

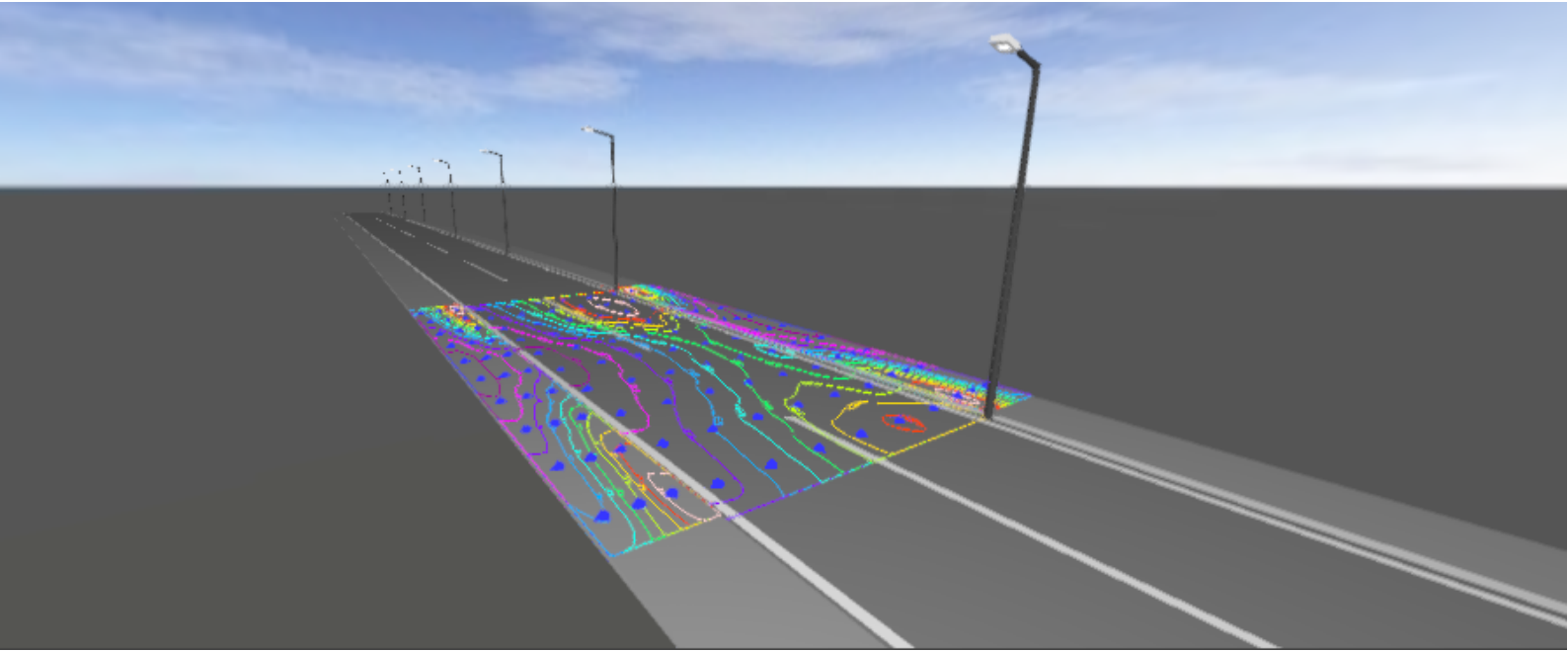
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Date:
2019-10-09



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



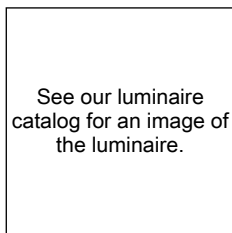
Content

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

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

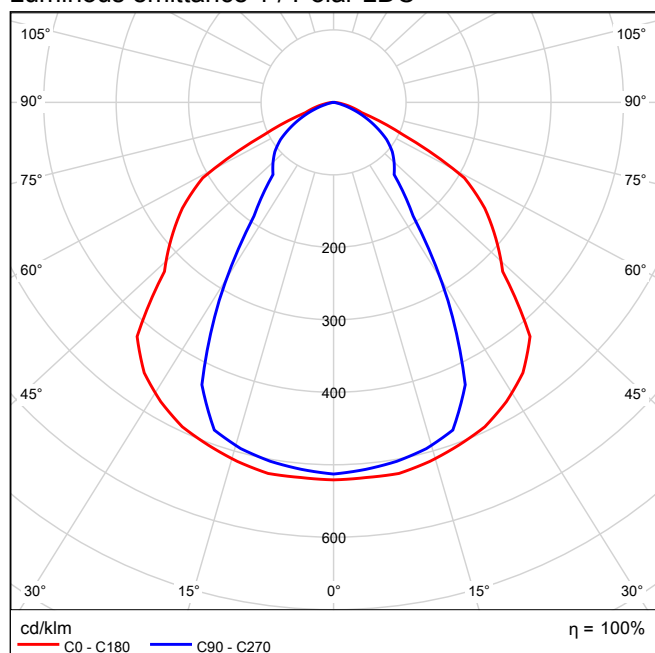
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九高 1x49

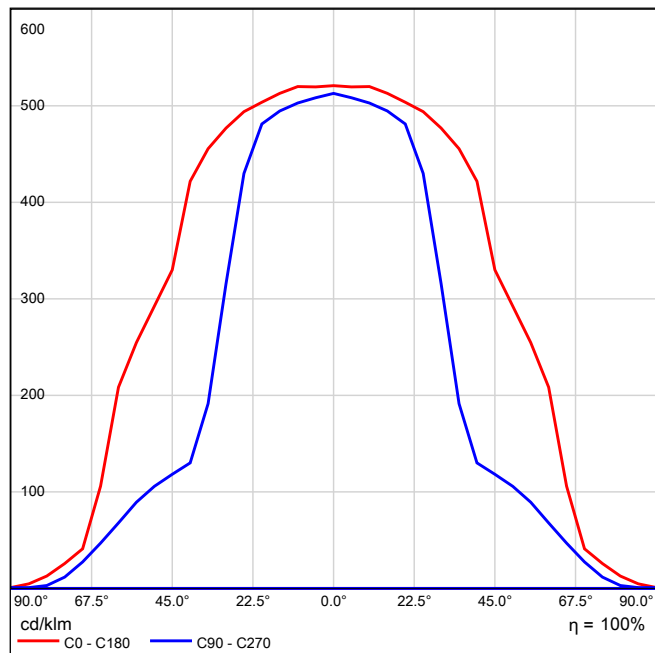


Light output ratio: 100.03%
Lamp luminous flux: 2403 lm
Luminaire luminous flux: 2404 lm
Power: 29.5 W
Luminous efficacy: 81.5 lm/W

