

Progetto di Piano Particolareggiato di iniziativa privata C.2Q "LA GRANDE"

- Committenti:

FAVA RITA (proprietaria)

- Progetto

Arch. DANIELE ZOBOLI

- Progettista

**Elaborato Specialistico:
Relazione illuminotecnica**

Arch. LUCA GIOVANARDI

**PROGETTO
RELAZIONE ILLUMINOTECNICA**

Elaborato **21**
2 Giugno 2022

Indice

2021 12 18 Nonantola Guercinesca PPIP

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Thorn Lighting - URBA L 84L70 NR ANT BP CL1 MLE L740 [STD] (1xLED 178 W)..... 2

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Strada 1: Alternativa 1 / Carreggiata 1 (M4)

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Thorn Lighting 96270001 URBA L 84L70 NR ANT BP CL1 MLE L740 [STD] 1xLED 178 W

A large size LED urban street lighting lantern with 84 LEDs driven at 700mA with Narrow Road optic. Electronic, fixed output control gear. Class I electrical, IP66, IK09. Body: die-cast aluminium, textured dark grey. Cover: tempered flat clear glass. Side entry mounting to Ø60mm spigot with adjustable tilt angles of 0°, -5°, -10°. Integral power reduction function which dims down to 50% power, effective 3 hours before and 5 hours after a calculated midnight. Complete with 3000K LED.

Dimensions: 1065 x 400 x 176 mm

Luminaire input power: 178 W

Weight: 16 kg

Scx: 0.11 m²

Numero ordine: 96270001

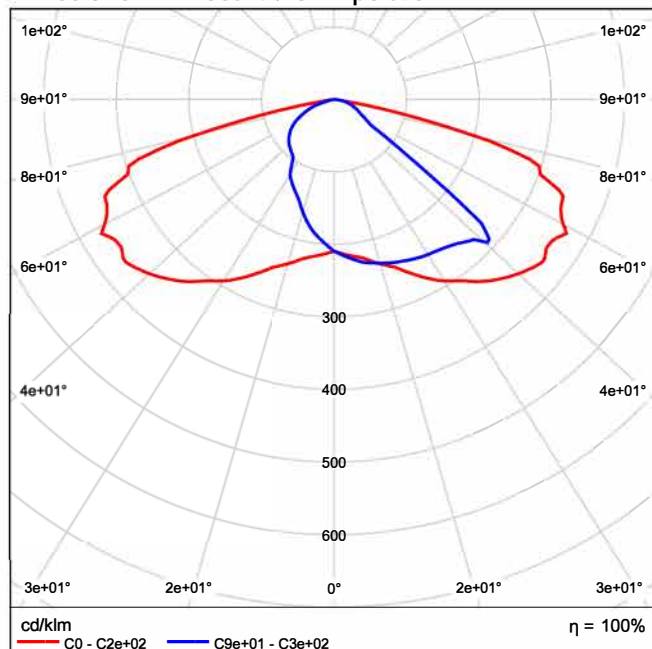
Rendimento: 100%

Flusso luminoso lampadina: 22830 lm

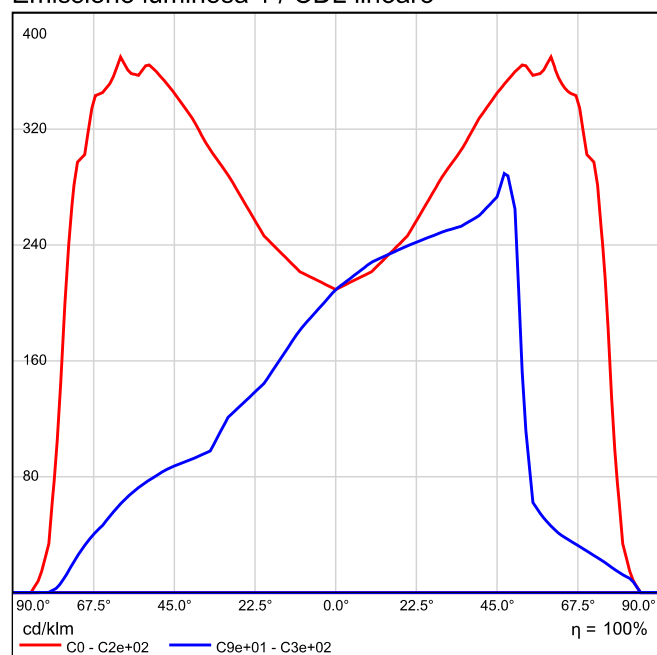
Flusso luminoso lampade: 22830 lm

Potenza: 178.0 W

Rendimento luminoso: 128.3 lm/W

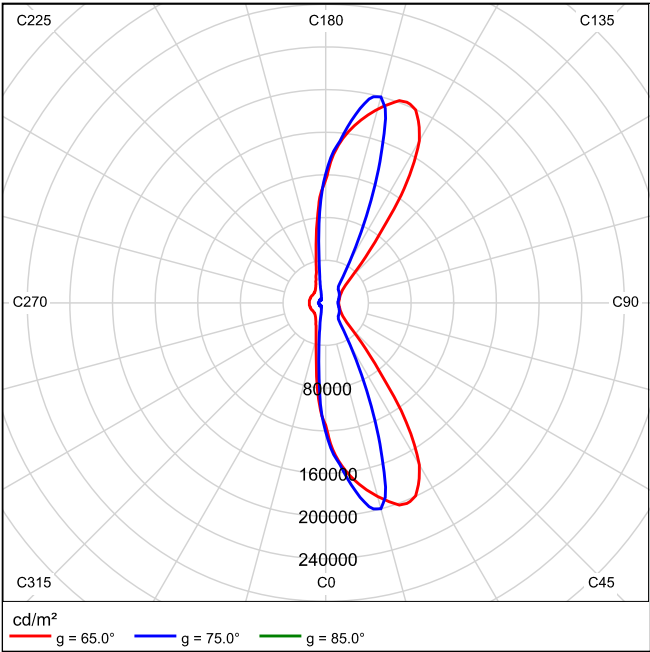
Emissione luminosa 1 / CDL polare

Emissione luminosa 1 / CDL lineare



Non è possibile creare un diagramma conico, poiché la diffusione luminosa è asimmetrica.

