

**Mererohu tee tänavavalgustus ja sidevarustus; Kõide I -
Tänavavalgustus**

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Mererohu tee · Alternative 1

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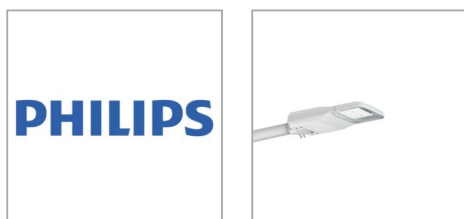
Luminaire list

Φ_{total} 22680 lm	P_{total} 167.5 W	Luminous efficacy 135.4 lm/W
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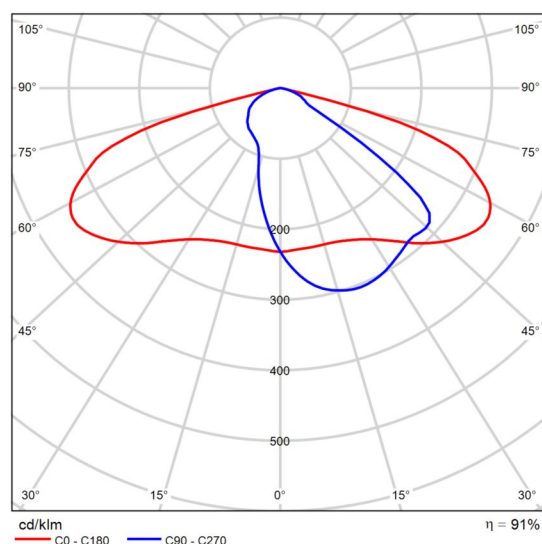
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
5	Philips		BGP281 T25 1 xLED50-4S/730 DM32	33.5 W	4536 lm	135.4 lm/W

Product data sheet

Philips - BGP281 T25 1 xLED50-4S/730 DM32



P	33.5 W
Φ_{Lamp}	5000 lm
$\Phi_{\text{Luminaire}}$	4536 lm
η	90.72 %
Luminous efficacy	135.4 lm/W
CCT	3000 K
CRI	70



Polar LDC

The easy way to ledify your road lighting – UniStreet gen2 Designed for large-scale ledification projects, the UniStreet gen2 is the ideal 1:1 luminaire replacement for municipalities. Thanks to its high efficiency and low initial cost, the UniStreet gen2 luminaire enables a fast payback and significant savings in terms of energy consumption within a short period of time. The ease of installation and maintenance is enabled by the Philips Service tag and the Philips SR (System Ready) socket makes it future-ready and you can pair this luminaire with lighting control and software applications such as Interact City.

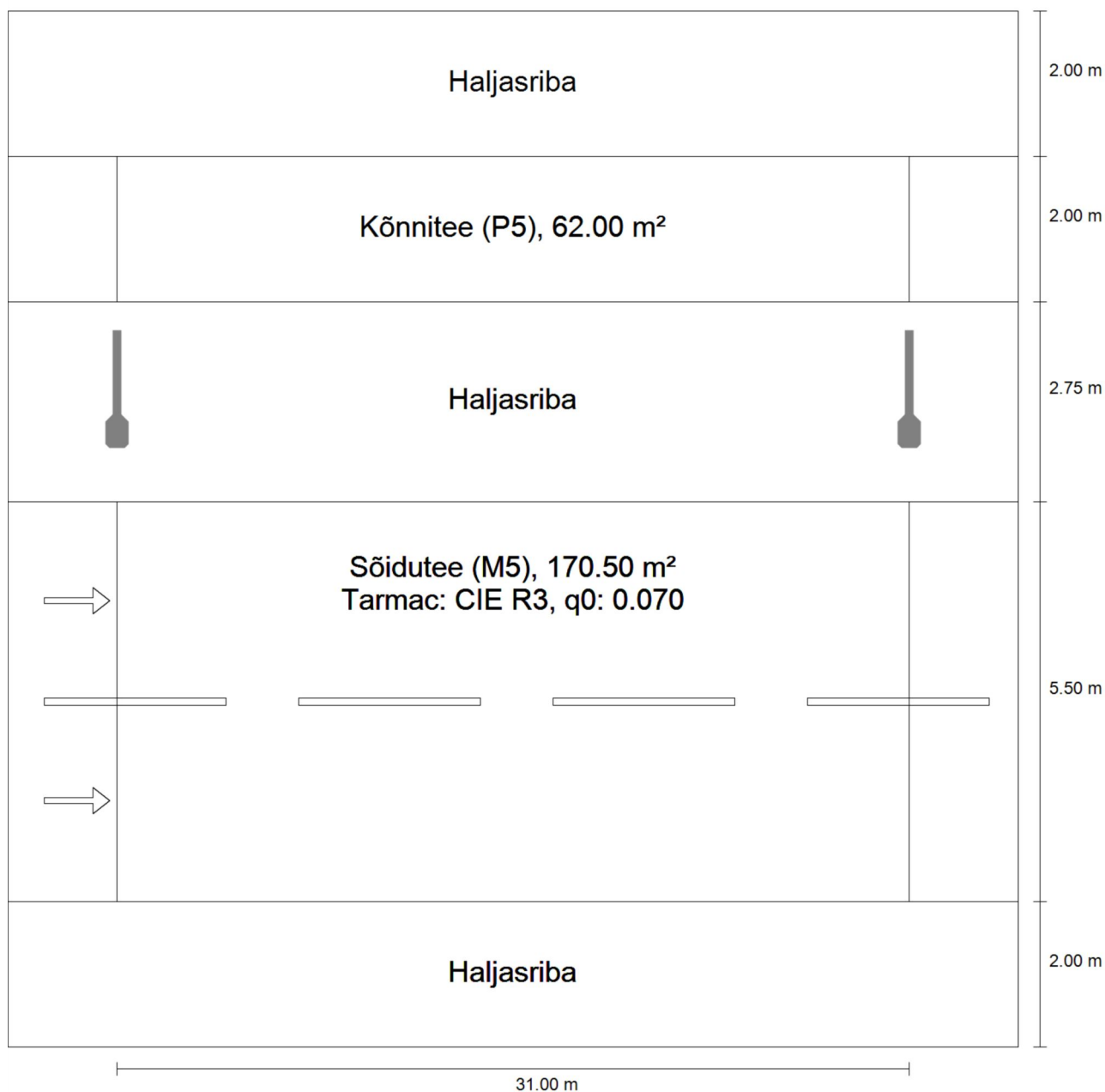
Available with a number of different optics and lumen packages that can even be tuned further to fit exact project requirements, UniStreet gen2 is a true point-to-point replacement solution for conventional light sources. The compact luminaire, using high-quality materials is also easy to dismantle and recycle at the end of its lifetime.



