



24050_PP_EL-1-02_Valgusarvutused

Contacts



Projekteerija
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Luminaire list

Φ_{total} 99456 lm	P_{total} 760.0 W	Luminous efficacy 130.9 lm/W
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pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
4	Vizulo	60000294 40 MRUE 010 730 L22 AA008	Micro Martin 10 W 8 LED	10.0 W	1424 lm	142.4 lm/W
8	Vizulo	60009374 08 MRUE 045 730 L22 AA016	Micro Martin 45 W 16 LED	45.0 W	5922 lm	131.6 lm/W
8	Vizulo	60009375 28 MRUE 045 730 LB3 AA016	Micro Martin 45 W 16 LED	45.0 W	5798 lm	128.8 lm/W

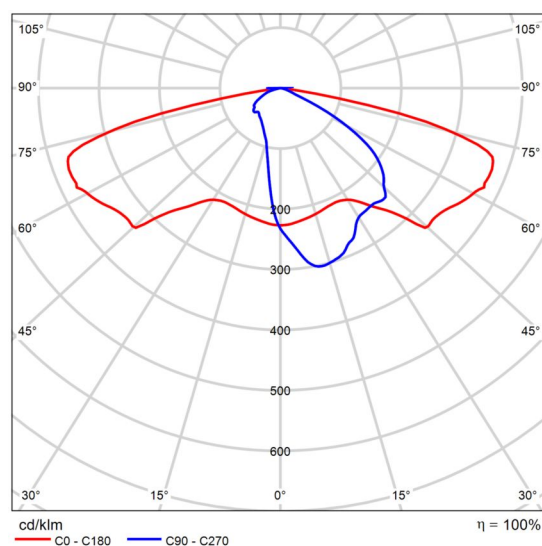
Product data sheet

Vizulo - Micro Martin 10 W 8 LED



Article No. 6000029440 MRUE
010 730 L22 AA008

P	10.0 W
Φ_{Lamp}	1424 lm
$\Phi_{\text{Luminaire}}$	1424 lm
η	100.00 %
Luminous efficacy	142.4 lm/W
CCT	3000 K
CRI	70



Polar LDC

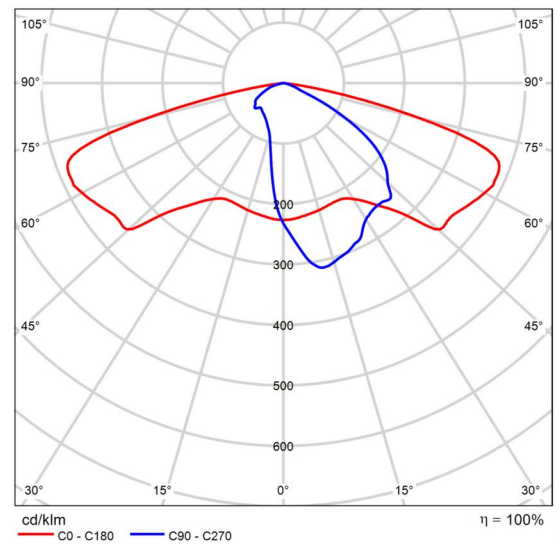
Product data sheet

Vizulo - Micro Martin 45 W 16 LED



Article No. 6000937408 MRUE
045 730 L22 AA016

P	45.0 W
Φ_{Lamp}	5922 lm
$\Phi_{\text{Luminaire}}$	5922 lm
η	100.00 %
Luminous efficacy	131.6 lm/W
CCT	3000 K
CRI	70



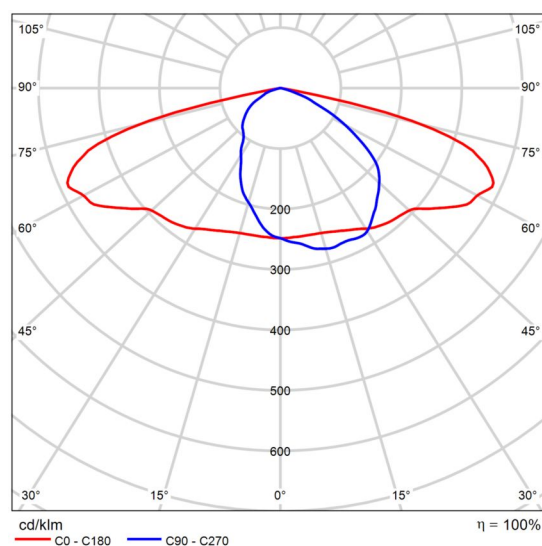
Polar LDC

Product data sheet

Vizulo - Micro Martin 45 W 16 LED



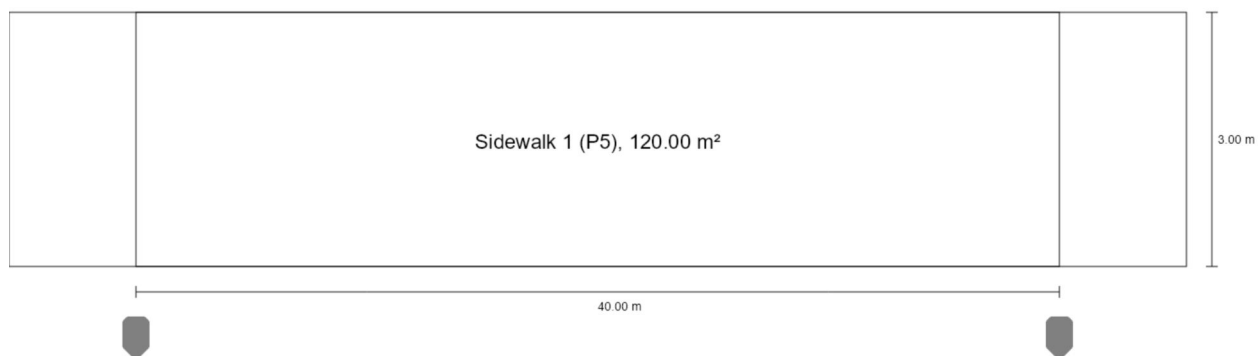
Article No.	6000937528 MRUE 045 730 LB3 AA016
P	45.0 W
Φ_{Lamp}	5798 lm
$\Phi_{\text{Luminaire}}$	5798 lm
η	100.00 %
Luminous efficacy	128.8 lm/W
CCT	3000 K
CRI	70



Polar LDC

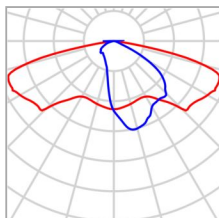
Kergtee (Mast 6m-K0, mastide vahekaugus 40m, masti kaugus kergtee kattest 0.85m)

Summary (according to EN 13201:2015)



Kergtee (Mast 6m-K0, mastide vahekaugus 40m, masti kaugus kergtee kattest 0.85m)

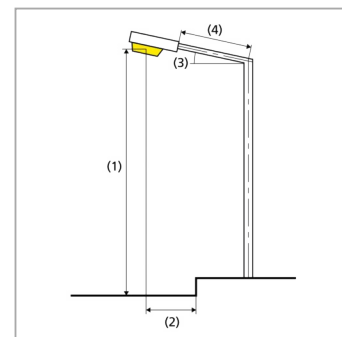
Summary (according to EN 13201:2015)



Manufacturer	Vizulo	P	10.0 W
Article No.	6000029440 MRUE 010 730 L22 AA008	Φ_{Lamp}	1424 lm
Article name	Micro Martin 10 W 8 LED	$\Phi_{\text{Luminaire}}$	1424 lm
Fitting	1x 8 LED MOD AA	η	100.00 %

Micro Martin 10 W 8 LED (single side bottom)

Pole distance	40.000 m
(1) Light spot height	6.000 m
(2) Light point overhang	-0.850 m
(3) Boom inclination	0.0°
(4) Boom length	0.000 m
Annual operating hours	4000 h: 100.0 %, 10.0 W
Wattage / route	250.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	≥ 70°: 605 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 80°: 210 cd/klm ≥ 90°: 0.00 cd/klm
Luminous intensity class	–
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	0.81



Kergtee (Mast 6m-K0, mastide vahekaugus 40m, masti kaugus kergtee kattest 0.85m)

Summary (according to EN 13201:2015)

Results for valuation fields

A maintenance factor of 0.81 was used for calculating for the installation.

	Symbol	Calculated	Target	Check
Sidewalk 1 (P5)	E_{av}	3.11 lx	[3.00 - 4.50] lx	✓
	E_{min}	0.65 lx	≥ 0.60 lx	✓

Results for energy efficiency indicators

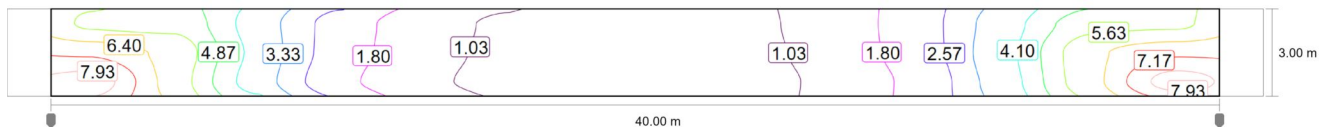
	Symbol	Calculated	Energy Consumption
Kergtee (Mast 6m-K0, mastide vahekaugus 40m, masti kaugus kergtee kattest 0.85m)	D_p	0.027 W/lx*m ²	–
Micro Martin 10 W 8 LED (single side bottom)	D_e	0.3 kWh/m ² yr	40.0 kWh/yr

Kergtee (Mast 6m-K0, mastide vahekaugus 40m, masti kaugus kergtee kattest 0.85m)

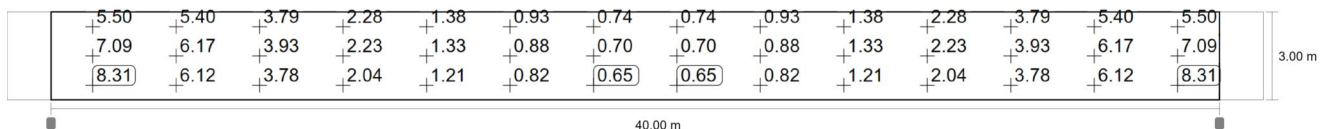
Sidewalk 1 (P5)

Results for valuation field

	Symbol	Calculated	Target	Check
Sidewalk 1 (P5)	E_{av}	3.11 lx	[3.00 - 4.50] lx	✓
	E_{min}	0.65 lx	≥ 0.60 lx	✓



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

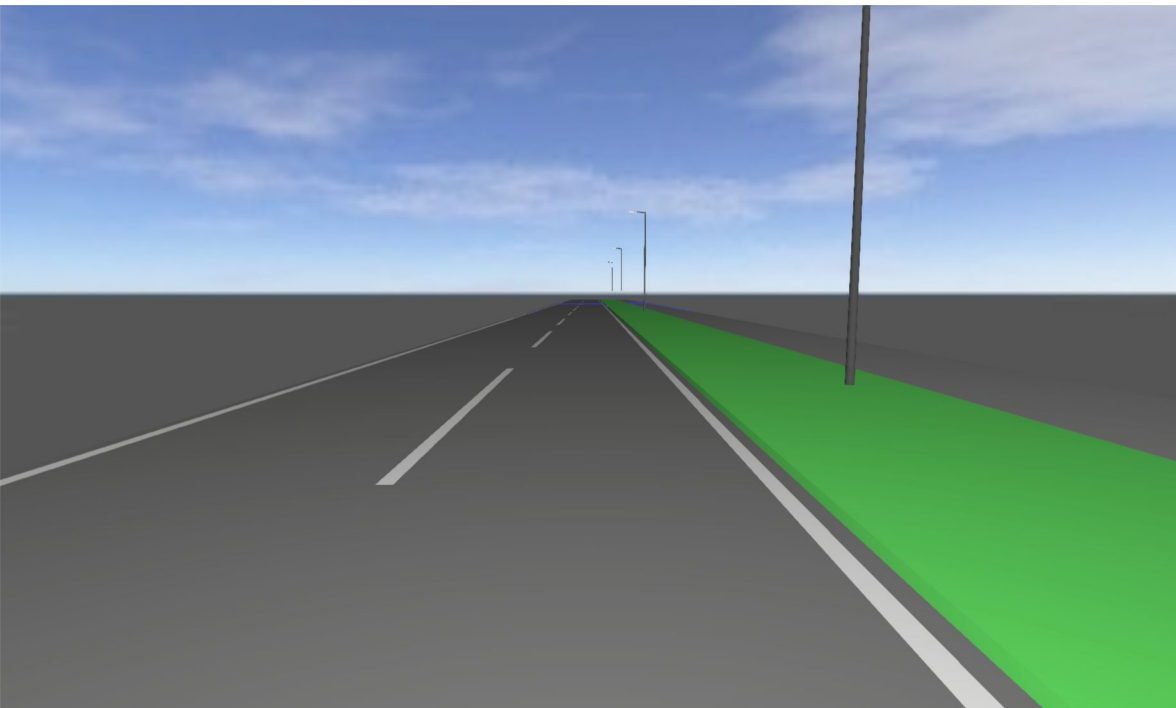


Maintenance value, horizontal illuminance [lx] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
2.500	5.50	5.40	3.79	2.28	1.38	0.93	0.74	0.74	0.93	1.38	2.28	3.79	5.40	5.50
1.500	7.09	6.17	3.93	2.23	1.33	0.88	0.70	0.70	0.88	1.33	2.23	3.93	6.17	7.09
0.500	8.31	6.12	3.78	2.04	1.21	0.82	0.65	0.65	0.82	1.21	2.04	3.78	6.12	8.31

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

	E_{av}	E_{min}	E_{max}	U_o (g ₁)	g ₂
Maintenance value, horizontal illuminance	3.11 lx	0.65 lx	8.31 lx	0.21	0.08

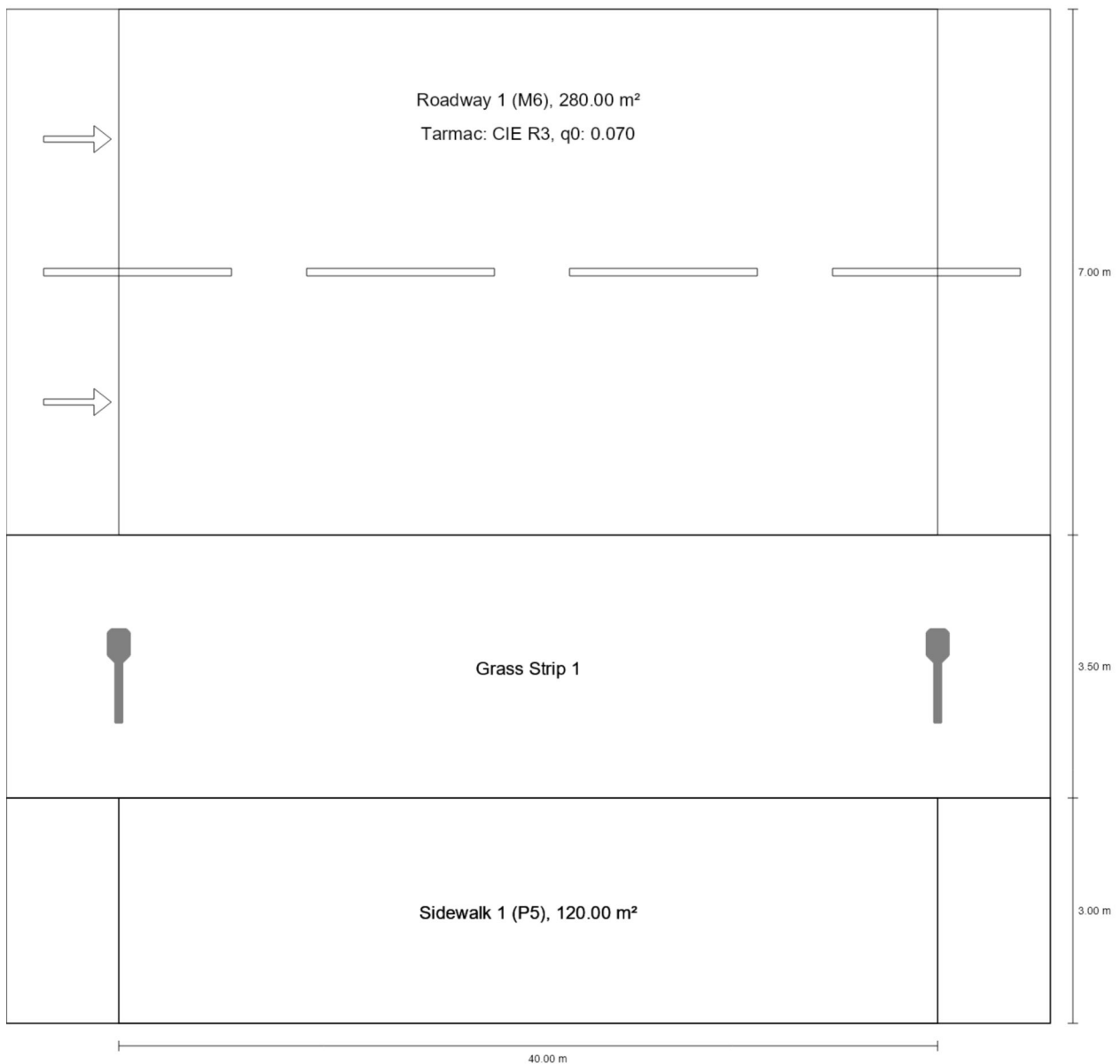


Sõidutee valgustus, 3,5m haljasriba

Description

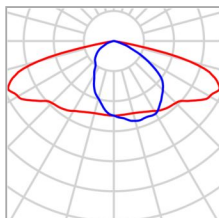
Sõidutee valgustus, 3,5m haljasriba

Summary (according to EN 13201:2015)



Sõidutee valgustus, 3,5m haljasriba

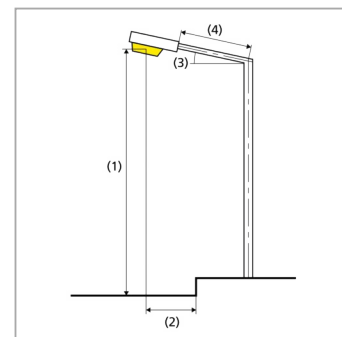
Summary (according to EN 13201:2015)



Manufacturer	Vizulo	P	45.0 W
Article No.	6000937528 MRUE 045 730 LB3 AA016	Φ_{Lamp}	5798 lm
Article name	Micro Martin 45 W 16 LED	$\Phi_{\text{Luminaire}}$	5798 lm
Fitting	1x 16 LED MOD AA	η	100.00 %

Micro Martin 45 W 16 LED (single side bottom)

Pole distance	40.000 m
(1) Light spot height	8.000 m
(2) Light point overhang	-1.500 m
(3) Boom inclination	5.0°
(4) Boom length	0.995 m
Annual operating hours	4000 h: 100.0 %, 45.0 W
Wattage / route	1125.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	$\geq 70^\circ$: 508 cd/klm $\geq 80^\circ$: 154 cd/klm $\geq 90^\circ$: 0.00 cd/klm
Luminous intensity class	G*1
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.5
MF	0.81



Sõidutee valgustus, 3,5m haljasriba

Summary (according to EN 13201:2015)

Results for valuation fields

A maintenance factor of 0.81 was used for calculating for the installation.

