

VATP-7

Installation : Apgaismojums

Project number : 1

Customer : Ventspils Brīvosta

Processed by : Auseklis Mūzis

Date : 18.01.2018

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.

1 Luminaire data

1.1 TRILUX, E-Line G2 MT LED10000-840 (6991440)

1.1.1 Data sheet

Manufacturer: TRILUX

6991440 E-Line E-Line G2 MT LED10000-840

LED gear tray for continuous line system E-Line. Compliant to DIN 10500. The luminaires are suitable for applications in IFS Version 6 and/or BRC Global Standard Food Version 7-certified companies in the food and beverage industries. For TRILUX E-Line T5N/LED or T8 universal trunking, T5 applications ...35-...(1475 mm), T8 applications ...58-...(1530 mm) with blanking cover L55. Blanking cover available as accessory for length compensation with T8 upgrade applications, to be ordered separately. Mounting to trunking with tool-free stainless steel snap fasteners. The design of the four louvre catches enables visual control of secure clipping in of the gear tray into the trunking. The PMMA lens optic forms a fixed unit each with one LED segment. With symmetric medium-narrow light distribution. Surface of lens optic is flat for uniform light distribution and homogeneous illumination of light emission aperture. The flat surface makes cleaning the luminaire easier. Luminaire luminous flux 10000 lm, connected load 74 W, luminous efficiency of luminaire 135 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index Ra > 80. Service life L80(tq 35 °C) = 70,000 h, service life L85(tq 35 °C) = 50,000 h. Gear tray of sheet steel, Colour white. Permissible ambient temperature (ta): -25°C - +35 °C. Safety class (EN 61140): I, protection rating (DIN EN 60529): IP20, impact resistance level in accordance with IEC 62262: IK06/1 J, testing temperature of wire glow test in accordance with IEC 60695-2-11: 650 °C. Self-actuating electrical connection via plug contacts with phase selection. Phase selection is without use of tools. With electronic transformer, switchable. Gear tray in combination with accessory 07650...IP54 is suitable for applications requiring IP54 protection rating and IK06. The luminaire complies with fundamental requirements of applicable EU regulations and product safety legislation and bears the CE symbol.

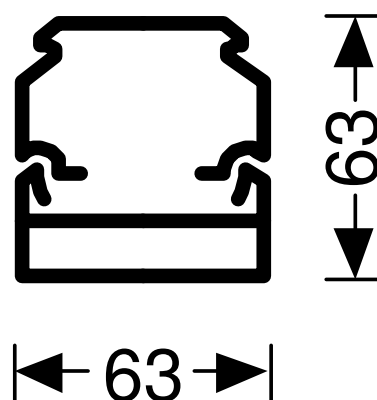
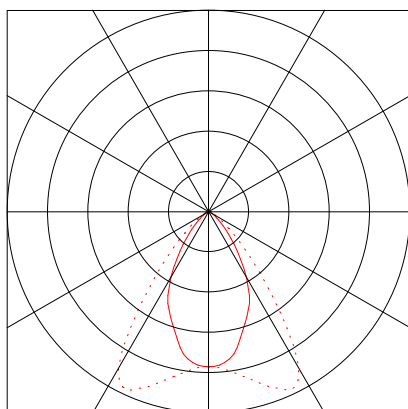
Luminaire data

Absolute Photometry
 Luminaire efficacy : 135.08 lm/W
 Classification : A60 99.7% ↑0.3%
 CIE Flux Codes : 82 97 100 100 100
 UGR 4H 8H : 17.4 / 21.0
 Control gear : with electronic transformer
 Power : 74 W
 Luminous flux : 9996.1 lm

Dimensions : 1475 mm x 65 mm x 65 mm

Equipped with

Quantity : 1
 Designation :
 Colour : 4000K
 Colour reproduction : 80



1 Luminaire data

1.2 TRILUX, TOC 6815240 (Olexeon 1500 B 6000-840 ET)

1.2.1 Data sheet

Manufacturer: TRILUX



Olexeon 1500 B 6000-840 ET TOC 6815240

Olexeon 1500 B 6000-840 ET (TOC 6815240)
"LED weather-proof surface-mounted luminaire IP66. For ceiling, wall and suspended mounting. Suspended mounting possible via optional accessories. Mounting with stainless steel fixing clamps (included). With symmetric wide light intensity distribution. Luminaire luminous flux 5700 lm, connected load 53 W, luminous efficiency of luminaire 108 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index $R_a \geq 80$. Service life $L_{80}(t_{50} > 25^\circ\text{C}) = 35,000$ h, service life $L_{70}(t_{50} > 25^\circ\text{C}) = 50,000$ h. Luminaire body of glass fibre-reinforced polyester, similar to RAL 7035 light grey. Diffuser of PMMA. Dimensions (L x W): 1500 mm x 88 mm, luminaire height 77 mm. Permissible ambient temperature (t_a): $-20^\circ\text{C} - +35^\circ\text{C}$. Safety class I, protection rating IP66, impact resistance IK04/0,5 J, heat resistance 650°C . Rapid-mount luminaire with Wieland rapid plug system. 3-pole-version for switchable luminaires. Connection socket at one head side. With electronic transformer, switchable."

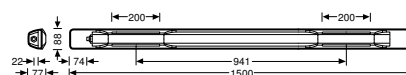
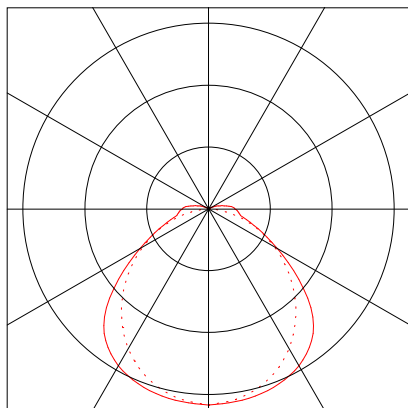
Luminaire data

Luminaire efficiency	: 99.9843%
Luminaire efficacy	: 107.53 lm/W
Classification	: A41 95.7% \uparrow 4.3%
CIE Flux Codes	: 46 78 93 96 100
UGR 4H 8H	: 23.9 / 23.8
Power	: 53 W
Luminous flux	: 5699.1 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 53 W
Colour	: 4000K
Luminous flux	: 5700 lm
Colour reproduction	: 80

Dimensions : 1500 mm x 88 mm x 77 mm



1 Luminaire data

1.3 TRILUX, TOC 6825451... (Lunexo H1 CDP-I 6500 840 0...)

1.3.1 Data sheet

Manufacturer: TRILUX



Lunexo H1 CDP-I 6500 840 01 ETDD Suspended mounting TOC 6825451

Lunexo H1 CDP-I 6500 840 ETDD 01 (TOC 6825451)
Exclusive rectangular suspended LED luminaire with rounded corners and visible light edge. Suspended luminaire for single luminaire applications. Suspended mounting via Y-wire suspension contained in scope of supply. With inner CDP-I microprismatics. Frosted PMMA cover with lateral light emission edge. Soft light effect with complete glare illumination. VDU-compliant according to EN 12464-1. Luminaire luminous flux 6700 lm, connected load 61 W, luminous efficiency of luminaire 110 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index Ra > 80. Service life L80(t_q 25 °C) = 70,000 h, service life L85(t_q 25 °C) = 50,000 h. Luminaire body of extruded aluminium profile. End caps of die-cast aluminium. Luminaire body white powder-coated. Dimensions (L x W): 1200 mm x 200 mm, luminaire height 45 mm. Permissible ambient temperature (ta): -20 °C - +25 °C. Safety class I, protection rating IP20, impact resistance IK02/0,2 J, heat resistance 650 °C. Wire suspension and electric connection cable included in scope of supply. Standard suspension length: 1500 mm. With electronic transformer, digitally dimmable (DALI). Number of occupied DALI devices: 2.

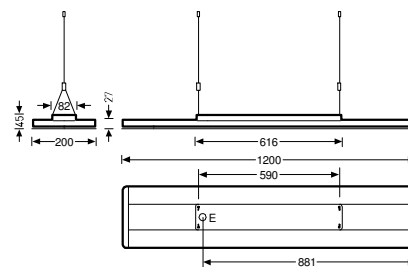
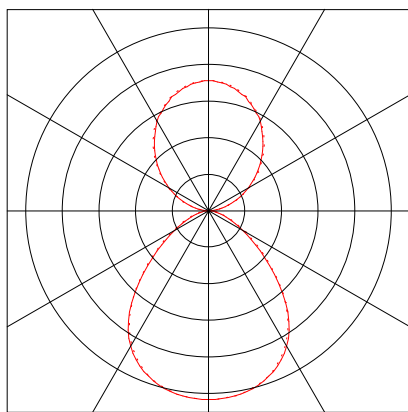
Luminaire data

Luminaire efficiency	: 99.9783%
Luminaire efficacy	: 109.81 lm/W
Classification	: C53 55.2% ↑ 44.8%
CIE Flux Codes	: 60 88 98 55 100
UGR 4H 8H	: 14.5 / 15.0
Power	: 61 W
Luminous flux	: 6698.5 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 61 W
Colour	: 4000K
Luminous flux	: 6700 lm
Colour reproduction	: 80

Dimensions : 1203 mm x 200 mm x 45 mm



1 Luminaire data

1.4 TRILUX, TOC 6357440... (InperlaLP C05 HR22 1800-84...)

1.4.1 Data sheet

Manufacturer: TRILUX



InperlaLP C05 HR22 1800-840 01 ET Ceiling recess mounting TOC 6357440

InperlaLP C05 HR22 1800-840 ET 01 (TOC 6357440)
Compact LED downlight with round construction. Recessed downlight for cut-out ceiling openings, Installation in cast concrete ceilings via accessories. Tool-free ceiling installation via rapid-mounting springs. Optically and technically matched refurbishment plates for ceiling apertures with larger ceiling cut-out dimensions are available as accessories in various versions. Cut-out opening Ø 140 mm, Recess depth = 100 mm. IP54 protection rating on room side in combination with closed decorative cover. Aluminium reflector highly specular anodised. Direct glare limitation in accordance with UGR = 22. Configured with one LED spot module. Luminaire luminous flux 1800 lm, connected load 16 W, luminous efficiency of luminaire 113 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index Ra > 80. Service life L₈₀(t_q 25 °C) = 70,000 h, service life L₈₅(t_q 25 °C) = 50,000 h. Luminaire body of diecast aluminium, white, powder-coated. Luminaire diameter Ø 150 mm, luminaire height 103 mm. Luminaire body and heat sink form a compact unit. Permissible ambient temperature (ta): -20 °C - +25 °C. Safety class II, protection rating IP20, impact resistance IK02/0,2 J, heat resistance 650 °C. With electronic transformer, switchable. With 3-pole terminal to 2.5 mm² for mains connection and further wiring.

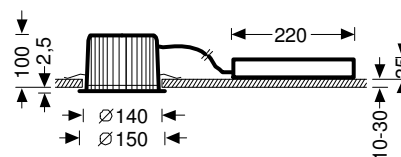
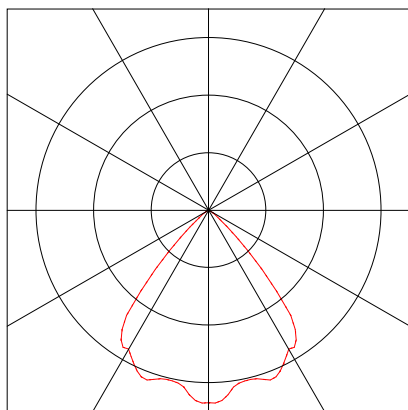
Luminaire data

Luminaire efficiency	: 99.9671%
Luminaire efficacy	: 112.46 lm/W
Classification	: A60 100.0% ↑0.0%
CIE Flux Codes	: 86 99 100 100 100
UGR 4H 8H	: 22.0 / 22.0
Power	: 16 W
Luminous flux	: 1799.4 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 16 W
Colour	: 3000K
Luminous flux	: 1800 lm
Colour reproduction	: 80

Dimensions : Ø150 mm x 0.0 mm



1 Luminaire data

1.5 TRILUX, TOC 6360640... (InperlaLP C05 HR22 2700-84...)

1.5.1 Data sheet

Manufacturer: TRILUX



InperlaLP C05 HR22 2700-840 01 ET Ceiling recess mounting TOC 6360640

InperlaLP C05 HR22 2700-840 ET 01 (TOC 6360640) Compact LED downlight with round construction. Recessed downlight for cut-out ceiling openings, Installation in cast concrete ceilings via accessories. Tool-free ceiling installation via rapid-mounting springs. Optically and technically matched refurbishment plates for ceiling apertures with larger ceiling cut-out dimensions are available as accessories in various versions. Cut-out opening Ø 140 mm, Recess depth = 100 mm. IP54 protection rating on room side in combination with closed decorative cover. Aluminium reflector highly specular anodised. Direct glare limitation in accordance with UGR = 22. Configured with one LED spot module. Luminaire luminous flux 2700 lm, connected load 25 W, luminous efficiency of luminaire 108 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index Ra > 80. Service life $L_{80}(t_{90} > 25\text{ °C}) = 70,000\text{ h}$, service life $L_{85}(t_{90} > 25\text{ °C}) = 50,000\text{ h}$. Luminaire body of diecast aluminium, white, powder-coated. Luminaire diameter Ø 150 mm, luminaire height 103 mm. Luminaire body and heat sink form a compact unit. Permissible ambient temperature (ta): -20 °C - +25 °C. Safety class II, protection rating IP20, impact resistance IK02/0,2 J, heat resistance 650 °C. With electronic transformer, switchable. With 3-pole terminal to 2.5 mm² for mains connection and further wiring.

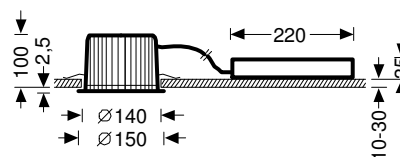
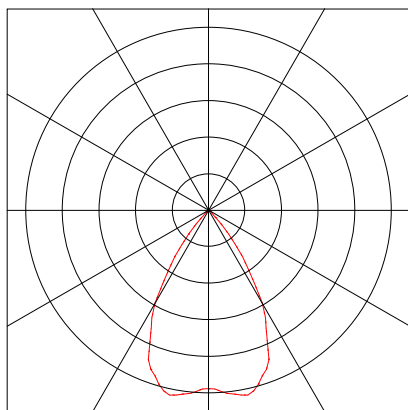
Luminaire data

Luminaire efficiency	: 99.9519%
Luminaire efficacy	: 107.95 lm/W
Classification	: A70 100.0% ↑0.0%
CIE Flux Codes	: 96 100 100 100 100
UGR 4H 8H	: 19.7 / 19.7
Power	: 25 W
Luminous flux	: 2698.7 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 25 W
Colour	: 3000K
Luminous flux	: 2700 lm
Colour reproduction	: 80

Dimensions : Ø150 mm x 0.0 mm



1 Luminaire data

1.6 TRILUX, TOC 6357940... (InperlaLP C05 HR22 IP 1800...)

1.6.1 Data sheet

Manufacturer: TRILUX



InperlaLP C05 HR22 IP 1800-830 03 ET Ceiling recess mounting TOC 6357940

InperlaLP C05 HR22 IP 1800-830 ET 03 (TOC 6357940)
Compact LED downlight with round construction. Recessed downlight for cut-out ceiling openings, Installation in cast concrete ceilings via accessories. Tool-free ceiling installation via rapid-mounting springs. Optically and technically matched refurbishment plates for ceiling apertures with larger ceiling cut-out dimensions are available as accessories in various versions. Cut-out opening Ø 140 mm, Recess depth = 100 mm. IP 54 protection rating all round in combination with closed decorative cover. Aluminium reflector highly specular anodised. Direct glare limitation in accordance with UGR = 22. Configured with one LED spot module. Luminaire luminous flux 1700 lm, connected load 16 W, luminous efficiency of luminaire 106 lm/W. Light colour warm white, colour temperature 3000 K, colour rendering index Ra > 80. Service life L₈₀(t_q 25 °C) = 70,000 h, service life L₈₅(t_q 25 °C) = 50,000 h. Die-cast aluminium luminaire body, silver-grey powder-coated. Luminaire diameter Ø 150 mm, luminaire height 103 mm. Luminaire body and heat sink form a compact unit. Permissible ambient temperature (ta): -20 °C - +25 °C. Safety class II, protection rating IP20, impact resistance IK02/0,2 J, heat resistance 650 °C. With electronic transformer, switchable. With 3-pole terminal to 2.5 mm² for mains connection and further wiring.

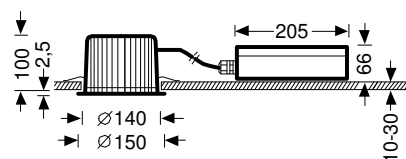
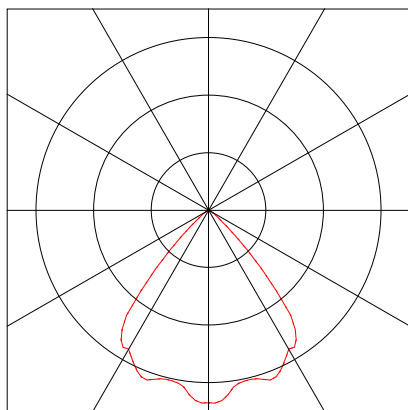
Luminaire data

Luminaire efficiency	: 99.9671%
Luminaire efficacy	: 106.21 lm/W
Classification	: A60 100.0% ↑0.0%
CIE Flux Codes	: 86 99 100 100 100
UGR 4H 8H	: 21.8 / 21.8
Power	: 16 W
Luminous flux	: 1699.4 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 16 W
Colour	: 3000K
Luminous flux	: 1700 lm
Colour reproduction	: 80

Dimensions : Ø150 mm x 0.0 mm



1 Luminaire data

1.7 TRILUX, TOC 6355440... (InperlaLP C05 BR19 1000-84...)

1.7.1 Data sheet

Manufacturer: TRILUX



InperlaLP C05 BR19 1000-840 01 ET Ceiling recess mounting TOC 6355440

InperlaLP C05 BR19 1000-840 ET 01 (TOC 6355440)
Compact LED downlight with round construction. Recessed downlight for cut-out ceiling openings, Installation in cast concrete ceilings via accessories. Tool-free ceiling installation via rapid-mounting springs. Optically and technically matched refurbishment plates for ceiling apertures with larger ceiling cut-out dimensions are available as accessories in various versions. Cut-out opening Ø 140 mm, Recess depth = 100 mm. IP54 protection rating on room side in combination with closed decorative cover. Reflector of anodised aluminium, faceted. Direct glare limitation in accordance with UGR = 19. VDU-compliant according to EN 12464-1. Configured with one LED spot module. Luminaire luminous flux 1000 lm, connected load 9 W, luminous efficiency of luminaire 111 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index Ra > 80. Service life $L_{80}(t_{q < 25\text{ °C}}) = 70,000\text{ h}$, service life $L_{85}(t_{q < 25\text{ °C}}) = 50,000\text{ h}$. Luminaire body of diecast aluminium, white, powder-coated. Luminaire diameter Ø 150 mm, luminaire height 103 mm. Luminaire body and heat sink form a compact unit. Permissible ambient temperature (ta): -20 °C - +25 °C. Safety class II, protection rating IP20, impact resistance IK02/0,2 J, heat resistance 650 °C. With electronic transformer, switchable. With 3-pole terminal to 2.5 mm² for mains connection and further wiring.

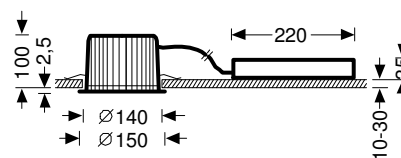
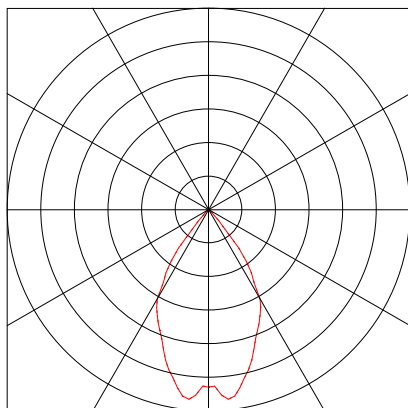
Luminaire data

Luminaire efficiency	: 99.9518%
Luminaire efficacy	: 111.06 lm/W
Classification	: A70 100.0% ↑0.0%
CIE Flux Codes	: 96 100 100 100 100
UGR 4H 8H	: 16.7 / 16.7
Power	: 9 W
Luminous flux	: 999.5 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 9 W
Colour	: 3000K
Luminous flux	: 1000 lm
Colour reproduction	: 80

Dimensions : Ø150 mm x 0.0 mm



1 Luminaire data

1.8 TRILUX, TOC 6355340... (InperlaLP C05 BR19 1000-83...)

1.8.1 Data sheet

Manufacturer: TRILUX



InperlaLP C05 BR19 1000-830 01 ET Ceiling recess mounting TOC 6355340

InperlaLP C05 BR19 1000-830 ET 01 (TOC 6355340)
Compact LED downlight with round construction. Recessed downlight for cut-out ceiling openings, Installation in cast concrete ceilings via accessories. Tool-free ceiling installation via rapid-mounting springs. Optically and technically matched refurbishment plates for ceiling apertures with larger ceiling cut-out dimensions are available as accessories in various versions. Cut-out opening Ø 140 mm, Recess depth = 100 mm. IP54 protection rating on room side in combination with closed decorative cover. Reflector of anodised aluminium, faceted. Direct glare limitation in accordance with UGR = 19. VDU-compliant according to EN 12464-1. Configured with one LED spot module. Luminaire luminous flux 1000 lm, connected load 9 W, luminous efficiency of luminaire 111 lm/W. Light colour warm white, colour temperature 3000 K, colour rendering index Ra > 80. Service life $L_{80}(t_{q > 25\text{ °C}}) = 70,000\text{ h}$, service life $L_{85}(t_{q > 25\text{ °C}}) = 50,000\text{ h}$. Luminaire body of diecast aluminium, white, powder-coated. Luminaire diameter Ø 150 mm, luminaire height 103 mm. Luminaire body and heat sink form a compact unit. Permissible ambient temperature (ta): -20 °C - +25 °C. Safety class II, protection rating IP20, impact resistance IK02/0,2 J, heat resistance 650 °C. With electronic transformer, switchable. With 3-pole terminal to 2.5 mm² for mains connection and further wiring.