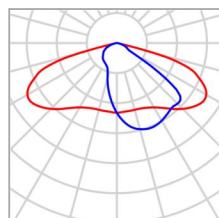
Mererohu tee
Description

Mererohu tee

Summary (according to EN 13201:2015)



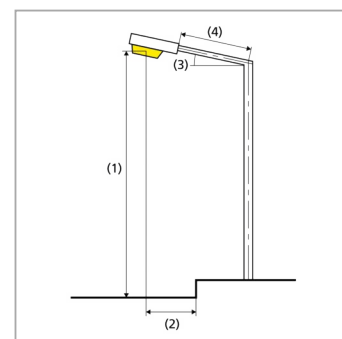
Mererohu tee

Summary (according to EN 13201:2015)

Manufacturer	Philips	P	33.5 W
Article name	BGP281 T25 1 xLED50-4S/730 DM32	Φ_{Lamp}	5000 lm
Fitting	1x LED50-4S/730	$\Phi_{\text{Luminaire}}$	4536 lm
		η	90.72 %

BGP281 T25 1 xLED50-4S/730 DM32 (single side top)

Pole distance	31.000 m
(1) Light spot height	8.000 m
(2) Light point overhang	-1.000 m
(3) Boom inclination	0.0°
(4) Boom length	1.000 m
Annual operating hours	4000 h: 100.0 %, 33.5 W
Consumption	1072.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	$\geq 70^\circ$: 494 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	$\geq 80^\circ$: 14.2 cd/klm $\geq 90^\circ$: 0.00 cd/klm
Luminous intensity class	G*4
The luminous intensity values in [cd/klm] for calculation of the luminous intensity class refer to the luminaire luminous flux according to EN 13201:2015.	
Glare index class	D.6
MF	0.80



Mererohu tee

Summary (according to EN 13201:2015)

Results for valuation fields

A maintenance factor of 0.80 was used for calculating for the installation.

	Symbol	Calculated	Target	Check
Kõnnitee (P5)	E_{av}	3.00 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.16 lx	≥ 0.60 lx	✓
Sõidutee (M5)	L_{av}	0.56 cd/m ²	≥ 0.50 cd/m ²	✓
	U_o	0.53	≥ 0.35	✓
	U_l	0.70	≥ 0.40	✓
	TI	9 %	≤ 15 %	✓
	R_{EI}	0.71	≥ 0.30	✓

Results for energy efficiency indicators

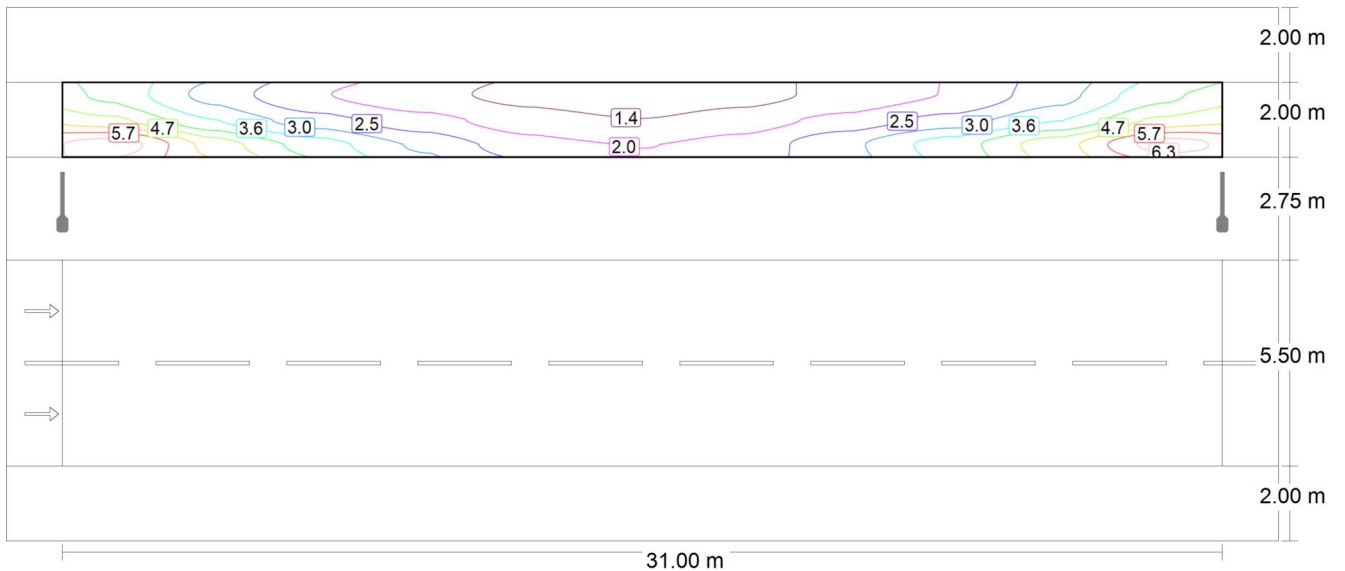
	Symbol	Calculated	Consumption
Mererohu tee	D_p	0.019 W/lx*m ²	-
BGP281 T25 1 xLED50-4S/730 DM32 (single side top)	D_e	0.6 kWh/m ² yr	134.0 kWh/yr

