

Photometric test report

Family
Silica® 21

Order number: 51MX34DC4DWB
EAN: 4058352893784

LP number
59283_62

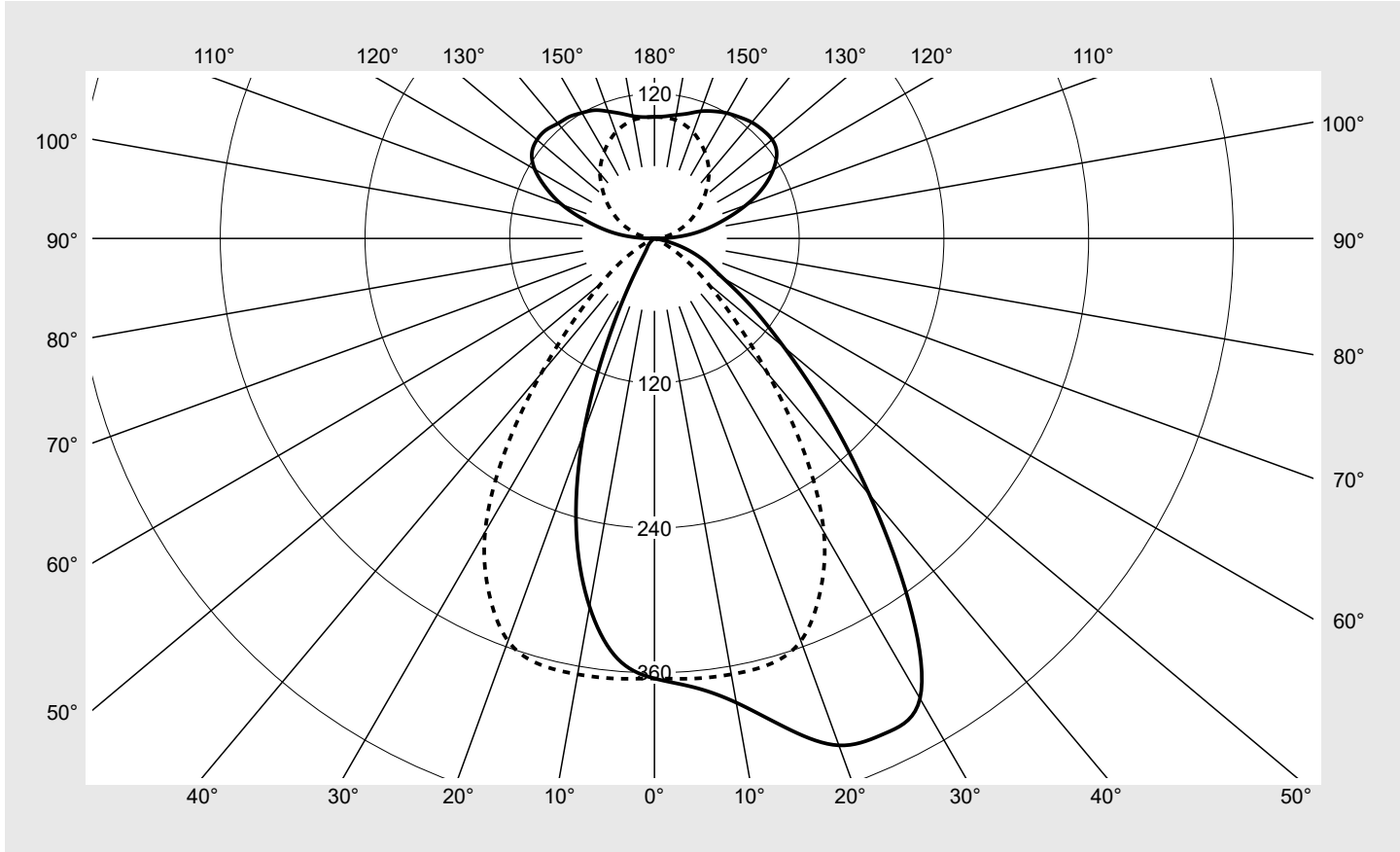


Version Suspended luminaire, reflector, black, direct-/indirect distribution, asymmetric distribution
Lamps LED 4000 K | CRI ≥ 80
Controlgear ECG-DALI
Rated values Net luminous flux = 19200 lm
 Power consumption = 120.3 W
 Luminous efficacy = 159.6 lm/W

