

Ysgol Rhyd y Grug

Installation : External Lighting Design

Project number : 654449

Customer :

Processed by : George Thatcher

Date : 03.03.2026

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.

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1 Luminaire data

1.1 Dextra Group PLC, B1 (OPUB L30 BL C827)

1.1.1 Data sheet

Manufacturer: Dextra Group PLC

B1 O PUB L30 BL C827 street luminaire B1

Opus Bollard - IP66, IK10, C83

Bollard Luminaire with a simple internal switch the distribution of the luminaire can be selected between either an asymmetric pathway or 360° open area distribution. Matt black weather resistant finish.

Options:

R25A - Reacta 25, DALI presence and Bright Out

PH - Photocell (Dawn to Dusk switching photocell)

RLI - Reacta-Link Wireless Module

RLM - Reacta-Link Wireless Microwave Presence & Bright Out

RC - Reacta-Control Wireless Module

RCMC - Reacta-Control Wireless Microwave Corridor Mode*

RCME - Reacta-Control Wireless Microwave On/Off

LE3 - Lithium Emergency (OA - 264/AS - 255 lumens output)

LS3 - Lithium Selftest

LA3 - Lithium Autotest

C83 - CRI 80, 3000K

C827 - CRI 80, 2700K

OPUB ANCHOR - Opus Bollard Ground Anchor

OPUB BMK - Opus Bollard Bolt Mounting Kit

Luminaire data

Absolute Photometry

Luminaire efficacy : 84.5 lm/W

Classification : A10 ↓98% ↑2%

CIE Flux Codes : 8 34 77 98 100

UGR 4H 8H : 33.9 / 33.8

Control gear : electronic ballast

Power : 18 W

Luminous flux : 1521 lm

Dimensions : Ø200 mm x 80 mm

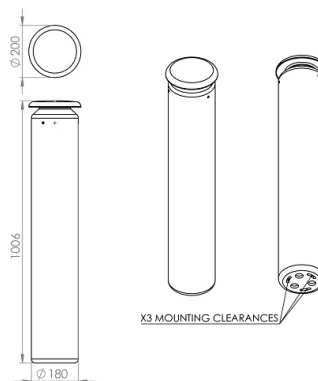
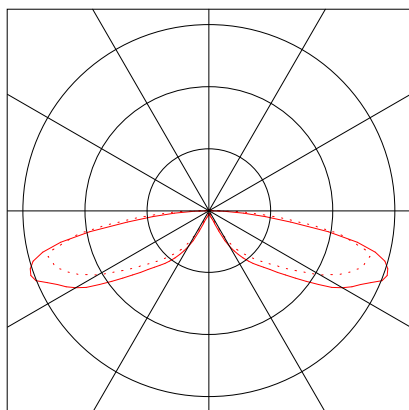
Equipped with

Quantity : 1

Designation : Dextra

Colour : 2700K

Colour reproduction : 1B



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1 Luminaire data

1.1 Dextra Group PLC, B1 (OPUB L30 BL C827)

1.1.1 Data sheet

Emergency Lighting

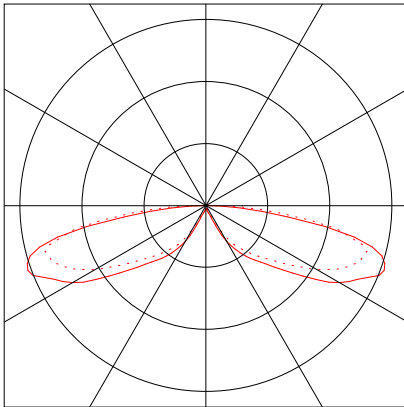
Emergency lighting with own light source

Absolute Photometry

Luminaire efficacy : 88 lm/W

Power : 3 W

Luminous flux : 264 lm



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1 Luminaire data

1.2 Dextra Group PLC, W1 (OPUWP L15 AS C727)

1.2.1 Data sheet

Manufacturer: Dextra Group PLC

W1 OPUWP L15 AS C727 wall-mounted luminaire W1

OPUS Wallpack - IP65, IK10

Wall mounted exterior luminaire, diecast aluminium body with grey paint, salt spray tested finish and polycarbonate diffuser.

