

Circle Square

Installation : External

Project number :

Customer : SES

Processed by : Matt Newsome

Date : 12.12.2024

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 : Circle Square
Installation : External
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1 Luminaire data

1.1 selux, Olivio Medio (SX 961 12-9)

1.1.1 Data sheet

Manufacturer: selux

SX 961 12-9 Olivio Medio

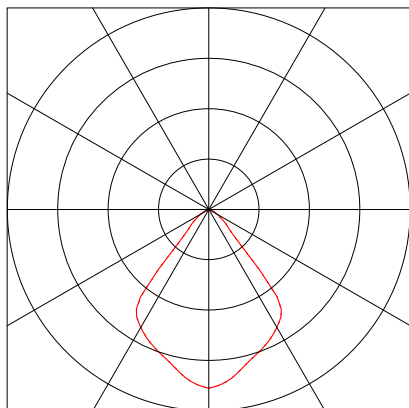
Luminaire data

Absolute Photometry
Luminaire efficacy : 115.38 lm/W
Classification : A60 ↓100.0% ↑0.0%
CIE Flux Codes : 83 97 100 100 100
UGR 4H 8H : 22.2 / 22.2
Power : 26 W
Luminous flux : 3000 lm

Dimensions : Ø220 mm x 275 mm

Equipped with

Quantity : 1
Designation : LED
Colour : 3000K
Colour reproduction : 80



Object : Circle Square
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1 Luminaire data

1.2 selux, (78W) ()

1.2.1 Data sheet

Manufacturer: selux

(78W)

Luminaire arrangement for:

	Position			Rotation		
	x[m]	y[m]	z[m]	Z[°]	C0[°]	C90[°]
Olivio Medio (SX 961 12-9 26Wx30... :	0.000	0.000	6.000	90	0	0
Olivio Medio (SX 961 12-9 26Wx30... :	0.000	0.000	6.300	90	0	0
Olivio Medio (SX 961 12-9 26Wx30... :	0.000	0.000	6.600	90	0	0

Position is the LDC position of the luminaire.