Mererohu tee

Kõnnitee (P5)

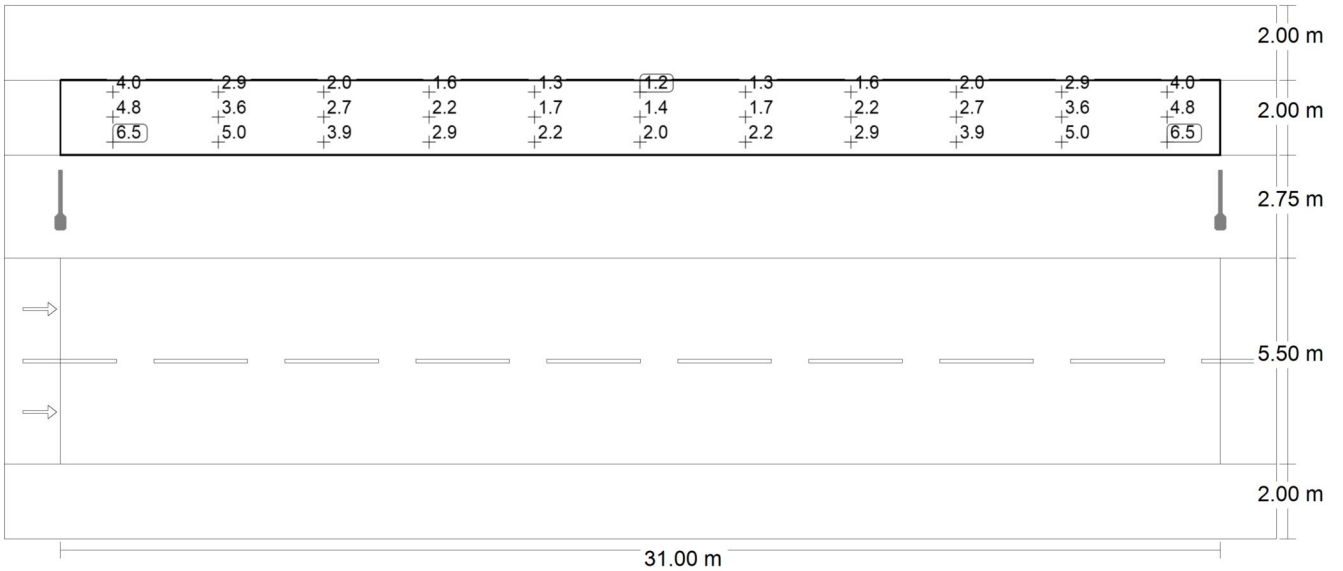
Results for valuation field

	Symbol	Calculated	Target	Check
Kõnnitee (P5)	E_{av}	3.00 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.16 lx	≥ 0.60 lx	✓



Maintenance value, horizontal illuminance [lx] (Iso-illuminance curves)

Mererohu tee
Kõnnitee (P5)



Maintenance value, horizontal illuminance [lx] (Value grid)

m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
11.917	3.99	2.86	2.00	1.60	1.27	1.16	1.27	1.60	2.00	2.86	3.99
11.250	4.80	3.57	2.74	2.17	1.69	1.45	1.69	2.17	2.74	3.57	4.80
10.583	6.55	4.97	3.86	2.94	2.20	1.95	2.20	2.94	3.86	4.97	6.55

Maintenance value, horizontal illuminance [lx] (Value chart)

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	3.00 lx	1.16 lx	6.55 lx	0.39	0.18

Mererohu tee

Sõidutee (M5)

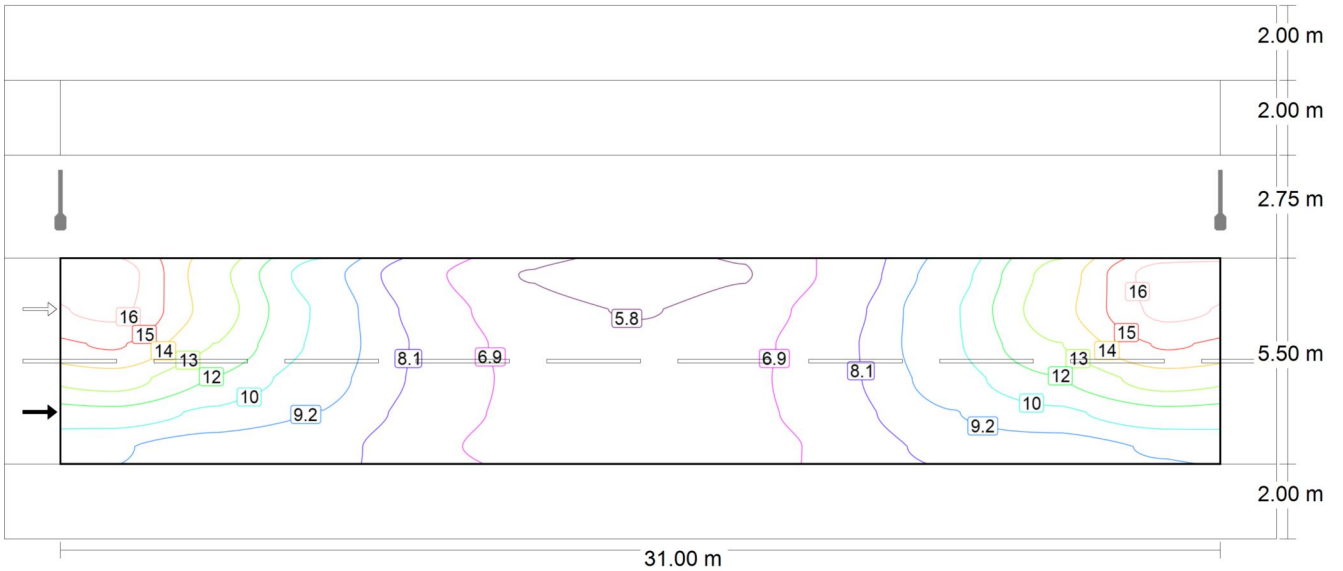
Results for valuation field

	Symbol	Calculated	Target	Check
Sõidutee (M5)	L_{av}	0.56 cd/m ²	≥ 0.50 cd/m ²	✓
	U_o	0.53	≥ 0.35	✓
	U_l	0.70	≥ 0.40	✓
	TI	9 %	≤ 15 %	✓
	R_{El}	0.71	≥ 0.30	✓

