

Radari tee tänavavalgustuse projekteerimine

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Projekteerija
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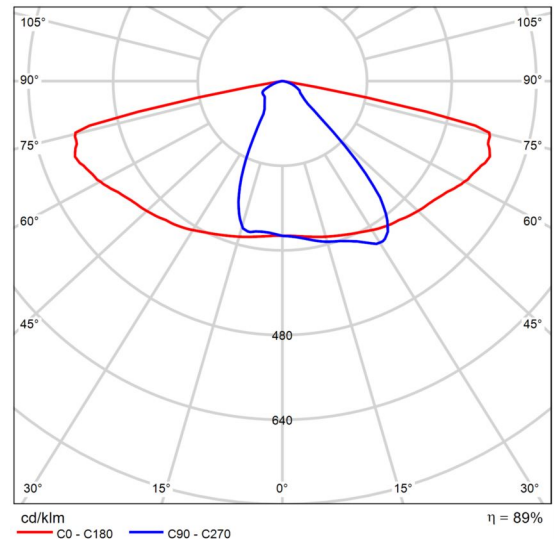
T 58504731
aneta.andersson@hepta.ee

Product data sheet

Philips - BGP281 T25 DN10 /730



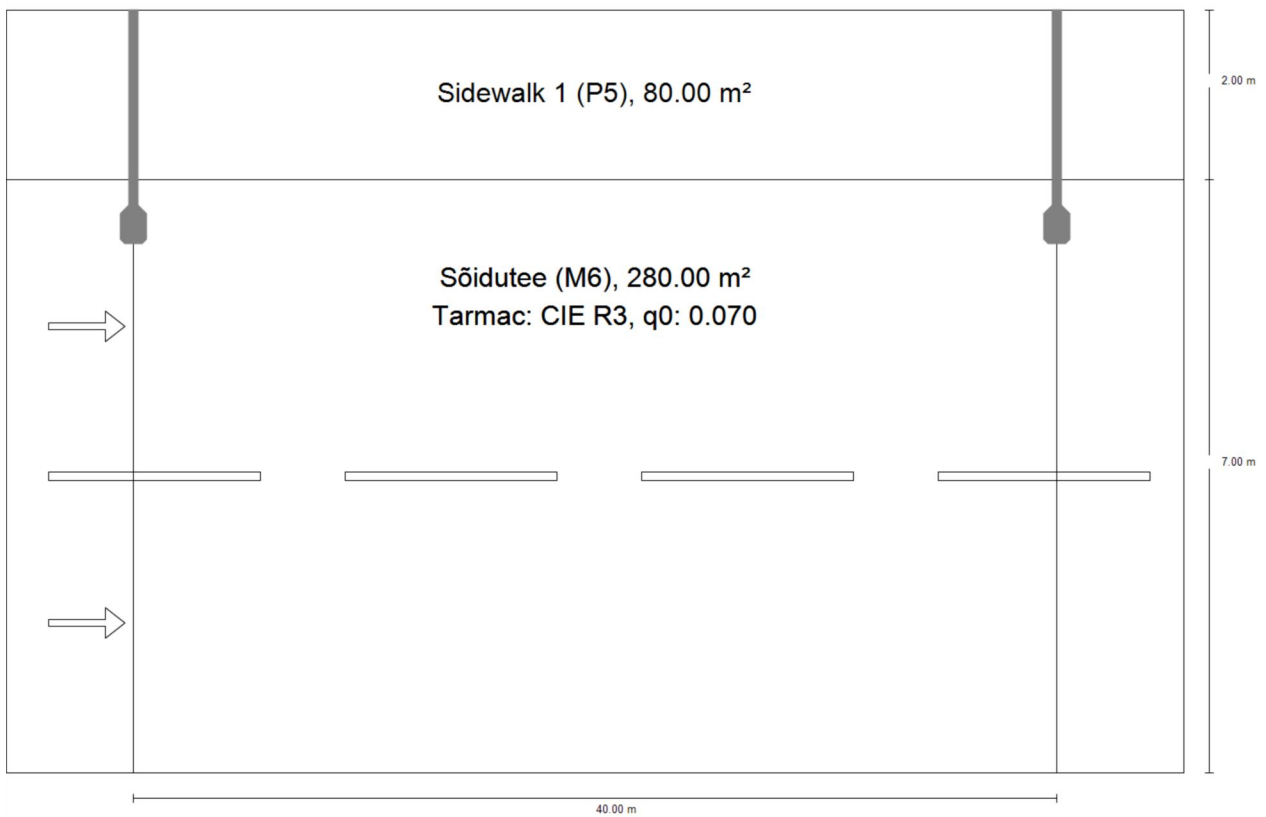
P	22.5 W
Φ_{Lamp}	3300 lm
$\Phi_{Luminaire}$	2934 lm
η	88.89 %
Luminous efficacy	130.4 lm/W
CCT	3000 K
CRI	100



