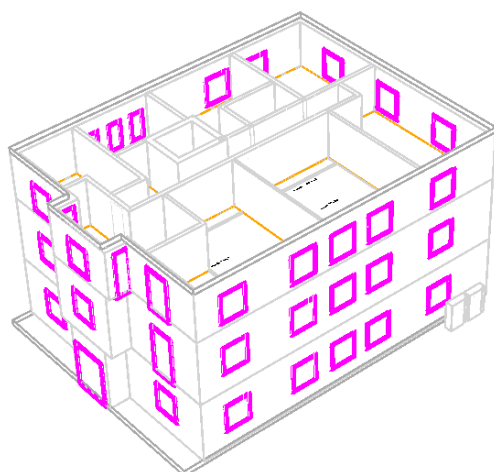




ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
ΝΟΜΟΣ ΕΒΡΟΥ  
ΔΗΜΟΣ ΣΟΥΦΛΙΟΥ

## ΦΩΤΟΤΕΧΝΙΚΗ ΜΕΛΕΤΗ



ΜΕΛΕΤΗ: **Μελέτη Ενεργειακής Αναβάθμισης Σχολικών Κτιρίων Α'θμιας και Β'θμιας Δήμου Σουφλίου**

ΕΡΓΟ: **Ενεργειακή αναβάθμιση και εσωτερική ανακαίνιση για την επανάχρηση του κτιρίου πρώην ΔΟΥ Σουφλίου ως Δ.Ι.Ε.Κ.**

ΑΡ.  
ΜΕΛΕΤΗΣ: **59/30-09-2024**

ΣΥΜΒΑΣΗ: **Υπ' αριθ. 3189/16-04-2024, 24SYMV14616589 2024-04-18**

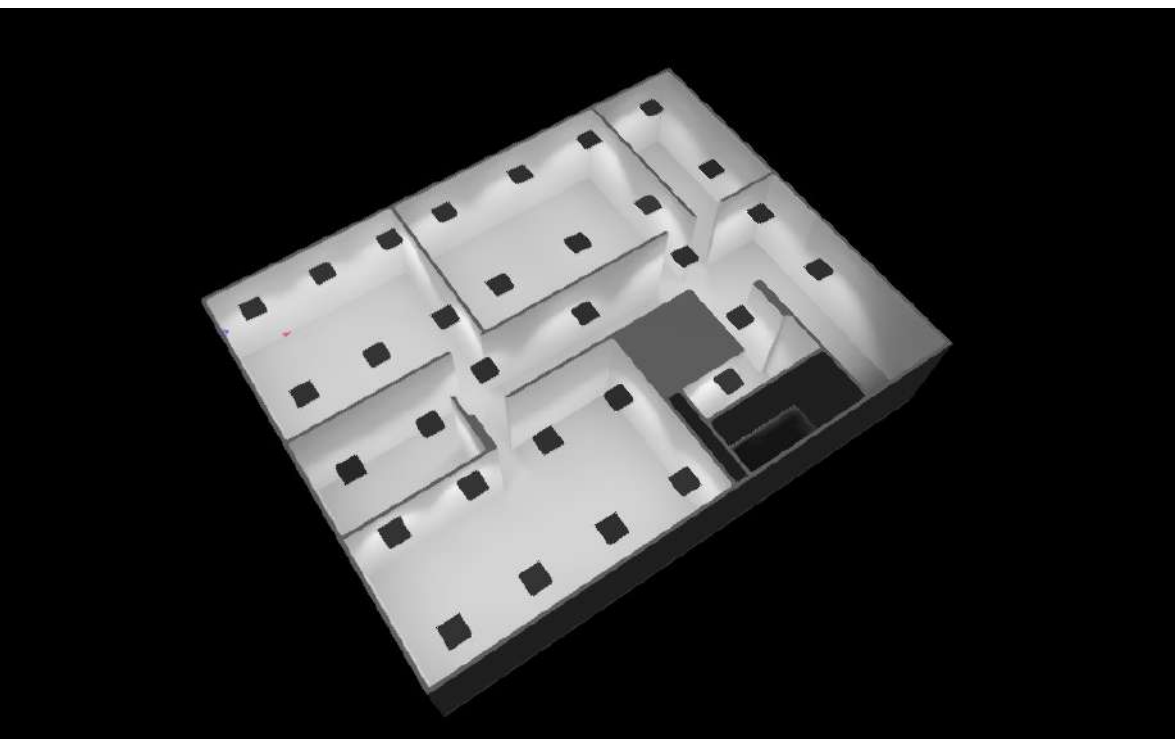
ΤΕΥΧΟΣ: **Φωτοτεχνική Μελέτη**

ΔΙΕΥΘΥΝΣΗ: **Παπαναστασίου, Ο.Τ. 142, Σουφλί  
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Ε. ΠΑΞΙΝΟΣ Μηχανολόγος Μηχανικός ΕΜΠ  
ΣΠ. ΠΑΠΑΘΑΝΑΣΙΟΥ Ηλεκτρολόγος Μηχανικός ΕΜΠ**

**Κωδικός Έργου  
2024.Δ.04  
Έκδοση Τεύχους  
1.0**

**Σεπτέμβριος 2024**



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Site 1 - Building 1 - Storey 1

### Room 1

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## Luminaire list

$\Phi_{\text{total}}$ 139500 lm	$P_{\text{total}}$ 1023.0 W	Luminous efficacy 136.4 lm/W
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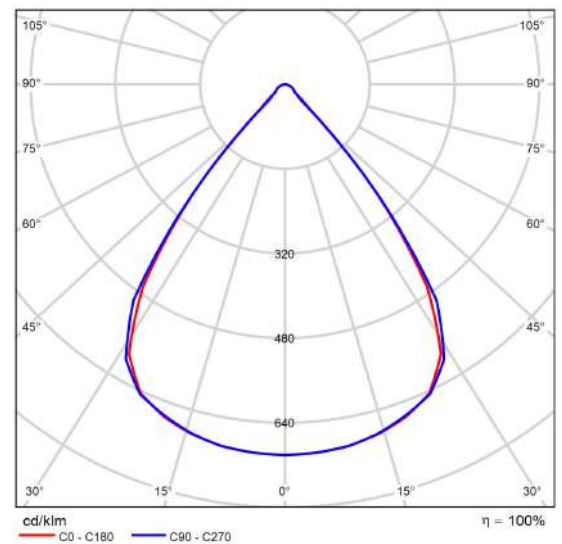
pcs.	Manufacturer	Article No.	Article name	P	$\Phi$	Luminous efficacy
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm	136.4 lm/W

## Product data sheet

LUG Light Factory - OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y



Article No.	060331.5L04.312
P	33.0 W
$\Phi_{\text{Lamp}}$	4500 lm
$\Phi_{\text{Luminaire}}$	4500 lm
$\eta$	100.00 %
Luminous efficacy	136.4 lm/W
CCT	4000 K
CRI	80



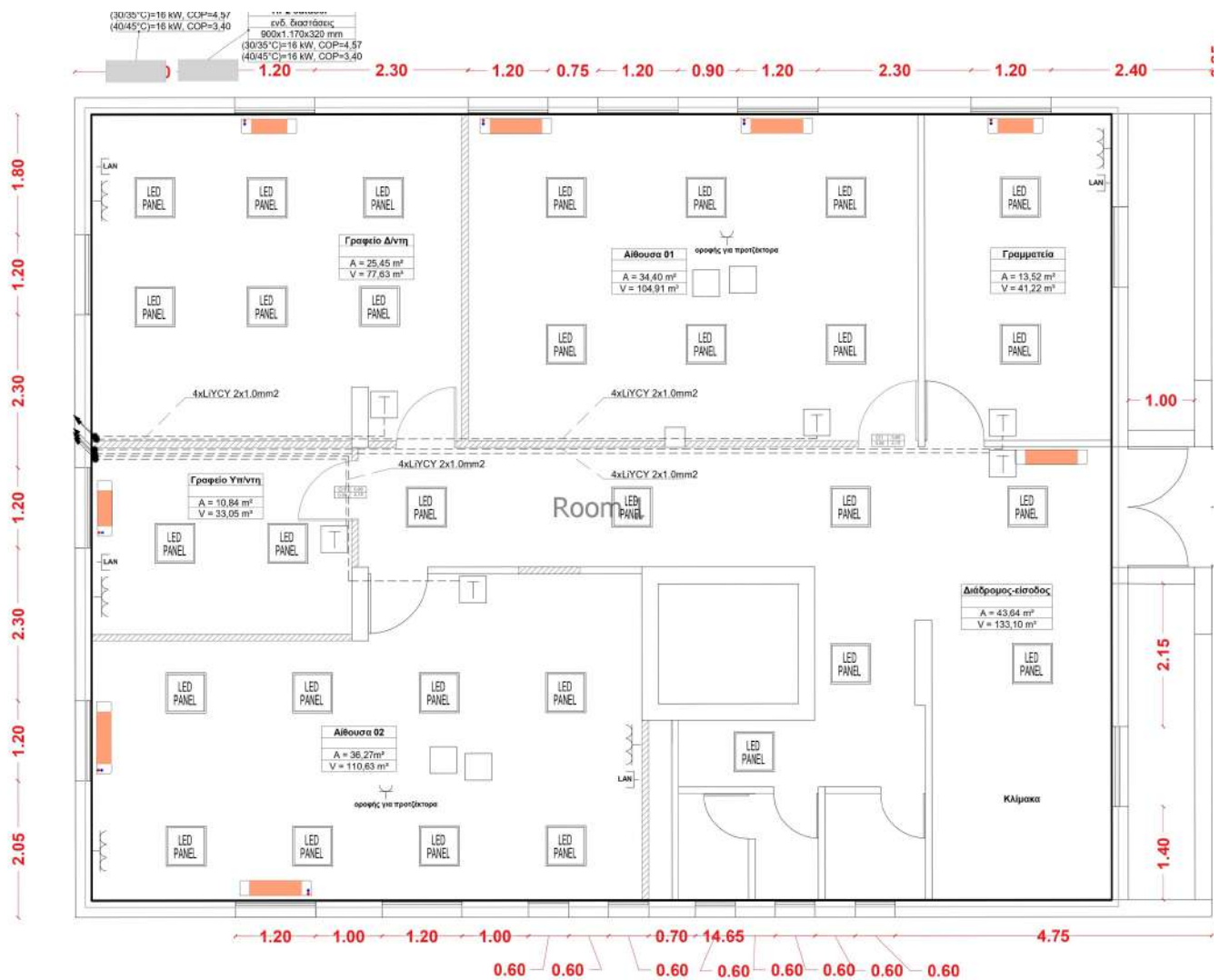
Polar LDC

Glare evaluation according to UGR												
$\rho$ Ceiling	70	70	50	50	30	70	70	50	50	30		
$\rho$ Walls	50	30	50	30	30	50	30	50	30	30		
$\rho$ 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	21.0	21.9	21.3	22.1	22.3	21.0	21.9	21.3	22.1	22.3	
	3H	21.0	21.8	21.3	22.0	22.2	21.0	21.8	21.3	22.0	22.3	
	4H	20.9	21.7	21.2	21.9	22.2	20.9	21.7	21.2	21.9	22.2	
	6H	20.9	21.6	21.2	21.9	22.1	20.9	21.6	21.2	21.9	22.1	
	8H	20.8	21.5	21.2	21.8	22.1	20.8	21.5	21.2	21.8	22.1	
4H	12H	20.8	21.5	21.2	21.8	22.1	20.8	21.4	21.2	21.8	22.1	
	2H	20.8	21.6	21.2	21.8	22.1	20.9	21.6	21.2	21.9	22.1	
	3H	20.8	21.5	21.2	21.8	22.1	20.8	21.5	21.2	21.8	22.1	
	4H	20.8	21.4	21.2	21.7	22.1	20.8	21.4	21.2	21.7	22.1	
	6H	20.8	21.3	21.2	21.6	22.0	20.8	21.3	21.2	21.6	22.0	
8H	12H	20.8	21.2	21.2	21.6	22.0	20.7	21.2	21.2	21.6	22.0	
	2H	20.7	21.1	21.2	21.5	22.0	20.7	21.1	21.1	21.5	22.0	
	4H	20.7	21.2	21.2	21.6	22.0	20.7	21.2	21.2	21.6	22.0	
	6H	20.7	21.1	21.2	21.5	21.9	20.7	21.1	21.1	21.5	21.9	
	8H	20.7	21.0	21.2	21.4	21.9	20.7	21.0	21.1	21.4	21.9	
12H	12H	20.7	20.9	21.1	21.4	21.9	20.6	20.9	21.1	21.4	21.9	
	4H	20.7	21.1	21.1	21.5	21.9	20.7	21.1	21.1	21.5	21.9	
	6H	20.7	21.0	21.1	21.4	21.9	20.7	21.0	21.1	21.4	21.9	
	8H	20.7	20.9	21.1	21.4	21.9	20.6	20.9	21.1	21.4	21.9	
Variation of the observer position for the luminaire distances S												
S = 1.0H		+3.6 / -6.4					+3.7 / -6.6					
S = 1.5H		+5.5 / -6.9					+5.8 / -7.0					
S = 2.0H		+7.4 / -7.3					+7.7 / -7.4					
Standard table		BK00					BK00					
Correction summand		2.6					2.6					
Corrected glare indices referring to 4500lm Total luminous flux												