Emissione luminosa 1 / Diagramma della luminanza



Carreggiata 1 (M4)

Fattore di diminuzione: 0.67

Reticolo: 12 x 6 Punti

Lm [cd/m²] ≥ 0.75	Uo ≥ 0.40	UI ≥ 0.60	TI [%] ≤ 15	EIR ≥ 0.30
✓ 1.10	✓ 0.40	✓ 0.63	✓ 14	✓ 1.13

Osservatori corrispondenti (2):

Osservatore	Posizione [m]	Lm [cd/m²] ≥ 0.75	Uo ≥ 0.40	UI ≥ 0.60	TI [%] ≤ 15
Osservatore 1	(-60.000, 8.250, 1.500)	1.10	0.43	0.63	14
Osservatore 2	(-60.000, 11.750, 1.500)	1.20	0.40	0.70	5

Carreggiata 1 (M4)

Illuminamento orizzontale [lx]

12.917	13.5	12.9	11.3	10.8	9.99	9.79	9.79	9.99	10.8	11.3	12.9	13.5
11.750	18.3	20.0	18.5	16.3	14.5	13.2	13.2	14.5	16.3	18.5	20.0	18.3
10.583	21.0	24.2	23.7	20.6	17.7	15.7	15.7	17.7	20.6	23.7	24.2	21.0
9.417	24.8	28.6	27.8	23.7	19.8	17.3	17.3	19.8	23.7	27.8	28.6	24.8
8.250	29.1	33.3	30.9	25.6	20.8	18.1	18.1	20.8	25.6	30.9	33.3	29.1
7.083	33.7	37.5	33.3	26.4	21.1	18.1	18.1	21.1	26.4	33.3	37.5	33.7
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500	31.500	34.500

Reticolo: 12 x 6 Punti

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
21.2	9.79	37.5	0.463	0.261

Osservatore 1

Luminanza con carreggiata asciutta [cd/m²]

12.917	0.48	0.51	0.51	0.52	0.54	0.58	0.60	0.56	0.54	0.51	0.48	0.47
11.750	0.64	0.74	0.78	0.78	0.81	0.83	0.86	0.87	0.81	0.79	0.72	0.63
10.583	0.75	0.89	0.98	0.98	1.01	1.05	1.09	1.13	1.06	1.01	0.88	0.73
9.417	0.92	1.08	1.17	1.20	1.22	1.26	1.30	1.38	1.38	1.24	1.08	0.89
8.250	1.09	1.33	1.40	1.42	1.42	1.51	1.54	1.68	1.68	1.55	1.35	1.07
7.083	1.36	1.64	1.68	1.66	1.72	1.82	1.91	2.05	1.99	1.90	1.62	1.29
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500	31.500	34.500

Reticolo: 12 x 6 Punti

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
1.10	0.47	2.05	0.428	0.229

Luminanza con lampada nuova [cd/m²]

12.917	0.72	0.76	0.77	0.78	0.81	0.87	0.90	0.84	0.81	0.77	0.72	0.70
11.750	0.96	1.10	1.16	1.16	1.20	1.23	1.28	1.29	1.21	1.19	1.08	0.93
10.583	1.11	1.33	1.46	1.46	1.51	1.57	1.62	1.68	1.58	1.51	1.32	1.09
9.417	1.37	1.61	1.75	1.79	1.82	1.89	1.94	2.06	2.06	1.85	1.61	1.33
8.250	1.63	1.98	2.08	2.12	2.12	2.26	2.30	2.51	2.51	2.31	2.02	1.59
7.083	2.03	2.45	2.51	2.48	2.57	2.72	2.85	3.06	2.97	2.84	2.42	1.93
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500	31.500	34.500

Reticolo: 12 x 6 Punti

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
1.64	0.70	3.06	0.428	0.229

Osservatore 2

Luminanza con carreggiata asciutta [cd/m²]

12.917	0.50	0.52	0.53	0.55	0.58	0.61	0.63	0.59	0.55	0.52	0.49	0.48
11.750	0.66	0.77	0.81	0.81	0.85	0.88	0.90	0.91	0.85	0.82	0.74	0.64
10.583	0.80	0.96	1.04	1.06	1.08	1.13	1.15	1.19	1.13	1.05	0.91	0.75
9.417	1.00	1.19	1.32	1.33	1.33	1.39	1.41	1.49	1.48	1.33	1.13	0.93
8.250	1.28	1.56	1.62	1.62	1.65	1.70	1.76	1.84	1.82	1.66	1.42	1.14
7.083	1.63	1.94	2.06	2.11	2.09	2.10	2.21	2.30	2.18	2.05	1.73	1.39
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500	31.500	34.500

Reticolo: 12 x 6 Punti

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
1.20	0.48	2.30	0.399	0.208

Luminanza con lampada nuova [cd/m²]

12.917	0.74	0.77	0.79	0.82	0.86	0.91	0.94	0.88	0.82	0.78	0.73	0.72
11.750	0.99	1.15	1.21	1.21	1.27	1.31	1.35	1.36	1.26	1.22	1.11	0.96
10.583	1.19	1.43	1.55	1.59	1.61	1.68	1.72	1.77	1.69	1.56	1.36	1.13
9.417	1.49	1.78	1.96	1.98	1.98	2.07	2.10	2.22	2.21	1.98	1.69	1.38
8.250	1.90	2.33	2.42	2.41	2.46	2.53	2.63	2.75	2.71	2.48	2.12	1.71
7.083	2.43	2.90	3.07	3.15	3.13	3.13	3.30	3.44	3.25	3.05	2.58	2.08
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500	31.500	34.500

