

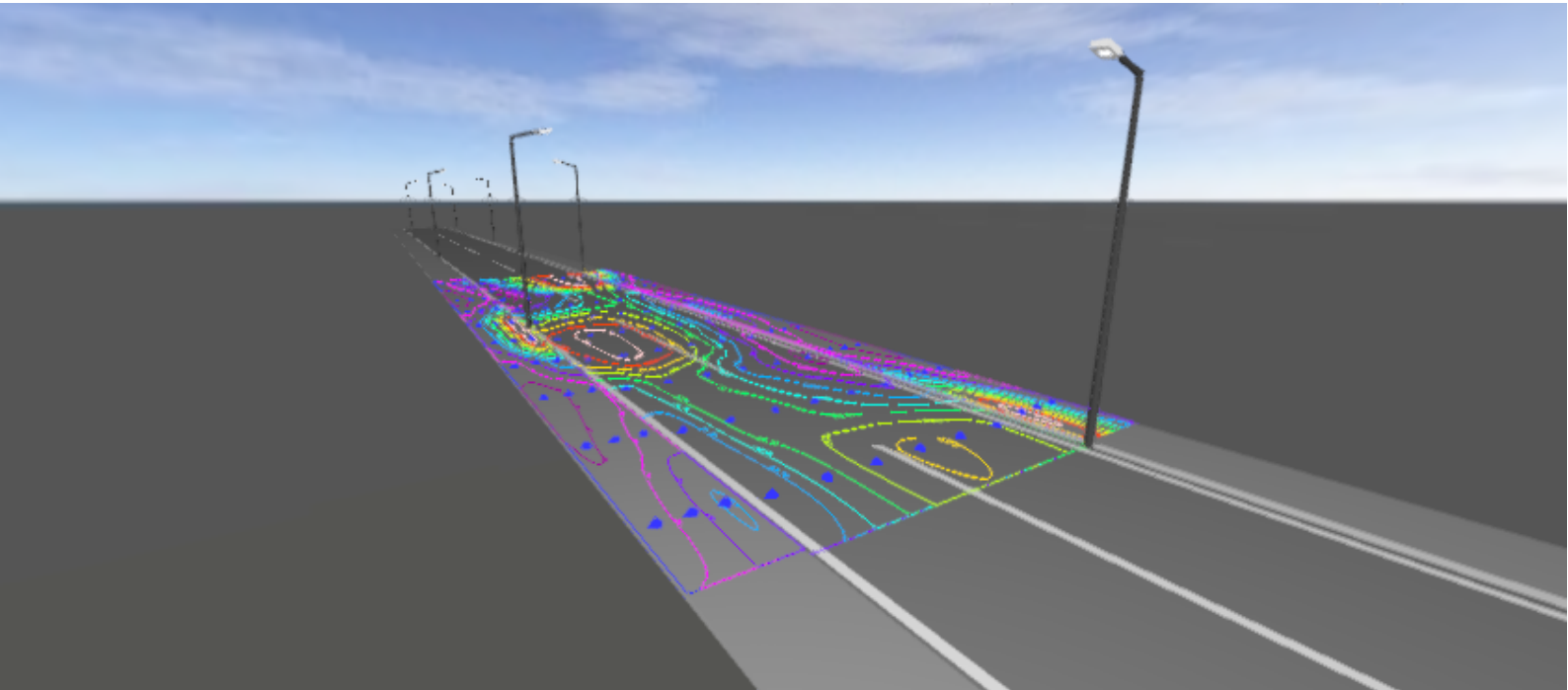
Operator:
Dave

HongKong bosunlighting
co.,LTD
+86 18676024888
sale@bosunlighting.com

Date:
2019-10-09



GMX-30W 6M road & 2line sidewalk with 6M pole-two side pole



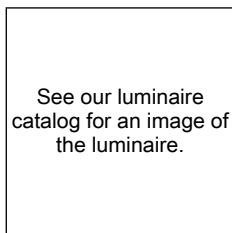
Content

GMX-30W 6M road & 2line sidewalk with 6M pole-two side pole

GMX-30W 6M road & 2line sidewalk with 6M pole-two side pole

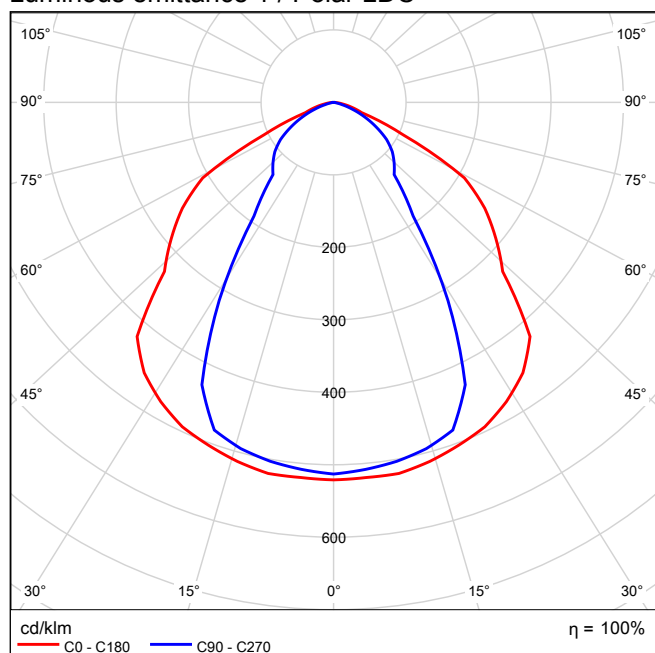
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九高 1x49

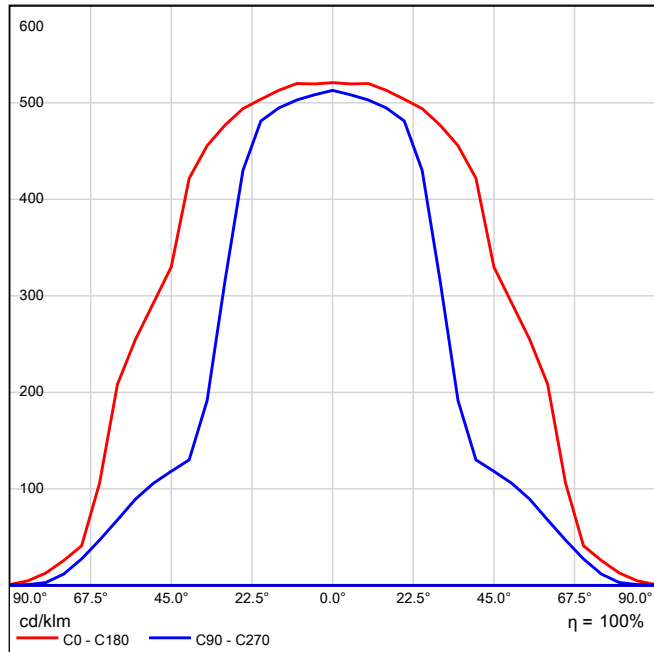


Light output ratio: 100.03%
Lamp luminous flux: 2403 lm
Luminaire luminous flux: 2404 lm
Power: 29.5 W
Luminous efficacy: 81.5 lm/W

Luminous emittance 1 / Polar LDC

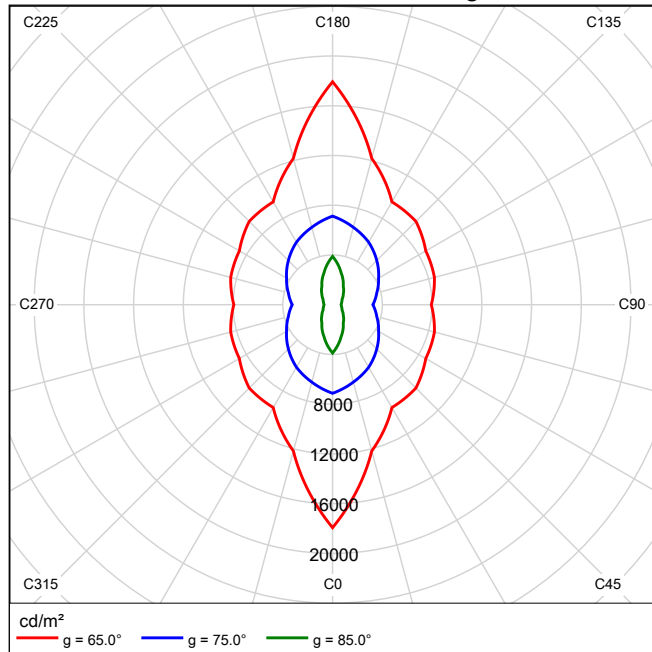


Luminous emittance 1 / Linear LDC



It is not possible to generate a cone diagram, as the light distribution is asymmetrical.