Luminous emittance 1 / Polar LDC

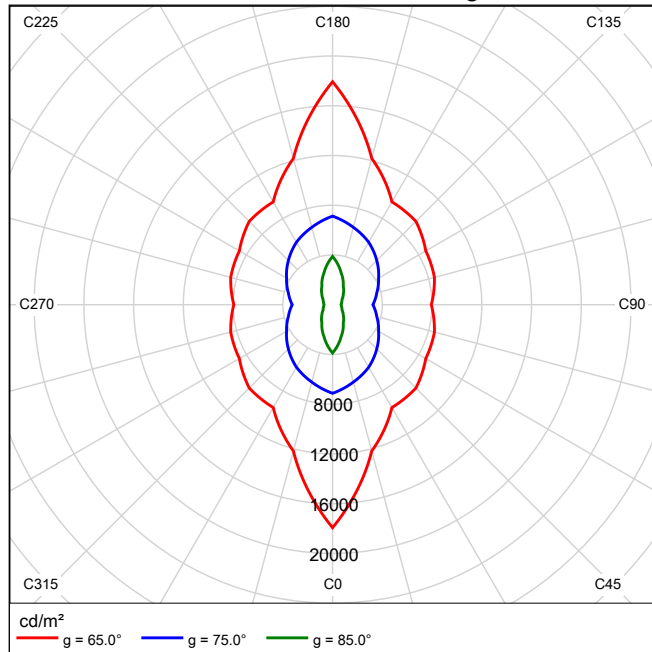


Luminous emittance 1 / Linear LDC



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

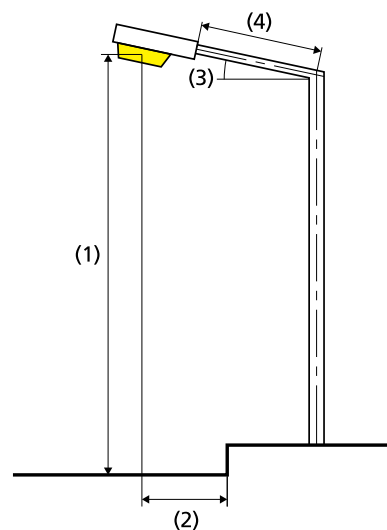
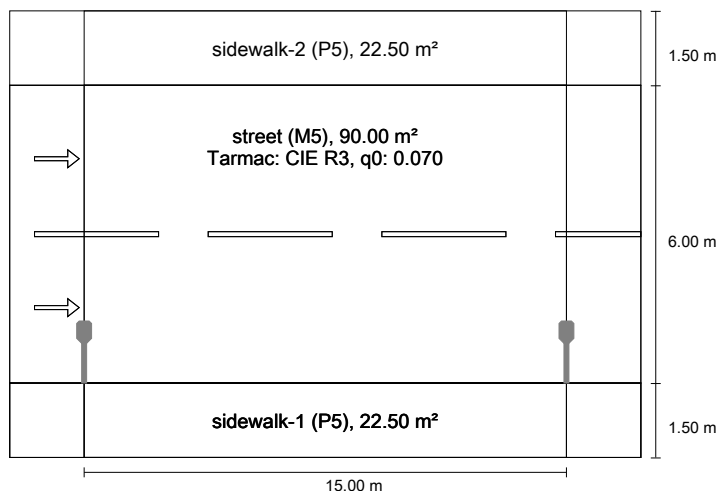
Luminous emittance 1 / Luminance diagram



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]
✓ 2.72	✓ 0.78	* 4.76

street (M5)

Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	UI ≥ 0.40	TI [%] ≤ 15	EIR
✓ 0.50	✓ 0.44	✓ 0.67	✓ 2	* 0.37

sidewalk-1 (P5)

Emin [lx] ≥ 0.60	Em [lx]	Emin (sc)
✓ 2.51	* 7.28	* 0.36

* Informative, not part of the valuation

Results for energy efficiency indicators

Power density indicator (Dp)	0.023 W/lxm²
Energy consumption density	
Arrangement: 30W路灯1_IESNA2002.IES (118.0 kWh/yr)	0.9 kWh/m² 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:	1976.0
Arrangement:	single side bottom
Pole distance:	15.000 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]
✓ 2.72	✓ 0.78	* 4.76

* Informative, not part of the valuation

sidewalk-2 (P5)

Horizontal illuminance [lx]

8.750	4.50	4.21	3.74	3.08	2.72	2.72	3.08	3.74	4.21	4.50
8.250	6.05	5.54	4.81	3.85	3.26	3.26	3.85	4.81	5.54	6.05
7.750	7.88	7.20	6.03	4.74	3.77	3.77	4.74	6.03	7.20	7.88
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
4.76	2.72	7.88	0.572	0.346

Semi-cylindrical illuminance (west) [lx]

8.750	1.24	1.41	1.42	1.17	1.07	0.82	0.78	0.82	0.91	1.06
8.250	1.62	1.72	1.77	1.52	1.25	0.98	0.93	0.92	1.03	1.34
7.750	2.12	2.36	2.33	1.96	1.45	1.19	1.08	1.04	1.27	1.69
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
1.34	0.78	2.36	0.584	0.332

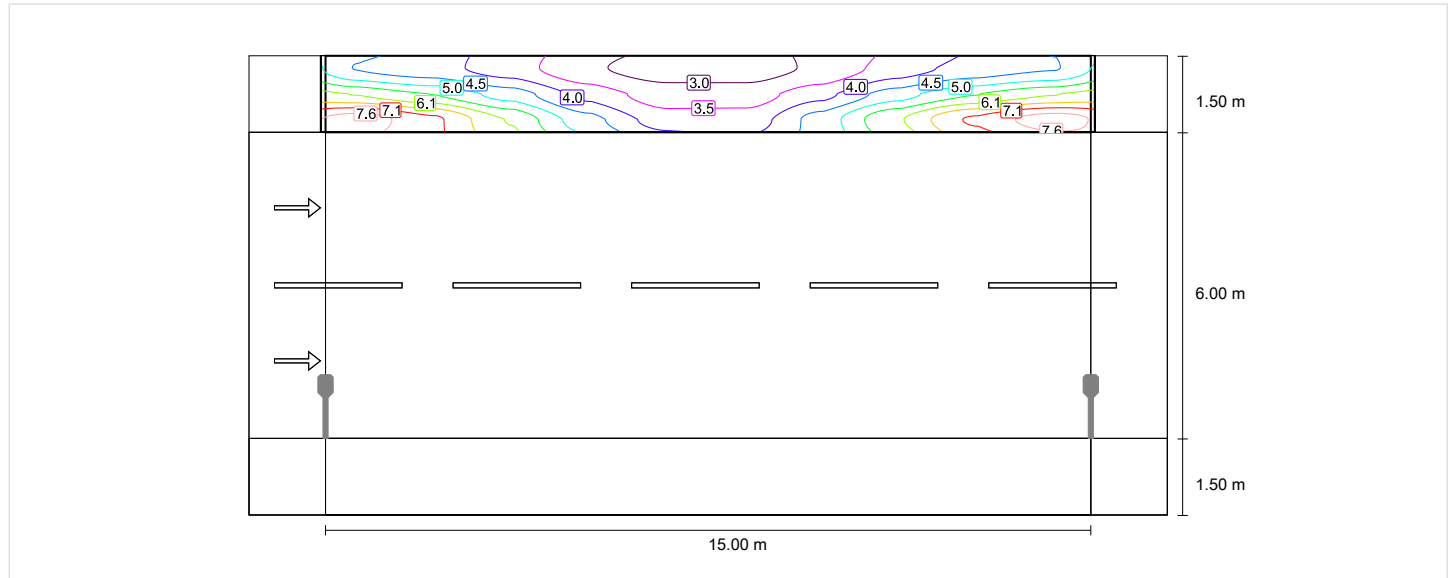
sidewalk-2 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

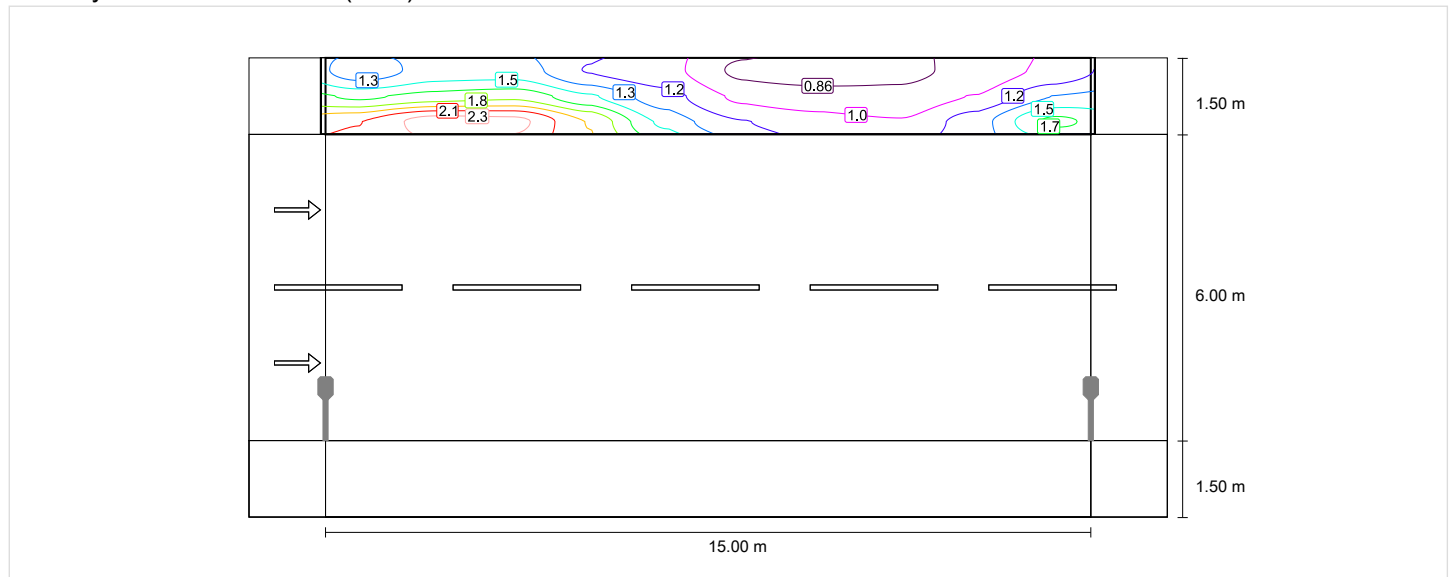
Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.72	✓ 0.78	* 4.76