Options:

E3 - Emergency control gear (647 lumens output)

ST3 - Emergency Selftest

AT3 - Emergency Autotest

R25E - Reacta 25, On / Off High Frequency

R25C - Reacta 25, Corridor Mode*

RCME - Reacta-Control Wireless Microwave On/Off

RCMC - Reacta-Control Wireless Microwave Corridor Mode*

*Bi-Level Dimming. Will only dim the luminaire to 10% during absence and brightout, it will not turn the luminaire off.

PH - Photocell (Dawn to Dusk switching photocell) - must be used for bright out functionality

BL - Black housing

Luminaire data

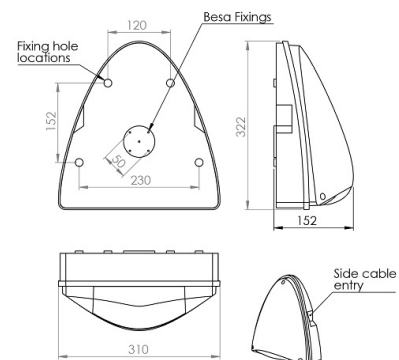
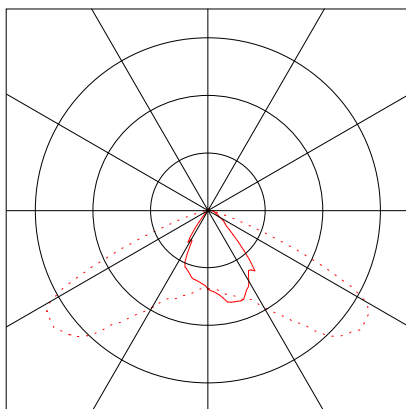
Absolute Photometry

Luminaire efficacy : 112.31 lm/W
 Classification : A50 ↓99% ↑1%
 CIE Flux Codes : 47 87 99 98 100
 UGR 4H 8H : 22.8 / 31.3
 Control gear : electronic ballast
 Power : 10.8 W
 Luminous flux : 1213 lm

Dimensions : 310 mm x 65 mm x 325 mm

Equipped with

Quantity : 1
 Designation : Dextra
 Colour : 2700K
 Colour reproduction : 2



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1 Luminaire data

1.2 Dextra Group PLC, W1 (OPUWP L15 AS C727)

1.2.1 Data sheet

Emergency Lighting

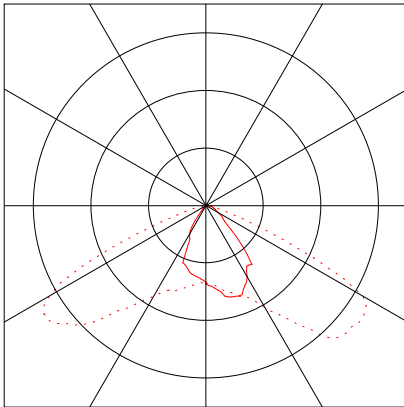
Emergency lighting with own light source

Absolute Photometry

Luminaire efficacy : 215.67 lm/W

Power : 3 W

Luminous flux : 647 lm



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1 Luminaire data

1.3 Dextra Group PLC, A1 (AME2 NM3 LE3)

1.3.1 Data sheet

Manufacturer: Dextra Group PLC

A1 AME2 NM3 LE3 ceiling mounted luminaire A1

AME2 - IP65, IK07.

Non-Maintained 3hr Lithium emergency luminaire, robust polycarbonate body and lens, white finish with clear reeded diffuser.

