

## Sigulda pils iela

Installation : apgaismojums fasāde

Project number : 78

Customer : Siguldas pilsētas dome

Processed by : Auseklis Mūzis

Date : 12.12.2014

Project description:  
Apgaismojums

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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-please put your own address here-

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

## Luminaire data

### ERCO, Parscoop Wallwashers/ceilin... (33208.000 V2)

#### Data sheet

Manufacturer: ERCO

ERCO

#### 33208.000 V2 wall-mounted luminaire Parscoop Wallwashers/ceiling washlights

Parscoop Wallwasher/ceiling washlight

Spherolit lens, wide beam

Housing, hinge and mounting plate: corrosion-resistant cast aluminium, No-Rinse surface treatment. Double powder-coated. Optimised surface for reduced accumulation of dirt. Hinge with internal wiring,  $\pm 90^\circ$  tilt.

Graduated disc: corrosion-resistant aluminium. Mounting plate rotatable through  $240^\circ$ .

2 cable entries. Through-wiring possible. 3-pole terminal block. Electronic control gear, dimmable.

LED module: high-power LEDs on metal-core PCB. SDCM<2. CRI>90. L80/B10 50000h. Collimating lens made of optical polymer.

Screw-fastened cover frame with safety glass: corrosion-resistant cast aluminium, double powder-coated.

Dimming with external dimmers possible (trailing-edge).

Protection mode IP65: dust-proof and water jet-proof.

ENEC10, IP65, GOST

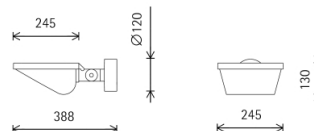
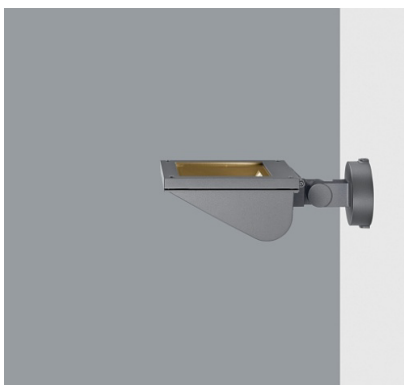
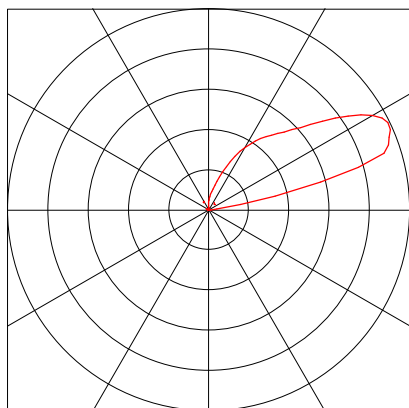
Weight 3.70kg

#### Luminaire data

Luminaire efficiency : 41.2%  
Luminaire efficacy : 39.14 lm/W  
Classification : E02 0.0%  $\uparrow$  100.0%  
CIE Flux Codes : 0 0 0 0 41  
UGR 4H 8H (20%, 50%, 70%)  
C0 / C90 : - / -  
Control gear :  
System power : 24 W  
Length : 118 mm  
Width : 245 mm  
Height : 388 mm

#### Equipped with

Quantity : 1  
Designation : LED  
Power : 24W  
Colour : 3000  
Luminous flux : 2280 lm  
Colour reproduction : 90

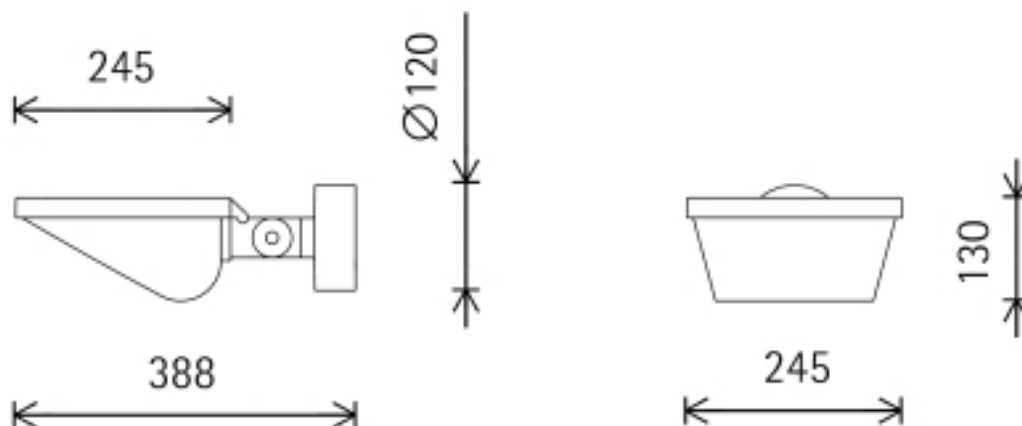


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**ERCO, Parscoop Wallwashers/ceilin... (33208.000 V2)**

**CAD drawing**

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Manufacturer	: ERCO	Efficiency factor	: 41.2%
Order number	: 33208.000 V2	Luminaire efficacy	: 39.14 lm/W (E02)
Luminaire name	: Parscoop Wallwashers/ceiling washlights	Light distribution	: sym. to C0-C180
Equipment	: 1 x LED 24W / 2280 lm	Beam Angle	: -- C90-C270
Dimensions	: L 118 mm x W 245 mm x H 388 mm		-- C0
File name	: ERCO_33208000_V02_1xLED_24W_		-- C180

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## Luminaire data

### ERCO, Cylinder Façade luminaires (85100.000 V3)

#### Data sheet

Manufacturer: ERCO

ERCO

#### 85100.000 V3 wall-mounted luminaire Cylinder Façade luminaires

Cylinder Façade luminaire

Housing and wall fixture: corrosion-resistant cast aluminium, No-Rinse surface treatment. Double powder-coated. Optimised surface for reduced accumulation of dirt. Tamper-proof screw.

Electronic control gear. 2 cable entries. Through-wiring possible. 3-pole terminal block.

LED module: high-power LEDs on metal-core PCB. SDCM<2. CRI>80. L80/B10 50000h.

Front lens bottom: Darklight reflector: aluminium, silver, bright anodised. Luminaire cut-off angle 30°. Diffuser: glass, frosted.

Cover ring with non-reflective safety glass: corrosion-resistant cast aluminium, double powder-coated. Tamper-proof screw.

Protection mode IP65: dust-proof and water jet-proof.

ENEC17, IP65, GOST

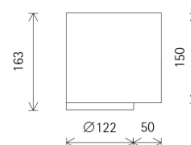
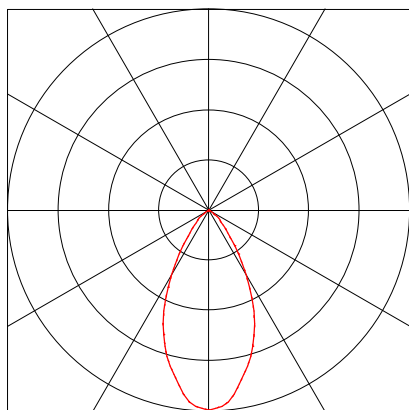
Weight 2.30kg

#### Luminaire data

Luminaire efficiency : 64.4%  
Luminaire efficacy : 80.5 lm/W  
Classification : A70 100.0% ↑0.0%  
CIE Flux Codes : 88 100 100 100 64  
UGR 4H 8H (20%, 50%, 70%)  
C0 / C90 : 14.6 / 14.6  
Control gear :  
System power : 12 W  
Length : 172 mm  
Width : 122 mm  
Height : 163 mm

#### Equipped with

Quantity : 1  
Designation : LED  
Power : 12W  
Colour : 4000  
Luminous flux : 1500 lm  
Colour reproduction : 80

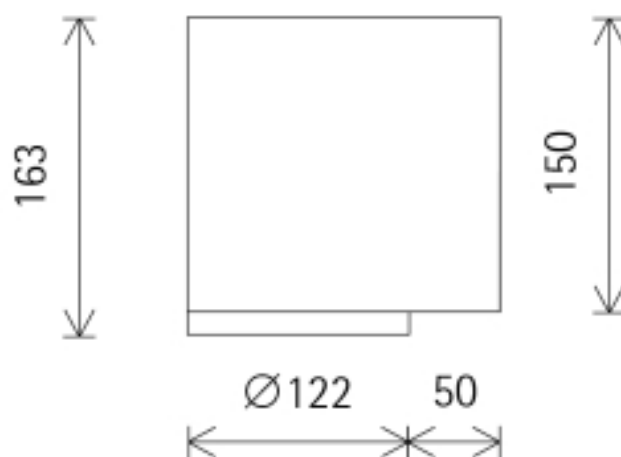


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## ERCO, Cylinder Façade luminaires (85100.000 V3)

### CAD drawing

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Manufacturer	: ERCO	Efficiency factor	: 64.4%
Order number	: 85100.000 V3	Luminaire efficacy	: 80.5 lm/W (A70)
Luminaire name	: Cylinder Façade luminaires	Light distribution	: rotationally symmetric
Equipment	: 1 x LED 12W / 1500 lm	Beam Angle	: 51.7° C0-C180
Dimensions	: L 172 mm x W 122 mm x H 163 mm		
File name	: ERCO_85100000_V03_1xLED_12W_		

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## Luminaire data

### BEL LIGHTING, Prince (8001.W41.04)

#### Data sheet

Manufacturer: BEL LIGHTING



#### 8001.W41.04 25.Outdoor Flood light Prince

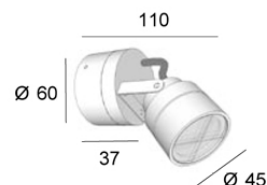
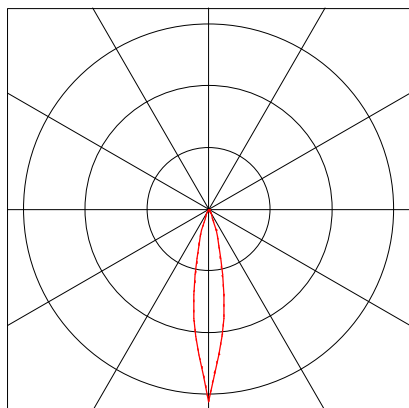
Orientable floodlight in stainless steel for ceiling or wall mounting. This fixture uses the latest LED technology and is available in different diffusion angles of light, in warm white or day light. Low energy consumption, reliability, long life, this robust product is ideal for lighting a building or a garden, in private and public area. This quality product is manufactured by machining process, installed by itself or in groups, this is an attractive solution for many outdoor lighting applications. Available in different variants, in wall or bollards.

#### Luminaire data

Luminaire efficiency : 100%  
Luminaire efficacy :  
Classification : A80 100.0% ↑ 0.0%  
CIE Flux Codes : 95 98 100 100 99  
UGR 4H 8H (20%, 50%, 70%)  
C0 / C90 : 11.5 / 11.1  
Control gear :  
Length : 110 mm  
Width : 45 mm  
Height : 60 mm

#### Equipped with

Quantity : 1  
Designation : LED  
Colour :  
Luminous flux : 118 lm



- Safety clear glass
- Body made in stainless steel
- Screws in stainless steel
- Degree of protection IP 55 or 65
- Power Led incorporated

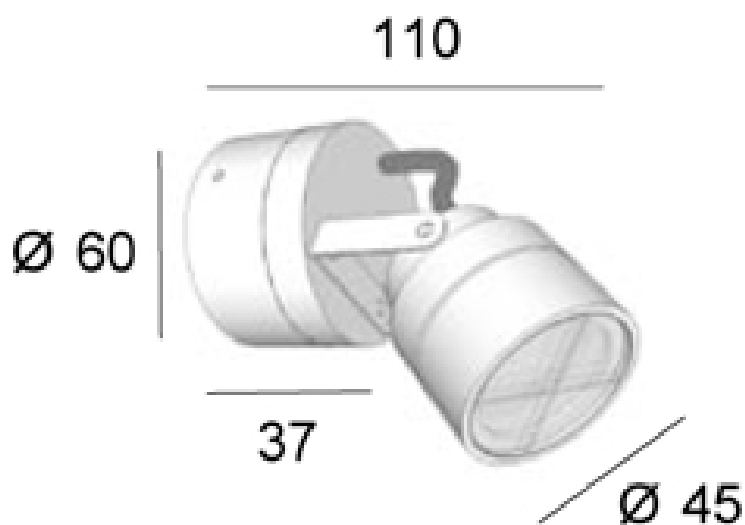
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**RELUX®**  
light simulation tools

## BEL LIGHTING, Prince (8001.W41.04)

### CAD drawing

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- Safety clear glass
- Body made in stainless steel
- Screws in stainless steel
- Degree of protection IP 55 or 65
- Power Led incorporated