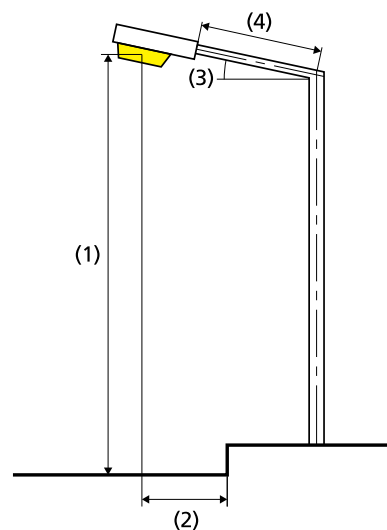
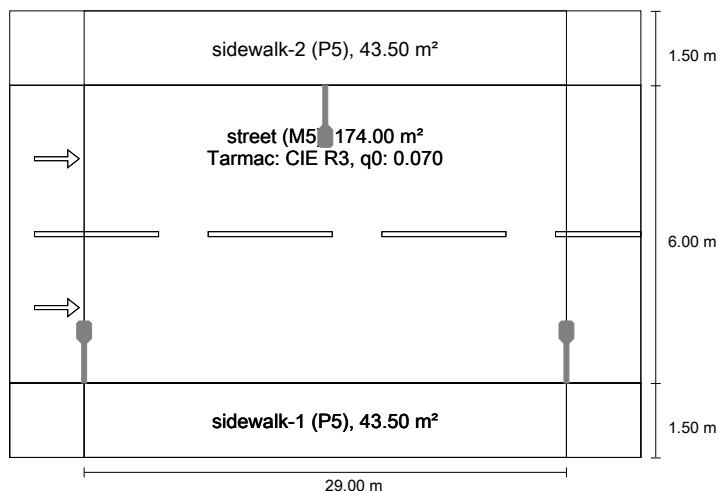
Luminous emittance 1 / Luminance diagram



It is not possible to generate a UGR diagram, as the light distribution is asymmetrical.

街道 1 according to EN 13201:2015

九高



Results for valuation fields

Light loss factor: 0.67

sidewalk-2 (P5)

Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

street (M5)

Lm [cd/m ²] ≥ 0.50	Uo ≥ 0.35	UI ≥ 0.40	TI [%] ≤ 15	EIR
✓ 0.52	✓ 0.47	✓ 0.46	✓ 2	* 0.37

sidewalk-1 (P5)

Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

* Informative, not part of the valuation

Results for energy efficiency indicators

Power density indicator (Dp)	0.022 W/lxm ²
Energy consumption density	
Arrangement: 30W路灯1_IESNA2002.IES (235.9 kWh/yr)	0.9 kWh/m ² yr

Lamp:	1x49
Luminous flux (luminaire):	2404.04 lm
Luminous flux (lamp):	2403.40 lm
Operating Hours	
4000 h:	100.0 %, 29.5 W
W/km:	2005.5
Arrangement:	both sides offset
Pole distance:	29.000 m
Boom inclination (3):	15.0°
Boom length (4):	1.008 m
Light centre height (1):	6.000 m
Light overhang (2):	1.000 m

ULR:	0.00
ULOR:	0.00
Maximum luminous intensities	
at 70° and above	91.1 cd/klm *
at 80° and above	48.2 cd/klm *
at 90° and above	12.4 cd/klm *
Luminous intensity class:	G*3

Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.

* Luminous intensity values in [cd/klm] for calculating luminous intensity class refer to the output flux of the luminaire, according EN 13201:2015.

Arrangement complies with glare index class D.3

sidewalk-2 (P5)

Light loss factor: 0.67
Grid: 10 x 3 Points

Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

* Informative, not part of the valuation

sidewalk-2 (P5)

Horizontal illuminance [lx]

8.750	4.25	3.30	2.76	4.30	7.15	7.15	4.30	2.76	3.30	4.25
8.250	5.77	4.28	3.51	6.05	11.1	11.1	6.05	3.51	4.28	5.77
7.750	7.52	5.38	4.24	8.15	16.0	16.0	8.15	4.24	5.38	7.52
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
6.26	2.76	16.0	0.441	0.172

Semi-cylindrical illuminance (west) [lx]

8.750	1.24	1.28	0.89	0.61	0.82	2.04	1.85	0.88	0.64	0.88
8.250	1.68	1.58	1.01	0.69	0.85	2.80	2.62	1.18	0.72	1.13
7.750	2.31	2.12	1.21	0.74	0.88	4.60	3.73	1.63	0.85	1.46
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
1.50	0.61	4.60	0.410	0.133

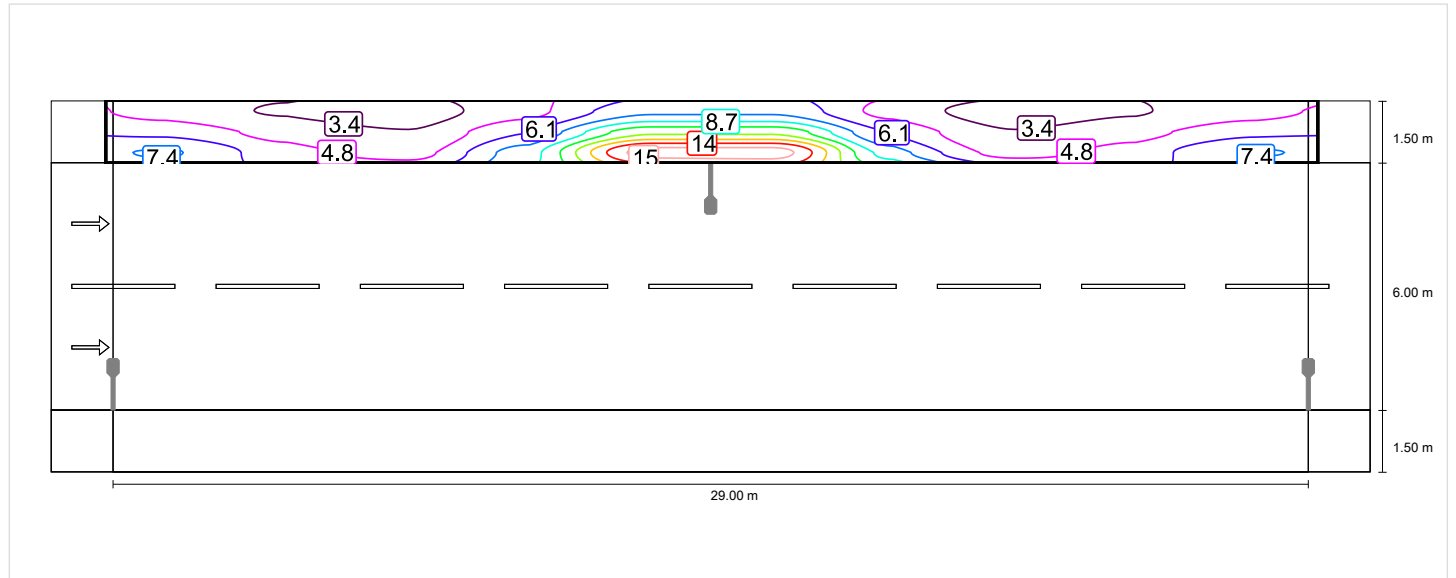
sidewalk-2 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

