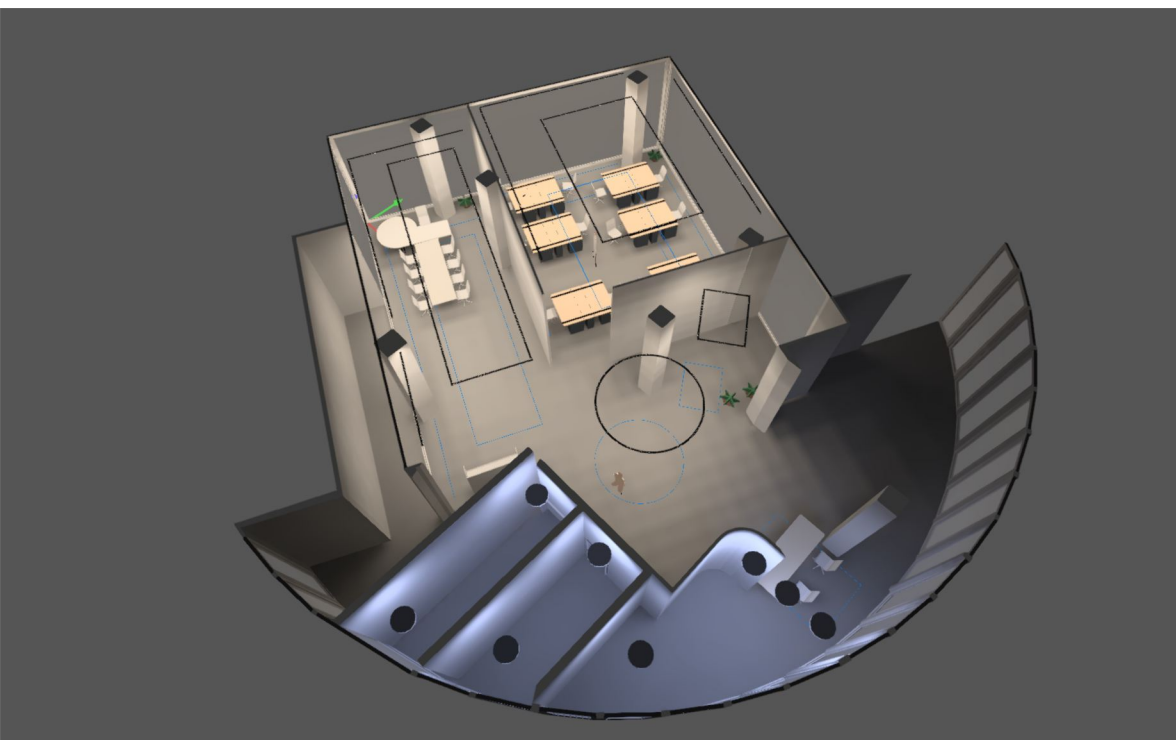




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Object

Editor

Subject: _____ Date: _____

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Glossary 120

Φ_{total} 239930 lm	P_{total} 2424.5 W	Luminous efficacy 99.0 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
915	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm	97.8 lm/W
8	MAZINOOR	M343D60P SLED2840- W	LUNA 4600lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K	40.0 W	4601 lm	115.0 lm/W

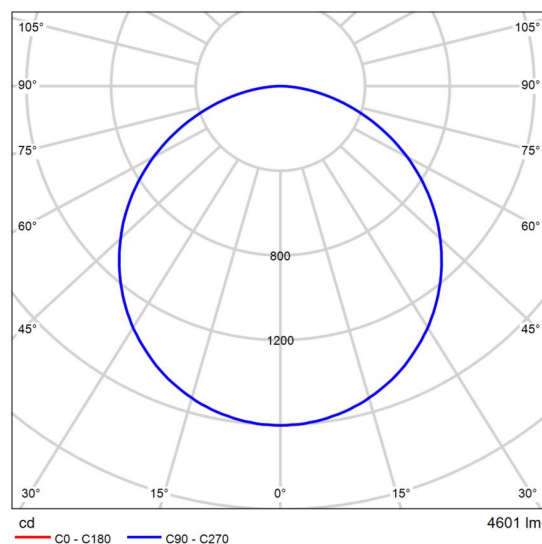
Product data sheet

MAZINOOR - LUNA 4600Lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K



Article No.	M343D60PSLED2840-W
P	40.0 W
Φ_{Lamp}	–
$\Phi_{\text{Luminaire}}$	4601 lm
η	–
Luminous efficacy	115.0 lm/W
CCT	4000 K
CRI	80

LUNA surface Mount/suspended is designed and manufactured by Mazinoor for modern residential, office and commercial lighting applications. Uniform light distribution, energy saving, glare control, and aesthetically beautiful and minimal design are among the highlights of this luminaire.



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		Viewing direction at right angles					Viewing direction parallel					
X Y		to lamp axis					to lamp axis					
2H	2H	18.2	19.6	18.5	19.8	20.1	18.2	19.6	18.5	19.8	20.1	
	3H	19.7	21.0	20.1	21.2	21.5	19.7	21.0	20.1	21.2	21.5	
	4H	20.3	21.5	20.7	21.8	22.1	20.3	21.5	20.7	21.8	22.1	
	6H	20.7	21.8	21.1	22.1	22.4	20.7	21.8	21.1	22.1	22.4	
	8H	20.8	21.9	21.2	22.2	22.5	20.8	21.9	21.2	22.2	22.5	
	12H	20.9	21.9	21.3	22.2	22.6	20.9	21.9	21.3	22.2	22.6	
4H	2H	18.9	20.1	19.2	20.4	20.6	18.9	20.1	19.2	20.4	20.6	
	3H	20.6	21.6	21.0	21.9	22.2	20.6	21.6	21.0	21.9	22.2	
	4H	21.3	22.2	21.7	22.5	22.9	21.3	22.2	21.7	22.5	22.9	
	6H	21.8	22.6	22.2	23.0	23.4	21.8	22.6	22.2	23.0	23.4	
	8H	22.0	22.7	22.4	23.1	23.5	22.0	22.7	22.4	23.1	23.5	
	12H	22.1	22.7	22.5	23.2	23.6	22.1	22.7	22.5	23.2	23.6	
8H	4H	21.6	22.3	22.0	22.7	23.1	21.6	22.3	22.0	22.7	23.1	
	6H	22.2	22.8	22.7	23.3	23.7	22.2	22.8	22.7	23.3	23.7	
	8H	22.5	23.0	22.9	23.4	23.9	22.5	23.0	22.9	23.4	23.9	
	12H	22.6	23.1	23.1	23.5	24.0	22.6	23.1	23.1	23.5	24.0	
12H	4H	21.6	22.3	22.0	22.7	23.1	21.6	22.3	22.0	22.7	23.1	
	6H	22.3	22.8	22.8	23.3	23.7	22.3	22.8	22.8	23.3	23.7	
	8H	22.5	23.0	23.0	23.5	24.0	22.5	23.0	23.0	23.5	24.0	
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 / -0.4					+0.2 / -0.4					
S = 2.0H		+0.4 / -0.7					+0.4 / -0.7					
Standard table		BK06					BK06					
Correction summand		5.4					5.4					
Corrected glare indices referring to 4601lm Total luminous flux												

UGR diagram (SHR: 0.25)

Room list

Room 1

P_{total} 901.6 W	A_{Room} 74.18 m ²	Lighting power density 12.15 W/m ² = 1.89 W/m ² /100 lx (Space) 14.08 W/m ² = 2.18 W/m ² /100 lx (Working plane)	$\bar{E}_{\text{perpendicular (Working plane)}}$ 645 lx
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pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
392	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm

Room 2

P_{total} 361.1 W	A_{Room} 72.16 m ²	Lighting power density 5.00 W/m ² = 1.32 W/m ² /100 lx (Space) 5.48 W/m ² = 1.44 W/m ² /100 lx (Working plane)	E_{perpendicular (Working plane)} 380 lx
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pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
157	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm

Room 3

P_{total} 841.8 W	A_{Room} 62.37 m ²	Lighting power density 13.50 W/m ² = 1.91 W/m ² /100 lx (Space) 16.50 W/m ² = 2.33 W/m ² /100 lx (Working plane)	E_{perpendicular} (Working plane) 708 lx
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pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
366	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm

Room list

Room 5

P_{total} 160.0 W	A_{Room} 16.44 m ²	Lighting power density 9.73 W/m ² = 3.46 W/m ² /100 lx (Space) 10.88 W/m ² = 3.87 W/m ² /100 lx (Working plane)	$\bar{E}_{\text{perpendicular (Working plane)}}$ 281 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ Luminaire
4	MAZINOOR	M343D60P SLED2840- W	LUNA 4600Lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K	40.0 W	4601 Im

Room 7

P_{total} 160.0 W	A_{Room} 20.70 m ²	Lighting power density 7.73 W/m ² = 4.07 W/m ² /100 lx (Space) 8.87 W/m ² = 4.67 W/m ² /100 lx (Working plane)	E_{perpendicular} (Working plane) 190 lx
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pcs.	Manufacturer	Article No.	Article name	P	Φ Luminaire
4	MAZINOOR	M343D60P SLED2840- W	LUNA 4600Lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K	40.0 W	4601 lm

Luminaire list

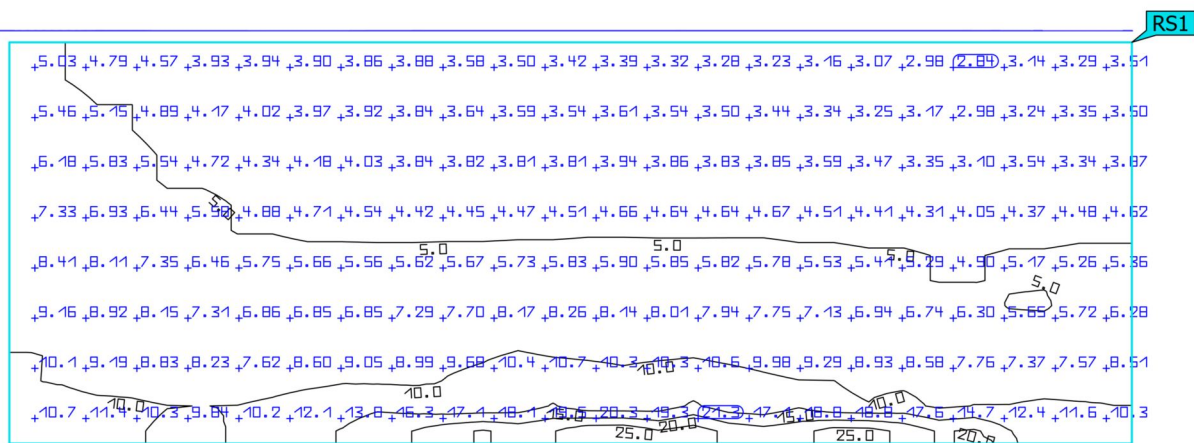
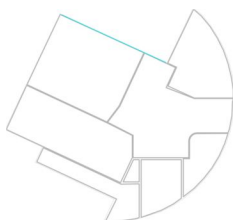
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
915	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm	97.8 lm/W
8	MAZINOOR	M343D60P SLED2840- W	LUNA 4600Lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K	40.0 W	4601 lm	115.0 lm/W

Calculation objects

Surface result object 1	0.00 cd/m ²	0.00 cd/m ²	0.00 cd/m ²	-	-	RS1
Luminance						
Height: 2.200 m						

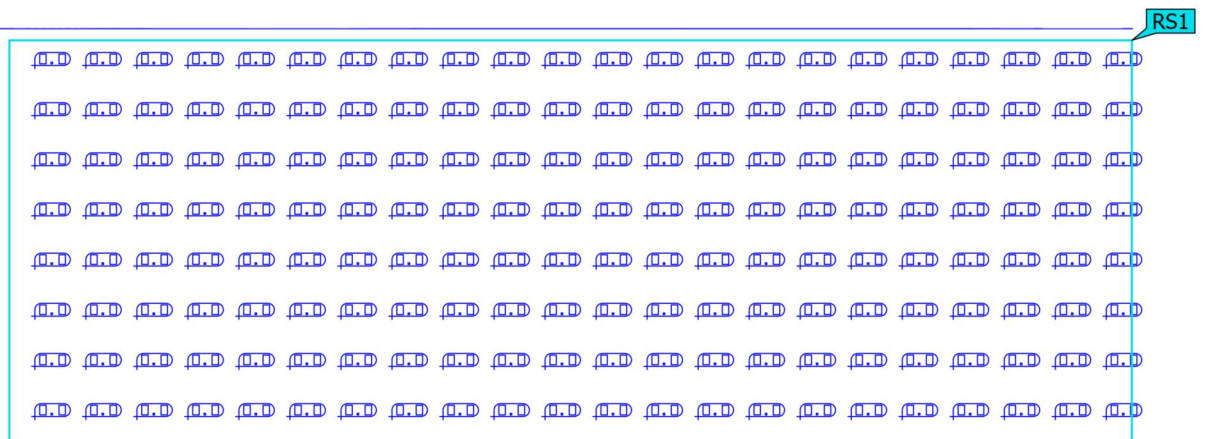
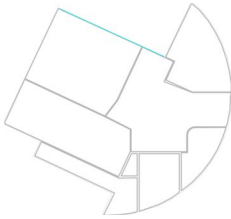
Properties	$\bar{E}$	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
Calculation surface 1 Perpendicular illuminance Height: 0.800 m	708 lx	602 lx	753 lx	0.85	0.80	CG1
Calculation surface 2 Perpendicular illuminance Height: 0.800 m	690 lx	647 lx	713 lx	0.94	0.91	CG2
Calculation surface 3 Perpendicular illuminance Height: 0.800 m	618 lx	556 lx	664 lx	0.90	0.84	CG3
Calculation surface 4 Perpendicular illuminance Height: 0.800 m	616 lx	542 lx	668 lx	0.88	0.81	CG4
Calculation surface 5 Perpendicular illuminance Height: 0.800 m	748 lx	708 lx	780 lx	0.95	0.91	CG5
Calculation surface 6 Perpendicular illuminance Height: 0.800 m	771 lx	687 lx	807 lx	0.89	0.85	CG6
Calculation surface 8 Perpendicular illuminance Height: 0.800 m	812 lx	721 lx	870 lx	0.89	0.83	CG7
Calculation surface 9 Perpendicular illuminance Height: 0.800 m	867 lx	836 lx	891 lx	0.96	0.94	CG8

Surface result object 1



Properties	$\bar{E}$	$E_{\min}$	$E_{\max}$	$U_o (g_1)$	g_2	Index
Surface result object 1 Perpendicular illuminance (adaptive) Height: 2.200 m	6.76 lx	2.90 lx	26.7 lx	0.43	0.11	RS1

Surface result object 1



Summary



Ground area	74.18 m²	Clearance height	4.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	4.400 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.307 m

Summary

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	645 lx	≥ 500 lx	✓	WP1
	$U_o (g_1)$	0.20	≥ 0.60	✗	WP1
	Lighting power density	14.08 W/m ²	–		
		2.18 W/m ² /100 lx	–		
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	22	≤ 19	✗	
Energy estimation ⁽²⁾	Consumption	[1388 - 2202] kWh/a	max. 2600 kWh/a	✓	
Space	Lighting power density	12.15 W/m ²	–		
		1.89 W/m ² /100 lx	–		

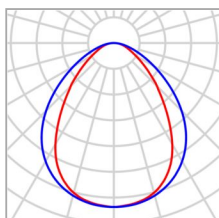
(2) Calculated using DIN:18599-4.