UGR diagram (SHR: 0.25)

Building 1 · Storey 1 (Light scene 1)

## Room list



Building 1 · Storey 1 (Light scene 1)

**Room list**

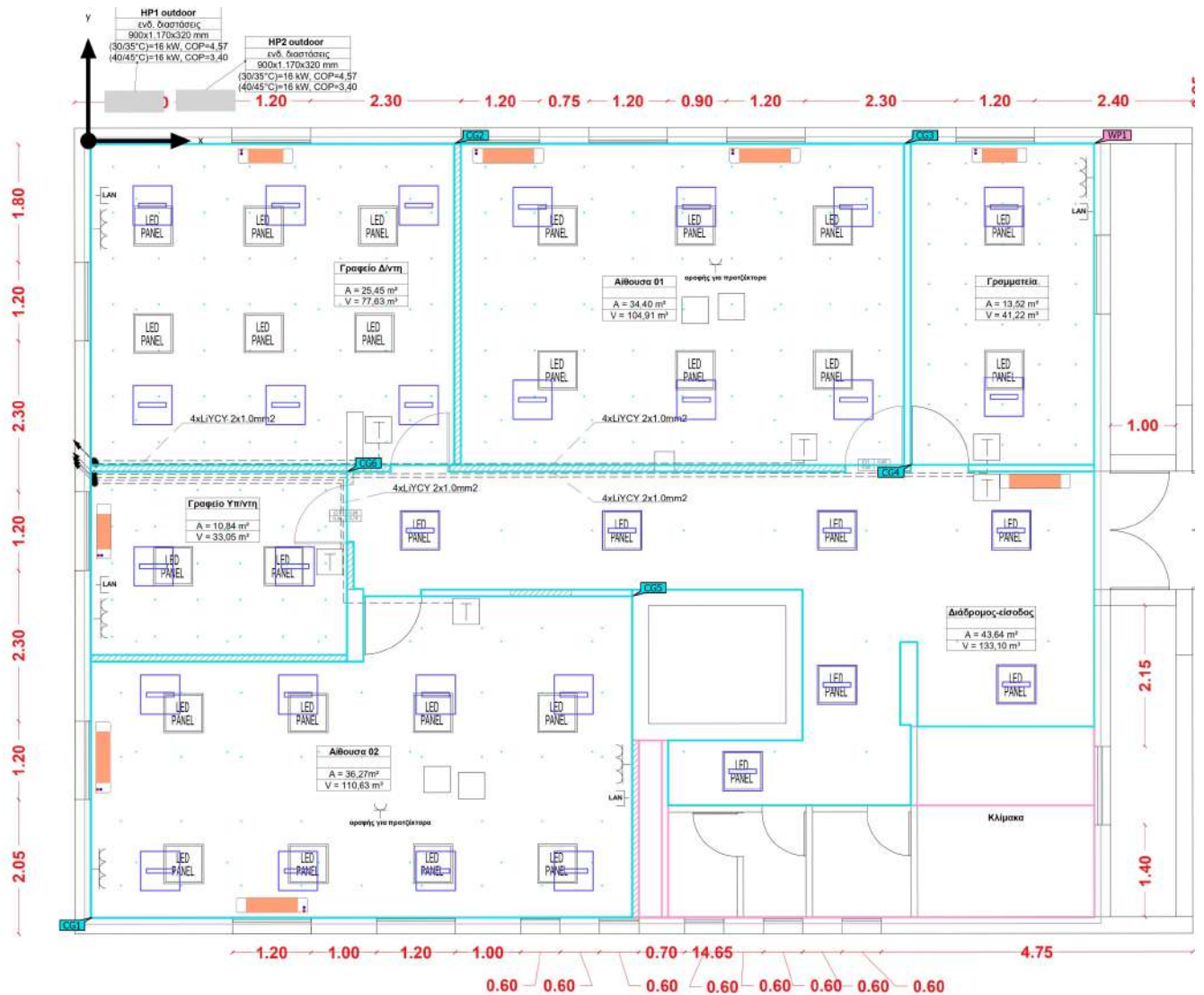
Room 1

$P_{\text{total}}$ 1023.0 W	$A_{\text{Room}}$ 180.89 m <sup>2</sup>	<b>Lighting power density</b> 5.66 W/m <sup>2</sup> = 0.93 W/m <sup>2</sup> /100 lx (Room) 6.15 W/m <sup>2</sup> = 1.01 W/m <sup>2</sup> /100 lx (Working plane)	$\bar{E}_{\text{perpendicular (Working plane)}}$ 608 lx
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pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm

Building 1 · Storey 1 (Light scene 1)

## Calculation objects





Building 1 · Storey 1 (Light scene 1)

**Calculation objects**

## Working planes

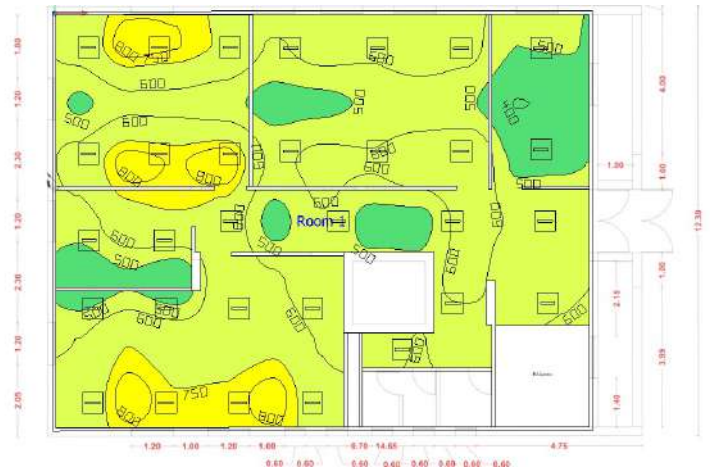
Properties	$\bar{E}$ (Target)	$E_{min}$	$E_{max}$	$g_1$ (Target)	$g_2$	Index
Working plane (Room 1) Perpendicular illuminance Height: 0.800 m, Wall zone: 0.000 m	608 lx ( $\geq 500$ lx) ✓	369 lx	894 lx	0.61 ( $\geq 0.60$ ) ✓	0.41	WP1

## Calculation surfaces

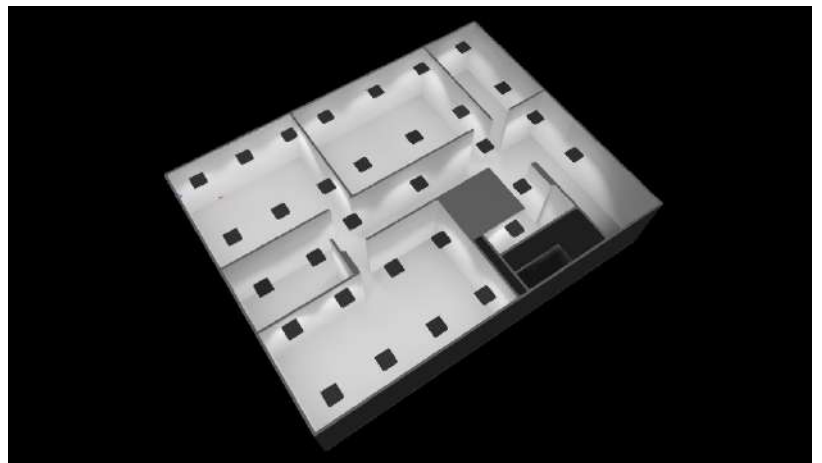
Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Calculation surface 1 Perpendicular illuminance Height: 0.800 m	611 lx	398 lx	849 lx	0.65	0.47	CG1
Γραφείο Διευθυντή Perpendicular illuminance Height: 0.800 m	668 lx	428 lx	953 lx	0.64	0.45	CG2
Αίθουσα 01 Perpendicular illuminance Height: 0.800 m	571 lx	416 lx	754 lx	0.73	0.55	CG3
Γραμματεία Perpendicular illuminance Height: 0.800 m	446 lx	299 lx	594 lx	0.67	0.50	CG4
Αίθουσα 02 Perpendicular illuminance Height: 0.800 m	687 lx	435 lx	842 lx	0.63	0.52	CG5
Γραφείο Υπ/ντη Perpendicular illuminance Height: 0.800 m	550 lx	351 lx	748 lx	0.64	0.47	CG6