Reticolo: 12 x 6 Punti

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
1.80	0.72	3.44	0.399	0.208

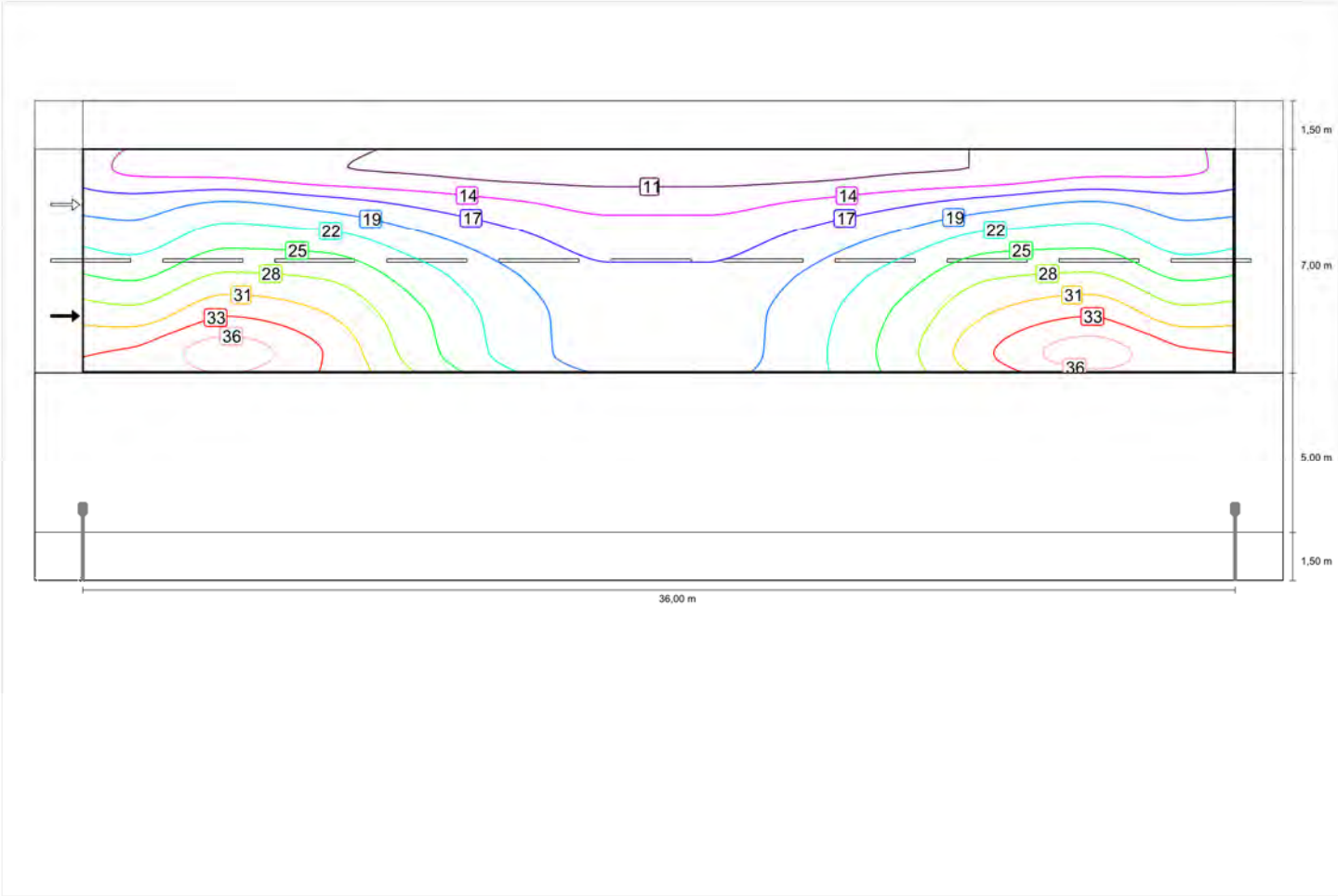
Strada 1: Alternativa 1 / Carreggiata 1 (M4) / Isolinee

Carreggiata 1 (M4)

