



**ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΠΕΡΙΦΕΡΕΙΑ ΘΕΣΣΑΛΙΑΣ
ΝΟΜΟΣ ΜΑΓΝΗΣΙΑΣ
ΔΗΜΟΣ ΡΗΓΑ ΦΕΡΑΙΟΥ**

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ΠΕΡΙΒΑΛΛΟΝΤΟΣ
ΤΕΧΝΙΚΗ ΥΠΗΡΕΣΙΑ*

ΕΡΓΟ :

**ΑΝΑΒΑΘΜΙΣΗ ΤΟΥ ΕΠΑ.Λ.
ΒΕΛΕΣΤΙΝΟΥ ΤΟΥ ΔΗΜΟΥ ΡΗΓΑ
ΦΕΡΑΙΟΥ ΣΕ ΠΡΟΤΥΠΟ ΕΠΑ.Λ.**

Αρ. Μελέτης: 6 /2023

ΠΡΟΫΠΟΛΟΓΙΣΜΟΥ: 480.000,00 €

ΣΥΜΠΕΡΙΛΑΜΒΑΝΕΤΕ Ο ΦΠΑ

Αρ. Πρωτ: 530/19-01-2023

**ΧΡΗΜΑΤΟΔΟΤΗΣΗ :
ΤΑΜΕΙΟ ΑΝΑΚΑΜΨΗΣ**

**ΦΩΤΟΜΕΤΡΙΚΗ ΜΕΛΕΤΗ
ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ**



Τυπική αίθουσα

Preliminary remarks

Notes on planning:

The energy consumption quantities do not take into account light scenes and their dimming levels.

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Product data sheets

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Site 1 - Building 1

Story 1

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Site 1 - Building 1 - Story 1

Room 1

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Description

Luminaire list

Φ_{total} 22800 lm	P_{total} 180.0 W	Luminous efficacy 126.7 lm/W
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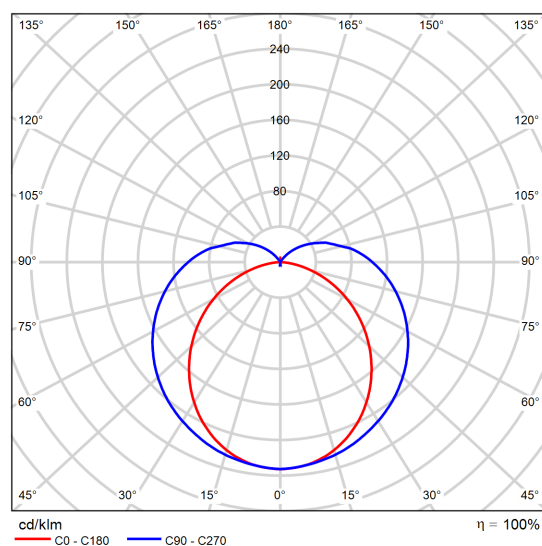
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
6	LEDVANCE	405807512 2208	LN UO 1500 30W/4000K	30.0 W	3800 lm	126.7 lm/W

