

CUKRARNA

Installation : WC

Project number : 408/16

Customer : SCAPELAB

Processed by : SCAPELAB

Date : 16.11.2016

The following values are based on exact calculations on calibrated lamps, luminaires and their arrangement. In practice, gradual divergences can occur.

Guarantee claims for luminaire data are excluded.

Relux and the luminaire manufacturers accept no liability for consequential damage and damage which is occasioned to the user or to third parties.

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1 Luminaire data

1.1 ZUMTOBEL, TECTON HILIO TW 930-60 § 40... (D36758AA.Idt)

1.1.1 Data sheet

Manufacturer: ZUMTOBEL

D36758AA.Idt TECTON HILIO TW 930-60 § 4000K - LCAI 75W 250mA TW Ip - P=62.6W /
T=3960K / x=0.3776 / y=0.3614 / phi=5927.3lm

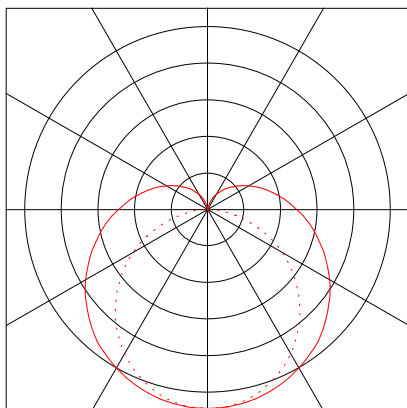
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 94.68 lm/W
Classification : B31 ↓81.8% ↑18.2%
CIE Flux Codes : 37 65 86 82 100
UGR 4H 8H : 26.4 / 24.1
Power : 62.6 W
Luminous flux : 5927 lm

Equipped with

Quantity : 1
Designation : LED
Colour : Unknown
Luminous flux : 5927 lm

Dimensions : 1395 mm x 115 mm x 75 mm



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1 Luminaire data

1.2 ZUMTOBEL, ONLITE ERI (70446584 (STD - Standard))

1.2.1 Data sheet

Manufacturer: ZUMTOBEL

70446584 (STD - Standard)

ONLITE ERI

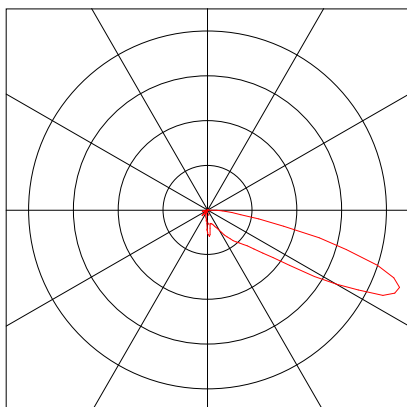
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 34 lm/W
Classification : A10 ↓99.6% ↑0.4%
CIE Flux Codes : 23 48 87 100 100
UGR 4H 8H : 47.8 / 20.8
Power : 1 W
Luminous flux : 34 lm

Equipped with

Quantity : 1
Designation : LED-Z396
0C8W
Colour :
Luminous flux : 34 lm

Dimensions : 15 mm x 15 mm x 2 mm



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1 Luminaire data

1.3 Zumtobel, RESCLITE C ANTIPANIC TEC-GP NSI... (42183110)

1.3.1 Data sheet

Manufacturer: Zumtobel

42183110 Surface-mounted suspended RESCLITE C ANTIPANIC TEC-GP NSI WH [STD]

LED Safety luminaire for anti-panic lighting with min. 0.5 lx as specified in EN 1838; surface mounted and suspended; Luminaire for central emergency lighting supply for individual luminaire monitoring via Powerline, adjustable emergency lighting level; room height 2.2 to 5 m; high power LED, cool white; large die-cast aluminium heat sink ensures optimum thermal management; gear tray made of galvanised sheet steel; can be mounted in TECTON continuous-row system without tools; lens made of polycarbonate (PC); luminaire housing made of die-cast aluminium in powder coated white finish, RAL 9016; luminaire can be installed quickly without tools; tool-free maintenance; through-wiring plug-in terminals for wire cross-sections up to 2.5 mm²; luminaire total power: 5 W; power supply: 230V AC, 220V DC; rotary switch for mechanical address-setting; non-maintained and maintained mode possible, Maintained mode: -5°C to +25°C, Non-maintained mode: -5°C to +30°C; Dimensions: 498 x 60 x 75 mm; IP20; weight: 1.1 kg; Luminaire wired with halogen-free leads; max. line length from emergency power source to last luminaire: 300 m.

