

LI STUDY

Preliminary remarks

Notes on planning:

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

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Site 1 - Building 1

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Site 1 - Building 1 - ΔΙΑΔΡΟΜΟΣ

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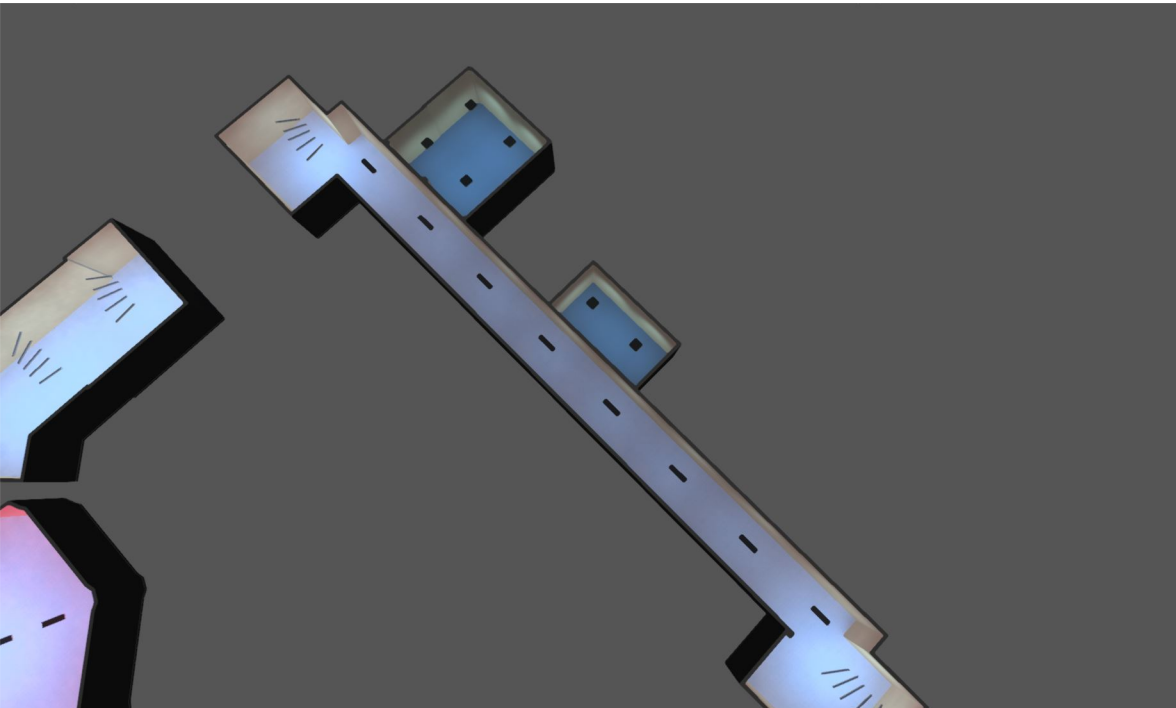
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Description

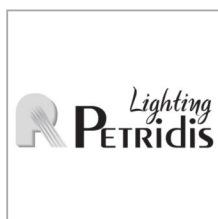
Luminaire list

Φ_{total} 305917 lm	P_{total} 3554.0 W	Luminous efficacy 86.1 lm/W
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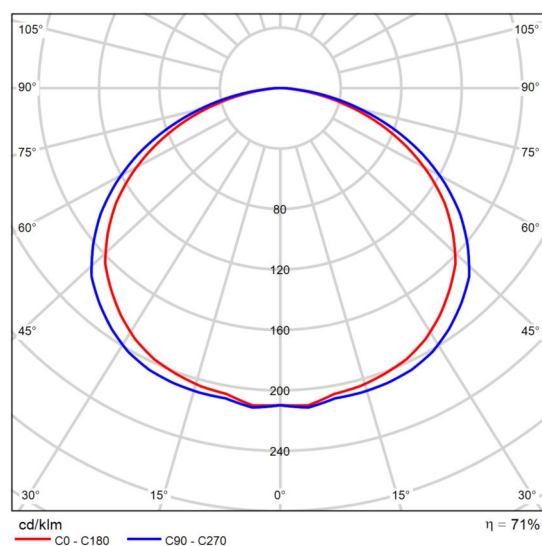
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
25	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	31.0 W	2909 lm	93.8 lm/W
30	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm	60.3 lm/W
31	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Product data sheet

Petridis - FOGLIO H S LED 42W WARM L1200mm



Article No.	29580_
P	42.0 W
Φ_{Lamp}	3570 lm
$\Phi_{\text{Luminaire}}$	2532 lm
η	70.93 %
Luminous efficacy	60.3 lm/W
CCT	3000 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	30	50	30	50	30	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	17.0	18.4	17.3	18.6	18.9	17.4	18.8	17.7	19.1	19.3	
	3H	18.6	19.9	18.9	20.1	20.4	19.1	20.4	19.5	20.7	21.0	
	4H	19.2	20.4	19.5	20.7	21.0	19.8	21.0	20.2	21.3	21.6	
	6H	19.6	20.7	19.9	21.0	21.3	20.3	21.4	20.6	21.7	22.0	
	8H	19.7	20.8	20.0	21.1	21.4	20.4	21.5	20.8	21.8	22.2	
	12H	19.7	20.8	20.1	21.1	21.4	20.5	21.5	20.9	21.9	22.2	
4H	2H	17.8	19.0	18.1	19.3	19.5	18.1	19.3	18.4	19.6	19.9	
	3H	19.5	20.6	19.9	20.9	21.2	20.0	21.0	20.4	21.4	21.7	
	4H	20.3	21.2	20.7	21.5	21.9	20.8	21.7	21.2	22.1	22.4	
	6H	20.8	21.6	21.2	22.0	22.4	21.4	22.2	21.8	22.6	23.0	
	8H	20.9	21.7	21.3	22.1	22.5	21.6	22.3	22.0	22.7	23.2	
	12H	21.0	21.7	21.4	22.1	22.5	21.7	22.4	22.1	22.8	23.2	
8H	4H	20.6	21.4	21.0	21.7	22.2	21.1	21.8	21.5	22.2	22.6	
	6H	21.2	21.8	21.7	22.3	22.7	21.8	22.4	22.3	22.8	23.3	
	8H	21.4	22.0	21.9	22.4	22.9	22.1	22.6	22.5	23.1	23.5	
	12H	21.5	22.0	22.0	22.5	23.0	22.2	22.7	22.7	23.1	23.7	
	4H	20.6	21.3	21.1	21.7	22.2	21.1	21.8	21.5	22.2	22.6	
	6H	21.3	21.8	21.8	22.3	22.8	21.8	22.4	22.3	22.8	23.3	
12H	8H	21.5	22.0	22.0	22.5	23.0	22.1	22.6	22.6	23.1	23.6	
Variation of the observer position for the luminaire distances S												
S = 1.0H		+0.1 / -0.1					+0.1 / -0.1					
S = 1.5H		+0.3 / -0.3					+0.2 / -0.3					
S = 2.0H		+0.4 / -0.7					+0.4 / -0.5					
Standard table		BK06					BK06					
Correction Summand		3.1					3.7					
Corrected glare indices referring to 3570lm Total luminous flux												

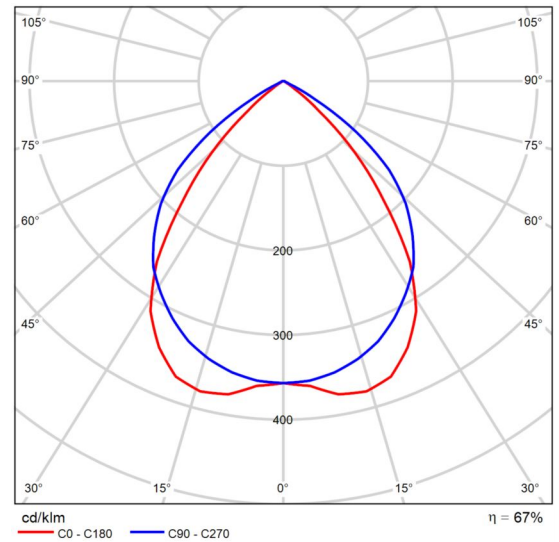
UGR diagram (SHR: 0.25)

Product data sheet

Petridis - LP2M 324 LED 49W WARM L596mm



Article No.	3116683
P	49.0 W
Φ_{Lamp}	7560 lm
$\Phi_{\text{Luminaire}}$	5072 lm
η	67.09 %
Luminous efficacy	103.5 lm/W
CCT	3000 K
CRI	80



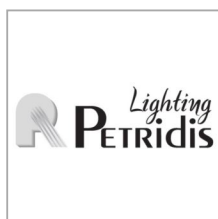
Polar LDC

Glare evaluation according to UGR												
p Ceiling	70	70	50	50	30	70	70	50	50	30		
p Walls	50	30	50	30	30	50	30	50	30	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	14.2	15.2	14.5	15.4	15.7	17.5	18.5	17.8	18.7	19.0	
	3H	14.1	15.0	14.4	15.2	15.5	17.4	18.3	17.7	18.5	18.8	
	4H	14.0	14.8	14.3	15.1	15.4	17.3	18.1	17.6	18.4	18.7	
	6H	13.9	14.7	14.2	15.0	15.3	17.2	18.0	17.5	18.3	18.6	
	8H	13.9	14.6	14.2	14.9	15.2	17.2	17.9	17.5	18.2	18.5	
	12H	13.8	14.6	14.2	14.9	15.2	17.1	17.9	17.5	18.2	18.5	
4H	2H	14.3	15.1	14.6	15.4	15.7	17.3	18.2	17.6	18.5	18.7	
	3H	14.1	14.9	14.5	15.2	15.5	17.2	17.9	17.6	18.2	18.5	
	4H	14.1	14.7	14.4	15.0	15.4	17.1	17.8	17.5	18.1	18.5	
	6H	14.0	14.5	14.4	14.9	15.3	17.0	17.6	17.5	18.0	18.4	
	8H	13.9	14.5	14.4	14.8	15.3	17.0	17.5	17.4	17.9	18.3	
	12H	13.9	14.4	14.3	14.8	15.2	17.0	17.4	17.4	17.9	18.3	
8H	4H	13.9	14.5	14.4	14.8	15.3	17.0	17.5	17.4	17.9	18.3	
	6H	13.9	14.3	14.3	14.7	15.2	16.9	17.3	17.4	17.8	18.2	
	8H	13.8	14.2	14.3	14.6	15.1	16.9	17.3	17.4	17.7	18.2	
	12H	13.8	14.1	14.3	14.6	15.1	16.9	17.2	17.3	17.6	18.1	
	4H	13.9	14.4	14.3	14.8	15.2	17.0	17.4	17.4	17.8	18.3	
	6H	13.8	14.2	14.3	14.6	15.1	16.9	17.3	17.4	17.7	18.2	
12H	8H	13.8	14.1	14.3	14.6	15.1	16.8	17.2	17.3	17.6	18.1	
Variation of the observer position for the luminaire distances S												
S = 1.0H		+2.0 / -7.3					+1.0 / -1.3					
S = 1.5H		+3.5 / -14.7					+2.3 / -7.7					
S = 2.0H		+5.1 / -17.1					+4.1 / -15.7					
Standard table		BK00					BK00					
Correction Summand		-5.6					-2.4					
Corrected glare indices referring to 7560lm Total luminous flux												

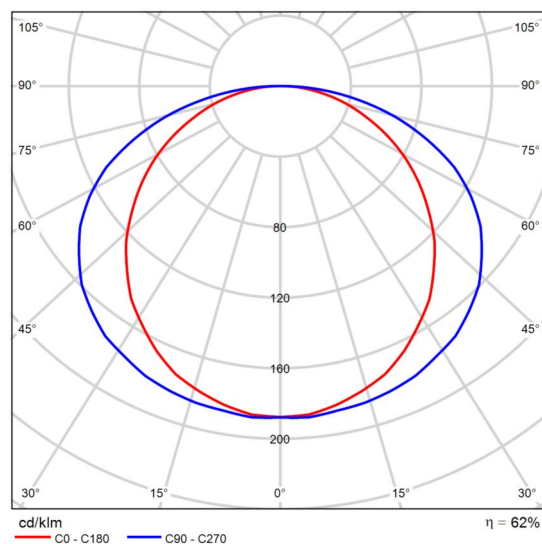
UGR diagram (SHR: 0.25)

Product data sheet

Petridis - P100 PLEXI LED 31W WARM L1480mm



Article No.	252623
P	31.0 W
Φ_{Lamp}	4725 lm
$\Phi_{\text{Luminaire}}$	2909 lm
η	61.56 %
Luminous efficacy	93.8 lm/W
CCT	3000 K
CRI	80

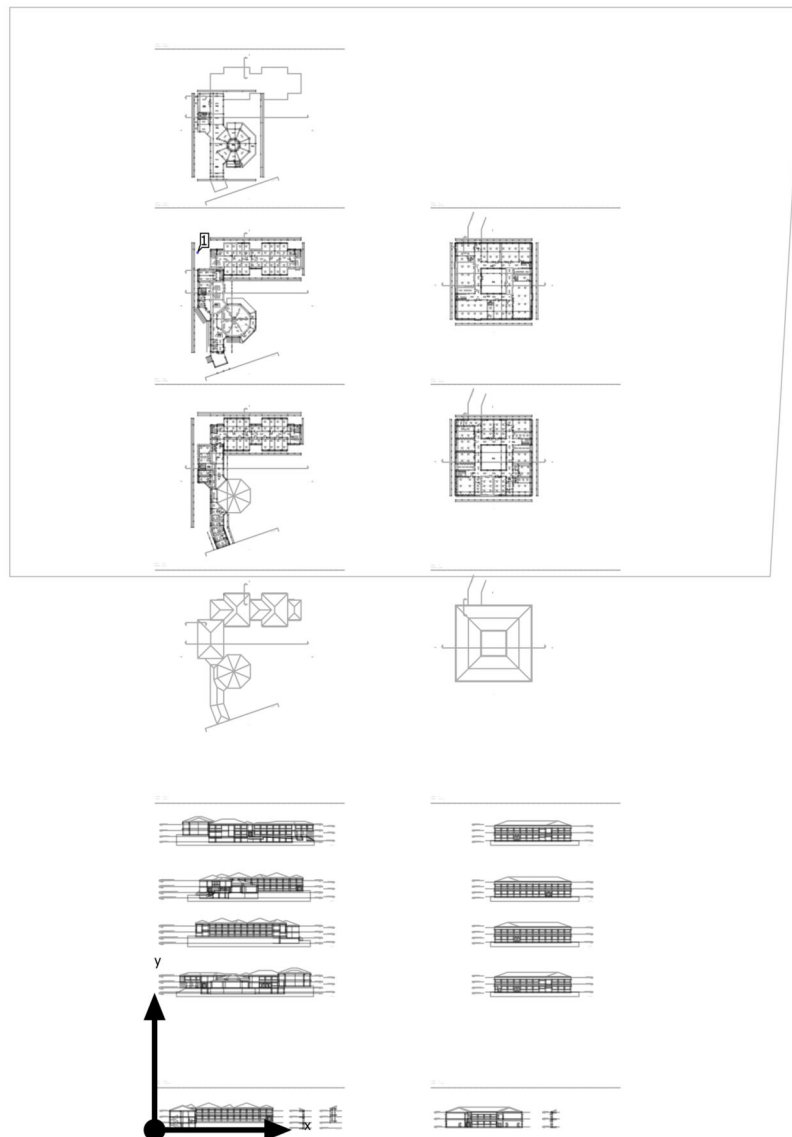


Polar LDC

Glare evaluation according to UGR												
p Ceiling	70	70	50	50	30	70	70	50	50	30		
p Walls	50	30	50	30	30	50	30	50	30	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	19.1	20.5	19.4	20.8	21.0	20.9	22.4	21.2	22.6	22.8	
	3H	20.6	22.0	21.0	22.2	22.5	23.0	24.3	23.4	24.6	24.9	
	4H	21.3	22.6	21.7	22.8	23.1	24.0	25.2	24.3	25.5	25.8	
	6H	21.9	23.0	22.2	23.3	23.6	24.7	25.9	25.1	26.2	26.5	
	8H	22.1	23.2	22.4	23.5	23.8	25.0	26.1	25.4	26.4	26.8	
	12H	22.2	23.3	22.6	23.6	24.0	25.2	26.3	25.6	26.6	27.0	
4H	2H	20.1	21.3	20.4	21.6	21.9	21.5	22.7	21.8	23.0	23.3	
	3H	21.8	22.8	22.2	23.2	23.5	23.8	24.8	24.1	25.2	25.5	
	4H	22.6	23.5	23.0	23.9	24.3	24.9	25.8	25.3	26.2	26.5	
	6H	23.2	24.1	23.7	24.5	24.9	25.8	26.6	26.2	27.0	27.4	
	8H	23.5	24.3	23.9	24.7	25.1	26.1	26.9	26.6	27.3	27.7	
	12H	23.7	24.4	24.2	24.9	25.3	26.4	27.2	26.9	27.6	28.0	
8H	4H	23.1	23.9	23.6	24.3	24.7	25.1	25.9	25.5	26.3	26.7	
	6H	24.0	24.6	24.4	25.0	25.5	26.2	26.8	26.6	27.3	27.7	
	8H	24.3	24.9	24.8	25.3	25.8	26.7	27.2	27.2	27.7	28.2	
	12H	24.6	25.1	25.1	25.6	26.1	27.1	27.6	27.6	28.1	28.6	
12H	4H	23.2	23.9	23.7	24.3	24.8	25.1	25.8	25.5	26.2	26.7	
	6H	24.1	24.7	24.6	25.1	25.6	26.2	26.8	26.7	27.3	27.7	
	8H	24.5	25.0	25.0	25.5	26.0	26.8	27.3	27.3	27.7	28.2	
Variation of the observer position for the luminaire distances S												
S = 1.0H	+0.1 / -0.1					+0.1 / -0.1						
S = 1.5H	+0.2 / -0.3					+0.2 / -0.2						
S = 2.0H	+0.4 / -0.6					+0.3 / -0.4						
Standard table	BK07					BK08						
Correction Summand	5.7					8.5						
Corrected glare indices referring to 4725lm Total luminous flux												

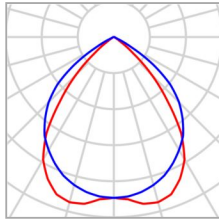
UGR diagram (SHR: 0.25)

Site 1

Luminaire layout plan

Site 1

Luminaire layout plan



Manufacturer	Petridis	P	49.0 W
Article No.	3116683	$\Phi_{\text{Luminaire}}$	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
24.510 m	499.927 m	4.000 m	1

Site 1

Luminaire list

Φ_{total} 5072 lm	P_{total} 49.0 W	Luminous efficacy 103.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1

Luminaire list Φ_{total}

300845 lm

 P_{total}

3505.0 W

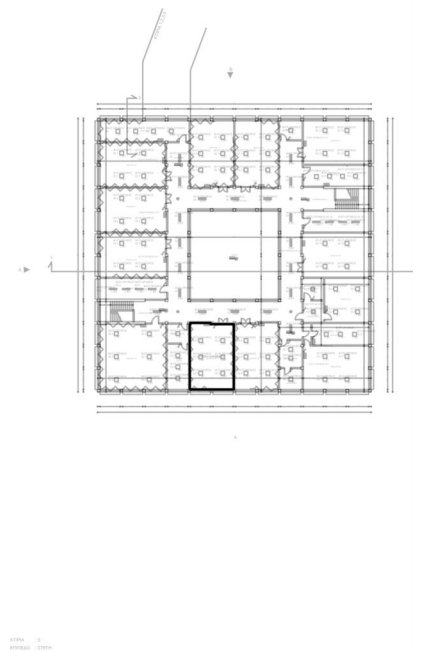
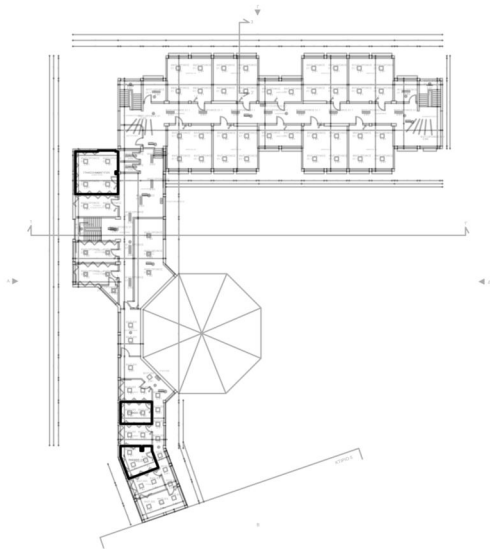
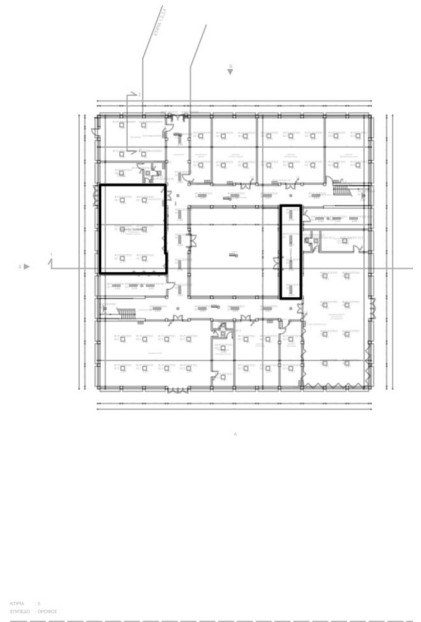
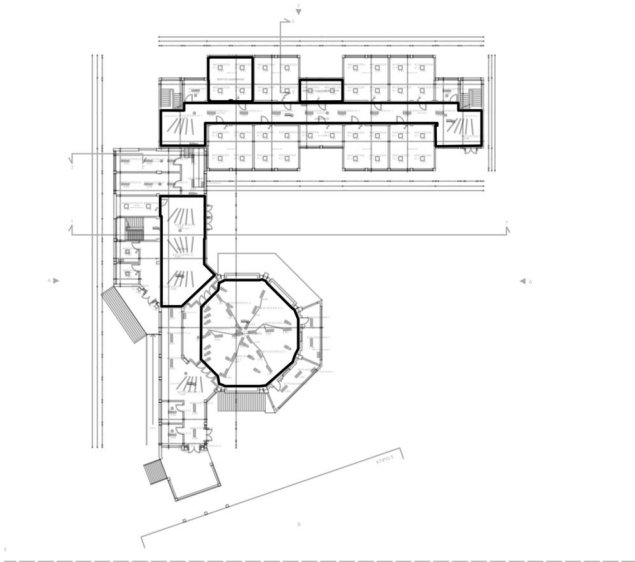
Luminous efficacy