SX 961 12-9 Olivio Medio

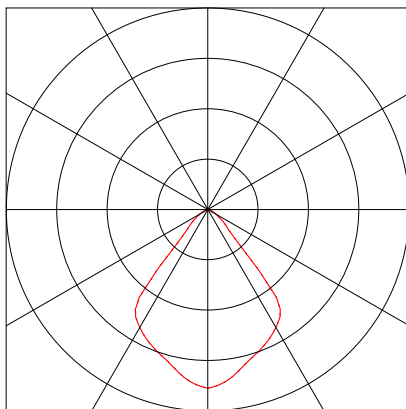
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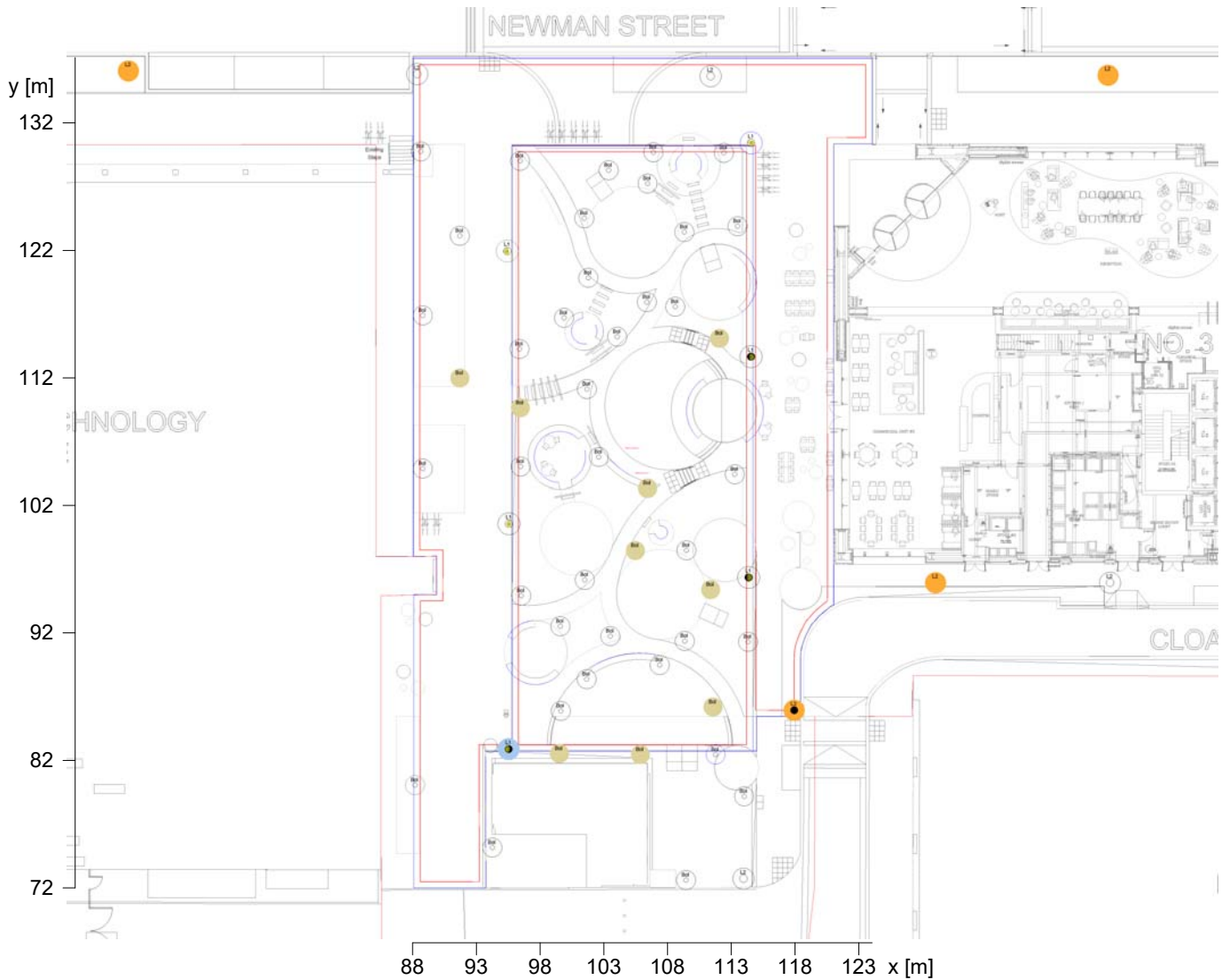
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2 Exterior 1