* Informative, not part of the valuation

Horizontal illuminance



Semi-cylindrical illuminance (west)



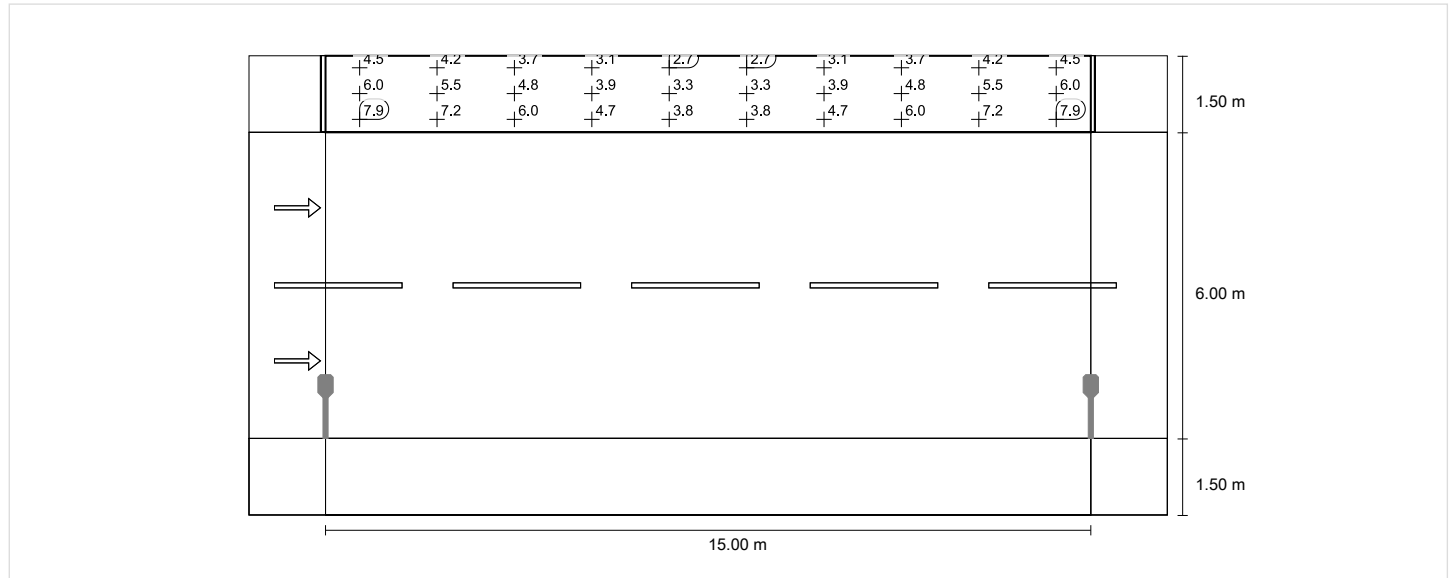
sidewalk-2 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

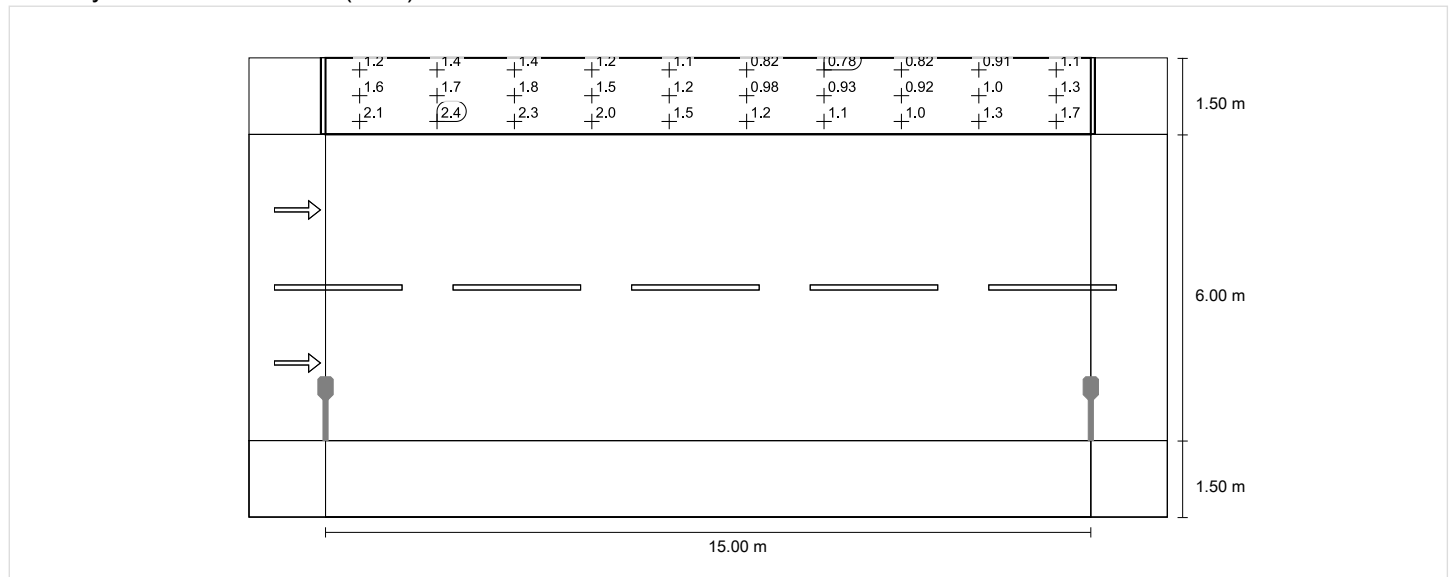
Emin [lx] ≥ 0.60	Emin (sc) ≥ 0.60	Em [lx]
✓ 2.72	✓ 0.78	* 4.76

* 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
✓ 0.50	✓ 0.44	✓ 0.67	✓ 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)	0.50	0.44	0.69	2
Observer 2	(-60.000, 6.000, 1.500)	0.51	0.45	0.67	2

street (M5)

Horizontal illuminance [lx]

7.000	10.9	9.68	7.84	6.25	4.61	4.61	6.25	7.84	9.68	10.9
6.000	14.4	12.5	9.82	7.45	5.51	5.51	7.45	9.82	12.5	14.4
5.000	17.8	15.2	11.5	8.43	6.03	6.03	8.43	11.5	15.2	17.8
4.000	21.0	17.5	12.9	9.01	6.32	6.32	9.01	12.9	17.5	21.0
3.000	22.0	18.1	13.0	8.57	6.20	6.20	8.57	13.0	18.1	22.0
2.000	21.0	17.2	12.1	7.28	5.62	5.62	7.28	12.1	17.2	21.0
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 6 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
11.5	4.61	22.0	0.400	0.210

Observer 1

Luminance with dry roadway [cd/m²]