85.8 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
25	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	31.0 W	2909 lm	93.8 lm/W
30	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm	60.3 lm/W
30	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Room List



Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Room List

ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ

P_{total} 441.0 W	A_{Room} 147.28 m ²	Lighting power density 2.99 W/m ² = 0.70 W/m ² /100 lx (Room) 3.57 W/m ² = 0.84 W/m ² /100 lx (Working plane)	E_{perpendicular} (Working plane) 426 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
9	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm

ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ

P_{total} 196.0 W	A_{Room} 49.41 m ²	Lighting power density 3.97 W/m ² = 1.25 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 317 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
4	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm

ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ

P_{total} 98.0 W	A_{Room} 23.46 m ²	Lighting power density 4.18 W/m ² = 1.40 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 298 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
2	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm

Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Room List

ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ

P_{total} 714.0 W	A_{Room} 216.67 m ²	Lighting power density 3.30 W/m ² = 1.08 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 304 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
17	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm

ΓΡΑΦΕΙΟ ΙΕΚ 1

P_{total} 147.0 W	A_{Room} 22.48 m ²	Lighting power density 6.54 W/m ² = 1.14 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 572 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
3	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm

ΓΡΑΦΕΙΟ ΙΕΚ 2

P_{total} 98.0 W	A_{Room} 17.50 m ²	Lighting power density 5.60 W/m ² = 1.30 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 431 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
2	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm

Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Room List

ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ

P_{total} 196.0 W	A_{Room} 46.50 m ²	Lighting power density 4.22 W/m ² = 1.00 W/m ² /100 lx (Room)	$\bar{E}_{perpendicular}$ (Working plane) 420 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
4	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm

ΔΙΑΔΡΟΜΟΣ

P_{total} 646.0 W	A_{Room} 206.65 m ²	Lighting power density 3.13 W/m ² = 1.58 W/m ² /100 lx (Room)	$\bar{E}_{perpendicular}$ (Working plane) 198 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
10	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	31.0 W	2909 lm
8	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm

ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ

P_{total} 168.0 W	A_{Room} 47.36 m ²	Lighting power density 3.55 W/m ² = 1.98 W/m ² /100 lx (Room)	$\bar{E}_{perpendicular}$ (Working plane) 179 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
4	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm

Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Room List

ΕΙΣΟΔΟΣ

P_{total} 465.0 W	A_{Room} 117.31 m ²	Lighting power density 3.96 W/m ² = 1.03 W/m ² /100 lx (Room)	$\bar{E}_{perpendicular}$ (Working plane) 387 lx
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pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{Luminaire}$
15	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	31.0 W	2909 lm

ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21

P_{total} 294.0 W	A_{Room} 73.44 m ²	Lighting power density 4.00 W/m ² = 0.77 W/m ² /100 lx (Room) 5.17 W/m ² = 1.00 W/m ² /100 lx (Working plane)	$\bar{E}_{perpendicular}$ (Working plane) 517 lx
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pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{Luminaire}$
6	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm

Building 1 · ΔΙΑΔΡΟΜΟΣ

Luminaire list Φ_{total}

300845 lm

 P_{total}

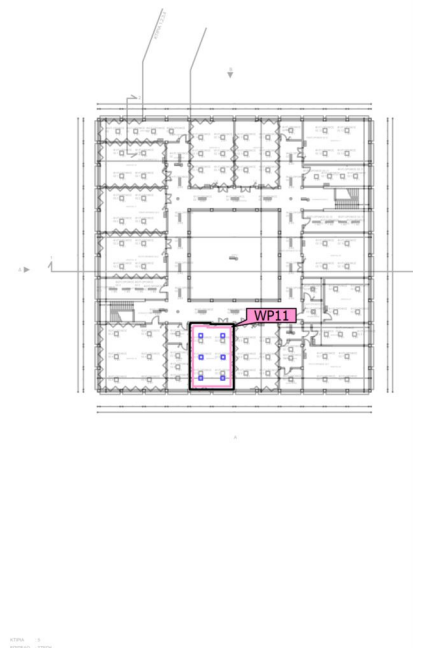
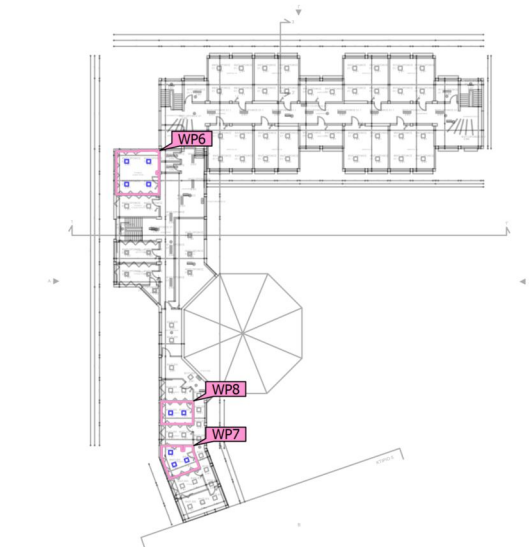
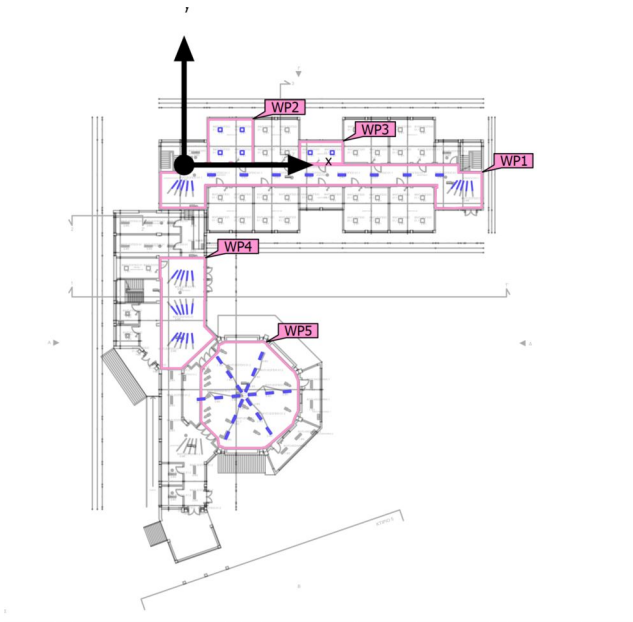
3505.0 W

Luminous efficacy

85.8 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
25	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	31.0 W	2909 lm	93.8 lm/W
30	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm	60.3 lm/W
30	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Calculation objects

Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Calculation objects

Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΔΙΑΔΡΟΜΟΣ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	198 lx (≥ 100 lx) ✓	104 lx	433 lx	0.53 (≥ 0.40) ✓	0.24	WP1
Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	317 lx (≥ 200 lx) ✓	143 lx	413 lx	0.45 (≥ 0.40) ✓	0.35	WP2
Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	298 lx (≥ 200 lx) ✓	154 lx	399 lx	0.52 (≥ 0.40) ✓	0.39	WP3
Working plane (ΕΙΣΟΔΟΣ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	387 lx (≥ 100 lx) ✓	174 lx	557 lx	0.45 (≥ 0.40) ✓	0.31	WP4
Working plane (ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	304 lx (≥ 200 lx) ✓	146 lx	618 lx	0.48 (≥ 0.40) ✓	0.24	WP5
Working plane (ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	420 lx (≥ 300 lx) ✓	256 lx	512 lx	0.61 (≥ 0.60) ✓	0.50	WP6
Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	572 lx (≥ 200 lx) ✓	271 lx	839 lx	0.47 (≥ 0.40) ✓	0.32	WP7
Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	431 lx (≥ 200 lx) ✓	239 lx	638 lx	0.55 (≥ 0.40) ✓	0.37	WP8
Working plane (ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.500 m	426 lx (≥ 200 lx) ✓	204 lx	582 lx	0.48 (≥ 0.40) ✓	0.35	WP9
Working plane (ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	179 lx (≥ 100 lx) ✓	154 lx	195 lx	0.86 (≥ 0.40) ✓	0.79	WP10

Building 1 · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Calculation objects

Working plane (ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21)
Perpendicular illuminance (adaptive)
Height: 0.800 m, Wall zone: 0.500 m

517 lx
(≥ 300 lx)
✓

390 lx

606 lx

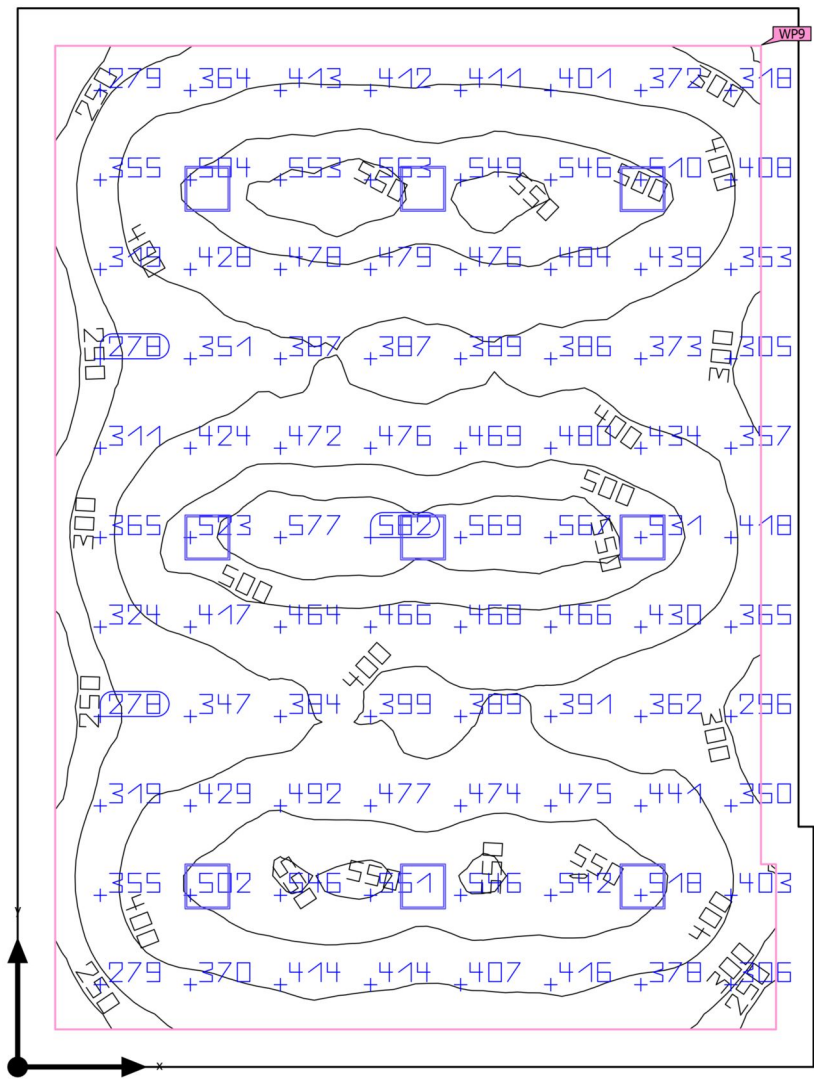
0.75
(≥ 0.60)
✓

0.64

WP11

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ (Light scene 1)

Summary



Ground area	147.28 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 70.3 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.500 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	426 lx	≥ 200 lx	✓	WP9
	g_1	0.48	≥ 0.40	✓	WP9
	Lighting power density	3.57 W/m ²	–		
		0.84 W/m ² /100 lx	–		
Glare valuation ⁽¹⁾	$R_{UG, \max}$	17	≤ 22	✓	
Consumption values ⁽²⁾	Consumption	849 kWh/a	max. 5200 kWh/a	✓	
Room	Lighting power density	2.99 W/m ²	–		
		0.70 W/m ² /100 lx	–		

(1) Based on a rectangular space of 10.600 m x 14.100 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

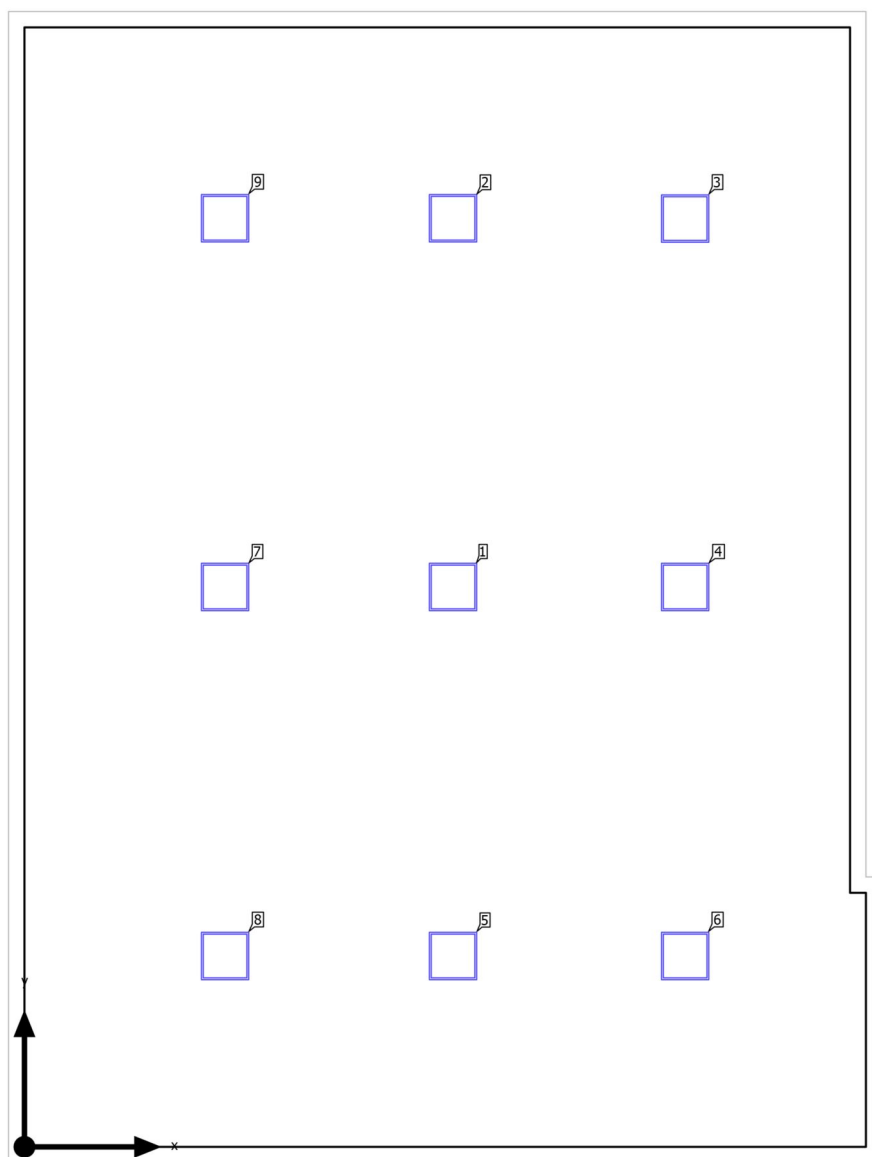
Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Luminaire list

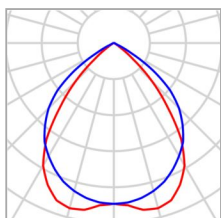
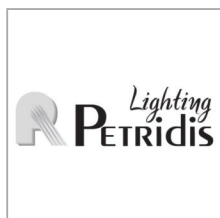
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
9	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	17	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ

Luminaire layout plan

Manufacturer	Petridis	P	49.0 W
Article No.	3116683	Φ _{Luminaire}	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
5.399 m	7.052 m	3.450 m	1
5.399 m	11.696 m	3.450 m	2
8.323 m	11.692 m	3.450 m	3
8.323 m	7.052 m	3.450 m	4
5.399 m	2.404 m	3.450 m	5
8.323 m	2.404 m	3.450 m	6
2.527 m	7.052 m	3.450 m	7
2.527 m	2.404 m	3.450 m	8
2.527 m	11.696 m	3.450 m	9

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ

Luminaire list Φ_{total}

45648 lm

 P_{total}

441.0 W

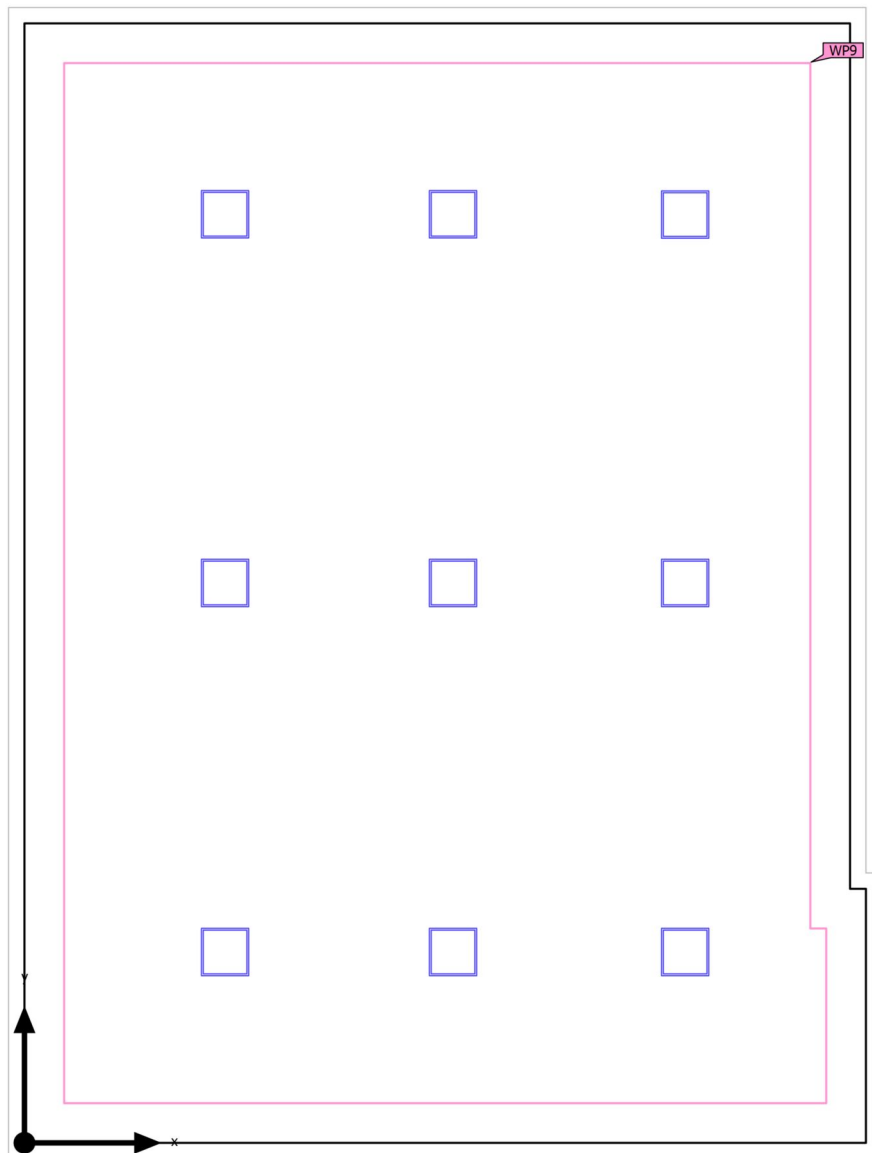
Luminous efficacy

103.5 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
9	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ (Light scene 1)

Calculation objects

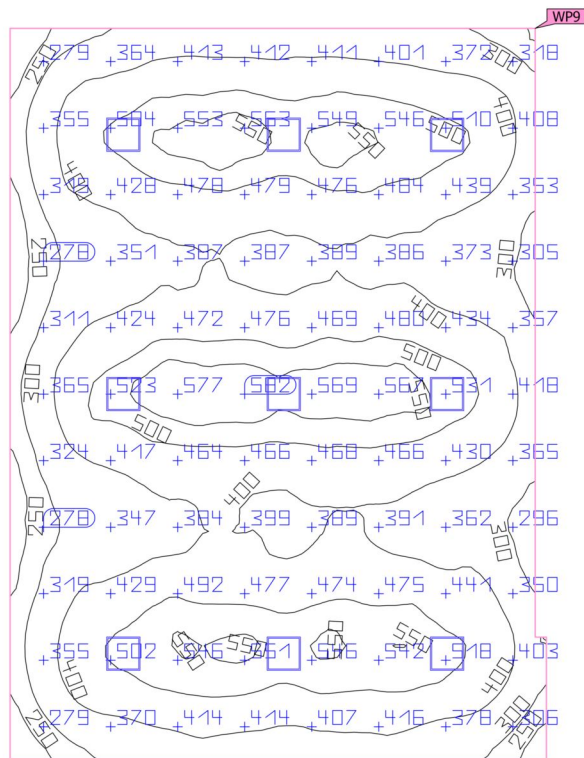
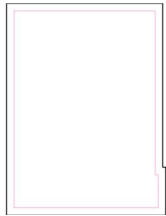
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.500 m	426 lx (≥ 200 lx) ✓	204 lx	582 lx	0.48 (≥ 0.40) ✓	0.35	WP9

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ (Light scene 1)

Working plane (ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ)