Product data sheet

LEDVANCE - LN UO 1500 30W/4000K



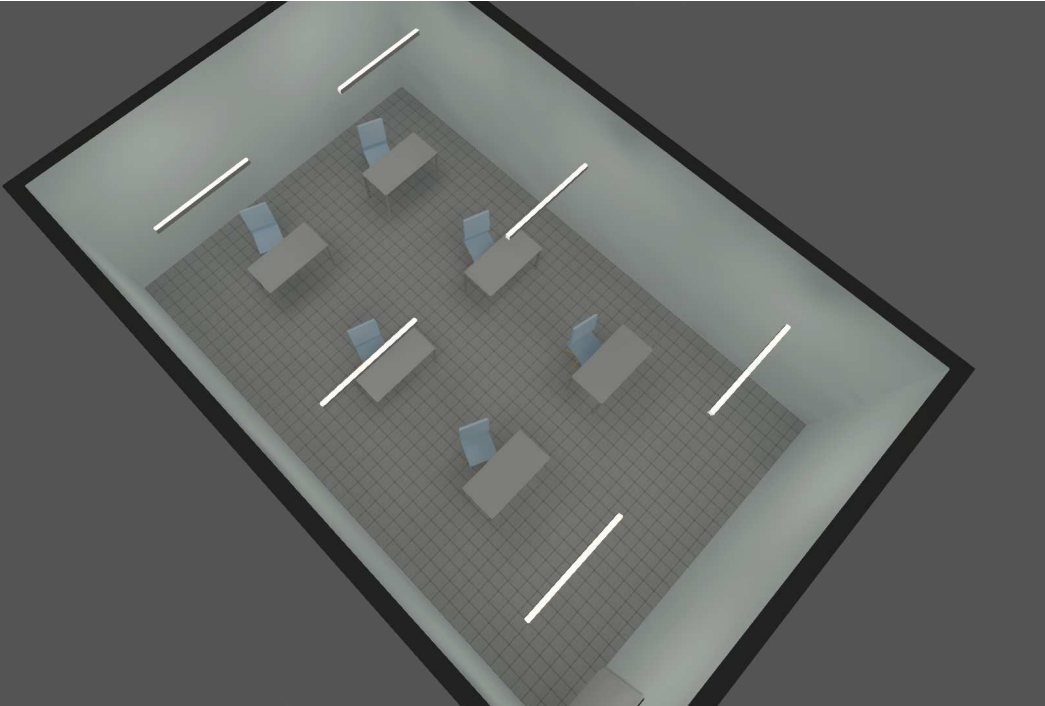
Article No.	4058075122208
P	30.0 W
Φ_{Lamp}	3800 lm
$\Phi_{\text{Luminaire}}$	3800 lm
η	100.00 %
Luminous efficacy	126.7 lm/W
CCT	4000 K
CRI	80



Polar LDC

Glare evaluation according to UGR												
p Ceiling		70	70	50	50	30	70	70	50	50	30	
p Walls		50	30	50		30	50	30	50	30		
p Floor		20	20	20	20	20	20	20	20	20	20	
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis					
2H	2H	18.4	19.7	18.9	20.2	20.7	21.0	22.3	21.5	22.8	23.3	
	3H	19.9	21.1	20.4	21.6	22.2	23.8	24.9	24.3	25.5	26.0	
	4H	20.5	21.6	21.0	22.1	22.7	25.3	26.4	25.8	26.9	27.5	
	6H	20.9	21.9	21.4	22.5	23.1	27.0	28.0	27.5	28.6	29.2	
	8H	21.0	22.0	21.6	22.6	23.2	27.9	28.9	28.5	29.5	30.1	
	12H	21.1	22.0	21.6	22.6	23.3	28.9	29.9	29.5	30.5	31.1	
4H	2H	19.8	20.9	20.3	21.4	22.0	21.6	22.7	22.2	23.3	23.9	
	3H	21.6	22.5	22.1	23.1	23.8	24.6	25.6	25.2	26.2	26.8	
	4H	22.4	23.2	23.0	23.8	24.5	26.4	27.3	27.0	27.9	28.5	
	6H	23.0	23.8	23.6	24.4	25.1	28.3	29.1	28.9	29.7	30.4	
	8H	23.2	23.9	23.8	24.5	25.3	29.4	30.1	30.0	30.7	31.4	
	12H	23.3	24.0	24.0	24.6	25.4	30.5	31.2	31.2	31.9	32.6	
8H	4H	23.6	24.4	24.3	25.0	25.7	26.8	27.5	27.4	28.1	28.9	
	6H	24.7	25.3	25.4	26.0	26.7	29.0	29.6	29.7	30.3	31.0	
	8H	25.1	25.7	25.8	26.4	27.2	30.3	30.8	31.0	31.5	32.3	
	12H	25.5	26.0	26.2	26.7	27.5	31.7	32.2	32.4	32.9	33.7	
12H	4H	24.0	24.7	24.7	25.4	26.1	26.8	27.5	27.5	28.1	28.9	
	6H	25.4	25.9	26.1	26.6	27.4	29.1	29.7	29.8	30.4	31.1	
	8H	26.0	26.5	26.7	27.2	28.0	30.5	31.0	31.2	31.7	32.5	
Variation of the observer position for the luminaire distances S												
S = 1.0H							+0.1 / -0.1					
S = 1.5H							+0.2 / -0.2					
S = 2.0H							+0.3 / -0.5					
Standard table		BK13					---					
Correction Summand		9.0					---					
Corrected glare indices referring to 3800lm Total luminous flux												

UGR diagram (SHR: 0.25)