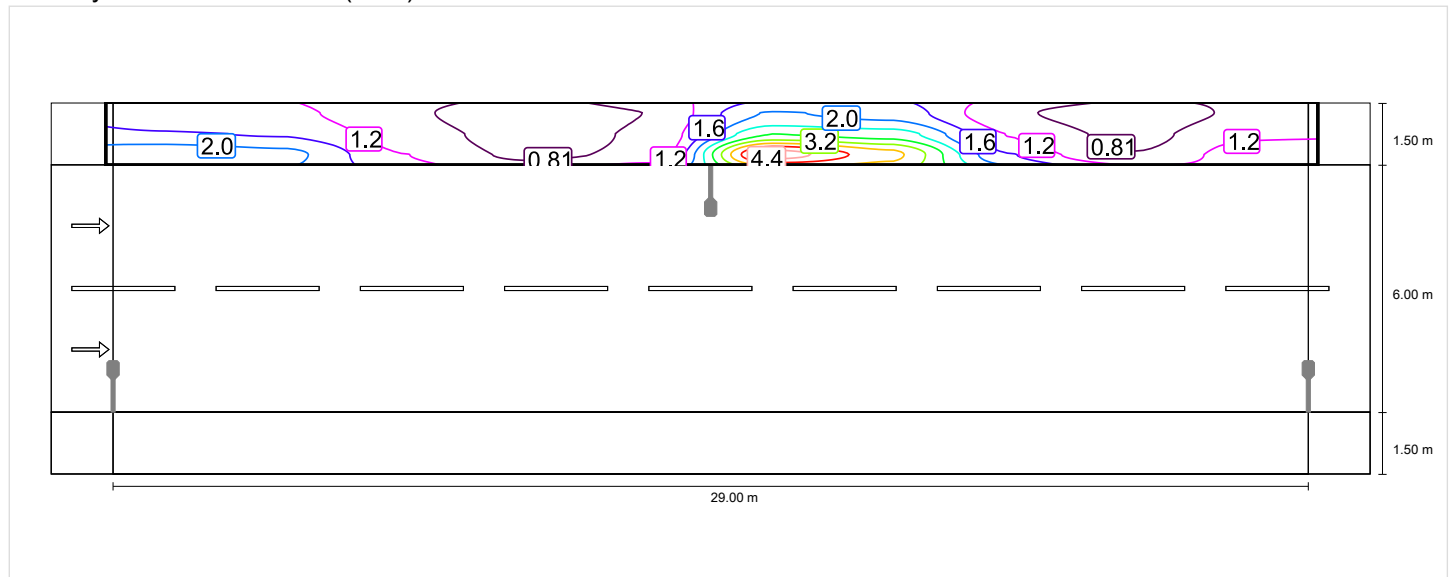
Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

* Informative, not part of the valuation

Horizontal illuminance



Semi-cylindrical illuminance (west)



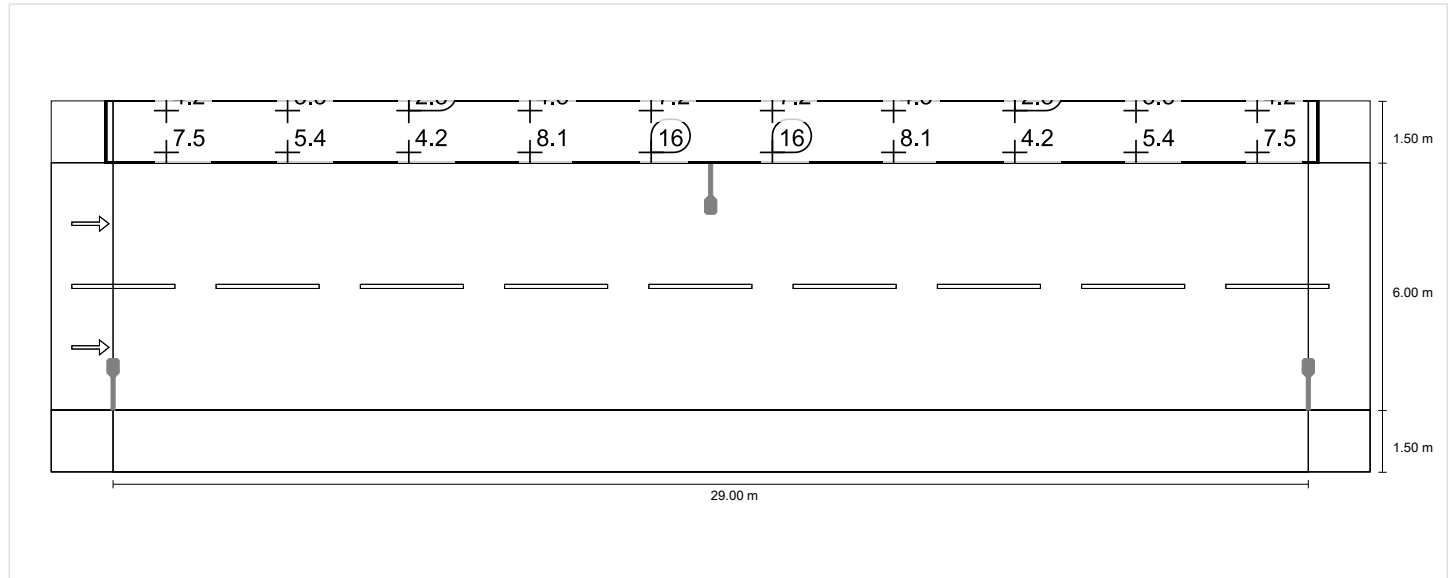
sidewalk-2 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

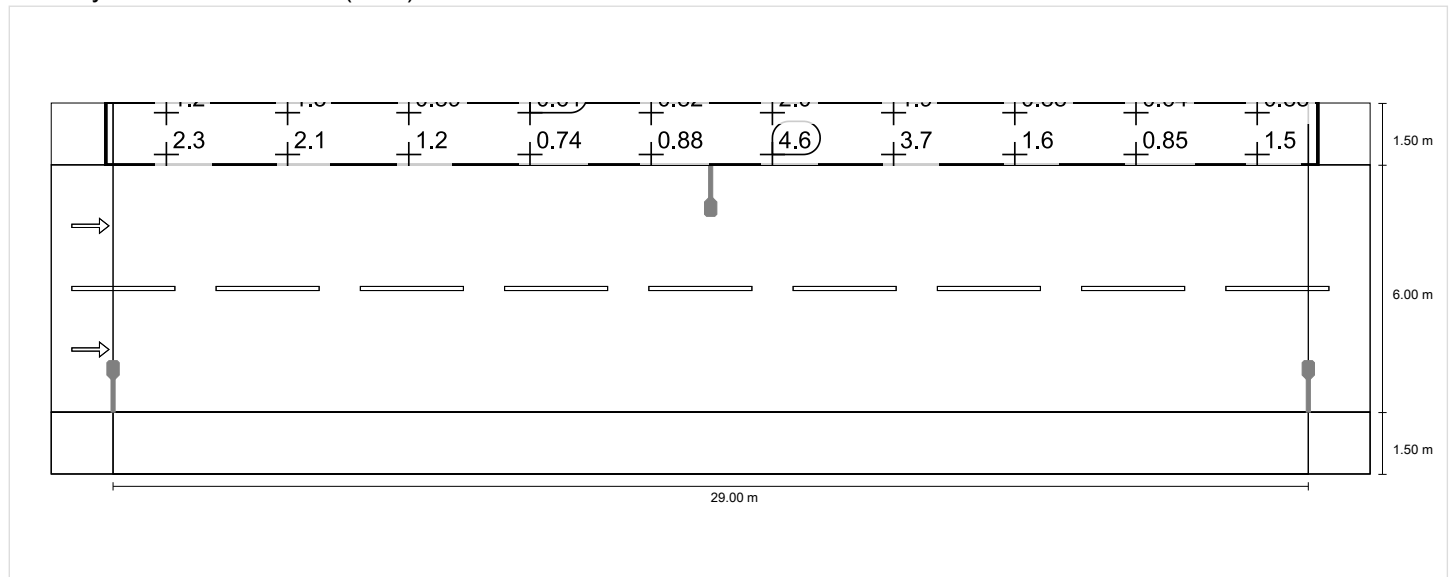
Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

* Informative, not part of the valuation

Horizontal illuminance



Semi-cylindrical illuminance (west)



street (M5)

Light loss factor: 0.67
 Grid: 10 x 6 Points

Lm [cd/m ²] ≥ 0.50	Uo ≥ 0.35	UI ≥ 0.40	TI [%] ≤ 15	EIR
✓ 0.52	✓ 0.47	✓ 0.46	✓ 2	* 0.37

* Informative, not part of the valuation

Assigned observer (2):

Observer	Position [m]	Lm [cd/m ²] ≥ 0.50	Uo ≥ 0.35	UI ≥ 0.40	TI [%] ≤ 15
Observer 1	(-60.000, 3.000, 1.500)	0.52	0.48	0.46	2
Observer 2	(-60.000, 6.000, 1.500)	0.52	0.47	0.46	2

street (M5)