serial documentation
02.08.2023



Luminous intensity in cd/klm C180-0 C270-90 **Imax: 461 cd/klm**



Classifications

| | |
|----------|-----------------------------------|
| DIN 5040 | C 6 2 |
| CIE | N1=74 N2=94 N3=99 N4=56 N5=100 |

Luminaire light output ratios

| | |
|-------------|--------|
| η_{LB} | 100.0% |
| ϕ_u | 56.1% |
| ϕ_o | 43.9% |

Measurement conditions
DIN EN 13032 and DIN 5032

Photometric test report

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|--|--|------------------------------|
| Family Silica® 21 | Order number: 51MX34DC4DWB EAN: 4058352893784 | LP number 59283_62 |
| Table of values for luminous intensities | | Maximum luminous intensity |
| | | sITeco |

| C-planes | 0° | 15° 345° | 30° 330° | 45° 315° | 60° 300° | 75° 285° | 90° 270° |
|----------|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| γ | Luminous intensity in cd/klm | | | | | | |
| 0° | 364.7 | 364.7 | 364.7 | 364.7 | 364.7 | 364.7 | 364.7 |
| 5° | 373.4 | 374.2 | 373.9 | 372.4 | 372.0 | 370.0 | 366.2 |
| 10° | 390.7 | 390.9 | 390.3 | 389.7 | 385.4 | 375.2 | 366.9 |
| 15° | 419.6 | 426.1 | 426.0 | 420.4 | 403.3 | 382.3 | 365.7 |
| 20° | 447.1 | 456.4 | 458.5 | 446.1 | 411.0 | 376.9 | 355.0 |
| 25° | 452.6 | 460.6 | 453.6 | 431.0 | 395.6 | 351.4 | 324.5 |
| 30° | 440.3 | 439.8 | 430.3 | 390.5 | 349.9 | 308.3 | 280.9 |
| 35° | 367.9 | 364.8 | 361.9 | 334.1 | 285.8 | 241.7 | 216.7 |
| 40° | 277.4 | 282.5 | 289.0 | 275.8 | 227.9 | 175.0 | 146.3 |
| 45° | 200.8 | 207.3 | 222.4 | 214.2 | 174.3 | 117.9 | 91.5 |
| 50° | 140.2 | 148.6 | 163.4 | 159.9 | 127.4 | 79.2 | 57.1 |
| 55° | 98.0 | 104.1 | 120.3 | 117.5 | 94.9 | 52.4 | 33.6 |
| 60° | 65.5 | 71.2 | 86.2 | 87.8 | 71.3 | 30.8 | 14.6 |
| 65° | 48.2 | 50.7 | 59.5 | 65.1 | 47.4 | 16.3 | 4.7 |
| 70° | 32.8 | 36.4 | 42.5 | 43.7 | 27.4 | 8.4 | 1.8 |
| 75° | 16.4 | 20.5 | 29.1 | 21.1 | 13.2 | 4.7 | 0.6 |
| 80° | 2.7 | 3.9 | 8.6 | 8.4 | 6.0 | 1.9 | 0.3 |
| 85° | 1.0 | 1.1 | 1.6 | 1.5 | 0.7 | 0.5 | 0.5 |
| 90° | 5.1 | 4.9 | 5.2 | 5.1 | 3.1 | 1.0 | 0.4 |
| 95° | 23.6 | 24.1 | 25.8 | 24.5 | 15.6 | 8.0 | 4.1 |
| 100° | 42.3 | 43.3 | 43.7 | 38.5 | 25.8 | 14.5 | 9.5 |
| 105° | 60.4 | 61.7 | 60.5 | 51.6 | 35.4 | 21.8 | 16.0 |
| 110° | 80.9 | 81.7 | 76.3 | 63.6 | 45.4 | 29.6 | 23.0 |
| 115° | 99.3 | 98.4 | 90.6 | 74.6 | 54.9 | 37.4 | 30.6 |
| 120° | 113.7 | 112.0 | 102.2 | 83.3 | 64.1 | 44.9 | 38.1 |
| 125° | 123.7 | 120.5 | 109.6 | 92.0 | 71.5 | 52.1 | 46.1 |
| 130° | 127.4 | 124.7 | 113.0 | 96.3 | 77.5 | 59.5 | 54.0 |
| 135° | 127.0 | 124.4 | 114.1 | 99.9 | 82.2 | 66.6 | 62.0 |
| 140° | 125.6 | 123.2 | 114.1 | 102.3 | 86.1 | 73.2 | 70.3 |
| 145° | 122.8 | 121.6 | 114.6 | 103.4 | 89.6 | 79.2 | 77.1 |
| 150° | 119.9 | 119.3 | 113.7 | 103.5 | 92.3 | 85.0 | 83.2 |
| 155° | 116.3 | 116.3 | 110.3 | 102.8 | 94.6 | 90.3 | 88.8 |
| 160° | 112.2 | 112.1 | 106.9 | 101.9 | 96.9 | 93.8 | 93.7 |
| 165° | 107.2 | 106.8 | 103.8 | 100.5 | 98.5 | 97.0 | 97.3 |
| 170° | 103.9 | 102.9 | 102.2 | 100.5 | 99.8 | 99.7 | 99.8 |
| 175° | 101.6 | 101.2 | 100.4 | 100.2 | 100.5 | 100.4 | 100.5 |
| 180° | 100.7 | 100.7 | 100.7 | 100.7 | 100.7 | 100.7 | 100.7 |