Building 1 · Story 1

Description

Building 1 · Story 1 (Light scene 1)

Room List

Room 1

Building 1 · Story 1 (Light scene 1)

Room List

Room 1

P_{total} 180.0 W	A_{Room} 56.10 m ²	Lighting power density 3.21 W/m ² = 0.93 W/m ² /100 lx (Room)	$\bar{E}_{\text{perpendicular (Working plane)}}$ 344 lx
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pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
6	LEDVANCE	405807512 2208	LN UO 1500 30W/4000K	30.0 W	3800 lm

Building 1 · Story 1

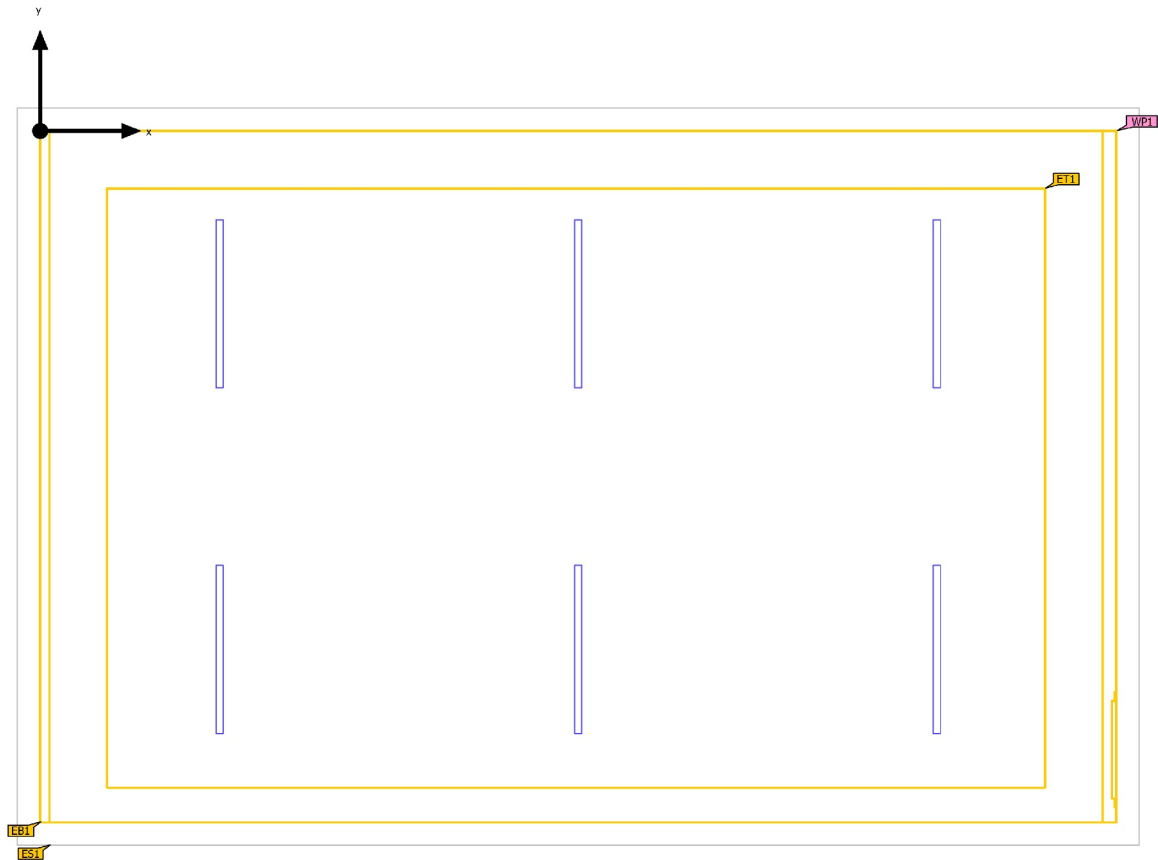
Luminaire list

Φ_{total} 22800 lm	P_{total} 180.0 W	Luminous efficacy 126.7 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
6	LEDVANCE	405807512 2208	LN UO 1500 30W/4000K	30.0 W	3800 lm	126.7 lm/W

Building 1 · Story 1 (Light scene 1)

Calculation objects



Building 1 · Story 1 (Light scene 1)