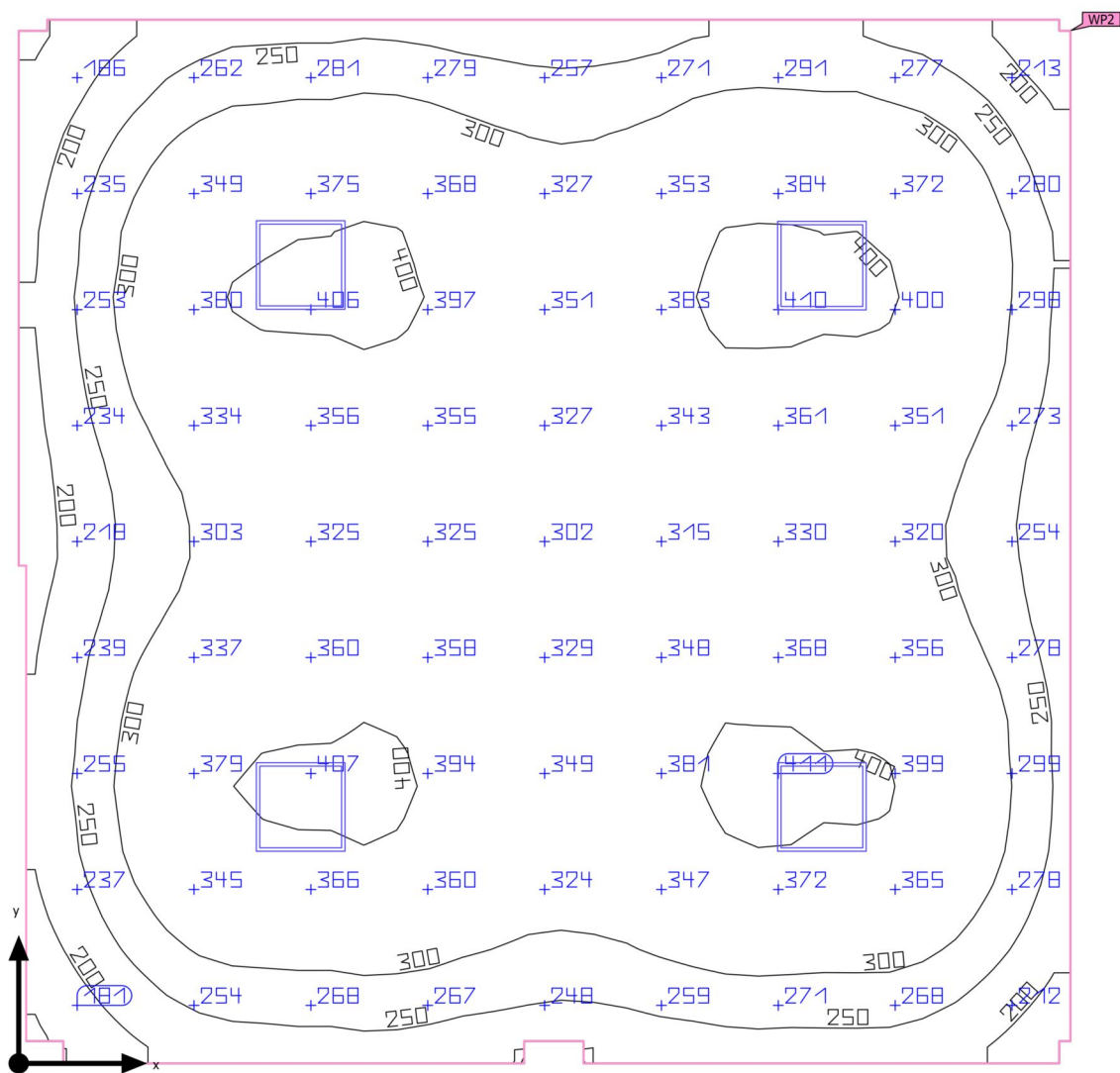


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΓΕΩΠΟΝΙΑΣ)	426 lx	204 lx	582 lx	0.48	0.35	WP9
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.500 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ (Light scene 1)

Summary



Ground area	49.41 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 57.4 %, Floor: 20.0 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	317 lx	≥ 200 lx	✓	WP2
	g_1	0.45	≥ 0.40	✓	WP2
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	17	≤ 22	✓	
Consumption values ⁽²⁾	Consumption	377 kWh/a	max. 1750 kWh/a	✓	
Room	Lighting power density	3.97 W/m ²	–		
		1.25 W/m ² /100 lx	–		

(1) Based on a rectangular space of 7.076 m x 7.025 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

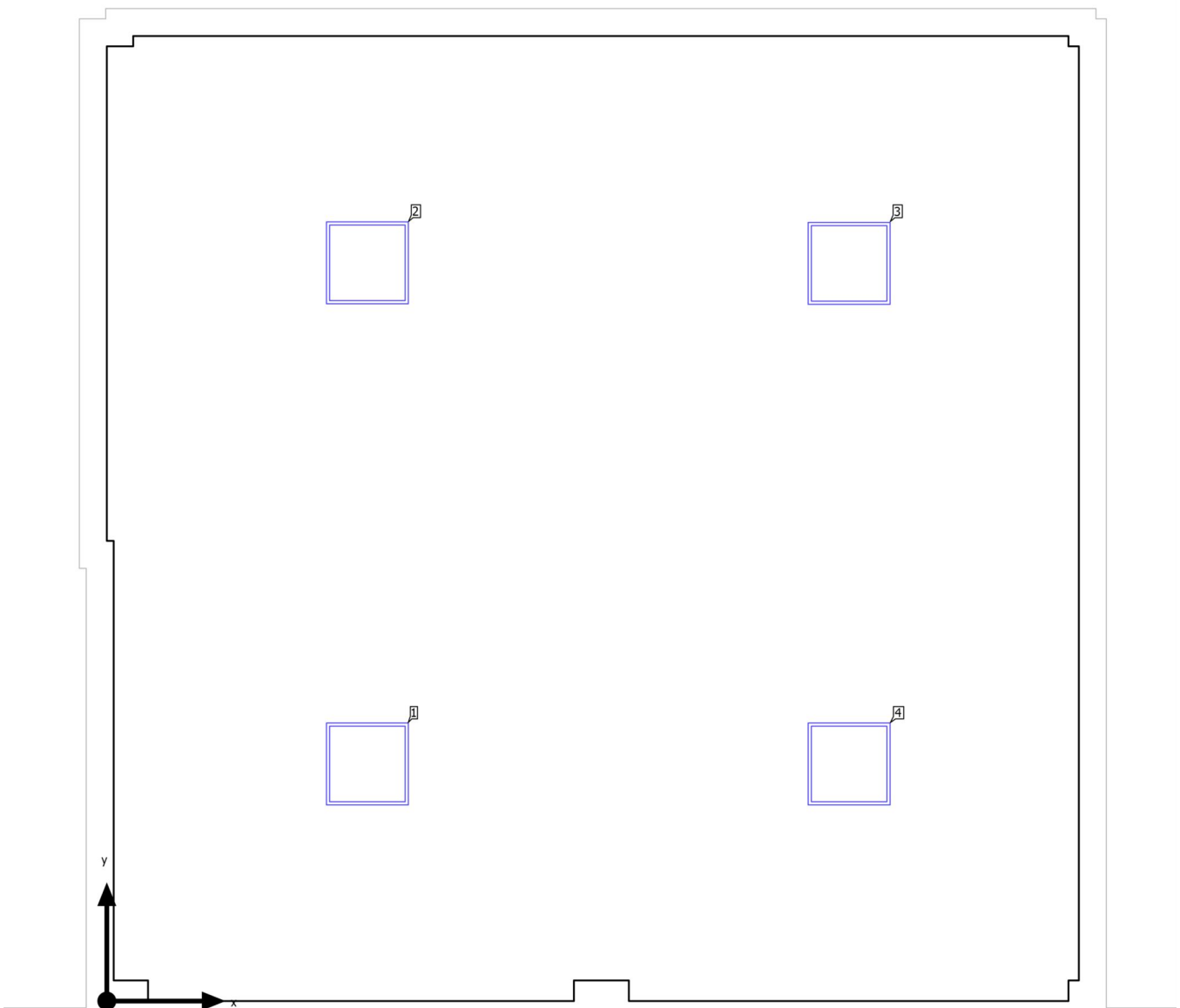
Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Luminaire list

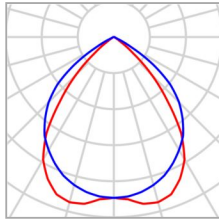
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
4	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	17	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ

Luminaire layout plan

Manufacturer	Petridis	P	49.0 W
Article No.	3116683	Φ _{Luminaire}	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
1.897 m	1.726 m	3.450 m	1
1.897 m	5.374 m	3.450 m	2
5.403 m	5.370 m	3.450 m	3
5.403 m	1.726 m	3.450 m	4

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ

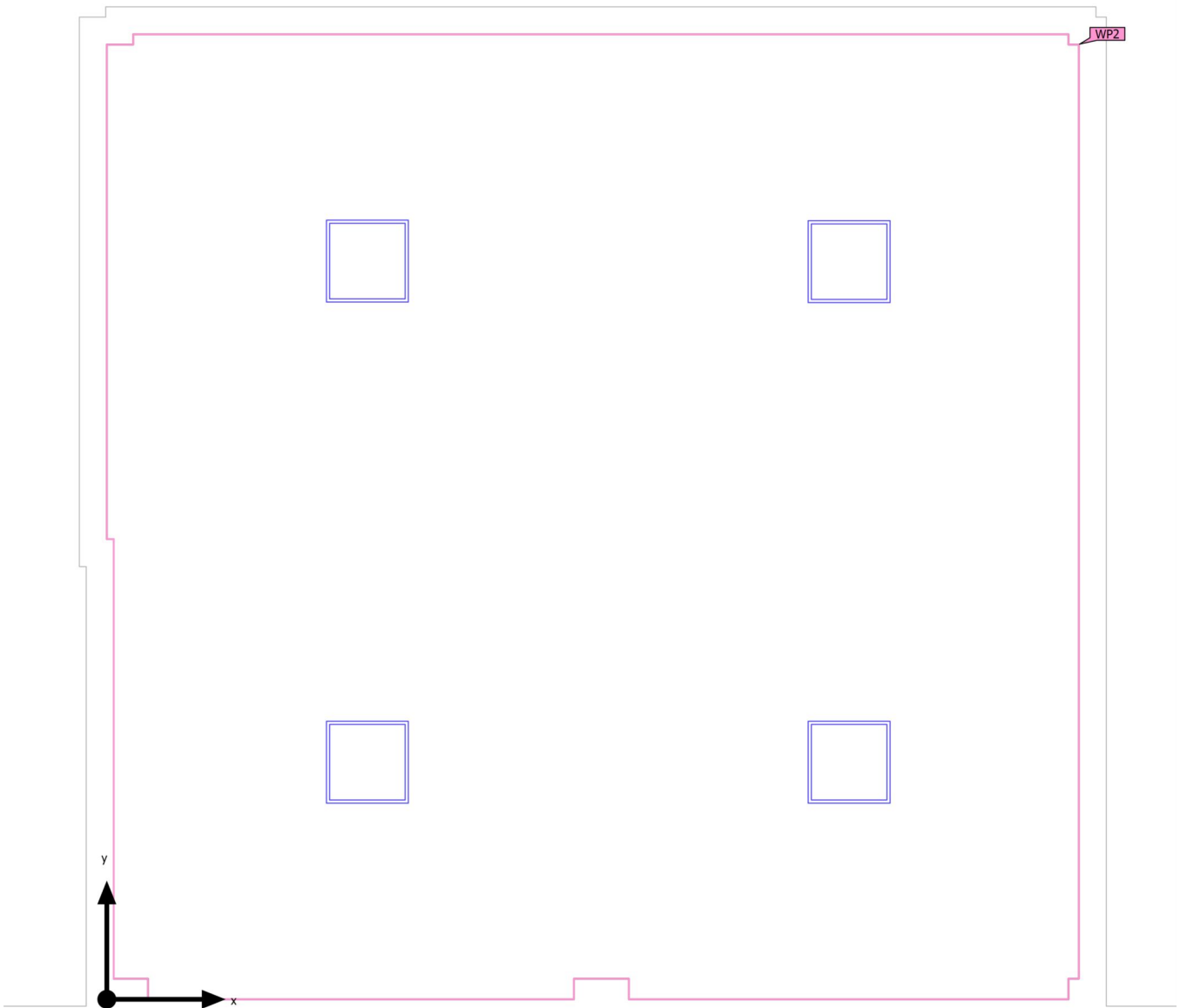
Luminaire list

Φ_{total} 20288 lm	P_{total} 196.0 W	Luminous efficacy 103.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
4	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ (Light scene 1)

Calculation objects

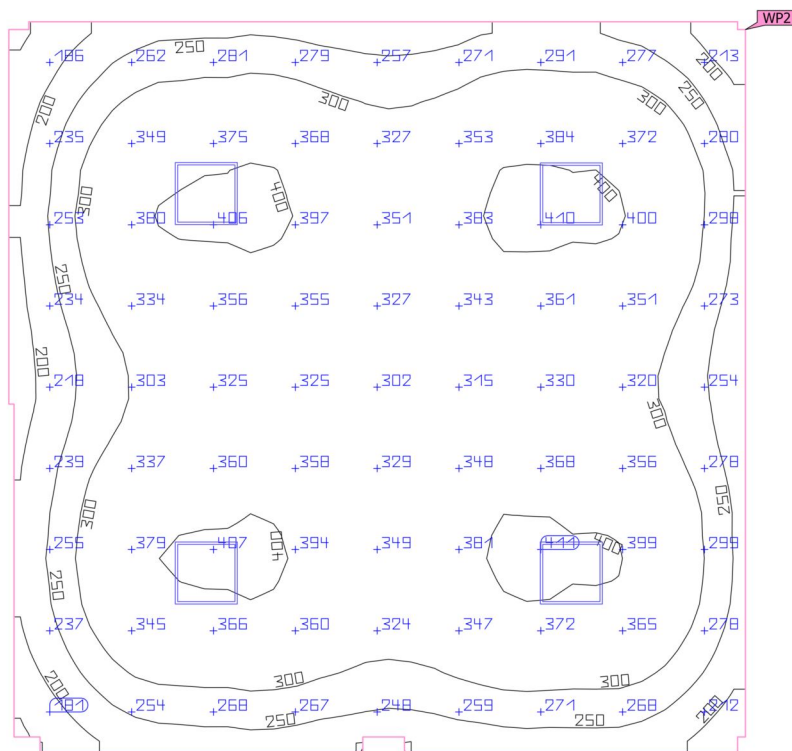
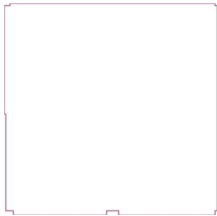
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	317 lx (≥ 200 lx) ✓	143 lx	413 lx	0.45 (≥ 0.40) ✓	0.35	WP2

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ (Light scene 1)

Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ)

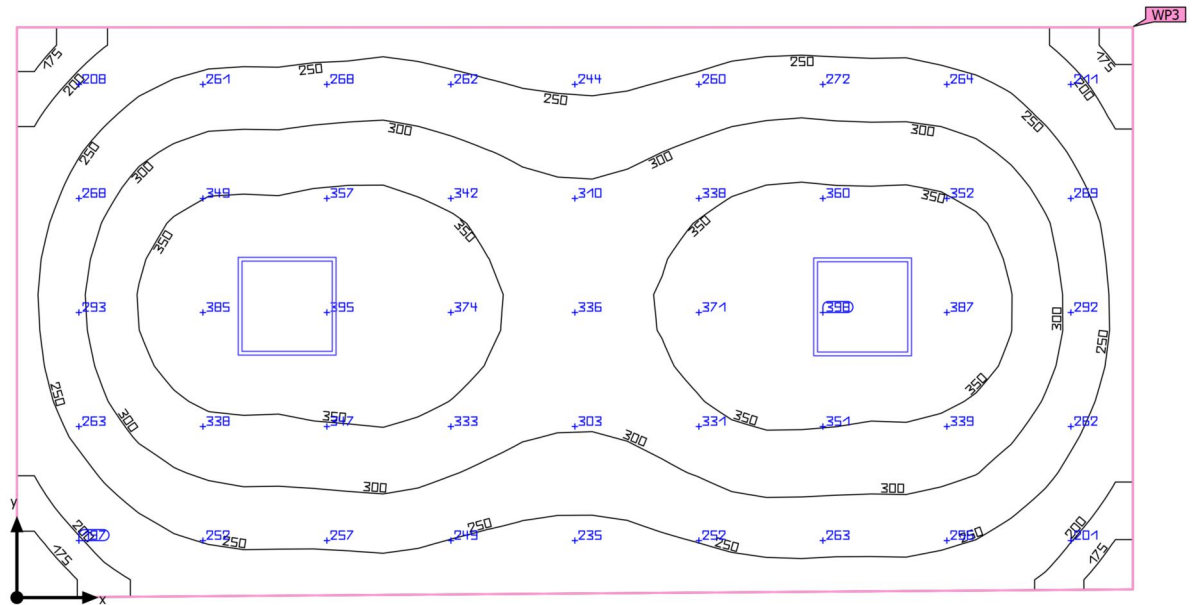


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ)	317 lx	143 lx	413 lx	0.45	0.35	WP2
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ (Light scene 1)

Summary



Ground area	23.46 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 57.5 %, Floor: 20.0 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	298 lx	≥ 200 lx	✓	WP3
	g_1	0.52	≥ 0.40	✓	WP3
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	17	≤ 22	✓	
Consumption values ⁽²⁾	Consumption	189 kWh/a	max. 850 kWh/a	✓	
Room	Lighting power density	4.18 W/m ²	–		
		1.40 W/m ² /100 lx	–		

(1) Based on a rectangular space of 3.475 m x 6.800 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

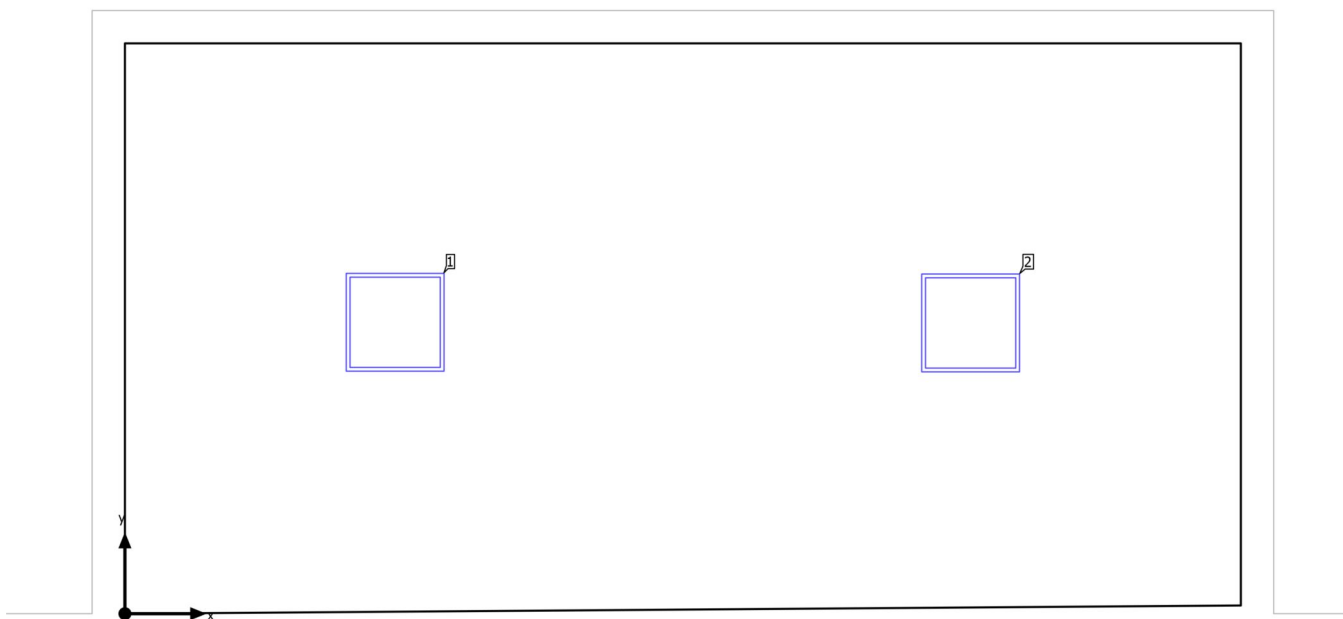
Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Luminaire list

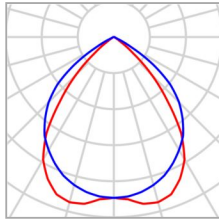
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
2	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	17	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ

Luminaire layout plan

Manufacturer	Petridis	P	49.0 W
Article No.	3116683	Φ _{Luminaire}	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
1.647 m	1.776 m	3.450 m	1
5.153 m	1.772 m	3.450 m	2

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ

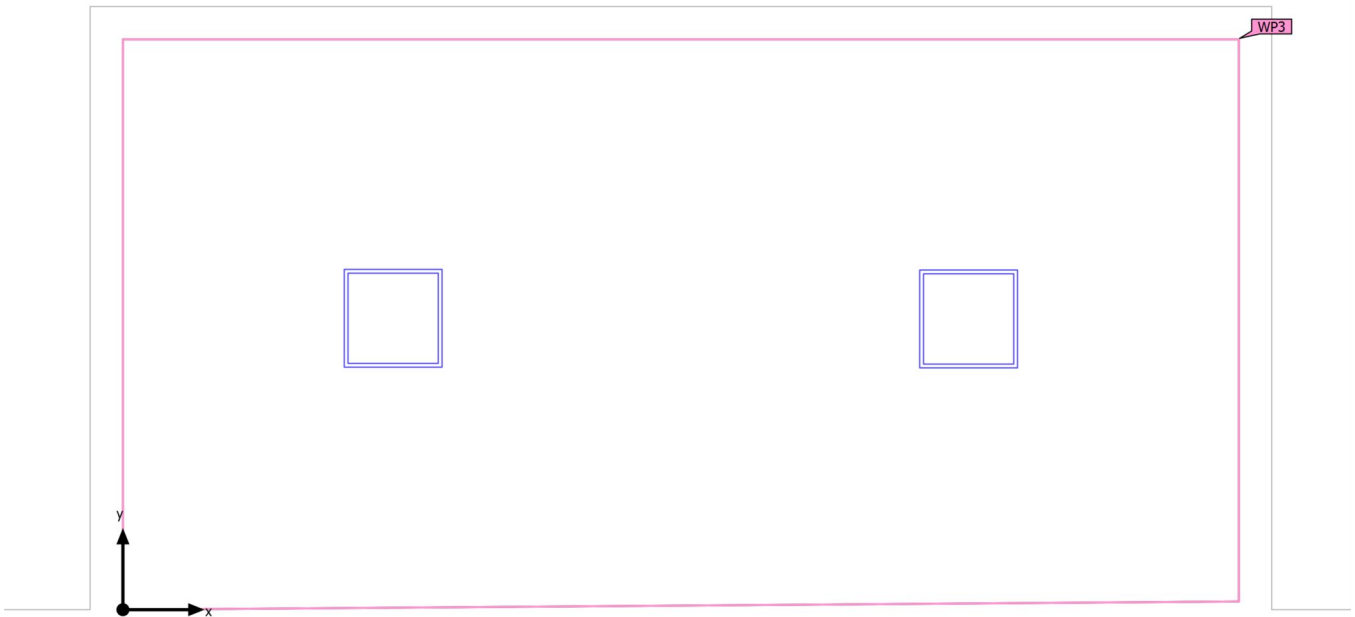
Luminaire list

Φ_{total} 10144 lm	P_{total} 98.0 W	Luminous efficacy 103.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
2	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ (Light scene 1)

