

CUKRARNA

Installation : AVLA

Project number : 407/16

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

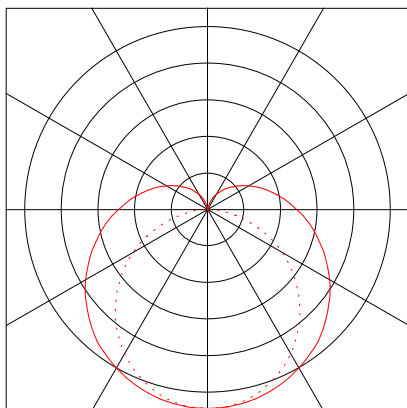
Luminaire data

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, RESCLITE C ANTIPANIC ED NSI WH ... (42180412)

1.2.1 Data sheet

Manufacturer: Zumtobel

42180412 ceiling recessed RESCLITE C ANTIPANIC ED NSI WH [STD]

LED Safety luminaire for anti-panic lighting with min. 0.5 lx as specified in EN 1838; ceiling recessed; 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 box for installation in ceiling recess made of PC; 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; ball-proof design; luminaire total power: 5 W; power supply: 230V AC; 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: Ø85 x 28 mm; IP40; weight: 0.26 kg; Luminaire wired with halogen-free leads; max. line length from emergency power source to last luminaire: 300 m.; suitable for recessed installation in concrete casting surround (please order separately).

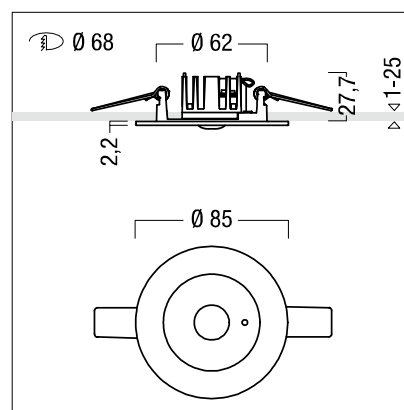
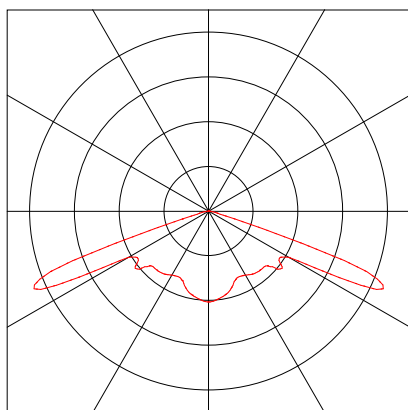
Luminaire data

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 : 29.2 / 29.2
Power : 5 W
Luminous flux : 198 lm

Equipped with

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

Dimensions : Ø85 mm x 2 mm



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1 Luminaire data

1.3 Zumtobel, RESCLITE C SPOT ED NSI WH [STD] (42180428)

1.3.1 Data sheet

Manufacturer: Zumtobel

42180428 ceiling recessed RESCLITE C SPOT ED NSI WH [STD]

LED Safety luminaire for illuminating fire-fighting and first-aid equipment and danger spots with minimum output 5 lx; ceiling recessed; 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 box for installation in ceiling recess made of PC; lens made of polycarbonate (PC); luminaire housing made of die-cast aluminium in powder coated white finish, RAL 9016; housing can be installed quickly on gear tray without tools; tool-free maintenance; through-wiring plug-in terminals for wire cross-sections up to 2.5 mm²; ball-proof design; 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: Ø85 x 28 mm; IP40; weight: 0.26 kg; Luminaire wired with halogen-free leads; max. line length from emergency power source to last luminaire: 300 m.; suitable for recessed installation in concrete casting surround (please order separately).

