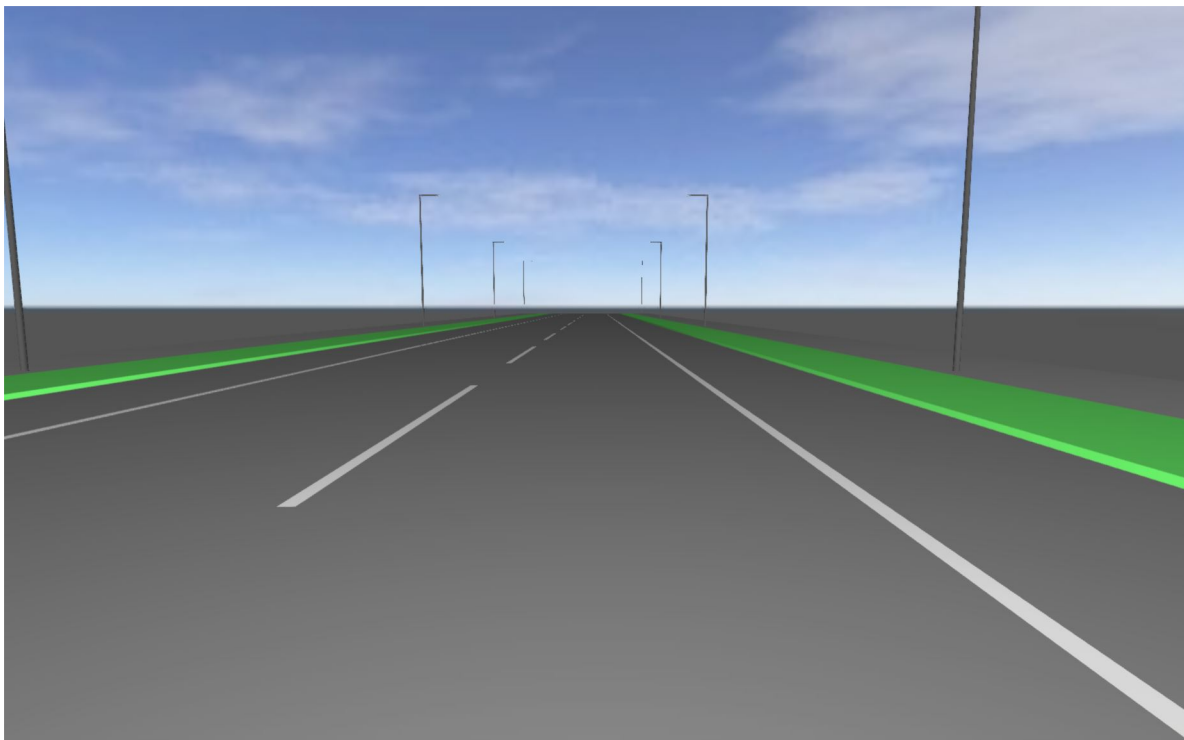




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Content

Cover page 1

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Koneva · Альтернатива 1

Summary (according to EN 13201:2015)3

Пешеходная дорожка 1 (P3)7

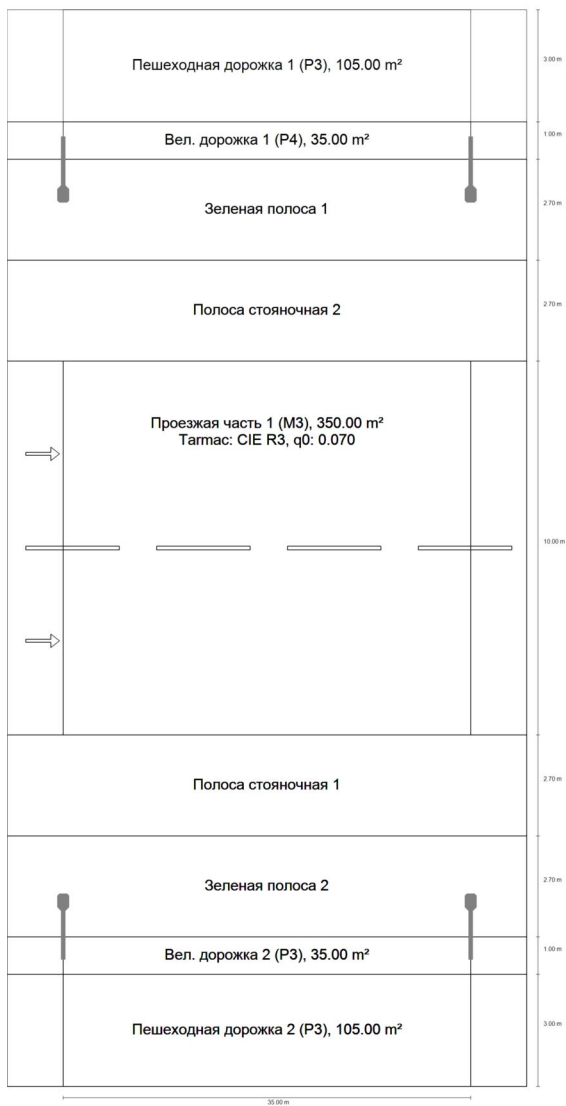
Вел. дорожка 1 (P4) 11

Проезжая часть 1 (M3)15

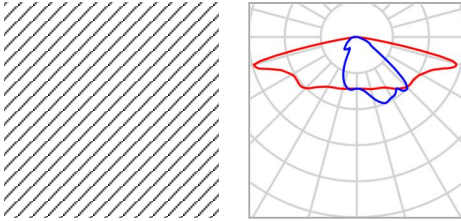
Вел. дорожка 2 (P3) 31

Пешеходная дорожка 2 (P3)35

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Summary (according to EN 13201:2015)

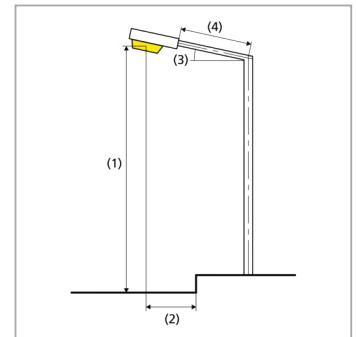
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Summary (according to EN 13201:2015)

Manufacturer	LEDiL Oy	P	77.3 W
Article name	C16926_STRADA-2X2-LM1_ (Fortimo_FastFlex_LED_2x8_730_DA_G4+)	Φ_{Lamp}	10773 lm
		$\Phi_{\text{Luminaire}}$	10417 lm
Fitting	user-defined	η	96.70 %

C16926_STRADA-2X2-LM1_(Fortimo_FastFlex_LED_2x8_730_DA_G4+) (both sides opposite)

Pole distance	35.000 m
(1) Light spot height	10.000 m
(2) Light point overhang	-4.500 m
(3) Boom inclination	0.0°
(4) Boom length	1.500 m
Annual operating hours	4000 h: 100.0 %, 77.3 W
Consumption	4483.4 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	≥ 70°: 788 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 80°: 232 cd/klm ≥ 90°: 12.5 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.0



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Summary (according to EN 13201:2015)

Results for valuation fields

	Symbol	Calculated	Target	Check
Пешеходная дорожка 1 (P3)	E _{av}	7.60 lx	[7.50 - 11.25] lx	✓
	E _{min}	4.27 lx	≥ 1.50 lx	✓
Вел. дорожка 1 (P4)	E _{min}	5.98 lx	≥ 1.00 lx	✓
	E _{av} ⁽¹⁾	10.68 lx	-	-
Проезжая часть 1 (M3)	L _{av}	1.03 cd/m ²	≥ 1.00 cd/m ²	✓
	U _o	0.83	≥ 0.40	✓
	U _l	0.87	≥ 0.60	✓
	TI	11 %	≤ 15 %	✓
	R _{El}	0.81	≥ 0.30	✓
Вел. дорожка 2 (P3)	E _{av}	10.68 lx	[7.50 - 11.25] lx	✓
	E _{min}	5.98 lx	≥ 1.50 lx	✓
Пешеходная дорожка 2 (P3)	E _{av}	7.60 lx	[7.50 - 11.25] lx	✓
	E _{min}	4.27 lx	≥ 1.50 lx	✓

(1) Informative, not part of the valuation

A maintenance factor of 0.67 was used for calculating for the installation.

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Summary (according to EN 13201:2015)

Results for energy efficiency indicators

	Symbol	Calculated	Consumption
Koneva	D_p	0.020 W/lx*m ²	-
C16926_STRADA-2X2-LM1_ (Fortimo_FastFlex_LED_2x8_ 730_DA_G4+) (both sides opposite)	D_e	1.0 kWh/m ² yr,	618.4 kWh/yr