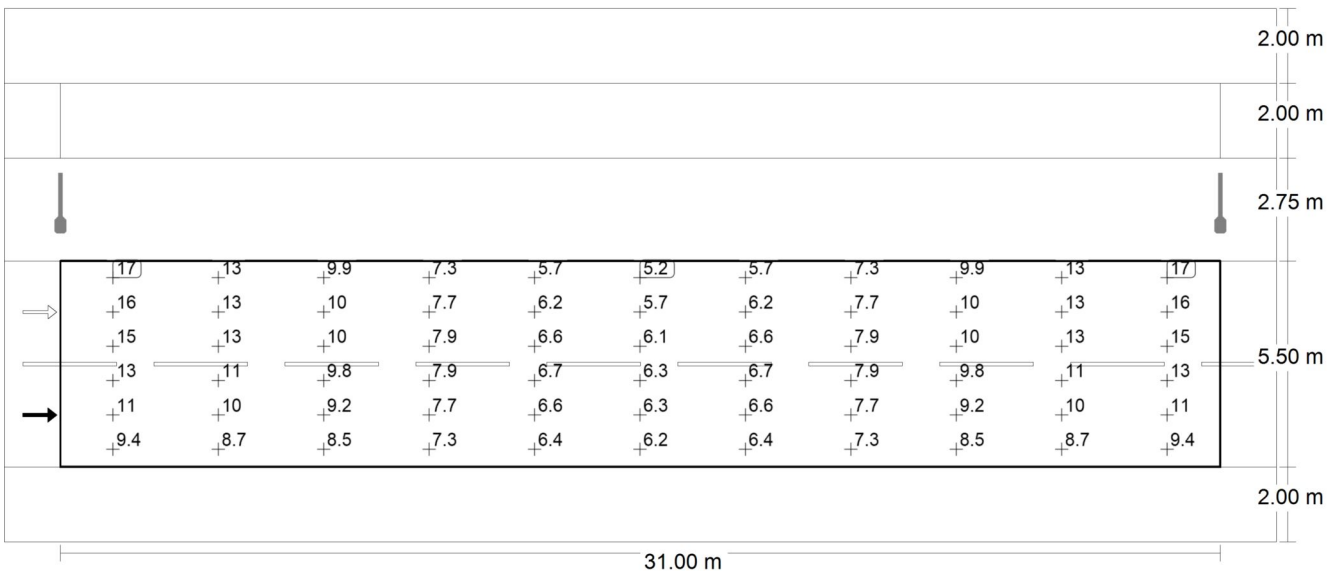
Results for observer

	Symbol	Calculated	Target	Check
Observer 1 Position: -60.000 m, 3.375 m, 1.500 m	L_{av}	0.60 cd/m ²	≥ 0.50 cd/m ²	✓
	U_o	0.53	≥ 0.35	✓
	U_l	0.70	≥ 0.40	✓
	TI	6 %	≤ 15 %	✓
Observer 2 Position: -60.000 m, 6.125 m, 1.500 m	L_{av}	0.56 cd/m ²	≥ 0.50 cd/m ²	✓
	U_o	0.55	≥ 0.35	✓
	U_l	0.70	≥ 0.40	✓
	TI	9 %	≤ 15 %	✓

Mererohu tee
Sõidutee (M5)



Maintenance value, horizontal illuminance [lx] (Iso-illuminance curves)



Maintenance value, horizontal illuminance [lx] (Value grid)

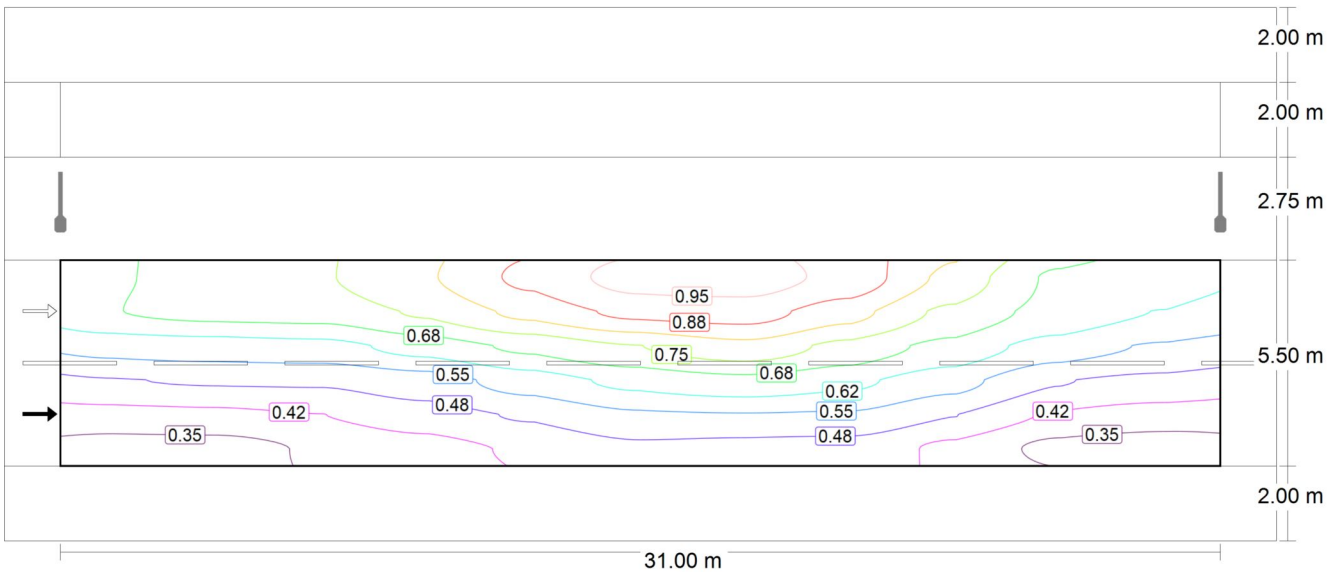
m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591	
	7.042	16.68	13.09	9.86	7.27	5.73	5.22	5.73	7.27	9.86	13.09	16.68

