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Date:
21.12.2018

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Digitally signed by Casap Iurie
Date: 2019.01.02 15:30:29 EET
Reason: MoldSign Signature
Location: Moldova

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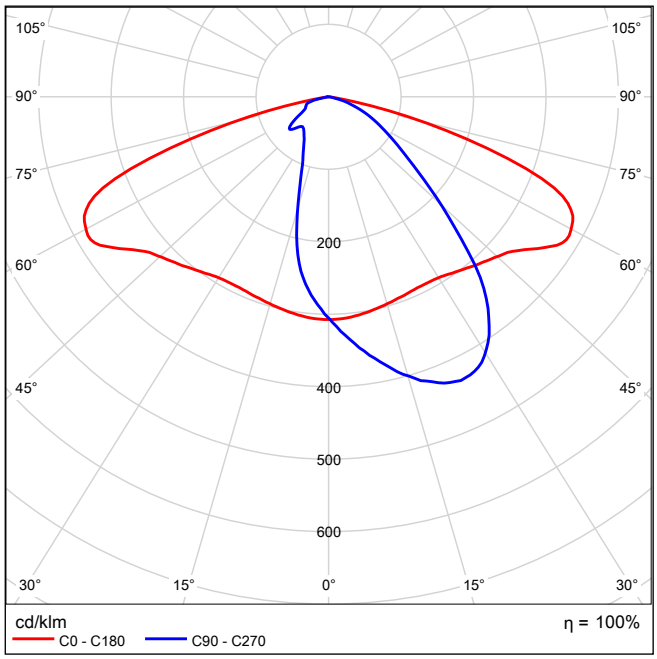
DIALux Mini Martin 14 W 6 LEDs MRSE 014 740 L02 A006 CSNS DG1 1x6 LEDs bin M

See our luminaire catalog for an image of the luminaire.

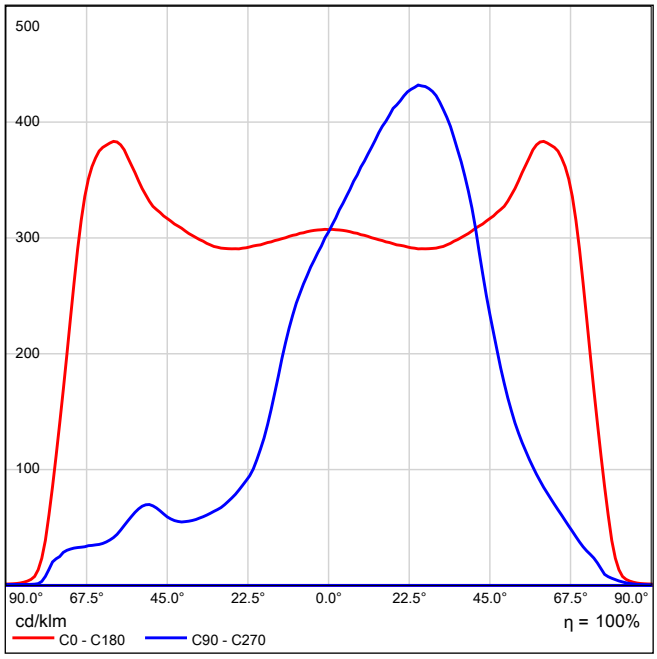
Light output ratio: 100%
Lamp luminous flux: 1952 lm
Luminaire luminous flux: 1952 lm
Power: 14.0 W
Luminous efficacy: 139.4 lm/W

Colourimetric data
1x: CCT 4000 K, CRI 72

Luminous emittance 1 / Polar LDC

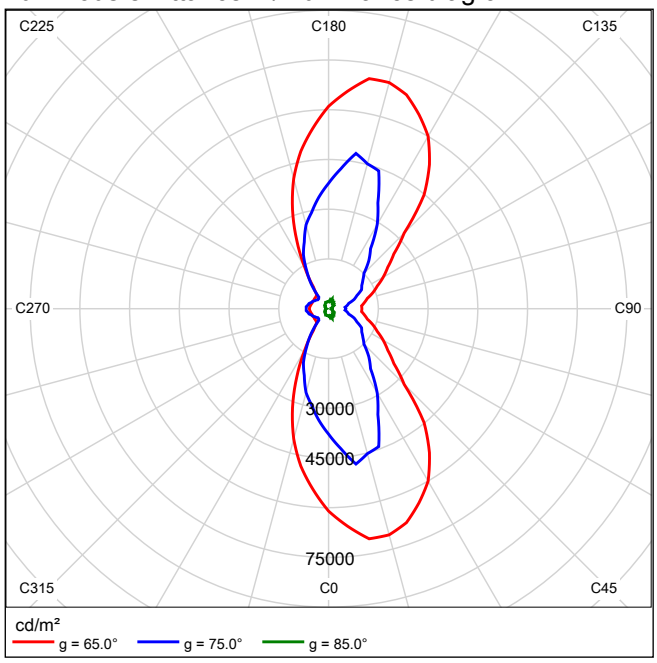


Luminous emittance 1 / Linear LDC



It is not possible to generate a cone diagram, as the light distribution is asymmetrical.

Luminous emittance 1 / Luminance diagram



It is not possible to generate a UGR diagram, as the light distribution is asymmetrical.

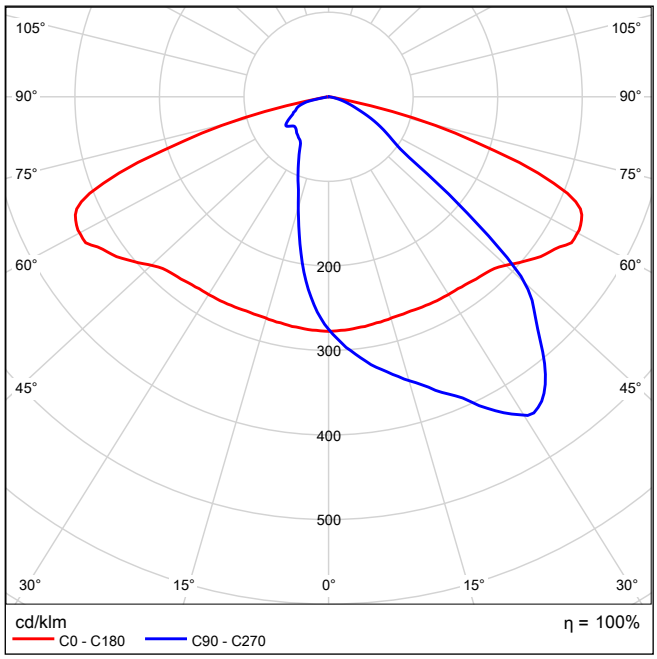
DIALux Mini Martin 37 W 8 LEDs MRSE 037 740 L01 A008 CSNS DG1 1x8 LEDs bin M

See our luminaire catalog for an image of the luminaire.

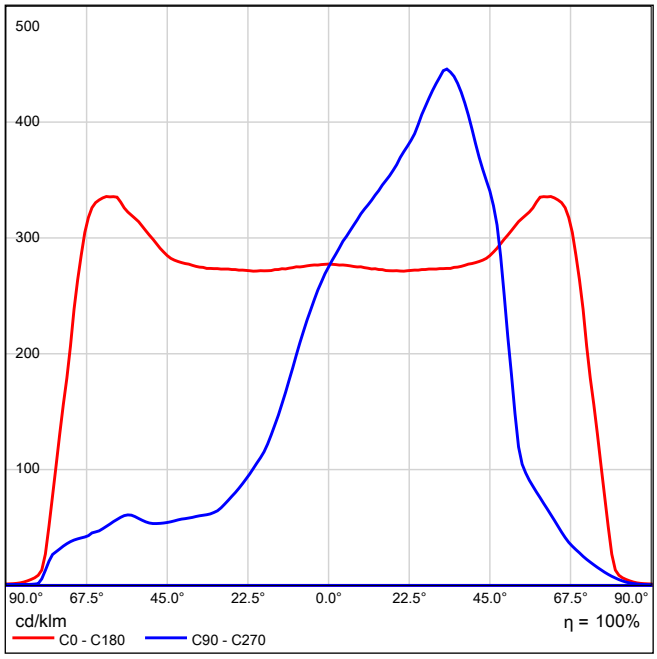
Light output ratio: 100%
Lamp luminous flux: 4517 lm
Luminaire luminous flux: 4517 lm
Power: 37.0 W
Luminous efficacy: 122.1 lm/W

Colourimetric data
1x: CCT 4000 K, CRI 72

Luminous emittance 1 / Polar LDC

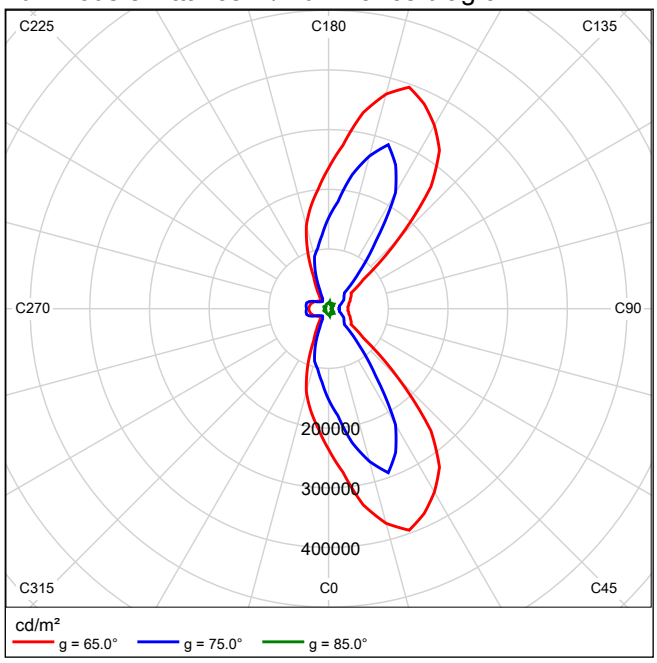


Luminous emittance 1 / Linear LDC



It is not possible to generate a cone diagram, as the light distribution is asymmetrical.