## Images

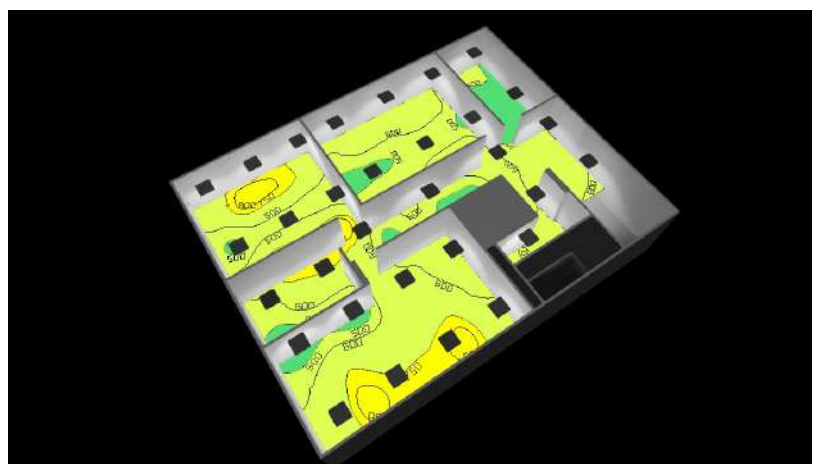
### ΚΑΤΟΨΗ ΨΕΥΔΟΧΡΩΜΑΤΑ



### 3D ΦΩΤΙΣΜΟΣ

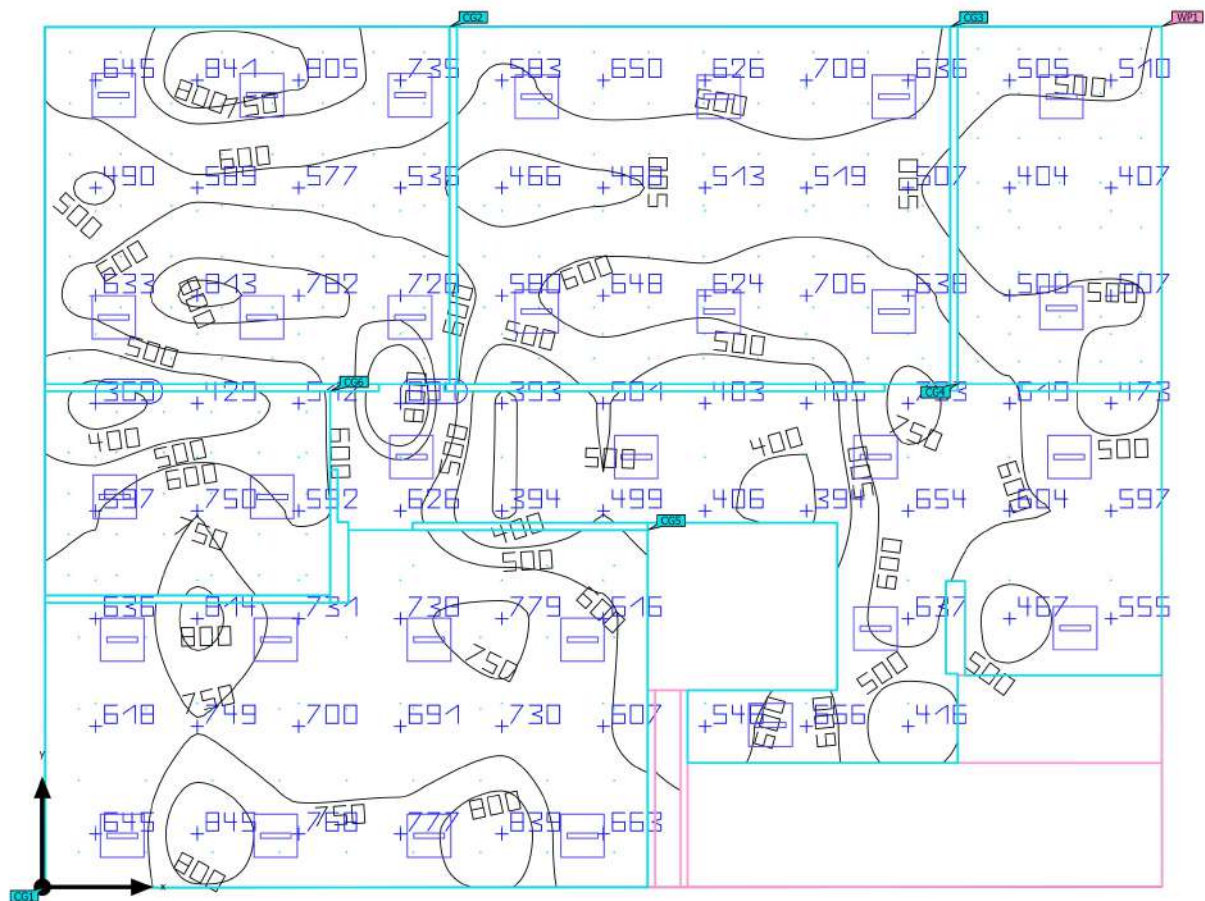


### 3D ΨΕΥΔΟΧΡΩΜΑΤΑ



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

## Summary



Ground area	180.89 m <sup>2</sup>	Clearance height	3.000 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	3.000 m
Maintenance factor	0.80 (fixed)	Height <sub>Working plane</sub>	0.800 m
		Wall zone <sub>Working plane</sub>	0.000 m

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

## Summary

### Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	608 lx	$\geq 500$ lx	✓	WP1
	$g_1$	0.61	$\geq 0.60$	✓	WP1
	Lighting power density	6.15 W/m <sup>2</sup>	–		
		1.01 W/m <sup>2</sup> /100 lx	–		
Energy estimation <sup>(2)</sup>	Consumption	2532 kWh/a	max. 6350 kWh/a	✓	
Room	Lighting power density	5.66 W/m <sup>2</sup>	–		
		0.93 W/m <sup>2</sup> /100 lx	–		

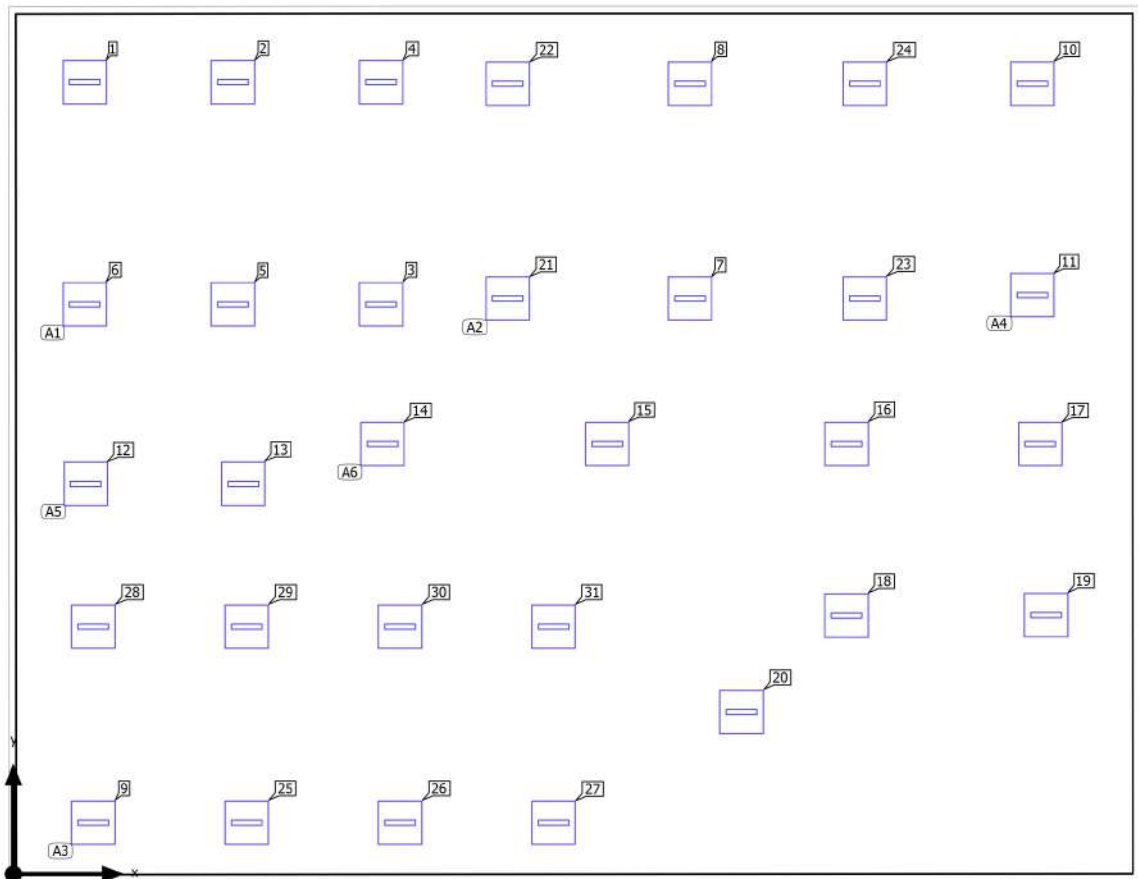
<sup>(2)</sup> Calculated using DIN:18599-4.

Utilisation profile: DIALux presetting (34.2 Standard (office))

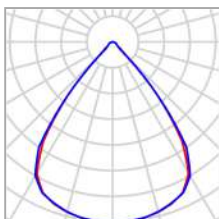
### Luminaire list

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm	136.4 lm/W

Building 1 · Storey 1 · Room 1

**Luminaire layout plan**

Building 1 · Storey 1 · Room 1

**Luminaire layout plan**

Manufacturer	LUG Light Factory	P	33.0 W
Article No.	060331.5L04.312	Φ <sub>Luminaire</sub>	4500 lm
Article name	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y		
Fitting	1x LED 4000K		

6 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.979 m / 10.865 m / 3.000 m	0.979 m	10.865 m	3.000 m	1
X-direction	3 pcs., Centre - centre, 2.031 m	3.010 m	10.865 m	3.000 m	2
		5.042 m	7.819 m	3.000 m	3
Y-direction	2 pcs., Centre - centre, 3.047 m	5.042 m	10.865 m	3.000 m	4
		3.010 m	7.819 m	3.000 m	5
Arrangement	A1	0.979 m	7.819 m	3.000 m	6

6 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	9.279 m / 7.898 m / 3.000 m	9.279 m	7.898 m	3.000 m	7
X-direction	3 pcs., Centre - centre, Distances not equal	9.279 m	10.844 m	3.000 m	8
		6.779 m	7.898 m	3.000 m	21

Building 1 · Storey 1 · Room 1

**Luminaire layout plan**

Y-direction	2 pcs., Centre - centre, Distances not equal	X	Y	Mounting height	Luminaire
Arrangement	A2	6.779 m	10.844 m	3.000 m	22
		11.676 m	7.898 m	3.000 m	23
		11.676 m	10.844 m	3.000 m	24

8 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.096 m / 0.704 m / 3.000 m	1.096 m	0.704 m	3.000 m	9
X-direction	4 pcs., Centre - centre, Distances not equal	3.200 m	0.704 m	3.000 m	25
		5.304 m	0.704 m	3.000 m	26
Y-direction	2 pcs., Centre - centre, Distances not equal	7.407 m	0.704 m	3.000 m	27
		1.096 m	3.396 m	3.000 m	28
Arrangement	A3	3.200 m	3.396 m	3.000 m	29
		5.304 m	3.396 m	3.000 m	30
		7.407 m	3.396 m	3.000 m	31

2 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	13.974 m / 10.844 m / 3.000 m	13.974 m	10.844 m	3.000 m	10
X-direction	2 pcs., Centre - centre, 2.900 m	13.974 m	7.944 m	3.000 m	11
Arrangement	A4				

2 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Line arrangement
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Building 1 · Storey 1 · Room 1

**Luminaire layout plan**

1st luminaire (X/Y/Z)	0.993 m / 5.355 m / 3.000 m	X	Y	Mounting height	Luminaire
X-direction	2 pcs., Centre - centre, Distances not equal	0.993 m	5.355 m	3.000 m	12
		3.153 m	5.355 m	3.000 m	13
Arrangement	A5				

4 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	5.062 m / 5.902 m / 3.000 m	5.062 m	5.902 m	3.000 m	14
X-direction	4 pcs., Centre - centre, Distances not equal	8.143 m	5.902 m	3.000 m	15
		11.427 m	5.902 m	3.000 m	16
Arrangement	A6	14.083 m	5.902 m	3.000 m	17

## Individual luminaires

X	Y	Mounting height	Luminaire
11.426 m	3.547 m	3.000 m	18
14.163 m	3.553 m	3.000 m	19
9.985 m	2.225 m	3.000 m	20



Building 1 · Storey 1 · Room 1

**Luminaire list** $\Phi_{\text{total}}$ 

139500 lm

 $P_{\text{total}}$ 

1023.0 W

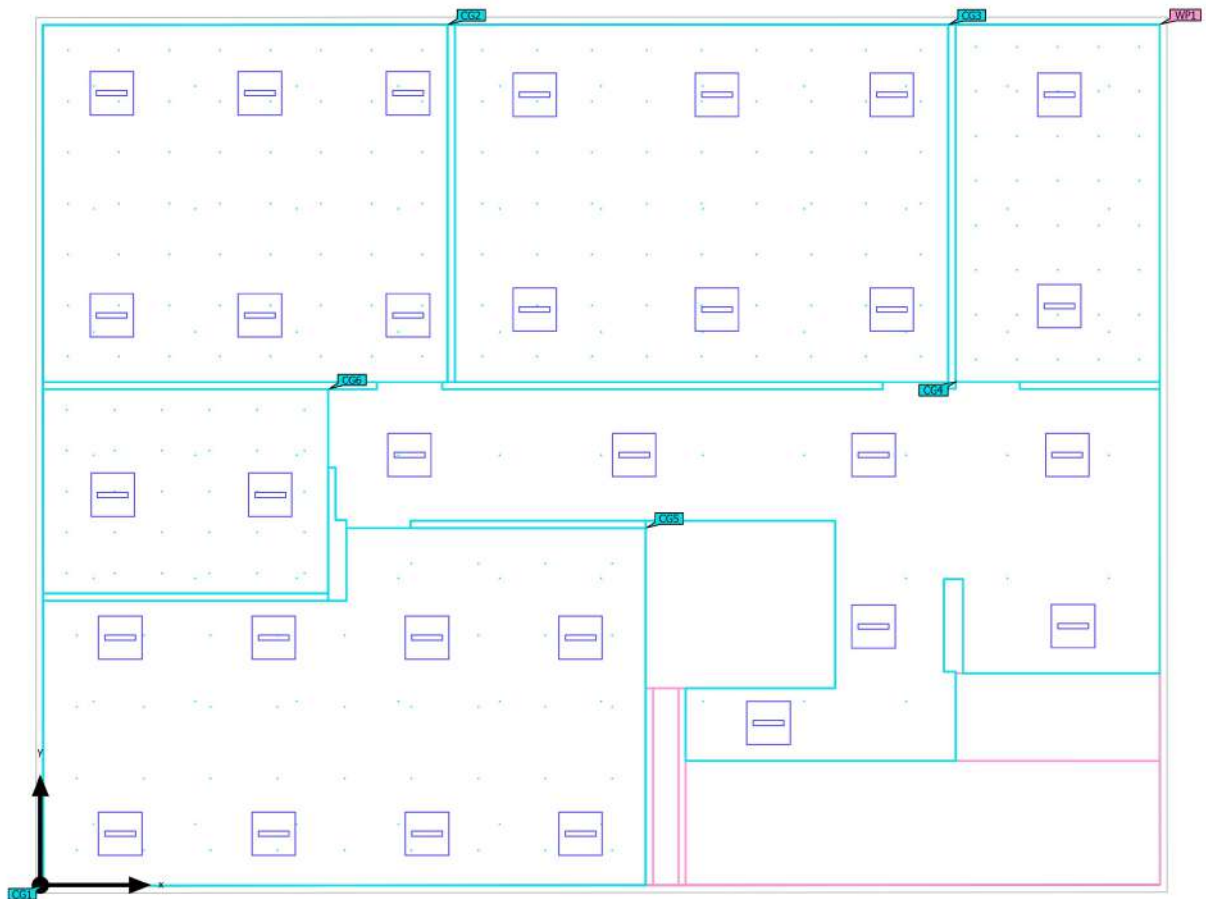
Luminous efficacy

136.4 lm/W

pcs.	Manufacturer	Article No.	Article name	P	$\Phi$	Luminous efficacy
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm	136.4 lm/W