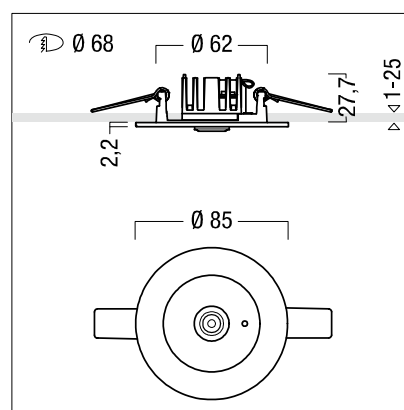
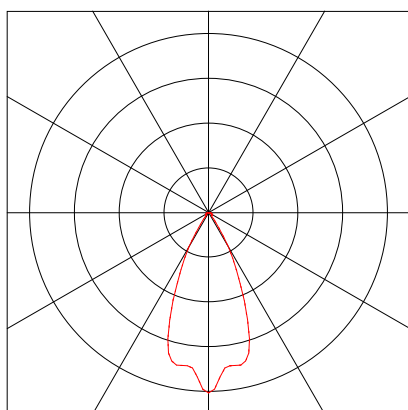
Luminaire data

Absolute Photometry
Luminaire efficacy : 38.6 lm/W
Classification : A70 ↓100.0% ↑0.0%
CIE Flux Codes : 89 95 98 100 100
UGR 4H 8H : 15.1 / 15.1
Power : 5 W
Luminous flux : 193 lm

Equipped with

Quantity : 1
Designation : LED-Z644
Colour : Unknown
Colour reproduction :

Dimensions : Ø85 mm x 2 mm



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1 Luminaire data

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

1.4.1 Data sheet

Manufacturer: ZUMTOBEL

70446584 (STD - Standard)