Luminous emittance 1 / Luminance diagram



It is not possible to generate a UGR diagram, as the light distribution is asymmetrical.

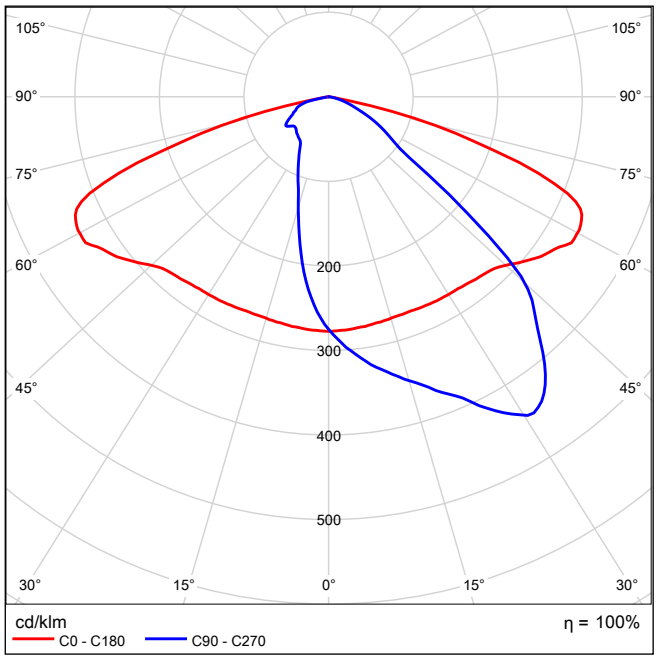
DIALux Mini Martin 44 W 16 LEDs MRSE 044 740 L01 A016 CSNS DG1 1x16 LEDs bin M

See our luminaire catalog for an image of the luminaire.

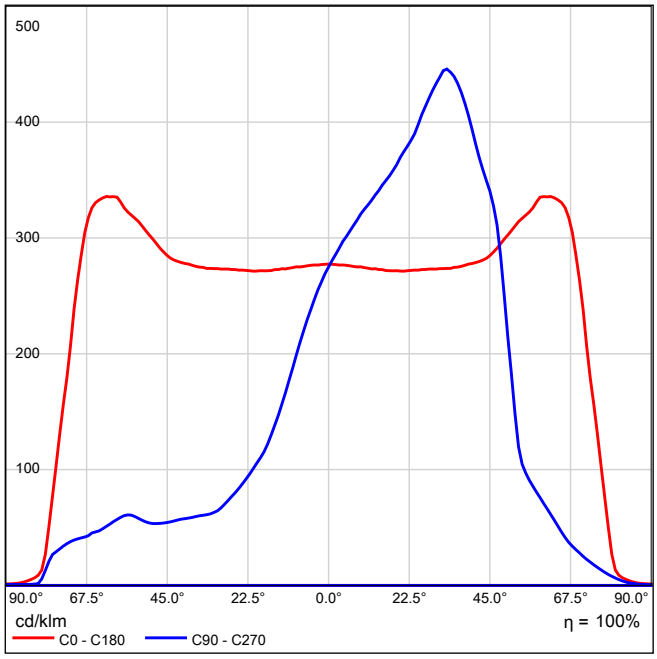
Light output ratio: 100%
Lamp luminous flux: 6092 lm
Luminaire luminous flux: 6092 lm
Power: 44.0 W
Luminous efficacy: 138.5 lm/W

Colourimetric data
1x: CCT 4000 K, CRI 72

Luminous emittance 1 / Polar LDC

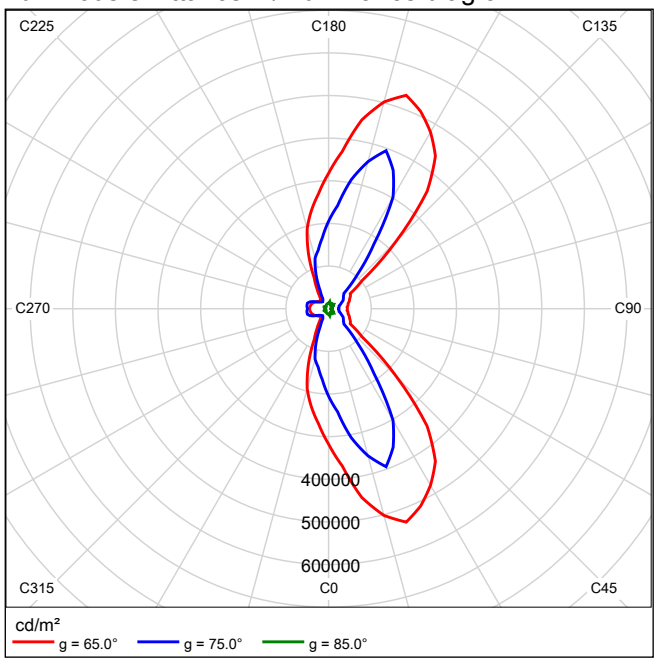


Luminous emittance 1 / Linear LDC



It is not possible to generate a cone diagram, as the light distribution is asymmetrical.

Luminous emittance 1 / Luminance diagram



It is not possible to generate a UGR diagram, as the light distribution is asymmetrical.

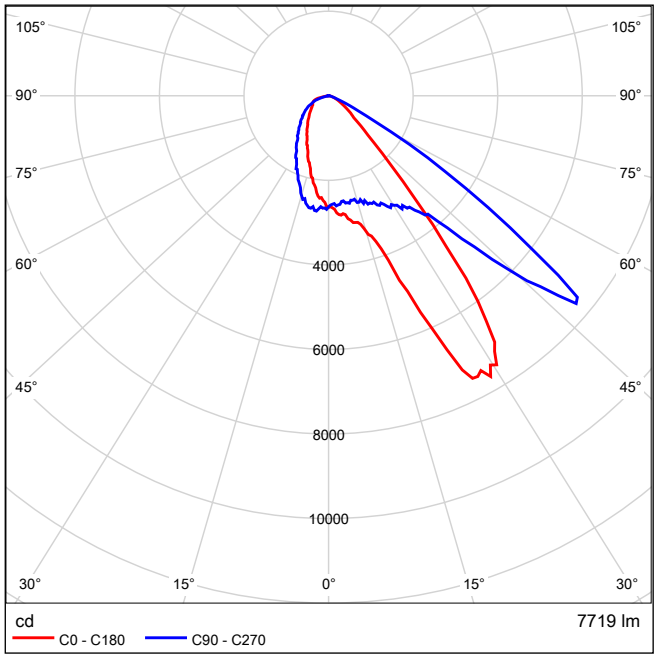
DIALux Mini Martin 60 W 16 LEDs MRSE 060 750 L11 A016 CSNS DG1 1x16 LEDs bin M

See our luminaire catalog for an image of the luminaire.

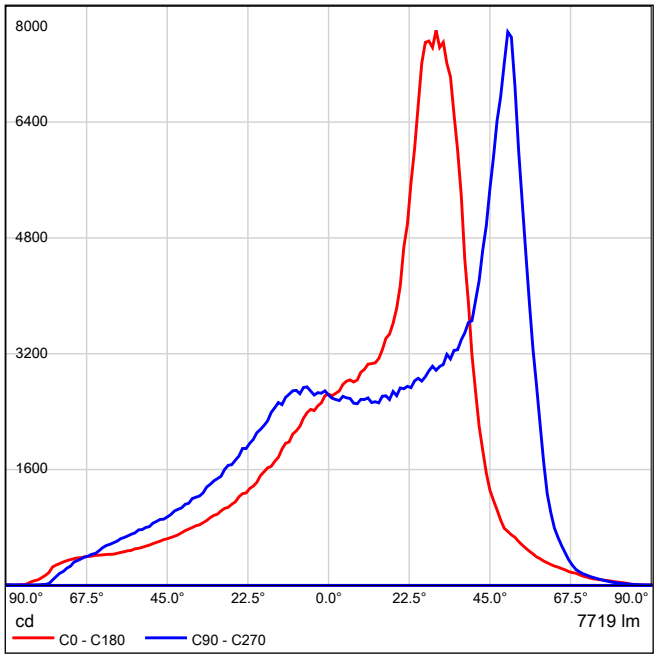
Absolute photometry
Luminaire luminous flux: 7719 lm
Power: 60.0 W
Luminous efficacy: 128.7 lm/W