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

## Calculation objects



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

**Calculation objects**

## Working planes

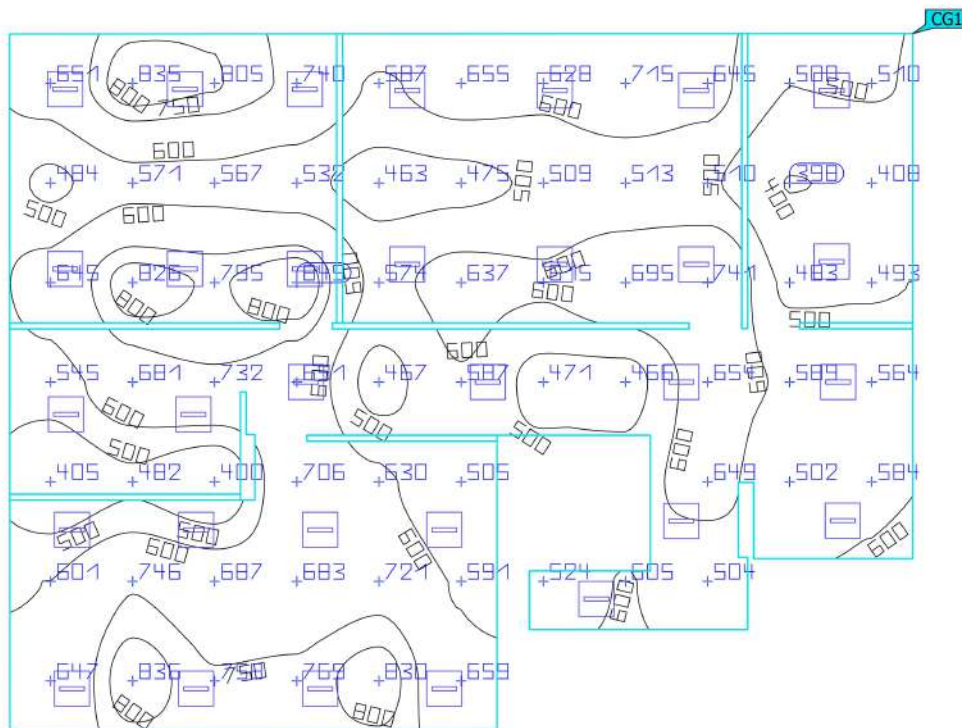
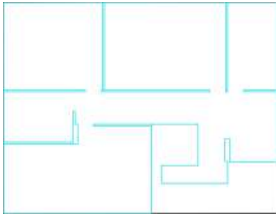
Properties	$\bar{E}$ (Target)	$E_{min}$	$E_{max}$	$g_1$ (Target)	$g_2$	Index
Working plane (Room 1) Perpendicular illuminance Height: 0.800 m, Wall zone: 0.000 m	608 lx ( $\geq 500$ lx) ✓	369 lx	894 lx	0.61 ( $\geq 0.60$ ) ✓	0.41	WP1

## Calculation surfaces

Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Calculation surface 1 Perpendicular illuminance Height: 0.800 m	611 lx	398 lx	849 lx	0.65	0.47	CG1
Γραφείο Διευθυντή Perpendicular illuminance Height: 0.800 m	668 lx	428 lx	953 lx	0.64	0.45	CG2
Αίθουσα 01 Perpendicular illuminance Height: 0.800 m	571 lx	416 lx	754 lx	0.73	0.55	CG3
Γραμματεία Perpendicular illuminance Height: 0.800 m	446 lx	299 lx	594 lx	0.67	0.50	CG4
Αίθουσα 02 Perpendicular illuminance Height: 0.800 m	687 lx	435 lx	842 lx	0.63	0.52	CG5
Γραφείο Υπ/ντη Perpendicular illuminance Height: 0.800 m	550 lx	351 lx	748 lx	0.64	0.47	CG6

Utilisation profile: DIALux presetting (34.2 Standard (office))

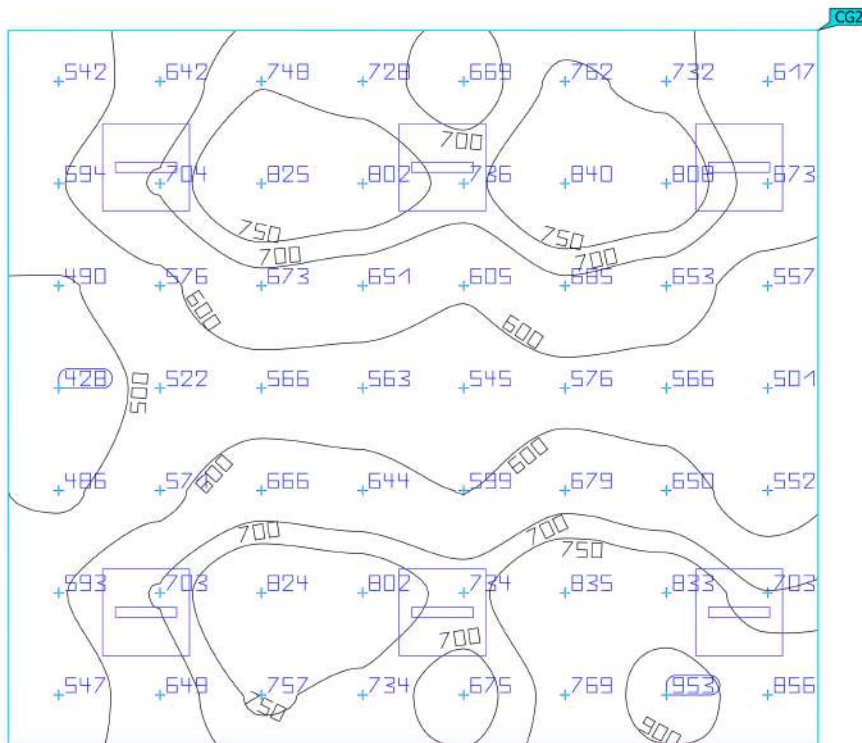
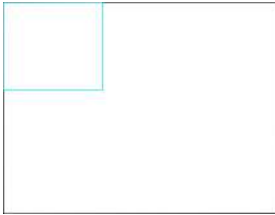
Building 1 · Storey 1 · Room 1 (Light scene 1)

**Calculation surface 1**

Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Calculation surface 1 Perpendicular illuminance Height: 0.800 m	611 lx	398 lx	849 lx	0.65	0.47	CG1

Utilisation profile: DIALux presetting (34.2 Standard (office))

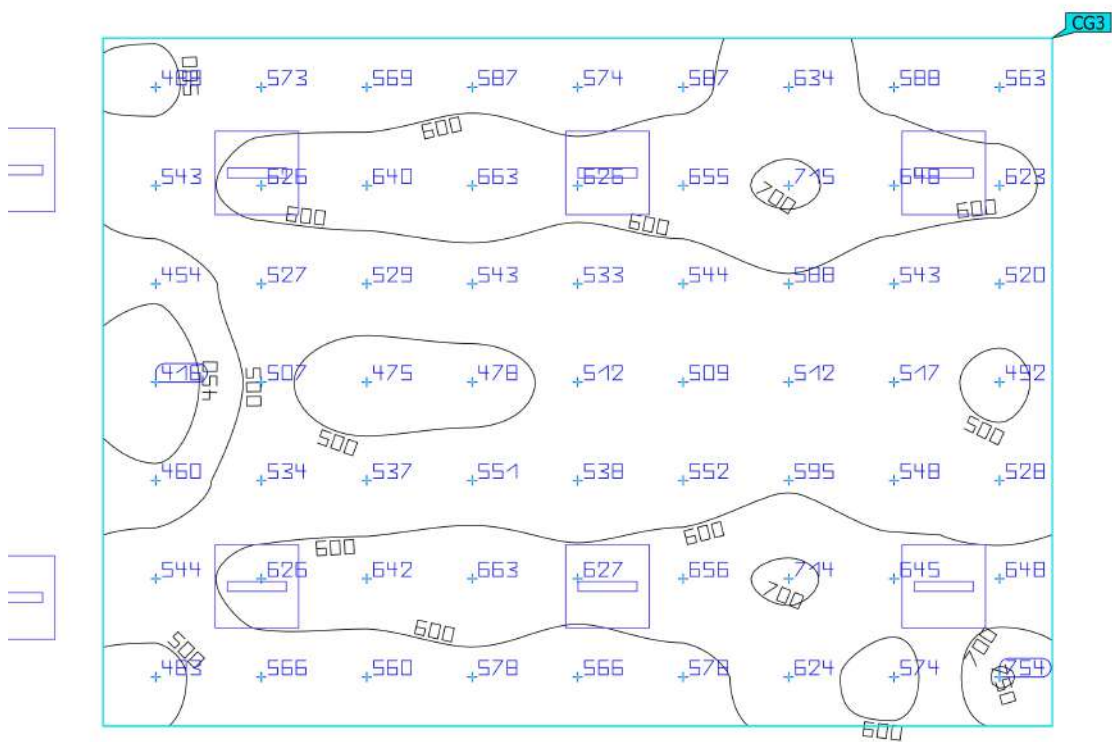
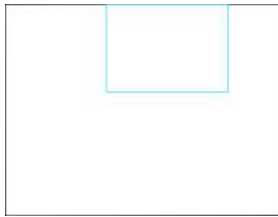
Building 1 · Storey 1 · Room 1 (Light scene 1)

**Γραφείο Διευθυντή**

Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Γραφείο Διευθυντή Perpendicular illuminance Height: 0.800 m	668 lx	428 lx	953 lx	0.64	0.45	CG2

Utilisation profile: DIALux presetting (34.2 Standard (office))

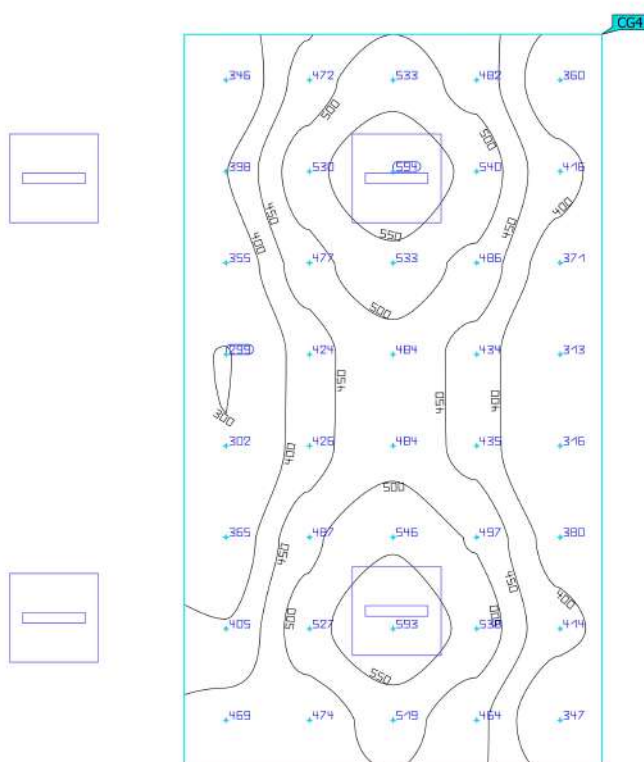
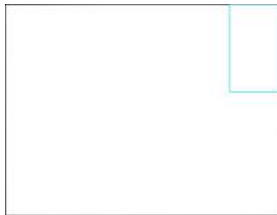
Building 1 · Storey 1 · Room 1 (Light scene 1)