Fattore di diminuzione: 0.67
Reticolo: 12 x 6 Punti

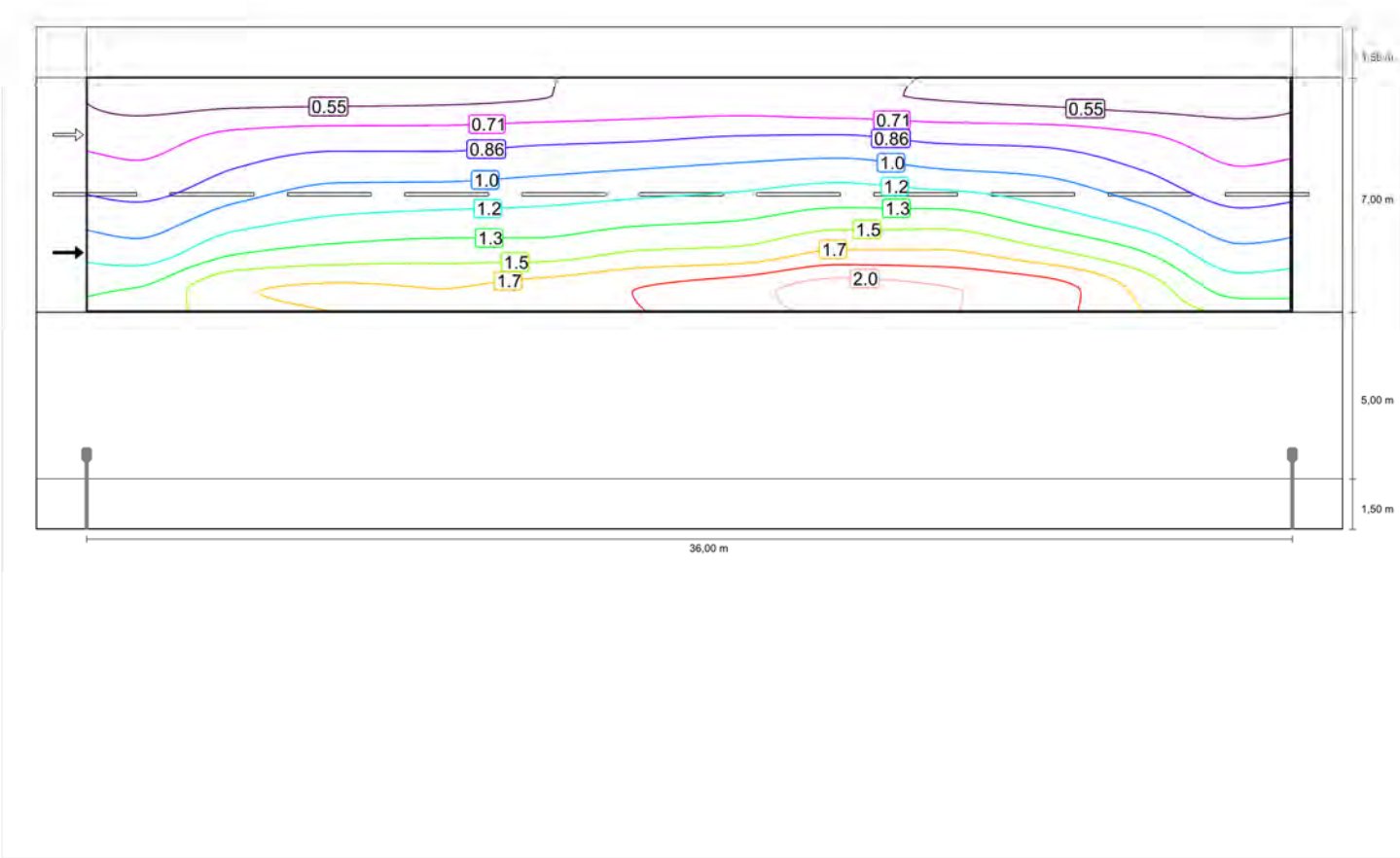
Lm [cd/m²]	Uo	UI	TI [%]	EIR
≥ 0.75	≥ 0.40	≥ 0.60	≤ 15	≥ 0.30
✓ 1.10	✓ 0.40	✓ 0.63	✓ 14	✓ 1.13

