

Project

Preface

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 - Storey 1

Wc 1

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Site 1 - Building 1 - Storey 1

Wc 5

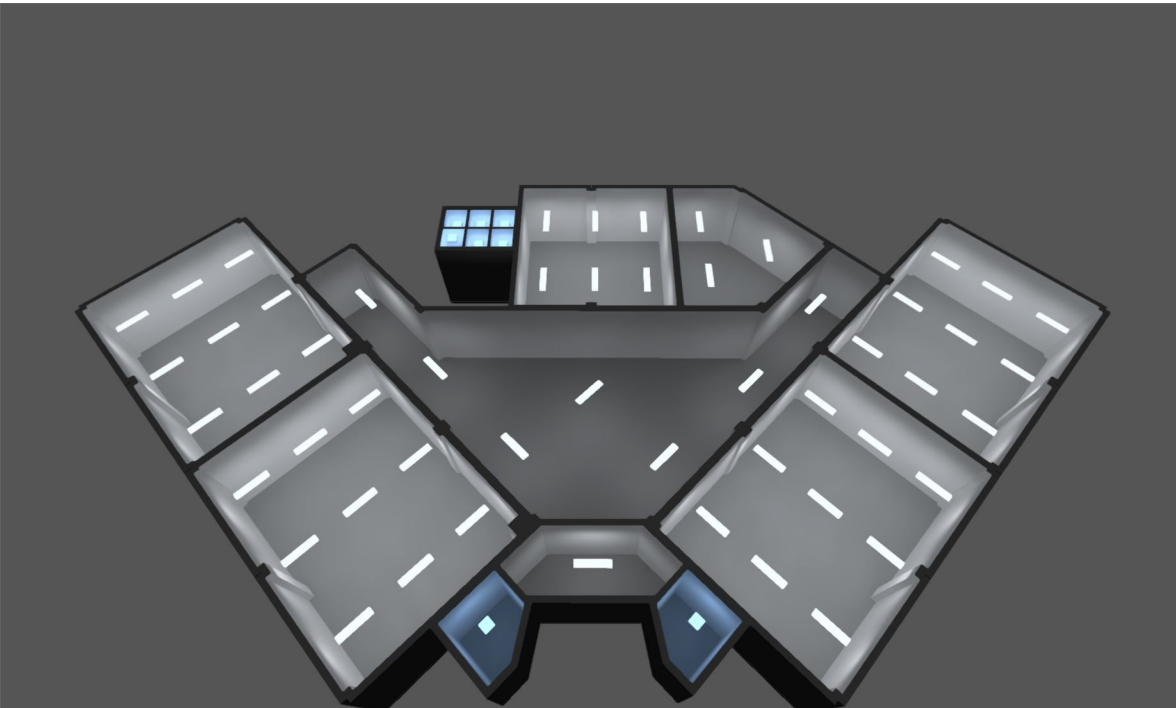
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Description

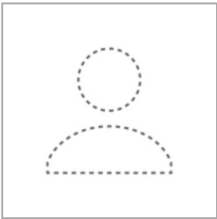
Luminaire list

Φ_{total} 230550 lm	P_{total} 2060.4 W	Luminous efficacy 111.9 lm/W
------------------------------------	--------------------------------	---------------------------------

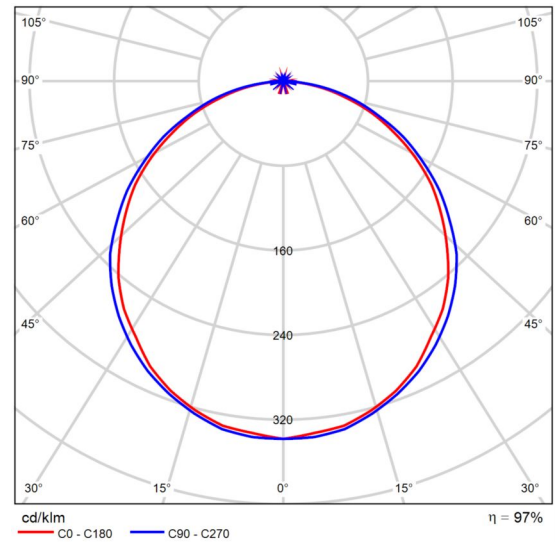
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
8	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W
55	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Product data sheet

Not yet a DIALux member - "START Panel 1200x300 HE 4100L m 840 LILO" /4000



P	34.0 W
Φ_{Lamp}	4053 lm
$\Phi_{Luminaire}$	3930 lm
η	96.96 %
Luminous efficacy	115.6 lm/W
CCT	3000 K
CRI	100



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	17.1	18.5	17.4	18.7	19.0	17.0	18.4	17.3	18.6	18.9	
	3H	18.6	19.8	18.9	20.1	20.4	18.5	19.7	18.8	20.0	20.3	
	4H	19.2	20.3	19.5	20.6	20.9	19.1	20.2	19.4	20.5	20.9	
	6H	19.6	20.7	19.9	21.0	21.3	19.5	20.6	19.9	20.9	21.2	
	8H	19.7	20.7	20.1	21.1	21.4	19.6	20.6	20.0	21.0	21.3	
	12H	19.7	20.7	20.1	21.1	21.4	19.6	20.6	20.0	21.0	21.3	
4H	2H	17.7	18.9	18.1	19.2	19.5	17.7	18.8	18.0	19.1	19.4	
	3H	19.4	20.4	19.8	20.7	21.1	19.3	20.3	19.7	20.7	21.0	
	4H	20.1	21.0	20.5	21.3	21.7	20.0	20.9	20.4	21.3	21.7	
	6H	20.6	21.4	21.0	21.8	22.2	20.5	21.3	21.0	21.7	22.1	
	8H	20.7	21.5	21.2	21.9	22.3	20.7	21.4	21.1	21.8	22.3	
	12H	20.8	21.5	21.3	21.9	22.4	20.8	21.4	21.2	21.9	22.3	
8H	4H	20.3	21.0	20.8	21.4	21.9	20.3	21.0	20.7	21.4	21.8	
	6H	20.9	21.5	21.4	22.0	22.4	20.9	21.5	21.4	21.9	22.4	
	8H	21.1	21.7	21.6	22.1	22.6	21.1	21.6	21.6	22.1	22.6	
	12H	21.3	21.7	21.8	22.2	22.7	21.2	21.7	21.8	22.2	22.7	
12H	4H	20.3	21.0	20.8	21.4	21.9	20.3	20.9	20.7	21.4	21.8	
	6H	21.0	21.5	21.5	22.0	22.5	20.9	21.5	21.4	21.9	22.4	
	8H	21.2	21.7	21.7	22.1	22.7	21.2	21.6	21.7	22.1	22.6	
Variation of the observer position for the luminaire distances S												
S = 1.0H		+0.1 / -0.1					+0.1 / -0.1					
S = 1.5H		+0.2 / -0.3					+0.2 / -0.4					
S = 2.0H		+0.5 / -0.6					+0.5 / -0.7					
Standard table		BK05					BK05					
Correction summand		3.6					3.6					
Corrected glare indices referring to 4053lm Total luminous flux												

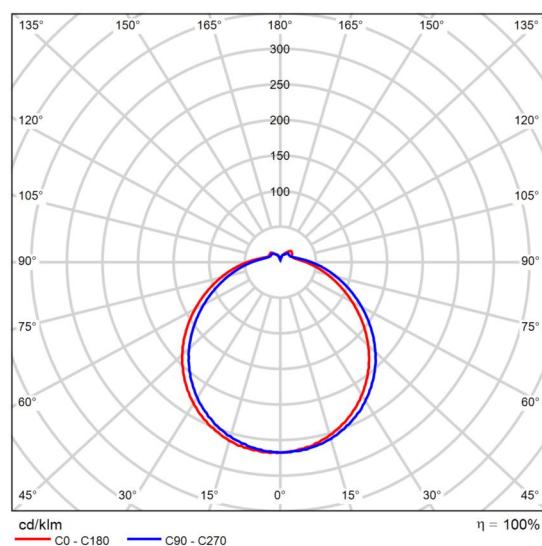
UGR diagram (SHR: 0.25)

Product data sheet

SYLVANIA - Start eco Surface IP44 PIR 1900lm 840 DualTone



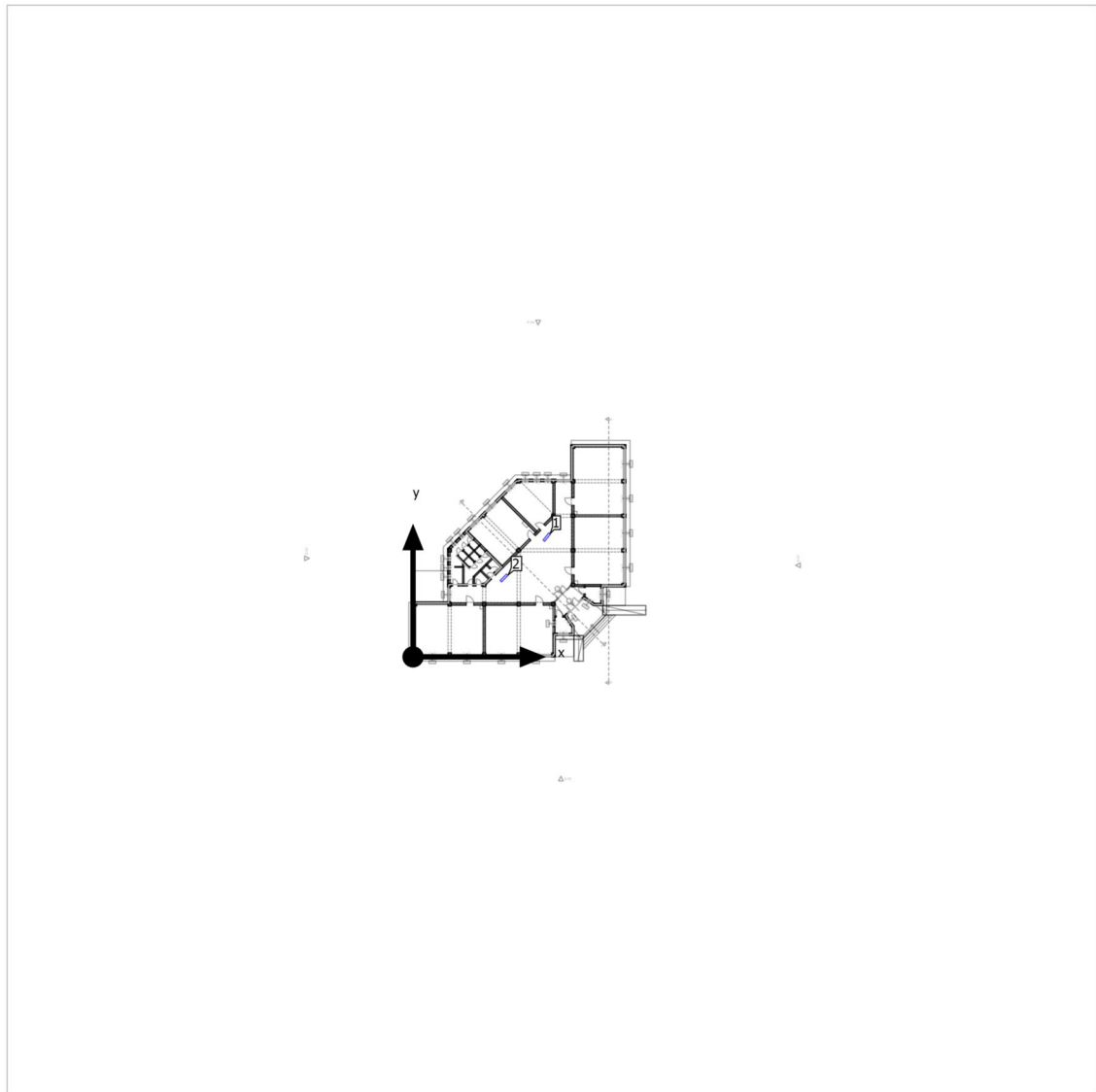
Article No.	0043438
P	23.8 W
Φ_{Lamp}	1800 lm
$\Phi_{\text{Luminaire}}$	1800 lm
η	100.00 %
Luminous efficacy	75.6 lm/W
CCT	4000 K
CRI	80



Polar LDC

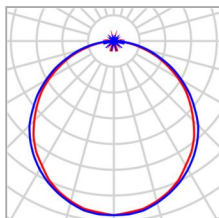
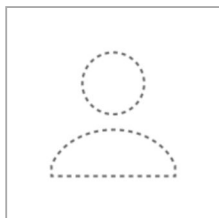
Site 1

Luminaire layout plan



Site 1

Luminaire layout plan



Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

Individual luminaires

X	Y	Mounting height	Luminaire
17.065 m	15.286 m	3.700 m	1
11.619 m	10.074 m	3.700 m	2

Site 1

Luminaire list

Φ_{total} 7860 lm	P_{total} 68.0 W	Luminous efficacy 115.6 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
2	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Building 1

Luminaire list Φ_{total}

222690 lm

 P_{total}

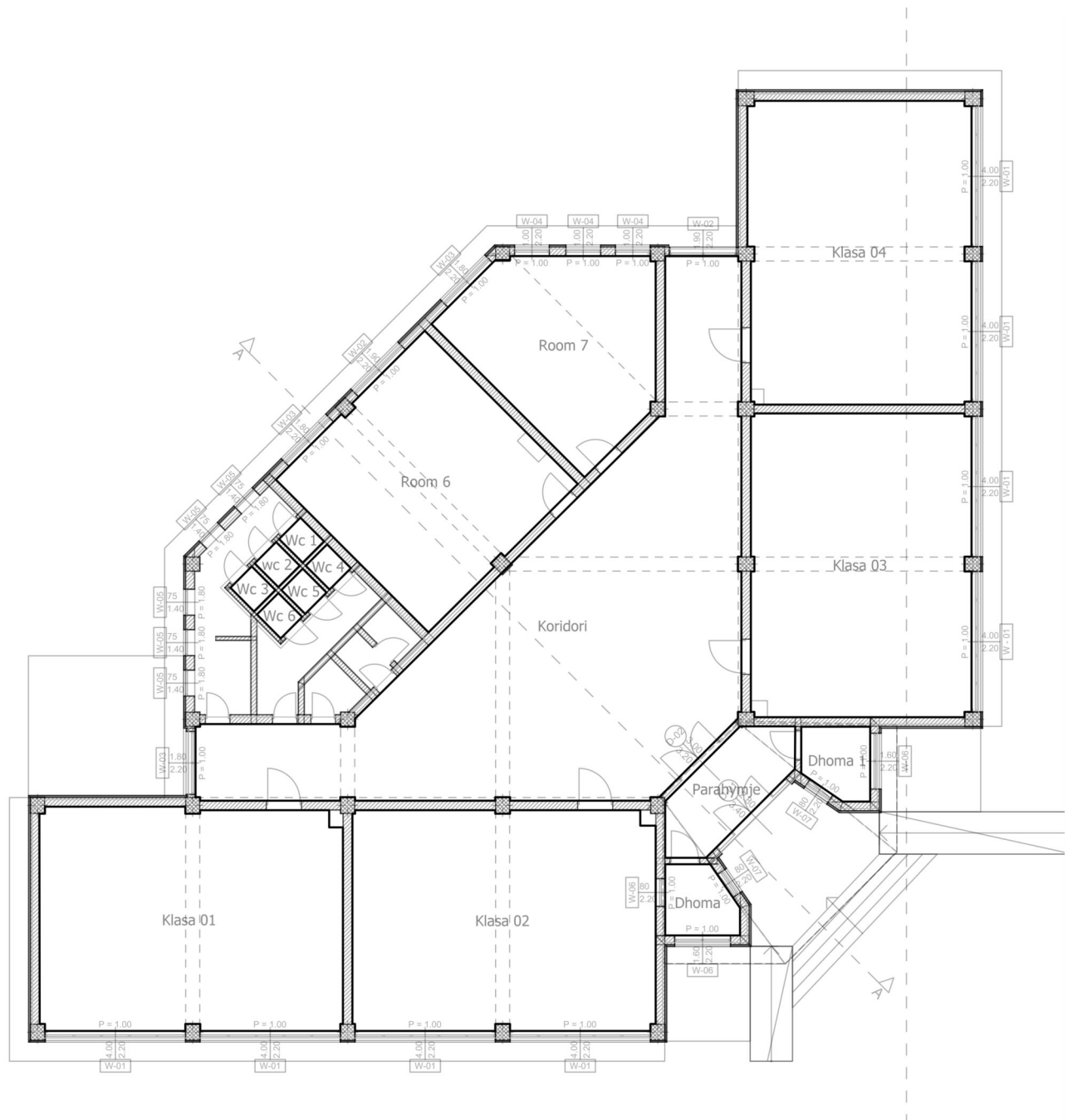
1992.4 W

Luminous efficacy

111.8 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
8	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W
53	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Room list



Building 1 · Storey 1 (Light scene 1)

Room list

Dhoma

P_{total} 23.8 W	A_{Room} 3.78 m ²	Lighting power density 6.29 W/m ² = 3.66 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 172 lx
------------------------------------	--	---	--

pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

Dhoma 1

P_{total} 23.8 W	A_{Room} 3.70 m ²	Lighting power density 6.42 W/m ² = 3.74 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 172 lx
------------------------------------	--	---	--

pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

Klasa 01

P_{total} 306.0 W	A_{Room} 54.24 m ²	Lighting power density 5.64 W/m ² = 1.12 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 504 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Building 1 · Storey 1 (Light scene 1)

Room list

Klasa 02

P_{total} 306.0 W	A_{Room} 53.82 m ²	Lighting power density 5.69 W/m ² = 1.12 W/m ² /100 lx (Room)	$\bar{E}_{perpendicular}$ (Working plane) 508 lx
------------------------	------------------------------------	--	---

pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{Luminaire}$
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Klasa 03

P_{total} 306.0 W	A_{Room} 54.06 m ²	Lighting power density 5.66 W/m ² = 1.11 W/m ² /100 lx (Room)	$\bar{E}_{perpendicular}$ (Working plane) 508 lx
------------------------	------------------------------------	--	---

pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{Luminaire}$
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Klasa 04

P_{total} 306.0 W	A_{Room} 54.46 m ²	Lighting power density 5.62 W/m ² = 1.11 W/m ² /100 lx (Room)	$\bar{E}_{perpendicular}$ (Working plane) 507 lx
------------------------	------------------------------------	--	---

pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{Luminaire}$
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Building 1 · Storey 1 (Light scene 1)

Room list

Koridori

P_{total} 238.0 W	A_{Room} 99.49 m ²	Lighting power density 2.39 W/m ² = 1.12 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 214 lx
-------------------------------------	---	---	--

pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
7	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Parahymje

P_{total} 34.0 W	A_{Room} 8.34 m ²	Lighting power density 4.08 W/m ² = 1.59 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 256 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Room 6

P_{total} 204.0 W	A_{Room} 36.74 m ²	Lighting power density 5.55 W/m ² = 1.16 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 478 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
6	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Building 1 · Storey 1 (Light scene 1)

Room list

Room 7

P_{total} 102.0 W	A_{Room} 26.66 m ²	Lighting power density 3.83 W/m ² = 1.19 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 323 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
3	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm

Wc 1

P_{total} 23.8 W	A_{Room} 0.82 m ²	Lighting power density 29.07 W/m ² = 11.25 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 259 lx
------------------------------------	--	---	--

pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

wc 2

P_{total} 23.8 W	A_{Room} 0.82 m ²	Lighting power density 29.07 W/m ² = 11.31 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 257 lx
------------------------------------	--	---	--

pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

Building 1 · Storey 1 (Light scene 1)

Room list

Wc 3

P_{total} 23.8 W	A_{Room} 0.82 m ²	Lighting power density 29.09 W/m ² = 11.24 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 259 lx
------------------------------------	--	---	--

pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

Wc 4

P_{total} 23.8 W	A_{Room} 0.83 m ²	Lighting power density 28.85 W/m ² = 11.25 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 256 lx
------------------------------------	--	---	--

pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

Wc 5

P_{total} 23.8 W	A_{Room} 0.83 m ²	Lighting power density 28.85 W/m ² = 20.99 W/m ² /100 lx (Room)	E_{perpendicular} (Working plane) 137 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ _{Luminaire}
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

Building 1 · Storey 1 (Light scene 1)

Room list

Wc 6

 P_{total}

23.8 W

 A_{Room} 0.83 m²

Lighting power density

28.73 W/m² = 13.86 W/m²/100 lx (Room) $\bar{E}_{\text{perpendicular (Working plane)}}$

207 lx

pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm

Building 1 · Storey 1

Luminaire list Φ_{total}

222690 lm

 P_{total}

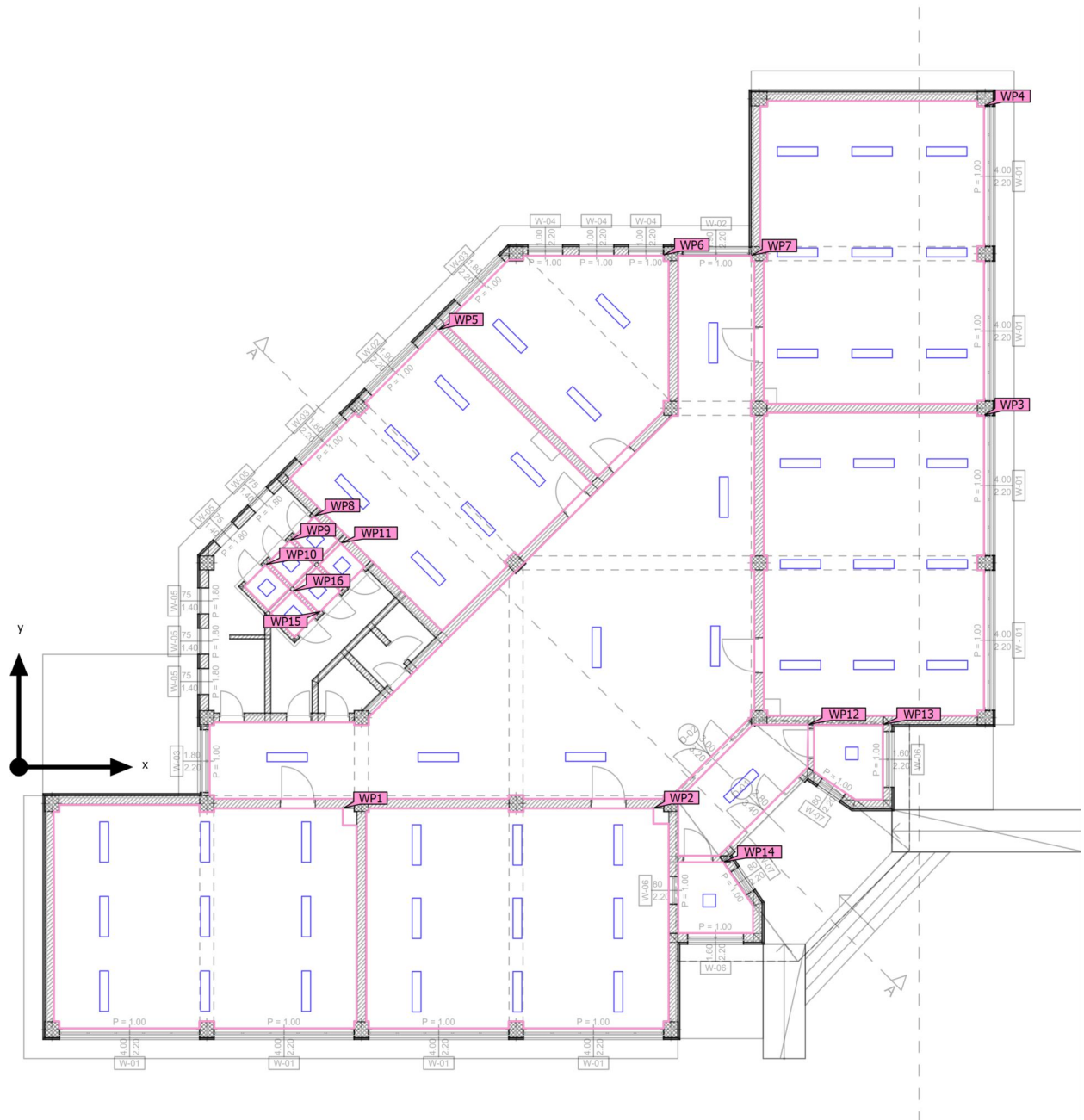
1992.4 W

Luminous efficacy

111.8 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
8	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W
53	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Calculation objects



Building 1 · Storey 1 (Light scene 1)

Calculation objects

Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 01) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	504 lx (≥ 300 lx) ✓	311 lx	622 lx	0.62 (≥ 0.50) ✓	0.50	WP1
Working plane (Klasa 02) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	508 lx (≥ 300 lx) ✓	315 lx	630 lx	0.62 (≥ 0.50) ✓	0.50	WP2
Working plane (Klasa 03) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	508 lx (≥ 300 lx) ✓	319 lx	632 lx	0.63 (≥ 0.50) ✓	0.50	WP3
Working plane (Klasa 04) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	507 lx (≥ 300 lx) ✓	311 lx	629 lx	0.61 (≥ 0.60) ✓	0.49	WP4
Working plane (Room 6) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	478 lx (≥ 300 lx) ✓	298 lx	583 lx	0.62 (≥ 0.60) ✓	0.51	WP5
Working plane (Room 7) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	323 lx (≥ 200 lx) ✓	179 lx	430 lx	0.55 (≥ 0.40) ✓	0.42	WP6
Working plane (Koridori) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	214 lx (≥ 200 lx) ✓	85.0 lx	373 lx	0.40 (≥ 0.40) ✓	0.23	WP7
Working plane (Wc 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	259 lx (≥ 75.0 lx) ✓	229 lx	280 lx	0.88 (≥ 0.40) ✓	0.82	WP8
Working plane (wc 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	257 lx (≥ 75.0 lx) ✓	229 lx	278 lx	0.89 (≥ 0.40) ✓	0.82	WP9
Working plane (Wc 3) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	259 lx (≥ 75.0 lx) ✓	232 lx	278 lx	0.90 (≥ 0.40) ✓	0.83	WP10
Working plane (Wc 4) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	256 lx (≥ 75.0 lx) ✓	231 lx	281 lx	0.90 (≥ 0.40) ✓	0.82	WP11

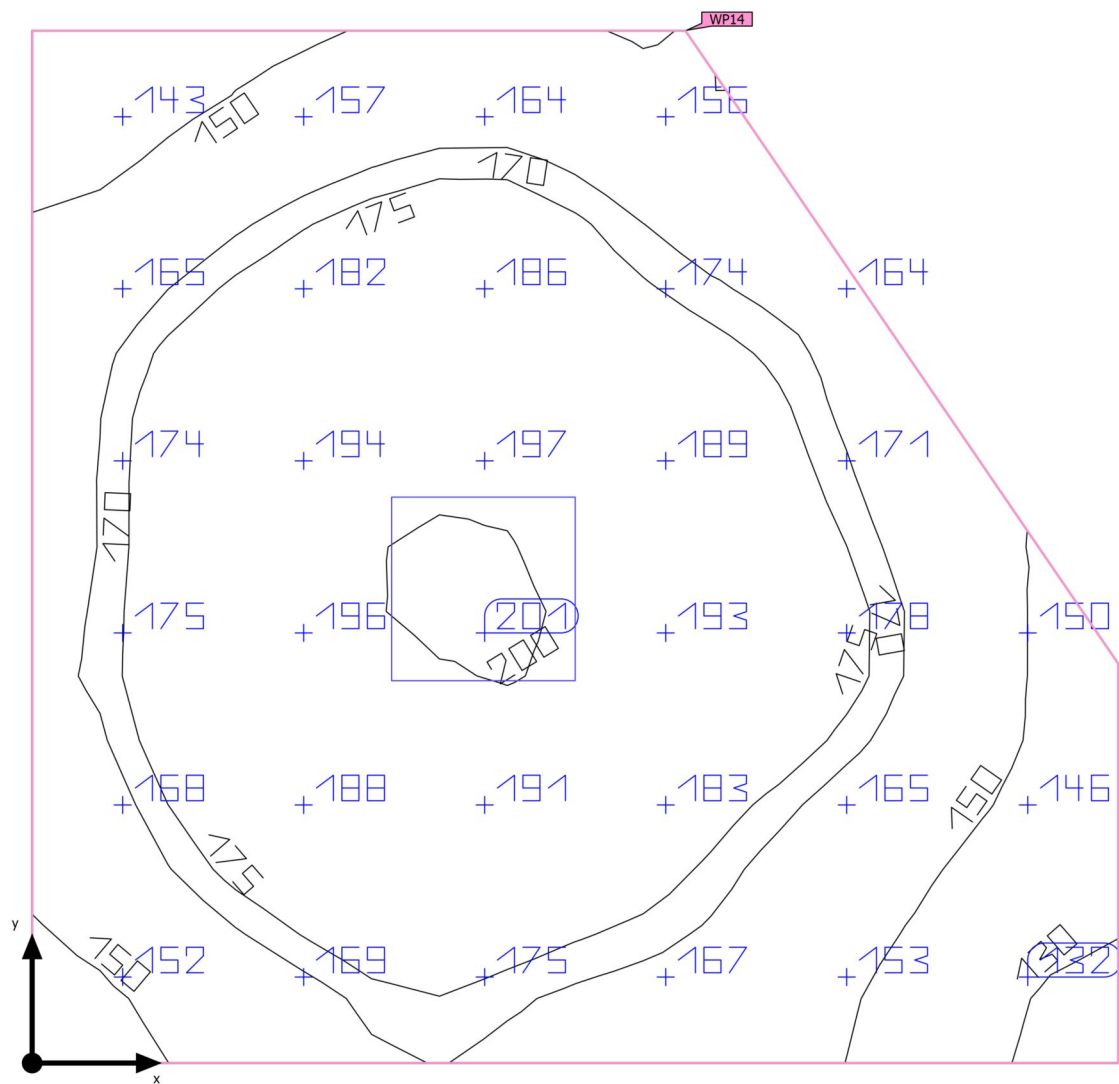
Building 1 · Storey 1 (Light scene 1)

Calculation objects

Working plane (Parahymje) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	256 lx (≥ 100 lx) ✓	137 lx	380 lx	0.54 (≥ 0.40) ✓	0.36	WP12
Working plane (Dhoma 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	172 lx (≥ 50.0 lx) ✓	120 lx	204 lx	0.70 (≥ 0.40) ✓	0.59	WP13
Working plane (Dhoma) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	172 lx (≥ 50.0 lx) ✓	126 lx	201 lx	0.73 (≥ 0.40) ✓	0.63	WP14
Working plane (Wc 5) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	137 lx (≥ 75.0 lx) ✓	127 lx	142 lx	0.93 (≥ 0.40) ✓	0.89	WP15
Working plane (Wc 6) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	207 lx (≥ 200 lx) ✓	188 lx	220 lx	0.91 (≥ 0.40) ✓	0.85	WP16

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

Summary



Ground area	3.78 m²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.856 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

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

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	172 lx	≥ 50.0 lx	✓	WP14
	$U_o (g_1)$	0.73	≥ 0.40	✓	WP14
Energy estimation ⁽²⁾	Consumption	3.93 kWh/a	max. 150 kWh/a	✓	
Room	Lighting power density	6.29 W/m ²	–		
		3.66 W/m ² /100 lx	–		

(1) Based on a rectangular space of 2.130 m x 2.024 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

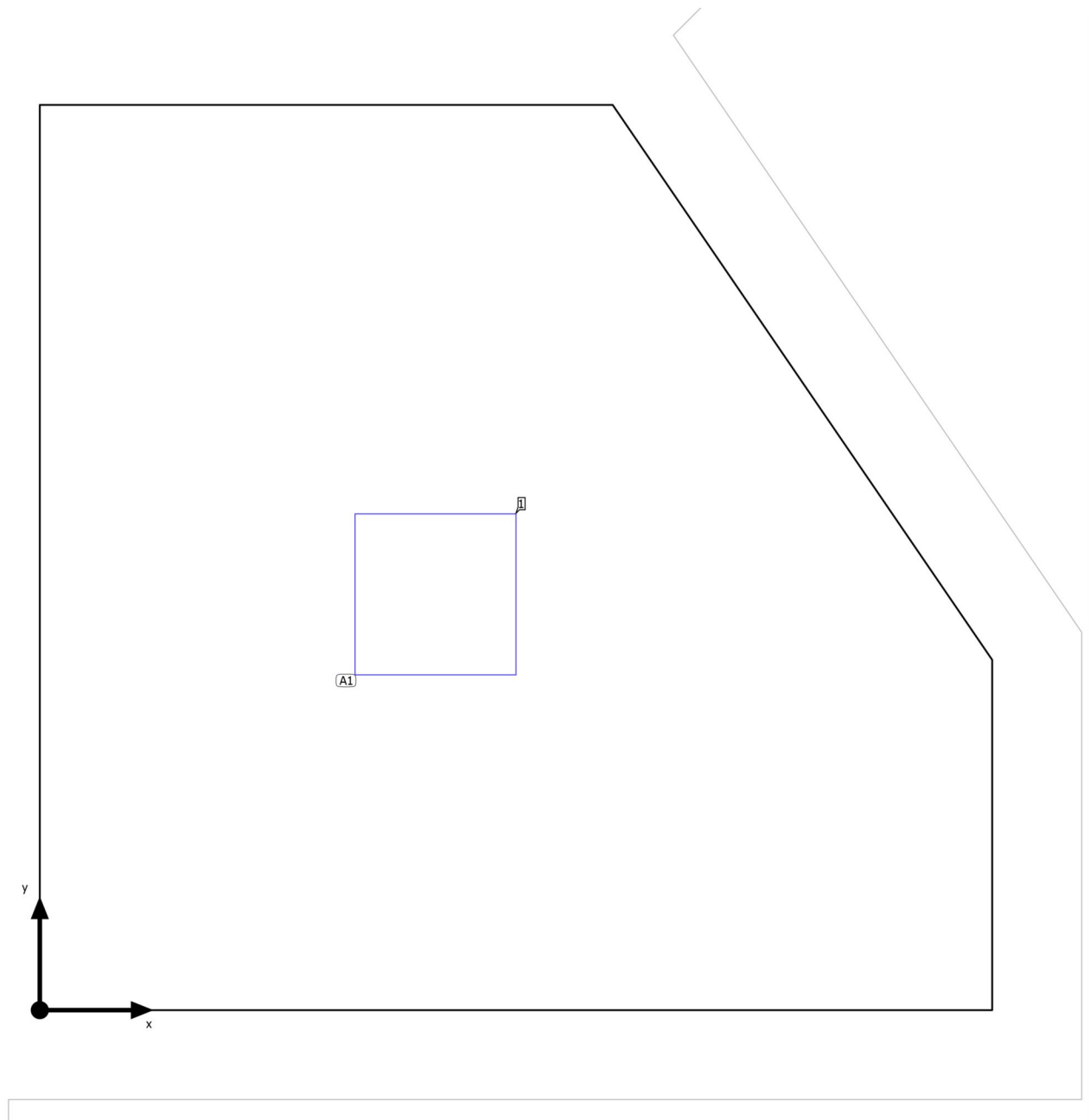
Utilisation profile: General areas inside buildings - Store rooms, cold stores (5.4.1 Store and stockrooms)

