luminaire Efficiency	74LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	50000hrs(L80)
Colour Temperature	3000K
Colour Rendering	CRI 80





5YR

Warranty

IP67

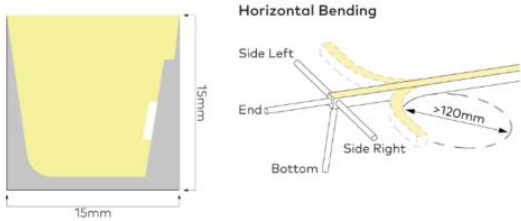
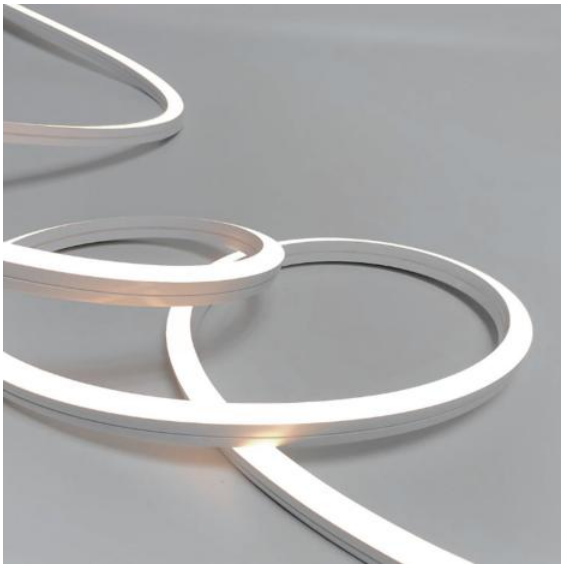
Protection

50000hr

Lamp Life

Performance Data

Manufacturer	IBL
Range / Part Code	FLEX 15H MONO
Total Luminous Flux	570LM/M
Connected Load	12W/M
Luminaire Efficiency	48LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	50000hrs(L80)
Colour Temperature	2700K
Colour Rendering	≥CRI 90



5YR

Warranty

IP67

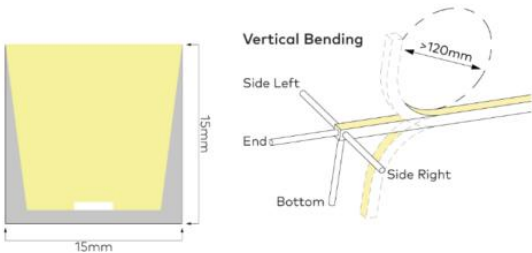
Protection

50000hr

Lamp Life

Performance Data

Manufacturer	IBL
Range / Part Code	FLEX 15H MONO
Total Luminous Flux	570LM/M
Connected Load	12W/M
Luminaire Efficiency	48LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	50000hrs(L80)
Colour Temperature	2700K
Colour Rendering	≥CRI 90



5YR

Warranty

IP67

Protection

50000hr

Lamp Life

Performance Data

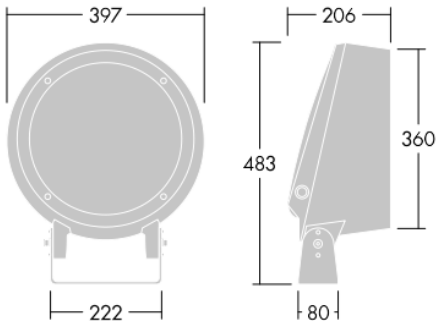
Manufacturer	IBL
Range / Part Code	FLEX 15V MONO
Total Luminous Flux	1200LM/M
Connected Load	13.5W/M
Luminaire Efficiency	89LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	50000hrs(L80)
Colour Temperature	2700K
Colour Rendering	CRI 80

REF: XH

Spotlight Luminaire



To be grey finish close to RAL 9006



5YR

Warranty

IP66

Protection

50000hr

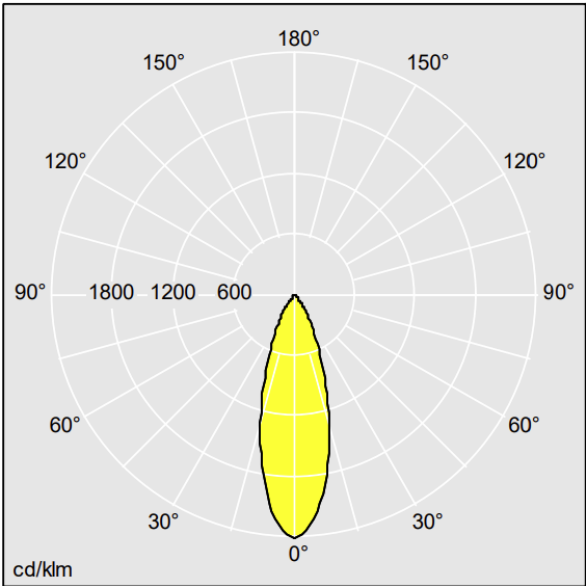
Lamp Life

IK08

Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	CONTRAST/ CONT3 36L105 830 WB HFX SP GY
Total Luminous Flux	9215LM
Connected Load	117W
Luminaire Efficiency	79LM/W
Emergency Reference	XHE
Emergency Lumens	9215LM (100%)
Control Type	DALI
Led Lifetime	50000hrs(L80)
Colour Temperature	3000K
Colour Rendering	CRI 80

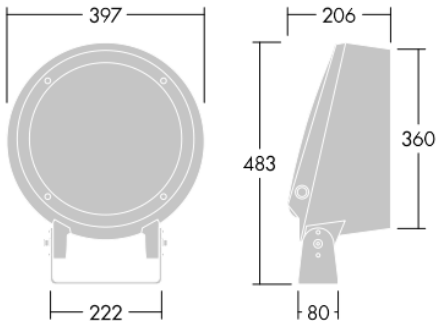


REF: XJ

Spotlight Luminaire



To be grey finish close to RAL 9006



5YR

Warranty

IP66

Protection

50000hr

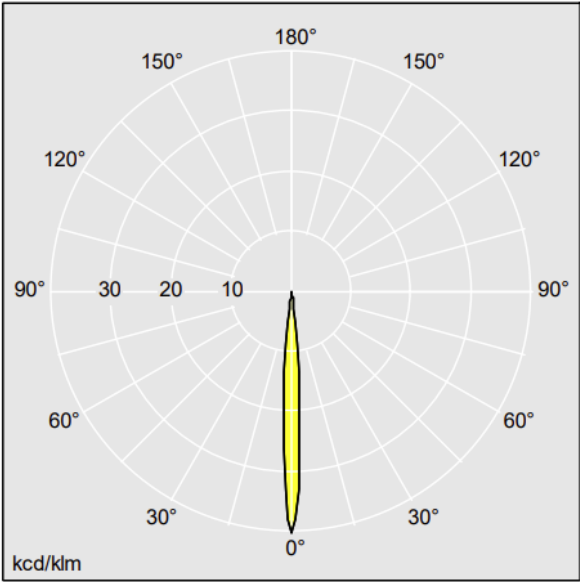
Lamp Life

IK08

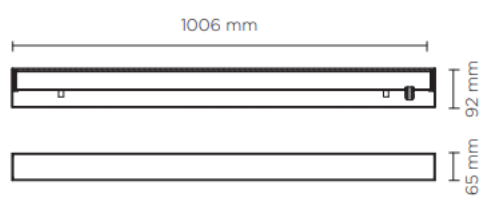
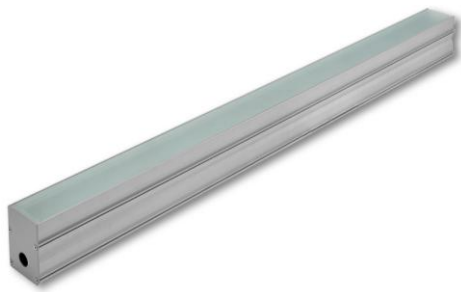
Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	CONTRAST/ CONT3 52L70 RGBW NB RDMX SP GY
Total Luminous Flux	7211LM
Connected Load	113W
Luminaire Efficiency	64LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DMX
Led Lifetime	50000hrs(L80)
Colour Temperature	RGBW
Colour Rendering	-



