

CUKRARNA

Installation : KAVARNA

Project number : 417/16

Customer : SCAPELAB

Processed by : SCAPELAB

Date : 17.11.2016

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.

Object : CUKRARNA
Installation : KAVARNA
Project number : 417/16
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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

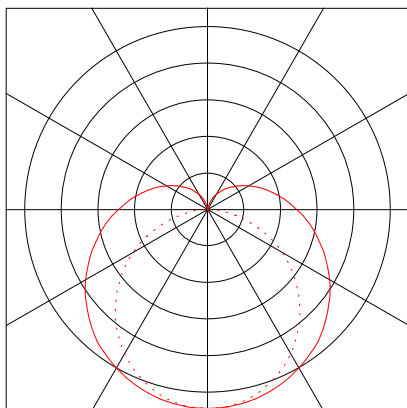
Luminaire data

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

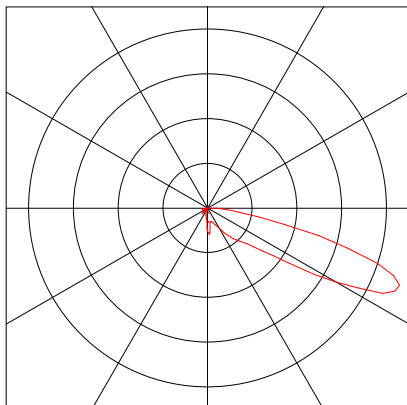
Luminaire data

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



Object : CUKRARNA
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1 Luminaire data

1.3 Zumtobel, RESCLITE C ANTIPANIC ED NT1 WH ... (42180410)

1.3.1 Data sheet

Manufacturer: Zumtobel

42180410 ceiling recessed RESCLITE C ANTIPANIC ED NT1 WH [STD]

LED Safety luminaire for anti-panic lighting with min. 0.5 lx as specified in EN 1838; ceiling recessed; Luminaire with local battery supply for 1h emergency lighting for maintained or non-maintained mode, with automatic or central testing of emergency lighting function; 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: 4 W; power supply: 230V AC, 220V DC; rotary switch for mechanical address-setting; non-maintained and maintained mode possible, Maintained mode: +5°C to +30°C, Non-maintained mode: +5°C to +35°C; Dimensions: Ø85 x 28 mm; IP40; weight: 0.37 kg; Luminaire wired with halogen-free leads; suitable for recessed installation in concrete casting surround (please order separately).

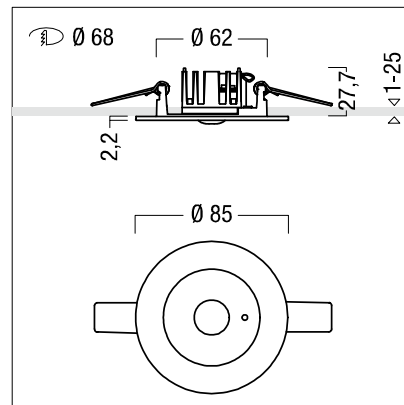
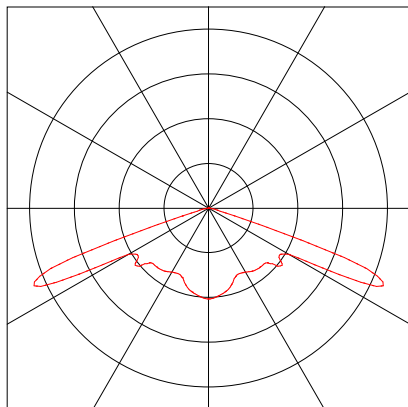
Luminaire data

Absolute Photometry
Luminaire efficacy : 39.5 lm/W
Classification : A20 ↓100.0% ↑0.0%
CIE Flux Codes : 27 57 99 100 100
UGR 4H 8H : 28.5 / 28.5
Power : 4 W
Luminous flux : 158 lm

Equipped with

Quantity : 1
Designation : LED-Z633
Colour : Unknown
Colour reproduction :

Dimensions : Ø85 mm x 2 mm



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1 Luminaire data

1.4 ZUMTOBEL, RESCLITE C SPOT ED NSI... (42180428 (STD -...))

1.4.1 Data sheet

Manufacturer: ZUMTOBEL

42180428 (STD - Standard)