Polar LDC

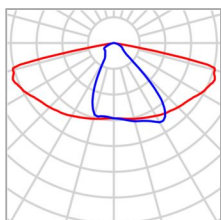
Radari tee

Summary (according to EN 13201:2015)



Radari tee

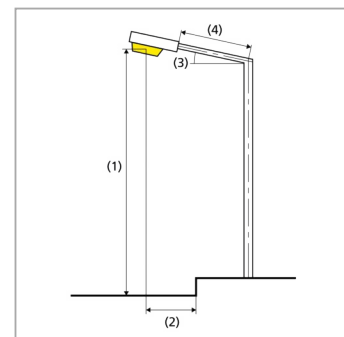
Summary (according to EN 13201:2015)



Manufacturer	Philips	P	22.5 W
Article name	BGP281 T25 DN10 /730	Φ_{Lamp}	3300 lm
Fitting	1x LED34-CLO-4S/730	$\Phi_{Luminaire}$	2934 lm
		η	88.89 %

BGP281 T25 DN10 /730 (single side top)

Pole distance	40.000 m
(1) Light spot height	10.000 m
(2) Light point overhang	0.500 m
(3) Boom inclination	0.0°
(4) Boom length	2.500 m
Annual operating hours	4000 h: 100.0 %, 22.5 W
Consumption	562.5 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 70°: 633 cd/klm ≥ 80°: 136 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.	G*2
Glare index class	D.6



Radari tee

Summary (according to EN 13201:2015)

Results for valuation fields

	Symbol	Calculated	Target	Check
Sidewalk 1 (P5)	E_{av}	3.95 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.48 lx	≥ 0.60 lx	✓
Sõidutee (M6)	L_{av}	0.31 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.51	≥ 0.35	✓
	U_l	0.79	≥ 0.40	✓
	TI	8 %	≤ 20 %	✓
	R_{EI}	0.58	≥ 0.30	✓

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

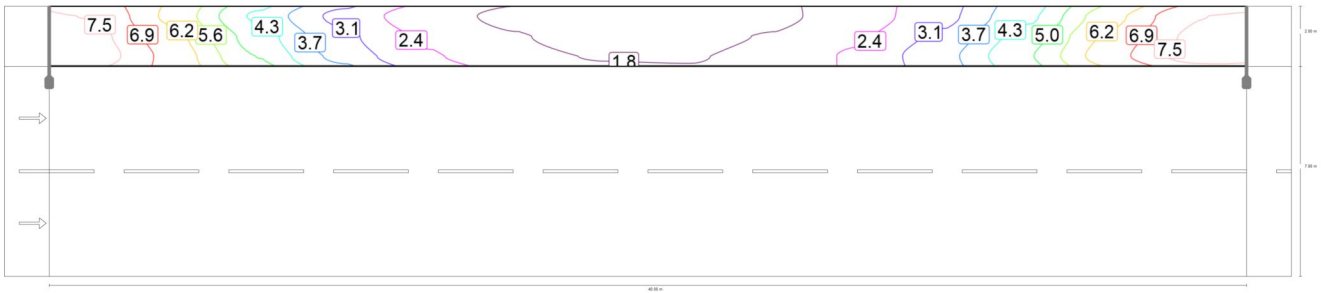
Results for energy efficiency indicators

