

Barnsley innovation centre

Installation :

Project number : 236
Customer : James Marshall
Processed by : D ARMSTRONG
Date : 15.05.2020

Project description:
NO RISK ASSESMENT SUPPLIED
NO FIRE CALL POINT POSITIONS OR FIRE FIGHT EQUIPMENT POSITIONS SUPPLIED
POTENTIALLY THERE COULD BE AREAS OF HIGH RISK THAT NEED CLARIFICATION
- RE DESIGN

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

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

1.7 Disano Illuminazione SpA, 3376 Mini Stelvio - hi... (3376 24 led 400...)

1.7.1 Data sheet

Manufacturer: Disano Illuminazione SpA

3376 24 led 4000K CLD CELL

3376 Mini Stelvio - high performance - grandi aree

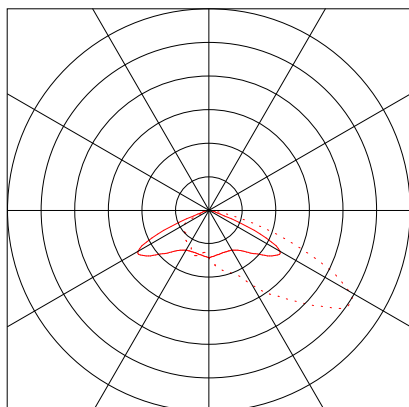
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 151.08 lm/W
Classification : A30 ↓100.0% ↑0.0%
CIE Flux Codes : 27 66 98 100 100
Glare : G*3 / D5
Power : 35.3 W
Luminous flux : 5333 lm

Equipped with

Quantity : 1
Designation : led5050_76_24
Colour : 4000
Luminous flux : 5333 lm
Colour reproduction : 70

Dimensions : 530 mm x 280 mm x 156 mm



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1 Luminaire data

1.8 disano, DISANO - 1282 Meridia... (DISANO - 423095-00)

1.8.1 Data sheet

Manufacturer: disano



DISANO - 423095-00 DISANO - 1282 Meridiana LED

Housing and front frame: In diecast aluminium.

Diffuser: In tempered glass, thermal shock and impact resistant.

Painting: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Standard supply: When open, the front frame stays attached to the housing by means of safety springs, for easy maintenance.

Equipment: Gasket in environment-friendly material. Waterproof rubber cable gland \varnothing 1/2 gas thread (cable min. \varnothing 9 max. \varnothing 12). install on pole with acc. 96

Regulations: Produced according to applicable EN60598-1 CEI 34 - 21 standards, IP65IK07 degree of protection to EN 60529 standards. This product can be installed on normally inflammable surfaces.

Photobiological safety class: exempt group

Luminaire data

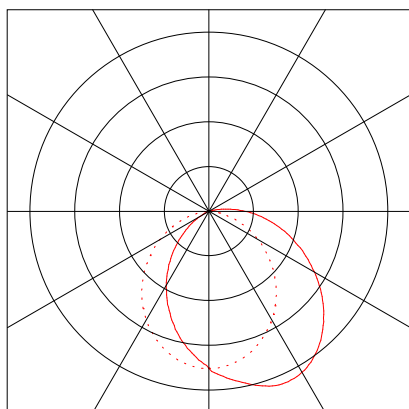
Absolute Photometry

Luminaire efficacy : 79.91 lm/W
Classification : A40 \downarrow 98.1% \uparrow 1.9%
CIE Flux Codes : 47 77 93 98 100
UGR 4H 8H : 30.7 / 24.0
Control gear : CLD CELL
Power : 14 W
Luminous flux : 1118.8 lm

Equipped with

Quantity : 1
Designation : LED
Colour : 4000K
Socket : -
Colour reproduction : 0

Dimensions : 375 mm x 224 mm x 329 mm



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1 Luminaire data

1.9 disano, DISANO - 3278 Mini St... (DISANO - 330390-00)

1.9.1 Data sheet

Manufacturer: disano



DISANO - 330390-00 DISANO - Road lighting DISANO - 3278 Mini Stelvio FX T3 - diffondente stradale

Housing and cover: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: in die-cast aluminium and with gaskets to secure the frame according to different inclinations. Adjustable ranges: between 0° and 15° for side mount; and between 0° and 10° for mast-top mounting. Incline pace: 5°. Suited for poles with a diameter 63-60mm

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001)

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: Automatic temperature control inside the device with automatic resetting. Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Upon request: protection up to 10KV.

Equipment: complete with IP67 airtight connector for mains connection. Supplied with double insulation switch that cuts off electricity when the cover is opened.

Energy-saving: the possibility to choose the correct drive current for LEDs will allow you to have the right power under specific design conditions, and also help you deal with maintenance and retrofitting problems. Using a lower current will improve the efficiency of fixtures and therefore increase energy savings, whilst a higher current will result in a higher light flux so that you can reduce the number of fixtures.

Optics: in PMMA, highly resistant to temperature and UV radiation.

Ta-30+40°C life 80%: >100.000h (L80B10).

Power factor >0.9

Regulations: Produced according to applicable EN60598-1 CEI 34-21 standards, degree of protection according to EN 60529 standards.

Upon request:

- with power supply 1-10 V dimmable with subcode 12.
- with power supply DIG dimmable with subcode 0041.
- with virtual midnight subcode 30.
- power line carrier remote control systems subcode 0078.
- Nema Socket, subcode 40
- Zhaga Socket, subcode 0054
- Coating compliant with UNI EN ISO 9227 Corrosion tests in artificial atmospheres for aggressive environments.

Wind surface: L:139cm² F:400cm².