	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.41 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.47	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	15 %	≤ 20 %	✓
	R_{EI}	0.56	≥ 0.30	✓
Sidewalk 1 (P5)	E_{av}	4.16 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.61 lx	≥ 0.60 lx	✓

Results for energy efficiency indicators

	Symbol	Calculated	Energy Consumption
Sõidutee valgustus, 3,5m haljasriba	D_p	0.019 W/lx*m ²	–
Micro Martin 45 W 16 LED (single side bottom)	D_e	0.5 kWh/m ² yr	180.0 kWh/yr

Sõidutee valgustus, 3,5m haljasriba

Roadway 1 (M6)

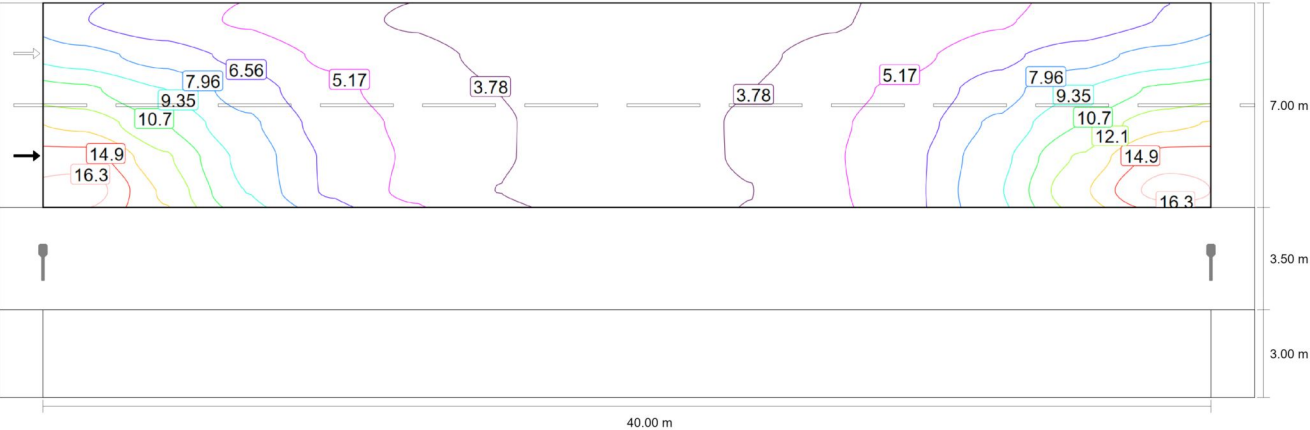
Results for valuation field

	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.41 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.47	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	15 %	≤ 20 %	✓
	R_{EI}	0.56	≥ 0.30	✓

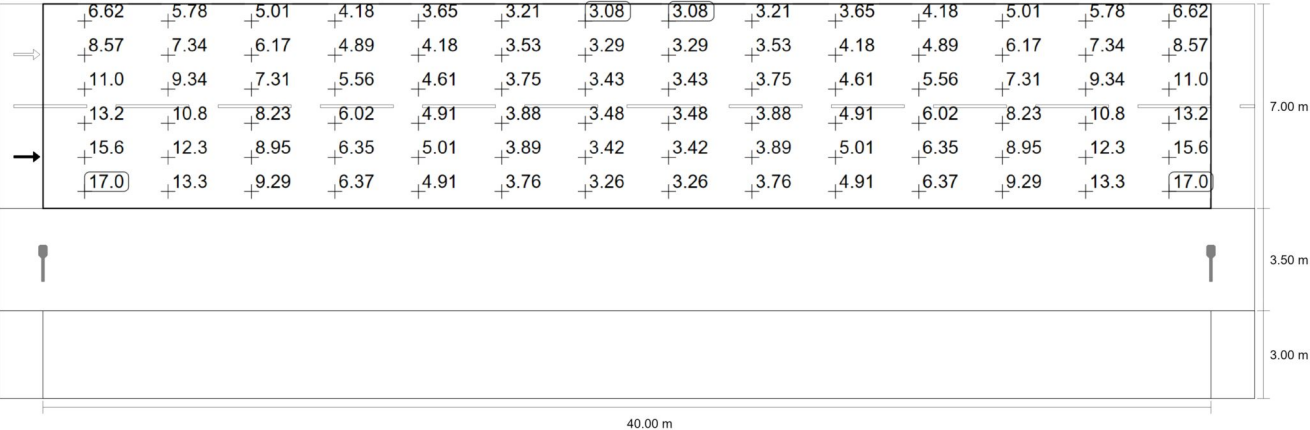
Results for observer

	Symbol	Calculated	Target	Check
Observer 1 Position: -60.000 m, 8.250 m, 1.500 m	L_{av}	0.41 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.49	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	15 %	≤ 20 %	✓
Observer 2 Position: -60.000 m, 11.750 m, 1.500 m	L_{av}	0.46 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.47	≥ 0.35	✓
	U_l	0.82	≥ 0.40	✓
	TI	8 %	≤ 20 %	✓

Sõidutee valgustus, 3,5m haljasriba
Roadway 1 (M6)



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



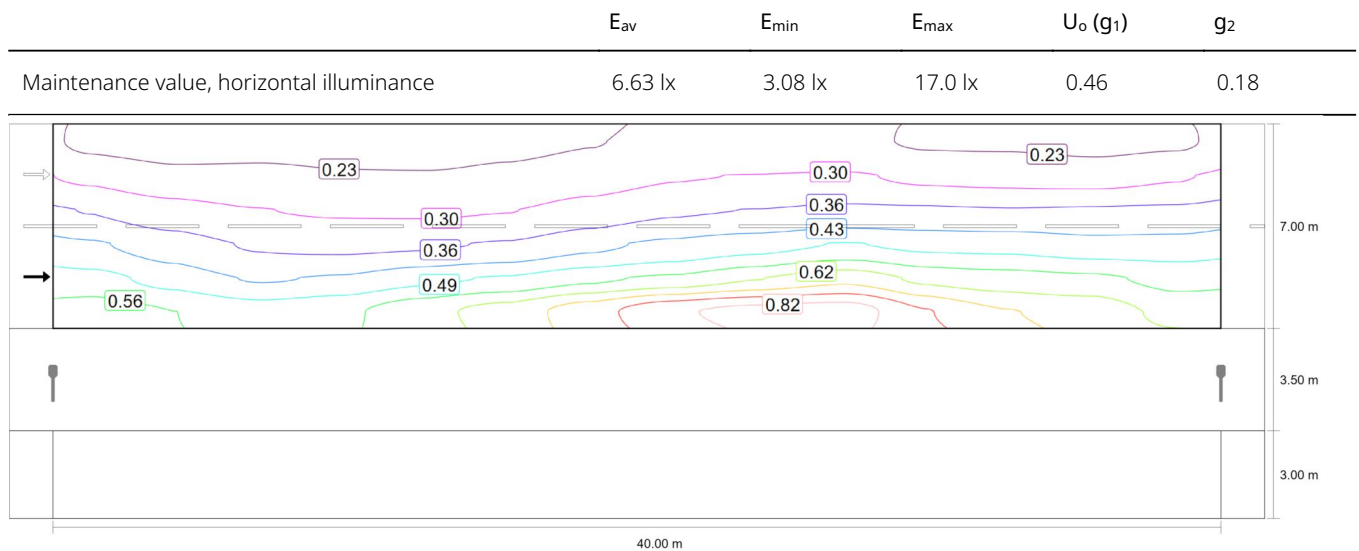
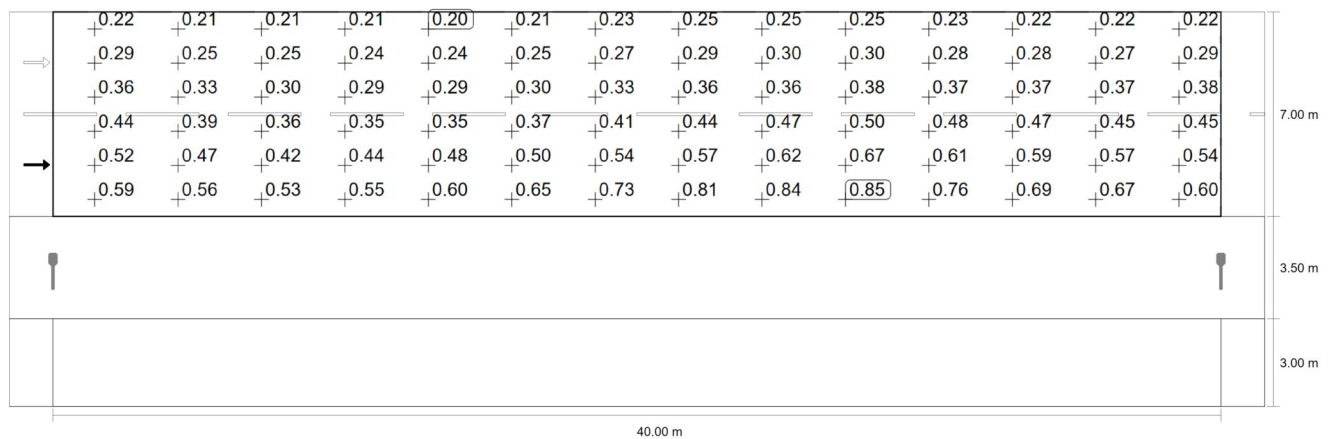
Maintenance value, horizontal illuminance [lx] (Value grid)

Sõidutee valgustus, 3,5m haljasriba

Roadway 1 (M6)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
12.917	6.62	5.78	5.01	4.18	3.65	3.21	3.08	3.08	3.21	3.65	4.18	5.01	5.78	6.62
11.750	8.57	7.34	6.17	4.89	4.18	3.53	3.29	3.29	3.53	4.18	4.89	6.17	7.34	8.57
10.583	11.03	9.34	7.31	5.56	4.61	3.75	3.43	3.43	3.75	4.61	5.56	7.31	9.34	11.03
9.417	13.19	10.77	8.23	6.02	4.91	3.88	3.48	3.48	3.88	4.91	6.02	8.23	10.77	13.19
8.250	15.62	12.34	8.95	6.35	5.01	3.89	3.42	3.42	3.89	5.01	6.35	8.95	12.34	15.62
7.083	17.02	13.32	9.29	6.37	4.91	3.76	3.26	3.26	3.76	4.91	6.37	9.29	13.32	17.02

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

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

Sõidutee valgustus, 3,5m haljasriba

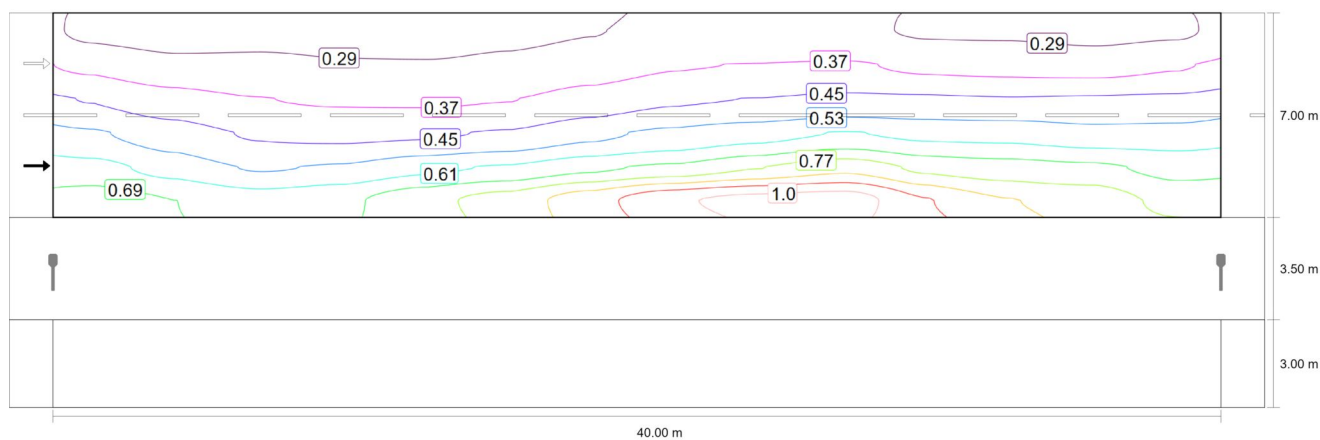
Roadway 1 (M6)

Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
12.917	0.22	0.21	0.21	0.21	0.20	0.21	0.23	0.25	0.25	0.25	0.23	0.22	0.22	0.22
11.750	0.29	0.25	0.25	0.24	0.24	0.25	0.27	0.29	0.30	0.30	0.28	0.28	0.27	0.29
10.583	0.36	0.33	0.30	0.29	0.29	0.30	0.33	0.36	0.36	0.38	0.37	0.37	0.37	0.38
9.417	0.44	0.39	0.36	0.35	0.35	0.37	0.41	0.44	0.47	0.50	0.48	0.47	0.45	0.45
8.250	0.52	0.47	0.42	0.44	0.48	0.50	0.54	0.57	0.62	0.67	0.61	0.59	0.57	0.54
7.083	0.59	0.56	0.53	0.55	0.60	0.65	0.73	0.81	0.84	0.85	0.76	0.69	0.67	0.60

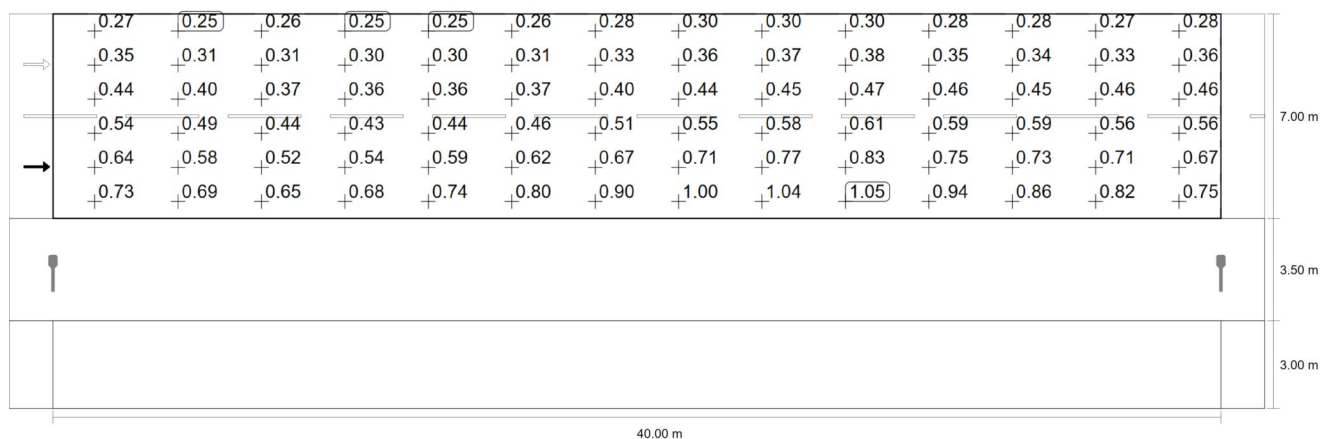
Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value chart)

	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 1: Maintenance value, luminance with dry roadway	0.41 cd/m^2	0.20 cd/m^2	0.85 cd/m^2	0.49	0.23



Observer 1: Luminance with new installation [cd/m^2] (Iso-illuminance curves)

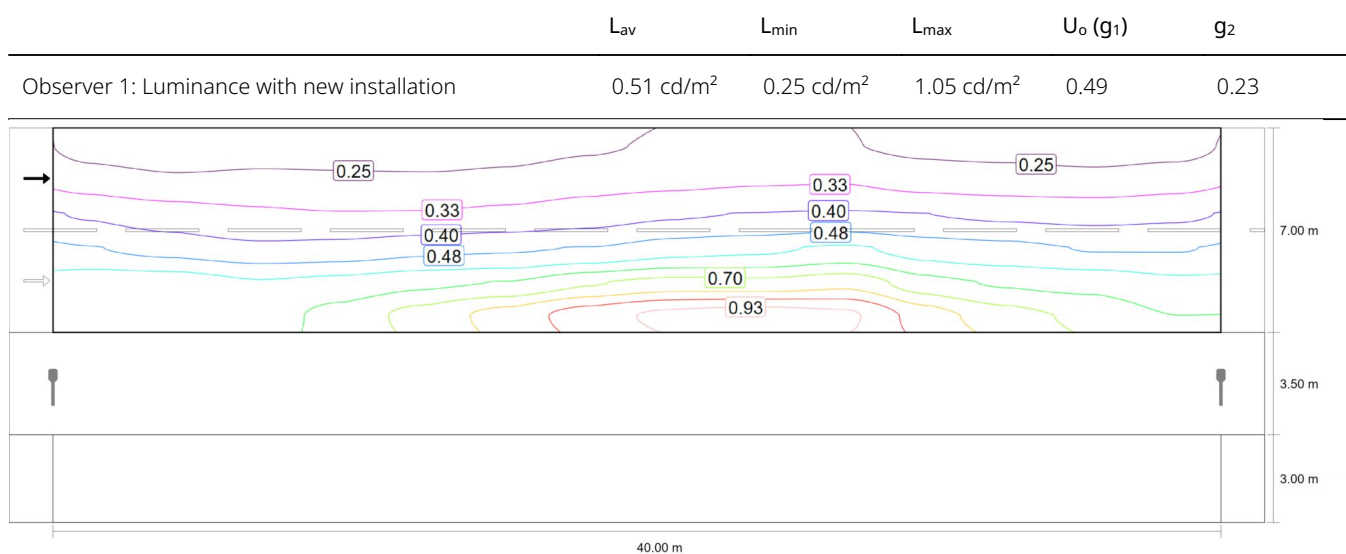
Sõidutee valgustus, 3,5m haljasriba

Roadway 1 (M6)

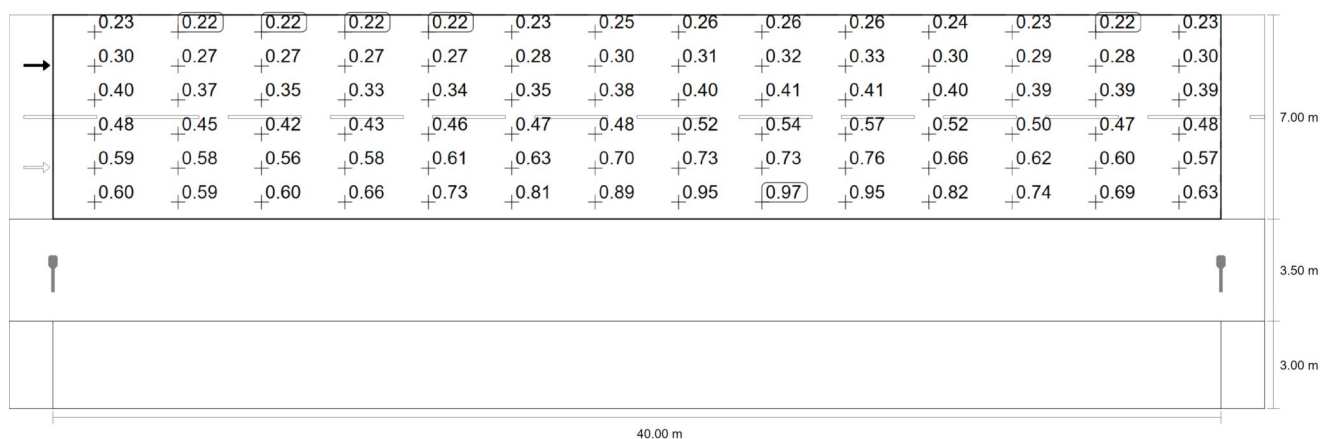
Observer 1: Luminance with new installation [cd/m²] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
12.917	0.27	0.25	0.26	0.25	0.25	0.26	0.28	0.30	0.30	0.30	0.28	0.28	0.27	0.28
11.750	0.35	0.31	0.31	0.30	0.30	0.31	0.33	0.36	0.37	0.38	0.35	0.34	0.33	0.36
10.583	0.44	0.40	0.37	0.36	0.36	0.37	0.40	0.44	0.45	0.47	0.46	0.45	0.46	0.46
9.417	0.54	0.49	0.44	0.43	0.44	0.46	0.51	0.55	0.58	0.61	0.59	0.59	0.56	0.56
8.250	0.64	0.58	0.52	0.54	0.59	0.62	0.67	0.71	0.77	0.83	0.75	0.73	0.71	0.67
7.083	0.73	0.69	0.65	0.68	0.74	0.80	0.90	1.00	1.04	1.05	0.94	0.86	0.82	0.75

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



Sõidutee valgustus, 3,5m haljasriba

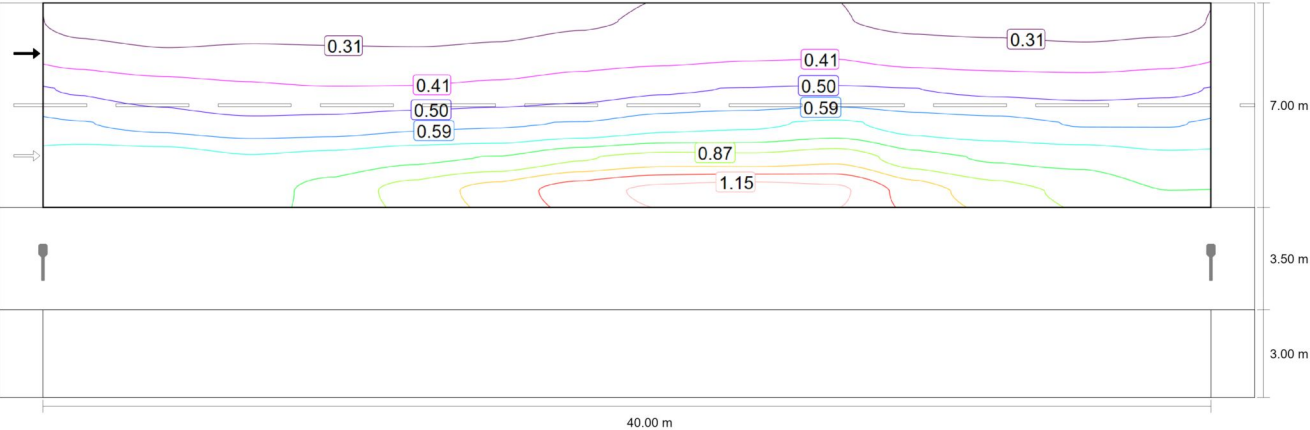
Roadway 1 (M6)Observer 2: Maintenance value, luminance with dry roadway [cd/m^2] (Iso-illuminance curves)Observer 2: Maintenance value, luminance with dry roadway [cd/m^2] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
12.917	0.23	0.22	0.22	0.22	0.22	0.23	0.25	0.26	0.26	0.26	0.24	0.23	0.22	0.23
11.750	0.30	0.27	0.27	0.27	0.27	0.28	0.30	0.31	0.32	0.33	0.30	0.29	0.28	0.30
10.583	0.40	0.37	0.35	0.33	0.34	0.35	0.38	0.40	0.41	0.41	0.40	0.39	0.39	0.39
9.417	0.48	0.45	0.42	0.43	0.46	0.47	0.48	0.52	0.54	0.57	0.52	0.50	0.47	0.48
8.250	0.59	0.58	0.56	0.58	0.61	0.63	0.70	0.73	0.73	0.76	0.66	0.62	0.60	0.57
7.083	0.60	0.59	0.60	0.66	0.73	0.81	0.89	0.95	0.97	0.95	0.82	0.74	0.69	0.63