Calculation objects

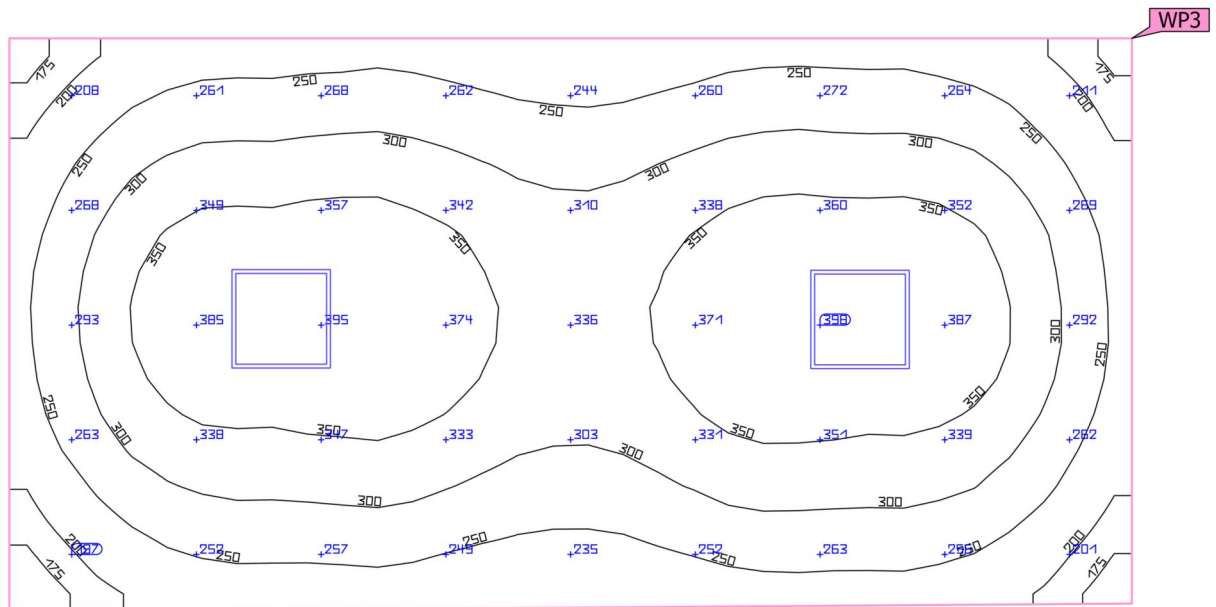
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	298 lx (≥ 200 lx) ✓	154 lx	399 lx	0.52 (≥ 0.40) ✓	0.39	WP3

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ (Light scene 1)

Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ)

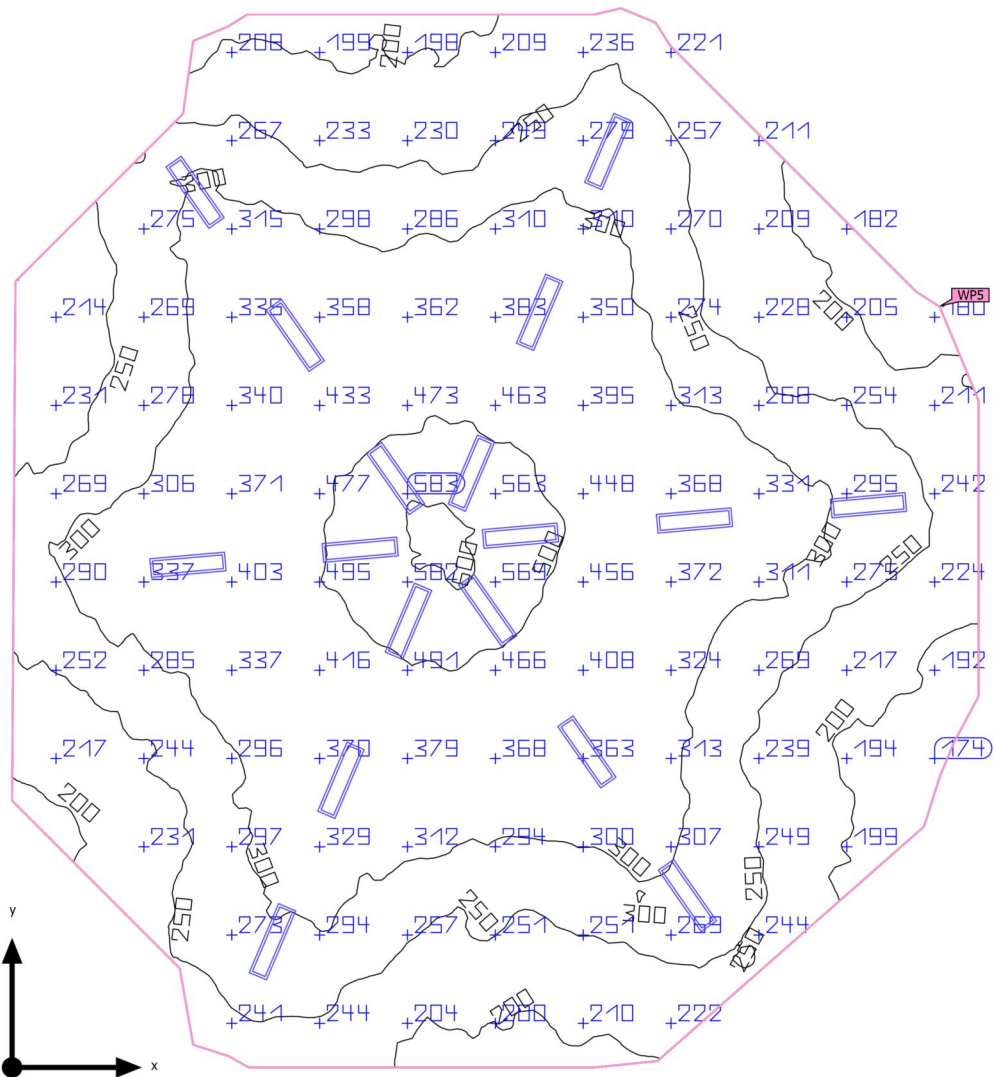


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΔΙΔΑΣΚΑΛΙΑΣ ΜΙΚΡΗ)	298 lx	154 lx	399 lx	0.52	0.39	WP3
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ (Light scene 1)

Summary



Ground area	216.67 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 70.3 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	304 lx	≥ 200 lx	✓	WP5
	g_1	0.48	≥ 0.40	✓	WP5
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	22	≤ 22	✓	
Consumption values ⁽²⁾	Consumption	1374 kWh/a	max. 7600 kWh/a	✓	
Room	Lighting power density	3.30 W/m ²	–		
		1.08 W/m ² /100 lx	–		

(1) Based on a rectangular space of 15.493 m x 16.978 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

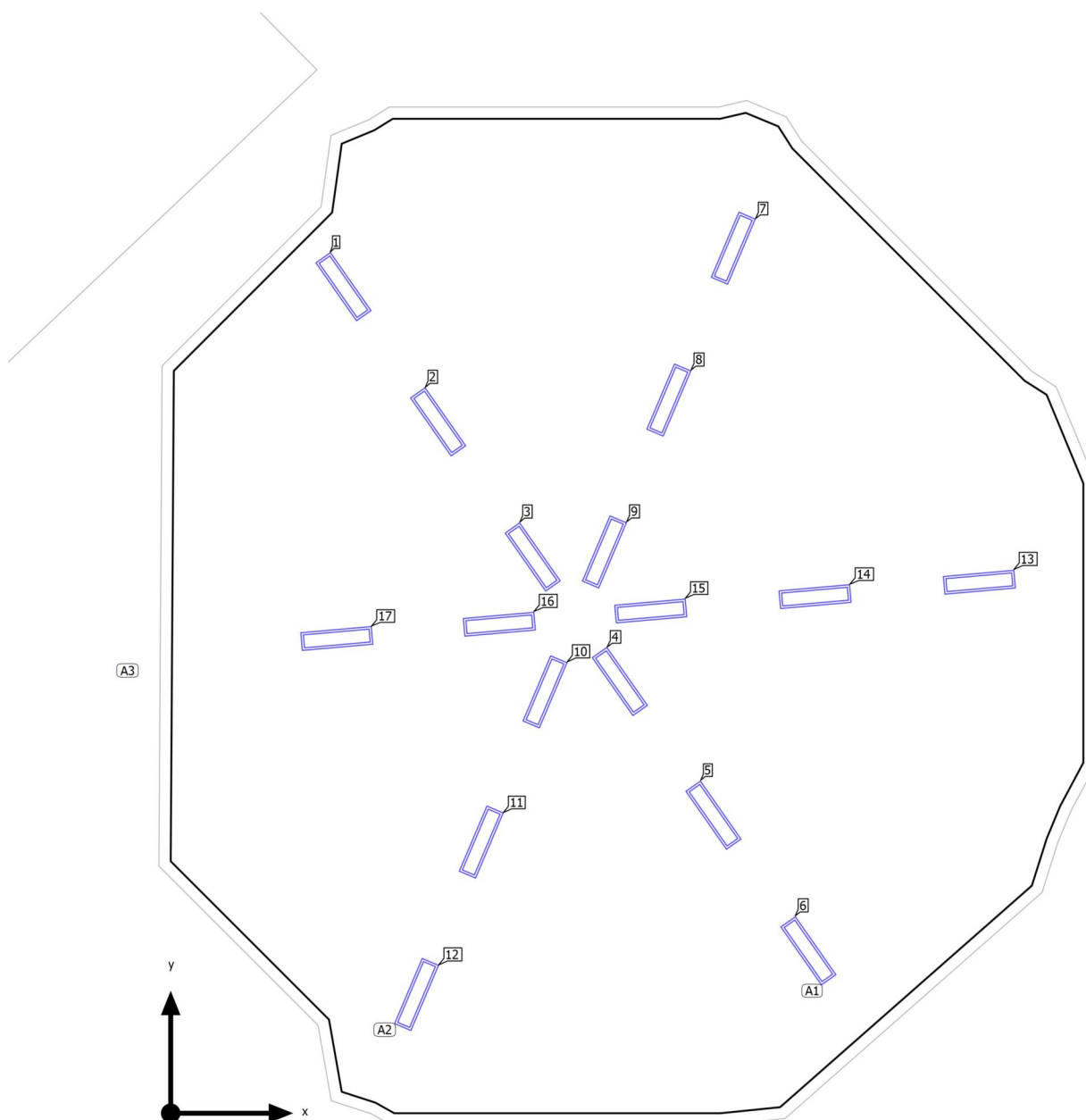
Utilization profile: Educational premises - Educational buildings (44.18 Entrance halls)

Luminaire list

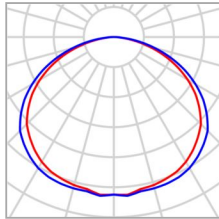
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
17	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	22	42.0 W	2532 lm	60.3 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ

Luminaire layout plan

Manufacturer	Petridis	P	42.0 W
Article No.	29580_	Φ _{Luminaire}	2532 lm
Article name	FOGLIO H S LED 42W WARM L1200mm		
Fitting	1x SMD		

6 x Petridis Lighting S.A. FOGLIO H S LED 42W WARM L1200mm

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	2.933 m / 14.028 m / 3.450 m	2.933 m	14.028 m	3.450 m	1
X-direction	6 pcs., Center - center, Distances not equal	4.539 m	11.734 m	3.450 m	2
		6.145 m	9.441 m	3.450 m	3
Arrangement	A1	7.625 m	7.327 m	3.450 m	4
		9.213 m	5.058 m	3.450 m	5
		10.825 m	2.756 m	3.450 m	6

6 x Petridis Lighting S.A. FOGLIO H S LED 42W WARM L1200mm

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	9.550 m / 14.681 m / 3.450 m	9.550 m	14.681 m	3.450 m	7
X-direction	6 pcs., Center - center, Distances not equal	8.456 m	12.104 m	3.450 m	8
		7.362 m	9.527 m	3.450 m	9
Arrangement	A2				

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ

Luminaire layout plan

X	Y	Mounting height	Luminaire
6.354 m	7.152 m	3.450 m	10
5.272 m	4.602 m	3.450 m	11
4.174 m	2.015 m	3.450 m	12

6 x Petridis Lighting S.A. FOGLIO H S LED 42W WARM L1200mm

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	13.728 m / 9.012 m / 3.450 m	13.728 m	9.012 m	3.450 m	13
X-direction	6 pcs., Center - center, Distances not equal	10.938 m	8.768 m	3.450 m	14
		8.149 m	8.524 m	3.450 m	15
Arrangement	A3	5.579 m	8.299 m	3.450 m	16
		2.819 m	8.058 m	3.450 m	17

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ

Luminaire list Φ_{total}

43044 lm

 P_{total}

714.0 W

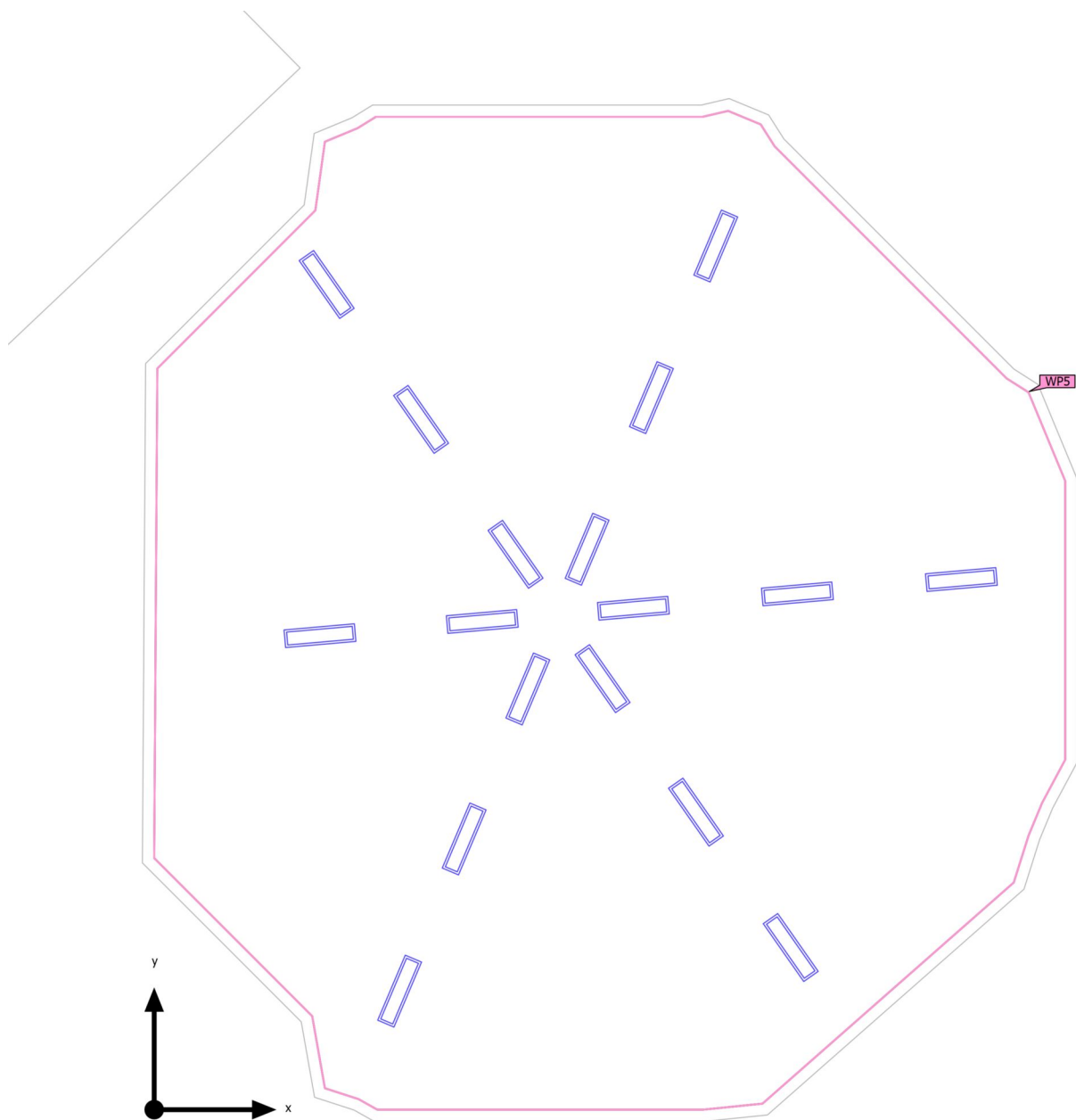
Luminous efficacy

60.3 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
17	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm	60.3 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ (Light scene 1)

Calculation objects

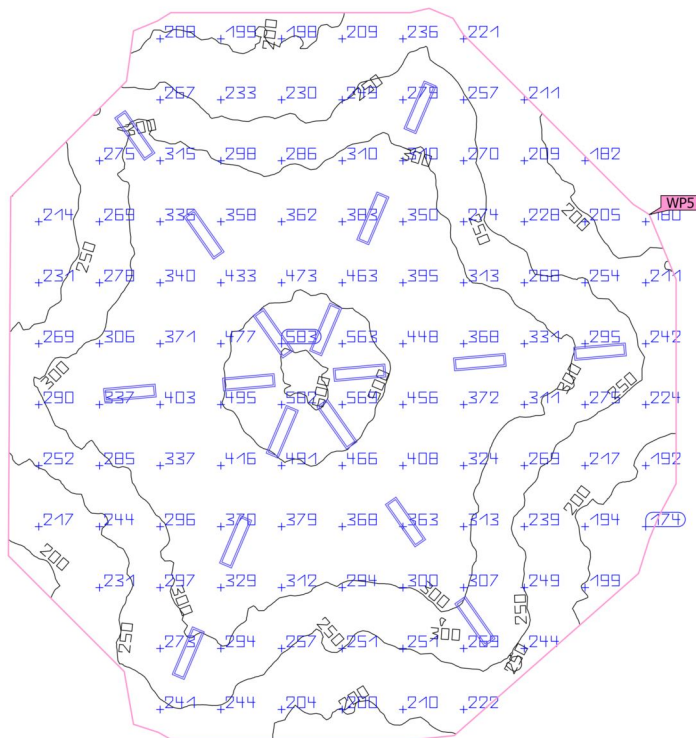
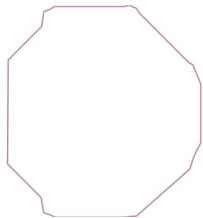
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	304 lx (≥ 200 lx) ✓	146 lx	618 lx	0.48 (≥ 0.40) ✓	0.24	WP5

Utilization profile: Educational premises - Educational buildings (44.18 Entrance halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ (Light scene 1)

Working plane (ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ)

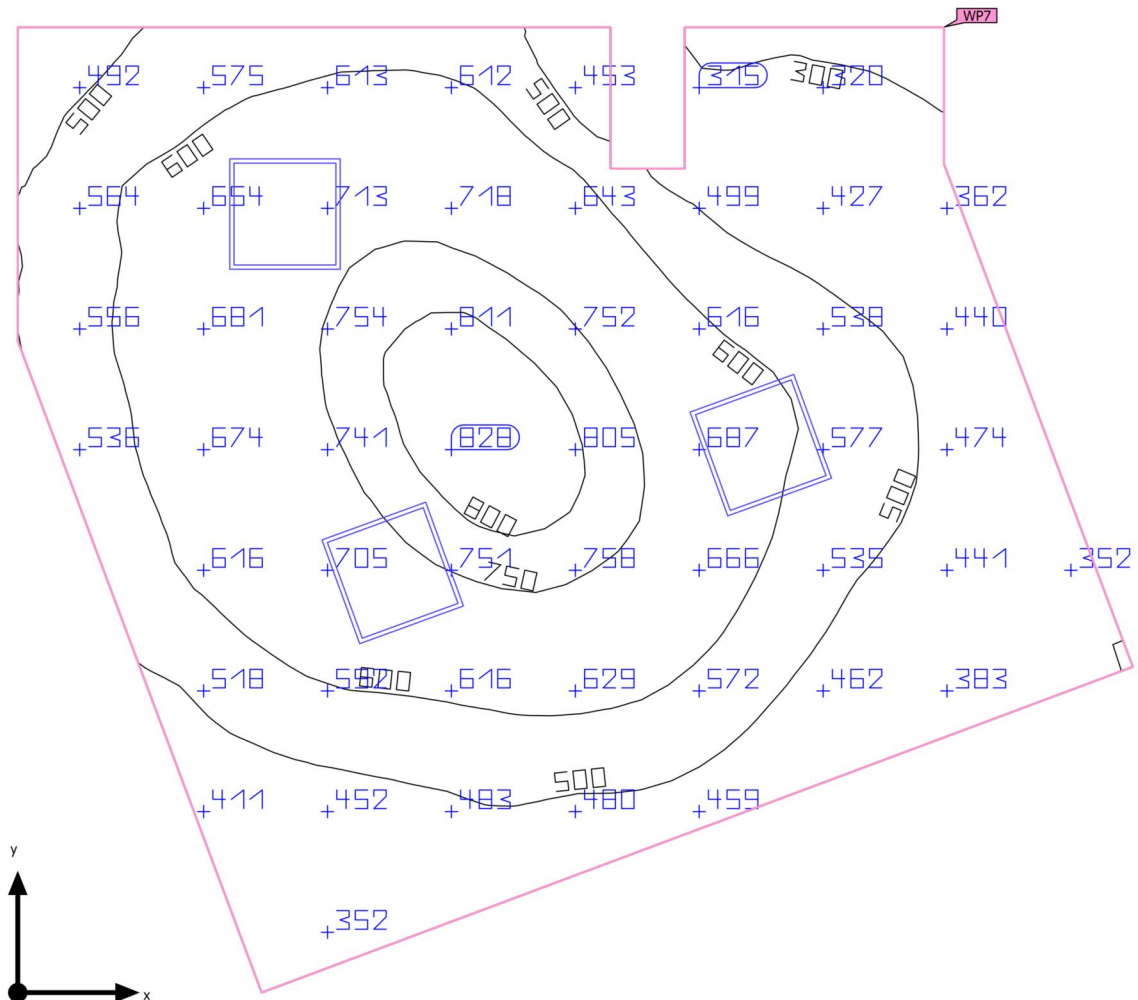


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΑΙΘΟΥΣΑ ΜΑΡΙΑ ΚΑΛΑΣ)	304 lx	146 lx	618 lx	0.48	0.24	WP5
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.18 Entrance halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1 (Light scene 1)

Summary



Ground area	22.48 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 64.9 %, Floor: 70.3 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	572 lx	≥ 200 lx	✓	WP7
	g_1	0.47	≥ 0.40	✓	WP7
Glare valuation ⁽¹⁾	$R_{UG, \max}$	17	≤ 22	✓	
Consumption values ⁽²⁾	Consumption	283 kWh/a	max. 800 kWh/a	✓	
Room	Lighting power density	6.54 W/m ²	–		
		1.14 W/m ² /100 lx	–		