Calculation objects

Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1	g_2	Index
Working plane (Room 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	344 lx (≥ 500 lx) ✗	238 lx	414 lx	0.69	0.57	WP1

Visual task areas

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Visual task area 1 Perpendicular illuminance Height: 0.800 m, Surrounding area: 0.500 m	361 lx (≥ 500 lx) ✗	328 lx	413 lx	0.91 (≥ 0.60) ✓	0.79	ET1
Surrounding area 1 Perpendicular illuminance Height: 0.800 m	301 lx (≥ 300 lx) ✓	269 lx	326 lx	0.89 (≥ 0.40) ✓	0.83	ES1
Background area 1 Perpendicular illuminance Height: 0.000 m, Wall zone: 0.500 m	(≥ 100 lx) ✗			- (≥ 0.10)	-	EB1

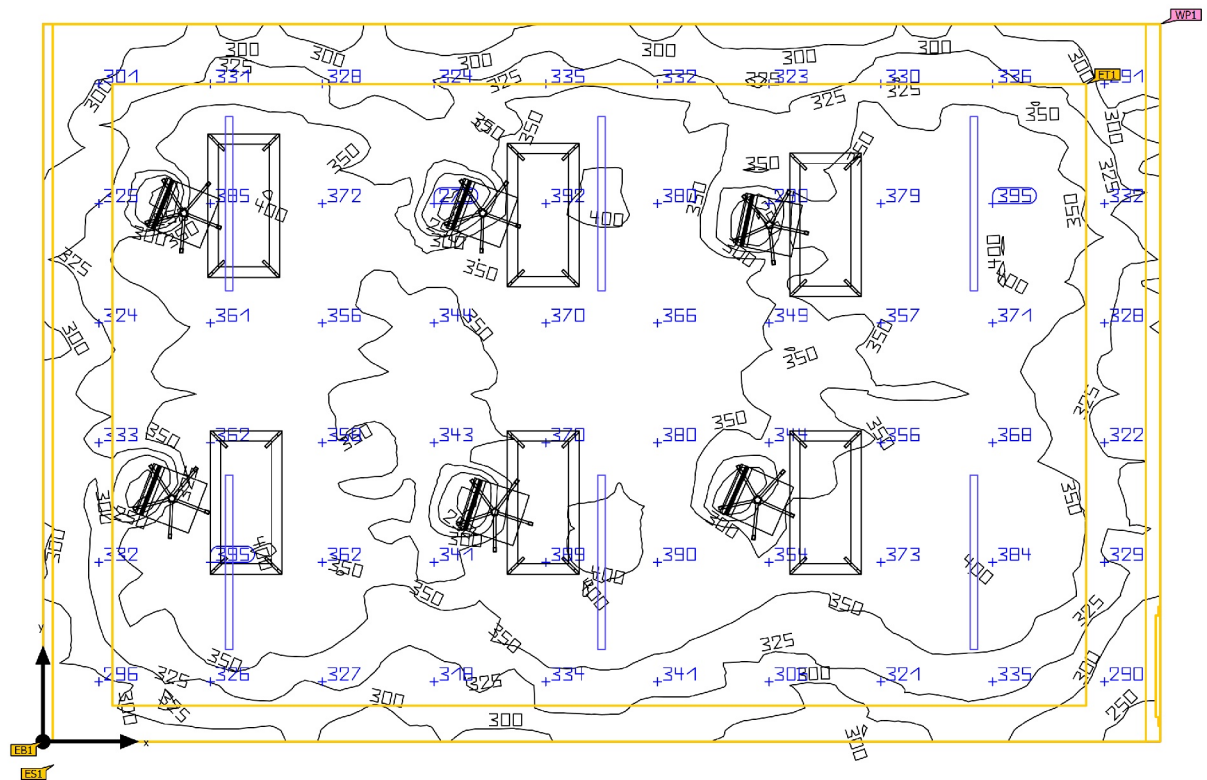


Building 1 · Story 1 · Room 1

Description

Building 1 · Story 1 · Room 1 (Light scene 1)