Options:

LE3 - Lithium Emergency (171 lumens output)

LS3 - Lithium Selftest

CB - Please specify 50v, 110v or 230v when ordering

AME ELK - Emergency Legend Kit

AME ELK ISO - Emergency Legend kit ISO 7010

Luminaire data

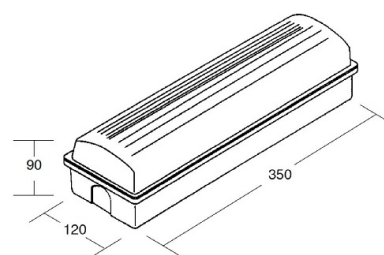
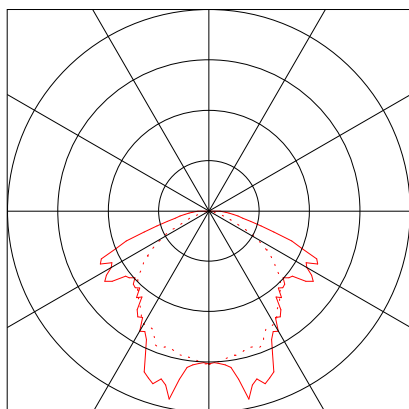
Absolute Photometry

Luminaire efficacy : 68.4 lm/W
Classification : A40 ↓100% ↑0%
CIE Flux Codes : 44 74 95 100 101
UGR 4H 8H : 18.5 / 14.1
Control gear : electronic ballast
Power : 2.5 W
Luminous flux : 172.2 lm

Equipped with

Quantity : 1
Designation : Dextra
Colour : 4000K

Dimensions : 350 mm x 120 mm x 90 mm



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1 Luminaire data

1.3 Dextra Group PLC, A1 (AME2 NM3 LE3)

1.3.1 Data sheet

Emergency Lighting

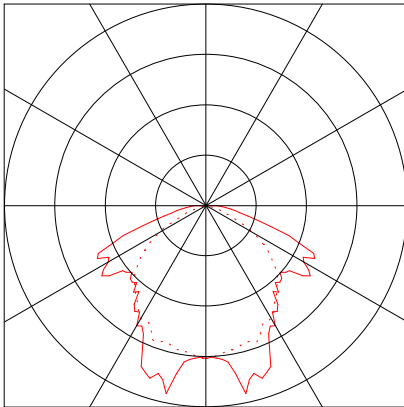
Emergency lighting with own light source

Absolute Photometry

Luminaire efficacy : 68.4 lm/W

Power : 2.5 W

Luminous flux : 171 lm

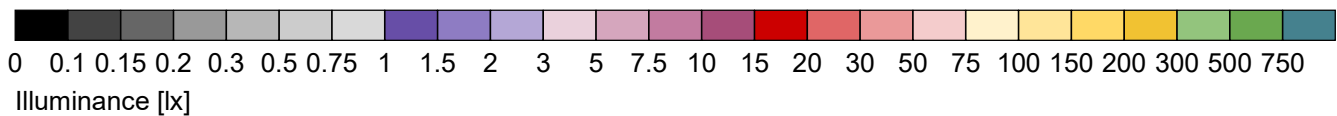
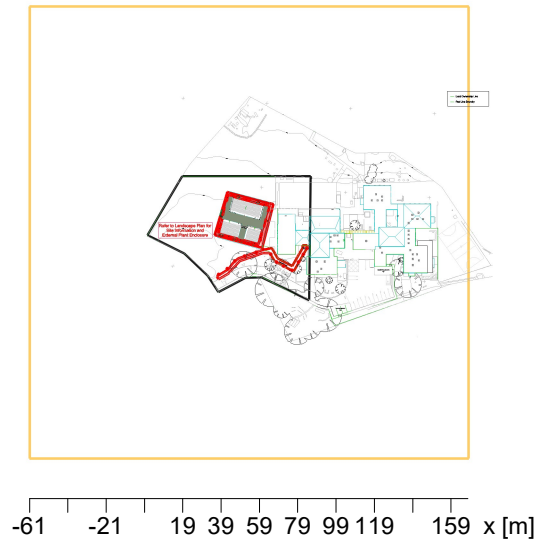


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2 Exterior 1

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

2.1.1 Result overview, Measuring area 1



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.85

Total luminous flux	34329 lm
Total power	363.6 W
Total power per area (4001.10 m²)	0.09 W/m²
Upward light ratio (RUL)	2 %