Colourimetric data
1x: CCT 5000 K, CRI 72

Luminous emittance 1 / Polar LDC

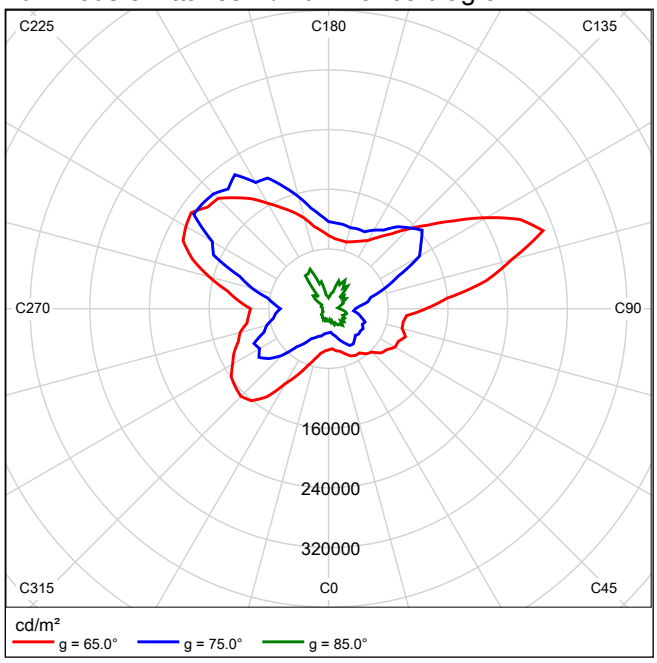


Luminous emittance 1 / Linear LDC



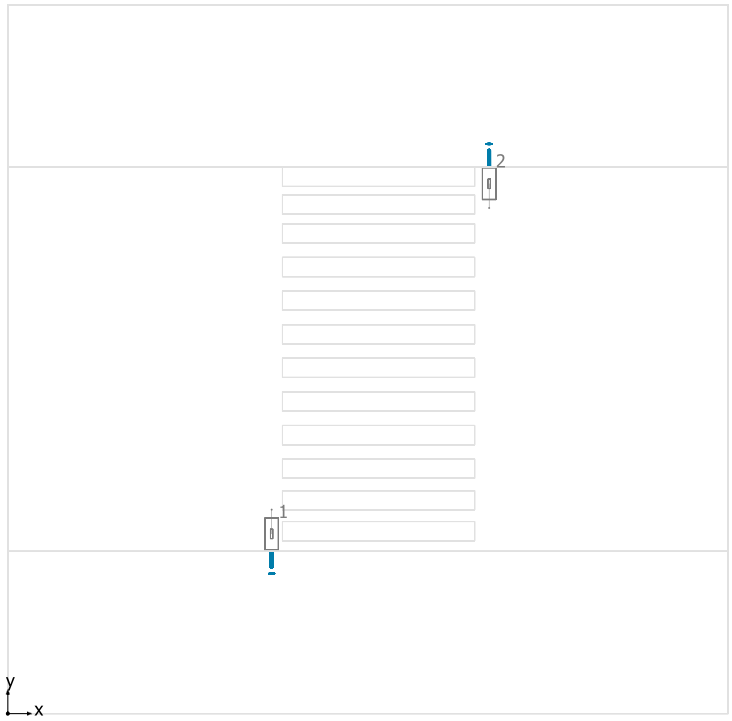
It is not possible to generate a cone diagram, as the light distribution is asymmetrical.

Luminous emittance 1 / Luminance diagram



It is not possible to generate a UGR diagram, as the light distribution is asymmetrical.

Situa☐ia 5

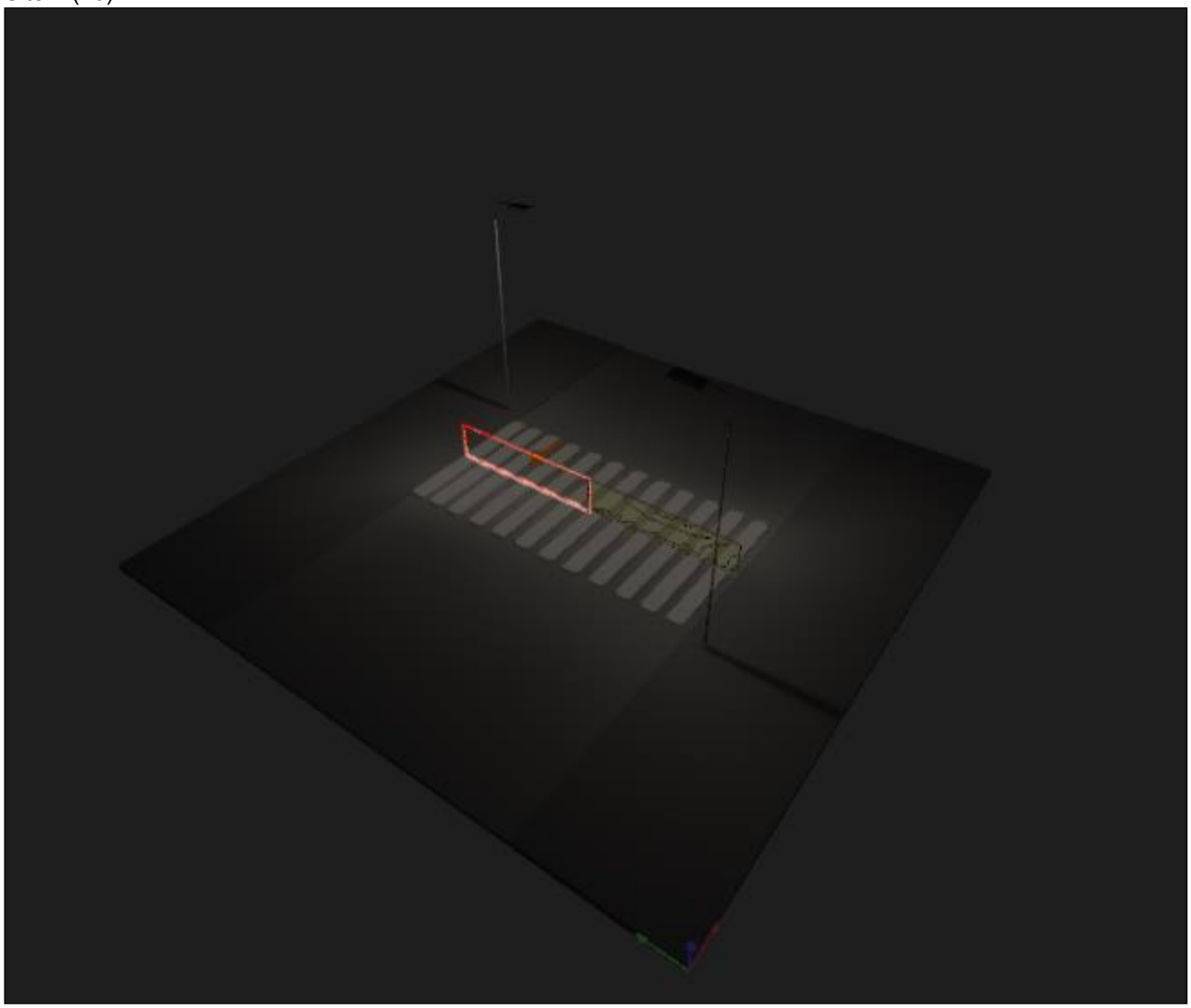


DIALux Mini Martin 60 W 16 LEDs MRSE 060 750 L11 A016 CSNS DG1

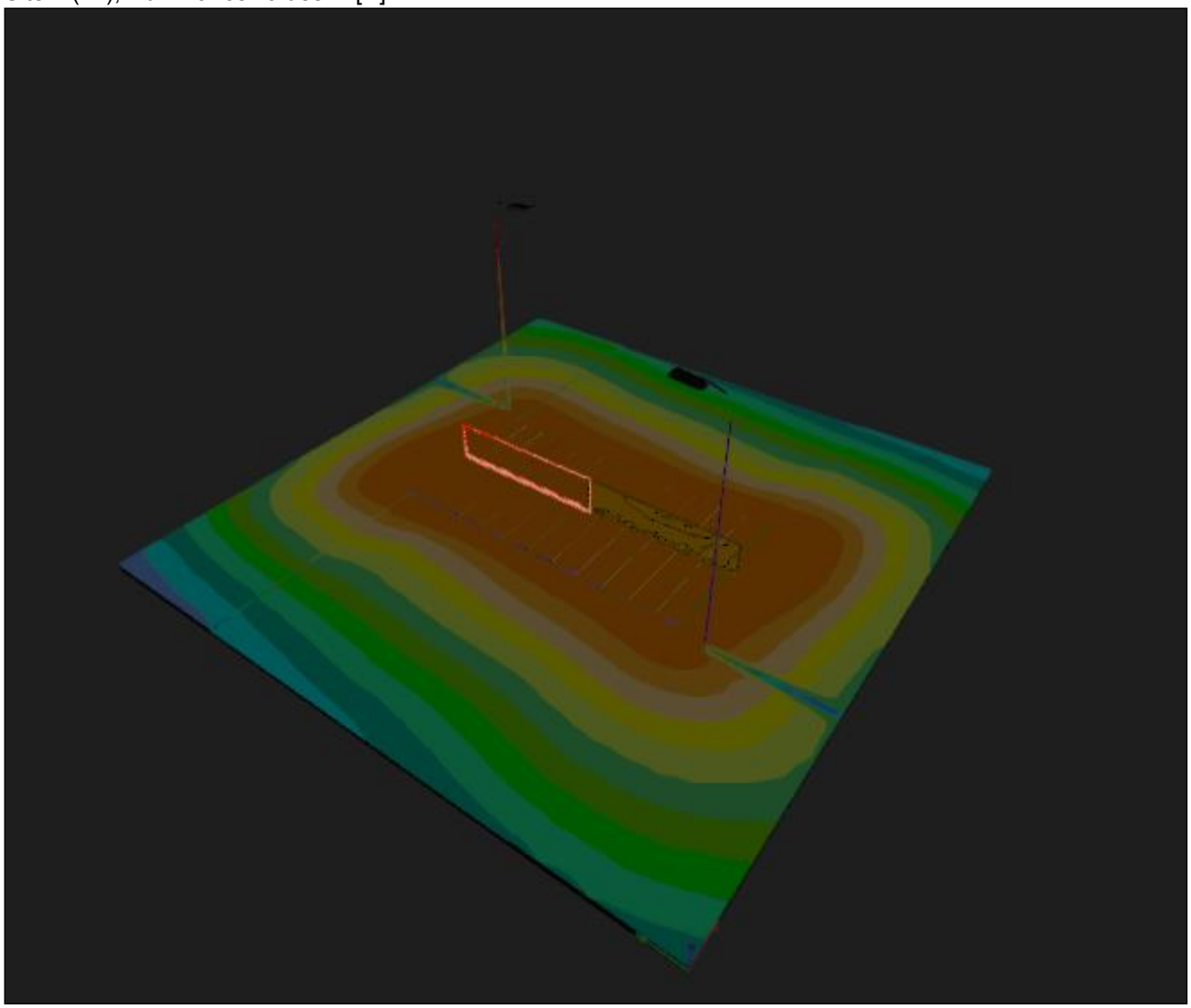
No.	X [m]	Y [m]	Mounting height [m]	Maintenance factor
1	5.495	3.735	6.000	0.85
2	10.025	11.041	6.000	0.85