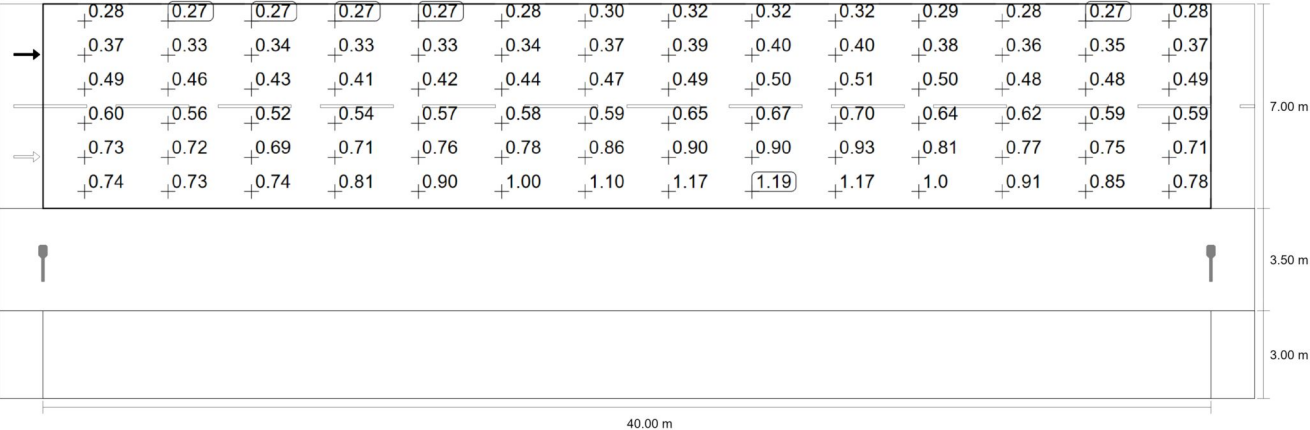
Observer 2: Maintenance value, luminance with dry roadway [cd/m^2] (Value chart)

	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 2: Maintenance value, luminance with dry roadway	0.46 cd/m^2	0.22 cd/m^2	0.97 cd/m^2	0.47	0.22

Sõidutee valgustus, 3,5m haljasriba
Roadway 1 (M6)



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



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

Sõidutee valgustus, 3,5m haljasriba

Roadway 1 (M6)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
12.917	0.28	0.27	0.27	0.27	0.27	0.28	0.30	0.32	0.32	0.32	0.29	0.28	0.27	0.28
11.750	0.37	0.33	0.34	0.33	0.33	0.34	0.37	0.39	0.40	0.40	0.38	0.36	0.35	0.37
10.583	0.49	0.46	0.43	0.41	0.42	0.44	0.47	0.49	0.50	0.51	0.50	0.48	0.48	0.49
9.417	0.60	0.56	0.52	0.54	0.57	0.58	0.59	0.65	0.67	0.70	0.64	0.62	0.59	0.59
8.250	0.73	0.72	0.69	0.71	0.76	0.78	0.86	0.90	0.90	0.93	0.81	0.77	0.75	0.71
7.083	0.74	0.73	0.74	0.81	0.90	1.00	1.10	1.17	1.19	1.17	1.01	0.91	0.85	0.78

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

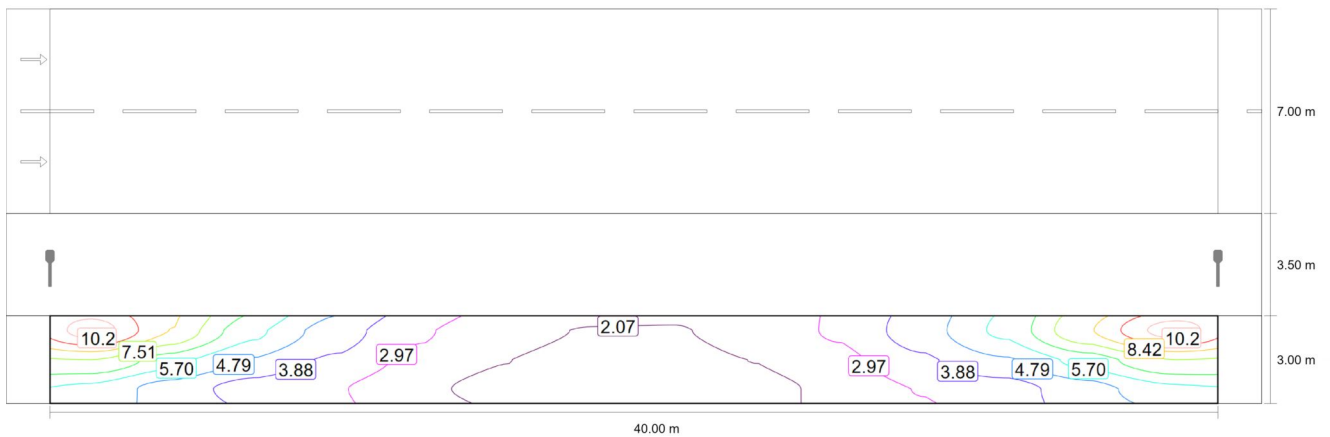
	L _{av}	L _{min}	L _{max}	U _o (g ₁)	g ₂
Observer 2: Luminance with new installation	0.57 cd/m ²	0.27 cd/m ²	1.19 cd/m ²	0.47	0.22

Sõidutee valgustus, 3,5m haljasriba

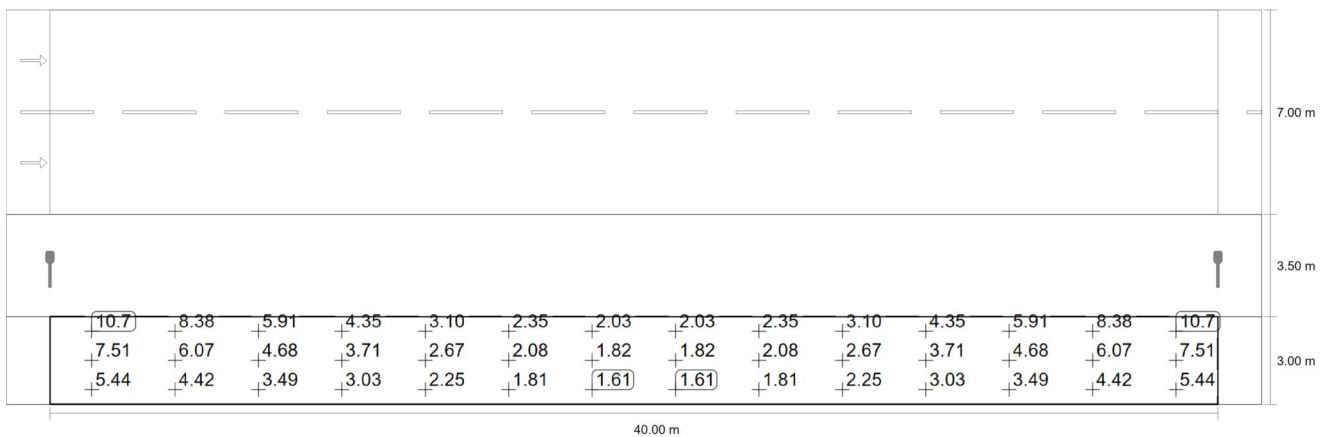
Sidewalk 1 (P5)

Results for valuation field

	Symbol	Calculated	Target	Check
Sidewalk 1 (P5)	E_{av}	4.16 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.61 lx	≥ 0.60 lx	✓



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



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

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
2.500	10.69	8.38	5.91	4.35	3.10	2.35	2.03	2.03	2.35	3.10	4.35	5.91	8.38	10.69
1.500	7.51	6.07	4.68	3.71	2.67	2.08	1.82	1.82	2.08	2.67	3.71	4.68	6.07	7.51

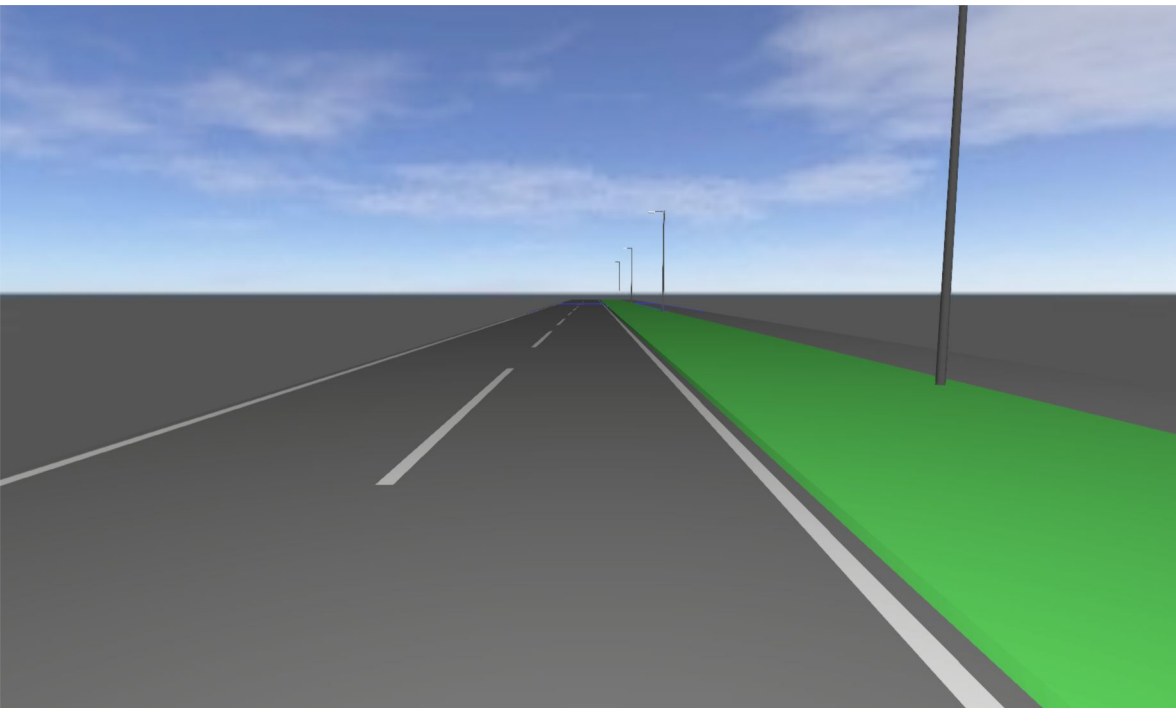
Sõidutee valgustus, 3,5m haljasriba

Sidewalk 1 (P5)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
0.500	5.44	4.42	3.49	3.03	2.25	1.81	1.61	1.61	1.81	2.25	3.03	3.49	4.42	5.44

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

	E_{av}	E_{min}	E_{max}	$U_o (g_1)$	g_2
Maintenance value, horizontal illuminance	4.16 lx	1.61 lx	10.7 lx	0.39	0.15

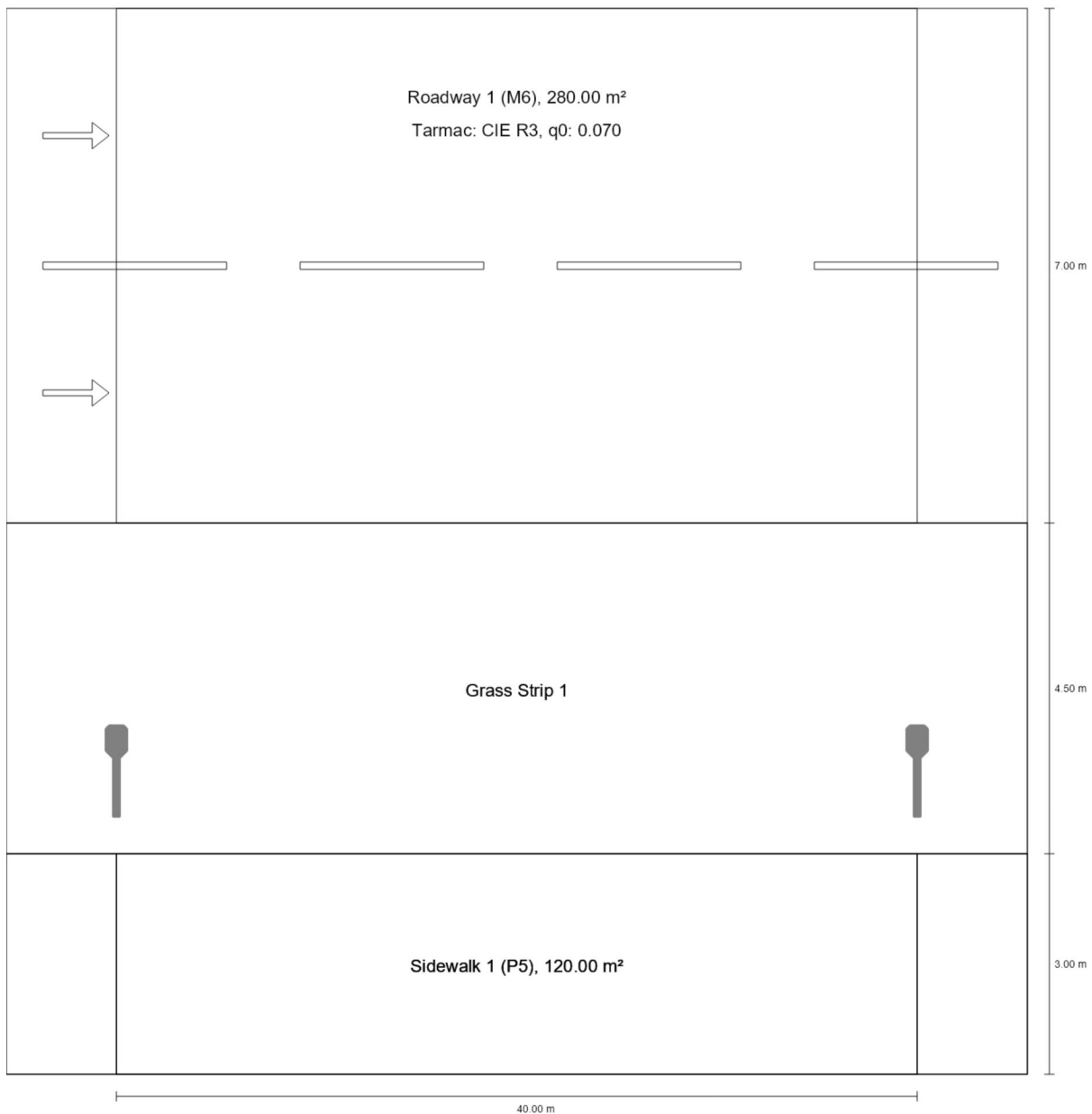


Sõidutee valgustus, 4,5m haljasriba

Description

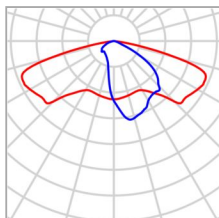
Sõidutee valgustus, 4,5m haljasriba

Summary (according to EN 13201:2015)



Sõidutee valgustus, 4,5m haljasriba

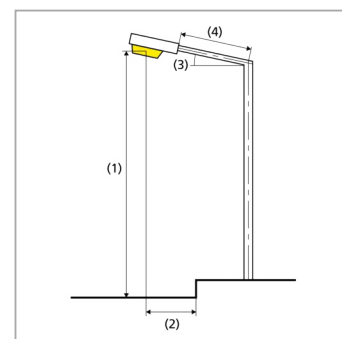
Summary (according to EN 13201:2015)



Manufacturer	Vizulo	P	45.0 W
Article No.	6000937408 MRUE 045 730 L22 AA016	Φ_{Lamp}	5922 lm
Article name	Micro Martin 45 W 16 LED	$\Phi_{\text{Luminaire}}$	5922 lm
Fitting	1x 16 LED MOD AA	η	100.00 %

Micro Martin 45 W 16 LED (single side bottom)

Pole distance	40.000 m
(1) Light spot height	8.000 m
(2) Light point overhang	-3.000 m
(3) Boom inclination	0.0°
(4) Boom length	1.000 m
Annual operating hours	4000 h: 100.0 %, 45.0 W
Wattage / route	1125.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	≥ 70°: 587 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 80°: 147 cd/klm ≥ 90°: 0.00 cd/klm
Luminous intensity class	G*2
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.5
MF	0.81



Sõidutee valgustus, 4,5m haljasriba

Summary (according to EN 13201:2015)

Results for valuation fields

A maintenance factor of 0.81 was used for calculating for the installation.