Illuminance

Average illuminance	$\bar{E}_m$	34.3 lx
Minimum illuminance	E_{min}	15.8 lx
Maximum illuminance	E_{max}	70.7 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:2.17 (0.46)
Diversity U_d	E_{min}/E_{max}	1:4.49 (0.22)

Type No. Make

1 13 x 	Dextra Group PLC
	Order No. : OPUB L30 BL C827
	Luminaire name : B1
	Equipment : 1 x Dextra 18 W / 1521 lm
	Emergency : 264 lm (17.4 %)

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

Object : Ysgol Rhyd y Grug
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2 Exterior 1

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

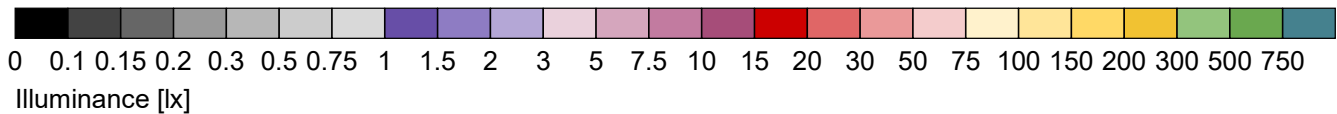
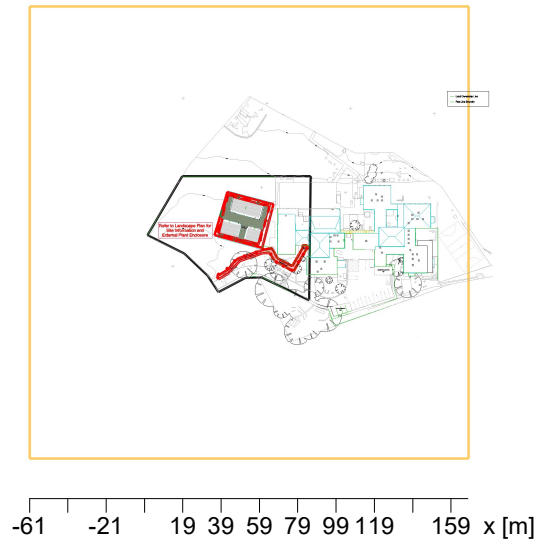
2.1.1 Result overview, Measuring area 1

2	12 x	Order No.	: OPUWP L15 AS C727
		Luminaire name	: W1
		Equipment	: 1 x Dextra 10.8 W / 1213 lm
		Emergency	: 647 lm (53.3 %)

Object : Ysgol Rhyd y Grug
 Installation : External Lighting Design
 Project number : 654449
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2.1 Summary, Exterior 1, Light scene 1(C)

2.1.2 Result overview, Measuring area 2



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.85
Total luminous flux	34329 lm
Total power	363.6 W
Total power per area (4001.10 m²)	0.09 W/m²
Upward light ratio (RUL)	2 %

Illuminance

Average illuminance	$\bar{E}_m$	44.7 lx
Minimum illuminance	E_{min}	12.1 lx
Maximum illuminance	E_{max}	79.2 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:3.69 (0.27)
Diversity U_d	E_{min}/E_{max}	1:6.55 (0.15)

Type No. Make

1	13 x	Dextra Group PLC
	Order No.	: OPUB L30 BL C827
	Luminaire name	: B1
	Equipment	: 1 x Dextra 18 W / 1521 lm
	Emergency	: 264 lm (17.4 %)

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

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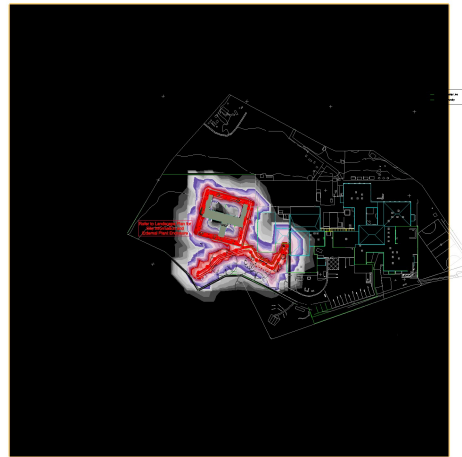
2.1 Summary, Exterior 1, Light scene 1(C)