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1 Luminaire data

1.9 disano, DISANO - 3278 Mini St... (DISANO - 330390-00)

1.9.1 Data sheet

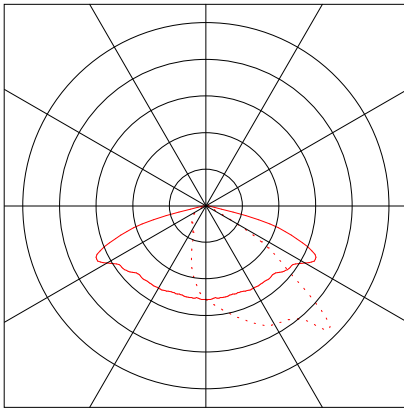
Luminaire data

Absolute Photometry
Luminaire efficacy : 141.13 lm/W
Classification : A30 ↓ 100.0% ↑ 0.0%
CIE Flux Codes : 38 76 98 100 100
Glare : G*4 / D6
Control gear : CLD CELL
Power : 33.5 W
Luminous flux : 4728 lm

Equipped with

Quantity : 1
Designation : LED
Colour : 4000K
Socket : -
Colour reproduction : 70

Dimensions : 530 mm x 280 mm x 60 mm



2 Exterior 1 king

2.1 Description, Exterior 1 king

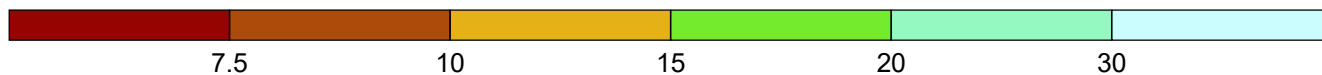
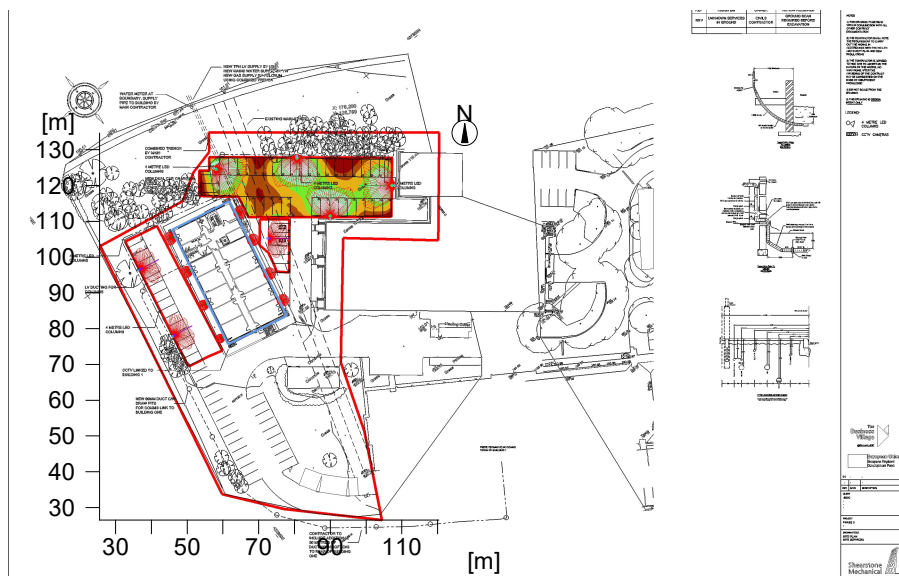
2.1.1 Floor plan



2 Exterior 1 king

2.2 Summary, Exterior 1 king

2.2.1 Result overview, Measuring area 2



Illuminance [lx]

General

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

Total luminous flux of all lamps	44468 lm
Total power	353.7 W
Total power per area (6159.98 m ²)	0.06 W/m ²

Illuminance

Average illuminance	Em	16.2 lx
Minimum illuminance	Emin	3.5 lx
Maximum illuminance	Emax	40.4 lx
Uniformity U _o	Emin/Em	1:4.66 (0.21)
Diversity U _d	Emin/Emax	1:11.6 (0.09)

Type No.Make


8	8	disano	
		Order No.	: DISANO - 423095-00
		Luminaire name	: DISANO - 1282 Meridiana LED
		Equipment	: 1 x LED 14 W / 1119 lm
9	3		
		Order No.	: DISANO - 330390-00
		Luminaire name	: DISANO - 3278 Mini Stelvio FX T3 - diffondente stradale
		Equipment	: 1 x LED 33.5 W / 4728 lm

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2 Exterior 1 king

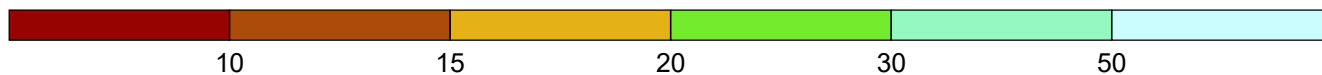
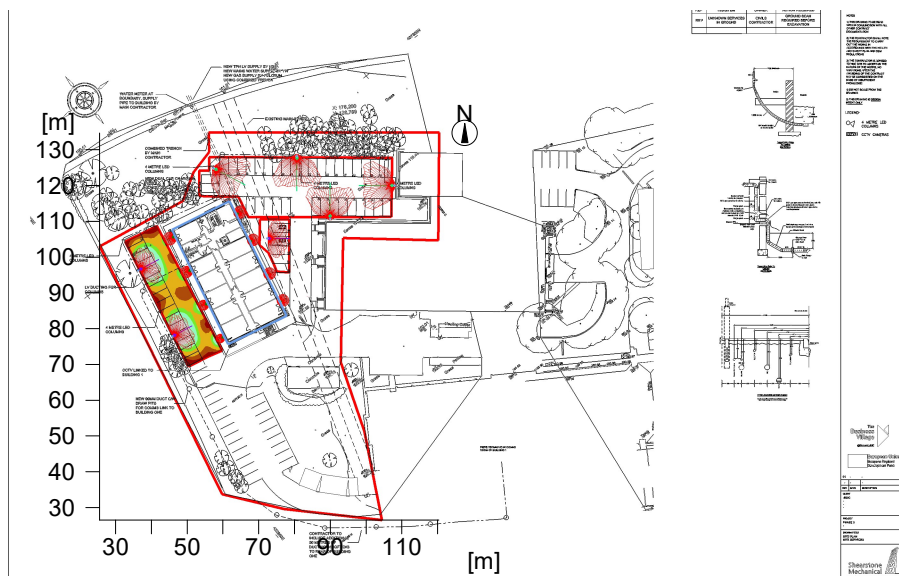
2.2 Summary, Exterior 1 king

2.2.1 Result overview, Measuring area 2

7	4	Disano Illuminazione SpA
		Order No. : 3376 24 led 4000K CLD CELL
		Luminaire name : 3376 Mini Stelvio - high performance - grandi aree
		Equipment : 1 x led5050_76_24 35.3 W / 5333 lm