Horizontal illuminance [lx]

7.000	10.5	7.19	5.39	10.6	19.9	19.9	10.6	5.39	7.19	10.5
6.000	13.7	8.98	6.17	11.4	20.8	20.8	11.4	6.17	8.98	13.7
5.000	16.9	10.4	6.50	11.4	19.9	19.9	11.4	6.50	10.4	16.9
4.000	19.9	11.4	6.50	10.4	16.9	16.9	10.4	6.50	11.4	19.9
3.000	20.8	11.4	6.17	8.98	13.7	13.7	8.98	6.17	11.4	20.8
2.000	19.9	10.6	5.39	7.19	10.5	10.5	7.19	5.39	10.6	19.9
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 6 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
12.0	5.39	20.8	0.450	0.260

Observer 1

Luminance with dry roadway [cd/m²]

7.000	0.38	0.40	0.47	0.67	0.70	0.57	0.36	0.25	0.30	0.37
6.000	0.51	0.54	0.56	0.74	0.75	0.61	0.42	0.33	0.43	0.50
5.000	0.60	0.54	0.52	0.70	0.71	0.63	0.47	0.40	0.57	0.61
4.000	0.64	0.49	0.42	0.58	0.61	0.58	0.51	0.48	0.68	0.71
3.000	0.62	0.43	0.35	0.44	0.50	0.51	0.53	0.56	0.74	0.75
2.000	0.58	0.37	0.27	0.31	0.38	0.40	0.43	0.50	0.68	0.71
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.52	0.25	0.75	0.481	0.334

Luminance with new lamp [cd/m²]

7.000	0.57	0.60	0.69	0.99	1.05	0.85	0.54	0.38	0.45	0.55
6.000	0.77	0.81	0.83	1.11	1.12	0.91	0.62	0.50	0.63	0.74
5.000	0.90	0.81	0.77	1.04	1.06	0.94	0.70	0.60	0.85	0.91
4.000	0.95	0.73	0.63	0.86	0.91	0.87	0.76	0.72	1.02	1.06
3.000	0.93	0.65	0.52	0.66	0.75	0.77	0.80	0.83	1.10	1.12
2.000	0.86	0.56	0.40	0.47	0.56	0.59	0.64	0.74	1.02	1.06
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.78	0.38	1.12	0.481	0.334

Observer 2

Luminance with dry roadway [cd/m²]

7.000	0.40	0.43	0.49	0.68	0.71	0.58	0.37	0.27	0.32	0.38
6.000	0.51	0.53	0.56	0.74	0.75	0.62	0.43	0.35	0.44	0.50
5.000	0.58	0.51	0.48	0.68	0.71	0.64	0.49	0.42	0.58	0.61
4.000	0.63	0.46	0.40	0.57	0.61	0.60	0.54	0.51	0.70	0.71
3.000	0.61	0.41	0.33	0.42	0.50	0.51	0.54	0.56	0.74	0.75
2.000	0.57	0.36	0.25	0.30	0.36	0.38	0.41	0.47	0.67	0.70
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.52	0.25	0.75	0.474	0.328

Luminance with new lamp [cd/m²]

7.000	0.59	0.64	0.74	1.02	1.06	0.86	0.56	0.40	0.47	0.57
6.000	0.77	0.80	0.83	1.10	1.12	0.93	0.65	0.52	0.66	0.75
5.000	0.87	0.76	0.72	1.02	1.06	0.95	0.73	0.62	0.86	0.91
4.000	0.94	0.69	0.60	0.84	0.92	0.90	0.80	0.77	1.04	1.06
3.000	0.91	0.62	0.49	0.63	0.74	0.77	0.81	0.83	1.11	1.12
2.000	0.84	0.54	0.37	0.45	0.54	0.57	0.61	0.71	1.00	1.05
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.78	0.37	1.12	0.474	0.328

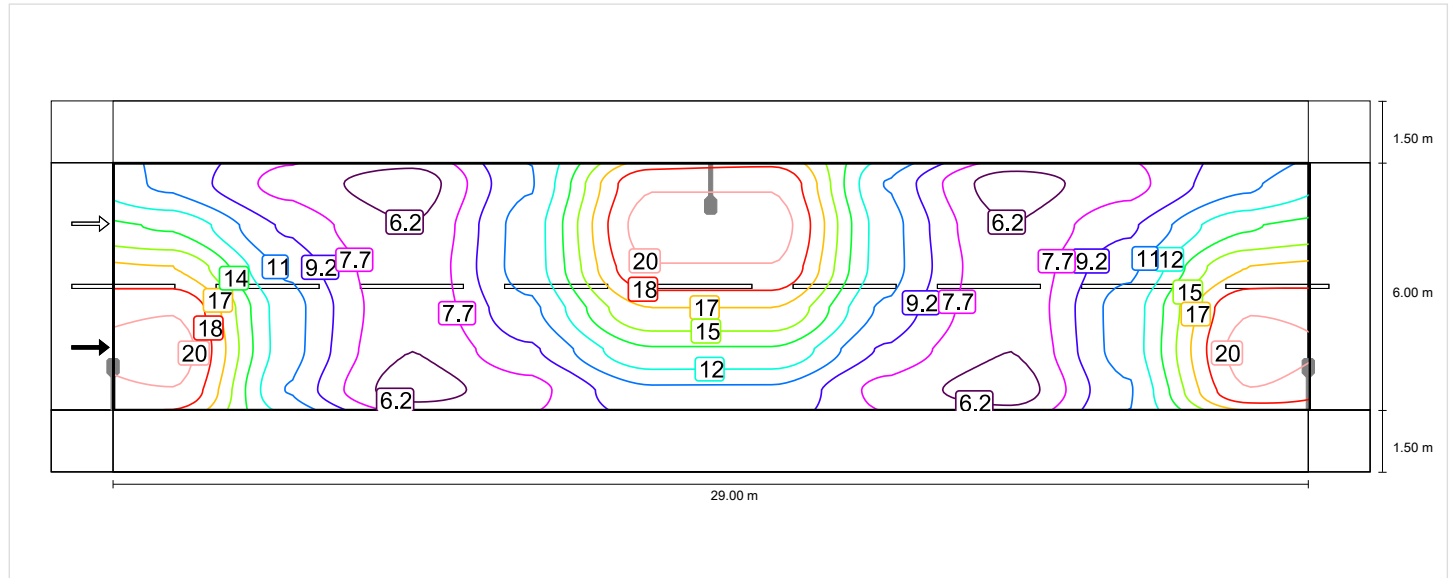
street (M5)

Light loss factor: 0.67
 Grid: 10 x 6 Points

Lm [cd/m ²]	Uo	UI	TI [%]	EIR
≥ 0.50	≥ 0.35	≥ 0.40	≤ 15	
✓ 0.52	✓ 0.47	✓ 0.46	✓ 2	* 0.37