	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.39 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.39	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	16 %	≤ 20 %	✓
	R_{EI}	0.45	≥ 0.30	✓
Sidewalk 1 (P5)	E_{av}	3.16 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.86 lx	≥ 0.60 lx	✓

Results for energy efficiency indicators

	Symbol	Calculated	Energy Consumption
Sõidutee valgustus, 4,5m haljasriba	D_p	0.020 W/lx*m ²	–
Micro Martin 45 W 16 LED (single side bottom)	D_e	0.5 kWh/m ² yr	180.0 kWh/yr

Sõidutee valgustus, 4,5m haljasriba

Roadway 1 (M6)

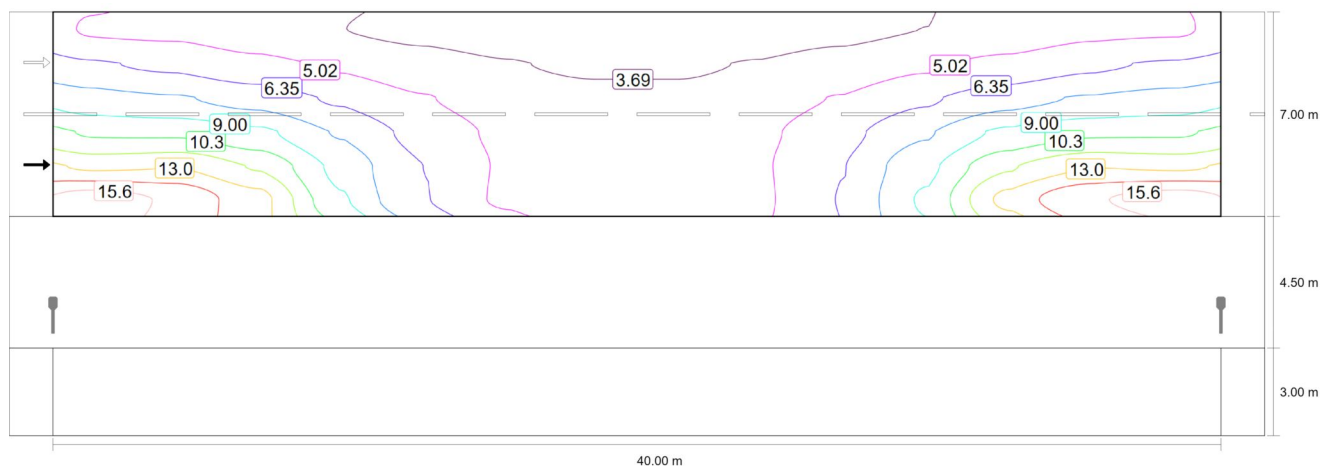
Results for valuation field

	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.39 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.39	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	16 %	≤ 20 %	✓
	R_{EI}	0.45	≥ 0.30	✓

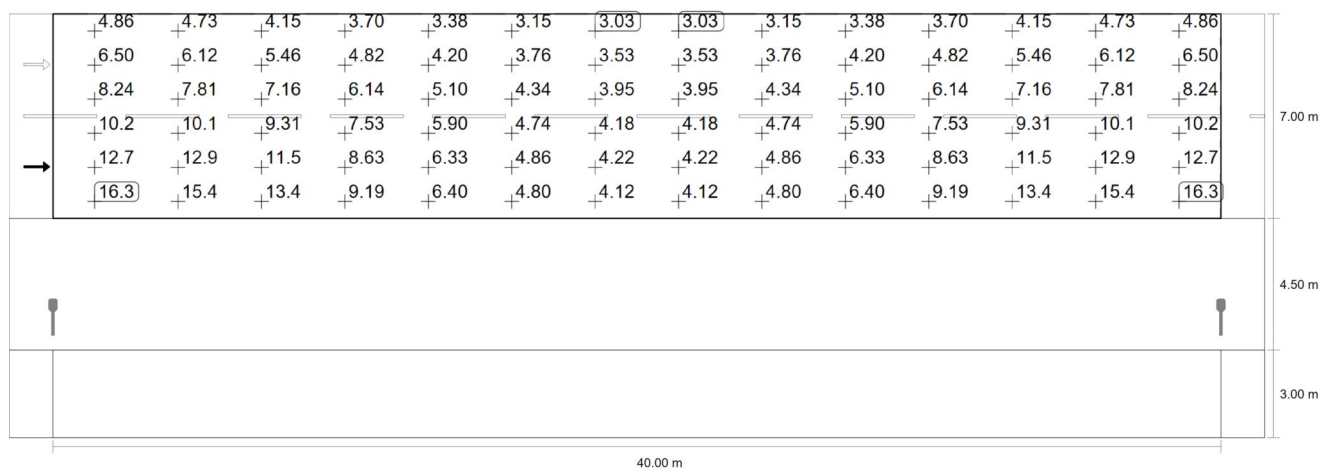
Results for observer

	Symbol	Calculated	Target	Check
Observer 1 Position: -60.000 m, 9.250 m, 1.500 m	L_{av}	0.39 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.42	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	16 %	≤ 20 %	✓
Observer 2 Position: -60.000 m, 12.750 m, 1.500 m	L_{av}	0.44 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.39	≥ 0.35	✓
	U_l	0.71	≥ 0.40	✓
	TI	6 %	≤ 20 %	✓

Sõidutee valgustus, 4,5m haljasriba

Roadway 1 (M6)

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



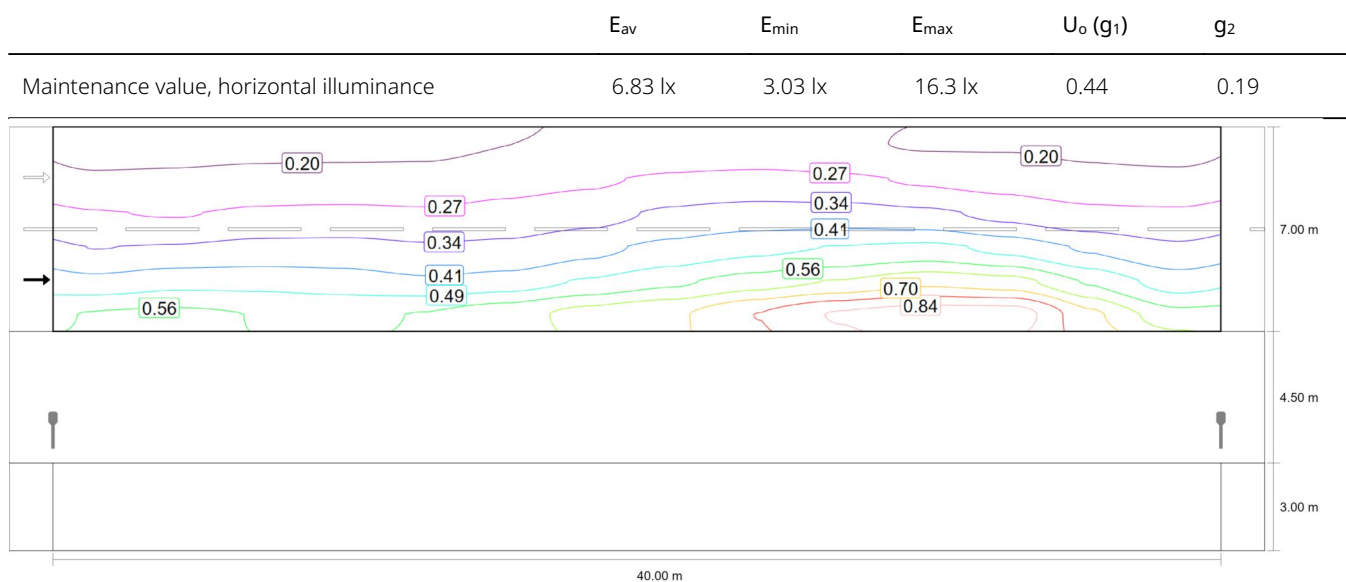
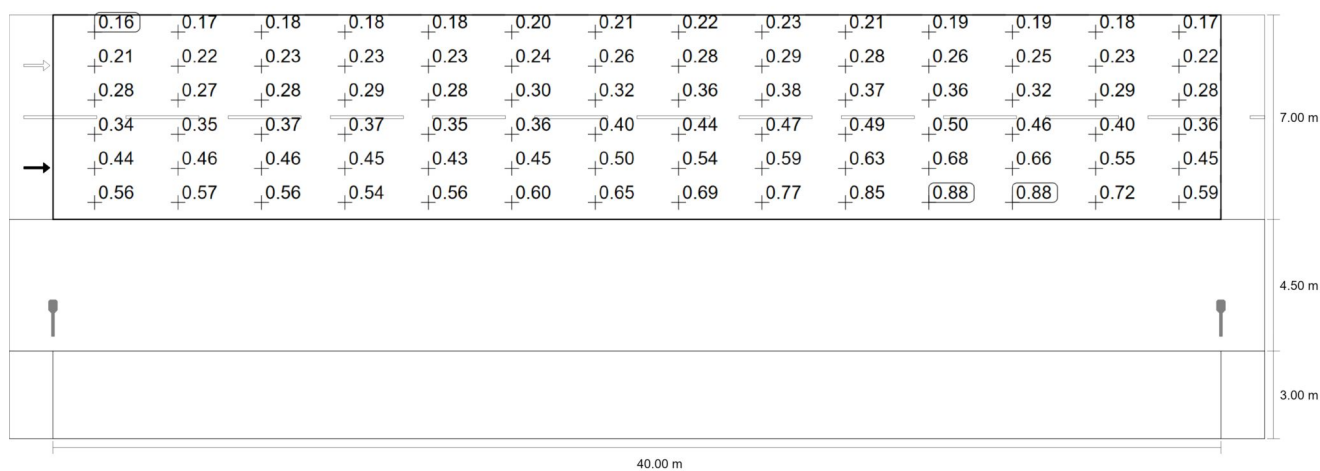
Maintenance value, horizontal illuminance [lx] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
13.917	4.86	4.73	4.15	3.70	3.38	3.15	3.03	3.03	3.15	3.38	3.70	4.15	4.73	4.86
12.750	6.50	6.12	5.46	4.82	4.20	3.76	3.53	3.53	3.76	4.20	4.82	5.46	6.12	6.50
11.583	8.24	7.81	7.16	6.14	5.10	4.34	3.95	3.95	4.34	5.10	6.14	7.16	7.81	8.24
10.417	10.2	10.1	9.31	7.53	5.90	4.74	4.18	4.18	4.74	5.90	7.53	9.31	10.1	10.2
9.250	12.7	12.9	11.5	8.63	6.33	4.86	4.22	4.22	4.86	6.33	8.63	11.5	12.9	12.7
8.083	16.3	15.4	13.4	9.19	6.40	4.80	4.12	4.12	4.80	6.40	9.19	13.4	15.4	16.3

Sõidutee valgustus, 4,5m haljasriba

Roadway 1 (M6)

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

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

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
13.917	0.16	0.17	0.18	0.18	0.18	0.20	0.21	0.22	0.23	0.21	0.19	0.19	0.18	0.17
12.750	0.21	0.22	0.23	0.23	0.23	0.24	0.26	0.28	0.29	0.28	0.26	0.25	0.23	0.22

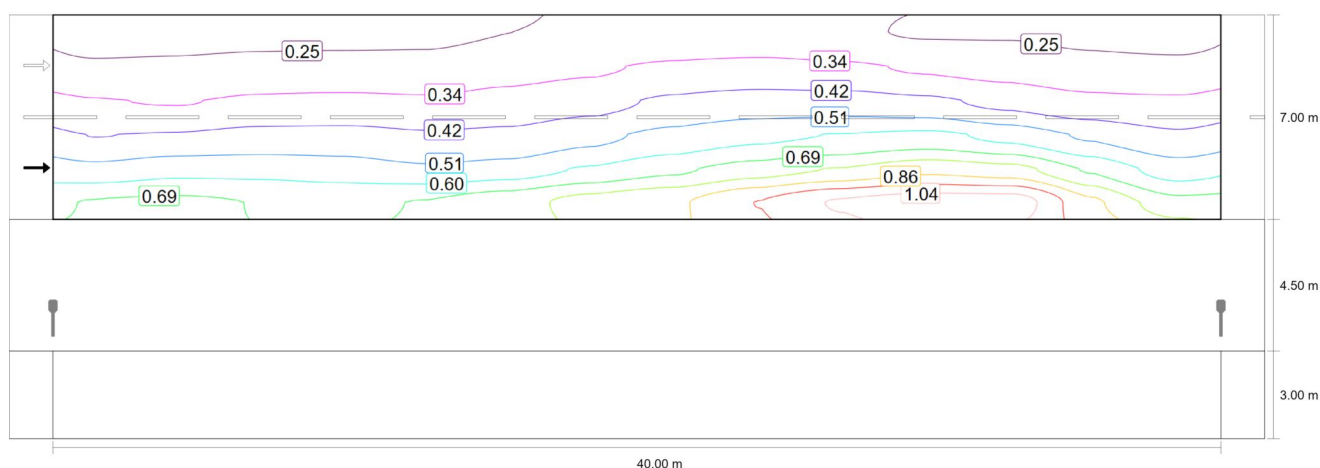
Sõidutee valgustus, 4,5m haljasriba

Roadway 1 (M6)

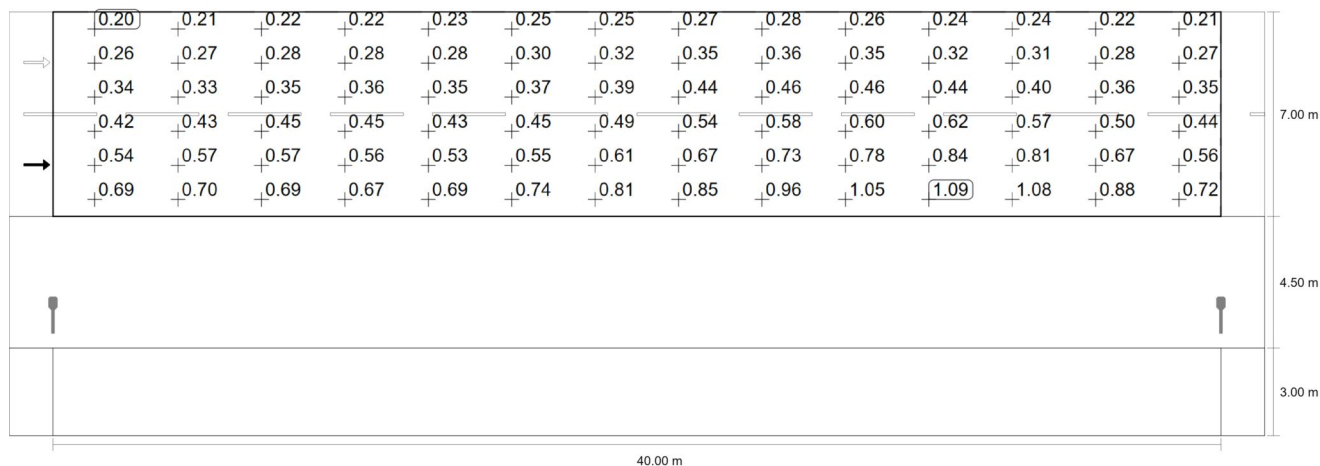
m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
11.583	0.28	0.27	0.28	0.29	0.28	0.30	0.32	0.36	0.38	0.37	0.36	0.32	0.29	0.28
10.417	0.34	0.35	0.37	0.37	0.35	0.36	0.40	0.44	0.47	0.49	0.50	0.46	0.40	0.36
9.250	0.44	0.46	0.46	0.45	0.43	0.45	0.50	0.54	0.59	0.63	0.68	0.66	0.55	0.45
8.083	0.56	0.57	0.56	0.54	0.56	0.60	0.65	0.69	0.77	0.85	0.88	0.88	0.72	0.59

Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value chart)

	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 1: Maintenance value, luminance with dry roadway	0.39 cd/m^2	0.16 cd/m^2	0.88 cd/m^2	0.42	0.19

Observer 1: Luminance with new installation [cd/m^2] (Iso-illuminance curves)

Sõidutee valgustus, 4,5m haljasriba

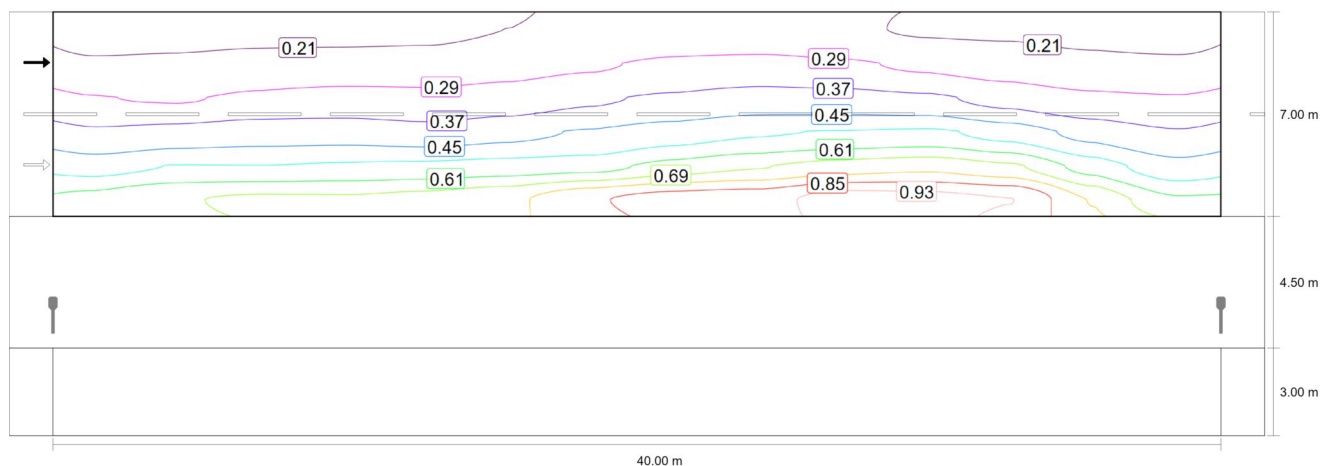
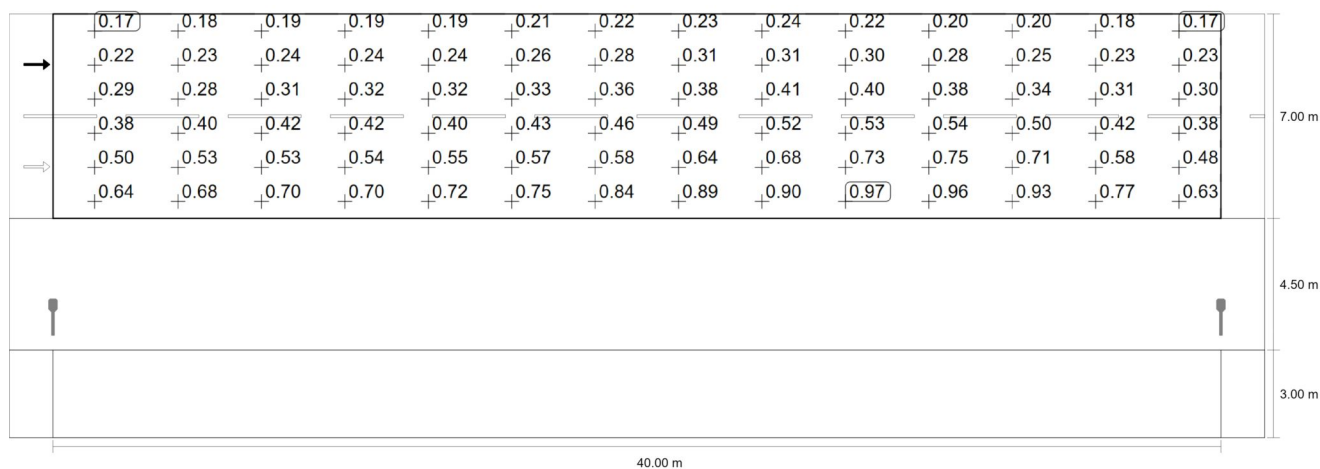
Roadway 1 (M6)Observer 1: Luminance with new installation [cd/m²] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
13.917	0.20	0.21	0.22	0.22	0.23	0.25	0.25	0.27	0.28	0.26	0.24	0.24	0.22	0.21
12.750	0.26	0.27	0.28	0.28	0.28	0.30	0.32	0.35	0.36	0.35	0.32	0.31	0.28	0.27
11.583	0.34	0.33	0.35	0.36	0.35	0.37	0.39	0.44	0.46	0.46	0.44	0.40	0.36	0.35
10.417	0.42	0.43	0.45	0.45	0.43	0.45	0.49	0.54	0.58	0.60	0.62	0.57	0.50	0.44
9.250	0.54	0.57	0.57	0.56	0.53	0.55	0.61	0.67	0.73	0.78	0.84	0.81	0.67	0.56
8.083	0.69	0.70	0.69	0.67	0.69	0.74	0.81	0.85	0.96	1.05	1.09	1.08	0.88	0.72

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

	L _{av}	L _{min}	L _{max}	U _o (g ₁)	g ₂
Observer 1: Luminance with new installation	0.48 cd/m ²	0.20 cd/m ²	1.09 cd/m ²	0.42	0.19

Sõidutee valgustus, 4,5m haljasriba

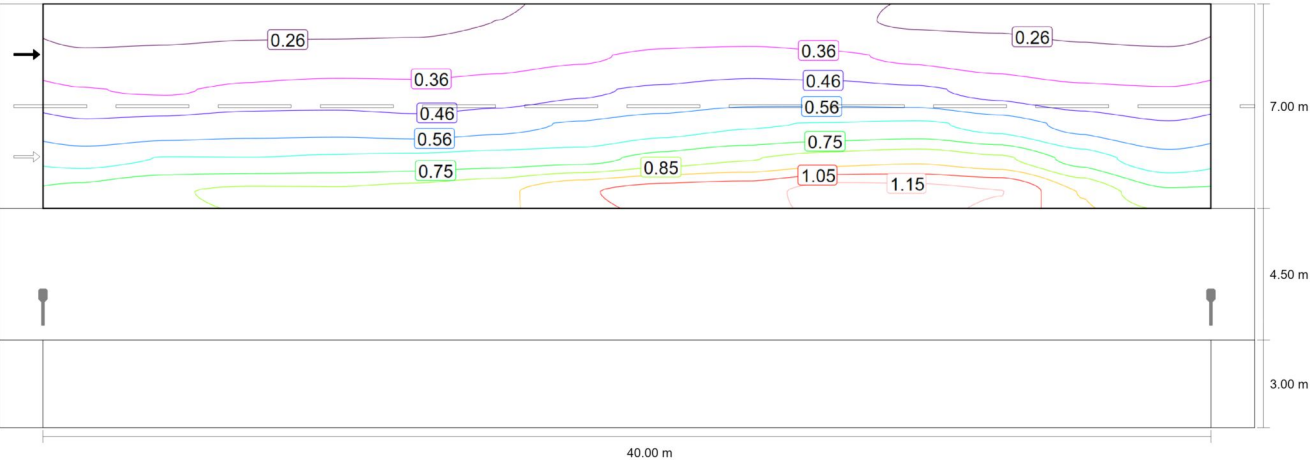
Roadway 1 (M6)Observer 2: Maintenance value, luminance with dry roadway [cd/m^2] (Iso-illuminance curves)Observer 2: Maintenance value, luminance with dry roadway [cd/m^2] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
13.917	0.17	0.18	0.19	0.19	0.19	0.21	0.22	0.23	0.24	0.22	0.20	0.20	0.18	0.17
12.750	0.22	0.23	0.24	0.24	0.24	0.26	0.28	0.31	0.31	0.30	0.28	0.25	0.23	0.23
11.583	0.29	0.28	0.31	0.32	0.32	0.33	0.36	0.38	0.41	0.40	0.38	0.34	0.31	0.30
10.417	0.38	0.40	0.42	0.42	0.40	0.43	0.46	0.49	0.52	0.53	0.54	0.50	0.42	0.38
9.250	0.50	0.53	0.53	0.54	0.55	0.57	0.58	0.64	0.68	0.73	0.75	0.71	0.58	0.48
8.083	0.64	0.68	0.70	0.70	0.72	0.75	0.84	0.89	0.90	0.97	0.96	0.93	0.77	0.63