2.1 Description, Exterior 1

2.1.1 Floor plan



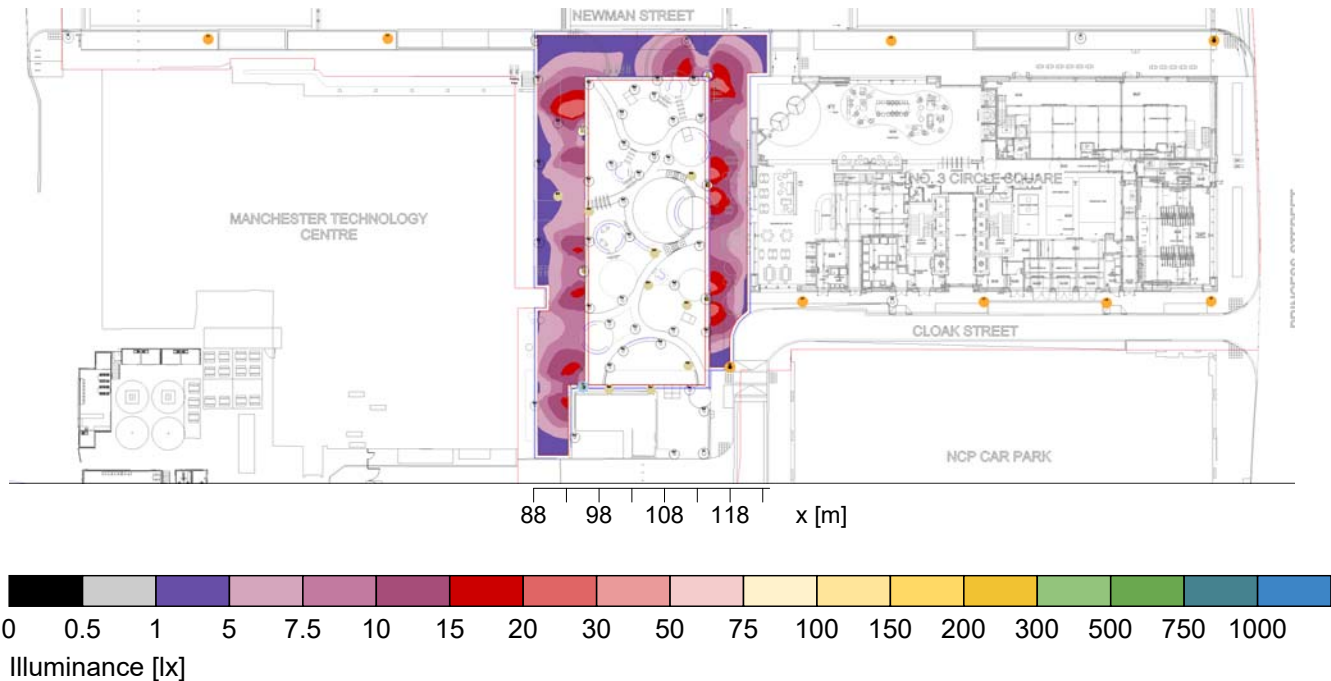
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2 Exterior 1

2.2 Summary, Exterior 1

2.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Luminaire luminous flux	54000 lm
Effective luminaire luminous flux	24900 lm
Total power	468.0 W
Total power per area (1829.22 m ²)	0.26 W/m ² (2.93 W/m ² /100lx)

Evaluation area 1

User profile	Reference plane 1.1
	Walkways exclusively for pedestrians
	5.1.1 (EN 12464-2, 05.2014) (R _a >20.00)
	Horizontal
E _m	8.75 lx (≥ 5 lx)
E _{min}	2.31 lx
E _{min} /E _m (U ₀)	0.26 ✓ (≥ 0.25)
E _{min} /E _{max} (U _d)	0.09
Position	0.00 m (rot: 0°/0.04°) ✓

Type No. Make

Object : Circle Square
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2 Exterior 1

2.2 Summary, Exterior 1

2.2.1 Result overview, Evaluation area 1

2 6 x **selux**
Order No. :
Luminaire name : (78W)
with : 3 x SX 961 12-9
Equipment : 1 x LED 26 W / 3000 lm