RESCLITE C SPOT ED NSI WH

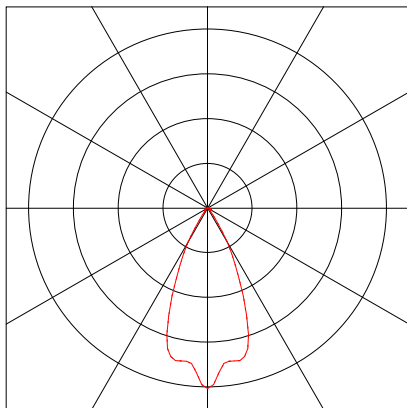
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 38.6 lm/W
Classification : A70 ↓100.0% ↑0.0%
CIE Flux Codes : 89 95 98 100 100
UGR 4H 8H : 13.4 / 16.1
Power : 5 W
Luminous flux : 193 lm

Equipped with

Quantity : 1
Designation : LED-Z644 5W
Colour :
Luminous flux : 193 lm

Dimensions : 55 mm x 55 mm x 55 mm

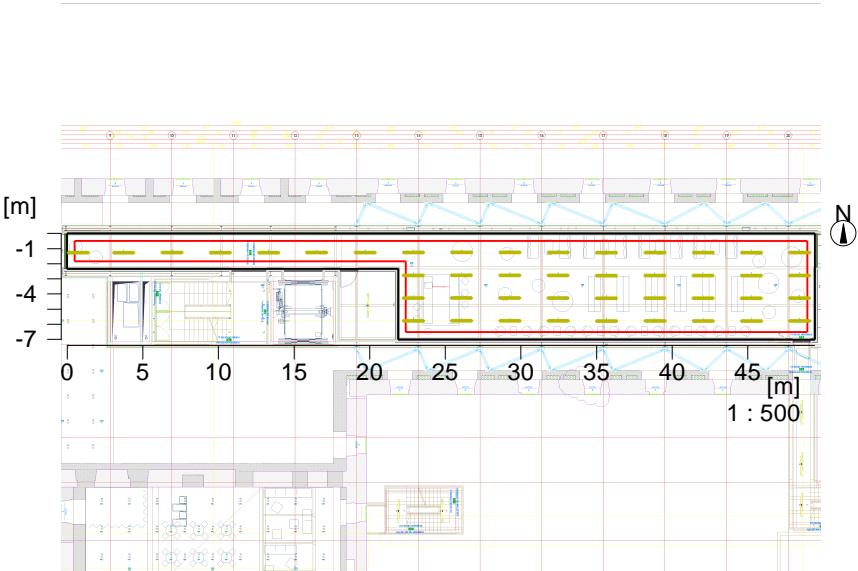


Object : CUKRARNA
Installation : KAVARNA
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2 01_splošna osvetlitev

2.1 Description, 01_splošna osvetlitev

2.1.1 Floor plan



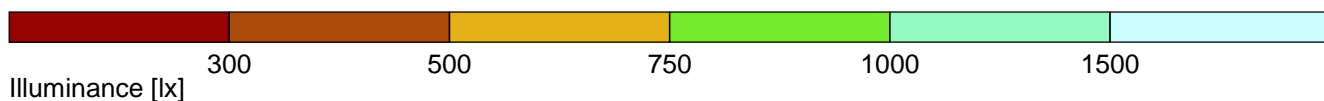
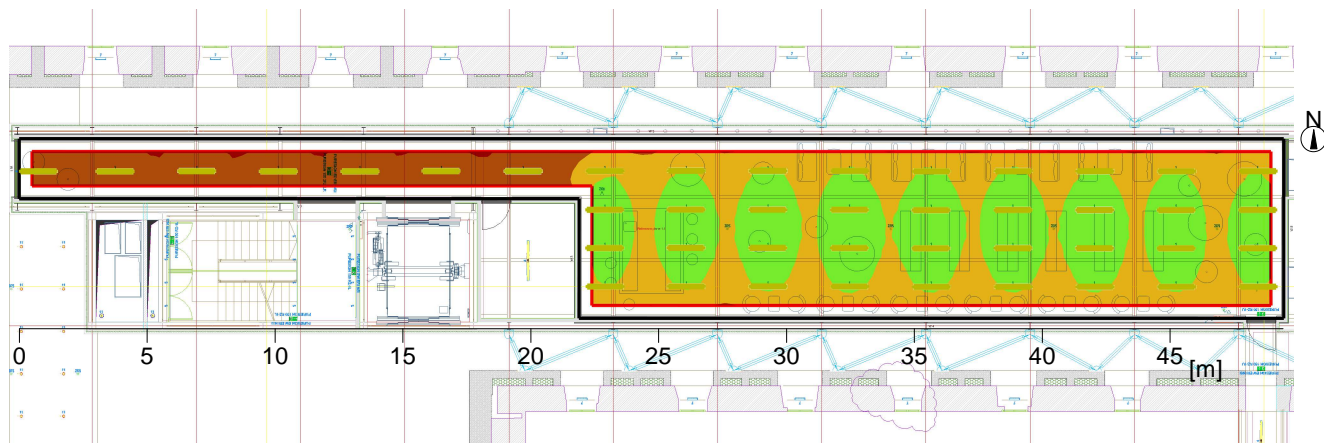
Wall	x	y	Length	Reflectance
1	65.34 m	38.69 m	2.35 m	50.0 %
2	87.23 m	38.70 m	21.88 m	50.0 %
3	87.22 m	34.03 m	4.66 m	50.0 %
4	114.76 m	34.03 m	27.54 m	50.0 %
5	114.76 m	41.04 m	7.00 m	50.0 %
6	65.34 m	41.04 m	49.42 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		2.50 m		
Height of reference 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
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 2.50 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (244.12 m²)