ONLITE ERI

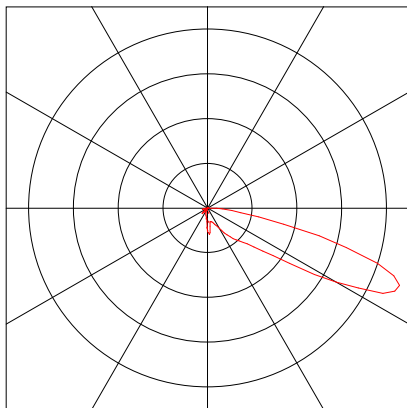
Luminaire data

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

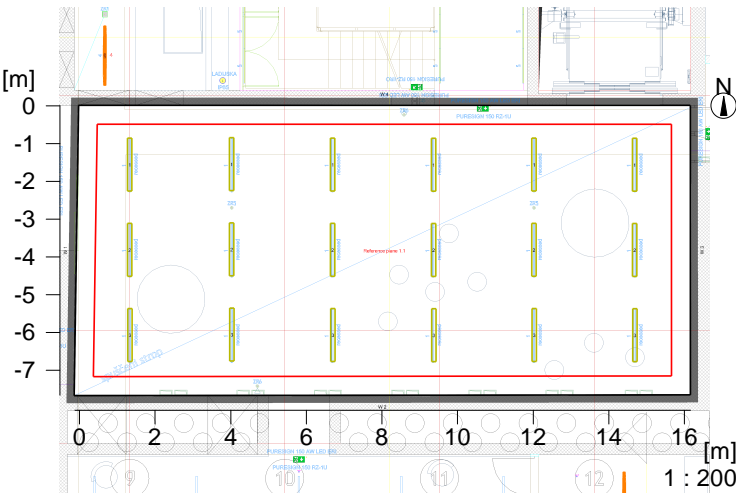


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2 01_splošna osvetlitev

2.1 Description, 01_splošna osvetlitev

2.1.1 Floor plan



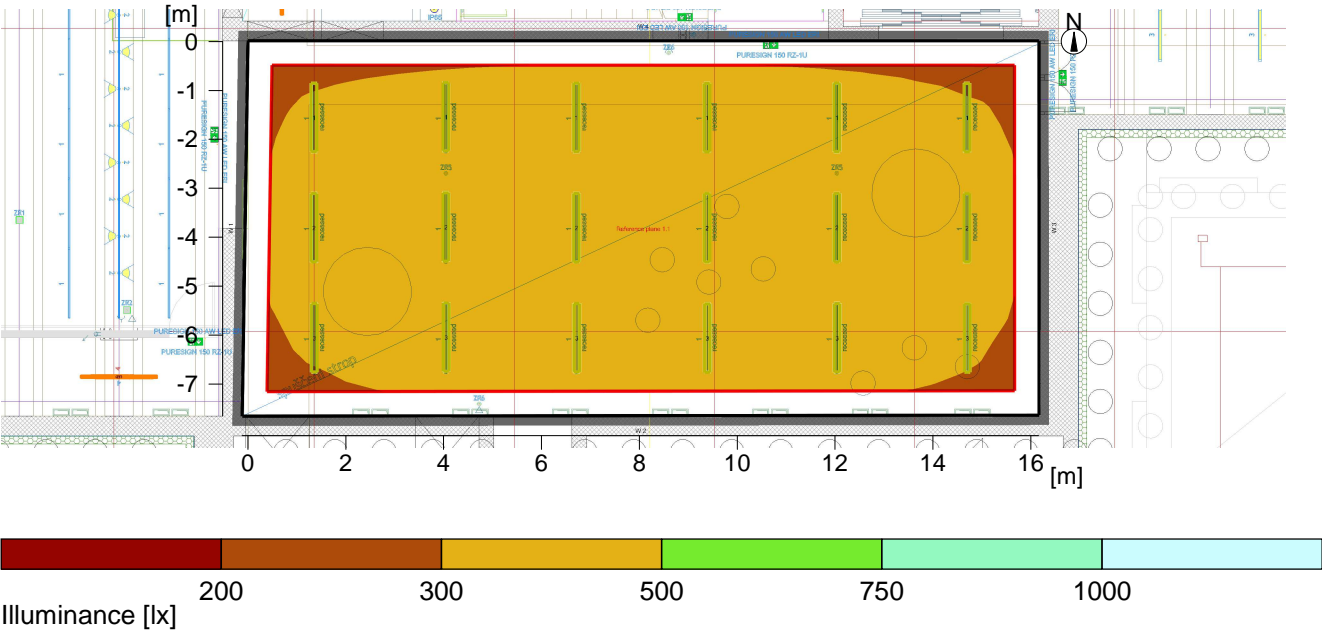
Wall	x	y	Length	Reflectance
1	89.85 m	188.65 m	7.66 m	50.0 %
2	106.12 m	188.67 m	16.28 m	50.0 %
3	106.12 m	196.31 m	7.63 m	50.0 %
4	89.96 m	196.31 m	16.16 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		5.66 m		
Height of reference plane		0.75 m		

Object : CUKRARNA
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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	Average indirect fraction
Height of luminaire plane	4.86 m
Maintenance factor	0.80
Total luminous flux of all lamps	106686 lm
Total power	1126.8 W
Total power per area (123.96 m²)	9.09 W/m² (2.21 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Em	Horizontal
Emin	412 lx
Emin/Eav (Uo)	219 lx
Emin/Emax (Ud)	0.53
UGR (2.1H 4.5H)	0.45
Position	<=24.0
	0.75 m

Type No.\Make

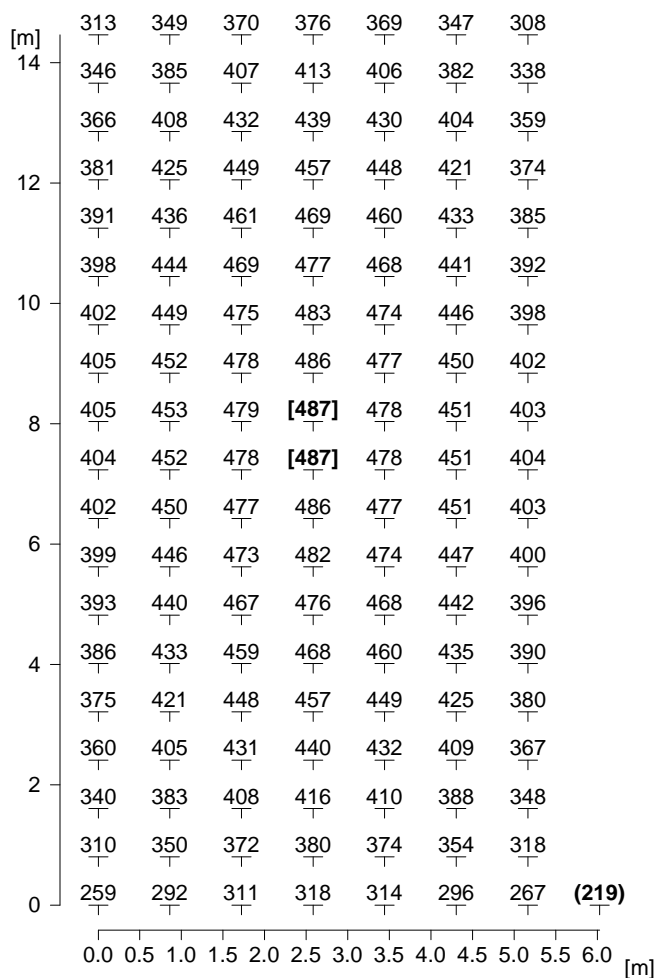
1	18	ZUMTOBEL
		Order No. : D36758AA.ltd
		Luminaire name : TECTON HILIO TW 930-60 § 4000K - LCAI 75W 250mA TW Ip
		- P=62.6W / T=
		Equipment : 1 x LED 62.6 W / 5927 lm