Illuminamento orizzontale

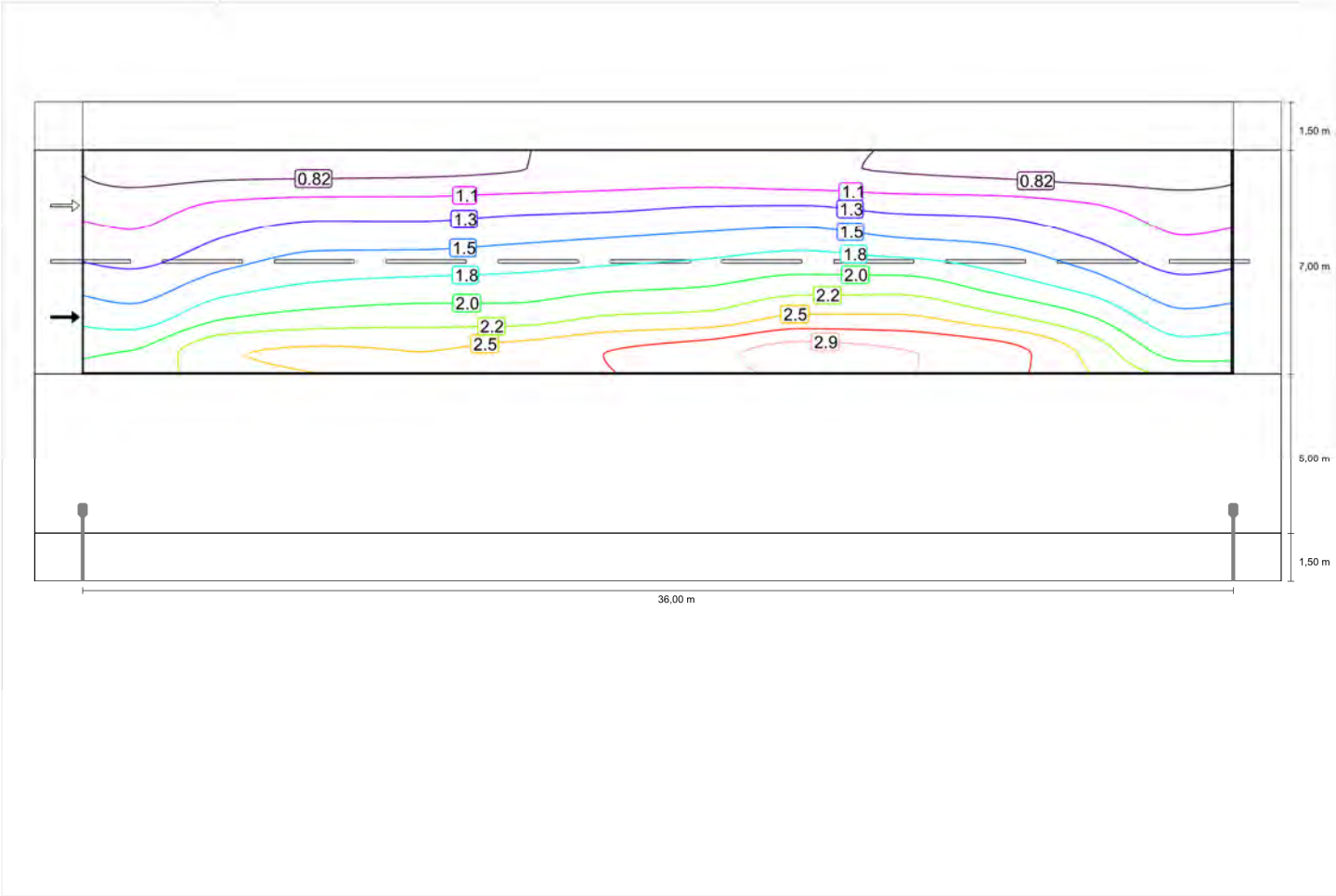


Osservatore 1

Luminanza con carreggiata asciutta

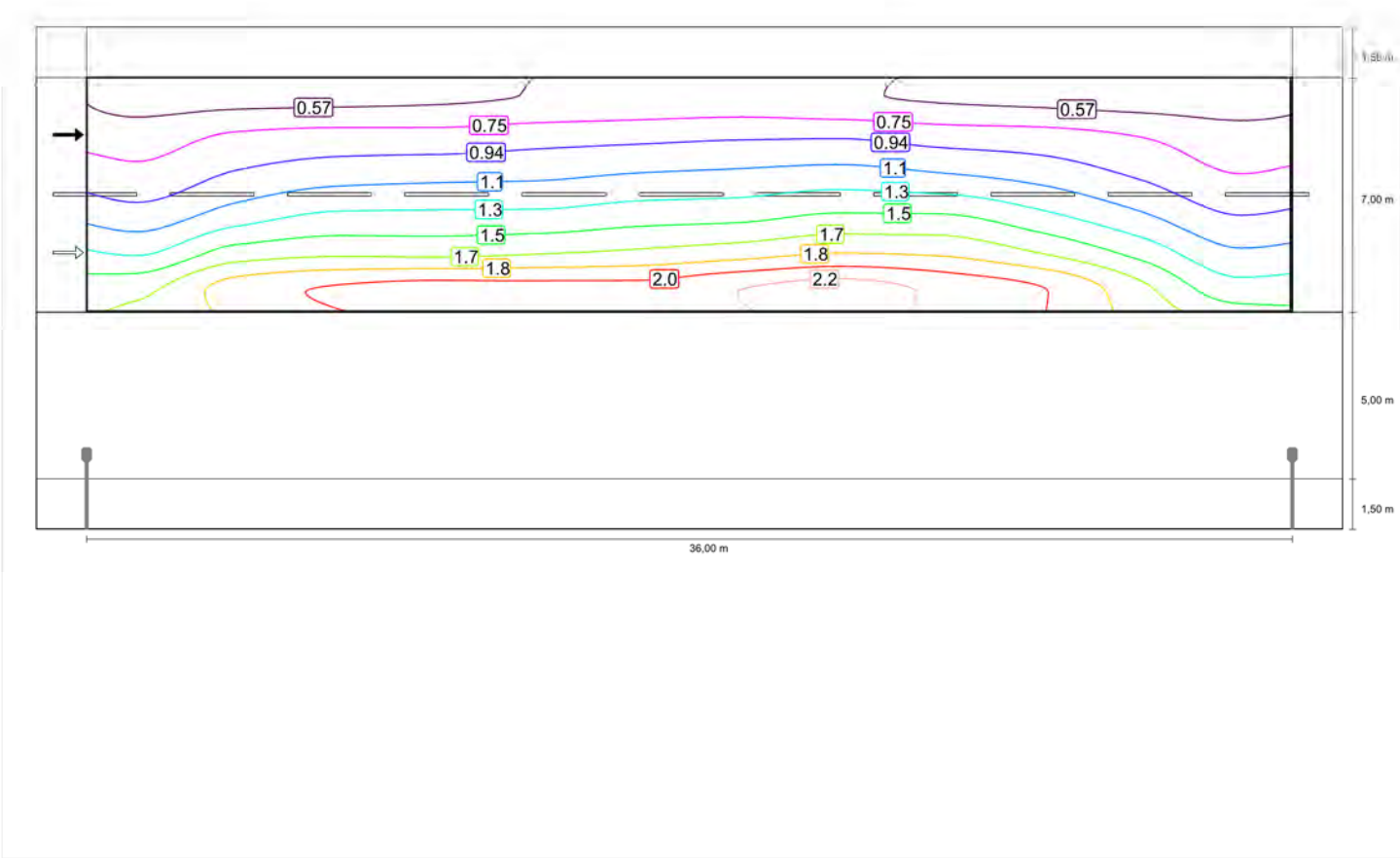


Luminanza con lampada nuova