Luminaire list

Luminaire layout plan



Luminaire layout plan



Manufacturer	Intra Lighting	P	2.3 W
Article No.	55-2	Φ _{Luminaire}	222 lm
Article name	Tracker RI LN DPR L95 mm 1x830 H white		
Fitting	1x 1xPCBL14 SEOUL 3528 830 H 24V		

X	Y	Mounting height	Luminaire
4.383 m	10.093 m	4.400 m	1
4.473 m	10.050 m	4.400 m	2
4.564 m	10.008 m	4.400 m	3
4.655 m	9.966 m	4.400 m	4
4.745 m	9.924 m	4.400 m	5
4.836 m	9.881 m	4.400 m	6
4.926 m	9.839 m	4.400 m	7
5.017 m	9.797 m	4.400 m	8
5.108 m	9.755 m	4.400 m	9
5.198 m	9.712 m	4.400 m	10
5.289 m	9.670 m	4.400 m	11
5.380 m	9.628 m	4.400 m	12
5.470 m	9.586 m	4.400 m	13

Building 1 · 26 □ □ □ □ · Room 1

Luminaire layout plan

X	Y	Mounting height	Luminaire
5.561 m	9.543 m	4.400 m	14
5.652 m	9.501 m	4.400 m	15
5.742 m	9.459 m	4.400 m	16
5.833 m	9.417 m	4.400 m	17
5.923 m	9.374 m	4.400 m	18
6.014 m	9.332 m	4.400 m	19
6.105 m	9.290 m	4.400 m	20
6.195 m	9.248 m	4.400 m	21
6.286 m	9.205 m	4.400 m	22
6.377 m	9.163 m	4.400 m	23
6.467 m	9.121 m	4.400 m	24
6.558 m	9.078 m	4.400 m	25
6.648 m	9.036 m	4.400 m	26
6.739 m	8.994 m	4.400 m	27
2.783 m	8.993 m	4.400 m	28
6.830 m	8.952 m	4.400 m	29
6.920 m	8.909 m	4.400 m	30
2.740 m	8.902 m	4.400 m	31
7.011 m	8.867 m	4.400 m	32
7.102 m	8.825 m	4.400 m	33
2.698 m	8.811 m	4.400 m	34
7.192 m	8.783 m	4.400 m	35
7.283 m	8.740 m	4.400 m	36
2.656 m	8.721 m	4.400 m	37

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 1

Luminaire layout plan

X	Y	Mounting height	Luminaire
8.552 m	8.149 m	4.400 m	62
4.279 m	8.125 m	4.400 m	63
8.642 m	8.106 m	4.400 m	64
3.837 m	8.092 m	4.400 m	65
2.360 m	8.086 m	4.400 m	66
4.370 m	8.084 m	4.400 m	67
8.733 m	8.064 m	4.400 m	68
4.462 m	8.043 m	4.400 m	69
8.824 m	8.022 m	4.400 m	70
4.553 m	8.003 m	4.400 m	71
3.797 m	8.000 m	4.400 m	72
2.318 m	7.996 m	4.400 m	73
8.914 m	7.980 m	4.400 m	74
4.644 m	7.962 m	4.400 m	75
9.005 m	7.937 m	4.400 m	76
4.736 m	7.921 m	4.400 m	77
3.756 m	7.909 m	4.400 m	78
2.276 m	7.905 m	4.400 m	79
9.095 m	7.895 m	4.400 m	80
4.827 m	7.880 m	4.400 m	81
9.186 m	7.853 m	4.400 m	82
4.918 m	7.840 m	4.400 m	83
3.715 m	7.818 m	4.400 m	84
2.233 m	7.815 m	4.400 m	85

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 1

Luminaire layout plan

X	Y	Mounting height	Luminaire
2.064 m	7.452 m	4.400 m	110
3.553 m	7.452 m	4.400 m	111
5.832 m	7.433 m	4.400 m	112
10.092 m	7.430 m	4.400 m	113
5.923 m	7.392 m	4.400 m	114
10.183 m	7.388 m	4.400 m	115
2.022 m	7.361 m	4.400 m	116
3.513 m	7.361 m	4.400 m	117
6.015 m	7.352 m	4.400 m	118
10.274 m	7.346 m	4.400 m	119
6.106 m	7.311 m	4.400 m	120
10.364 m	7.303 m	4.400 m	121
1.980 m	7.271 m	4.400 m	122
6.197 m	7.270 m	4.400 m	123
3.472 m	7.269 m	4.400 m	124
10.455 m	7.261 m	4.400 m	125
6.289 m	7.230 m	4.400 m	126
10.546 m	7.219 m	4.400 m	127
6.380 m	7.189 m	4.400 m	128
1.937 m	7.180 m	4.400 m	129
3.431 m	7.178 m	4.400 m	130
10.636 m	7.177 m	4.400 m	131
6.471 m	7.148 m	4.400 m	132
10.727 m	7.134 m	4.400 m	133

Building 1 · 26 □ □ □ □ · Room 1

Luminaire layout plan

X	Y	Mounting height	Luminaire
6.563 m	7.108 m	4.400 m	134
1.895 m	7.089 m	4.400 m	135
3.391 m	7.086 m	4.400 m	136
6.654 m	7.067 m	4.400 m	137
6.746 m	7.026 m	4.400 m	138
1.853 m	6.999 m	4.400 m	139
3.350 m	6.995 m	4.400 m	140
6.837 m	6.986 m	4.400 m	141
6.928 m	6.945 m	4.400 m	142
1.811 m	6.908 m	4.400 m	143
7.020 m	6.904 m	4.400 m	144
3.310 m	6.904 m	4.400 m	145
7.111 m	6.864 m	4.400 m	146
7.202 m	6.823 m	4.400 m	147
1.768 m	6.818 m	4.400 m	148
3.269 m	6.812 m	4.400 m	149
7.294 m	6.782 m	4.400 m	150
7.385 m	6.742 m	4.400 m	151
1.726 m	6.727 m	4.400 m	152
3.228 m	6.721 m	4.400 m	153
7.476 m	6.701 m	4.400 m	154
7.568 m	6.660 m	4.400 m	155
1.684 m	6.636 m	4.400 m	156
3.188 m	6.629 m	4.400 m	157

Luminaire layout plan

Luminaire layout plan

X	Y	Mounting height	Luminaire
8.847 m	6.091 m	4.400 m	182
2.944 m	6.081 m	4.400 m	183
8.938 m	6.050 m	4.400 m	184
9.029 m	6.010 m	4.400 m	185
1.388 m	6.002 m	4.400 m	186
2.904 m	5.990 m	4.400 m	187
9.121 m	5.969 m	4.400 m	188
9.212 m	5.928 m	4.400 m	189
1.346 m	5.911 m	4.400 m	190
2.863 m	5.898 m	4.400 m	191
9.303 m	5.888 m	4.400 m	192
9.395 m	5.847 m	4.400 m	193
1.304 m	5.821 m	4.400 m	194
2.823 m	5.807 m	4.400 m	195
9.366 m	5.760 m	4.400 m	196
1.261 m	5.730 m	4.400 m	197
2.782 m	5.715 m	4.400 m	198
9.326 m	5.669 m	4.400 m	199
1.219 m	5.639 m	4.400 m	200
2.741 m	5.624 m	4.400 m	201
9.285 m	5.577 m	4.400 m	202
1.177 m	5.549 m	4.400 m	203
2.701 m	5.533 m	4.400 m	204
9.245 m	5.486 m	4.400 m	205

Luminaire layout plan

X	Y	Mounting height	Luminaire
1.134 m	5.458 m	4.400 m	206
2.660 m	5.441 m	4.400 m	207
9.204 m	5.395 m	4.400 m	208
1.092 m	5.368 m	4.400 m	209
2.620 m	5.350 m	4.400 m	210
9.163 m	5.303 m	4.400 m	211
1.050 m	5.277 m	4.400 m	212
2.579 m	5.259 m	4.400 m	213
9.123 m	5.212 m	4.400 m	214
1.008 m	5.186 m	4.400 m	215
2.538 m	5.167 m	4.400 m	216
9.082 m	5.120 m	4.400 m	217
0.965 m	5.096 m	4.400 m	218
2.514 m	5.082 m	4.400 m	219
2.605 m	5.041 m	4.400 m	220
9.042 m	5.029 m	4.400 m	221
0.923 m	5.005 m	4.400 m	222
2.696 m	5.001 m	4.400 m	223
2.788 m	4.960 m	4.400 m	224
9.001 m	4.938 m	4.400 m	225
2.879 m	4.920 m	4.400 m	226
0.881 m	4.914 m	4.400 m	227
2.971 m	4.879 m	4.400 m	228
8.960 m	4.846 m	4.400 m	229

Luminaire layout plan

Luminaire layout plan

Luminaire layout plan

Luminaire layout plan

Luminaire layout plan

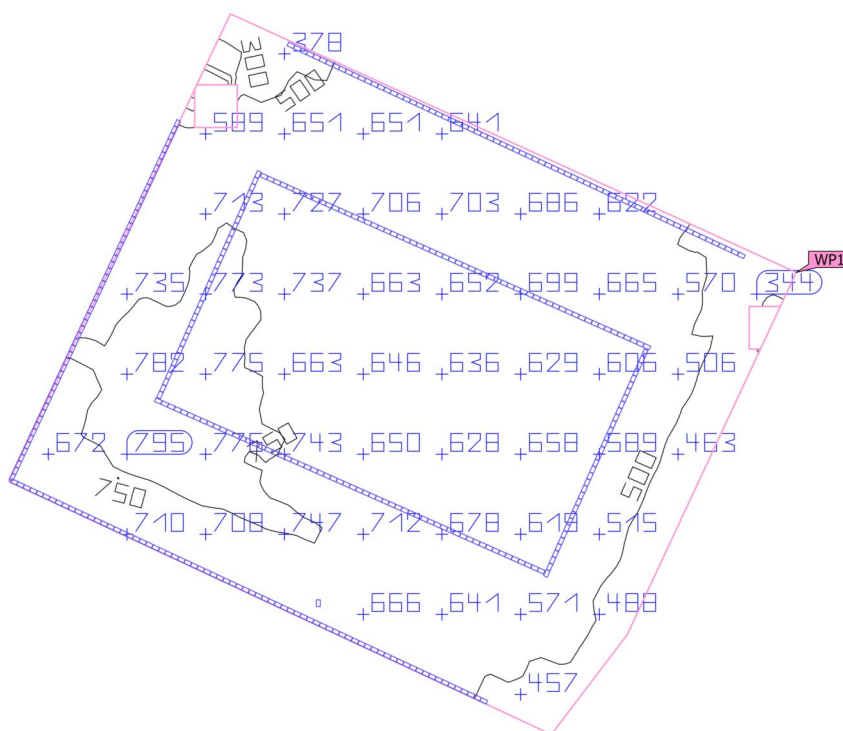
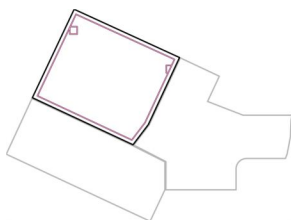
Luminaire layout plan

Luminaire layout plan

Luminaire list

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
392	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm	97.8 lm/W

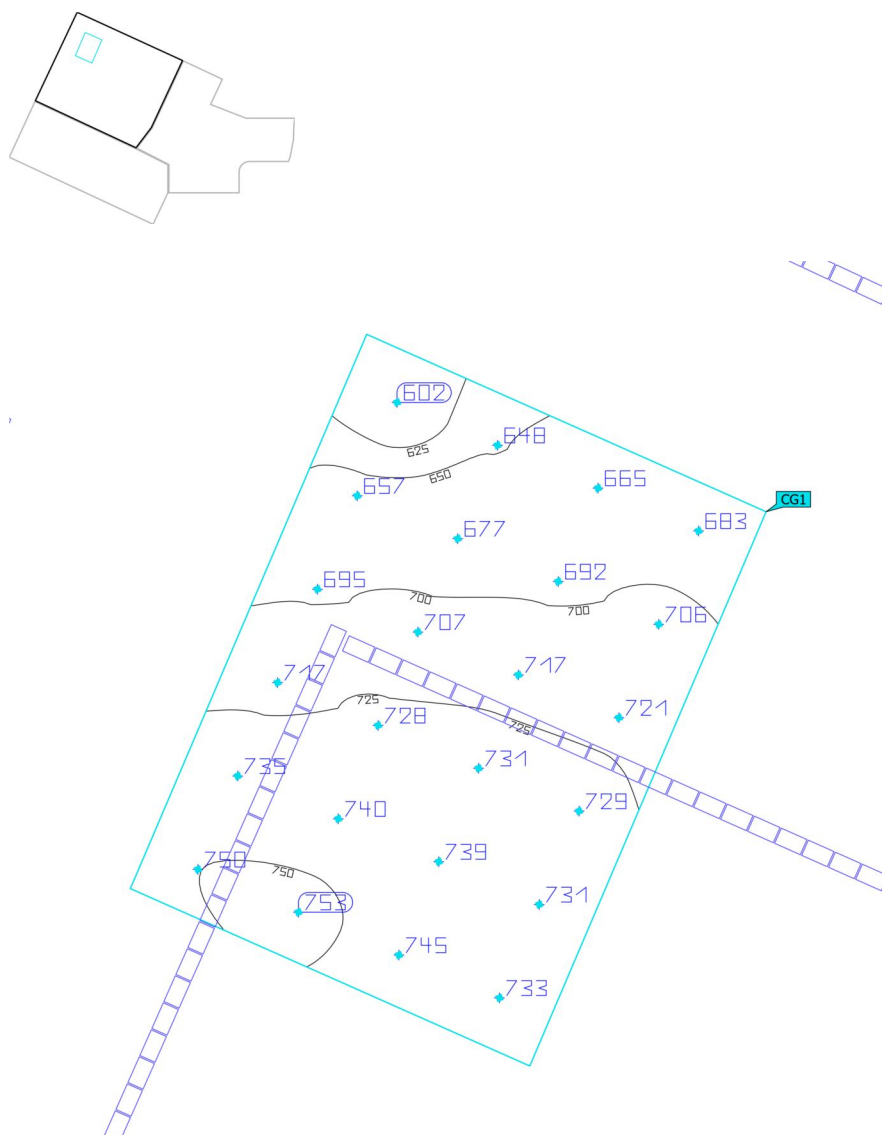
Working plane (Room 1)