	Symbol	Calculated	Consumption
Radari tee	D_p	0.015 W/lx*m ²	-
BGP281 T25 DN10 /730 (single side top)	D_e	0.3 kWh/m ² yr,	90.0 kWh/yr

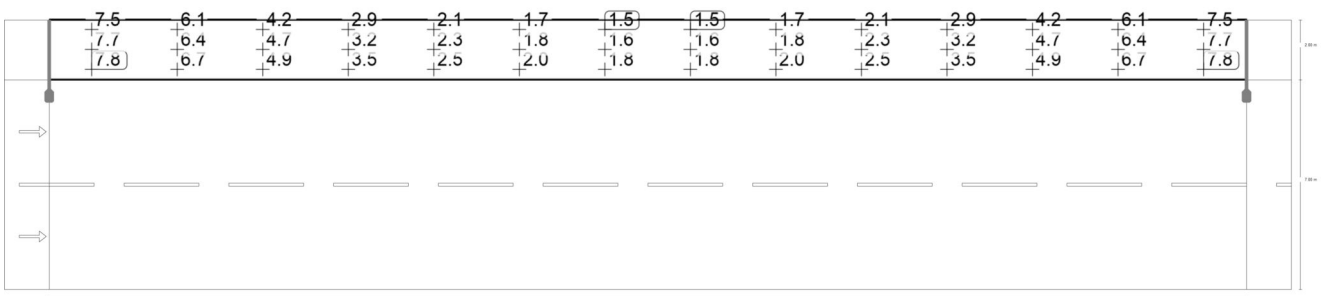
Radari tee
Sidewalk 1 (P5)

Results for valuation field

	Symbol	Calculated	Target	Check
Sidewalk 1 (P5)	E_{av}	3.95 lx	[3.00 - 4.50] lx	✓
	E_{min}	1.48 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
8.667	7.50	6.07	4.21	2.88	2.08	1.66	1.48	1.48	1.66	2.08	2.88	4.21	6.07	7.50
8.000	7.69	6.45	4.67	3.23	2.32	1.84	1.63	1.63	1.84	2.32	3.23	4.67	6.45	7.69
7.333	7.83	6.66	4.95	3.49	2.52	2.00	1.77	1.77	2.00	2.52	3.49	4.95	6.66	7.83

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

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	3.95 lx	1.48 lx	7.83 lx	0.38	0.19

Radari tee

Sõidutee (M6)

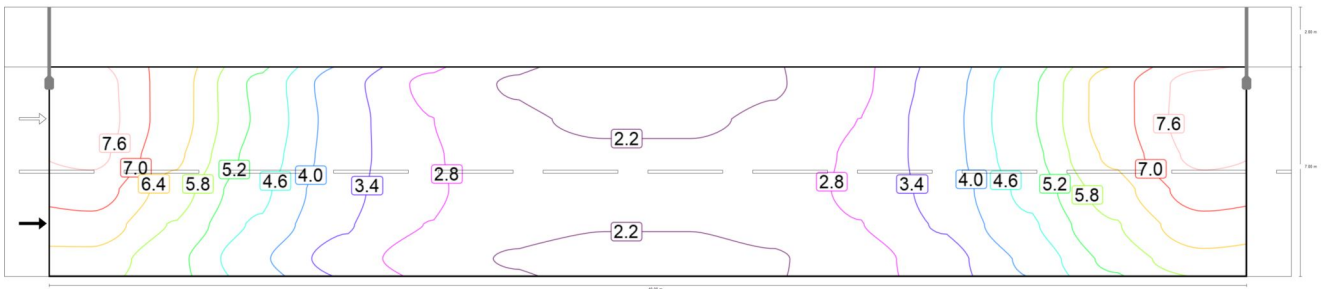
Results for valuation field

	Symbol	Calculated	Target	Check
Sõidutee (M6)	L_{av}	0.31 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.51	≥ 0.35	✓
	U_l	0.79	≥ 0.40	✓
	TI	8 %	≤ 20 %	✓
	R_{EI}	0.58	≥ 0.30	✓