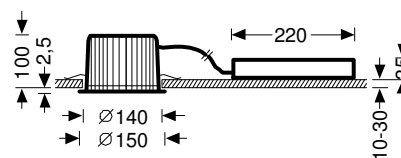
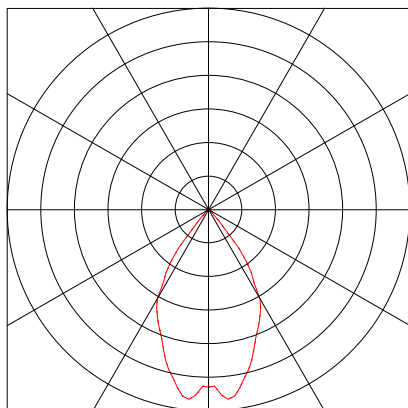
Luminaire data

Luminaire efficiency	: 99.9518%
Luminaire efficacy	: 111.06 lm/W
Classification	: A70 100.0% ↑0.0%
CIE Flux Codes	: 96 100 100 100 100
UGR 4H 8H	: 16.7 / 16.7
Power	: 9 W
Luminous flux	: 999.5 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 9 W
Colour	: 3000K
Luminous flux	: 1000 lm
Colour reproduction	: 80

Dimensions : Ø150 mm x 0.0 mm



1 Luminaire data

1.9 TRILUX, TOC 6325640 (ArimoS M73 CDP LED4000-840 ET)

1.9.1 Data sheet

Manufacturer: TRILUX



ArimoS M73 CDP LED4000-840 ET Ceiling recess mounting TOC 6325640

ArimoS M73 CDP LED4000-840 ET (TOC 6325640):
"LED recessed luminaire with CDP microprismatic cover. Lay-in luminaire for ceilings with exposed grids. System dimension 600 x 600 (M73). Suitable for installing in ceilings with low intermediate heights. Recess depth > 160 mm. With highly efficient CDP microprisms. With narrow-wide light distribution. Suitable for VDU workstations according to EN 12464-1 via limited luminance $L = 3000 \text{ cd/m}^2$ for beam angle above 65° all-round. Luminaire luminous flux 4000 lm, connected load 40 W, luminous efficiency of luminaire 100 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index $R_a \geq 80$. Service life $L_{80}(t_{90} > 25^\circ\text{C}) = 50,000 \text{ h}$. Sheet steel luminaire body, white powder-coated. Dimensions (L x W): 595 mm x 595 mm, luminaire height 22 mm. Protection rating on room side IP40. Permissible ambient temperature (t_a): $-20^\circ\text{C} - +25^\circ\text{C}$. Safety class I, protection rating IP20, impact resistance IK02/0,2 J, heat resistance 650°C . Mains connection of control unit is with a connection terminal, Plug connection between luminaire and secondary connection control unit. With external operating device, switchable. Dimensions operating device (L x W x H) 234 mm x 130 mm x 65 mm."

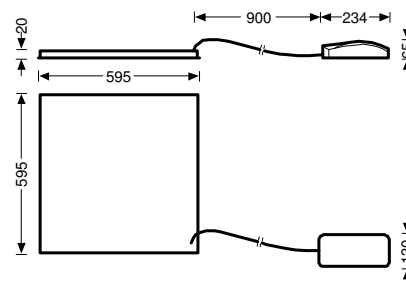
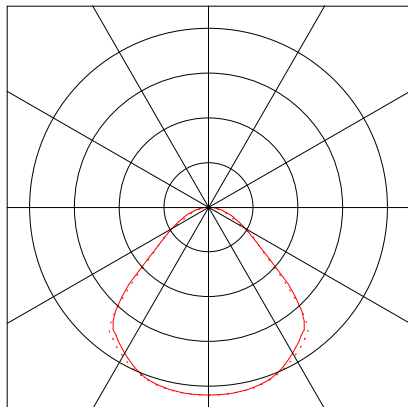
Luminaire data

Luminaire efficiency	: 99.8344%
Luminaire efficacy	: 99.83 lm/W
Classification	: A50 100.0% $\uparrow 0.0\%$
CIE Flux Codes	: 60 88 97 100 100
UGR 4H 8H	: 18.2 / 18.1
Power	: 40 W
Luminous flux	: 3993.4 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 40 W
Colour	: 4000K
Luminous flux	: 4000 lm
Colour reproduction	: 80

Dimensions : 595 mm x 595 mm x 0.0 mm



1 Luminaire data

1.10 TRILUX, TOC 6458540... (Onplana D09 CDP19 2000-840...)

1.10.1 Data sheet

Manufacturer: TRILUX



Onplana D09 CDP19 2000-840 01 ET TOC 6458540

Onplana D09 CDP19 2000-840 ET 01 (TOC 6458540)
Round surface-mounted LED downlight, Construction height 60 mm. For wall and ceiling mounting. With primary reflector highly efficient CDP microprismatics. Direct glare limitation in accordance with UGR ≤19. With mainly direct light distribution. Decorative ceiling illumination also softens contrast on the ceiling. Luminaire luminous flux 1800 lm, connected load 18 W, luminous efficiency of luminaire 100 lm/W. Light colour neutral white, colour temperature 4000 K, colour rendering index Ra ≥80. Service life $L_{80}(t_{90} > 25\text{ °C}) = 70,000\text{ h}$, service life $L_{85}(t_{90} > 25\text{ °C}) = 50,000\text{ h}$. LED luminaire with ENEC+ certification. Luminaire body of die-cast aluminium. White structure-coated luminaire body. Luminaire diameter Ø 316 mm, luminaire height 60 mm. Permissible ambient temperature (ta): -20 °C - +25 °C. Safety class I, protection rating IP40, impact resistance IK02/0,2 J, heat resistance 650 °C. With connection terminal to 2.5 mm, cable strain relief and mains through-wiring. With electronic transformer, switchable.

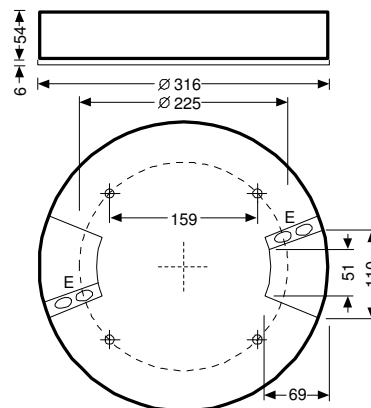
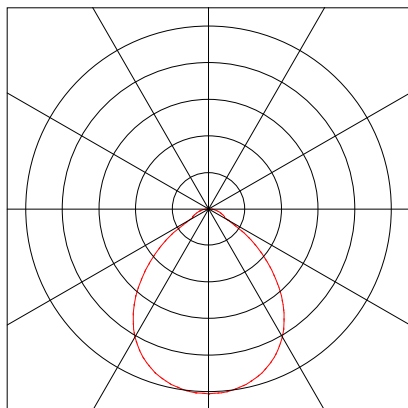
Luminaire data

Luminaire efficiency	: 99.8948%
Luminaire efficacy	: 99.89 lm/W
Classification	: A50 100.0% ↑0.0%
CIE Flux Codes	: 64 92 98 100 100
UGR 4H 8H	: 18.8 / 18.8
Power	: 18 W
Luminous flux	: 1798.1 lm

Equipped with

Quantity	: 1
Designation	: LED
Power	: 18 W
Colour	: 4000K
Luminous flux	: 1800 lm
Colour reproduction	: 80

Dimensions : Ø316 mm x 60 mm



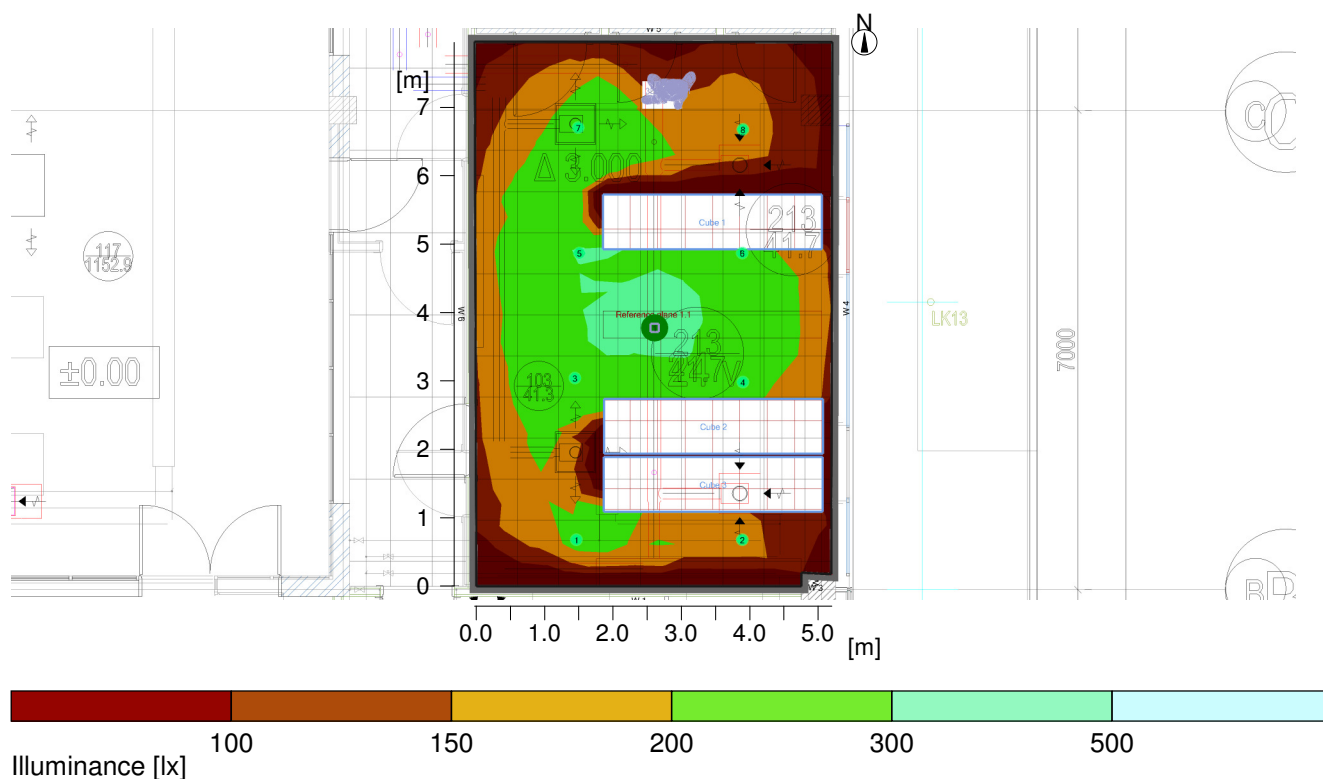
Object : VATP-7
Installation : Apgaismojums
Project number : 1
Date : 18.01.2018

RELUX®

1 103

1.1 Summary, 103

1.1.1 Result overview, Evaluation area 1



General

Calculation algorithm used
Height of luminaire plane
Maintenance factor

Average indirect fraction
3.00 m
0.80

Total luminous flux of all lamps
Total power
Total power per area (41.30 m²)

14400.00 lm
128.0 W
3.10 W/m² (1.77 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
Em
Emin
Emin/Eav (Uo)
Emin/Emax (Ud)
UGR (2.9H 4.4H)
Position

175 lx
7 lx
0.04
0.02
≤22.3
0.00 m

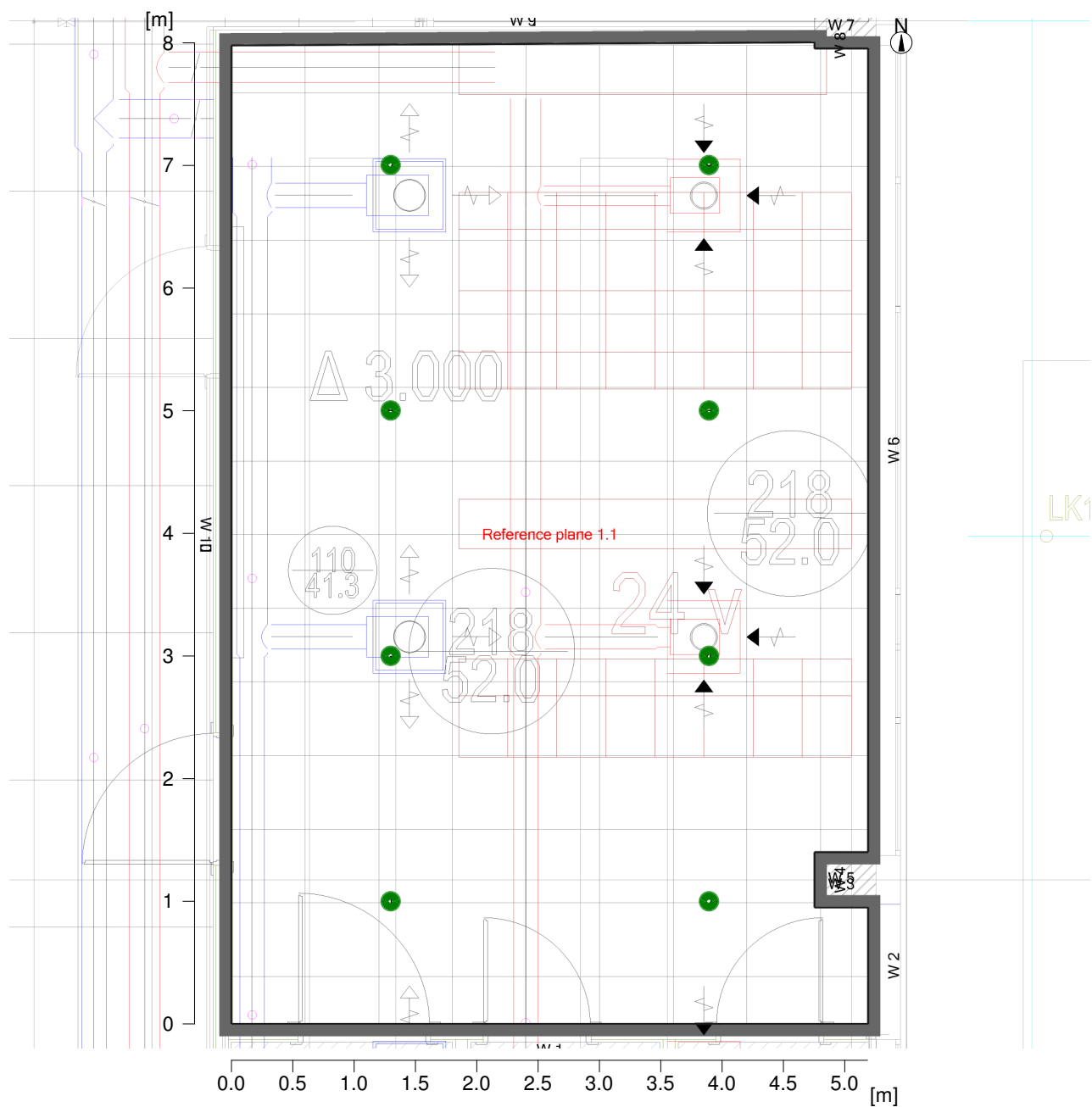
Type No.\Make

4 8 **TRILUX**
Order No. : InperlaLP C05 HR22 1800-840 01 ET
Luminaire name : TOC 6357440
Equipment : 1 x LED 16 W / 1800 lm

2 110

2.1 Description, 110

2.1.1 Floor plan



Object : VATP-7
Installation : Apgaismojums
Project number : 1
Date : 18.01.2018



2 110

2.1 Description, 110

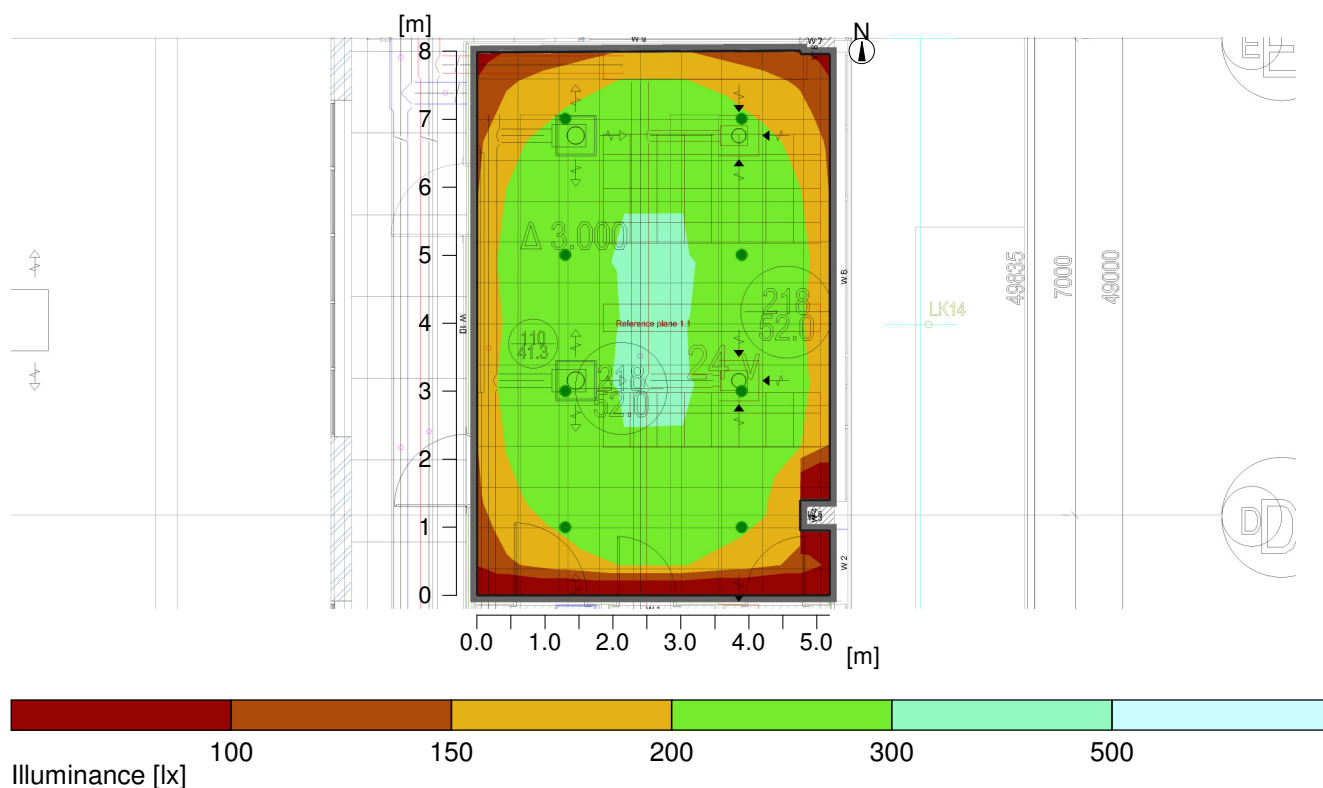
2.1.1 Floor plan

Wall	x	y	Length	Reflectance
1	94.96 m	41.57 m	5.19 m	50.0 %
2	94.96 m	42.52 m	0.95 m	50.0 %
3	94.52 m	42.52 m	0.44 m	50.0 %
4	94.52 m	42.97 m	0.45 m	50.0 %
5	94.96 m	42.97 m	0.44 m	50.0 %
6	94.96 m	49.52 m	6.55 m	50.0 %
7	94.52 m	49.52 m	0.44 m	50.0 %
8	94.52 m	49.57 m	0.05 m	50.0 %
9	89.77 m	49.54 m	4.75 m	50.0 %
10	89.77 m	41.57 m	7.97 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		3.00 m		
Height of reference plane		0.00 m		

2 110

2.2 Summary, 110

2.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (41.22 m²)

13600.00 lm
 128.0 W
 3.11 W/m² (1.40 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)

Horizontal

Em 222 lx (>= 200 lx)
 Emin 131 lx
 Emin/Eav (Uo) 0.59 (>= 0.40)
 Emin/Emax (Ud) 0.45
 UGR (2.9H 4.5H) <=22.2 (< 25.00)
 Position 0.00 m

Type No.\Make

6 8



TRILUX

Order No. : InperlaLP C05 HR22 IP 1800-830 03 ET
 Luminaire name : TOC 6357940
 Equipment : 1 x LED 16 W / 1700 lm

RELUX®

Object : VATP-7
Installation : Apgaismojums
Project number : 1
Date : 18.01.2018



3 111

3.1 Description, 111

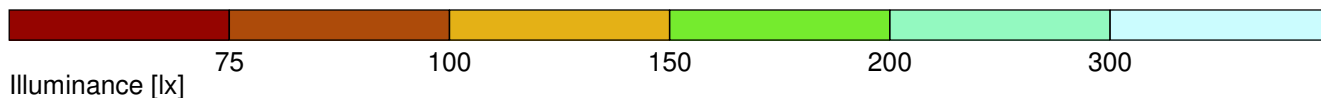
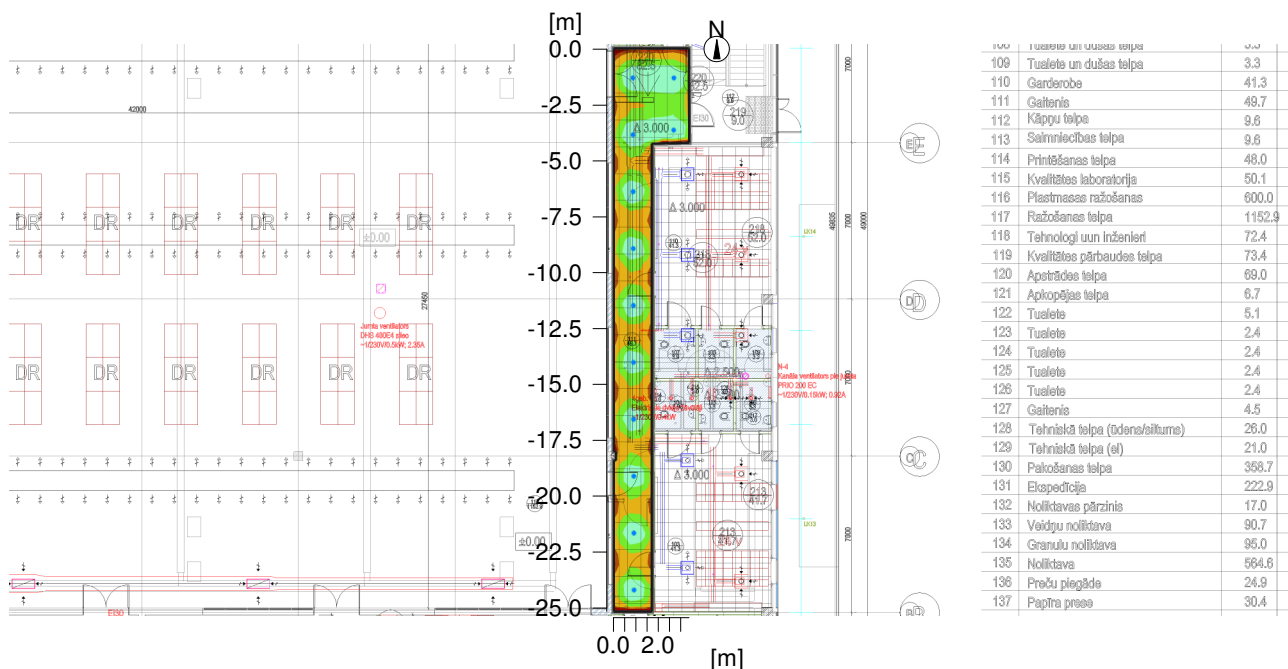
3.1.1 Floor plan

Wall	x	y	Length	Reflectance
1	87.92 m	35.94 m	18.00 m	50.0 %
2	88.02 m	35.94 m	0.10 m	50.0 %
3	88.02 m	35.54 m	0.40 m	50.0 %
4	87.92 m	35.54 m	0.10 m	50.0 %
5	87.92 m	28.79 m	6.75 m	50.0 %
6	89.62 m	28.79 m	1.70 m	50.0 %
7	89.62 m	49.69 m	20.90 m	50.0 %
8	91.29 m	49.73 m	1.67 m	50.0 %
9	91.27 m	53.94 m	4.21 m	50.0 %
10	87.92 m	53.94 m	3.35 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		3.00 m		
Height of reference plane		1.00 m		

3 111

3.2 Summary, 111

3.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (49.74 m²)

12000.00 lm
 108.0 W
 2.17 W/m² (1.40 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Traffic zones inside buildings
 5.1.1 (EN 12464-1, 8.2011) Circulation areas and corridors (Ra >40.00)
 Horizontal

Em 155 lx (>= 100 lx)
 Emin 71 lx
 Emin/Eav (Uo) 0.46 (>= 0.40)
 Emin/Emax (Ud) 0.27
 Position 1.00 m