Properties	$\bar{E}$ (Target)	$E_{\min}$	$E_{\max}$	$U_o(g_1)$ (Target)	g_2	Index
Working plane (Room 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.307 m	645 lx (≥ 500 lx) ✓	129 lx	827 lx	0.60 (≥ 0.60) ✓	0.16	WP1

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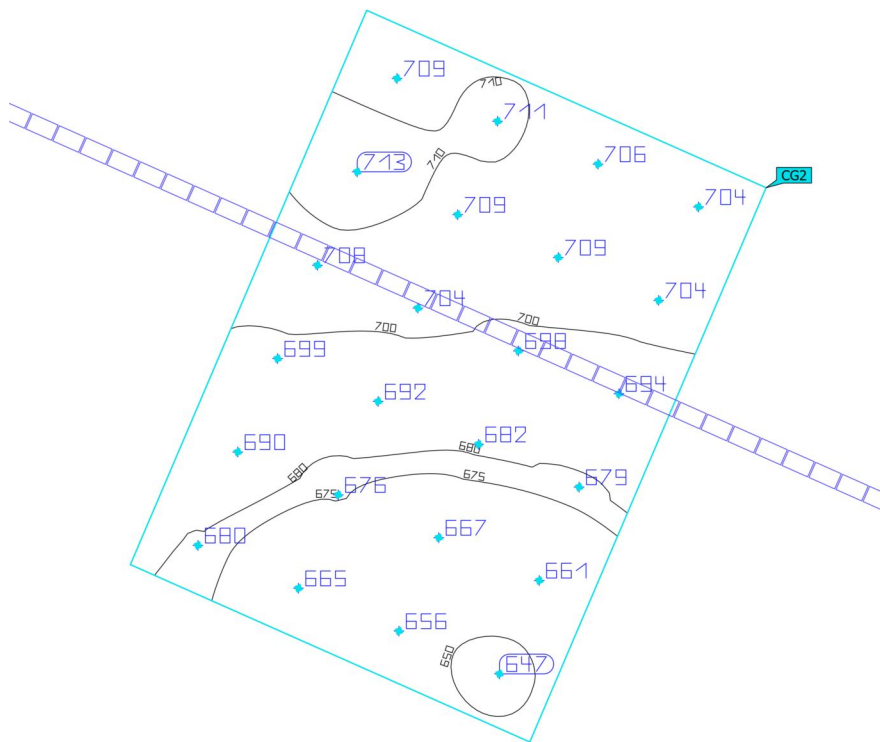
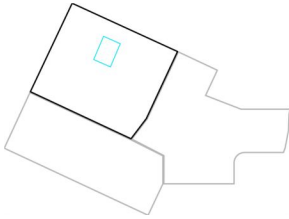
Calculation surface 1



Properties	E	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
Calculation surface 1 Perpendicular illuminance Height: 0.800 m	708 lx	602 lx	753 lx	0.85	0.80	CG1

44

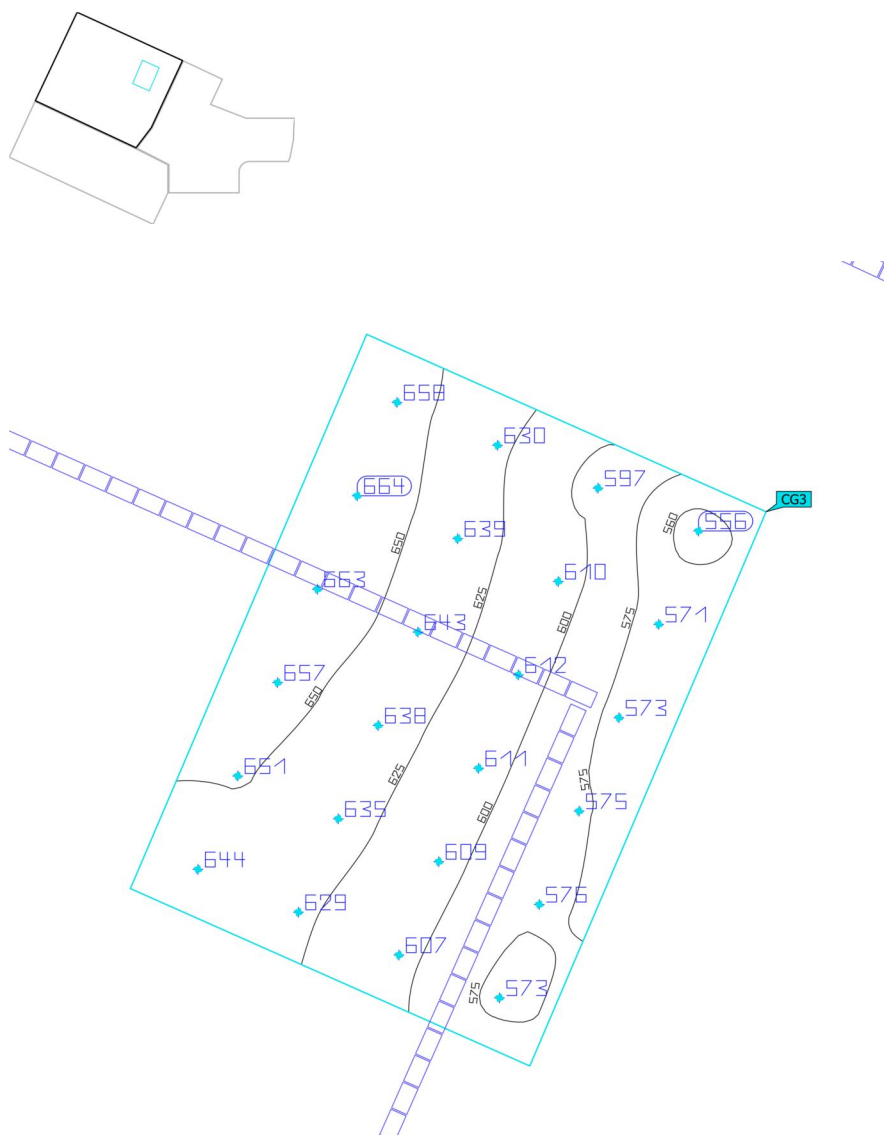
Calculation surface 2



Properties	$\bar{E}$	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
Calculation surface 2 Perpendicular illuminance Height: 0.800 m	690 lx	647 lx	713 lx	0.94	0.91	CG2

45

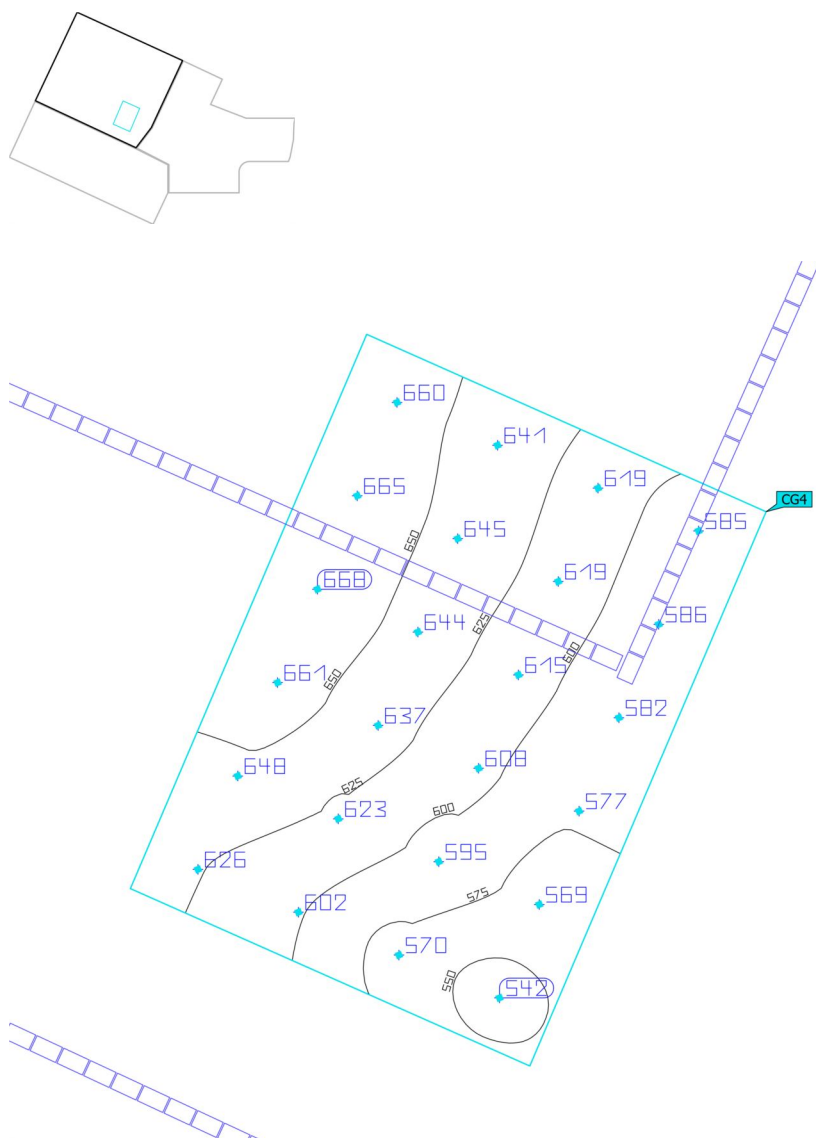
Calculation surface 3



Properties	E	$E_{\min}$	$E_{\max}$	$U_o (g_1)$	g_2	Index
Calculation surface 3 Perpendicular illuminance Height: 0.800 m	618 lx	556 lx	664 lx	0.90	0.84	CG3

46

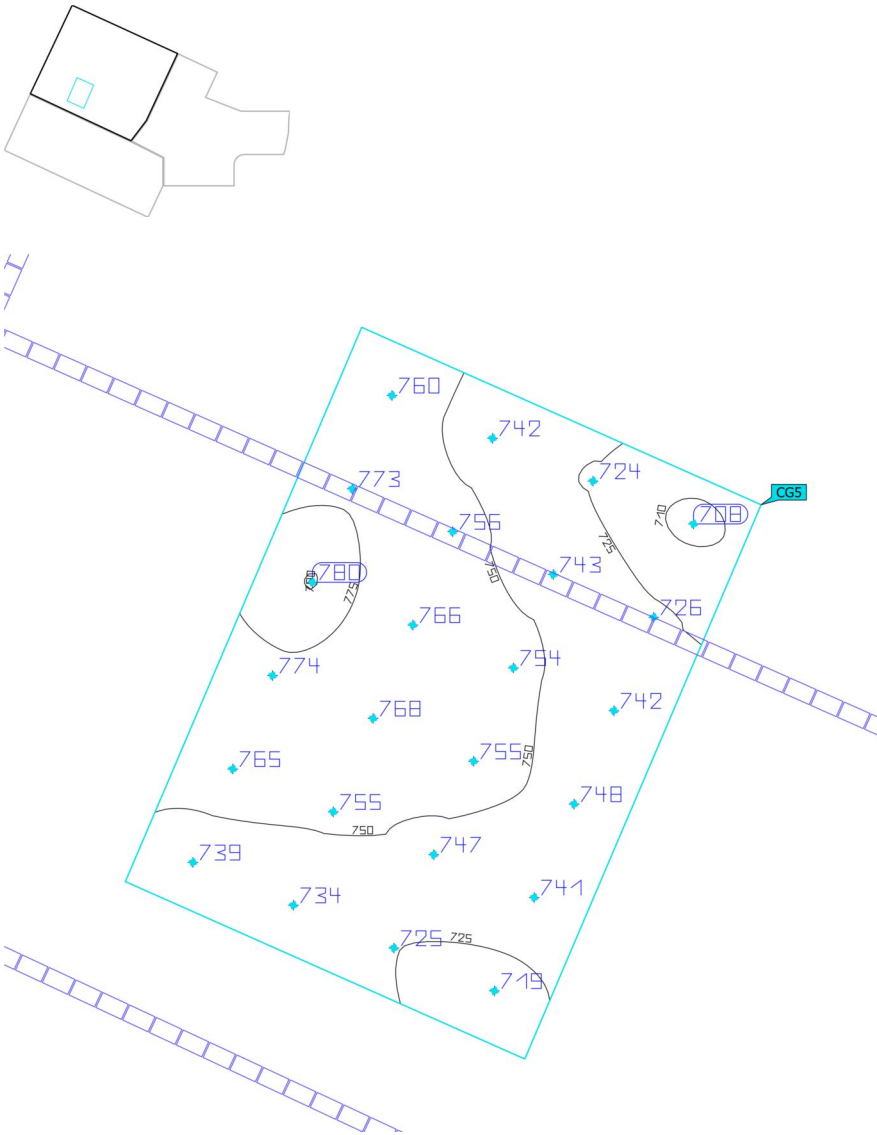
Calculation surface 4



Properties	$\bar{E}$	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
Calculation surface 4 Perpendicular illuminance Height: 0.800 m	616 lx	542 lx	668 lx	0.88	0.81	CG4