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|---|--|-------------------------------------|
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| Table of values for luminous intensities | | Maximum luminous intensity |
| | | sITeco |

| C-planes | 105° 255° | 120° 240° | 135° 225° | 150° 210° | 165° 195° | 180° | Phi-zone | Total Phi-zone |
|----------|------------------------------|--------------|--------------|--------------|--------------|-------|-------------------------|-------------------|
| γ | Luminous intensity in cd/klm | | | | | | Luminous flux in lm/klm | |
| 0° | 364.7 | 364.7 | 364.7 | 364.7 | 364.7 | 364.7 | 2.2 | 2.2 |
| 5° | 362.9 | 358.9 | 355.8 | 351.9 | 350.5 | 349.8 | 17.4 | 19.6 |
| 10° | 356.4 | 346.7 | 334.3 | 322.3 | 312.5 | 309.9 | 34.3 | 53.9 |
| 15° | 351.5 | 329.8 | 301.2 | 272.8 | 255.4 | 250.3 | 50.5 | 104.3 |
| 20° | 332.5 | 299.0 | 251.5 | 205.7 | 180.6 | 172.0 | 63.8 | 168.1 |
| 25° | 300.5 | 247.9 | 184.7 | 134.5 | 99.3 | 86.1 | 70.5 | 238.6 |
| 30° | 246.1 | 187.5 | 119.2 | 65.0 | 36.4 | 29.2 | 70.5 | 309.2 |
| 35° | 174.7 | 119.3 | 62.2 | 24.9 | 14.0 | 12.2 | 62.6 | 371.8 |
| 40° | 109.6 | 67.1 | 27.5 | 12.3 | 9.3 | 8.7 | 51.8 | 423.6 |
| 45° | 65.7 | 34.8 | 12.8 | 8.3 | 6.4 | 5.9 | 40.7 | 464.3 |
| 50° | 38.9 | 17.2 | 7.5 | 5.5 | 3.9 | 3.3 | 30.8 | 495.1 |
| 55° | 21.5 | 8.7 | 4.7 | 3.3 | 2.1 | 1.8 | 22.9 | 518.0 |
| 60° | 8.2 | 4.3 | 2.8 | 2.0 | 1.5 | 1.3 | 16.4 | 534.4 |
| 65° | 2.7 | 2.1 | 1.7 | 1.4 | 1.0 | 0.7 | 11.5 | 545.9 |
| 70° | 1.1 | 1.1 | 0.9 | 0.8 | 0.6 | 0.3 | 7.8 | 553.7 |
| 75° | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 4.4 | 558.1 |
| 80° | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 1.4 | 559.5 |
| 85° | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.4 | 559.9 |
| 90° | 1.0 | 3.1 | 5.1 | 5.2 | 4.9 | 5.1 | 2.0 | 562.0 |
| 95° | 8.1 | 15.6 | 24.4 | 25.8 | 24.1 | 23.5 | 10.2 | 572.1 |
| 100° | 14.5 | 25.6 | 38.0 | 43.6 | 43.3 | 41.9 | 17.2 | 589.3 |
| 105° | 21.9 | 35.3 | 51.6 | 60.4 | 61.7 | 60.5 | 23.8 | 613.1 |
| 110° | 29.6 | 45.2 | 63.5 | 76.5 | 81.3 | 81.5 | 29.9 | 643.0 |
| 115° | 37.4 | 55.0 | 74.7 | 90.7 | 98.3 | 99.2 | 34.9 | 677.9 |
| 120° | 45.0 | 63.8 | 83.7 | 102.6 | 112.6 | 114.6 | 38.2 | 716.1 |
| 125° | 52.1 | 71.5 | 91.4 | 109.3 | 120.5 | 124.0 | 39.7 | 755.8 |
| 130° | 59.5 | 77.1 | 96.8 | 112.7 | 124.3 | 127.2 | 39.3 | 795.1 |
| 135° | 66.2 | 81.6 | 99.7 | 114.1 | 124.5 | 127.1 | 37.5 | 832.6 |
| 140° | 72.6 | 85.5 | 102.0 | 114.8 | 123.0 | 124.4 | 35.0 | 867.6 |
| 145° | 78.7 | 89.2 | 103.4 | 114.2 | 121.7 | 123.1 | 31.9 | 899.4 |
| 150° | 84.6 | 92.4 | 103.1 | 112.6 | 119.8 | 120.2 | 28.1 | 927.5 |
| 155° | 89.7 | 94.6 | 103.0 | 110.2 | 116.6 | 117.3 | 23.8 | 951.3 |
| 160° | 94.2 | 96.3 | 102.1 | 107.0 | 111.6 | 112.0 | 19.2 | 970.5 |
| 165° | 97.4 | 98.7 | 101.2 | 104.4 | 106.4 | 107.2 | 14.4 | 985.0 |
| 170° | 99.8 | 100.1 | 101.3 | 102.3 | 102.9 | 103.0 | 9.6 | 994.6 |
| 175° | 100.7 | 100.4 | 100.7 | 100.9 | 101.1 | 101.0 | 4.8 | 999.4 |
| 180° | 100.7 | 100.7 | 100.7 | 100.7 | 100.7 | 100.7 | 0.6 | 1000.0 |