Mererohu tee
Sõidutee (M5)

m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
6.125	16.39	13.37	10.28	7.73	6.23	5.73	6.23	7.73	10.28	13.37	16.39
5.208	15.08	12.65	10.22	7.93	6.56	6.09	6.56	7.93	10.22	12.65	15.08
4.292	13.20	11.45	9.80	7.90	6.66	6.31	6.66	7.90	9.80	11.45	13.20
3.375	11.16	10.10	9.19	7.68	6.61	6.33	6.61	7.68	9.19	10.10	11.16
2.458	9.36	8.73	8.51	7.30	6.40	6.20	6.40	7.30	8.51	8.73	9.36

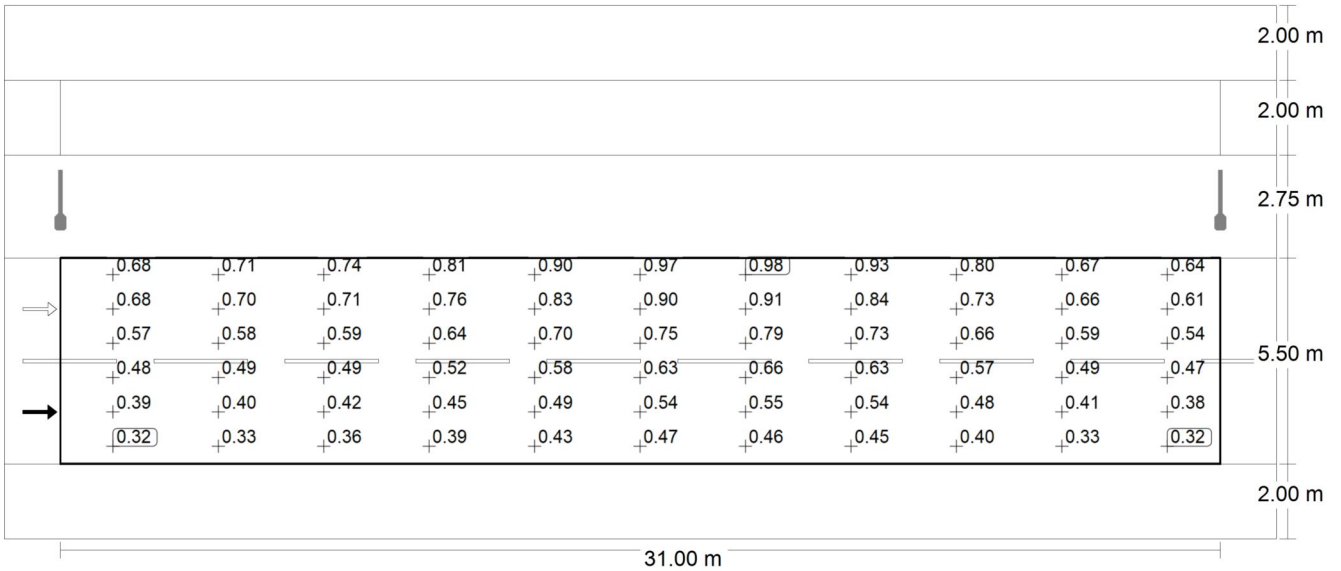
Maintenance value, horizontal illuminance [lx] (Value chart)

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	9.43 lx	5.22 lx	16.7 lx	0.55	0.31



Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Iso-illuminance curves)

Mererohu tee
Sõidutee (M5)



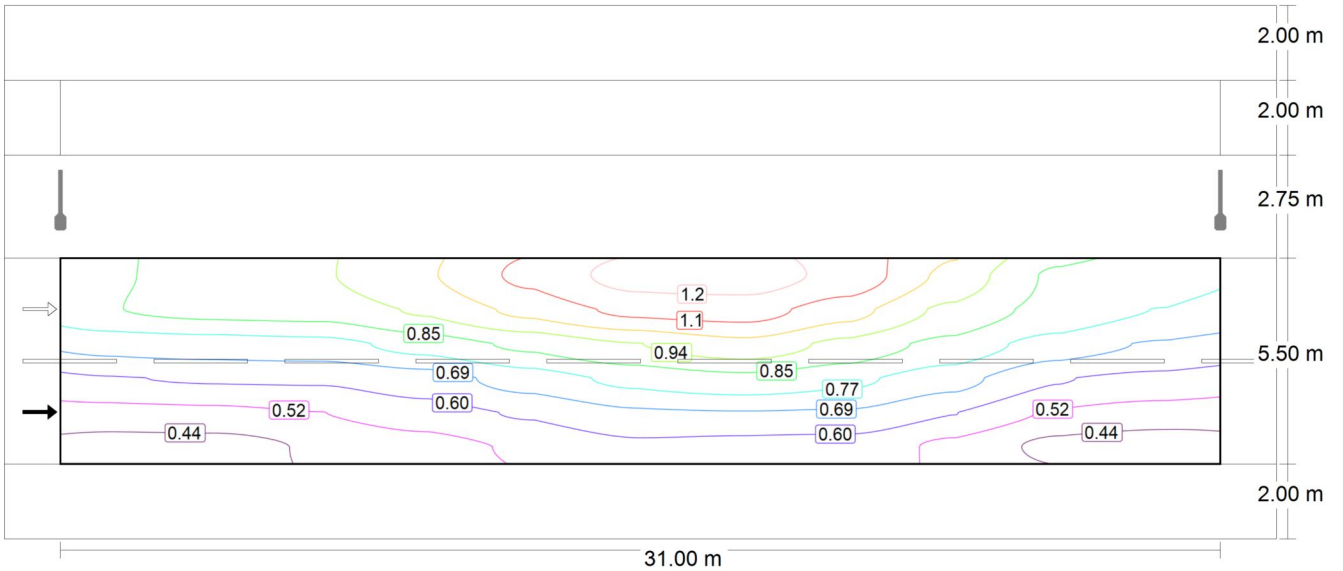
Observer 1: Maintenance value, luminance with dry roadway [cd/m²] (Value grid)