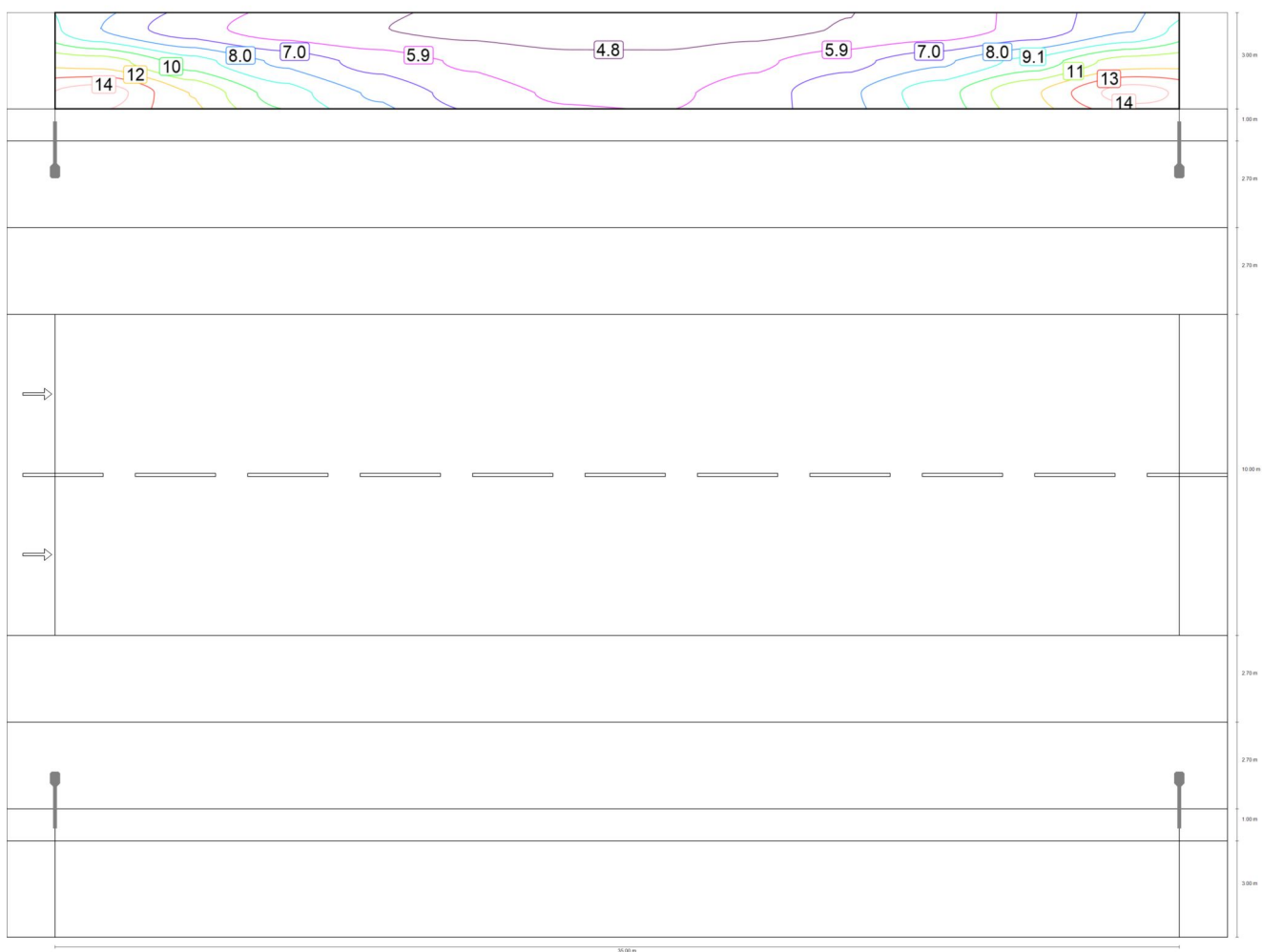
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Пешеходная дорожка 1 (P3)

Results for valuation field

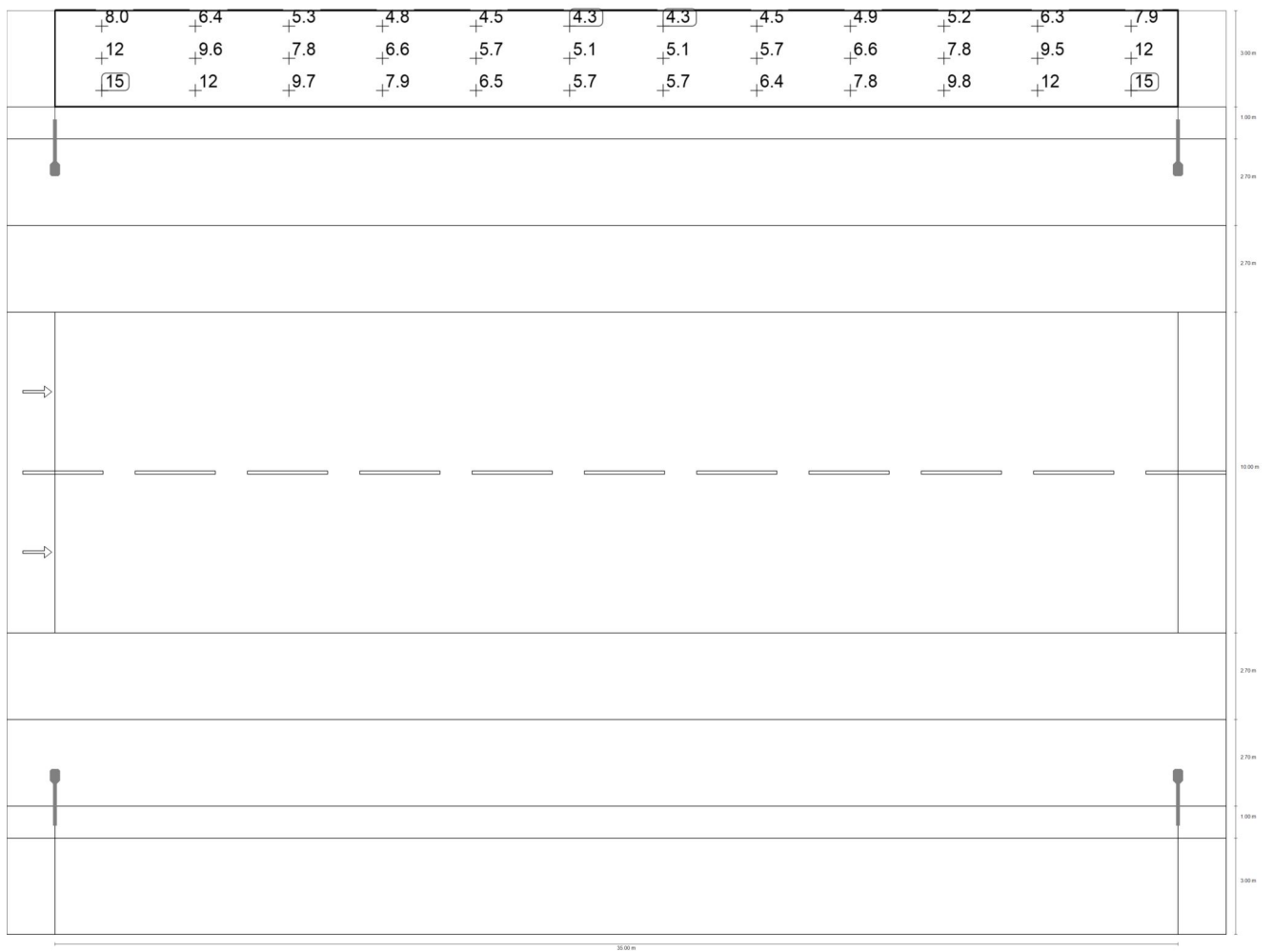
	Symbol	Calculated	Target	Check
Пешеходная дорожка 1 (P3)	E_{av}	7.60 lx	[7.50 - 11.25] lx	✓
	E_{min}	4.27 lx	≥ 1.50 lx	✓

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Пешеходная дорожка 1 (P3)

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

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Пешеходная дорожка 1 (P3)

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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
28.300	8.02	6.36	5.28	4.83	4.50	4.27	4.27	4.48	4.85	5.24	6.27	7.94

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Пешеходная дорожка 1 (P3)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
27.300	11.81	9.59	7.81	6.56	5.71	5.14	5.13	5.66	6.59	7.84	9.52	11.78
26.300	15.01	12.28	9.66	7.86	6.52	5.71	5.69	6.39	7.83	9.76	12.25	14.99

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

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	7.60 lx	4.27 lx	15.0 lx	0.562	0.284

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Вел. дорожка 1 (P4)

Results for valuation field

	Symbol	Calculated	Target	Check
Вел. дорожка 1 (P4)	E_{min}	5.98 lx	≥ 1.00 lx	✓
	$E_{av}^{(1)}$	10.68 lx	-	-

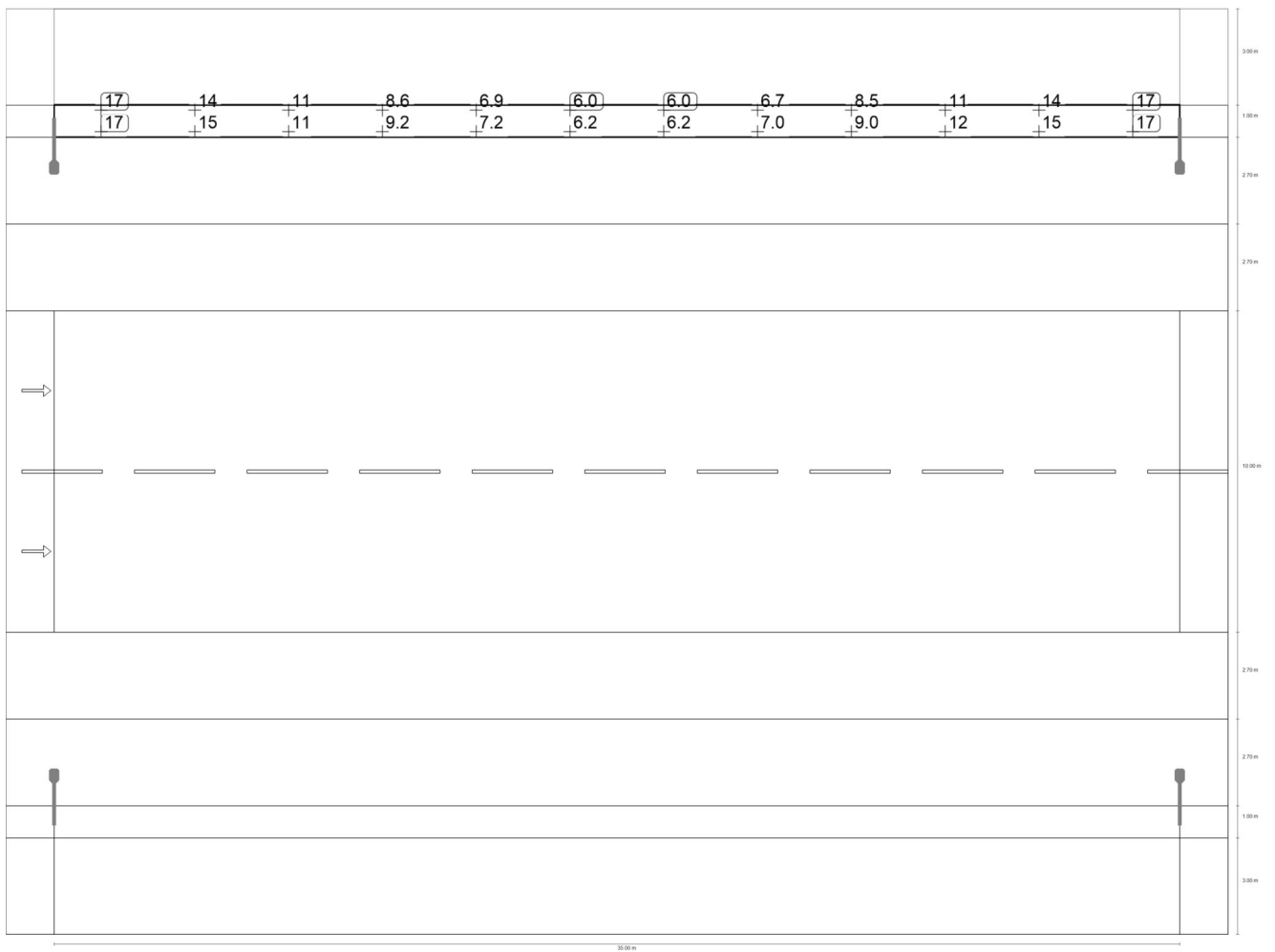
(1) Informative, not part of the valuation