Summary



Building 1 · Story 1 · Room 1 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	344 lx	≥ 500 lx	✗	WP1
	g_1	0.69	-	-	WP1
Visual task areas	$\bar{E}_{\text{Task Area}}$	361 lx	≥ 500 lx	✗	ET1
	g_1 Task Area	0.91	≥ 0.60	✓	ET1
	$\bar{E}_{\text{Surrounding area}}$	301 lx	≥ 300 lx	✓	ES1
	g_1 Surrounding area	0.89	≥ 0.40	✓	ES1
	$\bar{E}_{\text{Background area}}$	-	≥ 100 lx	✗	EB1
	g_1 Background area	-	≥ 0.10	-	EB1
Consumption values	Consumption	500 kWh/a	max. 2000 kWh/a	✓	
Room	Lighting power density	3.21 W/m ²	-	-	
		0.93 W/m ² /100 lx	-	-	

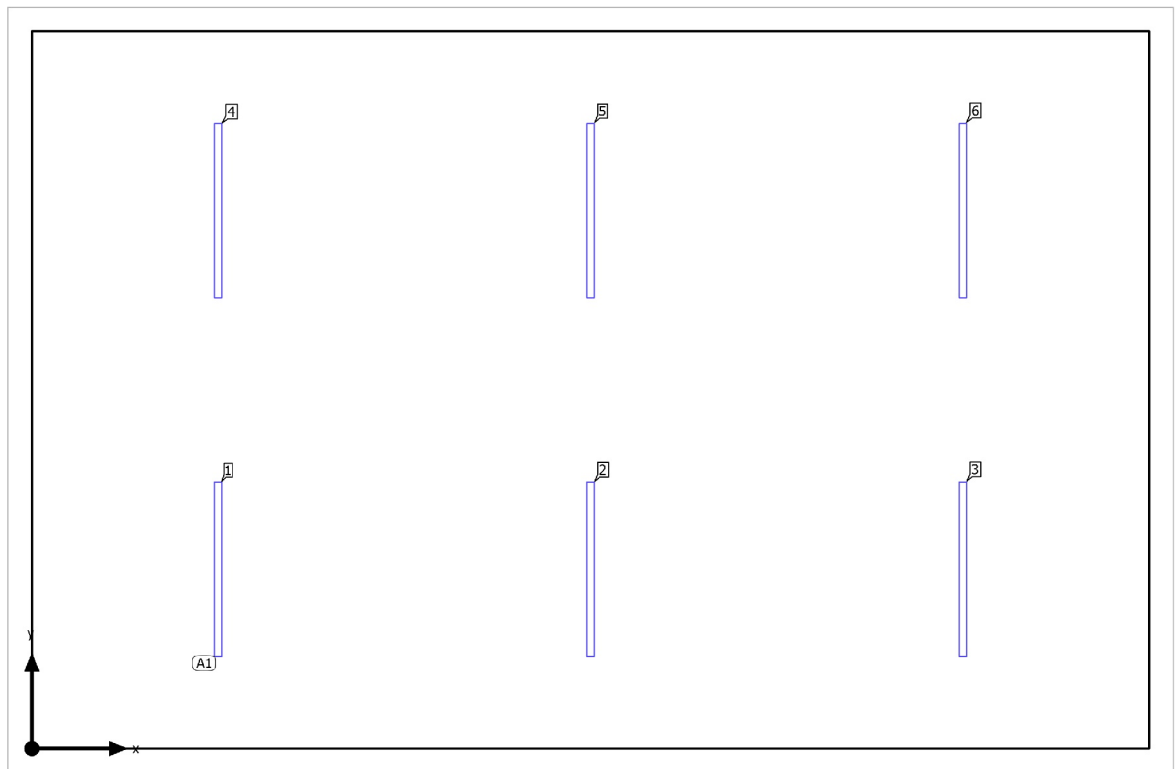
Utilization profile: DIALux presetting, Standard (office)

Luminaire list

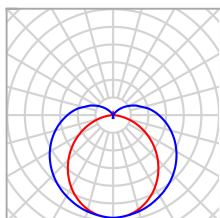
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
6	LEDVANCE	405807512 2208	LN UO 1500 30W/4000K	30.0 W	3800 lm	126.7 lm/W

Building 1 · Story 1 · Room 1

Luminaire layout plan



Building 1 · Story 1 · Room 1

Luminaire layout plan

Manufacturer	LEDVANCE	P	30.0 W
Article No.	4058075122208	Φ _{Luminaire}	3800 lm
Article name	LN UO 1500 30W/4000K		
Fitting	1x LED 4000K/ CRI >= 80		