7.000	0.34	0.32	0.28	0.25	0.22	0.22	0.27	0.30	0.34	0.34
6.000	0.44	0.41	0.35	0.31	0.29	0.30	0.37	0.41	0.45	0.46
5.000	0.54	0.51	0.43	0.39	0.37	0.38	0.49	0.56	0.58	0.57
4.000	0.66	0.60	0.53	0.48	0.46	0.48	0.61	0.69	0.71	0.70
3.000	0.70	0.62	0.57	0.54	0.54	0.58	0.68	0.76	0.78	0.75
2.000	0.65	0.56	0.49	0.46	0.48	0.52	0.57	0.71	0.73	0.71
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.50	0.22	0.78	0.437	0.279

Luminance with new lamp [cd/m²]

7.000	0.51	0.48	0.41	0.38	0.32	0.33	0.40	0.44	0.50	0.51
6.000	0.66	0.62	0.53	0.47	0.43	0.44	0.55	0.61	0.67	0.68
5.000	0.81	0.76	0.64	0.58	0.55	0.57	0.73	0.83	0.86	0.85
4.000	0.99	0.90	0.79	0.72	0.69	0.72	0.91	1.04	1.07	1.04
3.000	1.05	0.92	0.85	0.81	0.80	0.86	1.02	1.14	1.16	1.12
2.000	0.97	0.83	0.73	0.69	0.72	0.77	0.85	1.06	1.09	1.05
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.74	0.32	1.16	0.437	0.279

Observer 2

Luminance with dry roadway [cd/m²]

7.000	0.35	0.33	0.29	0.26	0.23	0.24	0.29	0.31	0.34	0.35
6.000	0.45	0.43	0.38	0.33	0.31	0.32	0.39	0.43	0.46	0.47
5.000	0.56	0.53	0.47	0.43	0.40	0.41	0.52	0.59	0.60	0.59
4.000	0.69	0.64	0.58	0.53	0.50	0.53	0.64	0.72	0.74	0.72
3.000	0.70	0.62	0.58	0.55	0.54	0.58	0.69	0.77	0.79	0.75
2.000	0.63	0.54	0.46	0.43	0.45	0.48	0.55	0.69	0.71	0.69
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.51	0.23	0.79	0.450	0.291

Luminance with new lamp [cd/m²]

7.000	0.52	0.49	0.43	0.39	0.34	0.35	0.43	0.46	0.51	0.52
6.000	0.68	0.64	0.56	0.49	0.47	0.47	0.59	0.64	0.69	0.70
5.000	0.84	0.79	0.70	0.63	0.59	0.61	0.77	0.88	0.89	0.88
4.000	1.03	0.95	0.86	0.79	0.75	0.79	0.96	1.08	1.10	1.07
3.000	1.05	0.92	0.86	0.82	0.81	0.87	1.03	1.15	1.17	1.13
2.000	0.94	0.80	0.69	0.64	0.67	0.72	0.82	1.03	1.06	1.03
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 6 Points

Lm [cd/m ²]	Lmin [cd/m ²]	Lmax [cd/m ²]	g1	g2
0.76	0.34	1.17	0.450	0.291

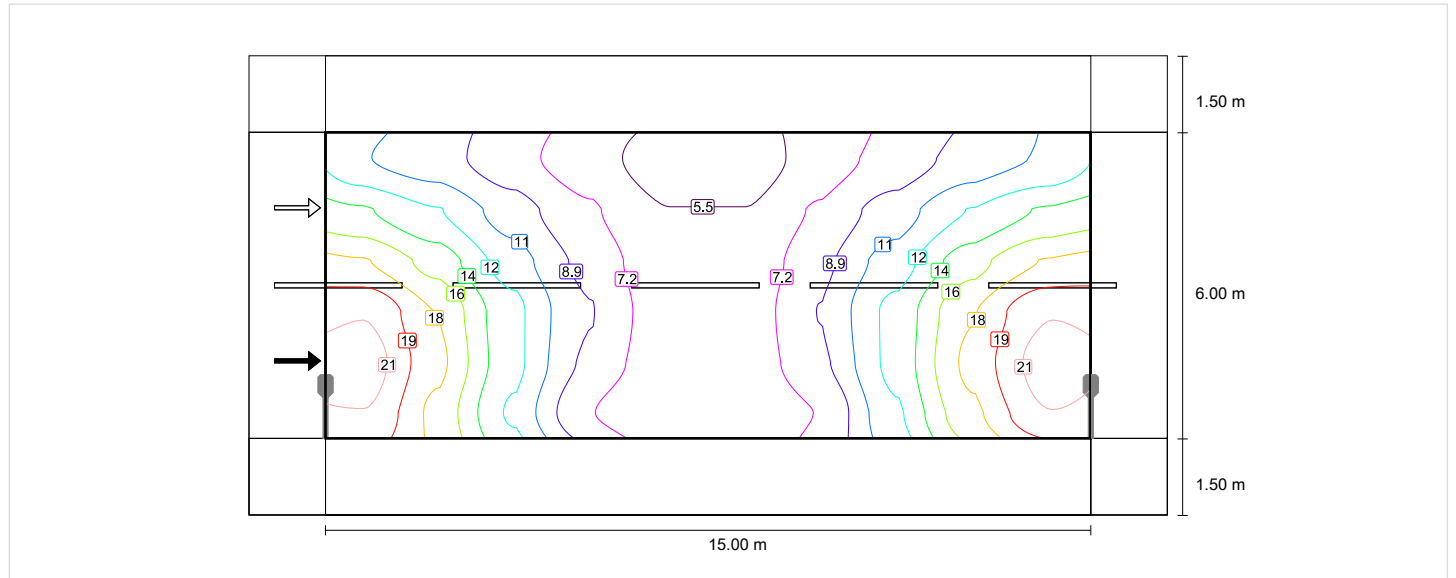
street (M5)

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	
✓ 0.50	✓ 0.44	✓ 0.67	✓ 2	* 0.37

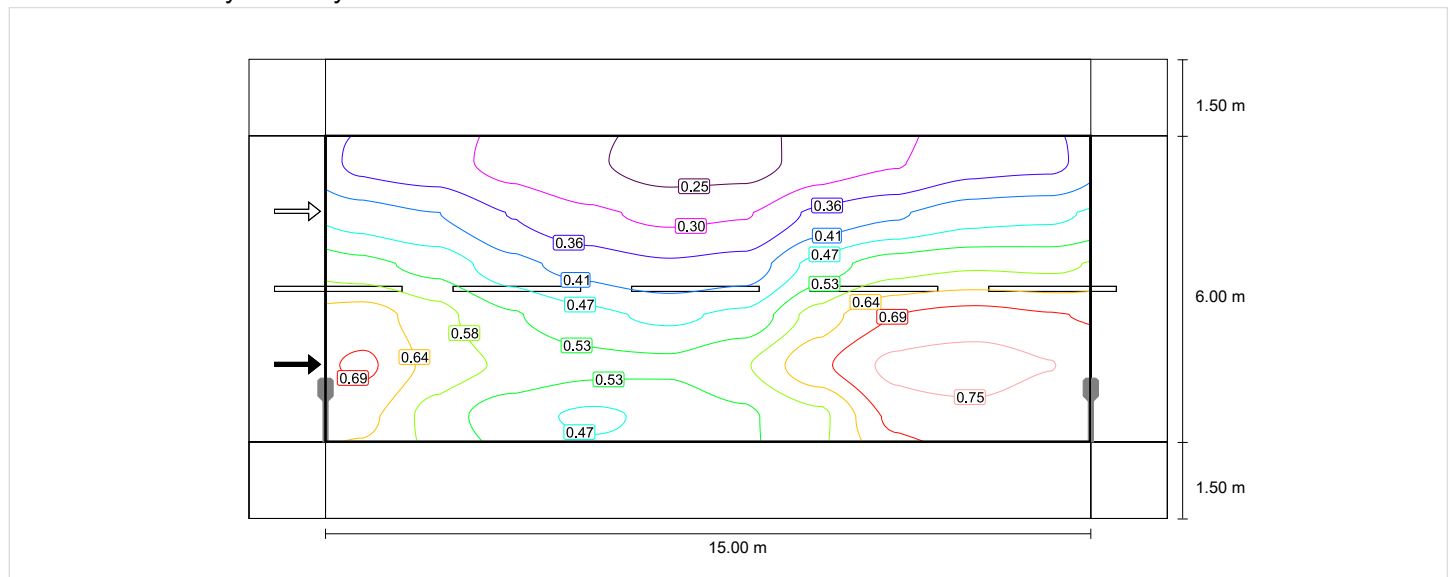
* Informative, not part of the valuation