2.1.2 Result overview, Measuring area 2

2	12 x	Order No.	: OPUWP L15 AS C727
		Luminaire name	: W1
		Equipment	: 1 x Dextra 10.8 W / 1213 lm
		Emergency	: 647 lm (53.3 %)

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

2.1.3 Result overview, Light Spill



-61 -21 19 39 59 79 99 119 159 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 30 50 75 100 150 200 300 500 750
 Illuminance [lx]

General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.85

Total luminous flux	34329 lm
Total power	363.6 W
Total power per area (4001.10 m²)	0.09 W/m²
Upward light ratio (RUL)	2 %

Illuminance

Average illuminance	$\bar{E}_m$	0.5 lx
Minimum illuminance	E_{min}	0 lx
Maximum illuminance	E_{max}	39.4 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:--- (---)
Diversity U_d	E_{min}/E_{max}	1:--- (---)

Type No. Make

1	13 x	Dextra Group PLC
	Order No.	: OPUB L30 BL C827
	Luminaire name	: B1
	Equipment	: 1 x Dextra 18 W / 1521 lm
	Emergency	: 264 lm (17.4 %)

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

2.1.3 Result overview, Light Spill

2	12 x	Order No.	: OPUWP L15 AS C727
		Luminaire name	: W1
		Equipment	: 1 x Dextra 10.8 W / 1213 lm
		Emergency	: 647 lm (53.3 %)

Dextra
GROUP PLC

Object : Ysgol Rhyd y Grug
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2 Exterior 1

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

2.2.1 Table, Measuring area 1 (E)

34	35	33	31	33	36	39	44	48	55	56	50	39
39	38	38	38	38	38	42	45	49	58	59	54	46
										57	56	50
										52	51	46
										47	48	41
										39	41	37
										35	37	34
										33	36	34
										34	36	33
										36	36	29
										37	37	29
										38	38	31
										38	37	31
										38	36	28
										37	35	28
										36	36	30
										35	37	30
										34	37	32
										33	36	31
										33	35	31
										31	34	29
										30	31	27
										29	28	22
										28	27	20
										24	24	19.5
										22	22	17.3
										21	20	16.4
										22	21	16.2
										23	22	17.0
										25	23	17.6
										28	23	16.7
										30	25	19.1
										31	30	23