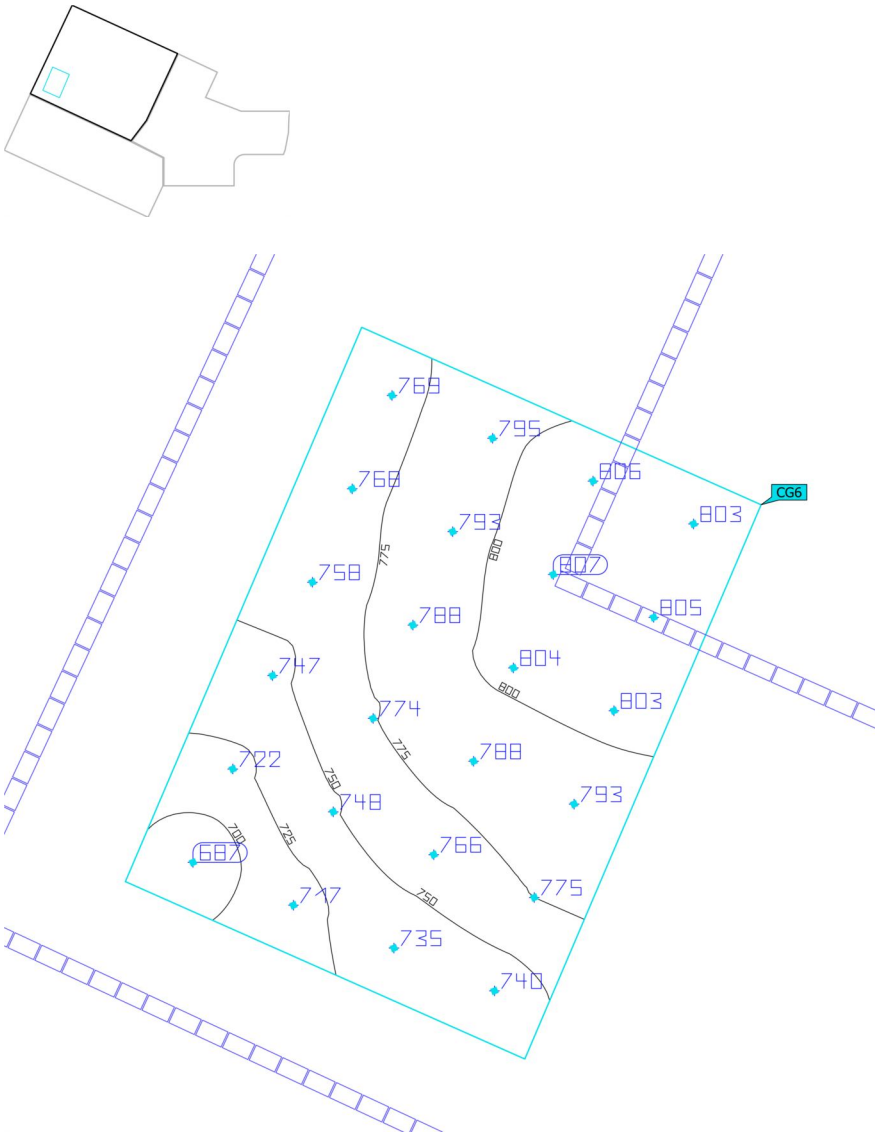
47

Calculation surface 5



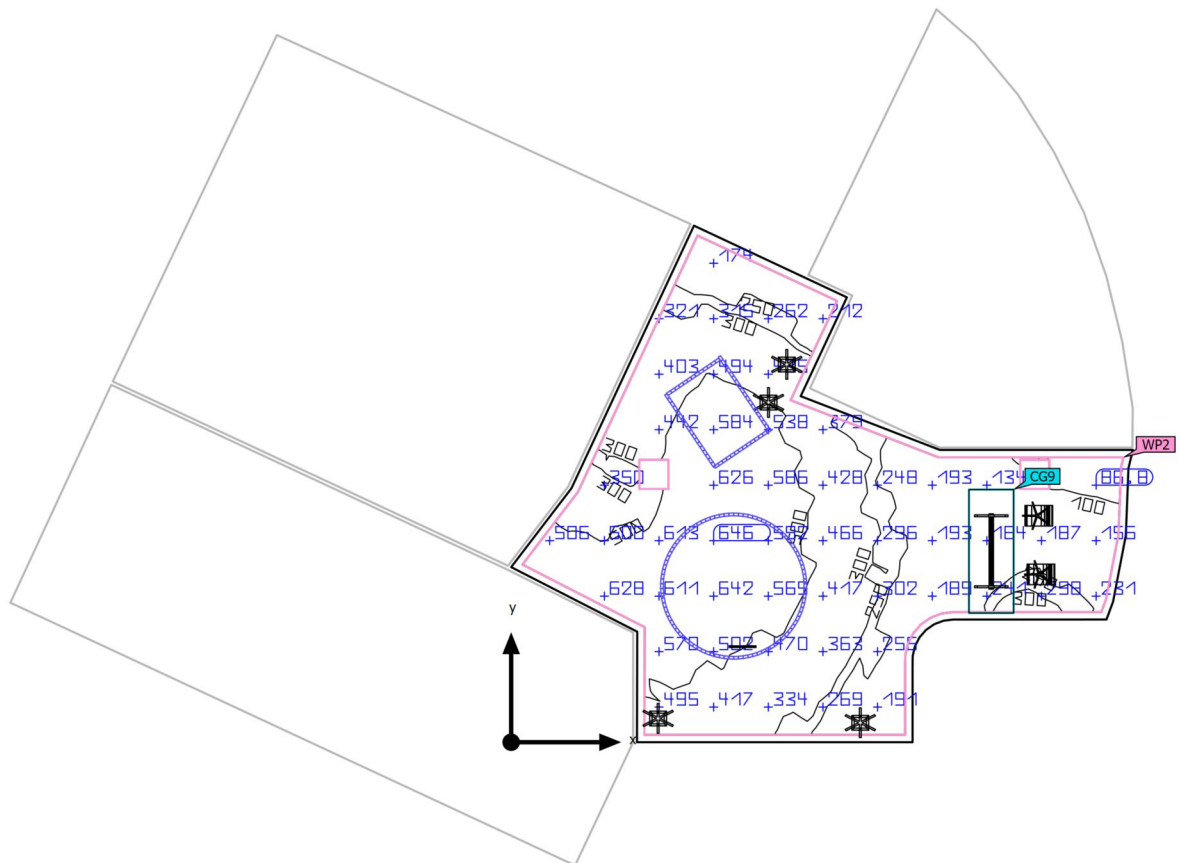
Utilisation profile: DIALux presetting (34.2 Standard (office))

Calculation surface 6



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

Summary



Ground area	72.16 m²	Clearance height	4.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	4.400 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.153 m

Summary

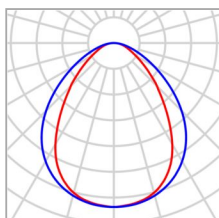
	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	380 lx	≥ 500 lx	✓	WP2
	$U_o (g_1)$	0.055	≥ 0.60	✓	WP2
	Lighting power density	5.48 W/m ²	–		
		1.44 W/m ² /100 lx	–		
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	23	≤ 19	✓	
Energy estimation ⁽²⁾	Consumption	[556 - 882] kWh/a	max. 2550 kWh/a	✓	
Space	Lighting power density	5.00 W/m ²	–		
		1.32 W/m ² /100 lx	–		

(2) Calculated using DIN:18599-4.

Luminaire list

pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
157	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	23	2.3 W	222 lm	97.8 lm/W

Luminaire layout plan



Manufacturer	Intra Lighting	P	2.3 W
Article No.	55-2	Φ _{Luminaire}	222 lm
Article name	Tracker RI LN DPR L95 mm 1x830 H white		
Fitting	1x 1xPCBL14 SEOUL 3528 830 H 24V		

X	Y	Mounting height	Luminaire
4.318 m	7.915 m	4.400 m	1
4.250 m	7.869 m	4.400 m	2
4.374 m	7.832 m	4.400 m	3
4.167 m	7.813 m	4.400 m	4
4.084 m	7.757 m	4.400 m	5
4.430 m	7.749 m	4.400 m	6
4.001 m	7.701 m	4.400 m	7
4.486 m	7.666 m	4.400 m	8
3.918 m	7.645 m	4.400 m	9
3.836 m	7.589 m	4.400 m	10
4.542 m	7.583 m	4.400 m	11
3.753 m	7.533 m	4.400 m	12
4.598 m	7.500 m	4.400 m	13

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 2

Luminaire layout plan

X	Y	Mounting height	Luminaire
3.606 m	6.553 m	4.400 m	38
5.269 m	6.505 m	4.400 m	39
3.661 m	6.470 m	4.400 m	40
5.309 m	6.425 m	4.400 m	41
3.717 m	6.388 m	4.400 m	42
5.227 m	6.369 m	4.400 m	43
5.144 m	6.314 m	4.400 m	44
3.773 m	6.305 m	4.400 m	45
5.061 m	6.258 m	4.400 m	46
3.829 m	6.222 m	4.400 m	47
4.978 m	6.202 m	4.400 m	48
4.895 m	6.146 m	4.400 m	49
3.885 m	6.139 m	4.400 m	50
4.812 m	6.090 m	4.400 m	51
3.941 m	6.056 m	4.400 m	52
4.729 m	6.034 m	4.400 m	53
4.646 m	5.978 m	4.400 m	54
3.997 m	5.973 m	4.400 m	55
4.563 m	5.922 m	4.400 m	56
4.053 m	5.890 m	4.400 m	57
4.480 m	5.866 m	4.400 m	58
4.398 m	5.810 m	4.400 m	59
4.109 m	5.807 m	4.400 m	60
4.315 m	5.754 m	4.400 m	61

Luminaire layout plan

Luminaire layout plan

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 2

Luminaire layout plan

X	Y	Mounting height	Luminaire
5.612 m	2.157 m	4.400 m	134
3.558 m	2.157 m	4.400 m	135
5.539 m	2.090 m	4.400 m	136
3.632 m	2.090 m	4.400 m	137
5.462 m	2.029 m	4.400 m	138
3.709 m	2.029 m	4.400 m	139
5.380 m	1.973 m	4.400 m	140
3.790 m	1.973 m	4.400 m	141
5.295 m	1.923 m	4.400 m	142
3.875 m	1.923 m	4.400 m	143
5.207 m	1.879 m	4.400 m	144
3.963 m	1.879 m	4.400 m	145
5.116 m	1.840 m	4.400 m	146
4.054 m	1.840 m	4.400 m	147
5.023 m	1.808 m	4.400 m	148
4.148 m	1.808 m	4.400 m	149
4.928 m	1.782 m	4.400 m	150
4.243 m	1.782 m	4.400 m	151
4.831 m	1.762 m	4.400 m	152
4.340 m	1.762 m	4.400 m	153
4.733 m	1.749 m	4.400 m	154
4.437 m	1.749 m	4.400 m	155
4.635 m	1.742 m	4.400 m	156
4.536 m	1.742 m	4.400 m	157

Luminaire list

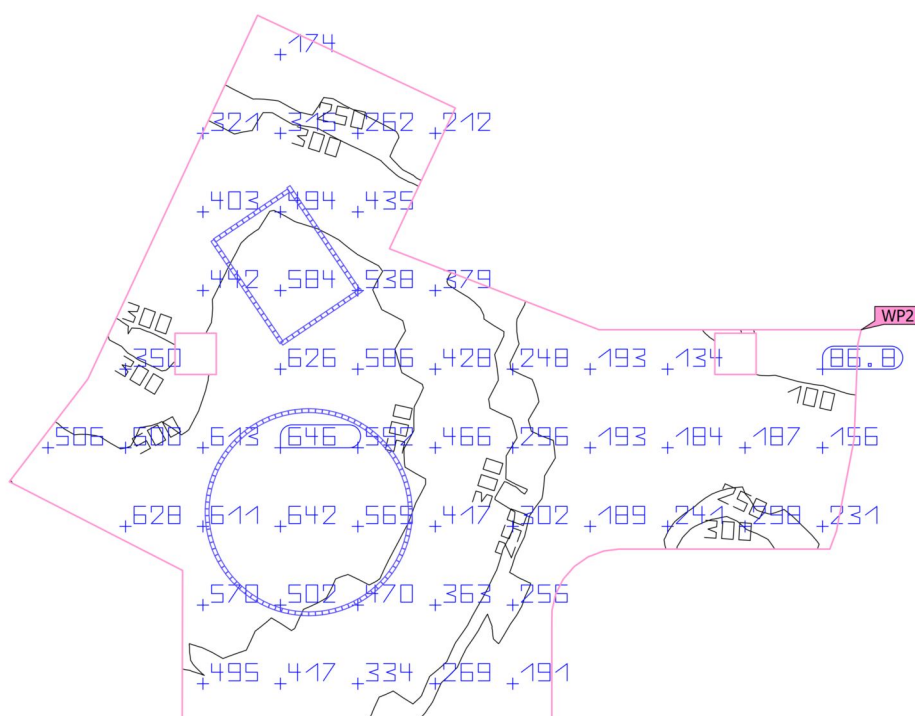
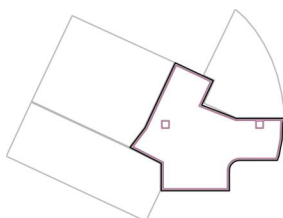
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
157	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm	97.8 lm/W

Calculation objects

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	U_o (g ₁) (Target)	g_2	Index
Working plane (Room 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.153 m	380 lx (≥ 500 lx) ✓	21.0 lx	664 lx	0.60 (≥ 0.60) ✓	0.032	WP2

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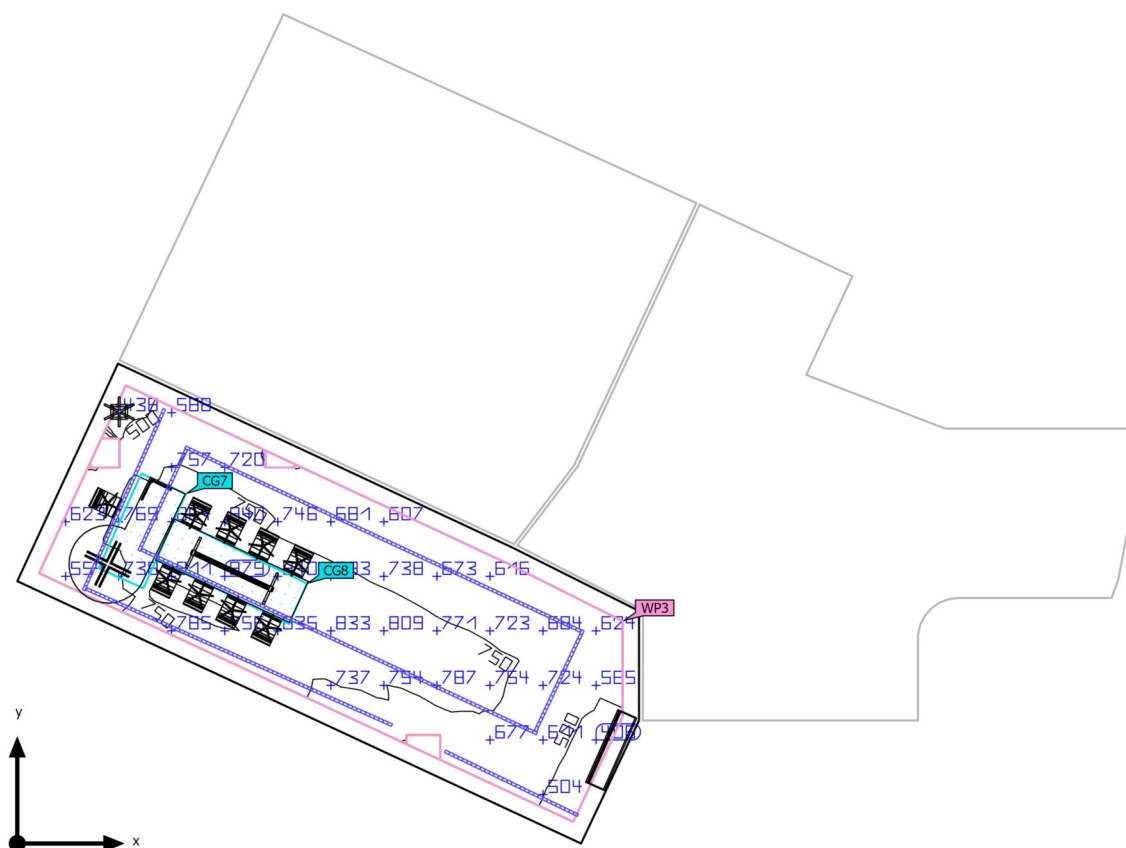
Working plane (Room 2)