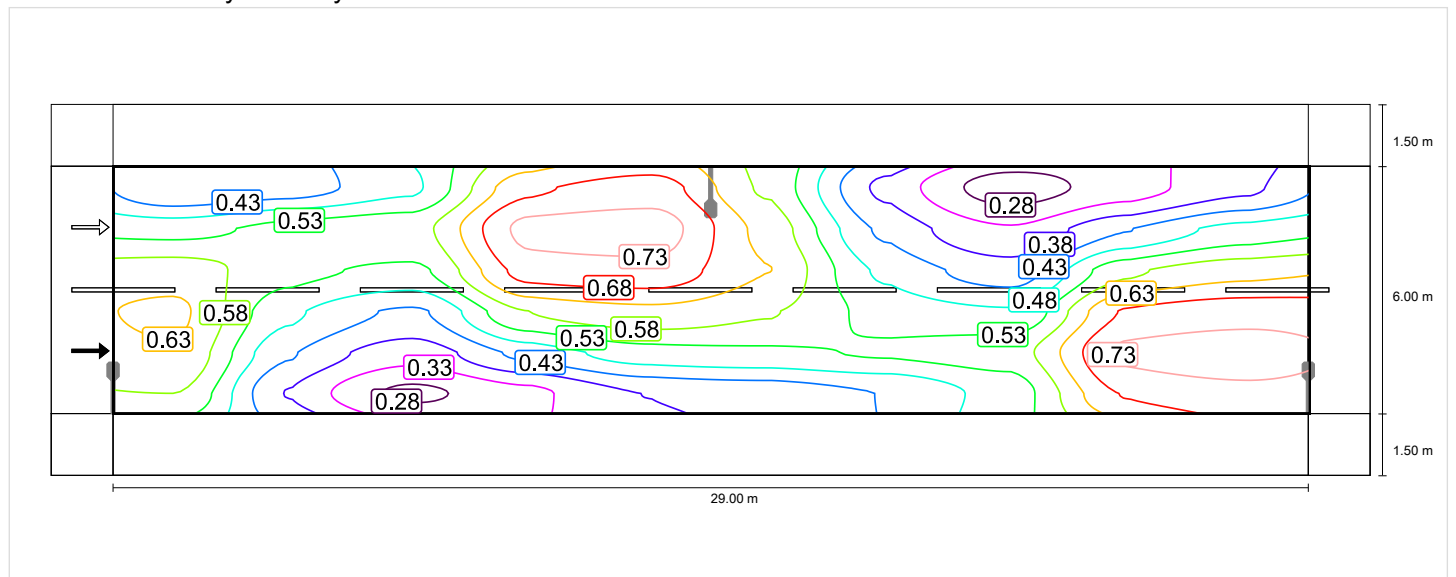
* Informative, not part of the valuation