(1) Based on a rectangular space of 5.276 m x 5.343 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

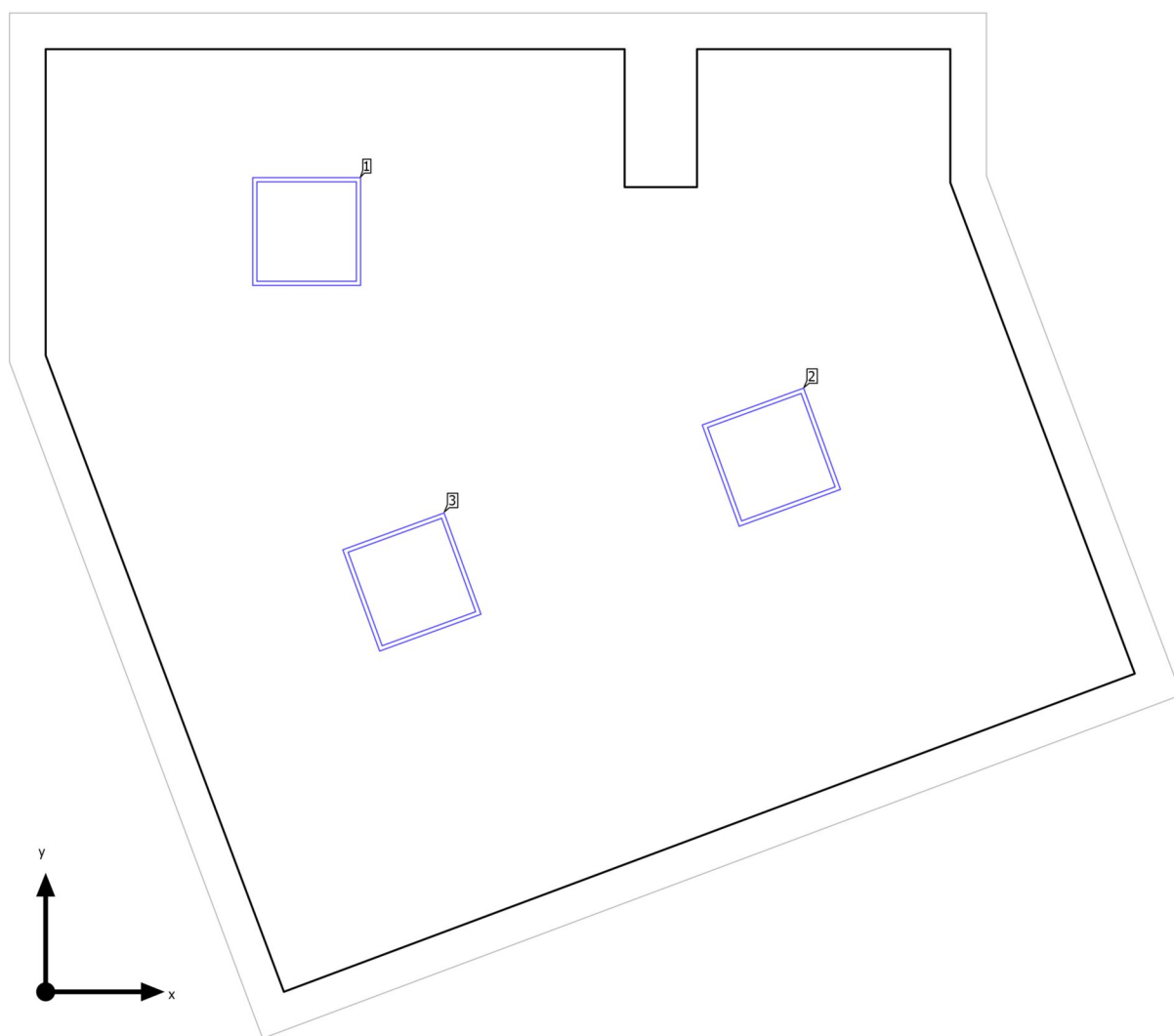
Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Luminaire list

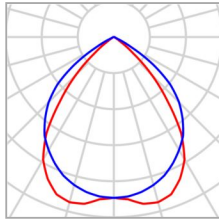
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
3	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	17	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1

Luminaire layout plan

Manufacturer	Petridis	P	49.0 W
Article No.	3116683	$\Phi_{\text{Luminaire}}$	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
1.442 m	4.203 m	3.450 m	1
4.011 m	2.956 m	3.450 m	2
2.024 m	2.266 m	3.450 m	3

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1

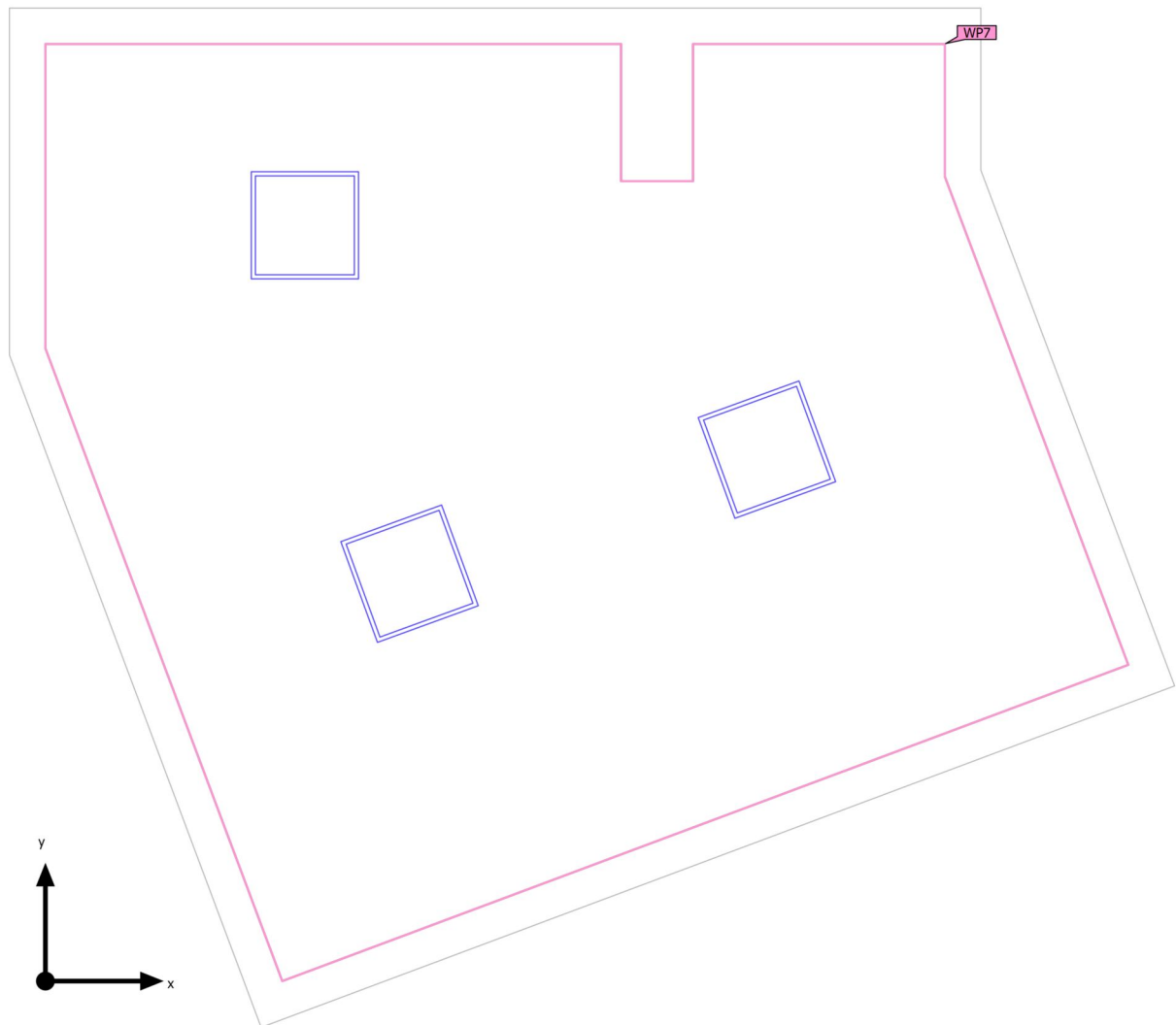
Luminaire list

Φ_{total} 15216 lm	P_{total} 147.0 W	Luminous efficacy 103.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
3	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1 (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1 (Light scene 1)

Calculation objects

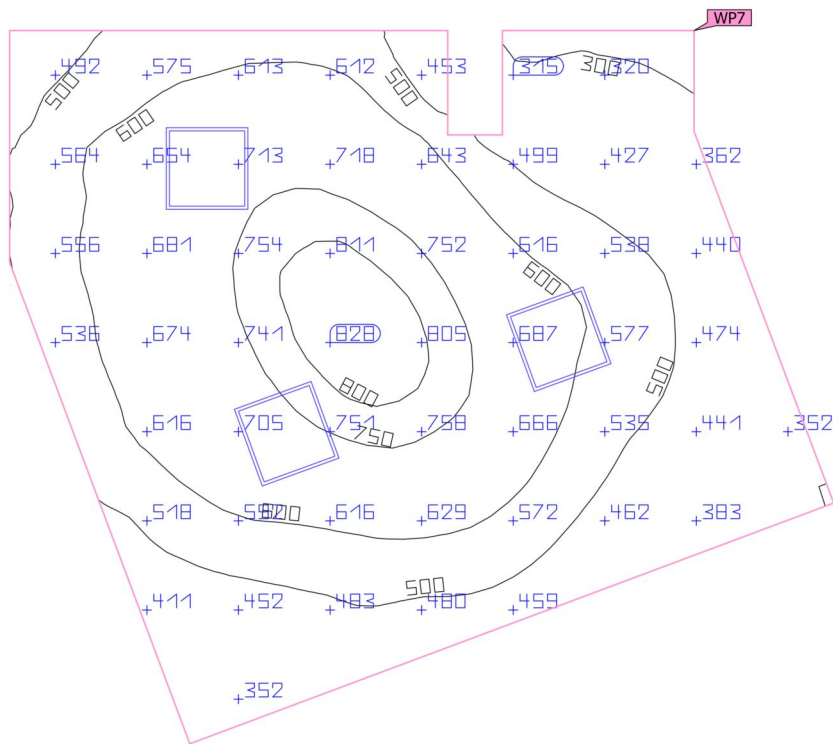
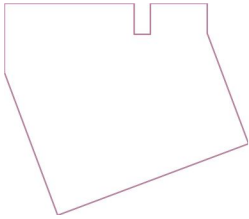
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	572 lx (≥ 200 lx) ✓	271 lx	839 lx	0.47 (≥ 0.40) ✓	0.32	WP7

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 1 (Light scene 1)

Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 1)

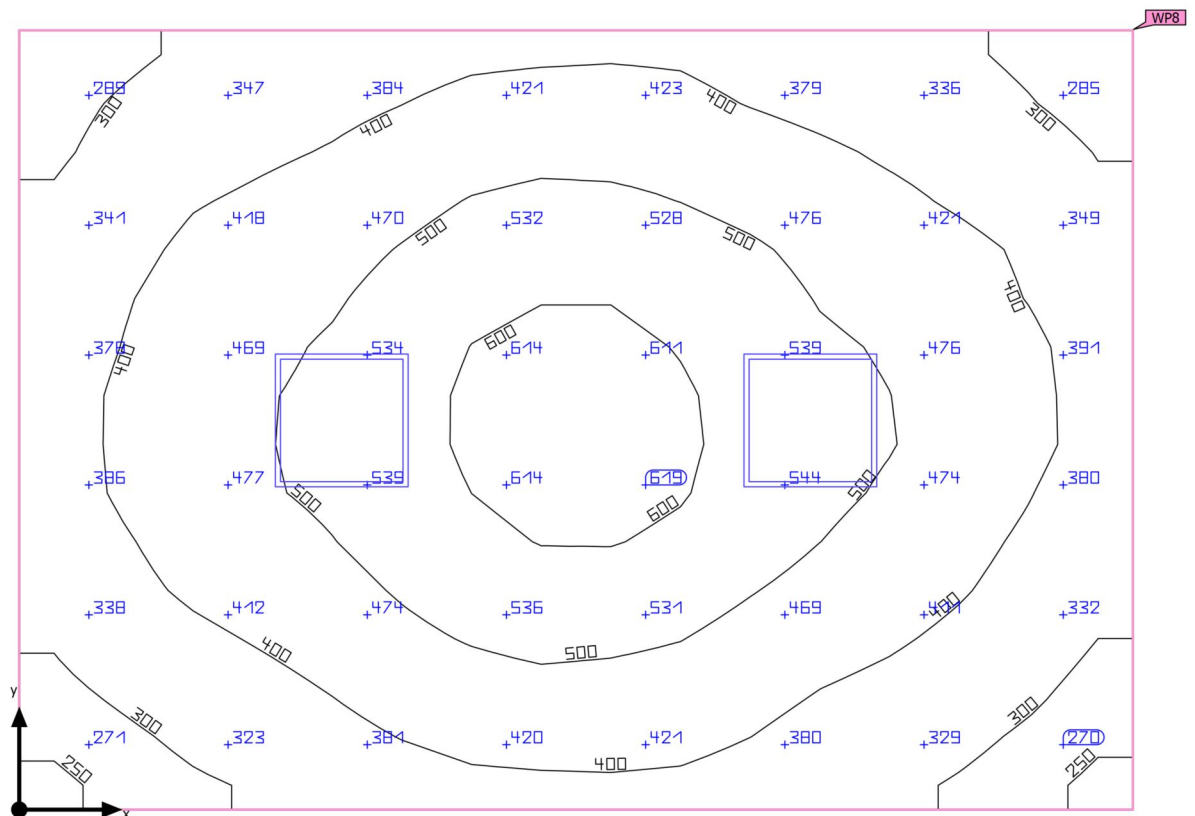


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 1)	572 lx	271 lx	839 lx	0.47	0.32	WP7
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2 (Light scene 1)

Summary



Ground area	17.50 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 60.5 %, Floor: 70.3 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	431 lx	≥ 200 lx	✓	WP8
	g_1	0.55	≥ 0.40	✓	WP8
Glare valuation ⁽¹⁾	$R_{UG, \max}$	18	≤ 22	✓	
Consumption values ⁽²⁾	Consumption	189 kWh/a	max. 650 kWh/a	✓	
Room	Lighting power density	5.60 W/m ²	–		
		1.30 W/m ² /100 lx	–		

(1) Based on a rectangular space of 5.000 m x 3.500 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

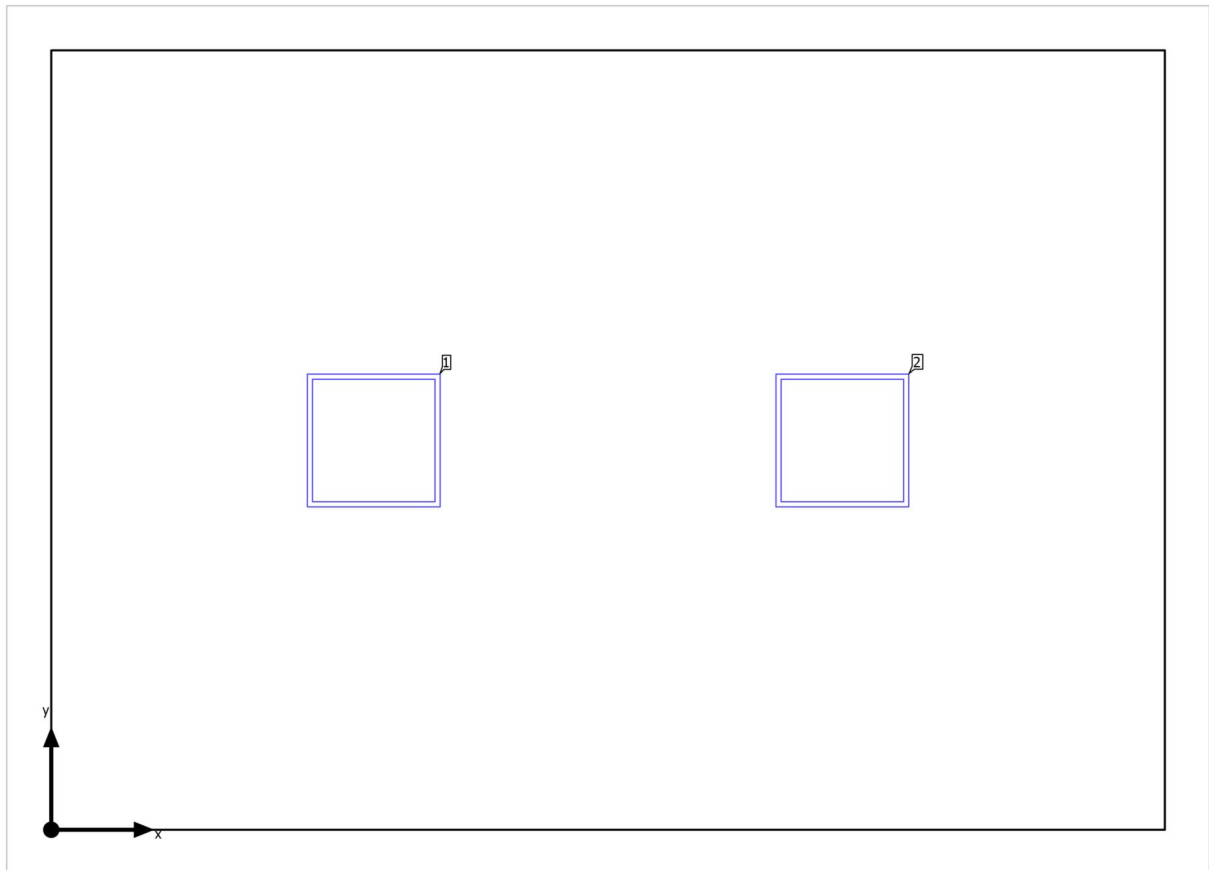
Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Luminaire list

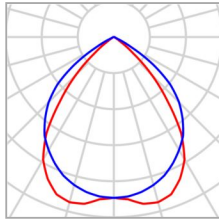
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
2	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	18	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2

Luminaire layout plan

Manufacturer	Petridis	P	49.0 W
Article No.	3116683	$\Phi_{\text{Luminaire}}$	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
1.448 m	1.748 m	3.450 m	1
3.552 m	1.748 m	3.450 m	2

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2

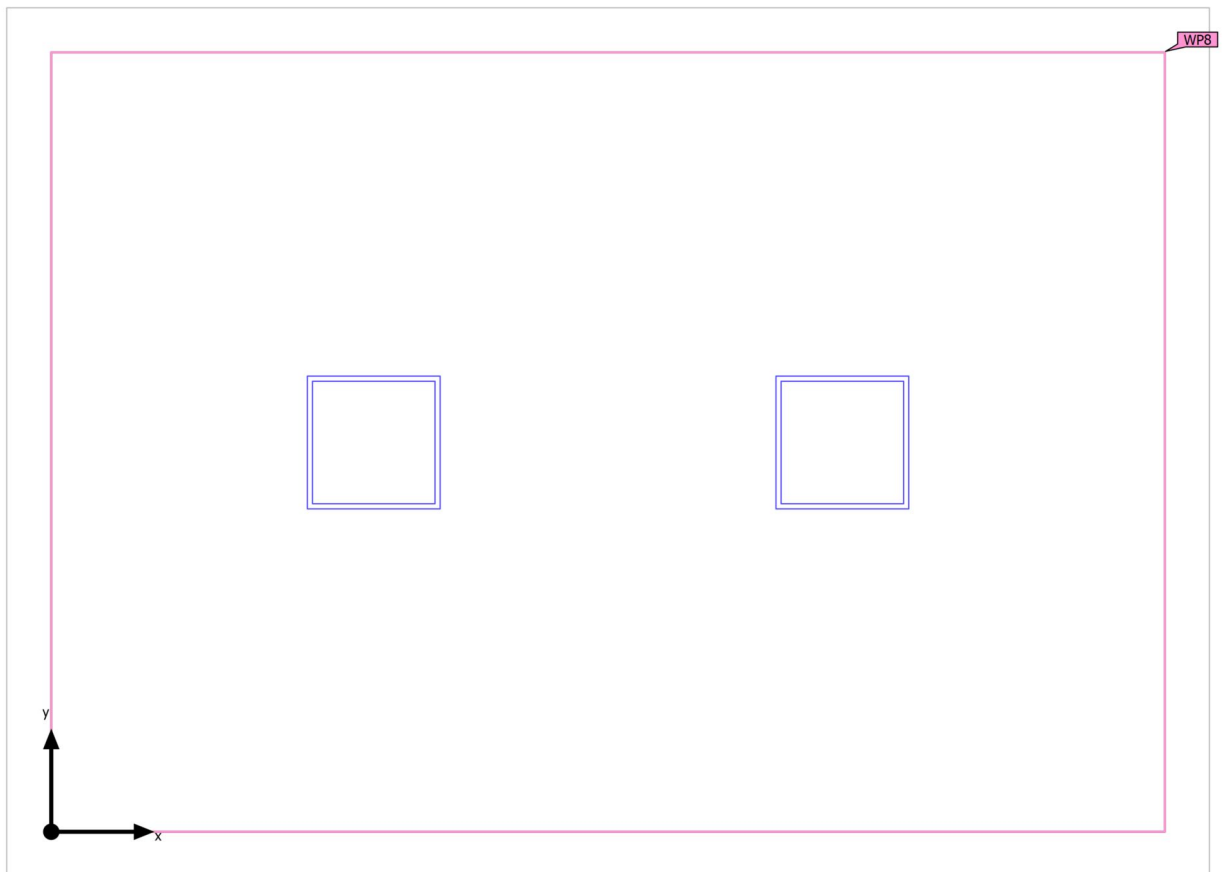
Luminaire list

Φ_{total} 10144 lm	P_{total} 98.0 W	Luminous efficacy 103.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
2	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2 (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2 (Light scene 1)