Horizontal illuminance

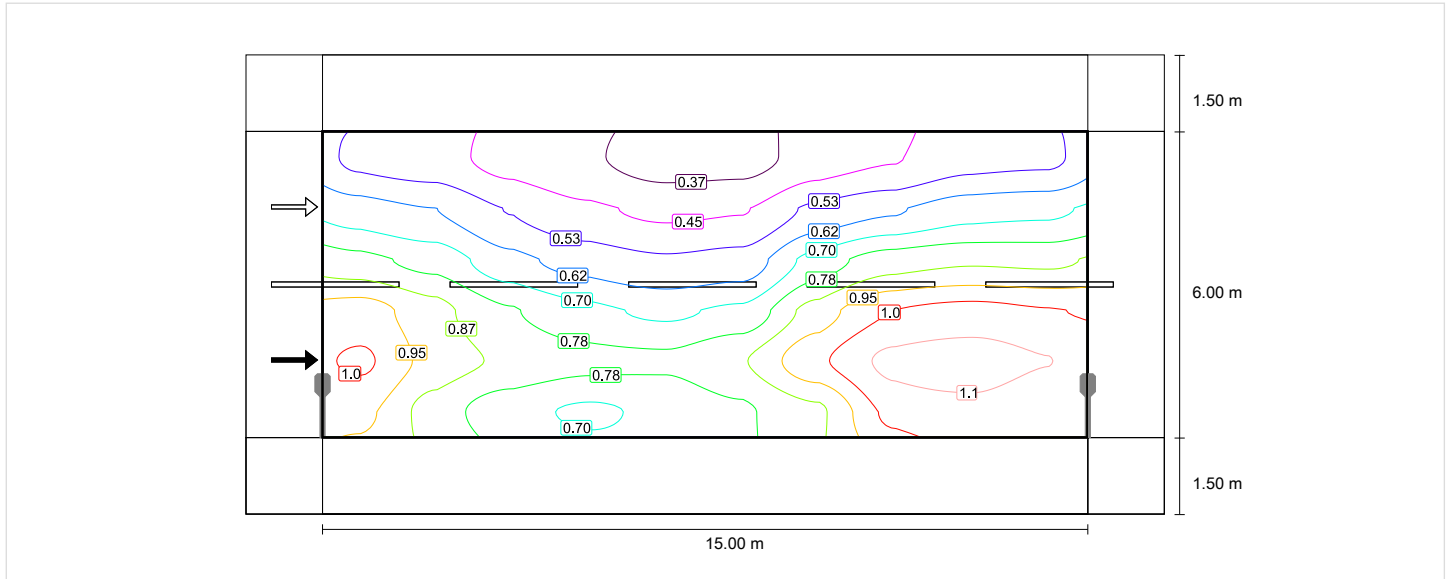


Observer 1

Luminance with dry roadway

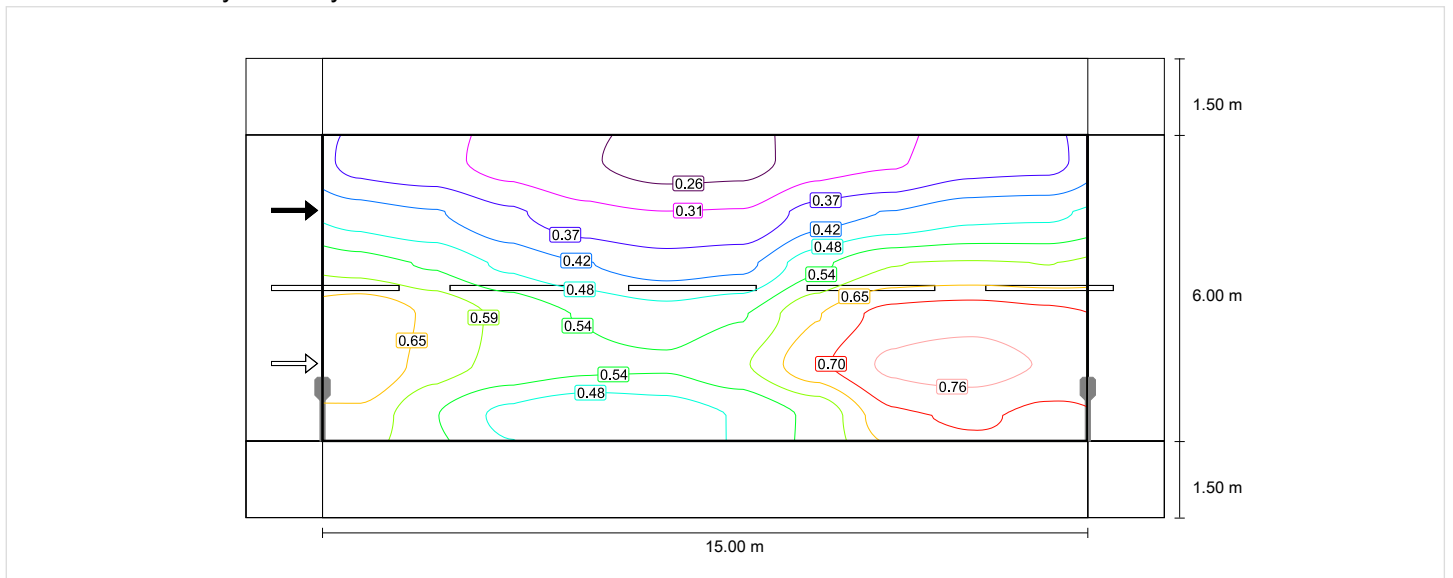


Luminance with new lamp

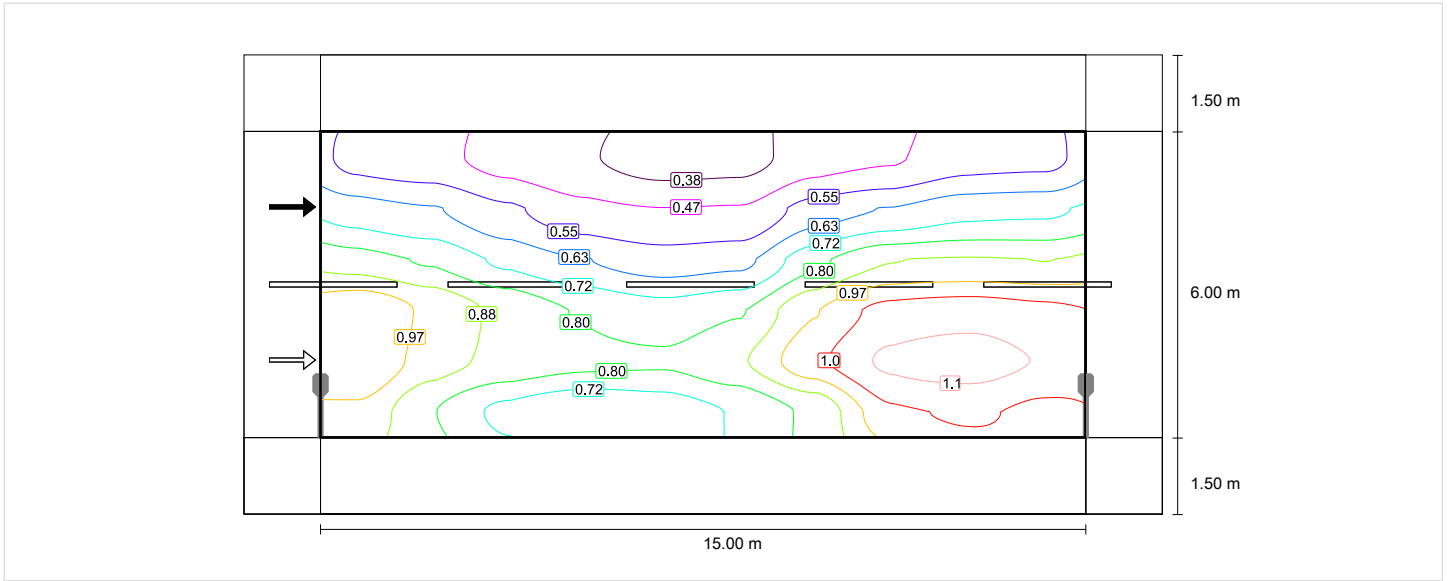


Observer 2

Luminance with dry roadway