**Αίθουσα 01**

Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Αίθουσα 01 Perpendicular illuminance Height: 0.800 m	571 lx	416 lx	754 lx	0.73	0.55	CG3

Utilisation profile: DIALux presetting (34.2 Standard (office))

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

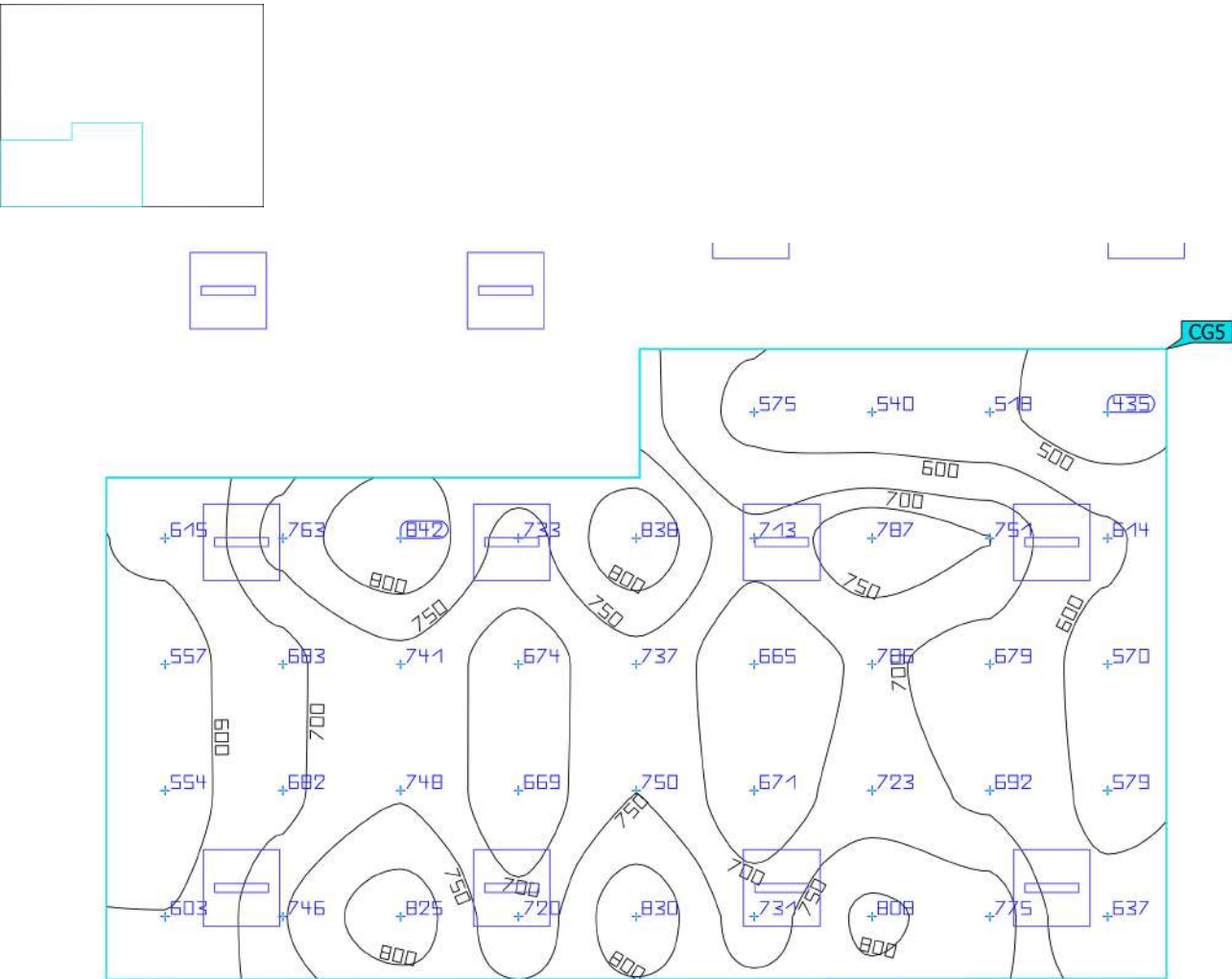
**Γραμματεία**

Properties	$\bar{E}$	$E_{\min}$	$E_{\max}$	$g_1$	$g_2$	Index
Γραμματεία Perpendicular illuminance Height: 0.800 m	446 lx	299 lx	594 lx	0.67	0.50	CG4

Utilisation profile: DIALux presetting (34.2 Standard (office))

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

Αίθουσα 02



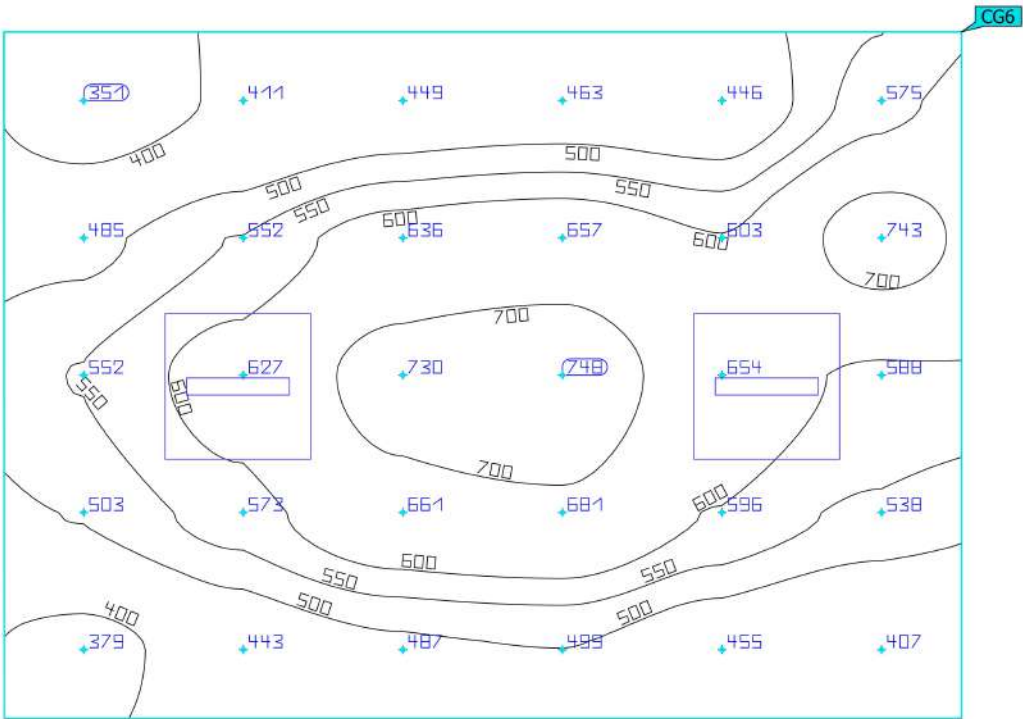
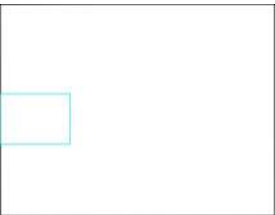
Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Αίθουσα 02	687 lx	435 lx	842 lx	0.63	0.52	CG5
Perpendicular illuminance						
Height: 0.800 m						

Utilisation profile: DIALux presetting (34.2 Standard (office))



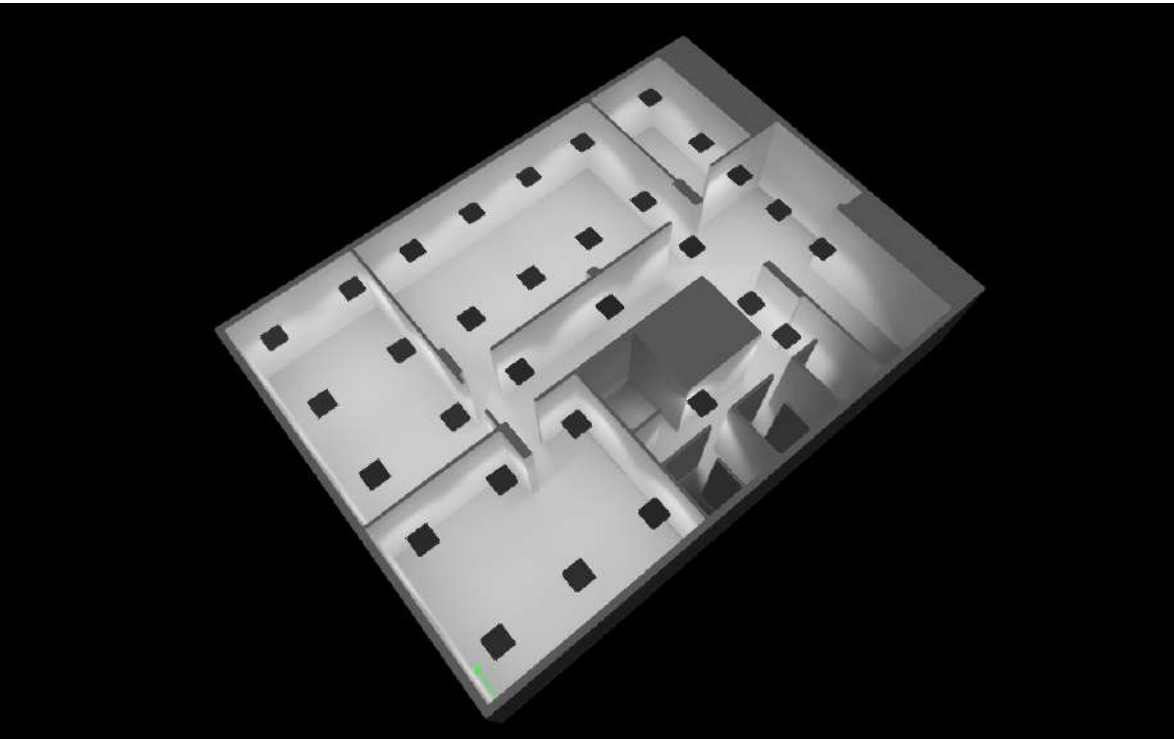
Building 1 · Storey 1 · Room 1 (Light scene 1)

Γραφείο Υπ/ντη



Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Γραφείο Υπ/ντη Perpendicular illuminance Height: 0.800 m	550 lx	351 lx	748 lx	0.64	0.47	CG6

Utilisation profile: DIALux presetting (34.2 Standard (office))



## 2.Study\_Orofos

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## Product data sheets

LUG Light Factory - OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y (1x LED 4000K)	4
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Site 1 - Building 1

### Storey 1

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Site 1 - Building 1 - Storey 1

### Room 1

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## Luminaire list

$\Phi_{\text{total}}$ 139500 lm	$P_{\text{total}}$ 1023.0 W	Luminous efficacy 136.4 lm/W
------------------------------------	--------------------------------	---------------------------------

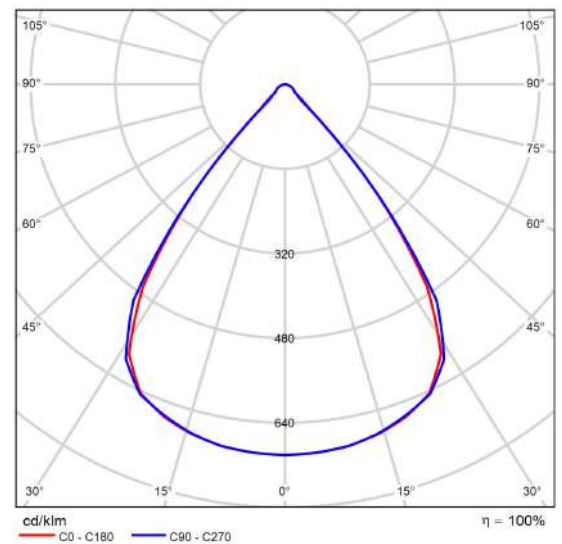
pcs.	Manufacturer	Article No.	Article name	P	$\Phi$	Luminous efficacy
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm	136.4 lm/W

## Product data sheet

LUG Light Factory - OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y



Article No.	060331.5L04.312
P	33.0 W
$\Phi_{\text{Lamp}}$	4500 lm
$\Phi_{\text{Luminaire}}$	4500 lm
$\eta$	100.00 %
Luminous efficacy	136.4 lm/W
CCT	4000 K
CRI	80