Properties	$\bar{E}$ (Target)	$E_{\min}$	$E_{\max}$	$U_o(g_1)$ (Target)	g_2	Index
Working plane (Room 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.153 m	380 lx (≥ 500 lx) ✓	21.0 lx	664 lx	0.055 (≥ 0.60) ✓	0.032	WP2

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Summary



Ground area	62.37 m²	Clearance height	4.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	4.400 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.339 m

Summary

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	708 lx	≥ 500 lx	✓	WP3
	$U_o (g_1)$	0.19	≥ 0.60		WP3
	Lighting power density	16.50 W/m ²	–		
		2.33 W/m ² /100 lx	–		
Glare valuation ⁽¹⁾	$R_{UG, \max}$	23	≤ 19		
Energy estimation ⁽²⁾	Consumption	[1296 - 2056] kWh/a	max. 2200 kWh/a	✓	
Space	Lighting power density	13.50 W/m ²	–		
		1.91 W/m ² /100 lx	–		

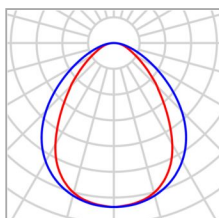
Utilisation profile: DIALux presetting (34.2 Standard (office))

pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
366	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	23	2.3 W	222 lm	97.8 lm/W

Luminaire layout plan



Luminaire layout plan



Individual luminaires

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Luminaire layout plan

X	Y	Mounting height	Luminaire
3.693 m	8.079 m	4.400 m	14
3.783 m	8.037 m	4.400 m	15
2.610 m	8.014 m	4.400 m	16
3.422 m	7.995 m	4.400 m	17
3.874 m	7.994 m	4.400 m	18
3.965 m	7.952 m	4.400 m	19
2.569 m	7.923 m	4.400 m	20
4.055 m	7.910 m	4.400 m	21
3.380 m	7.904 m	4.400 m	22
4.146 m	7.868 m	4.400 m	23
2.528 m	7.832 m	4.400 m	24
4.237 m	7.826 m	4.400 m	25
3.338 m	7.814 m	4.400 m	26
4.327 m	7.784 m	4.400 m	27
4.418 m	7.741 m	4.400 m	28
2.488 m	7.740 m	4.400 m	29
3.296 m	7.723 m	4.400 m	30
4.509 m	7.699 m	4.400 m	31
4.599 m	7.657 m	4.400 m	32
2.447 m	7.649 m	4.400 m	33
3.253 m	7.632 m	4.400 m	34
4.690 m	7.615 m	4.400 m	35
4.781 m	7.573 m	4.400 m	36
2.406 m	7.558 m	4.400 m	37

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 3

Luminaire layout plan

X	Y	Mounting height	Luminaire
2.162 m	7.009 m	4.400 m	62
2.958 m	6.998 m	4.400 m	63
6.050 m	6.982 m	4.400 m	64
6.141 m	6.940 m	4.400 m	65
2.122 m	6.918 m	4.400 m	66
2.916 m	6.907 m	4.400 m	67
6.231 m	6.898 m	4.400 m	68
6.322 m	6.855 m	4.400 m	69
2.081 m	6.827 m	4.400 m	70
2.874 m	6.816 m	4.400 m	71
6.413 m	6.813 m	4.400 m	72
6.503 m	6.771 m	4.400 m	73
2.040 m	6.735 m	4.400 m	74
6.594 m	6.729 m	4.400 m	75
2.831 m	6.726 m	4.400 m	76
6.685 m	6.687 m	4.400 m	77
6.775 m	6.645 m	4.400 m	78
2.000 m	6.644 m	4.400 m	79
2.789 m	6.635 m	4.400 m	80
6.866 m	6.602 m	4.400 m	81
6.957 m	6.560 m	4.400 m	82
1.959 m	6.553 m	4.400 m	83
2.747 m	6.544 m	4.400 m	84
7.047 m	6.518 m	4.400 m	85

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 3

Luminaire layout plan

X	Y	Mounting height	Luminaire
2.704 m	6.002 m	4.400 m	110
8.226 m	5.970 m	4.400 m	111
2.795 m	5.960 m	4.400 m	112
8.317 m	5.927 m	4.400 m	113
2.886 m	5.918 m	4.400 m	114
1.674 m	5.913 m	4.400 m	115
8.407 m	5.885 m	4.400 m	116
2.976 m	5.875 m	4.400 m	117
8.498 m	5.843 m	4.400 m	118
3.067 m	5.833 m	4.400 m	119
1.634 m	5.822 m	4.400 m	120
8.589 m	5.801 m	4.400 m	121
3.158 m	5.791 m	4.400 m	122
8.679 m	5.759 m	4.400 m	123
3.248 m	5.749 m	4.400 m	124
1.593 m	5.730 m	4.400 m	125
8.770 m	5.717 m	4.400 m	126
3.339 m	5.707 m	4.400 m	127
8.861 m	5.674 m	4.400 m	128
3.430 m	5.664 m	4.400 m	129
1.552 m	5.639 m	4.400 m	130
8.951 m	5.632 m	4.400 m	131
3.520 m	5.622 m	4.400 m	132
9.042 m	5.590 m	4.400 m	133

Luminaire layout plan

X	Y	Mounting height	Luminaire
3.611 m	5.580 m	4.400 m	134
1.512 m	5.548 m	4.400 m	135
9.133 m	5.548 m	4.400 m	136
3.702 m	5.538 m	4.400 m	137
9.223 m	5.506 m	4.400 m	138
3.792 m	5.496 m	4.400 m	139
9.314 m	5.463 m	4.400 m	140
1.471 m	5.456 m	4.400 m	141
3.883 m	5.453 m	4.400 m	142
9.405 m	5.421 m	4.400 m	143
3.974 m	5.411 m	4.400 m	144
9.495 m	5.379 m	4.400 m	145
4.064 m	5.369 m	4.400 m	146
1.430 m	5.365 m	4.400 m	147
9.586 m	5.337 m	4.400 m	148
4.155 m	5.327 m	4.400 m	149
9.677 m	5.295 m	4.400 m	150
4.246 m	5.285 m	4.400 m	151
1.390 m	5.274 m	4.400 m	152
9.767 m	5.252 m	4.400 m	153
4.336 m	5.243 m	4.400 m	154
1.481 m	5.233 m	4.400 m	155
9.858 m	5.210 m	4.400 m	156
4.427 m	5.200 m	4.400 m	157

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 3

Luminaire layout plan

X	Y	Mounting height	Luminaire
5.878 m	4.525 m	4.400 m	206
3.125 m	4.500 m	4.400 m	207
11.399 m	4.493 m	4.400 m	208
5.968 m	4.483 m	4.400 m	209
3.216 m	4.459 m	4.400 m	210
11.490 m	4.451 m	4.400 m	211
6.059 m	4.441 m	4.400 m	212
3.307 m	4.418 m	4.400 m	213
11.581 m	4.409 m	4.400 m	214
6.150 m	4.399 m	4.400 m	215
3.399 m	4.377 m	4.400 m	216
11.658 m	4.362 m	4.400 m	217
6.240 m	4.357 m	4.400 m	218
3.490 m	4.337 m	4.400 m	219
6.331 m	4.315 m	4.400 m	220
3.581 m	4.296 m	4.400 m	221
6.422 m	4.272 m	4.400 m	222
11.615 m	4.271 m	4.400 m	223
3.673 m	4.255 m	4.400 m	224
6.512 m	4.230 m	4.400 m	225
3.764 m	4.214 m	4.400 m	226
6.603 m	4.188 m	4.400 m	227
11.573 m	4.181 m	4.400 m	228
3.855 m	4.174 m	4.400 m	229

Building 1 · 26 □ □ □ □ · Room 3

Luminaire layout plan

X	Y	Mounting height	Luminaire
6.694 m	4.146 m	4.400 m	230
3.947 m	4.133 m	4.400 m	231
6.784 m	4.104 m	4.400 m	232
4.038 m	4.092 m	4.400 m	233
11.530 m	4.090 m	4.400 m	234
6.875 m	4.061 m	4.400 m	235
4.129 m	4.051 m	4.400 m	236
6.966 m	4.019 m	4.400 m	237
4.221 m	4.011 m	4.400 m	238
11.488 m	4.000 m	4.400 m	239
7.056 m	3.977 m	4.400 m	240
4.312 m	3.970 m	4.400 m	241
7.147 m	3.935 m	4.400 m	242
4.403 m	3.929 m	4.400 m	243
11.445 m	3.909 m	4.400 m	244
7.238 m	3.893 m	4.400 m	245
4.495 m	3.889 m	4.400 m	246
7.328 m	3.851 m	4.400 m	247
4.586 m	3.848 m	4.400 m	248
11.403 m	3.819 m	4.400 m	249
7.419 m	3.808 m	4.400 m	250
4.677 m	3.807 m	4.400 m	251
4.769 m	3.766 m	4.400 m	252
7.510 m	3.766 m	4.400 m	253

Luminaire layout plan

Luminaire layout plan

Building 1 · 26 □ □ □ □ · Room 3

Luminaire layout plan

X	Y	Mounting height	Luminaire
9.323 m	2.922 m	4.400 m	302
10.977 m	2.914 m	4.400 m	303
6.686 m	2.911 m	4.400 m	304
9.414 m	2.880 m	4.400 m	305
6.778 m	2.870 m	4.400 m	306
9.504 m	2.838 m	4.400 m	307
6.869 m	2.829 m	4.400 m	308
10.934 m	2.824 m	4.400 m	309
9.595 m	2.796 m	4.400 m	310
6.960 m	2.789 m	4.400 m	311
9.686 m	2.754 m	4.400 m	312
7.052 m	2.748 m	4.400 m	313
10.892 m	2.733 m	4.400 m	314
9.776 m	2.712 m	4.400 m	315
7.143 m	2.707 m	4.400 m	316
9.867 m	2.669 m	4.400 m	317
7.234 m	2.666 m	4.400 m	318
10.849 m	2.643 m	4.400 m	319
9.958 m	2.627 m	4.400 m	320
7.326 m	2.626 m	4.400 m	321
10.048 m	2.585 m	4.400 m	322
7.417 m	2.585 m	4.400 m	323
10.806 m	2.552 m	4.400 m	324
7.508 m	2.544 m	4.400 m	325

Building 1 · 26 □ □ □ □ · Room 3

Luminaire layout plan

X	Y	Mounting height	Luminaire
10.139 m	2.543 m	4.400 m	326
7.600 m	2.503 m	4.400 m	327
10.230 m	2.501 m	4.400 m	328
7.691 m	2.463 m	4.400 m	329
10.764 m	2.462 m	4.400 m	330
10.320 m	2.458 m	4.400 m	331
10.411 m	2.416 m	4.400 m	332
10.502 m	2.374 m	4.400 m	333
10.721 m	2.371 m	4.400 m	334
10.592 m	2.332 m	4.400 m	335
10.683 m	2.290 m	4.400 m	336
8.874 m	1.885 m	4.400 m	337
8.965 m	1.841 m	4.400 m	338
9.057 m	1.797 m	4.400 m	339
9.149 m	1.752 m	4.400 m	340
9.240 m	1.708 m	4.400 m	341
9.332 m	1.664 m	4.400 m	342
9.423 m	1.620 m	4.400 m	343
9.515 m	1.576 m	4.400 m	344
9.607 m	1.531 m	4.400 m	345
9.698 m	1.487 m	4.400 m	346
9.790 m	1.443 m	4.400 m	347
9.882 m	1.399 m	4.400 m	348
9.973 m	1.355 m	4.400 m	349

Luminaire list

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
366	Intra Lighting	55-2	Tracker RI LN DPR L95 mm 1x830 H white	2.3 W	222 lm	97.8 lm/W