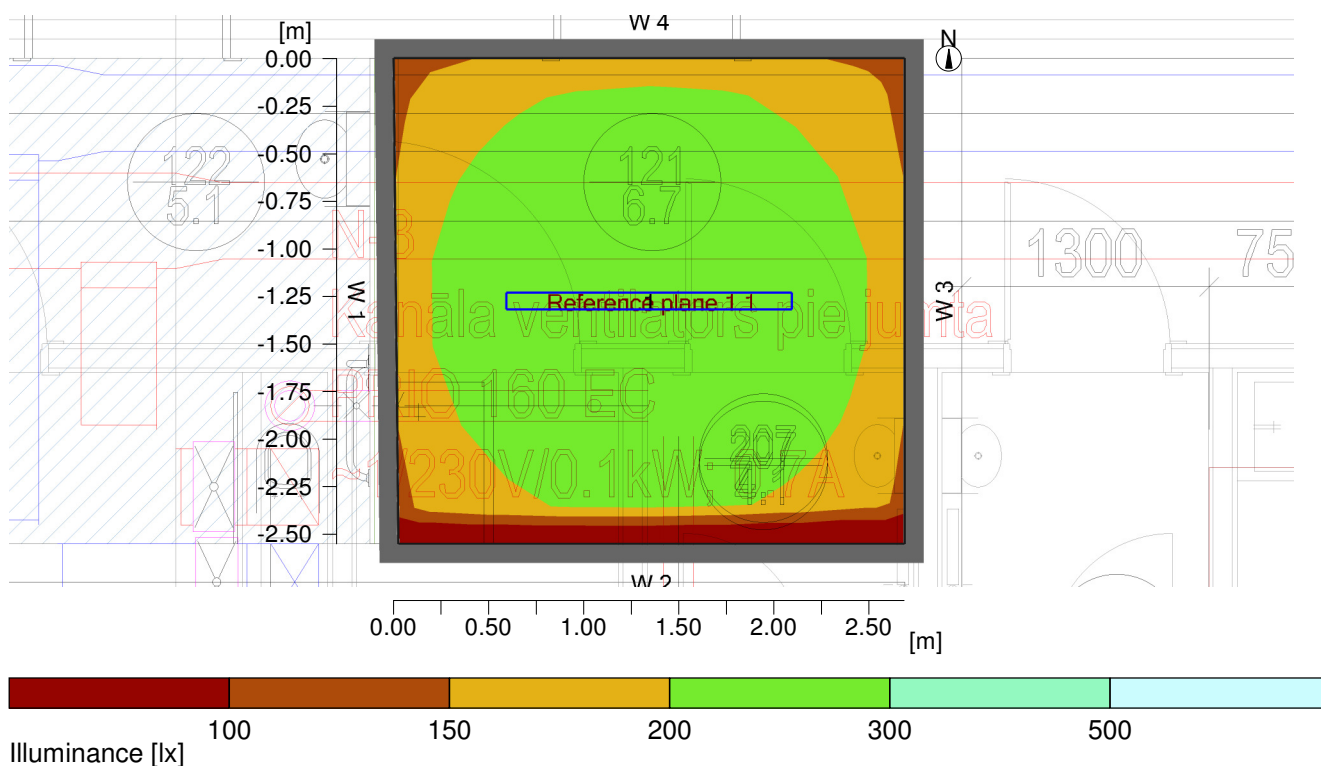
Type No.\Make

8 12 **TRILUX**
 Order No. : InperlaLP C05 BR19 1000-830 01 ET
 Luminaire name : TOC 6355340
 Equipment : 1 x LED 9 W / 1000 lm

8 121

8.2 Summary, 121

8.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	3.00 m
Maintenance factor	0.80
Total luminous flux of all lamps	5700.00 lm
Total power	53.0 W
Total power per area (6.81 m²)	7.78 W/m² (3.86 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 201 lx (≥ 200 lx)
 Emin 161 lx
 Emin/Eav (Uo) 0.80 (≥ 0.40)
 Emin/Emax (Ud) 0.67
 UGR (2.0H 2.0H) ≤ 20.2 (< 25.00)
 Position 0.00 m

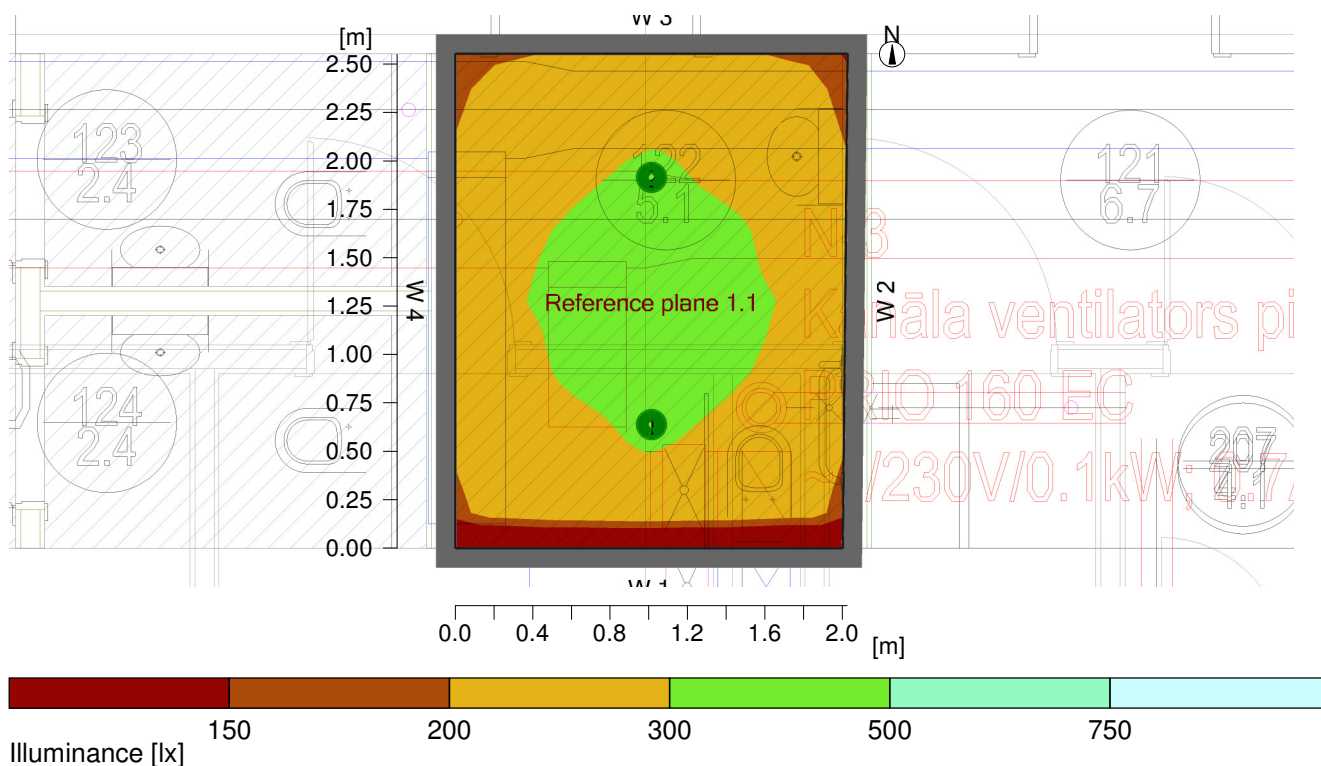
Type No. Make

2	1	TRILUX	
		Order No.	: Olxeon 1500 B 6000-840 ET
		Luminaire name	: TOC 6815240
		Equipment	: 1 x LED 53 W / 5700 lm

9 122

9.2 Summary, 122

9.2.1 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 (5.13 m²)

3400.00 lm
 32.0 W
 6.24 W/m² (2.35 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
 E_m 265 lx
 E_{min} 219 lx
 E_{min}/E_{av} (U_o) 0.83
 E_{min}/E_{max} (U_d) 0.71
 UGR (2.0H 2.0H) <=22.5
 Position 0.00 m

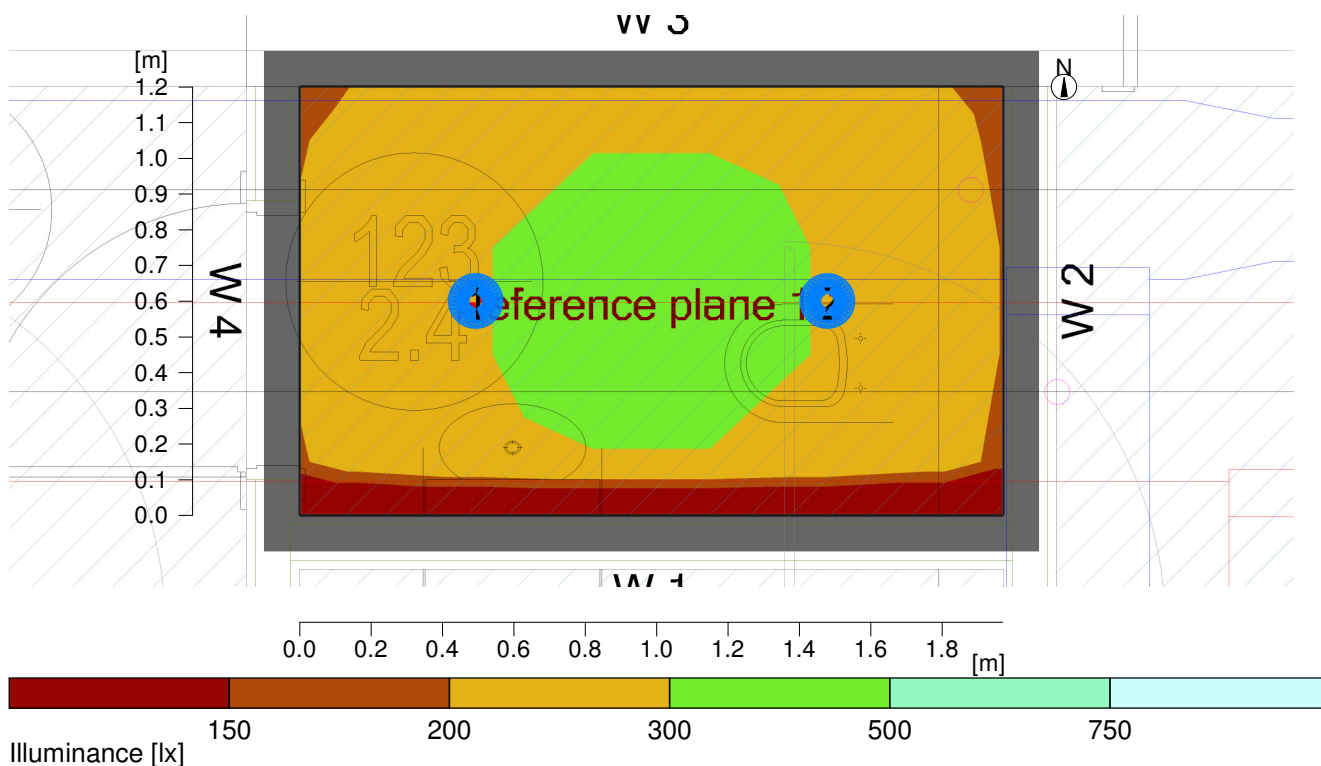
Type No.\Make

6 2 **TRILUX**
 Order No. : InperlaLP C05 HR22 IP 1800-830 03 ET
 Luminaire name : TOC 6357940
 Equipment : 1 x LED 16 W / 1700 lm

10 123

10.2 Summary, 123

10.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.50 m
Maintenance factor	0.80
Total luminous flux of all lamps	2000.00 lm
Total power	18.0 W
Total power per area (2.36 m ²)	7.61 W/m ² (2.80 W/m ² /100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 271 lx (>= 200 lx)
 Emin 233 lx
 Emin/Eav (Uo) 0.86 (>= 0.40)
 Emin/Emax (Ud) 0.74
 UGR (2.0H 2.0H) <=17.6 (< 25.00)
 Position 0.00 m

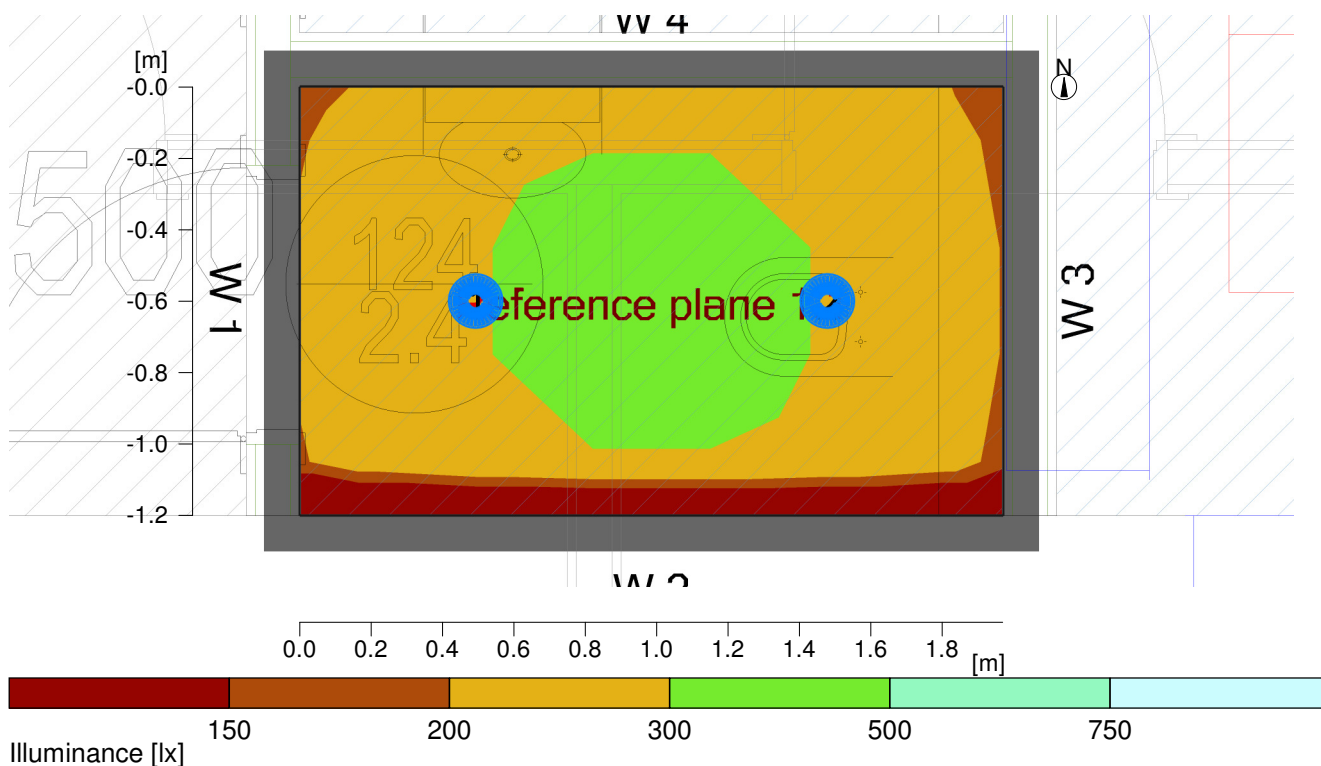
Type No.\Make

8	2	TRILUX
		Order No. : InperlaLP C05 BR19 1000-830 01 ET
		Luminaire name : TOC 6355340
		Equipment : 1 x LED 9 W / 1000 lm

11 124

11.2 Summary, 124

11.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.50 m
Maintenance factor	0.80
Total luminous flux of all lamps	2000.00 lm
Total power	18.0 W
Total power per area (2.36 m ²)	7.61 W/m ² (2.80 W/m ² /100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 271 lx (>= 200 lx)
 Emin 233 lx
 Emin/Eav (Uo) 0.86 (>= 0.40)
 Emin/Emax (Ud) 0.74
 UGR (2.0H 2.0H) <=17.6 (< 25.00)
 Position 0.00 m

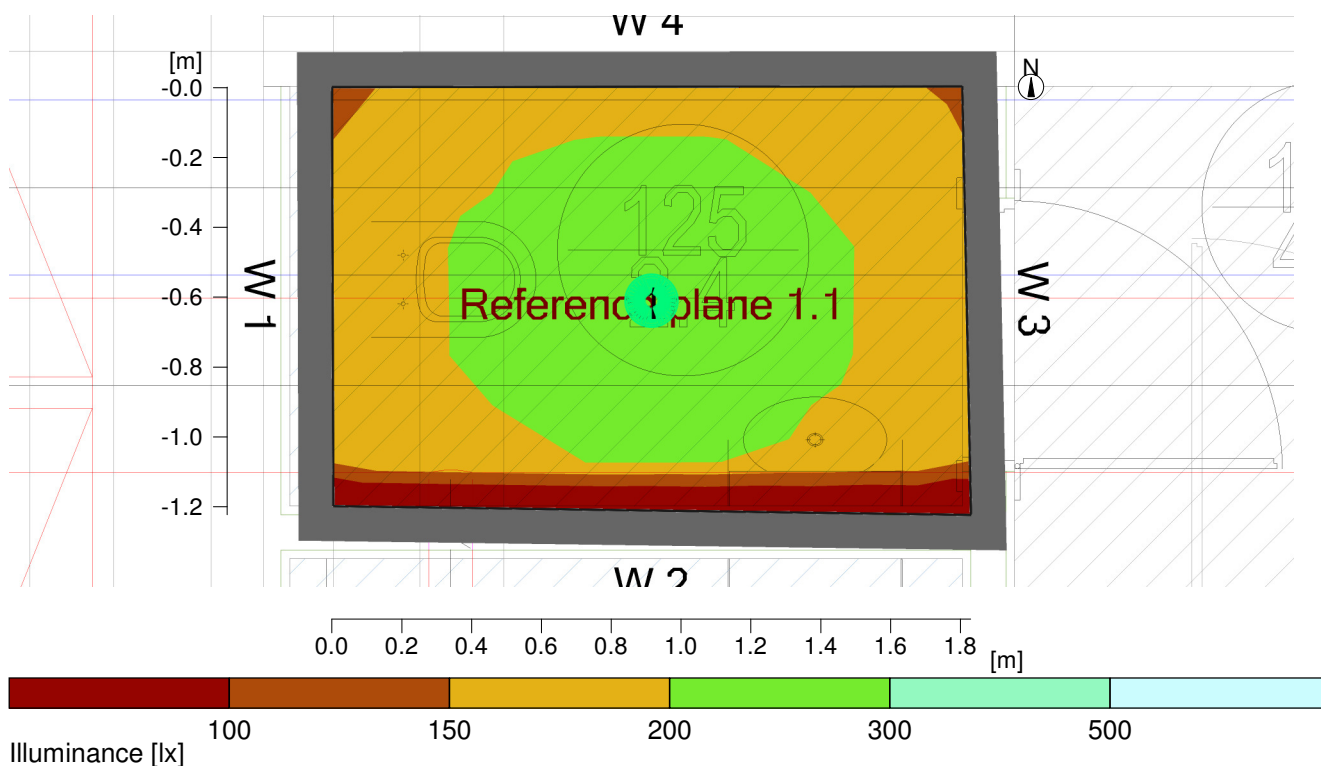
Type No.\Make

8	2	TRILUX	Order No.	: InperlaLP C05 BR19 1000-830 01 ET
			Luminaire name	: TOC 6355340
			Equipment	: 1 x LED 9 W / 1000 lm

12 125

12.2 Summary, 125

12.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.50 m
Maintenance factor	0.80
Total luminous flux of all lamps	1800.00 lm
Total power	16.0 W
Total power per area (2.20 m²)	7.28 W/m² (3.82 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)

Horizontal

Em	190 lx	(>= 200 lx)
Emin	174 lx	
Emin/Eav (Uo)	0.91	(>= 0.40)
Emin/Emax (Ud)	0.80	
UGR (2.0H 2.0H)	<=22.7	(< 25.00)
Position	0.00 m	

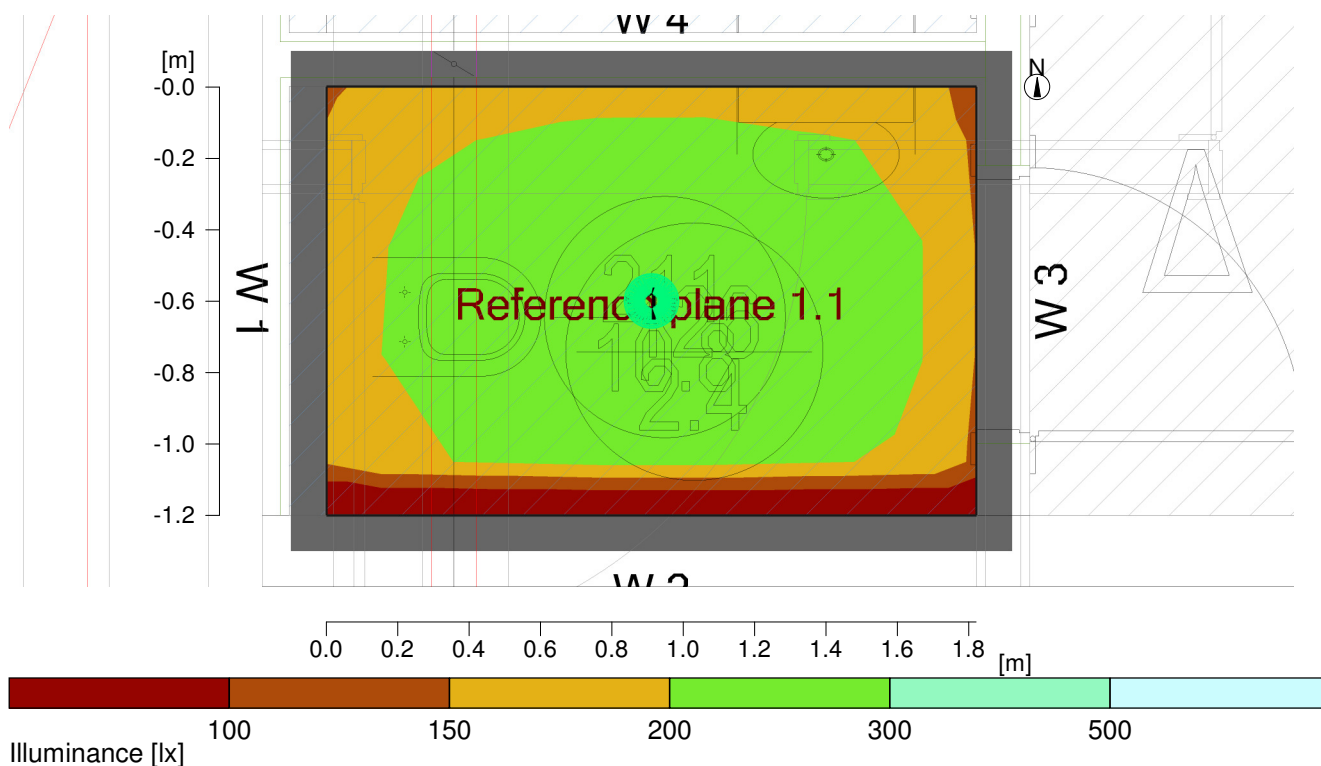
Type No.\Make

4	1	TRILUX	
		Order No.	: InperlaLP C05 HR22 1800-840 01 ET
		Luminaire name	: TOC 6357440
		Equipment	: 1 x LED 16 W / 1800 lm

13 126

13.2 Summary, 126

13.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.50 m
Maintenance factor	0.83
Total luminous flux of all lamps	1800.00 lm
Total power	16.0 W
Total power per area (2.18 m ²)	7.33 W/m ² (3.66 W/m ² /100lx)

Evaluation area 1

Reference plane 1.1

	Horizontal
Em	200 lx
Emin	182 lx
Emin/Eav (Uo)	0.91
Emin/Emax (Ud)	0.80
UGR (2.0H 2.0H)	<=22.7
Position	0.00 m