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Вел. дорожка 1 (P4)

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

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Вел. дорожка 1 (P4)

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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
25.633	16.58	13.64	10.57	8.56	6.91	5.99	5.98	6.74	8.47	10.73	13.63	16.55

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Вел. дорожка 1 (P4)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
25.300	17.13	14.17	10.97	8.86	7.08	6.11	6.09	6.89	8.73	11.16	14.15	17.10
24.967	17.46	14.59	11.30	9.15	7.23	6.19	6.17	7.03	8.98	11.53	14.58	17.45

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

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	10.7 lx	5.98 lx	17.5 lx	0.560	0.342

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Проезжая часть 1 (М3)

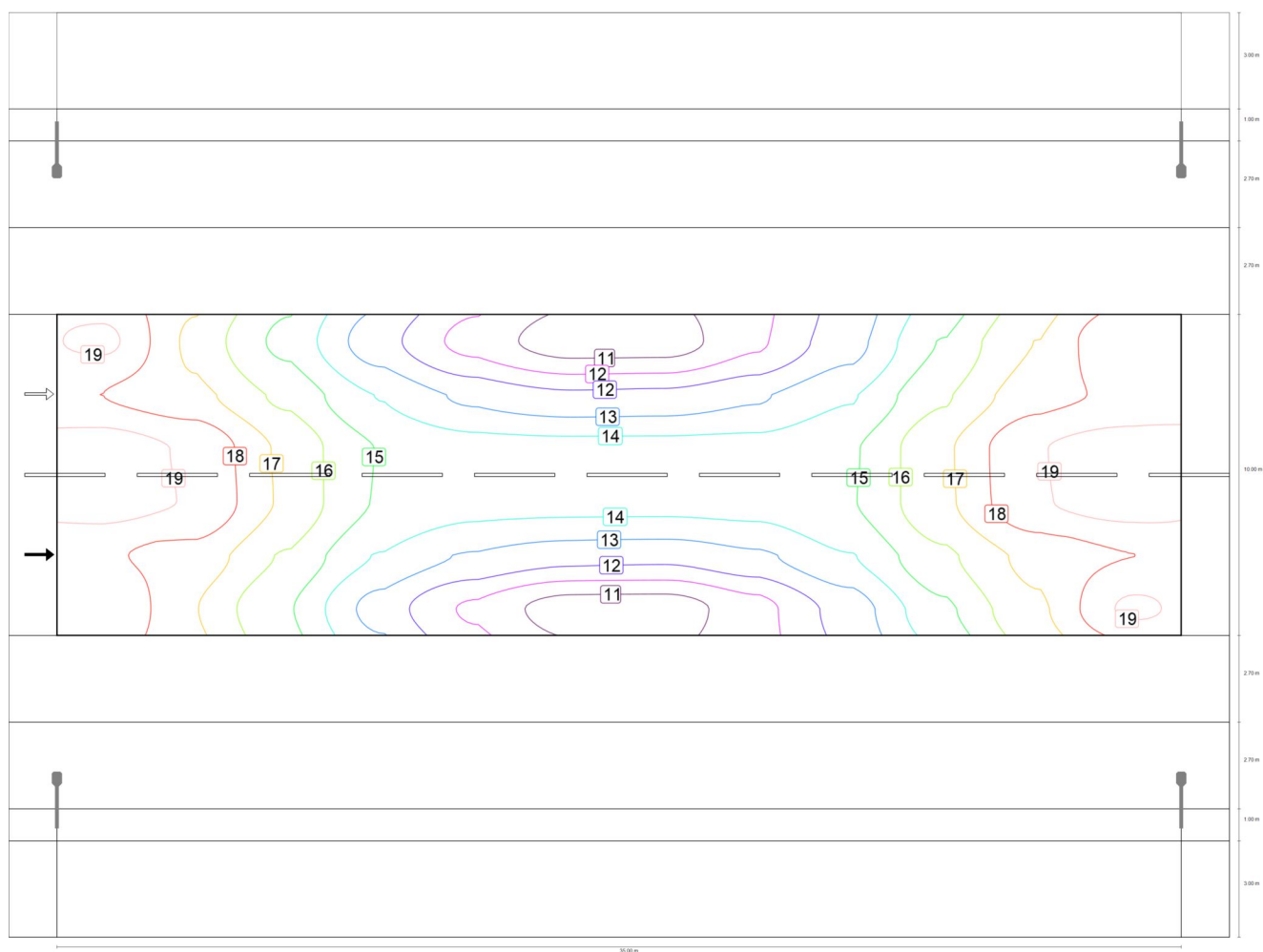
Results for valuation field

	Symbol	Calculated	Target	Check
Проезжая часть 1 (М3)	L_{av}	1.03 cd/m ²	≥ 1.00 cd/m ²	✓
	U_o	0.83	≥ 0.40	✓
	U_l	0.87	≥ 0.60	✓
	TI	11 %	≤ 15 %	✓
	R_{EI}	0.81	≥ 0.30	✓

Results for observer

	Symbol	Calculated	Target	Check
Observer 1 Position: -60.000 m, 11.900 m, 1.500 m	L_{av}	1.03 cd/m ²	≥ 1.00 cd/m ²	✓
	U_o	0.83	≥ 0.40	✓
	U_l	0.87	≥ 0.60	✓
	TI	11 %	≤ 15 %	✓
Observer 2 Position: -60.000 m, 16.900 m, 1.500 m	L_{av}	1.03 cd/m ²	≥ 1.00 cd/m ²	✓
	U_o	0.83	≥ 0.40	✓
	U_l	0.89	≥ 0.60	✓
	TI	11 %	≤ 15 %	✓

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Проезжая часть 1 (М3)

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

Проезжая часть 1 (МЗ)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
18.567	19.31	17.00	15.10	12.87	11.20	10.12	10.15	11.38	13.05	15.39	17.24	19.11

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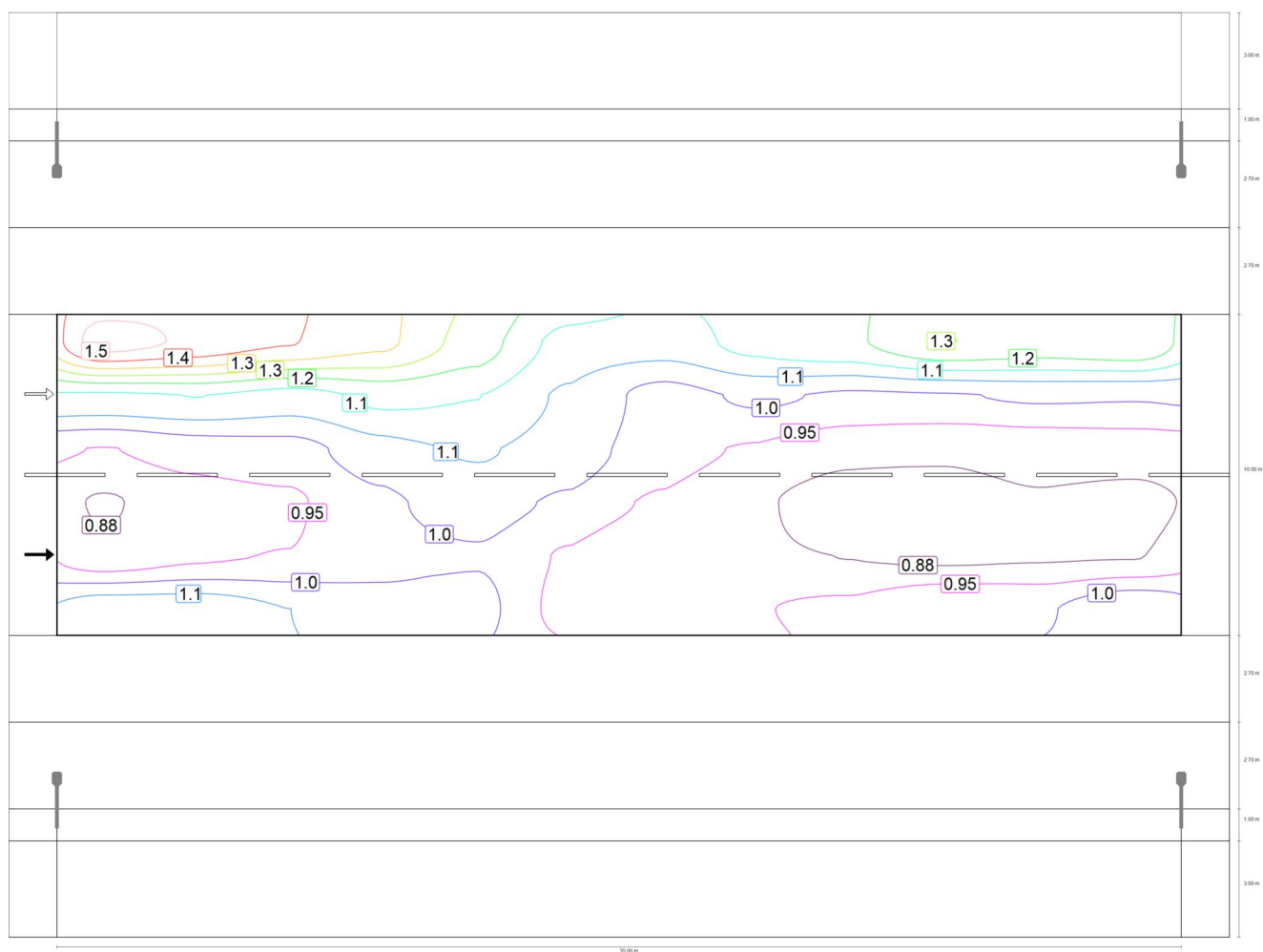
Проезжая часть 1 (МЗ)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
16.900	18.16	17.49	16.07	14.33	13.24	12.70	12.78	13.32	14.31	16.16	17.79	18.35
15.233	19.59	18.99	17.02	15.29	14.69	14.63	14.63	14.66	15.24	17.06	19.05	19.57
13.567	19.57	19.05	17.06	15.24	14.66	14.63	14.63	14.69	15.29	17.02	18.99	19.59
11.900	18.35	17.79	16.16	14.31	13.32	12.78	12.70	13.24	14.33	16.07	17.49	18.16
10.233	19.11	17.24	15.39	13.05	11.38	10.15	10.12	11.20	12.87	15.10	17.00	19.31