6 x LEDVANCE LN UO 1500 30W/4000K

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.558 m / 1.500 m / 2.900 m	1.558 m	1.500 m	2.900 m	1
X-direction	3 pcs., Center - center, 3.117 m	4.675 m	1.500 m	2.900 m	2
Y-direction	2 pcs., Center - center, 3.000 m	7.792 m	1.500 m	2.900 m	3
		1.558 m	4.500 m	2.900 m	4
Arrangement	A1	4.675 m	4.500 m	2.900 m	5
		7.792 m	4.500 m	2.900 m	6

Building 1 · Story 1 · Room 1

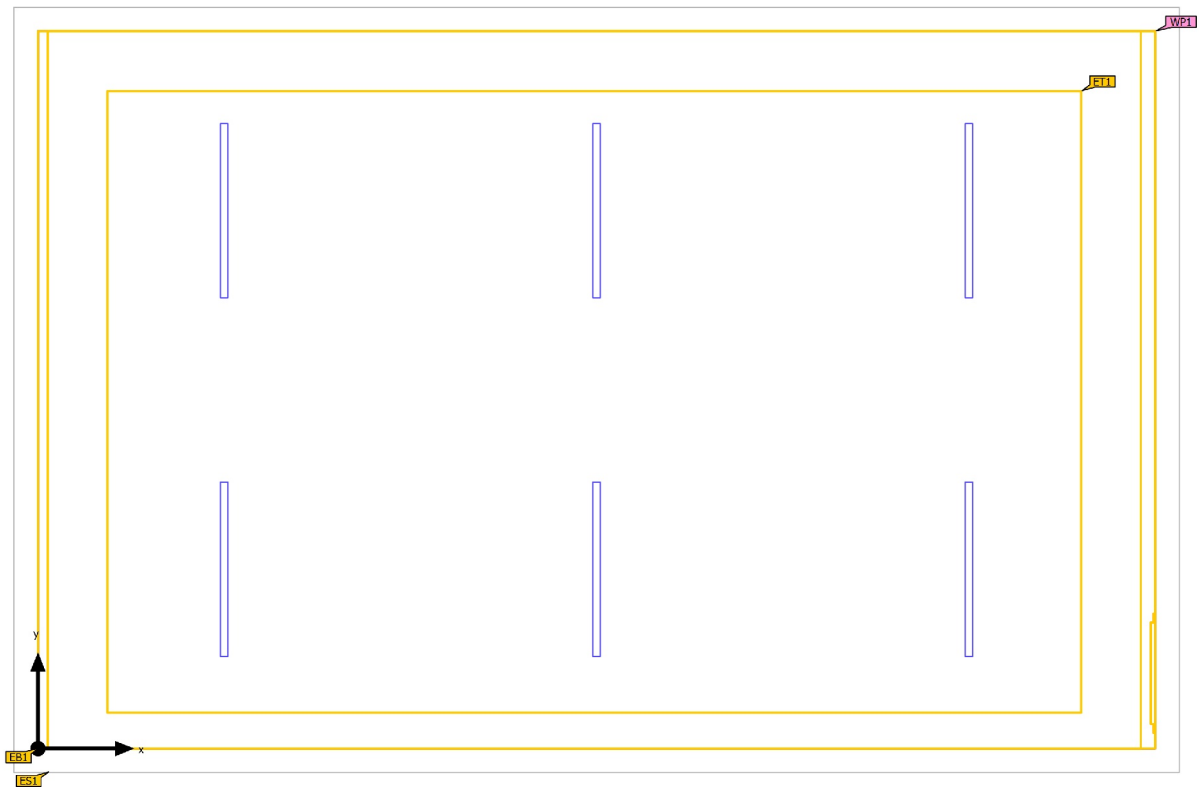
Luminaire list

Φ_{total} 22800 lm	P_{total} 180.0 W	Luminous efficacy 126.7 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
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Building 1 · Story 1 · Room 1 (Light scene 1)

Calculation objects



Building 1 · Story 1 · Room 1 (Light scene 1)