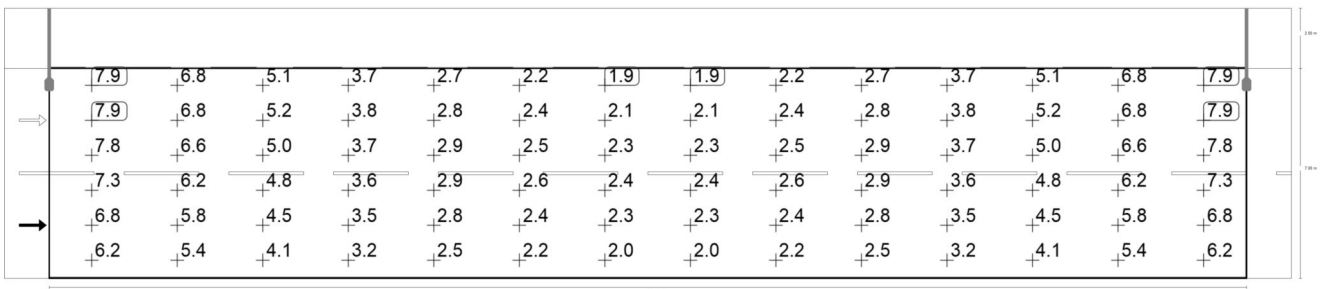
Results for observer

	Symbol	Calculated	Target	Check
Observer 1 Position: -60.000 m, 1.750 m, 1.500 m	L_{av}	0.34 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.53	≥ 0.35	✓
	U_l	0.79	≥ 0.40	✓
	TI	6 %	≤ 20 %	✓
Observer 2 Position: -60.000 m, 5.250 m, 1.500 m	L_{av}	0.31 cd/m ²	≥ 0.30 cd/m ²	✓
	U_o	0.51	≥ 0.35	✓
	U_l	0.89	≥ 0.40	✓
	TI	8 %	≤ 20 %	✓

Radari tee
Sõidutee (M6)



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



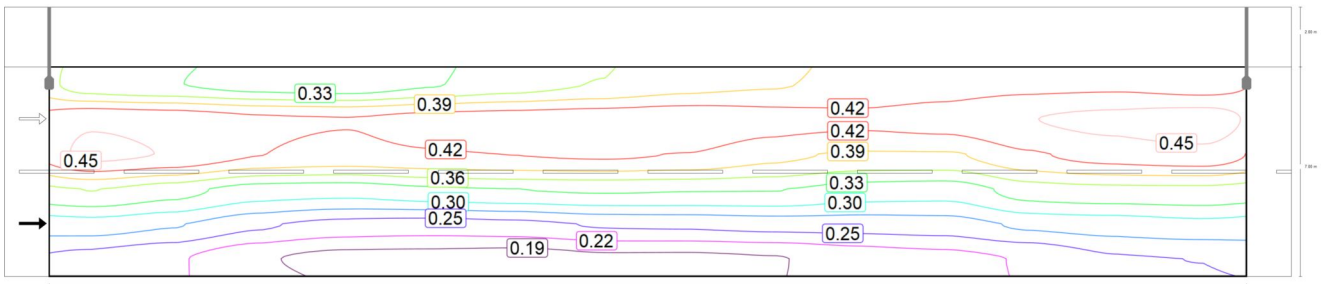
Maintenance value, horizontal illuminance [lx] (Value grid)