Luminaire list

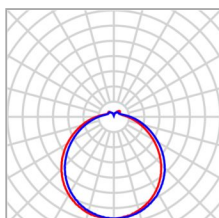
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Dhoma

Luminaire layout plan



Building 1 · Storey 1 · Dhoma

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.885 m / 0.930 m / 2.856 m	0.885 m	0.930 m	2.856 m	1
X-direction	1 pcs., Centre - centre, 2.130 m				
Y-direction	1 pcs., Centre - centre, 2.024 m				
Arrangement	A1				

Building 1 · Storey 1 · Dhoma

Luminaire list Φ_{total}

1800 lm

 P_{total}

23.8 W

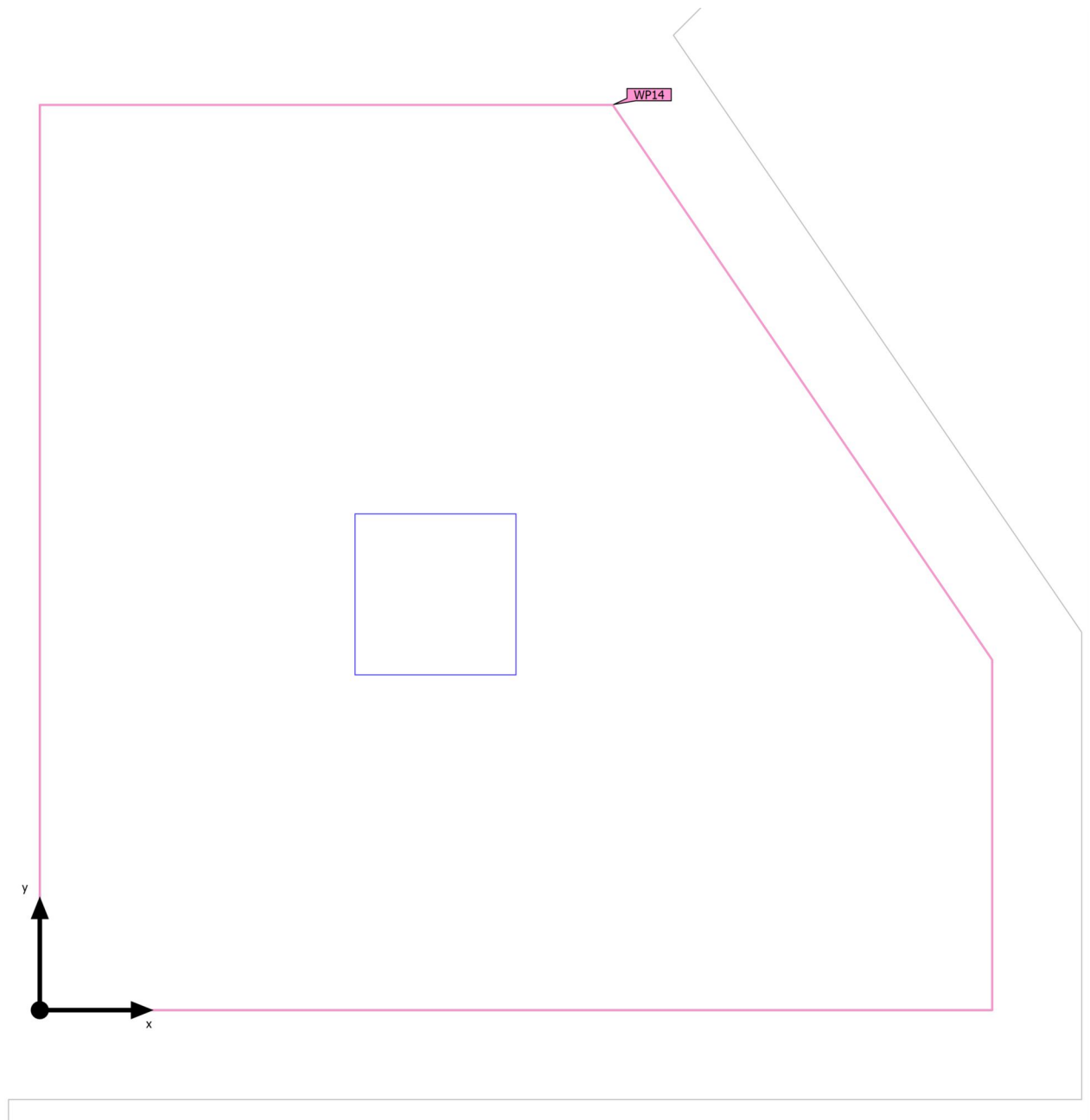
Luminous efficacy

75.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

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

Calculation objects



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

Calculation objects

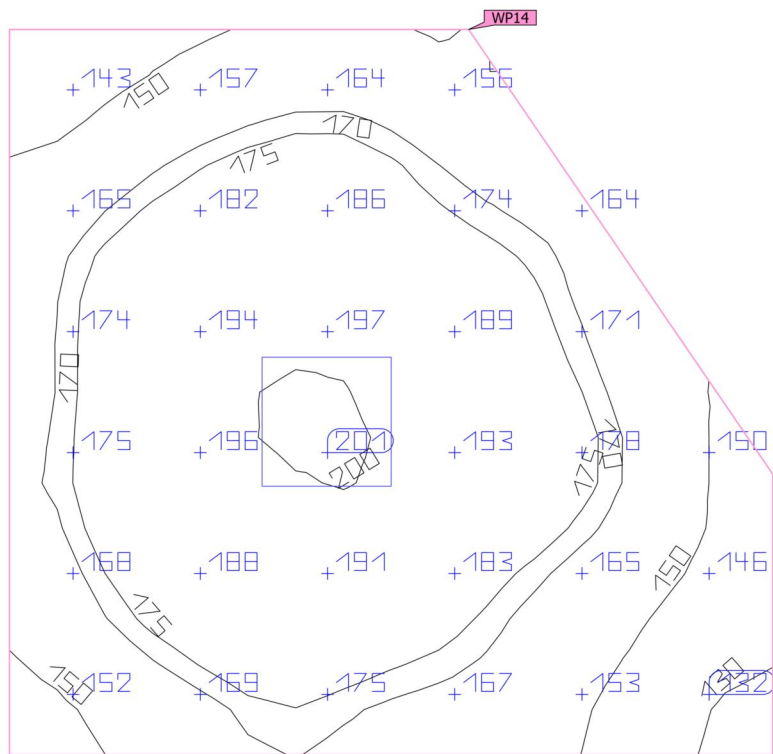
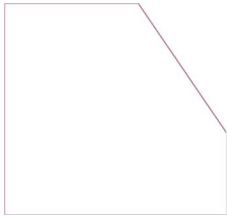
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Dhoma) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	172 lx (≥ 50.0 lx) ✓	126 lx	201 lx	0.73 (≥ 0.40) ✓	0.63	WP14

(1) Based on a rectangular space of 2.130 m x 2.024 m and SHR of 0.25.

Utilisation profile: General areas inside buildings - Store rooms, cold stores (5.4.1 Store and stockrooms)

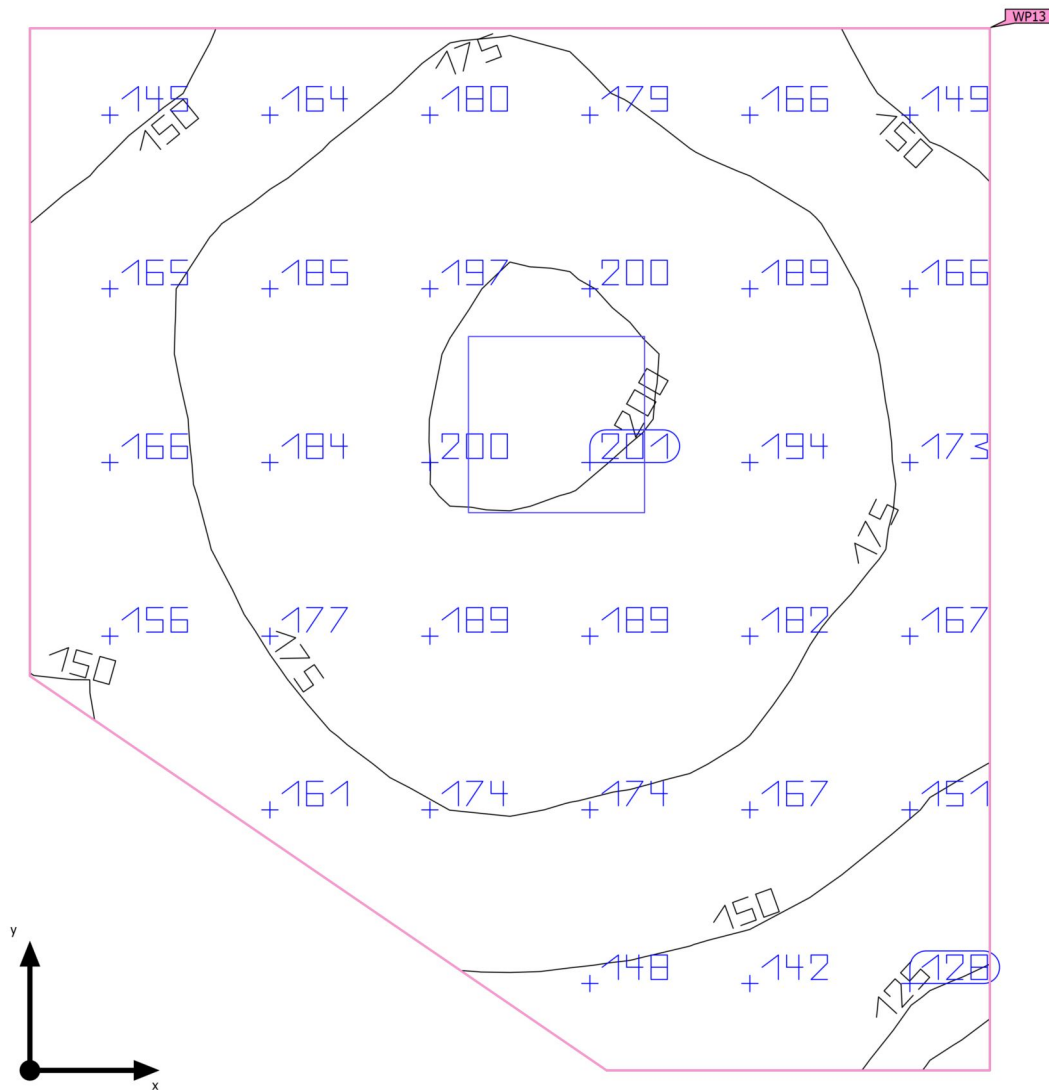
Building 1 · Storey 1 · Dhoma (Light scene 1)

Working plane (Dhoma)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Dhoma)	172 lx	126 lx	201 lx	0.73	0.63	WP14
Perpendicular illuminance (adaptive)	(≥ 50.0 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: General areas inside buildings - Store rooms, cold stores (5.4.1 Store and stockrooms)

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

Summary

Ground area	3.70 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.856 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

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

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	172 lx	≥ 50.0 lx	✓	WP13
	$U_o (g_1)$	0.70	≥ 0.40	✓	WP13
Energy estimation ⁽²⁾	Consumption	3.93 kWh/a	max. 150 kWh/a	✓	
Room	Lighting power density	6.42 W/m ²	–		
		3.74 W/m ² /100 lx	–		

(1) Based on a rectangular space of 2.130 m x 1.962 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

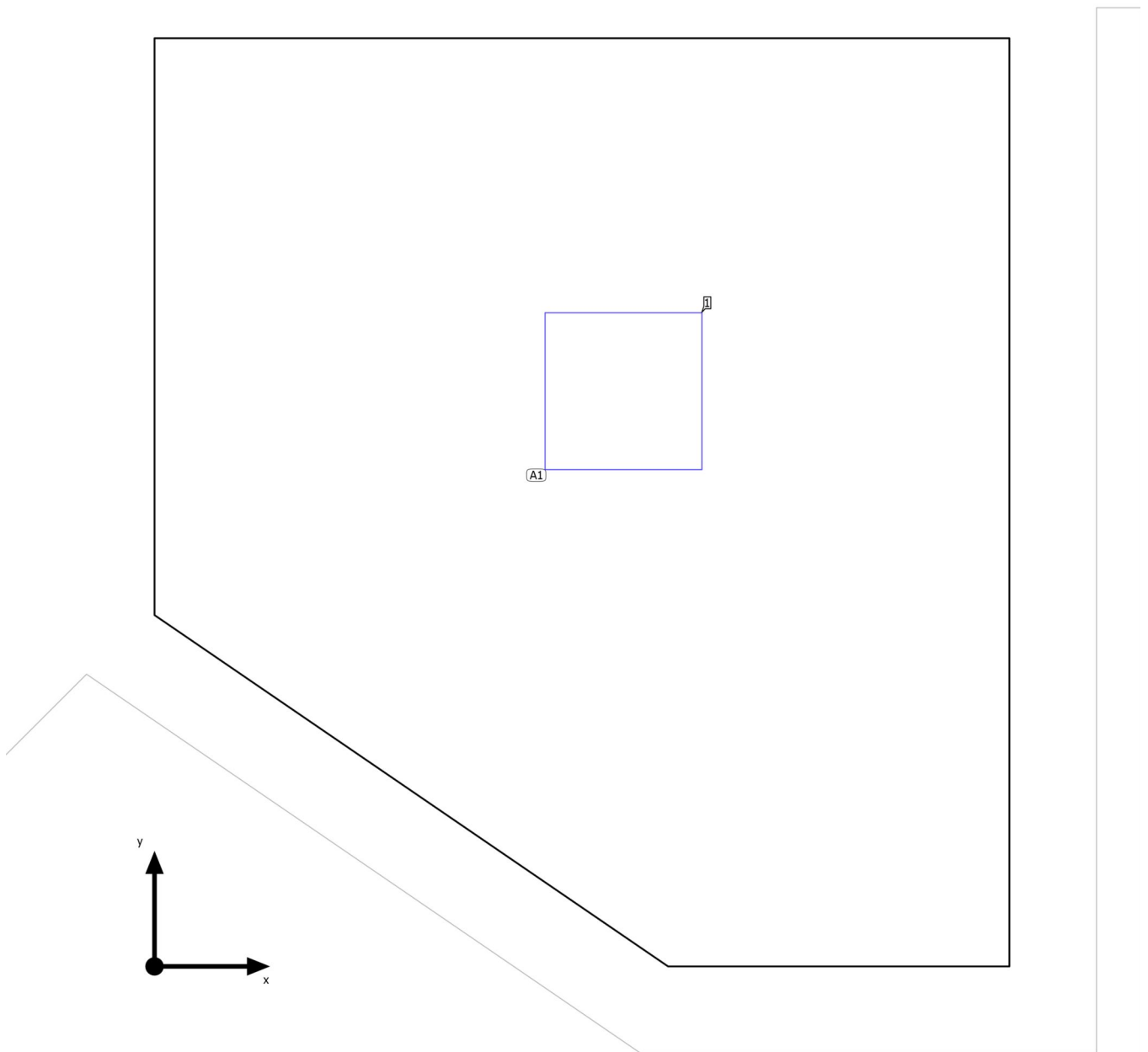
Utilisation profile: General areas inside buildings - Store rooms, cold stores (5.4.1 Store and stockrooms)

Luminaire list

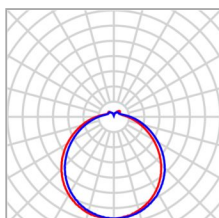
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Dhoma 1

Luminaire layout plan



Building 1 · Storey 1 · Dhoma 1

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.076 m / 1.320 m / 2.856 m	1.076 m	1.320 m	2.856 m	1
X-direction	1 pcs., Centre - centre, 1.962 m				
Y-direction	1 pcs., Centre - centre, 2.130 m				
Arrangement	A1				

Building 1 · Storey 1 · Dhoma 1

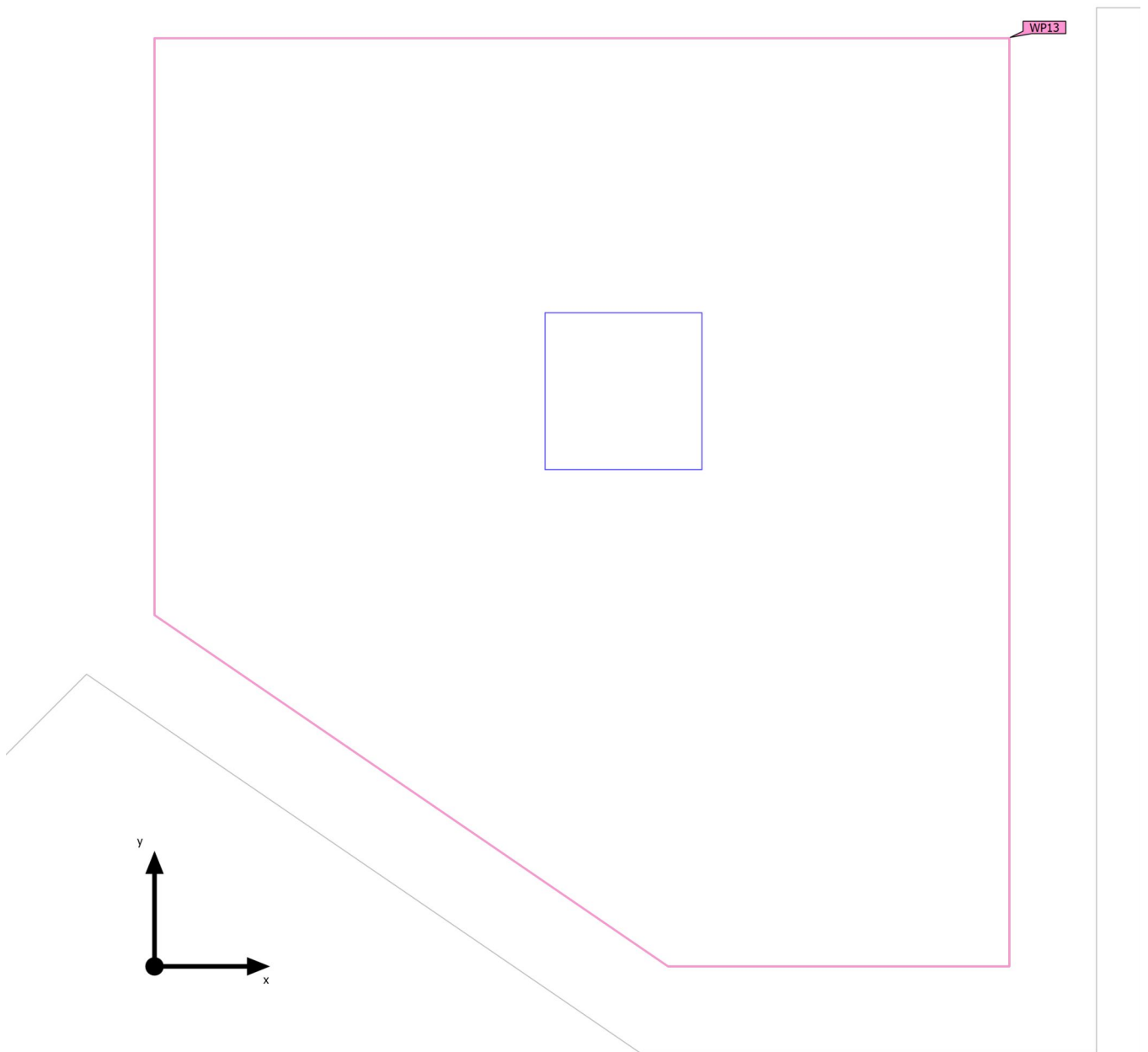
Luminaire list

Φ_{total} 1800 lm	P_{total} 23.8 W	Luminous efficacy 75.6 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

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

Calculation objects



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

Calculation objects

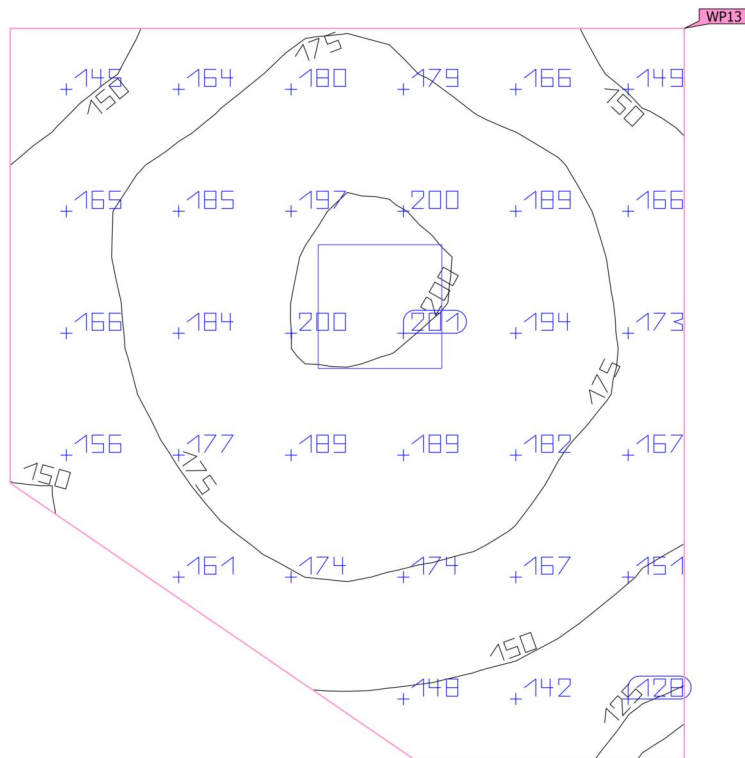
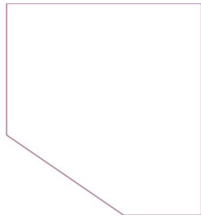
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Dhoma 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	172 lx (≥ 50.0 lx) ✓	120 lx	204 lx	0.70 (≥ 0.40) ✓	0.59	WP13

(1) Based on a rectangular space of 2.130 m x 1.962 m and SHR of 0.25.

Utilisation profile: General areas inside buildings - Store rooms, cold stores (5.4.1 Store and stockrooms)

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

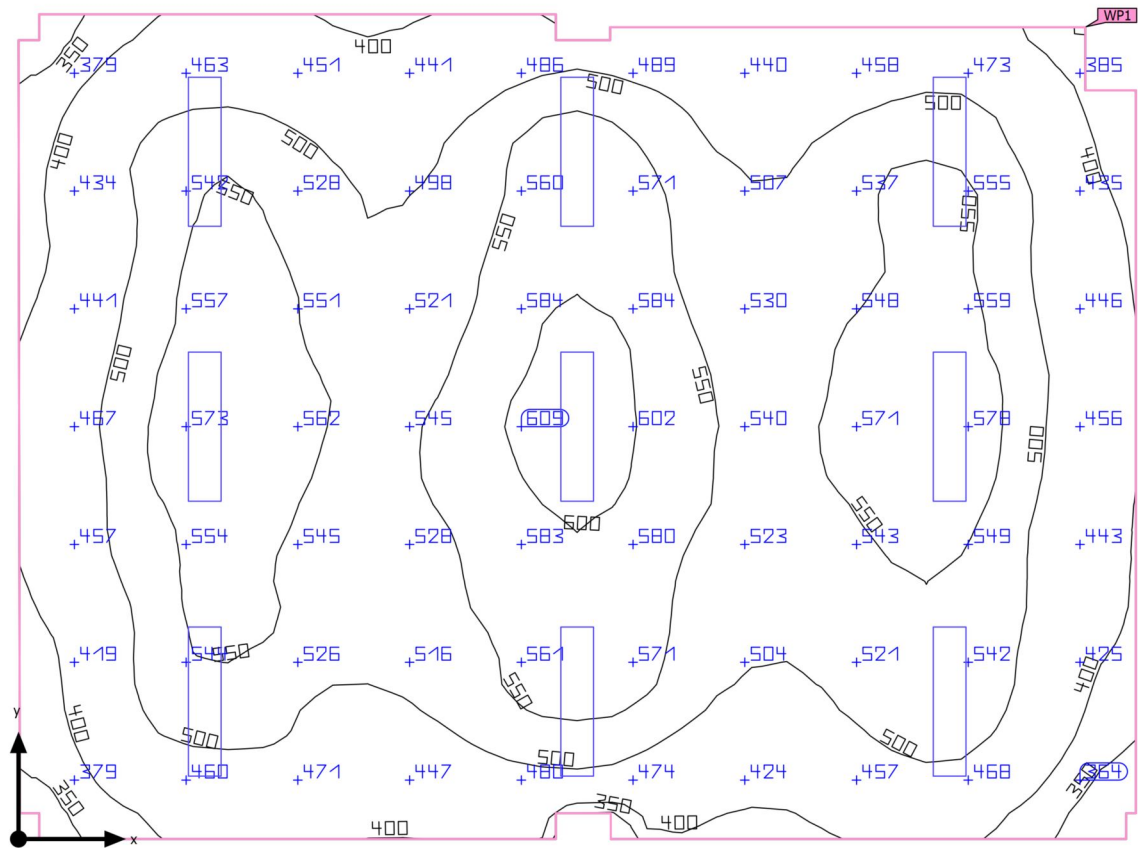
Working plane (Dhoma 1)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Dhoma 1)	172 lx	120 lx	204 lx	0.70	0.59	WP13
Perpendicular illuminance (adaptive)	(≥ 50.0 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: General areas inside buildings - Store rooms, cold stores (5.4.1 Store and stockrooms)

Building 1 · Storey 1 · Klasa 01 (Light scene 1)

Summary



Ground area	54.24 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.835 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Klasa 01 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	504 lx	$\geq 300 \text{ lx}$	✓	WP1
	$U_o (g_1)$	0.62	≥ 0.50	✓	WP1
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	21	≤ 19	✗	
Energy estimation ⁽²⁾	Consumption	407 kWh/a	max. 1900 kWh/a	✓	
Room	Lighting power density	5.64 W/m ²	–		
		1.12 W/m ² /100 lx	–		

(1) Based on a rectangular space of 8.640 m x 6.379 m and SHR of 0.25.

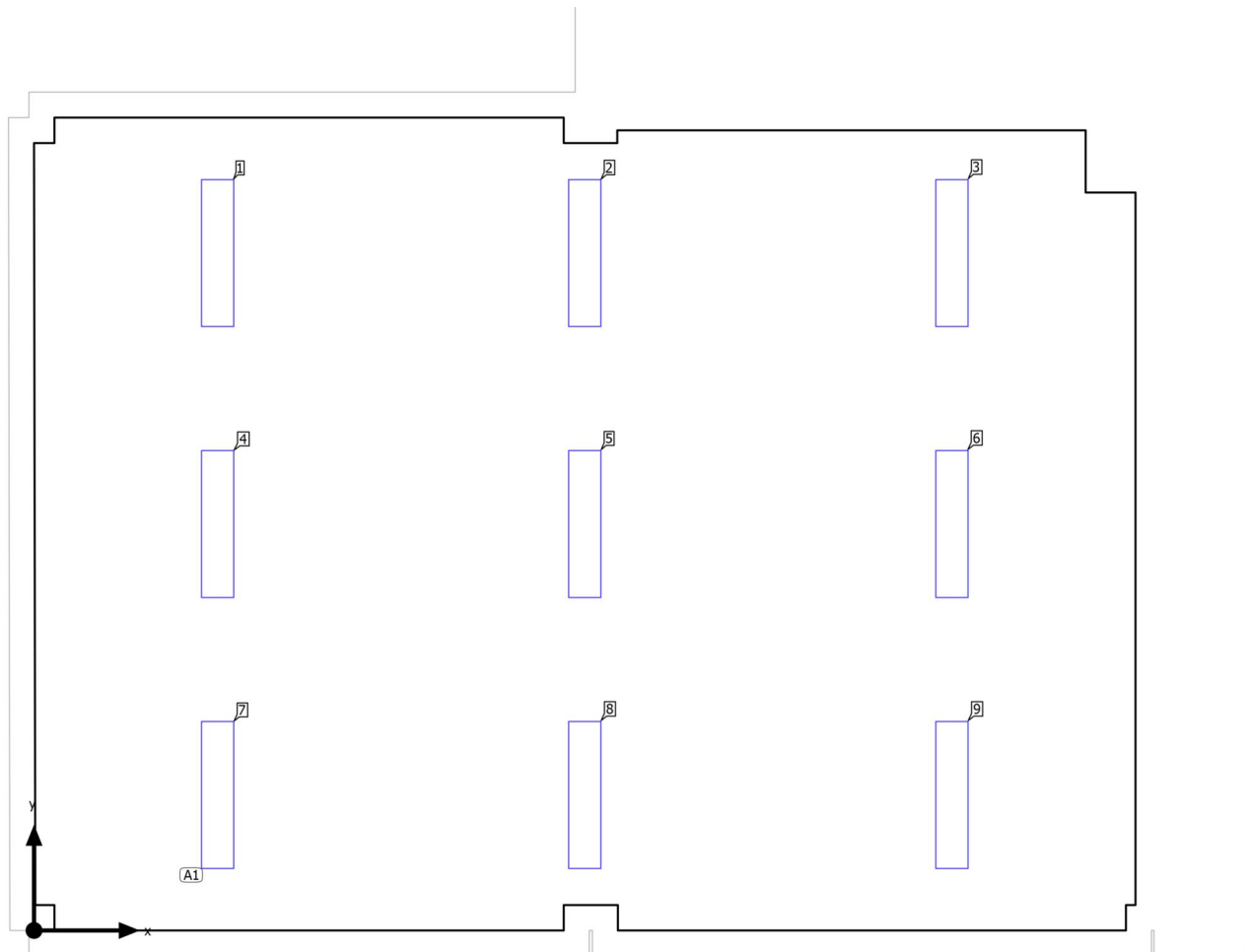
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

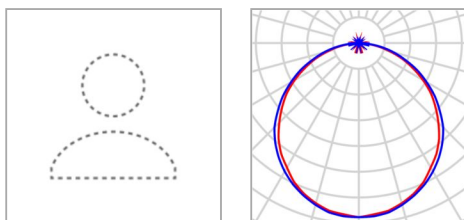
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	20	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 01

Luminaire layout plan

Building 1 · Storey 1 · Klasa 01

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

9 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.440 m / 1.063 m / 2.835 m	1.440 m	5.316 m	2.835 m	1
X-direction	3 pcs., Centre - centre, 2.880 m	4.320 m	5.316 m	2.835 m	2
Y-direction	3 pcs., Centre - centre, 2.127 m	7.200 m	5.316 m	2.835 m	3
Arrangement	A1	1.440 m	3.190 m	2.835 m	4
		4.320 m	3.190 m	2.835 m	5
		7.200 m	3.190 m	2.835 m	6
		1.440 m	1.063 m	2.835 m	7
		4.320 m	1.063 m	2.835 m	8
		7.200 m	1.063 m	2.835 m	9

Building 1 · Storey 1 · Klasa 01

Luminaire list Φ_{total}

35370 lm

 P_{total}

306.0 W

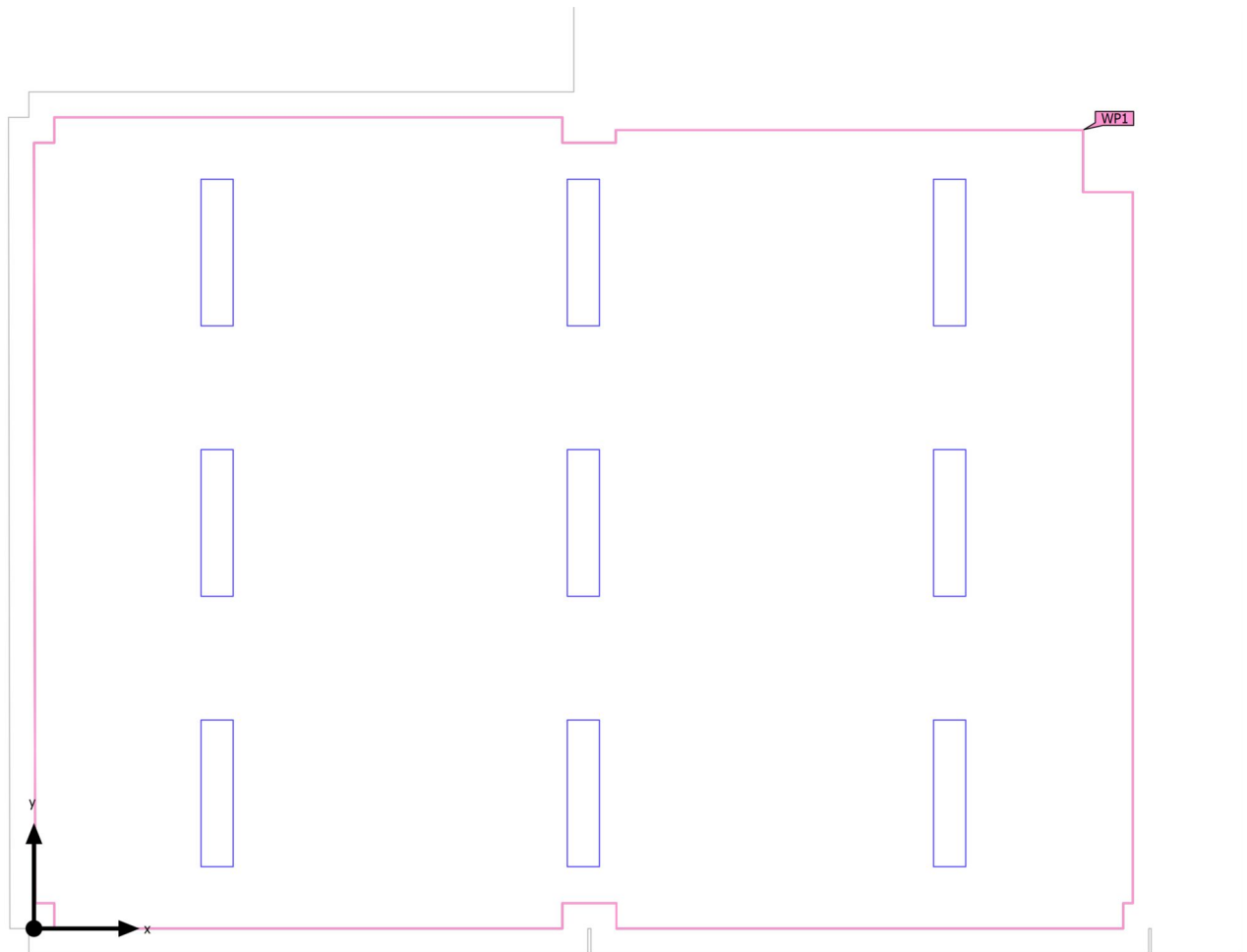
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 01 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Klasa 01 (Light scene 1)