m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
7.042	0.68	0.71	0.74	0.81	0.90	0.97	0.98	0.93	0.80	0.67	0.64
6.125	0.68	0.70	0.71	0.76	0.83	0.90	0.91	0.84	0.73	0.66	0.61
5.208	0.57	0.58	0.59	0.64	0.70	0.75	0.79	0.73	0.66	0.59	0.54
4.292	0.48	0.49	0.49	0.52	0.58	0.63	0.66	0.63	0.57	0.49	0.47
3.375	0.39	0.40	0.42	0.45	0.49	0.54	0.55	0.54	0.48	0.41	0.38
2.458	0.32	0.33	0.36	0.39	0.43	0.47	0.46	0.45	0.40	0.33	0.32

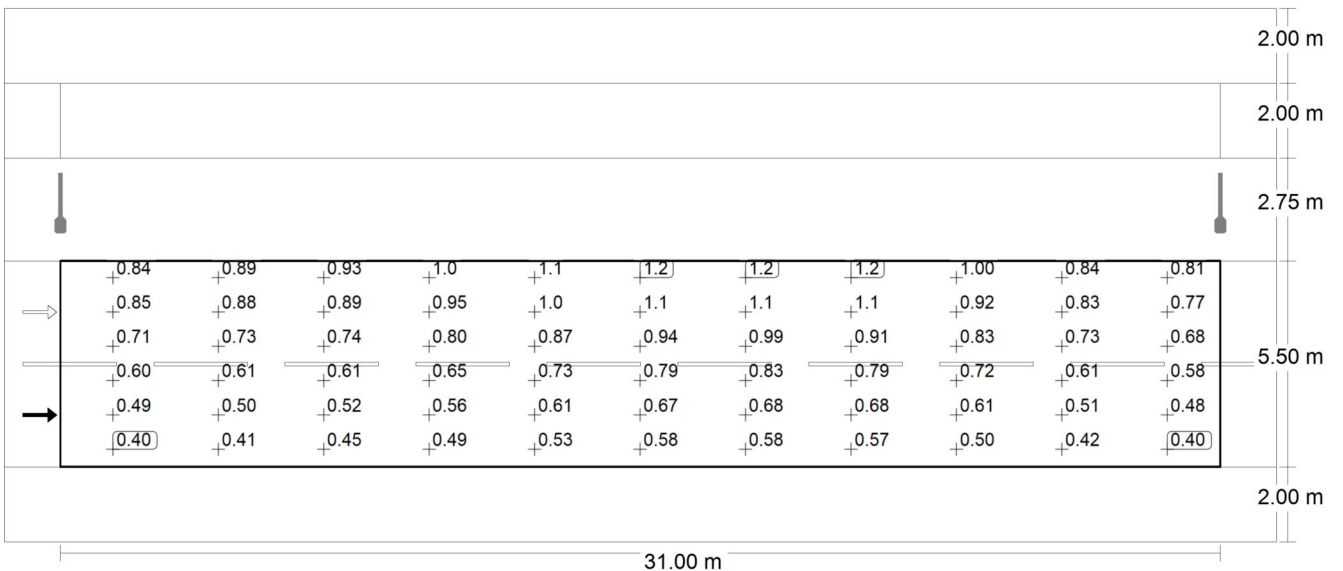
Observer 1: Maintenance value, luminance with dry roadway [cd/m²] (Value chart)

	L _{av}	L _{min}	L _{max}	g ₁	g ₂
Observer 1: Maintenance value, luminance with dry roadway	0.60 cd/m ²	0.32 cd/m ²	0.98 cd/m ²	0.53	0.32

Mererohu tee
Sõidutee (M5)



Observer 1: Luminance with new installation [cd/m²] (Iso-illuminance curves)



Observer 1: Luminance with new installation [cd/m²] (Value grid)

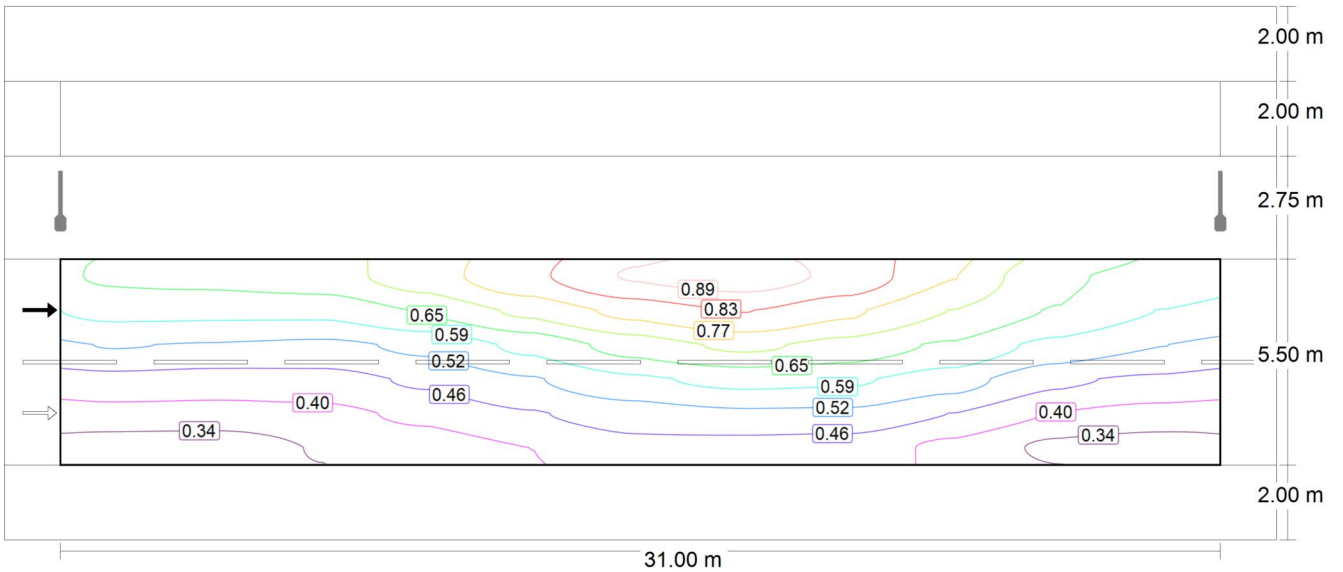
m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
7.042	0.84	0.89	0.93	1.01	1.12	1.22	1.23	1.16	1.00	0.84	0.81