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

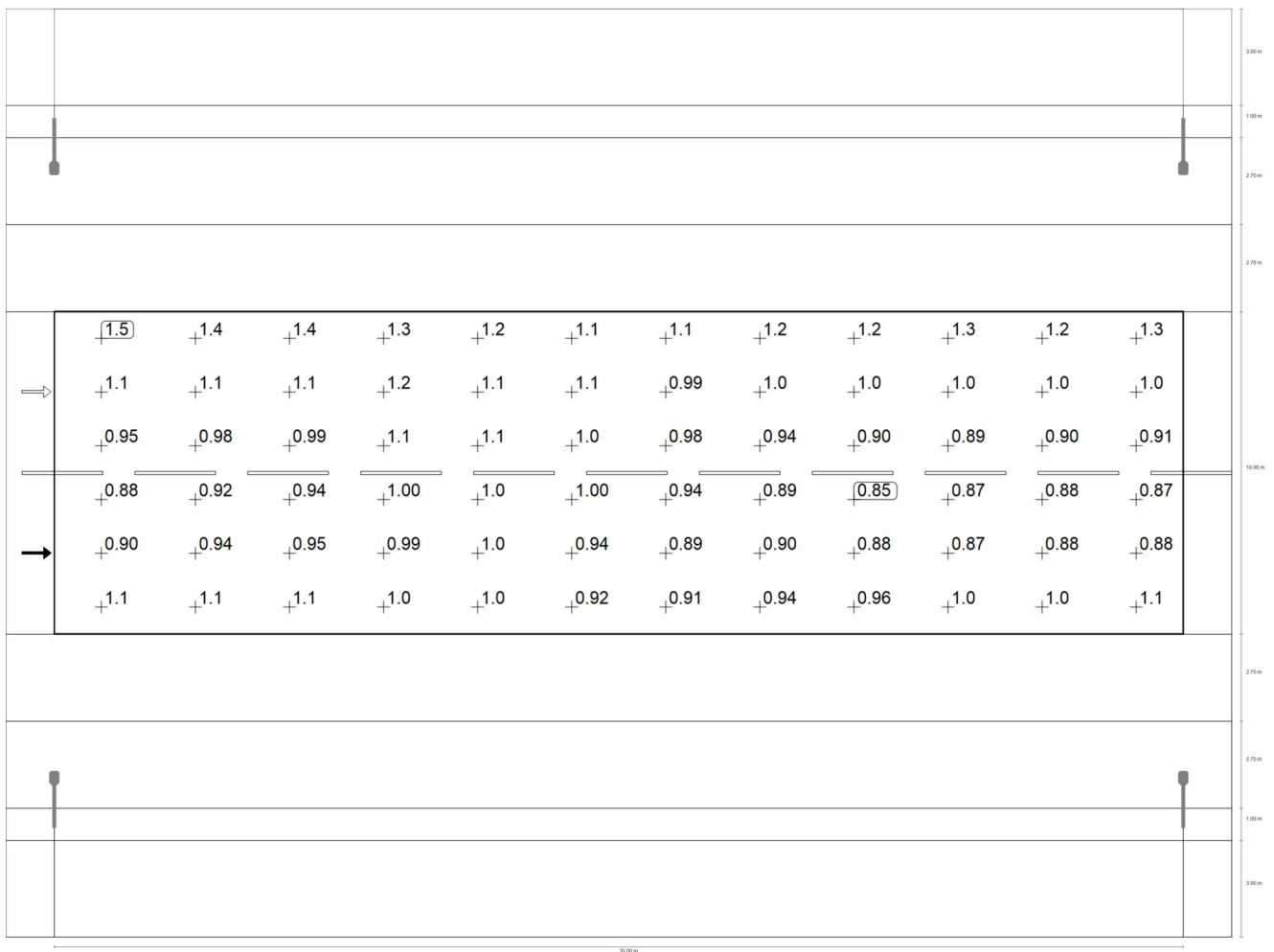
	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	15.5 lx	10.1 lx	19.6 lx	0.654	0.517

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Проезжая часть 1 (М3)Observer 1: Maintenance value, luminance with dry roadway [cd/m^2] (Iso-illuminance curves)

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Проезжая часть 1 (M3)



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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
18.567	1.49	1.44	1.40	1.34	1.24	1.12	1.11	1.16	1.19	1.27	1.24	1.26

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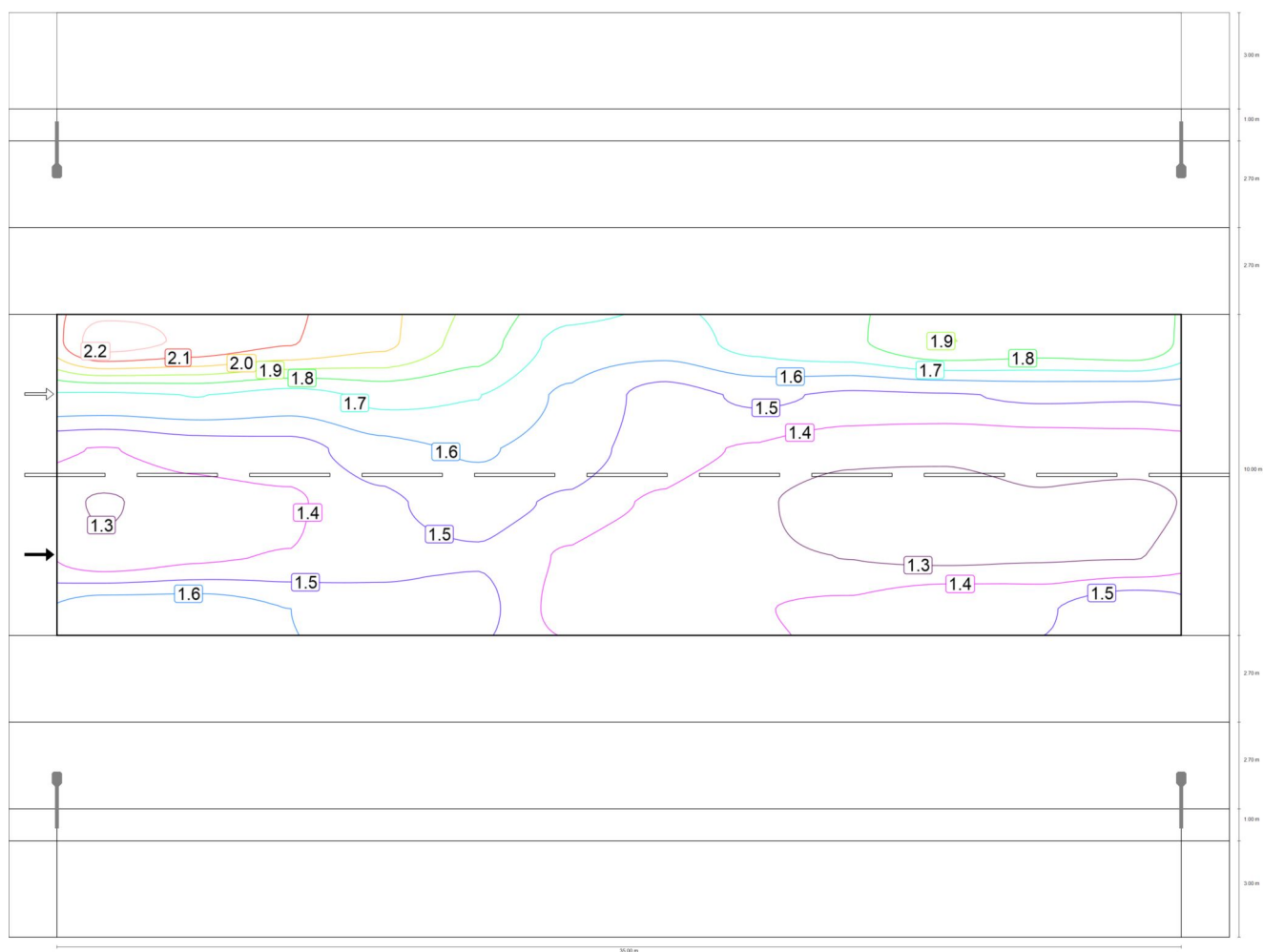
Проезжая часть 1 (M3)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
16.900	1.13	1.14	1.11	1.15	1.14	1.06	0.99	1.02	1.00	1.01	1.02	1.02
15.233	0.95	0.98	0.99	1.05	1.08	1.04	0.98	0.94	0.90	0.89	0.90	0.91
13.567	0.88	0.92	0.94	1.00	1.04	1.00	0.94	0.89	0.85	0.87	0.88	0.87
11.900	0.90	0.94	0.95	0.99	1.01	0.94	0.89	0.90	0.88	0.87	0.88	0.88
10.233	1.11	1.11	1.07	1.04	1.03	0.92	0.91	0.94	0.96	1.01	1.01	1.06