254861 lm
 2691.8 W
 11.03 W/m² (1.50 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
 Em
 Emin
 Emin/Eav (Uo)
 Emin/Emax (Ud)
 Position

735 lx
 324 lx
 0.44
 0.35
 0.75 m

Type No.\Make

1	43	ZUMTOBEL	
		Order No.	: D36758AA.Idt
		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

Object : CUKRARNA
 Installation : KAVARNA
 Project number : 417/16
 Date : 17.11.2016

2 01_splošna osvetlitev

2.3 Calculation results, 01_splošna osvetlitev

2.3.1 Table, Reference plane 1.1 (E)



Part1

Height of the reference plane

Average illuminance	Eav	: 0.75 m
Minimum illuminance	Emin	: 324 lx
Maximum illuminance	Emax	: 937 lx
Uniformity Uo	Emin/Eav	: 1 : 2.27 (0.44)
Diversity Ud	Emin/Emax	: 1 : 2.89 (0.35)

Object : CUKRARNA
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2 01_splošna osvetlitev

2.3 Calculation results, 01_splošna osvetlitev

2.3.1 Table, Reference plane 1.1 (E)

	611	680	716	728	718	681	609	
	697	771	819	828	821	774	695	
	781	864	923	927	923	866	782	
25	714	793	848	854	846	795	716	
	606	678	719	732	719	680	611	
	628	703	745	752	743	704	634	
	726	814	871	867	867	817	738	
	706	793	842	846	845	793	714	
	549							
	417							
20	446							
	496							
	424							
	331							
	355							
	452							
	458							
15	363							
	331							
	412							
	474							
	407							
	327							
	360							
10	454							
	450							
	353							
	(324)							
	407							
	469							
	402							