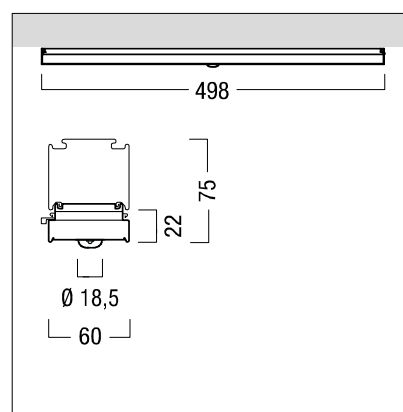
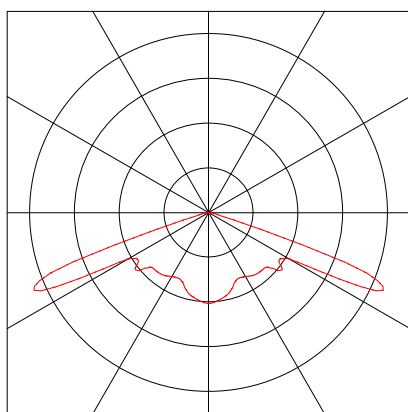
Luminaire data

Absolute Photometry
Luminaire efficacy : 39.6 lm/W
Classification : A20 ↓100.0% ↑0.0%
CIE Flux Codes : 27 57 99 100 100
UGR 4H 8H : 34.2 / 34.2
Power : 5 W
Luminous flux : 198 lm

Equipped with

Quantity : 1
Designation : LED-Z630
Colour : Unknown
Colour reproduction :