Ground Recessed Linear Luminaire



Static Weight Resistance Max 3000Kg

5YR

Warranty

 IP67

Protection

TBC

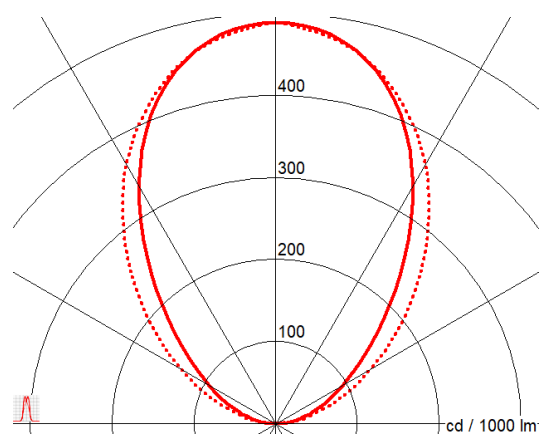
Lamp Life

 IK09

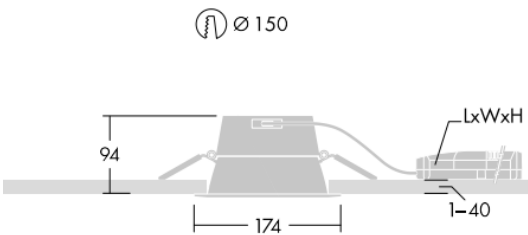
Toughness

Performance Data

Manufacturer	PUK
Range / Part Code	LINE VETRO
Total Luminous Flux	480LM/M
Connected Load	12W/M
Luminaire Efficiency	40LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	TBC
Colour Temperature	3000K
Colour Rendering	CRI 80



Ceiling Recessed Fixed LED Downlight



	L	W	H
HF	147	43	30
EHF/HFIX	160	82	34
BC	147	44	30

5YR

Warranty

IP65

Protection

50000hr

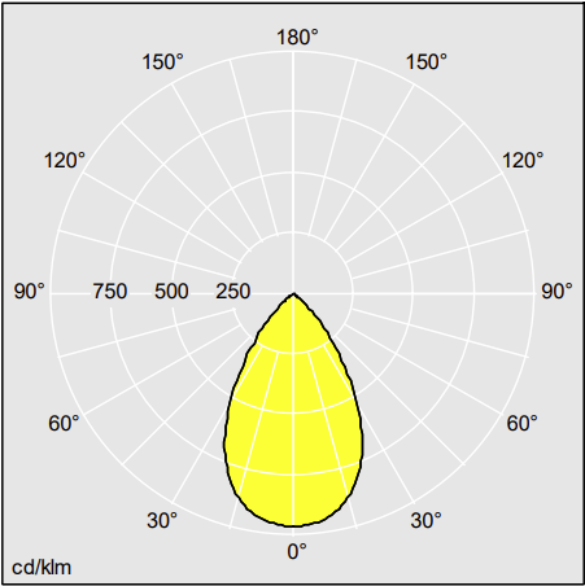
Lamp Life

IK06

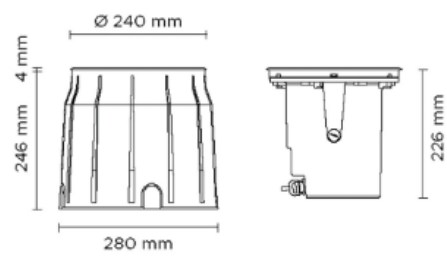
Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	CHALICE 3 / CHAL3 150 1400 830 HFIX RSB IP65
Total Luminous Flux	1272LM
Connected Load	12.3W
Luminaire Efficiency	103M/W
Emergency Reference	XME
Emergency Lumens	1272LM (100%)
Control Type	DALI
Led Lifetime	50000hrs(L90)
Colour Temperature	3000K
Colour Rendering	CRI 80



Ground Recessed Uplight Luminaire



5YR

Warranty

IP67

Protection

TBC

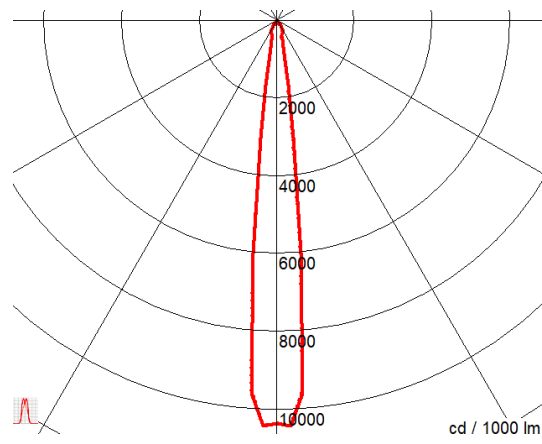
Lamp Life

IK10

Toughness

Performance Data

Manufacturer	PUK
Range / Part Code	TERRA MAXI COB
Total Luminous Flux	2970LM/M
Connected Load	32W/M
Luminaire Efficiency	92.81LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	TBC
Colour Temperature	3000K
Colour Rendering	CRI 80

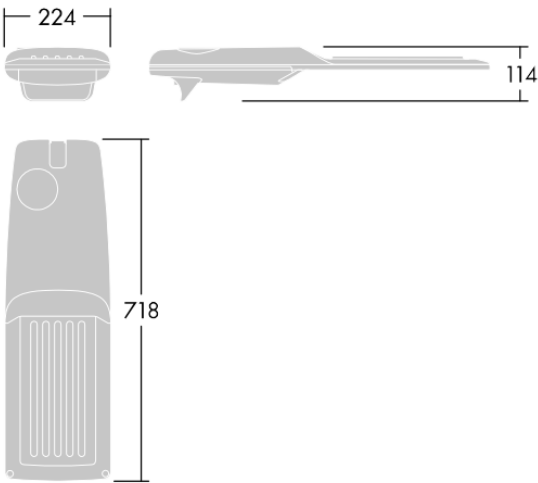


REF: XR

Column Top Luminaire



Grey finish close to RAL 9006



5YR

Warranty

IP66

Protection

100000hr

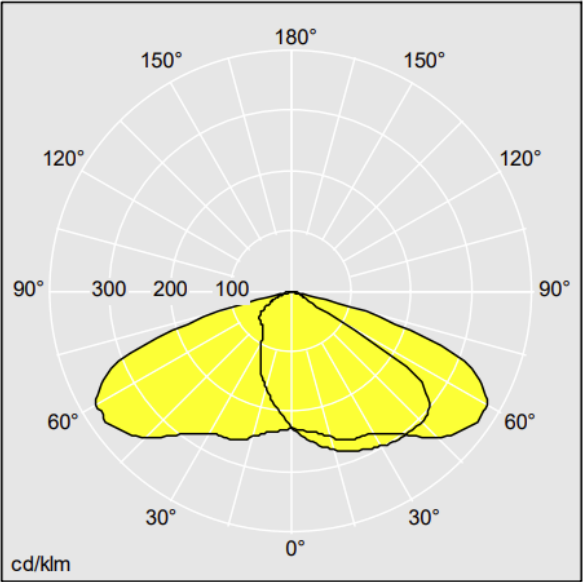
Lamp Life

IK09

Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	ISARO PRO / IP 48L50 740 WR HFX CL1 M76 GY-S
Total Luminous Flux	11749LM
Connected Load	70.4W
Luminaire Efficiency	167LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	100000hrs(L95)
Colour Temperature	4000K
Colour Rendering	CRI 70