2.2 Summary, Exterior 1 king

2.2.2 Result overview, Measuring area 5



Illuminance [lx]

General


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

Total luminous flux of all lamps	44468 lm
Total power	353.7 W
Total power per area (6159.98 m ²)	0.06 W/m ²

Illuminance

Average illuminance	Em	17.8 lx
Minimum illuminance	Emin	3.8 lx
Maximum illuminance	Emax	59.7 lx
Uniformity U _o	Emin/Em	1:4.71 (0.21)
Diversity U _d	Emin/Emax	1:15.8 (0.06)


Type No.Make

- | | | | |
|---|---|----------------|---|
| 8 | 8 | disano | |
|  | | Order No. | : DISANO - 423095-00 |
| | | Luminaire name | : DISANO - 1282 Meridiana LED |
| | | Equipment | : 1 x LED 14 W / 1119 lm |
| 9 | 3 | | |
|  | | Order No. | : DISANO - 330390-00 |
| | | Luminaire name | : DISANO - 3278 Mini Stelvio FX T3 - diffondente stradale |
| | | Equipment | : 1 x LED 33.5 W / 4728 lm |

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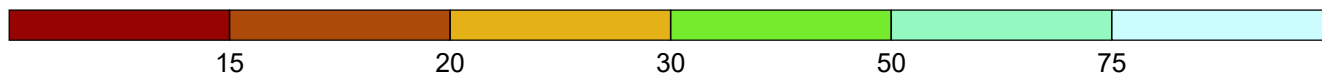
2.2 Summary, Exterior 1 king

2.2.2 Result overview, Measuring area 5

7	4	Disano Illuminazione SpA
		Order No. : 3376 24 led 4000K CLD CELL
		Luminaire name : 3376 Mini Stelvio - high performance - grandi aree
		Equipment : 1 x led5050_76_24 35.3 W / 5333 lm

2.2 Summary, Exterior 1 king

2.2.3 Result overview, Measuring area 6



Illuminance [lx]

General



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

Total luminous flux of all lamps	44468 lm
Total power	353.7 W
Total power per area (6159.98 m ²)	0.06 W/m ²

Illuminance

Average illuminance	Em	28 lx
Minimum illuminance	Emin	10.5 lx
Maximum illuminance	Emax	61.5 lx
Uniformity Uo	Emin/Em	1:2.67 (0.37)
Diversity Ud	Emin/Emax	1:5.86 (0.17)


Type No.Make

- | | |
|--|---|
| <p>8 8</p>  | <p>disano
 Order No. : DISANO - 423095-00
 Luminaire name : DISANO - 1282 Meridiana LED
 Equipment : 1 x LED 14 W / 1119 lm</p> |
| <p>9 3</p>  | <p>Order No. : DISANO - 330390-00
 Luminaire name : DISANO - 3278 Mini Stelvio FX T3 - diffondente stradale
 Equipment : 1 x LED 33.5 W / 4728 lm</p> |

Object : Barnsley innovation centre
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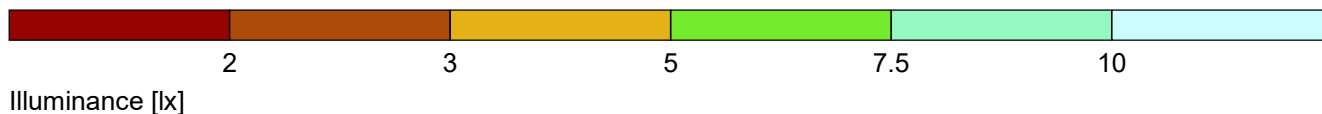
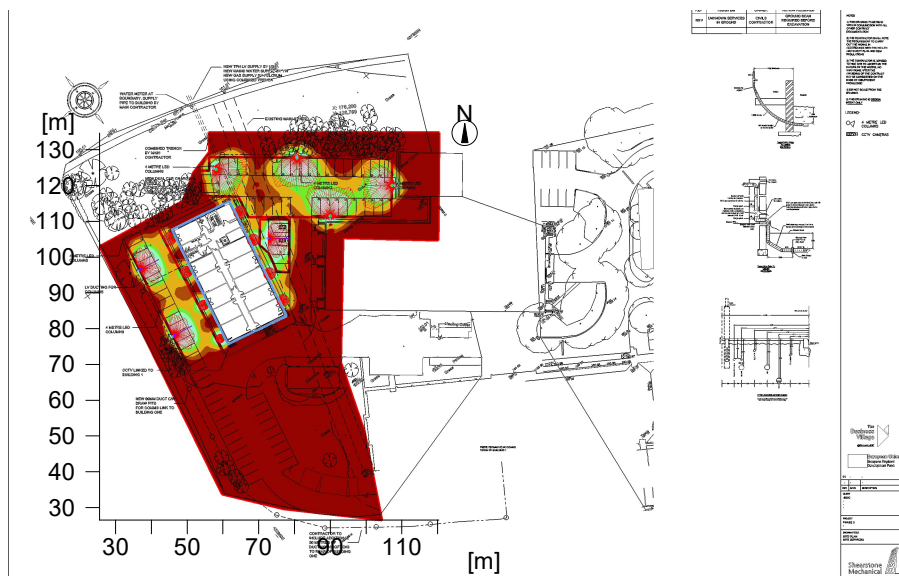
2.2 Summary, Exterior 1 king

2.2.3 Result overview, Measuring area 6

7	4	Disano Illuminazione SpA
		Order No. : 3376 24 led 4000K CLD CELL
		Luminaire name : 3376 Mini Stelvio - high performance - grandi aree
		Equipment : 1 x led5050_76_24 35.3 W / 5333 lm

2.2 Summary, Exterior 1 king

2.2.4 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	44468.00 lm
Total power	353.7 W
Total power per area (6159.98 m ²)	0.06 W/m ² (0.96 W/m ² /100lx)

Evaluation area 1

Reference plane 1.1

	Horizontal
Em	5.97 lx
Emin	0 lx
Emin/Em (Uo)	---
Emin/Emax (Ud)	---
Position	0.00 m