Calculation objects

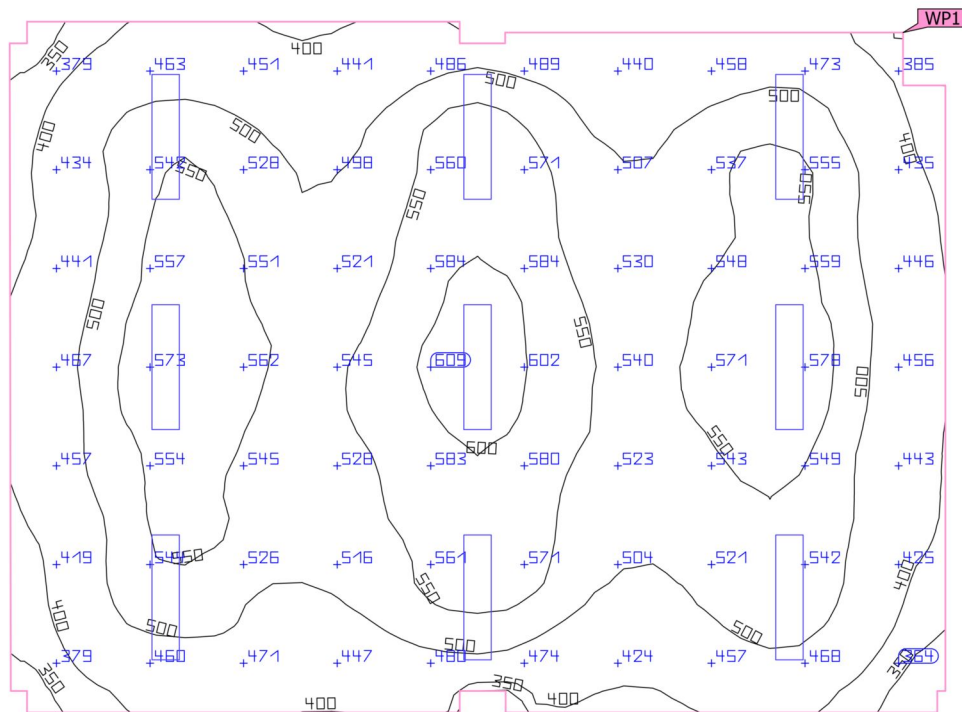
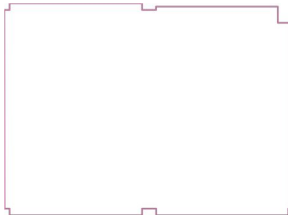
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 01) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	504 lx (≥ 300 lx) ✓	311 lx	622 lx	0.62 (≥ 0.50) ✓	0.50	WP1

(1) Based on a rectangular space of 8.640 m x 6.379 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Klasa 01 (Light scene 1)

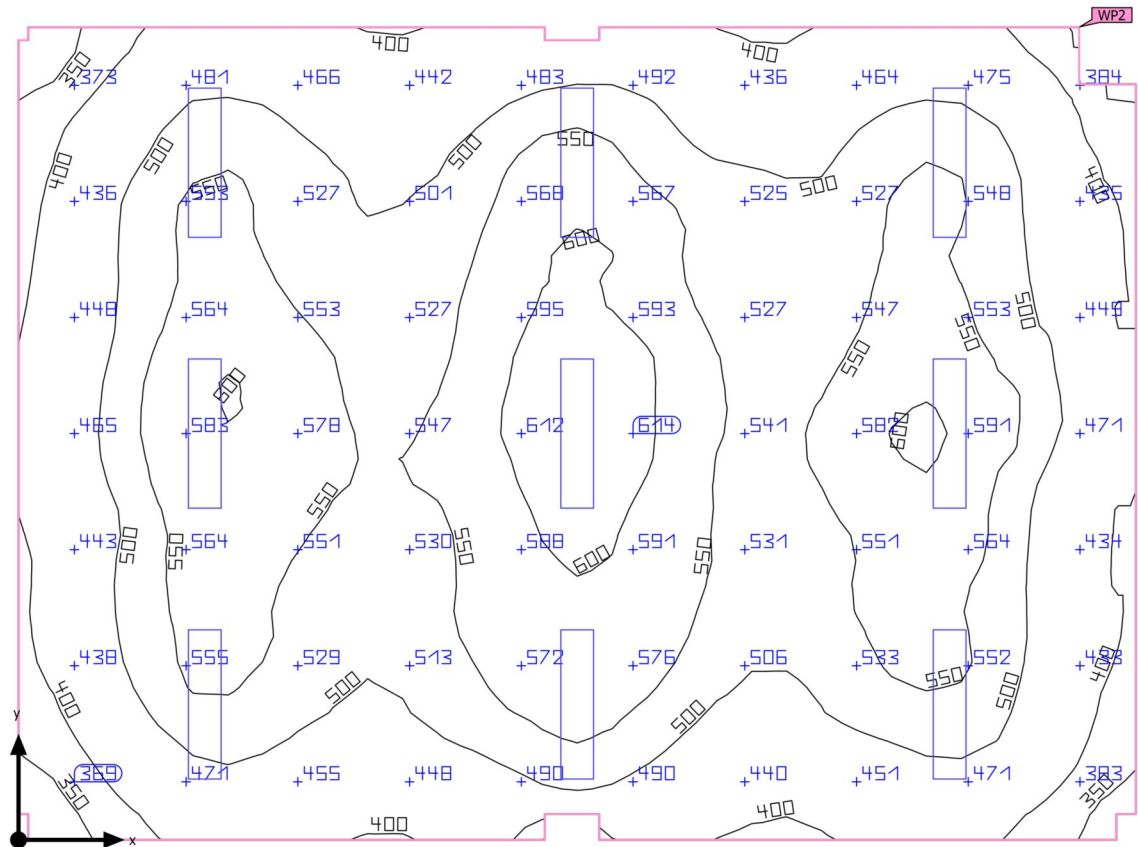
Working plane (Klasa 01)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 01)	504 lx	311 lx	622 lx	0.62	0.50	WP1
Perpendicular illuminance (adaptive)	(≥ 300 lx)			(≥ 0.50)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Klasa 02 (Light scene 1)

Summary



Ground area	53.82 m ²	Clearance height	3.200 m
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %	Mounting height	2.835 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Klasa 02 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	508 lx	$\geq 300 \text{ lx}$	✓	WP2
	$U_o (g_1)$	0.62	≥ 0.50	✓	WP2
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	21	≤ 19	✗	
Energy estimation ⁽²⁾	Consumption	407 kWh/a	max. 1900 kWh/a	✓	
Room	Lighting power density	5.69 W/m ²	–		
		1.12 W/m ² /100 lx	–		

(1) Based on a rectangular space of 6.280 m x 8.630 m and SHR of 0.25.

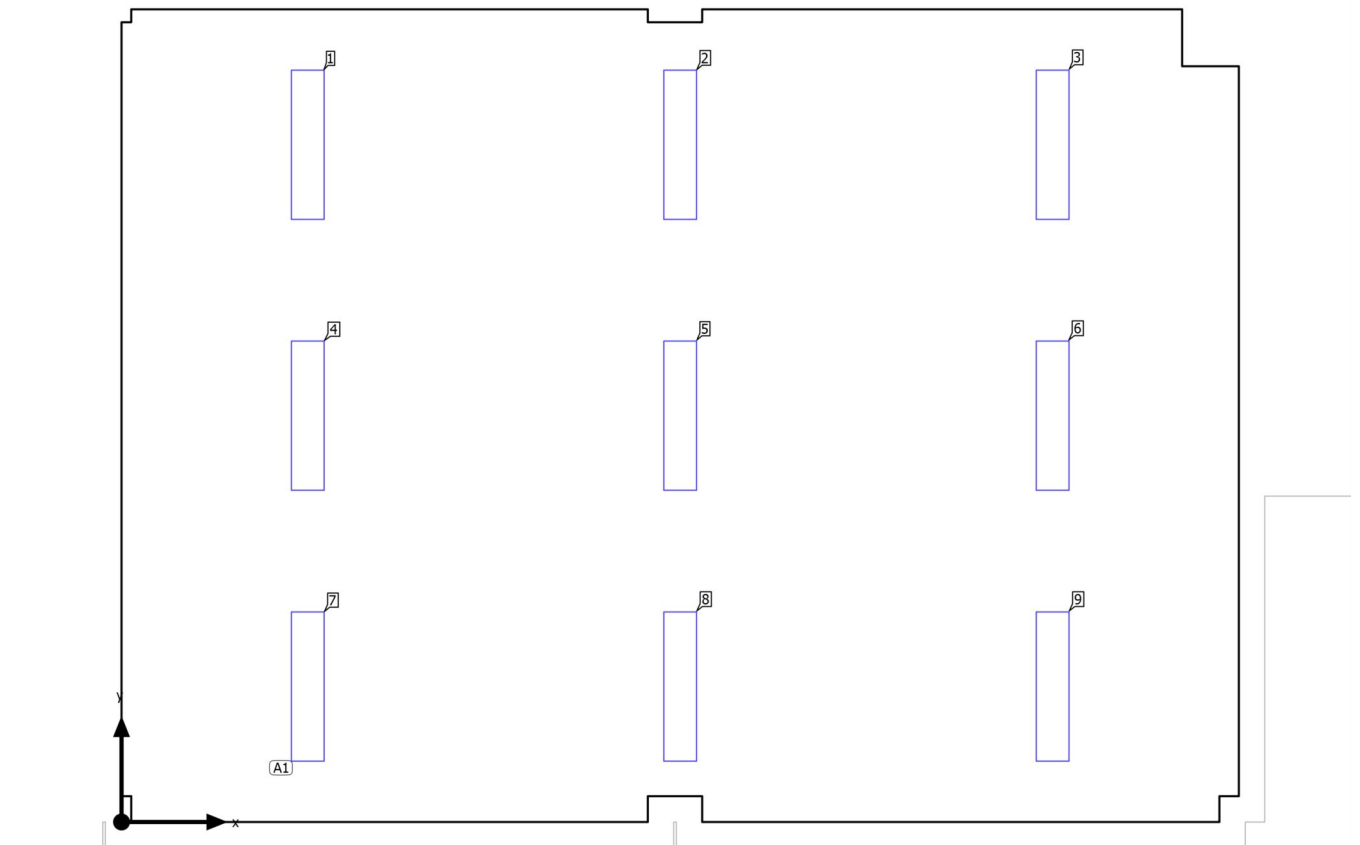
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

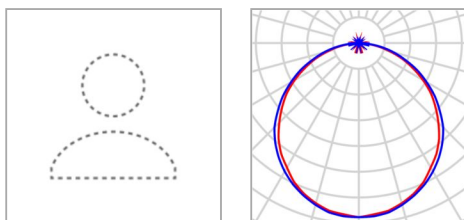
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	20	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 02

Luminaire layout plan

Building 1 · Storey 1 · Klasa 02

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

9 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.438 m / 1.047 m / 2.835 m	1.438 m	5.233 m	2.835 m	1
X-direction	3 pcs., Centre - centre, 2.877 m	4.315 m	5.233 m	2.835 m	2
Y-direction	3 pcs., Centre - centre, 2.093 m	7.192 m	5.233 m	2.835 m	3
Arrangement	A1	1.438 m	3.140 m	2.835 m	4
		4.315 m	3.140 m	2.835 m	5
		7.192 m	3.140 m	2.835 m	6
		1.438 m	1.047 m	2.835 m	7
		4.315 m	1.047 m	2.835 m	8
		7.192 m	1.047 m	2.835 m	9

Building 1 · Storey 1 · Klasa 02

Luminaire list Φ_{total}

35370 lm

 P_{total}

306.0 W

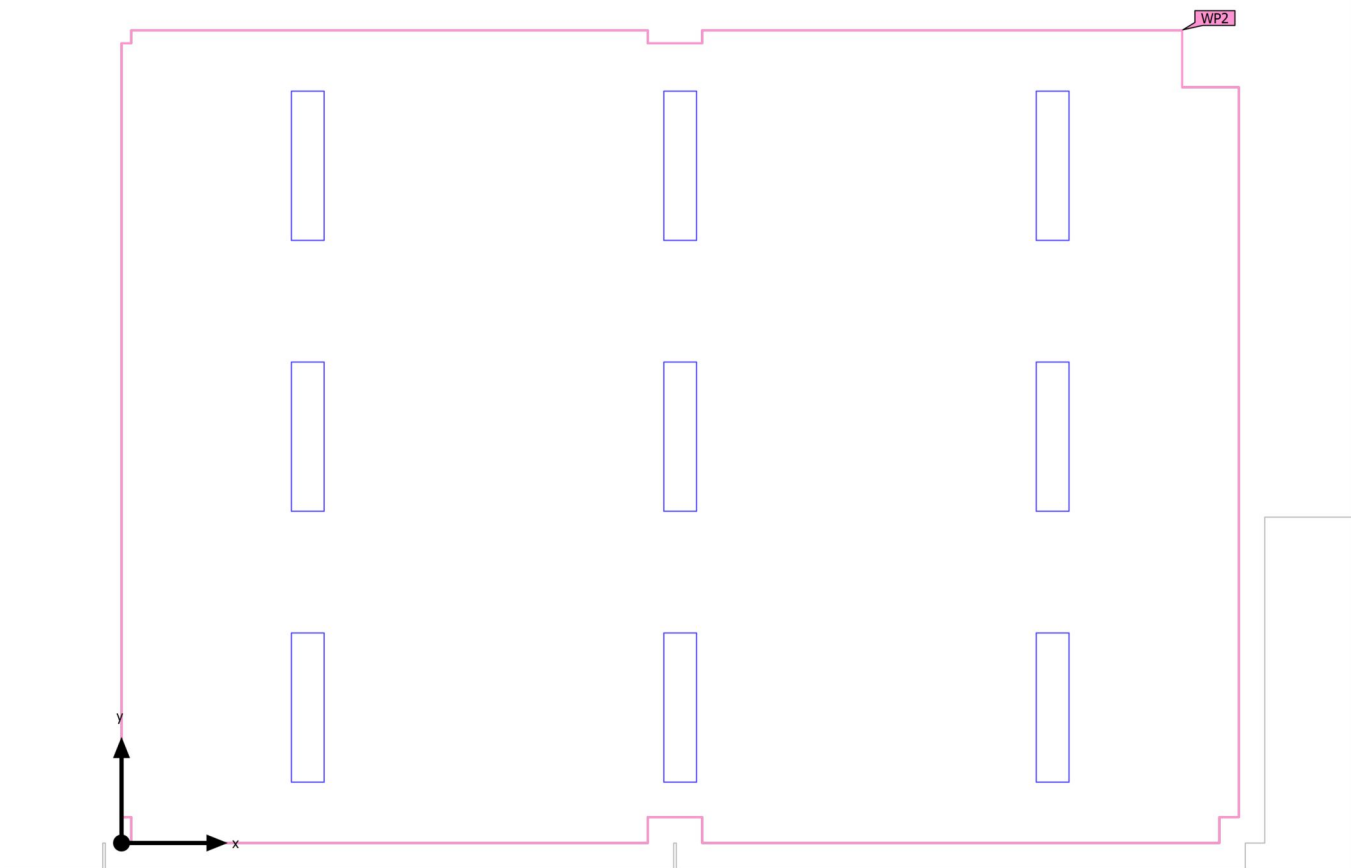
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 02 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Klasa 02 (Light scene 1)

Calculation objects

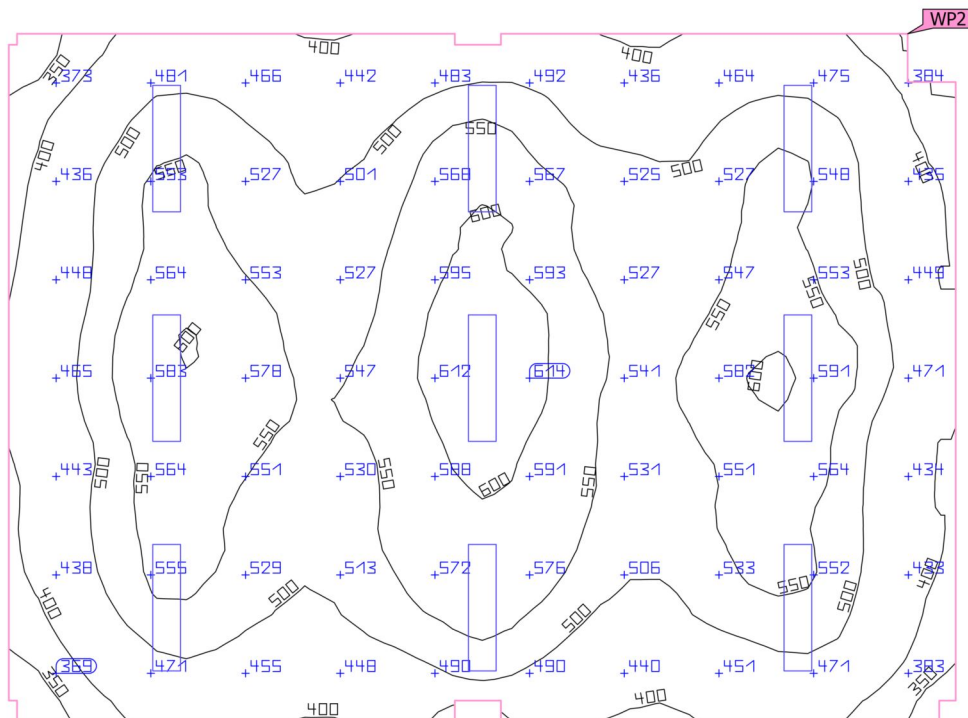
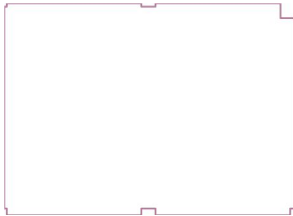
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 02) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	508 lx (≥ 300 lx) ✓	315 lx	630 lx	0.62 (≥ 0.50) ✓	0.50	WP2

(1) Based on a rectangular space of 6.280 m x 8.630 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Klasa 02 (Light scene 1)

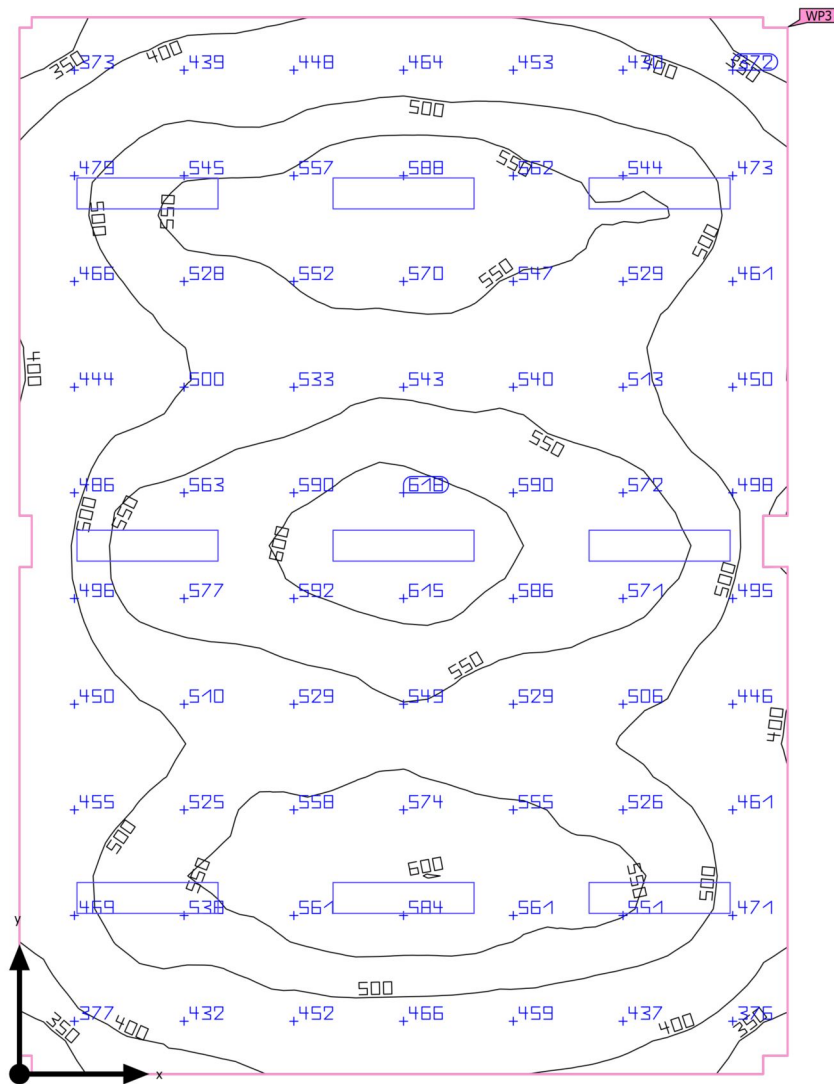
Working plane (Klasa 02)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 02)	508 lx	315 lx	630 lx	0.62	0.50	WP2
Perpendicular illuminance (adaptive)	(≥ 300 lx)			(≥ 0.50)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Klasa 03 (Light scene 1)

Summary



Ground area	54.06 m ²	Clearance height	3.200 m
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %	Mounting height	2.835 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Klasa 03 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	508 lx	≥ 300 lx	✓	WP3
	$U_o (g_1)$	0.63	≥ 0.50	✓	WP3
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	21	≤ 19	✗	
Energy estimation ⁽²⁾	Consumption	407 kWh/a	max. 1900 kWh/a	✓	
Room	Lighting power density	5.66 W/m ²	–		
		1.11 W/m ² /100 lx	–		

(1) Based on a rectangular space of 8.640 m x 6.280 m and SHR of 0.25.

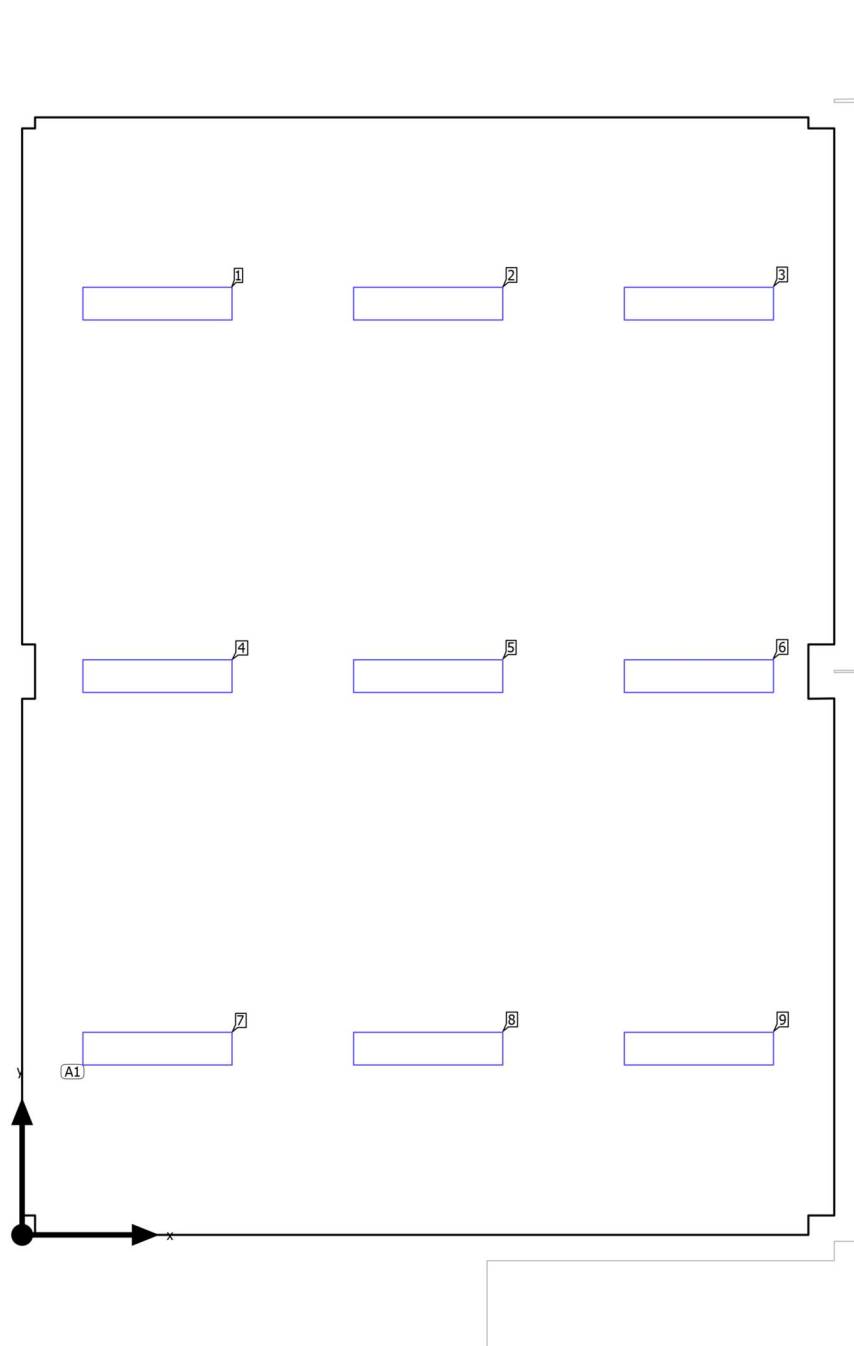
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

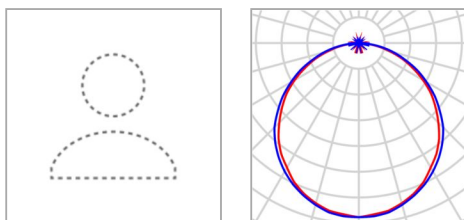
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	20	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 03

Luminaire layout plan

Building 1 · Storey 1 · Klasa 03

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

9 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.047 m / 1.440 m / 2.835 m	1.047 m	7.200 m	2.835 m	1
X-direction	3 pcs., Centre - centre, 2.093 m	3.140 m	7.200 m	2.835 m	2
Y-direction	3 pcs., Centre - centre, 2.880 m	5.233 m	7.200 m	2.835 m	3
Arrangement	A1	1.047 m	4.320 m	2.835 m	4
		3.140 m	4.320 m	2.835 m	5
		5.233 m	4.320 m	2.835 m	6
		1.047 m	1.440 m	2.835 m	7
		3.140 m	1.440 m	2.835 m	8
		5.233 m	1.440 m	2.835 m	9

Building 1 · Storey 1 · Klasa 03

Luminaire list Φ_{total}

35370 lm

 P_{total}

306.0 W

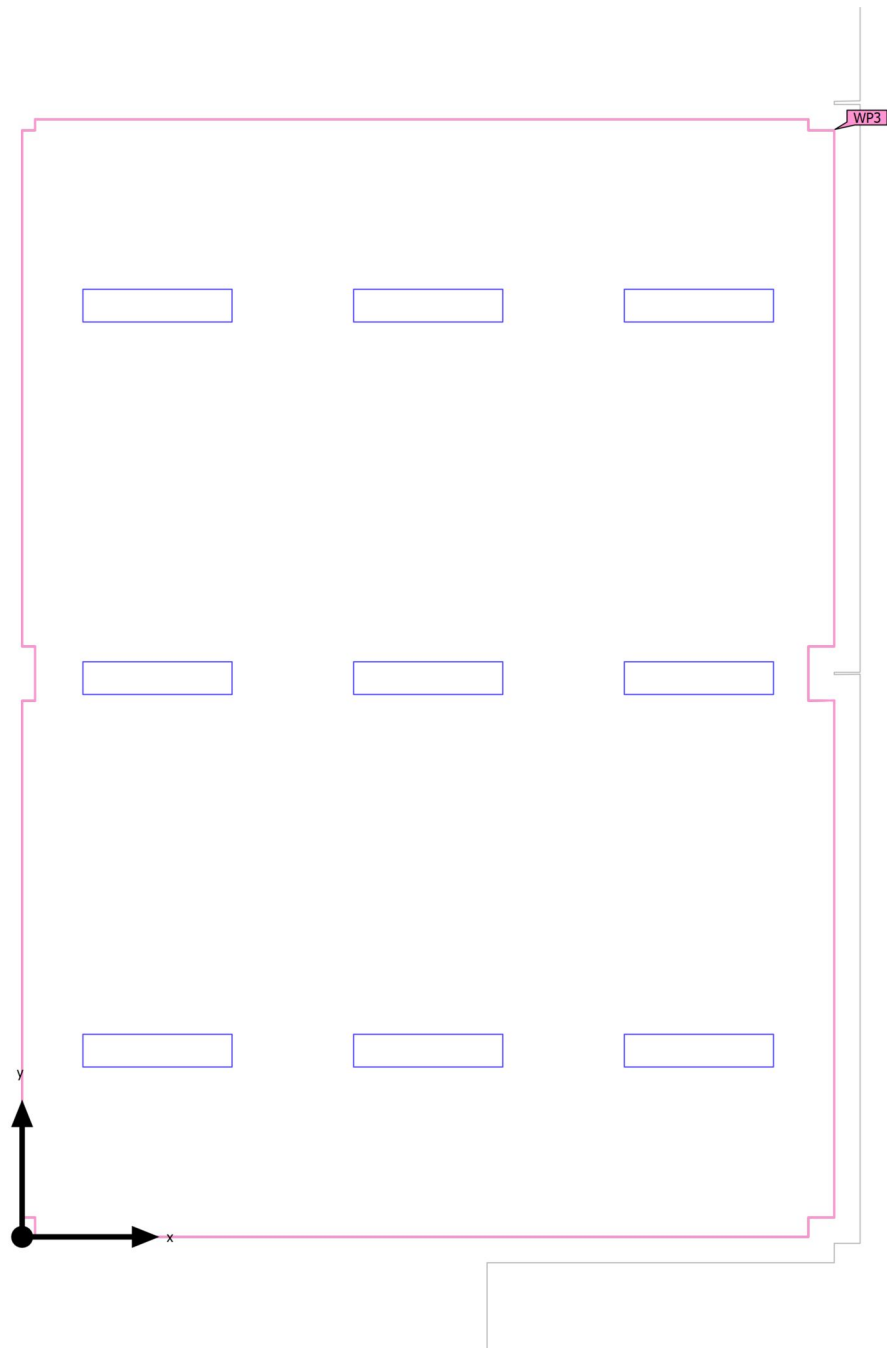
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 03 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Klasa 03 (Light scene 1)

Calculation objects

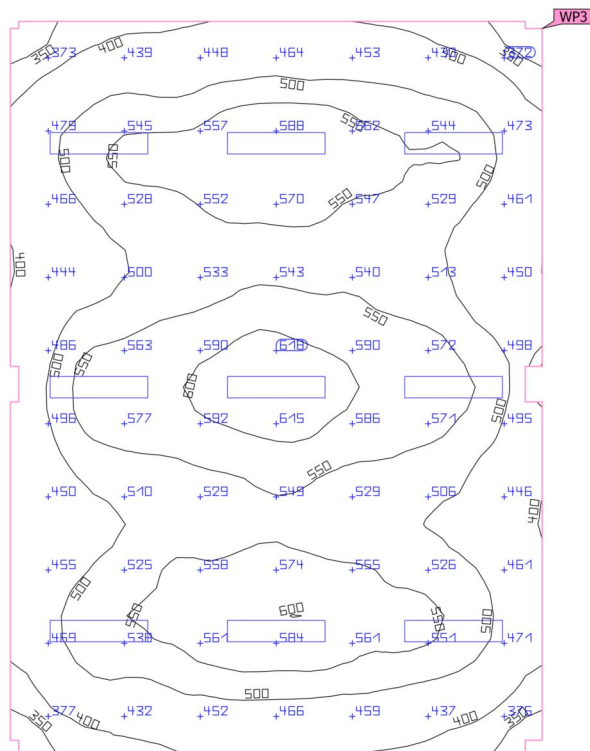
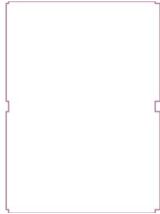
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 03) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	508 lx (≥ 300 lx) ✓	319 lx	632 lx	0.63 (≥ 0.50) ✓	0.50	WP3

(1) Based on a rectangular space of 8.640 m x 6.280 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Klasa 03 (Light scene 1)

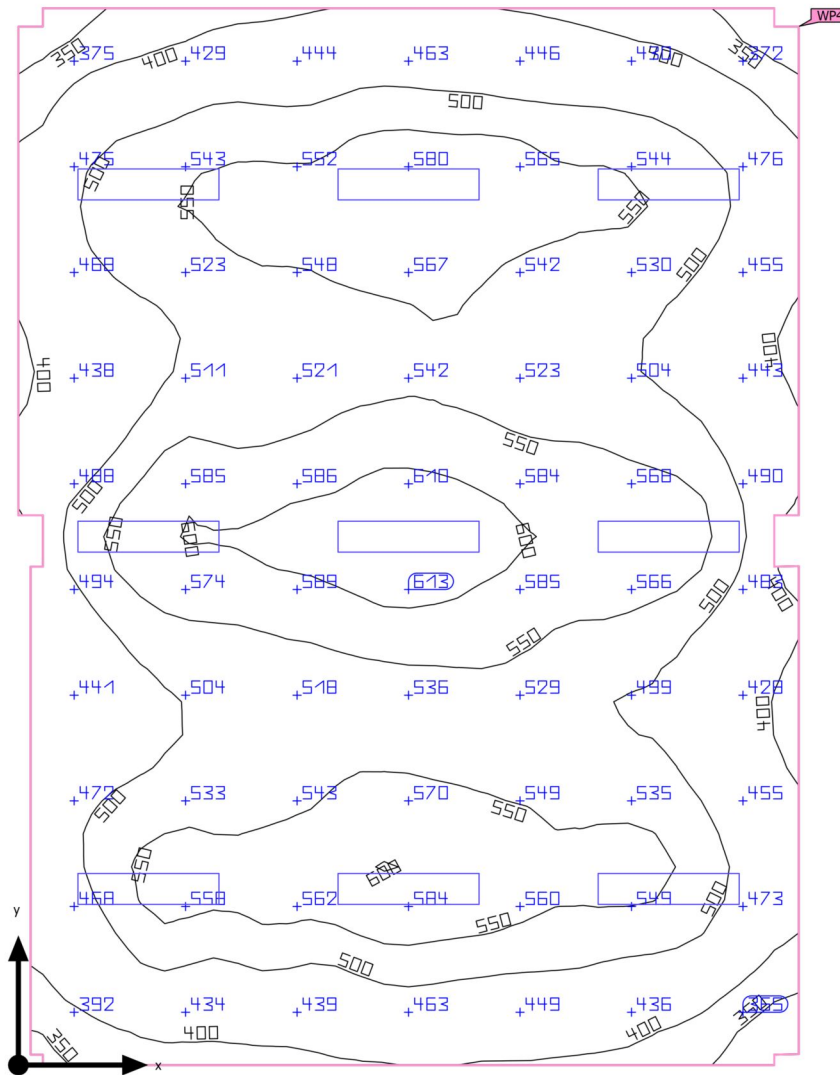
Working plane (Klasa 03)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 03)	508 lx	319 lx	632 lx	0.63	0.50	WP3
Perpendicular illuminance (adaptive)	≥ 300 lx			≥ 0.50		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Klasa 04 (Light scene 1)

Summary



Ground area	54.46 m ²	Clearance height	3.200 m
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %	Mounting height	2.800 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Klasa 04 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	507 lx	$\geq 300 \text{ lx}$	✓	WP4
	$U_o (g_1)$	0.61	≥ 0.60	✓	WP4
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	21	≤ 19	✗	
Energy estimation ⁽²⁾	Consumption	407 kWh/a	max. 1950 kWh/a	✓	
Room	Lighting power density	5.62 W/m ²	–		
		1.11 W/m ² /100 lx	–		

(1) Based on a rectangular space of 6.380 m x 8.640 m and SHR of 0.25.