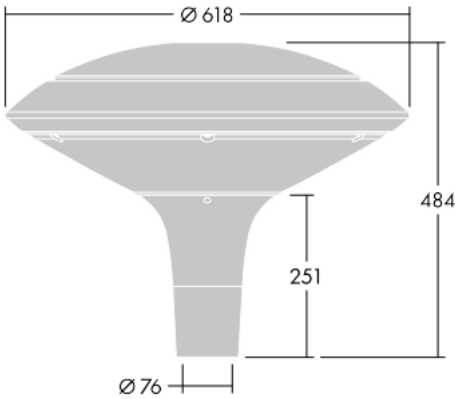


REF: XS

Column Top Luminaire



To be grey finish close to RAL 9006



5YR

Warranty

IP66

Protection

100000hr

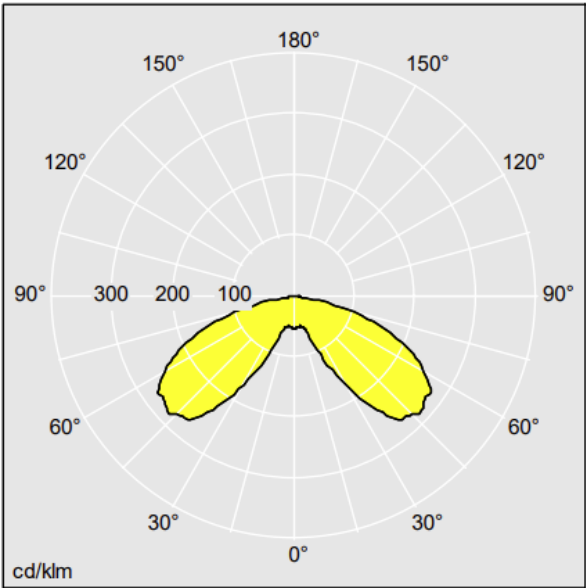
Lamp Life

IK08

Toughness

Performance Data

Manufacturer	THORN
Range / Part Code	PLURIO / PLI D 24L70 740 R/S HFX T76 CL1 GY
Total Luminous Flux	5907LM
Connected Load	51W
Luminaire Efficiency	116LM/W
Emergency Reference	-
Emergency Lumens	-
Control Type	DALI
Led Lifetime	100000hrs(L95)
Colour Temperature	4000K
Colour Rendering	CRI 70



External Lighting adjacent North Stand

Installation : MCFC Redevelopment

Project number : SY1023-27

Customer : SES

Processed by : S Hollingworth

Date : 17.02.2026

Project description:

Maintenance Factor: 0.8

Calculation does not include feature / uplight luminaires; XC, XF, XF-1, XF-2, XJ, XK and XO.

Rev A - Initial issue.

Rev B - Updated to include lighting design to areas East and West of North Stand. As per info received from SR 10.02.2026.

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.

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026



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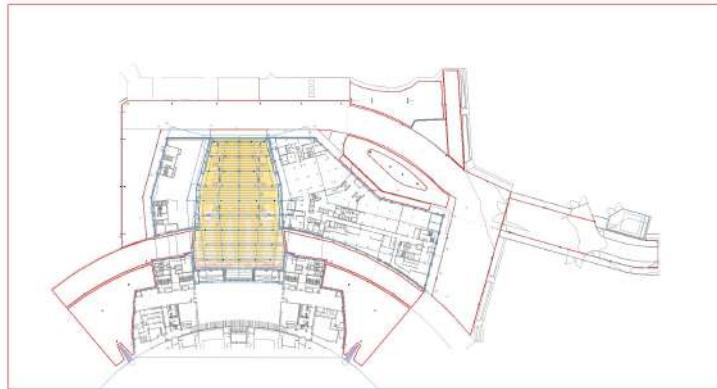
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Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

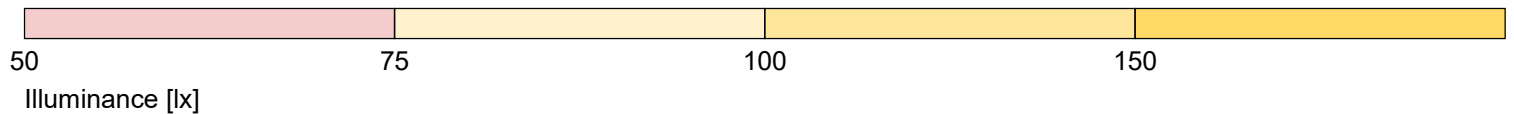
1 Exterior 1

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

1.1.1 Result overview, City Square



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m ²)	0.13 W/m ²

Illuminance

Average illuminance	$\bar{E}_m$	115 lx
Minimum illuminance	E_{min}	50 lx
Maximum illuminance	E_{max}	164 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:2.28 (0.44)
Diversity U_d	E_{min}/E_{max}	1:3.26 (0.31)

Type No.\Make

1	45E x	Thorn
	Order No.	:
	Luminaire name	: CONT3 36L105 830 WB HFX SP ANT
	Equipment	: 1 x CON336L105-830NB 117W 117 W / 9215 lm
	Emergency	: 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

1 Exterior 1

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

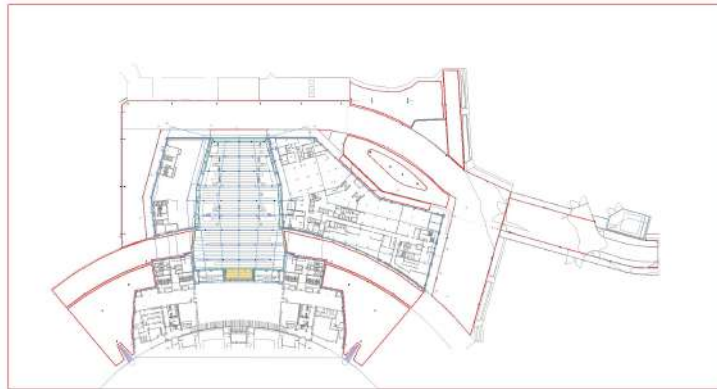
1.1.1 Result overview, City Sqaure

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.2 Result overview, Entrance to North Stand



-55 -5 45 95 145 195 245 295 x [m]

75

100

Illuminance [lx]

General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80

Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	112 lx
Minimum illuminance	E_{min}	92 lx
Maximum illuminance	E_{max}	138 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.22 (0.82)
Diversity U_d	E_{min}/E_{max}	1:1.49 (0.67)

Type No.\Make

1	45E x	Thorn	
		Order No.	:
		Luminaire name	: CONT3 36L105 830 WB HFX SP ANT
		Equipment	: 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency	: 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