Type No. Make

	disano	
8	8	Order No. : DISANO - 423095-00
		Luminaire name : DISANO - 1282 Meridiana LED
		Equipment : 1 x LED 14 W / 1119 lm
		
9	3	Order No. : DISANO - 330390-00
		Luminaire name : DISANO - 3278 Mini Stelvio FX T3 - diffondente stradale
		Equipment : 1 x LED 33.5 W / 4728 lm

Object : Barnsley innovation centre
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2.2 Summary, Exterior 1 king

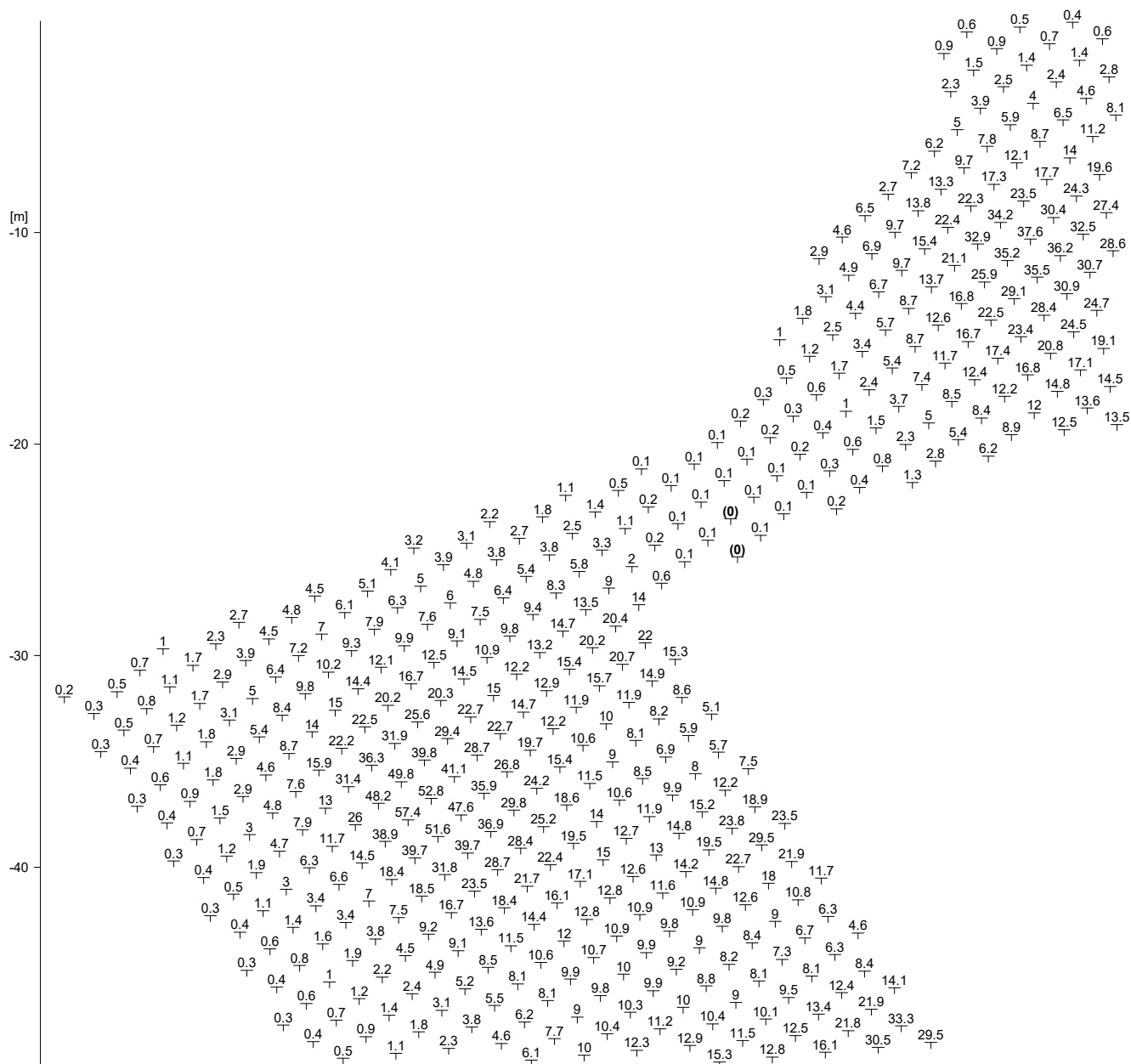
2.2.4 Result overview, Evaluation area 1

7	4	Disano Illuminazione SpA
		Order No. : 3376 24 led 4000K CLD CELL
		Luminaire name : 3376 Mini Stelvio - high performance - grandi aree
		Equipment : 1 x led5050_76_24 35.3 W / 5333 lm

2 Exterior 1 king

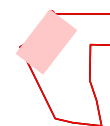
2.3 Calculation results, Exterior 1 king

2.3.1 Table, Reference plane 1.1 (E)



Part1

Height reference plane	:	0.00 m
Average illuminance	Em	: 6 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 59.5 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