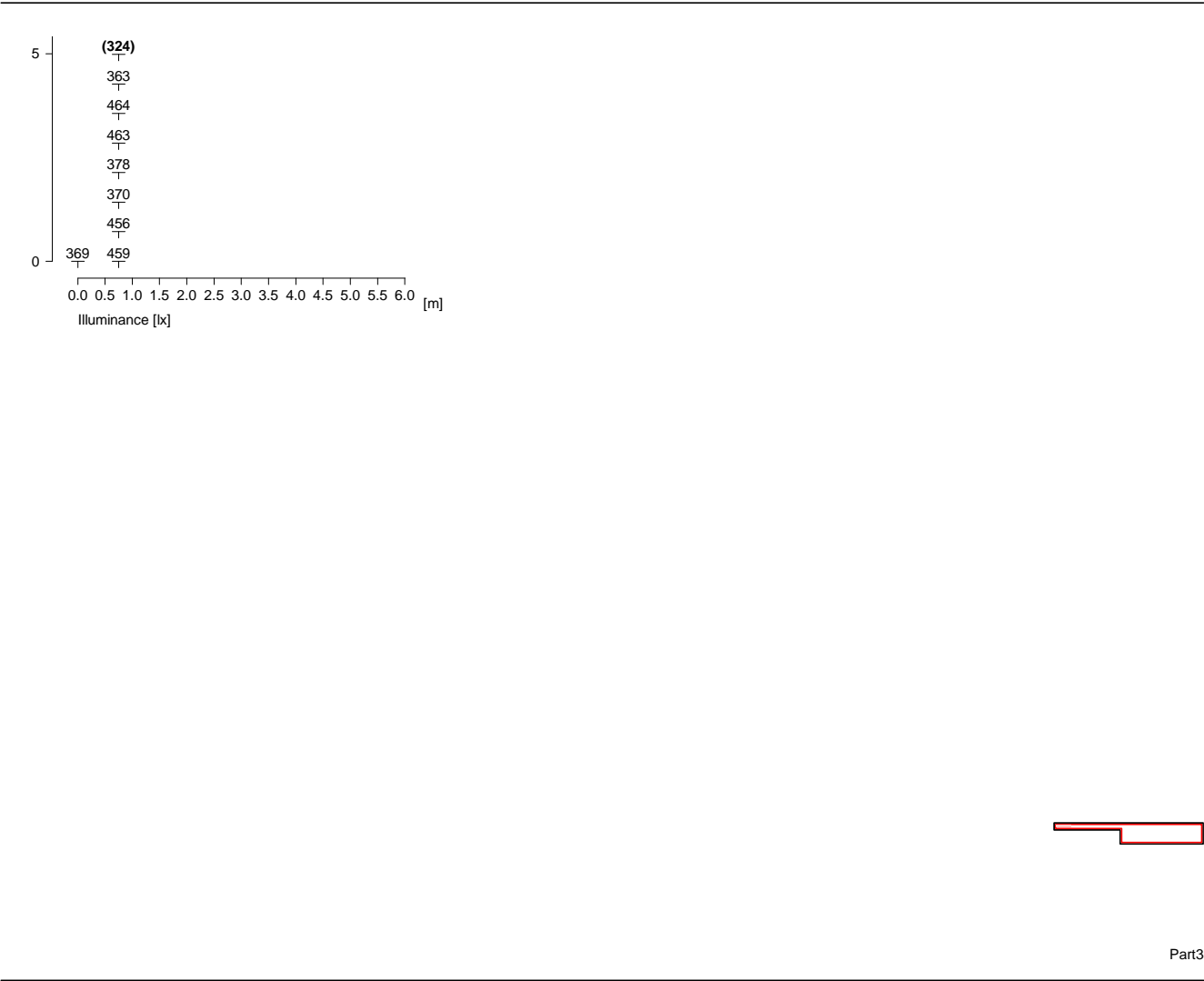
Part2

Object : CUKRARNA
Installation : KAVARNA
Project number : 417/16
Date : 17.11.2016

2 01_splošna osvetlitev

2.3 Calculation results, 01_splošna osvetlitev

2.3.1 Table, Reference plane 1.1 (E)

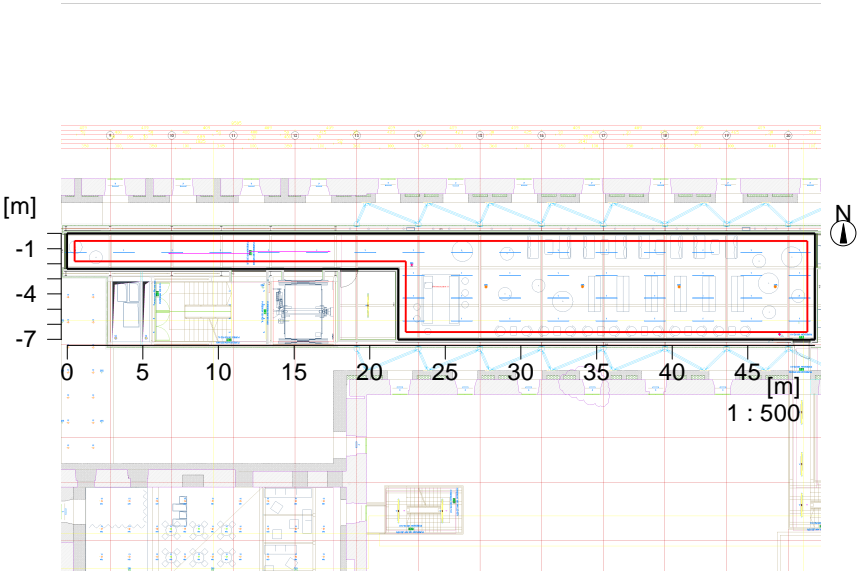


Object : CUKRARNA
Installation : KAVARNA
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3 02_varnostna osvetlitev