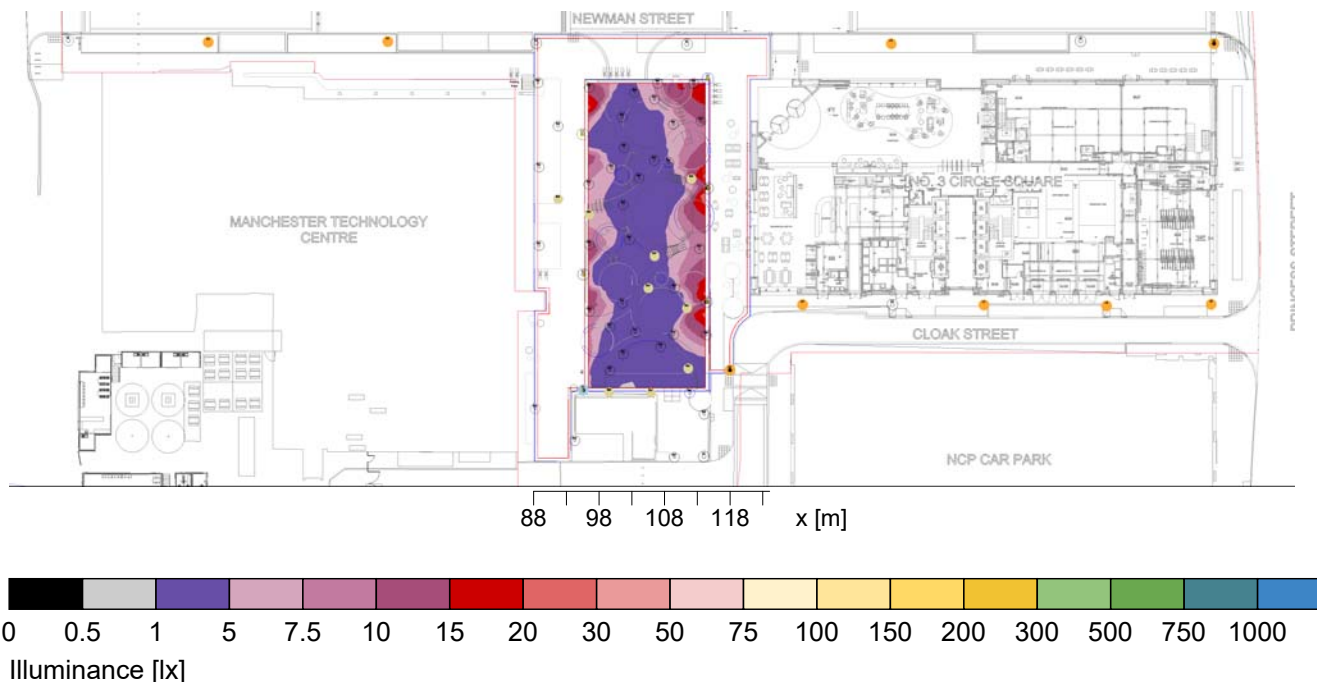


Object : Circle Square
 Installation : External
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2.2 Summary, Exterior 1

2.2.2 Result overview, Evaluation area 2



General

Calculation algorithm used
 Maintenance factor

Average indirect fraction
 0.80

Luminaire luminous flux
 Effective luminaire luminous flux
 Total power
 Total power per area (896.17 m²)

27000 lm
 12600 lm
 234.0 W
 0.26 W/m² (5.07 W/m²/100lx)

Evaluation area 2

Reference plane 2.1

Horizontal
 $\bar{E}_m$ 5.15 lx
 E_{min} 0.98 lx
 $E_{min}/\bar{E}_m (U_o)$ 0.19
 $E_{min}/E_{max} (U_d)$ 0.05
 Position 0.00 m

Type No.\Make

2 3 x **selux**
 Order No. :
 Luminaire name : (78W)
 with : 3 x SX 961 12-9
 Equipment : 1 x LED 26 W / 3000 lm



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2 Exterior 1

2.3 Calculation results, Exterior 1

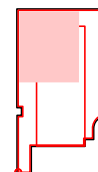
2.3.1 Table, Reference plane 1.1 (E)