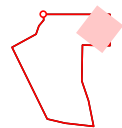


2 Exterior 1 king

2.3 Calculation results, Exterior 1 king

2.3.1 Table, Reference plane 1.1 (E)

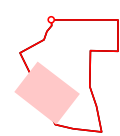
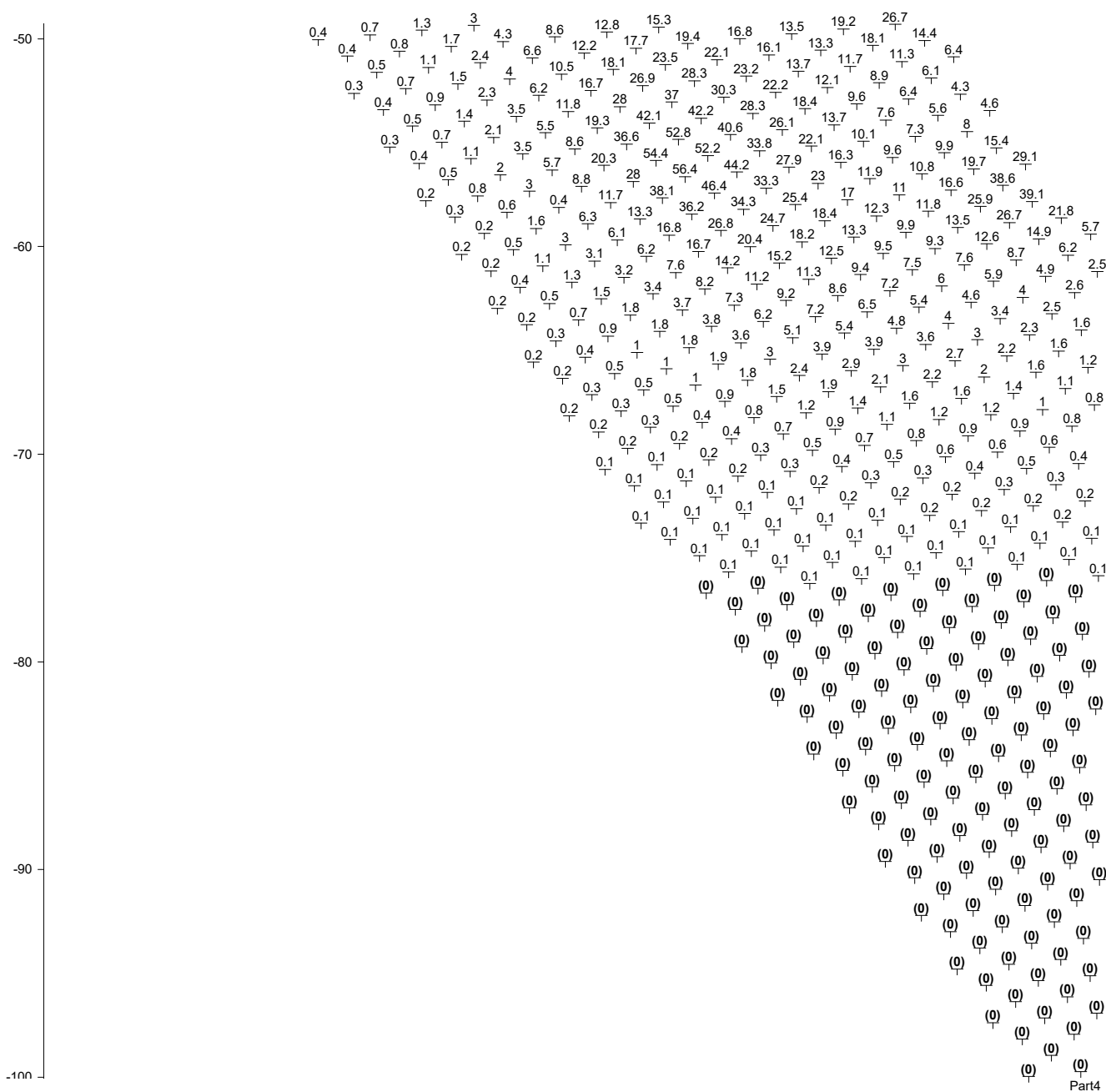
0.8	0.6		0.3	0.2		0.1	0.1	(0)	(0)	(0)	
0.9	1.3	0.7	0.4	0.3	0.2	0.1	0.1	(0)	(0)	(0)	
1.6	2.1	1.4	0.7	0.5	0.3	0.2	0.1	(0)	(0)	(0)	
3.2	4.1	2.6	1.5	1.6	0.8	0.5	0.3	0.2	0.1	(0)	
4.9	6.1	5.4	3.1	3.9	1.9	0.7	0.4	0.2	0.1	(0)	
8.1	7.5	6.9	4.2	4.4	1.7	0.7	0.4	0.2	0.1	(0)	
10.2	9.5	8.3	4.4	4.1	1.8	0.9	0.5	0.3	0.2	(0)	
11.4	12.9	11.8	8.7	8.7	4.1	1.8	1.9	1	0.7	(0)	
15.2	16	13.5	7.6	6.6	3.7	1.9	1.9	0.7	0.3	(0)	
15.6	19.5	19	13	11.2	6.4	3.5	1.3	0.7	0.3	(0)	
15.4	21	23.7	20	10.3	5.8	2.7	1.2	0.2	0.1	(0)	
20.2	26.6	26.6	18.1	10.3	9.6	4.9	3.3	0.3	0.1	(0)	
18.4	24.9	31	27.3	18.7	9.6	8	3.3	0.3	0.1	(0)	
22.8	30.2	35.1	27.8	17.3	13.4	6.5	1	0.1	(0)	(0)	
20.6	26.8	33.8	37.6	30.6	13.4	6.5	1	0.1	(0)	(0)	
23	30.6	37.5	34.9	20.6	11.6	3.6	2.5	0.8	0.1	(0)	
19.9	25.9	33.2	30.2	24.5	11.6	3.6	2.3	0.8	0.1	(0)	
21.6	27.7	28	21	13.2	7.4	3.8	0.5	0.1	(0)	(0)	
22.4	25.1	18.7	13.1	7.4	3.8	0.5	0.2	(0)	(0)	(0)	
16.8	22.4	20	18.7	11.9	7.5	4.3	2.2	1.4	0.6	0.1	(0)
14.1	17.2	15.7	16.1	11.8	7.1	4.6	2.5	1.1	0.6	0.1	(0)
13.2	15.7	12.6	11.5	6.5	4.1	2.5	1.3	0.5	0.1	(0)	(0)
10.3	11.9	9.7	6.7	3.6	1.9	1.2	0.7	0.2	0.1	(0)	(0)
9	9.5	7.2	5.7	3.2	1.9	0.9	0.6	0.3	0.1	(0)	(0)
6.7	6.8	4.3	2.7	1.4	0.9	0.5	0.3	0.2	0.1	(0)	(0)
4.9	5.2	1.8	0.9	0.6	0.4	0.3	0.2	0.1	(0)	(0)	(0)
3.5	3.5	2.8	1.3	0.6	0.5	0.4	0.3	0.2	0.1	(0)	(0)
2.6	2.2	1.8	0.8	0.5	0.3	0.3	0.2	0.1	0.1	(0)	(0)
1.6	1.4	0.8	0.5	0.3	0.2	0.2	0.1	0.1	0.1	(0)	(0)
1.3	1	0.6	0.3	0.2	0.2	0.1	0.1	0.1	0.1	(0)	(0)
0.7	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	(0)	(0)
0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	(0)	(0)