Dimensions : 498 mm x 60 mm x 75 mm
Height freestanding luminaire 500 mm

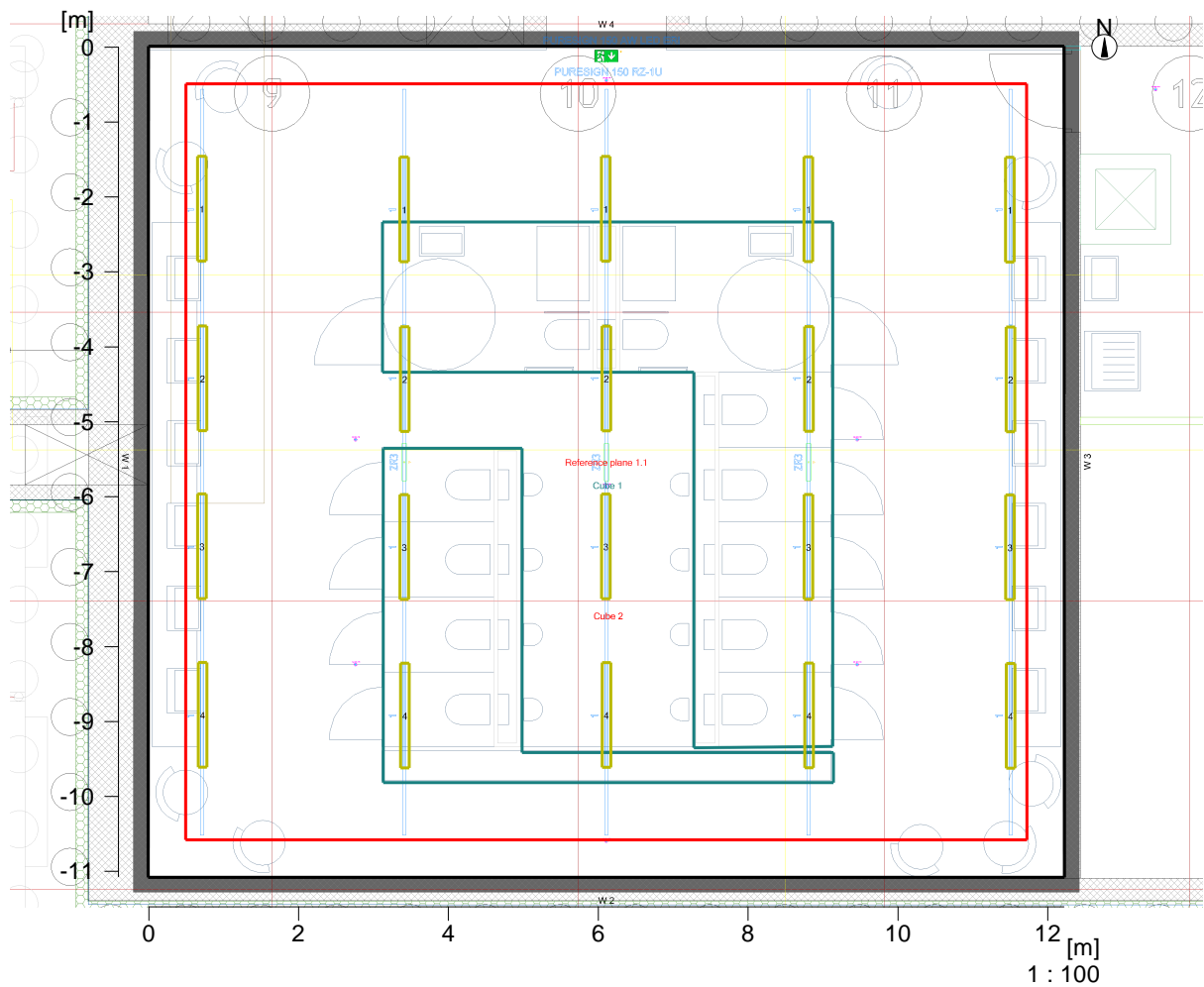


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2 01_splošna osvetlitev

2.1 Description, 01_splošna osvetlitev

2.1.1 Floor plan



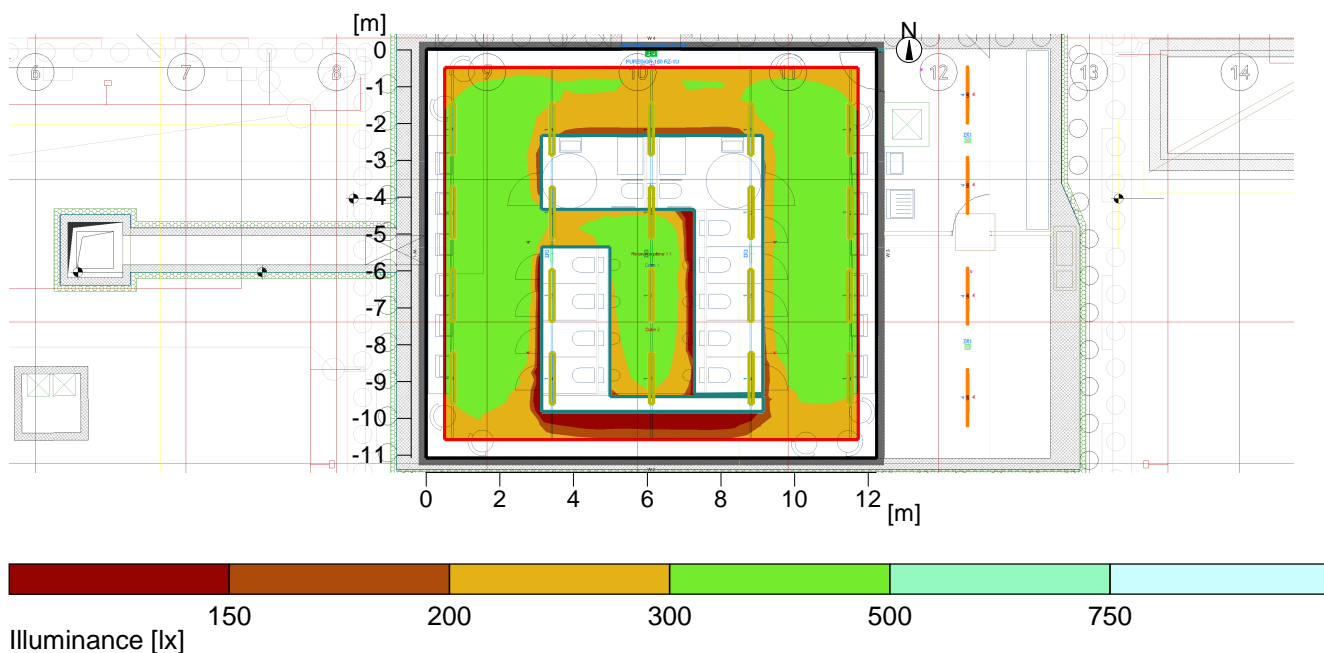
Wall	x	y	Length	Reflectance
1	89.51 m	175.71 m	11.07 m	50.0 %
2	101.73 m	175.71 m	12.22 m	50.0 %
3	101.72 m	186.78 m	11.07 m	50.0 %
4	89.51 m	186.78 m	12.21 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		5.66 m		
Height of reference plane		0.75 m		