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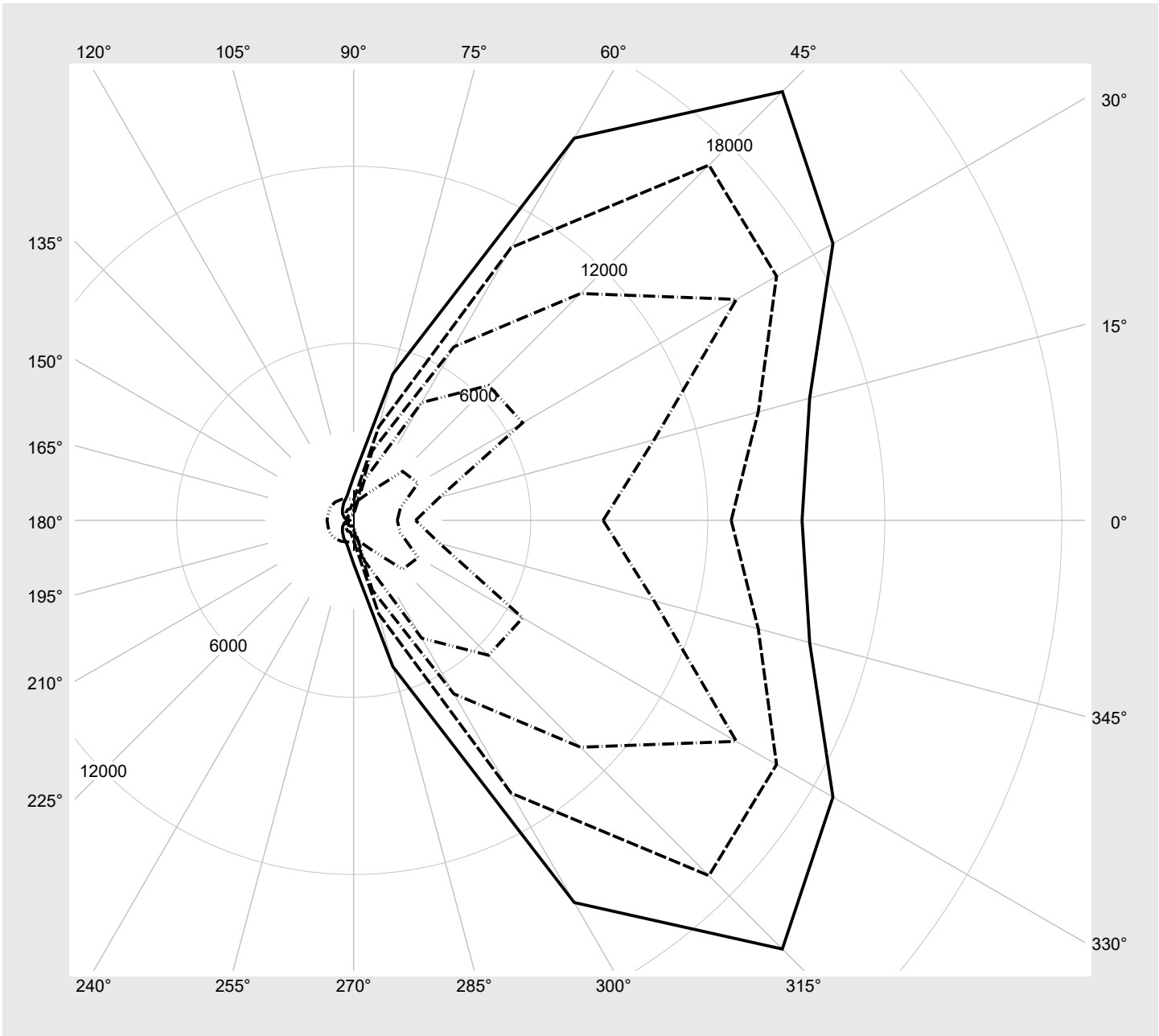
| UGR-Table | | Standard room | | | | | | | | | |
|------------------------------|-----|---------------------|------|------|------|------|--------------------|------|------|------|------|
| Reflection factor of ceiling | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | |
| Reflection factor of walls | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | |
| Reflection factor of floor | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | |
| Room dimensions | | View crosswise (C0) | | | | | View endwise (C90) | | | | |
| x | y | | | | | | | | | | |
| 2H | 2H | 22.1 | 23.0 | 22.9 | 23.8 | 24.9 | 17.5 | 18.4 | 18.3 | 19.2 | 20.3 |
| | 3H | 22.4 | 23.2 | 23.3 | 24.1 | 25.3 | 17.3 | 18.1 | 18.2 | 19.0 | 20.1 |
| | 4H | 22.5 | 23.2 | 23.4 | 24.1 | 25.3 | 17.2 | 17.9 | 18.1 | 18.8 | 20.0 |
| | 6H | 22.4 | 23.0 | 23.3 | 23.9 | 25.1 | 17.0 | 17.7 | 17.9 | 18.6 | 19.8 |
| | 8H | 22.3 | 22.9 | 23.2 | 23.8 | 25.0 | 16.9 | 17.6 | 17.9 | 18.5 | 19.7 |