3.1 Description, 02_varnostna osvetlitev

3.1.1 Floor plan



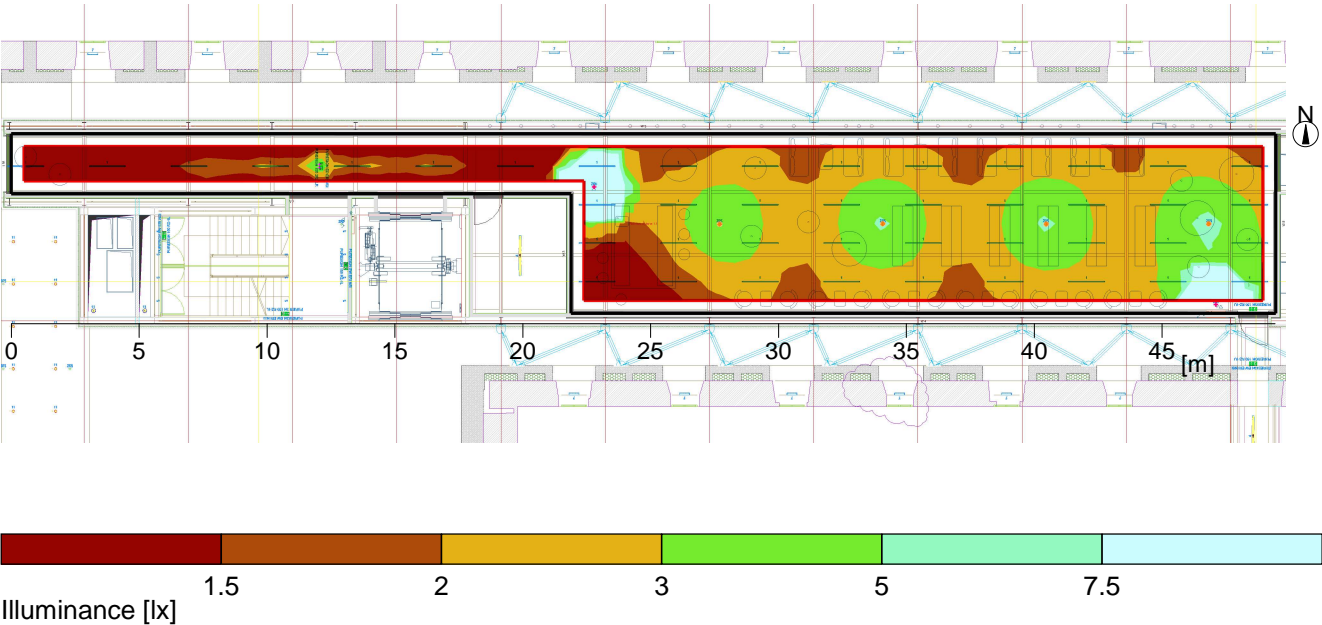
Wall	x	y	Length	Reflectance
1	65.34 m	38.69 m	2.35 m	50.0 %
2	87.23 m	38.70 m	21.88 m	50.0 %
3	87.22 m	34.03 m	4.66 m	50.0 %
4	114.76 m	34.03 m	27.54 m	50.0 %
5	114.76 m	41.04 m	7.00 m	50.0 %
6	65.34 m	41.04 m	49.42 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		2.50 m		
Height of reference 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	1086 lm
Total power	28.0 W
Total power per area (244.12 m²)	0.11 W/m² (3.31 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

	Horizontal
Em	3.46 lx
Emin	0.15 lx
Emin/Eav (Uo)	0.04
Emin/Emax (Ud)	0.00
Position	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

Object : CUKRARNA
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3 02_varnostna osvetlitev