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	1.03 cd/m ²	0.85 cd/m ²	1.49 cd/m ²	0.831	0.574

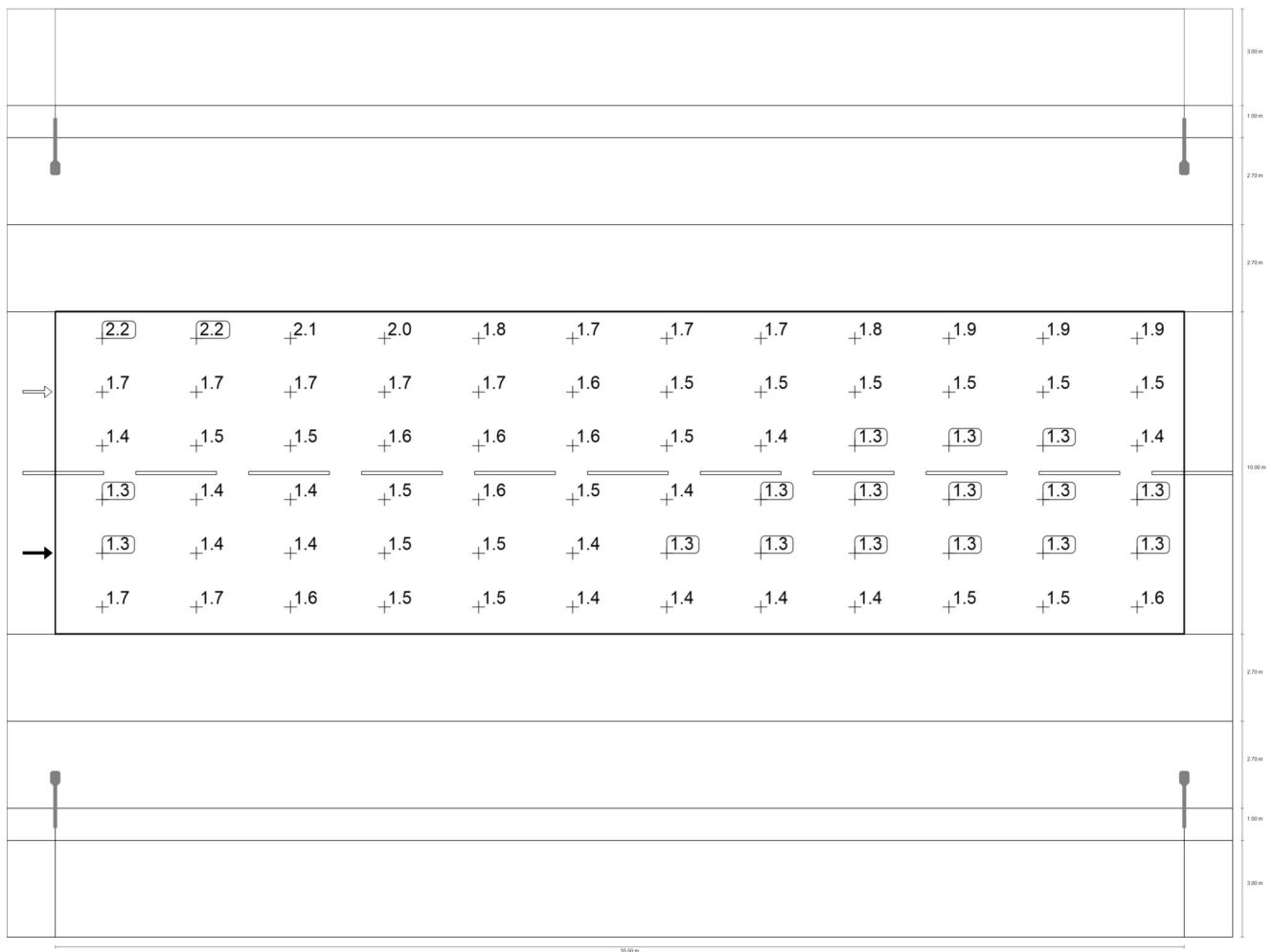
Koneva

Проезжая часть 1 (М3)

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

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Проезжая часть 1 (M3)



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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
18.567	2.22	2.16	2.08	2.00	1.85	1.67	1.65	1.73	1.78	1.89	1.86	1.89

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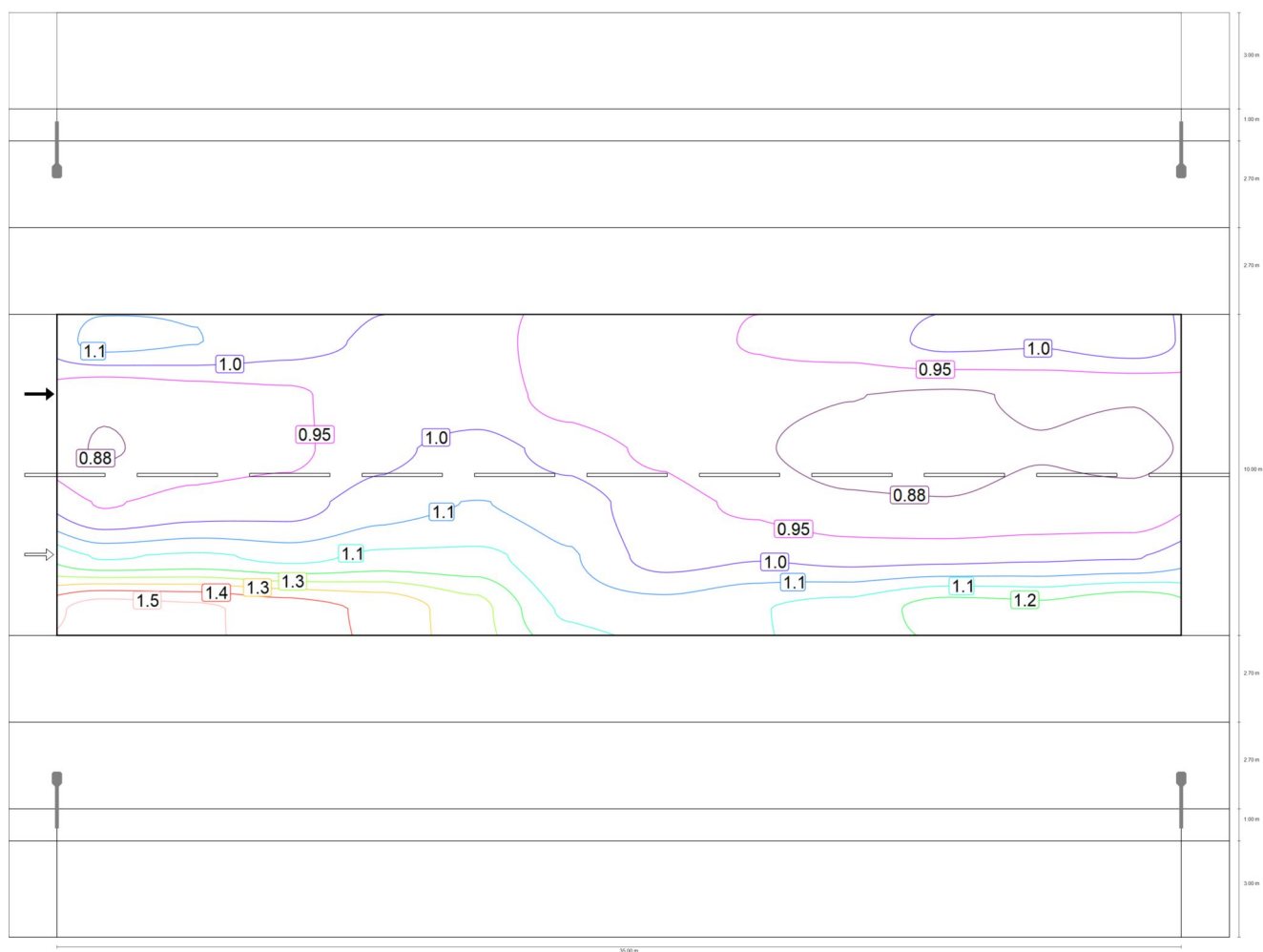
Проезжая часть 1 (M3)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
16.900	1.68	1.70	1.66	1.72	1.70	1.59	1.48	1.53	1.49	1.50	1.52	1.52
15.233	1.41	1.46	1.47	1.57	1.61	1.56	1.46	1.40	1.35	1.33	1.35	1.35
13.567	1.31	1.37	1.40	1.49	1.55	1.49	1.40	1.34	1.27	1.29	1.31	1.30
11.900	1.35	1.40	1.42	1.48	1.50	1.40	1.32	1.34	1.32	1.30	1.31	1.32
10.233	1.65	1.65	1.60	1.55	1.54	1.37	1.35	1.41	1.43	1.51	1.50	1.58