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Manufacturer	: BEL LIGHTING	Efficiency factor	: 100%
Order number	: 8001.W41.04	Luminaire efficacy	: (A80)
Luminaire name	: Prince	Light distribution	: sym. to C0-C180 / C90-C270
Equipment	: 1 x LED / 118 lm	Beam Angle	: 18.4° C0-C180
Dimensions	: L 110 mm x W 45 mm x H 60 mm		: 18.4° C90-C270
File name	: Prince W41.ltd		

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## Luminaire data

### Siteco, Monsun® 2 LED (2LS512D1TCWR)

#### Data sheet

Manufacturer: Siteco

**siteco**  
AN OSRAM BUSINESS

#### 2LS512D1TCWR damp-proof luminaire-ceiling pendant Monsun® 2 LED

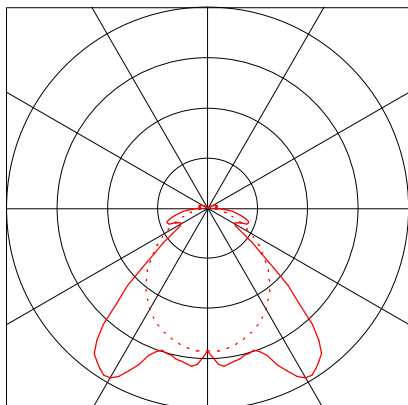
Monsun® 2 LED, damp-proof luminaire, connecting plug/socket, primary light control with reflector, of sheet steel, white, primary optical cover: enclosure, of PMMA, inner prismatic structure, light emission: direct distribution, primary light characteristic: symmetric, installation type: suspended mounting, surface-mounted, LED light colour: 840, colour temperature: 4000K, control gear: ECG DALI, with system connector: plug/socket, 5-pole, mains connection: 220..240V, AC, 50/60Hz, changeover relay for equivalent power supply, with 2-pole socket, AC/DC, 0/50..60Hz, luminaire housing, of glass-fibre reinforced polyester, uncoated, light grey (RAL 7035), length: 1.196 mm, width: 102 mm, height: 85mm, chain suspension, of stainless steel (V2A), ceiling mounting element, of stainless steel (V2A), connecting plug/socket, of polyamide, black, protection rating (complete): IP66, insulation class (complete): insulation class I (protective earthing), certification: CE, ENEC, protection symbol: D, impact resistance: IK03, permissible ambient temperature for indoor applications: -15..+40°C, standard: EN 60598-2-1, packaging unit: 1 piece

#### Luminaire data

Luminaire efficiency : 100%  
Luminaire efficacy : 112.87 lm/W  
Classification : A41 96.2% ↑ 3.8%  
CIE Flux Codes : 50 81 94 96 100  
UGR 4H 8H (20%, 50%, 70%)  
C0 / C90 : 22.8 / 23.0  
Control gear : ECG DALI  
System power : 37.3 W  
Length : 1196 mm  
Width : 102 mm  
Height : 86 mm

#### Equipped with

Quantity : 1  
Designation : LED 4000K /  
CRI >= 80  
Power : 37W  
Colour :  
Luminous flux : 4210 lm





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## Luminaire data

### Steinel, RS PRO LED B1 (006433)

#### Data sheet

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Manufacturer: Steinel



**006433 Ceiling and wall light with HF sensor RS PRO RS PRO LED B1**  
STEINEL PROFESSIONAL

RS PRO LED B1 emergency light

Article no. RS PRO LED B1 emergency light 3,000K006433

#### Product Description

The RS PRO LED B1 high-frequency SensorLight is the emergency-light version of the RS PRO LED S1. In compliance with EN 60538-2-22 it has a rechargeable back-up battery that automatically switches ON the integrated emergency LED light in the event of a power failure. User-friendly in design, this light provides a convenient way of meeting demands for decentralised, standard-compliant emergency lighting.

In addition to the emergency light function, the RS PRO LED B1 features an intelligent indoor SensorLight. It can be installed either as a wall or as a ceiling light in locations such as office corridors, stairways and WC facilities. Invisibly integrated into the light, a 5.8 GHz high-frequency sensor with a transmitter output of 1 mW operates regardless of ambient temperature or direction of movement. It responds to the slightest movement, reliably identifying when people are using a room. Light is only switched ON automatically when it is actually needed. The HF sensor has an angle of coverage of 360° with an angle of aperture of 160° and the reach can be infinitely adjusted between 1 and 8 metres all round. It can also be limited in 4 directions. A maximum area of roughly 50 square metres can be covered in this way. Capable of responding to movement through glass, wood or stud walls. The response brightness can be infinitely adjusted from 2 lux to 2,000 lux. The stay-ON time can be set to any period between 5 seconds and 15 minutes. The light is fitted with a 16 W LED light system that guarantees instant and efficient lighting with an optimum luminosity of 794 lumens and colour temperature of 3,000K or 4,000K.

A cooling system to protect the LEDs is integrated in the sensor light's design (Active Thermo Control). It automatically monitors and controls the temperature of the LEDs. Protected in this way, the LEDs reach their full life expectancy of about 30 years when used for an average of 4.5 hours a day. The LED light system practically never needs changing, making it maintenance-free.

The RS PRO LED B1 emergency light's base is made of aluminium. The PMMA shade comes with an IK03 impact resistance rating.

#### Technical Specifications

Dimensions (H x W x D) Ø 300 x 67 mm  
Power supply 230 – 240 V, 50 Hz  
Sensor type High-frequency  
Transmitter power: approx. 1 mW  
HF-system 5.8 GHz (responds to the smallest of movements regardless of temperature)  
Output 16 W LED  
Brightness / efficiency (without shade) 1200 lm / 75 lm/W  
Brightness / efficiency (with shade) 794 lm / 49.6 lm/W  
Colour temperature 3,000 K / 4,000 K  
LED life expectancy 50,000 hours  
Angle of coverage 360° with 160° angle of aperture  
Detection also through glass, wood and stud walls  
Reach 1 – 8 m all round, infinitely variable,

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## Luminaire data

### Steinel, RS PRO LED B1 (006433)

#### Data sheet

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can be limited in 4 directions  
Max. area covered 50 m<sup>2</sup>  
Response brightness2 - 2000 lx  
Time setting 5 sec. – 15 min.  
Install mode Yes  
IP ratingIP20  
Protection classI  
Impact resistance (PMMA) IK03  
Temperature range -10 - +50 °C  
Material Aluminium base and plastic shade  
With lamp STEINEL LED system

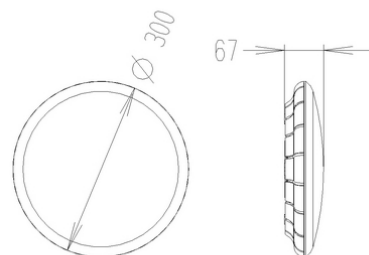
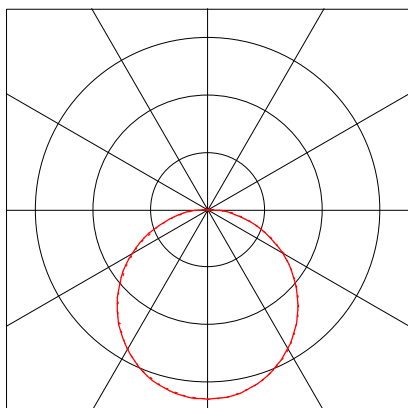
Make:STEINEL PROFESSIONAL  
Type:RS PRO LED B1 emergency light 3,000K006433

#### Luminaire data

Luminaire efficiency : 100%  
Luminaire efficacy : 39.06 lm/W  
Classification : A40 98.6% ↑ 1.4%  
CIE Flux Codes : 45 76 94 99 100  
UGR 4H 8H (20%, 50%, 70%)  
C0 / C90 : 19.2 / 19.2  
Control gear :  
System power : 16 W  
Diameter : 300 mm  
Height : 67 mm

#### Equipped with

Quantity : 1  
Designation : SMD  
Power : 14W  
Colour : 3000  
Luminous flux : 625 lm  
Colour reproduction : 85



Object : Sigulda pils iela  
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## Luminaire data

### Steinel, RS PRO LED S1 (005931)

#### Data sheet

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Manufacturer: Steinel



**005931 Ceiling and wall light with HF sensor RS PRO RS PRO LED S1**  
STEINEL PROFESSIONAL

RS PRO LED S1 "new LED system"

Article no. RS PRO LED S1 WW Glass005931

#### Product Description

This large indoor sensor light in a diameter of 30 centimetres combines cutting-edge HF sensor engineering with LED technology for maximum efficiency and energy savings. It can be installed either as a wall or as a ceiling light. Invisibly integrated into the light, a 5.8 GHz high-frequency sensor with a transmitter output of 1 mW operates regardless of ambient temperature or direction of movement. It responds to the slightest movement, reliably identifying when people are using a room. It only switches light ON automatically when the light is actually needed. The HF sensor has an angle of coverage of 360° with an angle of aperture of 160° and the reach can be infinitely adjusted between 1 and 8 metres all round. It can also be limited in 4 directions. A maximum area of roughly 50 square metres can be covered in this way. The response threshold can be infinitely varied from 2 lux to 2,000 lux. The stay-ON time can be set to any period between 5 seconds and 15 minutes. The light is fitted with the latest-generation 16 W LED light system that guarantees instant lighting while ensuring optimum luminous efficiency.

A cooling system to protect the LEDs is integrated in the sensor light's design (Active Thermo Control). With an almost unlimited life, the LED light system will virtually never need to be changed, making it maintenance-free.

The light comes with an integrated 868 MHz wireless communication facility for interconnecting several lights in a room. This permits master/master configurations.

Additional functions include the install mode, teach-in mode as well as a 10% dimming mode.

The light's shade is available in three different versions (glass, PC or PMMA). It can be supplied either in CW or WW.

#### Technical Specifications

Dimensions (W x H x D) 300 x 300 x 67 mm

Power supply: 230 – 240 V/50 Hz

Sensor type: High-frequency

HF system: 5.8 GHz (responds to the slightest movement regardless of temperature)

Transmitter power: approx. 1 mW

Output: 16 W LED (1.8 W when dimmed)

Additional switching capacity Master/master and master/slave configurations through 868 MHz wireless connection

Brightness / efficiency (without shade): 1200 lm / 75 lm/W

Angle of coverage: 360° with 160° angle of aperture

Detection: Also through glass, wood and stud walls

Reach: dia. 1 – 8 m, infinitely variable, can be limited in 4 directions

Slave mode: Selectable

Max. area covered: 50 m<sup>2</sup>

Response brightness: 2 - 2000 lx

Basic light level: Dimmed to 10 %,

a) all night long

b) 10 min. after selected time elapses

c) 30 min. after selected time elapses

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## Luminaire data

### Steinel, RS PRO LED S1 (005931)

#### Data sheet

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d) OFF

Time setting: 5 sec. – 15 min.

IP rating: IP 20

Protection class: II

Impact resistance (PMMA) IK03

Impact resistance (polycarbonate) IK07

Impact resistance (glass) IK02

Temperature range: -10 to +50 °C

Material: Aluminium base

With lamp: STEINEL LED system

Colour temperature CW: 4000 K

Colour temperature WW: 3000 K

Brightness / efficiency (with shade): CW PMMA: 972 lm/ 60.75 lm/W

CW PC: 734 lm/ 45.70 lm/W

CW glass: 887 lm/ 55.43 lm/W

WW PMMA: 950 lm/ 59.38 lm/W

WW PC: 668 lm/ 41.75 lm/W

WW glass: 808 lm/ 50.50 lm/W

Make: STEINEL Professional

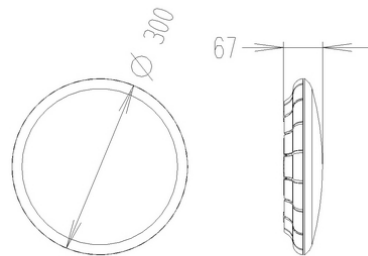
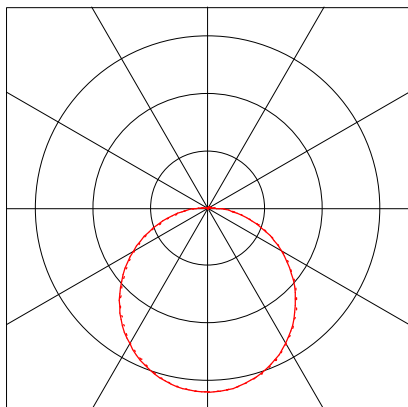
Type: RS PRO LED S1 WW Glass 005931

#### Luminaire data

Luminaire efficiency : 100%  
Luminaire efficacy : 49 lm/W  
Classification : A41 97.3% ↑ 2.7%  
CIE Flux Codes : 44 75 93 97 100  
UGR 4H 8H (20%, 50%, 70%)  
C0 / C90 : 20.1 / 20.0  
Control gear :  
System power : 16 W  
Diameter : 300 mm  
Height : 67 mm

#### Equipped with

Quantity : 1  
Designation : SMD  
Power : 16W  
Colour : 3000  
Luminous flux : 784 lm  
Colour reproduction : 85



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## Luminaire data

### Steinel, RS PRO LED R1 (007461)

#### Data sheet

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Manufacturer: Steinel



**007461 Ceiling and wall light with HF sensor RS PRO RS PRO LED R1**  
STEINEL PROFESSIONAL  
RS PRO LED R1

Article no.RS PRO LED R1 WW silver 007461

#### Product Description

Tailored to the needs of electricians, the new LED SensorLight RS PRO LED R1 from STEINEL PROFESSIONAL is the basic functionally designed model for automatic lighting. It combines cutting-edge high-frequency sensor technology with the very latest in LED technology. An intelligent solution, it delivers light with maximum efficiency and energy savings. The Easy-Install concept makes these luminaires child's play to install. And their attractive price makes the RS PRO LED R1 the ideal introduction to sensor-controlled light management.