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
6.417	7.91	6.77	5.13	3.68	2.72	2.18	1.94	1.94	2.18	2.72	3.68	5.13	6.77	7.91
5.250	7.95	6.76	5.17	3.76	2.85	2.36	2.14	2.14	2.36	2.85	3.76	5.17	6.76	7.95
4.083	7.80	6.58	5.03	3.74	2.91	2.50	2.34	2.34	2.50	2.91	3.74	5.03	6.58	7.80
2.917	7.33	6.17	4.79	3.64	2.93	2.56	2.40	2.40	2.56	2.93	3.64	4.79	6.17	7.33
1.750	6.81	5.80	4.55	3.51	2.83	2.44	2.27	2.27	2.44	2.83	3.51	4.55	5.80	6.81
0.583	6.23	5.41	4.15	3.17	2.55	2.19	2.04	2.04	2.19	2.55	3.17	4.15	5.41	6.23

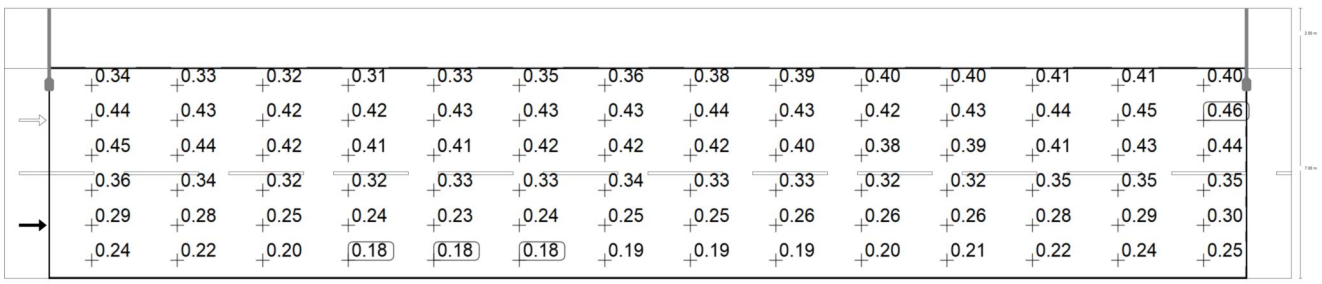
Maintenance value, horizontal illuminance [lx] (Value chart)

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	4.19 lx	1.94 lx	7.95 lx	0.46	0.24

Radari tee
Sõidutee (M6)



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



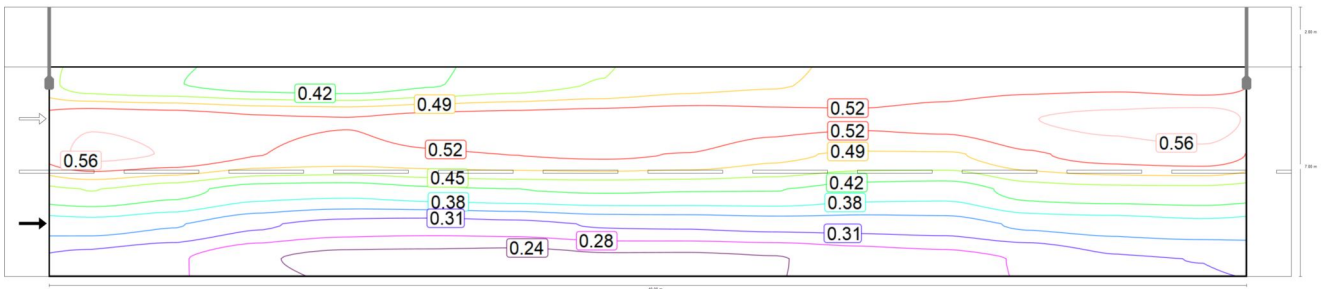
Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Value grid)

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
6.417	0.34	0.33	0.32	0.31	0.33	0.35	0.36	0.38	0.39	0.40	0.40	0.41	0.41	0.40
5.250	0.44	0.43	0.42	0.42	0.43	0.43	0.43	0.44	0.43	0.42	0.43	0.44	0.45	0.46
4.083	0.45	0.44	0.42	0.41	0.41	0.42	0.42	0.42	0.40	0.38	0.39	0.41	0.43	0.44
2.917	0.36	0.34	0.32	0.32	0.33	0.33	0.34	0.33	0.33	0.32	0.32	0.35	0.35	0.35
1.750	0.29	0.28	0.25	0.24	0.23	0.24	0.25	0.25	0.26	0.26	0.26	0.28	0.29	0.30
0.583	0.24	0.22	0.20	0.18	0.18	0.18	0.19	0.19	0.19	0.20	0.21	0.22	0.24	0.25