Calculation objects

Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1	g_2	Index
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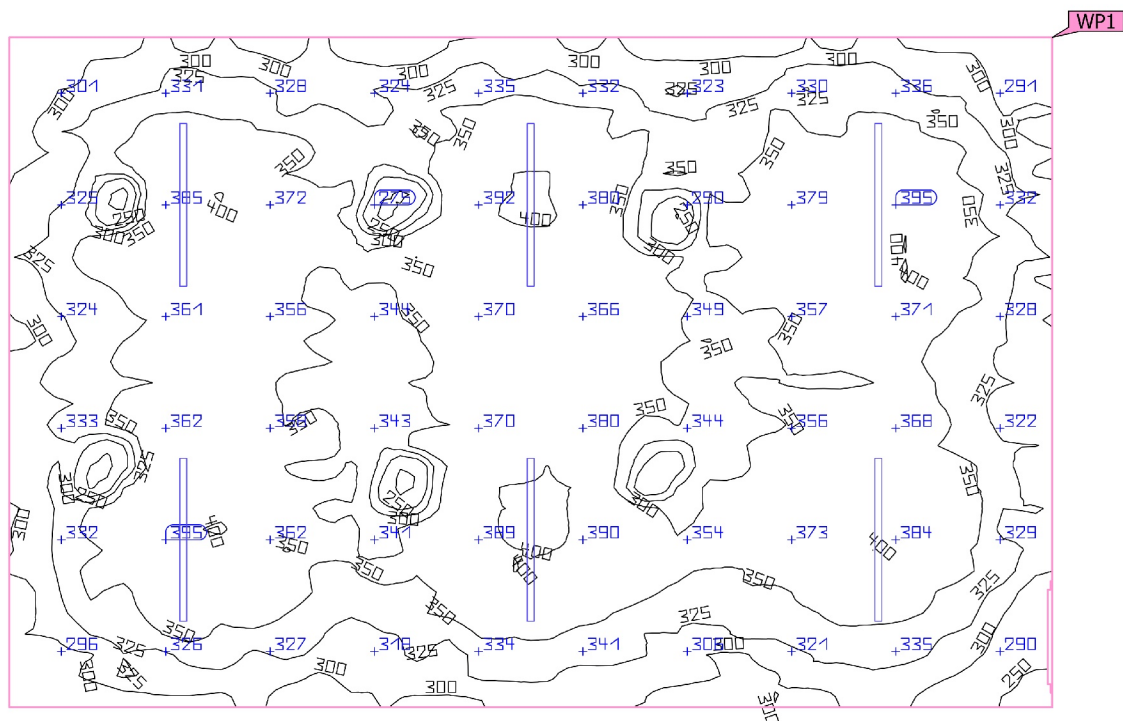
Visual task areas

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Background area 1 Perpendicular illuminance Height: 0.000 m, Wall zone: 0.500 m	(≥ 100 lx) ✗			- (≥ 0.10)	-	EB1

Utilization profile: DIALux presetting, Standard (office)

Building 1 · Story 1 · Room 1 (Light scene 1)

Working plane (Room 1)

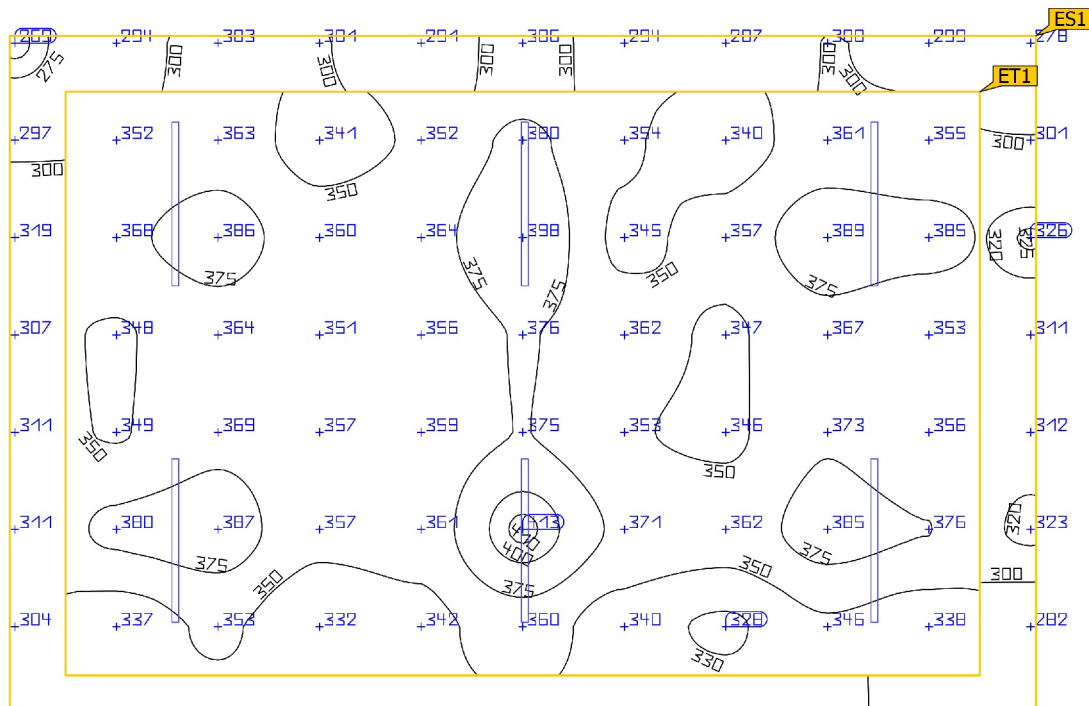
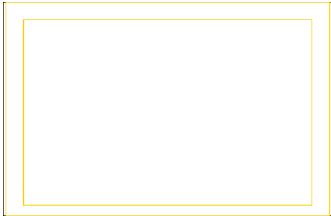