##### Intelligent lighting

Invisibly integrated into the luminaire, a 5.8 GHz high-frequency sensor responds to the slightest movement regardless of ambient temperature and direction of approach, reliably identifying when people are using a room. Whenever the HF sensor detects a movement, the light switches ON automatically if the required level of light in the room has not been reached. Various comfort functions allow the luminaire to be adapted to individual needs on site without difficulty. All the required settings are made directly on the luminaire itself.

##### Protected to ensure a long life without lamp changes

The 11-watt LED light system of the RS PRO LED R1 delivers optimum light with a brightness of 770 lumens at 70 lm/W. It is available in two colour temperatures: warm white with 3,000 K and cold white with 4,000 K. The luminaire is specially designed to ensure a long life without lamp changes. The LED light system is protected to prevent overheating and always delivers optimum light. Used for an average of 4.5 hours a day, the LED light system has an average life expectancy of about 30 years. This considerably reduces the maintenance effort required for the luminaire.

##### Detection and interconnectability

The HF-sensor of the ceiling and wall-mounted luminaire has an angle of coverage of 360 degrees at an aperture angle of 160 degrees. The reach can be set to any diameter up to 8 metres. This minimises the investment required to illuminate large areas. Several RS PRO LED R1 luminaires can be interconnected by cable to form a group.

#### Technical specifications (effective: March 2014)

Dimensions (dia. x D):dia. 270 x 70 mm

Power supply:220 – 240 V, 50/60 Hz

Sensor type:High-frequency

Transmitter power:approx. 1 mW

HF-system:5.8 GHz (responds to the slightest movement regardless of temperature)

Output11 W LED

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## Luminaire data

### Steinel, RS PRO LED R1 (007461)

#### Data sheet

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Colour temperature CW:4,000 K  
Colour temperature WW:3,000 K  
Brightness/efficiency770 lm / 70 lm/W  
Angle of coverage:360° with 160° angle of aperture,  
wall and ceiling installation  
Detection:also through glass, wood and stud walls  
Reach:1 - 8 m all-round, infinitely variable, can be limited in  
4 directions  
Max. area covered:approx. 50 m<sup>2</sup>  
Response brightness:2 - 2,000 lx  
Time setting:5 sec. - 15 min.  
IP rating:IP 44  
Protection class:II  
Temperature range:-10 °C to + 50 °C  
Material:UV-resistant plastic  
With lamp:STEINEL LED system

Make:STEINEL PROFESSIONAL

Type:RS PRO LED R1

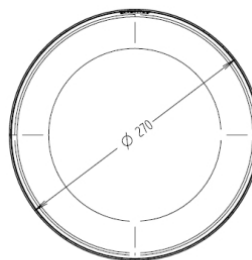
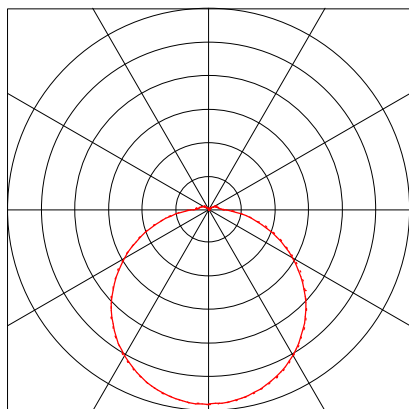
Article no.RS PRO LED R1 WW silver 007461

#### Luminaire data

Luminaire efficiency : 100%  
Luminaire efficacy : 70 lm/W  
Classification : A31 93.9% ↑ 6.1%  
CIE Flux Codes : 43 73 92 94 100  
UGR 4H 8H (20%, 50%, 70%)  
C0 / C90 : 20.7 / 20.9  
Control gear :  
System power : 11 W  
Diameter : 270 mm  
Height : 70 mm

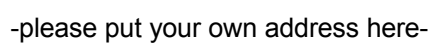
#### Equipped with

Quantity : 1  
Designation : SMD  
Power : 11W  
Colour : 3000  
Luminous flux : 770 lm  
Colour reproduction : 85



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## Floor plan



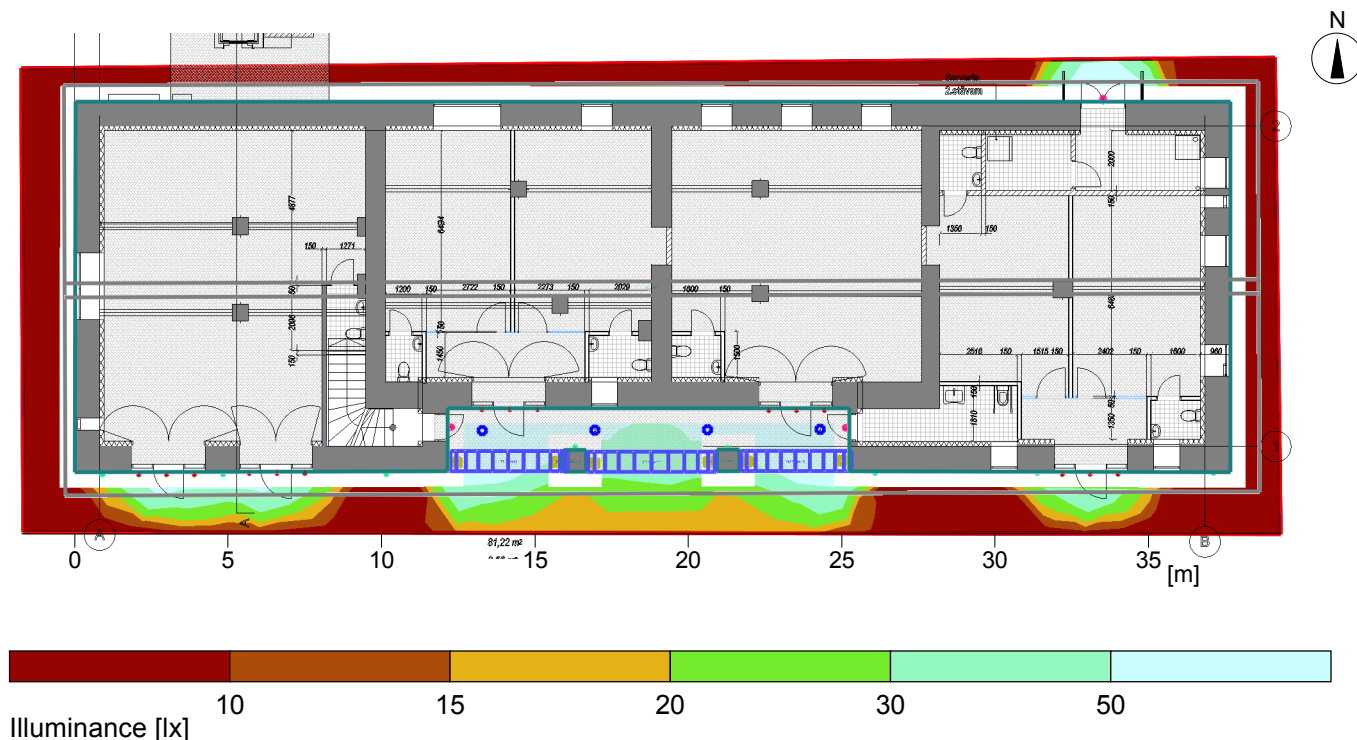


Object : Sigulda pils iela  
 Installation : apgaismojums fasāde  
 Project number : 78  
 Date : 12.12.2014

## Exterior 1

### Summary, Exterior 1

#### Result overview, Evaluation area 1



#### General

Calculation algorithm used  
 Maintenance factor

Average indirect fraction  
 0.80

Total luminous flux of all lamps  
 Total power  
 Total power per area (625.24 m²)

24761 lm  
 235.2 W  
 0.38 W/m² (2.14 W/m²/100lx)

#### Evaluation area 1

#### Reference plane 1.1

Horizontal  
 Em 17.6 lx  
 Emin 0 lx  
 Emin/Eav (Uo) ---  
 Emin/Emax (Ud) ---  
 Position 0.00 m

#### Type No.\Make

1	6	<b>ERCO</b>	
		Order No.	: 33208.000 V2
		Luminaire name	: Parscoop Wallwashers/ceiling washlights
		Equipment	: 1 x LED 24W / 2280 lm
4	3		
		Order No.	: 85100.000 V3
		Luminaire name	: Cylinder Façade luminaires
		Equipment	: 1 x LED 12W / 1500 lm



Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

## Exterior 1

### Summary, Exterior 1

#### Result overview, Evaluation area 1

##### BEL LIGHTING

5 15



Order No. : 8001.D42.04  
Luminaire name : Prince  
Equipment : 1 x LED / 195 lm

7 8



Order No. : 1150.W12.\_\_/W12genesis  
Luminaire name : Genesis 40  
Equipment : 1 x LED / 72 lm

11 4



##### Steinel

Order No. : 007461  
Luminaire name : RS PRO LED R1  
Equipment : 1 x SMD 11W / 770 lm

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

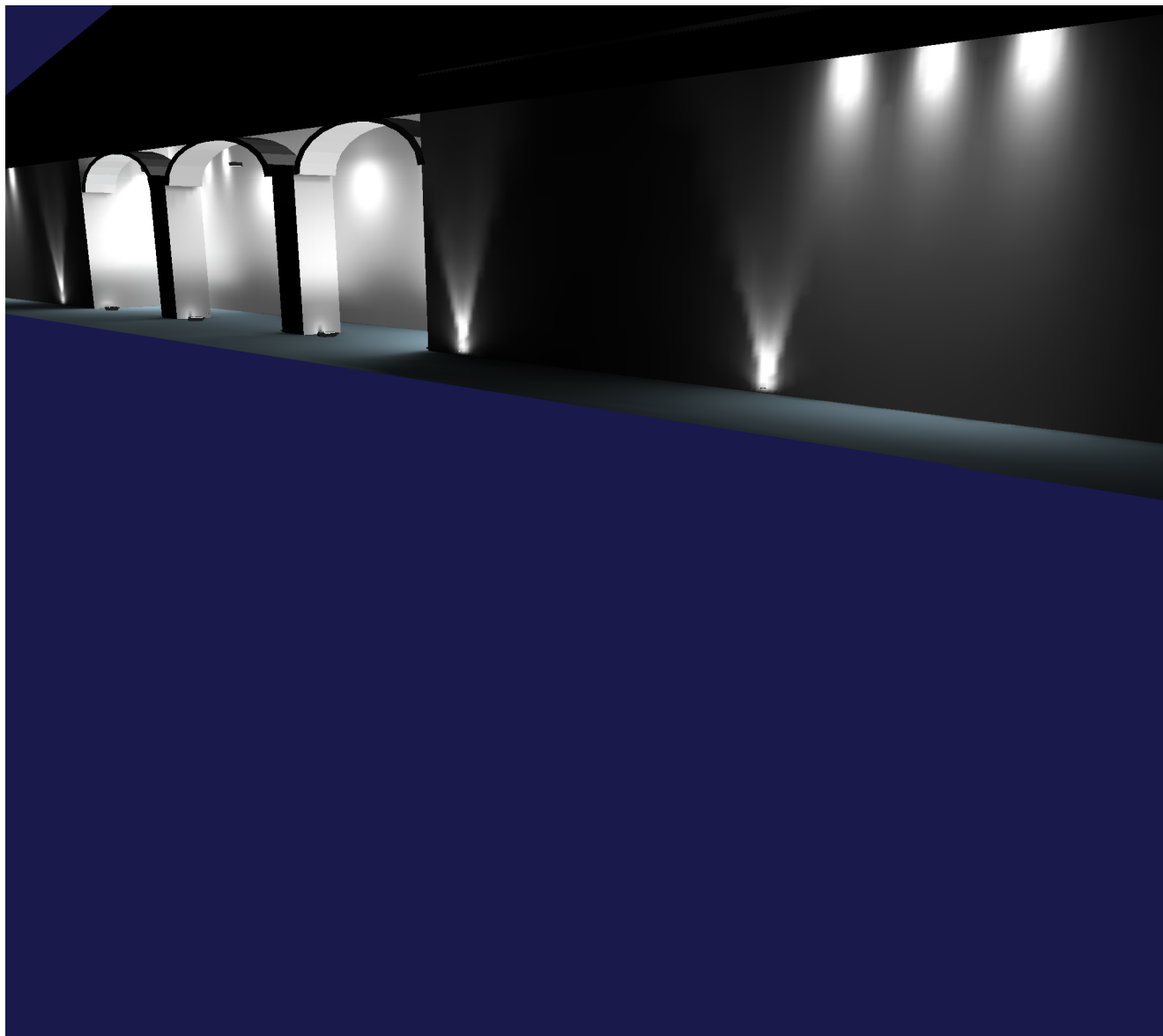
**RELUX**<sup>®</sup>  
light simulation tools