| | 12H | 22.2 | 22.7 | 23.1 | 23.7 | 24.9 | 16.8 | 17.4 | 17.8 | 18.3 | 19.5 |
| 4H | 2H | 22.3 | 23.0 | 23.2 | 23.9 | 25.0 | 18.1 | 18.8 | 19.0 | 19.7 | 20.9 |
| | 3H | 22.9 | 23.5 | 23.8 | 24.4 | 25.6 | 18.1 | 18.7 | 19.1 | 19.7 | 20.9 |
| | 4H | 23.0 | 23.6 | 24.0 | 24.5 | 25.7 | 18.1 | 18.6 | 19.0 | 19.5 | 20.7 |
| | 6H | 22.9 | 23.4 | 23.9 | 24.3 | 25.6 | 17.9 | 18.4 | 18.9 | 19.3 | 20.6 |
| | 8H | 22.8 | 23.3 | 23.8 | 24.2 | 25.5 | 17.8 | 18.2 | 18.8 | 19.2 | 20.5 |
| | 12H | 22.7 | 23.1 | 23.7 | 24.1 | 25.4 | 17.7 | 18.1 | 18.7 | 19.1 | 20.3 |
| 8H | 4H | 23.0 | 23.4 | 23.9 | 24.3 | 25.6 | 18.1 | 18.5 | 19.1 | 19.5 | 20.8 |
| | 6H | 22.9 | 23.3 | 23.9 | 24.3 | 25.5 | 18.1 | 18.4 | 19.1 | 19.4 | 20.7 |
| | 8H | 22.8 | 23.2 | 23.9 | 24.1 | 25.4 | 18.0 | 18.3 | 19.0 | 19.3 | 20.6 |
| | 12H | 22.8 | 23.0 | 23.8 | 24.0 | 25.3 | 17.9 | 18.2 | 18.9 | 19.2 | 20.5 |
| 12H | 4H | 22.9 | 23.2 | 23.8 | 24.2 | 25.5 | 18.1 | 18.4 | 19.0 | 19.4 | 20.7 |
| | 6H | 22.8 | 23.1 | 23.8 | 24.1 | 25.4 | 18.0 | 18.3 | 19.0 | 19.3 | 20.6 |
| | 8H | 22.8 | 23.0 | 23.8 | 24.0 | 25.3 | 17.9 | 18.2 | 19.0 | 19.2 | 20.5 |