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1	g_2	Index
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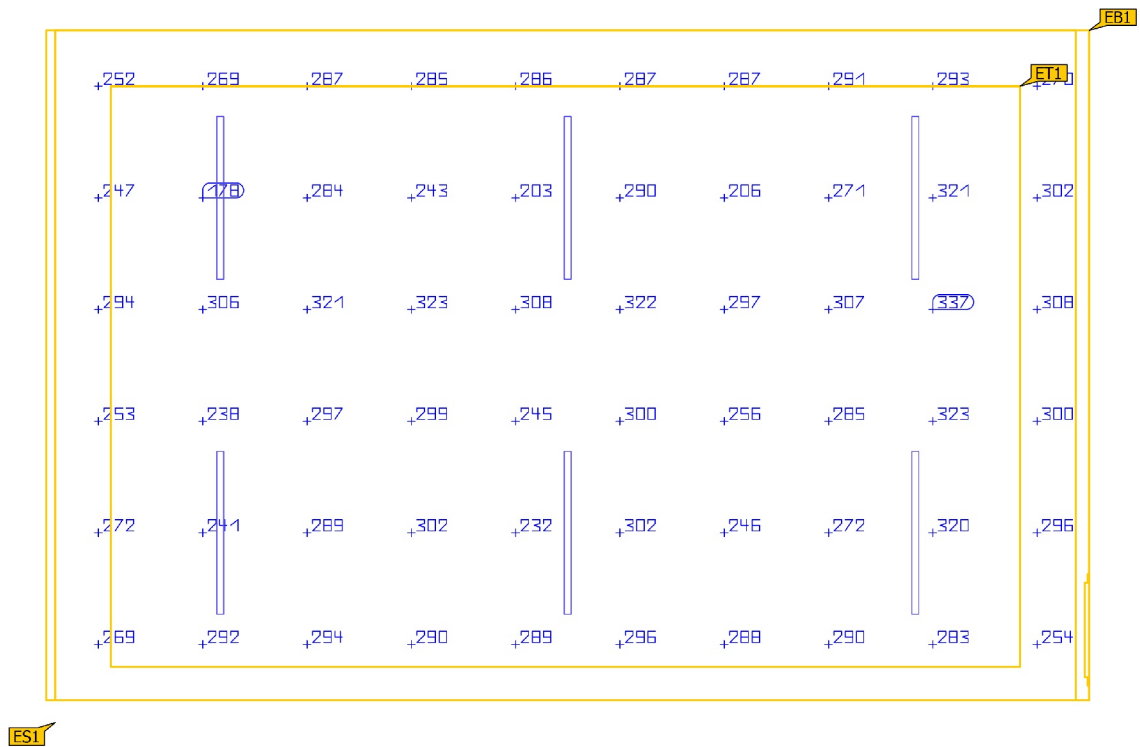
Building 1 · Story 1 · Room 1 (Light scene 1)

Visual task area 1



Building 1 · Story 1 · Room 1 (Light scene 1)

Visual task area 1



Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
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Utilization profile: DIALux presetting, Standard (office)

Ο Συντάξας

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