## Exterior 1

### Calculation results, Exterior 1

#### 3D luminance, View 1

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Luminance in the scene

Minimum: : 0 cd/m<sup>2</sup>

Maximum: : 751 cd/m<sup>2</sup>

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-please put your own address here-

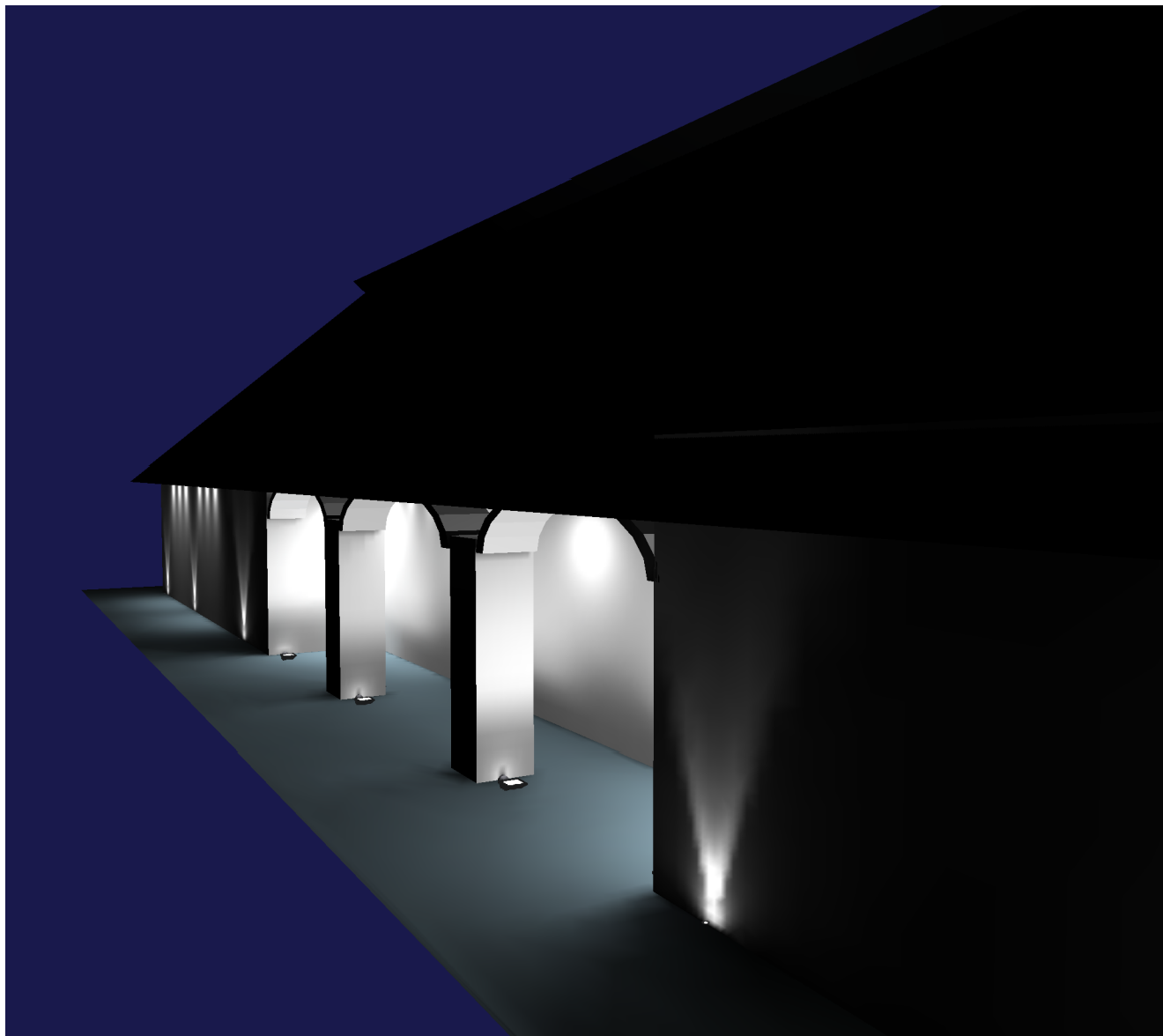
Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

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## Calculation results, Exterior 1

### 3D luminance, View 3

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Luminance in the scene

Minimum: : 0 cd/m<sup>2</sup>

Maximum: : 751 cd/m<sup>2</sup>

---

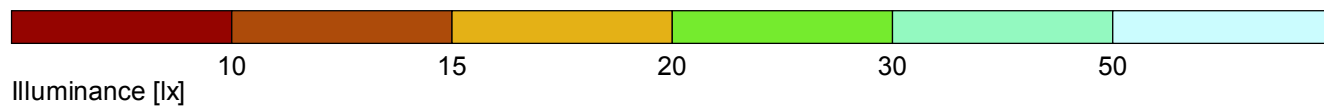
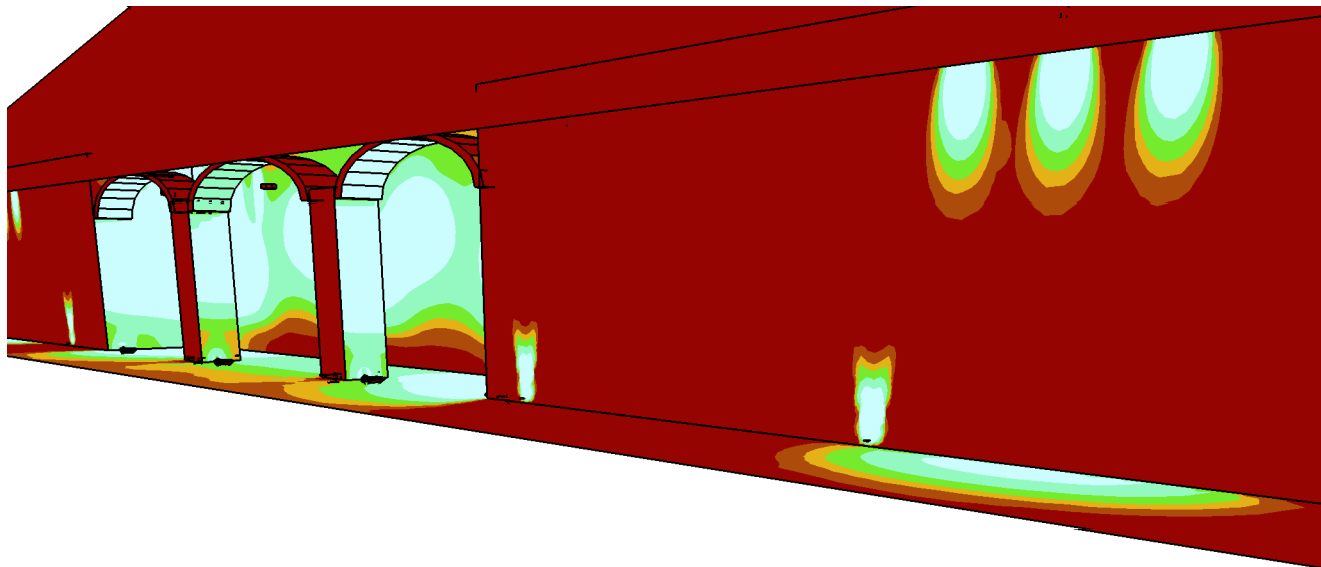
-please put your own address here-

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

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## Calculation results, Exterior 1

### 3D pseudo colours, View 1 (E)



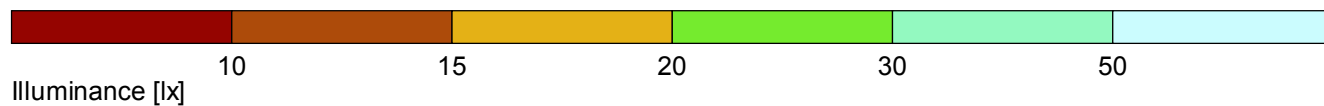
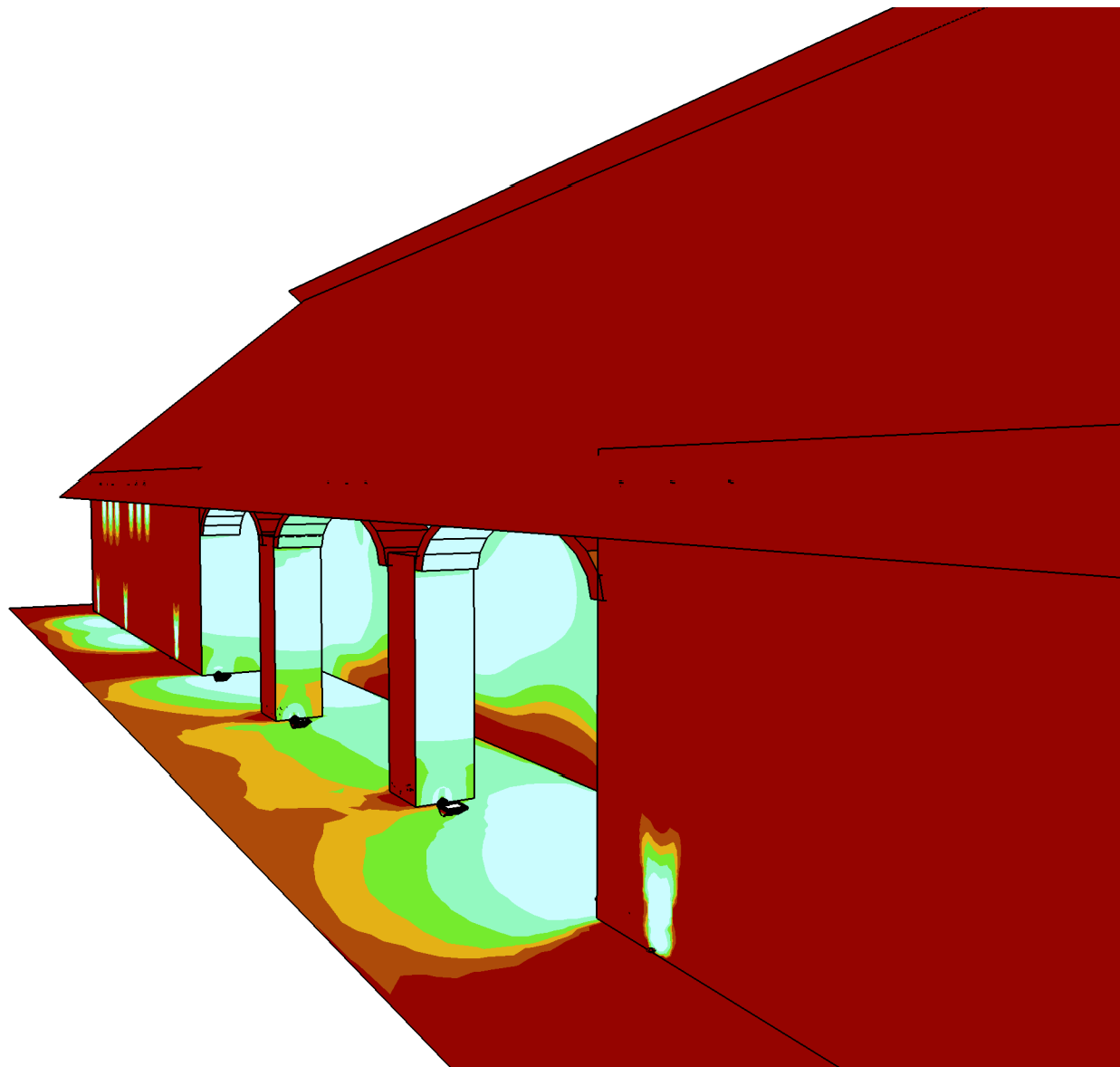
-please put your own address here-