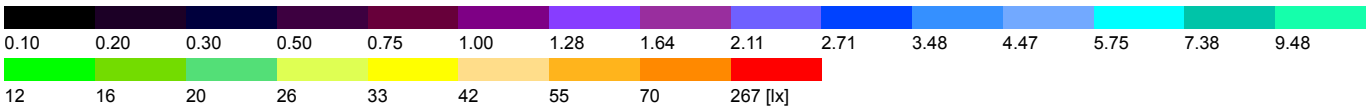
Situa□ia 5

Site 1 (10)

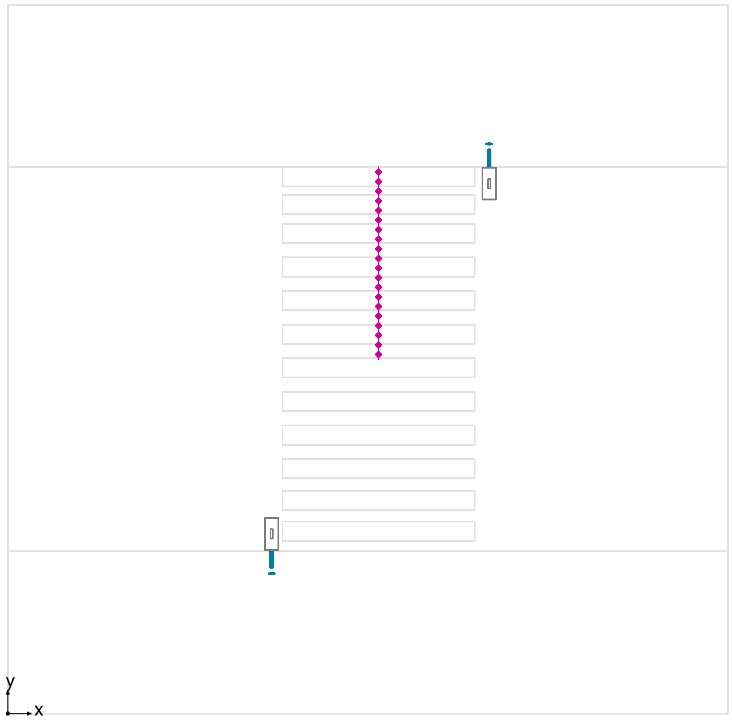


Site 1 (11), Illuminance values in [lx]





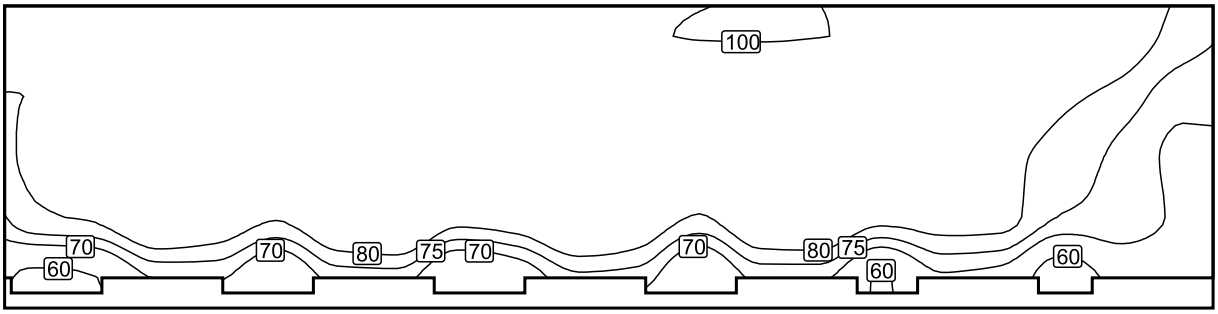
Calculation surface 1 / Perpendicular illuminance



Maintenance factor: 0.85

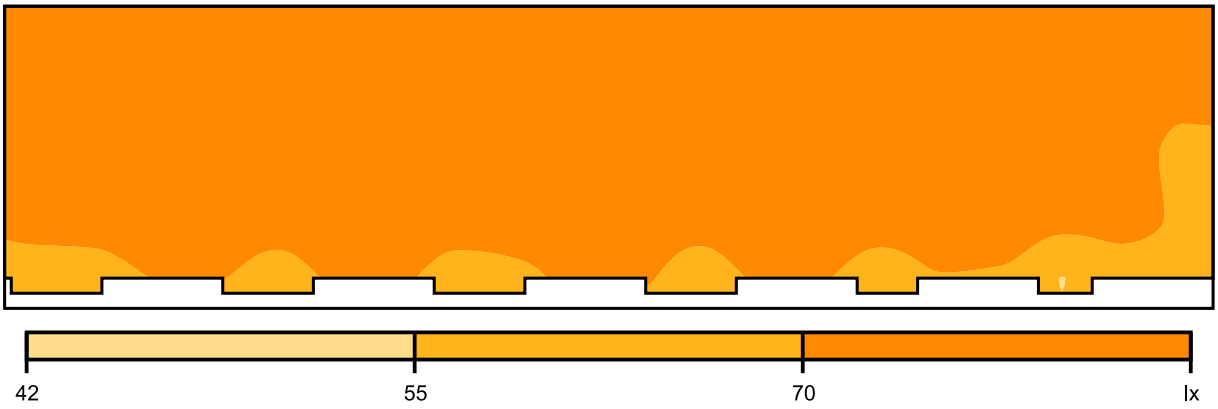
Calculation surface 1: Perpendicular illuminance (Grid)
Light scene: Light scene 1
Average: 83.6 lx, Min: 54.3 lx, Max: 100 lx, Min/average: 0.65, Min/max: 0.54
Height: 0.500 m

Isolines [lx]



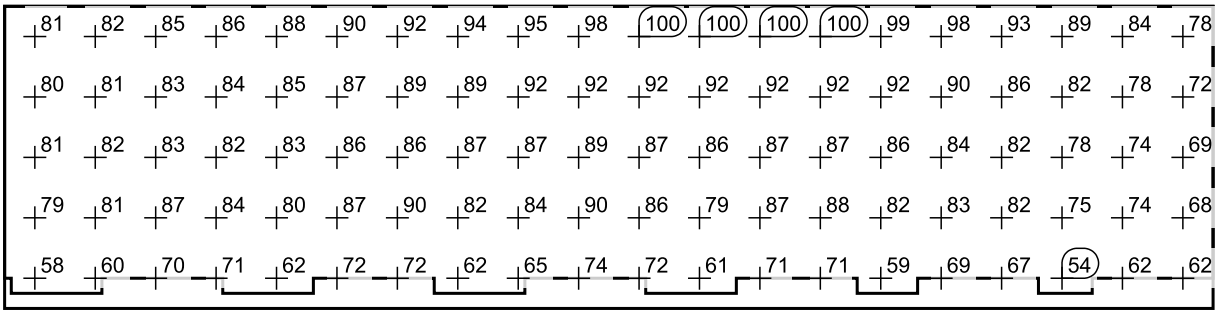
Scale: 1 : 25

False colours [lx]



Scale: 1 : 25

Value grid [lx]