Luminance with new lamp



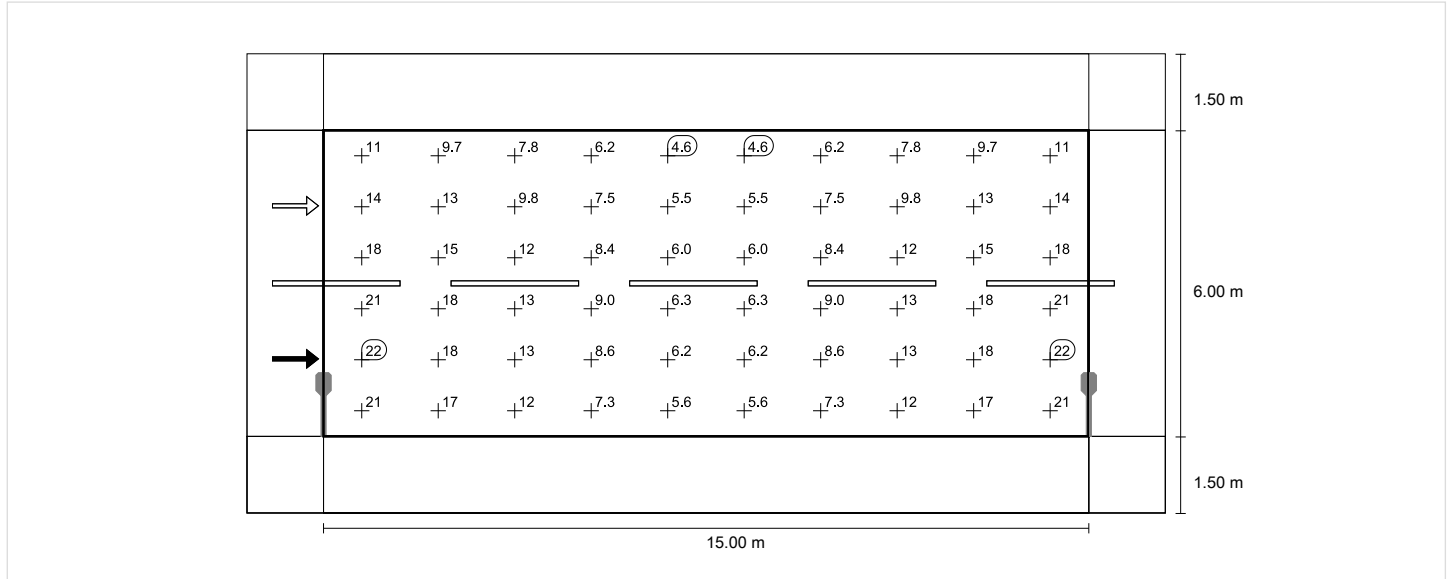
street (M5)

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
✓ 0.50	✓ 0.44	✓ 0.67	✓ 2	* 0.37

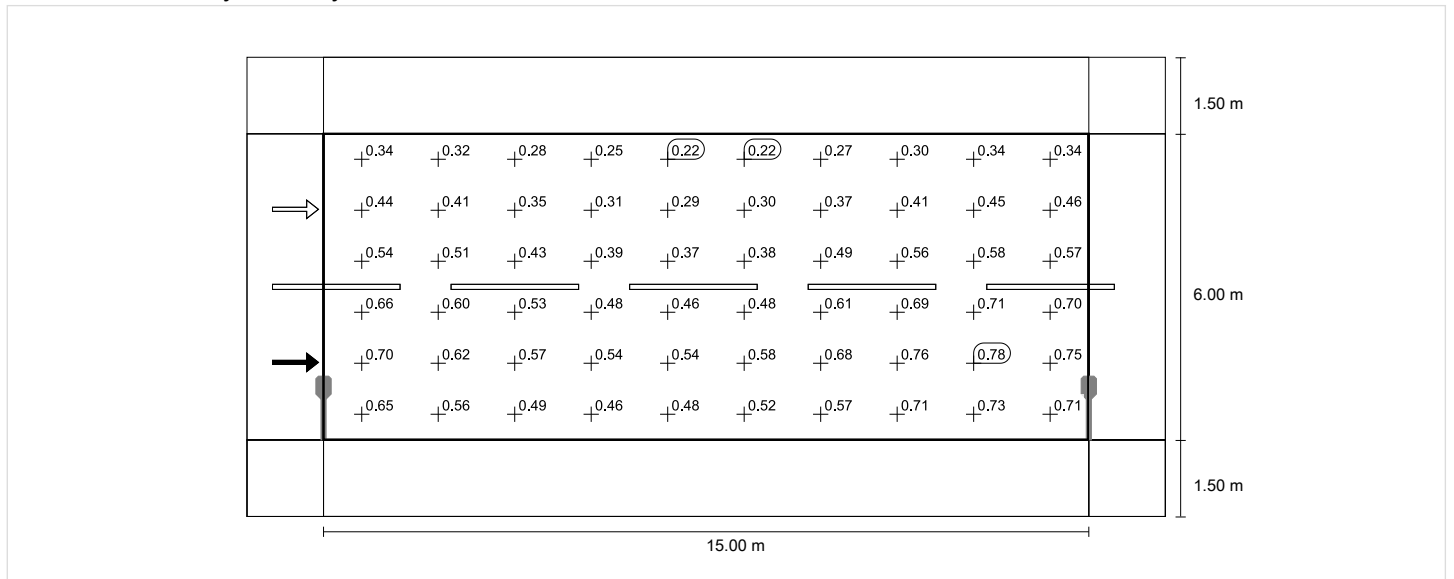
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Horizontal illuminance