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

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## Calculation results, Exterior 1

### 3D pseudo colours, View 3 (E)



-please put your own address here-

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

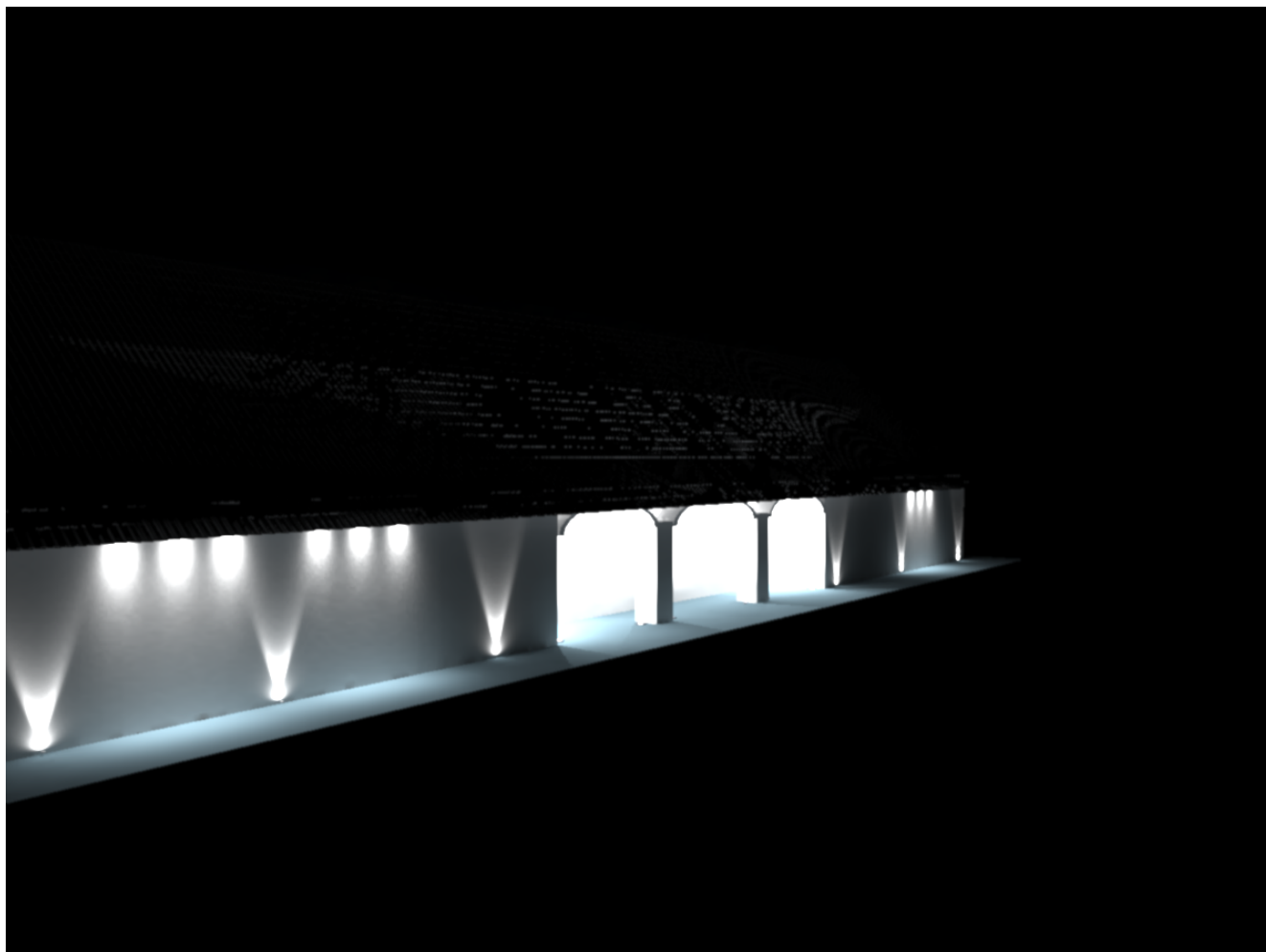
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light simulation tools

## Exterior 1

### Calculation results, Exterior 1

#### 3D luminance (raytracing), Variable view

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Luminance in the illustration:

Minimum: : 0 cd/m<sup>2</sup>

Maximum: : 681 cd/m<sup>2</sup>

Artificial light calculation : Direct part, with 2 inter-reflections

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-please put your own address here-

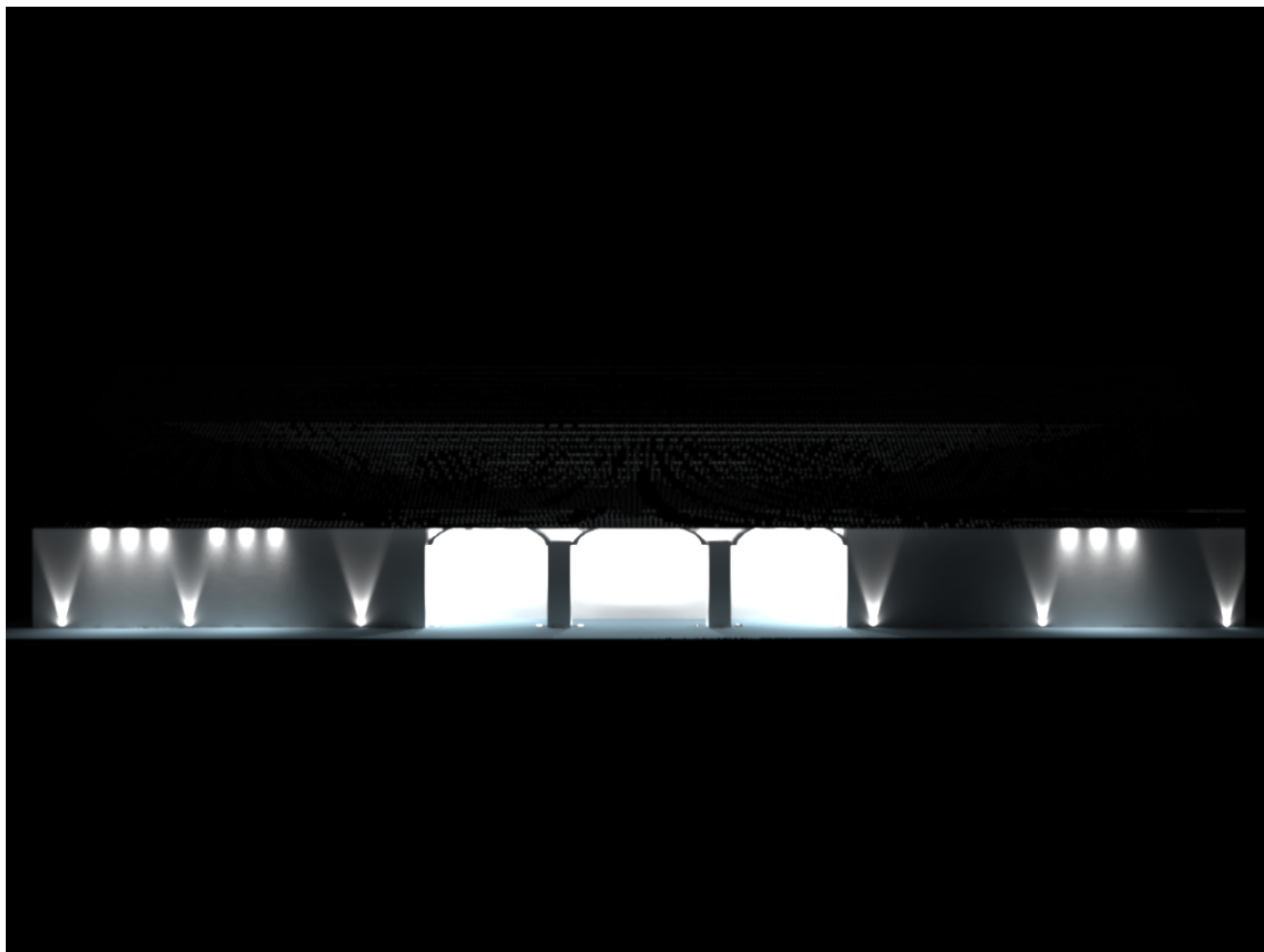
Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

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## Calculation results, Exterior 1

### 3D luminance (raytracing), View from the front

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Luminance in the illustration:

Minimum: : 0 cd/m<sup>2</sup>

Maximum: : 258 cd/m<sup>2</sup>

Artificial light calculation : Direct part, with 2 inter-reflections

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-please put your own address here-

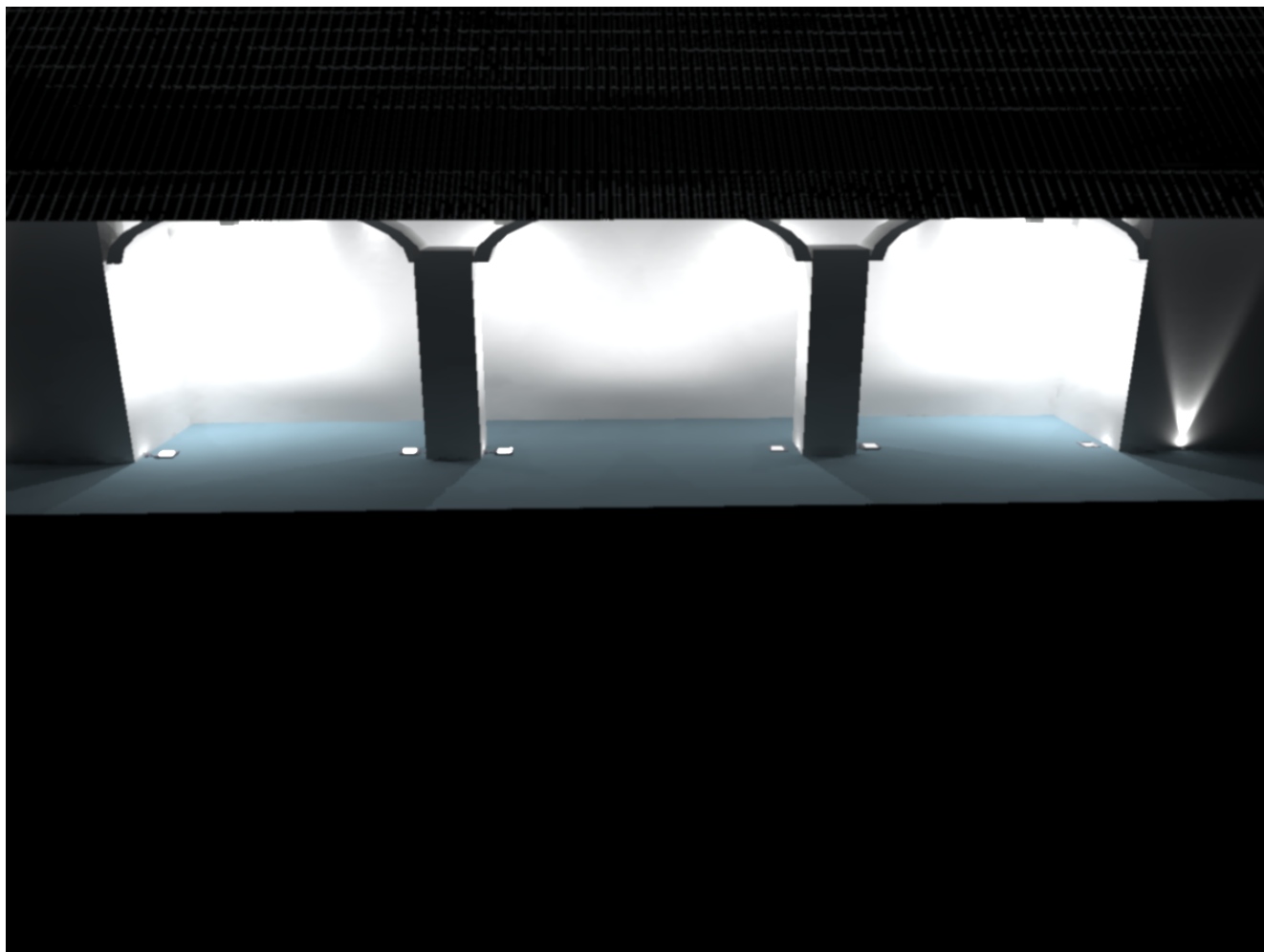
Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