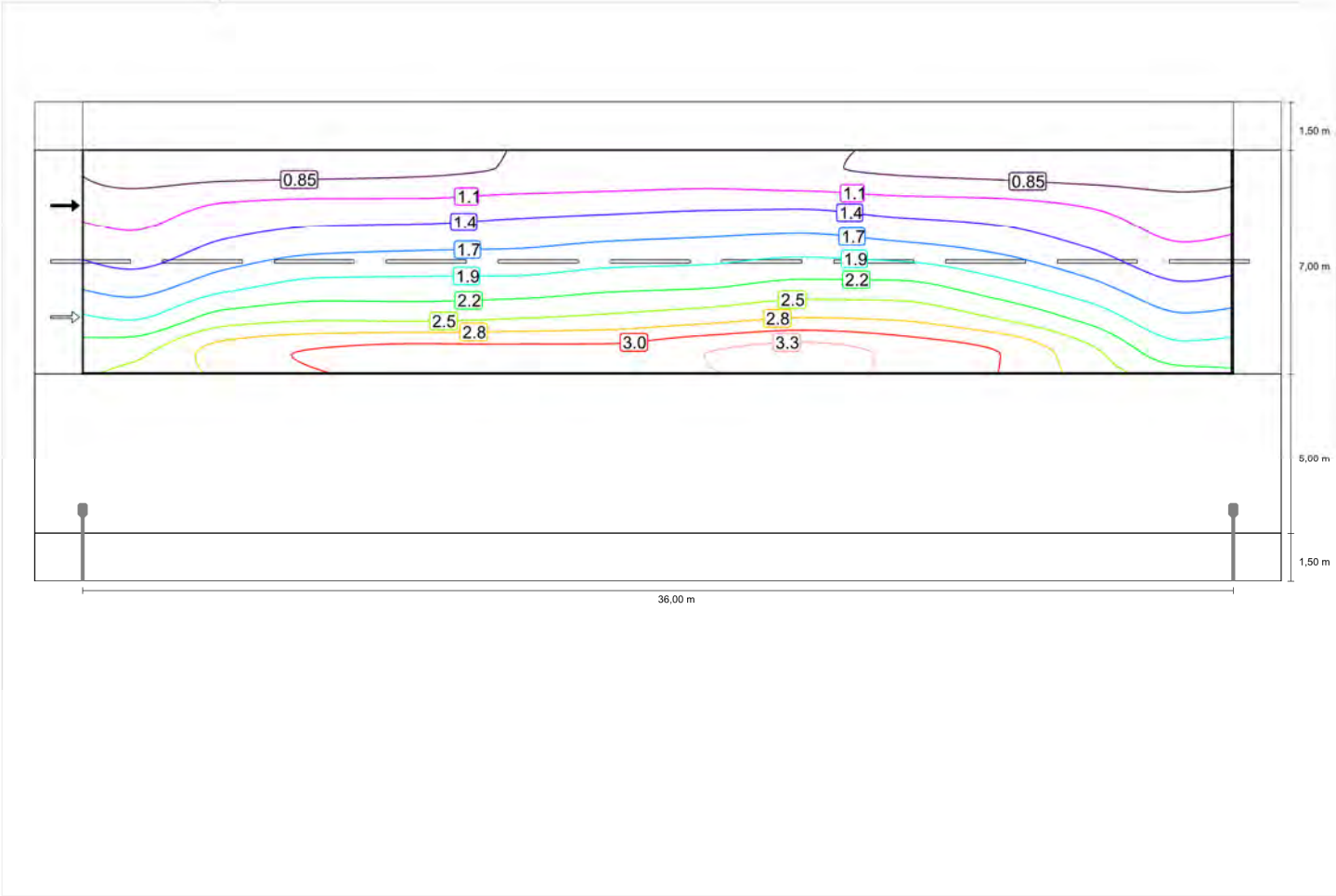


Osservatore 2

Luminanza con carreggiata asciutta



Luminanza con lampada nuova

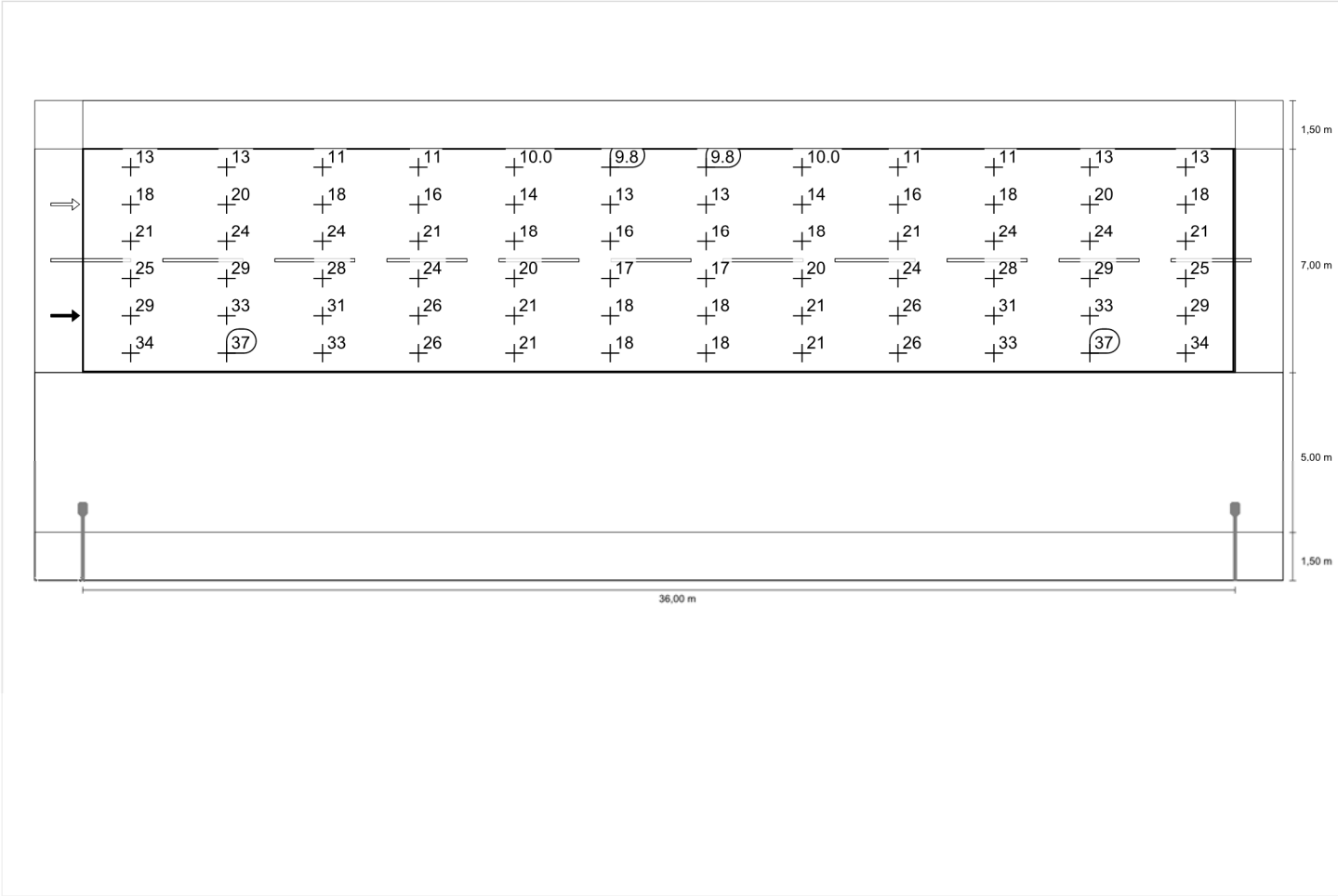


Carreggiata 1 (M4)