2 Exterior 1 king

2.3 Calculation results, Exterior 1 king

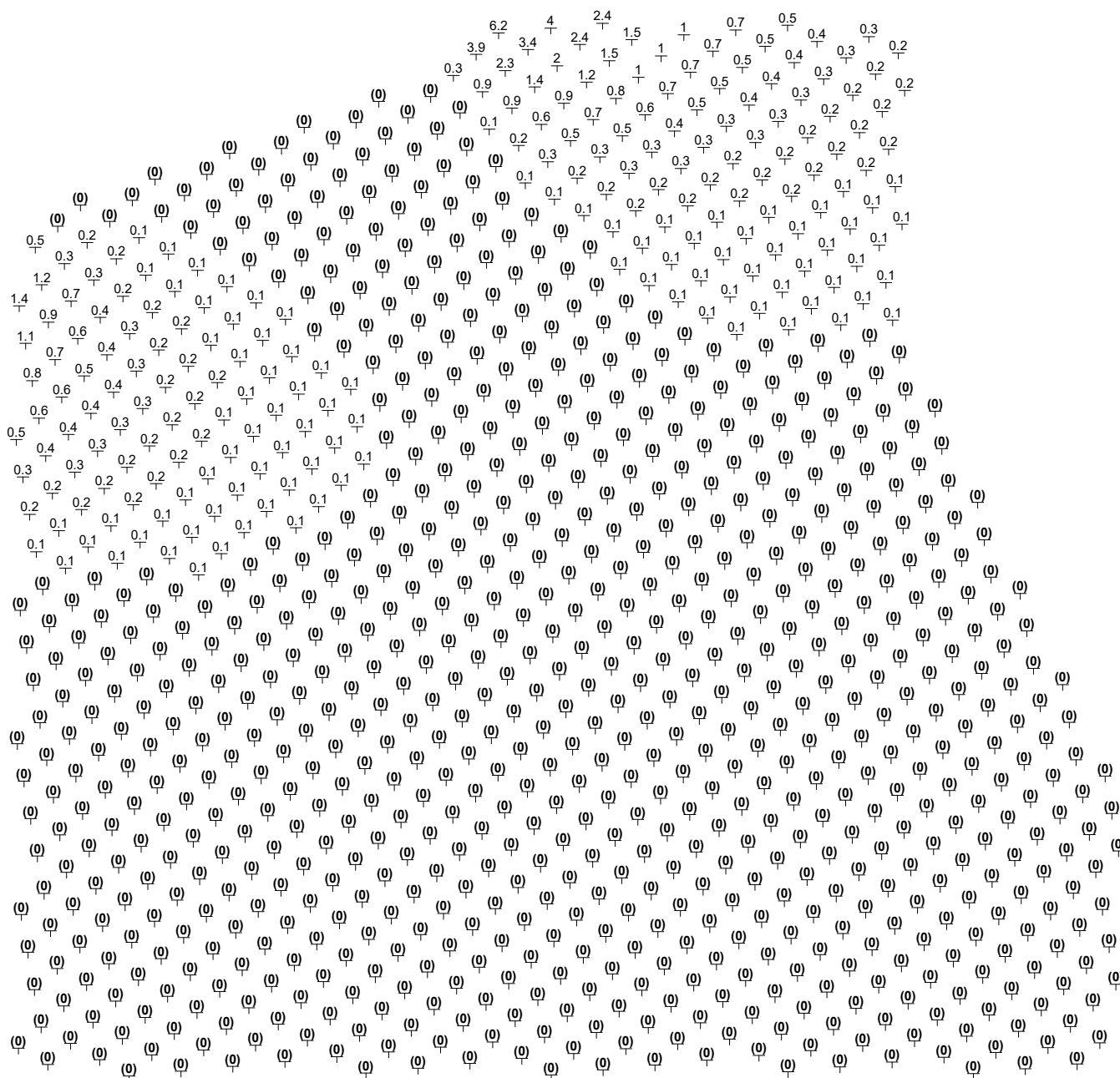
2.3.1 Table, Reference plane 1.1 (E)



2 Exterior 1 king

2.3 Calculation results, Exterior 1 king

2.3.1 Table, Reference plane 1.1 (E)



Part5



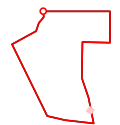
Object : Barnsley innovation centre
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2 Exterior 1 king

2.3 Calculation results, Exterior 1 king

2.3.1 Table, Reference plane 1.1 (E)

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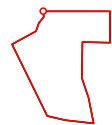
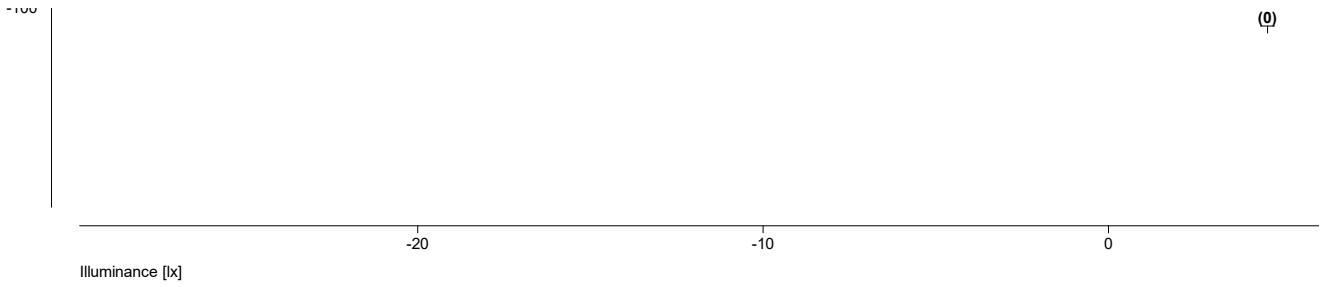
Part6

Object : Barnsley innovation centre
Installation :
Project number : 236
Date : 15.05.2020