Polar LDC

Glare evaluation according to UGR												
$\rho$ Ceiling	70	70	50	50	30	70	70	50	50	30		
$\rho$ Walls	50	30	50	30	30	50	30	50	30	30		
$\rho$ 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	21.0	21.9	21.3	22.1	22.3	21.0	21.9	21.3	22.1	22.3	
	3H	21.0	21.8	21.3	22.0	22.2	21.0	21.8	21.3	22.0	22.3	
	4H	20.9	21.7	21.2	21.9	22.2	20.9	21.7	21.2	21.9	22.2	
	6H	20.9	21.6	21.2	21.9	22.1	20.9	21.6	21.2	21.9	22.1	
	8H	20.8	21.5	21.2	21.8	22.1	20.8	21.5	21.2	21.8	22.1	
4H	12H	20.8	21.5	21.2	21.8	22.1	20.8	21.4	21.2	21.8	22.1	
	2H	20.8	21.6	21.2	21.8	22.1	20.9	21.6	21.2	21.9	22.1	
	3H	20.8	21.5	21.2	21.8	22.1	20.8	21.5	21.2	21.8	22.1	
	4H	20.8	21.4	21.2	21.7	22.1	20.8	21.4	21.2	21.7	22.1	
	6H	20.8	21.3	21.2	21.6	22.0	20.8	21.3	21.2	21.6	22.0	
8H	12H	20.8	21.2	21.2	21.6	22.0	20.7	21.2	21.2	21.6	22.0	
	2H	20.7	21.1	21.2	21.5	22.0	20.7	21.1	21.1	21.5	22.0	
	4H	20.7	21.2	21.2	21.6	22.0	20.7	21.2	21.2	21.6	22.0	
	6H	20.7	21.1	21.2	21.5	21.9	20.7	21.1	21.1	21.5	21.9	
	8H	20.7	21.0	21.2	21.4	21.9	20.7	21.0	21.1	21.4	21.9	
12H	12H	20.7	20.9	21.1	21.4	21.9	20.6	20.9	21.1	21.4	21.9	
	4H	20.7	21.1	21.1	21.5	21.9	20.7	21.1	21.1	21.5	21.9	
	6H	20.7	21.0	21.1	21.4	21.9	20.7	21.0	21.1	21.4	21.9	
	8H	20.7	20.9	21.1	21.4	21.9	20.6	20.9	21.1	21.4	21.9	
Variation of the observer position for the luminaire distances S												
S = 1.0H		+3.6 / -6.4					+3.7 / -6.6					
S = 1.5H		+5.5 / -6.9					+5.8 / -7.0					
S = 2.0H		+7.4 / -7.3					+7.7 / -7.4					
Standard table		BK00					BK00					
Correction summand		2.6					2.6					
Corrected glare indices referring to 4500lm Total luminous flux												

UGR diagram (SHR: 0.25)

Building 1 · Storey 1 (Light scene 1)

## Room list



Building 1 · Storey 1 (Light scene 1)

**Room list**

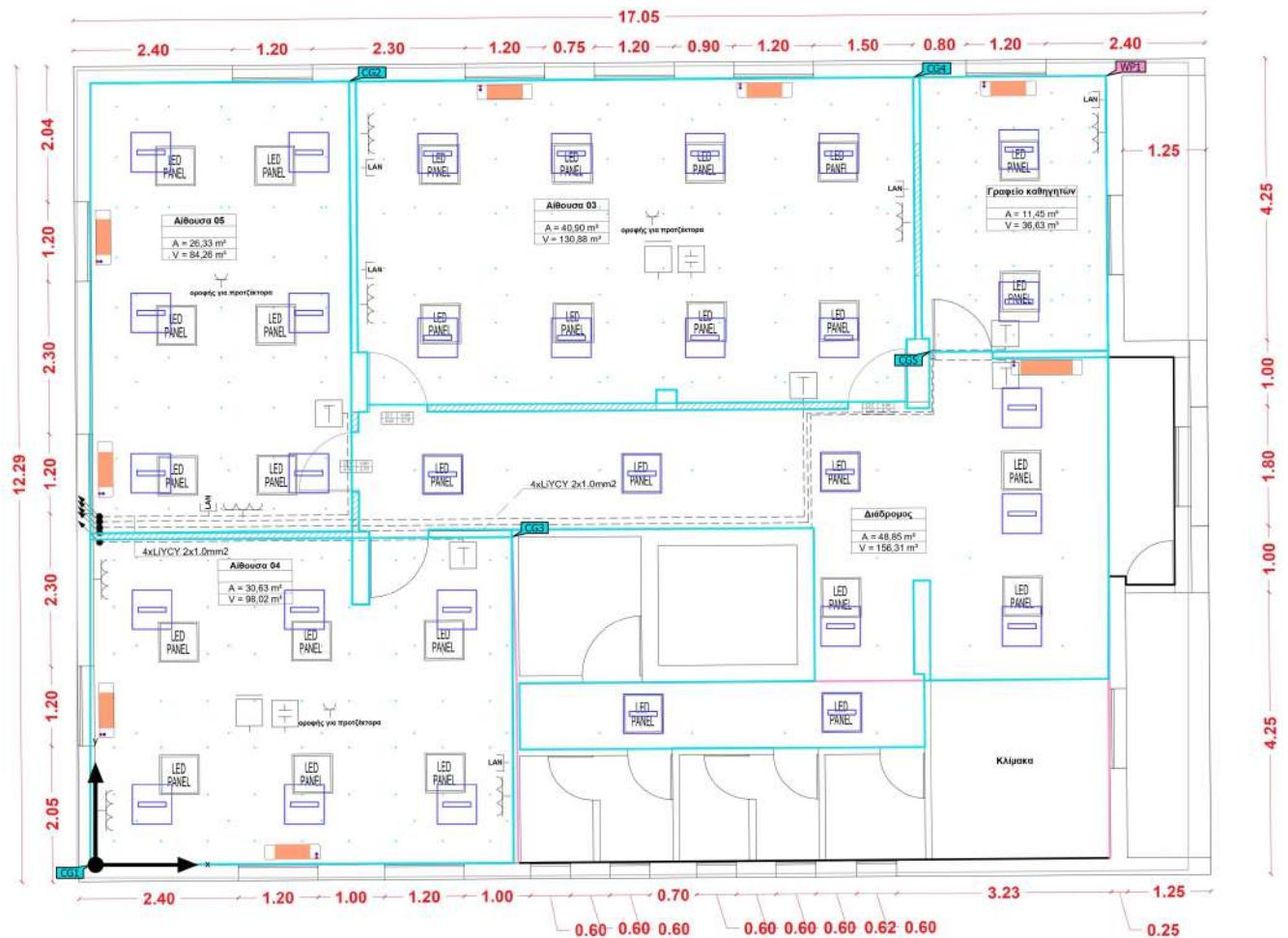
Room 1

$P_{\text{total}}$ 1023.0 W	$A_{\text{Room}}$ 184.67 m <sup>2</sup>	<b>Lighting power density</b> 5.54 W/m <sup>2</sup> = 0.86 W/m <sup>2</sup> /100 lx (Room) 6.97 W/m <sup>2</sup> = 1.08 W/m <sup>2</sup> /100 lx (Working plane)	$\bar{E}_{\text{perpendicular (Working plane)}}$ 647 lx
--------------------------------	--	--	--

pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm

Building 1 · Storey 1 (Light scene 1)

## Calculation objects





Building 1 · Storey 1 (Light scene 1)

**Calculation objects**

## Working planes

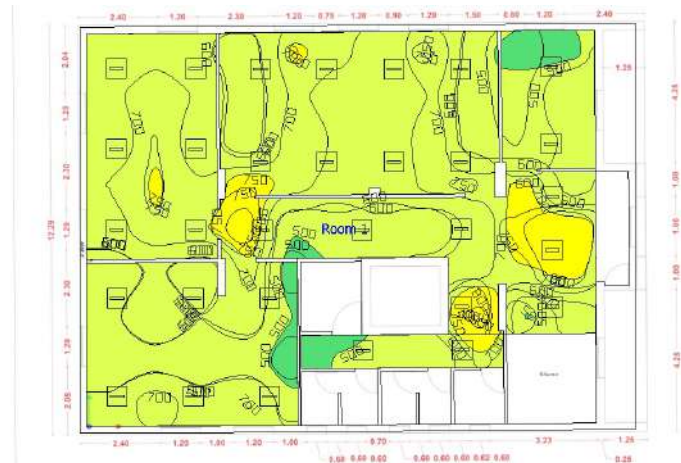
Properties	$\bar{E}$ (Target)	$E_{min}$	$E_{max}$	$g_1$ (Target)	$g_2$	Index
Working plane (Room 1) Perpendicular illuminance Height: 0.800 m, Wall zone: 0.000 m	647 lx ( $\geq 500$ lx) ✓	403 lx	1016 lx	0.62 ( $\geq 0.60$ ) ✓	0.40	WP1

## Calculation surfaces

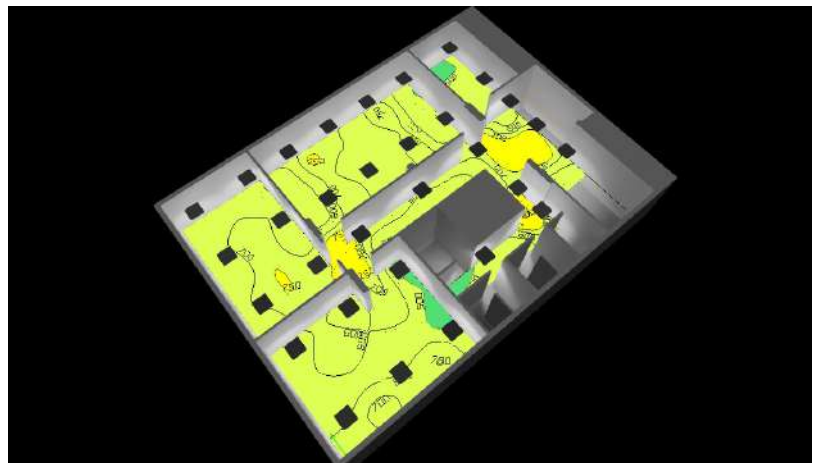
Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Calculation surface 1 Perpendicular illuminance Height: 0.800 m	636 lx	434 lx	932 lx	0.68	0.47	CG1
Αίθουσα 05 Perpendicular illuminance Height: 0.800 m	668 lx	533 lx	750 lx	0.80	0.71	CG2
Αίθουσα 04 Perpendicular illuminance Height: 0.800 m	596 lx	459 lx	769 lx	0.77	0.60	CG3
Αίθουσα 03 Perpendicular illuminance Height: 0.800 m	658 lx	440 lx	822 lx	0.67	0.54	CG4
Γραφείο Καθηγητών Perpendicular illuminance Height: 0.800 m	514 lx	296 lx	702 lx	0.58	0.42	CG5