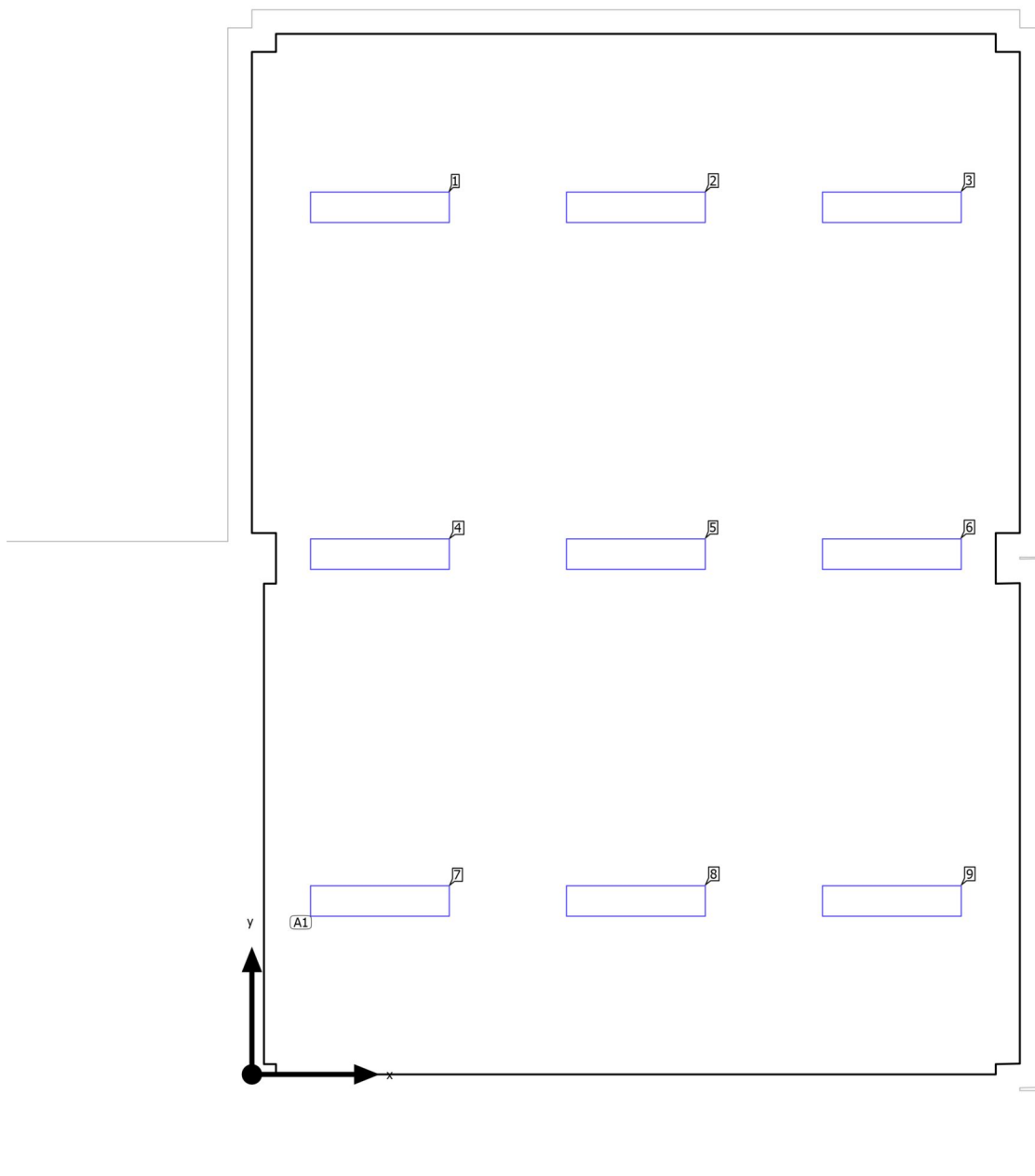
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

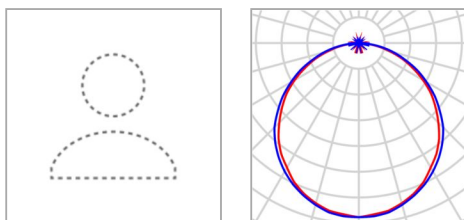
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	20	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 04

Luminaire layout plan

Building 1 · Storey 1 · Klasa 04

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

9 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.063 m / 1.440 m / 2.800 m	1.063 m	7.200 m	2.800 m	1
X-direction	3 pcs., Centre - centre, 2.127 m	3.190 m	7.200 m	2.800 m	2
Y-direction	3 pcs., Centre - centre, 2.880 m	5.317 m	7.200 m	2.800 m	3
Arrangement	A1	1.063 m	4.320 m	2.800 m	4
		3.190 m	4.320 m	2.800 m	5
		5.317 m	4.320 m	2.800 m	6
		1.063 m	1.440 m	2.800 m	7
		3.190 m	1.440 m	2.800 m	8
		5.317 m	1.440 m	2.800 m	9

Building 1 · Storey 1 · Klasa 04

Luminaire list Φ_{total}

35370 lm

 P_{total}

306.0 W

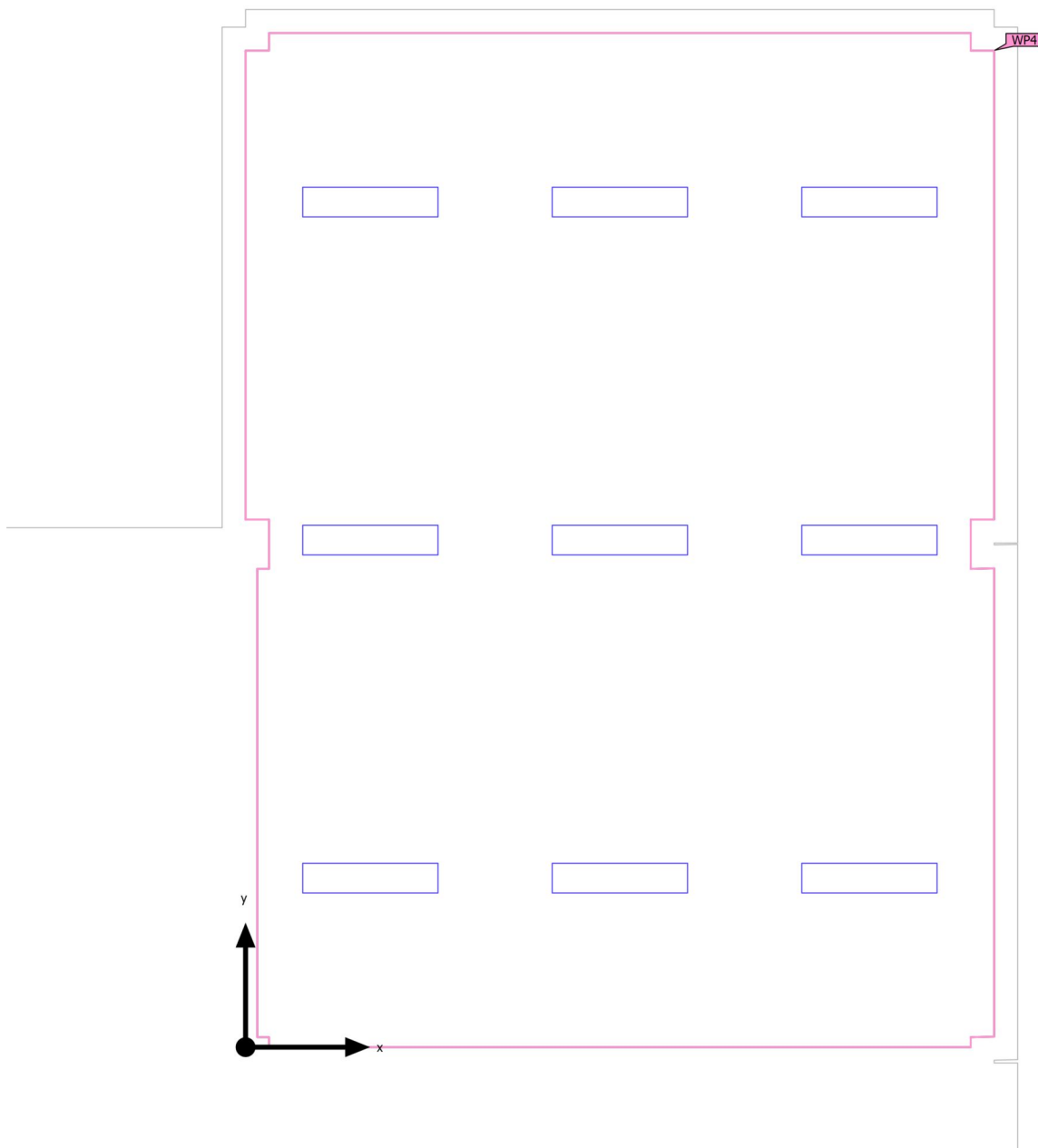
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
9	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Klasa 04 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Klasa 04 (Light scene 1)

Calculation objects

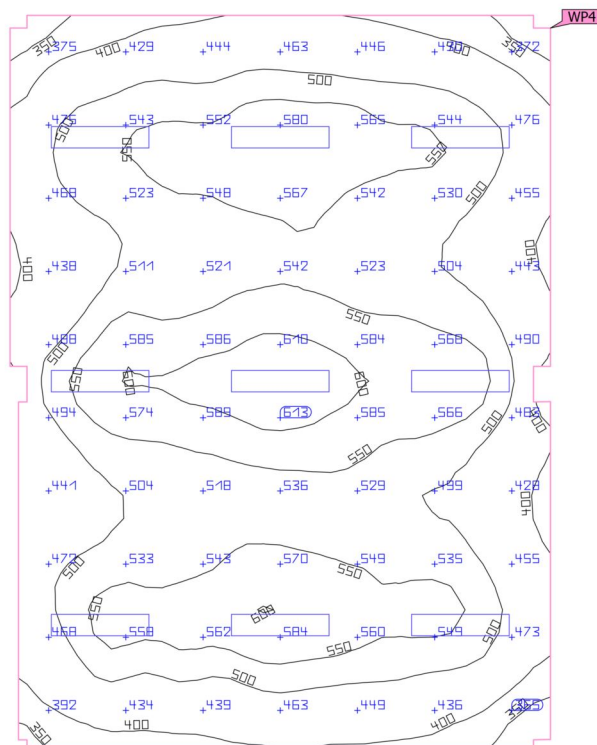
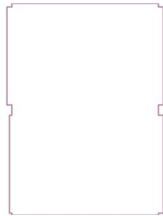
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 04) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	507 lx (≥ 300 lx) ✓	311 lx	629 lx	0.61 (≥ 0.60) ✓	0.49	WP4

(1) Based on a rectangular space of 6.380 m x 8.640 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Klasa 04 (Light scene 1)

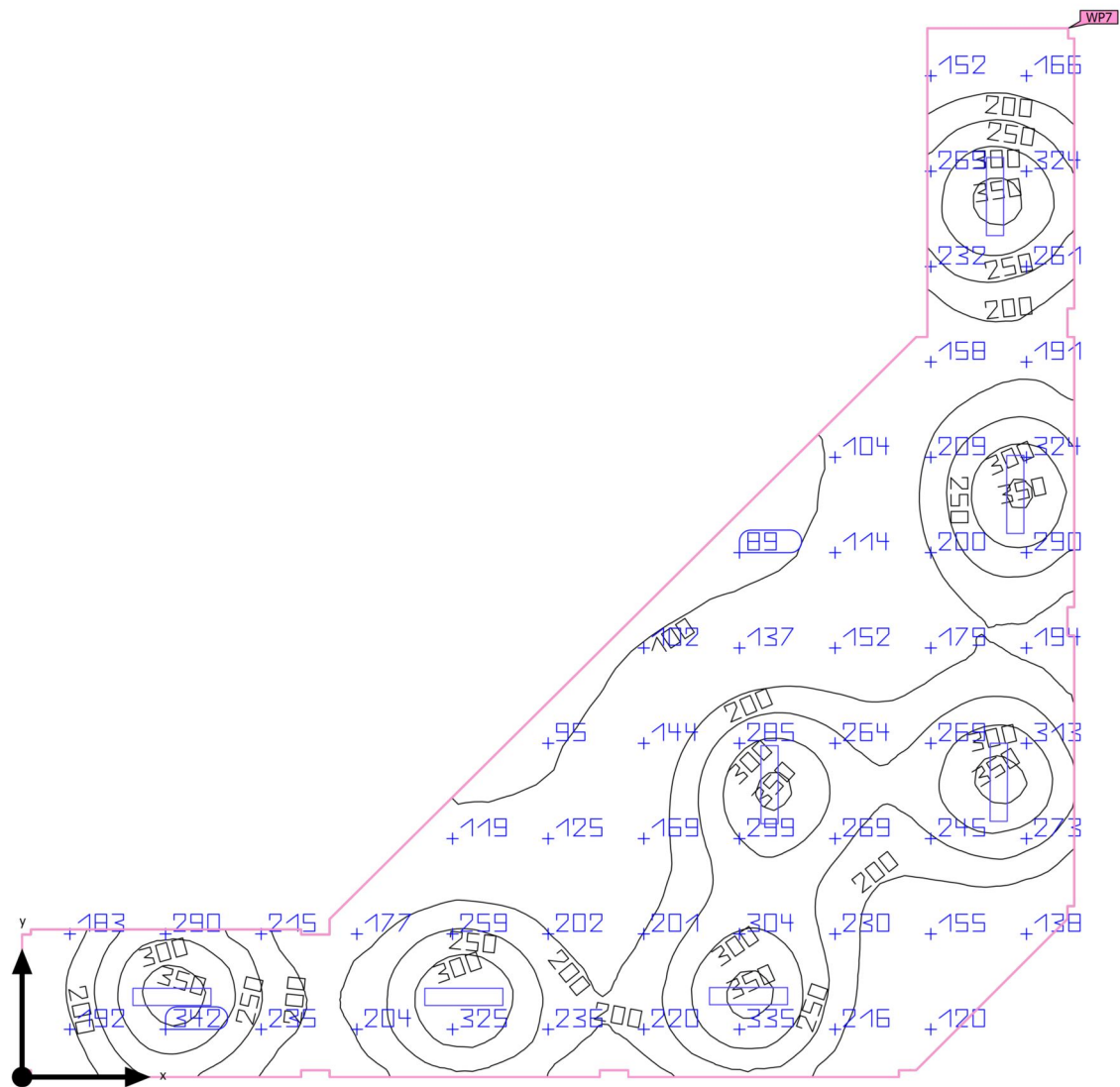
Working plane (Klasa 04)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Klasa 04)	507 lx	311 lx	629 lx	0.61	0.49	WP4
Perpendicular illuminance (adaptive)	≥ 300 lx			≥ 0.60		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

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

Summary



Ground area	99.49 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.835 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

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

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	214 lx	≥ 200 lx	✓	WP7
	$U_o (g_1)$	0.40	≥ 0.40	✓	WP7
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	21	≤ 22	✓	
Energy estimation ⁽²⁾	Consumption	458 kWh/a	max. 3500 kWh/a	✓	
Room	Lighting power density	2.39 W/m ²	–		
		1.12 W/m ² /100 lx	–		

(1) Based on a rectangular space of 21.803 m x 10.765 m and SHR of 0.25.

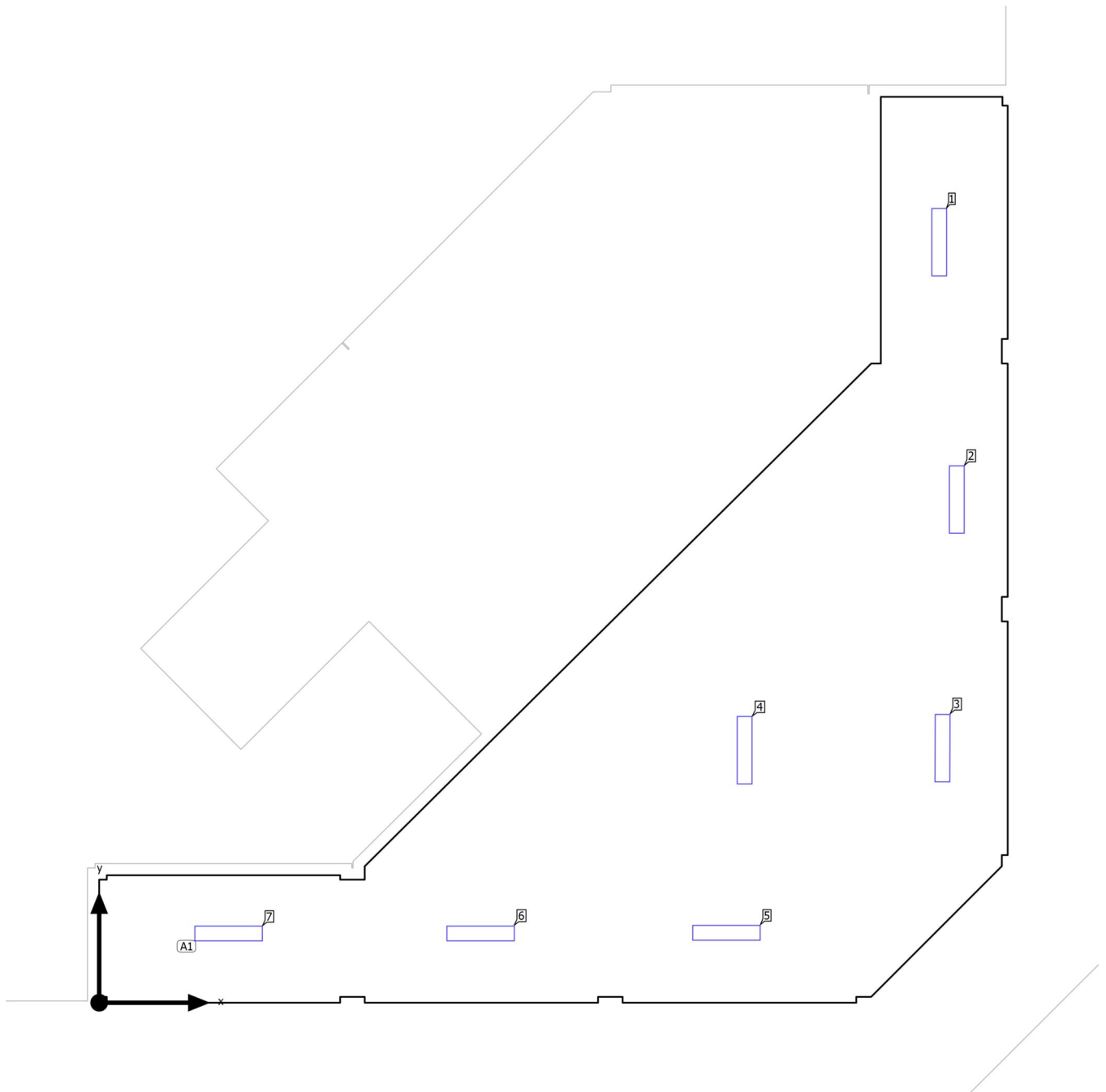
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.16 Entrance halls)

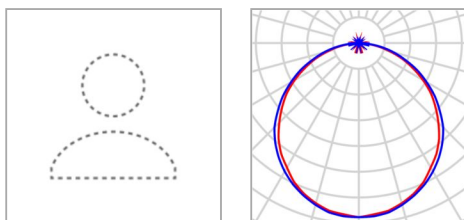
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
7	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	21	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Koridori

Luminaire layout plan

Building 1 · Storey 1 · Koridori

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

7 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	2.212 m / 1.184 m / 2.835 m	14.364 m	13.005 m	2.835 m	1
X-direction	4 pcs., Centre - centre, Distances not equal	14.664 m	8.605 m	2.835 m	2
		14.420 m	4.353 m	2.835 m	3
Y-direction	4 pcs., Centre - centre, Distances not equal	11.036 m	4.318 m	2.835 m	4
		10.725 m	1.196 m	2.835 m	5
Arrangement	A1	6.522 m	1.184 m	2.835 m	6
		2.212 m	1.184 m	2.835 m	7

Building 1 · Storey 1 · Koridori

Luminaire list Φ_{total}

27510 lm

 P_{total}

238.0 W

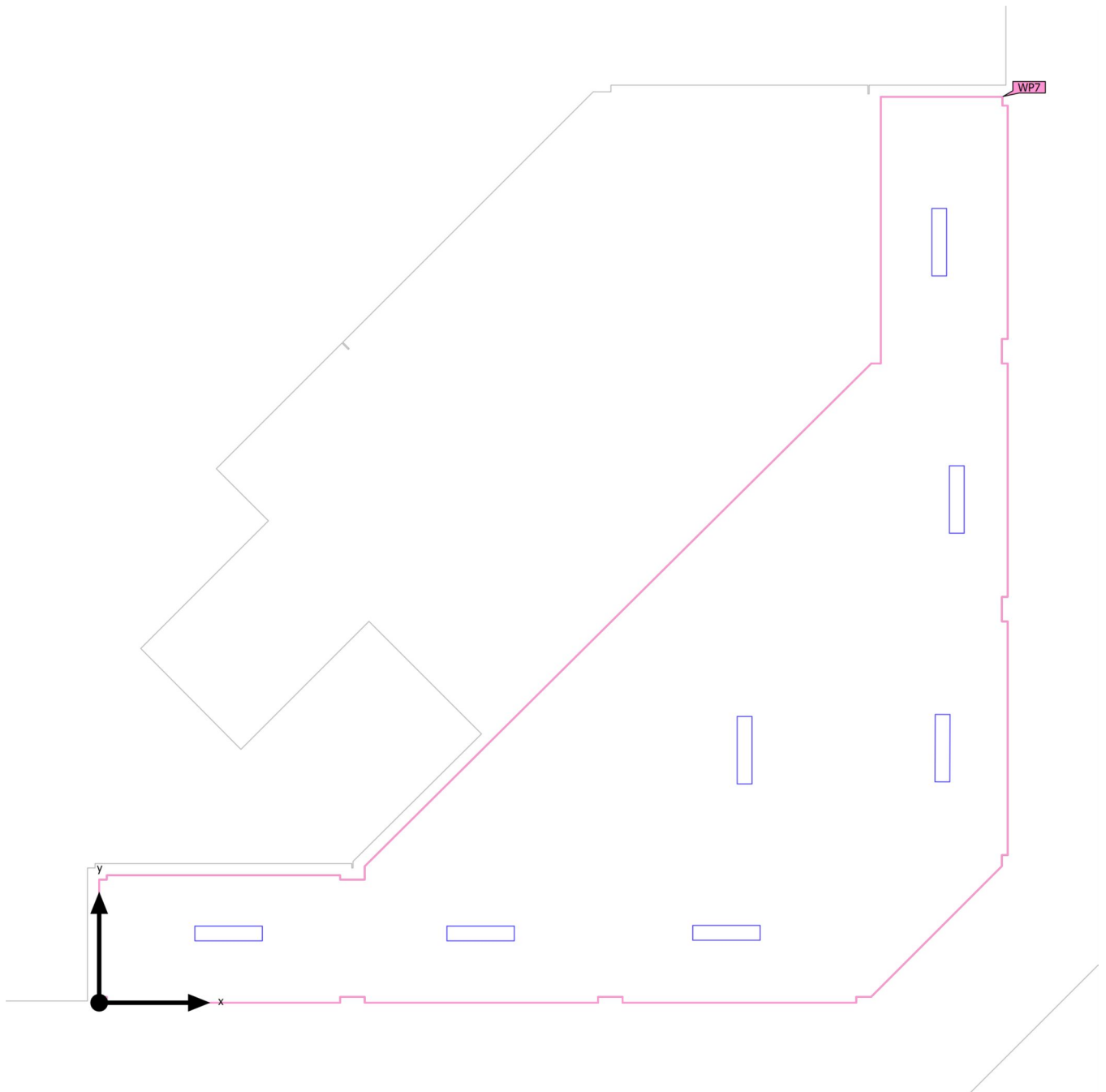
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
7	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

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

Calculation objects



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

Calculation objects

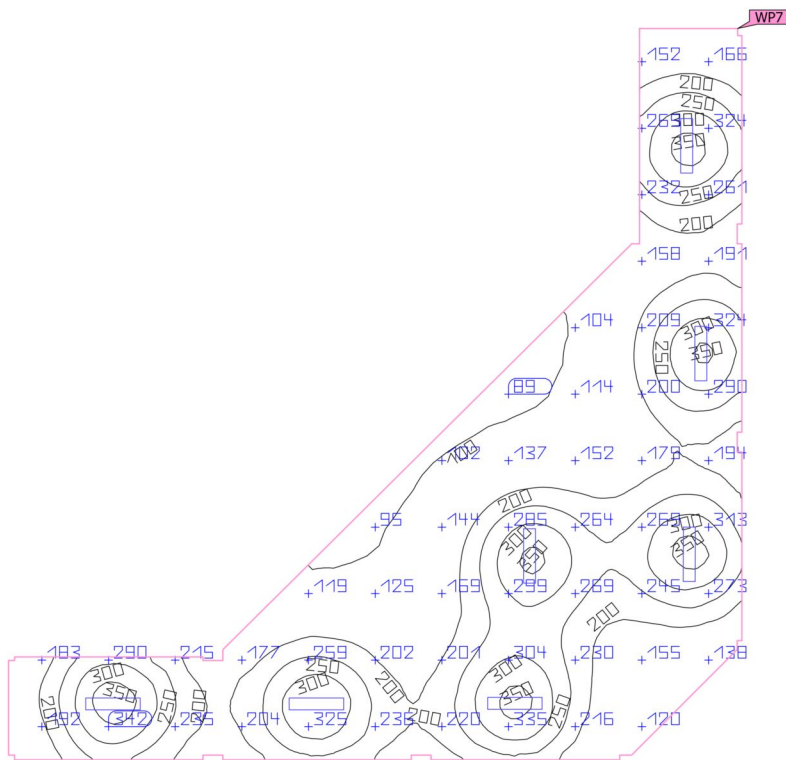
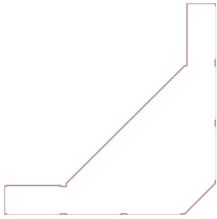
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Koridori) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	214 lx (≥ 200 lx) ✓	85.0 lx	373 lx	0.40 (≥ 0.40) ✓	0.23	WP7

(1) Based on a rectangular space of 21.803 m x 10.765 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.16 Entrance halls)

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

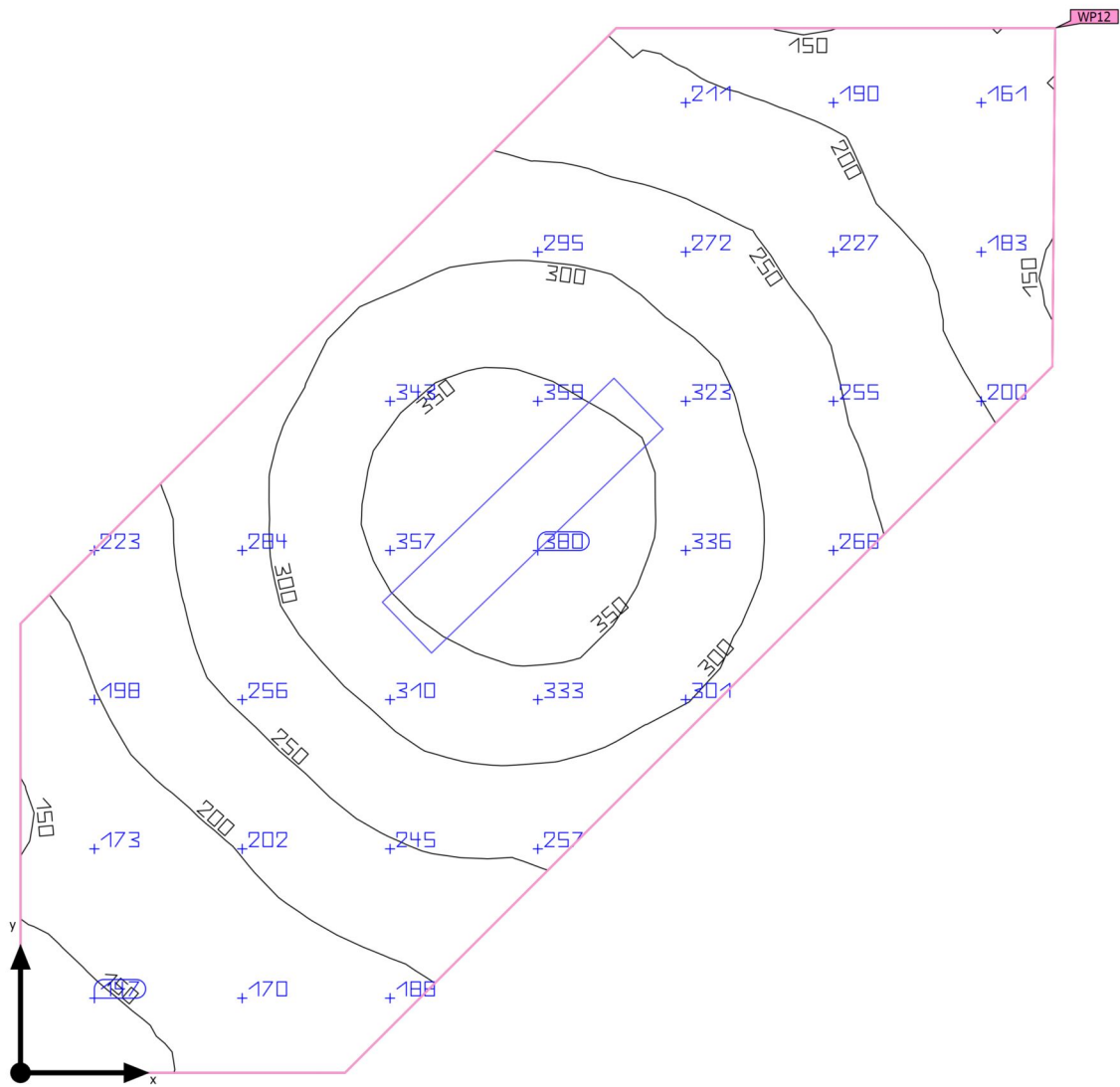
Working plane (Koridori)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Koridori)	214 lx	85.0 lx	373 lx	0.40	0.23	WP7
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Educational premises - Educational buildings (5.36.16 Entrance halls)

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

Summary



Ground area	8.34 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.835 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

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

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	256 lx	$\geq 100 \text{ lx}$	✓	WP12
	$U_o (g_1)$	0.54	≥ 0.40	✓	WP12
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	19	≤ 22	✓	
Energy estimation ⁽²⁾	Consumption	65.5 kWh/a	max. 300 kWh/a	✓	
Room	Lighting power density	4.08 W/m ²	–		
		1.59 W/m ² /100 lx	–		

(1) Based on a rectangular space of 5.262 m x 1.960 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

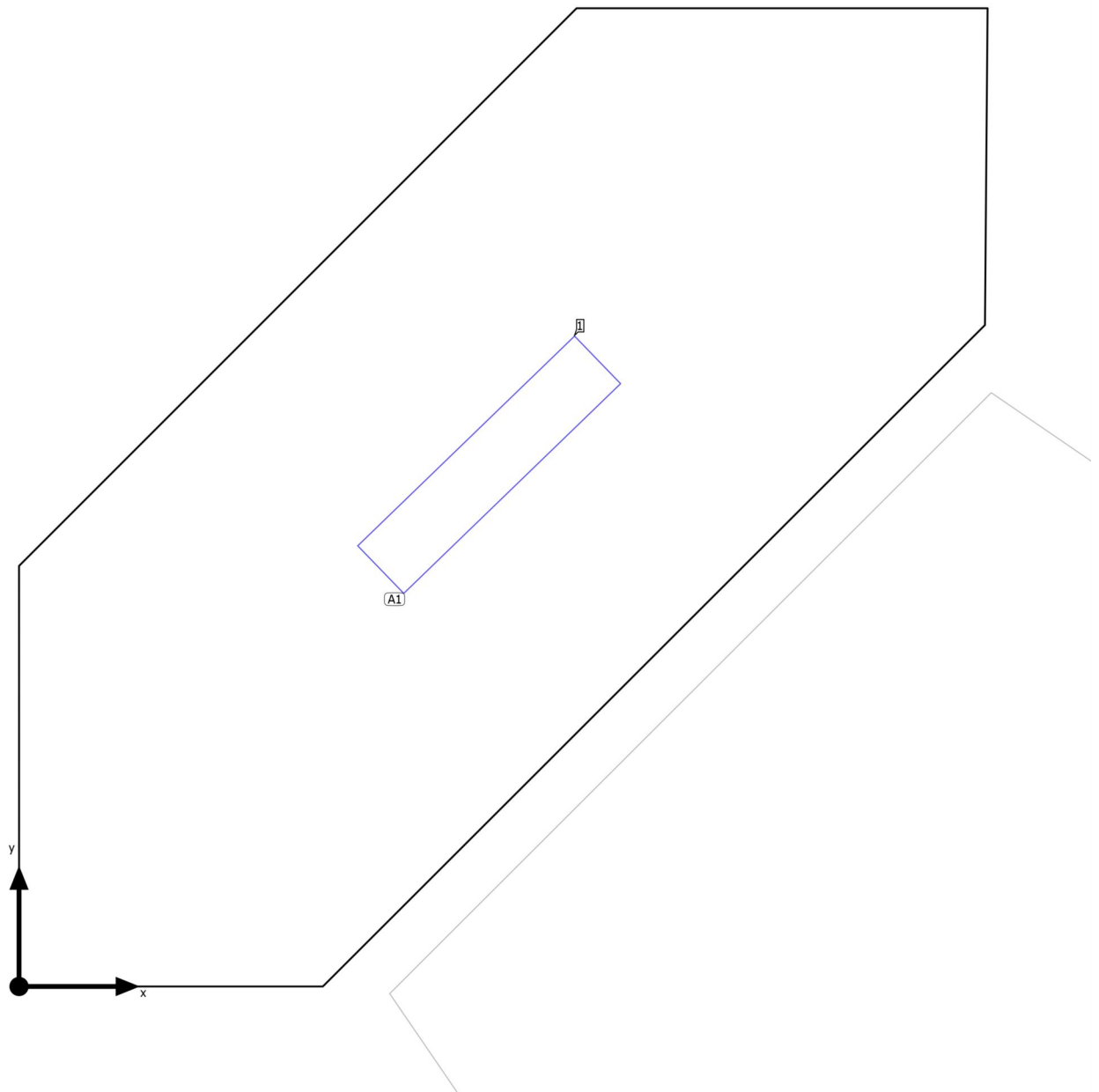
Utilisation profile: Places of public assembly - General areas (5.28.1 Entrance halls)