	2,6	2,8	3	3,2	3,4	3,5	3,5	3,6	3,6	3,7	3,7	3,8	3,8	3,9	4,1	4,2	4	4	4,3	4,8	5,3	5,9	6,5	7,1	7,6	7,5	4,7	2,8
	2,9	3,2	3,4	3,7	3,9	4	4	4	4,1	4,1	4,2	4,2	4,2	4,3	4,5	4,5	4,3	4,4	4,8	5,4	6	6,7	7,5	8,4	9,2	9,7	7,6	3,8
	3,3	3,6	3,9	4,2	4,5	4,6	4,7	4,6	4,7	4,7	4,7	4,7	4,7	4,8	4,8	4,7	4,5	4,8	5,4	6	6,7	7,6	8,6	9,7	10,7	11,6	10,6	5
	3,7	4,1	4,5	4,9	5,2	5,4	5,4	5,4	5,4	5,3	5,3	5,3	5,2	5,2	5,2	4,7	4,6	5,1	5,8	6,6	7,4	8,4	9,6	10,9	12,3	13,5	14,1	7,3
[m]	4,2	4,6	5,2	5,7	6,1	6,3	6,4	6,2	6,2	6,1	6	5,9	5,8	5,7	5,2	4,5	4,7	5,3	6,1	6,9	7,9	9,1	10,4	12	13,7	15,3	15	8,6
60	4,7	5,3	5,9	6,6	7,1	7,5	7,6	7,4	7,3	7,1	6,9	6,6	6,4	6,1	5,1	4,4	4,7	5,4	6,1	7,1	8,2	9,4	11	12,9	14,8	16,6	17,1	9,3
	5,3	6	6,8	7,6	8,4	8,9	9	8,8	8,5	8,3	7,9	7,5	7,1	6,1	4,8	4,3	4,7	5,3	6,1	7	8,2	9,6	11,3	13,2	15,4	17,4	16,6	9
	6,2	7	7,8	8,8	9,8	10,4	10,6	10,5																				
	7,2	8,2	9,1	10,2	11,4	12,2	12,6	12,5																				
	8,3	9,6	10,9	12	13,2	14,3	14,9	14,9																				
55	9,3	11	12,8	14,6	15,6	16,8	17,7	17,7																				
	10	12,2	14,5	17	18,9	19,9	20,8	20,9																				
	9,7	12,9	15,8	18,9	22	23,8	24,1	24,1																				
	6	9,4	14,7	19,3	23,7	26,4	27,1	25,7																				
	5,2	6,5	8,3	11,6	13,9	16,8	16,8	11,2																				
	4,9	6,1	7,3	8,8	10,3	11,5	11,5	7,8																				
50	4,6	5,6	6,6	7,8	8,9	9,9	9,8																					
	4,3	5,1	6,1	7	8	8,8	9	5,8																				
	4	4,8	5,6	6,6	7,6	8,3	8,1	5,7																				
	3,7	4,4	5,2	6,3	7,7	9,3	10	8,9																				
	3,6	4,3	5,1	7	9,8	11,7	12,7	12,5																				
45	3,5	4,2	6	8,8	10,7	11	11,1	11,4																				
	3,4	5	7,3	8,5	9,1	9,3	9,8	10																				
	4,1	5,8	6,6	7,1	7,5	8,1	8,6	8,8																				
	4,4	5,2	5,6	6	6,7	7,2	7,6	7,8																				
	4,2	4,5	5	5,5	6	6,5	6,9	7																				
40	3,8	4,2	4,6	5,1	5,5	6	6,4	6,6																				
	3,6	4	4,4	4,8	5,2	5,7	6	6,2																				
	3,6	3,9	4,3	4,7	5,1	5,5	5,9	6,1																				
	3,6	4	4,4	4,7	5,1	5,6	5,9	6,1																				
	3,6	4,1	4,5	4,9	5,3	5,8	6,1	6,3																				
	3,8	4,3	4,7	5,2	5,7	6,1	6,5	6,8																				
	4,1	4,7	5,1	5,7	6,2	6,7	7,2	7,4																				

Part1

Average illuminance
 Minimum illuminance
 Maximum illuminance
 Uniformity U_0
 Diversity U_d

$\bar{E}_m$: 8.7 lx
 E_{min} : 2.3 lx
 E_{max} : 27.1 lx
 $E_{min}/\bar{E}_m$: 1 : 3.78 (0.26)
 E_{min}/E_{max} : 1 : 11.73 (0.09)



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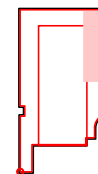


2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)