## Images

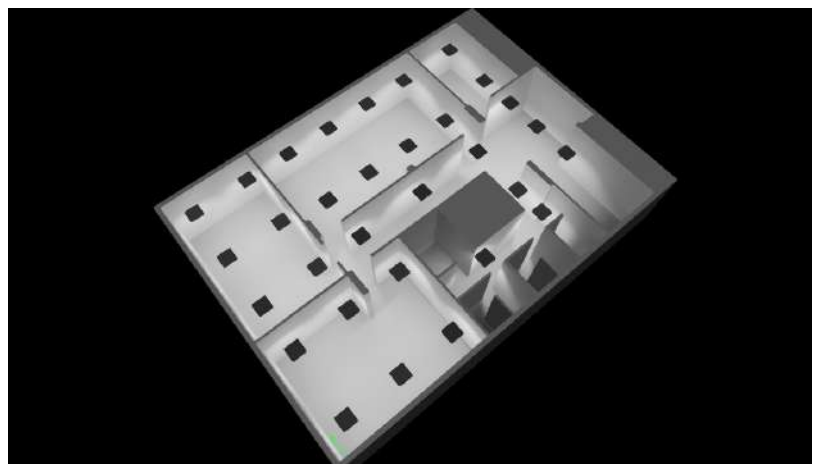
ΚΑΤΟΨΗ ΨΕΥΔΟΧΡΩΜΑΤΑ



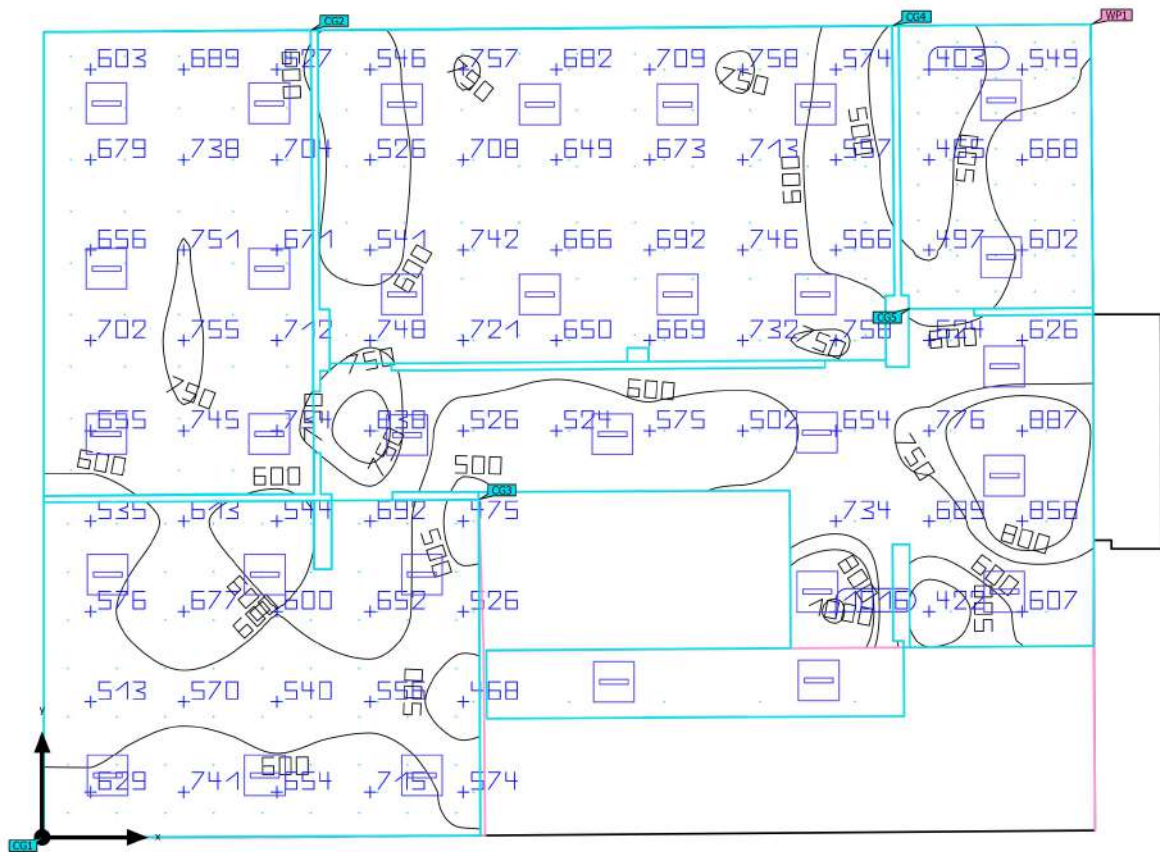
### 3D ΨΕΥΔΟΧΡΩΜΑΤΑ



### 3D ΦΩΤΙΣΜΟΣ



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

**Summary**

Ground area	184.67 m <sup>2</sup>	Clearance height	3.000 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	3.000 m
Maintenance factor	0.80 (fixed)	Height <sub>Working plane</sub>	0.800 m
		Wall zone <sub>Working plane</sub>	0.000 m

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

## Summary

### Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	647 lx	$\geq 500$ lx	✓	WP1
	$g_1$	0.62	$\geq 0.60$	✓	WP1
	Lighting power density	6.97 W/m <sup>2</sup>	–		
		1.08 W/m <sup>2</sup> /100 lx	–		
Energy estimation <sup>(2)</sup>	Consumption	2532 kWh/a	max. 6500 kWh/a	✓	
Room	Lighting power density	5.54 W/m <sup>2</sup>	–		
		0.86 W/m <sup>2</sup> /100 lx	–		

<sup>(2)</sup> Calculated using DIN:18599-4.

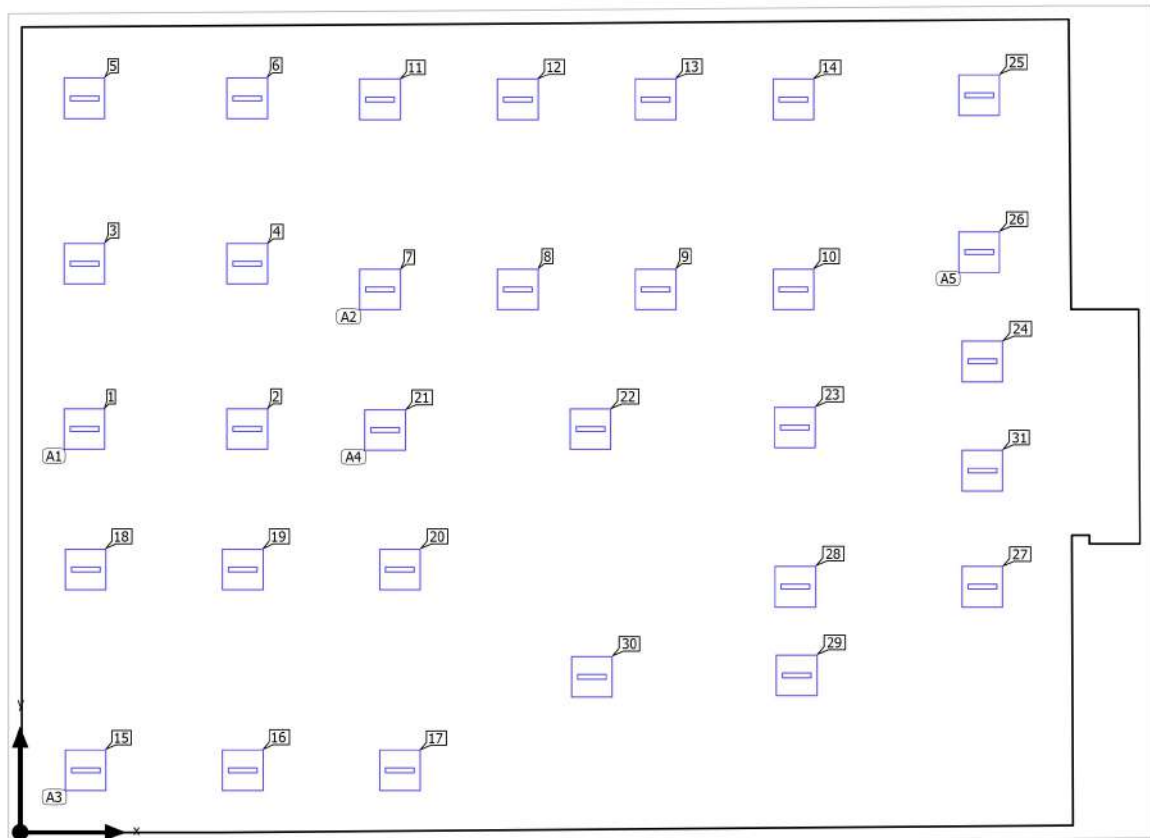
Utilisation profile: DIALux presetting (34.2 Standard (office))

### Luminaire list

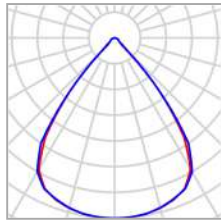
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm	136.4 lm/W

Building 1 · Storey 1 · Room 1

## Luminaire layout plan



Building 1 · Storey 1 · Room 1

**Luminaire layout plan**

Manufacturer	LUG Light Factory	P	33.0 W
Article No.	060331.5L04.312	Φ <sub>Luminaire</sub>	4500 lm
Article name	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y		
Fitting	1x LED 4000K		

6 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.940 m / 5.908 m / 3.000 m	0.940 m	5.908 m	3.000 m	1
X-direction	2 pcs., Centre - centre, 2.381 m	3.322 m	5.908 m	3.000 m	2
Y-direction	3 pcs., Centre - centre, 2.421 m	0.940 m	8.330 m	3.000 m	3
		3.322 m	8.330 m	3.000 m	4
Arrangement	A1	0.940 m	10.751 m	3.000 m	5
		3.322 m	10.751 m	3.000 m	6

8 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	5.267 m / 7.953 m / 3.000 m	5.267 m	7.953 m	3.000 m	7
X-direction	4 pcs., Centre - centre, 2.017 m	7.283 m	7.953 m	3.000 m	8
		9.300 m	7.953 m	3.000 m	9

Building 1 · Storey 1 · Room 1

**Luminaire layout plan**

Y-direction	2 pcs., Centre - centre, 2.782 m	X	Y	Mounting height	Luminaire
Arrangement	A2	11.317 m	7.953 m	3.000 m	10
		5.267 m	10.736 m	3.000 m	11
		7.283 m	10.736 m	3.000 m	12
		9.300 m	10.736 m	3.000 m	13
		11.317 m	10.736 m	3.000 m	14

6 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.958 m / 0.909 m / 3.000 m	0.958 m	0.909 m	3.000 m	15
X-direction	3 pcs., Centre - centre, 2.299 m	3.258 m	0.909 m	3.000 m	16
		5.557 m	0.909 m	3.000 m	17
Y-direction	2 pcs., Centre - centre, 2.940 m	0.958 m	3.850 m	3.000 m	18
Arrangement	A3	3.258 m	3.850 m	3.000 m	19
		5.557 m	3.850 m	3.000 m	20

4 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	5.340 m / 5.894 m / 3.000 m	5.340 m	5.894 m	3.000 m	21
X-direction	4 pcs., Centre - centre, Distances not equal	8.345 m	5.907 m	3.000 m	22
		11.337 m	5.929 m	3.000 m	23
Arrangement	A4	14.080 m	6.898 m	3.000 m	24

2 x LUG Light Factory OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia<sup>3</sup>y

Building 1 · Storey 1 · Room 1

**Luminaire layout plan**

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	14.034 m / 10.798 m / 3.000 m	14.034 m	10.798 m	3.000 m	<span>25</span>
X-direction	2 pcs., Centre - centre, Distances not equal	14.034 m	8.498 m	3.000 m	<span>26</span>
Arrangement	A5				

## Individual luminaires

X	Y	Mounting height	Luminaire
14.080 m	3.598 m	3.000 m	<span>27</span>
11.345 m	3.598 m	3.000 m	<span>28</span>
11.365 m	2.298 m	3.000 m	<span>29</span>
8.366 m	2.277 m	3.000 m	<span>30</span>
14.080 m	5.298 m	3.000 m	<span>31</span>



Building 1 · Storey 1 · Room 1

**Luminaire list** $\Phi_{\text{total}}$ 

139500 lm

 $P_{\text{total}}$ 

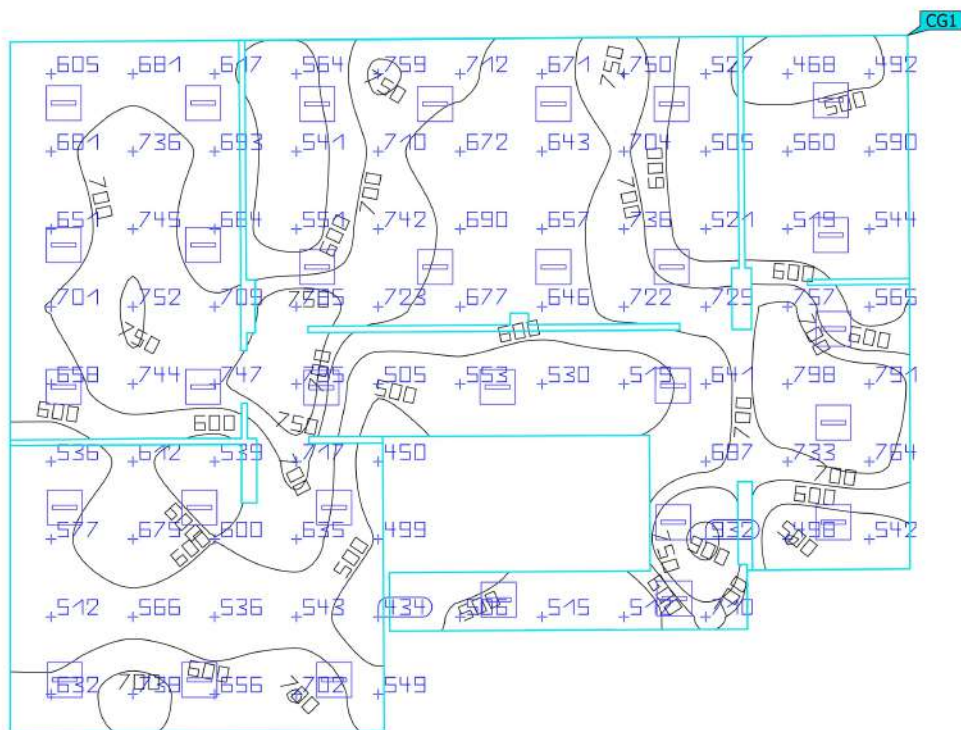
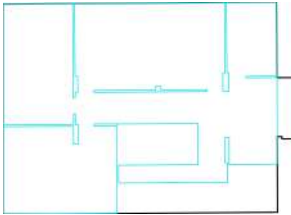
1023.0 W