Mererohu tee
Sõidutee (M5)

m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
6.125	0.85	0.88	0.89	0.95	1.04	1.13	1.14	1.05	0.92	0.83	0.77
5.208	0.71	0.73	0.74	0.80	0.87	0.94	0.99	0.91	0.83	0.73	0.68
4.292	0.60	0.61	0.61	0.65	0.73	0.79	0.83	0.79	0.72	0.61	0.58
3.375	0.49	0.50	0.52	0.56	0.61	0.67	0.68	0.68	0.61	0.51	0.48
2.458	0.40	0.41	0.45	0.49	0.53	0.58	0.58	0.57	0.50	0.42	0.40

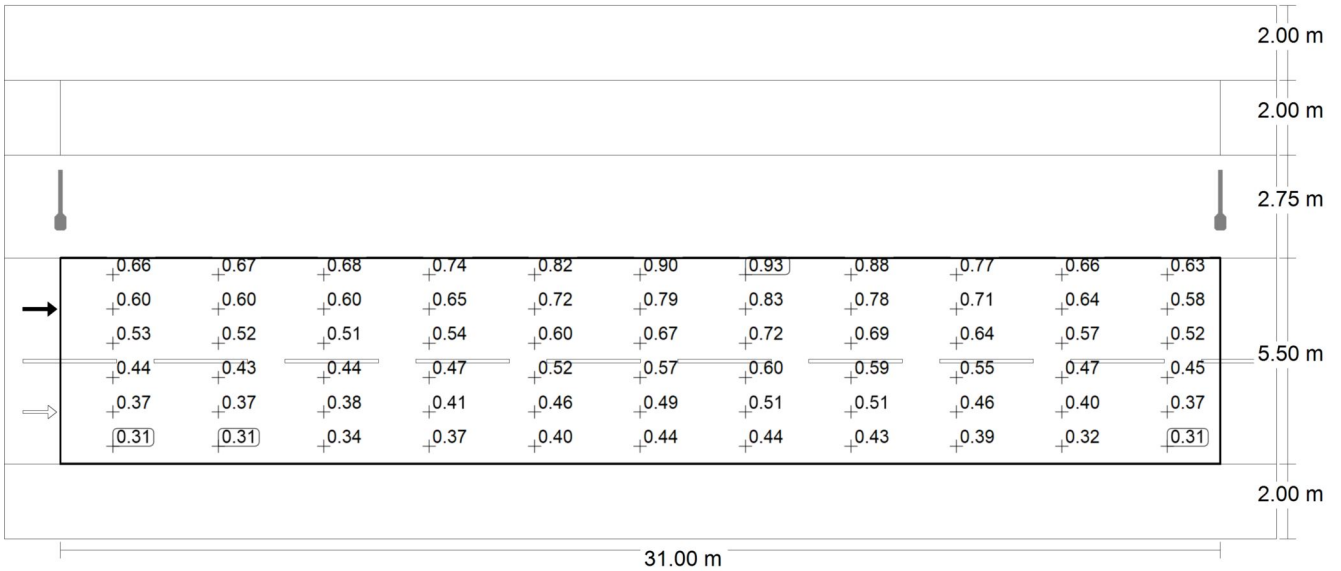
Observer 1: Luminance with new installation [cd/m²] (Value chart)

	L _{av}	L _{min}	L _{max}	g ₁	g ₂
Observer 1: Luminance with new installation	0.75 cd/m ²	0.40 cd/m ²	1.23 cd/m ²	0.53	0.32



Observer 2: Maintenance value, luminance with dry roadway [cd/m²] (Iso-illuminance curves)

Mererohu tee
Sõidutee (M5)



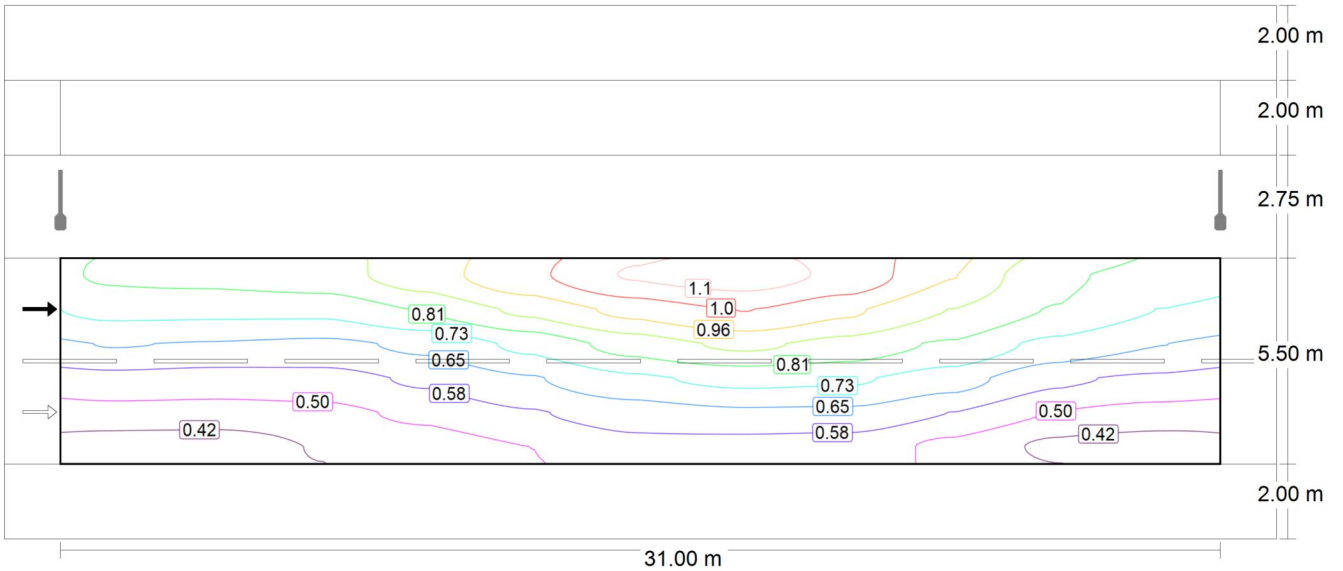
Observer 2: Maintenance value, luminance with dry roadway [cd/m²] (Value grid)