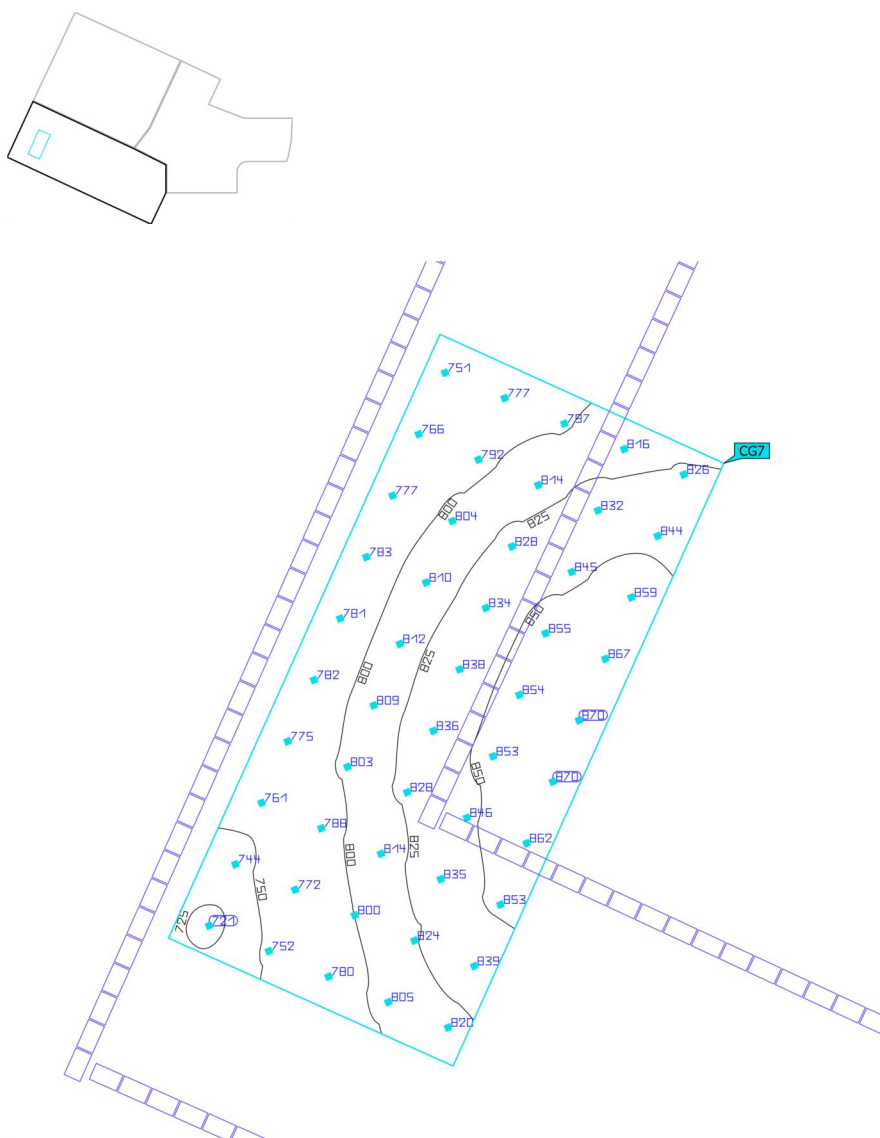
Calculation objects

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	U_o (g ₁) (Target)	g_2	Index
Working plane (Room 3) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.339 m	708 lx (≥ 500 lx) ✓	134 lx	886 lx	0.19 (≥ 0.60)	0.15	WP3

Properties	E	E _{min}	E _{max}	U _o (g ₁)	g ₂	Index
Calculation surface 8 Perpendicular illuminance Height: 0.800 m	812 lx	721 lx	870 lx	0.89	0.83	CG7
Calculation surface 9 Perpendicular illuminance Height: 0.800 m	867 lx	836 lx	891 lx	0.96	0.94	CG8

85

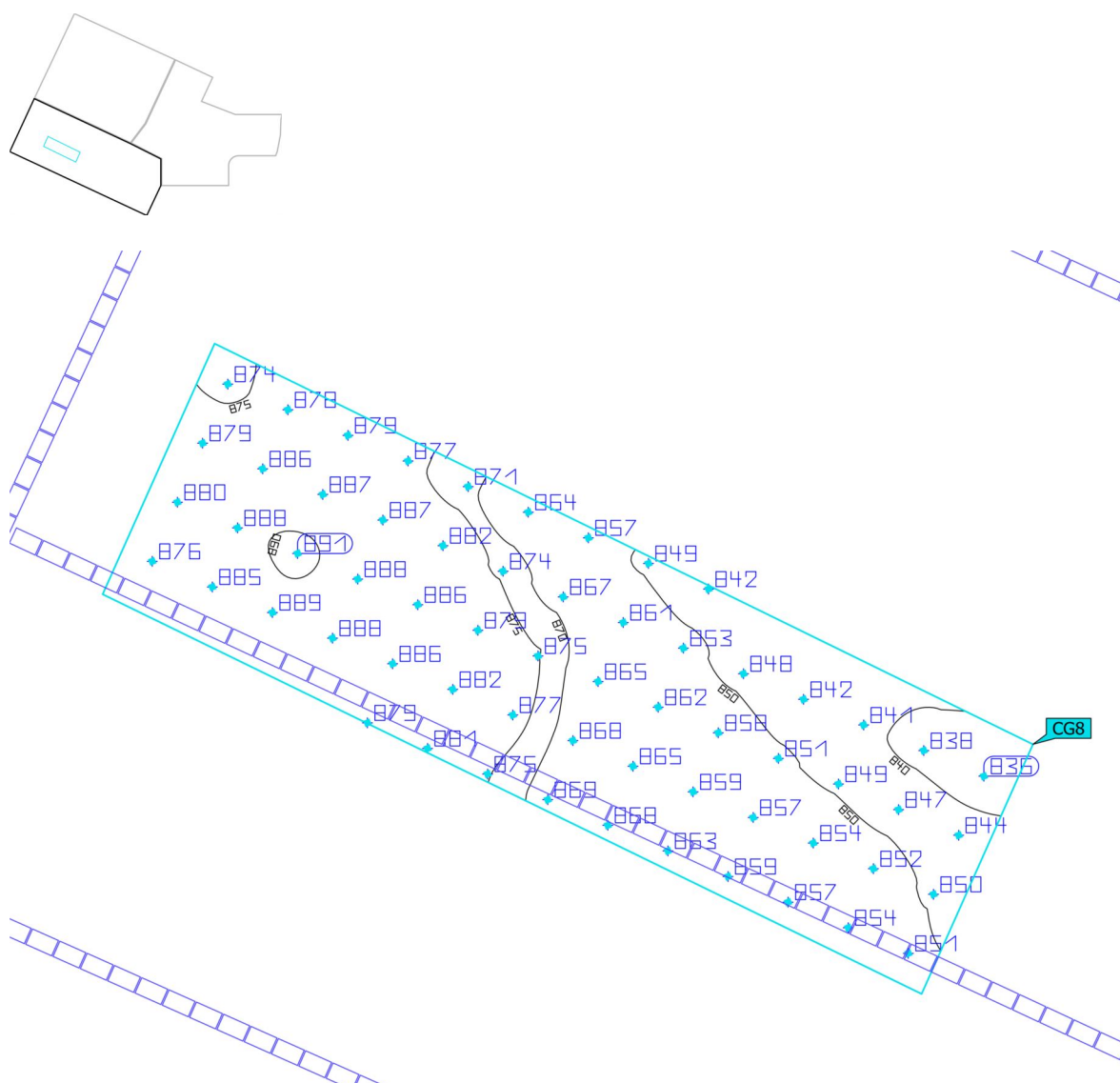
Calculation surface 8



Properties	E	$E_{\min}$	$E_{\max}$	$U_o (g_1)$	g_2	Index
Calculation surface 8 Perpendicular illuminance Height: 0.800 m	812 lx	721 lx	870 lx	0.89	0.83	CG7

87

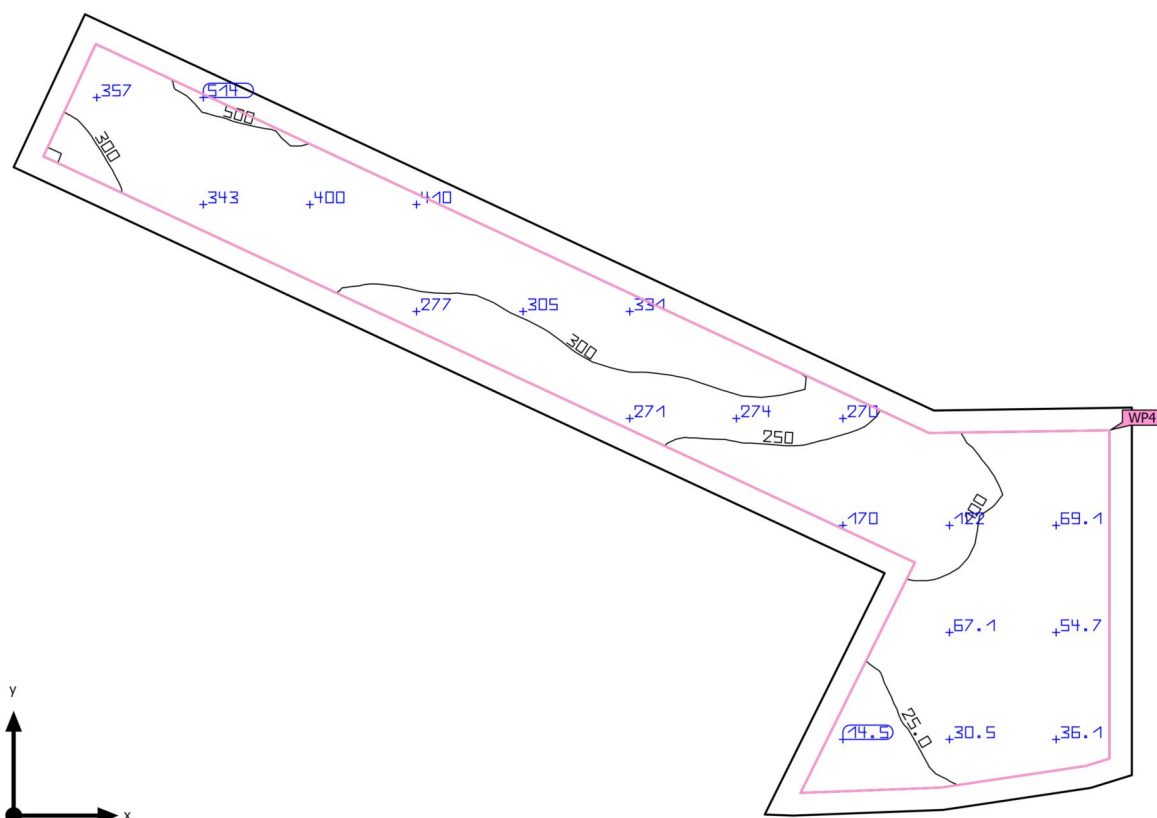
Calculation surface 9



Properties	E	$E_{\min}$	$E_{\max}$	$U_o (g_1)$	g_2	Index
Calculation surface 9 Perpendicular illuminance Height: 0.800 m	867 lx	836 lx	891 lx	0.96	0.94	CG8

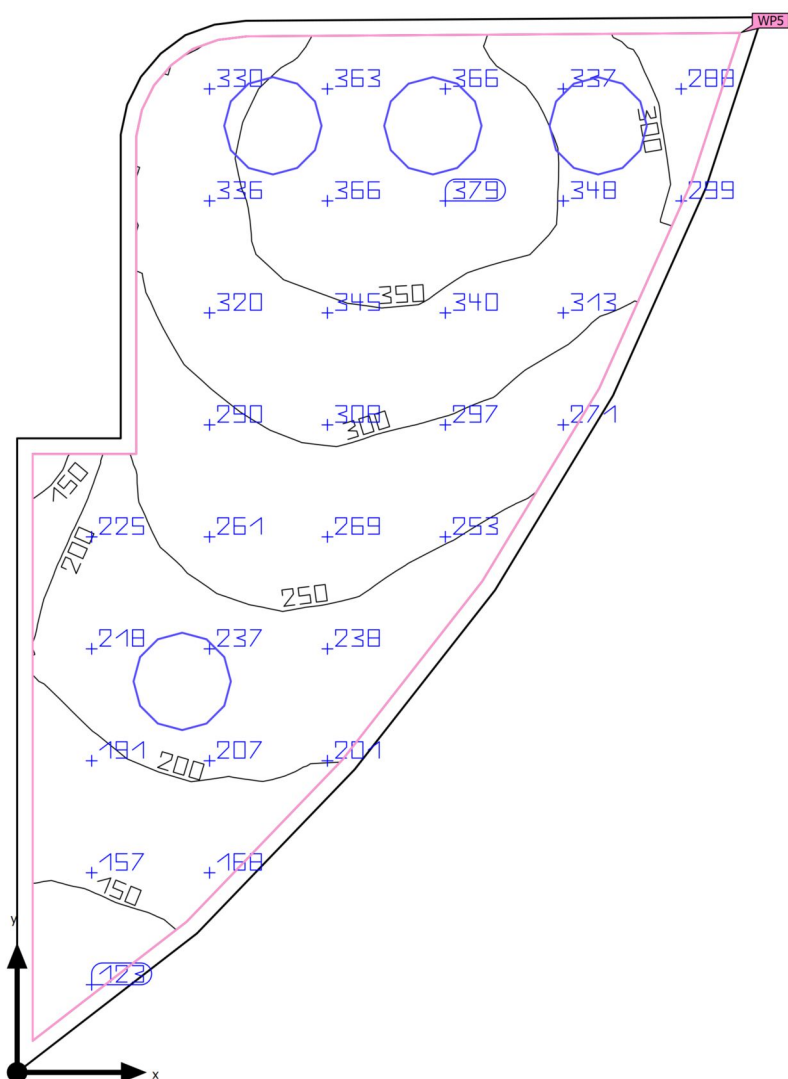
88

Summary



Ground area	23.20 m²		
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Clearance height	4.400 m
		Height _{Working plane}	0.800 m
Maintenance factor	0.80 (fixed)	Wall zone _{Working plane}	0.209 m

Summary



Ground area	16.44 m²	Clearance height	4.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	4.400 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.095 m

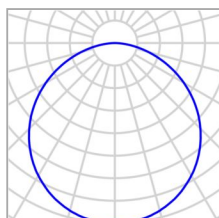
Summary

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	281 lx	≥ 500 lx		WP5
	$U_o (g_1)$	0.38	≥ 0.60		WP5
	Lighting power density	10.88 W/m ²	–		
		3.87 W/m ² /100 lx	–		
Glare valuation ⁽¹⁾	$R_{UG, \text{max}}$	18	≤ 19	✓	
Energy estimation ⁽²⁾	Consumption	[250 - 396] kWh/a	max. 600 kWh/a	✓	
Space	Lighting power density	9.73 W/m ²	–		
		3.46 W/m ² /100 lx	–		

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

pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
4	MAZINOOR	M343D60P SLED2840- W	LUNA 4600lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K	18	40.0 W	4601 lm	115.0 lm/W

Luminaire layout plan



Individual luminaires

X	Y	Mounting height	Luminaire
1.564 m	5.788 m	4.400 m	1
2.542 m	5.788 m	4.400 m	2
3.553 m	5.788 m	4.400 m	3
1.009 m	2.391 m	4.400 m	4