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

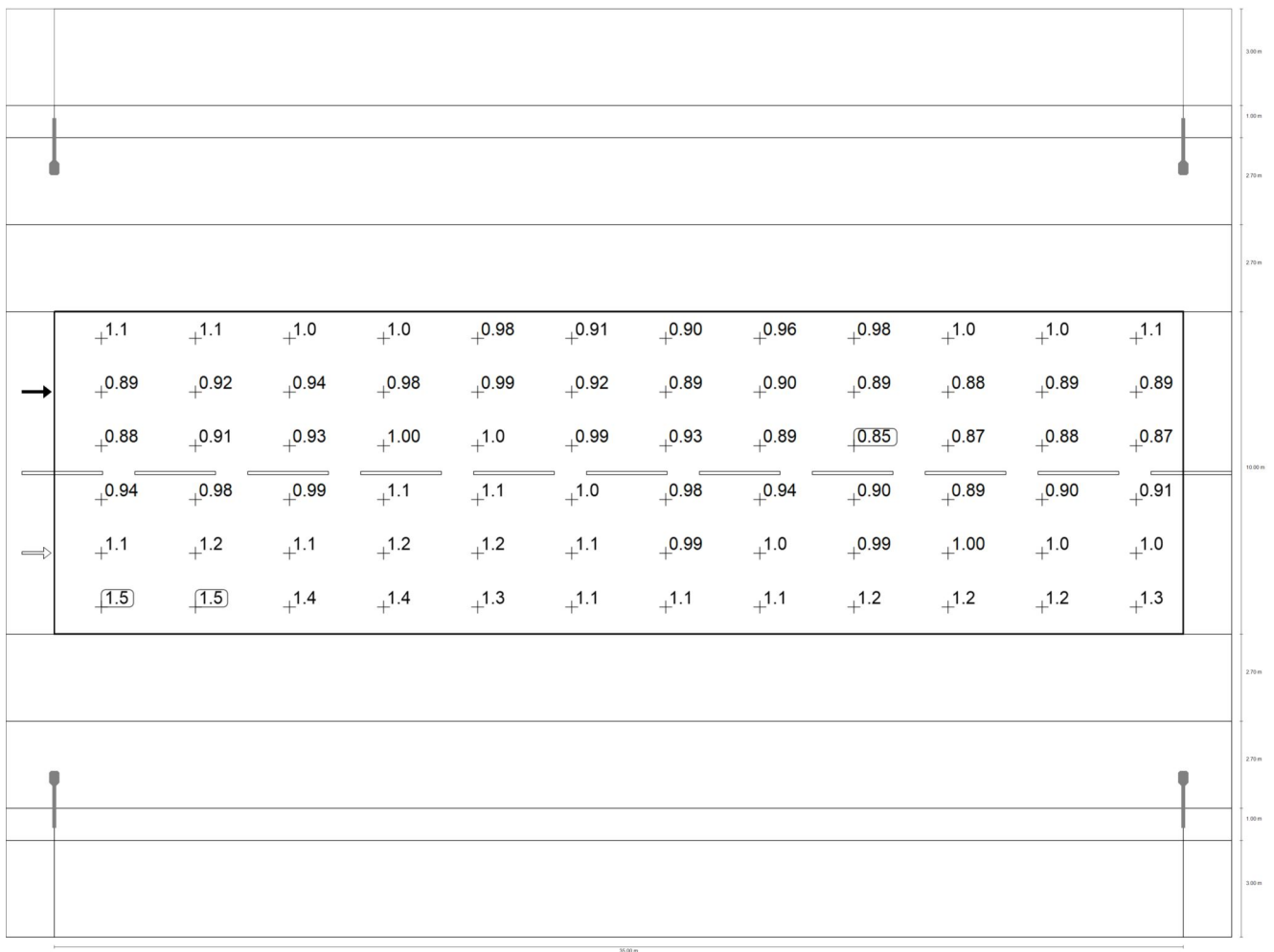
	L _{av}	L _{min}	L _{max}	g ₁	g ₂
Observer 1: Luminance with new installation	1.53 cd/m ²	1.27 cd/m ²	2.22 cd/m ²	0.831	0.574

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Проезжая часть 1 (M3)Observer 2: Maintenance value, luminance with dry roadway [cd/m^2] (Iso-illuminance curves)

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Проезжая часть 1 (M3)



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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
18.567	1.10	1.08	1.04	1.00	0.98	0.91	0.90	0.96	0.98	1.03	1.02	1.05

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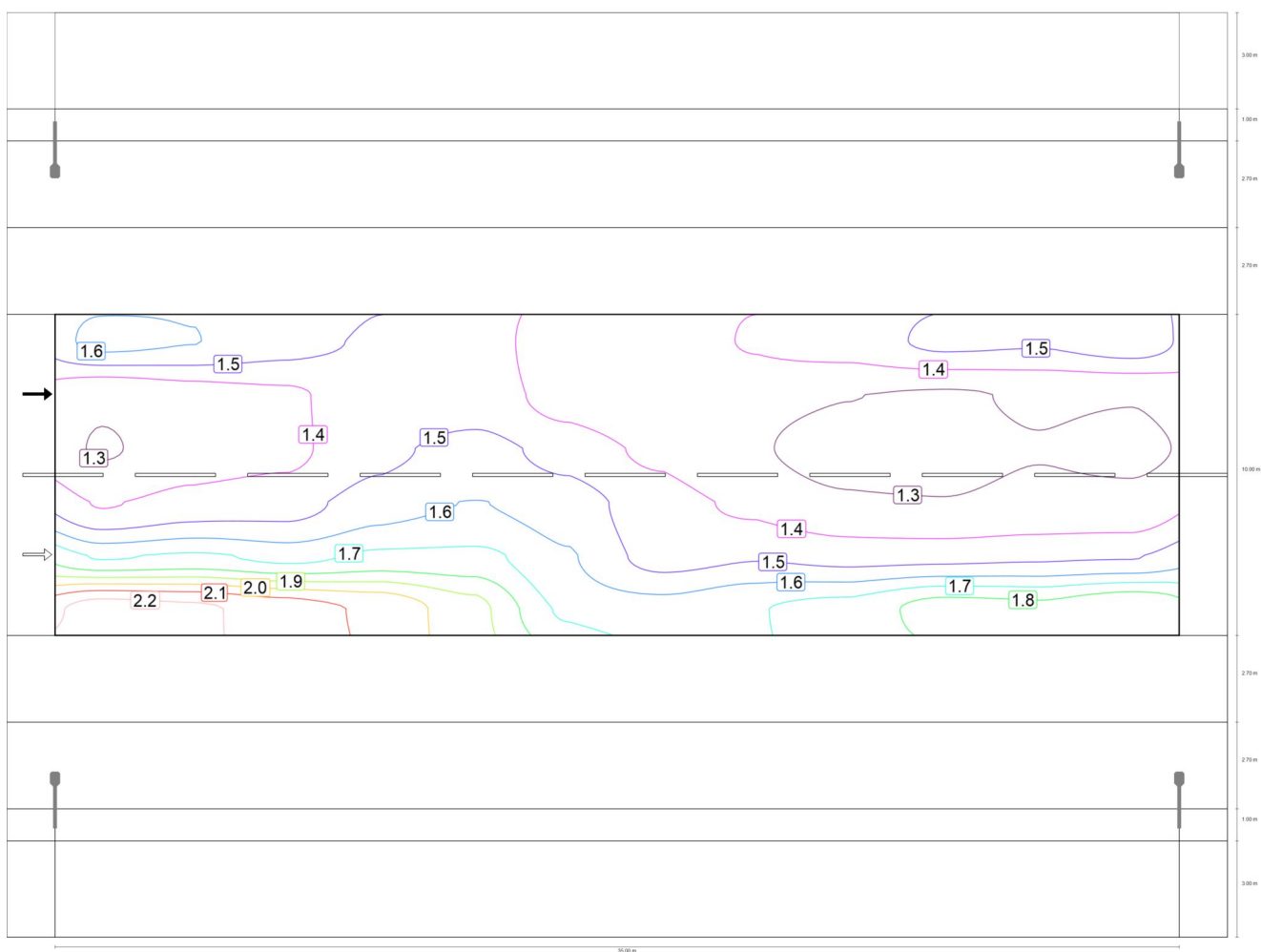
Проезжая часть 1 (M3)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
16.900	0.89	0.92	0.94	0.98	0.99	0.92	0.89	0.90	0.89	0.88	0.89	0.89
15.233	0.88	0.91	0.93	1.00	1.04	0.99	0.93	0.89	0.85	0.87	0.88	0.87
13.567	0.94	0.98	0.99	1.05	1.08	1.05	0.98	0.94	0.90	0.89	0.90	0.91
11.900	1.14	1.16	1.12	1.16	1.16	1.09	0.99	1.01	0.99	1.00	1.00	1.01
10.233	1.50	1.48	1.44	1.39	1.30	1.13	1.11	1.14	1.17	1.24	1.23	1.27

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

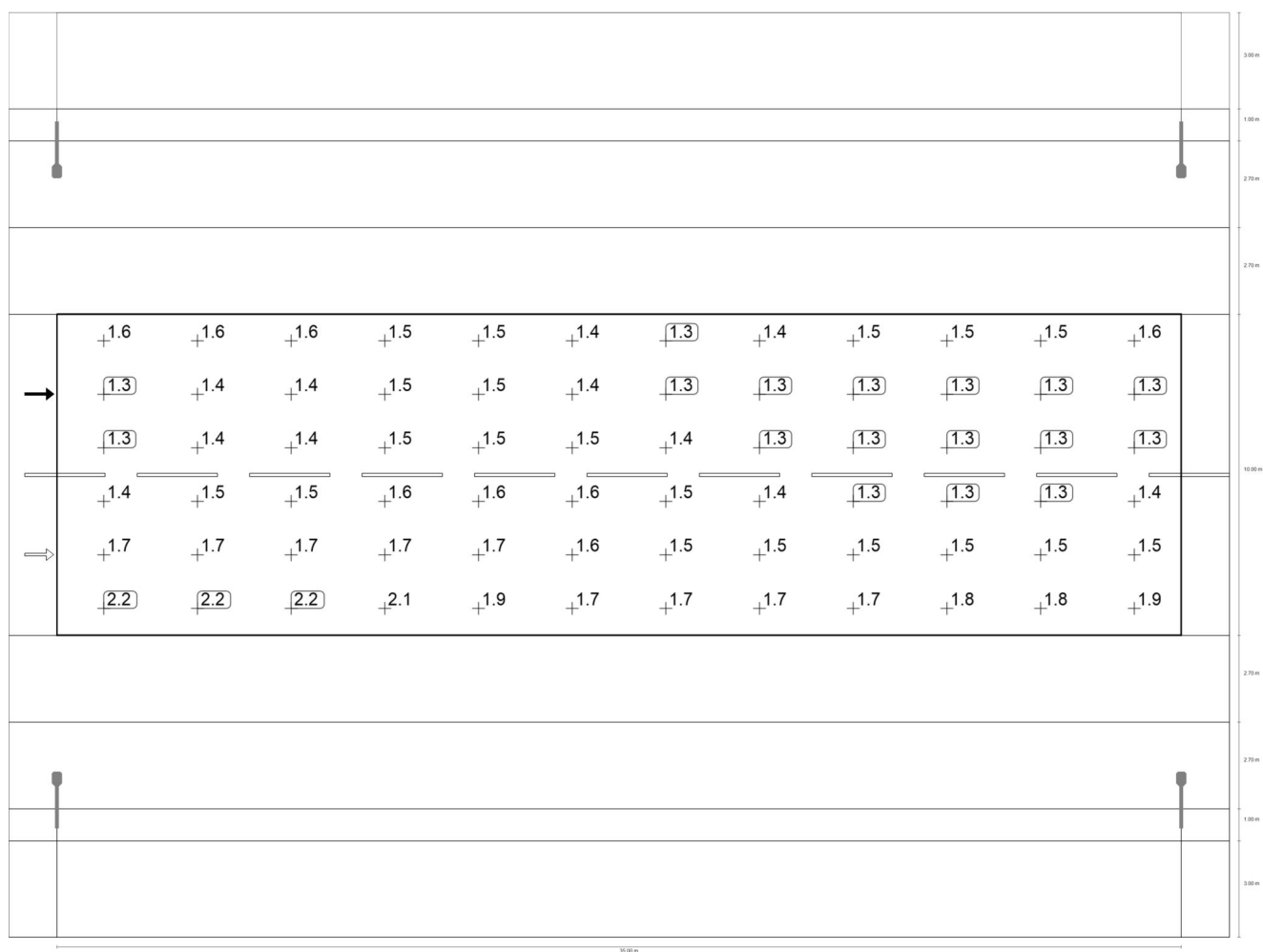
	L _{av}	L _{min}	L _{max}	g ₁	g ₂
Observer 2: Maintenance value, luminance with dry roadway	1.03 cd/m ²	0.85 cd/m ²	1.50 cd/m ²	0.830	0.567