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## Calculation results, Exterior 1

### 3D luminance (raytracing), Variable view

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Luminance in the illustration:

Minimum: : 0 cd/m<sup>2</sup>

Maximum: : 735 cd/m<sup>2</sup>

Artificial light calculation : Direct part, with 2 inter-reflections

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-please put your own address here-



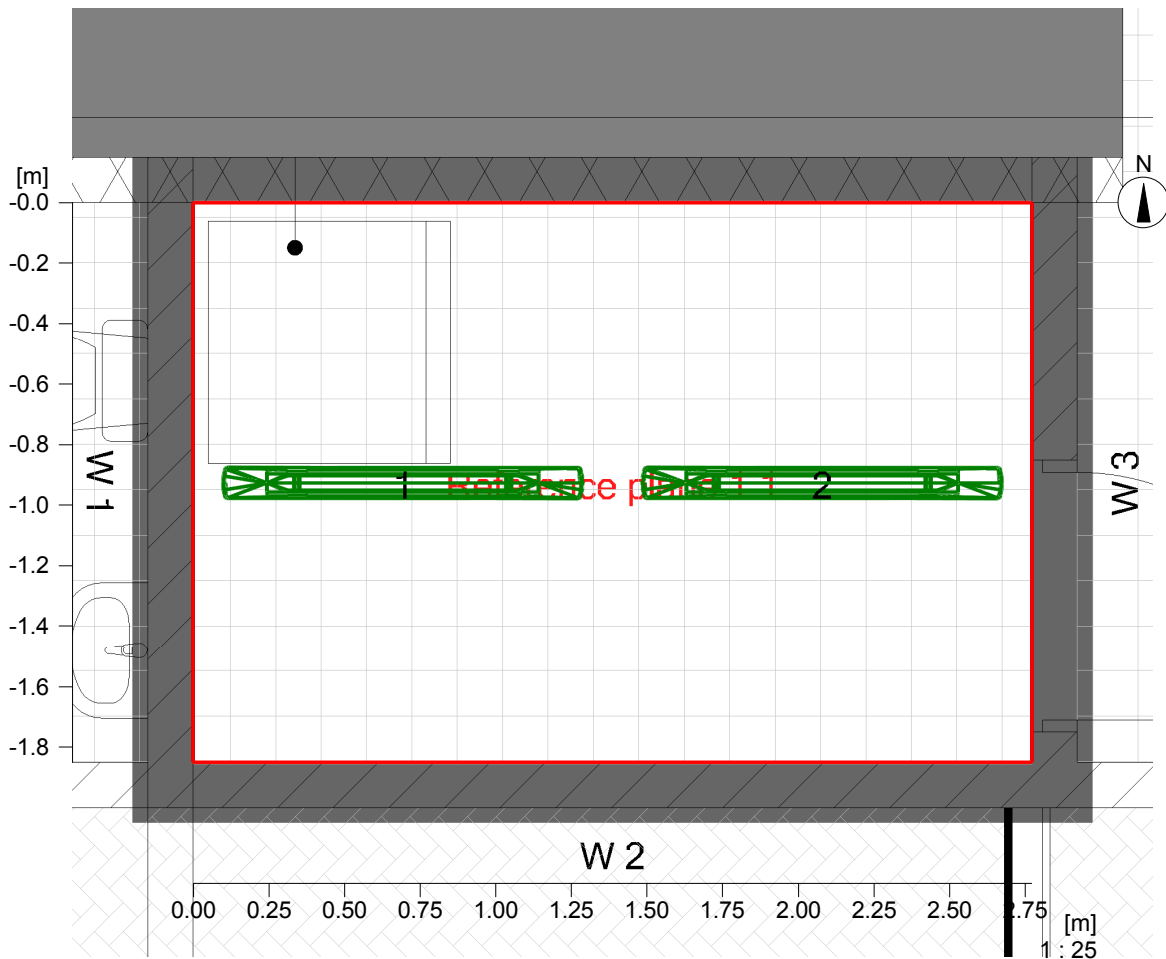
Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014



Room 2

Description, Room 2

Floor plan



Wall	x	y	Length	Reflectance
1	29.70 m	21.42 m	1.85 m	50.0 %
2	32.47 m	21.42 m	2.77 m	50.0 %
3	32.47 m	23.27 m	1.85 m	50.0 %
4	29.70 m	23.27 m	2.77 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		2.80 m		
Height of reference plane		0.00 m		

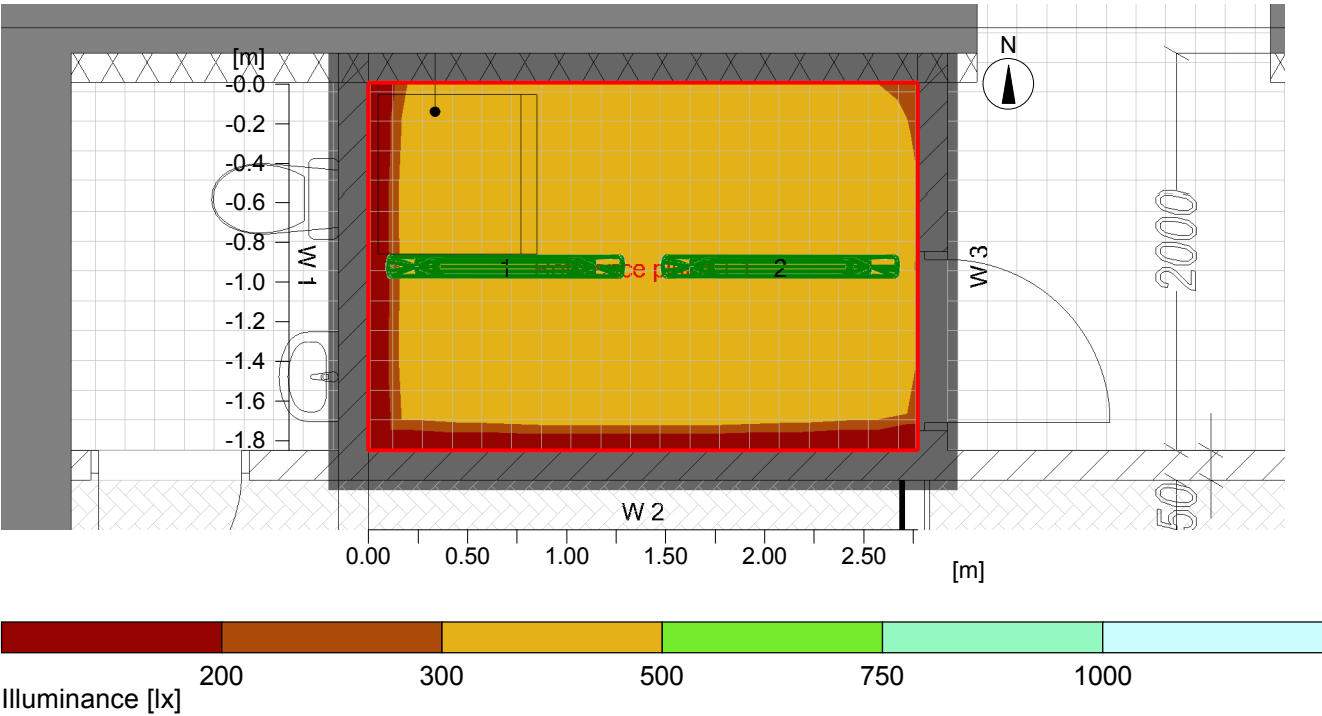
Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014



Room 2

Summary, Room 2

Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.30 m
Maintenance factor	0.80
Total luminous flux of all lamps	8420 lm
Total power	74.6 W
Total power per area (5.13 m²)	14.55 W/m² (3.41 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Em	427 lx
Emin	355 lx
Emin/Eav (Uo)	0.83
Emin/Emax (Ud)	0.71
UGR (1.8H 2.7H)	<=20.9
Position	0.00 m

Major surfaces

	Em	Uo
m 1.5 (Ceiling)	136 lx	0.78
m 1.1 (Wall)	336 lx	0.38
m 1.2 (Wall)	337 lx	0.33
m 1.3 (Wall)	336 lx	0.38
m 1.4 (Wall)	337 lx	0.34

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014



## Room 2

### Summary, Room 2

#### Result overview, Evaluation area 1

Type No.\Make

8	2	<b>Siteco</b>	
		Order No.	: 2LS512D1TCWR
		Luminaire name	: Monsun® 2 LED
		Equipment	: 1 x LED 4000K / CRI >= 80 37W / 4210 lm

---

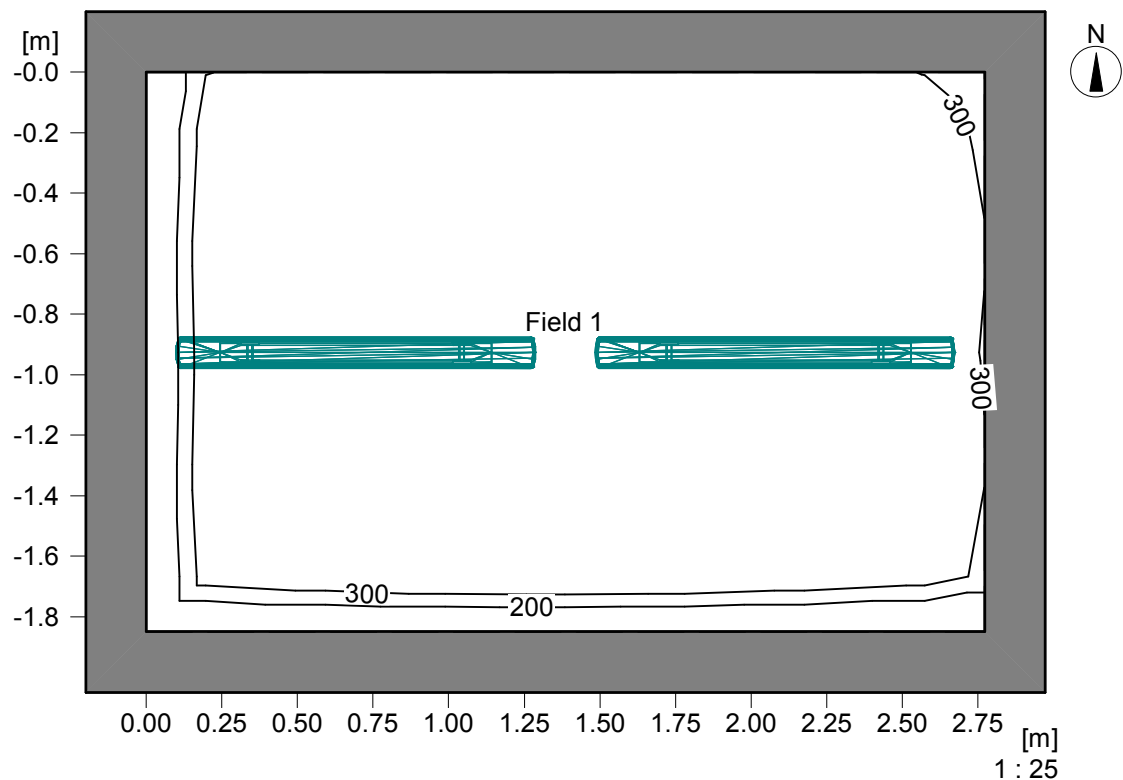
-please put your own address here-

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

## Room 2

### Calculation results, Room 2

#### Isolines representation, Reference plane 1.1 (E)



Illuminance [lx]

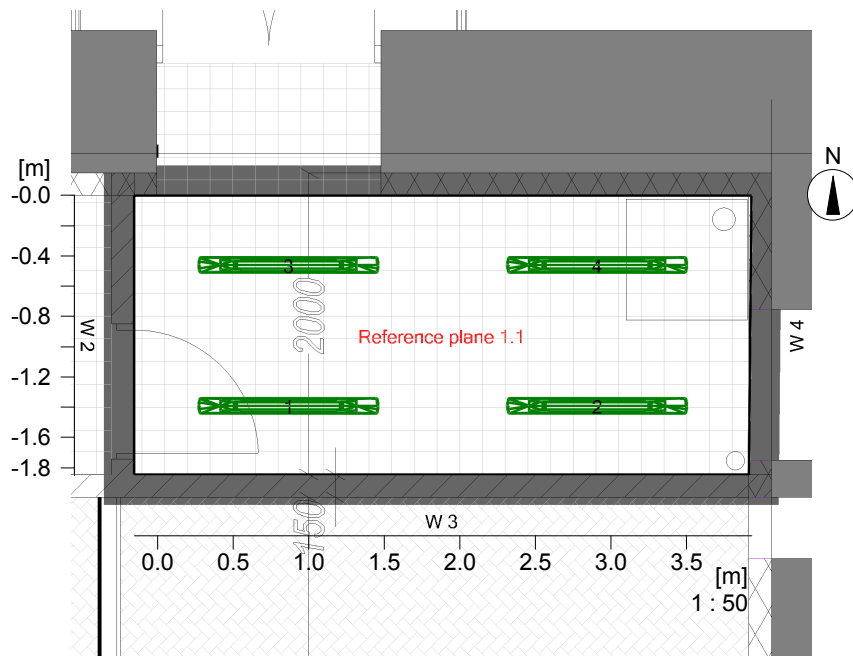
Height of the reference plane	:	0.00 m
Average illuminance	Eav	: 427 lx
Minimum illuminance	Emin	: 355 lx
Maximum illuminance	Emax	: 497 lx
Uniformity Uo	Emin/Eav	: 1 : 1.20 (0.83)
Diversity Ud	Emin/Emax	: 1 : 1.40 (0.71)