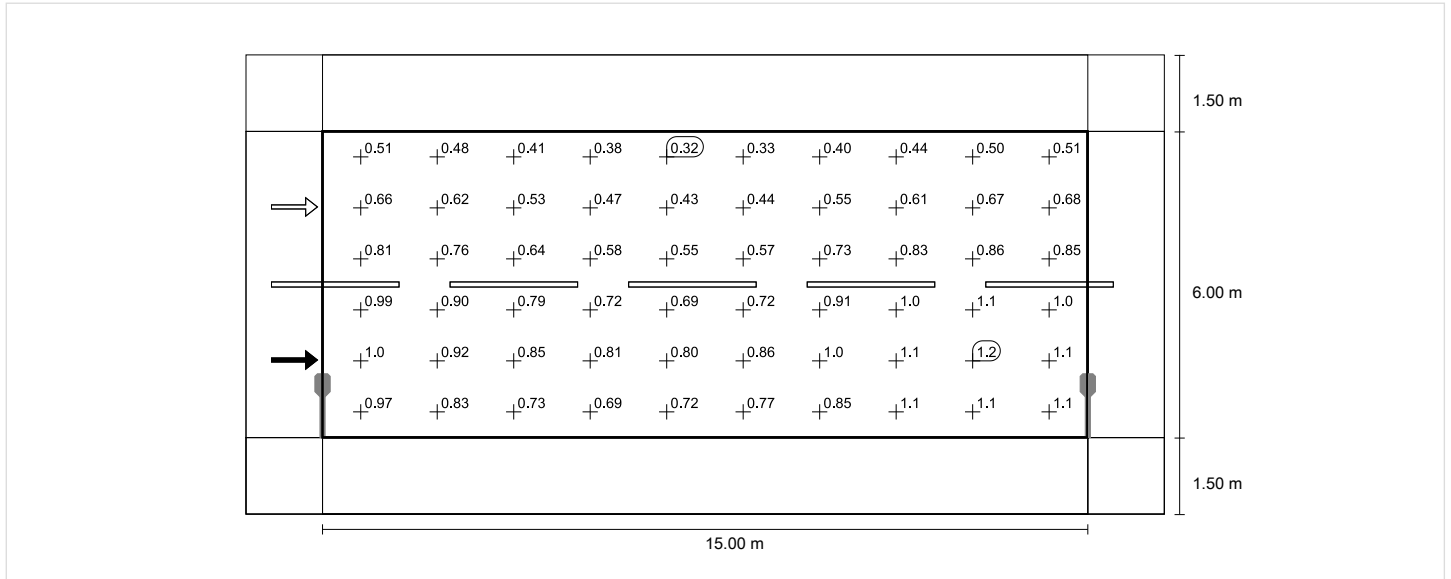


Observer 1

Luminance with dry roadway

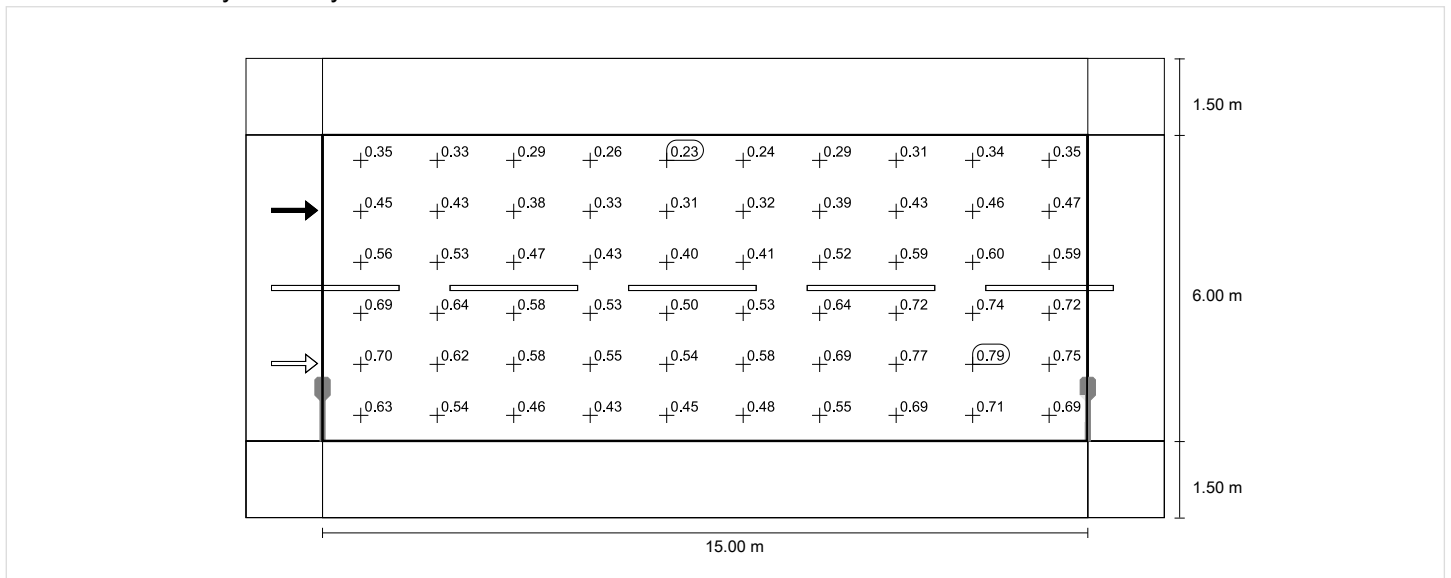


Luminance with new lamp

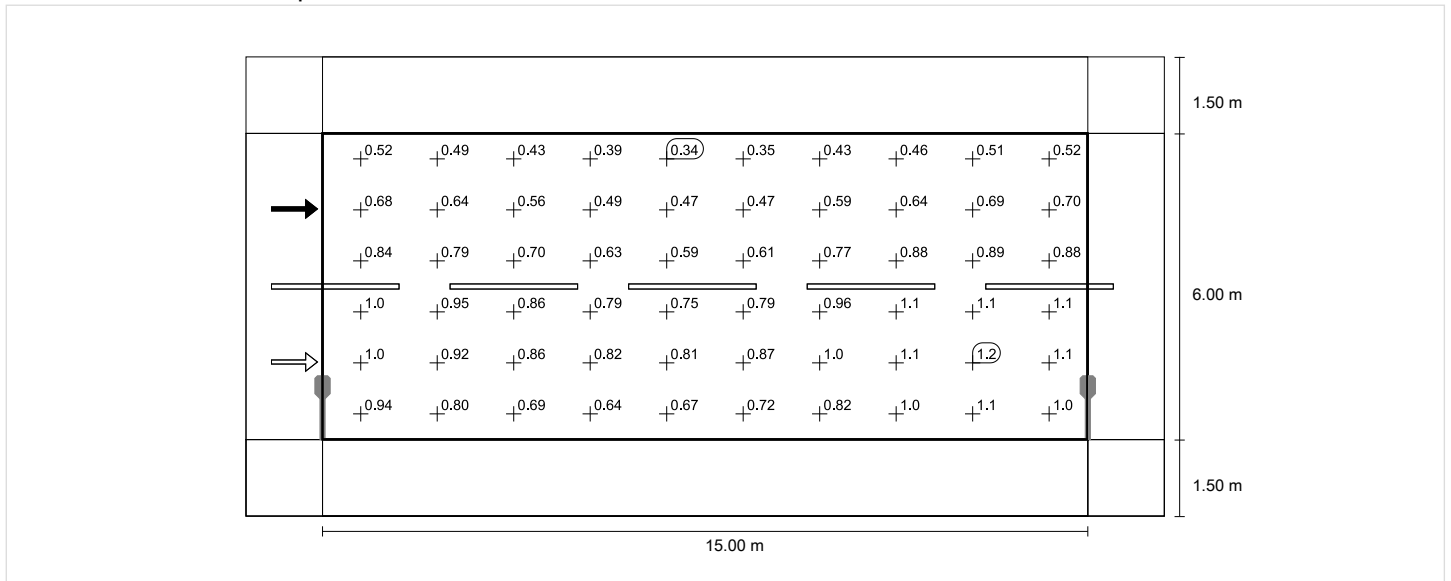


Observer 2

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	Em [lx]	Emin (sc)
✓ 2.51	* 7.28	* 0.36

* Informative, not part of the valuation

sidewalk-1 (P5)

Horizontal illuminance [lx]

1.250	16.6	13.7	9.43	5.80	4.35	4.35	5.80	9.43	13.7	16.6
0.750	11.5	9.70	6.76	4.51	3.41	3.41	4.51	6.76	9.70	11.5
0.250	7.18	5.93	4.43	3.30	2.51	2.51	3.30	4.43	5.93	7.18
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
7.28	2.51	16.6	0.345	0.151

Semi-cylindrical illuminance (west) [lx]

1.250	3.40	5.30	4.39	2.78	1.88	0.78	0.48	0.37	0.53	1.19
0.750	2.21	3.30	2.87	1.88	1.31	0.66	0.43	0.38	0.55	1.04
0.250	1.64	2.18	1.95	1.29	0.92	0.56	0.38	0.36	0.51	0.92
m	0.750	2.250	3.750	5.250	6.750	8.250	9.750	11.250	12.750	14.250