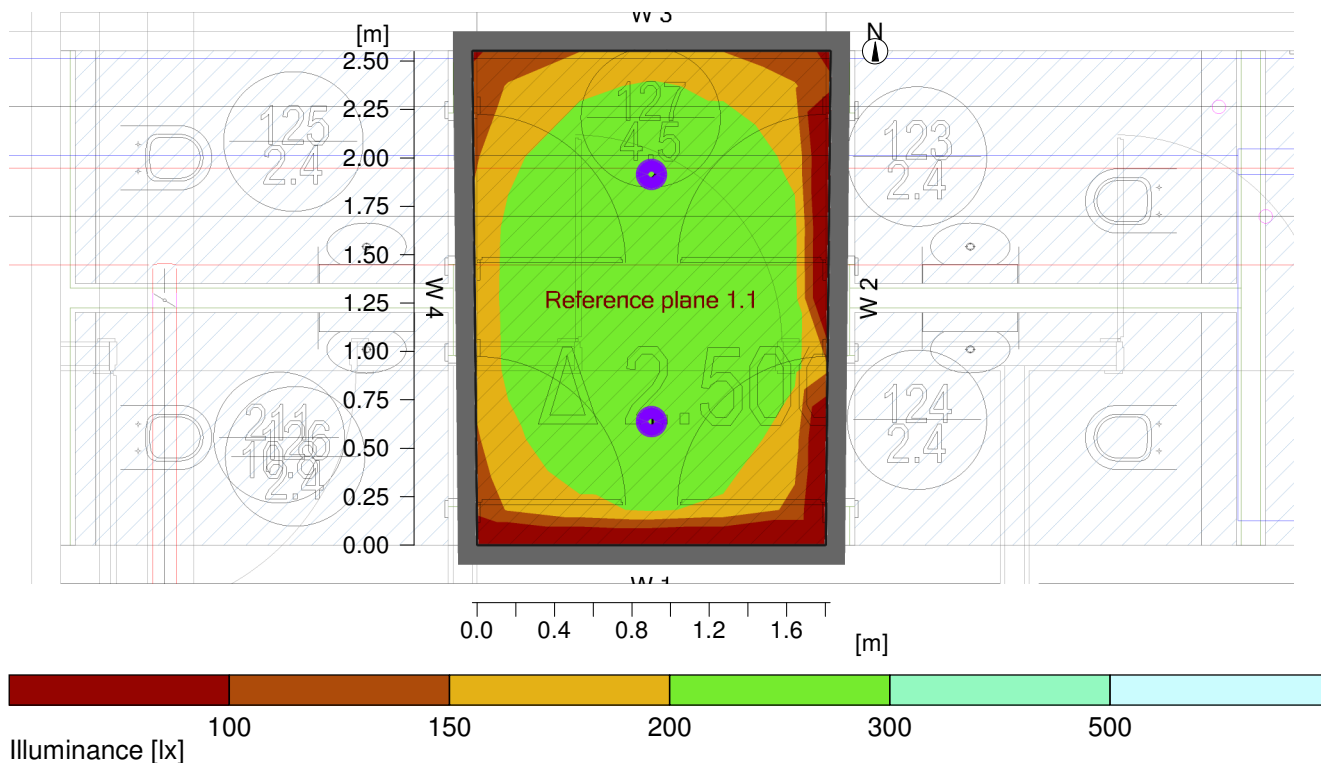
Type No. Make

4	1	TRILUX
		Order No. : InperlaLP C05 HR22 1800-840 01 ET
		Luminaire name : TOC 6357440
		Equipment : 1 x LED 16 W / 1800 lm

14 127

14.2 Summary, 127

14.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.50 m
Maintenance factor	0.80
Total luminous flux of all lamps	2000.00 lm
Total power	18.0 W
Total power per area (4.65 m ²)	3.87 W/m ² (1.89 W/m ² /100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 205 lx (>= 200 lx)
 Emin 132 lx
 Emin/Eav (Uo) 0.64 (>= 0.40)
 Emin/Emax (Ud) 0.50
 UGR (2.0H 2.0H) <=17.6 (< 25.00)
 Position 0.00 m

Type No.\Make

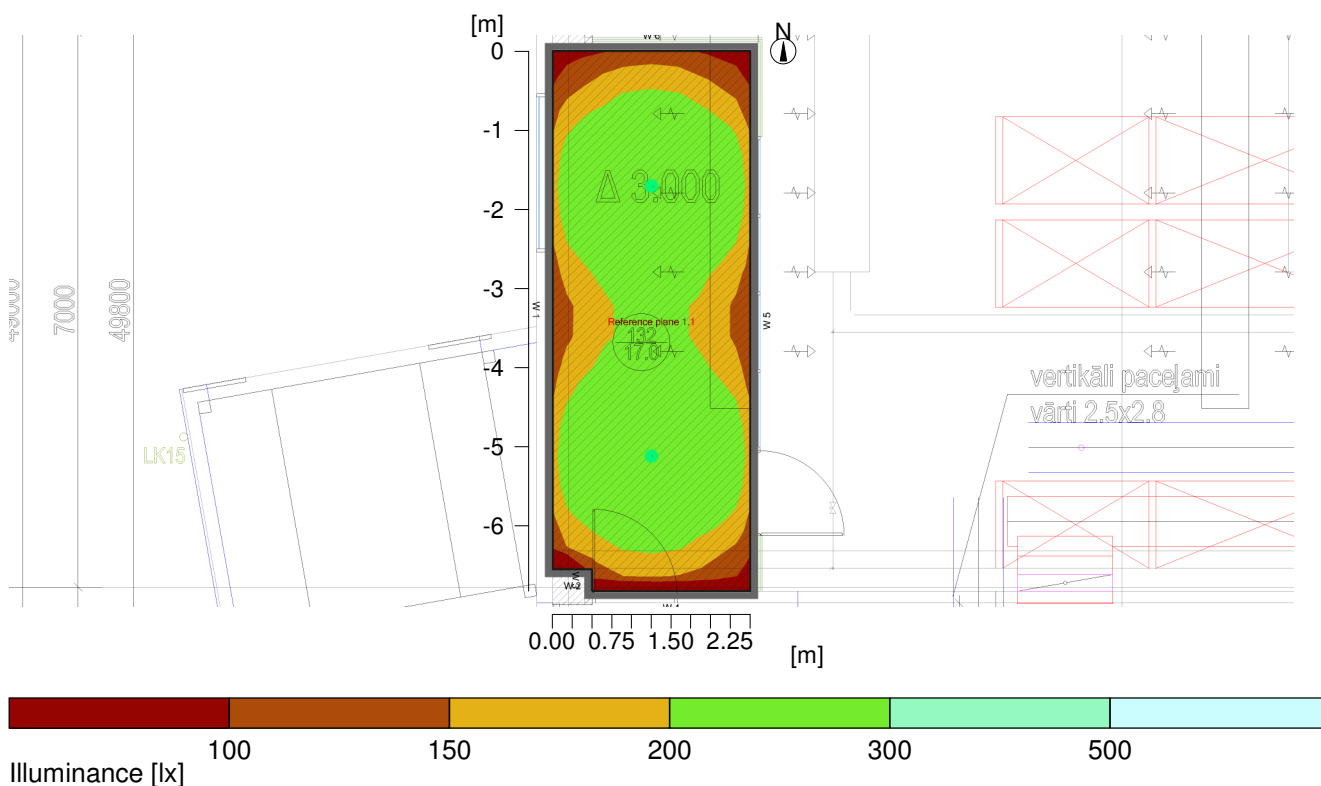
7	2	TRILUX
		Order No. : InperlaLP C05 BR19 1000-840 01 ET
		Luminaire name : TOC 6355440
		Equipment : 1 x LED 9 W / 1000 lm



15 132

15.2 Summary, 132

15.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	3.00 m
Maintenance factor	0.80
Total luminous flux of all lamps	5400.00 lm
Total power	50.0 W
Total power per area (16.92 m²)	2.95 W/m² (1.43 W/m²/100lx)

Evaluation area 1

User profile	Traffic zones inside buildings
	5.1.4 (EN 12464-1, 8.2011) Loading ramps/bays (Ra >40.00)
	Horizontal
Em	206 lx (>= 150 lx)
Emin	95 lx
Emin/Eav (Uo)	0.46 (>= 0.40)
Emin/Emax (Ud)	0.36
UGR (3.8H 1.4H)	<=20.4 (< 25.00)
Position	0.00 m

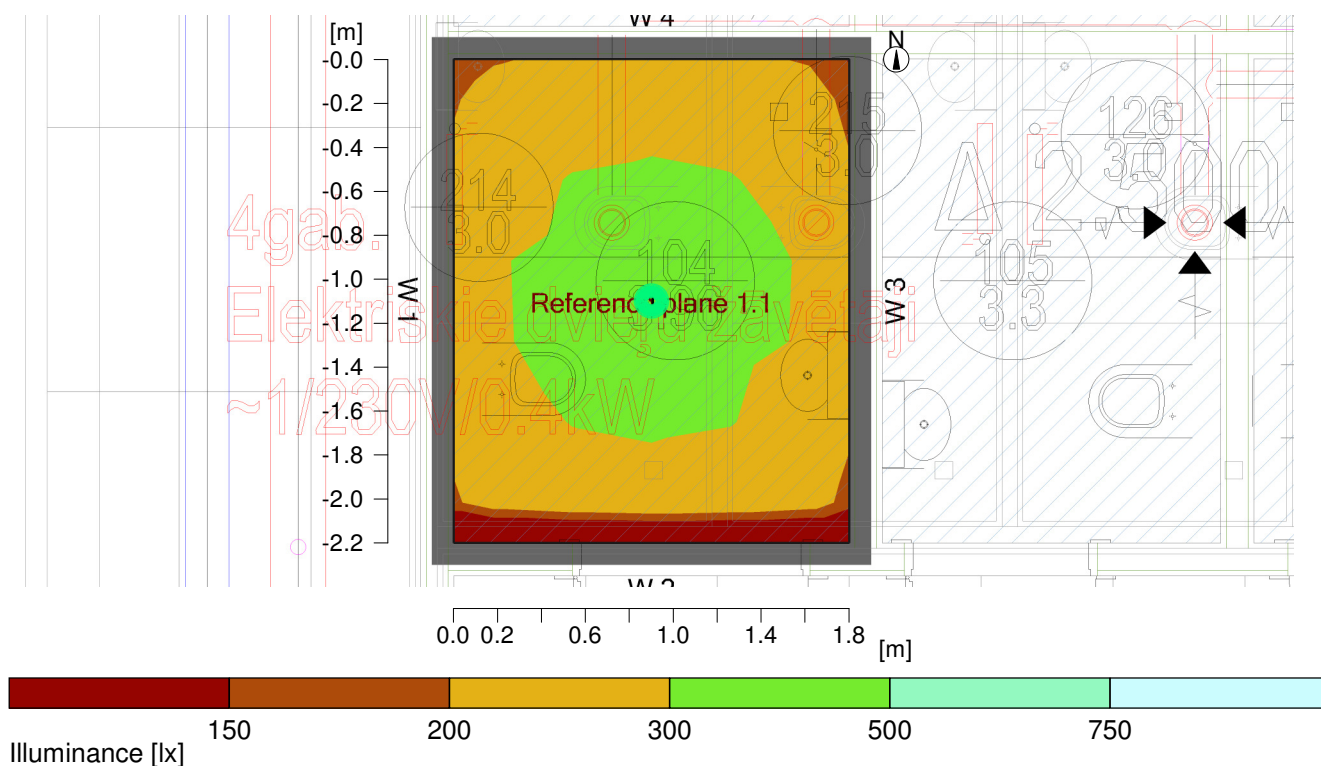
Type No.\Make

5	2	TRILUX
		Order No. : InperlaLP C05 HR22 2700-840 01 ET
		Luminaire name : TOC 6360640
		Equipment : 1 x LED 25 W / 2700 lm

2 104

2.2 Summary, 104

2.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	3.00 m
Maintenance factor	0.80
Total luminous flux of all lamps	2700.00 lm
Total power	25.0 W
Total power per area (3.96 m²)	6.31 W/m² (2.33 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 271 lx (>= 200 lx)
 Emin 226 lx
 Emin/Eav (Uo) 0.84 (>= 0.40)
 Emin/Emax (Ud) 0.76
 UGR (2.0H 2.0H) <=20.5 (< 25.00)
 Position 0.00 m

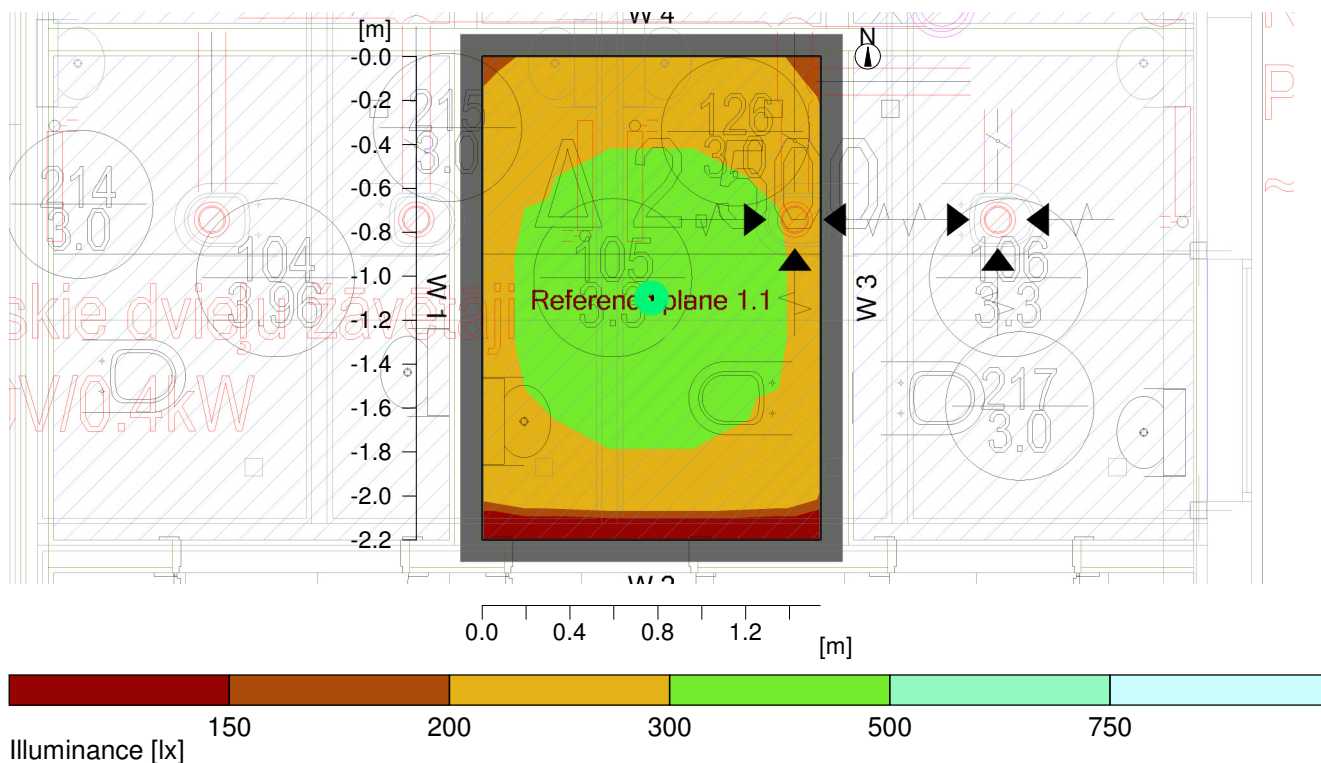
Type No.\Make

5	1	TRILUX	
		Order No.	: InperlaLP C05 HR22 2700-840 01 ET
		Luminaire name	: TOC 6360640
		Equipment	: 1 x LED 25 W / 2700 lm

3 105

3.2 Summary, 105

3.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (3.39 m²)

2700.00 lm
 25.0 W
 7.38 W/m² (2.63 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 280 lx (>= 200 lx)
 Emin 241 lx
 Emin/Eav (Uo) 0.86 (>= 0.40)
 Emin/Emax (Ud) 0.79
 UGR (2.0H 2.0H) <=20.5 (< 25.00)
 Position 0.00 m

Type No.\Make

5 1 **TRILUX**
 Order No. : InperlaLP C05 HR22 2700-840 01 ET
 Luminaire name : TOC 6360640
 Equipment : 1 x LED 25 W / 2700 lm

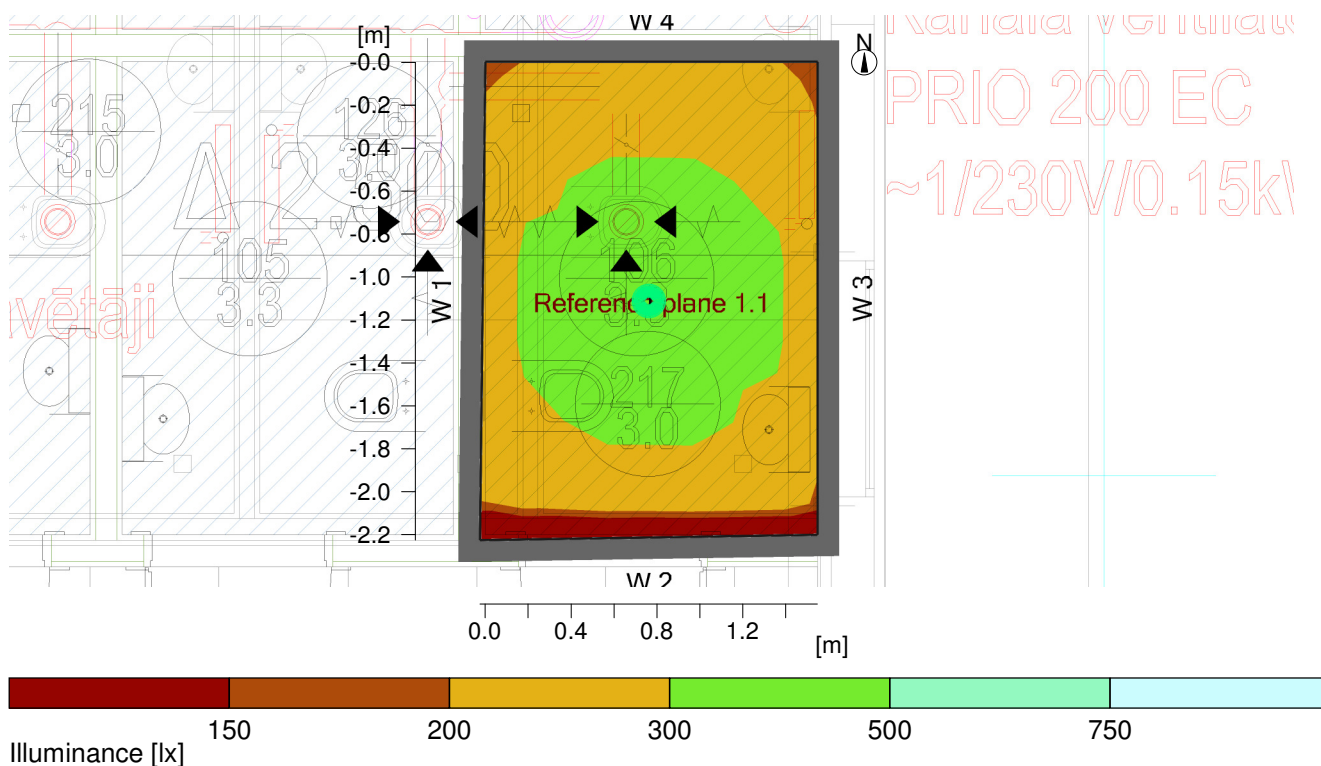
Object : VATP-7
Installation : Apgaismojums
Project number : 1
Date : 18.01.2018

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4 106

4.2 Summary, 106

4.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
Height of luminaire plane
Maintenance factor

Average indirect fraction
3.00 m
0.80

Total luminous flux of all lamps
Total power
Total power per area (3.45 m²)

2700.00 lm
25.0 W
7.25 W/m² (2.62 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
Horizontal
Em 277 lx (>= 200 lx)
Emin 236 lx
Emin/Eav (Uo) 0.85 (>= 0.40)
Emin/Emax (Ud) 0.78
UGR (2.0H 2.0H) <=20.5 (< 25.00)
Position 0.00 m

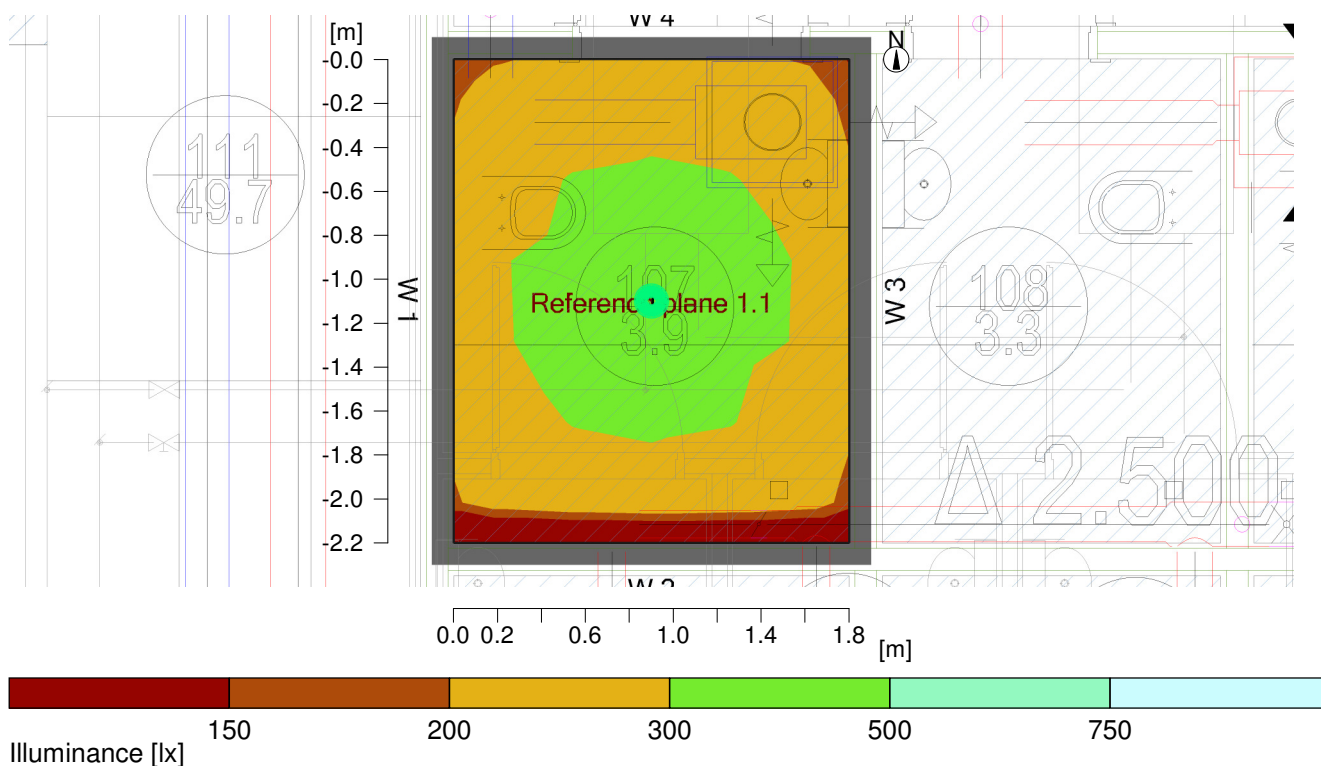
Type No.\Make

5 1 **TRILUX**
Order No. : InperlaLP C05 HR22 2700-840 01 ET
Luminaire name : TOC 6360640
Equipment : 1 x LED 25 W / 2700 lm