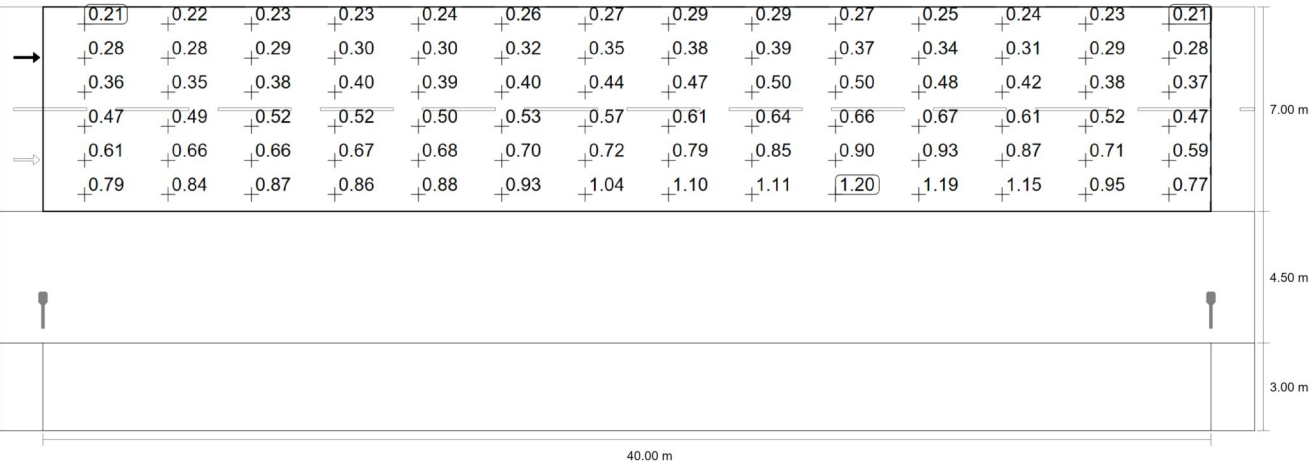
Sõidutee valgustus, 4,5m haljasriba
Roadway 1 (M6)

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

	L _{av}	L _{min}	L _{max}	U _o (g ₁)	g ₂
Observer 2: Maintenance value, luminance with dry roadway	0.44 cd/m ²	0.17 cd/m ²	0.97 cd/m ²	0.39	0.17



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



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

Sõidutee valgustus, 4,5m haljasriba

Roadway 1 (M6)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
13.917	0.21	0.22	0.23	0.23	0.24	0.26	0.27	0.29	0.29	0.27	0.25	0.24	0.23	0.21
12.750	0.28	0.28	0.29	0.30	0.30	0.32	0.35	0.38	0.39	0.37	0.34	0.31	0.29	0.28
11.583	0.36	0.35	0.38	0.40	0.39	0.40	0.44	0.47	0.50	0.50	0.48	0.42	0.38	0.37
10.417	0.47	0.49	0.52	0.52	0.50	0.53	0.57	0.61	0.64	0.66	0.67	0.61	0.52	0.47
9.250	0.61	0.66	0.66	0.67	0.68	0.70	0.72	0.79	0.85	0.90	0.93	0.87	0.71	0.59
8.083	0.79	0.84	0.87	0.86	0.88	0.93	1.04	1.10	1.11	1.20	1.19	1.15	0.95	0.77

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

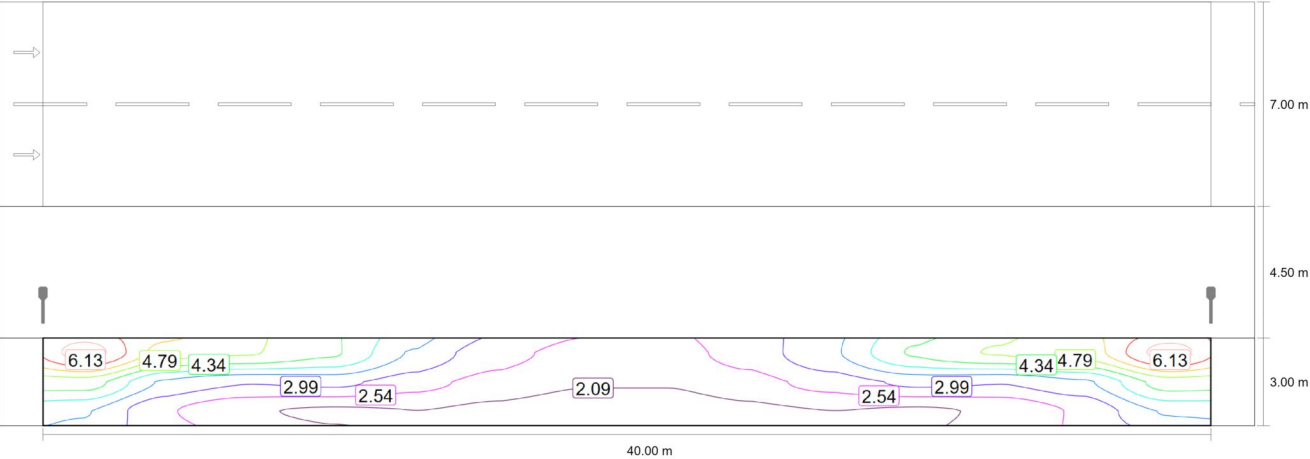
	L _{av}	L _{min}	L _{max}	U _o (g ₁)	g ₂
Observer 2: Luminance with new installation	0.54 cd/m ²	0.21 cd/m ²	1.20 cd/m ²	0.39	0.17

Sõidutee valgustus, 4,5m haljasriba

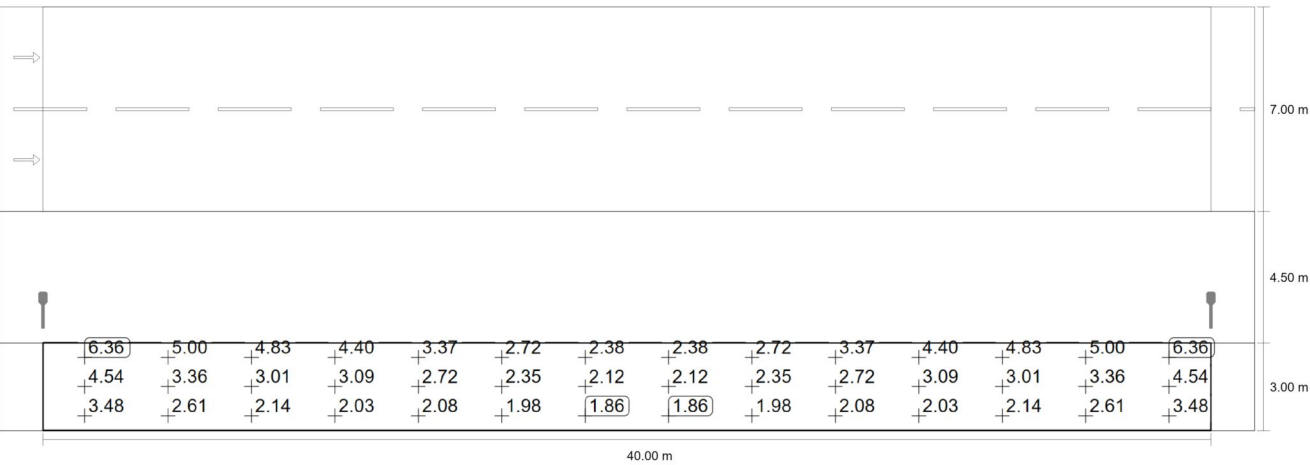
Sidewalk 1 (P5)

Results for valuation field

	Symbol	Calculated	Target	Check
Sidewalk 1 (P5)	E _{av}	3.16 lx	[3.00 - 4.50] lx	✓
	E _{min}	1.86 lx	≥ 0.60 lx	✓



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



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

Sõidutee valgustus, 4,5m haljasriba

Sidewalk 1 (P5)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
2.500	6.36	5.00	4.83	4.40	3.37	2.72	2.38	2.38	2.72	3.37	4.40	4.83	5.00	6.36
1.500	4.54	3.36	3.01	3.09	2.72	2.35	2.12	2.12	2.35	2.72	3.09	3.01	3.36	4.54
0.500	3.48	2.61	2.14	2.03	2.08	1.98	1.86	1.86	1.98	2.08	2.03	2.14	2.61	3.48

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

	E_{av}	E_{min}	E_{max}	$U_o (g_1)$	g_2
Maintenance value, horizontal illuminance	3.16 lx	1.86 lx	6.36 lx	0.59	0.29

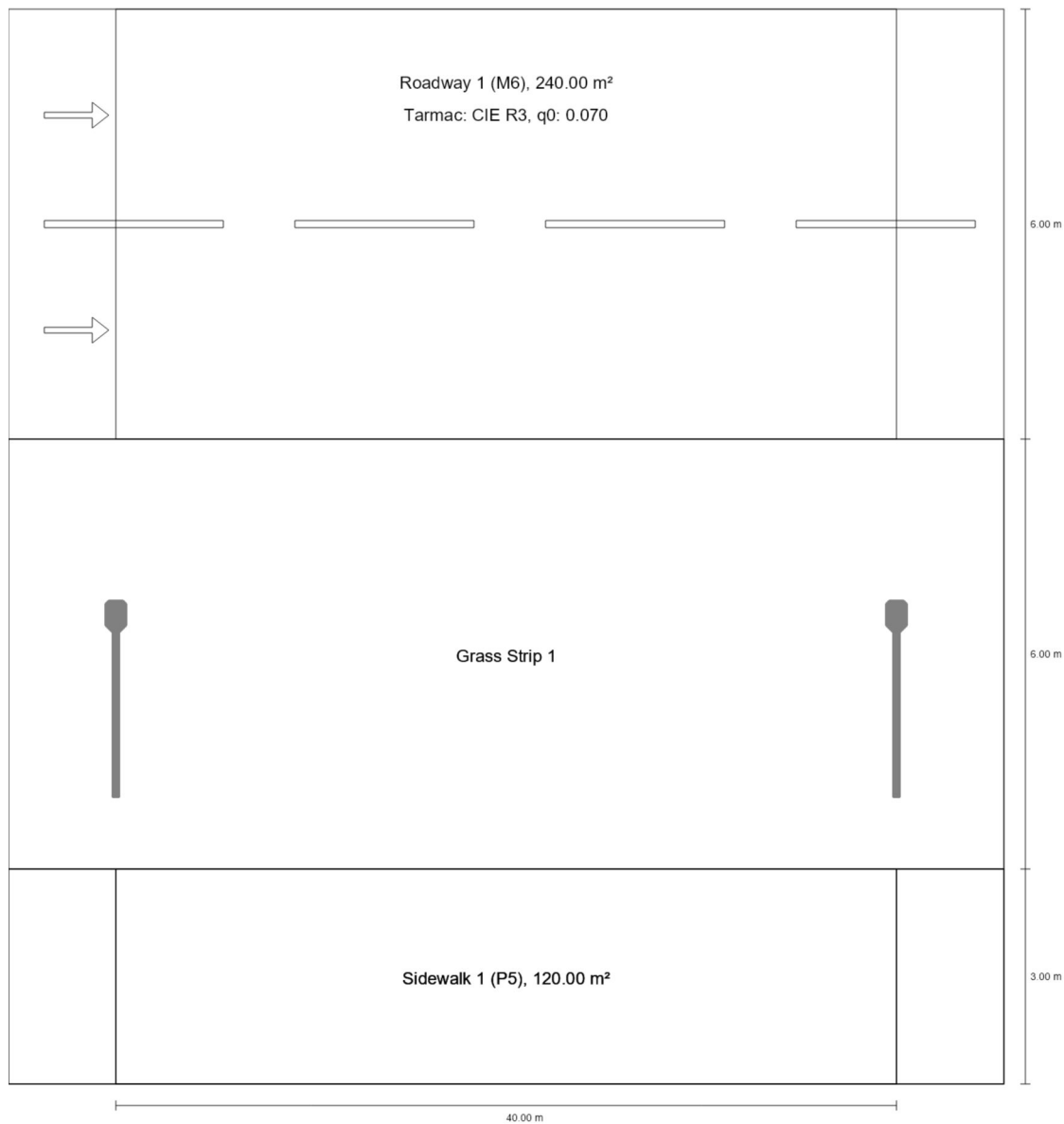


Sõidutee valgustus, 6m haljasriba

Description

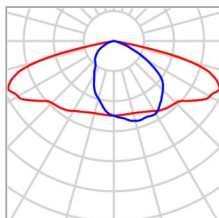
Sõidutee valgustus, 6m haljasriba

Summary (according to EN 13201:2015)



Sõidutee valgustus, 6m haljasriba

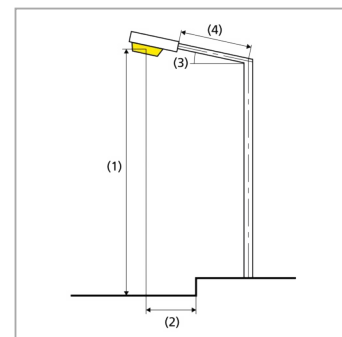
Summary (according to EN 13201:2015)



Manufacturer	Vizulo	P	45.0 W
Article No.	6000937528 MRUE 045 730 LB3 AA016	Φ_{Lamp}	5798 lm
Article name	Micro Martin 45 W 16 LED	$\Phi_{\text{Luminaire}}$	5798 lm
Fitting	1x 16 LED MOD AA	η	100.00 %

Micro Martin 45 W 16 LED (single side bottom)

Pole distance	40.000 m
(1) Light spot height	8.000 m
(2) Light point overhang	-2.500 m
(3) Boom inclination	0.0°
(4) Boom length	2.500 m
Annual operating hours	4000 h: 100.0 %, 45.0 W
Wattage / route	1125.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	≥ 70°: 508 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 80°: 73.1 cd/klm ≥ 90°: 0.00 cd/klm
Luminous intensity class	G*3
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.5
MF	0.81



Sõidutee valgustus, 6m haljasriba

Summary (according to EN 13201:2015)

Results for valuation fields

A maintenance factor of 0.81 was used for calculating for the installation.

	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.37 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.46	≥ 0.35	✓
	U_l	0.67	≥ 0.40	✓
	TI	15 %	≤ 20 %	✓
	R_{EI}	0.56	≥ 0.30	✓
Sidewalk 1 (P5)	E_{av}	3.26 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.49 lx	≥ 0.60 lx	✓

Results for energy efficiency indicators

	Symbol	Calculated	Energy Consumption
Sõidutee valgustus, 6m haljasriba	D_p	0.024 W/lx*m ²	–
Micro Martin 45 W 16 LED (single side bottom)	D_e	0.5 kWh/m ² yr	180.0 kWh/yr

Sõidutee valgustus, 6m haljasriba

Roadway 1 (M6)

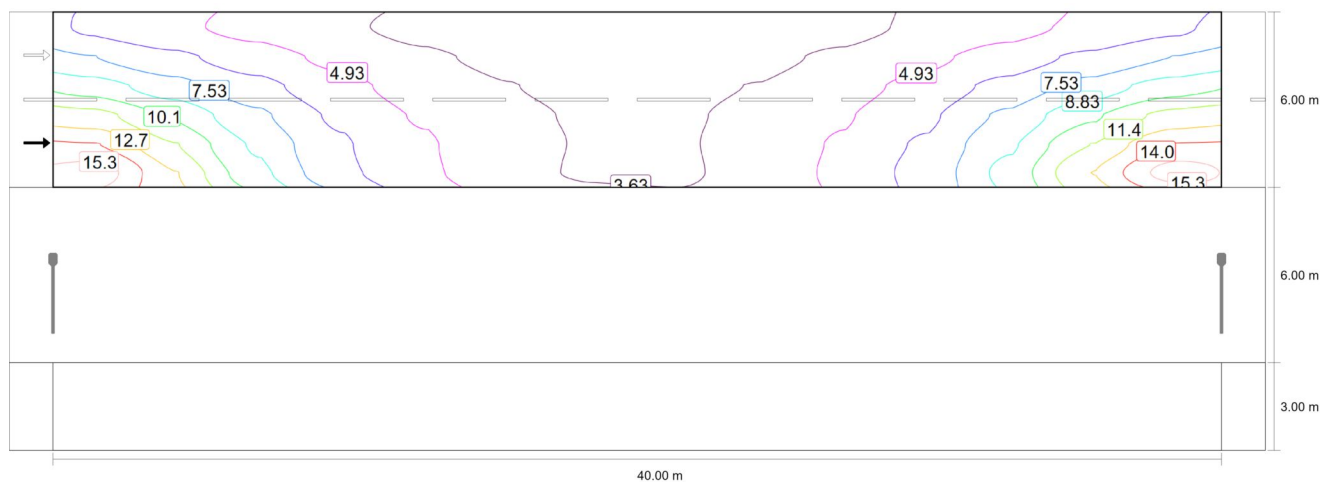
Results for valuation field

	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.37 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.46	≥ 0.35	✓
	U_l	0.67	≥ 0.40	✓
	TI	15 %	≤ 20 %	✓
	R_{EI}	0.56	≥ 0.30	✓

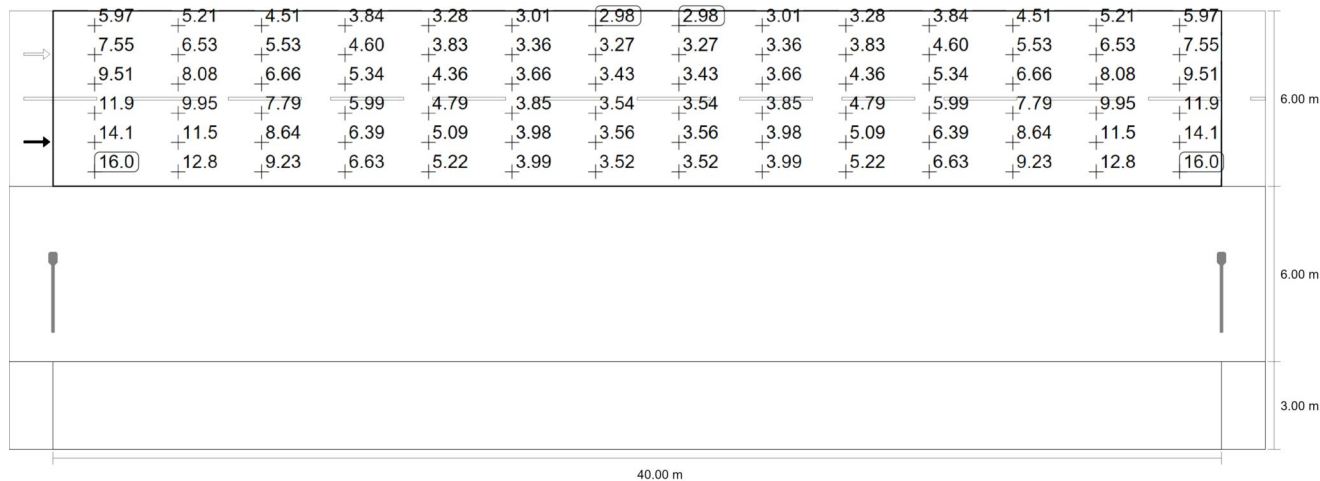
Results for observer

	Symbol	Calculated	Target	Check
Observer 1 Position: -60.000 m, 10.500 m, 1.500 m	L_{av}	0.37 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.49	≥ 0.35	✓
	U_l	0.67	≥ 0.40	✓
	TI	15 %	≤ 20 %	✓
Observer 2 Position: -60.000 m, 13.500 m, 1.500 m	L_{av}	0.41 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.46	≥ 0.35	✓
	U_l	0.76	≥ 0.40	✓
	TI	8 %	≤ 20 %	✓

Sõidutee valgustus, 6m haljasriba

Roadway 1 (M6)