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

	L_{av}	L_{min}	L_{max}	g_1	g_2
Observer 1: Maintenance value, luminance with dry roadway	0.34 cd/m^2	0.18 cd/m^2	0.46 cd/m^2	0.53	0.39

Radari tee
Sõidutee (M6)



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



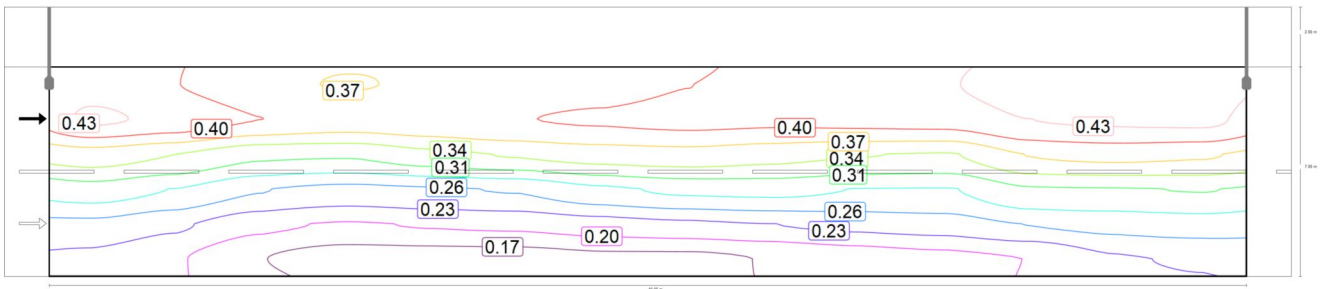
Observer 1: Luminance with new installation [cd/m²] (Value grid)

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
6.417	0.43	0.42	0.40	0.39	0.41	0.43	0.45	0.47	0.48	0.49	0.51	0.51	0.51	0.50
5.250	0.55	0.54	0.53	0.52	0.53	0.54	0.54	0.54	0.54	0.53	0.54	0.56	0.57	0.57
4.083	0.57	0.55	0.52	0.51	0.52	0.52	0.53	0.52	0.50	0.48	0.48	0.52	0.54	0.54
2.917	0.45	0.43	0.40	0.39	0.41	0.42	0.42	0.42	0.42	0.40	0.39	0.43	0.44	0.44
1.750	0.36	0.35	0.32	0.30	0.29	0.30	0.31	0.32	0.32	0.32	0.33	0.35	0.36	0.37
0.583	0.30	0.28	0.25	0.23	0.23	0.22	0.23	0.23	0.24	0.25	0.26	0.28	0.31	0.31

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	0.42 cd/m ²	0.22 cd/m ²	0.57 cd/m ²	0.53	0.39

Radari tee
Sõidutee (M6)



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



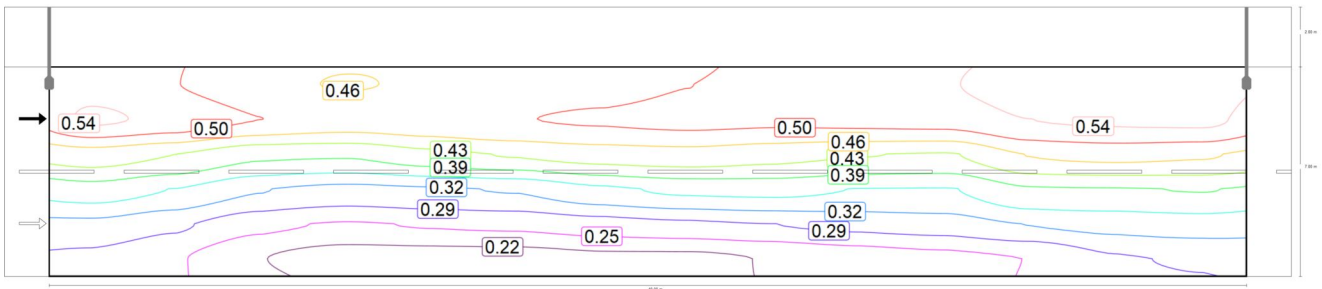
Observer 2: Maintenance value, luminance with dry roadway [cd/m²] (Value grid)