5 107

5.2 Summary, 107

5.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (3.96 m²)

2700.00 lm
 25.0 W
 6.31 W/m² (2.33 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)

Horizontal

Em 271 lx (>= 200 lx)
 Emin 226 lx
 Emin/Eav (Uo) 0.84 (>= 0.40)
 Emin/Emax (Ud) 0.76
 UGR (2.0H 2.0H) <=20.5 (< 25.00)
 Position 0.00 m

Type No.\Make

5 1



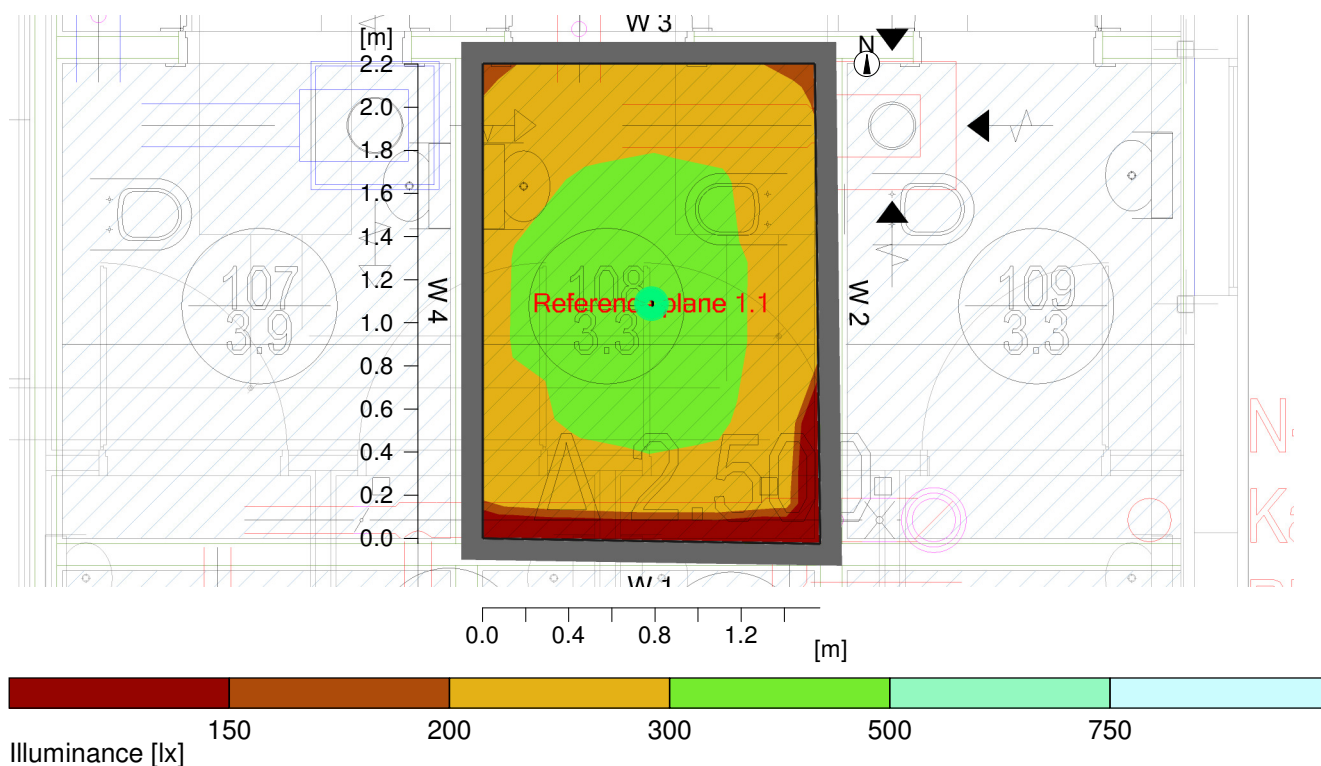
TRILUX

Order No. : InperlaLP C05 HR22 2700-840 01 ET
 Luminaire name : TOC 6360640
 Equipment : 1 x LED 25 W / 2700 lm

6 108

6.2 Summary, 108

6.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	3.00 m
Maintenance factor	0.80
Total luminous flux of all lamps	2700.00 lm
Total power	25.0 W
Total power per area (3.43 m²)	7.28 W/m² (2.68 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 271 lx (>= 200 lx)
 Emin 212 lx
 Emin/Eav (Uo) 0.78 (>= 0.40)
 Emin/Emax (Ud) 0.70
 UGR (2.0H 2.0H) <=20.5 (< 25.00)
 Position 0.00 m

Type No.\Make

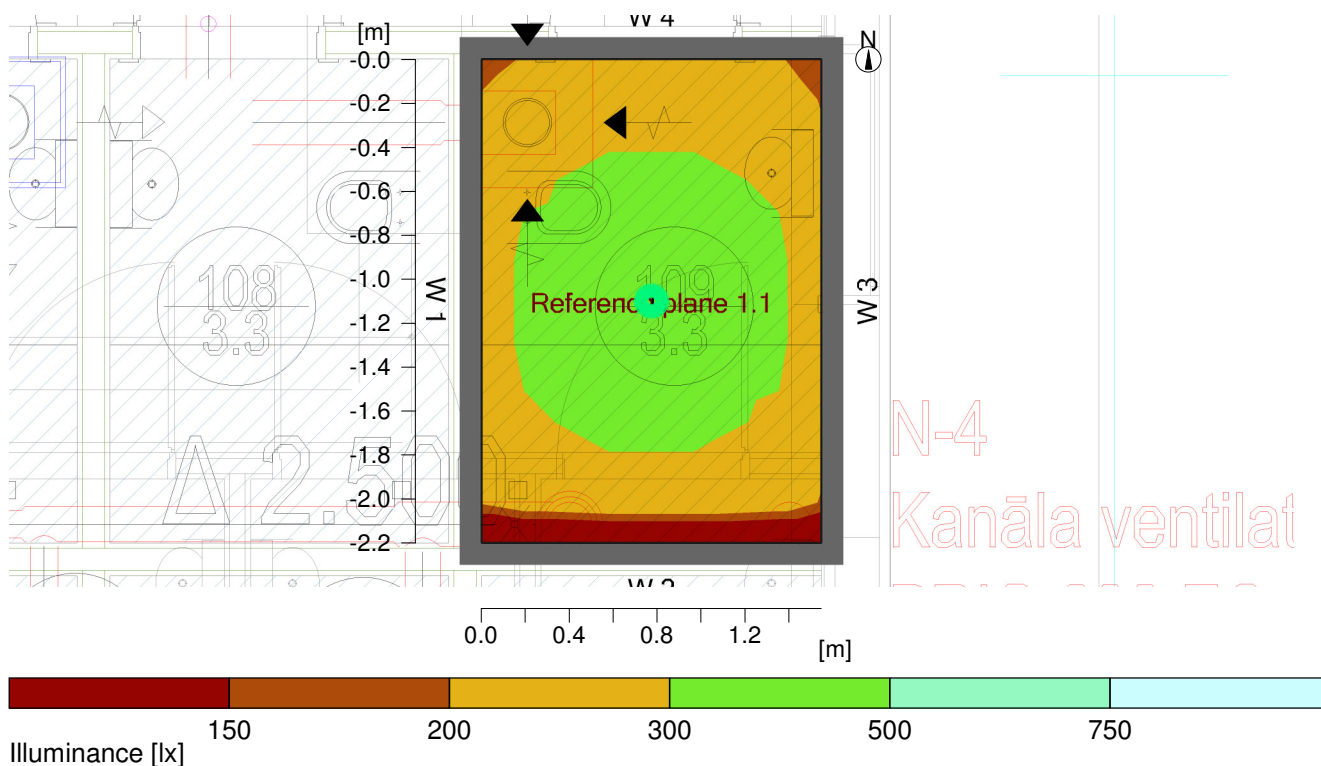
5	1	TRILUX	
		Order No.	: InperlaLP C05 HR22 2700-840 01 ET
		Luminaire name	: TOC 6360640
		Equipment	: 1 x LED 25 W / 2700 lm



7 109

7.2 Summary, 109

7.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	3.00 m
Maintenance factor	0.80
Total luminous flux of all lamps	2700.00 lm
Total power	25.0 W
Total power per area (3.40 m²)	7.35 W/m² (2.62 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
 Horizontal
 Em 280 lx (≥ 200 lx)
 Emin 240 lx
 Emin/Eav (Uo) 0.86 (≥ 0.40)
 Emin/Emax (Ud) 0.79
 UGR (2.0H 2.0H) ≤ 20.5 (< 25.00)
 Position 0.00 m

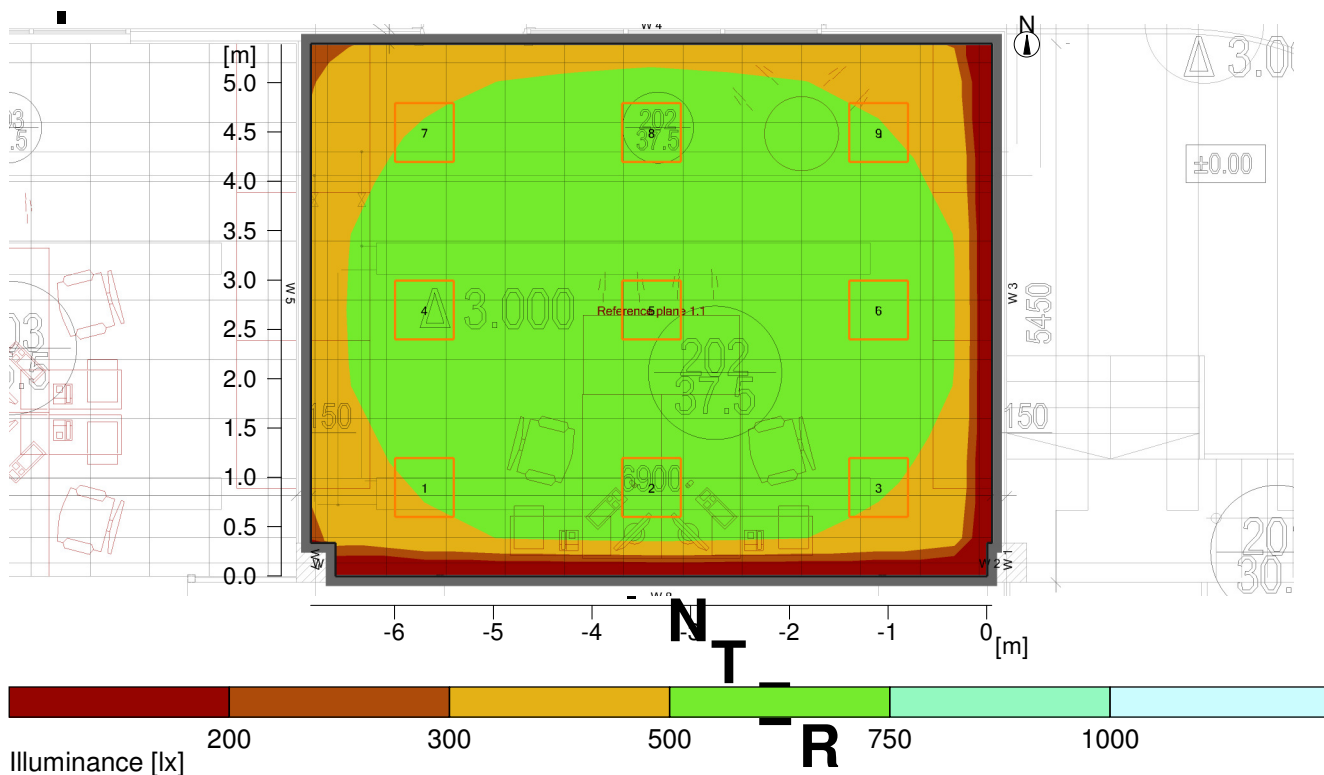
Type No.\Make

5	1	TRILUX	
		Order No.	: InperlaLP C05 HR22 2700-840 01 ET
		Luminaire name	: TOC 6360640
		Equipment	: 1 x LED 25 W / 2700 lm

8 202

8.2 Summary, 202

8.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (37.07 m²)

36000.00 lm
 360.0 W
 9.71 W/m² (1.80 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Offices
 5.26.2 (EN 12464-1, 8.2011) Writing, typing, reading, data processing (Ra >80.00)
 Horizontal
 540 lx (>= 500 lx)
 351 lx
 0.65 (>= 0.60)
 0.50
 UGR (3.0H 3.8H) <=17.2 (< 19.00)
 Position 0.00 m

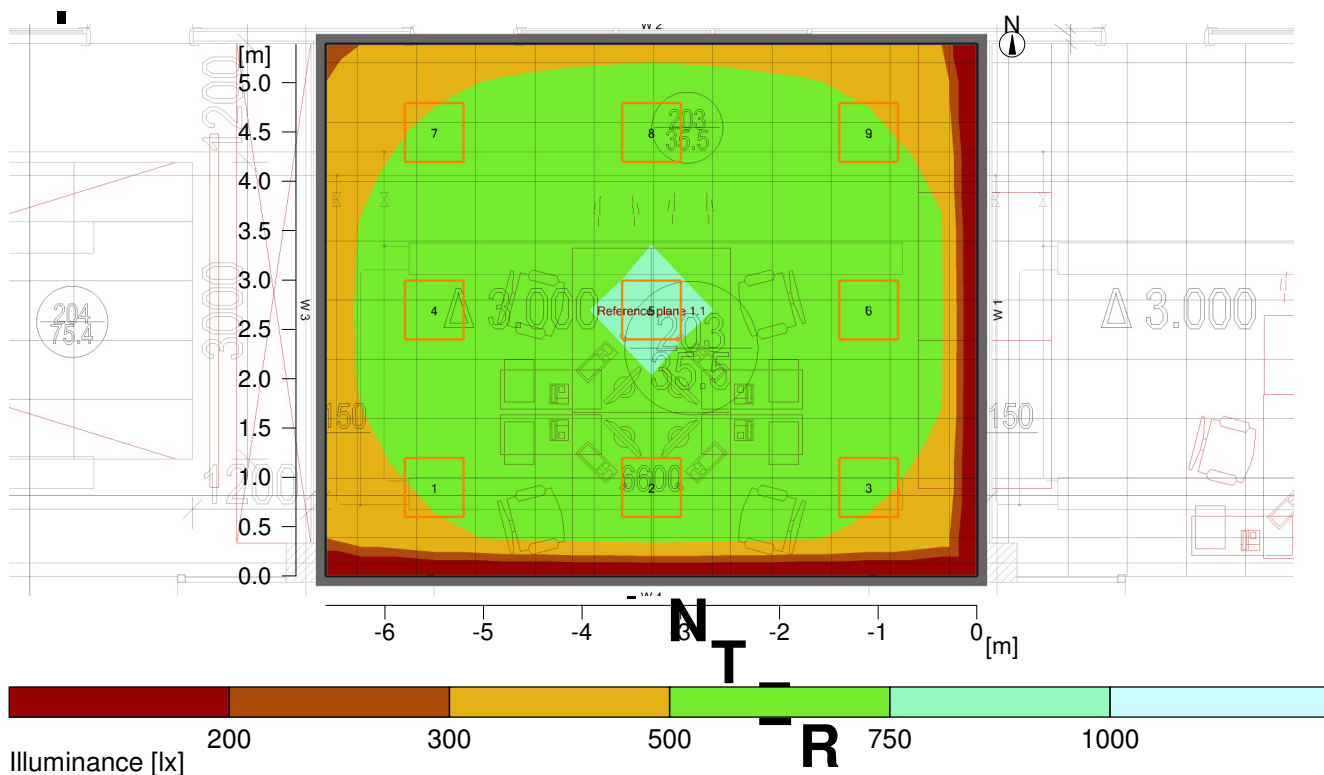
Type No. Make

9 9 **TRILUX**
 Order No. : ArimoS M73 CDP LED4000-840 ET
 Luminaire name : TOC 6325640
 Equipment : 1 x LED 40 W / 4000 lm

9 203

9.2 Summary, 203

9.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (35.55 m²)

36000.00 lm
 360.0 W
 10.13 W/m² (1.82 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Offices
 5.26.2 (EN 12464-1, 8.2011) Writing, typing, reading, data processing (Ra >80.00)
 Horizontal
 558 lx (>= 500 lx)
 Emin 370 lx
 Emin/Eav (Uo) 0.66 (>= 0.60)
 Emin/Emax (Ud) 0.51
 UGR (3.0H 3.7H) <=17.2 (< 19.00)
 Position 0.00 m

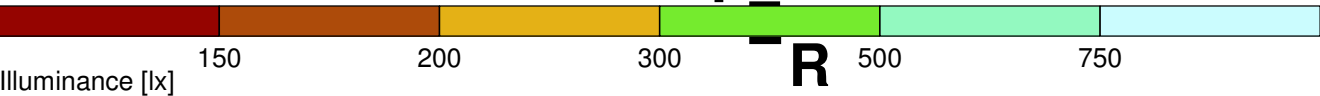
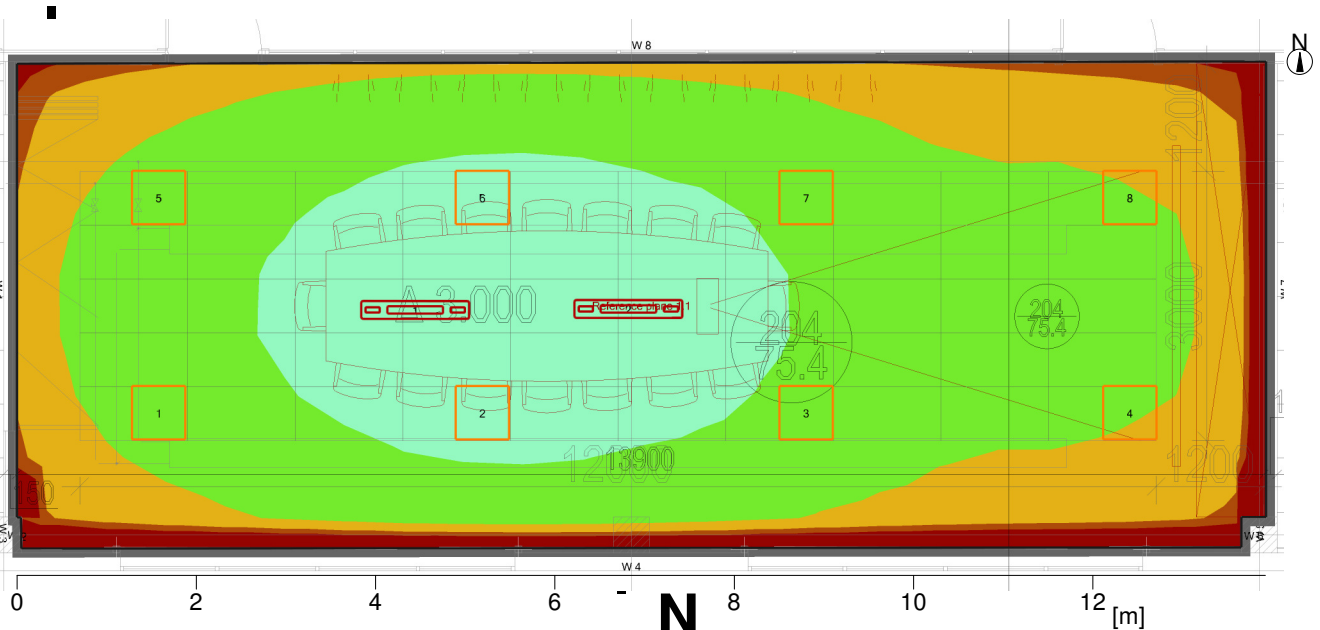
Type No. Make

9 9 **TRILUX**
 Order No. : ArimoS M73 CDP LED4000-840 ET
 Luminaire name : TOC 6325640
 Equipment : 1 x LED 40 W / 4000 lm

10 204

10.2 Summary, 204

10.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
Maintenance factor

Total luminous flux of all lamps
Total power
Total power per area (75.17 m²)

Average indirect fraction
0.80



45400.00 lm
442.0 W
5.88 W/m² (1.56 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
Em 377 lx
Emin 172 lx
Emin/Eav (Uo) 0.46
Emin/Emax (Ud) 0.24
Position 0.00 m

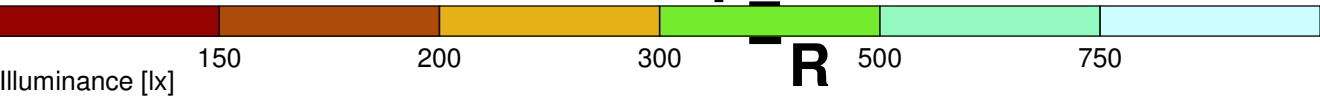
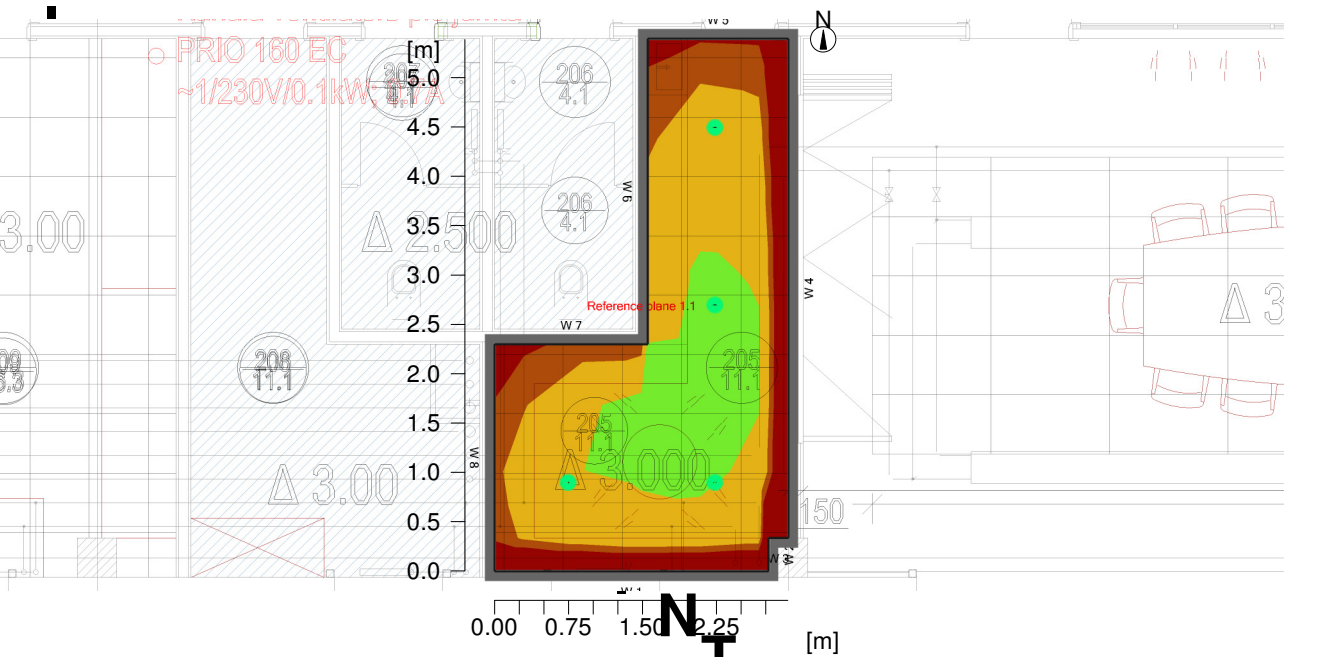
Type No.\Make