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



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

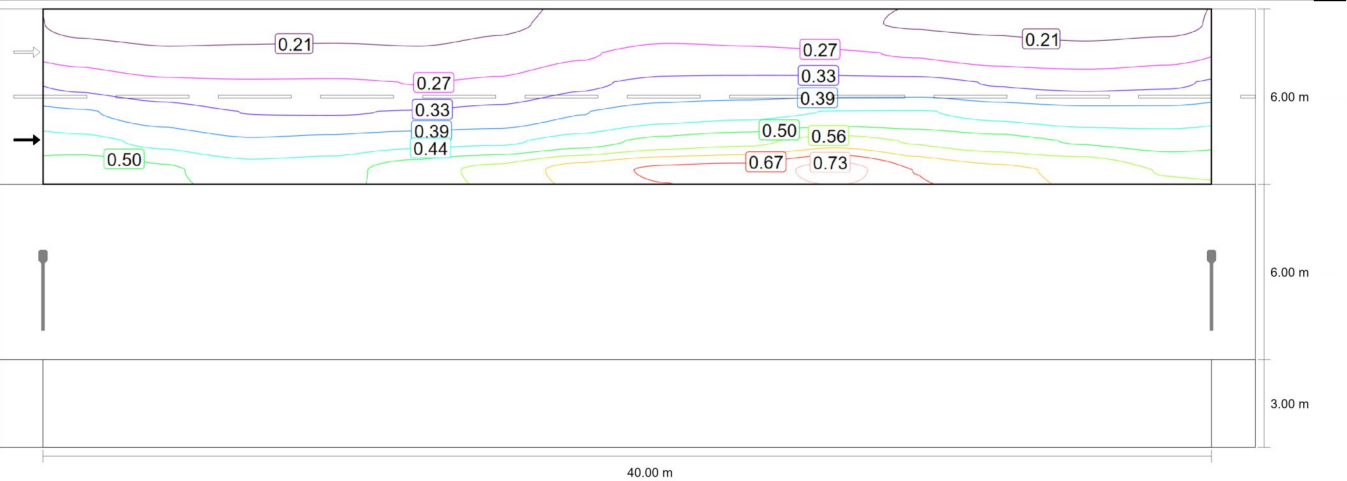
m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
14.500	5.97	5.21	4.51	3.84	3.28	3.01	2.98	2.98	3.01	3.28	3.84	4.51	5.21	5.97
13.500	7.55	6.53	5.53	4.60	3.83	3.36	3.27	3.27	3.36	3.83	4.60	5.53	6.53	7.55
12.500	9.51	8.08	6.66	5.34	4.36	3.66	3.43	3.43	3.66	4.36	5.34	6.66	8.08	9.51
11.500	11.91	9.95	7.79	5.99	4.79	3.85	3.54	3.54	3.85	4.79	5.99	7.79	9.95	11.91

Sõidutee valgustus, 6m haljasriba
Roadway 1 (M6)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
10.500	14.08	11.46	8.64	6.39	5.09	3.98	3.56	3.56	3.98	5.09	6.39	8.64	11.46	14.08
9.500	15.98	12.76	9.23	6.63	5.22	3.99	3.52	3.52	3.99	5.22	6.63	9.23	12.76	15.98

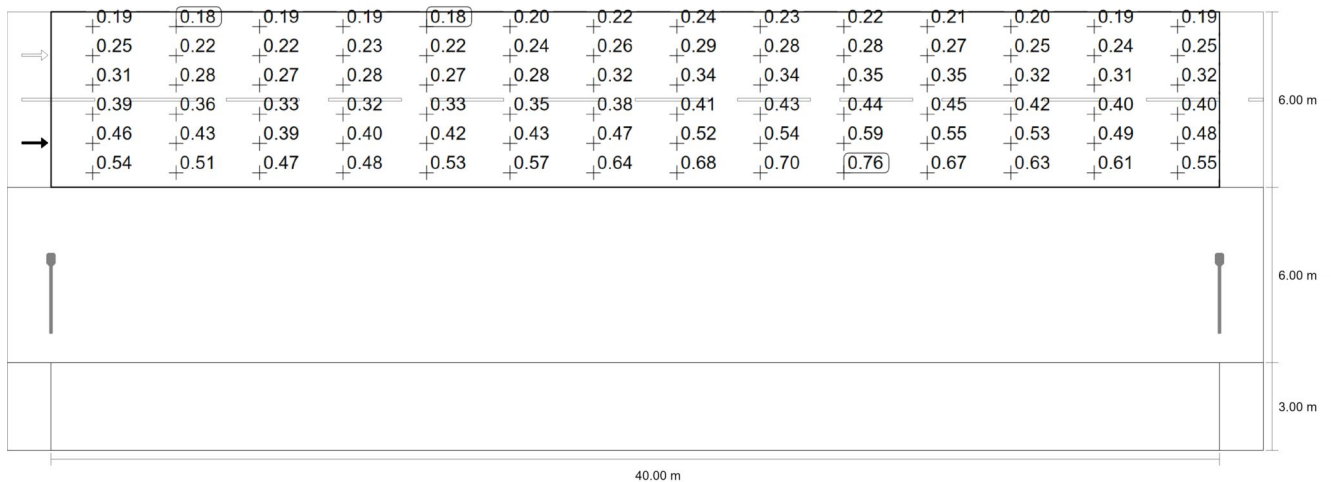
Maintenance value, horizontal illuminance [lx] (Value chart)

	E_{av}	E_{min}	E_{max}	$U_o (g_1)$	g_2
Maintenance value, horizontal illuminance	6.26 lx	2.98 lx	16.0 lx	0.48	0.19



Observer 1: Maintenance value, luminance with dry roadway [cd/m²] (Iso-illuminance curves)

Sõidutee valgustus, 6m haljasriba

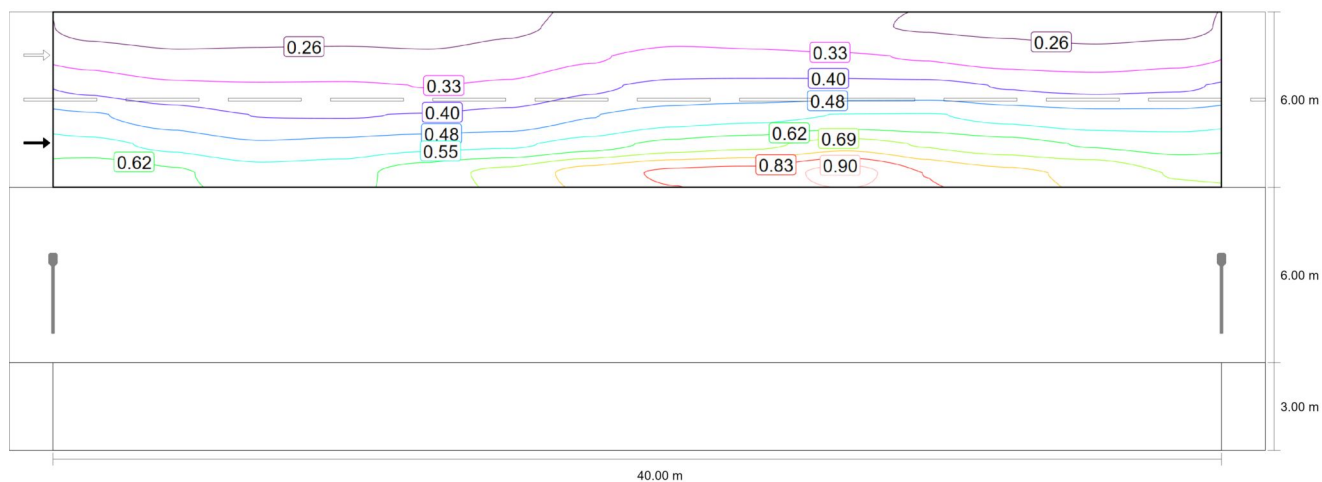
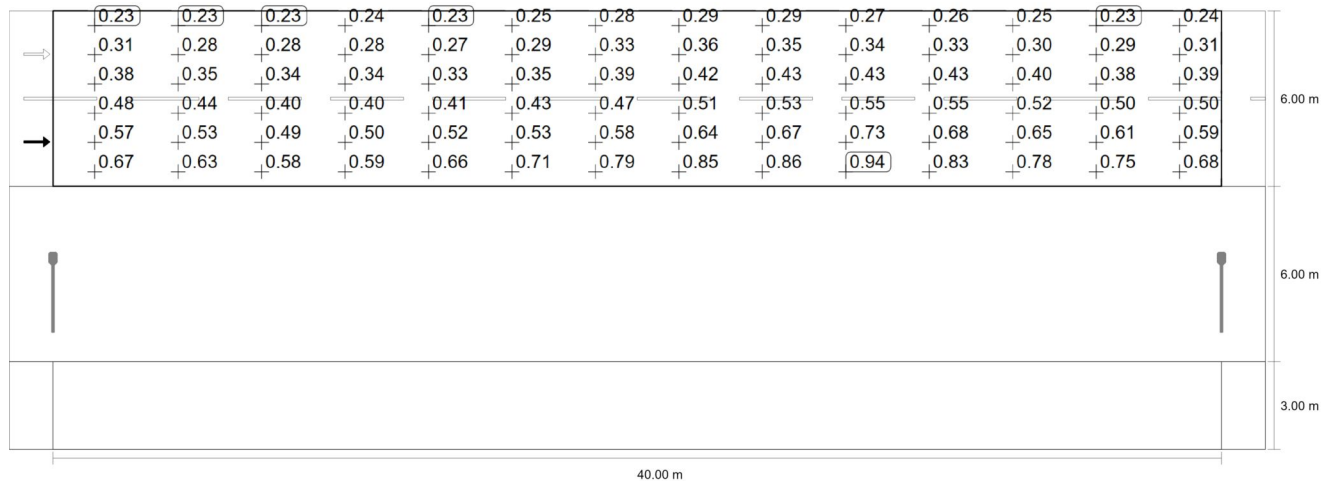
Roadway 1 (M6)Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
14.500	0.19	0.18	0.19	0.19	0.18	0.20	0.22	0.24	0.23	0.22	0.21	0.20	0.19	0.19
13.500	0.25	0.22	0.22	0.23	0.22	0.24	0.26	0.29	0.28	0.28	0.27	0.25	0.24	0.25
12.500	0.31	0.28	0.27	0.28	0.27	0.28	0.32	0.34	0.34	0.35	0.35	0.32	0.31	0.32
11.500	0.39	0.36	0.33	0.32	0.33	0.35	0.38	0.41	0.43	0.44	0.45	0.42	0.40	0.40
10.500	0.46	0.43	0.39	0.40	0.42	0.43	0.47	0.52	0.54	0.59	0.55	0.53	0.49	0.48
9.500	0.54	0.51	0.47	0.48	0.53	0.57	0.64	0.68	0.70	0.76	0.67	0.63	0.61	0.55

Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value chart)

	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 1: Maintenance value, luminance with dry roadway	0.37 cd/m^2	0.18 cd/m^2	0.76 cd/m^2	0.49	0.24

Sõidutee valgustus, 6m haljasriba

Roadway 1 (M6)Observer 1: Luminance with new installation [cd/m^2] (Iso-illuminance curves)Observer 1: Luminance with new installation [cd/m^2] (Value grid)

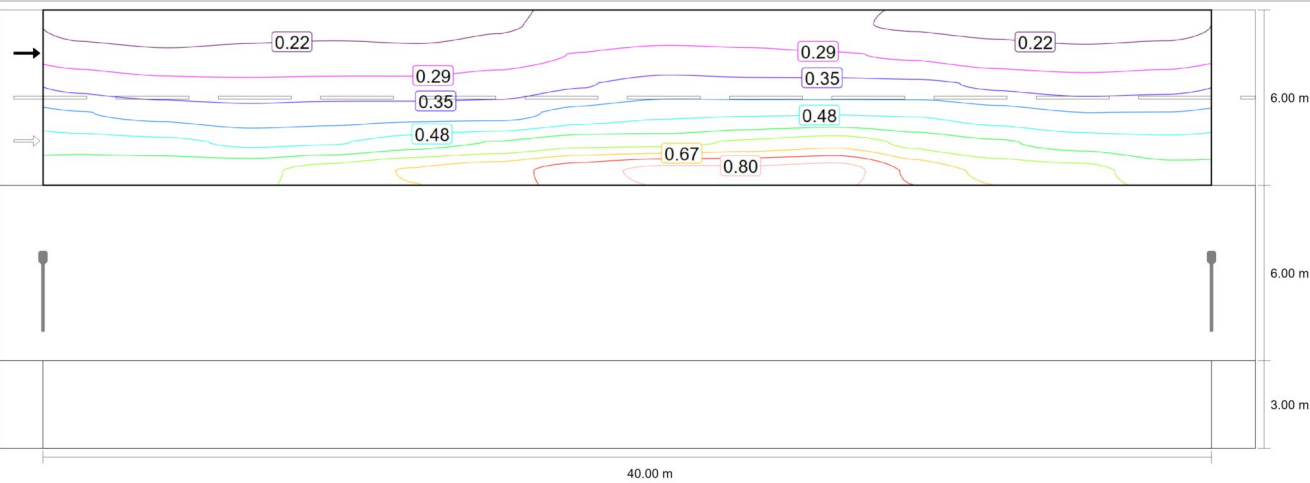
m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
14.500	0.23	0.23	0.23	0.24	0.23	0.25	0.28	0.29	0.29	0.27	0.26	0.25	0.23	0.24
13.500	0.31	0.28	0.28	0.28	0.27	0.29	0.33	0.36	0.35	0.34	0.33	0.30	0.29	0.31
12.500	0.38	0.35	0.34	0.34	0.33	0.35	0.39	0.42	0.43	0.43	0.43	0.40	0.38	0.39
11.500	0.48	0.44	0.40	0.40	0.41	0.43	0.47	0.51	0.53	0.55	0.55	0.52	0.50	0.50

Sõidutee valgustus, 6m haljasriba
Roadway 1 (M6)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
10.500	0.57	0.53	0.49	0.50	0.52	0.53	0.58	0.64	0.67	0.73	0.68	0.65	0.61	0.59
9.500	0.67	0.63	0.58	0.59	0.66	0.71	0.79	0.85	0.86	0.94	0.83	0.78	0.75	0.68

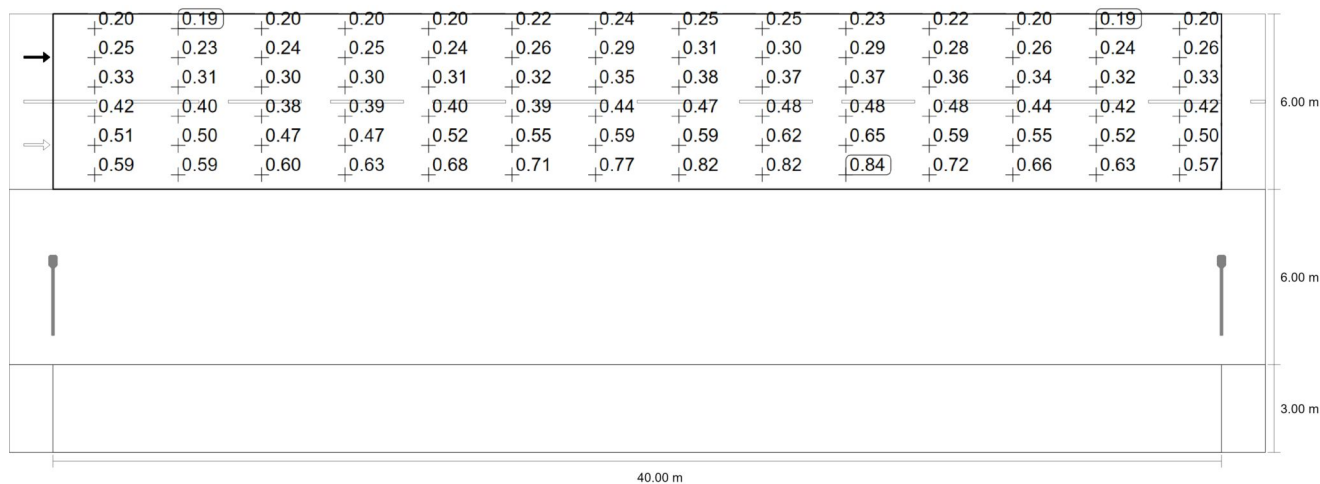
Observer 1: Luminance with new installation [cd/m²] (Value chart)

	L _{av}	L _{min}	L _{max}	U _o (g ₁)	g ₂
Observer 1: Luminance with new installation	0.46 cd/m ²	0.23 cd/m ²	0.94 cd/m ²	0.49	0.24



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

Sõidutee valgustus, 6m haljasriba

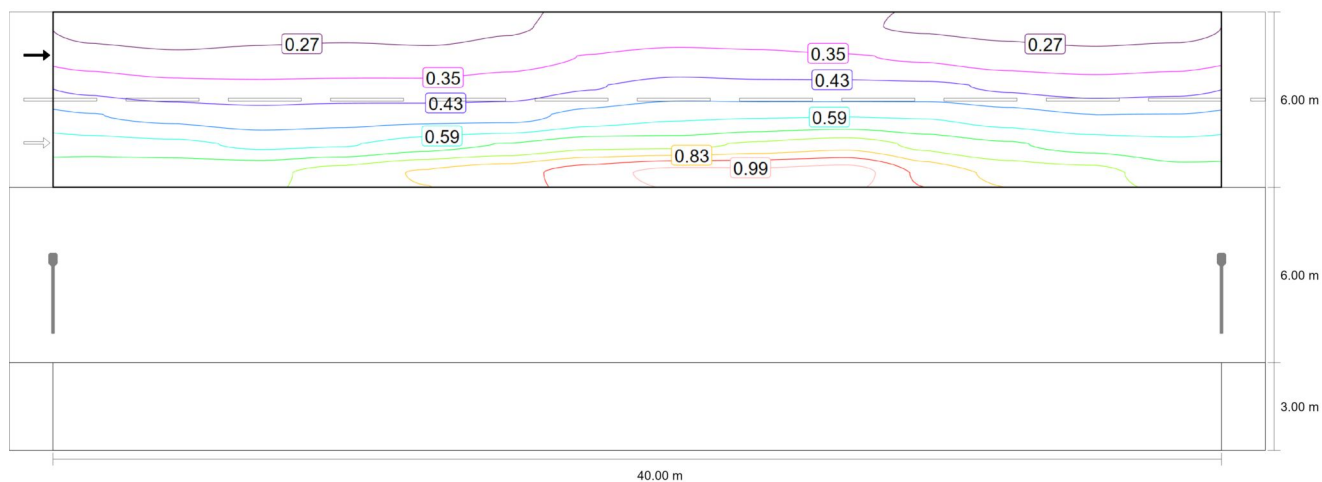
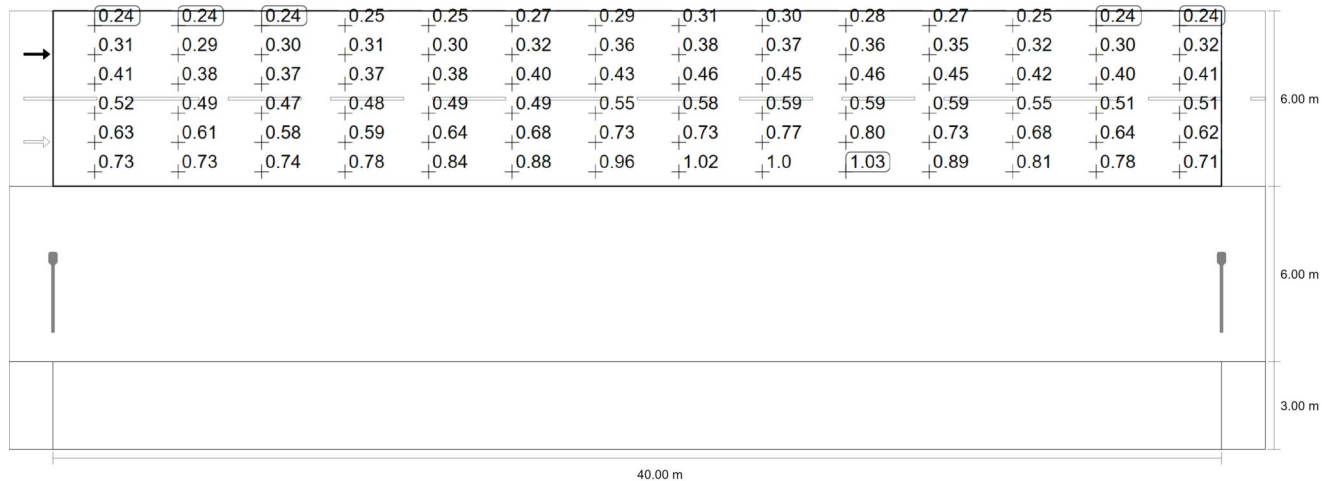
Roadway 1 (M6)Observer 2: Maintenance value, luminance with dry roadway [cd/m^2] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
14.500	0.20	0.19	0.20	0.20	0.20	0.22	0.24	0.25	0.25	0.23	0.22	0.20	0.19	0.20
13.500	0.25	0.23	0.24	0.25	0.24	0.26	0.29	0.31	0.30	0.29	0.28	0.26	0.24	0.26
12.500	0.33	0.31	0.30	0.30	0.31	0.32	0.35	0.38	0.37	0.37	0.36	0.34	0.32	0.33
11.500	0.42	0.40	0.38	0.39	0.40	0.39	0.44	0.47	0.48	0.48	0.48	0.44	0.42	0.42
10.500	0.51	0.50	0.47	0.47	0.52	0.55	0.59	0.59	0.62	0.65	0.59	0.55	0.52	0.50
9.500	0.59	0.59	0.60	0.63	0.68	0.71	0.77	0.82	0.82	0.84	0.72	0.66	0.63	0.57