Horizontal illuminance

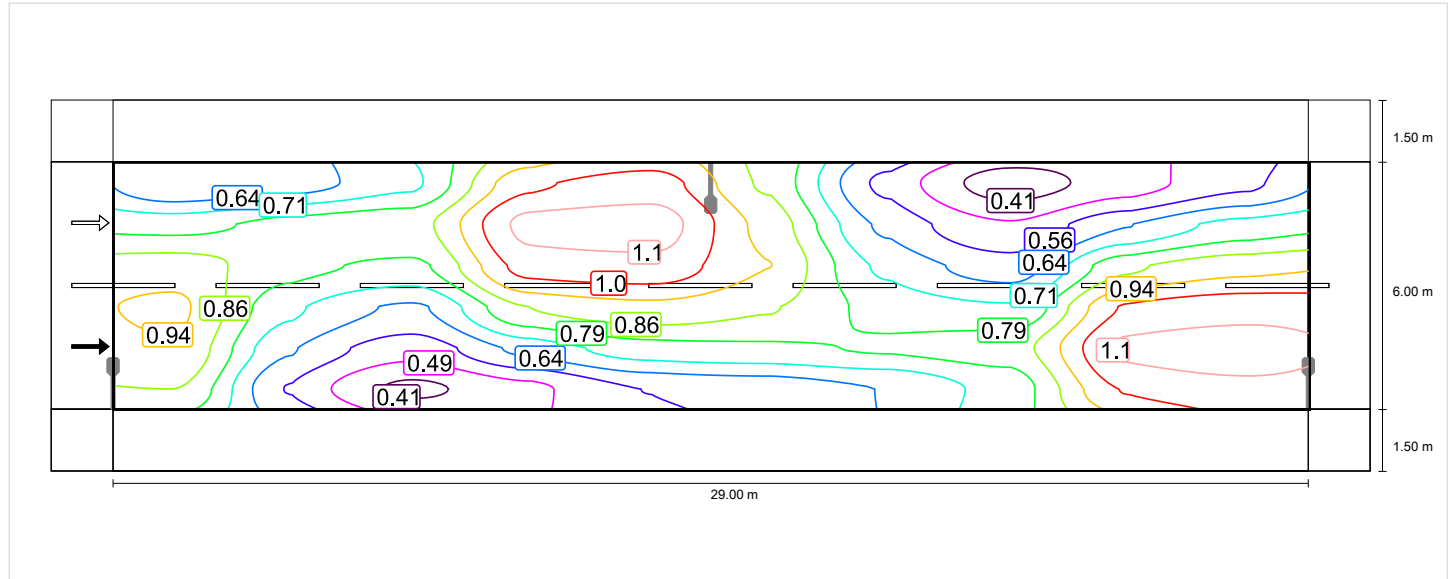


Observer 1

Luminance with dry roadway

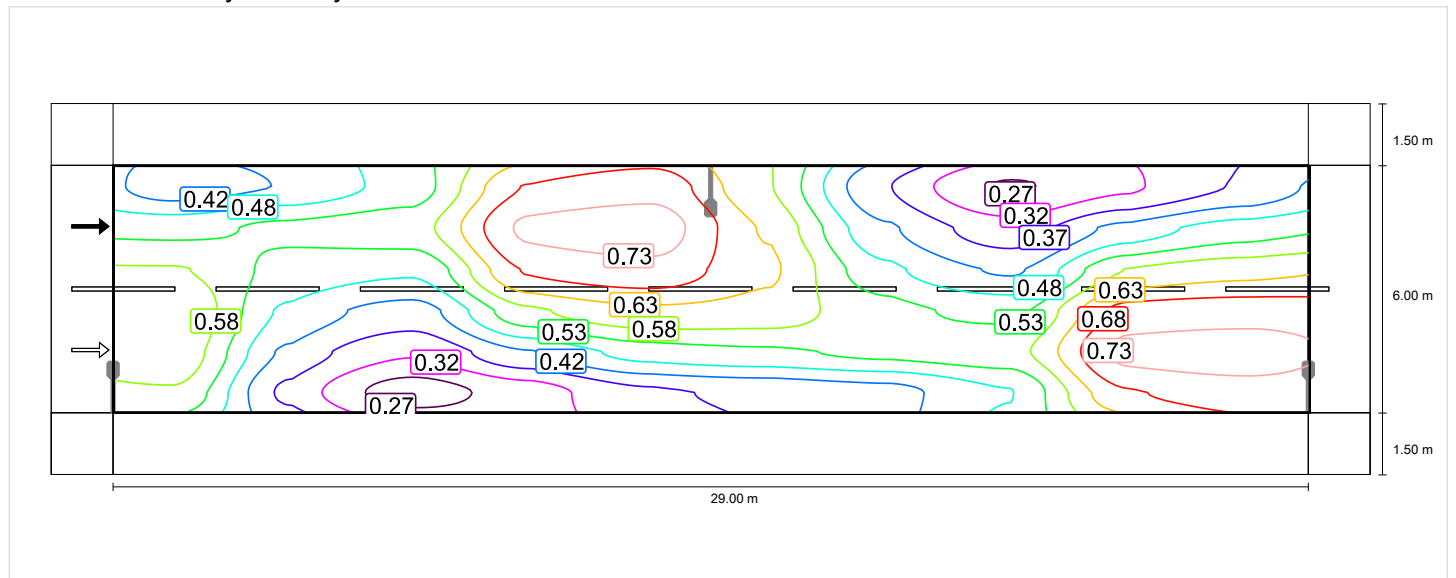


Luminance with new lamp

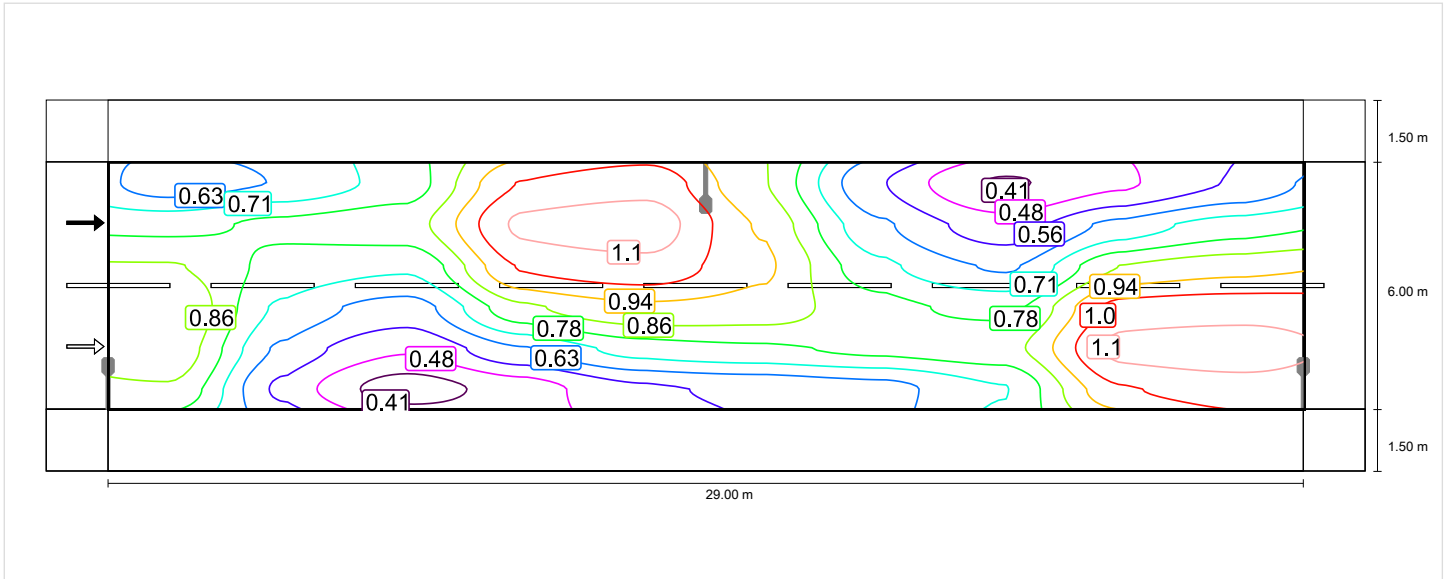


Observer 2

Luminance with dry roadway



Luminance with new lamp



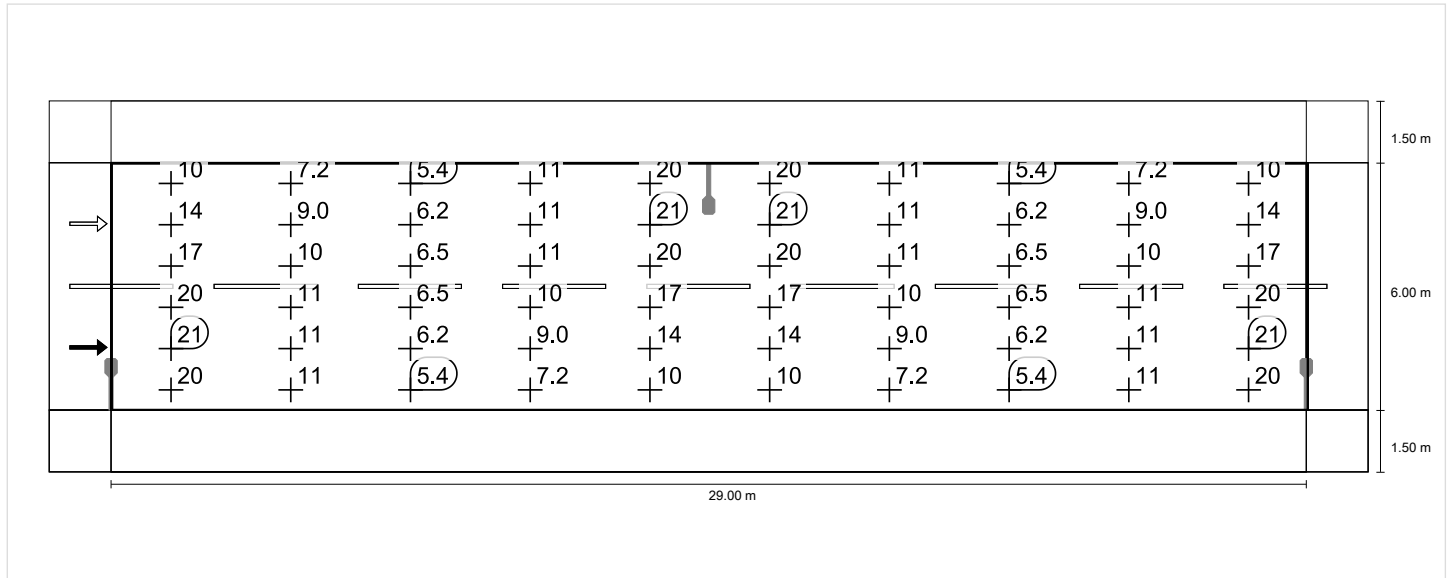
street (M5)

Light loss factor: 0.67
 Grid: 10 x 6 Points

Lm [cd/m ²] ≥ 0.50	Uo ≥ 0.35	UI ≥ 0.40	TI [%] ≤ 15	EIR
✓ 0.52	✓ 0.47	✓ 0.46	✓ 2	* 0.37

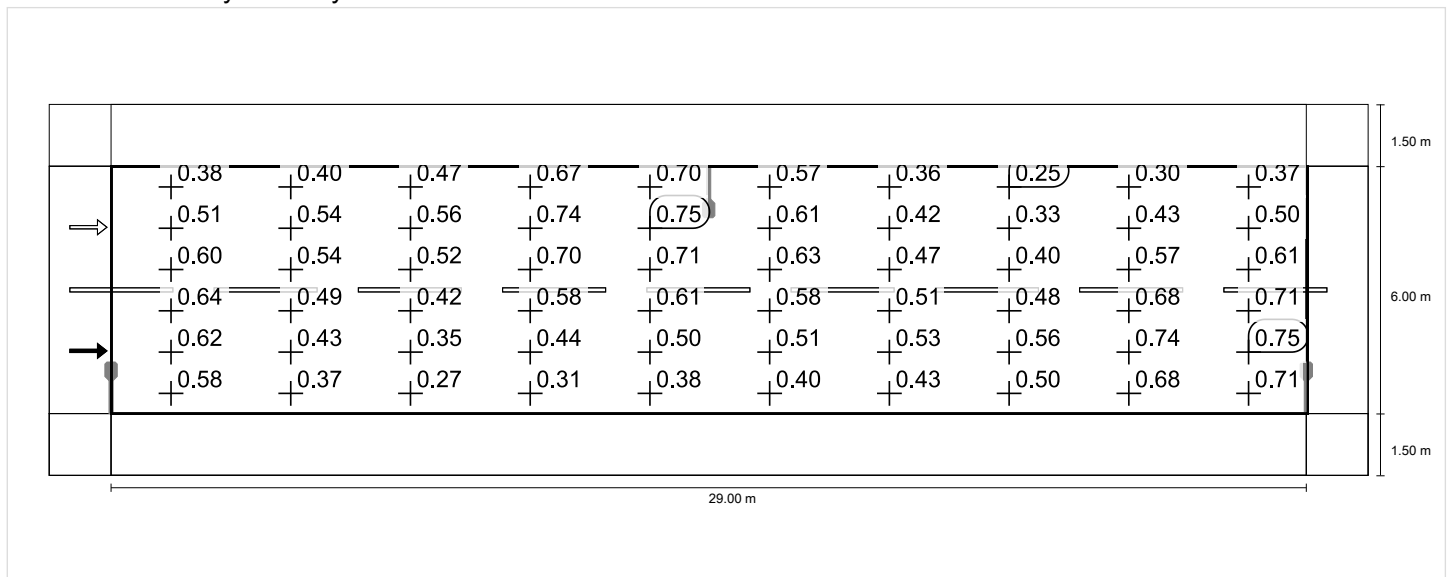
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Horizontal illuminance