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2 01_splošna osvetlitev

2.2 Summary, 01_splošna osvetlitev

2.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 4.86 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (135.28 m²)

118540 lm
 1252.0 W
 9.25 W/m² (3.04 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
 E_m 305 lx
 E_{min} 109 lx
 E_{min}/E_{av} (U_o) 0.36
 E_{min}/E_{max} (U_d) 0.24
 UGR (3.4H 3.1H) ≤23.0
 Position 0.75 m

Type No.\Make

ZUMTOBEL	
1	Order No. : D36758AA.ltd
20	Luminaire name : TECTON HILIO TW 930-60 § 4000K - LCAI 75W 250mA TW Ip
	- P=62.6W / T=
	Equipment : 1 x LED 62.6 W / 5927 lm

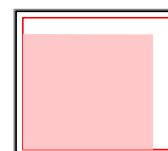
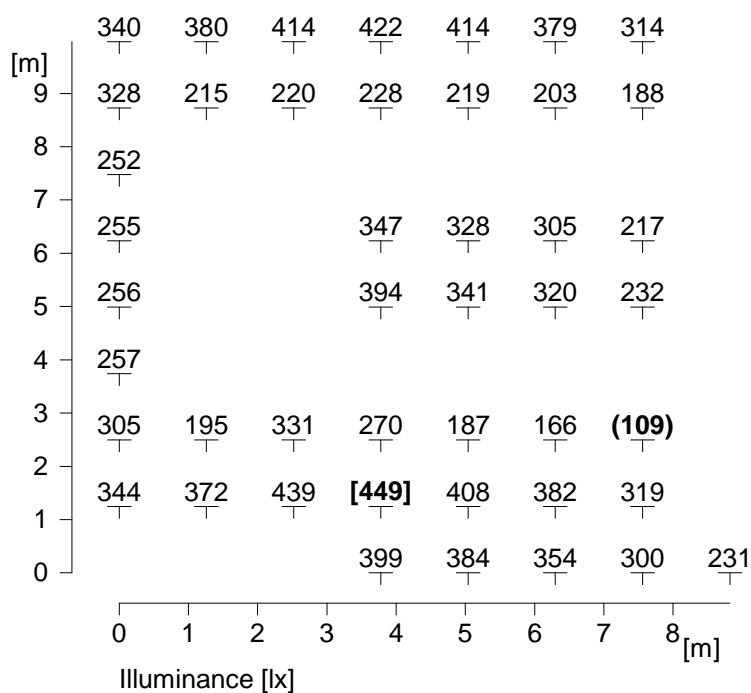
scapelab