Object : Sigulda pils iela  
 Installation : apgaismojums fasāde  
 Project number : 78  
 Date : 12.12.2014

## room3

### Description, room3

#### Floor plan



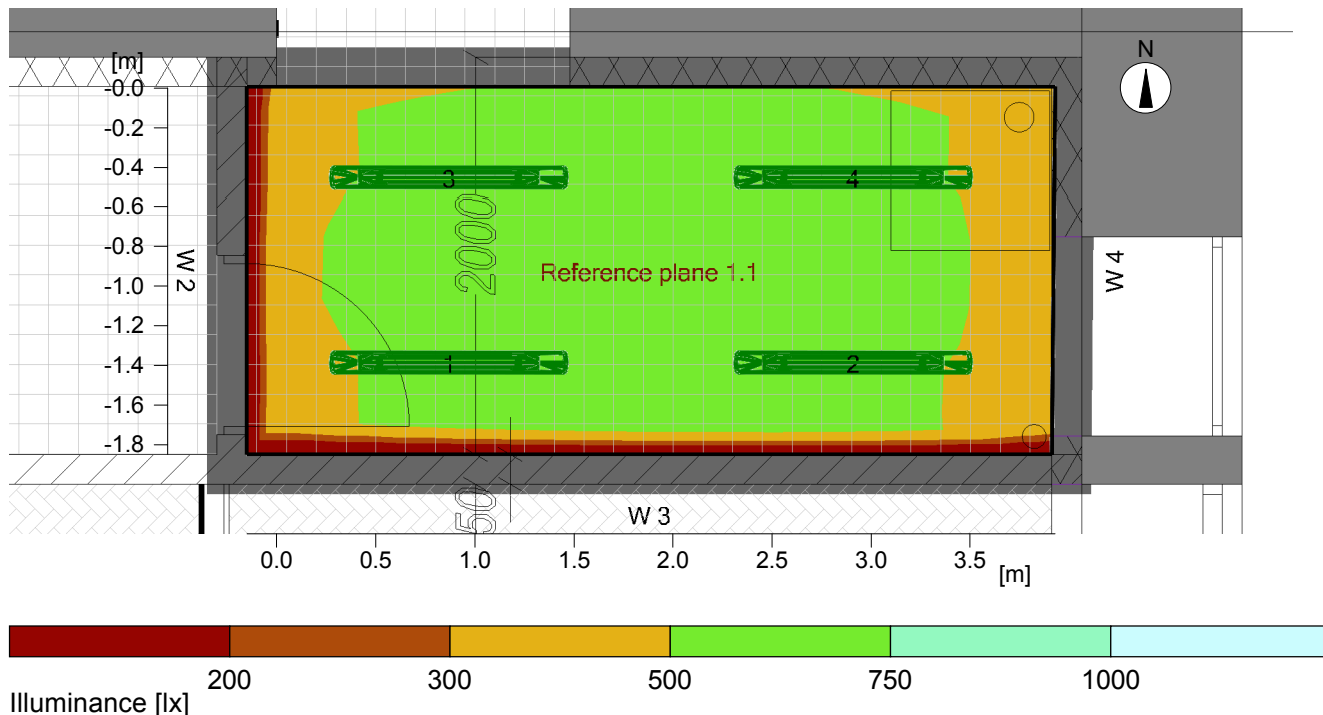
Wall	x	y	Length	Reflectance
1	32.62 m	23.27 m	0.15 m	50.0 %
2	32.62 m	21.42 m	1.85 m	50.0 %
3	36.68 m	21.42 m	4.06 m	50.0 %
4	36.70 m	23.27 m	1.85 m	50.0 %
5	32.77 m	23.27 m	3.93 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		2.80 m		
Height of reference plane		0.00 m		

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

## room3

### Summary, room3

#### Result overview, Evaluation area 1



#### General

Calculation algorithm used  
Height of luminaire plane  
Maintenance factor

Average indirect fraction  
2.80 m  
0.80

Total luminous flux of all lamps  
Total power  
Total power per area (7.53 m<sup>2</sup>)

16840 lm  
149.2 W  
19.82 W/m<sup>2</sup> (3.63 W/m<sup>2</sup>/100lx)

#### Evaluation area 1

#### Reference plane 1.1

Horizontal  
Em 546 lx  
Emin 375 lx  
Emin/Eav (Uo) 0.69  
Emin/Emax (Ud) 0.59  
UGR (1.2H 2.7H) <=20.9  
Position 0.00 m

#### Type No.\Make

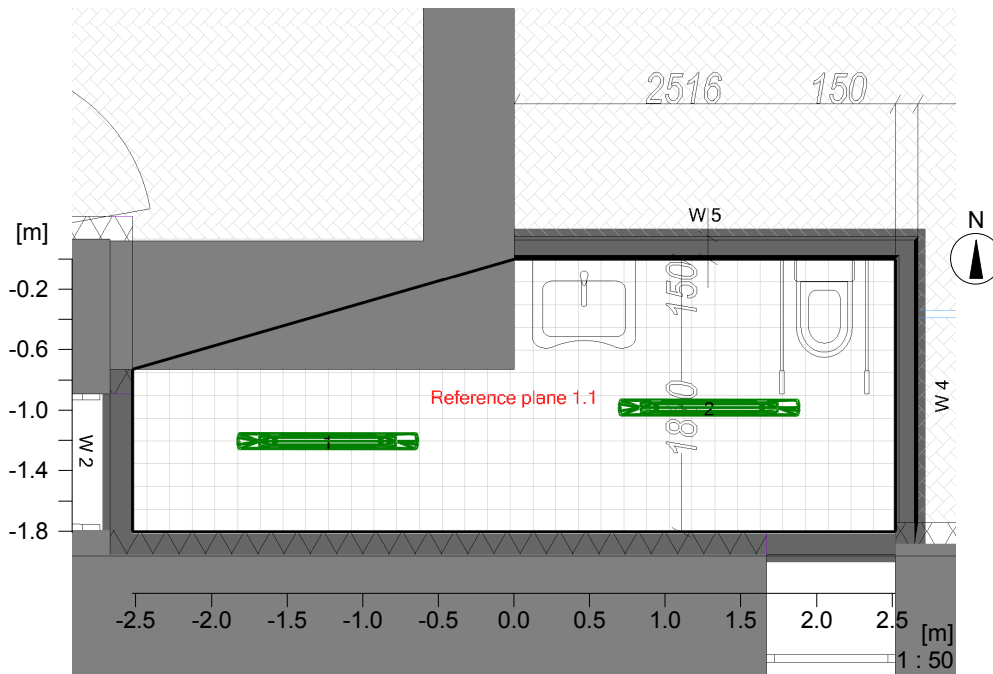
Type	No.	Make
8	4	<b>Siteco</b>
		Order No. : 2LS512D1TCWR
		Luminaire name : Monsun® 2 LED
		Equipment : 1 x LED 4000K / CRI >= 80 37W / 4210 lm

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

## room4

### Description, room4

#### Floor plan



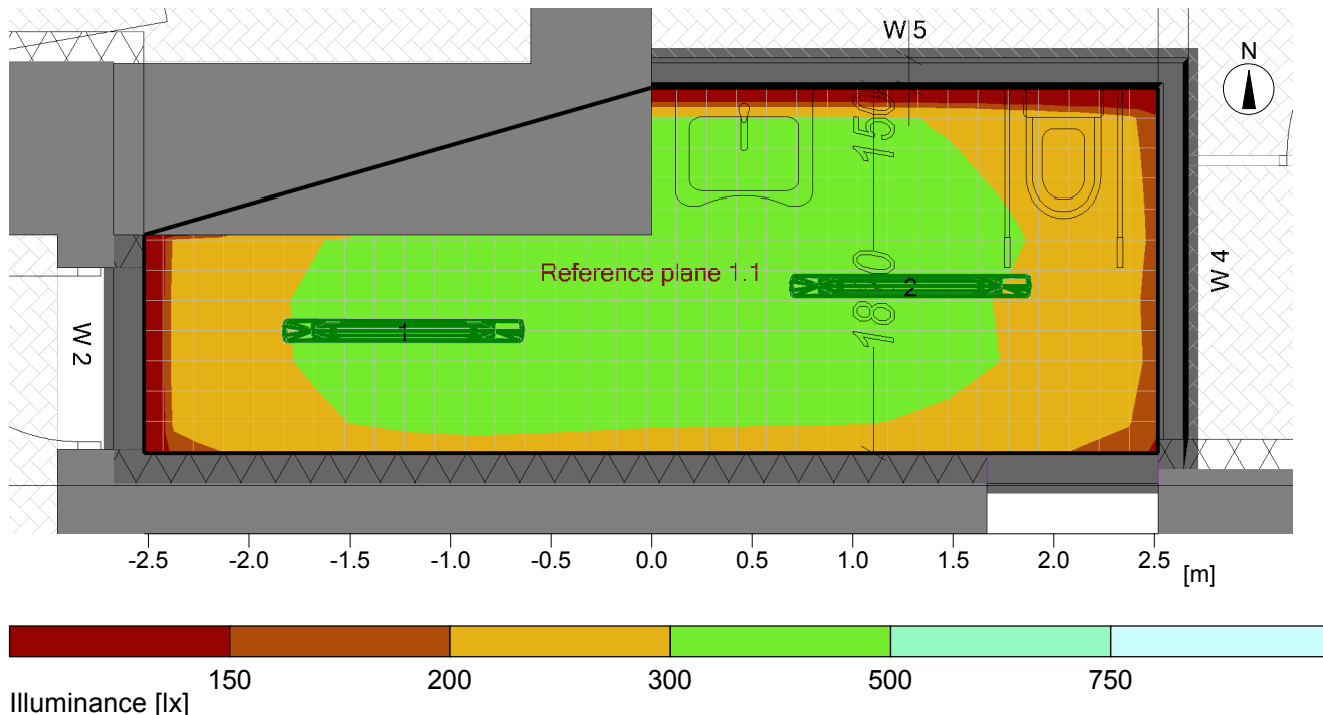
Wall	x	y	Length	Reflectance
1	25.68 m	14.40 m	2.62 m	50.0 %
2	25.68 m	13.32 m	1.08 m	50.0 %
3	30.71 m	13.32 m	5.04 m	50.0 %
4	30.71 m	15.13 m	1.81 m	50.0 %
5	28.20 m	15.13 m	2.52 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		2.80 m		
Height of reference plane		0.00 m		

Object : Sigulda pils iela  
 Installation : apgaismojums fasāde  
 Project number : 78  
 Date : 12.12.2014

## room4

### Summary, room4

#### Result overview, Evaluation area 1



#### General

Calculation algorithm used  
 Height of luminaire plane  
 Maintenance factor

Average indirect fraction  
 2.30 m  
 0.80

Total luminous flux of all lamps  
 Total power  
 Total power per area (8.20 m<sup>2</sup>)

8420 lm  
 74.6 W  
 9.10 W/m<sup>2</sup> (3.02 W/m<sup>2</sup>/100lx)

#### Evaluation area 1

#### Reference plane 1.1

Horizontal  
 Em 301 lx  
 Emin 205 lx  
 Emin/Eav (Uo) 0.68  
 Emin/Emax (Ud) 0.59  
 UGR (1.8H 4.9H) <=21.8  
 Position 0.00 m

#### Type No.\Make

8	2	<b>Siteco</b>	
		Order No.	: 2LS512D1TCWR
		Luminaire name	: Monsun® 2 LED
		Equipment	: 1 x LED 4000K / CRI >= 80 37W / 4210 lm