2.5	(2.3)	2.4	4.1	5.8	5.9	5.5	5	4.4	3.9	3.4	3
3.3	2.9	3.6	6.9	7.6	7.2	6.7	5.9	5.2	4.6	3.9	3.4
4.1	3.9	6.1	9.4	9.4	8.8	8	7.1	6.2	5.3	4.5	3.8
5.2	4.8	9.3	11.8	11.4	10.5	9.4	8.3	7.2	6.1	5.1	4.2
6.3	6.2	12.9	14.2	13.5	12.3	11	9.6	8.3	6.8	5.6	4.5
7.4	7.7	14.3	16.3	15.3	13.8	12.2	10.5	8.9	7.3	5.9	4.7
8.6		13.3	18	16.7	14.9	12.8	10.9	9.1	7.4	6	4.8
		14.7	20.4	17.6	15.3	13	10.8	8.8			
		20.8	23.1	22.2	16.5	12.9	10.6	8.6			
		19.3	19.1	22.3	19.9	14	10.1	8.2			
		17.2	16.6	16.8	16.4	15.1	11	7.8			
		15.1	14.3	13.2	12.1	12.1	10.8	8			
		13.3	12.5	11.4	10.3	9.1	8.4	7.4			
		11.7	11	10.1	9.1	8.1	7.1	6.1			
		10.5	9.9	9.1	8.2	7.4	6.6	5.7			
		9.7	9.1	8.5	7.7	7	6.2	5.5			
		9.3	8.9	8.3	7.6	6.9	6.1	5.4			
		9.6	9.1	8.4	7.7	7	6.2	5.6			
		10.3	9.8	9	8.4	7.7	7	6.1			
		11.5	11	10.4	9.8	8.9	7.8	6.6			
		13	13.1	12.5	11.2	9.8	8.4	6.8			
		15.9	15.7	14.3	12.6	10.8	8.9	6.2			
		18.6	17.8	16.1	13.9	11.2	8.2	5.2			
		20.9	19.8	17.6	14.6	10.1	6.9	5			
		22.3	20.8	17.5	11.9	8.2	6.4	5.1			
		16.5	15.8	12	10.1	8.2	6.5	5.1			
		15.2	14.6	12	10.2	8.2	6.5	5.1			
		21.4	20.8	16.4	11.1	8.2	6.4	5.1			
		22.6	21.3	18.8	15.1	9.4	6.4	5			
		20.2	19.2	17.1	14.7	11.9	7.5	5.2			
		17.2	16.8	15.2	13.3	11.2	8.5	5.5			
		14.1	14.1	13.2	11.7	10.2	8.6	6.7			
		12	11.4	11	10.2	9.1	7.9	6.6			



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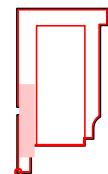


2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)

35	4.4	5.4	6.1	6.6	7.1	7.6	8	8.3
	3.8	5.4	6.9	8	8.7	9.2	9.4	9.5
	3.4	4.8	6.9	8.8	10.1	11.3	11.4	11.1
	3.5	4.2	5.3	8.1	11.1	12.9	13.8	13.5
	3.5	4.3	5.2	6.3	9.6	12.2	15.4	16
	3.6	4.3	5.3	6.3	7.5	9.1	9.9	11.9
30	3.7	4.4	5.4	6.5	7.6	8.6	9.3	9.3
	3.7	4.5	5.6	6.7	7.8	8.6	9.2	9.3
	3.8	4.6	5.6	6.8	7.9	8.8	9.4	9.4
	3.8	4.6	5.6	6.7	7.8	8.9	9.7	9.9
			5.5	6.6	7.9	9.7	12.5	12.1
25			5.5	7	9.5	12.9	15.3	17.3
			6.1	8.5	11.8	13.9	15.1	14.8
			7.7	9.8	11.2	12.2	12.5	12.2
			7.9	8.9	9.8	10.3	10.3	10.5
	5.1	6.3	7.1	7.8	8.3	8.7	9.2	9.3
	5.2	5.9	6.5	7.1	7.6	8.1	8.4	8.6
20	5.1	5.8	6.4	6.9	7.4	7.8	8.1	8.2
	5.2	5.8	6.5	7	7.5	7.8	8	8.1
	5.4	6.1	6.8	7.3	7.8	8.1	8.3	8.3
	6	6.8	7.5	8.1	8.4	8.7	8.9	8.8
	6.5	7.5	8.5	9.3	9.9	10	9.9	9.7
	6.9	8	9.3	10.5	11.6	12	11.8	10.8
15	7.4	8.7	10.1	11.6	13	14	14.2	12.9
	7.7	9.3	10.9	12.7	14.4	15.6	16.2	15
	8	9.7	11.5	13.6	15.4	16.4	15	11.1
	6.4	8.2	10.7	12.1	13	12.6	10.5	9.7
	5.1	6.2	7.7	9	10	10.6	10.4	9.6
10	5	6.2	7.7	9	10.1			
	5.6	7.3	9.2	11.1	12.1			
	7.6	9.3	11.5	13.8	15.8			
	7.4	9	10.8	12.8	14.6			
	6.9	8.2	9.7	11.4	12.9			
	6.2	7.4	8.6	9.9	11			