2 Exterior 1 king

2.3 Calculation results, Exterior 1 king

2.3.1 Table, Reference plane 1.1 (E)



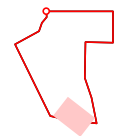
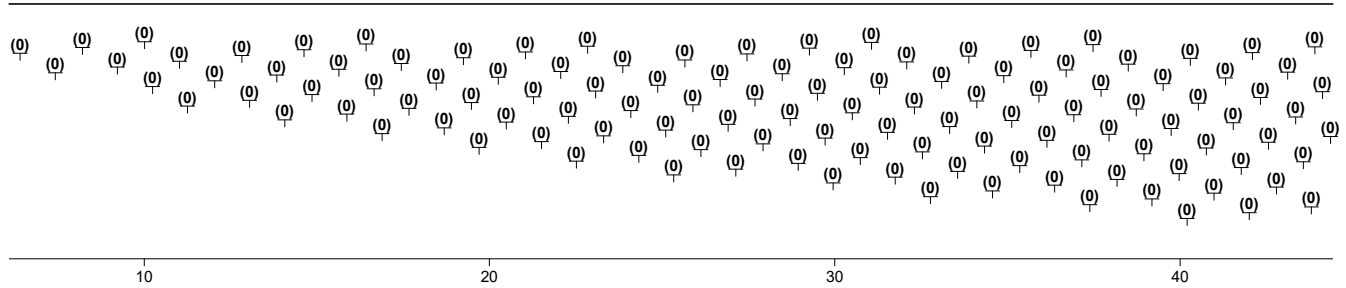
Part7

Object : Barnsley innovation centre
Installation :
Project number : 236
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2 Exterior 1 king

2.3 Calculation results, Exterior 1 king

2.3.1 Table, Reference plane 1.1 (E)



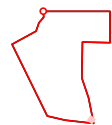
Part8

Object : Barnsley innovation centre
Installation :
Project number : 236
Date : 15.05.2020

2 Exterior 1 king

2.3 Calculation results, Exterior 1 king

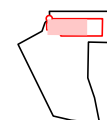
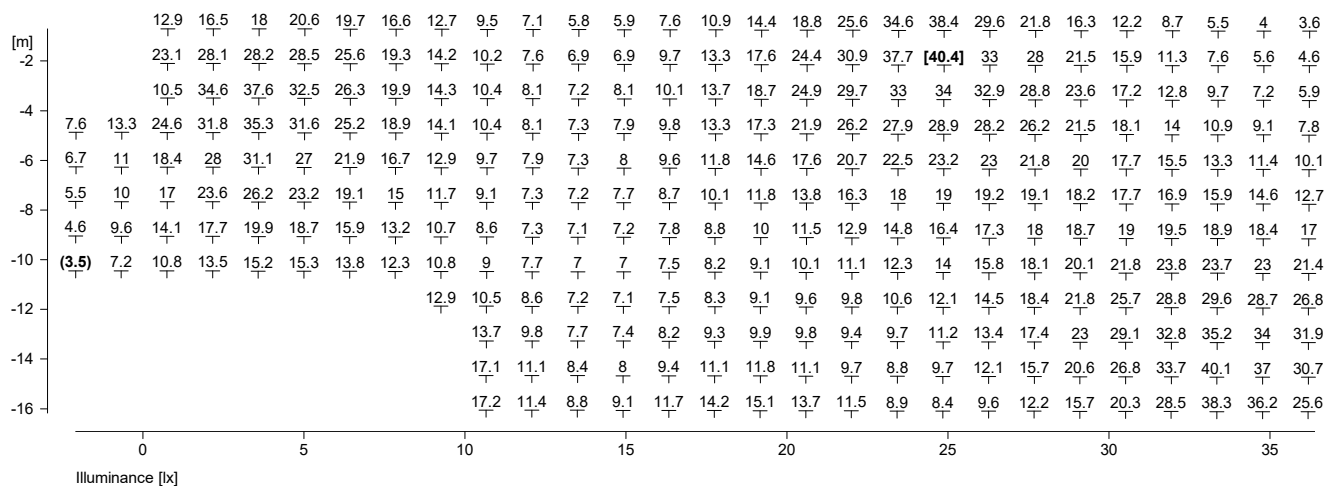
2.3.1 Table, Reference plane 1.1 (E)



Part9

2.3 Calculation results, Exterior 1 king

2.3.2 Table, Measuring area 2 (E)



Part1

Height reference plane	:	0.00 m
Average illuminance	Em	: 16.2 lx
Minimum illuminance	Emin	: 3.5 lx
Maximum illuminance	Emax	: 40.4 lx
Uniformity Uo	Emin/Em	: 1 : 4.66 (0.21)
Diversity Ud	Emin/Emax	: 1 : 11.64 (0.09)

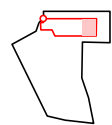
Object : Barnsley innovation centre
 Installation :
 Project number : 236
 Date : 15.05.2020

2.3 Calculation results, Exterior 1 king

2.3.2 Table, Measuring area 2 (E)

4.1	4.8	5.7	6.9	8.1	9.5	10.4	10.6	10.1	7.8
5	5.7	6.8	8	10	12.2	14.6	15.5	14.6	11.6
6	6.8	8	9.6	11.7	14.7	18.3	21.8	20.9	16.3
7.6	8.2	9.3	11.2	13.4	17.2	22.3	26.7	27.3	21.5
9.4	9.6	10.6	12.5	15.2	19.2	24.2	30.5	32.6	30.6
11.7	11.6	12.1	13.7	16.1	19.6	25.1	30.7	37.3	36.7
15	13.9	13.6	14.6	16.3	19.1	24.4	29.6	34.9	31.2
19.5	16.8	15.6	15	15.7	17.8	22.2	26.6	27.6	22.1
24	20	16.6	14.3	14.1	15.5	18.8	21.9	21.3	15.9
27.4	21	16.2	13.7	12.6	12.6	14.6	15.8	15.2	12.2
24.7	19.5	15.2	12	10.1	10	10.5	10.5	10.4	8.2
19.2	15.3	11.7	9.2	7.4	7.1	6.9	6.8	6.4	4.5
	40		45		50				