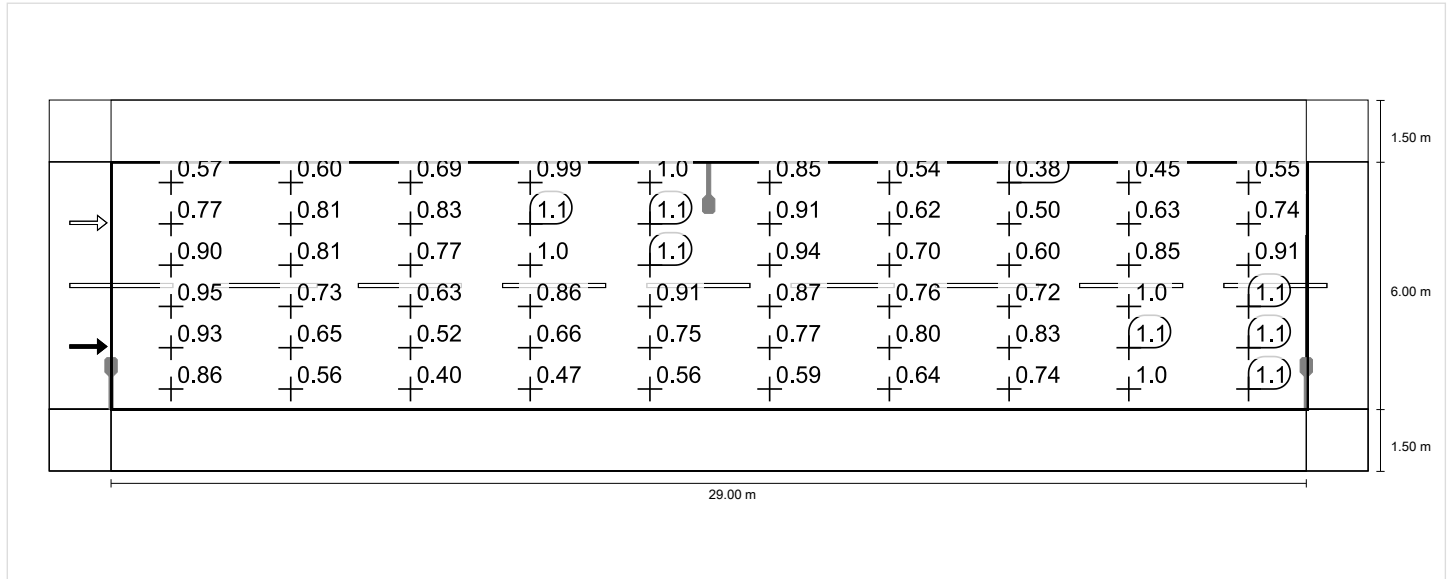


Observer 1

Luminance with dry roadway

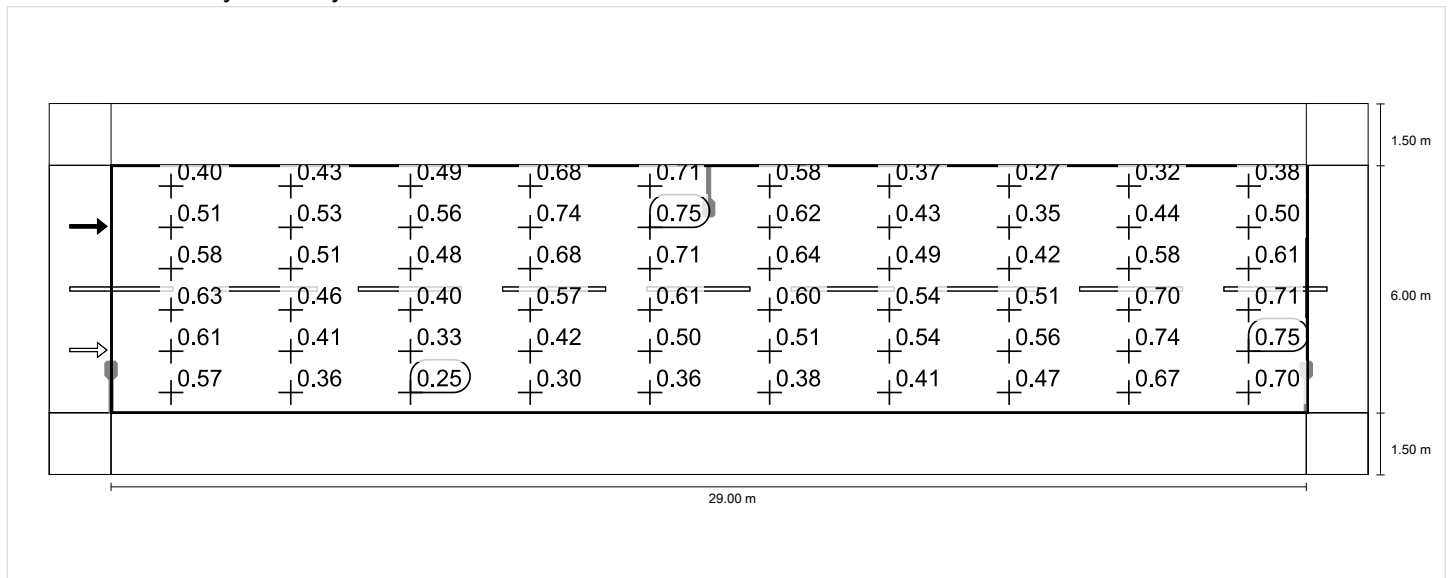


Luminance with new lamp

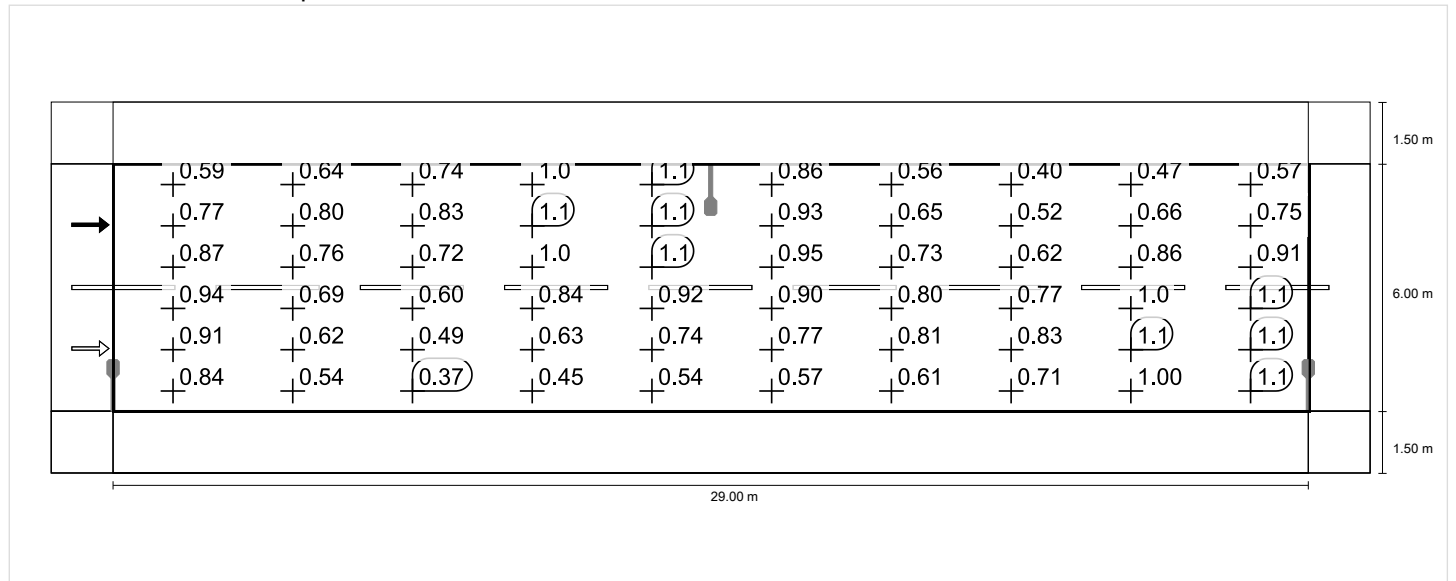


Observer 2

Luminance with dry roadway



Luminance with new lamp



sidewalk-1 (P5)

Light loss factor: 0.67
Grid: 10 x 3 Points

Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

* Informative, not part of the valuation

sidewalk-1 (P5)

Horizontal illuminance [lx]

1.250	16.0	8.15	4.24	5.38	7.52	7.52	5.38	4.24	8.15	16.0
0.750	11.1	6.05	3.51	4.28	5.77	5.77	4.28	3.51	6.05	11.1
0.250	7.15	4.30	2.76	3.30	4.25	4.25	3.30	2.76	4.30	7.15
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
6.26	2.76	16.0	0.441	0.172

Semi-cylindrical illuminance (west) [lx]

1.250	4.60	3.73	1.63	0.85	1.46	2.31	2.12	1.21	0.74	0.88
0.750	2.80	2.62	1.18	0.72	1.13	1.68	1.58	1.01	0.69	0.85
0.250	2.04	1.85	0.88	0.64	0.88	1.24	1.28	0.89	0.61	0.82
m	1.450	4.350	7.250	10.150	13.050	15.950	18.850	21.750	24.650	27.550