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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

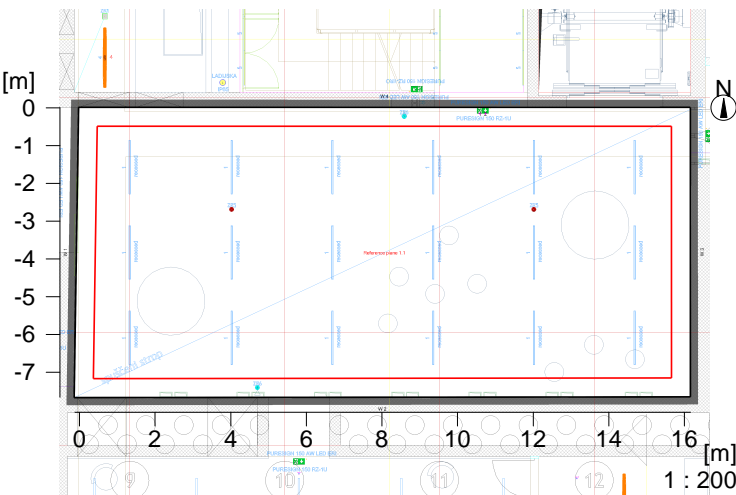
Average illuminance	Eav	: 0.75 m
Minimum illuminance	Emin	: 412 lx
Maximum illuminance	Emax	: 219 lx
Uniformity Uo	Emin/Eav	: 487 lx
Diversity Ud	Emin/Emax	: 1 : 1.88 (0.53)
		: 1 : 2.23 (0.45)

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3 02_varnostna osvetlitev

3.1 Description, 02_varnostna osvetlitev

3.1.1 Floor plan



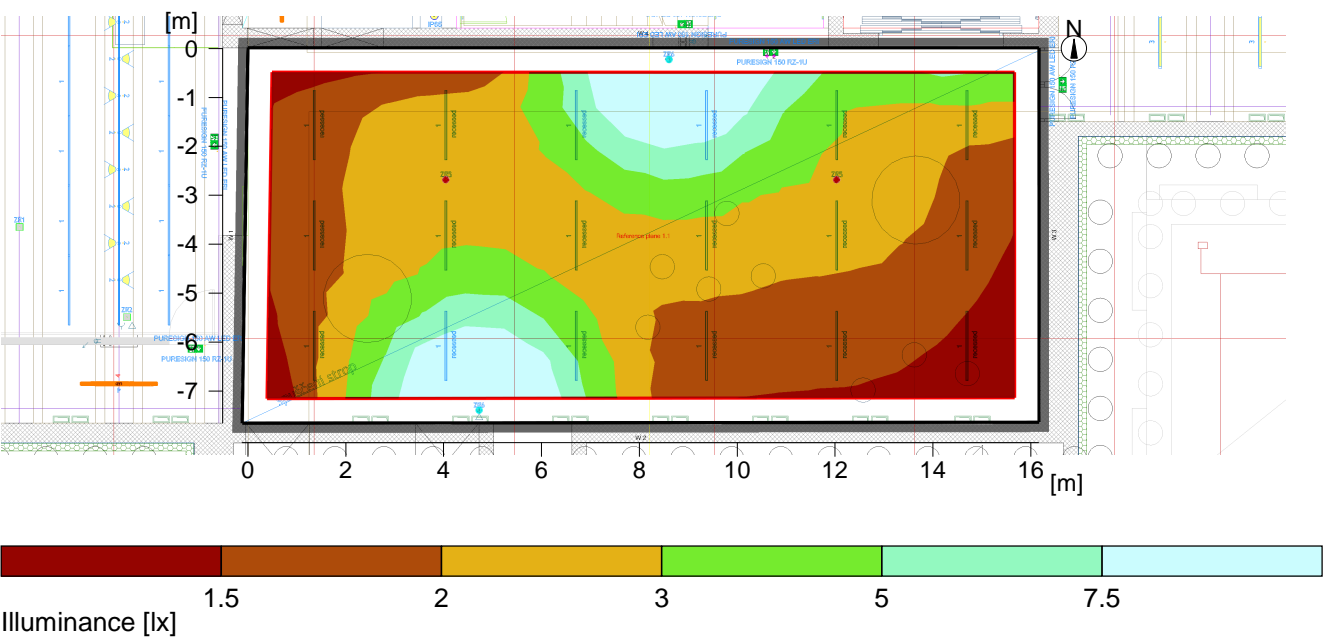
Wall	x	y	Length	Reflectance
1	89.85 m	188.65 m	7.66 m	50.0 %
2	106.12 m	188.67 m	16.28 m	50.0 %
3	106.12 m	196.31 m	7.63 m	50.0 %
4	89.96 m	196.31 m	16.16 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		5.66 m		
Height of reference plane		0.03 m		