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

	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 2: Maintenance value, luminance with dry roadway	0.41 cd/m^2	0.19 cd/m^2	0.84 cd/m^2	0.46	0.23

Sõidutee valgustus, 6m haljasriba

Roadway 1 (M6)Observer 2: Luminance with new installation [cd/m^2] (Iso-illuminance curves)Observer 2: Luminance with new installation [cd/m^2] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
14.500	0.24	0.24	0.24	0.25	0.25	0.27	0.29	0.31	0.30	0.28	0.27	0.25	0.24	0.24
13.500	0.31	0.29	0.30	0.31	0.30	0.32	0.36	0.38	0.37	0.36	0.35	0.32	0.30	0.32
12.500	0.41	0.38	0.37	0.37	0.38	0.40	0.43	0.46	0.45	0.46	0.45	0.42	0.40	0.41
11.500	0.52	0.49	0.47	0.48	0.49	0.49	0.55	0.58	0.59	0.59	0.59	0.55	0.51	0.51

Sõidutee valgustus, 6m haljasriba

Roadway 1 (M6)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
10.500	0.63	0.61	0.58	0.59	0.64	0.68	0.73	0.73	0.77	0.80	0.73	0.68	0.64	0.62
9.500	0.73	0.73	0.74	0.78	0.84	0.88	0.96	1.02	1.01	1.03	0.89	0.81	0.78	0.71

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

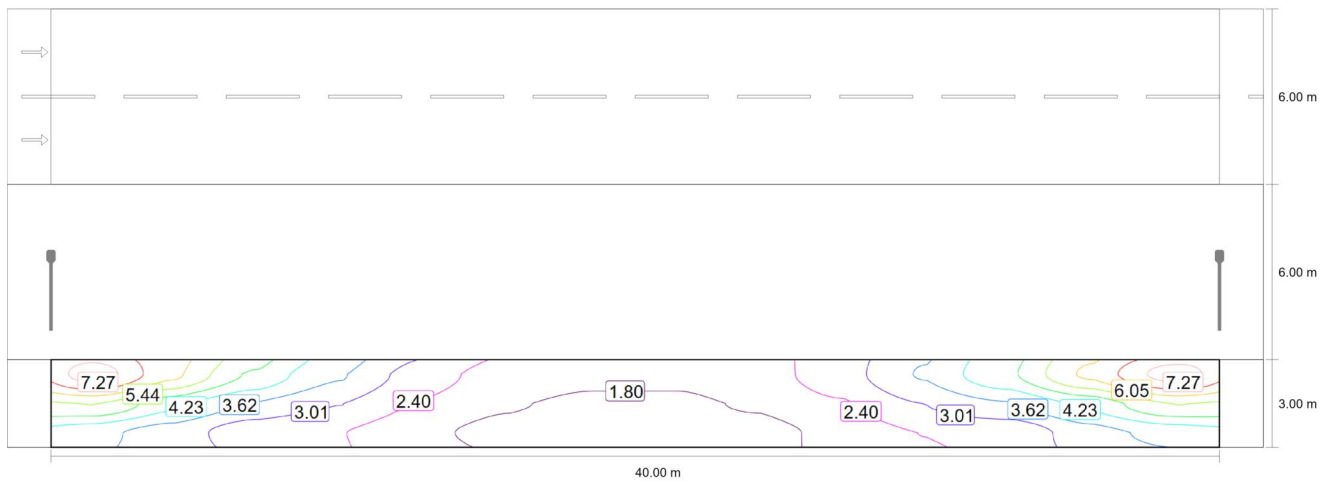
	L _{av}	L _{min}	L _{max}	U _o (g ₁)	g ₂
Observer 2: Luminance with new installation	0.51 cd/m ²	0.24 cd/m ²	1.03 cd/m ²	0.46	0.23

Sõidutee valgustus, 6m haljasriba

Sidewalk 1 (P5)

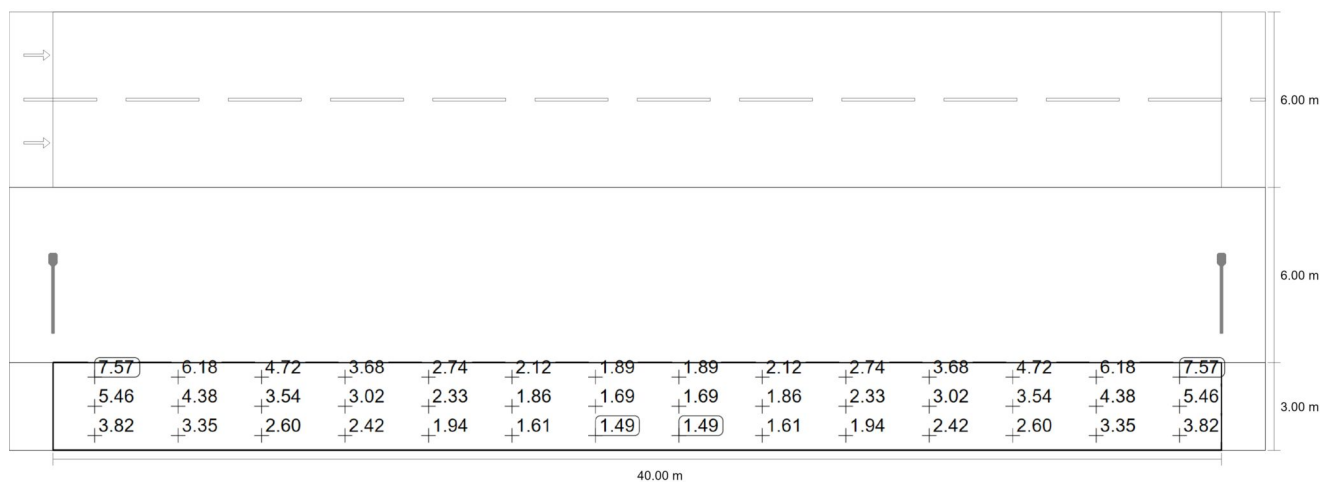
Results for valuation field

	Symbol	Calculated	Target	Check
Sidewalk 1 (P5)	E_{av}	3.26 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.49 lx	≥ 0.60 lx	✓



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

Sõidutee valgustus, 6m haljasriba

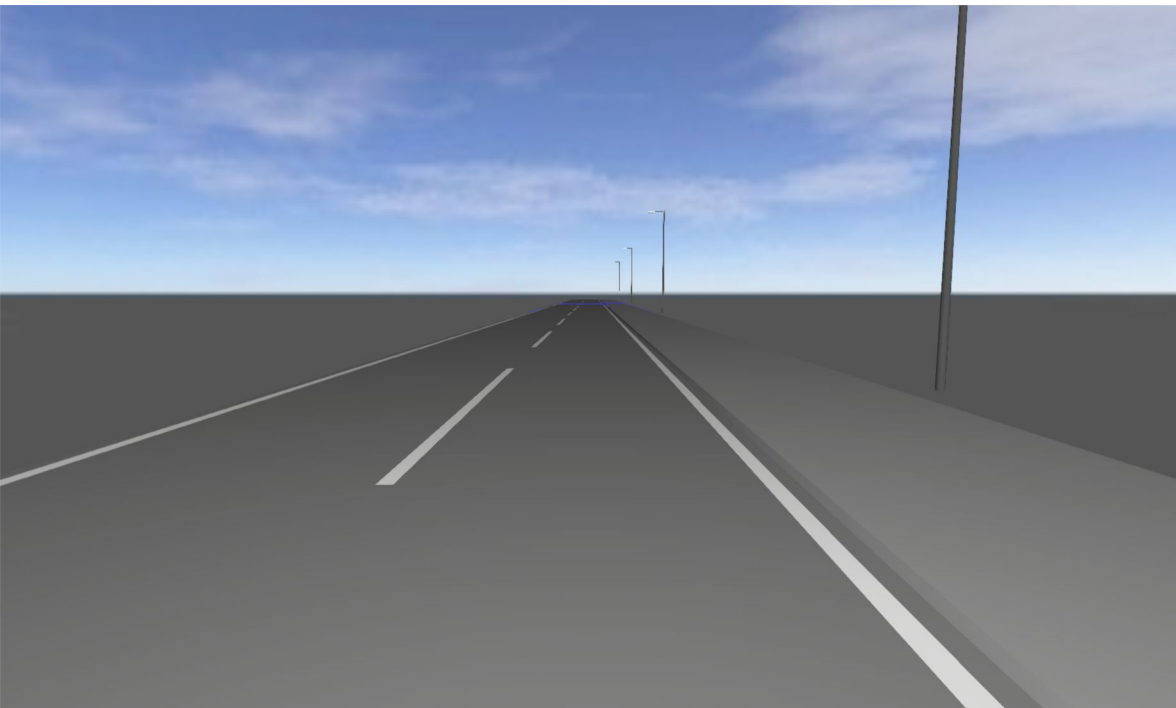
Sidewalk 1 (P5)

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

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
2.500	7.57	6.18	4.72	3.68	2.74	2.12	1.89	1.89	2.12	2.74	3.68	4.72	6.18	7.57
1.500	5.46	4.38	3.54	3.02	2.33	1.86	1.69	1.69	1.86	2.33	3.02	3.54	4.38	5.46
0.500	3.82	3.35	2.60	2.42	1.94	1.61	1.49	1.49	1.61	1.94	2.42	2.60	3.35	3.82

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

	E_{av}	E_{min}	E_{max}	$U_o (g_1)$	g_2
Maintenance value, horizontal illuminance	3.26 lx	1.49 lx	7.57 lx	0.46	0.20

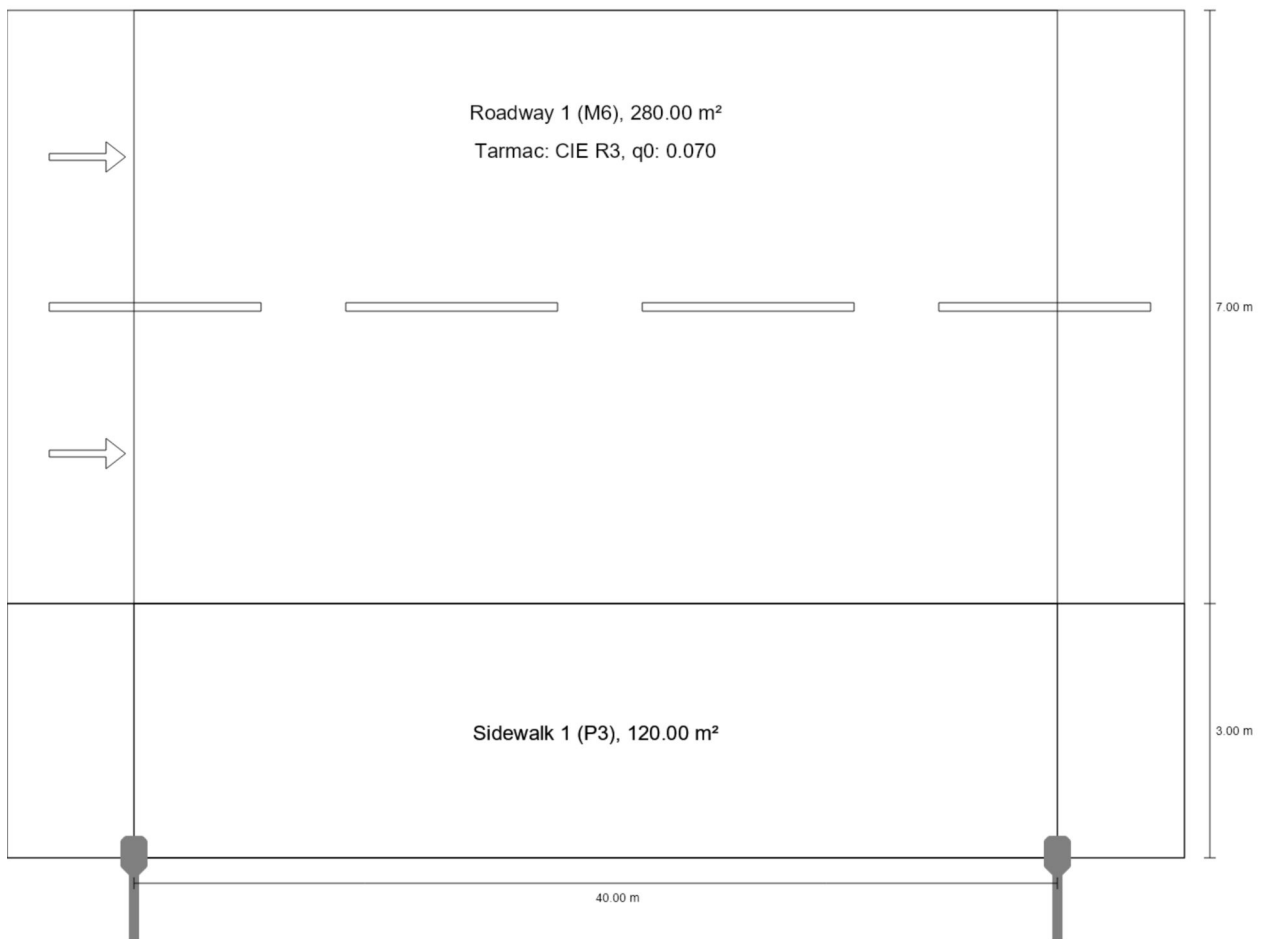


Sõidutee valgustus, mastid kergtee taga

Description

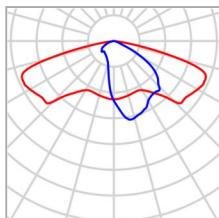
Sõidutee valgustus, mastid kergtee taga

Summary (according to EN 13201:2015)



Sõidutee valgustus, mastid kergtee taga

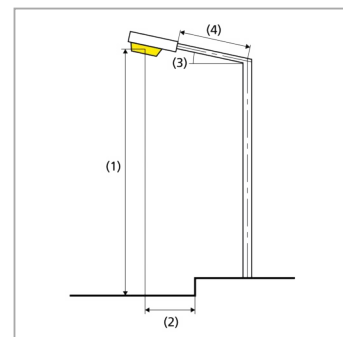
Summary (according to EN 13201:2015)



Manufacturer	Vizulo	P	45.0 W
Article No.	6000937408 MRUE 045 730 L22 AA016	Φ_{Lamp}	5922 lm
Article name	Micro Martin 45 W 16 LED	$\Phi_{\text{Luminaire}}$	5922 lm
Fitting	1x 16 LED MOD AA	η	100.00 %

Micro Martin 45 W 16 LED (single side bottom)

Pole distance	40.000 m
(1) Light spot height	8.000 m
(2) Light point overhang	-3.000 m
(3) Boom inclination	0.0°
(4) Boom length	1.000 m
Annual operating hours	4000 h: 100.0 %, 45.0 W
Wattage / route	1125.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	≥ 70°: 587 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 80°: 147 cd/klm ≥ 90°: 0.00 cd/klm
Luminous intensity class	G*2
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.5
MF	0.81



Sõidutee valgustus, mastid kergtee taga

Summary (according to EN 13201:2015)

Results for valuation fields

A maintenance factor of 0.81 was used for calculating for the installation.

	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.39 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.39	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	16 %	≤ 20 %	✓
	R_{EI}	0.45	≥ 0.30	✓
Sidewalk 1 (P3)	E_{av}	9.97 lx	[7.50 - 11.25] lx	✓
	E_{min}	3.21 lx	≥ 1.50 lx	✓

Results for energy efficiency indicators

	Symbol	Calculated	Energy Consumption
Sõidutee valgustus, mastid kergtee taga	D_p	0.014 W/lx*m ²	–
Micro Martin 45 W 16 LED (single side bottom)	D_e	0.5 kWh/m ² yr	180.0 kWh/yr

Sõidutee valgustus, mastid kergtee taga

Roadway 1 (M6)

Results for valuation field

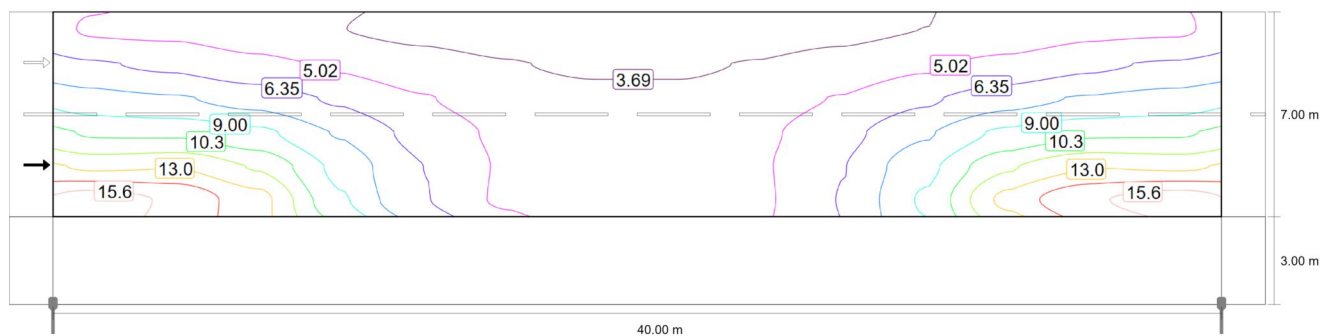
	Symbol	Calculated	Target	Check
Roadway 1 (M6)	L_{av}	0.39 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.39	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	16 %	≤ 20 %	✓
	R_{EI}	0.45	≥ 0.30	✓

Results for observer

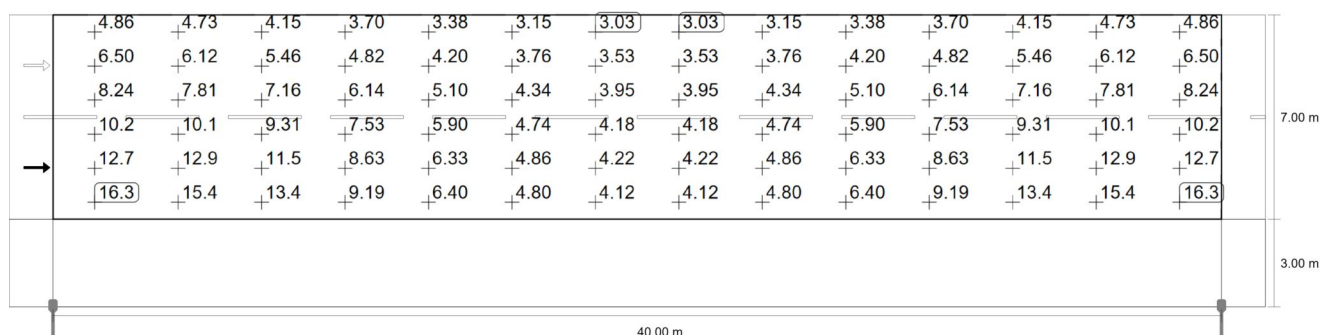
	Symbol	Calculated	Target	Check
Observer 1 Position: -60.000 m, 4.750 m, 1.500 m	L_{av}	0.39 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.42	≥ 0.35	✓
	U_l	0.63	≥ 0.40	✓
	TI	16 %	≤ 20 %	✓
Observer 2 Position: -60.000 m, 8.250 m, 1.500 m	L_{av}	0.44 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.39	≥ 0.35	✓
	U_l	0.71	≥ 0.40	✓
	TI	6 %	≤ 20 %	✓

Sõidutee valgustus, mastid kergtee taga

Roadway 1 (M6)