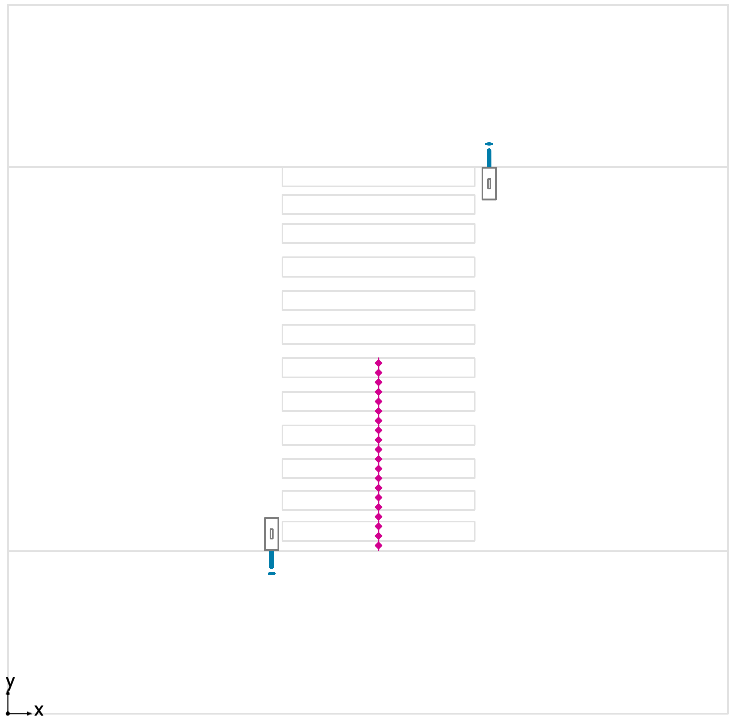
Scale: 1 : 25

Value chart [lx]

m	-1.900	-1.700	-1.500	-1.300	-1.100	-0.900	-0.700	-0.500	-0.300	-0.100	0.100	0.300	0.500	0.700	0.900	1.100	1.300	1.500	1.700
0.400	81.0	81.8	85.1	86.0	87.9	90.0	91.9	94.0	95.0	97.6	99.6	100	100	100	99.5	98.1	93.1	88.9	84.1
0.200	80.0	81.4	83.0	83.8	85.2	86.6	88.6	88.8	91.8	92.0	92.4	92.2	92.3	92.2	92.5	89.5	85.7	81.5	77.8
0.000	80.9	81.7	83.4	82.2	83.2	85.9	86.1	87.0	87.5	88.5	86.9	85.8	87.3	87.3	85.7	84.3	81.8	77.5	73.8
-0.200	79.3	80.7	87.4	84.2	80.5	86.9	89.9	82.4	84.2	89.7	85.6	79.5	86.7	87.5	82.0	82.7	82.0	74.7	73.7
-0.400	58.4	59.8	/	/	62.0	/	/	61.7	65.4	/	/	61.4	/	/	59.1	/	/	54.3	/

m	1.900
0.400	77.5
0.200	71.9
0.000	68.6
-0.200	68.3
-0.400	/

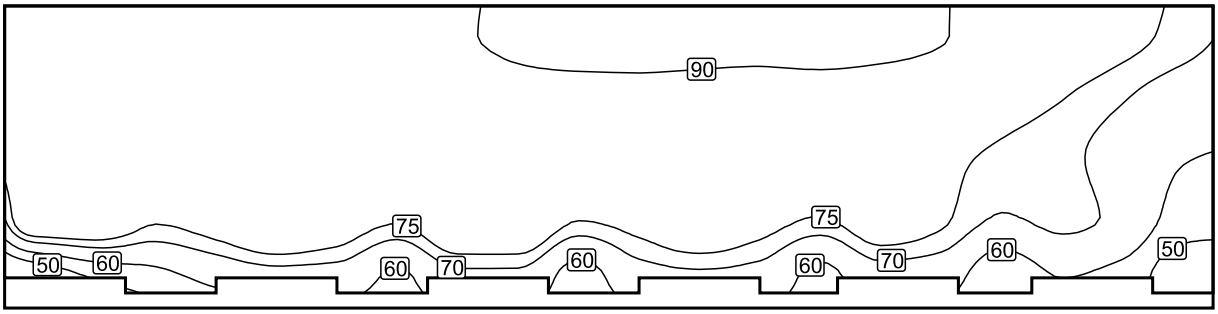
Calculation surface 2 / Perpendicular illuminance



Maintenance factor: 0.85

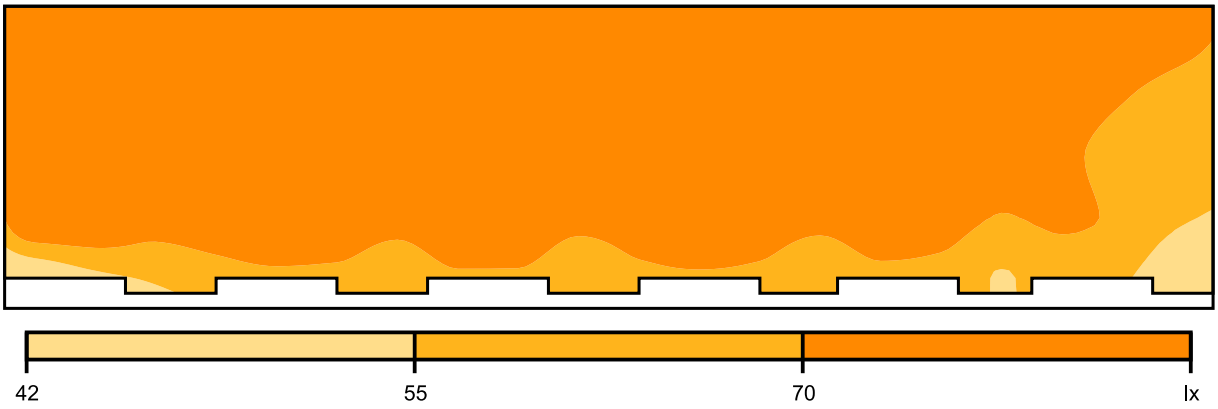
Calculation surface 2: Perpendicular illuminance (Grid)
Light scene: Light scene 1
Average: 78.9 lx, Min: 43.7 lx, Max: 94.2 lx, Min/average: 0.55, Min/max: 0.46
Height: 0.500 m

Isolines [lx]



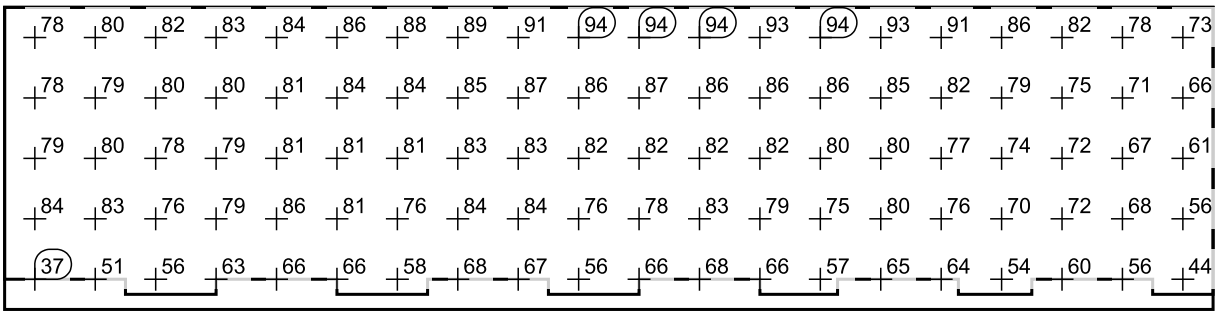
Scale: 1 : 25

False colours [lx]



Scale: 1 : 25

Value grid [lx]



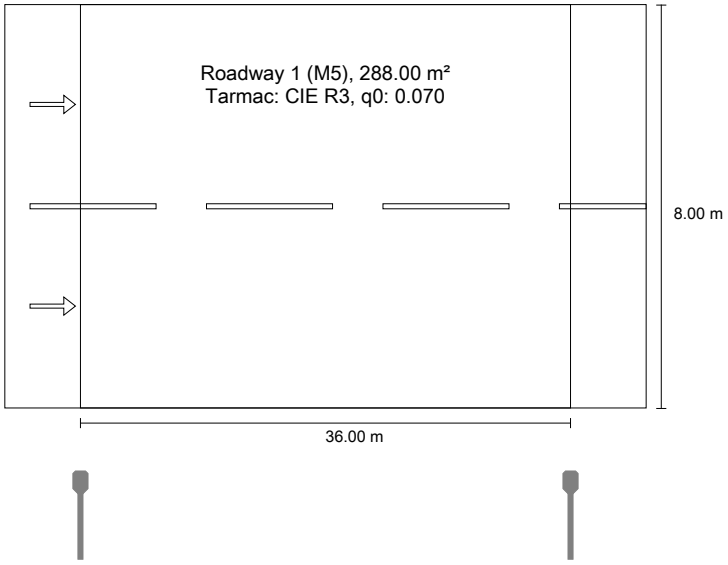
Scale: 1 : 25

Value chart [lx]

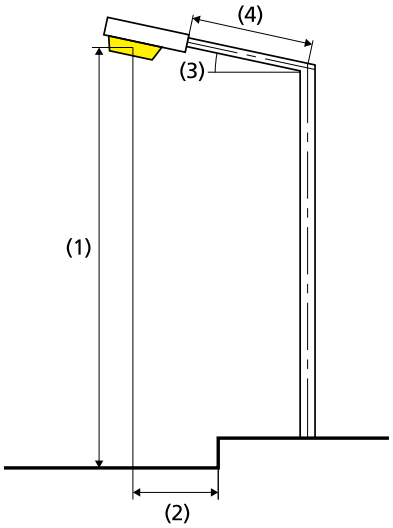
m	-1.900	-1.700	-1.500	-1.300	-1.100	-0.900	-0.700	-0.500	-0.300	-0.100	0.100	0.300	0.500	0.700	0.900	1.100	1.300	1.500	1.700
0.400	78.0	79.8	81.7	83.4	83.8	86.2	88.2	89.4	91.5	93.7	94.2	93.7	93.2	93.7	93.0	90.5	85.6	82.3	77.6
0.200	77.7	79.3	79.7	79.7	81.5	83.5	83.8	85.3	87.0	86.4	86.5	86.0	85.6	85.7	84.7	82.5	78.8	75.4	70.6
0.000	78.8	79.6	78.1	78.8	81.2	80.7	80.6	82.6	82.9	81.6	81.7	81.8	81.5	79.7	80.1	77.2	73.5	71.5	66.5
-0.200	83.5	82.9	75.9	78.9	85.7	80.5	76.1	83.9	84.4	75.7	78.2	82.6	78.5	74.8	80.5	76.3	69.5	71.8	68.0
-0.400	/	/	56.4	/	/	/	58.3	/	/	56.2	/	/	/	57.3	/	/	53.6	/	/

m	1.900
0.400	72.7
0.200	66.0
0.000	60.7
-0.200	55.7
-0.400	43.7

Situa☐ia 1 according to EN 13201:2015



DIALux Mini Martin 44 W 16 LEDs MRSE 044 740 L01 A016 CSNS DG1



Lamp:	1x16 LEDs bin M
Luminous flux (luminaire):	6092.14 lm
Luminous flux (lamp):	6092.00 lm
Operating Hours	
4000 h:	100.0 %, 44.0 W
W/km:	1232.0
Arrangement:	single side bottom
Pole distance:	36.000 m
Boom inclination (3):	5.0°
Boom length (4):	1.500 m
Light centre height (1):	8.000 m
Light overhang (2):	-1.500 m