Luminaire list

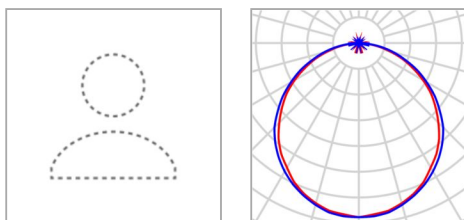
pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
1	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	18	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Parahymje

Luminaire layout plan



Building 1 · Storey 1 · Parahymje

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

1 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	1.797 m / 1.994 m / 2.835 m	1.797 m	1.994 m	2.835 m	1
X-direction	1 pcs., Centre - centre, 3.703 m				
Y-direction	1 pcs., Centre - centre, 3.739 m				
Arrangement	A1				

Building 1 · Storey 1 · Parahymje

Luminaire list Φ_{total}

3930 lm

 P_{total}

34.0 W

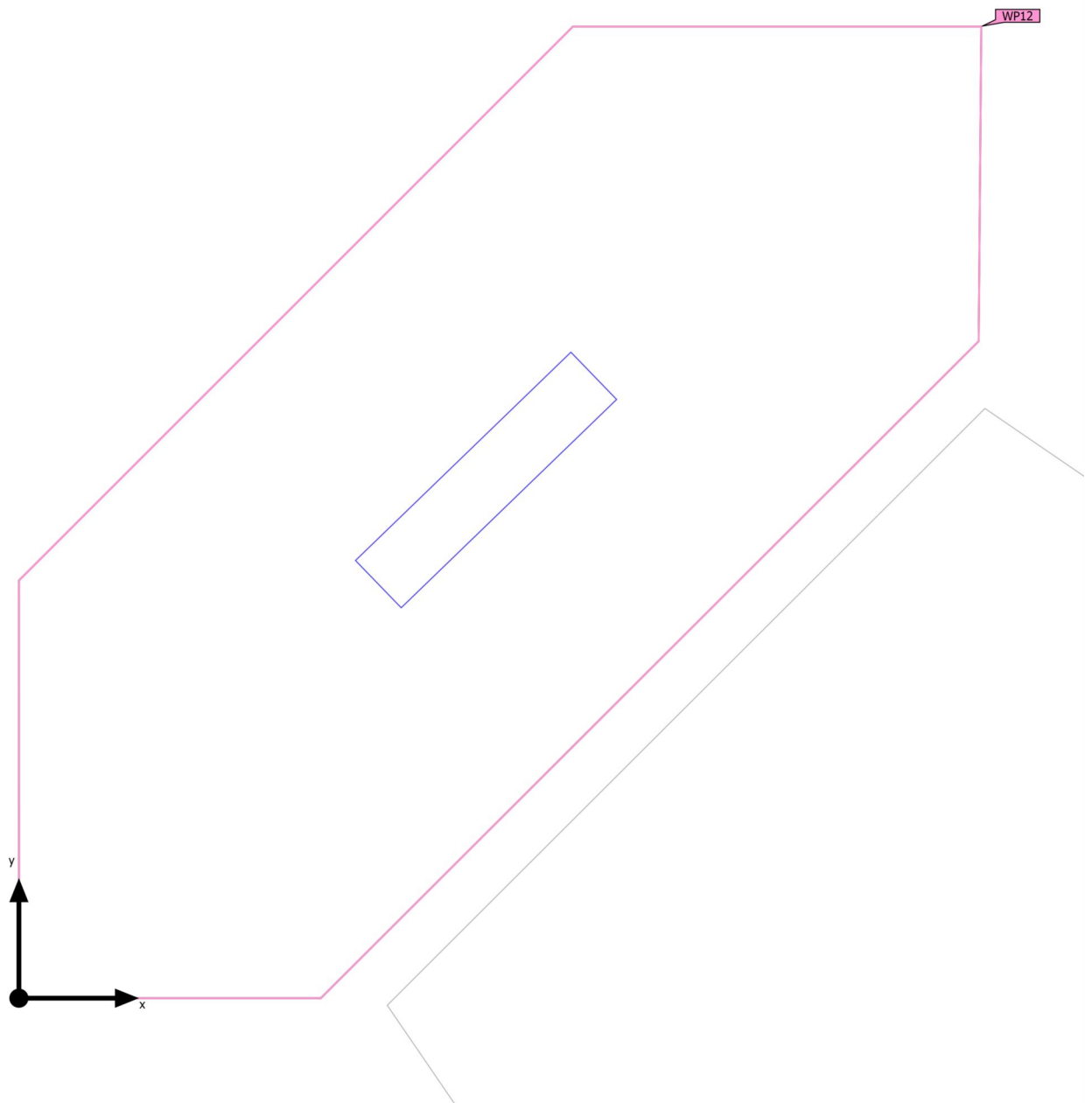
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

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

Calculation objects



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

Calculation objects

Working planes

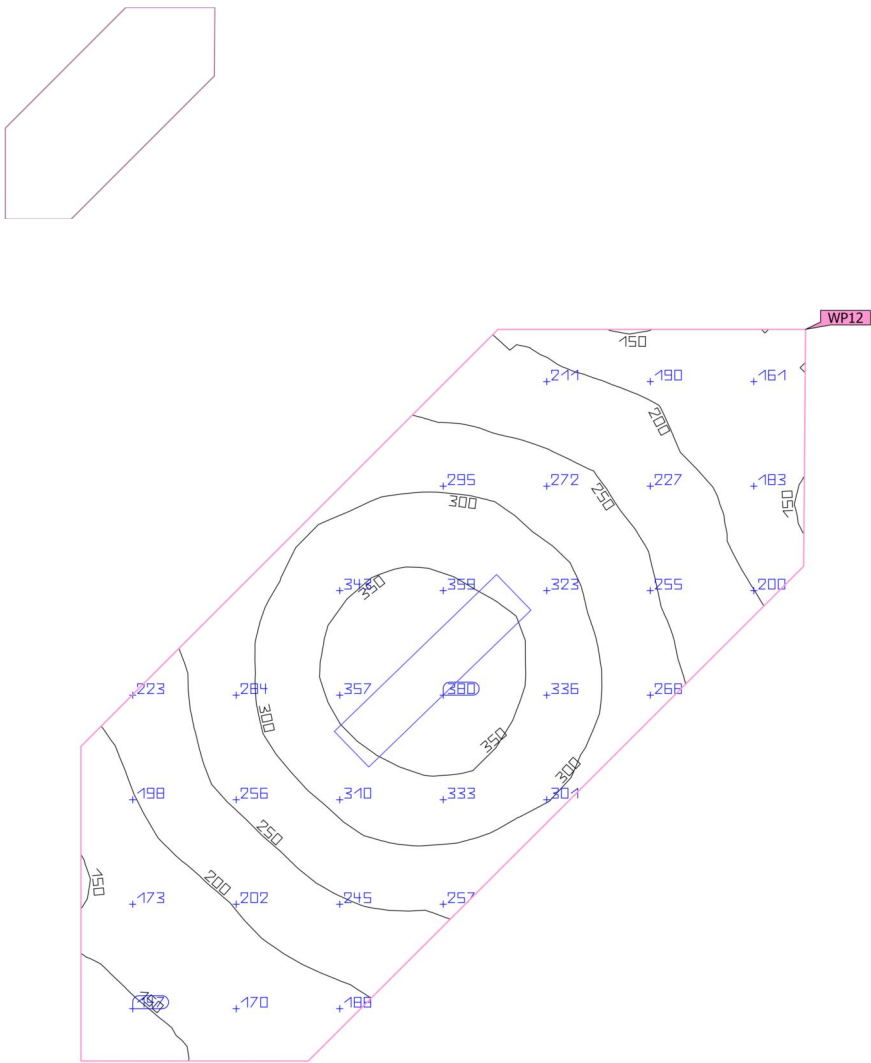
Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Parahymje) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	256 lx (≥ 100 lx) ✓	137 lx	380 lx	0.54 (≥ 0.40) ✓	0.36	WP12

(1) Based on a rectangular space of 5.262 m x 1.960 m and SHR of 0.25.

Utilisation profile: Places of public assembly - General areas (5.28.1 Entrance halls)

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

Working plane (Parahymje)

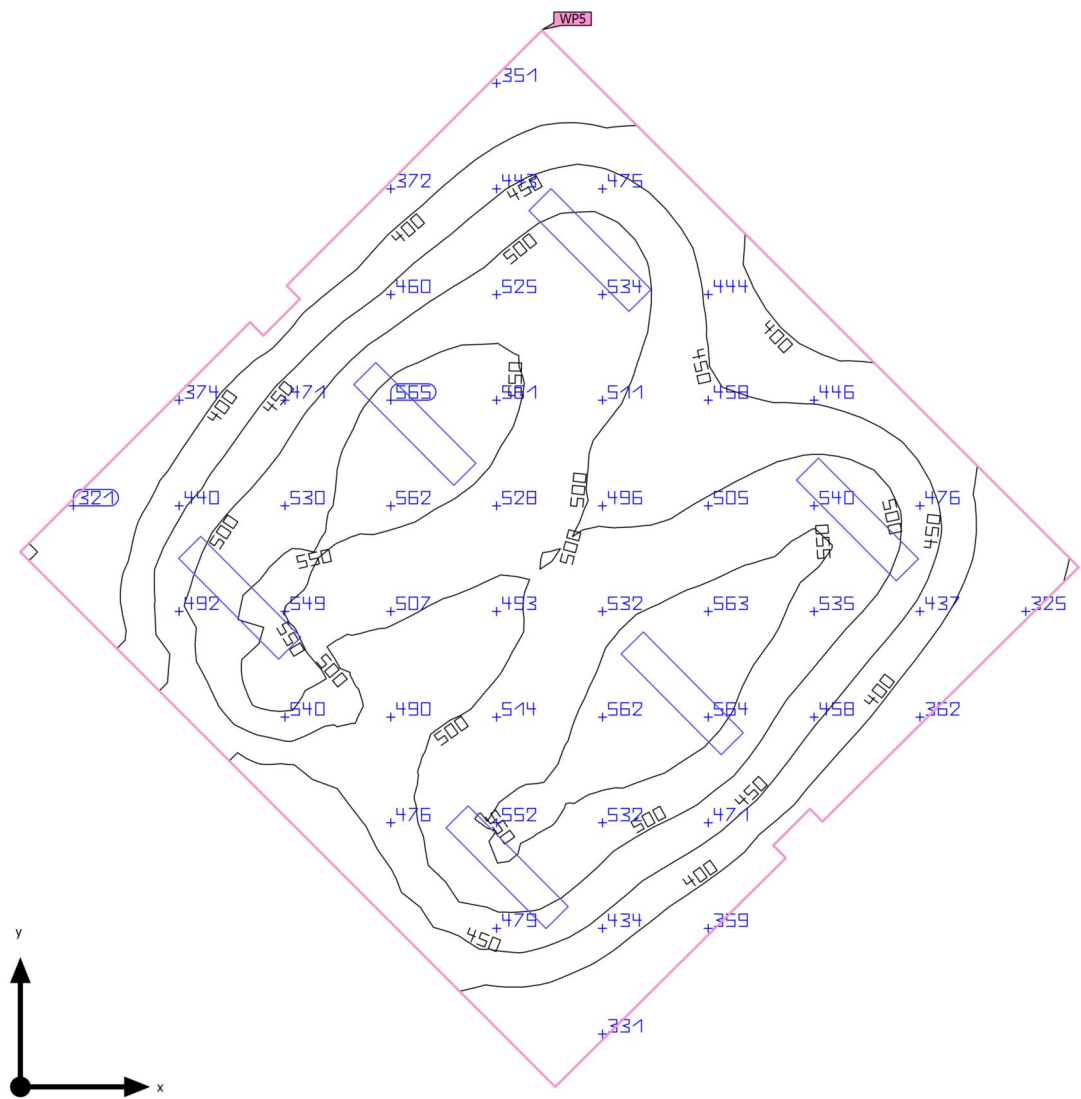


Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Parahymje)	256 lx	137 lx	380 lx	0.54	0.36	WP12
Perpendicular illuminance (adaptive)	(≥ 100 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Places of public assembly - General areas (5.28.1 Entrance halls)

Building 1 · Storey 1 · Room 6 (Light scene 1)

Summary



Ground area	36.74 m²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.835 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Room 6 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	478 lx	$\geq 300 \text{ lx}$	✓	WP5
	$U_o (g_1)$	0.62	≥ 0.60	✓	WP5
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	20	≤ 19	✗	
Energy estimation ⁽²⁾	Consumption	271 kWh/a	max. 1300 kWh/a	✓	
Room	Lighting power density	5.55 W/m ²	–		
		1.16 W/m ² /100 lx	–		

(1) Based on a rectangular space of 6.165 m x 5.990 m and SHR of 0.25.

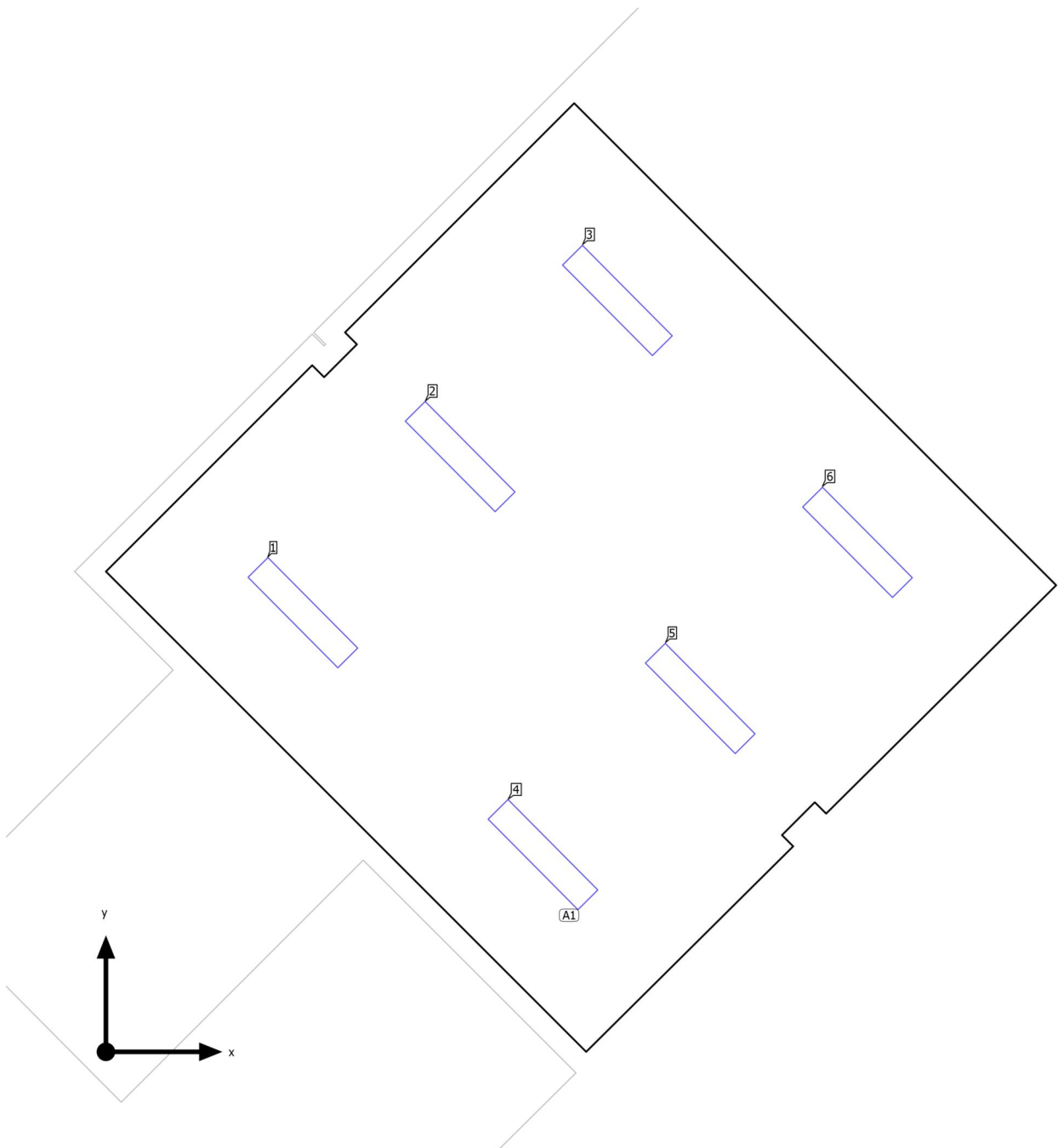
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

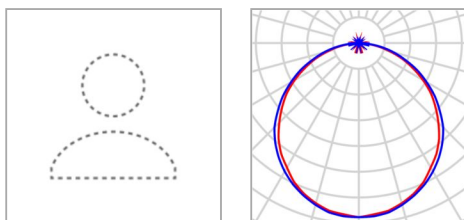
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
6	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	20	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Room 6

Luminaire layout plan

Building 1 · Storey 1 · Room 6

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

6 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	3.953 m / 1.784 m / 2.835 m	1.781 m	3.972 m	2.835 m	1
X-direction	3 pcs., Centre - centre, 2.004 m	3.204 m	5.384 m	2.835 m	2
Y-direction	2 pcs., Centre - centre, 3.083 m	4.626 m	6.796 m	2.835 m	3
		3.953 m	1.784 m	2.835 m	4
Arrangement	A1	5.376 m	3.196 m	2.835 m	5
		6.798 m	4.608 m	2.835 m	6

Building 1 · Storey 1 · Room 6

Luminaire list Φ_{total}

23580 lm

 P_{total}

204.0 W

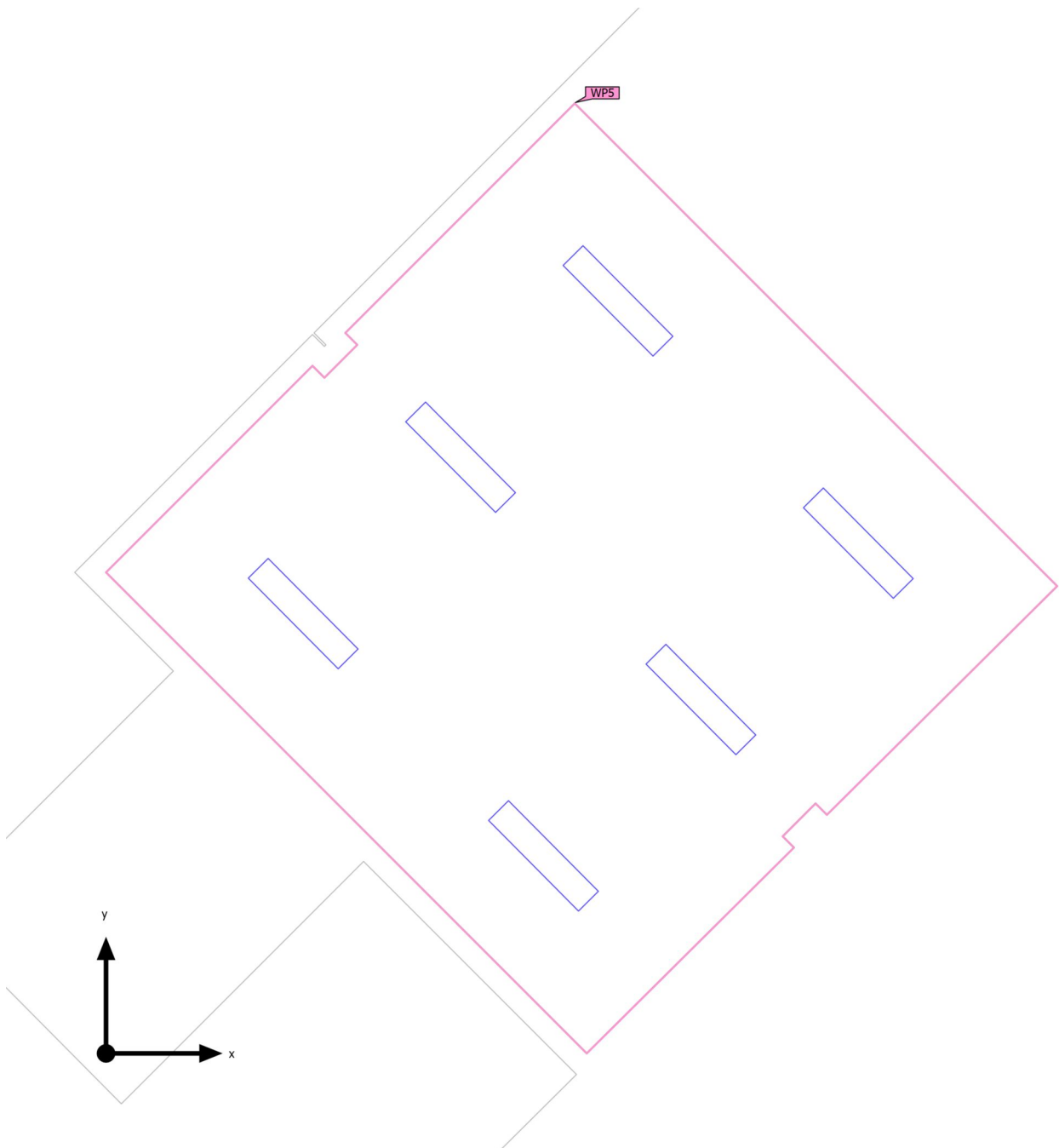
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
6	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Room 6 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Room 6 (Light scene 1)

Calculation objects

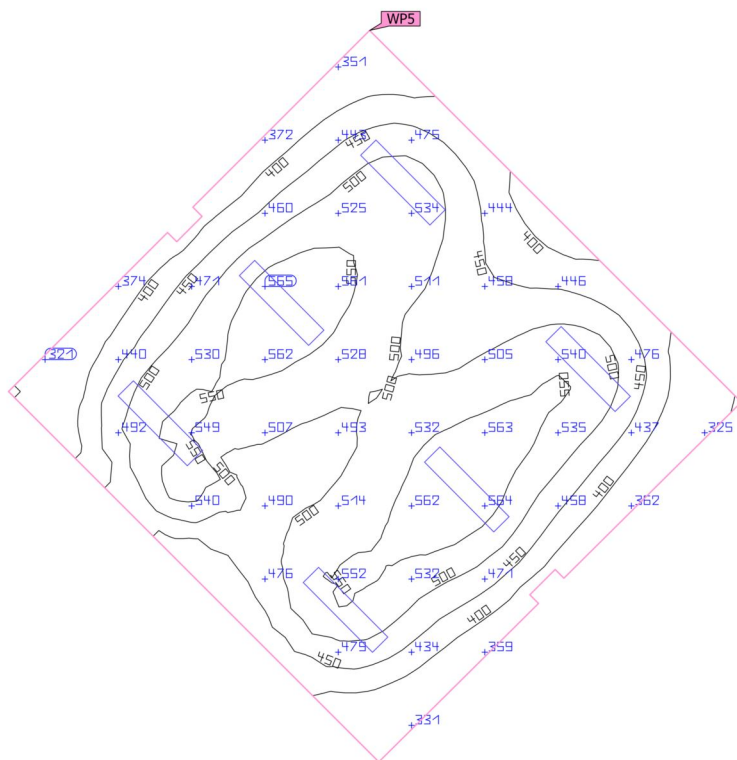
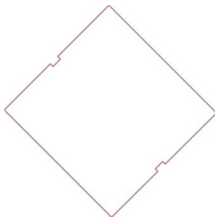
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Room 6) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	478 lx (≥ 300 lx) ✓	298 lx	583 lx	0.62 (≥ 0.60) ✓	0.51	WP5

(1) Based on a rectangular space of 6.165 m x 5.990 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Room 6 (Light scene 1)

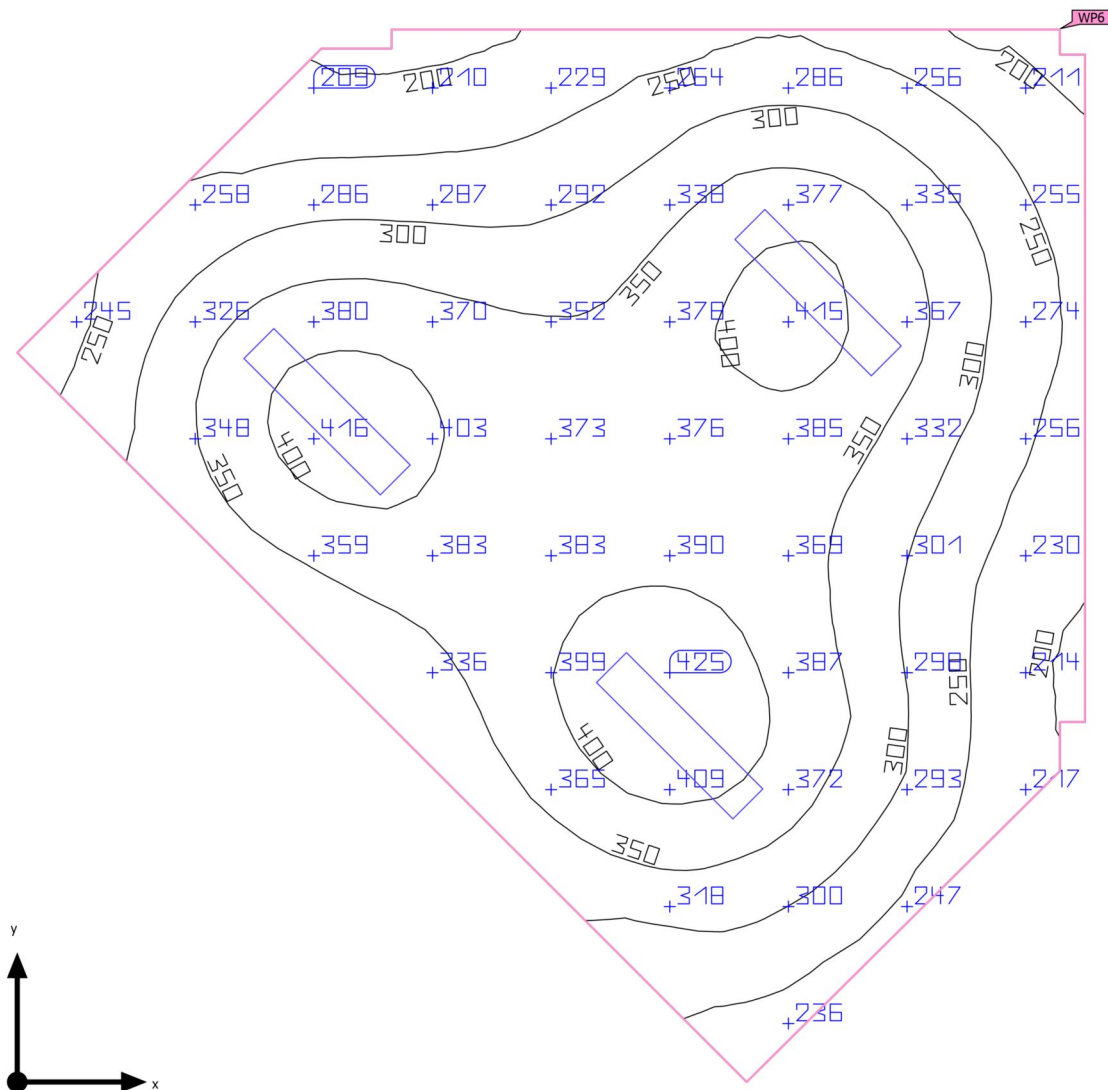
Working plane (Room 6)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Room 6)	478 lx	298 lx	583 lx	0.62	0.51	WP5
Perpendicular illuminance (adaptive)	(≥ 300 lx)			(≥ 0.60)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Educational premises - Educational buildings (5.36.1 Classrooms, tutorial rooms)

Building 1 · Storey 1 · Room 7 (Light scene 1)

Summary



Ground area	26.66 m ²
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Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
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Maintenance factor	0.80 (fixed)
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Clearance height	3.200 m
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Mounting height	2.835 m
-----------------	---------

Height _{Working plane}	0.800 m
---------------------------------	---------

Wall zone _{Working plane}	0.000 m
------------------------------------	---------

Building 1 · Storey 1 · Room 7 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	323 lx	≥ 200 lx	✓	WP6
	$U_o (g_1)$	0.55	≥ 0.40	✓	WP6
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	20	≤ 22	✓	
Energy estimation ⁽²⁾	Consumption	196 kWh/a	max. 950 kWh/a	✓	
Room	Lighting power density	3.83 W/m ²	–		
		1.19 W/m ² /100 lx	–		

(1) Based on a rectangular space of 5.786 m x 6.176 m and SHR of 0.25.