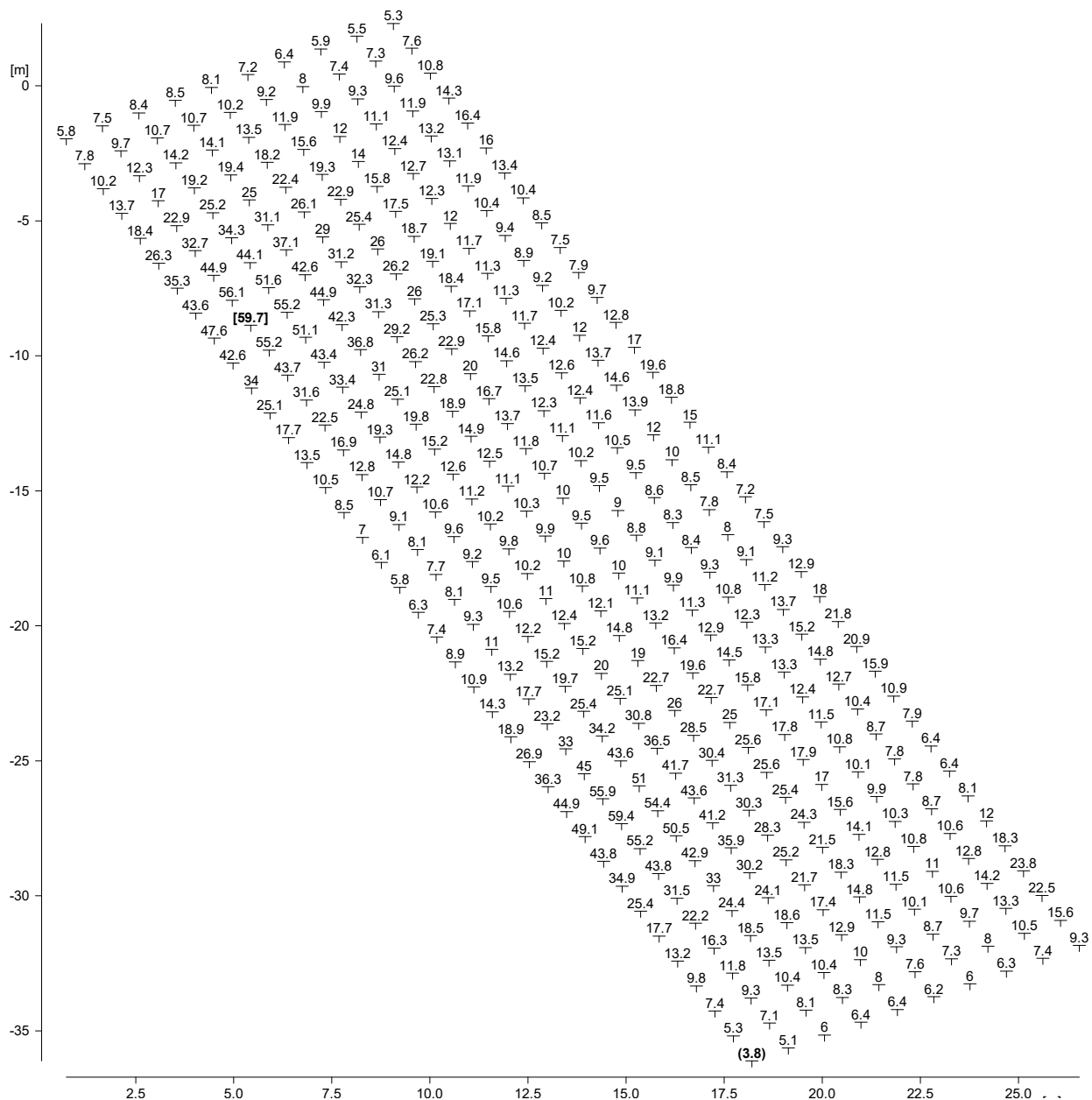
[m]



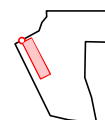
Part2

2.3 Calculation results, Exterior 1 king

2.3.3 Table, Measuring area 5 (E)

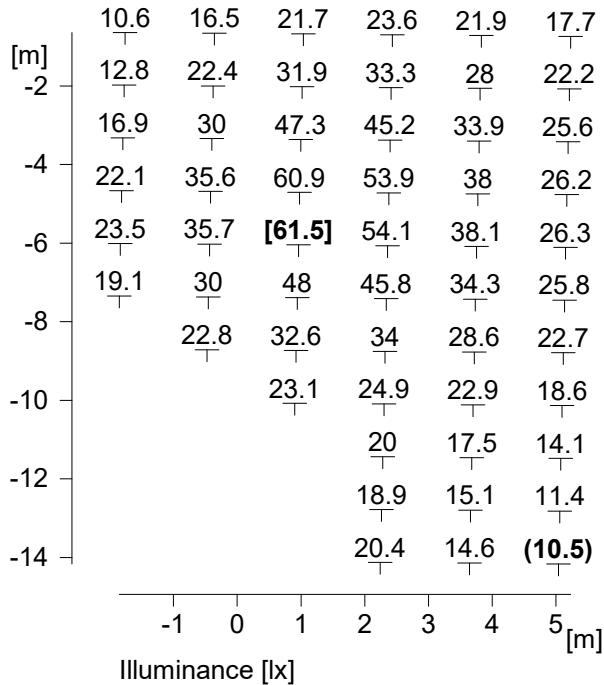


Height reference plane		: 0.00 m
Average illuminance	Em	: 17.8 lx
Minimum illuminance	Emin	: 3.8 lx
Maximum illuminance	Emax	: 59.7 lx
Uniformity Uo	Emin/Em	: 1 : 4.71 (0.21)
Diversity Ud	Emin/Emax	: 1 : 15.79 (0.06)



2.3 Calculation results, Exterior 1 king

2.3.4 Table, Measuring area 6 (E)



Height reference plane	:	0.00 m
Average illuminance	Em	: 28 lx
Minimum illuminance	Emin	: 10.5 lx
Maximum illuminance	Emax	: 61.5 lx
Uniformity Uo	Emin/Em	: 1 : 2.67 (0.37)
Diversity Ud	Emin/Emax	: 1 : 5.86 (0.17)

2.3 Calculation results, Exterior 1 king

2.3.5 3D luminance, View 1