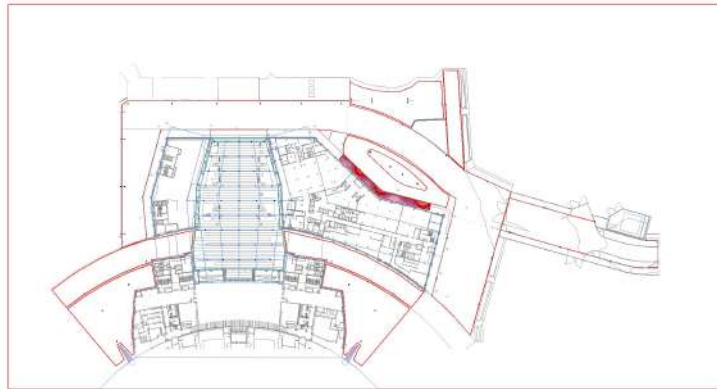
1.1.2 Result overview, Entrance to North Stand

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.3 Result overview, Hotel Drop-off (Pedestrian)



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	12.9 lx
Minimum illuminance	E_{min}	4.7 lx
Maximum illuminance	E_{max}	30.6 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:2.73 (0.37)
Diversity U_d	E_{min}/E_{max}	1:6.47 (0.15)

Type No.\Make

1	45E x	Thorn
		Order No. :
		Luminaire name : CONT3 36L105 830 WB HFX SP ANT
		Equipment : 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency : 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

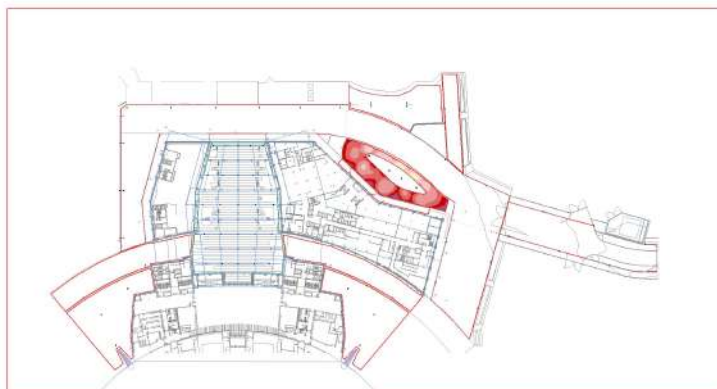
1.1.3 Result overview, Hotel Drop-off (Pedestrian)

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

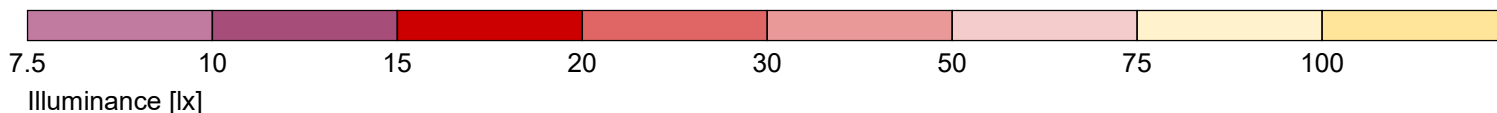
Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.4 Result overview, Hotel Drop-off (Vehicular)



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	35 lx
Minimum illuminance	E_{min}	9 lx
Maximum illuminance	E_{max}	101 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.8 (0.26)
Diversity U_d	E_{min}/E_{max}	1:11.2 (0.09)

Type No.\Make

1	45E x	Thorn
	Order No.	:
	Luminaire name	: CONT3 36L105 830 WB HFX SP ANT
	Equipment	: 1 x CON336L105-830NB 117W 117 W / 9215 lm
	Emergency	: 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

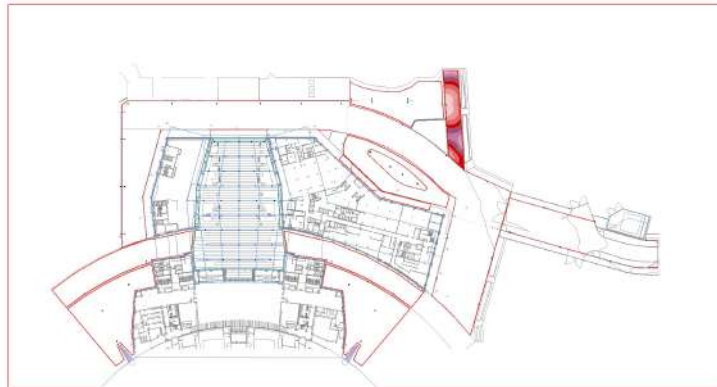
1.1.4 Result overview, Hotel Drop-off (Vehicular)

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.5 Result overview, Pathway to Co-op Live



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	24.7 lx
Minimum illuminance	E_{min}	6.1 lx
Maximum illuminance	E_{max}	74 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:4.04 (0.25)
Diversity U_d	E_{min}/E_{max}	1:12.2 (0.08)

Type No.\Make

1	45E x	Thorn
	Order No.	:
	Luminaire name	: CONT3 36L105 830 WB HFX SP ANT
	Equipment	: 1 x CON336L105-830NB 117W 117 W / 9215 lm
	Emergency	: 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

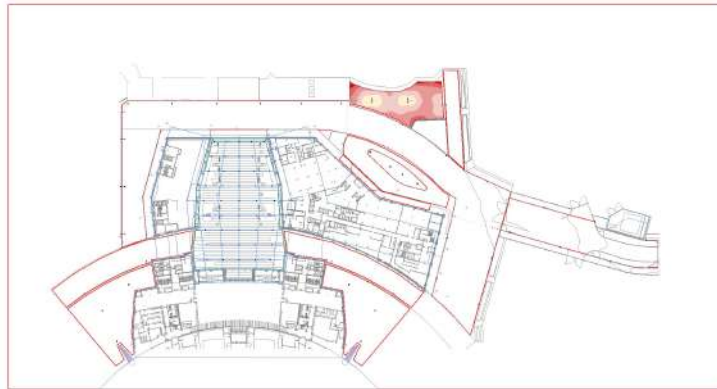
1.1.5 Result overview, Pathway to Co-op Live

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

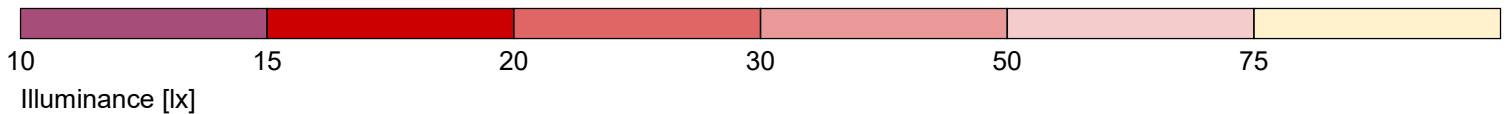
Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.6 Result overview, Pathway to Metrolink



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	53.6 lx
Minimum illuminance	E_{min}	14.5 lx
Maximum illuminance	E_{max}	95.4 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.69 (0.27)
Diversity U_d	E_{min}/E_{max}	1:6.56 (0.15)

Type No.\Make

1	45E x	Thorn
		Order No. :
		Luminaire name : CONT3 36L105 830 WB HFX SP ANT
		Equipment : 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency : 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