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



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

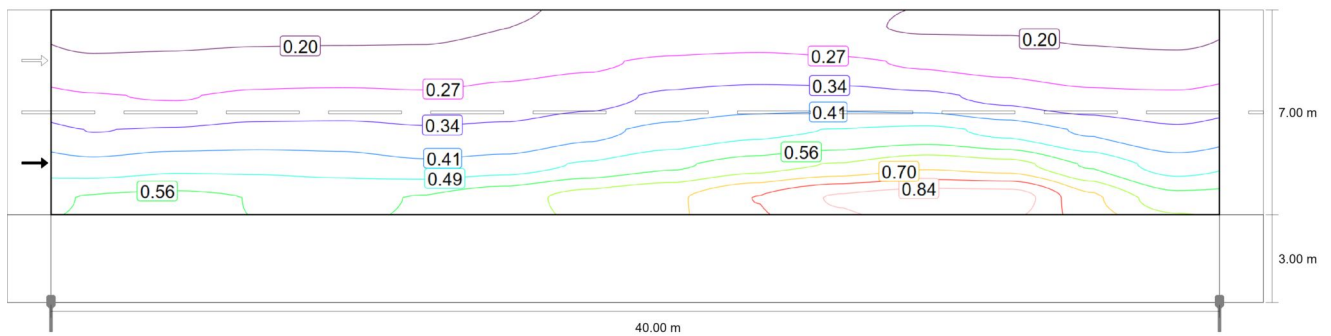
m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
9.417	4.86	4.73	4.15	3.70	3.38	3.15	3.03	3.03	3.15	3.38	3.70	4.15	4.73	4.86
8.250	6.50	6.12	5.46	4.82	4.20	3.76	3.53	3.53	3.76	4.20	4.82	5.46	6.12	6.50
7.083	8.24	7.81	7.16	6.14	5.10	4.34	3.95	3.95	4.34	5.10	6.14	7.16	7.81	8.24
5.917	10.18	10.13	9.31	7.53	5.90	4.74	4.18	4.18	4.74	5.90	7.53	9.31	10.13	10.18
4.750	12.74	12.94	11.51	8.63	6.33	4.86	4.22	4.22	4.86	6.33	8.63	11.51	12.94	12.74
3.583	16.31	15.45	13.43	9.19	6.40	4.80	4.12	4.12	4.80	6.40	9.19	13.43	15.45	16.31

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

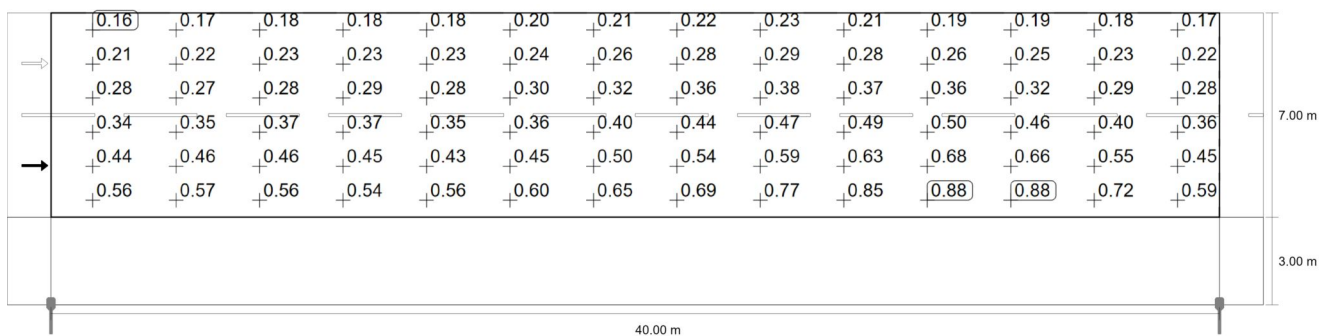
	E_{av}	E_{min}	E_{max}	$U_o (g_1)$	g_2
Maintenance value, horizontal illuminance	6.83 lx	3.03 lx	16.3 lx	0.44	0.19

Sõidutee valgustus, mastid kergtee taga

Roadway 1 (M6)



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



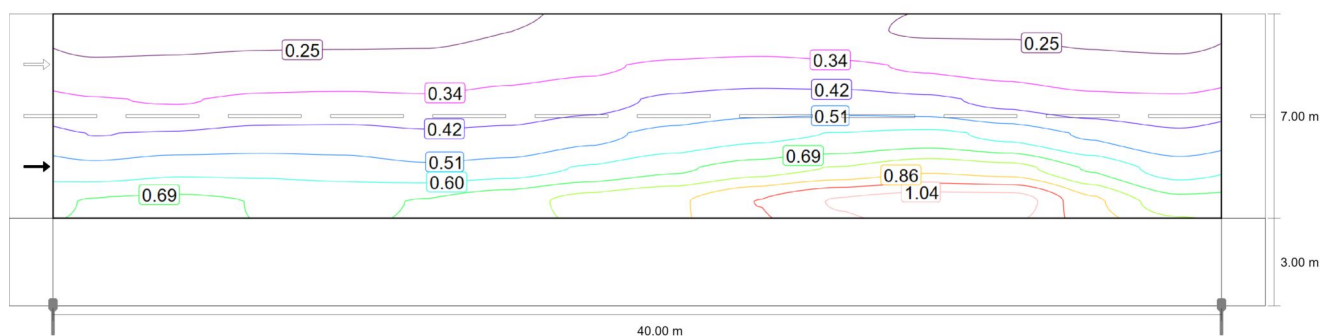
Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value grid)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
9.417	0.16	0.17	0.18	0.18	0.18	0.20	0.21	0.22	0.23	0.21	0.19	0.19	0.18	0.17
8.250	0.21	0.22	0.23	0.23	0.23	0.24	0.26	0.28	0.29	0.28	0.26	0.25	0.23	0.22
7.083	0.28	0.27	0.28	0.29	0.28	0.30	0.32	0.36	0.38	0.37	0.36	0.32	0.29	0.28
5.917	0.34	0.35	0.37	0.37	0.35	0.36	0.40	0.44	0.47	0.49	0.50	0.46	0.40	0.36
4.750	0.44	0.46	0.46	0.45	0.43	0.45	0.50	0.54	0.59	0.63	0.68	0.66	0.55	0.45
3.583	0.56	0.57	0.56	0.54	0.56	0.60	0.65	0.69	0.77	0.85	0.88	0.88	0.72	0.59

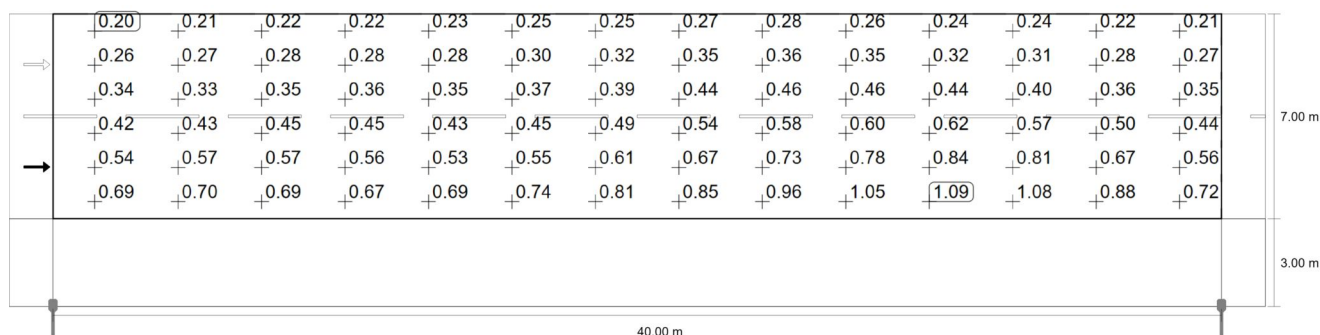
Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value chart)

	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 1: Maintenance value, luminance with dry roadway	0.39 cd/m^2	0.16 cd/m^2	0.88 cd/m^2	0.42	0.19

Sõidutee valgustus, mastid kergtee taga

Roadway 1 (M6)

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



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

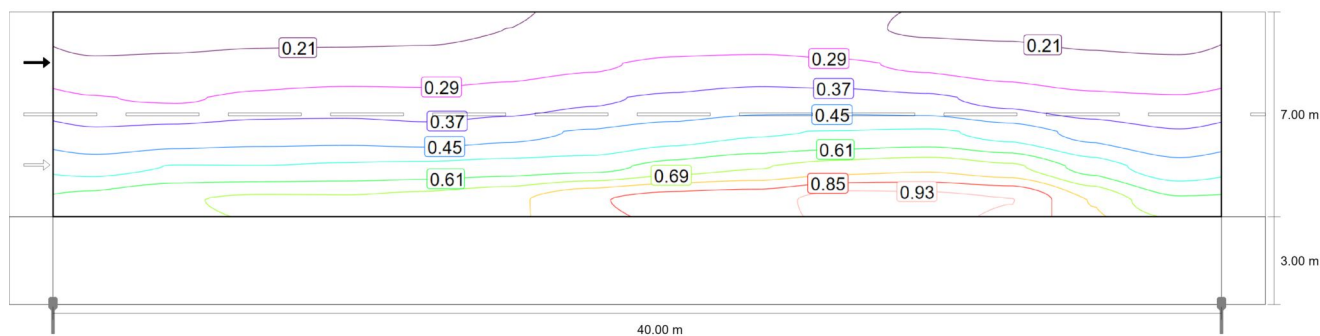
m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
9.417	0.20	0.21	0.22	0.22	0.23	0.25	0.25	0.27	0.28	0.26	0.24	0.24	0.22	0.21
8.250	0.26	0.27	0.28	0.28	0.28	0.30	0.32	0.35	0.36	0.35	0.32	0.31	0.28	0.27
7.083	0.34	0.33	0.35	0.36	0.35	0.37	0.39	0.44	0.46	0.46	0.44	0.40	0.36	0.35
5.917	0.42	0.43	0.45	0.45	0.43	0.45	0.49	0.54	0.58	0.60	0.62	0.57	0.50	0.44
4.750	0.54	0.57	0.57	0.56	0.53	0.55	0.61	0.67	0.73	0.78	0.84	0.81	0.67	0.56
3.583	0.69	0.70	0.69	0.67	0.69	0.74	0.81	0.85	0.96	1.05	1.09	1.08	0.88	0.72

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

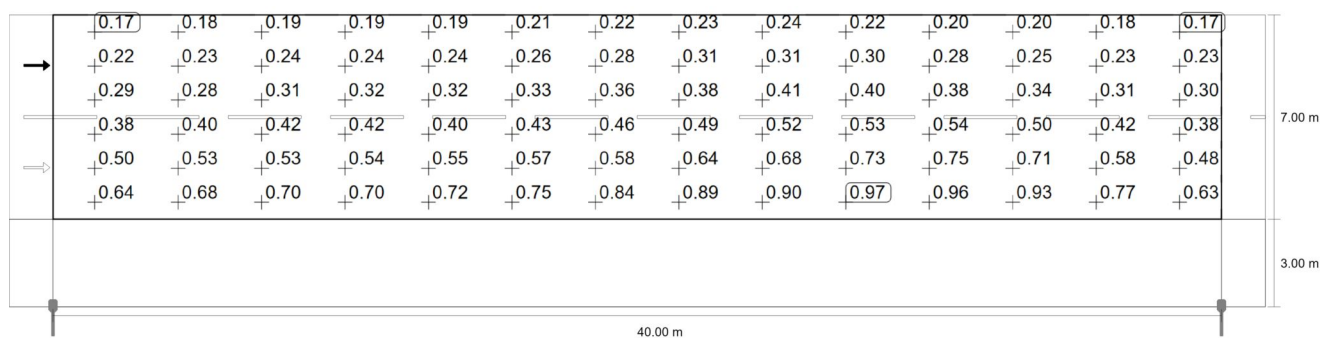
	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 1: Luminance with new installation	0.48 cd/m²	0.20 cd/m²	1.09 cd/m²	0.42	0.19

Sõidutee valgustus, mastid kergtee taga

Roadway 1 (M6)



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



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

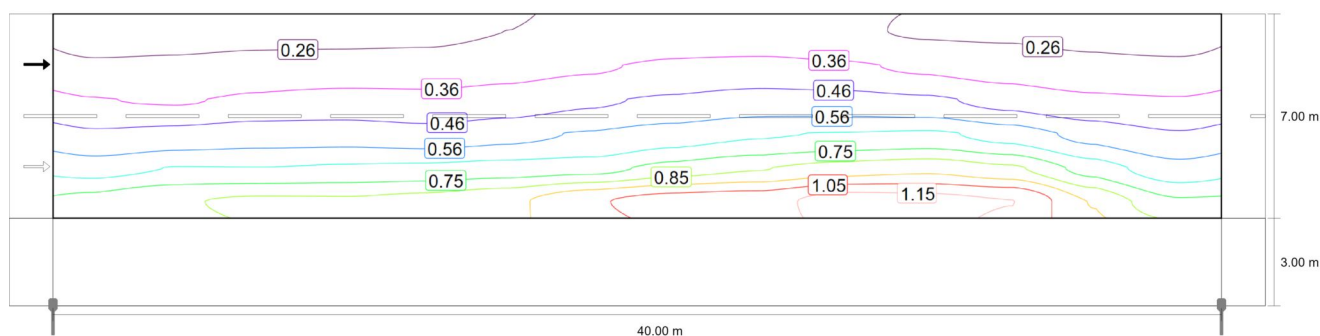
m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
9.417	0.17	0.18	0.19	0.19	0.19	0.21	0.22	0.23	0.24	0.22	0.20	0.20	0.18	0.17
8.250	0.22	0.23	0.24	0.24	0.24	0.26	0.28	0.31	0.31	0.30	0.28	0.25	0.23	0.23
7.083	0.29	0.28	0.31	0.32	0.32	0.33	0.36	0.38	0.41	0.40	0.38	0.34	0.31	0.30
5.917	0.38	0.40	0.42	0.42	0.40	0.43	0.46	0.49	0.52	0.53	0.54	0.50	0.42	0.38
4.750	0.50	0.53	0.53	0.54	0.55	0.57	0.58	0.64	0.68	0.73	0.75	0.71	0.58	0.48
3.583	0.64	0.68	0.70	0.70	0.72	0.75	0.84	0.89	0.90	0.97	0.96	0.93	0.77	0.63

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

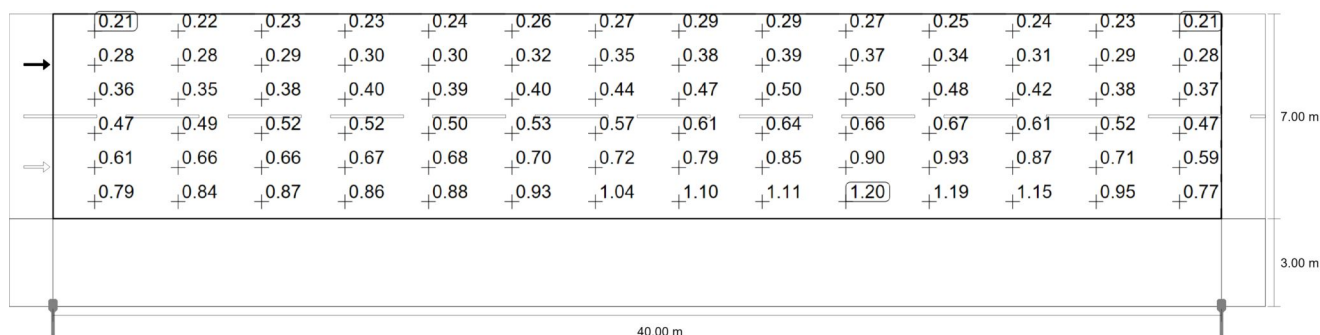
	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 2: Maintenance value, luminance with dry roadway	0.44 cd/m^2	0.17 cd/m^2	0.97 cd/m^2	0.39	0.17

Sõidutee valgustus, mastid kergtee taga

Roadway 1 (M6)



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



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

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
9.417	0.21	0.22	0.23	0.23	0.24	0.26	0.27	0.29	0.29	0.27	0.25	0.24	0.23	0.21
8.250	0.28	0.28	0.29	0.30	0.30	0.32	0.35	0.38	0.39	0.37	0.34	0.31	0.29	0.28
7.083	0.36	0.35	0.38	0.40	0.39	0.40	0.44	0.47	0.50	0.50	0.48	0.42	0.38	0.37
5.917	0.47	0.49	0.52	0.52	0.50	0.53	0.57	0.61	0.64	0.66	0.67	0.61	0.52	0.47
4.750	0.61	0.66	0.66	0.67	0.68	0.70	0.72	0.79	0.85	0.90	0.93	0.87	0.71	0.59
3.583	0.79	0.84	0.87	0.86	0.88	0.93	1.04	1.10	1.11	1.20	1.19	1.15	0.95	0.77

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

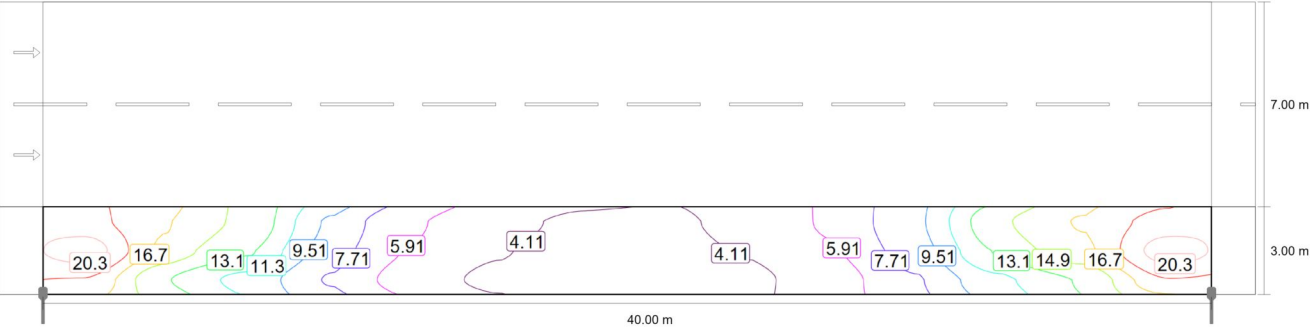
	L_{av}	L_{min}	L_{max}	$U_o (g_1)$	g_2
Observer 2: Luminance with new installation	0.54 cd/m^2	0.21 cd/m^2	1.20 cd/m^2	0.39	0.17

Sõidutee valgustus, mastid kergtee taga

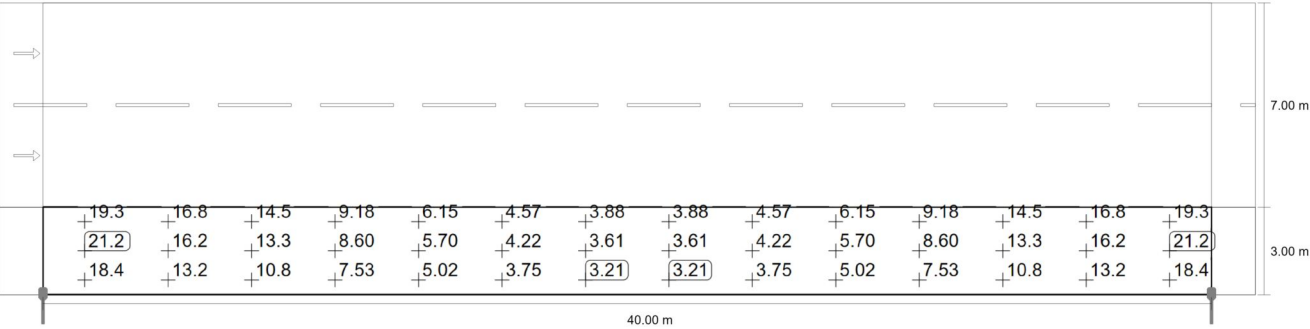
Sidewalk 1 (P3)

Results for valuation field

	Symbol	Calculated	Target	Check
Sidewalk 1 (P3)	E _{av}	9.97 lx	[7.50 - 11.25] lx	✓
	E _{min}	3.21 lx	≥ 1.50 lx	✓



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



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

Sõidutee valgustus, mastid kergtee taga

Sidewalk 1 (P3)

m	1.429	4.286	7.143	10.000	12.857	15.714	18.571	21.429	24.286	27.143	30.000	32.857	35.714	38.571
2.500	19.30	16.84	14.54	9.18	6.15	4.57	3.88	3.88	4.57	6.15	9.18	14.54	16.84	19.30
1.500	21.22	16.20	13.31	8.60	5.70	4.22	3.61	3.61	4.22	5.70	8.60	13.31	16.20	21.22
0.500	18.36	13.24	10.84	7.53	5.02	3.75	3.21	3.21	3.75	5.02	7.53	10.84	13.24	18.36

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

	E_{av}	E_{min}	E_{max}	$U_o (g_1)$	g_2
Maintenance value, horizontal illuminance	9.97 lx	3.21 lx	21.2 lx	0.32	0.15