Fattore di diminuzione: 0.67
Reticolo: 12 x 6 Punti

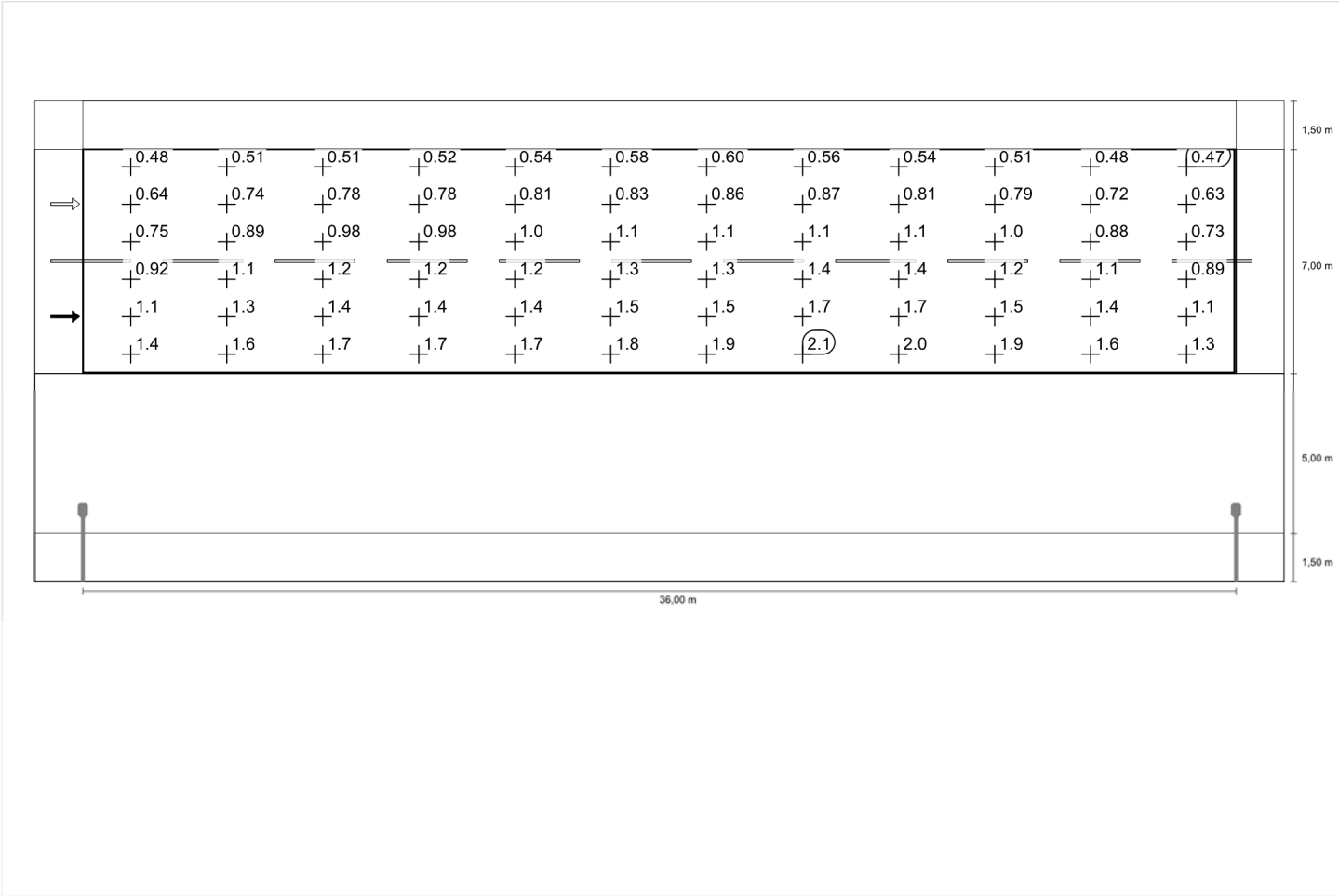
Lm [cd/m²] ≥ 0.75	Uo ≥ 0.40	UI ≥ 0.60	TI [%] ≤ 15	EIR ≥ 0.30
✓ 1.10	✓ 0.40	✓ 0.63	✓ 14	✓ 1.13