Results for valuation fields

Maintenance factor: 0.85

Roadway 1 (M5)

Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15	EIR ≥ 0.30
✔ 0.51	✔ 0.49	✔ 0.58	✔ 11	✔ 0.40

Results for energy efficiency indicators

Power density indicator (Dp)	0.016 W/lxm²
Energy consumption density	
Arrangement: MRSE 044 740 L01 A016 CSNS DG1 (176.0 kWh/yr)	0.6 kWh/m² yr

ULR:	0.00
ULOR:	0.00
Maximum luminous intensities	
at 70° and above	500 cd/klm *
at 80° and above	92.9 cd/klm *
at 90° and above	1.99 cd/klm *
Luminous intensity class:	G*4

Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.

* Luminous intensity values in [cd/klm] for calculating luminous intensity class refer to the output flux of the luminaire, according EN 13201:2015.

Arrangement complies with glare index class D.3

Roadway 1 (M5)

Maintenance factor: 0.85
Grid: 12 x 6 Points

Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15	EIR ≥ 0.30
✔ 0.51	✔ 0.49	✔ 0.58	✔ 11	✔ 0.40

Assigned Observer (2):

Observer	Position [m]	Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15
Observer 1	(-60.000, 2.000, 1.500)	0.51	0.52	0.58	11
Observer 2	(-60.000, 6.000, 1.500)	0.56	0.49	0.76	6

Roadway 1 (M5)

Horizontal illuminance [lx]

7.333	8.88	7.80	6.96	5.89	4.95	4.35	4.35	4.95	5.89	6.96	7.80	8.88
6.000	12.9	11.2	9.41	7.27	5.67	4.86	4.86	5.67	7.27	9.41	11.2	12.9
4.667	17.3	14.1	11.6	8.35	6.14	5.11	5.11	6.14	8.35	11.6	14.1	17.3
3.333	19.8	15.2	12.0	8.58	6.21	5.06	5.06	6.21	8.58	12.0	15.2	19.8
2.000	21.5	15.5	11.2	8.05	5.74	4.74	4.74	5.74	8.05	11.2	15.5	21.5
0.667	22.5	15.9	10.3	7.04	5.05	4.11	4.11	5.05	7.04	10.3	15.9	22.5
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

Grid: 12 x 6 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
9.76	4.11	22.5	0.422	0.183

Observer 1

Luminance with dry roadway [cd/m²]

7.333	0.28	0.27	0.28	0.27	0.26	0.28	0.30	0.32	0.31	0.31	0.27	0.28
6.000	0.40	0.36	0.35	0.33	0.31	0.35	0.37	0.40	0.42	0.41	0.39	0.40
4.667	0.54	0.45	0.42	0.38	0.37	0.40	0.45	0.49	0.54	0.55	0.52	0.55
3.333	0.61	0.49	0.45	0.43	0.43	0.46	0.54	0.59	0.68	0.68	0.62	0.65
2.000	0.66	0.52	0.46	0.48	0.50	0.56	0.68	0.75	0.80	0.74	0.71	0.72
0.667	0.72	0.59	0.51	0.54	0.63	0.75	0.85	0.90	0.89	0.80	0.81	0.78
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

Grid: 12 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.51	0.26	0.90	0.520	0.292

Luminance with new lamp [cd/m²]

7.333	0.33	0.31	0.33	0.31	0.31	0.33	0.36	0.37	0.37	0.36	0.32	0.33
6.000	0.47	0.43	0.42	0.38	0.37	0.41	0.44	0.47	0.49	0.49	0.46	0.47
4.667	0.63	0.53	0.50	0.45	0.43	0.47	0.52	0.57	0.63	0.65	0.61	0.65
3.333	0.71	0.58	0.52	0.51	0.50	0.55	0.64	0.69	0.80	0.80	0.73	0.76
2.000	0.77	0.61	0.54	0.56	0.59	0.66	0.80	0.88	0.94	0.88	0.84	0.84
0.667	0.85	0.69	0.60	0.63	0.74	0.89	1.00	1.06	1.05	0.94	0.95	0.92
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

Grid: 12 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.60	0.31	1.06	0.520	0.292

Observer 2

Luminance with dry roadway [cd/m²]

7.333	0.29	0.27	0.29	0.27	0.28	0.30	0.32	0.34	0.33	0.32	0.28	0.29
6.000	0.41	0.38	0.37	0.35	0.34	0.37	0.40	0.43	0.44	0.43	0.41	0.41
4.667	0.56	0.47	0.45	0.43	0.41	0.45	0.49	0.53	0.59	0.60	0.54	0.57
3.333	0.64	0.54	0.51	0.51	0.50	0.56	0.63	0.69	0.75	0.72	0.64	0.67
2.000	0.72	0.60	0.55	0.58	0.65	0.75	0.82	0.87	0.88	0.79	0.76	0.75
0.667	0.74	0.62	0.58	0.64	0.77	0.91	0.99	1.03	0.98	0.86	0.83	0.80
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

Grid: 12 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.56	0.27	1.03	0.486	0.264

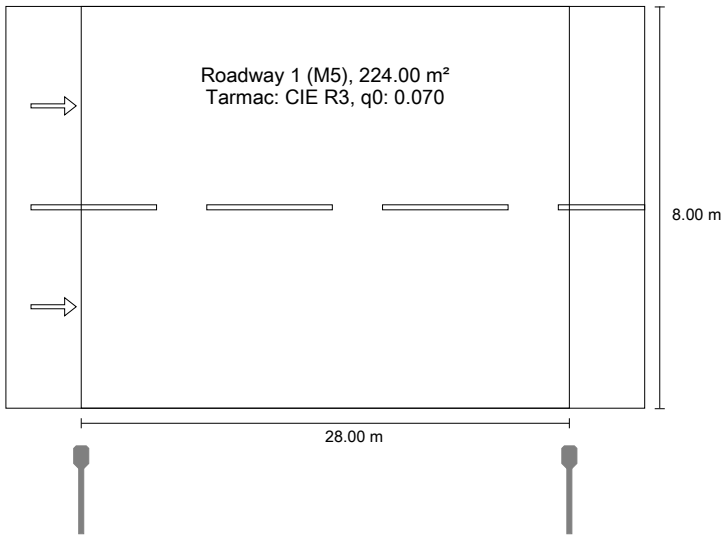
Luminance with new lamp [cd/m²]

7.333	0.34	0.32	0.34	0.32	0.33	0.36	0.38	0.39	0.39	0.37	0.32	0.34
6.000	0.48	0.44	0.43	0.41	0.40	0.44	0.47	0.50	0.52	0.50	0.48	0.48
4.667	0.65	0.55	0.53	0.50	0.48	0.53	0.58	0.63	0.69	0.70	0.64	0.67
3.333	0.75	0.64	0.60	0.60	0.58	0.66	0.74	0.81	0.89	0.85	0.75	0.79
2.000	0.84	0.71	0.65	0.69	0.76	0.88	0.96	1.03	1.03	0.93	0.89	0.88
0.667	0.87	0.73	0.68	0.75	0.90	1.08	1.17	1.21	1.15	1.02	0.98	0.95
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

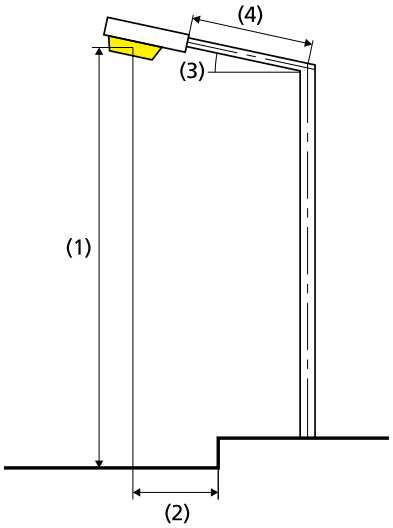
Grid: 12 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.66	0.32	1.21	0.486	0.264

Situa☐ia 2 according to EN 13201:2015



DIALux Mini Martin 37 W 8 LEDs MRSE 037 740 L01 A008 CSNS DG1



Results for valuation fields

Maintenance factor: 0.85

Roadway 1 (M5)

Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15	EIR ≥ 0.30
✔ 0.52	✔ 0.41	✔ 0.78	✔ 8	✔ 0.31

Results for energy efficiency indicators

Power density indicator (Dp)	0.017 W/lxm²
Energy consumption density	
Arrangement: MRSE 037 740 L01 A008 CSNS DG1 (148.0 kWh/yr)	0.7 kWh/m² yr

Lamp:	1x8 LEDs bin M
Luminous flux (luminaire):	4517.10 lm
Luminous flux (lamp):	4517.00 lm
Operating Hours	
4000 h:	100.0 %, 37.0 W
W/km:	1332.0
Arrangement:	single side bottom
Pole distance:	28.000 m
Boom inclination (3):	0.0°
Boom length (4):	1.500 m
Light centre height (1):	8.000 m
Light overhang (2):	-1.000 m

ULR:	0.00
ULOR:	0.00
Maximum luminous intensities	
at 70° and above	443 cd/klm *
at 80° and above	29.9 cd/klm *
at 90° and above	1.39 cd/klm *
Luminous intensity class:	G*4

Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.