Luminous efficacy

136.4 lm/W

pcs.	Manufacturer	Article No.	Article name	P	$\Phi$	Luminous efficacy
31	LUG Light Factory	060331.5L 04.312	OFFICE MINI LED 600x600 p/t ED 4500lm/840 SLB 80st. bia <sup>3</sup> y	33.0 W	4500 lm	136.4 lm/W

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

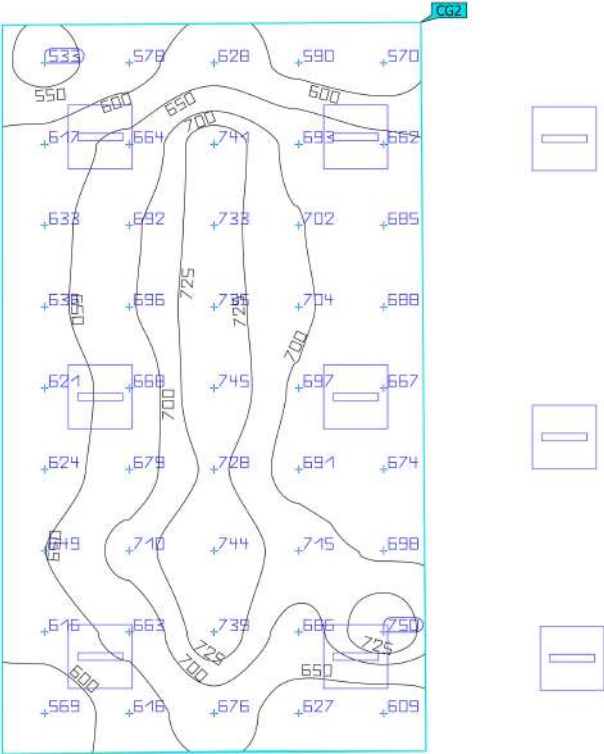
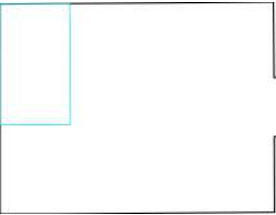
**Calculation surface 1**

Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Calculation surface 1 Perpendicular illuminance Height: 0.800 m	636 lx	434 lx	932 lx	0.68	0.47	CG1

Utilisation profile: DIALux presetting (34.2 Standard (office))

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

Αίθουσα 05

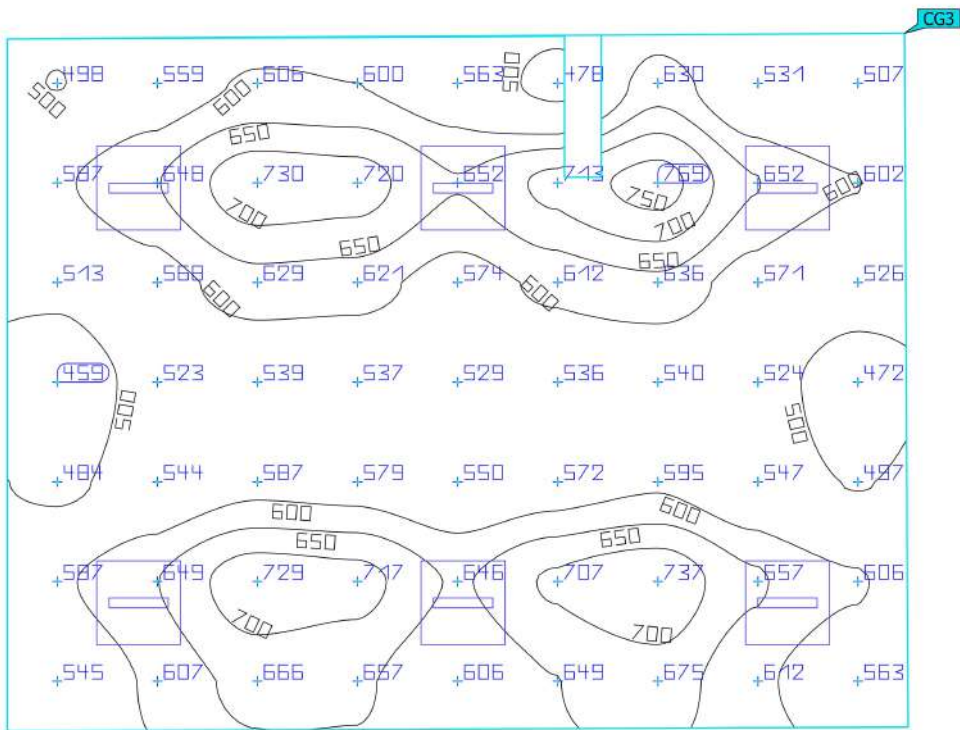
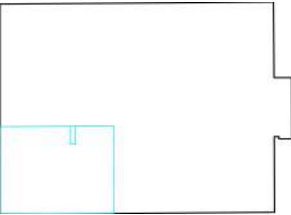


Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Αίθουσα 05 Perpendicular illuminance Height: 0.800 m	668 lx	533 lx	750 lx	0.80	0.71	CG2

Utilisation profile: DIALux presetting (34.2 Standard (office))

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

Αίθουσα 04

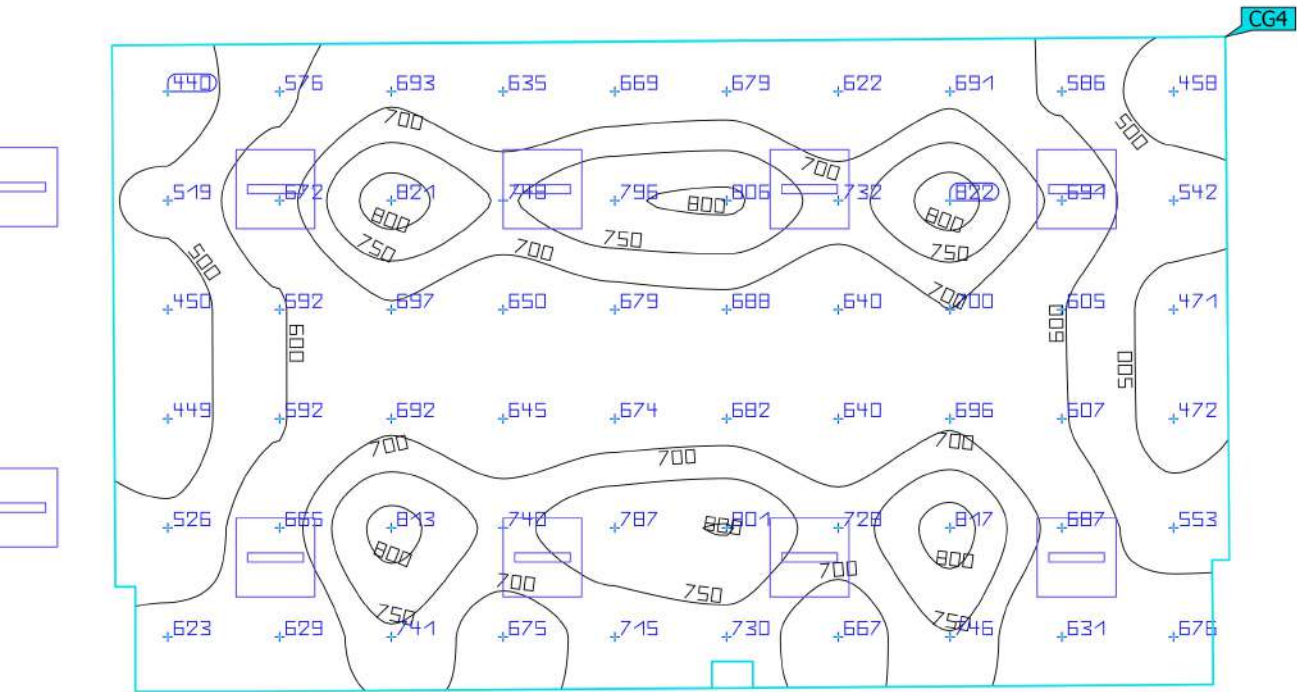
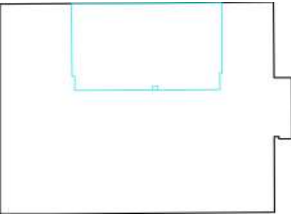


Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Αίθουσα 04 Perpendicular illuminance Height: 0.800 m	596 lx	459 lx	769 lx	0.77	0.60	CG3

Utilisation profile: DIALux presetting (34.2 Standard (office))

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

Αίθουσα 03

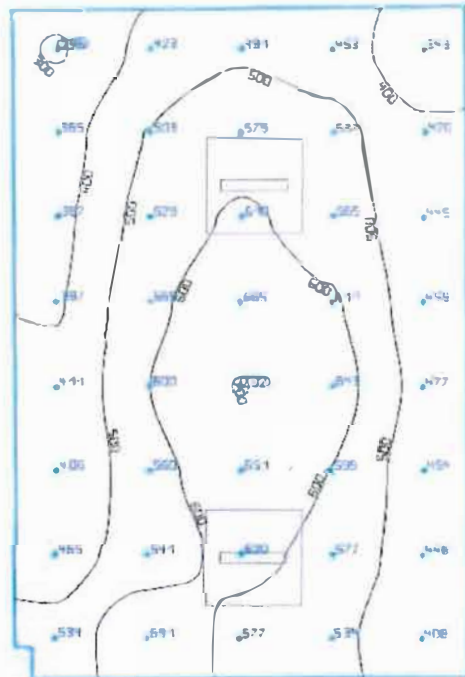
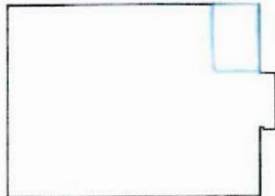


Properties	$\bar{E}$	$E_{min}$	$E_{max}$	$g_1$	$g_2$	Index
Αίθουσα 03 Perpendicular illuminance Height: 0.800 m	658 lx	440 lx	822 lx	0.67	0.54	CG4

Utilisation profile: DIALux presetting (34.2 Standard (office))

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

## Γραφείο Καθηγητών



Properties	E	E <sub>min</sub>	E <sub>max</sub>	g <sub>1</sub>	g <sub>2</sub>	Index
Γραφείο Καθηγητών Perpendicular illuminance Height: 0.800 m	514 lx	296 lx	702 lx	0.58	0.42	CG5

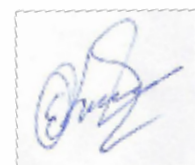
Utilisation profile: DIALux presetting (31.2 Standard (office))

Ο μελετητής

Θεωρήθηκε

Εγκρίθηκε

ΚΩΝΣΤΑΝΤΙΝΟΣ Α. ΛΥΜΠΕΡΟΠΟΥΛΟΣ  
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ΤΗΛ. 2551550777 ΚΗΛ.: 6947617620  
ΑΦΜ 131440665 - ΔΟΥ: ΑΛΕΞ/ΠΟΛΗΣ



ΚΩΝΣΤΑΝΤΙΝΟΣ ΛΥΜΠΕΡΟΠΟΥΛΟΣ  
Εκπρόσωπος Ένωσης Οικονομικών  
Φορέων

30/9/2024

ΚΟΤΣΑΝΗ ΕΛΕΝΗ  
ΠΟΛΙΤΙΚΟΣ ΜΗΧΑΝΙΚΟΣ Π.Ε.  
30/9/2024