Calculation objects

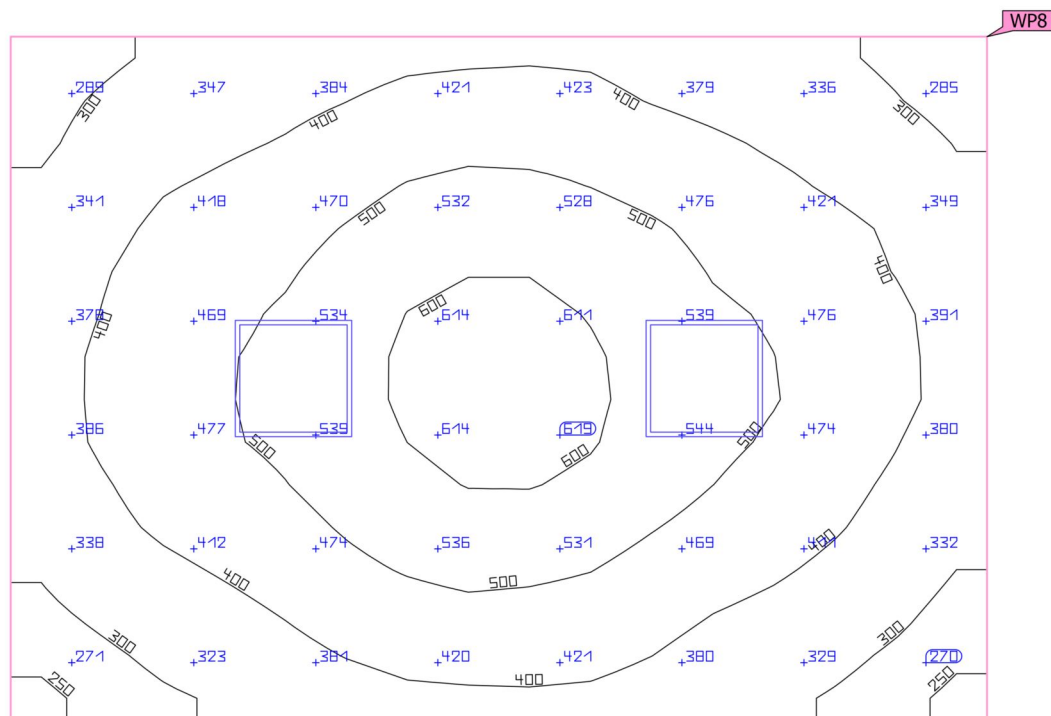
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	431 lx (≥ 200 lx) ✓	239 lx	638 lx	0.55 (≥ 0.40) ✓	0.37	WP8

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΙΕΚ 2 (Light scene 1)

Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 2)

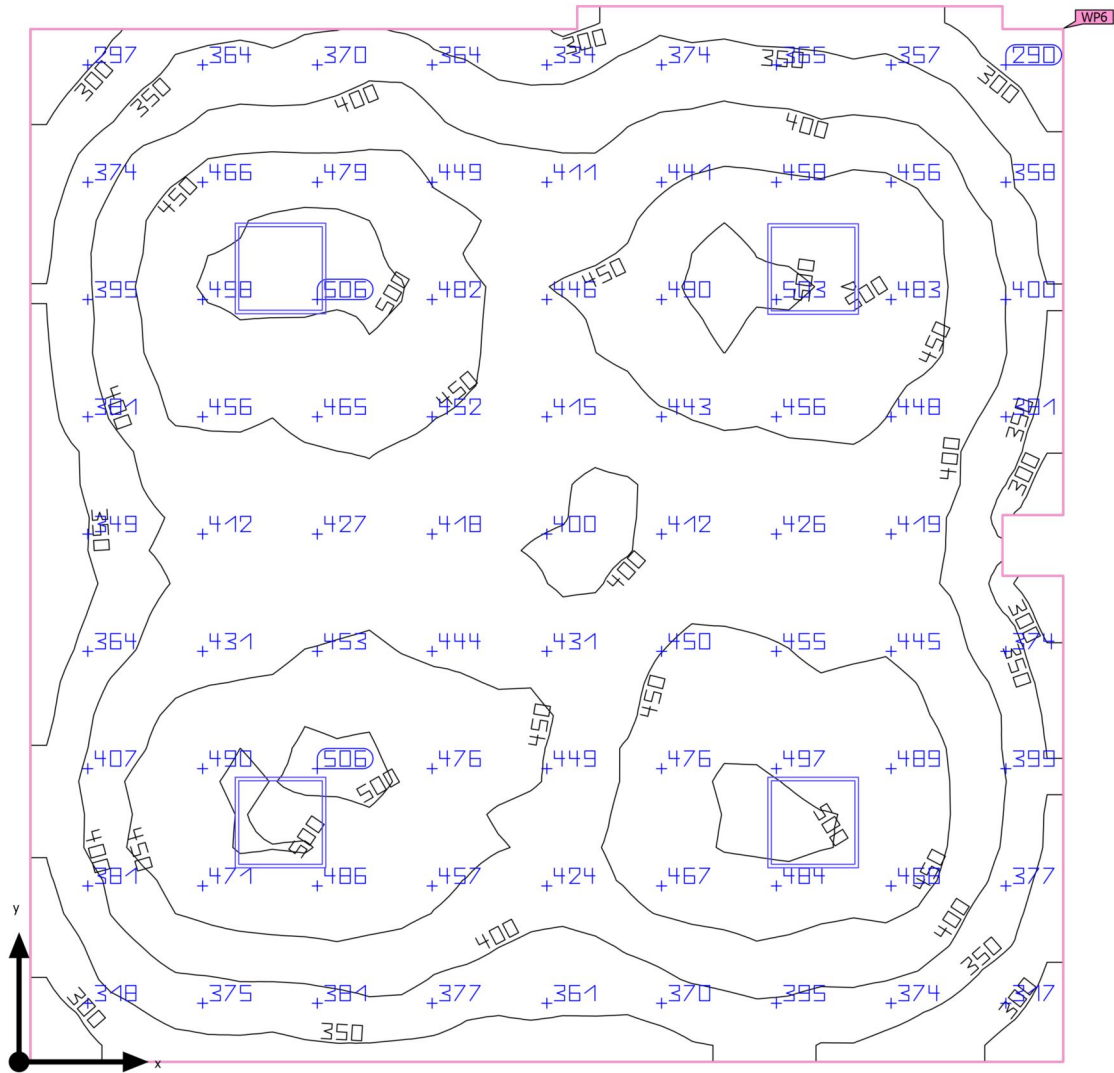


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΓΡΑΦΕΙΟ ΙΕΚ 2)	431 lx	239 lx	638 lx	0.55	0.37	WP8
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.21 Student common rooms and assembly halls)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ (Light scene 1)

Summary



Ground area	46.50 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 64.9 %, Floor: 70.3 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	420 lx	≥ 300 lx	✓	WP6
	g_1	0.61	≥ 0.60	✓	WP6
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	17	≤ 19	✓	
Consumption values ⁽²⁾	Consumption	377 kWh/a	max. 1650 kWh/a	✓	
Room	Lighting power density	4.22 W/m ²	–		
		1.00 W/m ² /100 lx	–		

(1) Based on a rectangular space of 6.800 m x 6.950 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

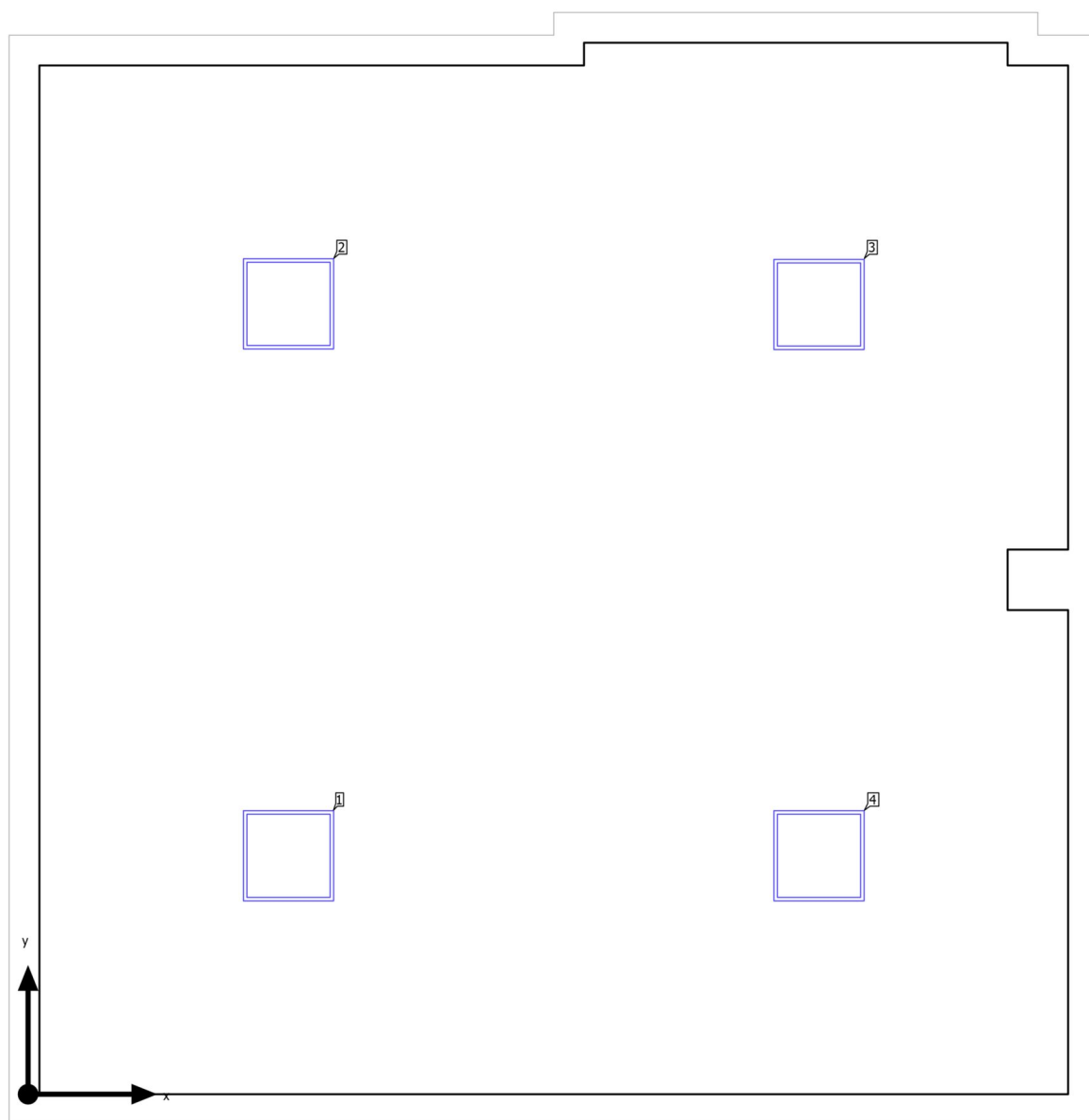
Utilization profile: Educational premises - Educational buildings (44.22 Teacher's Staff Common Room)

Luminaire list

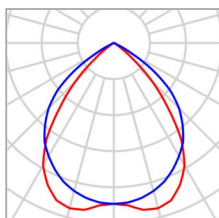
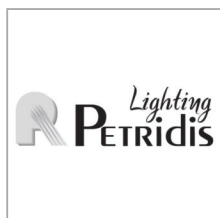
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
4	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	17	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ

Luminaire layout plan

Manufacturer	Petridis	P	49.0 W
Article No.	3116683	$\Phi_{\text{Luminaire}}$	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
1.722 m	1.576 m	3.450 m	1
1.722 m	5.224 m	3.450 m	2
5.228 m	5.220 m	3.450 m	3
5.228 m	1.576 m	3.450 m	4

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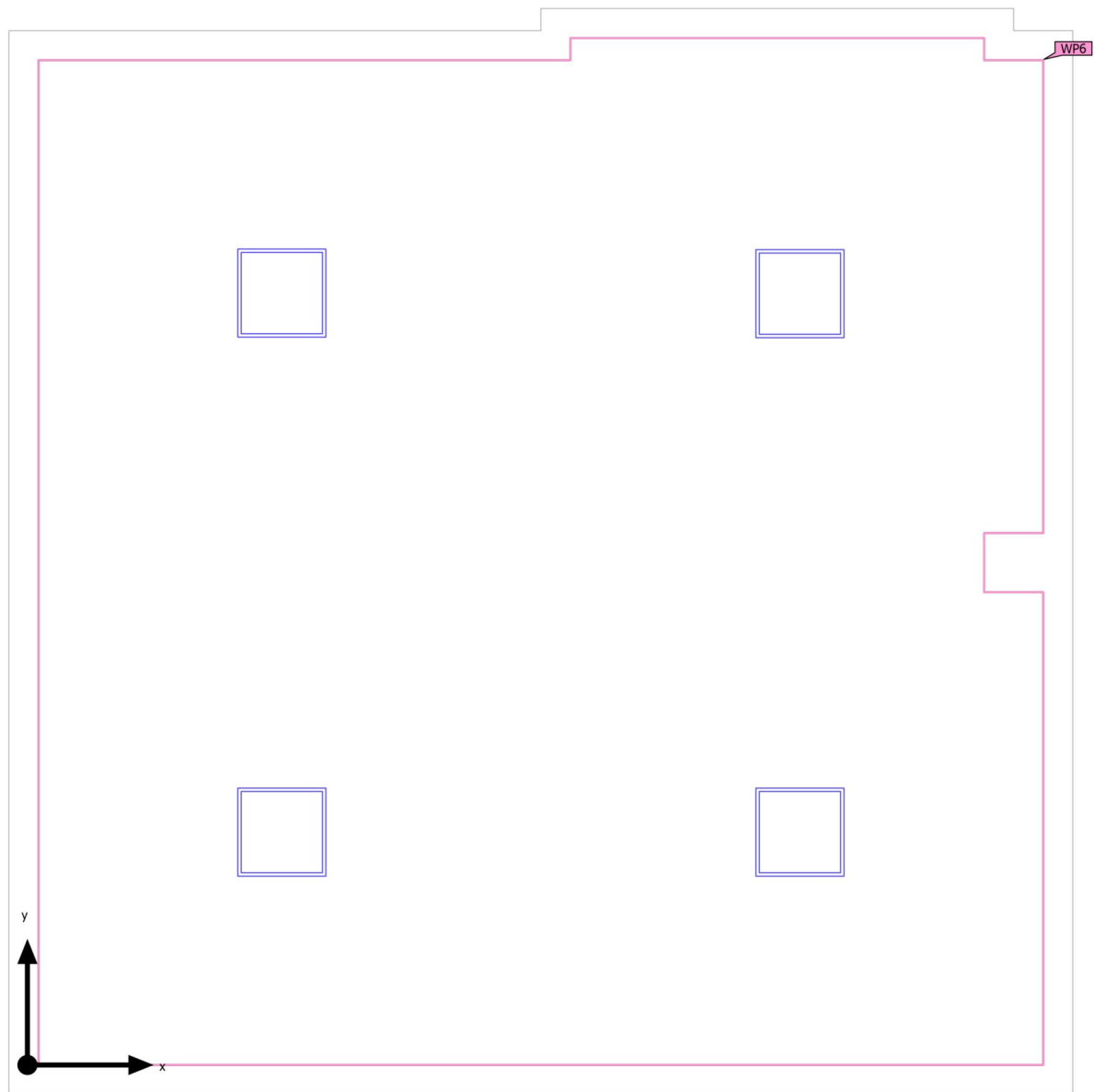
Luminaire list

Φ_{total} 20288 lm	P_{total} 196.0 W	Luminous efficacy 103.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
4	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

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Calculation objects



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Calculation objects

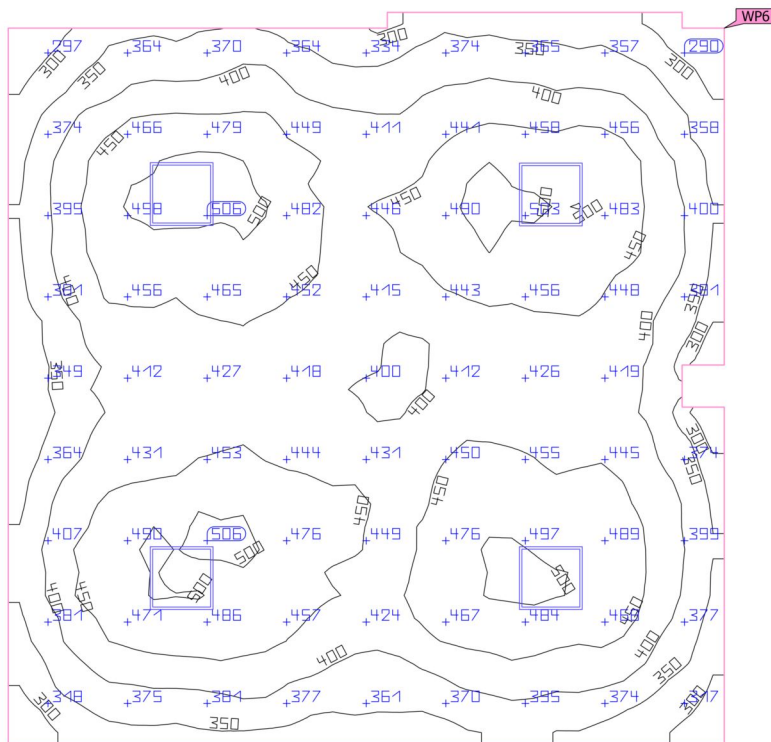
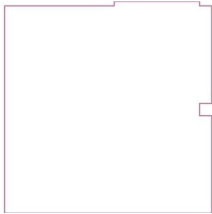
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	420 lx (≥ 300 lx) ✓	256 lx	512 lx	0.61 (≥ 0.60) ✓	0.50	WP6

Utilization profile: Educational premises - Educational buildings (44.22 Teacher's Staff Common Room)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ (Light scene 1)

Working plane (ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ)

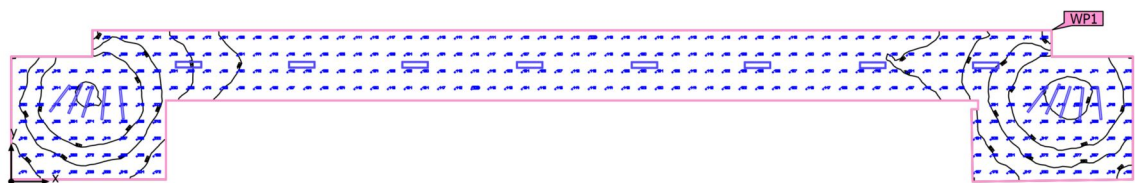


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΓΡΑΦΕΙΟ ΚΑΘΗΓΗΤΩΝ)	420 lx	256 lx	512 lx	0.61	0.50	WP6
Perpendicular illuminance (adaptive)	(≥ 300 lx)			(≥ 0.60)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.22 Teacher's Staff Common Room)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Summary



Ground area	206.65 m ²
Reflection factors	Ceiling: 70.0 %, Walls: 57.5 %, Floor: 70.3 %
Light loss factor	0.80 (fixed)

Clearance height	2.400 m
Mounting height	3.450 m
Height _{Working plane}	0.000 m
Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	198 lx	≥ 100 lx	✓	WP1
	g_1	0.53	≥ 0.40	✓	WP1
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	26	≤ 25	✗	
Consumption values ⁽²⁾	Consumption	711 kWh/a	max. 7250 kWh/a	✓	
Room	Lighting power density	3.13 W/m ²	–		
		1.58 W/m ² /100 lx	–		

(1) Based on a rectangular space of 51.100 m x 6.900 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

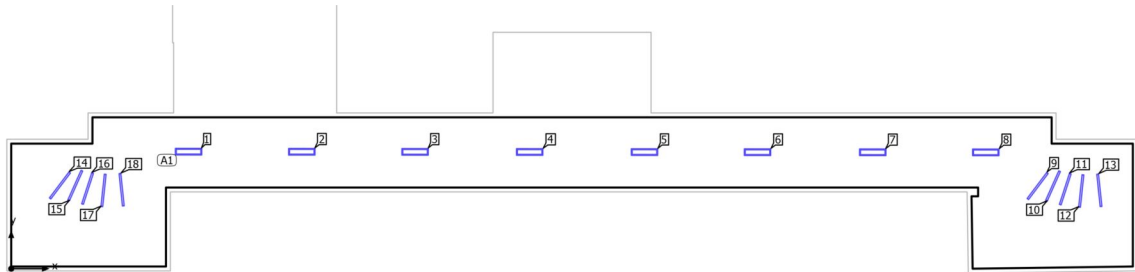
Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Luminaire list

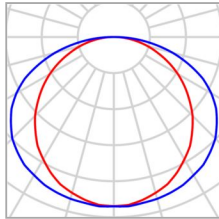
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
10	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	26	31.0 W	2909 lm	93.8 lm/W
8	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	22	42.0 W	2532 lm	60.3 lm/W

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Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ

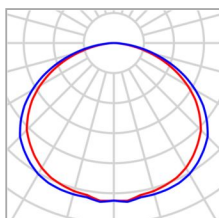
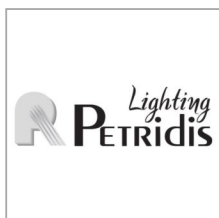
Luminaire layout plan

Manufacturer	Petridis	P	31.0 W
Article No.	252623	Φ _{Luminaire}	2909 lm
Article name	P100 PLEXI LED 31W WARM L1480mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
46.761 m	3.767 m	3.450 m	9
47.460 m	3.767 m	3.450 m	10
48.020 m	3.625 m	3.450 m	11
48.749 m	3.542 m	3.450 m	12
49.573 m	3.572 m	3.450 m	13
2.217 m	3.794 m	3.450 m	14
2.917 m	3.794 m	3.450 m	15
3.476 m	3.651 m	3.450 m	16
4.205 m	3.568 m	3.450 m	17
5.029 m	3.599 m	3.450 m	18

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ

Luminaire layout plan

Manufacturer	Petridis	P	42.0 W
Article No.	29580_	Φ _{Luminaire}	2532 lm
Article name	FOGLIO H S LED 42W WARM L1200mm		
Fitting	1x SMD		

8 x Petridis Lighting S.A. FOGLIO H S LED 42W WARM L1200mm

Type	Line arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	8.079 m / 5.334 m / 3.450 m	8.079 m	5.334 m	3.450 m	1
X-direction	8 pcs., Center - center, Distances not equal	13.239 m	5.329 m	3.450 m	2
		18.398 m	5.325 m	3.450 m	3
		23.619 m	5.320 m	3.450 m	4
Arrangement	A1	28.849 m	5.316 m	3.450 m	5
		33.999 m	5.311 m	3.450 m	6
		39.249 m	5.307 m	3.450 m	7
		44.399 m	5.302 m	3.450 m	8