* Luminous intensity values in [cd/klm] for calculating luminous intensity class refer to the output flux of the luminaire, according EN 13201:2015.

Arrangement complies with glare index class D.6

Roadway 1 (M5)

Maintenance factor: 0.85
Grid: 10 x 6 Points

Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15	EIR ≥ 0.30
✔ 0.52	✔ 0.41	✔ 0.78	✔ 8	✔ 0.31

Assigned Observer (2):

Observer	Position [m]	Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15
Observer 1	(-60.000, 2.000, 1.500)	0.52	0.44	0.78	8
Observer 2	(-60.000, 6.000, 1.500)	0.57	0.41	0.83	4

Roadway 1 (M5)

Horizontal illuminance [lx]

7.333	6.89	6.19	5.91	5.60	5.31	5.31	5.60	5.91	6.19	6.89
6.000	10.1	8.91	8.03	7.06	6.35	6.35	7.06	8.03	8.91	10.1
4.667	14.4	12.3	10.5	8.46	7.27	7.27	8.46	10.5	12.3	14.4
3.333	17.0	13.6	11.3	8.88	7.48	7.48	8.88	11.3	13.6	17.0
2.000	17.9	13.5	10.5	8.37	7.06	7.06	8.37	10.5	13.5	17.9
0.667	18.2	13.4	9.37	7.22	6.10	6.10	7.22	9.37	13.4	18.2
m	1.400	4.200	7.000	9.800	12.600	15.400	18.200	21.000	23.800	26.600

Grid: 10 x 6 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
9.78	5.31	18.2	0.543	0.291

Observer 1

Luminance with dry roadway [cd/m²]

7.333	0.24	0.24	0.26	0.28	0.30	0.30	0.28	0.26	0.23	0.23
6.000	0.34	0.32	0.35	0.37	0.37	0.38	0.37	0.35	0.33	0.34
4.667	0.48	0.44	0.45	0.46	0.47	0.49	0.52	0.51	0.49	0.49
3.333	0.57	0.52	0.52	0.55	0.57	0.61	0.65	0.64	0.58	0.60
2.000	0.65	0.59	0.61	0.66	0.71	0.76	0.75	0.70	0.66	0.66
0.667	0.74	0.70	0.71	0.79	0.85	0.85	0.84	0.76	0.74	0.75
m	1.400	4.200	7.000	9.800	12.600	15.400	18.200	21.000	23.800	26.600

Grid: 10 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.52	0.23	0.85	0.441	0.269

Luminance with new lamp [cd/m²]

7.333	0.28	0.28	0.31	0.33	0.35	0.35	0.33	0.30	0.27	0.28
6.000	0.40	0.37	0.41	0.44	0.44	0.45	0.44	0.41	0.38	0.40
4.667	0.57	0.52	0.53	0.55	0.55	0.57	0.61	0.60	0.57	0.58
3.333	0.67	0.61	0.62	0.65	0.68	0.72	0.76	0.76	0.69	0.71
2.000	0.76	0.70	0.71	0.77	0.83	0.89	0.88	0.83	0.77	0.78
0.667	0.87	0.82	0.84	0.93	1.00	1.01	0.98	0.89	0.87	0.88
m	1.400	4.200	7.000	9.800	12.600	15.400	18.200	21.000	23.800	26.600

Grid: 10 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.61	0.27	1.01	0.441	0.269

Observer 2

Luminance with dry roadway [cd/m²]

7.333	0.24	0.24	0.28	0.30	0.31	0.31	0.29	0.27	0.24	0.24
6.000	0.35	0.34	0.37	0.40	0.40	0.41	0.40	0.37	0.34	0.35
4.667	0.51	0.49	0.50	0.51	0.52	0.54	0.57	0.55	0.51	0.51
3.333	0.64	0.61	0.60	0.64	0.67	0.71	0.72	0.70	0.62	0.64
2.000	0.75	0.71	0.75	0.82	0.86	0.87	0.84	0.77	0.72	0.72
0.667	0.75	0.74	0.79	0.88	0.95	0.93	0.90	0.80	0.77	0.78
m	1.400	4.200	7.000	9.800	12.600	15.400	18.200	21.000	23.800	26.600

Grid: 10 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.57	0.24	0.95	0.414	0.250

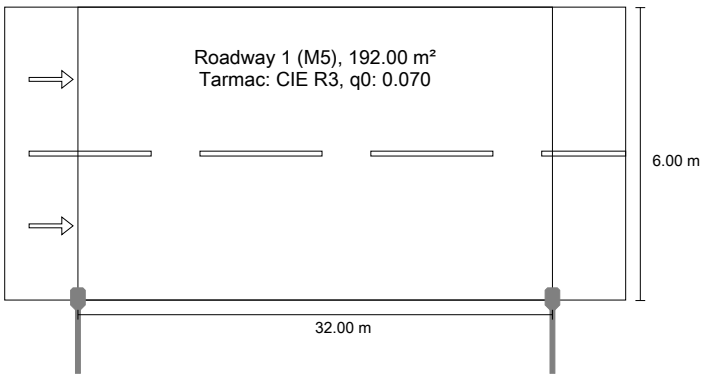
Luminance with new lamp [cd/m²]

7.333	0.29	0.29	0.32	0.36	0.37	0.37	0.34	0.31	0.28	0.28
6.000	0.42	0.40	0.44	0.47	0.47	0.48	0.47	0.43	0.40	0.42
4.667	0.60	0.57	0.58	0.60	0.61	0.63	0.67	0.65	0.60	0.60
3.333	0.76	0.72	0.71	0.75	0.79	0.83	0.85	0.82	0.73	0.75
2.000	0.88	0.84	0.88	0.97	1.01	1.02	0.99	0.90	0.85	0.85
0.667	0.89	0.87	0.92	1.03	1.11	1.10	1.06	0.95	0.90	0.92
m	1.400	4.200	7.000	9.800	12.600	15.400	18.200	21.000	23.800	26.600

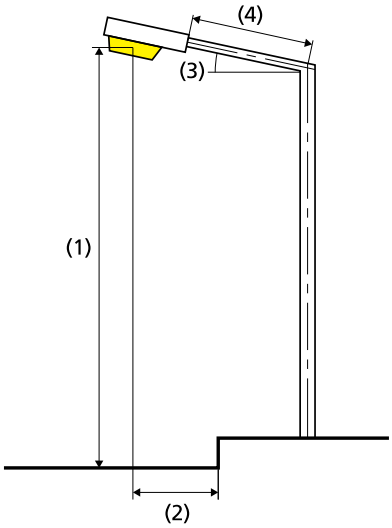
Grid: 10 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.67	0.28	1.11	0.414	0.250

Situa☐ia 3 according to EN 13201:2015



DIALux Mini Martin 37 W 8 LEDs MRSE 037 740 L01 A008 CSNS DG1



Results for valuation fields

Maintenance factor: 0.85

Roadway 1 (M5)

Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15	EIR ≥ 0.30
✔ 0.56	✔ 0.64	✔ 0.64	✔ 8	✔ 0.62

Results for energy efficiency indicators

Power density indicator (Dp)	0.020 W/lxm²
Energy consumption density	
Arrangement: MRSE 037 740 L01 A008 CSNS DG1 (148.0 kWh/yr)	0.8 kWh/m² yr

Lamp:	1x8 LEDs bin M
Luminous flux (luminaire):	4517.10 lm
Luminous flux (lamp):	4517.00 lm
Operating Hours	
4000 h:	100.0 %, 37.0 W
W/km:	1147.0
Arrangement:	single side bottom
Pole distance:	32.000 m
Boom inclination (3):	0.0°
Boom length (4):	1.500 m
Light centre height (1):	8.000 m
Light overhang (2):	0.000 m

ULR:	0.00
ULOR:	0.00
Maximum luminous intensities	
at 70° and above	443 cd/klm *
at 80° and above	29.9 cd/klm *
at 90° and above	1.39 cd/klm *
Luminous intensity class:	G*4

Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.

* Luminous intensity values in [cd/klm] for calculating luminous intensity class refer to the output flux of the luminaire, according EN 13201:2015.