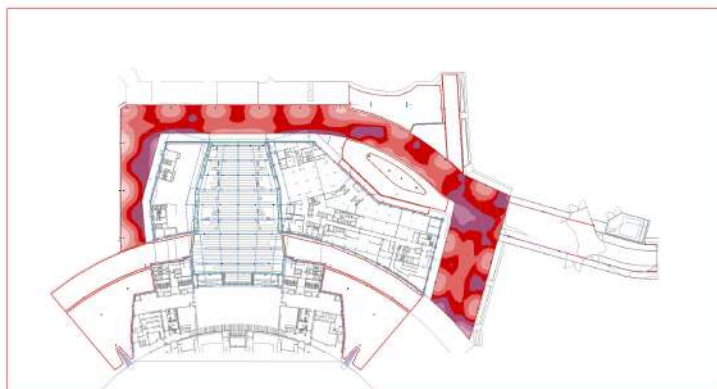
1.1.6 Result overview, Pathway to Metrolink

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

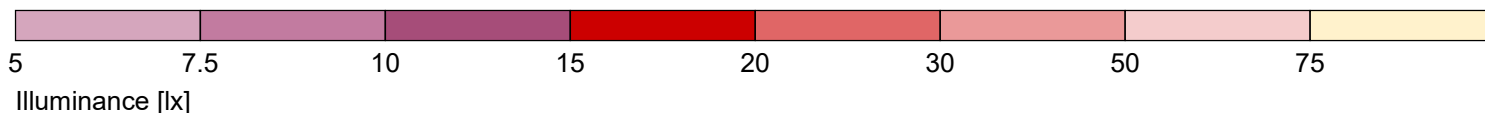
Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.7 Result overview, Roadway (i)



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	23.6 lx
Minimum illuminance	E_{min}	6.3 lx
Maximum illuminance	E_{max}	78.8 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.73 (0.27)
Diversity U_d	E_{min}/E_{max}	1:12.5 (0.08)

Type No.\Make

Thorn	
1 45E x	Order No. :
	Luminaire name : CONT3 36L105 830 WB HFX SP ANT
	Equipment : 1 x CON336L105-830NB 117W 117 W / 9215 lm
	Emergency : 9215 lm (100.0 %)
2 18 x	Order No. :
	Luminaire name : CONT3 12L105 830 WB HFX SP ANT
	Equipment : 1 x CON312L105-830NB 41 W / 3031 lm

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

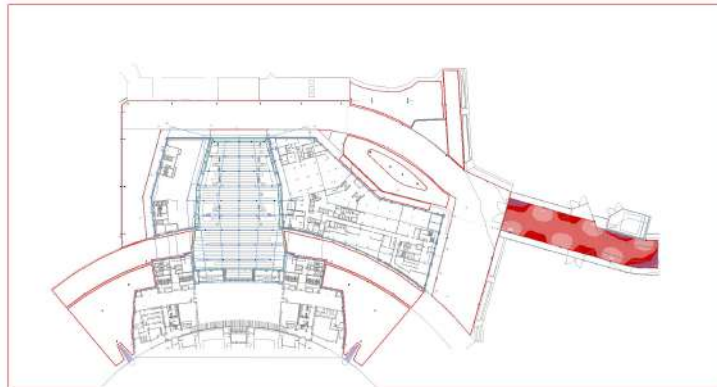
1.1.7 Result overview, Roadway (i)

3	19 x	Order No.	:	
		Luminaire name	:	XA
		with	:	1 x 92905143
		Equipment	:	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x	Order No.	:	
		Luminaire name	:	XB-1
		with	:	2 x 96630688
		Equipment	:	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	Order No.	:	
		Luminaire name	:	XA-2A
		with	:	1 x 92905143
		Equipment	:	1 x IP48L50-740EWR 70 W / 11501 lm
		with	:	1 x 96630688
		Equipment	:	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x	Order No.	:	
		Luminaire name	:	CHAL3 150 1400 830 HFIX RSB IP65
		Equipment	:	1 x CHL3_150_1400 12.3 W / 1272 lm
		Emergency	:	1272 lm (100.0 %)
7	4 x	Order No.	:	
		Luminaire name	:	XR
		with	:	1 x !
		Equipment	:	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x	Order No.	:	
		Luminaire name	:	XS
		with	:	1 x
		Equipment	:	1 x PLI24L70-740RS 50.9 W / 5907 lm

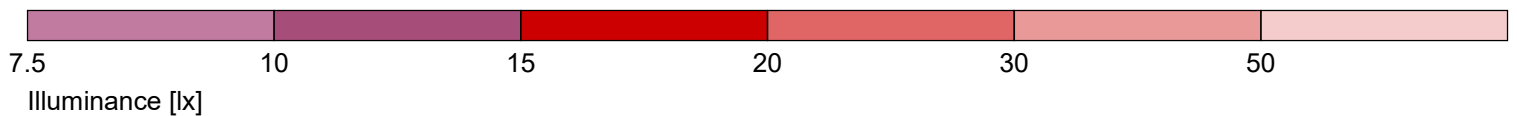
Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.8 Result overview, Roadway (ii)



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80

Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	26.7 lx
Minimum illuminance	E_{min}	9.9 lx
Maximum illuminance	E_{max}	50.5 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:2.7 (0.37)
Diversity U_d	E_{min}/E_{max}	1:5.1 (0.2)

Type No.\Make

1	45E x	Thorn
		Order No. :
		Luminaire name : CONT3 36L105 830 WB HFX SP ANT
		Equipment : 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency : 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

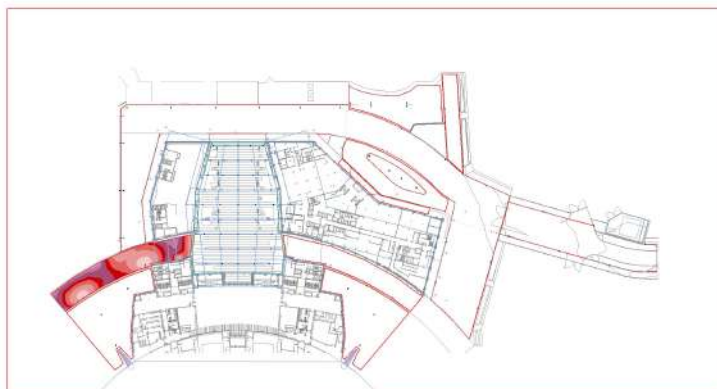
1.1.8 Result overview, Roadway (ii)

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.9 Result overview, Roadway West of North Stand



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80

Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	24.8 lx
Minimum illuminance	E_{min}	7 lx
Maximum illuminance	E_{max}	65.4 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.54 (0.28)
Diversity U_d	E_{min}/E_{max}	1:9.3 (0.11)

Type No.\Make

1	45E x	Thorn	
		Order No.	:
		Luminaire name	: CONT3 36L105 830 WB HFX SP ANT
		Equipment	: 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency	: 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

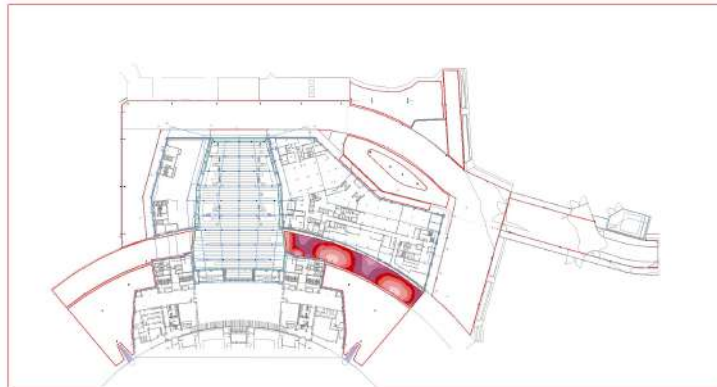
1.1.9 Result overview, Roadway West of North Stand