| Luminance table | | Max. for $\gamma \geq 65^\circ$ | | | | | | | | | | | |
|-----------------|--------------------------------|--|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------|
| | | Photometric dimensions in mm: L = 2940 B = 49 | | | | | | | | | | | |
| C-planes | 0° | 15° 345° | 30° 330° | 45° 315° | 60° 300° | 75° 285° | 90° 270° | 105° 255° | 120° 240° | 135° 225° | 150° 210° | 165° 195° | 180° |
| γ | Luminance in cd/m ² | | | | | | | | | | | | |
| 45° | 37847.1 | 39066.6 | 41924.1 | 40365.0 | 32848.9 | 22219.0 | 17240.8 | 12382.6 | 6567.9 | 2406.2 | 1567.6 | 1215.3 | 1109.8 |
| 50° | 29067.9 | 30810.4 | 33888.8 | 33146.8 | 26408.9 | 16415.6 | 11845.9 | 8064.2 | 3571.3 | 1552.6 | 1140.8 | 806.4 | 677.6 |
| 55° | 22763.6 | 24190.8 | 27955.8 | 27307.0 | 22040.1 | 12165.8 | 7803.0 | 5001.4 | 2028.8 | 1096.5 | 776.1 | 479.4 | 412.9 |
| 60° | 17451.9 | 18977.7 | 22985.1 | 23414.0 | 18995.8 | 8209.6 | 3899.2 | 2185.5 | 1136.6 | 756.0 | 524.0 | 408.9 | 347.9 |
| 65° | 15195.7 | 15999.0 | 18754.9 | 20544.0 | 14954.8 | 5133.1 | 1478.7 | 858.1 | 677.7 | 537.7 | 435.2 | 322.6 | 214.1 |
| 70° | 12794.7 | 14194.0 | 16548.5 | 17025.4 | 10672.5 | 3279.9 | 694.4 | 413.8 | 416.2 | 369.4 | 305.5 | 220.6 | 135.2 |
| 75° | 8452.8 | 10540.4 | 14977.7 | 10871.5 | 6786.5 | 2443.9 | 319.3 | 210.1 | 256.4 | 244.6 | 225.5 | 182.3 | 147.3 |
| 80° | 2097.6 | 3013.3 | 6611.4 | 6464.8 | 4610.5 | 1421.4 | 202.6 | 191.1 | 225.6 | 231.8 | 220.3 | 191.1 | 174.2 |
| 85° | 1477.2 | 1640.8 | 2520.1 | 2347.3 | 1120.9 | 731.0 | 721.8 | 756.9 | 822.7 | 880.8 | 912.9 | 896.1 | 902.2 |