Arrangement complies with glare index class D.6

Roadway 1 (M5)

Maintenance factor: 0.85
Grid: 11 x 6 Points

Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15	EIR ≥ 0.30
✔ 0.56	✔ 0.64	✔ 0.64	✔ 8	✔ 0.62

Assigned Observer (2):

Observer	Position [m]	Lm [cd/m²] ≥ 0.50	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 15
Observer 1	(-60.000, 1.500, 1.500)	0.56	0.64	0.64	8
Observer 2	(-60.000, 4.500, 1.500)	0.59	0.64	0.71	6

Roadway 1 (M5)

Horizontal illuminance [lx]

5.500	14.6	12.1	9.89	7.28	5.67	5.16	5.67	7.28	9.89	12.1	14.6
4.500	16.5	13.0	10.5	7.58	5.81	5.21	5.81	7.58	10.5	13.0	16.5
3.500	17.2	13.0	10.2	7.38	5.68	5.07	5.68	7.38	10.2	13.0	17.2
2.500	17.8	12.8	9.23	6.79	5.19	4.73	5.19	6.79	9.23	12.8	17.8
1.500	17.9	12.7	8.43	6.03	4.66	4.19	4.66	6.03	8.43	12.7	17.9
0.500	16.7	11.9	7.61	5.38	4.20	3.79	4.20	5.38	7.61	11.9	16.7
m	1.455	4.364	7.273	10.182	13.091	16.000	18.909	21.818	24.727	27.636	30.545

Grid: 11 x 6 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
9.63	3.79	17.9	0.394	0.212

Observer 1

Luminance with dry roadway [cd/m²]

5.500	0.46	0.39	0.37	0.36	0.36	0.40	0.42	0.47	0.48	0.46	0.47
4.500	0.51	0.43	0.41	0.40	0.41	0.46	0.50	0.57	0.58	0.53	0.54
3.500	0.54	0.45	0.42	0.44	0.48	0.54	0.61	0.64	0.64	0.58	0.58
2.500	0.57	0.48	0.45	0.50	0.57	0.63	0.70	0.70	0.65	0.63	0.61
1.500	0.61	0.53	0.49	0.57	0.67	0.74	0.78	0.76	0.69	0.67	0.66
0.500	0.60	0.54	0.52	0.61	0.71	0.77	0.80	0.77	0.69	0.67	0.65
m	1.455	4.364	7.273	10.182	13.091	16.000	18.909	21.818	24.727	27.636	30.545

Grid: 11 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.56	0.36	0.80	0.643	0.451

Luminance with new lamp [cd/m²]

5.500	0.54	0.46	0.44	0.42	0.43	0.47	0.50	0.55	0.57	0.55	0.56
4.500	0.60	0.51	0.48	0.47	0.49	0.54	0.59	0.67	0.68	0.62	0.64
3.500	0.63	0.53	0.49	0.51	0.57	0.64	0.72	0.76	0.75	0.68	0.68
2.500	0.67	0.56	0.53	0.59	0.67	0.74	0.82	0.83	0.77	0.74	0.72
1.500	0.72	0.62	0.58	0.67	0.78	0.87	0.91	0.90	0.82	0.79	0.78
0.500	0.71	0.64	0.61	0.71	0.84	0.91	0.94	0.90	0.82	0.78	0.76
m	1.455	4.364	7.273	10.182	13.091	16.000	18.909	21.818	24.727	27.636	30.545

Grid: 11 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.66	0.42	0.94	0.643	0.451

Observer 2

Luminance with dry roadway [cd/m²]

5.500	0.47	0.41	0.39	0.38	0.39	0.42	0.45	0.50	0.51	0.48	0.48
4.500	0.53	0.46	0.43	0.44	0.46	0.51	0.55	0.61	0.61	0.55	0.56
3.500	0.57	0.49	0.48	0.52	0.55	0.61	0.68	0.70	0.67	0.60	0.60
2.500	0.62	0.54	0.52	0.59	0.68	0.74	0.77	0.77	0.68	0.66	0.64
1.500	0.65	0.58	0.56	0.65	0.76	0.82	0.84	0.82	0.73	0.69	0.68
0.500	0.57	0.51	0.49	0.59	0.70	0.77	0.80	0.76	0.69	0.66	0.64
m	1.455	4.364	7.273	10.182	13.091	16.000	18.909	21.818	24.727	27.636	30.545

Grid: 11 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.59	0.38	0.84	0.639	0.451

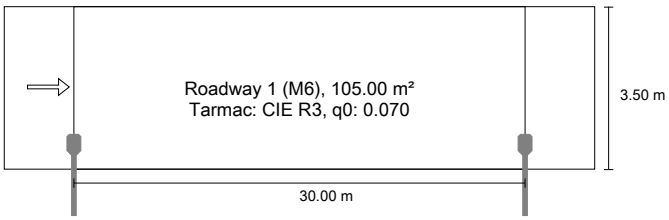
Luminance with new lamp [cd/m²]

5.500	0.55	0.49	0.46	0.45	0.46	0.50	0.53	0.59	0.60	0.56	0.56
4.500	0.63	0.54	0.51	0.52	0.54	0.60	0.65	0.72	0.72	0.64	0.66
3.500	0.67	0.58	0.57	0.61	0.64	0.72	0.80	0.82	0.78	0.71	0.70
2.500	0.73	0.63	0.61	0.69	0.80	0.88	0.91	0.90	0.81	0.77	0.76
1.500	0.77	0.68	0.66	0.77	0.89	0.96	0.99	0.96	0.86	0.81	0.80
0.500	0.67	0.59	0.58	0.69	0.82	0.91	0.94	0.90	0.81	0.78	0.75
m	1.455	4.364	7.273	10.182	13.091	16.000	18.909	21.818	24.727	27.636	30.545

Grid: 11 x 6 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.70	0.45	0.99	0.639	0.451

Situa☐ia 4 according to EN 13201:2015



Results for valuation fields

Maintenance factor: 0.85

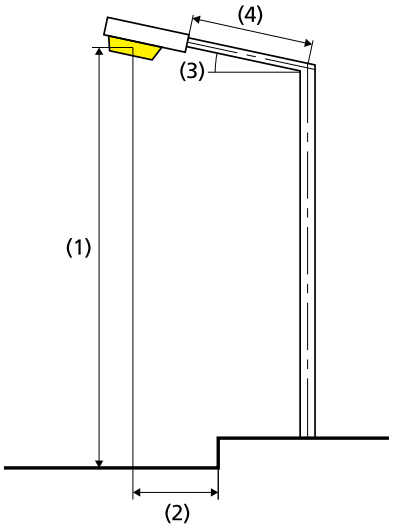
Roadway 1 (M6)

Lm [cd/m²] ≥ 0.30	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 20	EIR ≥ 0.30
✔ 0.31	✔ 0.71	✔ 0.72	✔ 5	✔ 0.56

Results for energy efficiency indicators

Power density indicator (Dp)	0.029 W/lxm²
Energy consumption density	
Arrangement: MRSE 014 740 L02 A006 CSNS DG1 (56.0 kWh/yr)	0.5 kWh/m² yr

DIALux Mini Martin 14 W 6 LEDs MRSE 014 740 L02 A006 CSNS DG1



Lamp:	1x6 LEDs bin M
Luminous flux (luminaire):	1952.03 lm
Luminous flux (lamp):	1952.00 lm
Operating Hours	
4000 h:	100.0 %, 14.0 W
W/km:	462.0
Arrangement:	single side bottom
Pole distance:	30.000 m
Boom inclination (3):	0.0°
Boom length (4):	1.500 m
Light centre height (1):	8.000 m
Light overhang (2):	0.500 m

ULR:	0.00
ULOR:	0.00
Maximum luminous intensities	
at 70° and above	341 cd/klm *
at 80° and above	36.5 cd/klm *
at 90° and above	1.31 cd/klm *
Luminous intensity class:	G*5

Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.

* Luminous intensity values in [cd/klm] for calculating luminous intensity class refer to the output flux of the luminaire, according EN 13201:2015.

Arrangement complies with glare index class D.6

Roadway 1 (M6)

Maintenance factor: 0.85
Grid: 10 x 3 Points

Lm [cd/m²] ≥ 0.30	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 20	EIR ≥ 0.30
✔ 0.31	✔ 0.71	✔ 0.72	✔ 5	✔ 0.56

Assigned Observer (1):

Observer	Position [m]	Lm [cd/m²] ≥ 0.30	Uo ≥ 0.35	Ul ≥ 0.40	TI [%] ≤ 20
Observer 1	(-60.000, 1.750, 1.500)	0.31	0.71	0.72	5

Roadway 1 (M6)

Horizontal illuminance [lx]

2.917	8.75	5.97	3.90	2.89	2.38	2.38	2.89	3.90	5.97	8.75
1.750	8.52	5.77	3.74	2.74	2.28	2.28	2.74	3.74	5.77	8.52
0.583	7.62	5.22	3.46	2.51	2.14	2.14	2.51	3.46	5.22	7.62
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500

Grid: 10 x 3 Points

Em [lx]	Emin [lx]	Emax [lx]	g1	g2
4.53	2.14	8.75	0.473	0.245

Observer 1

Luminance with dry roadway [cd/m²]

2.917	0.29	0.24	0.22	0.25	0.27	0.30	0.31	0.29	0.30	0.31
1.750	0.31	0.27	0.27	0.31	0.35	0.37	0.36	0.34	0.32	0.33
0.583	0.29	0.27	0.28	0.33	0.37	0.39	0.36	0.33	0.31	0.31
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500

Grid: 10 x 3 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.31	0.22	0.39	0.714	0.572

Luminance with new lamp [cd/m²]

2.917	0.34	0.28	0.26	0.29	0.32	0.36	0.36	0.34	0.36	0.36
1.750	0.36	0.32	0.32	0.37	0.41	0.44	0.43	0.40	0.38	0.39
0.583	0.34	0.32	0.33	0.39	0.43	0.45	0.43	0.39	0.37	0.37
m	1.500	4.500	7.500	10.500	13.500	16.500	19.500	22.500	25.500	28.500

Grid: 10 x 3 Points

Lm [cd/m²]	Lmin [cd/m²]	Lmax [cd/m²]	g1	g2
0.36	0.26	0.45	0.714	0.572