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.10 Result overview, Roadway East of North Stand



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80

Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	22.4 lx
Minimum illuminance	E_{min}	6.7 lx
Maximum illuminance	E_{max}	60.7 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.33 (0.3)
Diversity U_d	E_{min}/E_{max}	1:9.05 (0.11)

Type No.\Make

1	45E x	Thorn
		Order No. :
		Luminaire name : CONT3 36L105 830 WB HFX SP ANT
		Equipment : 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency : 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

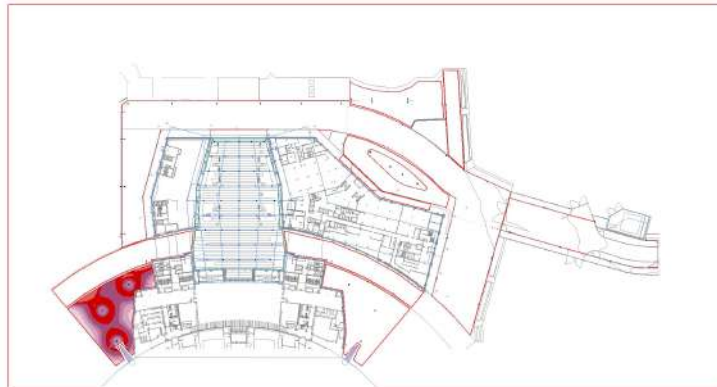
1.1.10 Result overview, Roadway East of North Stand

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

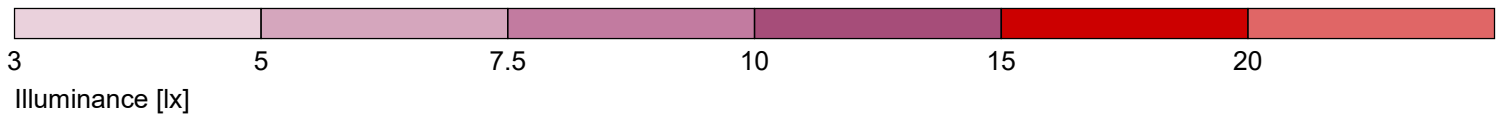
Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.11 Result overview, Area West of North Stand



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	12.4 lx
Minimum illuminance	E_{min}	3.7 lx
Maximum illuminance	E_{max}	29.4 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.32 (0.3)
Diversity U_d	E_{min}/E_{max}	1:7.89 (0.13)

Type No.\Make

1	45E x	Thorn
		Order No. :
		Luminaire name : CONT3 36L105 830 WB HFX SP ANT
		Equipment : 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency : 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

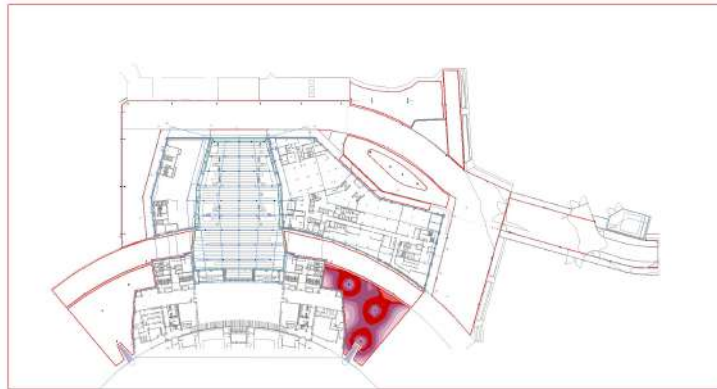
1.1.11 Result overview, Area West of North Stand

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

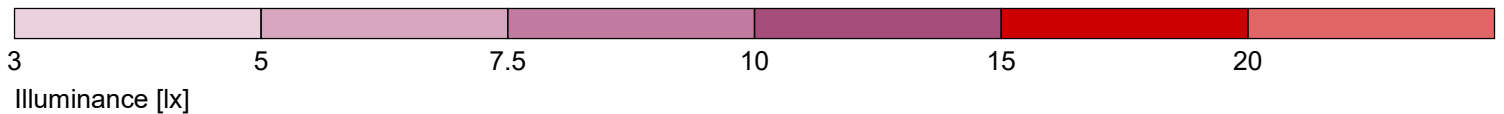
Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.12 Result overview, Area East of North Stand



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux	924771 lm
Total power	8920.6 W
Total power per area (68008.50 m²)	0.13 W/m²

Illuminance

Average illuminance	$\bar{E}_m$	12 lx
Minimum illuminance	E_{min}	3.2 lx
Maximum illuminance	E_{max}	26.1 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.73 (0.27)
Diversity U_d	E_{min}/E_{max}	1:8.08 (0.12)

Type No.\Make

1	45E x	Thorn
	Order No.	:
	Luminaire name	: CONT3 36L105 830 WB HFX SP ANT
	Equipment	: 1 x CON336L105-830NB 117W 117 W / 9215 lm
	Emergency	: 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

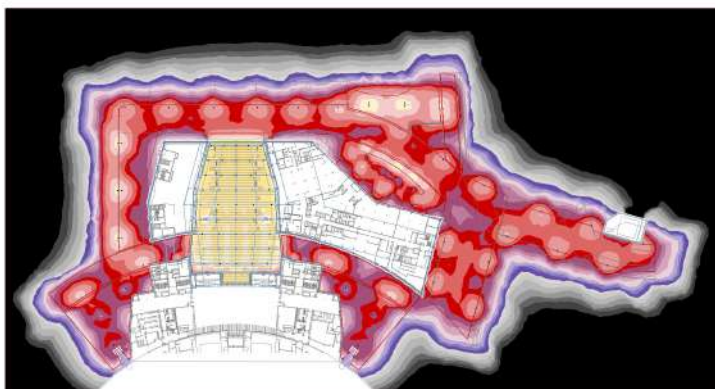
1.1.12 Result overview, Area East of North Stand

2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

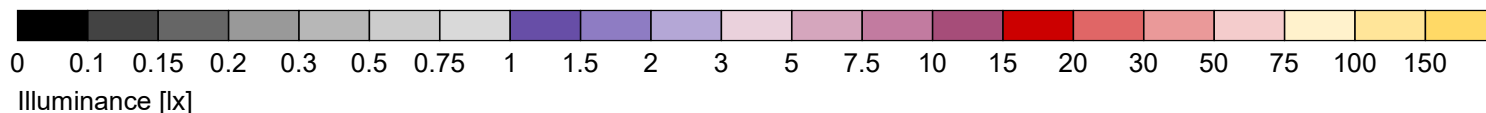
Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.13 Result overview, Evaluation area 1



-55 -5 45 95 145 195 245 295 x [m]



General

Calculation algorithm used
 Maintenance factor

Average indirect fraction
 0.80

Total lamp luminous flux
 Luminaire luminous flux
 Total power
 Total power per area (68008.50 m²)

924771.00 lm
 924623.31 lm
 8920.6 W
 0.13 W/m² (1.08 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
 $\bar{E}_m$ 12.2 lx
 E_{min} 0 lx
 $E_{min}/\bar{E}_m (U_o)$ 0.00
 $E_{min}/E_{max} (U_d)$ 0.00
 Position 0.00 m