3 2		TRILUX	
		Order No.	: Lunexo H1 CDP-I 6500 840 01 ETDD
		Luminaire name	: TOC 6825451
		Equipment	: 1 x LED 61 W / 6700 lm
9 8		ArimoS M73 CDP LED4000-840 ET	
		Order No.	: ArimoS M73 CDP LED4000-840 ET
		Luminaire name	: TOC 6325640
		Equipment	: 1 x LED 40 W / 4000 lm

11 205

11.2 Summary, 205

11.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
Height of luminaire plane
Maintenance factor

Average indirect fraction
3.00 m
0.80

7200.00 lm
64.0 W
5.74 W/m² (2.24 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
Em 257 lx
Emin 175 lx
Emin/Eav (Uo) 0.68
Emin/Emax (Ud) 0.54
Position 0.00 m

Type No. Make

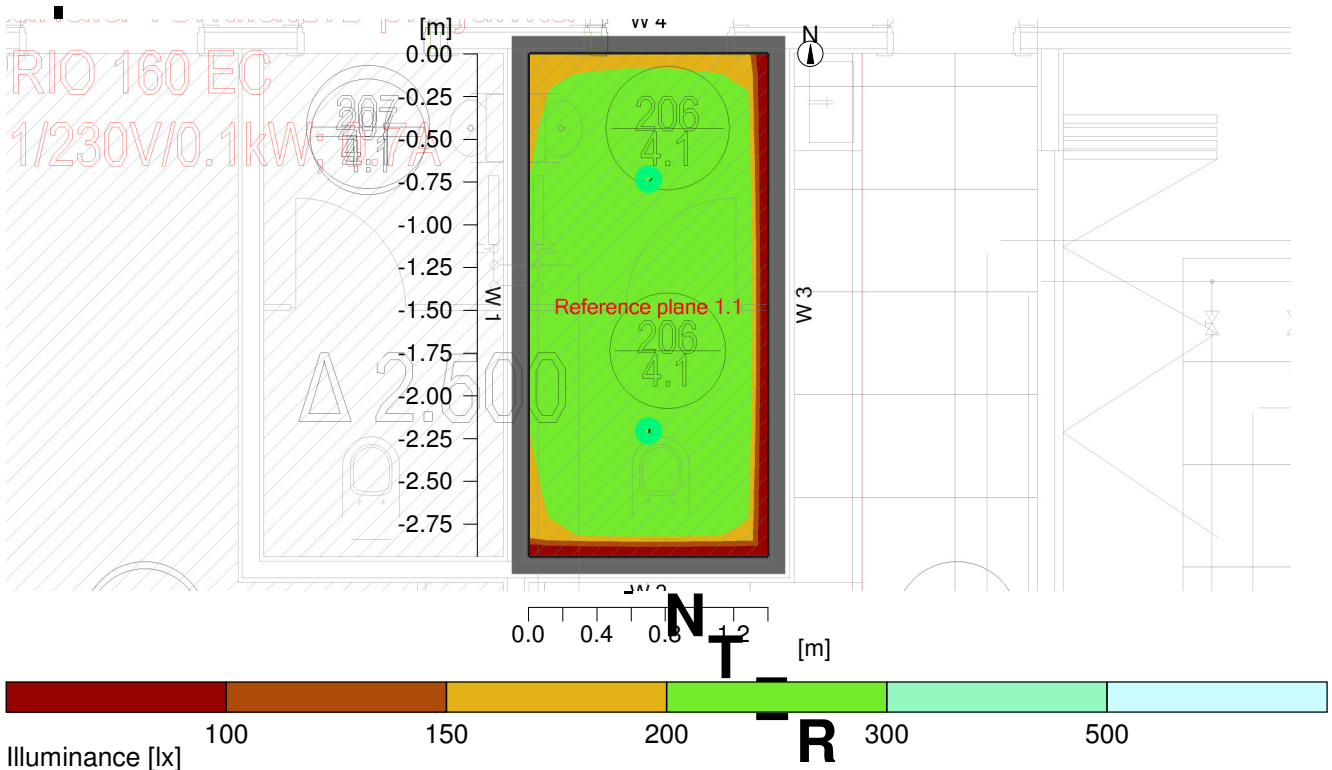
4 4 **TRILUX**
Order No. : InperlaLP C05 HR22 1800-840 01 ET
Luminaire name : TOC 6357440
Equipment : 1 x LED 16 W / 1800 lm

REFLECTIONS

12 206

12.2 Summary, 206

12.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (4.12 m²)

3600.00 lm
 32.0 W
 7.77 W/m² (3.46 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra
 >80.00)

Horizontal

Em 225 lx (>= 200 lx)
 Emin 184 lx
 Emin/Eav (Uo) 0.82 (>= 0.40)
 Emin/Emax (Ud) 0.73
 UGR (2.0H 2.0H) <=22.7 (< 25.00)
 Position 0.00 m

Type No.\Make

TRILUX

4 2

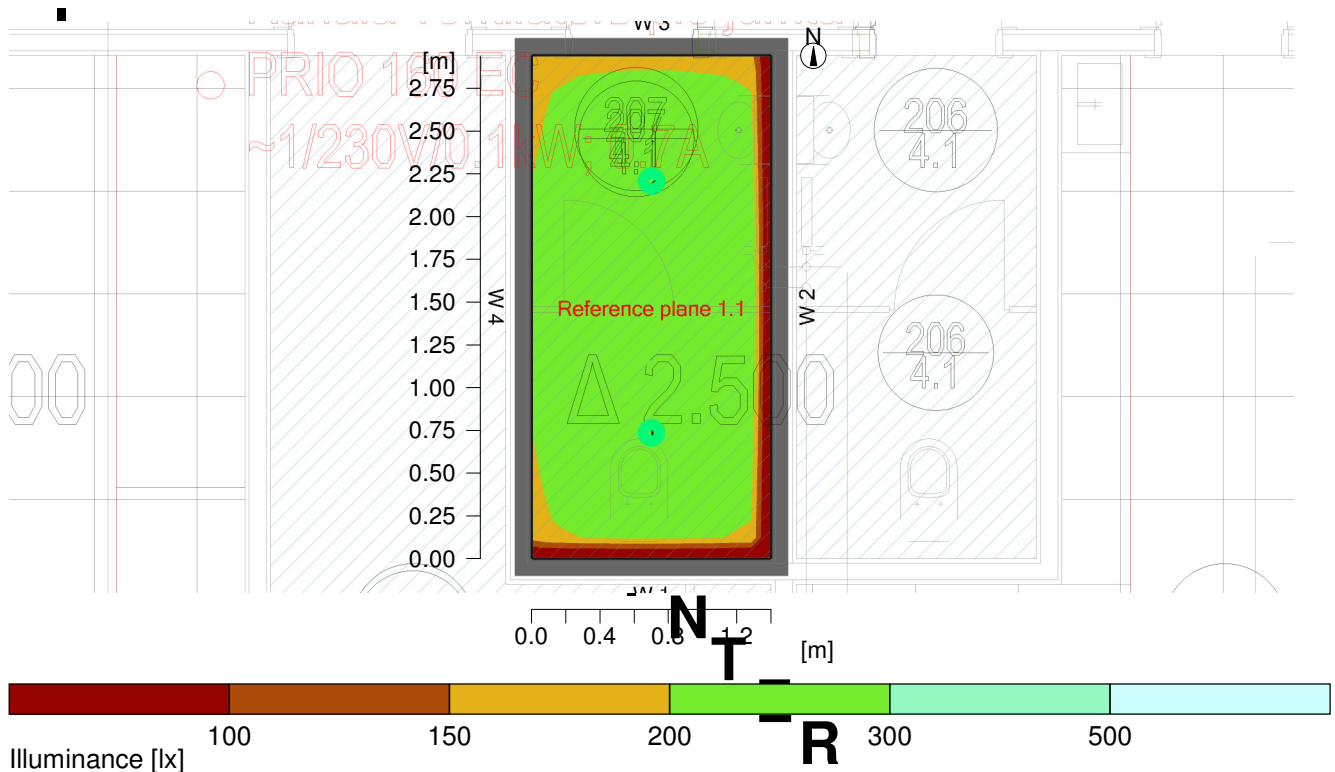


Order No. : InperlaLP C05 HR22 1800-840 01 ET
 Luminaire name : TOC 6357440
 Equipment : 1 x LED 16 W / 1800 lm

13 207

13.2 Summary, 207

13.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (4.12 m²)

3600.00 lm
 32.0 W
 7.77 W/m² (3.46 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra
 >80.00)

Horizontal

Em 225 lx (>= 200 lx)
 Emin 184 lx
 Emin/Eav (Uo) 0.82 (>= 0.40)
 Emin/Emax (Ud) 0.73
 UGR (2.0H 2.0H) <=22.7 (< 25.00)
 Position 0.00 m

Type No.\Make

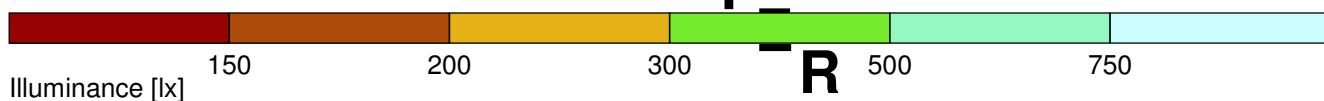
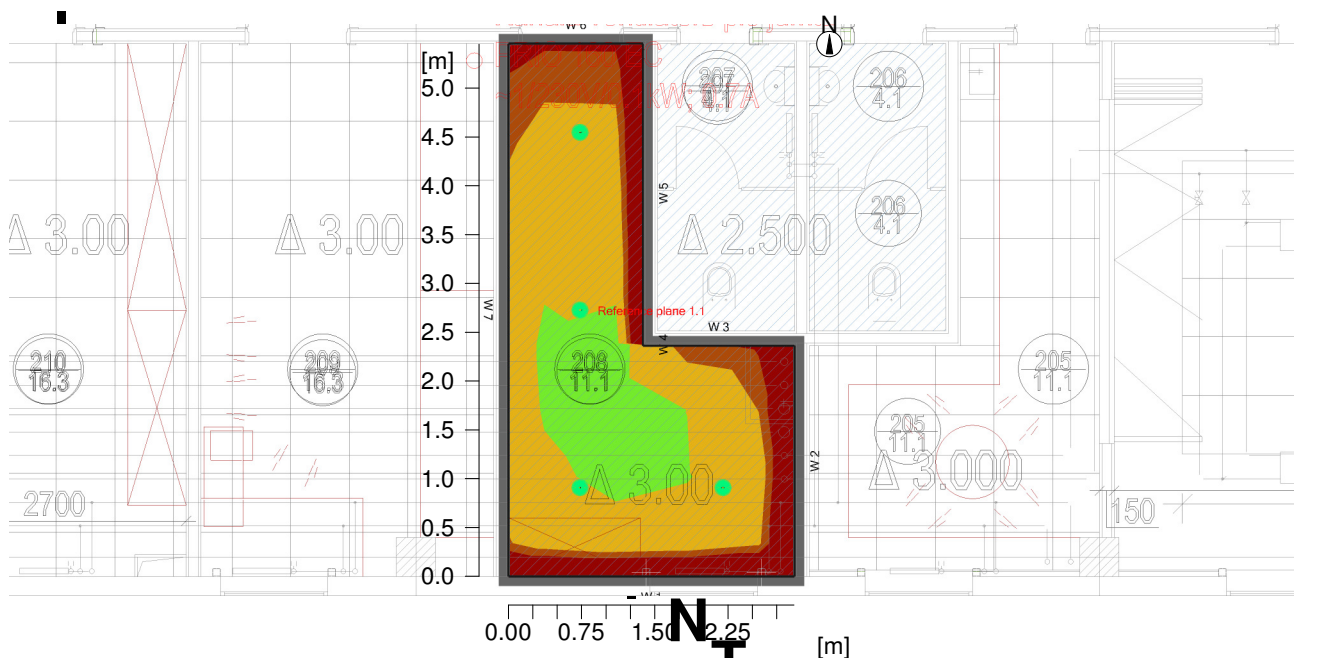
TRILUX

4 2
 Order No. : InperlaLP C05 HR22 1800-840 01 ET
 Luminaire name : TOC 6357440
 Equipment : 1 x LED 16 W / 1800 lm

14 208

14.2 Summary, 208

14.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (11.16 m²)

7200.00 lm
 64.0 W
 5.73 W/m² (2.28 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra
 >80.00)

Horizontal

Em 251 lx (>= 200 lx)
 Emin 173 lx
 Emin/Eav (Uo) 0.69 (>= 0.40)
 Emin/Emax (Ud) 0.55
 Position 0.00 m

Type No. Make



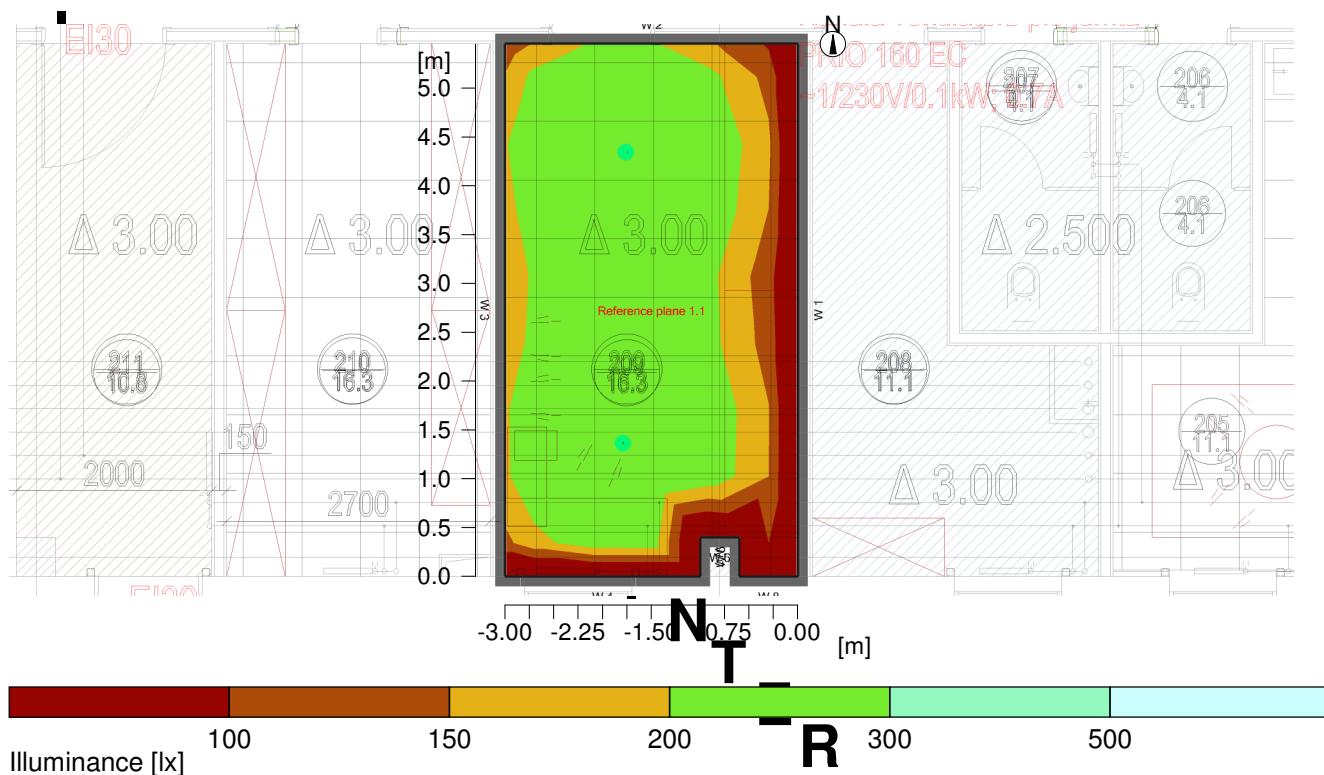
TRILUX

Order No. : InperlaLP C05 HR22 1800-840 01 ET
 Luminaire name : TOC 6357440
 Equipment : 1 x LED 16 W / 1800 lm

15 209

15.2 Summary, 209

15.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (16.19 m²)

5400.00 lm
 50.0 W
 3.09 W/m² (1.42 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Control rooms
 5.3.1 (EN 12464-1, 8.2011) Plant rooms, switch gear rooms (Ra >60.00)
 Horizontal

Em 217 lx (>= 200 lx)
 Emin 95 lx
 Emin/Eav (Uo) 0.44 (>= 0.40)
 Emin/Emax (Ud) 0.34
 UGR (3.0H 1.7H) <=20.4 (< 25.00)
 Position 0.00 m

Type No.Make

5

2



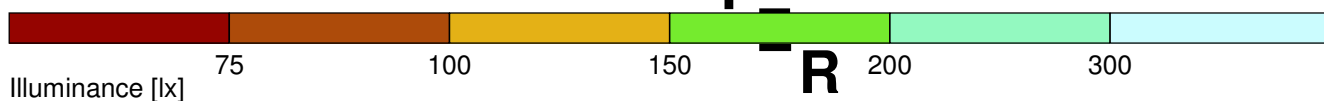
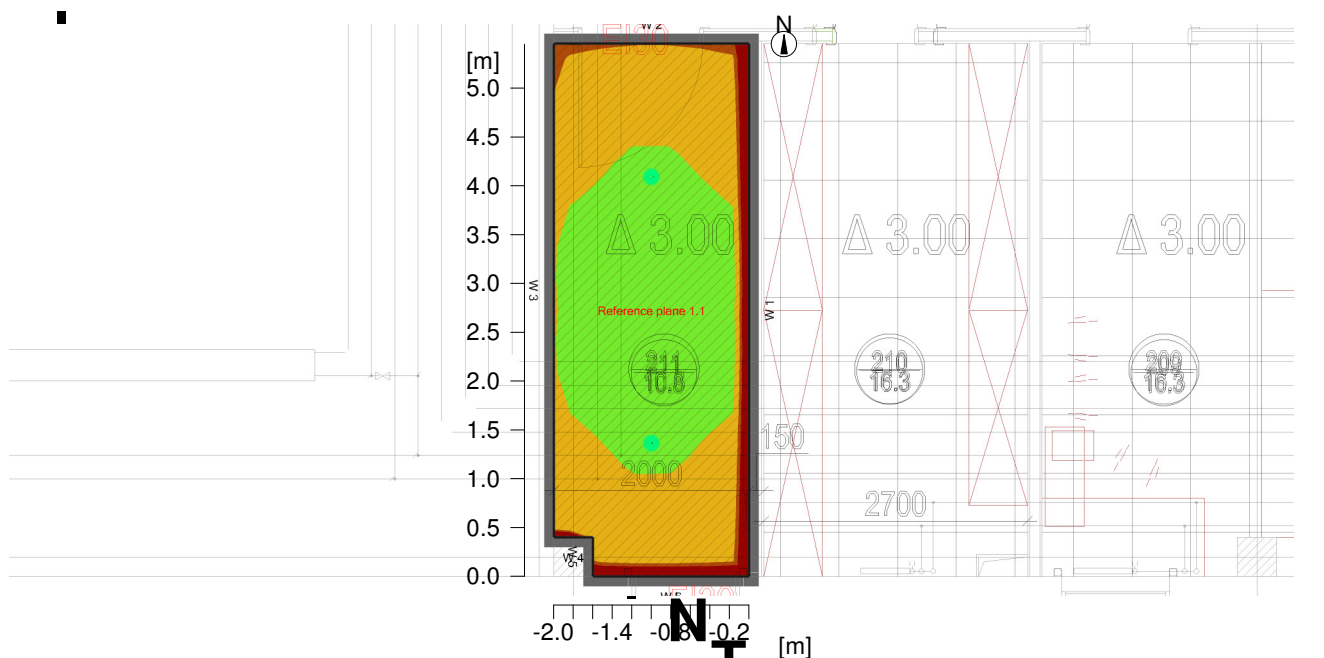
TRILUX

Order No. : InperlaLP C05 HR22 2700-840 01 ET
 Luminaire name : TOC 6360640
 Equipment : 1 x LED 25 W / 2700 lm

16 210

16.2 Summary, 210

16.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (10.74 m²)

3600.00 lm
 32.0 W
 2.98 W/m² (2.09 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Traffic zones inside buildings
 5.1.1 (EN 12464-1, 8.2011) Circulation areas and corridors (Ra >40.00)
 Horizontal

Em 142 lx (>= 100 lx)
 Emin 100 lx
 Emin/Eav (Uo) 0.70 (>= 0.40)
 Emin/Emax (Ud) 0.56
 UGR (3.0H 1.1H) <=22.6 (< 28.00)
 Position 0.00 m

Type No.\Make



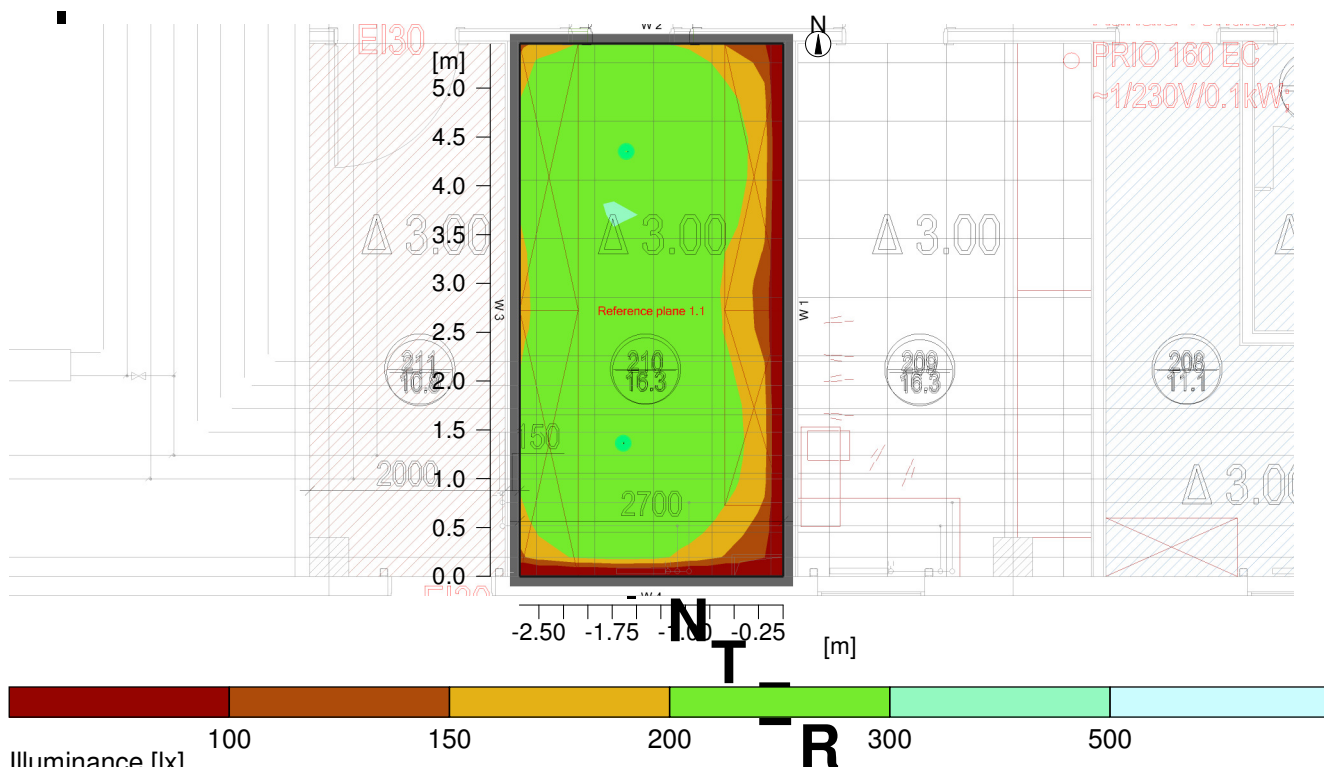
TRILUX

Order No. : InperlaLP C05 HR22 1800-840 01 ET
 Luminaire name : TOC 6357440
 Equipment : 1 x LED 16 W / 1800 lm