m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
7.042	0.66	0.67	0.68	0.74	0.82	0.90	0.93	0.88	0.77	0.66	0.63
6.125	0.60	0.60	0.60	0.65	0.72	0.79	0.83	0.78	0.71	0.64	0.58
5.208	0.53	0.52	0.51	0.54	0.60	0.67	0.72	0.69	0.64	0.57	0.52
4.292	0.44	0.43	0.44	0.47	0.52	0.57	0.60	0.59	0.55	0.47	0.45
3.375	0.37	0.37	0.38	0.41	0.46	0.49	0.51	0.51	0.46	0.40	0.37
2.458	0.31	0.31	0.34	0.37	0.40	0.44	0.44	0.43	0.39	0.32	0.31

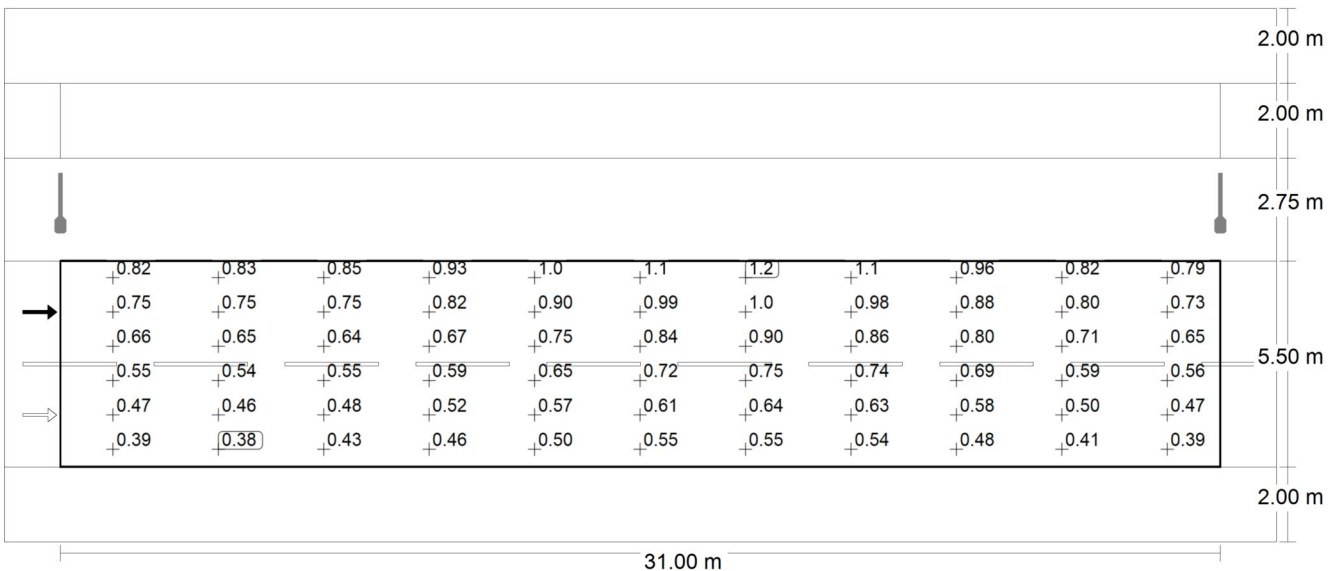
Observer 2: Maintenance value, luminance with dry roadway [cd/m²] (Value chart)

	L _{av}	L _{min}	L _{max}	g ₁	g ₂
Observer 2: Maintenance value, luminance with dry roadway	0.56 cd/m²	0.31 cd/m²	0.93 cd/m²	0.55	0.33

Mererohu tee
Sõidutee (M5)



Observer 2: Luminance with new installation [cd/m²] (Iso-illuminance curves)



Observer 2: Luminance with new installation [cd/m²] (Value grid)

m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
7.042	0.82	0.83	0.85	0.93	1.02	1.13	1.16	1.10	0.96	0.82	0.79

Mererohu tee
Sõidutee (M5)

m	1.409	4.227	7.045	9.864	12.682	15.500	18.318	21.136	23.955	26.773	29.591
6.125	0.75	0.75	0.75	0.82	0.90	0.99	1.04	0.98	0.88	0.80	0.73
5.208	0.66	0.65	0.64	0.67	0.75	0.84	0.90	0.86	0.80	0.71	0.65
4.292	0.55	0.54	0.55	0.59	0.65	0.72	0.75	0.74	0.69	0.59	0.56
3.375	0.47	0.46	0.48	0.52	0.57	0.61	0.64	0.63	0.58	0.50	0.47
2.458	0.39	0.38	0.43	0.46	0.50	0.55	0.55	0.54	0.48	0.41	0.39

Observer 2: Luminance with new installation [cd/m²] (Value chart)

	L _{av}	L _{min}	L _{max}	g ₁	g ₂
Observer 2: Luminance with new installation	0.69 cd/m ²	0.38 cd/m ²	1.16 cd/m ²	0.55	0.33