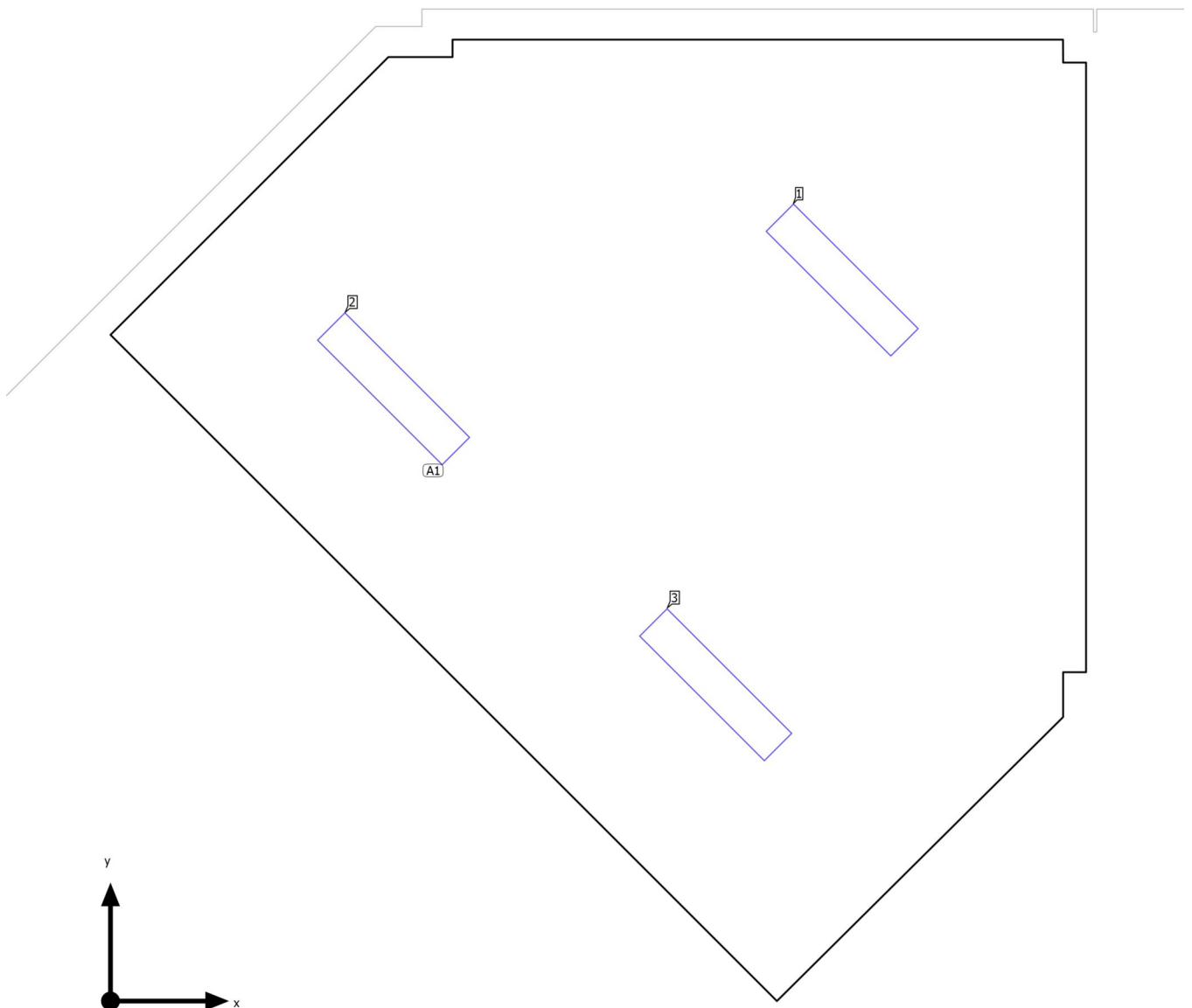
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.19 Student common rooms and assembly halls)

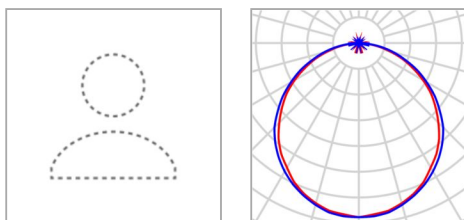
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R_{UG}	P	Φ	Luminous efficacy
3	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	20	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Room 7

Luminaire layout plan

Building 1 · Storey 1 · Room 7

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	34.0 W
Article name	"START Panel 1200x300 HE 4100L m 840 LILO" /4000	$\Phi_{\text{Luminaire}}$	3930 lm
Fitting	1x LED/4000		

3 x Not yet a DIALux member "START Panel 1200x300 HE 4100L m 840 LILO" /4000

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	3.960 m / 2.070 m / 2.835 m	4.787 m	4.719 m	2.835 m	1
X-direction	2 pcs., Centre - centre, Distances not equal	1.852 m	4.007 m	2.835 m	2
		3.960 m	2.070 m	2.835 m	3
Y-direction	2 pcs., Centre - centre, Distances not equal				
Arrangement	A1				

Building 1 · Storey 1 · Room 7

Luminaire list Φ_{total}

11790 lm

 P_{total}

102.0 W

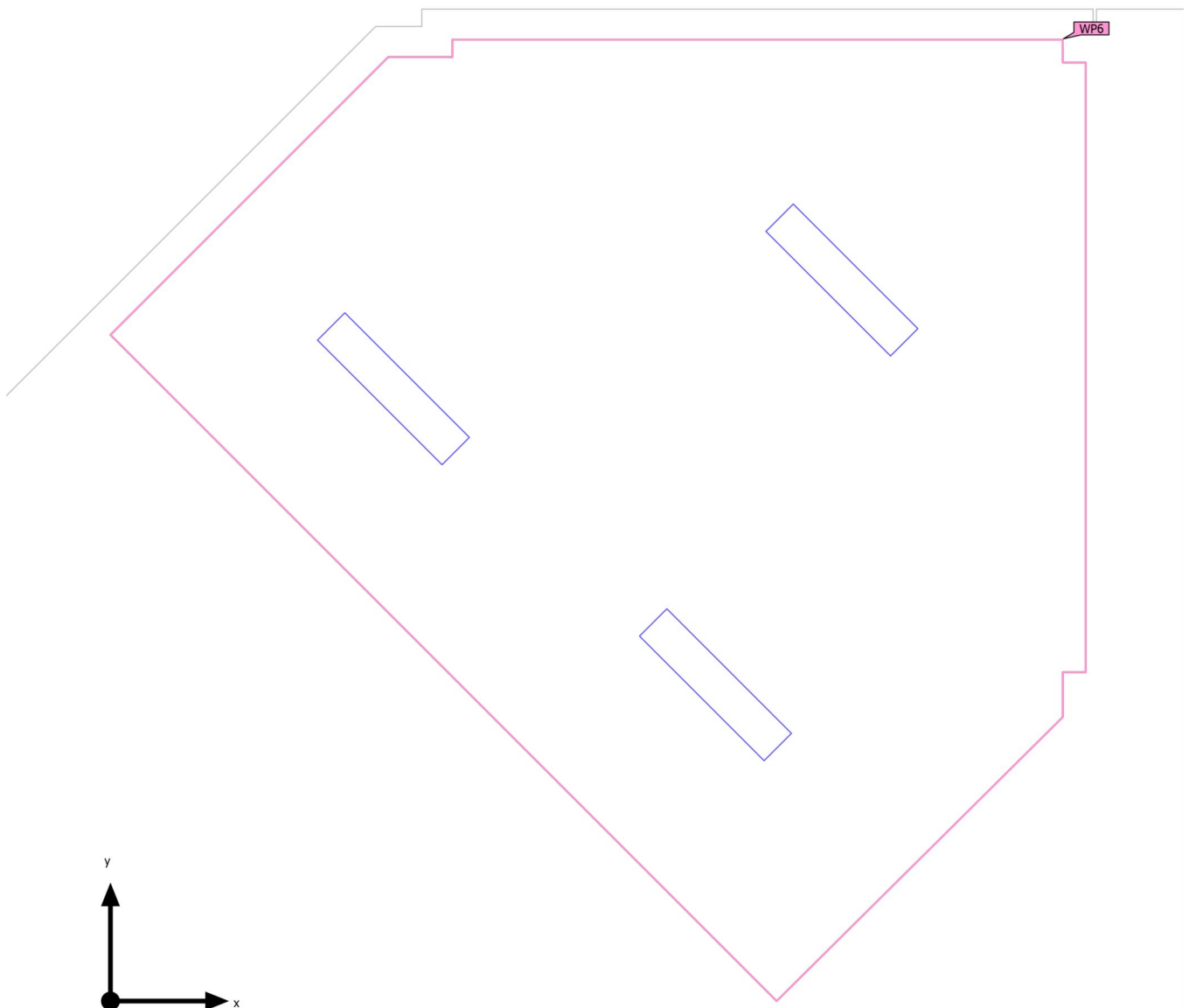
Luminous efficacy

115.6 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
3	Not yet a DIALux member		"START Panel 1200x300 HE 4100L m 840 LILO" /4000	34.0 W	3930 lm	115.6 lm/W

Building 1 · Storey 1 · Room 7 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Room 7 (Light scene 1)

Calculation objects

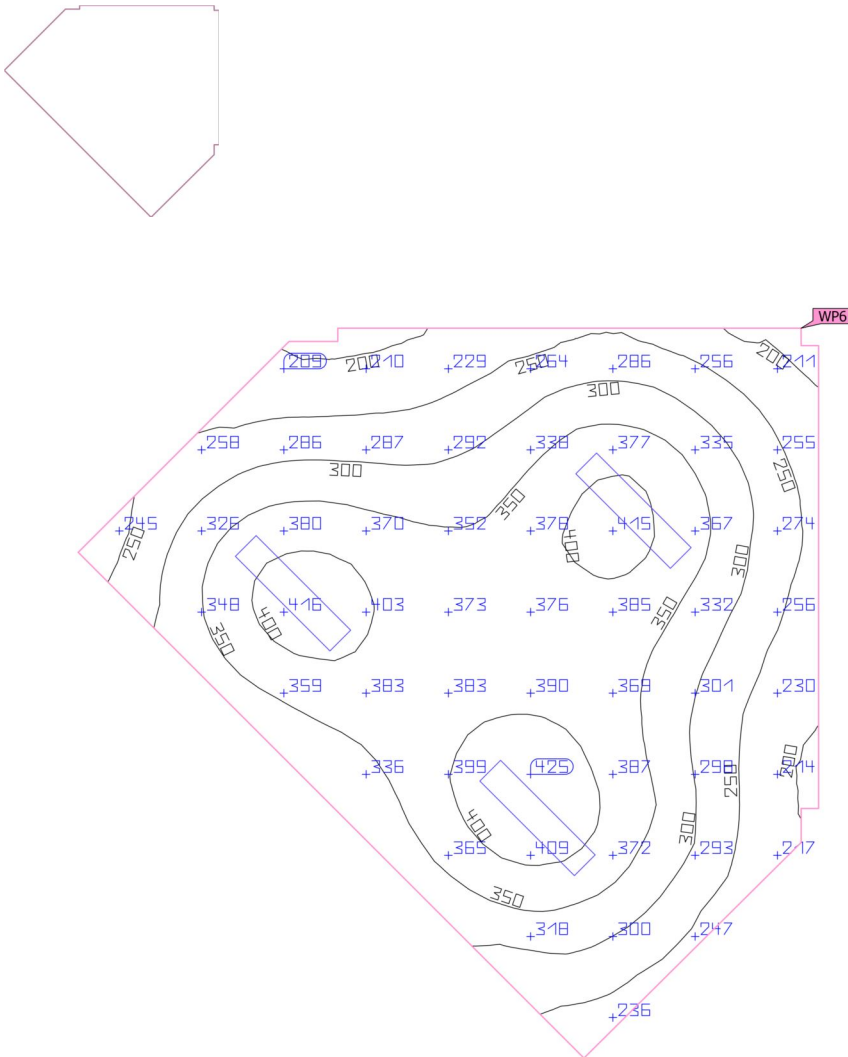
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Room 7) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	323 lx (≥ 200 lx) ✓	179 lx	430 lx	0.55 (≥ 0.40) ✓	0.42	WP6

(1) Based on a rectangular space of 5.786 m x 6.176 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.19 Student common rooms and assembly halls)

Building 1 · Storey 1 · Room 7 (Light scene 1)

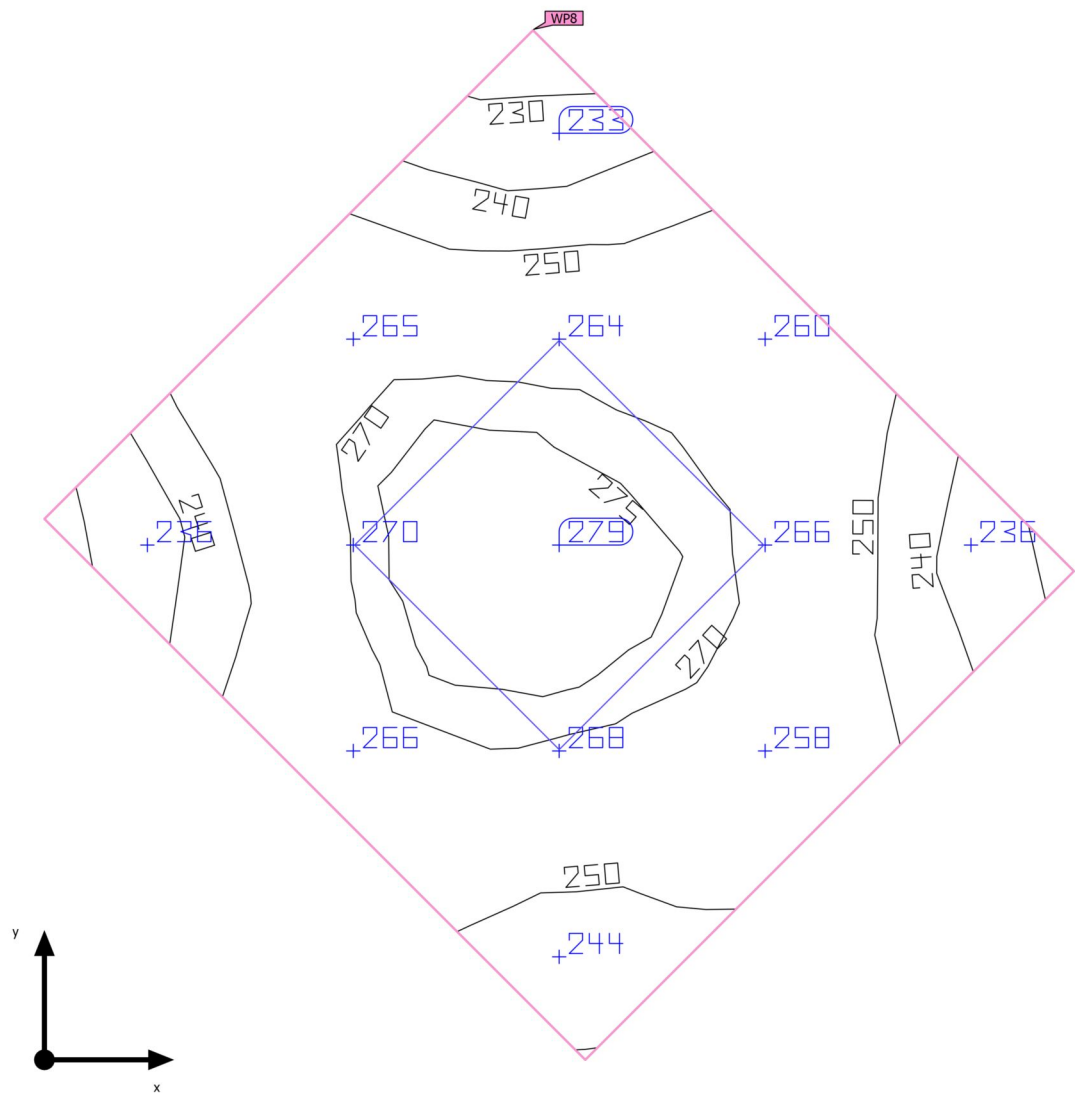
Working plane (Room 7)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Room 7)	323 lx	179 lx	430 lx	0.55	0.42	WP6
Perpendicular illuminance (adaptive)	(≥ 200 lx)			(≥ 0.40)		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Educational premises - Educational buildings (5.36.19 Student common rooms and assembly halls)

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

Summary



Ground area	0.82 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.856 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

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

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	259 lx	≥ 75.0 lx	✓	WP8
	$U_o (g_1)$	0.88	≥ 0.40	✓	WP8
Energy estimation ⁽²⁾	Consumption	19.6 kWh/a	max. 50 kWh/a	✓	
Room	Lighting power density	29.07 W/m ²	–		
		11.25 W/m ² /100 lx	–		

(1) Based on a rectangular space of 0.952 m x 0.860 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

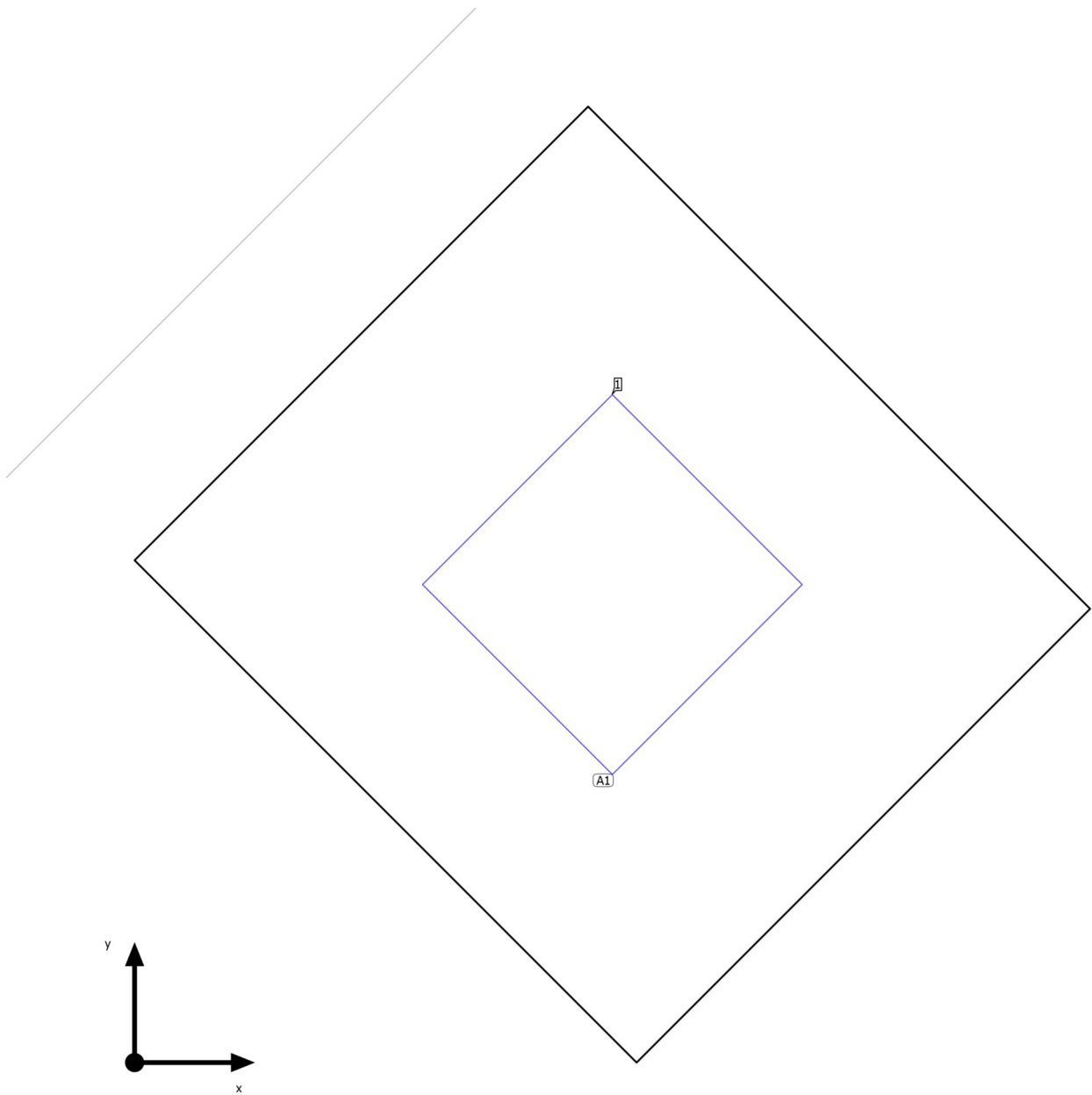
Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Luminaire list

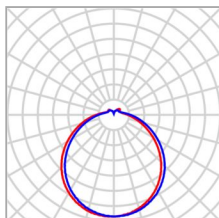
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 1

Luminaire layout plan



Building 1 · Storey 1 · Wc 1

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.641 m / 0.641 m / 2.856 m	0.641 m	0.641 m	2.856 m	1
X-direction	1 pcs., Centre - centre, 0.952 m				
Y-direction	1 pcs., Centre - centre, 0.860 m				
Arrangement	A1				

Building 1 · Storey 1 · Wc 1

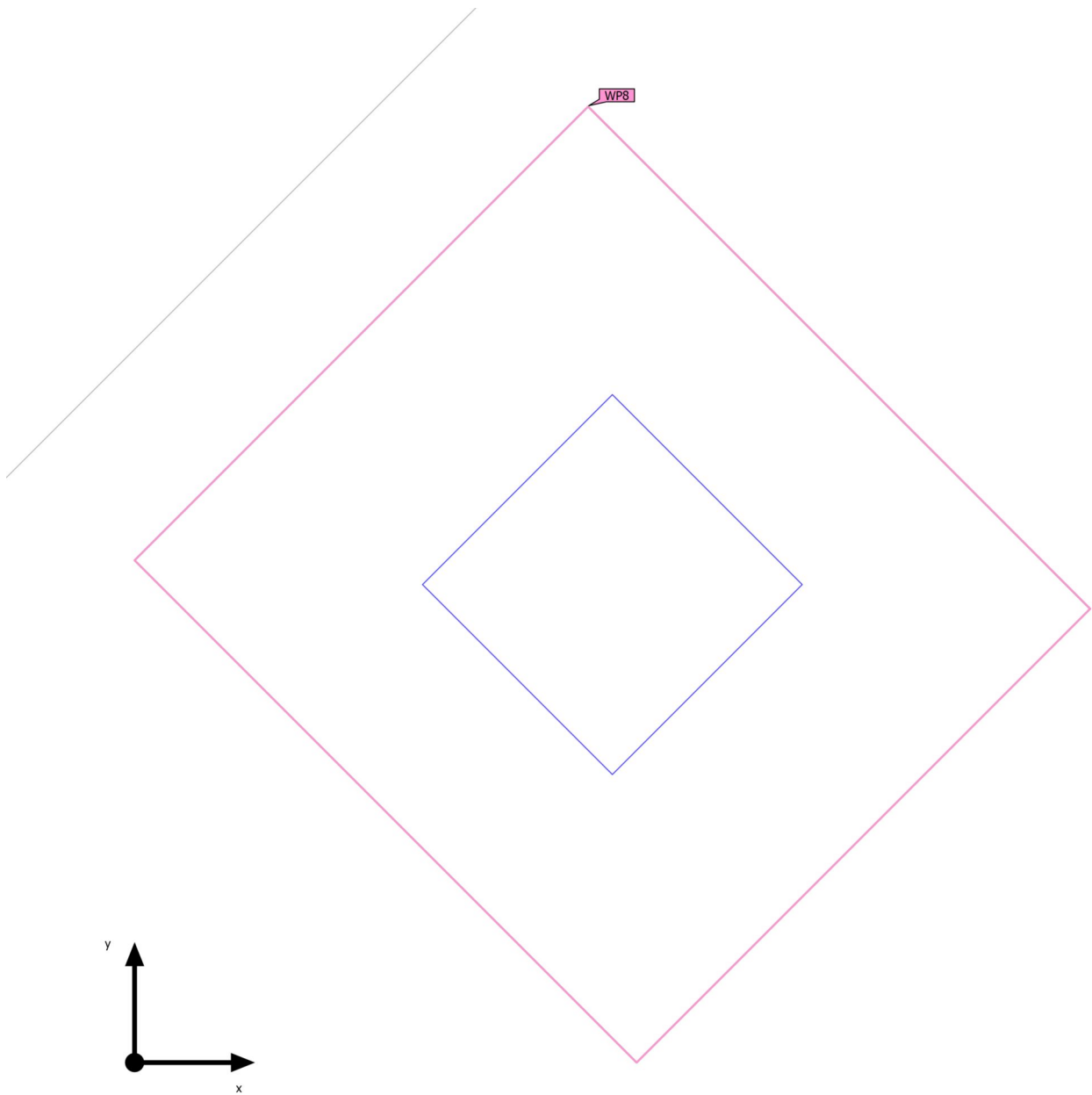
Luminaire list

Φ_{total} 1800 lm	P_{total} 23.8 W	Luminous efficacy 75.6 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

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

Calculation objects



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

Calculation objects

Working planes

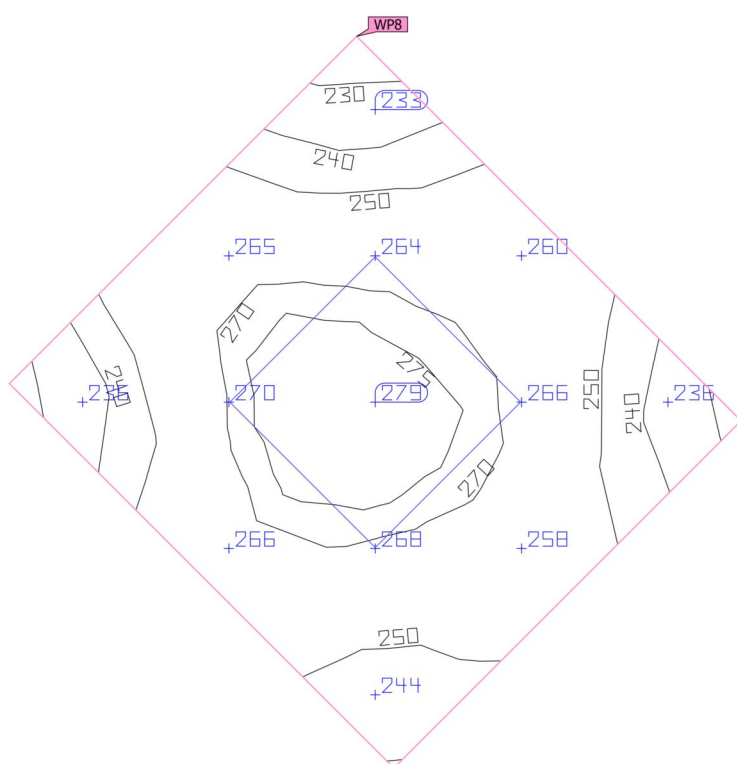
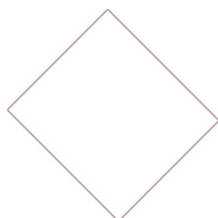
Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	259 lx (≥ 75.0 lx) ✓	229 lx	280 lx	0.88 (≥ 0.40) ✓	0.82	WP8

(1) Based on a rectangular space of 0.952 m x 0.860 m and SHR of 0.25.

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

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

Working plane (Wc 1)

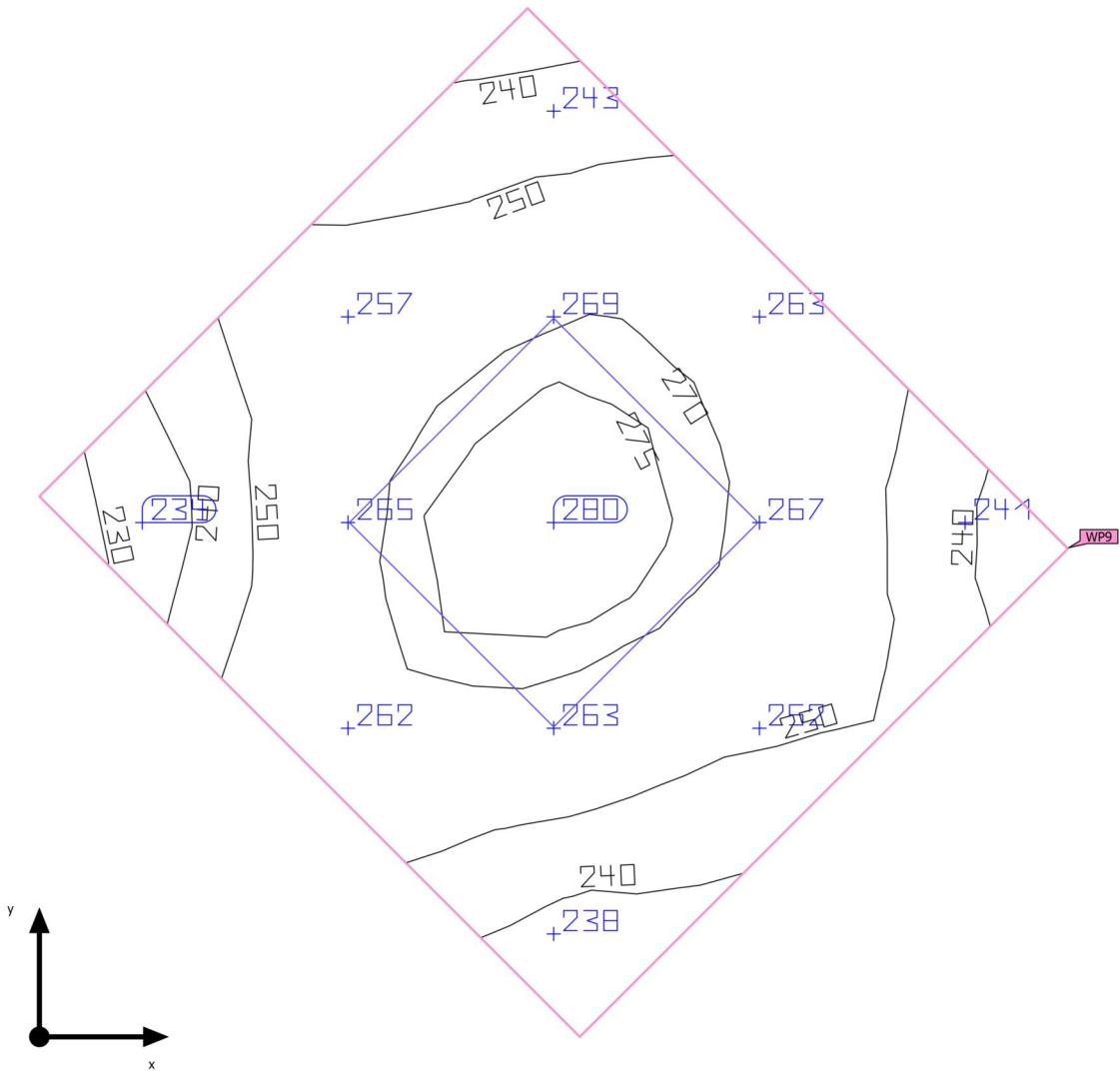


Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	259 lx (≥ 75.0 lx) ✓	229 lx	280 lx	0.88 (≥ 0.40) ✓	0.82	WP8

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Building 1 · Storey 1 · wc 2 (Light scene 1)

Summary



Ground area	0.82 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.856 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · wc 2 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	257 lx	≥ 75.0 lx	✓	WP9
	$U_o (g_1)$	0.89	≥ 0.40	✓	WP9
Energy estimation ⁽²⁾	Consumption	19.6 kWh/a	max. 50 kWh/a	✓	
Room	Lighting power density	29.07 W/m ²	–		
		11.31 W/m ² /100 lx	–		

(1) Based on a rectangular space of 0.860 m x 0.952 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

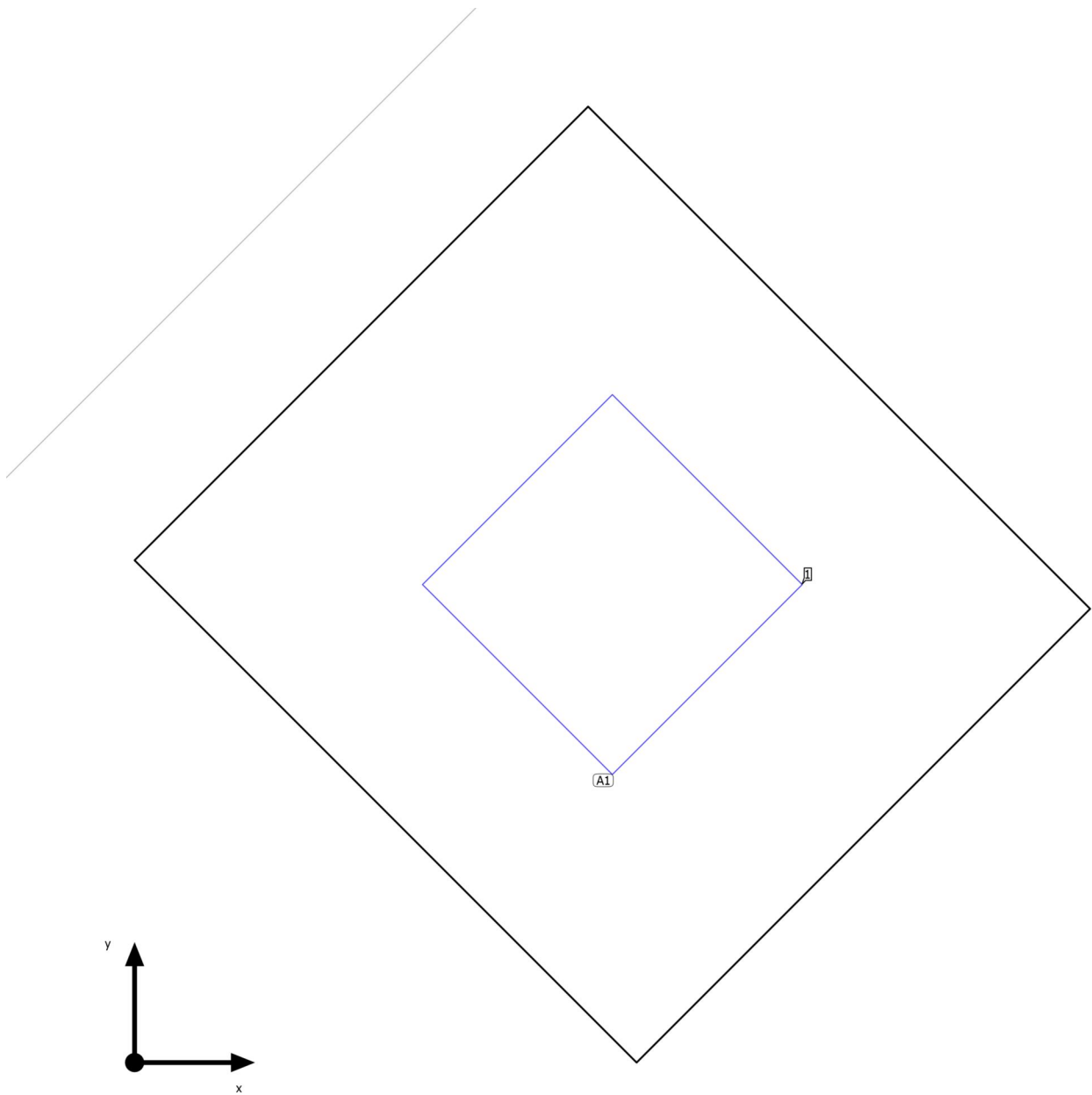
Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Luminaire list

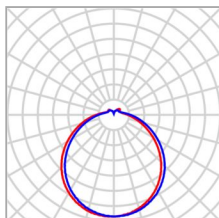
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · wc 2

Luminaire layout plan



Building 1 · Storey 1 · wc 2

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.641 m / 0.641 m / 2.856 m	0.641 m	0.641 m	2.856 m	1
X-direction	1 pcs., Centre - centre, 0.952 m				
Y-direction	1 pcs., Centre - centre, 0.860 m				
Arrangement	A1				

Building 1 · Storey 1 · wc 2

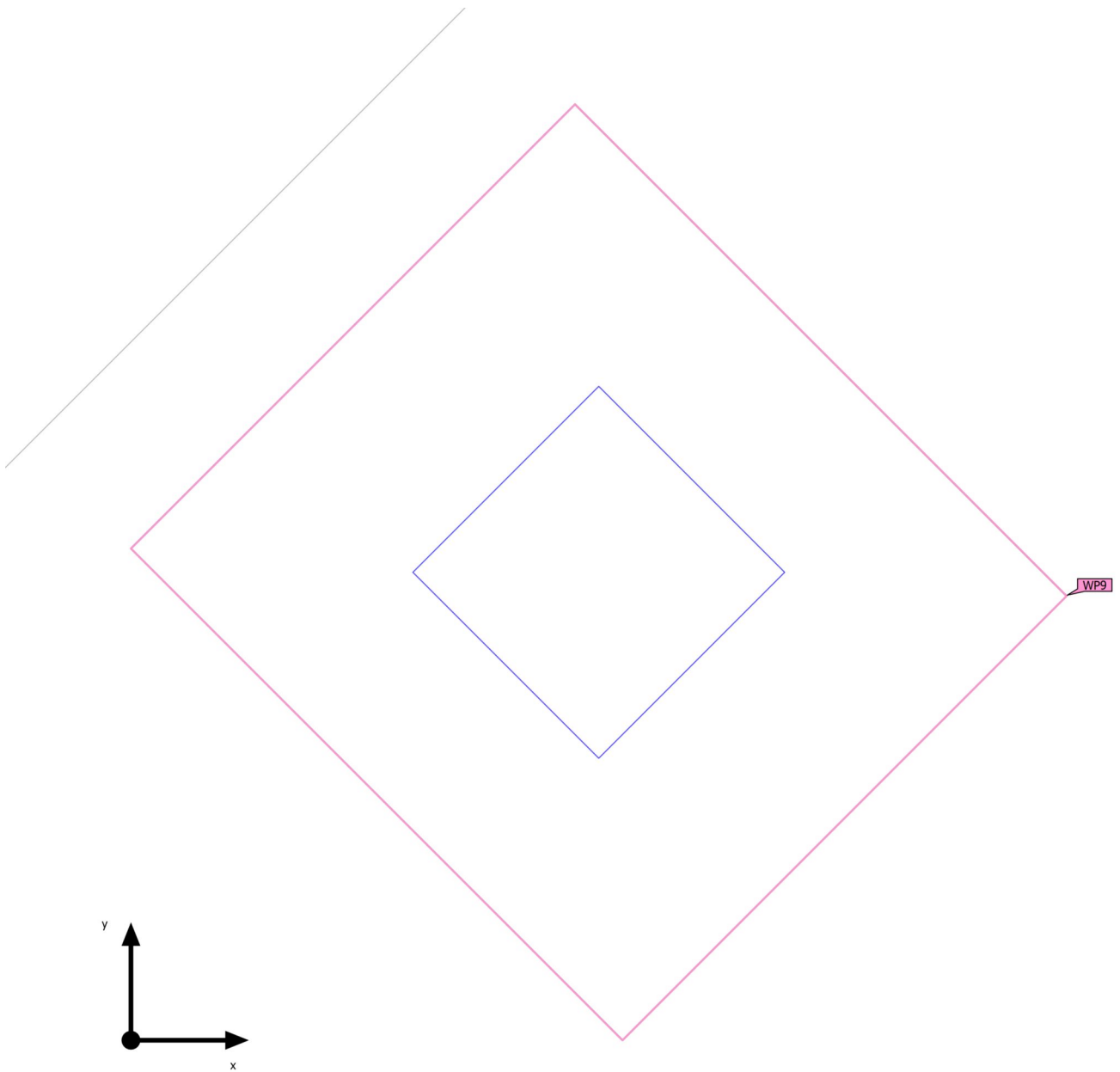
Luminaire list

Φ_{total} 1800 lm	P_{total} 23.8 W	Luminous efficacy 75.6 lm/W
----------------------------------	------------------------------	--------------------------------

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · wc 2 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · wc 2 (Light scene 1)

Calculation objects

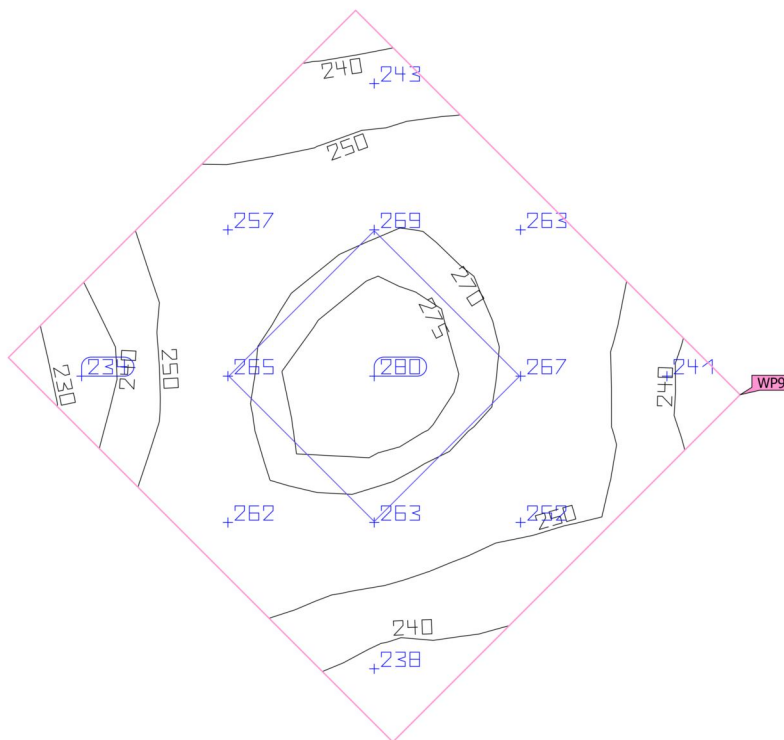
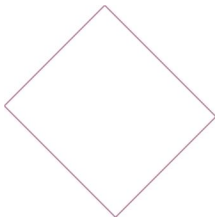
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (wc 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	257 lx (≥ 75.0 lx) ✓	229 lx	278 lx	0.89 (≥ 0.40) ✓	0.82	WP9

(1) Based on a rectangular space of 0.860 m x 0.952 m and SHR of 0.25.