17 210

17.2 Summary, 210

17.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (14.71 m²)

5400.00 lm
 50.0 W
 3.40 W/m² (1.50 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Offices
 5.26.7 (EN 12464-1, 8.2011) Archives (Ra >80.00)
 Horizontal

Em 227 lx (>= 200 lx)
 Emin 96 lx
 Emin/Eav (Uo) 0.42 (>= 0.40)
 Emin/Emax (Ud) 0.33
 UGR (3.0H 1.5H) <=20.4 (< 25.00)
 Position 0.00 m

Type No.\Make



TRILUX

Order No. : InperlaLP C05 HR22 2700-840 01 ET
 Luminaire name : TOC 6360640
 Equipment : 1 x LED 25 W / 2700 lm

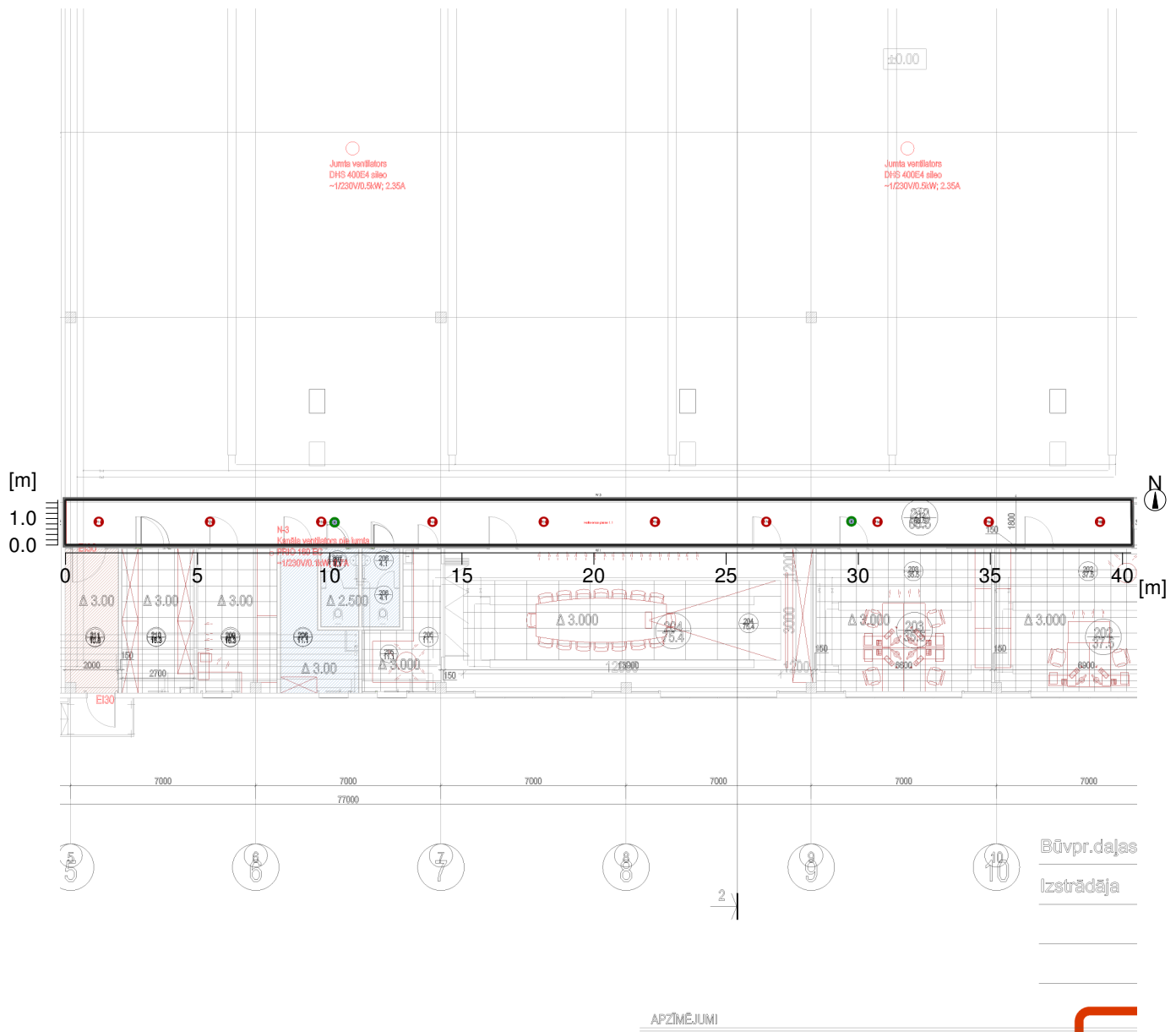
Object : VATP-7
 Installation : Apgaismojums
 Project number : 1
 Date : 18.01.2018

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18 212

18.1 Description, 212

18.1.1 Floor plan

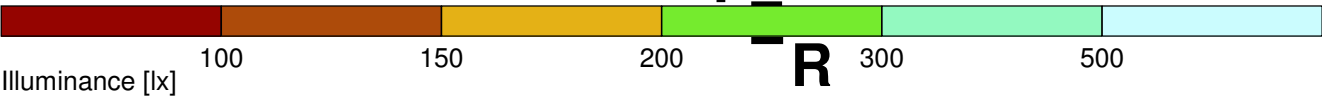
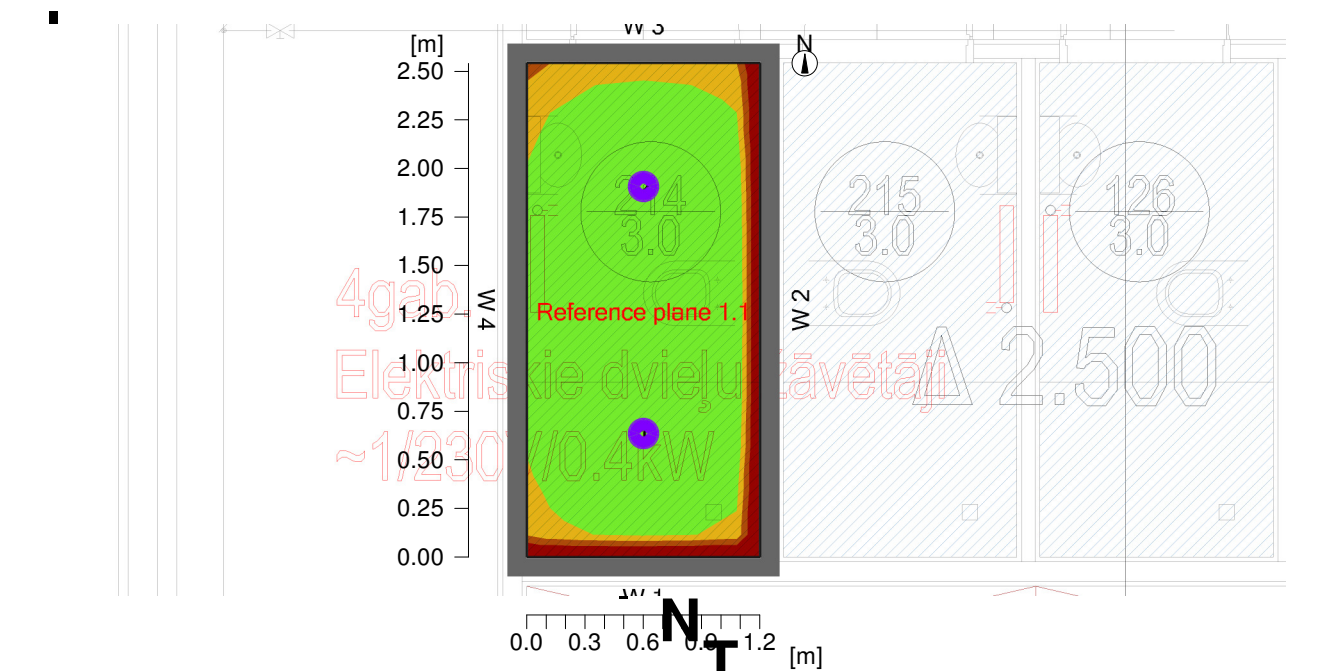


Wall	x	y	Length	Reflectance
1	216.52 m	27.15 m	40.32 m	50.0 %
2	216.50 m	28.84 m	1.70 m	50.0 %
3	176.20 m	28.84 m	40.30 m	50.0 %
4	176.20 m	27.15 m	1.70 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		3.20 m		
Height of reference plane		0.00 m		

19 214

19.2 Summary, 214

19.2.1 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 (3.05 m²)

2000.00 lm
18.0 W
5.91 W/m² (2.50 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra >80.00)
Horizontal

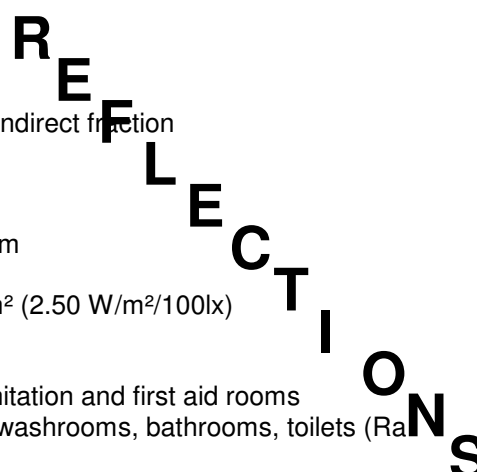
Em 236 lx (>= 200 lx)
Emin 174 lx
Emin/Eav (Uo) 0.74 (>= 0.40)
Emin/Emax (Ud) 0.61
UGR (2.0H 2.0H) <=17.6 (< 25.00)
Position 0.00 m

Type No.\Make

TRILUX

7 2
Order No. : InperlaLP C05 BR19 1000-840 01 ET
Luminaire name : TOC 6355440
Equipment : 1 x LED 9 W / 1000 lm

20.2.1 Result overview, Evaluation area 1



Average indirect fraction
2.50 m
0.80

2000.00 lm
18.0 W
5.91 W/m² (2.50 W/m²/100lx)

5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra_{min})

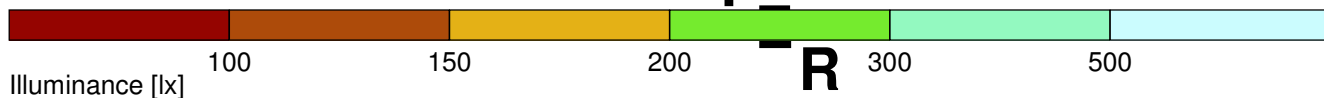
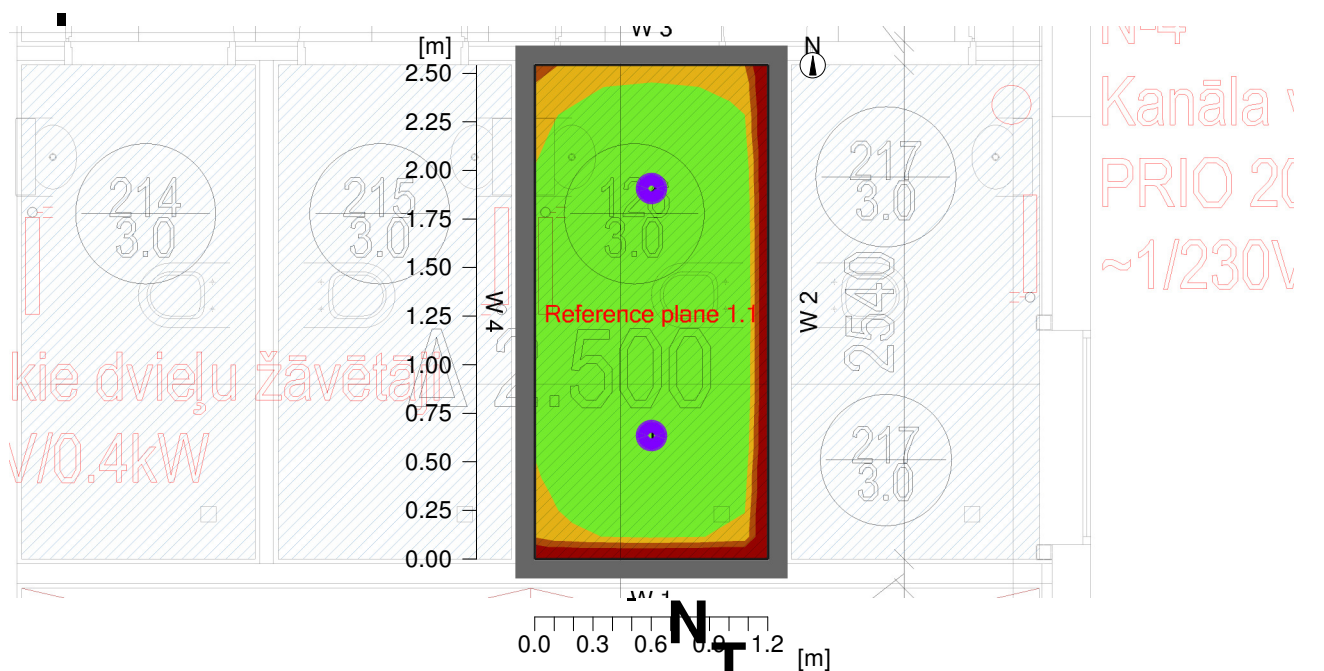
Type No.\Make

Order No. : InperlaLP C05 BR19 1000-830 01 ET
Luminaire name : TOC 6355340
Equipment : 1 x LED 9 W / 1000 lm

21 216

21.2 Summary, 216

21.2.1 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 (3.05 m²)

2000.00 lm
 18.0 W
 5.91 W/m² (2.50 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra
 >80.00)

Horizontal

Em 236 lx (>= 200 lx)
 Emin 174 lx
 Emin/Eav (Uo) 0.74 (>= 0.40)
 Emin/Emax (Ud) 0.61
 UGR (2.0H 2.0H) <=17.6 (< 25.00)
 Position 0.00 m

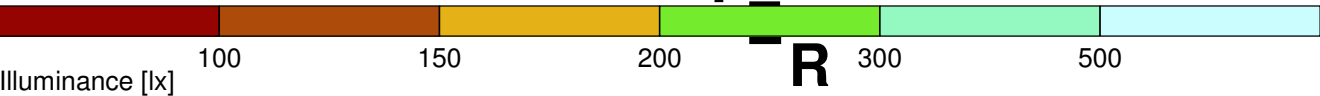
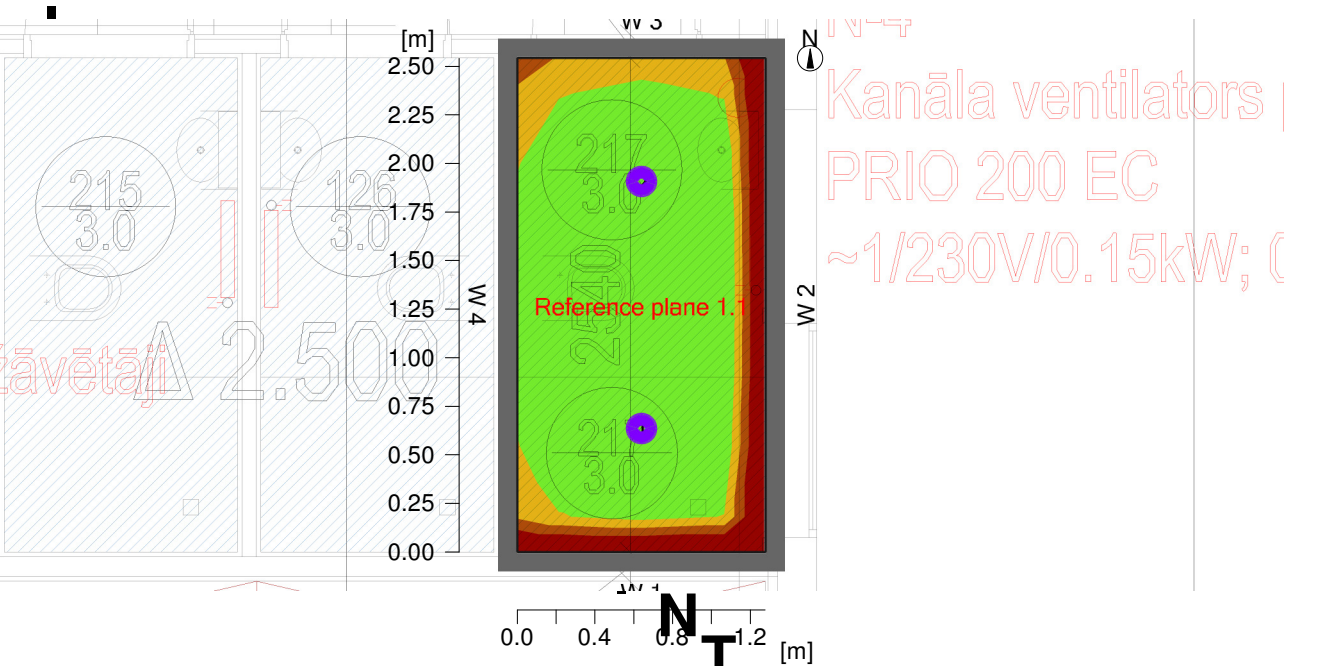
Type No. Make

7 2 **TRILUX**
 Order No. : InperlaLP C05 BR19 1000-840 01 ET
 Luminaire name : TOC 6355440
 Equipment : 1 x LED 9 W / 1000 lm

22 217

22.2 Summary, 217

22.2.1 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 (3.24 m²)

2000.00 lm
18.0 W
5.55 W/m² (2.37 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra
>80.00)
Horizontal
Em 234 lx (>= 200 lx)
Emin 186 lx
Emin/Eav (Uo) 0.80 (>= 0.40)
Emin/Emax (Ud) 0.66
UGR (2.0H 2.0H) <=17.6 (< 25.00)
Position 0.00 m

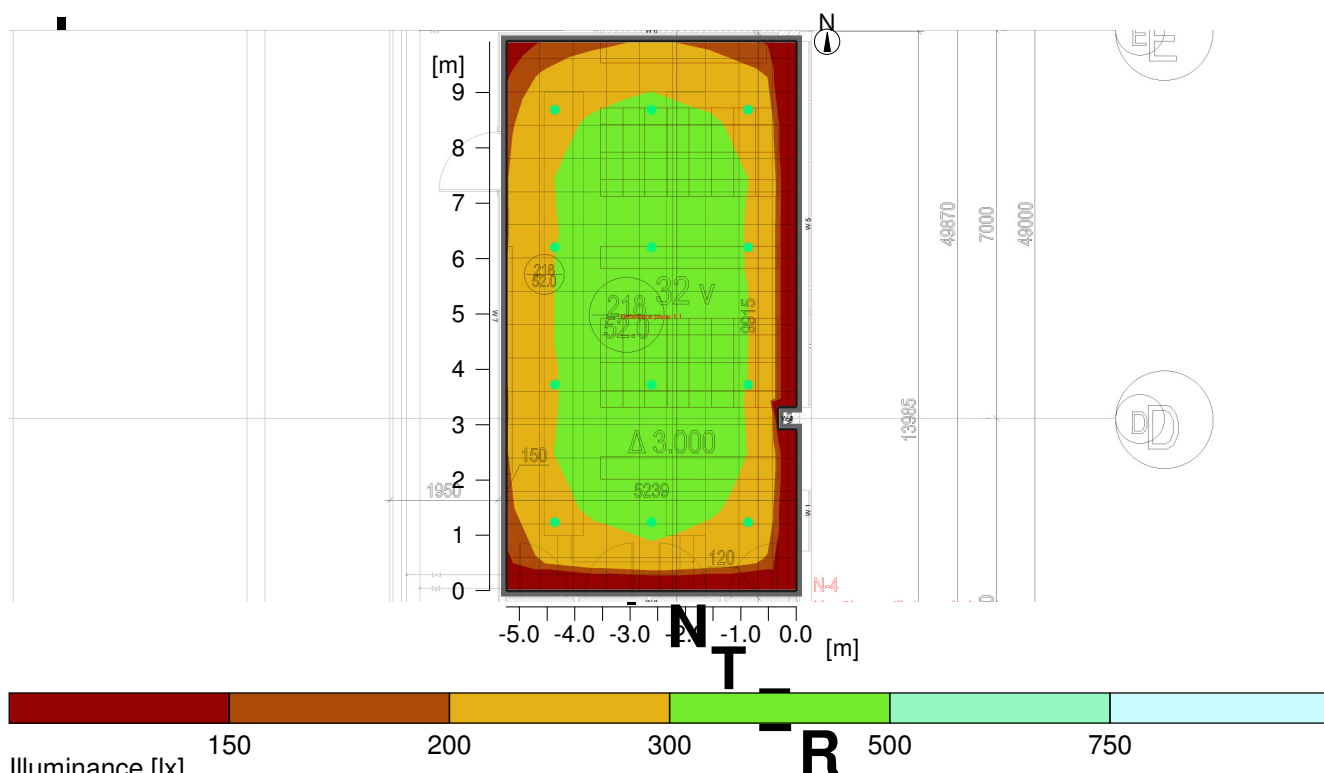
Type No.\Make

7 2
TRILUX
Order No. : InperlaLP C05 BR19 1000-840 01 ET
Luminaire name : TOC 6355440
Equipment : 1 x LED 9 W / 1000 lm

23 218

23.2 Summary, 218

23.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (51.79 m²)

21600.00 lm
 192.0 W
 3.71 W/m² (1.30 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.4 (EN 12464-1, 8.2011) Cloakrooms, washrooms, bathrooms, toilets (Ra
 >80.00)

Horizontal

Em 285 lx (>= 200 lx)
 Emin 180 lx
 Emin/Eav (Uo) 0.63 (>= 0.40)
 Emin/Emax (Ud) 0.47
 UGR (5.5H 2.9H) <=22.3 (< 25.00)
 Position 0.00 m