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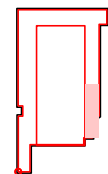


2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)

10.6	9.9	9.2	8.5	7.8	7	6.1
9.4	9	8.3	7.6	6.9	6.2	5.5
8.9	8.5	7.9	7.3	6.6	5.9	5.1
8.9	8.4	7.9	7.2	6.5	5.8	5.1
9.4	8.9	8.2	7.5	6.8	6.1	5.4
10.2	9.7	9	8.4	7.7	6.9	6
11.6	11.2	10.7	9.9	8.8	7.6	6.3
13.8	13.6	12.6	11.2	9.6	8.1	6
16.7	15.8	14.3	12.4	10.5	8.1	4.9
19	17.8	15.8	13.6	9.9	6.8	4.5
20.9	19.5	17	12.7	7.9	5.7	4.5
20	17.6	13.5	9.8	7.3	5.7	4.5
13.9	12.7	11.1	9.2	7.4	5.7	4.4
18	16	11.9	9.1	7.2	5.6	4.3
22.7	20.4	16.4	9.8	7	5.4	4.2
20.7	19.1	16.7	13.3	8.3	5.2	
18	16.8	14.9	12.6	10.4		
14.7	14.2	12.8	11.1			
11.5	11.4	10.6	9.4			
9.3	8.6	8.1	7.6			
7.4	6.9	6.3	5.7			
5.9	5.5	5.1	4.6			
4.7	4.5	4.2	3.8			
3.8	3.6	3.4	3.2			
3.1	3	2.8	2.6			



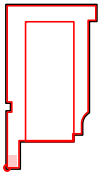
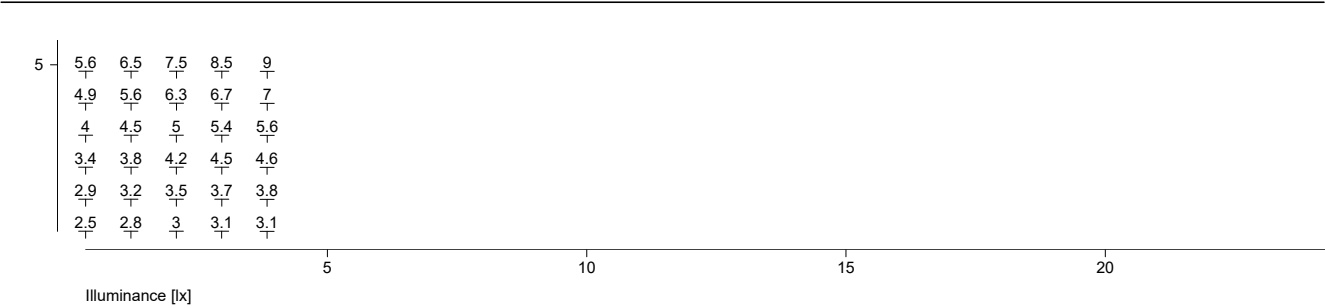
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2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)



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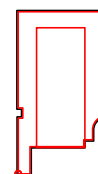


2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)

25 30 [m]



Part6

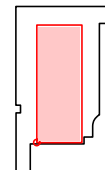
Object : Circle Square
 Installation : External
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2.3 Calculation results, Exterior 1