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2 01_splošna osvetlitev

2.3 Calculation results, 01_splošna osvetlitev

2.3.1 Table, Reference plane 1.1 (E)



Height of the reference plane

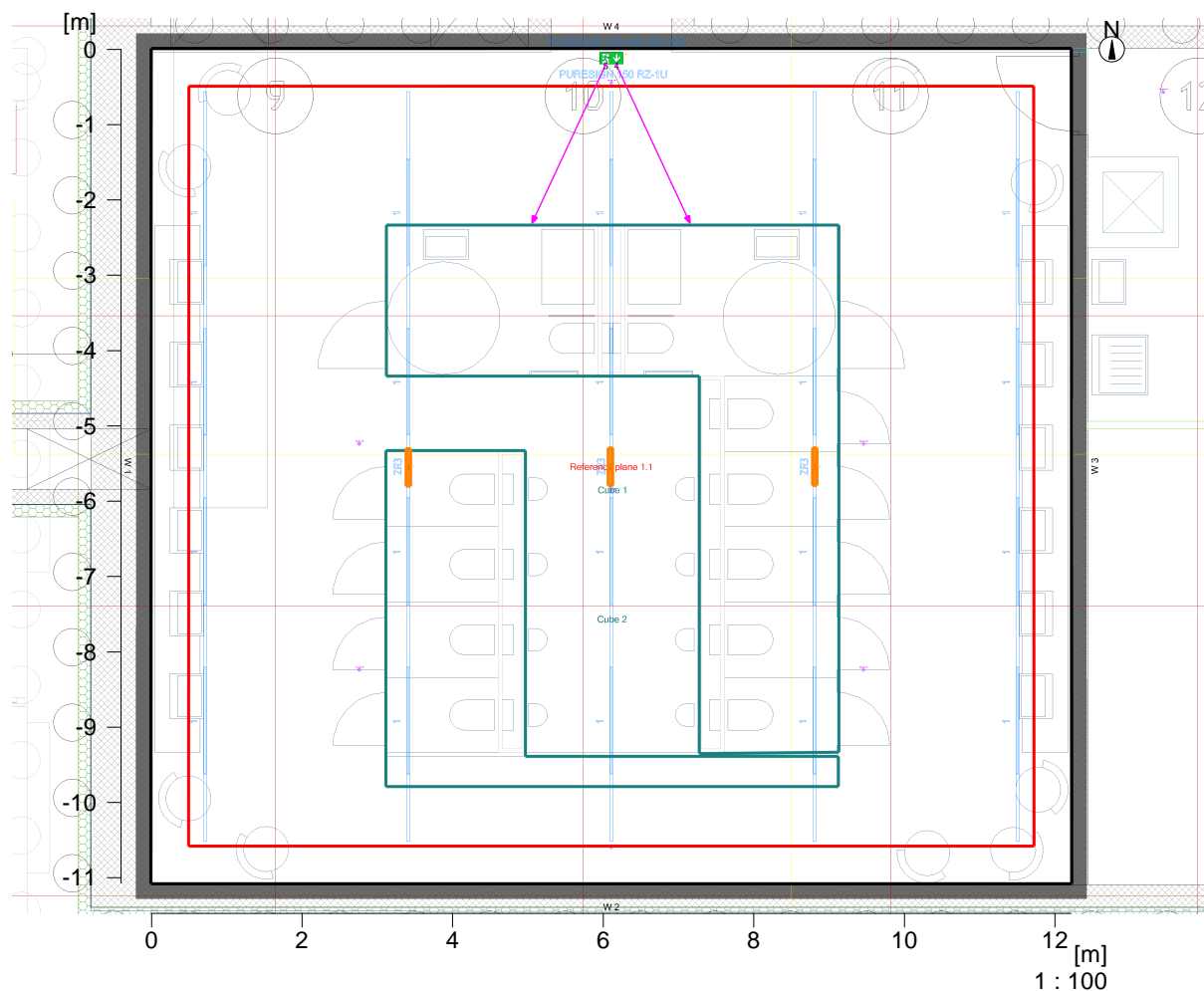
Average illuminance	Eav	: 0.75 m
Minimum illuminance	Emin	: 305 lx
Maximum illuminance	Emax	: 109 lx
Uniformity Uo	Emin/Eav	: 449 lx
Diversity Ud	Emin/Emax	: 1 : 2.79 (0.36)
		: 1 : 4.12 (0.24)

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3 02_varnostna osvetlitev

3.1 Description, 02_varnostna osvetlitev

3.1.1 Floor plan



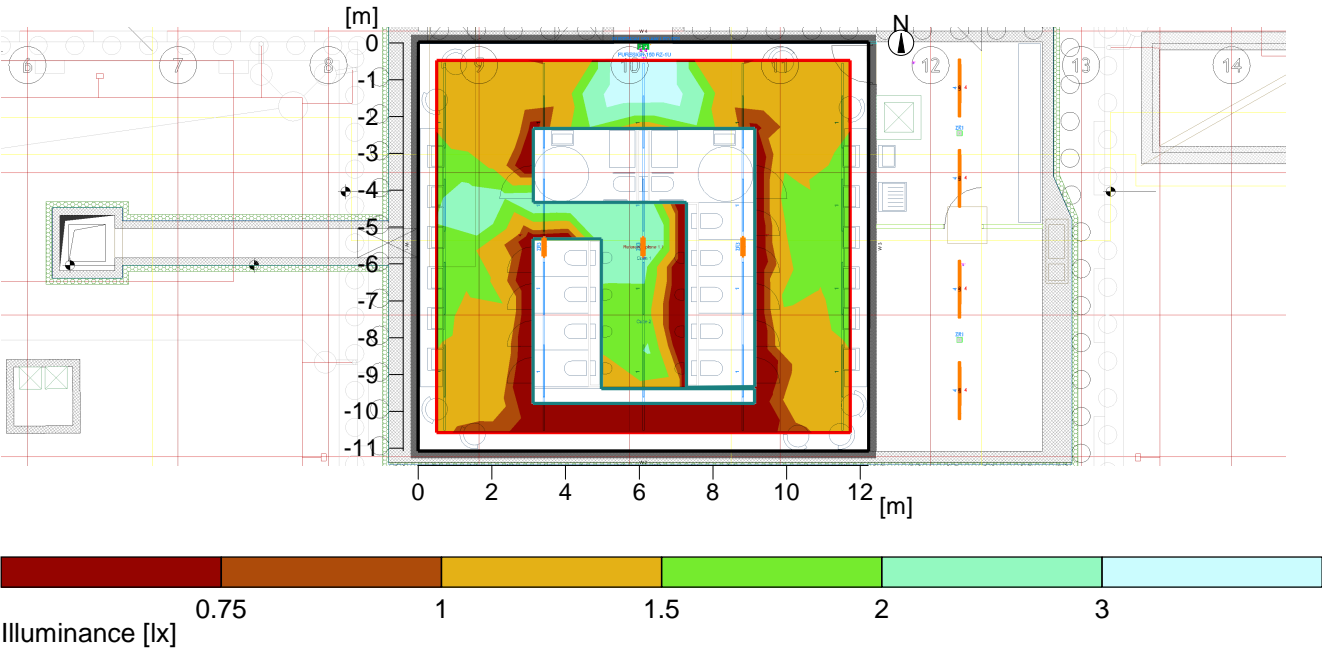
Wall	x	y	Length	Reflectance
1	89.51 m	175.71 m	11.07 m	50.0 %
2	101.73 m	175.71 m	12.22 m	50.0 %
3	101.72 m	186.78 m	11.07 m	50.0 %
4	89.51 m	186.78 m	12.21 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		5.66 m		
Height of reference plane		0.03 m		