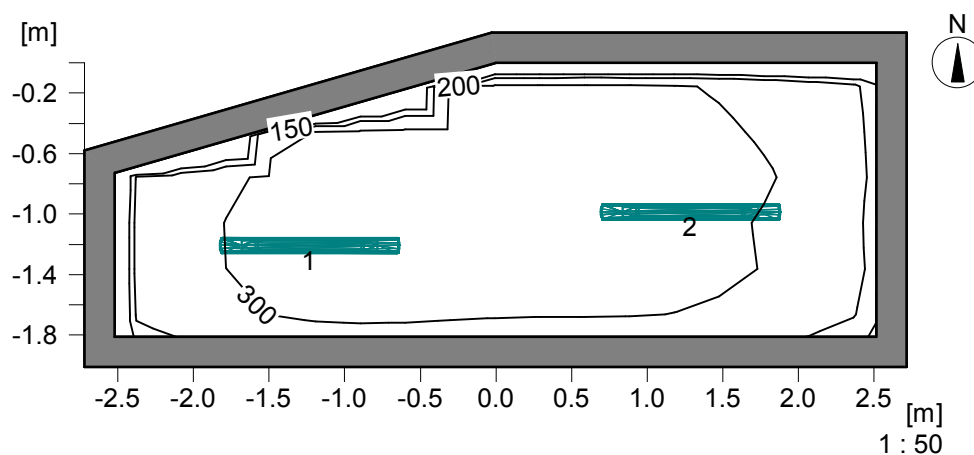


Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

## room4

### Calculation results, room4

#### Isolines representation, Reference plane 1.1 (E)



Illuminance [lx]

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Height of the reference plane	:	0.00 m
Average illuminance	Eav	: 301 lx
Minimum illuminance	Emin	: 205 lx
Maximum illuminance	Emax	: 349 lx
Uniformity Uo	Emin/Eav	: 1 : 1.47 (0.68)
Diversity Ud	Emin/Emax	: 1 : 1.70 (0.59)

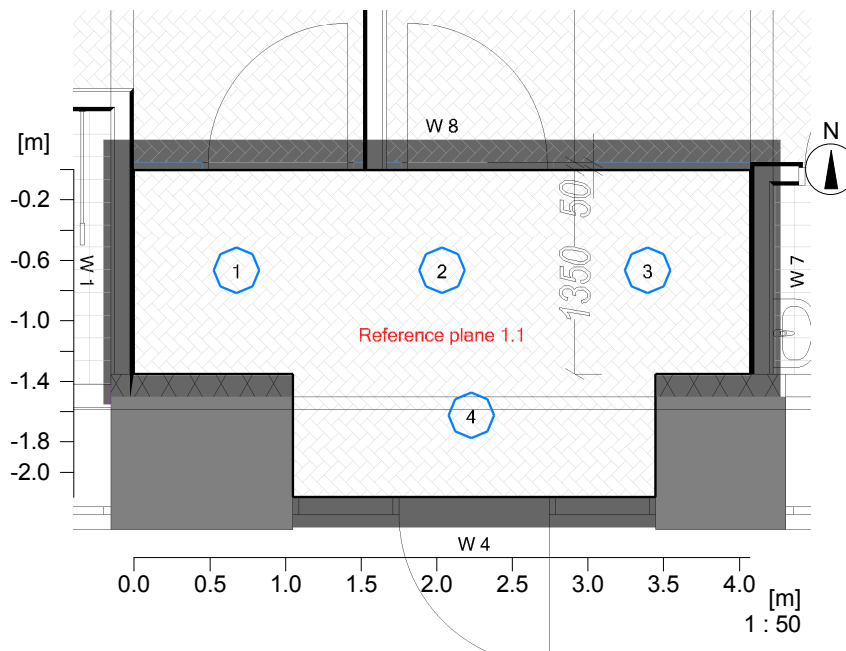
---

Object : Sigulda pils iela  
 Installation : apgaismojums fasāde  
 Project number : 78  
 Date : 12.12.2014

## room4(Copy of)

### Description, room4(Copy of)

#### Floor plan



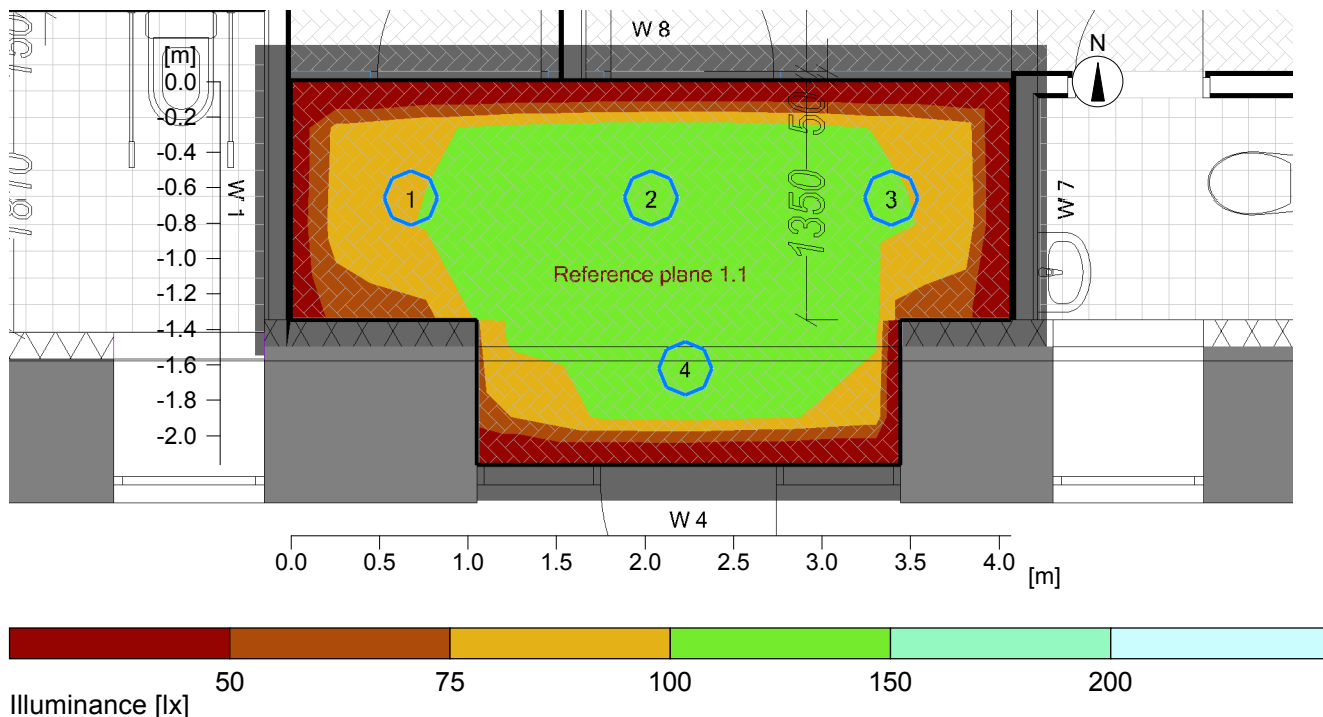
Wall	x	y	Length	Reflectance
1	30.86 m	13.39 m	1.35 m	50.0 %
2	31.91 m	13.39 m	1.05 m	50.0 %
3	31.91 m	12.57 m	0.82 m	50.0 %
4	34.30 m	12.57 m	2.39 m	50.0 %
5	34.30 m	13.39 m	0.82 m	50.0 %
6	34.93 m	13.39 m	0.63 m	50.0 %
7	34.93 m	14.74 m	1.35 m	50.0 %
8	30.86 m	14.74 m	4.07 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		2.80 m		
Height of reference plane		0.00 m		

Object : Sigulda pils iela  
Installation : apgaismojums fasāde  
Project number : 78  
Date : 12.12.2014

## room4(Copy of)

### Summary, room4(Copy of)

#### Result overview, Evaluation area 1



#### General

Calculation algorithm used  
Height of luminaire plane  
Maintenance factor

Average indirect fraction  
2.80 m  
0.80

Total luminous flux of all lamps  
Total power  
Total power per area (7.44 m<sup>2</sup>)

3136 lm  
64.0 W  
8.60 W/m<sup>2</sup> (8.19 W/m<sup>2</sup>/100lx)


#### Evaluation area 1

#### Reference plane 1.1

Horizontal  
Em  
Emin  
Emin/Eav (Uo)  
Emin/Emax (Ud)  
UGR (1.4H 2.6H)  
Position

105 lx  
77 lx  
0.73  
0.61  
<=16.7  
0.00 m

#### Type No.\Make

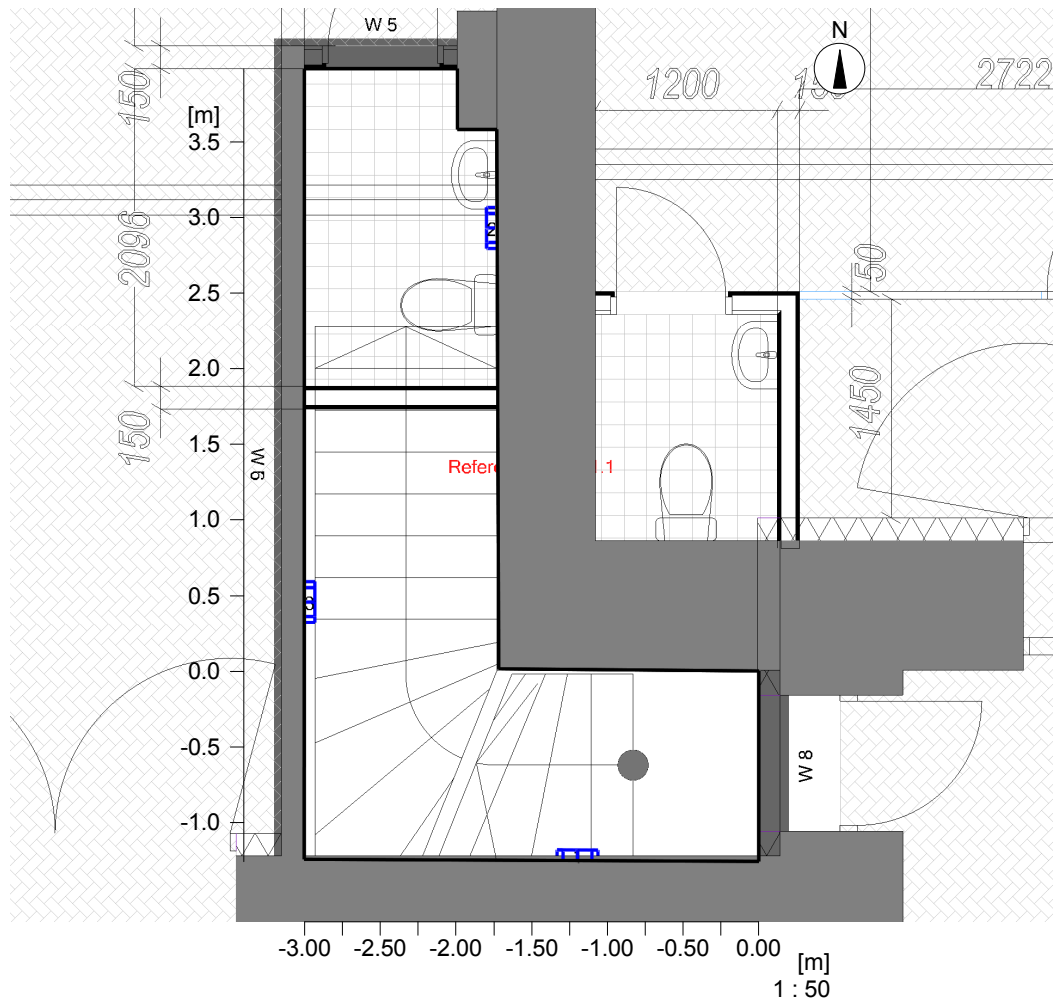
10 4  
  
**Steinel**  
Order No. : 005931  
Luminaire name : RS PRO LED S1  
Equipment : 1 x SMD 16W / 784 lm

Object : Sigulda pils iela  
 Installation : apgaismojums fasāde  
 Project number : 78  
 Date : 12.12.2014

## kāpnes

### Description, kāpnes

#### Floor plan



Wall	x	y	Length	Reflectance
1	9.49 m	14.41 m	1.72 m	50.0 %
2	9.48 m	17.98 m	3.57 m	50.0 %
3	9.22 m	17.98 m	0.26 m	50.0 %
4	9.22 m	18.38 m	0.40 m	50.0 %
5	8.21 m	18.38 m	1.01 m	50.0 %
6	8.21 m	13.15 m	5.22 m	50.0 %
7	11.21 m	13.14 m	3.00 m	50.0 %
8	11.21 m	14.40 m	1.26 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		2.80 m		
Height of reference plane		0.00 m		

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