Luminaire list

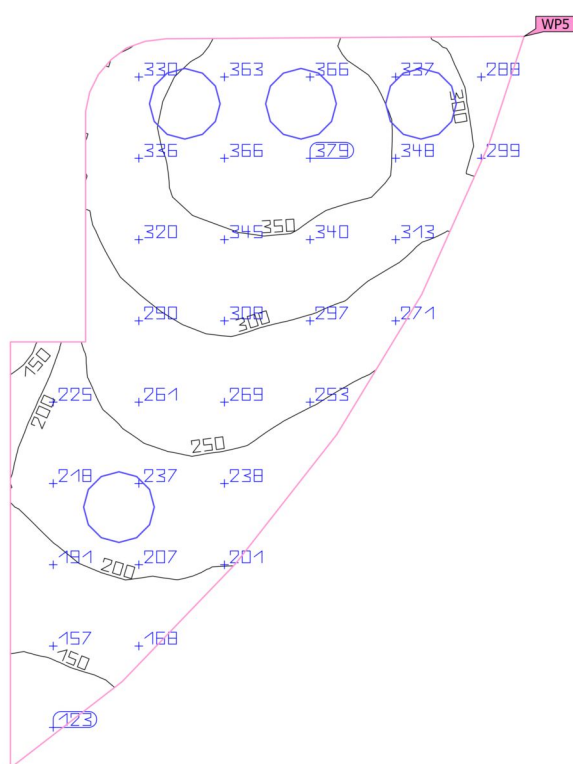
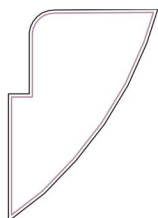
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
4	MAZINOOR	M343D60P SLED2840- W	LUNA 4600Lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K	40.0 W	4601 lm	115.0 lm/W

Calculation objects

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	U_o (g ₁) (Target)	g_2	Index
Working plane (Room 5) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.095 m	281 lx (≥ 500 lx)	107 lx	381 lx	0.38 (≥ 0.60)	0.28	WP5

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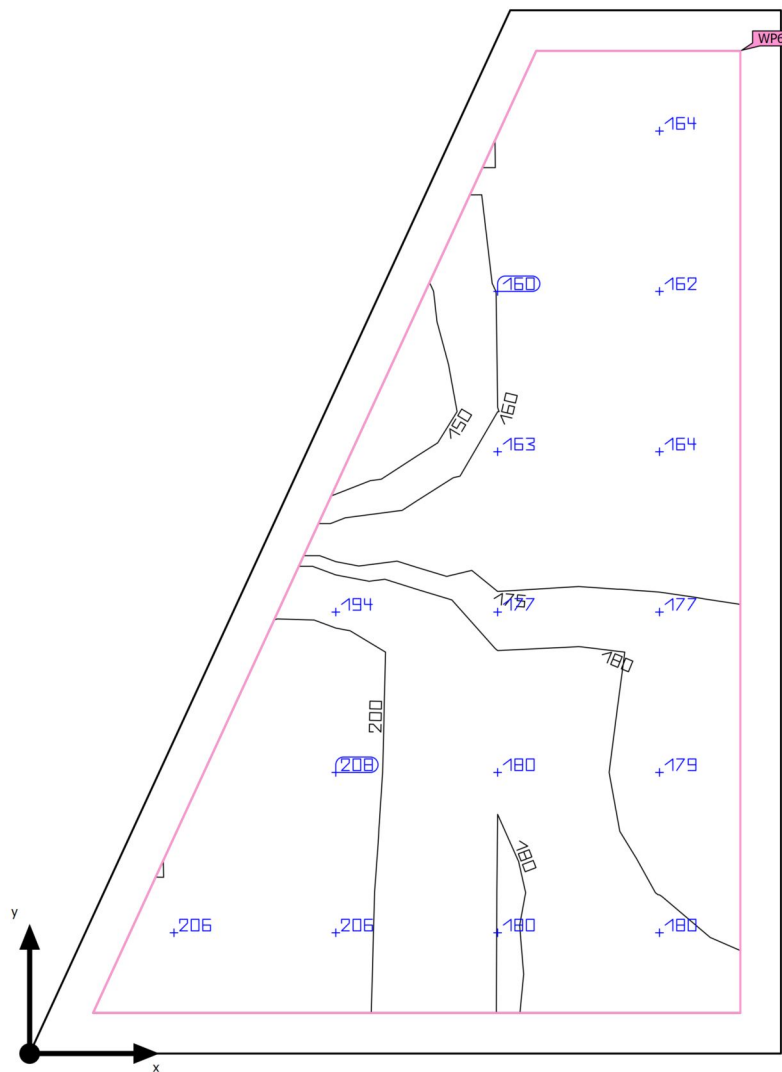
Working plane (Room 5)



Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	$U_o(g_1)$ (Target)	g_2	Index
Working plane (Room 5) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.095 m	281 lx (≥ 500 lx)	107 lx	381 lx	0.38 (≥ 0.60)	0.28	WP5

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Summary

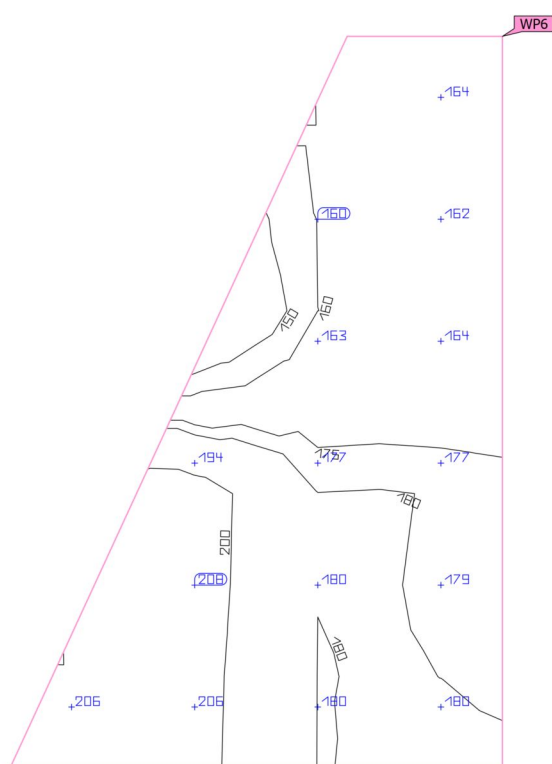
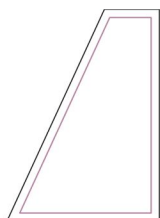


Ground area	2.51 m²		
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Clearance height	4.400 m
		Height _{Working plane}	0.800 m
Maintenance factor	0.80 (fixed)	Wall zone _{Working plane}	0.088 m

Summary

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	178 lx	≥ 500 lx		WP6
	$U_o (g_1)$	0.83	≥ 0.60	✓	WP6
	Lighting power density	0.00 W/m ²	–		
		0.00 W/m ² /100 lx	–		
Energy estimation ⁽²⁾	Consumption	0.00 kWh/a	max. 100 kWh/a	✓	
Space	Lighting power density	0.00 W/m ²	–		
		0.00 W/m ² /100 lx	–		

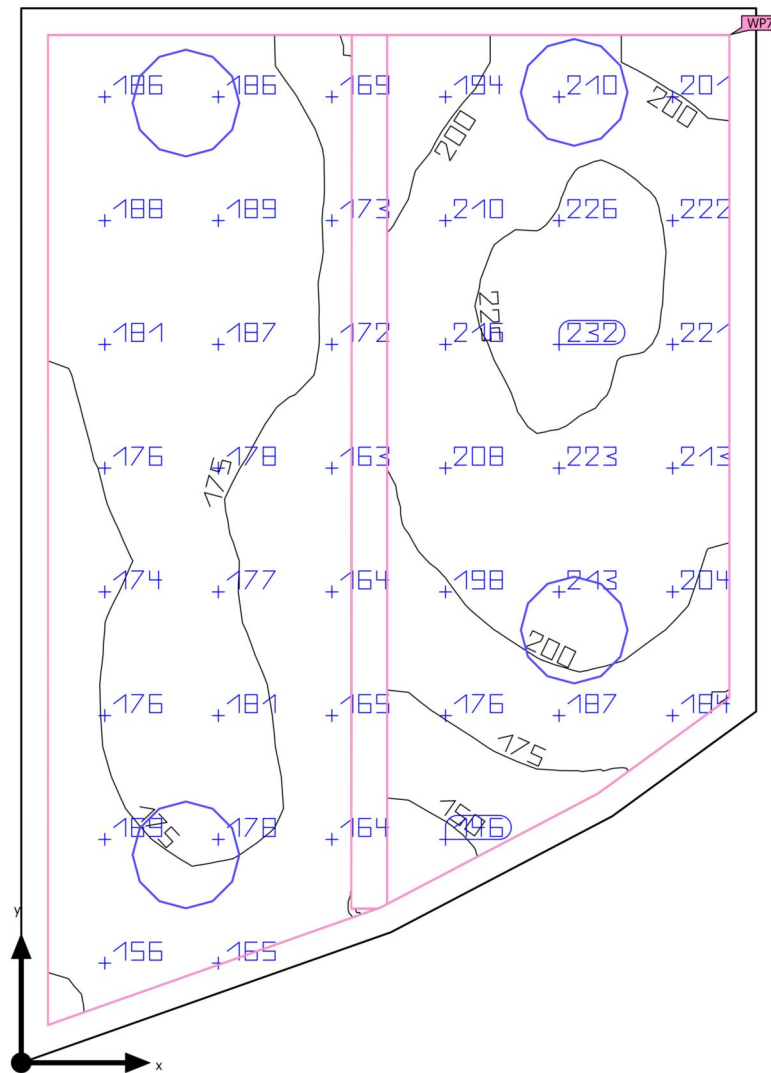
Working plane (Room 6)



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: 0.088 m	178 lx (≥ 500 lx) 	148 lx	209 lx	0.83 (≥ 0.60) 	0.71	WP6

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Summary



Ground area	20.70 m ²	Clearance height	4.400 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	4.400 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.800 m
		Wall zone _{Working plane}	0.149 m

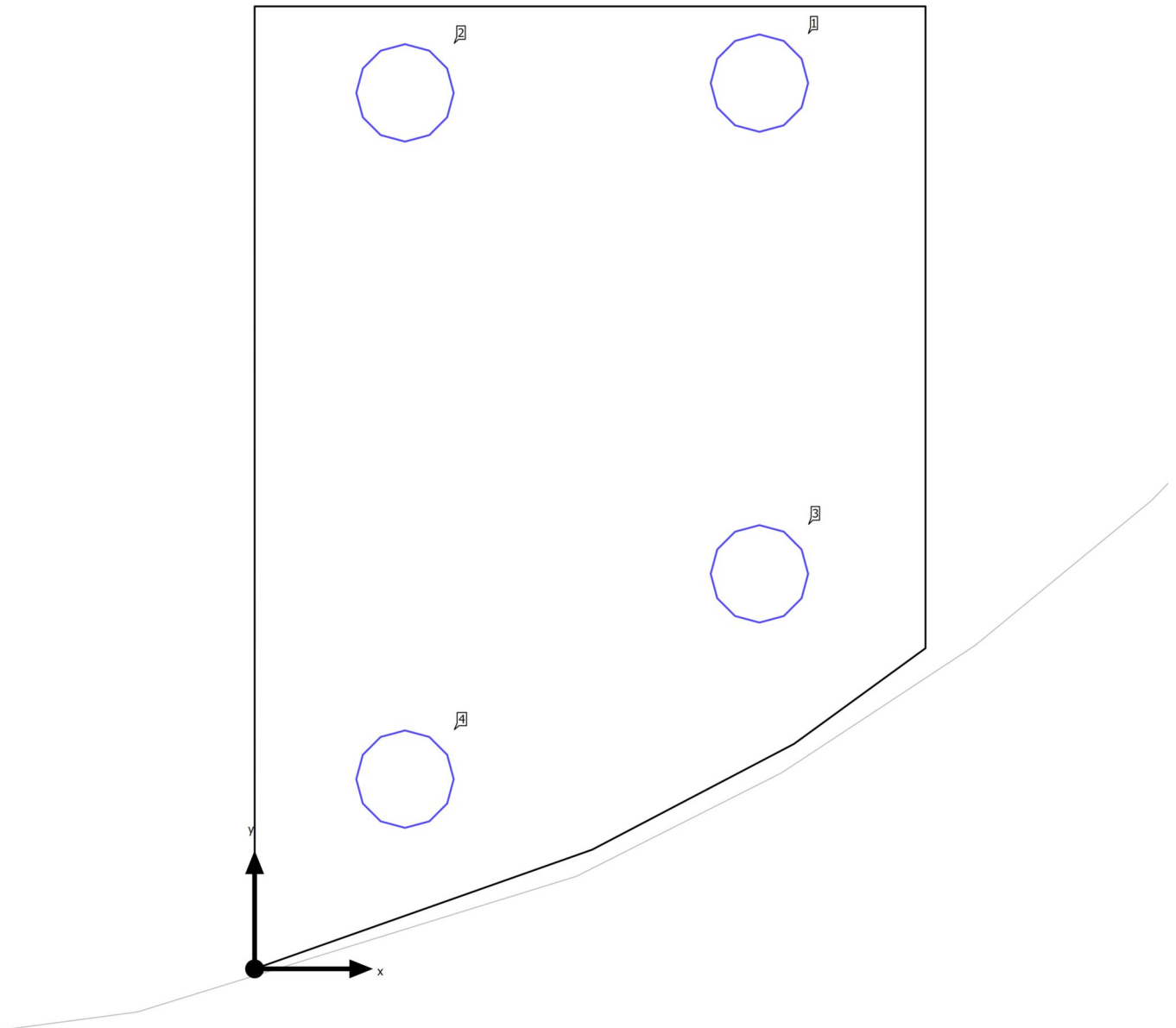
Summary

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	190 lx	≥ 500 lx	✗	WP7
	$U_o (g_1)$	0.41	≥ 0.60	✗	WP7
	Lighting power density	8.87 W/m ²	–		
		4.67 W/m ² /100 lx	–		
Glare valuation ⁽¹⁾	$R_{UG, \max}$	18	≤ 19	✓	
Energy estimation ⁽²⁾	Consumption	[250 - 396] kWh/a	max. 750 kWh/a	✓	
Space	Lighting power density	7.73 W/m ²	–		
		4.07 W/m ² /100 lx	–		

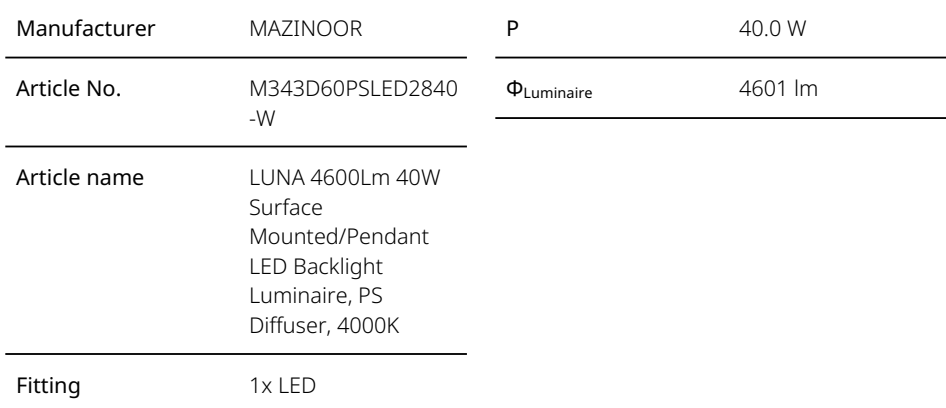
Utilisation profile: DIALux presetting (34.2 Standard (office))

pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
4	MAZINOOR	M343D60P SLED2840- W	LUNA 4600Lm 40W Surface Mounted/Pendant LED Backlight Luminaire, PS Diffuser, 4000K	18	40.0 W	4601 lm	115.0 lm/W