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ

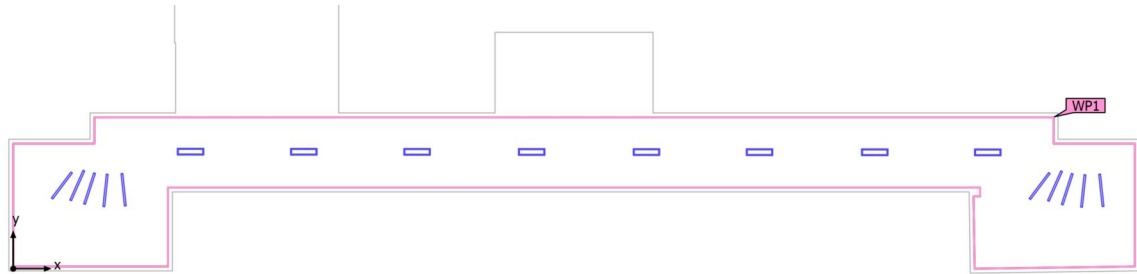
Luminaire list

Φ_{total} 49346 lm	P_{total} 646.0 W	Luminous efficacy 76.4 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
10	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	31.0 W	2909 lm	93.8 lm/W
8	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm	60.3 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Calculation objects

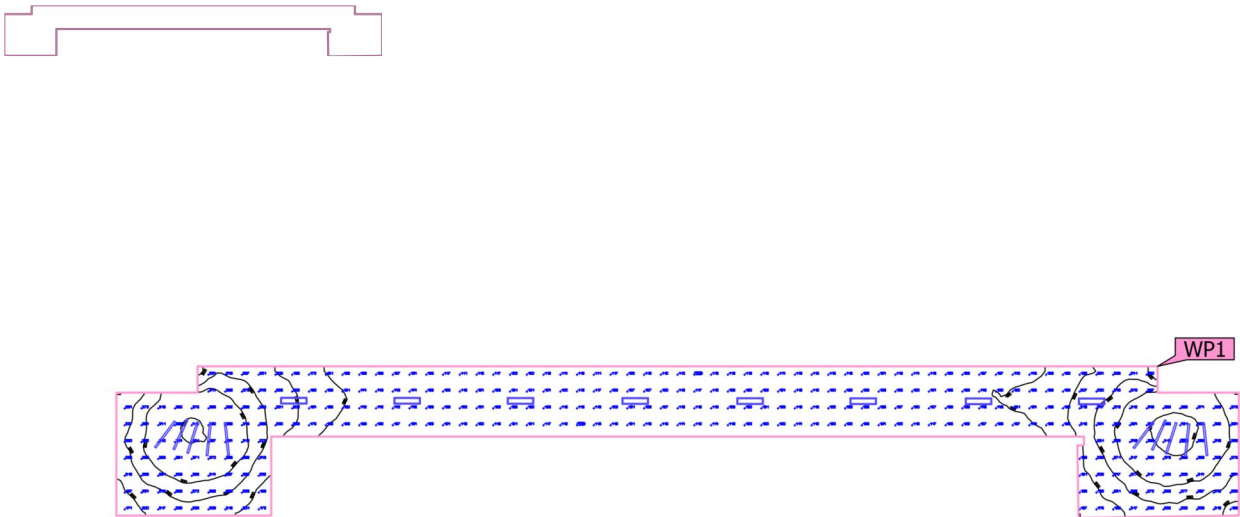
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΔΙΑΔΡΟΜΟΣ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	198 lx (≥ 100 lx) ✓	104 lx	433 lx	0.53 (≥ 0.40) ✓	0.24	WP1

Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ (Light scene 1)

Working plane (ΔΙΑΔΡΟΜΟΣ)

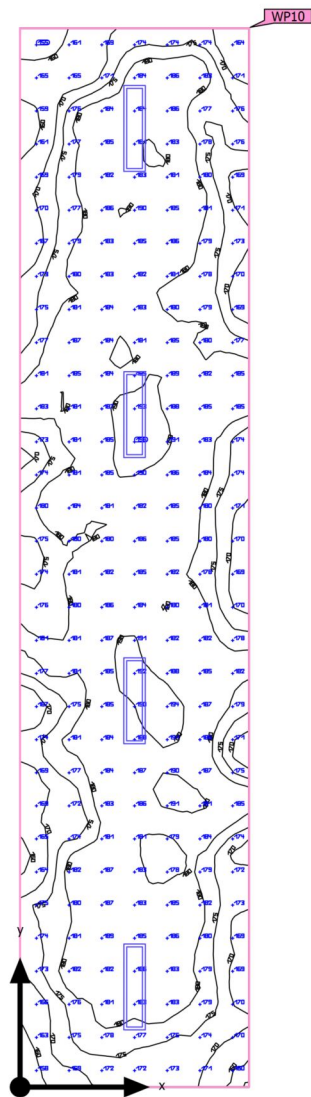


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΔΙΑΔΡΟΜΟΣ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	198 lx (≥ 100 lx) ✓	104 lx	433 lx	0.53 (≥ 0.40) ✓	0.24	WP1

Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ (Light scene 1)

Summary



Ground area	47.36 m ²
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 70.3 %
Light loss factor	0.80 (fixed)

Clearance height	2.400 m
Mounting height	3.450 m
Height _{Working plane}	0.000 m
Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	179 lx	≥ 100 lx	✓	WP10
	g_1	0.86	≥ 0.40	✓	WP10
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	21	≤ 25	✓	
Consumption values ⁽²⁾	Consumption	185 kWh/a	max. 1700 kWh/a	✓	
Room	Lighting power density	3.55 W/m ²	–		
		1.98 W/m ² /100 lx	–		

(1) Based on a rectangular space of 3.200 m x 14.800 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

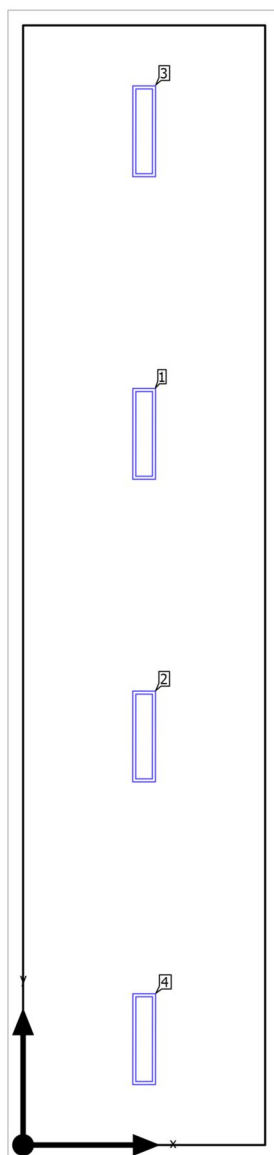
Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Luminaire list

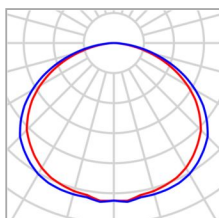
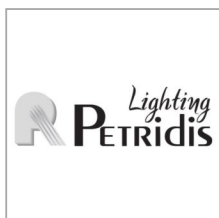
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
4	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	21	42.0 W	2532 lm	60.3 lm/W

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Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ

Luminaire layout plan

Manufacturer	Petridis	P	42.0 W
Article No.	29580_	$\Phi_{\text{Luminaire}}$	2532 lm
Article name	FOGLIO H S LED 42W WARM L1200mm		
Fitting	1x SMD		

Individual luminaires

X	Y	Mounting height	Luminaire
1.601 m	9.400 m	3.450 m	1
1.599 m	5.400 m	3.450 m	2
1.601 m	13.400 m	3.450 m	3
1.601 m	1.400 m	3.450 m	4

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ

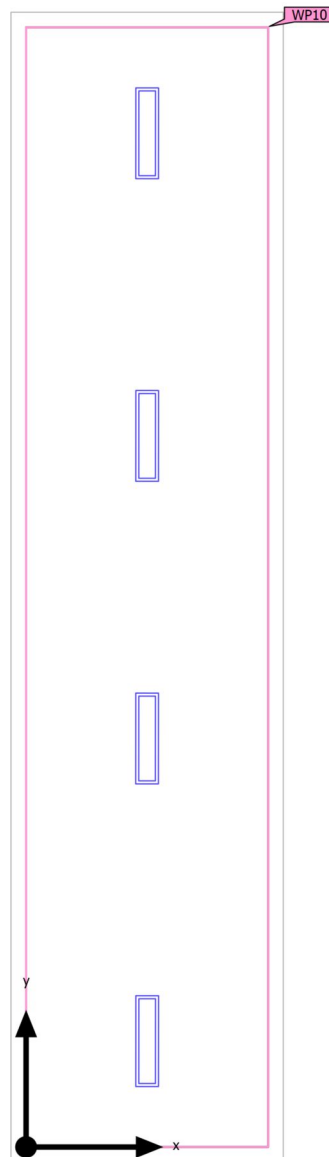
Luminaire list

Φ_{total} 10128 lm	P_{total} 168.0 W	Luminous efficacy 60.3 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
4	Petridis	29580_	FOGLIO H S LED 42W WARM L1200mm	42.0 W	2532 lm	60.3 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ (Light scene 1)

Calculation objects

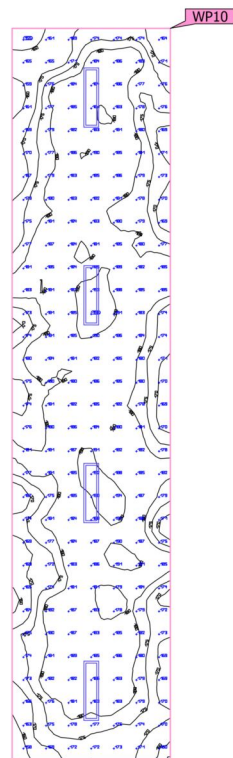
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	179 lx (≥ 100 lx) ✓	154 lx	195 lx	0.86 (≥ 0.40) ✓	0.79	WP10

Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ (Light scene 1)

Working plane (ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ)

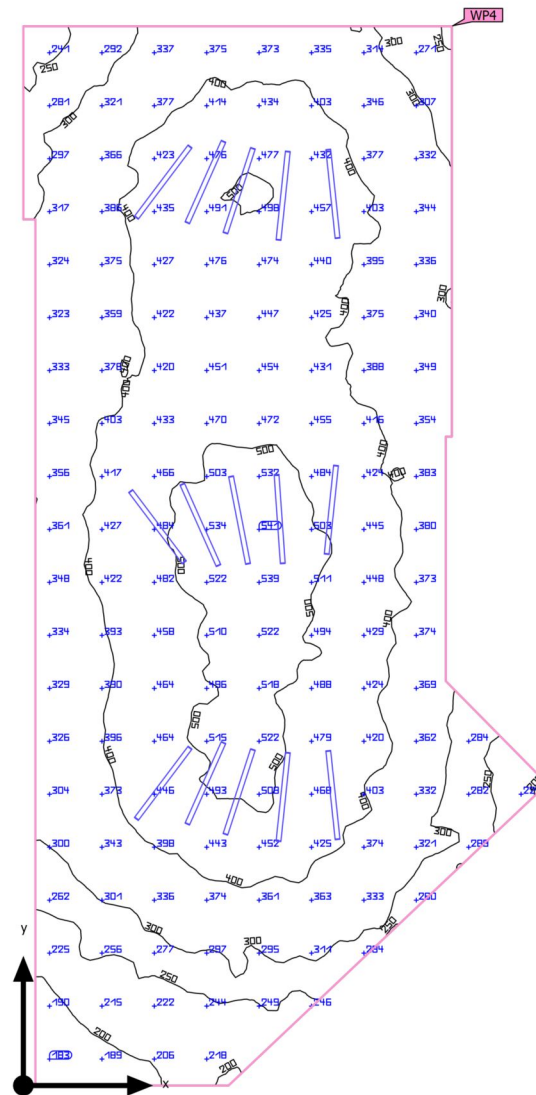


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΔΙΑΔΡΟΜΟΣ ΔΙΕΚ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	179 lx (≥ 100 lx) ✓	154 lx	195 lx	0.86 (≥ 0.40) ✓	0.79	WP10

Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΕΙΣΟΔΟΣ (Light scene 1)

Summary



Ground area	117.31 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 57.5 %, Floor: 70.3 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.000 m
		Wall zone _{Working plane}	0.000 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΕΙΣΟΔΟΣ (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	387 lx	$\geq 100 \text{ lx}$	✓	WP4
	g_1	0.45	≥ 0.40	✓	WP4
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	26	≤ 25	✗	
Consumption values ⁽²⁾	Consumption	511 kWh/a	max. 4150 kWh/a	✓	
Room	Lighting power density	3.96 W/m ²	–		
		1.03 W/m ² /100 lx	–		

(1) Based on a rectangular space of 8.681 m x 17.551 m and SHR of 0.25.

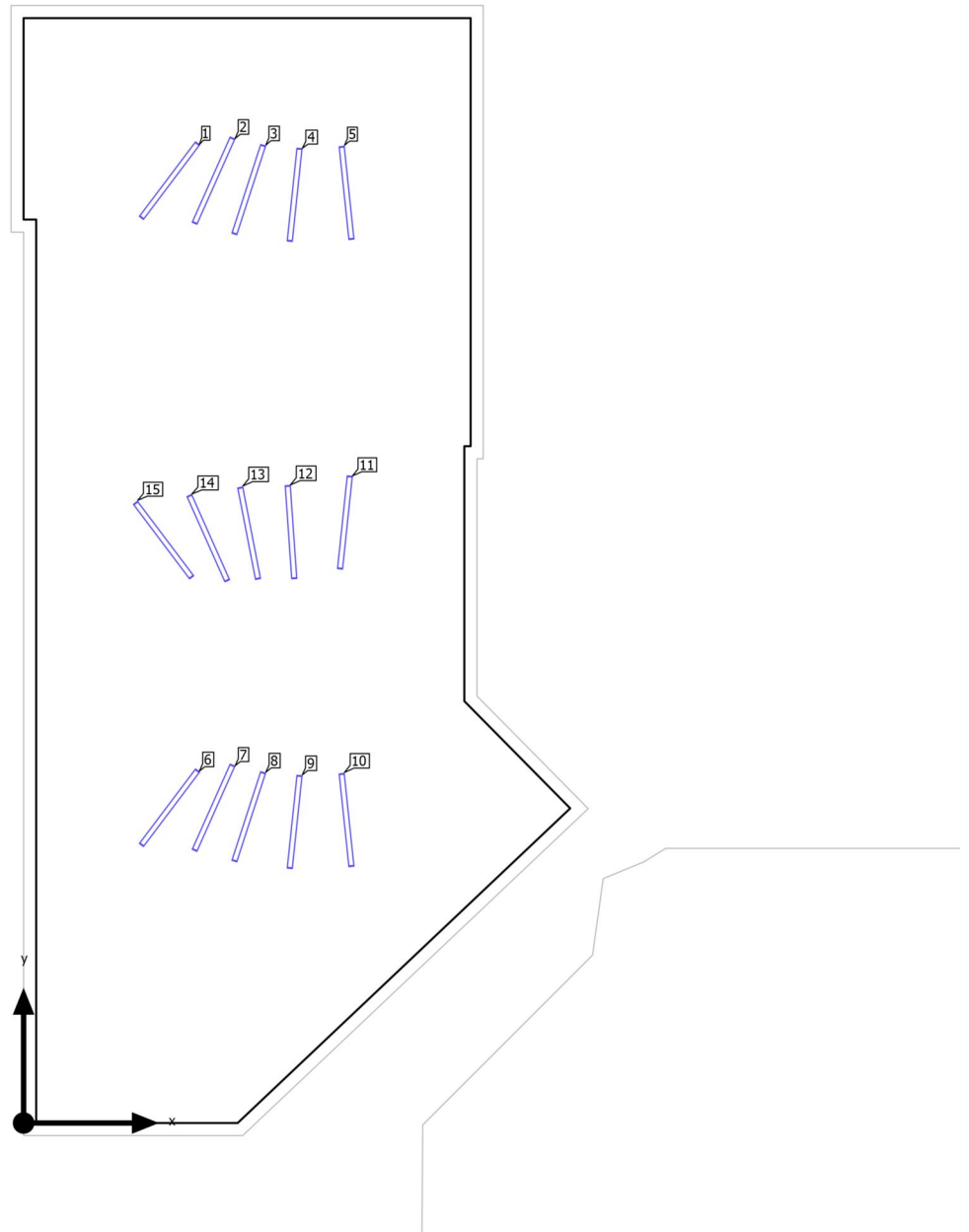
(2) Calculated using DIN:18599-4.

Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

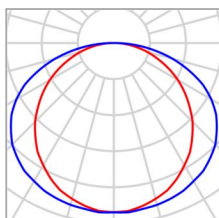
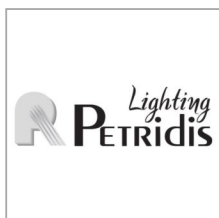
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
15	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	26	31.0 W	2909 lm	93.8 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΕΙΣΟΔΟΣ

Luminaire layout plan

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΕΙΣΟΔΟΣ

Luminaire layout plan

Manufacturer	Petridis	P	31.0 W
Article No.	252623	Φ _{Luminaire}	2909 lm
Article name	P100 PLEXI LED 31W WARM L1480mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
2.317 m	14.970 m	3.450 m	1
3.017 m	14.970 m	3.450 m	2
3.576 m	14.827 m	3.450 m	3
4.305 m	14.744 m	3.450 m	4
5.129 m	14.775 m	3.450 m	5
2.317 m	5.008 m	3.450 m	6
3.017 m	5.008 m	3.450 m	7
3.576 m	4.865 m	3.450 m	8
4.305 m	4.782 m	3.450 m	9
5.129 m	4.813 m	3.450 m	10
5.103 m	9.539 m	3.450 m	11
4.247 m	9.387 m	3.450 m	12
3.582 m	9.369 m	3.450 m	13

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Luminaire layout plan

X	Y	Mounting height	Luminaire
2.933 m	9.290 m	3.450 m	14
2.223 m	9.260 m	3.450 m	15

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Luminaire list Φ_{total}

43635 lm

 P_{total}

465.0 W

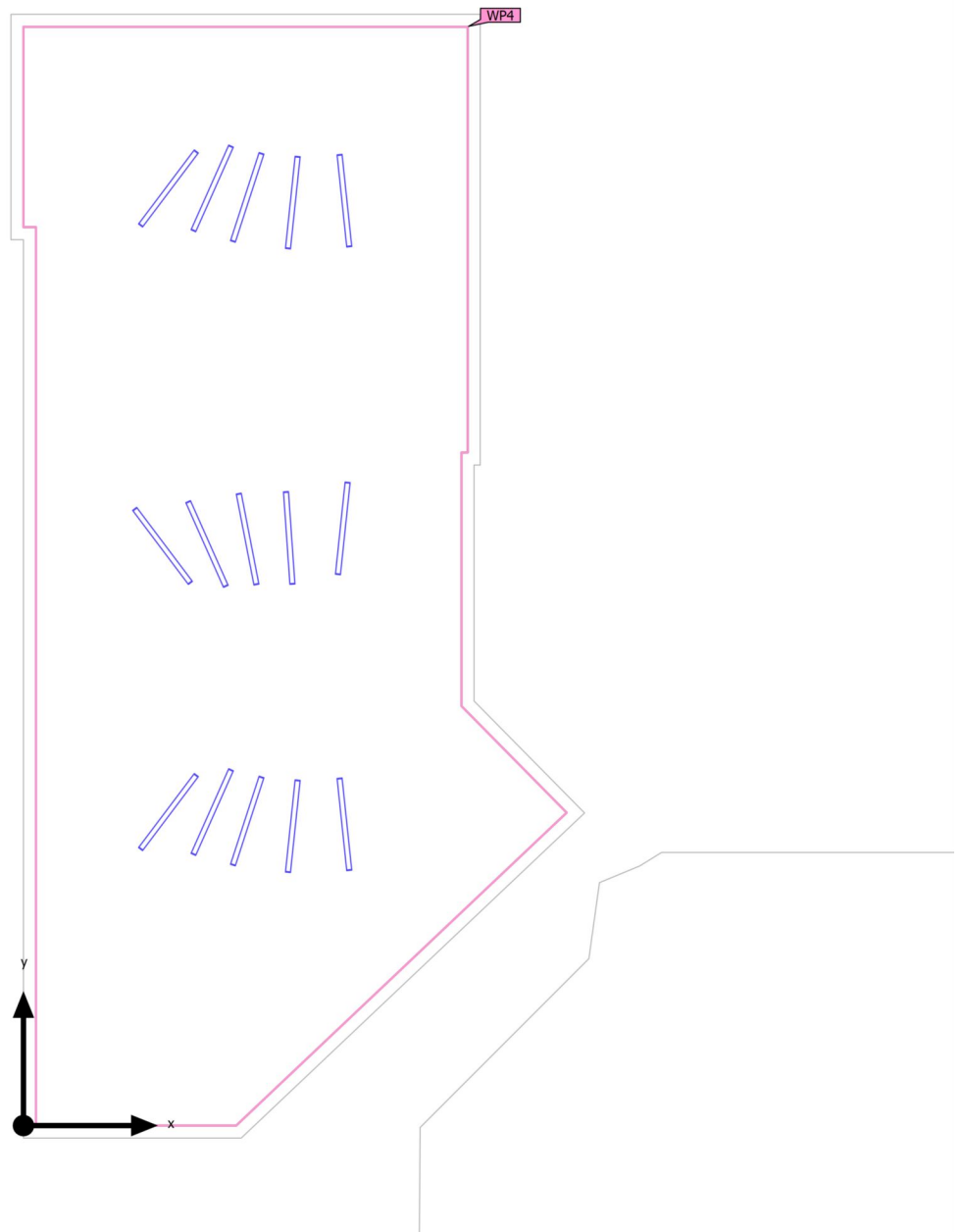
Luminous efficacy

93.8 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
15	Petridis	252623	P100 PLEXI LED 31W WARM L1480mm	31.0 W	2909 lm	93.8 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΕΙΣΟΔΟΣ (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΕΙΣΟΔΟΣ (Light scene 1)

Calculation objects

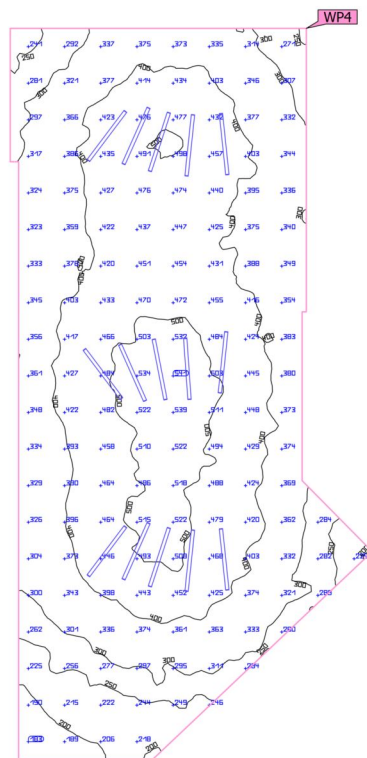
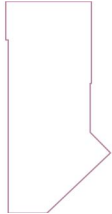
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΕΙΣΟΔΟΣ) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	387 lx (≥ 100 lx) ✓	174 lx	557 lx	0.45 (≥ 0.40) ✓	0.31	WP4

Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΕΙΣΟΔΟΣ (Light scene 1)

Working plane (ΕΙΣΟΔΟΣ)

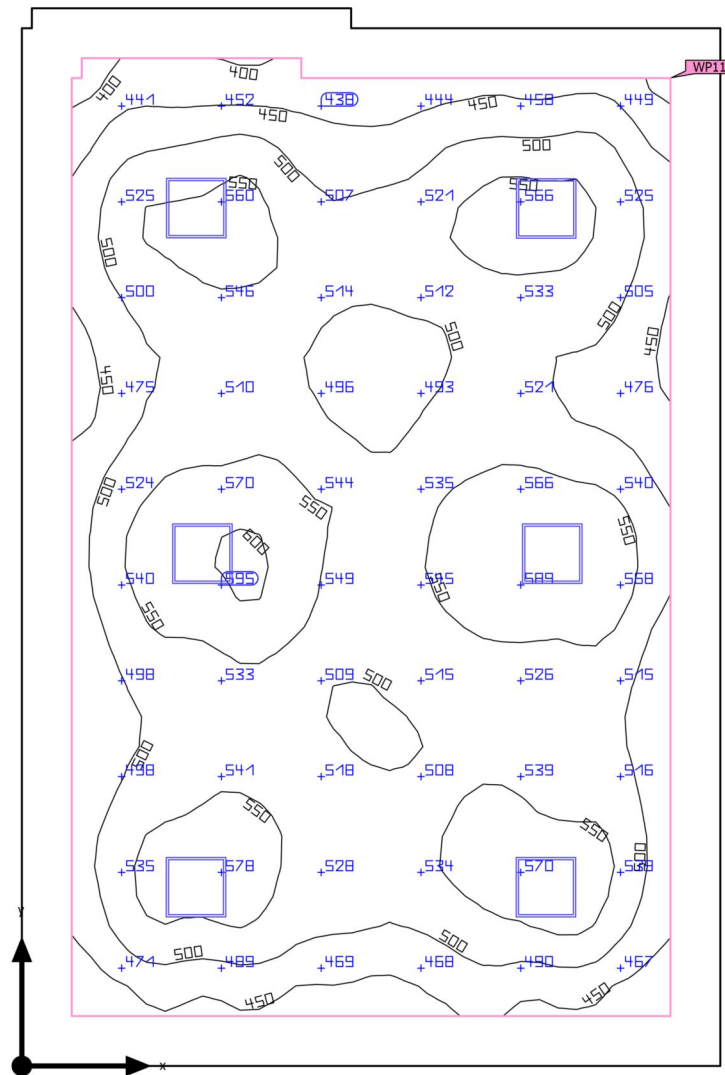


Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΕΙΣΟΔΟΣ)	387 lx	174 lx	557 lx	0.45	0.31	WP4
Perpendicular illuminance (adaptive)	≥ 100 lx			≥ 0.40		
Height: 0.000 m, Wall zone: 0.000 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.19 Circulation areas, corridors)

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21 (Light scene 1)

Summary



Ground area	73.44 m ²	Clearance height	2.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 70.3 %	Mounting height	3.450 m
Light loss factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.500 m

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	517 lx	≥ 300 lx	✓	WP11
	g_1	0.75	≥ 0.60	✓	WP11
	Lighting power density	5.17 W/m ²	–		
		1.00 W/m ² /100 lx	–		
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	17	≤ 19	✓	
Consumption values ⁽²⁾	Consumption	391 kWh/a	max. 2600 kWh/a	✓	
Room	Lighting power density	4.00 W/m ²	–		
		0.77 W/m ² /100 lx	–		

(1) Based on a rectangular space of 10.600 m x 7.000 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

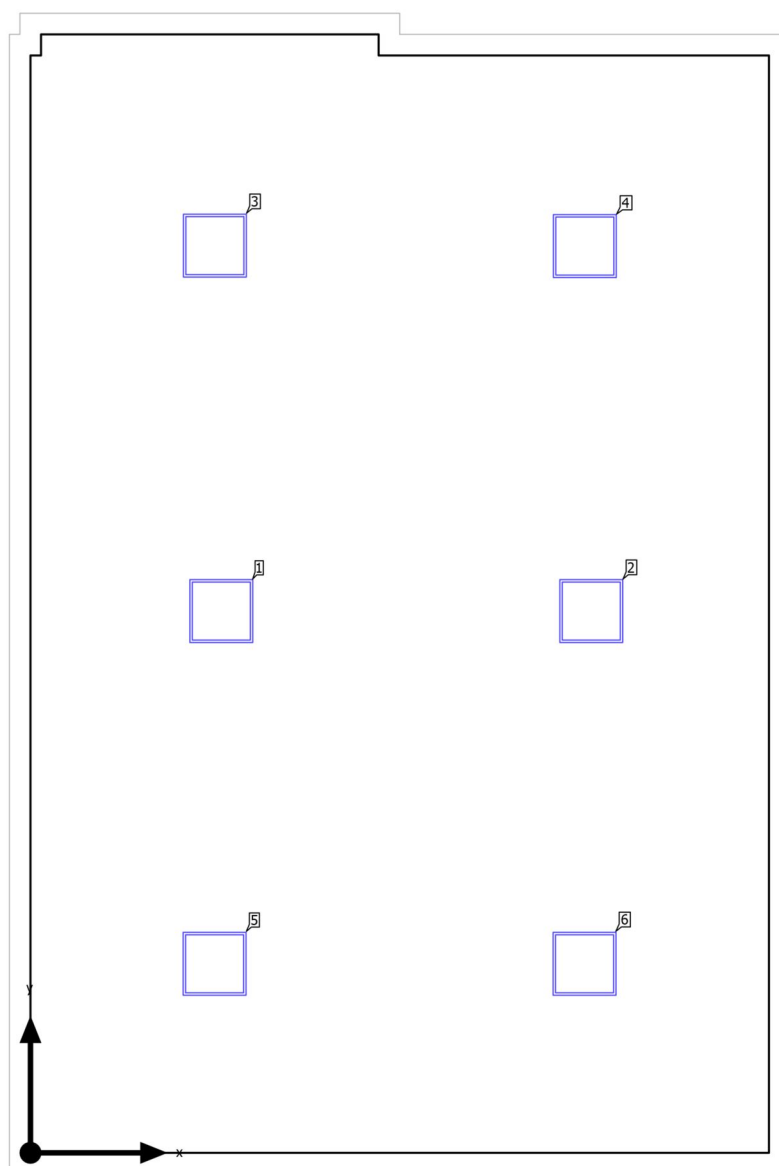
Utilization profile: Educational premises - Educational buildings (44.11 Computer practice rooms (menu-driven))

Luminaire list

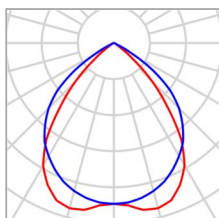
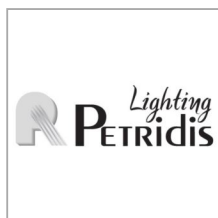
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
6	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	17	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21

Luminaire layout plan



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21

Luminaire layout plan

Manufacturer	Petridis	P	49.0 W
Article No.	3116683	Φ _{Luminaire}	5072 lm
Article name	LP2M 324 LED 49W WARM L596mm		
Fitting	1x SMD LED		

Individual luminaires

X	Y	Mounting height	Luminaire
1.809 m	5.134 m	3.450 m	1
5.316 m	5.134 m	3.450 m	2
1.748 m	8.598 m	3.450 m	3
5.255 m	8.594 m	3.450 m	4
1.745 m	1.792 m	3.450 m	5
5.252 m	1.792 m	3.450 m	6

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21

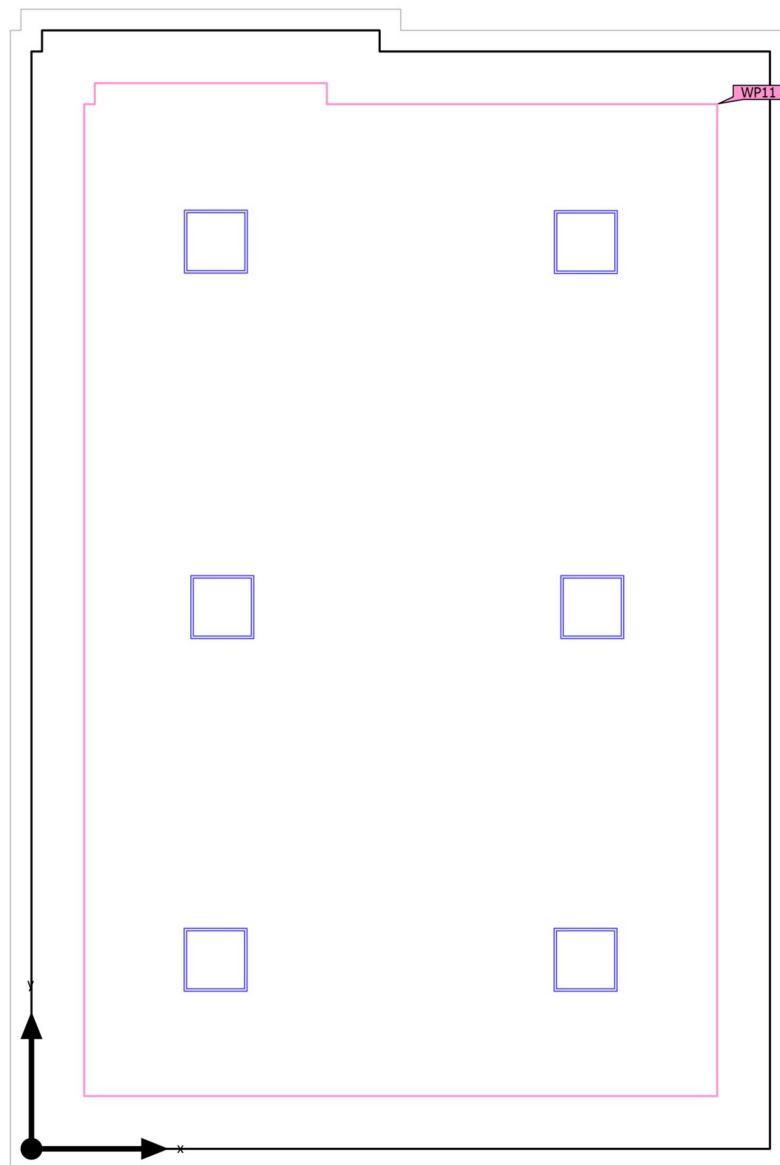
Luminaire list

Φ_{total} 30432 lm	P_{total} 294.0 W	Luminous efficacy 103.5 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
6	Petridis	3116683	LP2M 324 LED 49W WARM L596mm	49.0 W	5072 lm	103.5 lm/W

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21 (Light scene 1)

Calculation objects



Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21 (Light scene 1)

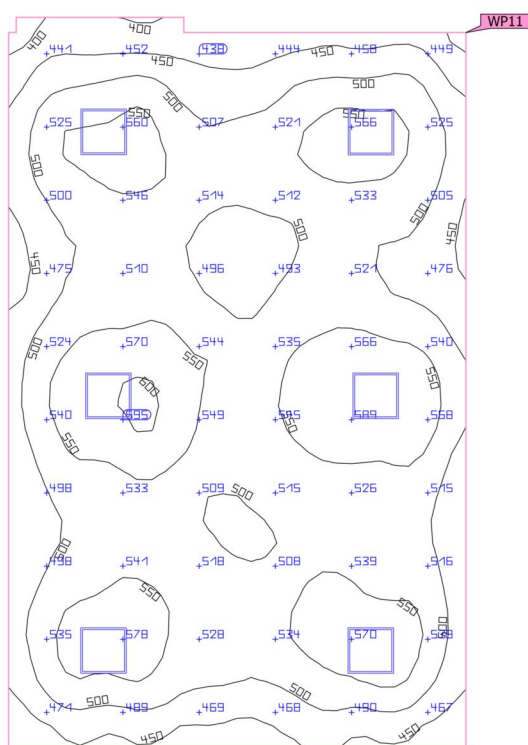
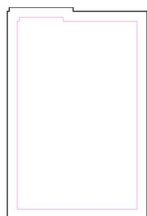
Calculation objects

Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.500 m	517 lx (≥ 300 lx) ✓	390 lx	606 lx	0.75 (≥ 0.60) ✓	0.64	WP11

Utilization profile: Educational premises - Educational buildings (44.11 Computer practice rooms (menu-driven))

Building 1 · ΔΙΑΔΡΟΜΟΣ · ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21 (Light scene 1)

Working plane (ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21)

Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2	Index
Working plane (ΤΥΠΙΚΗ ΑΙΘΟΥΣΑ 21)	517 lx	390 lx	606 lx	0.75	0.64	WP11
Perpendicular illuminance (adaptive)	(≥ 300 lx)			(≥ 0.60)		
Height: 0.800 m, Wall zone: 0.500 m	✓			✓		

Utilization profile: Educational premises - Educational buildings (44.11 Computer practice rooms (menu-driven))

Glossary

A

A	Formula symbol for a surface in the geometry
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B

Background area	The background area borders the direct ambient area according to DIN EN 12464-1 and reaches up to the borders of the room. In larger rooms, the background area is at least 3 m wide. It is located horizontally at floor level.
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C

CCT	<p>(correlated color temperature)</p> <p>Body temperature of a thermal radiator that serves to describe its light color. Unit: Kelvin [K]. The lesser the numerical value the redder; the greater the numerical value the bluer the light color. The color temperature of gas-discharge lamps and semi-conductors are termed "correlated color temperature" in contrast to the color temperature of thermal radiators.</p> <p>Allocation of the light colors to the color temperature ranges acc. to EN 12464-1:</p> <p>Light color - color temperature [K] warm white (ww) < 3,300 K neutral white (nw) ≥ 3,300 – 5,300 K daylight white (dw) > 5,300 K</p>
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Clearance height	The designation for the distance between upper edge of the floor and bottom edge of the ceiling (in the completely furnished status of room).
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Control group	A group of luminaires that are dimmed and controlled together. For each lighting scene, a control group provides its own dimming value. All luminaires within a control group share this dimming value. The control groups with their luminaires are automatically determined by DIALux on the basis of the created light scenes and their luminaire groups.
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CRI	<p>(color rendering index)</p> <p>Designation for the color rendering index of a luminaire or a lamp acc. to DIN 6169: 1976 or CIE 13.3: 1995.</p> <p>The general color rendering index Ra (or CRI) is a dimensionless figure that describes the quality of a white light source in regards to its similarity with the remission spectra of defined 8 test colors (see DIN 6169 or CIE 1974) to a reference light source.</p>
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Glossary

D

Daylight autonomy	Describes what percentage of the daily working time the required illuminance is met by daylight. The nominal illuminance is used from the room profile, unlike described in EN 17037. The calculation is not done in the centre of the room but at the placed sensor measuring point. A room is considered sufficiently supplied with daylight if it achieves at least 50% daylight autonomy.
Daylight factor	Ratio of the illuminance achieved solely by daylight incidence at a point in the inside to the horizontal illuminance in the outer area under an unobstructed sky. Formula symbol: D (daylight factor) Unit: %
Daylight quotient effective area	A calculation surface within which the daylight quotient is calculated.

E

Energy evaluation	<p>Based on an hourly calculation procedure for daylight in indoor spaces, considering the project geometry and any existing daylight control systems. Orientation and location of the project are also considered. The calculation uses the specified system power of the luminaires to determine the energy demand. A linear relationship between power and luminous flux in the dimmed state is assumed for daylight-controlled luminaires. Times of use and nominal illuminance are determined from the usage profiles of the spaces. Switched-on luminaires that are explicitly excluded from control also consider the specified times-of-use. The daylight control systems use a simplified control logic that closes them at an outdoor horizontal illuminance of 27,500lx.</p> <p>The calendar year 2022 is used as a reference only. It is not a simulation of this year. The reference year is only used to assign the days of the week to the calculated results. The changeover to summer time is not considered. The reference sky type used is the average sky described in CIE 110 without direct sunlight.</p> <p>The method was developed together with the Fraunhofer Institute for Building Physics and is available for review by the Joint Working Group 1 ISO TC 274 as an extension of the previous annual regression-based method.</p>
Eta (η)	<p>(light output ratio)</p> <p>The light output ratio describes what percentage of the luminous flux of a free radiating lamp (or LED module) is emitted by the luminaire when installed.</p> <p>Unit: %</p>

Glossary

G

g_1	Often also U_o (overall uniformity) Designates the overall uniformity of the illuminance on a surface. It is the quotient from E_{min} to \bar{E} and is required, for instance, in standards for illumination of workstations.
g_2	Actually it designates the "non-uniformity" of the illuminance on a surface. It is the quotient of E_{min} to E_{max} and is generally only relevant for certifying the emergency lighting acc. to EN 1838.

I

Illuminance	Describes the ratio of the luminous flux that strikes a certain surface to the size of this surface ($lm/m^2 = lx$). The illuminance is not tied to an object surface. It can be determined anywhere in space (inside or outside). The illuminance is not a product feature because it is a recipient value. Luxometers are used for measuring. Unit: Lux Abbreviation: lx Formula symbol: E
Illuminance, adaptive	For the determining of the middle adaptive illuminance on a surface, this is rastered "adaptively". In the area of large illuminance differences within the surface, the raster is subdivided finer; within lesser differences, a rougher classification is made.
Illuminance, horizontal	Illuminance that is calculated or measured on a horizontal (level) surface (this can be for example a table top or the floor). The horizontal illuminance is usually identified by the formula letter E_h .
Illuminance, perpendicular	Illuminance that is calculated or measured plumb-vertical to a surface. This needs to be taken into account for tilted surfaces. If the surface is horizontal or vertical, then there is no difference between the perpendicular and the horizontal or vertical illuminance.
Illuminance, vertical	Illuminance that is calculated or measured on a vertical surface (this can be for example the front of some shelves). The vertical illuminance is usually identified by the formula letter E_v .

L

LENI	(lighting energy numeric indicator) Lighting energy numeric indicator acc. to EN 15193 Unit: kWh/m ² year
Light loss factor	See MF

Glossary

LLMF	(lamp lumen maintenance factor)/acc. to CIE 97: 2005 Lamp flux maintenance factor that takes the luminous flux reduction into account of a luminaire or an LED module in the course of the operating time. The lamp flux maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no luminous flux reduction existing).
LMF	(luminaire maintenance factor)/acc. to CIE 97: 2005 Luminaire maintenance factor that takes the soiling into account of the luminaire in the course of the operating time. The luminaire maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no soiling existing).
LSF	(lamp survival factor)/acc. to CIE 97: 2005 Lamp survival factor that takes the total failure into account of a luminaire in the course of the operating time. The lamp survival factor is specified as a decimal digit and can have a maximum value of 1 (no failures existing within the time concerned or prompt replacement after the failure).
Luminance	Dimension for the "brightness impression" that the human eye has of a surface. The surface itself can emit light thereby or light striking it can be reflected (emitter value). It is the only photometric value that the human eye can perceive. Unit: Candela per square meter Abbreviation: cd/m ² Formula symbol: L
Luminous efficacy	Ratio of the emitted luminous flux Φ [lm] to the absorbed electrical power P [W] Unit: lm/W. This ratio can be formed for the lamp or LED module (lamp or module light output), the lamp or module with control gear (system light output) and the complete luminaire (luminaire light output).
Luminous flux	Dimension for the total light output that is emitted from one light source in all directions. It is thus an "emitter value" that specifies the entire emitting output. The luminous flux of a light source can only be determined in a laboratory. A difference is made between the lamp or LED module luminous flux and the luminaire luminous flux. Unit: Lumen Abbreviation: lm Formula symbol: Φ
Luminous intensity	Describes the intensity of the light in a certain direction (emitter value). The luminous intensity is a matter of the luminous flux Φ that is emitted in a certain spherical angle Ω . The radiation characteristics of a light source are presented graphically in a light distribution curve (LDC). The luminous intensity is an SI base unit. Unit: Candela Abbreviation: cd Formula symbol: I

Glossary

M

MF

(maintenance factor)/acc. to CIE 97: 2005

Maintenance factor as decimal number between 0 and 1 that describes the ratio of the new value of a photometric planning parameter (e.g. of the illuminance) to a maintenance value after a certain time. The maintenance factor takes into account the soiling of luminaires and rooms as well as the luminous flux reduction and the failure of light sources.

The maintenance factor is taken into account either overall or determined in detail acc. to CIE 97: 2005 by the formula $RMF \times LMF \times LLMF \times LSF$.

P

P

(power)

Electric power consumption

Unit: watt

Abbreviation: W

R

$R_{(UG)} \max$

Measure of the psychological glare in indoor spaces.

In addition to the luminance of luminaires, the level of the $R_{(UG)}$ value also depends on the observer position, the viewing direction and the ambient luminance. The calculation is made according to the table method, see CIE 117. Among other things, EN 12464-1:2021 specifies maximum permissible $R_{(UG)}$ -values $R_{(UGL)}$ for various indoor workplaces.

Reflection factor

The reflection factor of a surface describes how much of the striking light is reflected back. The reflection factor is defined by the color of the surface.

RMF

(room maintenance factor)/acc. to CIE 97: 2005

Room maintenance factor that takes the soiling into account of the space encompassing surfaces in the course of the operating time. The room maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no soiling existing).

S

Surrounding area

The ambient area directly borders the area of the visual task and should be planned with a width of at least 0.5 m according to DIN EN 12464-1. It is at the same height as the area of the visual task.

Glossary

U

UGR (max)	(unified glare rating) Measure for the psychological glare effect in interiors. In addition to luminaire luminance, the UGR value also depends on the position of the observer, the viewing direction and the ambient luminance. Among other things, EN 12464-1 specifies maximum permissible UGR values for various indoor workplaces.
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UGR observer	Calculation point in the room, for the DIALux the UGR value is determined. The location and height of the calculation point should correspond to the typical observer position (position and eye level of the user).
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V

Visual task area	The area that is needed for carrying out the visual task in accordance with DIN EN 12464 -1. The height corresponds with the height at which the visual task is executed.
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W

Wall zone	Circumferential area between working plane and walls that is not taken into account for the calculation.
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Working plane	Virtual measuring or calculation surface at the height of the visual task that generally follows the room geometry. The working plane may also feature a wall zone.
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