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
1.55	0.36	5.30	0.235	0.069

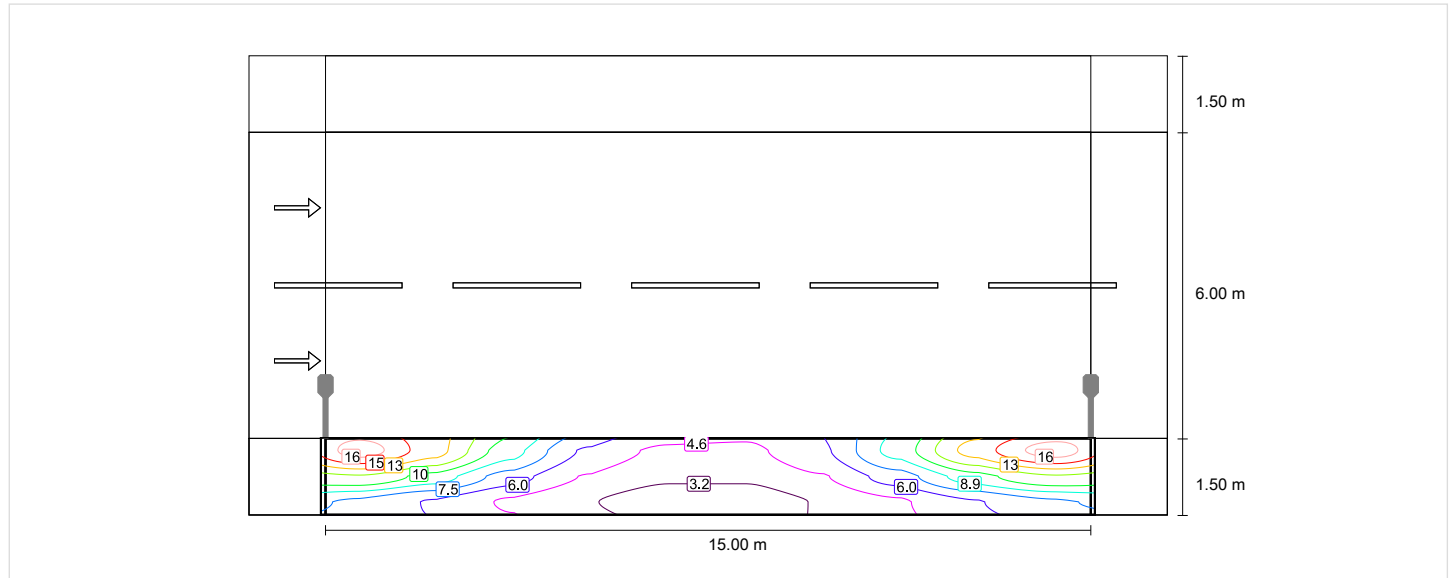
sidewalk-1 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

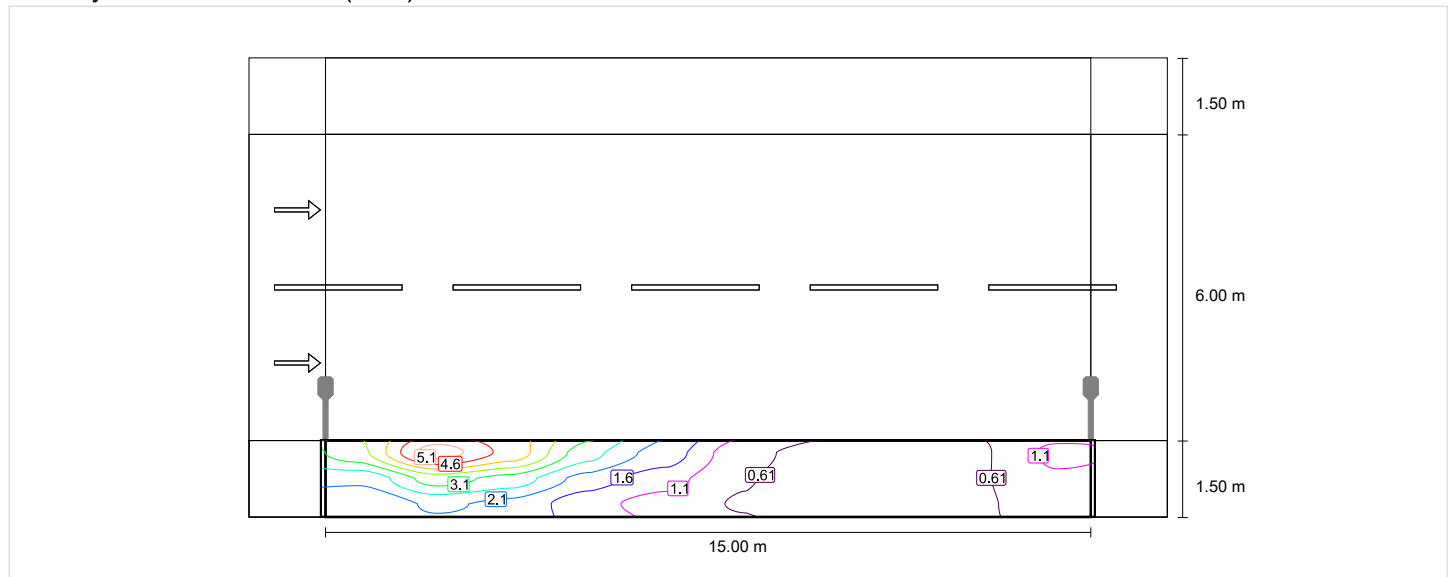
Emin [lx] ≥ 0.60	Em [lx]	Emin (sc)
✓ 2.51	* 7.28	* 0.36

* Informative, not part of the valuation

Horizontal illuminance



Semi-cylindrical illuminance (west)



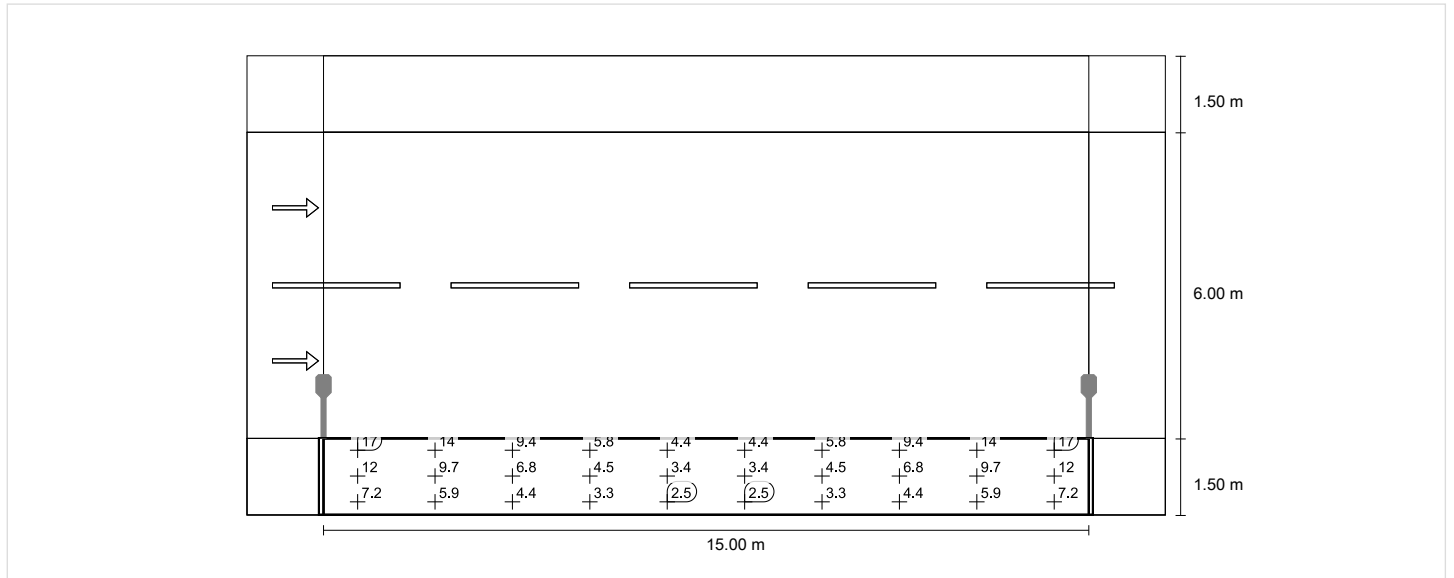
sidewalk-1 (P5)

Light loss factor: 0.67
 Grid: 10 x 3 Points

Emin [lx] ≥ 0.60	Em [lx]	Emin (sc)
✓ 2.51	* 7.28	* 0.36

* Informative, not part of the valuation

Horizontal illuminance



Semi-cylindrical illuminance (west)