Luminaire layout plan



Luminaire layout plan



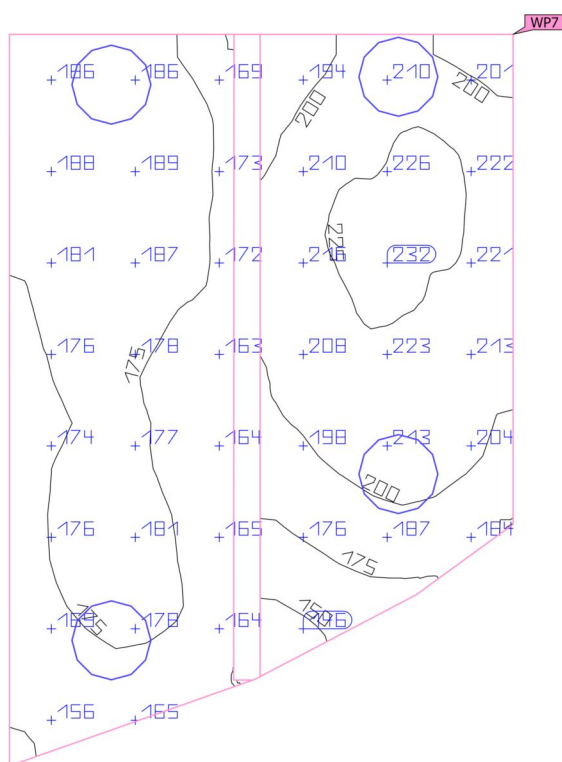
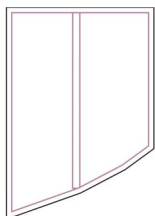
X	Y	Mounting height	Luminaire
3.083 m	5.410 m	4.400 m	1
0.918 m	5.351 m	4.400 m	2
3.083 m	2.413 m	4.400 m	3
0.918 m	1.159 m	4.400 m	4

Calculation objects

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	$U_o(g_1)$ (Target)	g_2	Index
Working plane (Room 7)	190 lx	77.1 lx	236 lx	0.41	0.33	WP7
Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.149 m	≥ 500 lx			≥ 0.60		
	✗			✗		

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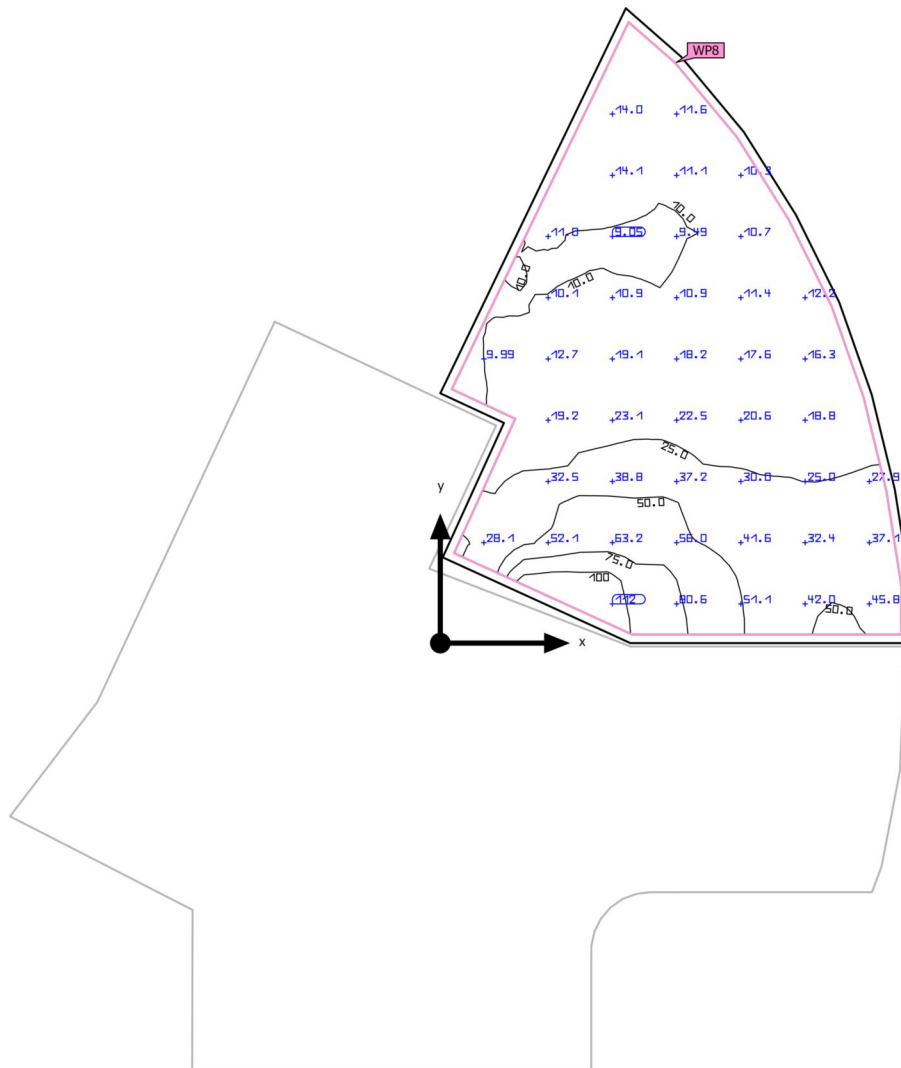
Working plane (Room 7)



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: 0.149 m	190 lx (≥ 500 lx) 	77.1 lx	236 lx	0.41 (≥ 0.60) 	0.33	WP7

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Summary



Wall zone Working plane 0.122 m

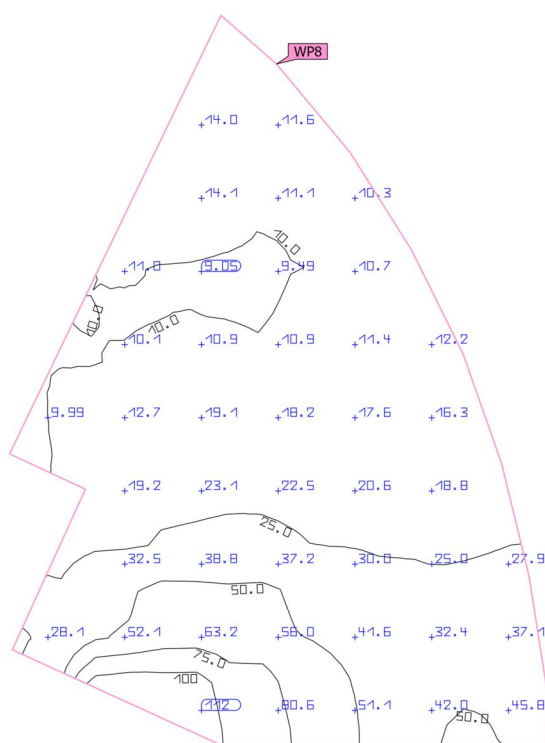
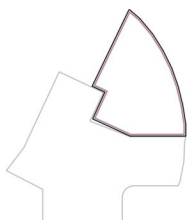
Building 1 · 26 □ □ □ □ · Room 8 (Light scene 1)

Calculation objects

Working planes

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	U_o (g ₁) (Target)	g_2	Index
Working plane (Room 8) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.122 m	28.1 lx (≥ 500 lx) ✗	7.69 lx	116 lx	0.27 (≥ 0.60) ✗	0.066	WP8

Working plane (Room 8)



Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	$U_o(g_1)$ (Target)	g_2	Index
Working plane (Room 8) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.122 m	28.1 lx (≥ 500 lx) ✗	7.69 lx	116 lx	0.27 (≥ 0.60) ✗	0.066	WP8

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Glossary

A

A	Formula symbol for a surface in the geometry

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 (Engl. correlated color temperature)

Body temperature of a thermal radiator which serves to describe its light color. Unit: Kelvin [K]. The lesser the numerical value the redder; the greater the numerical value the bluer the light colour. The color temperature of gas-discharge lamps and semi-conductors are termed "correlated color temperature" in contrast to the color temperature of thermal radiators.

Allocation of the light colors to the color temperature ranges acc. to EN 12464-1:

Light color - color temperature [K]

warm white (ww) < 3,300 K

neutral white (nw) $\geq$ 3,300 – 5,300 K

daylight white (dw) > 5,300 K

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	(Engl. color rendering index) Designation for the color rendering index of a luminaire or a lamp acc. to DIN 6169: 1976 or CIE 13.3: 1995. The general color rendering index Ra (or CRI) is a dimensionless figure that describes the quality of a white light source in regards to its similarity with the remission spectra of defined 8 test colors (see DIN 6169 or CIE 1974) to a reference light source.
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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	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. 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. 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.
Environmental zones	The assessment of intrusive light and light immission depends on the environment of the lighting installation. Depending on the standard, 4-6 different zones are defined, ranging from highly protected areas in natural settings to urban areas, commercial zones, and industrial zones.
Eta (η)	(light output ratio) 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. Unit: %

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 Ē 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 ($\text{lm}/\text{m}^2 = \text{lx}$). 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.

K

k_s	The glare effect of a light source can be described by the glare metric k_s . It relates the solid angle of the glaring light source as seen from the point of immission, the ambient luminance, and the maximum allowable luminance.
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Glossary

L

LENI	(Engl. lighting energy numeric indicator) Lighting energy numeric indicator acc. to EN 15193 Unit: kWh/(m² * a)
LLMF	(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).
LMF	(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).
LSF	(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).
Luminance	Dimension for the "brightness impression" that the human eye has of a surface. The surface itself can emit light thereby or light striking it can be reflected (emitter value). It is the only photometric value that the human eye can perceive. Unit: Candela per square metre Abbreviation: cd/m² Formula symbol: L
Luminous efficacy	Ratio of the emitted luminous flux Φ [lm] to the absorbed electrical power P [W] Unit: lm/W. This ratio can be formed for the lamp or LED module (lamp or module light output), the lamp or module with control gear (system light output) and the complete luminaire (luminaire light output).
Luminous flux	Dimension for the total light output that is emitted from one light source in all directions. It is thus an "emitter value" that specifies the entire emitting output. The luminous flux of a light source can only be determined in a laboratory. A difference is made between the lamp or LED module luminous flux and the luminaire luminous flux. Unit: Lumen Abbreviation: lm Formula symbol: Φ

Glossary

Luminous intensity	Describes the intensity of the light in a certain direction (emitter value). The luminous intensity is a matter of the luminous flux Φ that is emitted in a certain spherical angle Ω. The radiation characteristics of a light source are presented graphically in a light distribution curve (LDC). The luminous intensity is an SI base unit. Unit: Candela Abbreviation: cd Formula symbol: I
M	
Maintenance factor	See MF
MF	(Engl. maintenance factor)/acc. to CIE 97: 2005 Maintenance factor as decimal number between 0 and 1 that describes the ratio of the new value of a photometric planning parameter (e.g. of the illuminance) to a maintenance value after a certain time. The maintenance factor takes into account the soiling of luminaires and rooms as well as the luminous flux reduction and the failure of light sources. The maintenance factor is taken into account either overall or determined in detail acc. to CIE 97: 2005 by the formula $RMF \times LMF \times LLMF \times LSF$.
O	
Obtrusive light/Light immission	To protect the nocturnal environment and minimize problems for humans, flora, and fauna, it is necessary to limit obtrusive light (also known as light pollution), which can cause serious physiological and ecological issues for individuals and the environment. Light immission refers to the disturbing influence of emitted light from artificial light sources.
Operating times	The assessment of obtrusive light and light immission depends on the operating times of the lighting installation. Depending on the standard, 1-3 different operating times are specified. In the absence of specific details, an operating time between 06:00 and 22:00 can be assumed.
P	
P	(Engl. power) Electric power consumption Unit: watt Abbreviation: W

Glossary

R

R_{UG} max	Measure of the psychological glare in indoor spaces. In addition to the luminance of luminaires, the level of the R_{UG} value also depends on the observer position, the viewing direction and the ambient luminance. The calculation is made according to the table method, see CIE 117. Among other things, EN 12464-1:2021 specifies maximum permissible R_{UG} - values R_{UGL} for various indoor workplaces.
R_{DLO}	The ratio of the luminous flux emitted below the horizontal plane to the total lamp luminous flux of a luminaire or lighting installation in its operational position.
R_G	The glare directly caused by luminaires of an outdoor lighting installation is determined using the CIE Glare Rating (RG) method. To calculate this, the equivalent veiling luminance of the surroundings is needed. There are four options for determining this: • An exact calculation according to CIE 112, based on the scene area. • A simplified method according to EN 12464-2, based on the scene area. • Using a custom calculation area to determine the equivalent veiling luminance. • Specifying a fixed value for easy comparability.
R_{UF}	upward flux ratio The ratio of the luminous flux emitted directly or reflected above the horizontal plane to the luminous flux that cannot be avoided under ideal conditions to achieve the illuminance level on a deliberately illuminated area.
R_{UL}	upward light ratio The ratio of the luminous flux emitted above the horizontal plane to the luminous flux of a luminaire or lighting installation in its operational position. The luminaire efficiency is considered in this calculation.
R_{ULO}	upward light output ratio The ratio of the luminous flux emitted above the horizontal plane to the total lamp luminous flux of a luminaire or lighting installation in its operational position.
Reflection factor	The reflection factor of a surface describes how much of the striking light is reflected back. The reflection factor is defined by the color of the surface.
RMF	(Engl. room maintenance factor)/acc. to CIE 97: 2005 Room maintenance factor that takes the soiling into account of the space encompassing surfaces in the course of the operating time. The room maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no soiling existing).
RUG (max)	(unified glare rating) Measure for the psychological glare effect in interiors. In addition to luminaire luminance, the RUG 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 RUG values for various indoor workplaces.

Glossary

RUG observer	Calculation point in the room, for the DIALux the RUG 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).
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.
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.