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Building 1 · Storey 1 · wc 2 (Light scene 1)

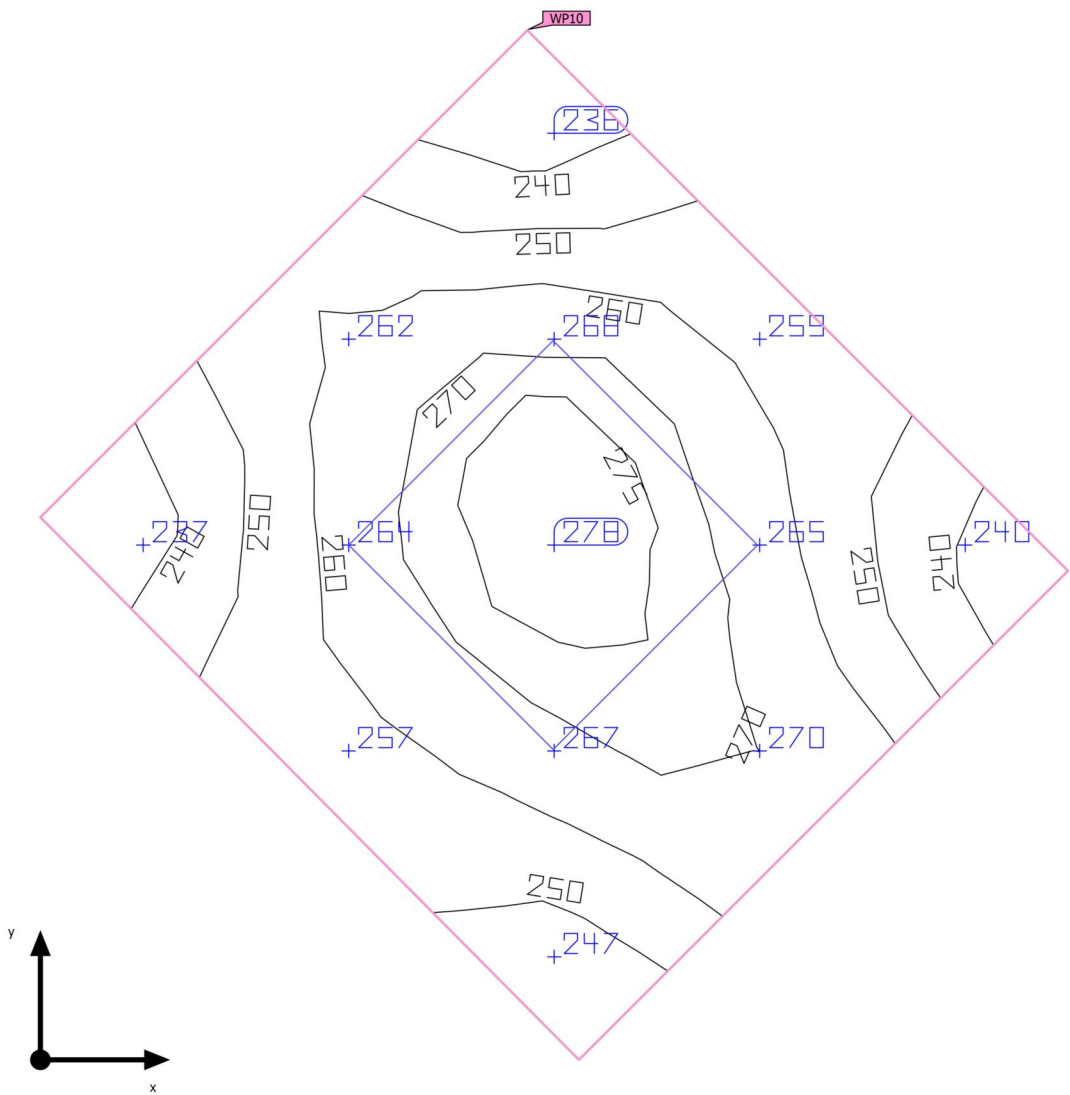
Working plane (wc 2)

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (wc 2)	257 lx	229 lx	278 lx	0.89	0.82	WP9
Perpendicular illuminance (adaptive)	≥ 75.0 lx			≥ 0.40		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Building 1 · Storey 1 · Wc 3 (Light scene 1)

Summary



Ground area	0.82 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.856 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Wc 3 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	259 lx	≥ 75.0 lx	✓	WP10
	$U_o (g_1)$	0.90	≥ 0.40	✓	WP10
Energy estimation ⁽²⁾	Consumption	45.8 kWh/a	max. 50 kWh/a	✓	
Room	Lighting power density	29.09 W/m ²	–		
		11.24 W/m ² /100 lx	–		

(1) Based on a rectangular space of 0.952 m x 0.861 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

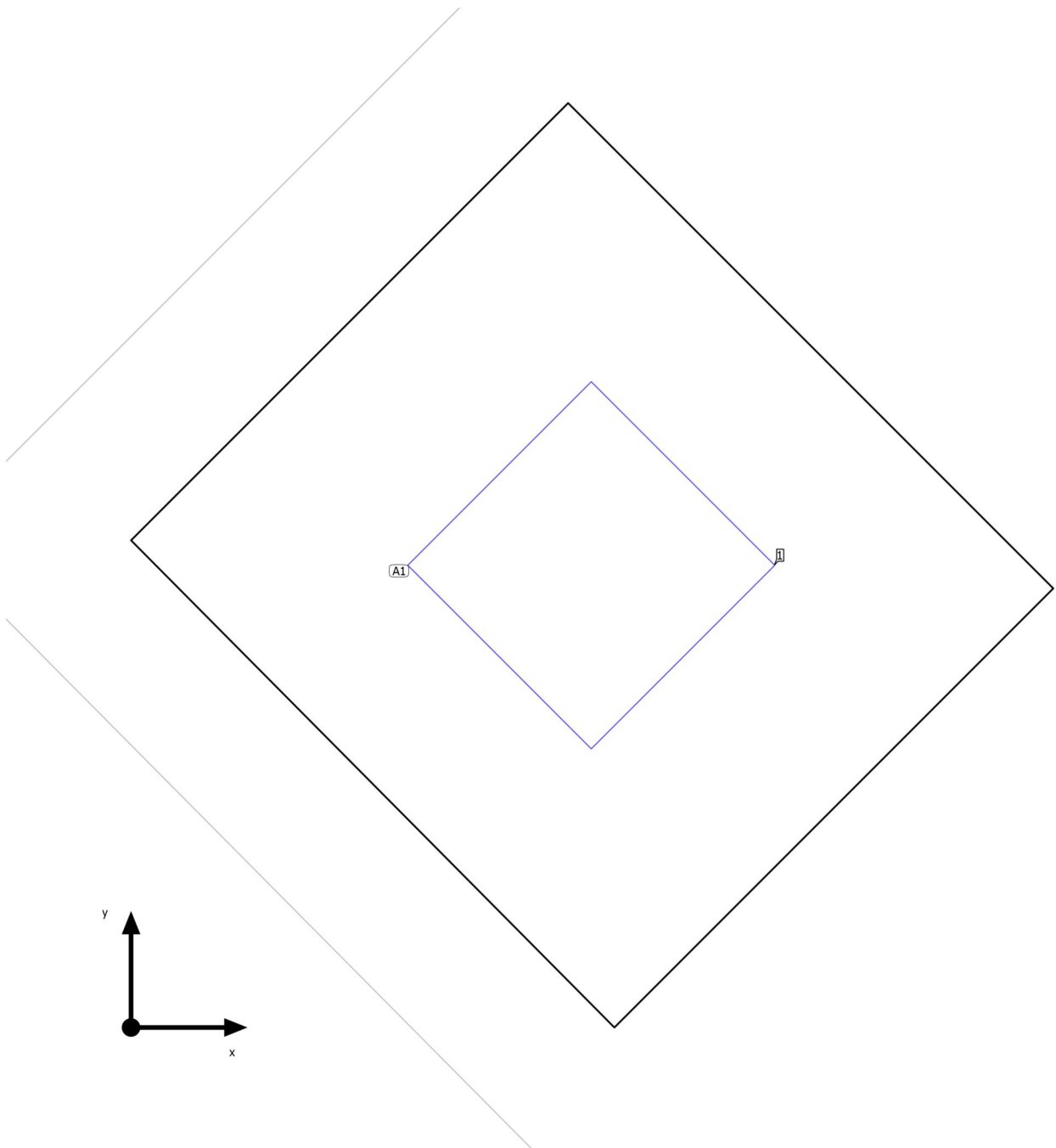
Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.2 Rest rooms)

Luminaire list

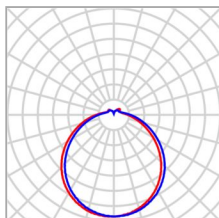
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 3

Luminaire layout plan



Building 1 · Storey 1 · Wc 3

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.639 m / 0.641 m / 2.856 m	0.639 m	0.641 m	2.856 m	1
X-direction	1 pcs., Centre - centre, 0.861 m				
Y-direction	1 pcs., Centre - centre, 0.952 m				
Arrangement	A1				

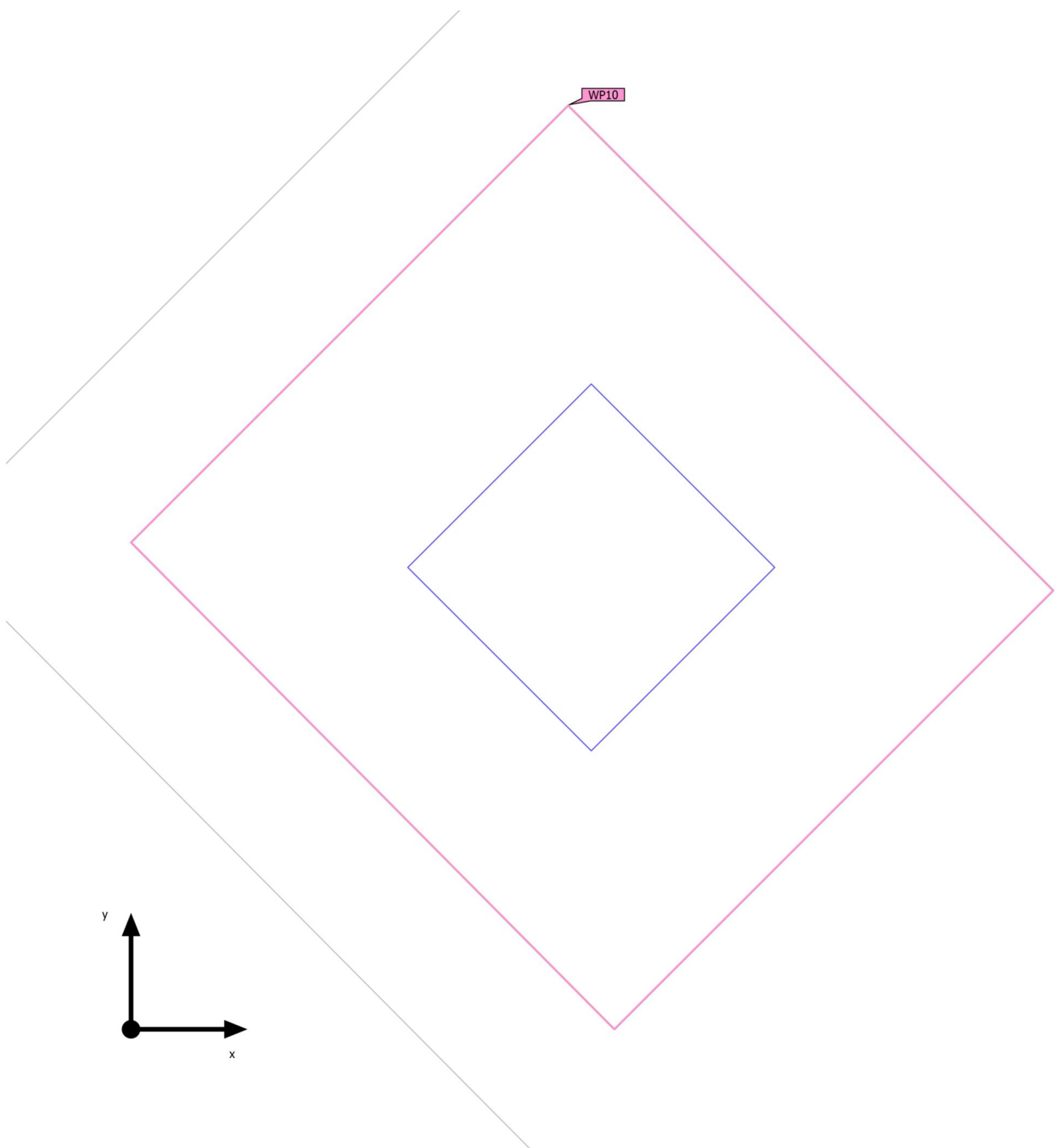
Building 1 · Storey 1 · Wc 3

Luminaire list

Φ_{total} 1800 lm		P_{total} 23.8 W		Luminous efficacy 75.6 lm/W		
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 3 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Wc 3 (Light scene 1)

Calculation objects

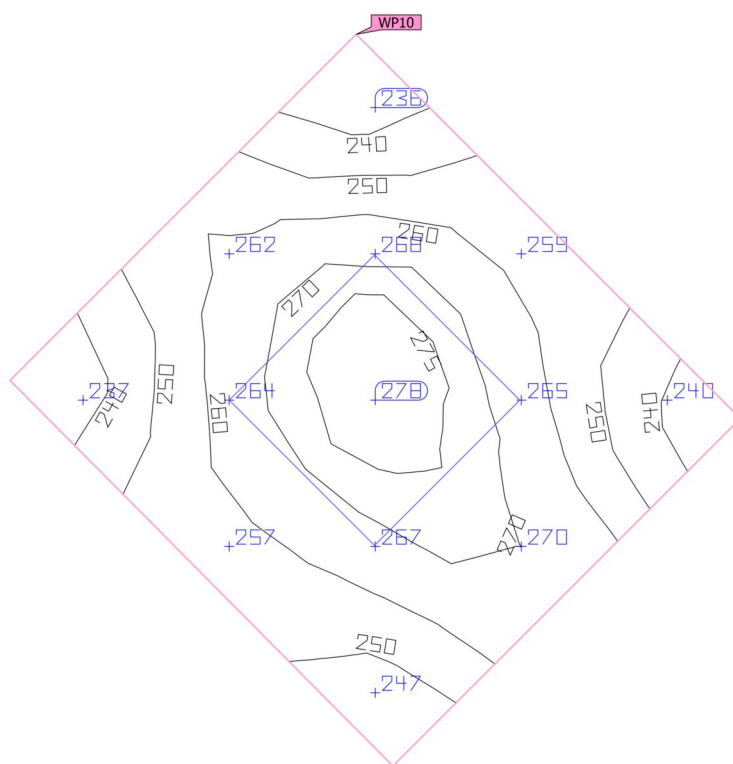
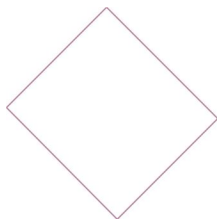
Working planes

Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 3) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	259 lx (≥ 75.0 lx) ✓	232 lx	278 lx	0.90 (≥ 0.40) ✓	0.83	WP10

(1) Based on a rectangular space of 0.952 m x 0.861 m and SHR of 0.25.

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.2 Rest rooms)

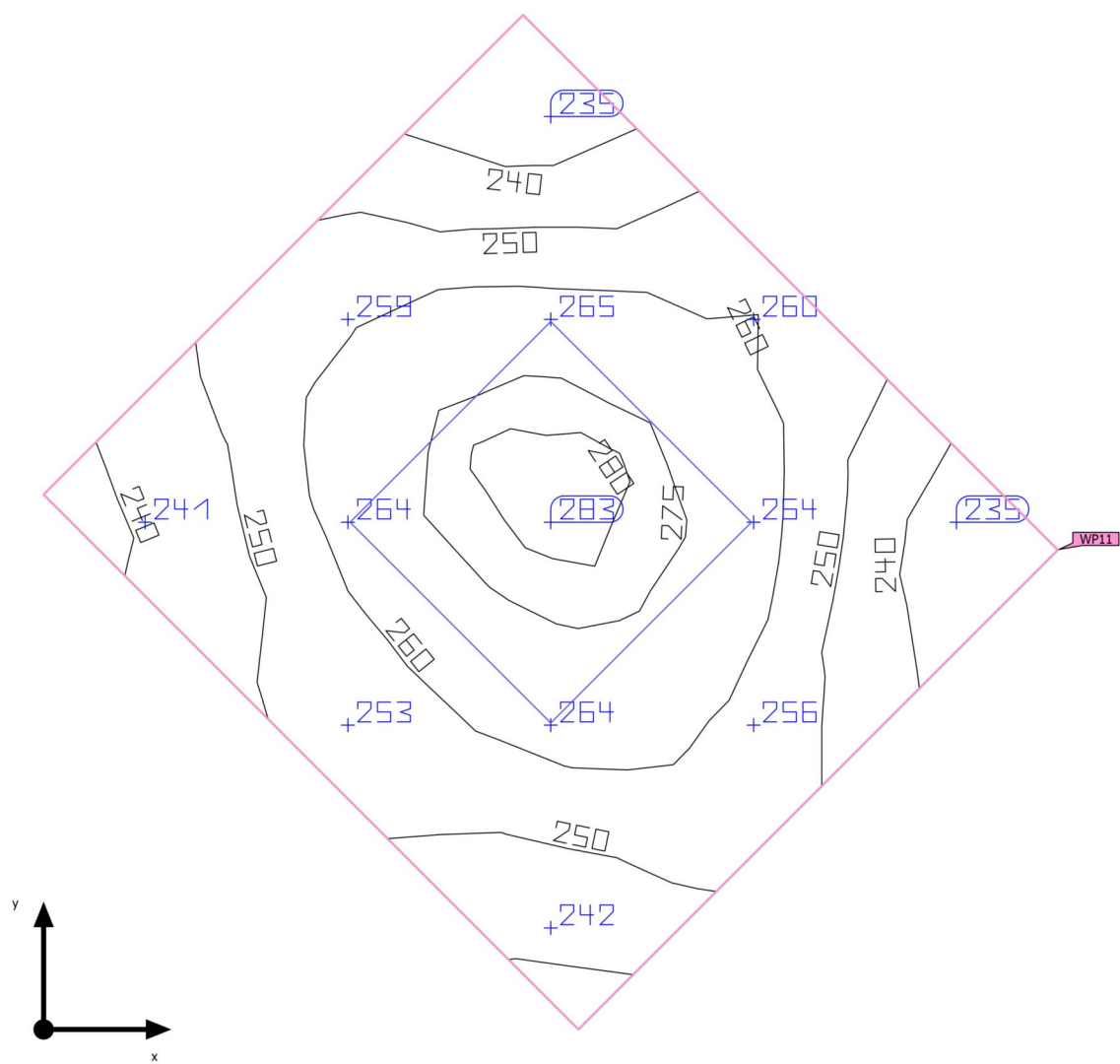
Working plane (Wc 3)



Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 3) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	259 lx (≥ 75.0 lx) ✓	232 lx	278 lx	0.90 (≥ 0.40) ✓	0.83	WP10

Building 1 · Storey 1 · Wc 4 (Light scene 1)

Summary



Ground area	0.83 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.856 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Wc 4 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	256 lx	≥ 75.0 lx	✓	WP11
	$U_o (g_1)$	0.90	≥ 0.40	✓	WP11
Energy estimation ⁽²⁾	Consumption	19.6 kWh/a	max. 50 kWh/a	✓	
Room	Lighting power density	28.85 W/m ²	–		
		11.25 W/m ² /100 lx	–		

(1) Based on a rectangular space of 0.959 m x 0.860 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

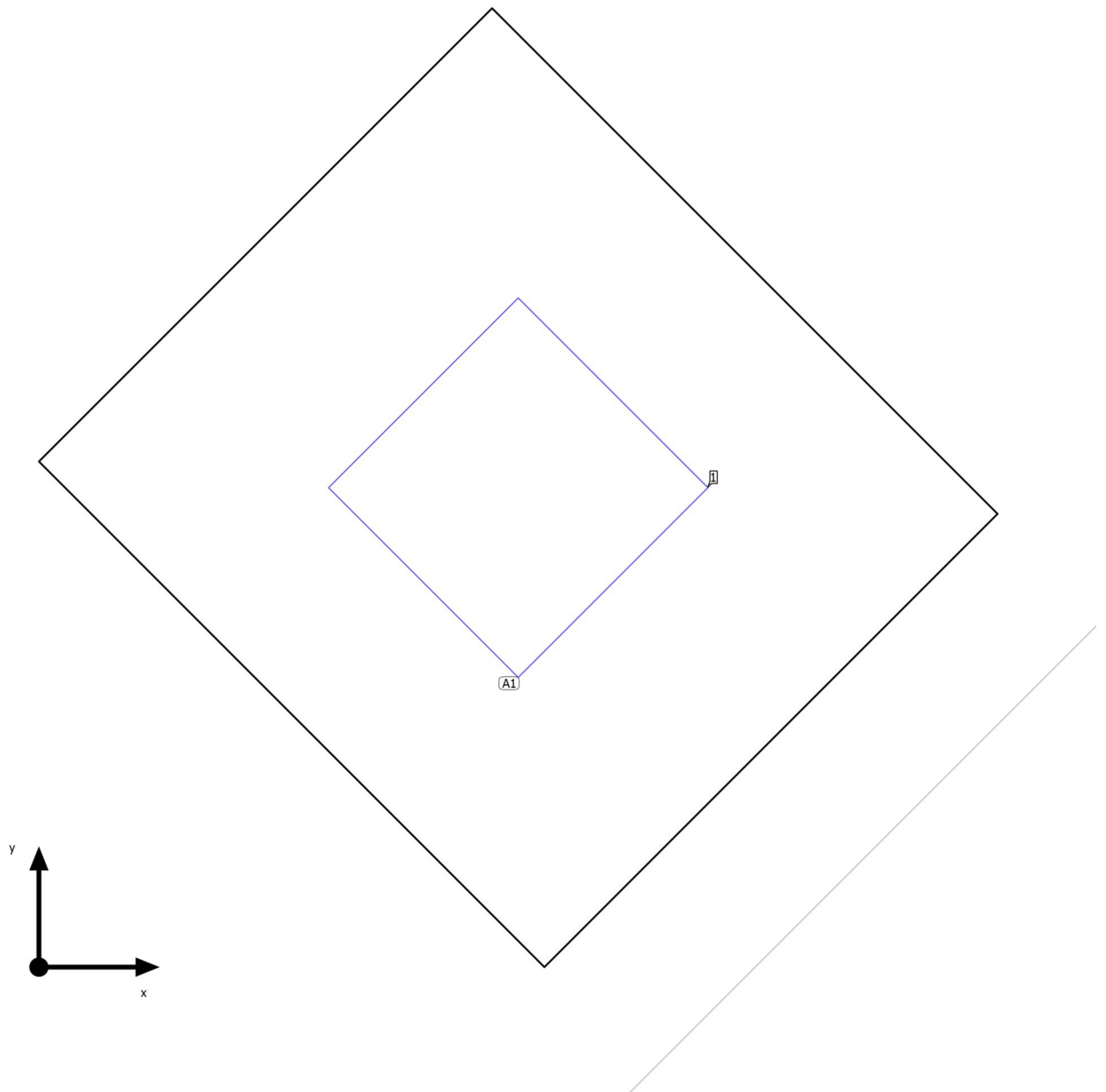
Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Luminaire list

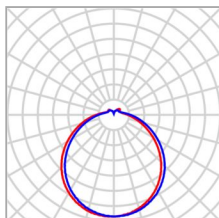
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 4

Luminaire layout plan



Building 1 · Storey 1 · Wc 4

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.643 m / 0.643 m / 2.856 m	0.643 m	0.643 m	2.856 m	1
X-direction	1 pcs., Centre - centre, 0.959 m				
Y-direction	1 pcs., Centre - centre, 0.860 m				
Arrangement	A1				

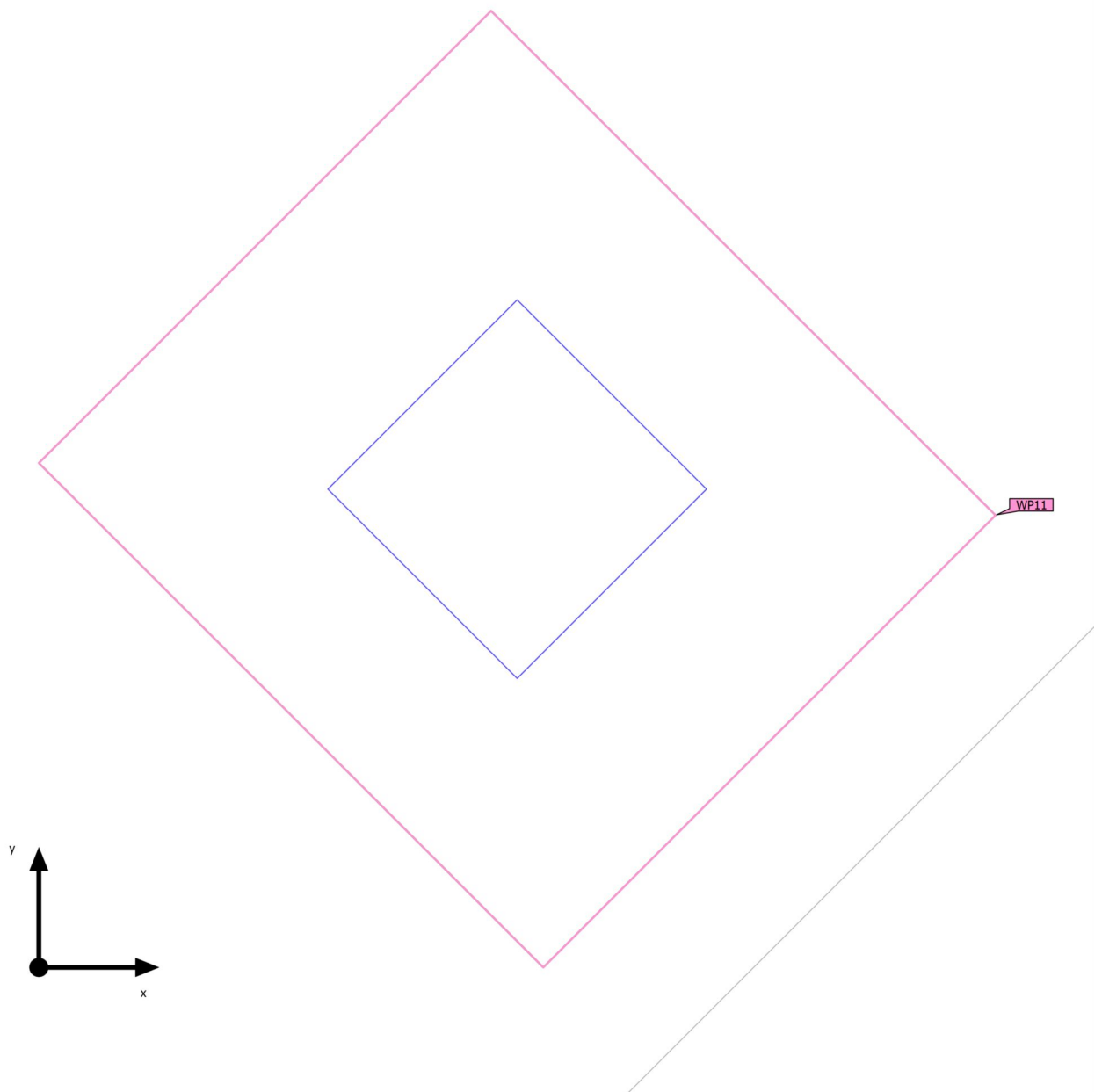
Building 1 · Storey 1 · Wc 4

Luminaire list

Φ_{total} 1800 lm		P_{total} 23.8 W		Luminous efficacy 75.6 lm/W		
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 4 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Wc 4 (Light scene 1)

Calculation objects

Working planes

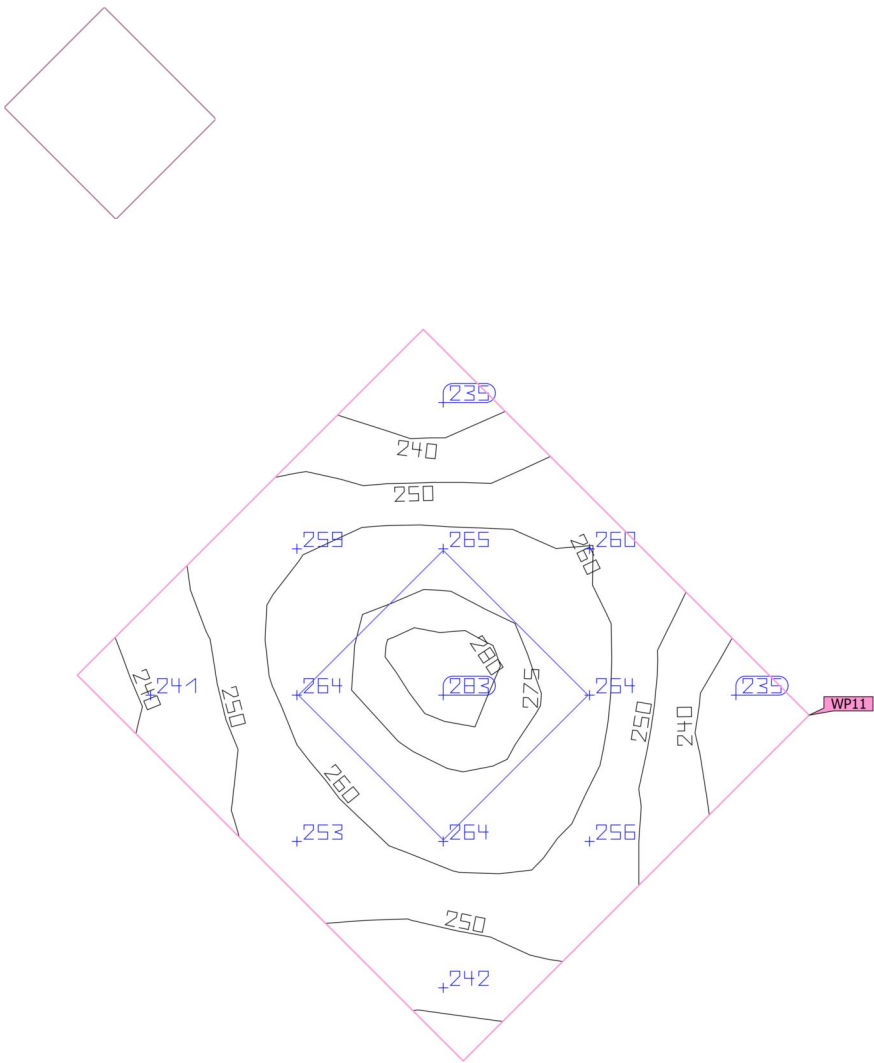
Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 4) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	256 lx (≥ 75.0 lx) ✓	231 lx	281 lx	0.90 (≥ 0.40) ✓	0.82	WP11

(1) Based on a rectangular space of 0.959 m x 0.860 m and SHR of 0.25.