Illuminamento orizzontale

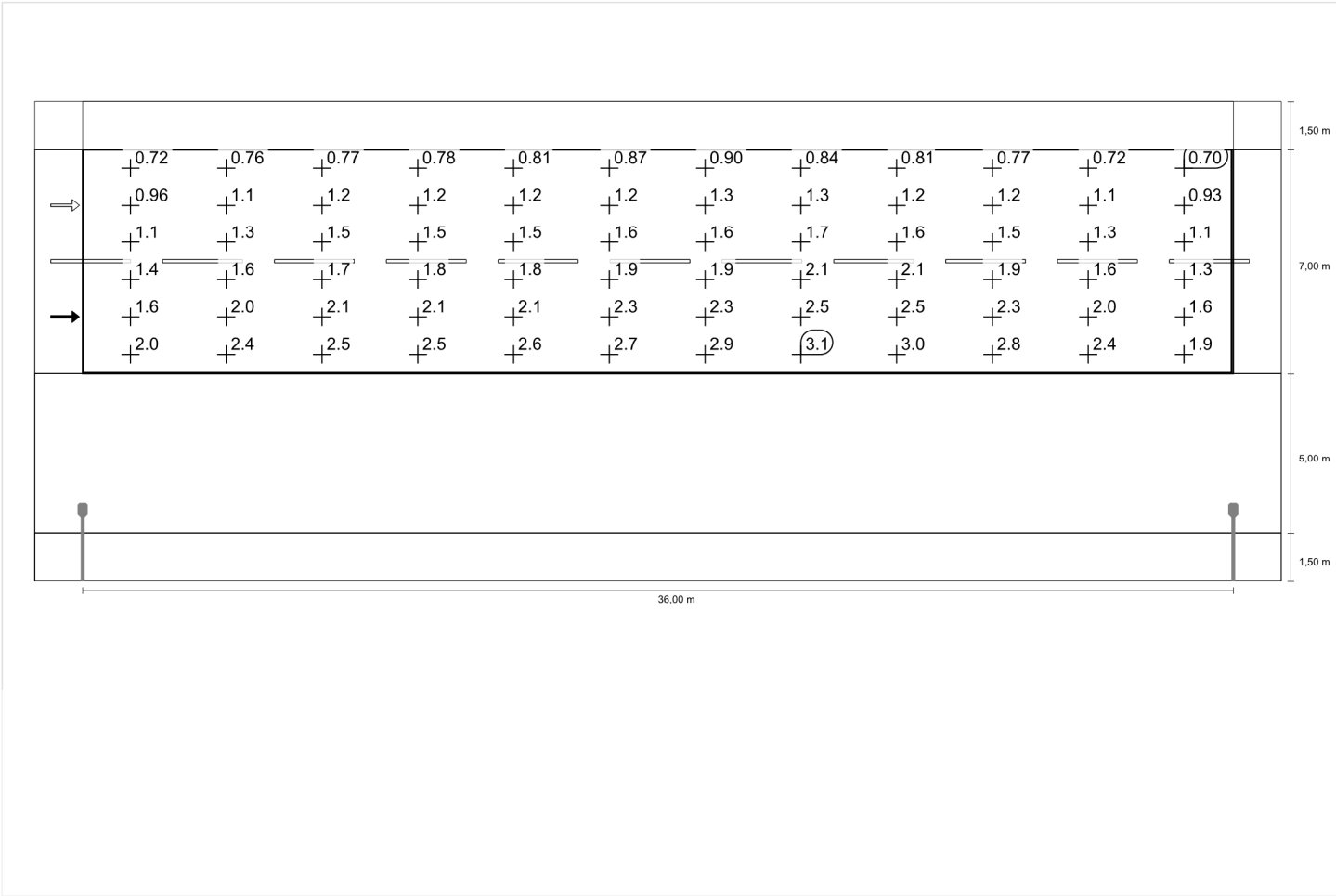


Osservatore 1

Luminanza con carreggiata asciutta

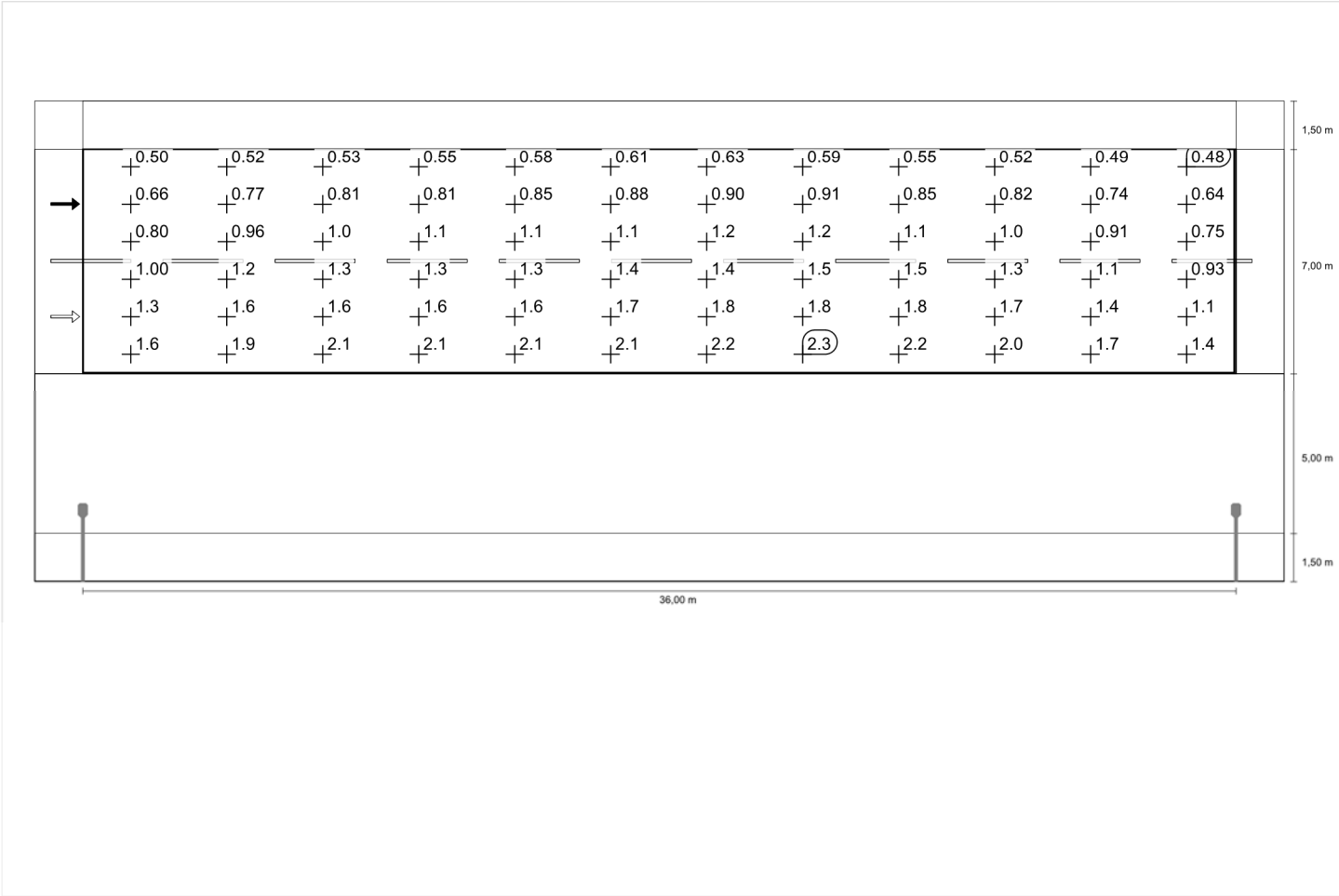


Luminanza con lampada nuova



Osservatore 2

Luminanza con carreggiata asciutta



Luminanza con lampada nuova