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
6.417	0.42	0.40	0.38	0.37	0.38	0.38	0.39	0.40	0.41	0.41	0.43	0.44	0.44	0.44
5.250	0.43	0.42	0.40	0.39	0.39	0.40	0.40	0.41	0.41	0.41	0.41	0.43	0.43	0.44
4.083	0.36	0.34	0.32	0.32	0.33	0.35	0.36	0.36	0.35	0.34	0.34	0.37	0.38	0.38
2.917	0.30	0.29	0.26	0.25	0.25	0.26	0.28	0.29	0.29	0.29	0.29	0.31	0.31	0.32
1.750	0.25	0.23	0.21	0.20	0.20	0.21	0.22	0.22	0.23	0.24	0.24	0.26	0.27	0.27
0.583	0.22	0.20	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.19	0.20	0.23	0.23

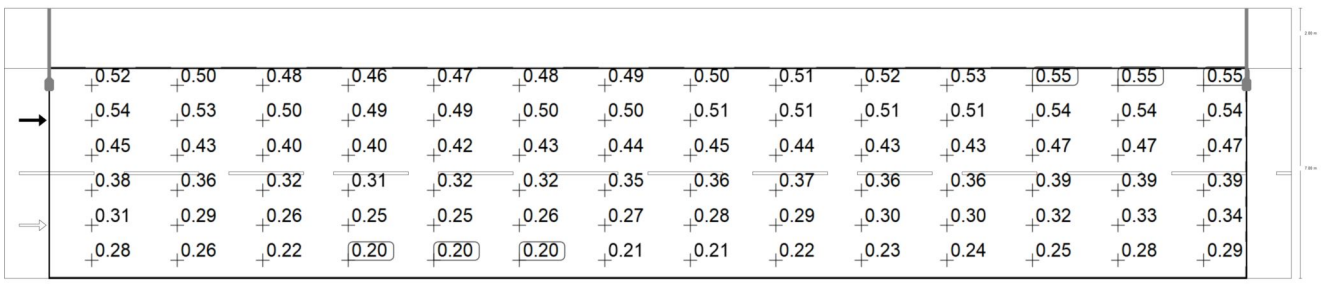
Observer 2: Maintenance value, luminance with dry roadway [cd/m²] (Value chart)

	L _{av}	L _{min}	L _{max}	g ₁	g ₂
Observer 2: Maintenance value, luminance with dry roadway	0.31 cd/m ²	0.16 cd/m ²	0.44 cd/m ²	0.51	0.36

Radari tee
Sõidutee (M6)



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



Observer 2: 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
6.417	0.52	0.50	0.48	0.46	0.47	0.48	0.49	0.50	0.51	0.52	0.53	0.55	0.55	0.55
5.250	0.54	0.53	0.50	0.49	0.49	0.50	0.50	0.51	0.51	0.51	0.51	0.54	0.54	0.54
4.083	0.45	0.43	0.40	0.40	0.42	0.43	0.44	0.45	0.44	0.43	0.43	0.47	0.47	0.47
2.917	0.38	0.36	0.32	0.31	0.32	0.32	0.35	0.36	0.37	0.36	0.36	0.39	0.39	0.39
1.750	0.31	0.29	0.26	0.25	0.25	0.26	0.27	0.28	0.29	0.30	0.30	0.32	0.33	0.34
0.583	0.28	0.26	0.22	0.20	0.20	0.20	0.21	0.21	0.22	0.23	0.24	0.25	0.28	0.29

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	0.39 cd/m ²	0.20 cd/m ²	0.55 cd/m ²	0.51	0.36