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Luminance values in cd/m² γ 65° γ 70° γ 75° γ 80° γ 85° **siteco**



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|-----------------------------|---------------------------------|---------------|
| Dimming levels table | environmental temperature: 25°C | sITeco |
|-----------------------------|---------------------------------|---------------|

| Luminous flux % | Dimming level linear | Dimming level logarithmic | Luminous flux [lm] | Power consumption [W] |
|-----------------|----------------------|---------------------------|--------------------|-----------------------|
| 100 | 254 | 254 | 19200 | 120.3 |
| 95 | 240 | 252 | 18209 | 114.1 |
| 90 | 227 | 250 | 17279 | 108.0 |
| 85 | 214 | 248 | 16338 | 101.6 |
| 80 | 200 | 245 | 15325 | 95.4 |
| 75 | 187 | 243 | 14374 | 89.4 |
| 70 | 174 | 240 | 13418 | 83.5 |
| 65 | 161 | 237 | 12453 | 77.3 |
| 60 | 148 | 234 | 11484 | 71.3 |
| 55 | 136 | 231 | 10579 | 65.5 |
| 50 | 123 | 227 | 9592 | 59.5 |
| 45 | 111 | 224 | 8677 | 54.3 |
| 40 | 98 | 219 | 7679 | 48.4 |
| 35 | 86 | 214 | 6752 | 42.9 |
| 30 | 73 | 208 | 5742 | 36.9 |
| 25 | 61 | 202 | 4805 | 31.6 |
| 20 | 49 | 194 | 3864 | 25.8 |
| 15 | 37 | 183 | 2912 | 20.2 |
| 10 | 24 | 168 | 1881 | 14.1 |
| 5 | 12 | 142 | 925 | 8.3 |
| 2 | 5 | 110 | 364 | 4.3 |