3.2 Summary, 02_varnostna osvetlitev

3.2.1 Result overview, Evaluation area 1

4	2	Order No.	: 42180428 (STD - Standard)
		Luminaire name	: RESCLITE C SPOT ED NSI WH
		Equipment	: 1 x LED-Z644 5W 5 W / 193 lm
Zumtobel			
3	4	Order No.	: 42180410
		Luminaire name	: RESCLITE C ANTIPANIC ED NT1 WH [STD]
		Equipment	: 1 x LED-Z633 4 W / 158 lm

Object : CUKRARNA
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3 02_varnostna osvetlitev

3.3 Calculation results, 02_varnostna osvetlitev

3.3.1 Table, Reference plane 1.1 (E)

							2.8	
							11.6	
	2.1	2.6	3.2	3.5	3.7	3.7	5	
	2.3	3	3.8	4.8	4.4	4.5	18.2	
	2.5	3.3	4.5	5.7	5.2	4.8	20.3	
	2.6	3.3	4.1	4.9	4.6	4.3	6.5	
[m]	2.5	3	3.5	3.8	3.9	3.7	3.5	
45	2.3	2.4	2.7	2.9	2.9	2.8	2.9	
	1.9	2.2	2.5	2.6	2.6	2.5	2.2	
	1.9	2.2	2.4	2.5	2.5	2.4	2.1	
	2.3	2.4	2.6	2.8	2.7	2.4	2.4	
	2.4	2.9	3.3	3.5	3.4	3	2.5	
	2.5	3.2	3.9	4.7	4	3.2	2.5	
40	2.5	3.3	4.4	5.4	4.5	3.3	2.6	
	2.4	3.1	3.7	4.4	3.8	3.1	2.4	
	2.3	2.7	3.1	3.3	3.1	2.7	2.3	
	2.1	2.2	2.4	2.5	2.4	2.2	2.1	
	1.7	2	2.2	2.3	2.2	2	1.7	
	1.7	2.1	2.2	2.3	2.2	2.1	1.7	
	2.2	2.3	2.5	2.6	2.5	2.3	2.2	
35	2.3	2.8	3.3	3.5	3.3	2.8	2.3	
	2.4	3.1	3.9	4.7	3.9	3.2	2.4	
	2.5	3.3	4.4	5.4	4.4	3.3	2.5	
	2.4	3.1	3.7	4.3	3.7	3.1	2.4	
	2.3	2.7	3.1	3.3	3.1	2.7	2.3	
	2.1	2.2	2.4	2.5	2.4	2.2	2.1	
	1.7	2	2.3	2.3	2.3	2	1.7	
30	1.8	2.1	2.2	2.3	2.2	2.1	1.8	
	2.2	2.3	2.5	2.7	2.6	2.3	2.2	
	2.3	2.8	3.3	3.5	3.3	2.8	2.3	
	2.4	3	3.8	4.6	3.8	3	2.4	

Part1

Height of the reference plane

	: 0.03 m
Average illuminance	Eav : 3.5 lx
Minimum illuminance	Emin : 0.1 lx
Maximum illuminance	Emax : 57.1 lx
Uniformity Uo	Emin/Eav : 1 : 23.56 (0.04)
Diversity Ud	Emin/Emax : 1 : 388.62 (0.00)

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3 02_varnostna osvetlitev

3.3 Calculation results, 02_varnostna osvetlitev

3.3.1 Table, Reference plane 1.1 (E)

	2.3	3	4	5	4.1	3	2.2
	2.1	2.7	3.2	3.7	3.2	2.6	2
	1.9	2.3	2.7	2.8	2.6	2.1	1.7
25	1.9	2.1	2.2	2.2	2	1.7	1.5
	1.8	2	2.1	2	1.8	1.5	1.2
	3	7.2	3.9	1.8	1.5	1.2	1
	17.2	51.3	24.4	2.6	1.4	1.2	1.1
	24	[57.1]	36	3.4	1.6	1.3	1.1
	6.5						
	1.4						
20	1.1						
	1						
	1.1						
	1.3						
	1.6						
	1.9						
	2.1						
15	1.9						
	1.9						
	2.1						
	1.9						
	2.2						
	4.2						
10	2						
	2						
	2.1						
	1.8						
	1.9						
	1.9						
	1.7						
	1.3						

Part2

Object : CUKRARNA
Installation : KAVARNA
Project number : 417/16
Date : 17.11.2016

3 02_varnostna osvetlitev

3.3 Calculation results, 02_varnostna osvetlitev

3.3.1 Table, Reference plane 1.1 (E)