Type No.\Make

1	45E x	Thorn	
		Order No.	:
		Luminaire name	: CONT3 36L105 830 WB HFX SP ANT
		Equipment	: 1 x CON336L105-830NB 117W 117 W / 9215 lm
		Emergency	: 9215 lm (100.0 %)

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

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

1.1.13 Result overview, Evaluation area 1

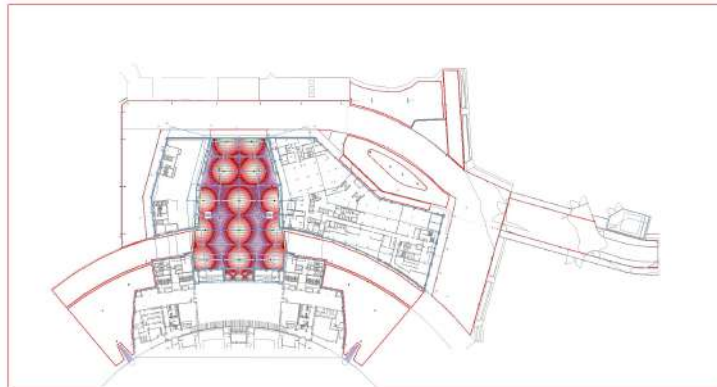
2	18 x		Order No. :	
			Luminaire name :	CONT3 12L105 830 WB HFX SP ANT
			Equipment :	1 x CON312L105-830NB 41 W / 3031 lm
3	19 x		Order No. :	
			Luminaire name :	XA
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
4	3 x		Order No. :	
			Luminaire name :	XB-1
			with :	2 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
5	3 x	 	Order No. :	
			Luminaire name :	XA-2A
			with :	1 x 92905143
			Equipment :	1 x IP48L50-740EWR 70 W / 11501 lm
			with :	1 x 96630688
			Equipment :	1 x IP48L50-740NR 70 W / 11646 lm
6	12E x		Order No. :	
			Luminaire name :	CHAL3 150 1400 830 HFIX RSB IP65
			Equipment :	1 x CHL3_150_1400 12.3 W / 1272 lm
			Emergency :	1272 lm (100.0 %)
7	4 x		Order No. :	
			Luminaire name :	XR
			with :	1 x !
			Equipment :	1 x IP48L50-740WR 70.4 W / 11749 lm
8	6 x		Order No. :	
			Luminaire name :	XS
			with :	1 x
			Equipment :	1 x PLI24L70-740RS 50.9 W / 5907 lm

Object : External Lighting adjacent North Stand
 Installation : MCFC Redevelopment
 Project number : SY1023-27
 Date : 17.02.2026

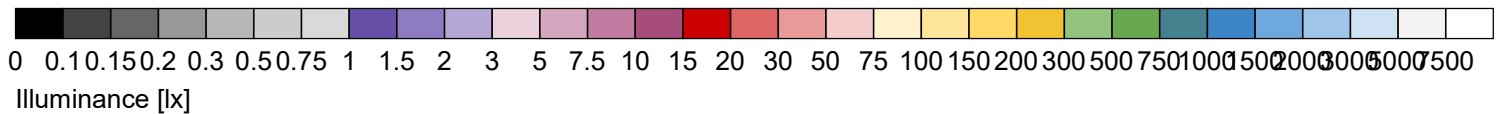
1 Exterior 1

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

1.2.1.1 Result overview (emergency lighting)



-55 -5 45 95 145 195 245 295 x [m]

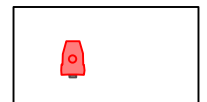


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : -variable-
 Maximum I : 22000 cd

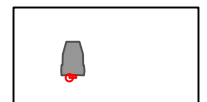
Anti panic area:

No.	Emin [lx]	Surface Emax [lx]	Ud
12 City Square			
Calculation field: 45.18m x 65.15m (23 x 33 pts), Height = 0.00m			
1	3.99 lx	112.50 lx	1: 28.20
	>= 0.5 lx	>= 1 : 40	



12 Entrance to North Stand

Calculation field: 13.33m x 4.89m (14 x 5 pts), Height = 0.00m			
2	2.76 lx	95.46 lx	1: 34.62
	>= 0.5 lx	>= 1 : 40	



Type No.\Make

Object : External Lighting adjacent North Stand
Installation : MCFC Redevelopment
Project number : SY1023-27
Date : 17.02.2026