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3 02_varnostna osvetlitev

3.2 Summary, 02_varnostna osvetlitev

3.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	662 lm
Total power	17.0 W
Total power per area (135.28 m²)	0.13 W/m² (9.56 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Em	Horizontal
Emin	1.31 lx
Emin/Eav (Uo)	0.37 lx
Emin/Emax (Ud)	0.28
Position	0.13
	0.03 m

Type No.\Make

2	2	ZUMTOBEL
		Order No. : 70446584 (STD - Standard)
		Luminaire name : ONLITE ERI
		Equipment : 1 x LED-Z396 0C8W 1 W / 34 lm

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3 02_varnostna osvetlitev

3.2 Summary, 02_varnostna osvetlitev

3.2.1 Result overview, Evaluation area 1

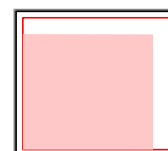
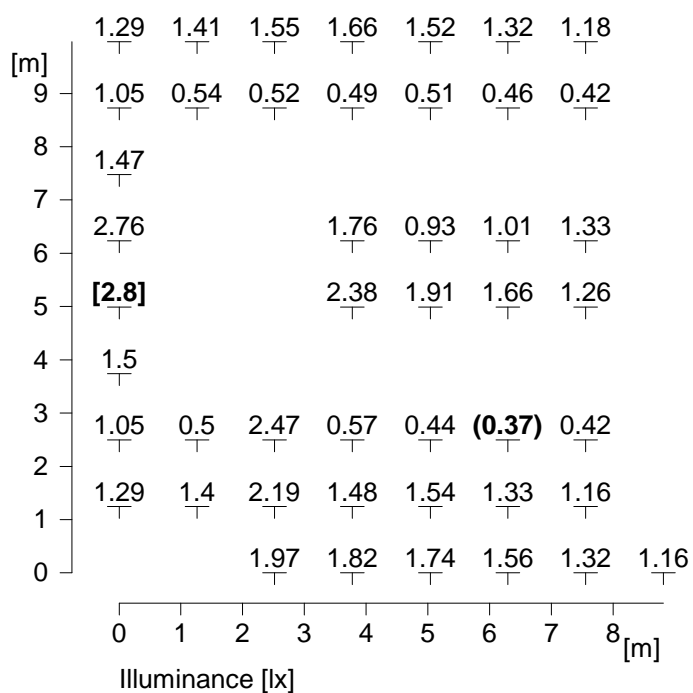
3	3	Zumtobel	
		Order No.	: 42183110
		Luminaire name	: RESCLITE C ANTIPANIC TEC-GP NSI WH [STD]
		Equipment	: 1 x LED-Z630 5 W / 198 lm

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3 02_varnostna osvetlitev

3.3 Calculation results, 02_varnostna osvetlitev

3.3.1 Table, Reference plane 1.1 (E)



Height of the reference plane

Average illuminance	Eav	: 0.03 m
Minimum illuminance	Emin	: 0.37 lx
Maximum illuminance	Emax	: 2.8 lx
Uniformity Uo	Emin/Eav	: 1 : 3.54 (0.28)
Diversity Ud	Emin/Emax	: 1 : 7.54 (0.13)