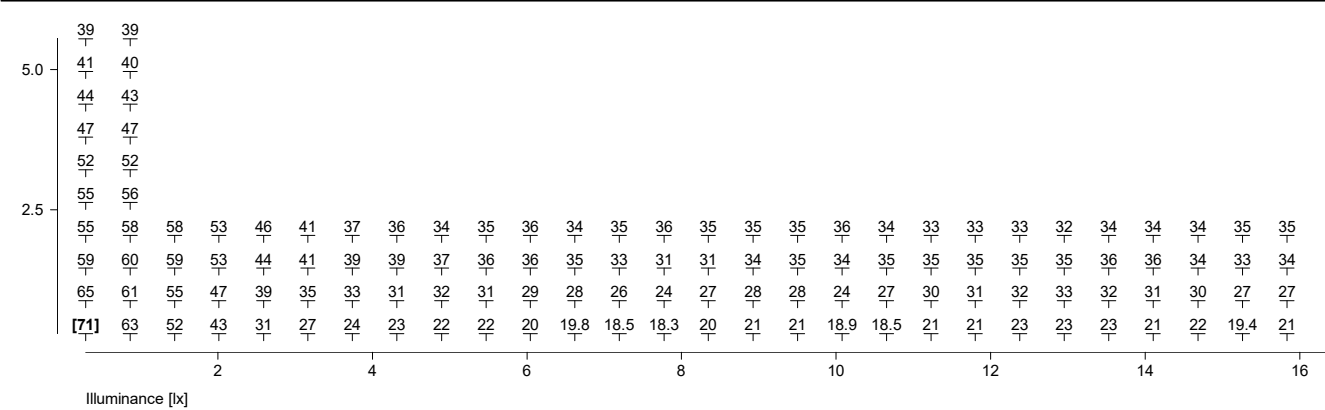


Part2

2 Exterior 1

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

2.2.1 Table, Measuring area 1 (E)

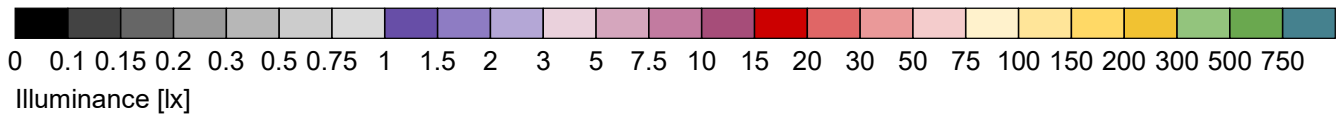
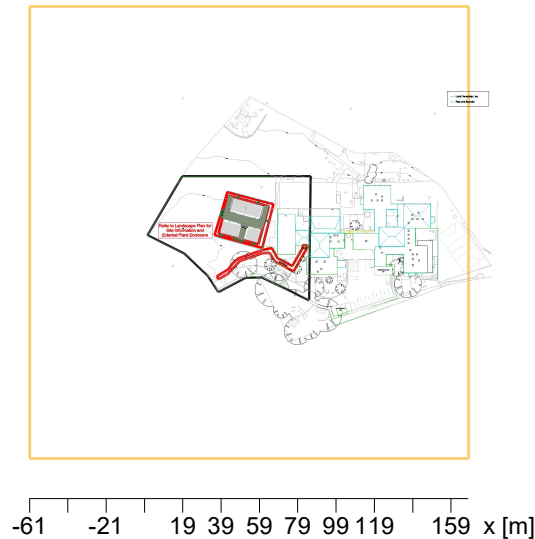


Dextra
GROUP PLC

2 Exterior 1

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

2.3.1.1 Result overview (emergency lighting)



General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.00 m
 Maximum I : 66 cd <= 500 cd

Anti panic area:

No.	Emin [lx]	Surface Emax [lx]	Ud
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Anti panic area 1

Calculation field: 1.24m x 3.15m (6 x 16 pts), Height = 0.00m

1	1.18 lx >= 0.5 lx	8.73 lx	1: 7.39 >= 1 : 40
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Anti panic area 2

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

2	2.20 lx >= 0.5 lx	8.08 lx	1: 3.68 >= 1 : 40
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Anti panic area 3

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

3	1.71 lx >= 0.5 lx	7.08 lx	1: 4.14 >= 1 : 40
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2 Exterior 1

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

2.3.1.1 Result overview (emergency lighting)

Anti panic area 4

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

4	1.67 lx	6.22 lx	1: 3.71
	>= 0.5 lx		>= 1 : 40



Anti panic area 5

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

5	1.43 lx	5.21 lx	1: 3.64
	>= 0.5 lx		>= 1 : 40



Anti panic area 6

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

6	1.37 lx	5.05 lx	1: 3.68
	>= 0.5 lx		>= 1 : 40



Anti panic area 7

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

7	1.33 lx	4.95 lx	1: 3.74
	>= 0.5 lx		>= 1 : 40



Anti panic area 8

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

8	1.03 lx	4.34 lx	1: 4.23
	>= 0.5 lx		>= 1 : 40



Anti panic area 9

Calculation field: 0.5m x 0.76m (4 x 5 pts), Height = 0.00m

9	1.07 lx	4.55 lx	1: 4.24
	>= 0.5 lx		>= 1 : 40



Type No.\Make

Dextra Group PLC

3	10E x	Order No. : AME2 NM3 LE3	-- Emergency Lighting --
		Luminaire name : A1	
		Equipment : 1 x Dextra 2.5 W / 171 lm	
		Emergency : 171 lm (100.0 %)	
		Maintenance factor: 0.80	