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Проезжая часть 1 (М3)Observer 2: Luminance with new installation [cd/m^2] (Iso-illuminance curves)

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Проезжая часть 1 (M3)



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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
18.567	1.64	1.61	1.56	1.50	1.47	1.35	1.35	1.43	1.46	1.54	1.52	1.57

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Проезжая часть 1 (M3)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
16.900	1.33	1.38	1.40	1.47	1.47	1.37	1.32	1.35	1.32	1.31	1.33	1.32
15.233	1.31	1.36	1.40	1.49	1.54	1.48	1.39	1.33	1.27	1.29	1.32	1.30
13.567	1.41	1.46	1.48	1.57	1.61	1.56	1.46	1.40	1.34	1.32	1.34	1.35
11.900	1.70	1.72	1.68	1.73	1.73	1.62	1.48	1.51	1.48	1.49	1.50	1.51
10.233	2.24	2.21	2.15	2.08	1.94	1.69	1.65	1.70	1.74	1.85	1.83	1.90

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	1.53 cd/m ²	1.27 cd/m ²	2.24 cd/m ²	0.830	0.567

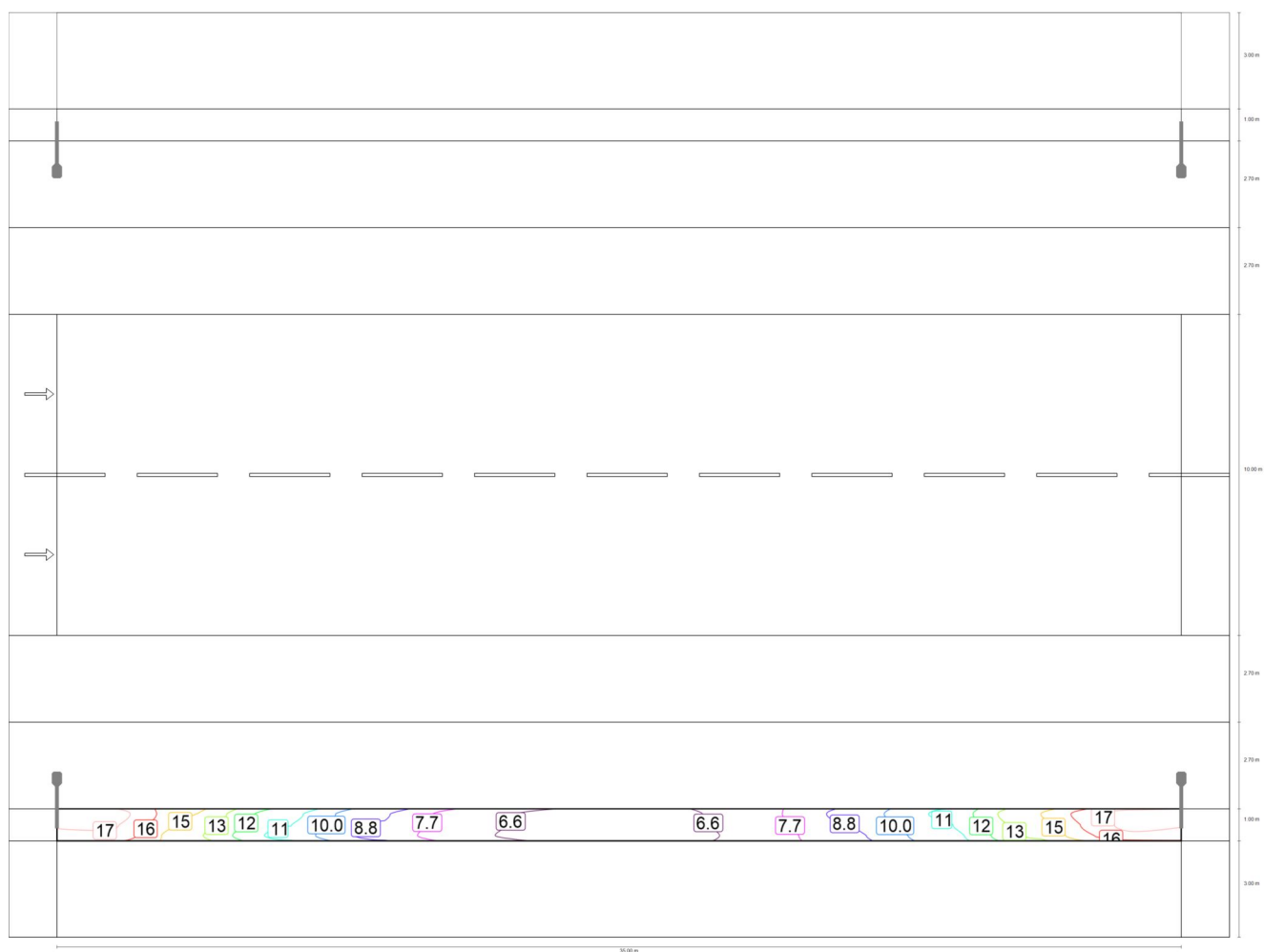
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Вел. дорожка 2 (P3)

Results for valuation field

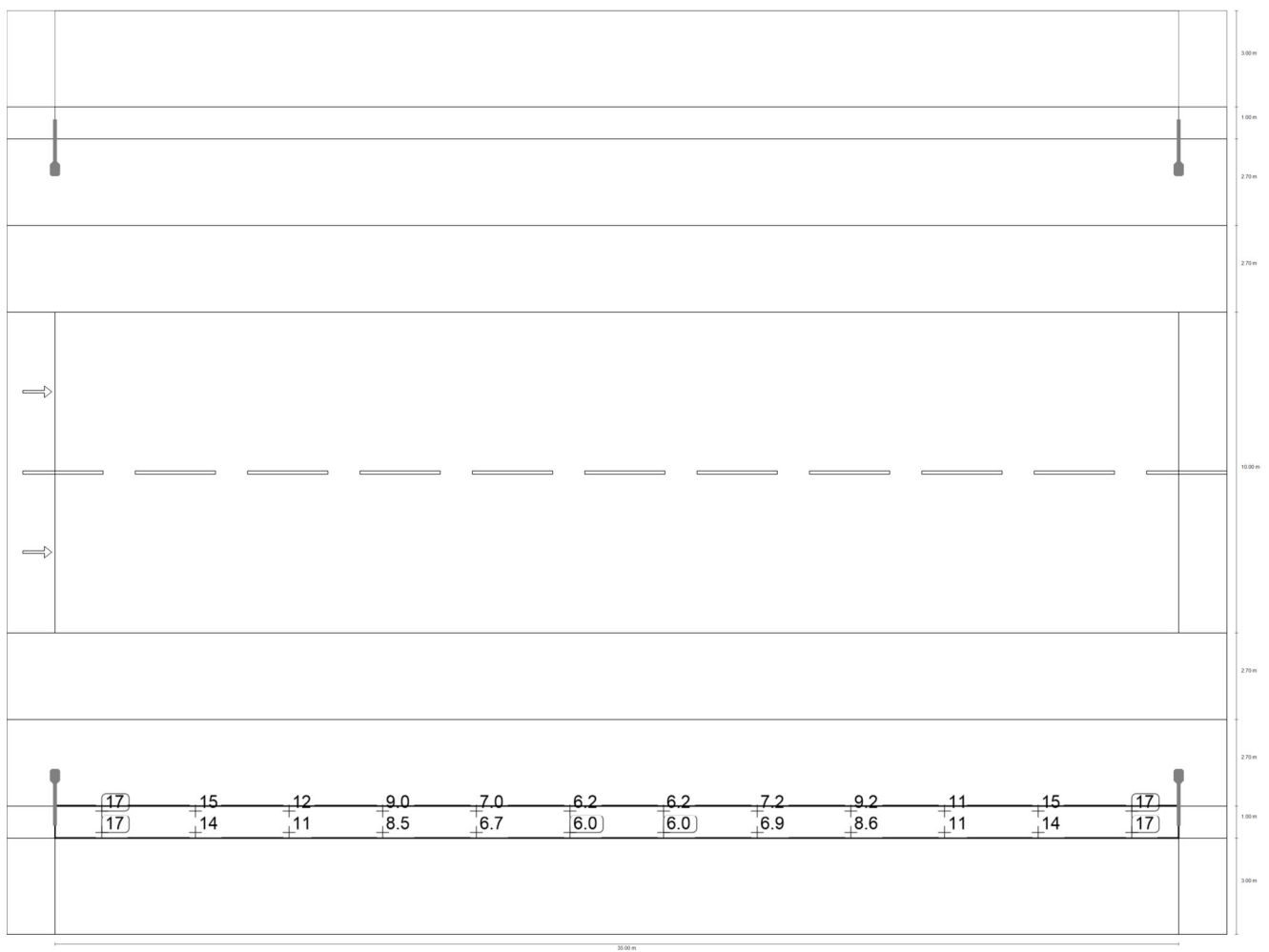
	Symbol	Calculated	Target	Check
Вел. дорожка 2 (P3)	E_{av}	10.68 lx	[7.50 - 11.25] lx	✓
	E_{min}	5.98 lx	≥ 1.50 lx	✓