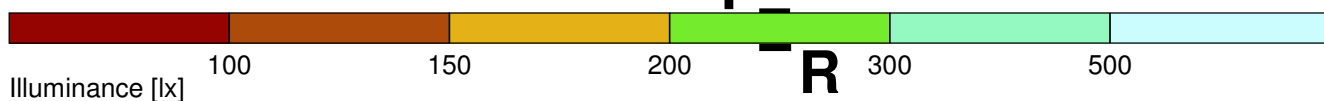
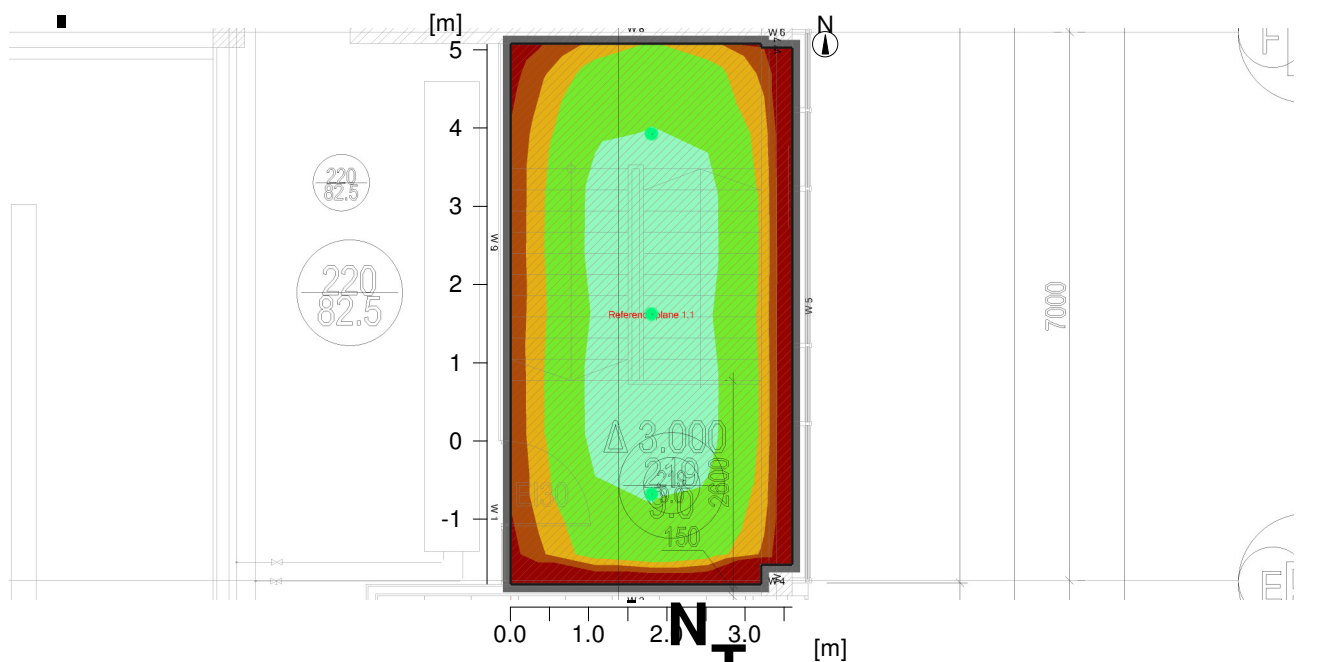
Type No.\Make

4 12 **TRILUX**
 Order No. : InperlaLP C05 HR22 1800-840 01 ET
 Luminaire name : TOC 6357440
 Equipment : 1 x LED 16 W / 1800 lm

24 219

24.2 Summary, 219

24.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (24.72 m²)

8100.00 lm
 75.0 W
 3.03 W/m² (1.26 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Traffic zones inside buildings
 5.1.2 (EN 12464-1, 8.2011) Stairs, escalators, travelators (Ra >40.00)
 Horizontal

Em 241 lx (>= 100 lx)
 Emin 130 lx
 Emin/Eav (Uo) 0.54 (>= 0.40)
 Emin/Emax (Ud) 0.36
 UGR (2.0H 3.8H) <=20.2 (< 25.00)
 Position 0.00 m

Type No. Make



TRILUX

Order No. : InperlaLP C05 HR22 2700-840 01 ET
 Luminaire name : TOC 6360640
 Equipment : 1 x LED 25 W / 2700 lm

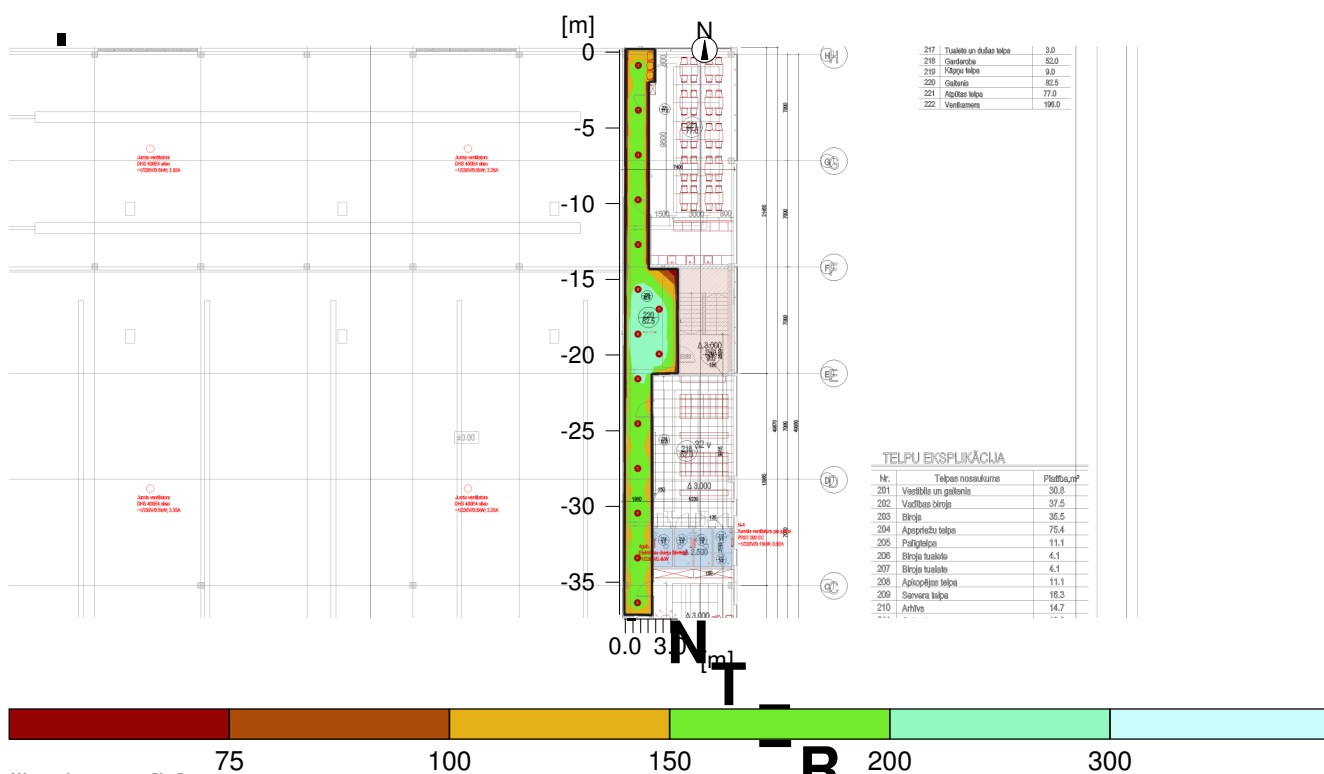
Object : VATP-7
Installation : Apgaismojums
Project number : 1
Date : 18.01.2018

RELUX®

25 220

25.2 Summary, 220

25.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
Height of luminaire plane
Maintenance factor

Average indirect fraction
2.70 m
0.80

Total luminous flux of all lamps
Total power
Total power per area (75.61 m²)

27000.00 lm
270.0 W
3.57 W/m² (2.23 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Traffic zones inside buildings

5.1.1 (EN 12464-1, 8.2011) Circulation areas and corridors (Ra >40.00)

Horizontal

Em 160 lx (>= 100 lx)
Emin 60 lx
Emin/Eav (Uo) 0.38 (>= 0.40)
Emin/Emax (Ud) 0.25
Position 0.00 m

Type No. Make

10 15

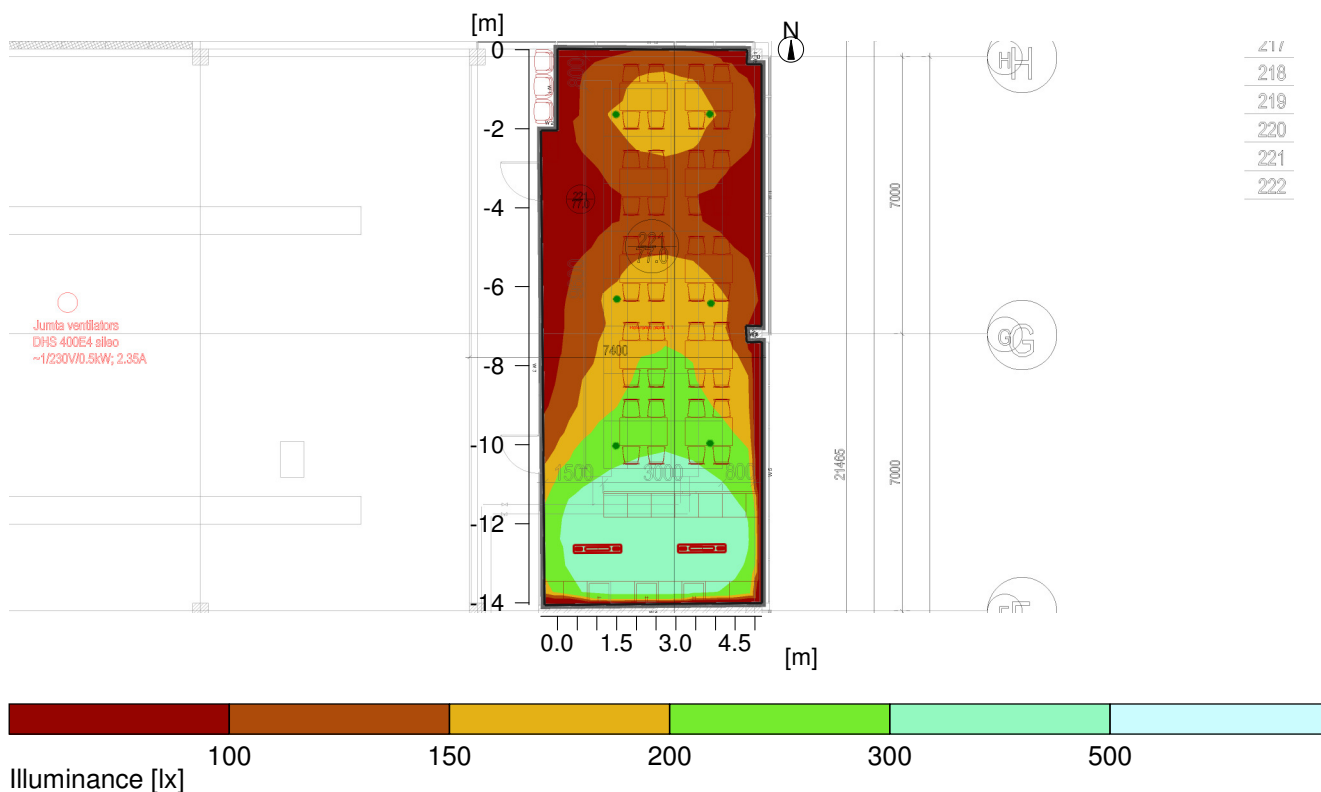
TRILUX

Order No. : Onplana D09 CDP19 2000-840 01 ET
Luminaire name : TOC 6458540
Equipment : 1 x LED 18 W / 1800 lm

26 221

26.2 Summary, 221

26.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	High indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	23600.00 lm
Total power	218.0 W
Total power per area (76.56 m²)	2.85 W/m² (1.52 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Rest, sanitation and first aid rooms
 5.2.2 (EN 12464-1, 8.2011) Rest rooms (Ra >80.00)

Horizontal

Em	188 lx	(>= 100 lx)
Emin	43 lx	
Emin/Eav (Uo)	0.23	(>= 0.40)
Emin/Emax (Ud)	0.10	
Position	0.00 m	

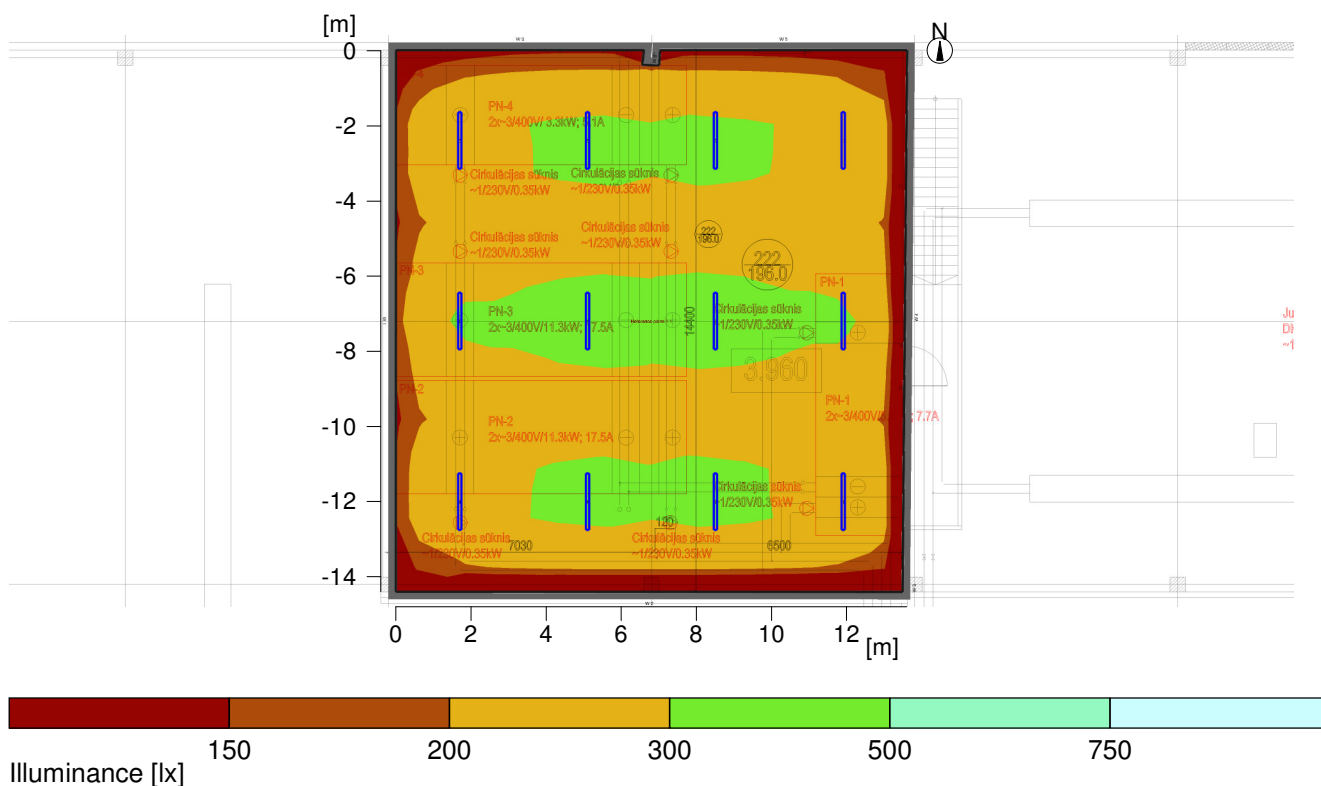
Type No.\Make

3	2	TRILUX	
		Order No.	: Lunexo H1 CDP-I 6500 840 01 ETDD
		Luminaire name	: TOC 6825451
		Equipment	: 1 x LED 61 W / 6700 lm
6	6		
		Order No.	: InperlaLP C05 HR22 IP 1800-830 03 ET
		Luminaire name	: TOC 6357940
		Equipment	: 1 x LED 16 W / 1700 lm

27 222

27.2 Summary, 222

27.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.80 m
Maintenance factor	0.80
Total luminous flux of all lamps	68400.00 lm
Total power	636.0 W
Total power per area (194.76 m²)	3.27 W/m² (1.30 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

General areas inside buildings - Control rooms
 5.3.1 (EN 12464-1, 8.2011) Plant rooms, switch gear rooms (Ra >60.00)
 Horizontal

Em	252 lx	(>= 200 lx)
Emin	152 lx	
Emin/Eav (Uo)	0.60	(>= 0.40)
Emin/Emax (Ud)	0.45	
UGR (8.7H 9.2H)	<=24.8	(< 25.00)
Position	0.00 m	

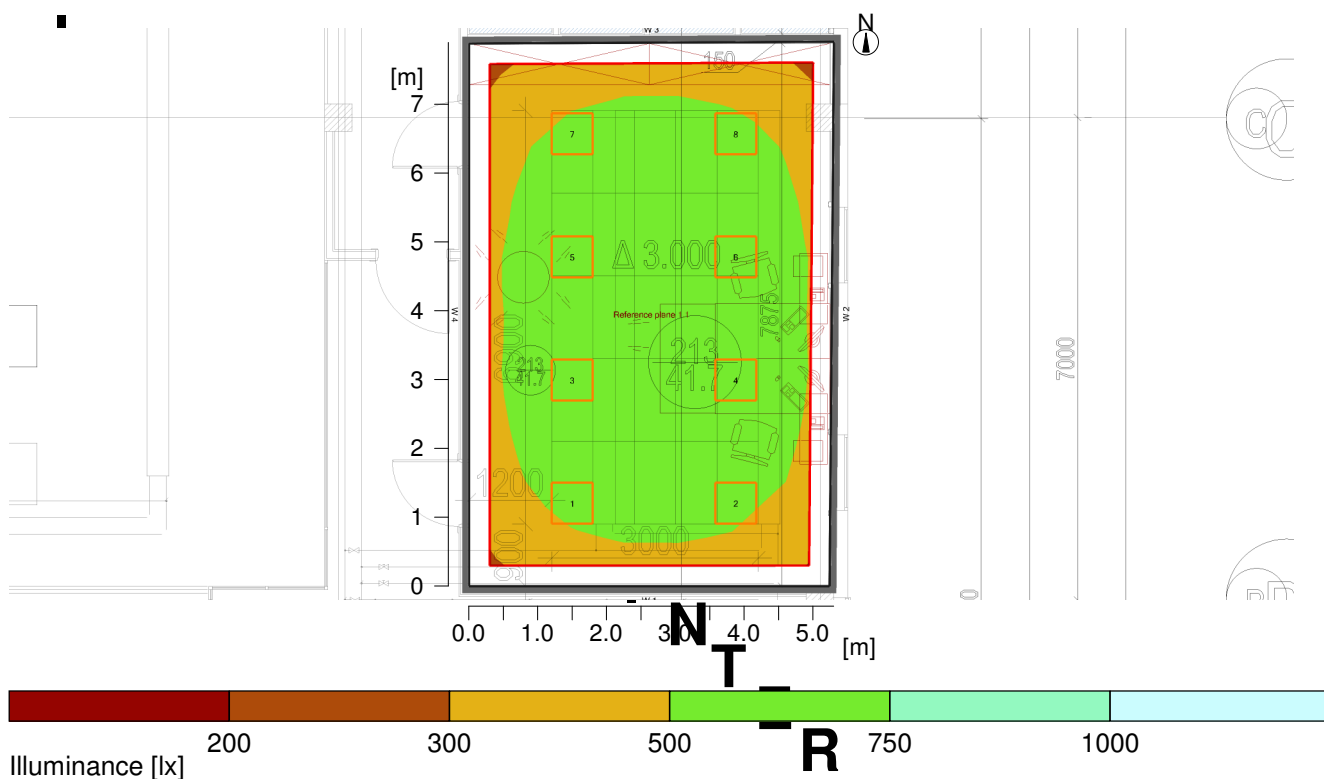
Type No.\Make

2	12	TRILUX	
		Order No.	: Olxeon 1500 B 6000-840 ET
		Luminaire name	: TOC 6815240
		Equipment	: 1 x LED 53 W / 5700 lm

28 213

28.2 Summary, 213

28.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
 Height of luminaire plane
 Maintenance factor

Average indirect fraction
 3.00 m
 0.80

Total luminous flux of all lamps
 Total power
 Total power per area (41.55 m²)

32000.00 lm
 320.0 W
 7.70 W/m² (1.37 W/m²/100lx)

Evaluation area 1

User profile

Reference plane 1.1

Offices
 5.26.2 (EN 12464-1, 8.2011) Writing, typing, reading, data processing (Ra >80.00)
 Horizontal
 560 lx (>= 500 lx)
 341 lx
 0.61 (>= 0.60)
 0.48
 UGR (2.9H 4.4H) <=17.2 (< 19.00)
 Position 0.75 m

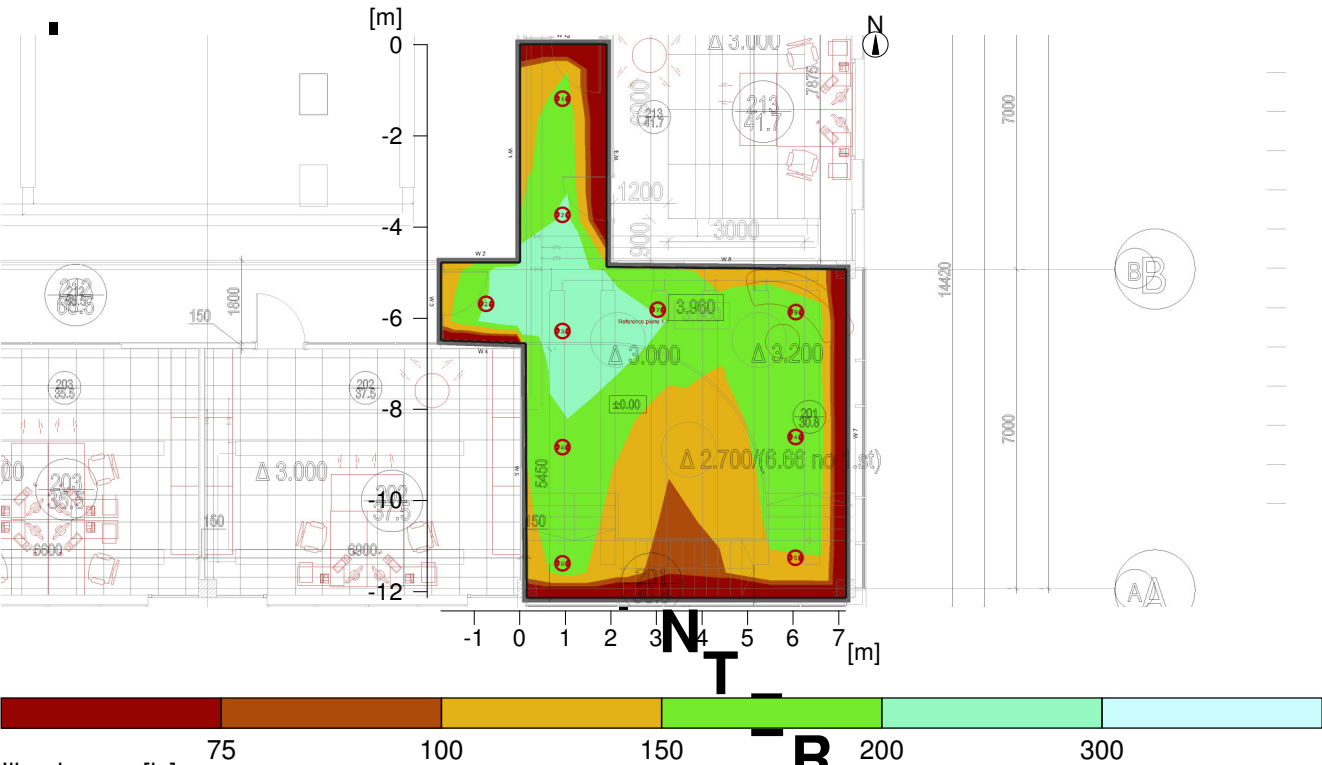
Type No.\Make

9 8 **TRILUX**
 Order No. : ArimoS M73 CDP LED4000-840 ET
 Luminaire name : TOC 6325640
 Equipment : 1 x LED 40 W / 4000 lm

29 201

29.2 Summary, 201

29.2.1 Result overview, Evaluation area 1



General

Calculation algorithm used
Height of luminaire plane
Maintenance factor

Average indirect fraction
2.70 m
0.80

18000.00 lm
180.0 W
2.85 W/m² (1.81 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
Em
157 lx
Emin
75 lx
Emin/Eav (Uo)
0.48
Emin/Emax (Ud)
0.29
Position
0.00 m

Type No.\Make

TRILUX

10 10
Order No. : Onplana D09 CDP19 2000-840 01 ET
Luminaire name : TOC 6458540
Equipment : 1 x LED 18 W / 1800 lm