1 Exterior 1

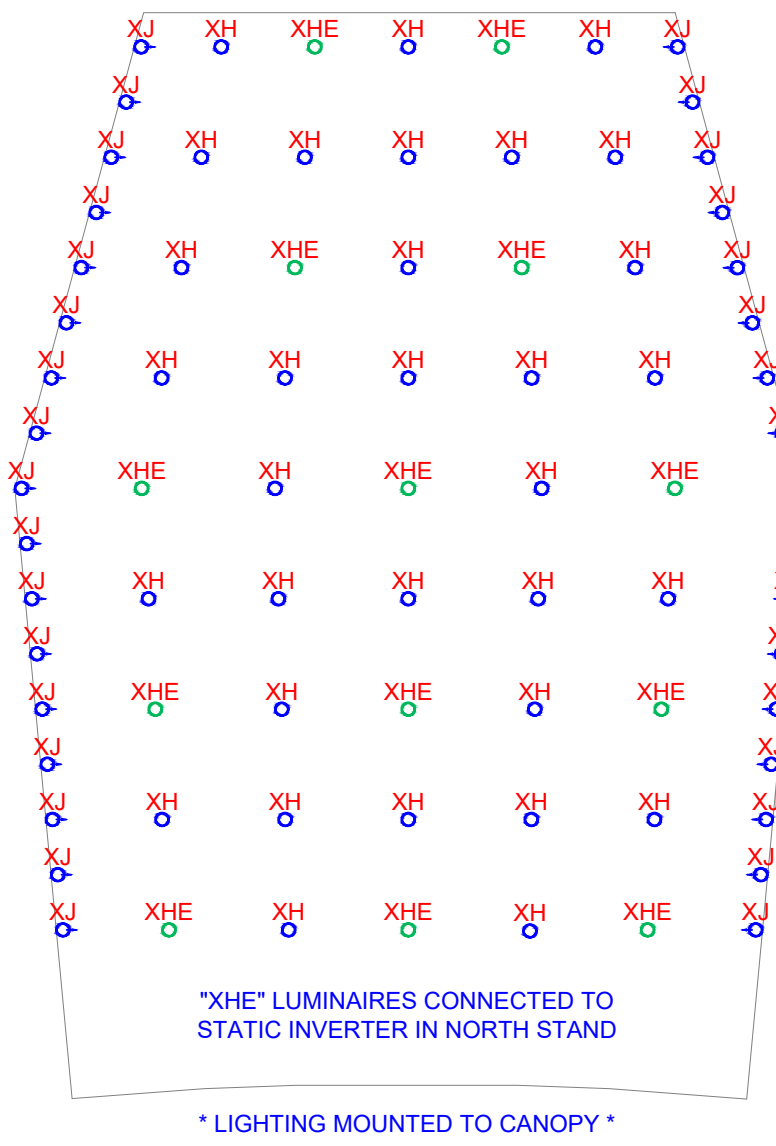
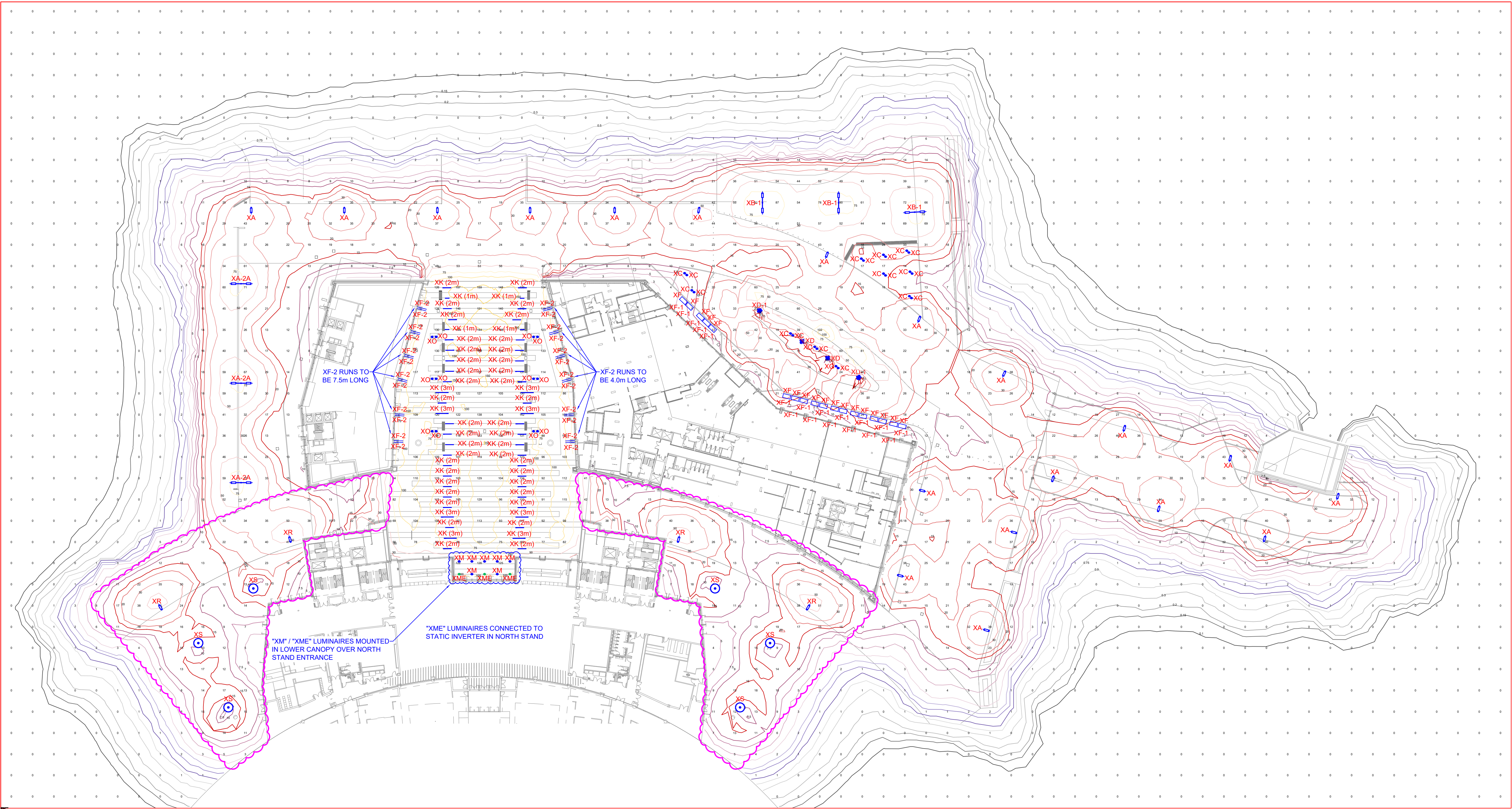
1.2 Summary, Exterior 1, Light scene 1(C)

1.2.1.1 Result overview (emergency lighting)

Thorn

1 13E x  Order No. : -- Emergency Lighting --
Luminaire name : CONT3 36L105 830 WB HFX SP ANT
Equipment : 1 x CON336L105-830NB 117W 117 W / 9215 lm
Emergency : 9215 lm (100.0 %)
Maintenance factor: 0.80

6 5E x  Order No. : -- Emergency Lighting --
Luminaire name : CHAL3 150 1400 830 HFIX RSB IP65
Equipment : 1 x CHL3_150_1400 12.3 W / 1272 lm
Emergency : 1272 lm (100.0 %)
Maintenance factor: 0.80



SYMBOL	DESCRIPTION	WATTAGE
XA	Column Top with "Extra Wide Road" Optic on 6m Column	70W
XA-2A	1no. Column Top with "Extra Wide Road" Optic / 1no. Column Top with "Narrow Road" Optic on 6m Column with Twin 500mm Outreach Arm	2No. 70W
XB-1	2no. Column Tops with "Narrow Road" Optic on 6m Column with Twin 500mm Outreach Arm	2No. 70W
XC	Ground Spike Mounted Spotlight	20W
XD	4no. Column Mounted Spotlights with "Wide Beam" Optic on 8m Column	4No. 41W
XD-1	5no. Column Mounted Spotlights with "Wide Beam" Optic on 8m Column	5No. 41W
XF	Feature Lighting	TBC
XF-1	Feature Lighting	TBC
XF-2	Feature Lighting	TBC
XH	Spotlight with "Wide Beam" Optic	117W
XJ	RGBW Spotlight with "Narrow Beam" Optic (to light canopy)	113W
XK	Ground Recessed Linear	12W / m
XM	Downlight	12W
XO	Ground Recessed Uplight	32W
XR	Column Top with "Wide Road" Optic on 6m Column	70W
XS	Column Top with "Symmetrical" Optic on 6m Column	51W

- Notes:
- Do not scale this drawing (printed or electronic versions)
 - This drawing indicates design intent only and shall not be used as a working drawing or installation drawing.
 - All structural & architectural elements, where indicated, have been imported from engineers drawings and reference should be made to the individual structural / architectural drawings for exact dimensions.
 - Discrepancies and/or ambiguities within this drawing, between it and information given elsewhere, must be reported immediately to Park Lighting Design for clarification before proceeding.
 - The position of all equipment shown is indicative only.

E	Updated to include lighting design to areas East and West of North Stand. As per info received from SR 10.02.2026.	SH	17.02.2026
D	2No. runs of "XF-2" shown in each building column. Ground recessed uplights ("XO") now shown to City Square as Architect's comments.	SH	08.07.2025
C	"XF-3" luminaires removed. "XC" and "XK" luminaires updated to take account of Architect's comments on tech sub.	SH	12.05.2025
B	"XF-2" run lengths detailed as per SH / BG tel con 13.03.2025	SH	17.03.2025
A	Initial issue.	SH	21.08.2024
Rev	Description	By	Date
Park Lighting Design Unit 3, Queens Park, Earlswood, Team Valley Trading Estate, Gateshead, Tyne & Wear, NE11 0QD Tel: 0191 497 0707 Email: info@park-electrical.co.uk Web: www.parklightingdesign.co.uk			
Client: SES			
Consultant: -			
Project: SY1023-27 MCFC Redevelopment			
Title: External Lighting Layout			
Status: FOR COMMENT			
Drawn By: SH	Checked By: -	Date: 21.08.2024	Scale: 1:500 @ A0
Drawing No: SY1023-27_DWG_EX	Revisors: E		