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Вел. дорожка 2 (P3)

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

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Вел. дорожка 2 (P3)

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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
3.833	17.45	14.58	11.53	8.98	7.03	6.17	6.19	7.23	9.15	11.30	14.59	17.46

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Вел. дорожка 2 (P3)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
3.500	17.10	14.15	11.16	8.73	6.89	6.09	6.11	7.08	8.86	10.97	14.17	17.13
3.167	16.55	13.63	10.73	8.47	6.74	5.98	5.99	6.91	8.56	10.57	13.64	16.58

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

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	10.7 lx	5.98 lx	17.5 lx	0.560	0.342

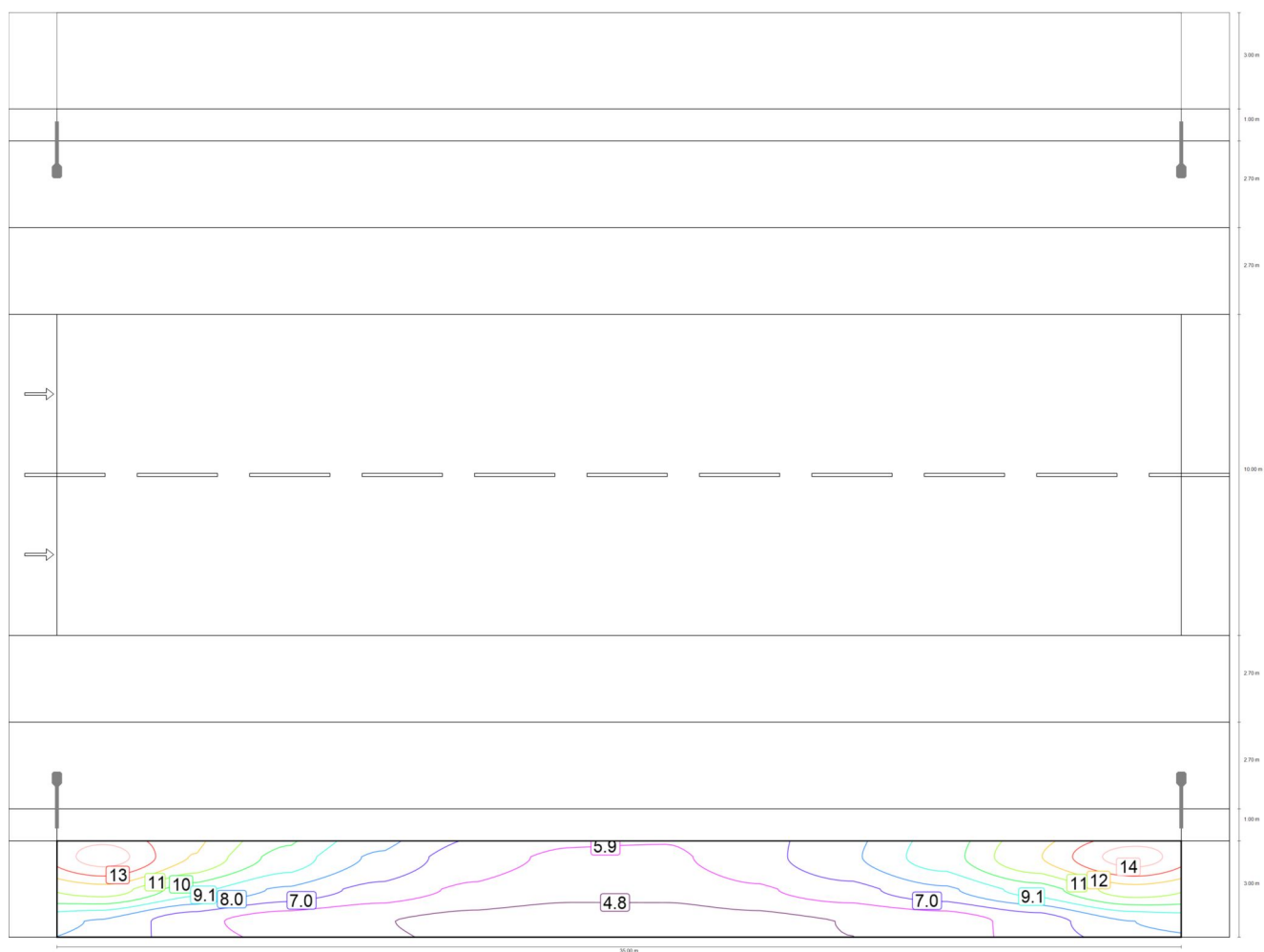
Koneva

Пешеходная дорожка 2 (P3)

Results for valuation field

	Symbol	Calculated	Target	Check
Пешеходная дорожка 2 (P3)	E_{av}	7.60 lx	[7.50 - 11.25] lx	✓
	E_{min}	4.27 lx	≥ 1.50 lx	✓

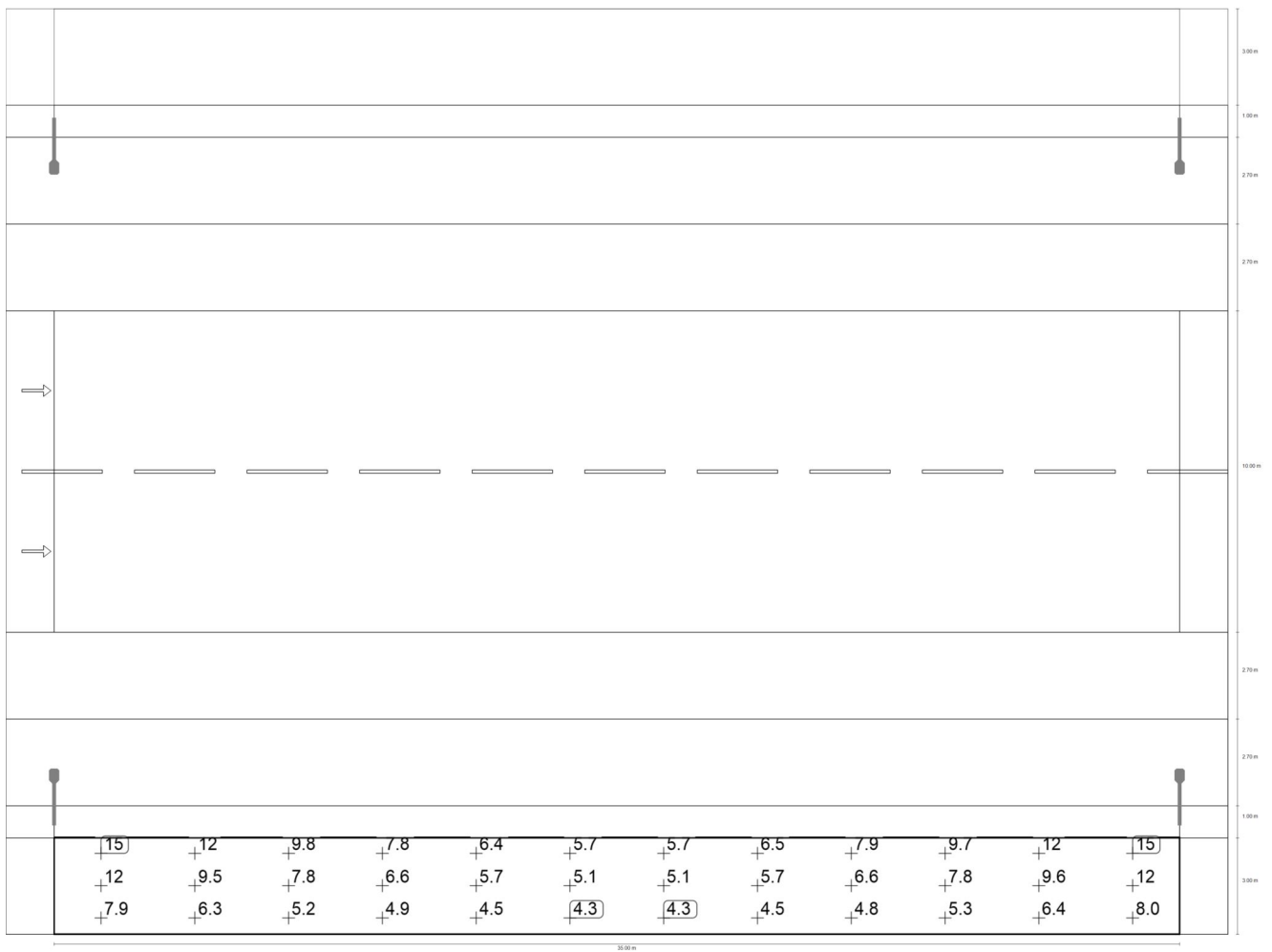
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Пешеходная дорожка 2 (P3)

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

Koneva

Пешеходная дорожка 2 (P3)



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

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
2.500	14.99	12.25	9.76	7.83	6.39	5.69	5.71	6.52	7.86	9.66	12.28	15.01

Koneva

Пешеходная дорожка 2 (P3)

m	1.458	4.375	7.292	10.208	13.125	16.042	18.958	21.875	24.792	27.708	30.625	33.542
1.500	11.78	9.52	7.84	6.59	5.66	5.13	5.14	5.71	6.56	7.81	9.59	11.81
0.500	7.94	6.27	5.24	4.85	4.48	4.27	4.27	4.50	4.83	5.28	6.36	8.02

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

	E_{av}	E_{min}	E_{max}	g_1	g_2
Maintenance value, horizontal illuminance	7.60 lx	4.27 lx	15.0 lx	0.562	0.284