2.3.2 Table, Reference plane 2.1 (E)

[m]	11.6	10	5.7	4	4.4	5.5	7.1	9.3	12.3	15.8	14.5	19.3
45	15.3	11.4	4.2	3.7	4	5	6.4	8.3	10.6	11.8	14.4	16.8
	18.9	5.6	3.7	3.2	3.5	4.4	5.7	5.7	7.4	9.6	11.6	13.5
	7.1	4.3	3	2.7	2.9	3	3	4.4	6.5	7.9	9.4	11
40	4.7	3	2.2	1.8	1.5	1.7	2.7	4.7	5.8	7.1	8.3	9.4
	3.5	2.2	1.5	1.3	1.4	1.5	2.6	4.5	5.7	6.9	8.1	9.2
	4.2	2.9	1.9	1.5	1.4	1.6	2.4	4.3	5.8	7.3	8.8	10.3
35	11	6.8	2.6	1.9	1.6	1.8	2.3	3	6.1	8.1	10.2	12.3
	9.4	7.7	5.8	2.3	1.8	1.9	2.2	2.6	4	8.9	12	14.9
	7.7	6.6	5.3	4.1	2.1	2	2.1	2.4	3	4.7	13.1	17.5
30	6.5	5.7	4.8	3.9	3.3	2.2	2.2	2.2	2.6	3.9	6.4	11.1
	5.9	5.1	4.4	3.7	3.3	2.9	2.3	2.1	2.7	4.2	8.6	[20.1]
	5.8	5	4.3	3.7	3.3	3.1	2.4	2.3	3.1	8.6	13.4	17.3
	6.1	5.4	4.6	3.8	3.3	2.9	2.5	2.7	5.3	8.6	11.4	14
25	7	6.1	5.1	4.1	3	2.3	2.6	3.6	5.8	7.5	9.4	11.4
	8.5	7.2	5.7	4.1	2	2	2.7	4.4	5.5	6.7	8.1	9.4
	10.6	8.5	5.3	2.2	1.7	1.6	2.8	4.4	5.4	6.5	7.6	8.6
20	11.5	4.7	2.5	1.7	1.4	1.5	2.4	4.4	5.5	6.8	8	9.3
	4.9	3.1	1.9	1.3	1.2	1.4	2	3.6	5.8	7.5	9.3	11.1
	4.4	2.7	1.6	1.1	(1)	1.3	1.7	2.3	5.8	8.5	11.1	13.4
	5.4	3.4	1.8	1.2	(1)	1.2	1.5	1.9	2.9	8.9	12.8	16.2
15	13	6.5	2.4	1.4	1.1	1.1	1.3	1.6	2.3	3.8	9.1	19.4
	11.2	8.8	5.5	1.7	1.2	1.1	1.2	1.4	2.1	3.5	6.2	11.9
	9.1	7.3	5.1	3.5	1.3	1.1	1.2	1.4	2.2	4.6	13.6	18.7
10	7.8	5.9	4.2	3.2	2.3	1.2	1.2	1.5	3.4	8.3	11.7	14.7
	7.2	4.6	3.4	2.7	2.2	1.6	1.2	1.8	4.9	6.9	9	11.2
	7.3	3.7	2.8	2.3	1.9	1.8	1.4	2.8	4.1	5.3	6.6	8
5	6.8	3.2	2.3	1.9	1.6	1.5	1.8	2.6	3.2	4	4.8	5.5
	4.4	2.7	1.9	1.5	1.4	1.3	1.9	2.3	2.6	3	3.4	3.8
	3.9	2.2	1.5	1.2	1.2	1.3	1.8	2	2.1	2.3	2.5	2.7
	3.2	1.8	1.2	(1)	(1)	1.2	1.5	1.7	1.8	1.8	1.9	2
		2	4	6	8	10	12	14	16	[m]		



Height reference plane	: 0.00 m
Average illuminance	$\bar{E}_m$: 5.1 lx
Minimum illuminance	E_{min} : 1 lx
Maximum illuminance	E_{max} : 20.1 lx
Uniformity U_o	$E_{min}/\bar{E}_m$: 1 : 5.27 (0.19)
Diversity U_d	E_{min}/E_{max} : 1 : 20.53 (0.05)