Object : CUKRARNA
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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	850 lm
Total power	22.0 W
Total power per area (123.96 m ²)	0.18 W/m ² (5.84 W/m ² /100lx)

Evaluation area 1

Reference plane 1.1

Em	Horizontal
Emin	3.04 lx
Emin/Eav (Uo)	1.22 lx
Emin/Emax (Ud)	0.40
Position	0.11
	0.03 m

Type No.\Make



4	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

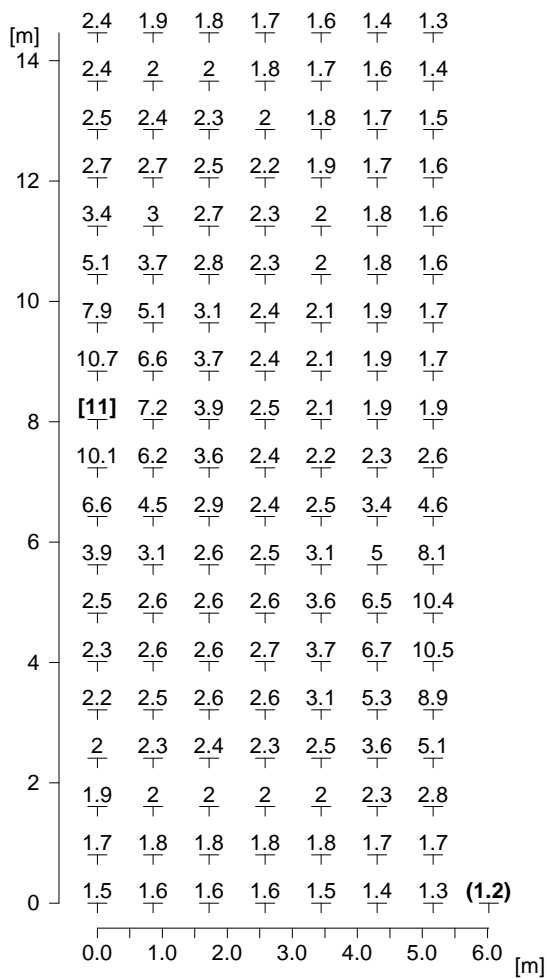
		Zumtobel	
2	2	Order No.	: 42180412
		Luminaire name	: RESCLITE C ANTIPANIC ED NSI WH [STD]
		Equipment	: 1 x LED-Z630 5 W / 198 lm
3	2	Order No.	: 42180428
		Luminaire name	: RESCLITE C SPOT ED NSI WH [STD]
		Equipment	: 1 x LED-Z644 5 W / 193 lm

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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

: 0.03 m

Average illuminance

Eav : 3 lx

Minimum illuminance

Emin : 1.2 lx

Maximum illuminance

Emax : 11 lx

Uniformity Uo

Emin/Eav : 1 : 2.49 (0.40)

Diversity Ud

Emin/Emax : 1 : 9.03 (0.11)