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
1.50	0.61	4.60	0.410	0.133

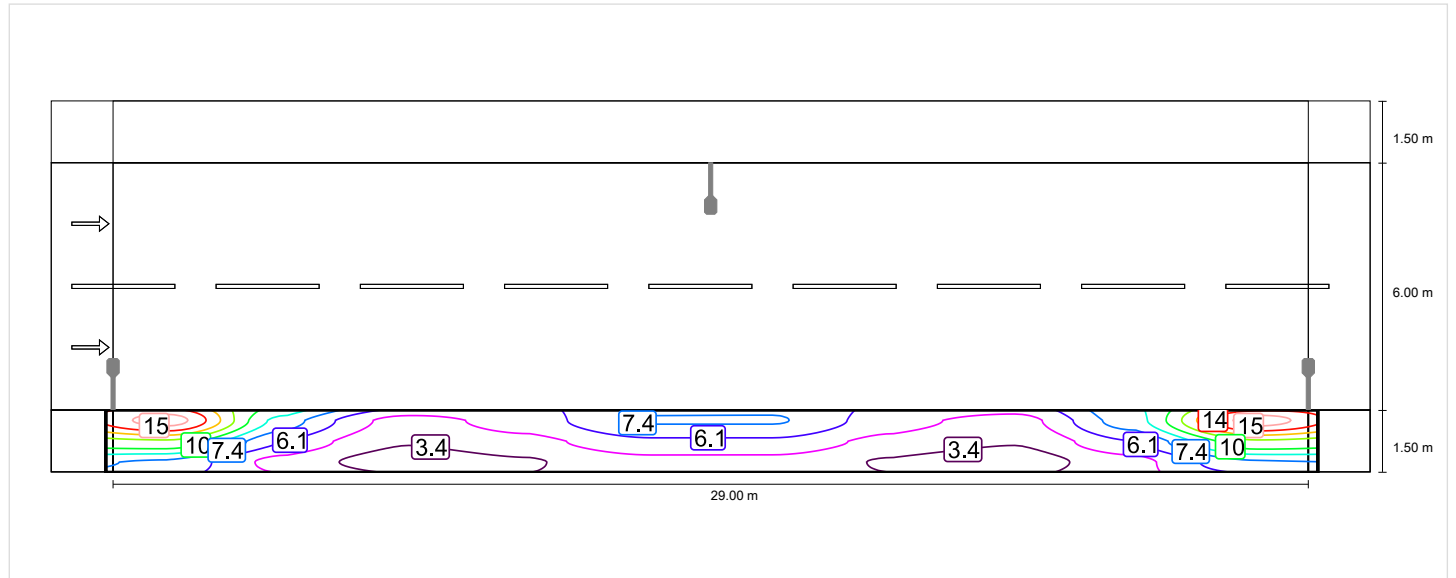
sidewalk-1 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

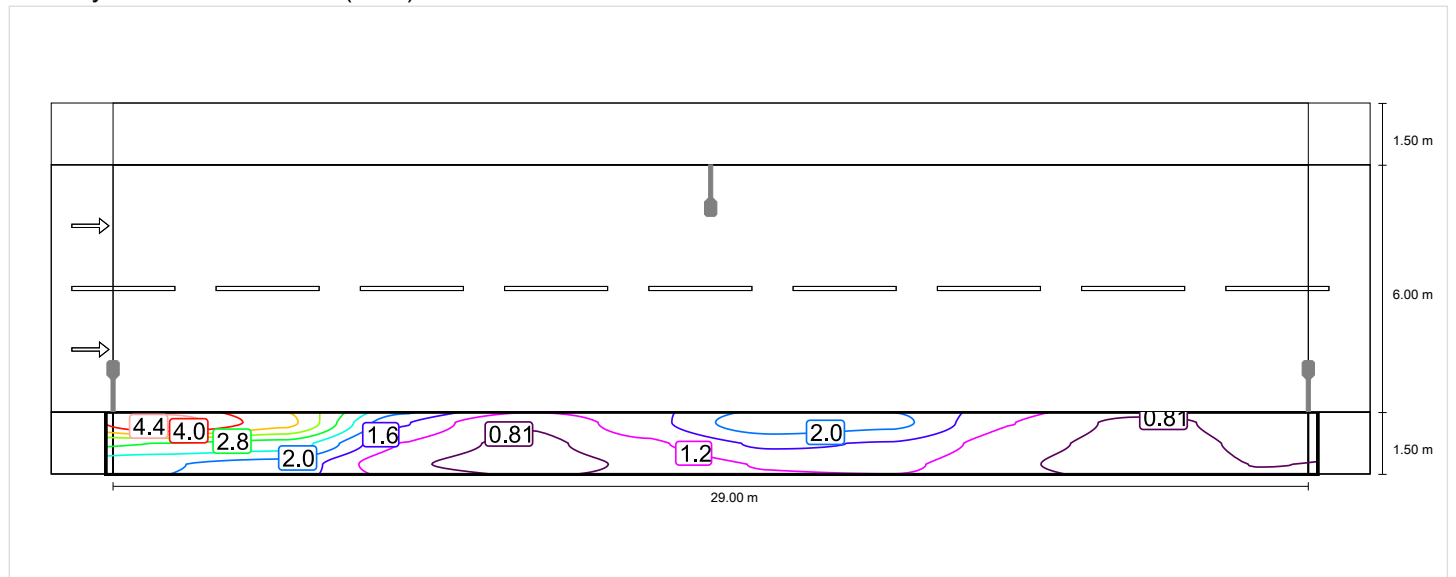
Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

* Informative, not part of the valuation

Horizontal illuminance



Semi-cylindrical illuminance (west)



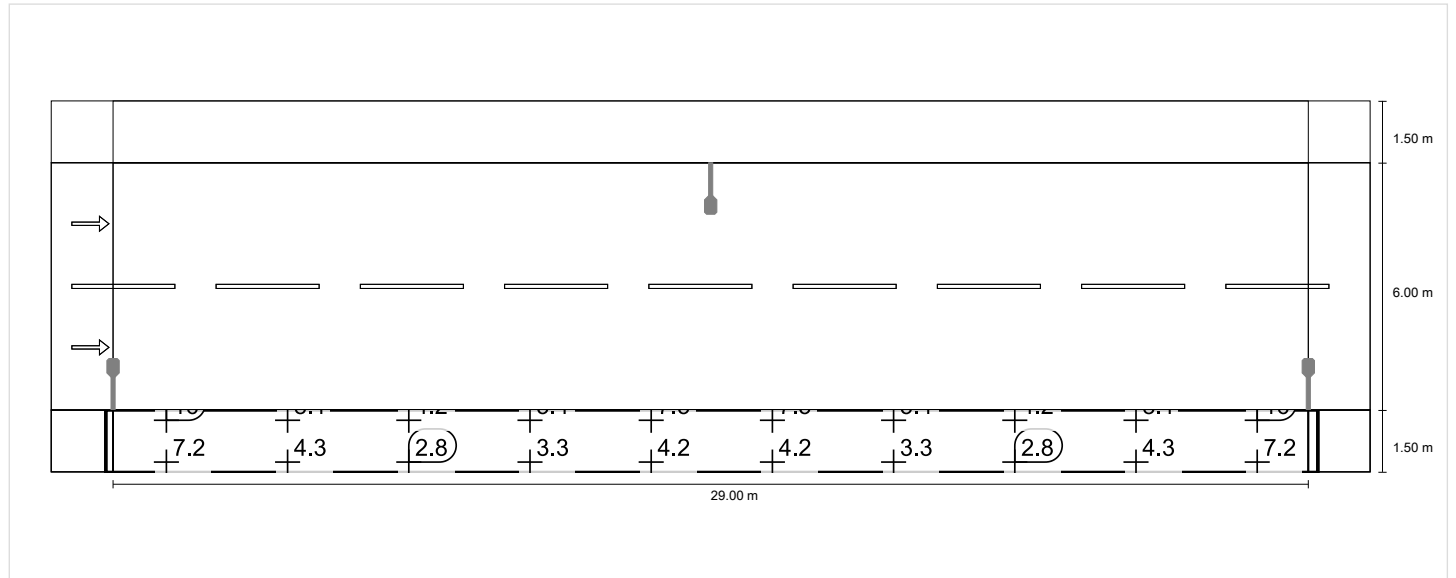
sidewalk-1 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.76	✓ 0.61	* 6.26

* Informative, not part of the valuation

Horizontal illuminance



Semi-cylindrical illuminance (west)