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Building 1 · Storey 1 · Wc 4 (Light scene 1)

Working plane (Wc 4)

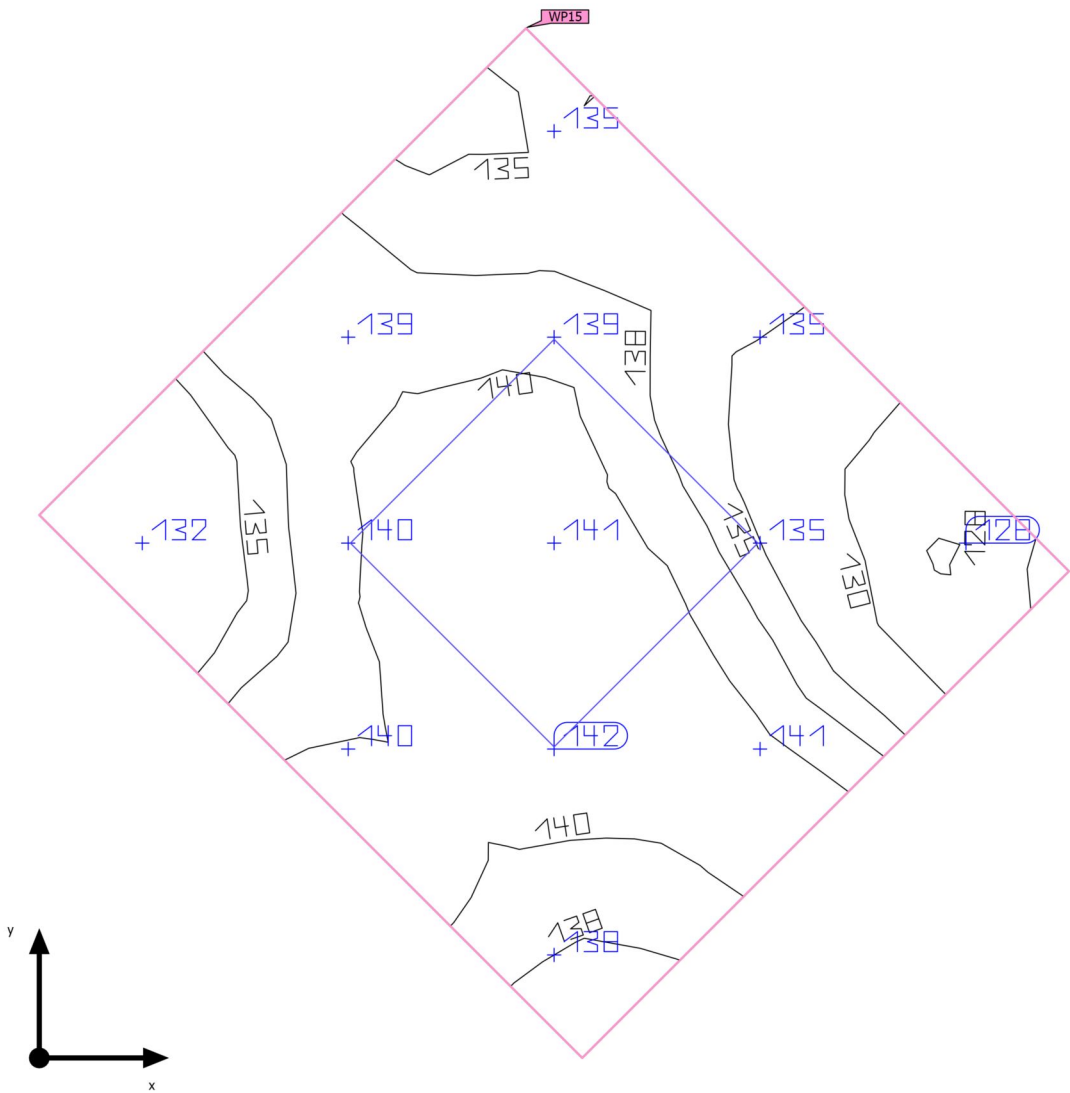


Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 4)	256 lx	231 lx	281 lx	0.90	0.82	WP11
Perpendicular illuminance (adaptive)	≥ 75.0 lx			≥ 0.40		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Building 1 · Storey 1 · Wc 5 (Light scene 1)

Summary



Ground area	0.83 m²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	2.856 m
Height _{Working plane}	0.000 m
Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Wc 5 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	137 lx	≥ 75.0 lx	✓	WP15
	$U_o (g_1)$	0.93	≥ 0.40	✓	WP15
Energy estimation ⁽²⁾	Consumption	26.2 kWh/a	max. 50 kWh/a	✓	
Room	Lighting power density	28.85 W/m ²	–		
		20.99 W/m ² /100 lx	–		

(1) Based on a rectangular space of 0.959 m x 0.860 m and SHR of 0.25.

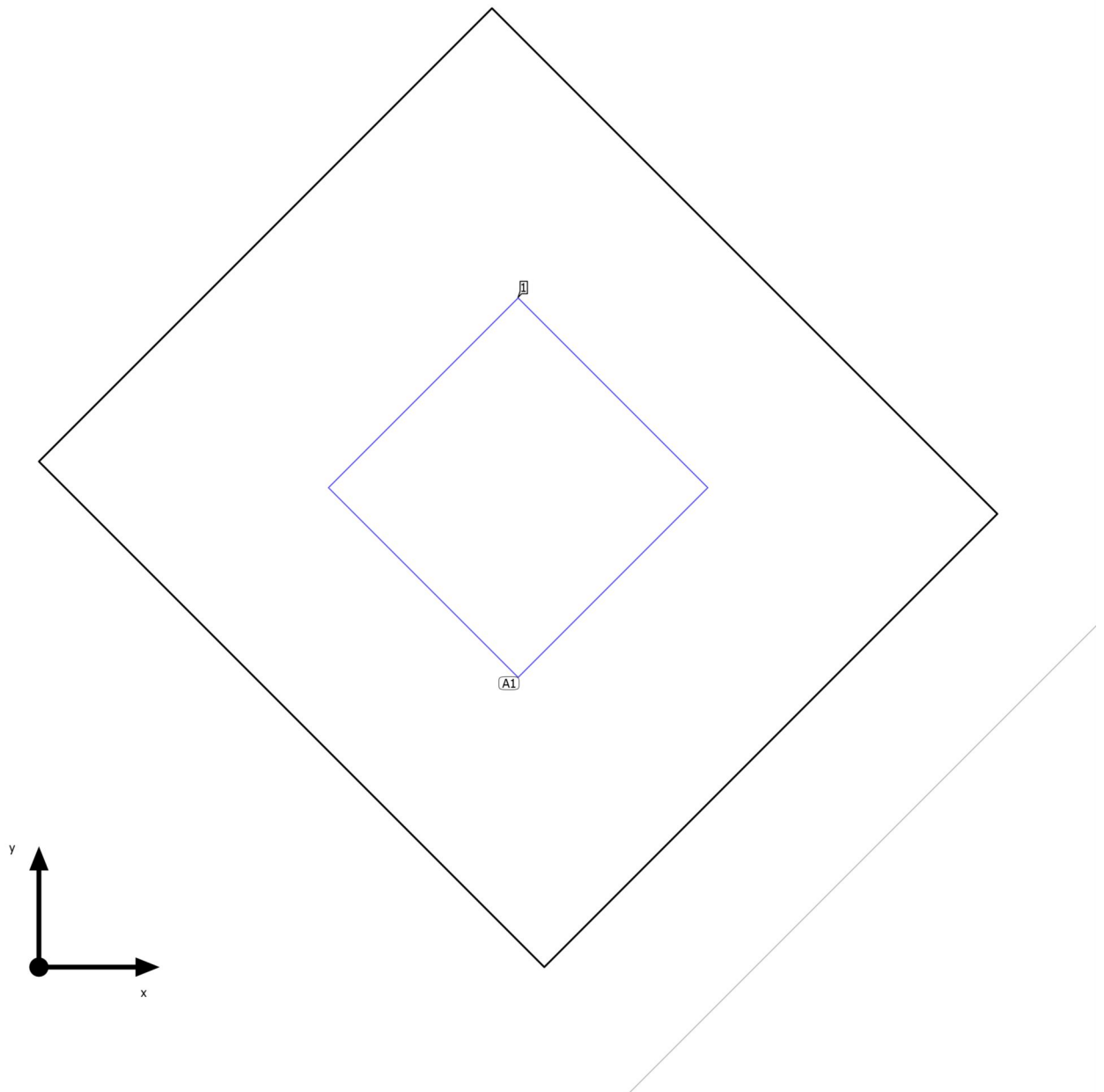
(2) Calculated using DIN:18599-4.

Utilisation profile: Educational premises - Educational buildings (5.36.17 Circulation areas, corridors)

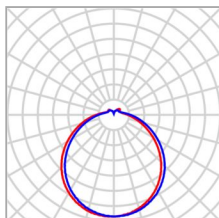
Luminaire list

pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 5

Luminaire layout plan

Building 1 · Storey 1 · Wc 5

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.643 m / 0.643 m / 2.856 m	0.643 m	0.643 m	2.856 m	1
X-direction	1 pcs., Centre - centre, 0.959 m				
Y-direction	1 pcs., Centre - centre, 0.860 m				
Arrangement	A1				

Building 1 · Storey 1 · Wc 5

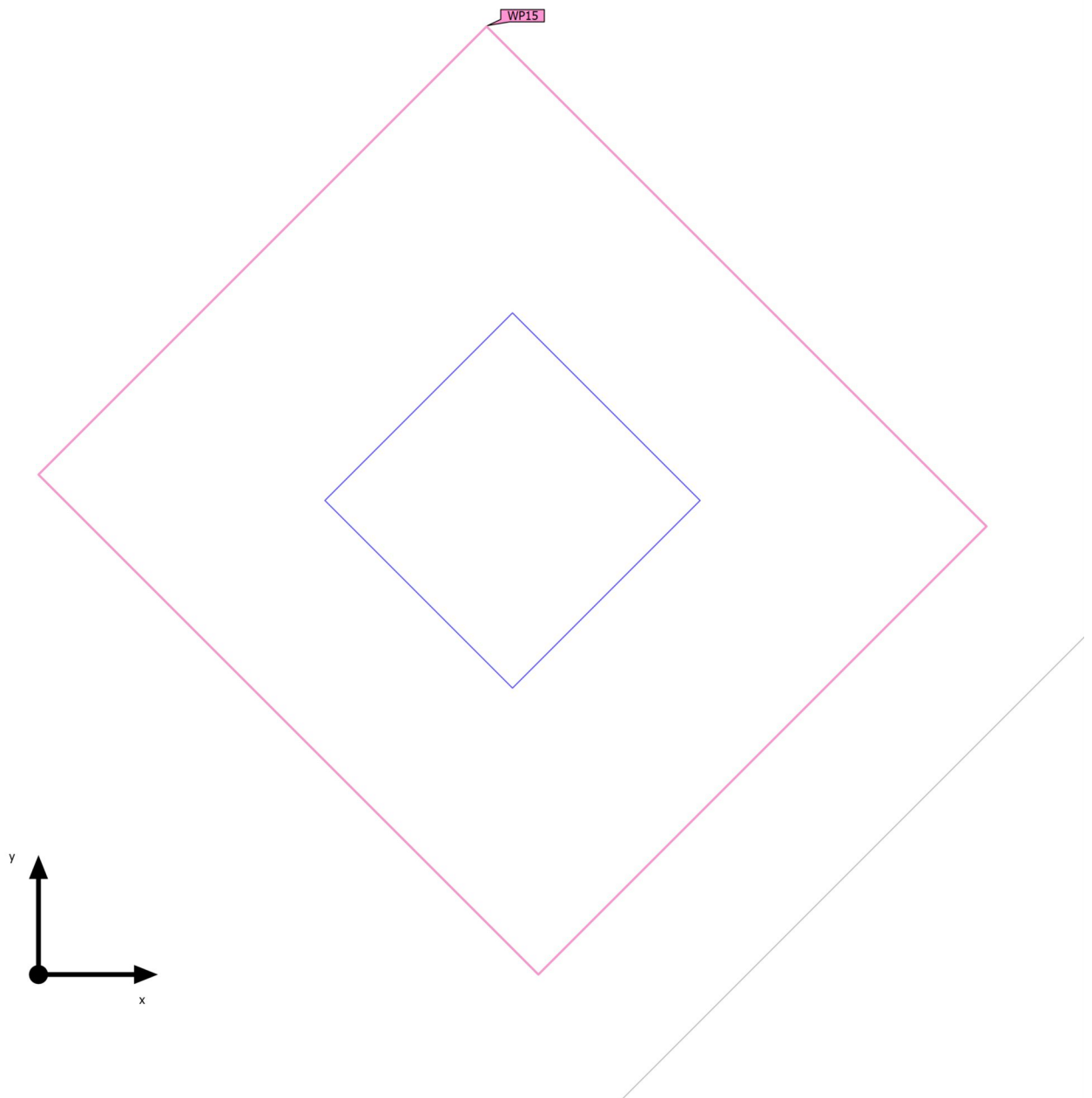
Luminaire list

Φ_{total} 1800 lm	P_{total} 23.8 W	Luminous efficacy 75.6 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 5 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Wc 5 (Light scene 1)

Calculation objects

Working planes

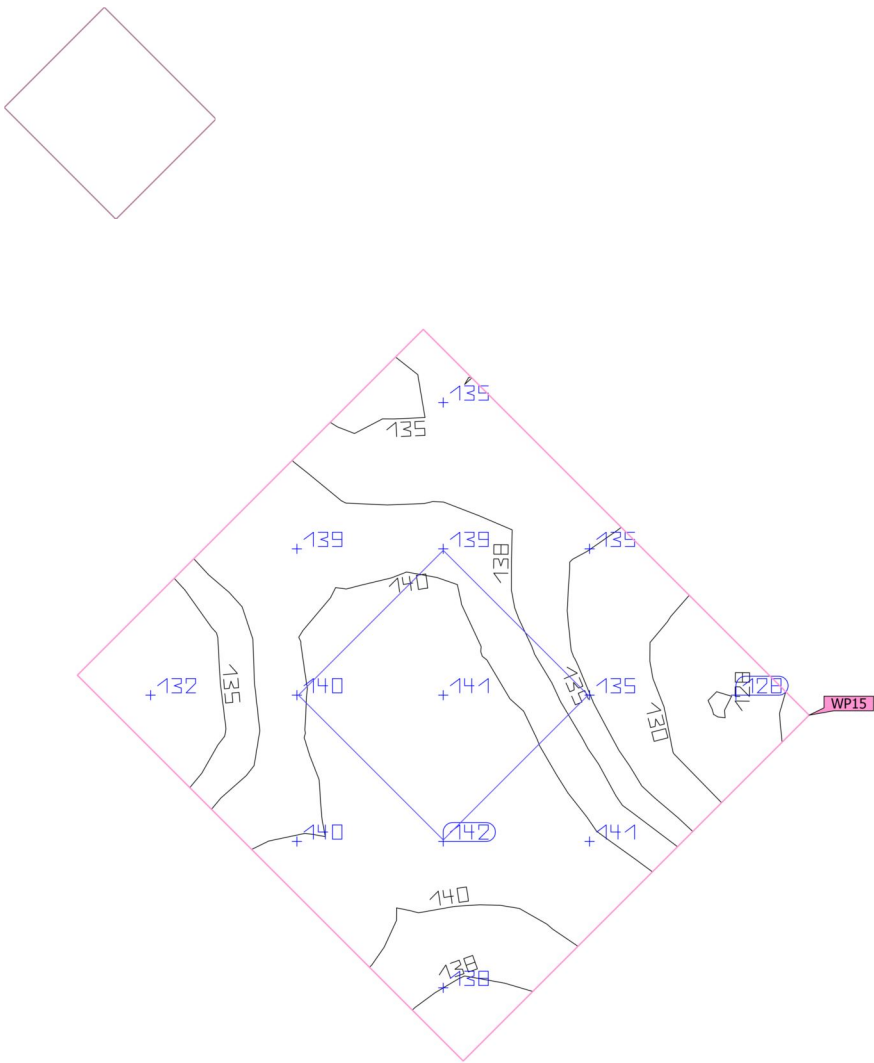
Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 5) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	137 lx (≥ 75.0 lx) ✓	127 lx	142 lx	0.93 (≥ 0.40) ✓	0.89	WP15

(1) Based on a rectangular space of 0.959 m x 0.860 m and SHR of 0.25.

Utilisation profile: Educational premises - Educational buildings (5.36.17 Circulation areas, corridors)

Building 1 · Storey 1 · Wc 5 (Light scene 1)

Working plane (Wc 5)

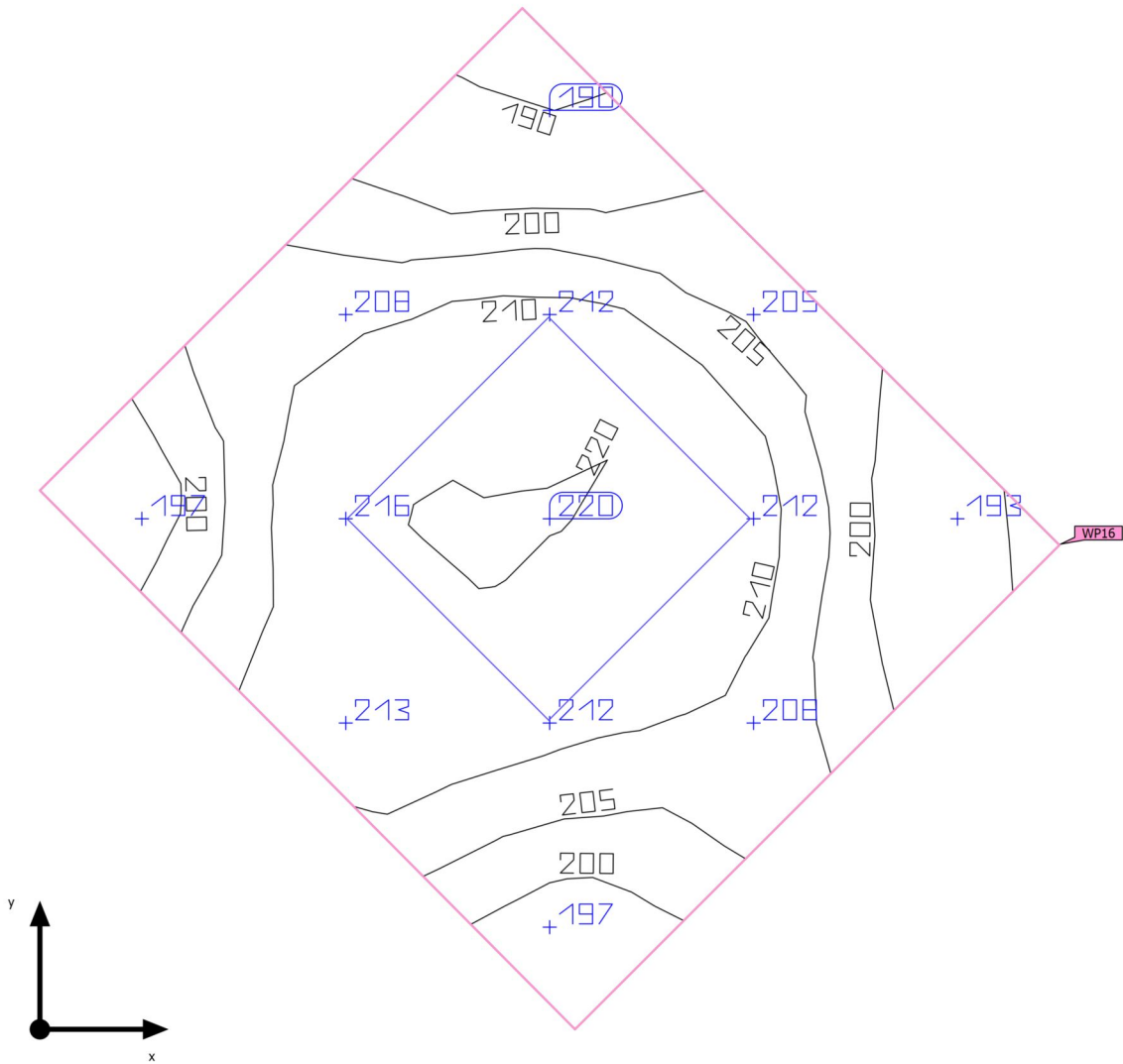


Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 5) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	137 lx (≥ 75.0 lx) ✓	127 lx	142 lx	0.93 (≥ 0.40) ✓	0.89	WP15

Utilisation profile: Educational premises - Educational buildings (5.36.17 Circulation areas, corridors)

Building 1 · Storey 1 · Wc 6 (Light scene 1)

Summary



Ground area	0.83 m ²
Reflection factors	Ceiling: 80.0 %, Walls: 70.0 %, Floor: 30.0 %
Maintenance factor	0.80 (fixed)

Clearance height	3.200 m
Mounting height	3.200 m
Height _{Working plane}	0.800 m
Wall zone _{Working plane}	0.000 m

Building 1 · Storey 1 · Wc 6 (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	207 lx	≥ 200 lx	✓	WP16
	$U_o (g_1)$	0.91	≥ 0.40	✓	WP16
Energy estimation ⁽²⁾	Consumption	19.6 kWh/a	max. 50 kWh/a	✓	
Room	Lighting power density	28.73 W/m ²	–		
		13.86 W/m ² /100 lx	–		

(1) Based on a rectangular space of 0.865 m x 0.959 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

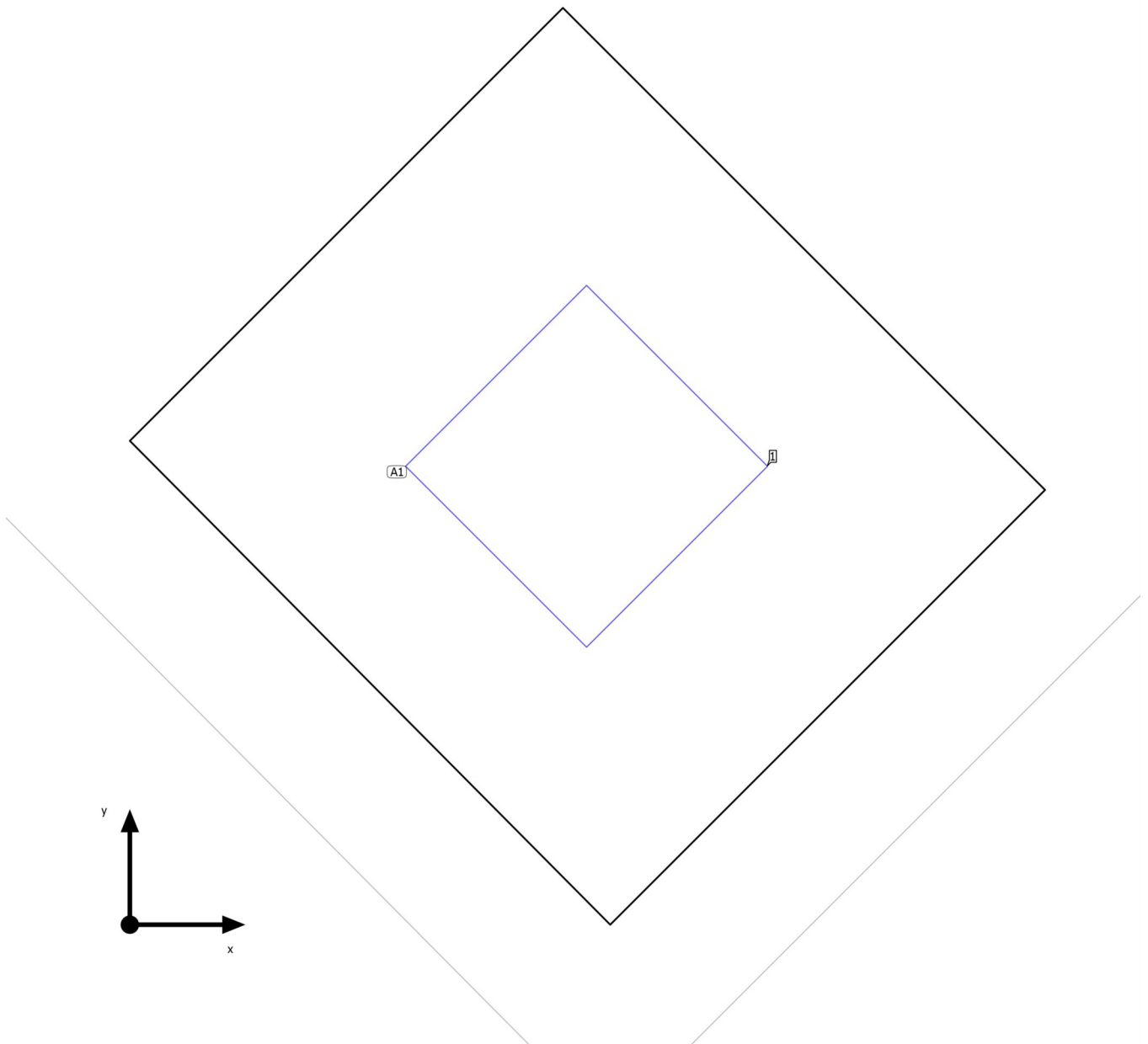
Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Luminaire list

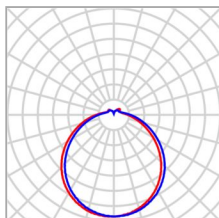
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	–	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 6

Luminaire layout plan



Building 1 · Storey 1 · Wc 6

Luminaire layout plan

Manufacturer	SYLVANIA	P	23.8 W
Article No.	0043438	$\Phi_{\text{Luminaire}}$	1800 lm
Article name	Start eco Surface IP44 PIR 1900lm 840 DualTone		
Fitting	1x 0043438		

1 x SYLVANIA Start eco Surface IP44 PIR 1900lm 840 DualTone

Type	Field Arrangement	X	Y	Mounting height	Luminaire
1st luminaire (X/Y/Z)	0.643 m / 0.645 m / 3.200 m	0.643 m	0.645 m	3.200 m	1
X-direction	1 pcs., Centre - centre, 0.865 m				
Y-direction	1 pcs., Centre - centre, 0.959 m				
Arrangement	A1				

Building 1 · Storey 1 · Wc 6

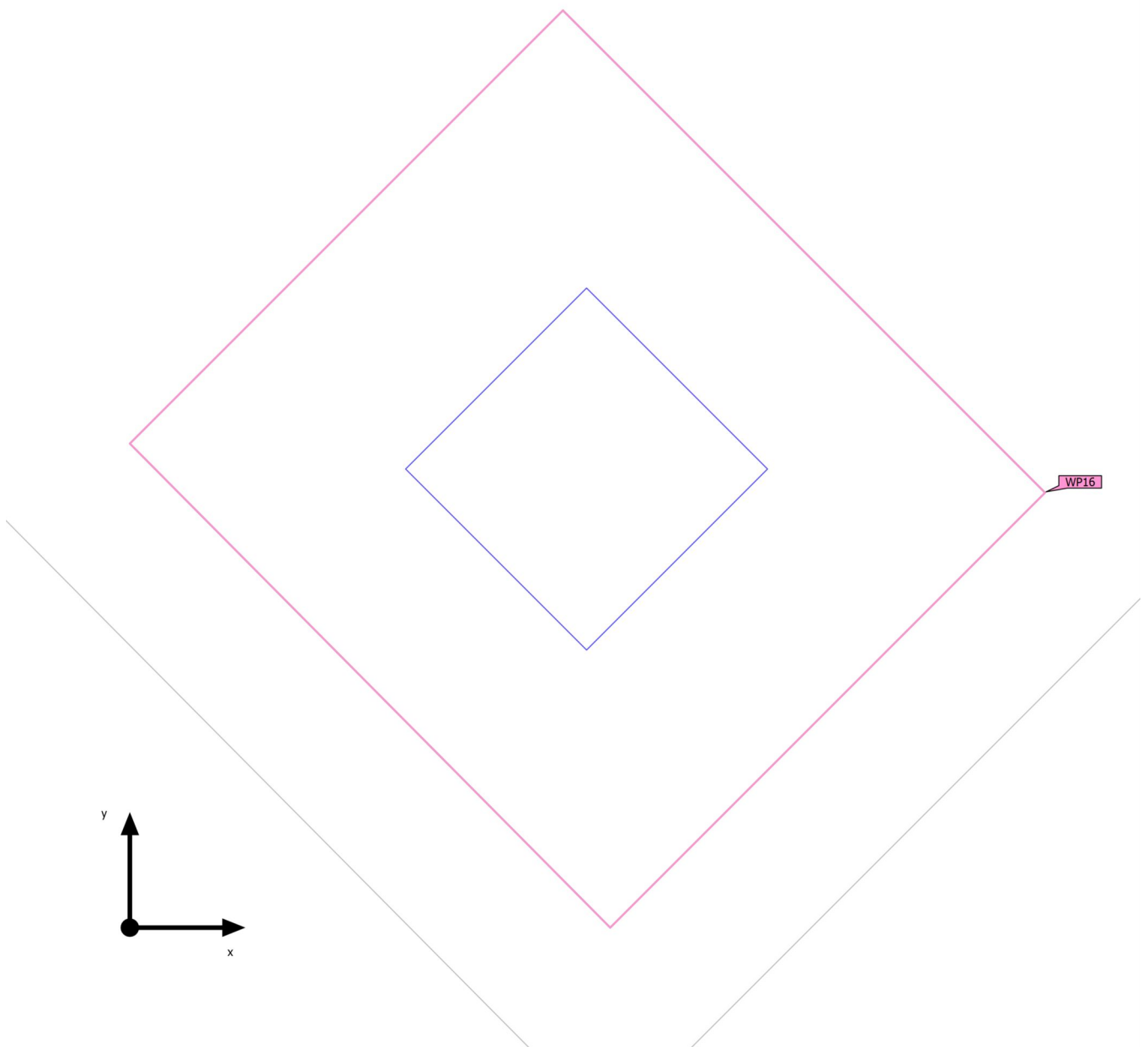
Luminaire list

Φ_{total} 1800 lm	P_{total} 23.8 W	Luminous efficacy 75.6 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
1	SYLVANIA	0043438	Start eco Surface IP44 PIR 1900lm 840 DualTone	23.8 W	1800 lm	75.6 lm/W

Building 1 · Storey 1 · Wc 6 (Light scene 1)

Calculation objects



Building 1 · Storey 1 · Wc 6 (Light scene 1)

Calculation objects

Working planes

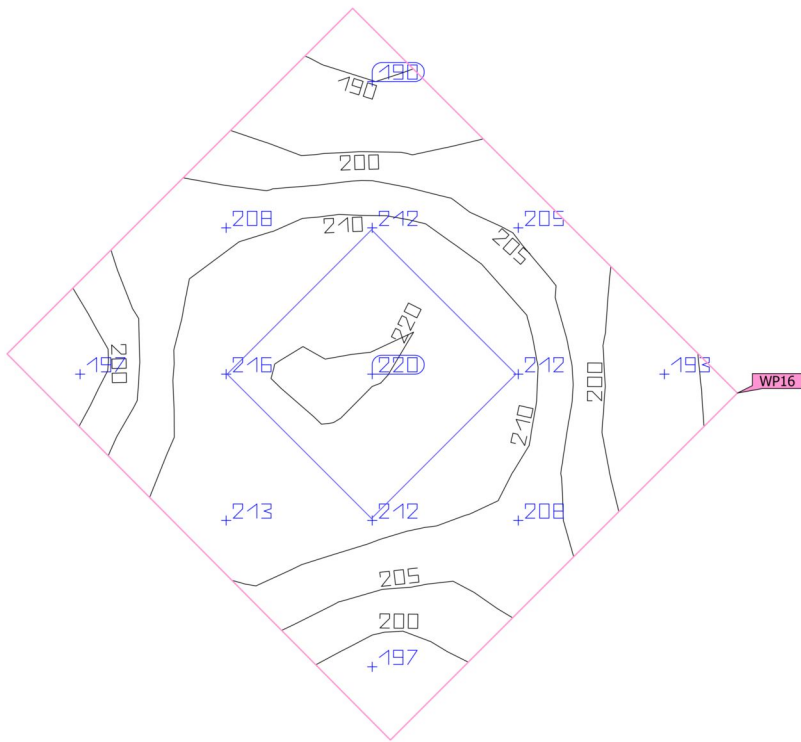
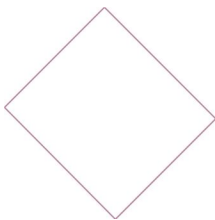
Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 6) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	207 lx (≥ 200 lx) ✓	188 lx	220 lx	0.91 (≥ 0.40) ✓	0.85	WP16

(1) Based on a rectangular space of 0.865 m x 0.959 m and SHR of 0.25.

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

Building 1 · Storey 1 · Wc 6 (Light scene 1)

Working plane (Wc 6)



Properties	\bar{E} (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (Wc 6)	207 lx	188 lx	220 lx	0.91	0.85	WP16
Perpendicular illuminance (adaptive)	≥ 200 lx			≥ 0.40		
Height: 0.800 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: General areas inside buildings - Rest, sanitation and first aid rooms (5.2.4 Cloakrooms, washrooms, bathrooms, toilets)

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>(Engl. correlated colour temperature)</p> <p>Body temperature of a thermal radiator which serves to describe its light colour. Unit: Kelvin [K]. The lesser the numerical value the redder; the greater the numerical value the bluer the light colour. The colour temperature of gas-discharge lamps and semi-conductors are termed "correlated colour temperature" in contrast to the colour temperature of thermal radiators.</p> <p>Allocation of the light colours to the colour temperature ranges acc. to EN 12464-1:</p> <p>Light colour - colour 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>(Engl. colour rendering index)</p> <p>Designation for the colour rendering index of a luminaire or a lamp acc. to DIN 6169: 1976 or CIE 13.3: 1995.</p> <p>The general colour 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 colours (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 (Engl. 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 (Engl. 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	(Engl. lighting energy numeric indicator) Lighting energy numeric indicator acc. to EN 15193 Unit: $kWh/(m^2 \cdot a)$
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Glossary

LLMF	<p>(Engl. 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).</p>
LMF	<p>(Engl. 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).</p>
LSF	<p>(Engl. 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).</p>
Luminance	<p>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.</p> <p>Unit: Candela per square metre Abbreviation: cd/m² Formula symbol: L</p>
Luminous efficacy	<p>Ratio of the emitted luminous flux Φ [lm] to the absorbed electrical power P [W] Unit: lm/W.</p> <p>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).</p>
Luminous flux	<p>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.</p> <p>Unit: Lumen Abbreviation: lm Formula symbol: Φ</p>
Luminous intensity	<p>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.</p> <p>Unit: Candela Abbreviation: cd Formula symbol: I</p>

Glossary

M

Maintenance factor	See MF
MF	<p>(Engl. maintenance factor)/acc. to CIE 97: 2005</p> <p>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.</p> <p>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

P	<p>(Engl. power)</p> <p>Electric power consumption</p> <p>Unit: watt</p> <p>Abbreviation: W</p>
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R

$R_{(UG)} \max$	<p>Measure of the psychological glare in indoor spaces.</p> <p>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.</p>
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 colour of the surface.
RMF	<p>(Engl. room maintenance factor)/acc. to CIE 97: 2005</p> <p>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).</p>

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.
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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.

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).

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.

W

Wall zone

Circumferential area between working plane and walls which is not taken into account for the calculation.

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.