

# Photometric test report

**Family**  
**Silica® 21**

**Order number: 51MX32DA47BB**  
**EAN: 4058352884669**

**LP number**  
**59279\_102**

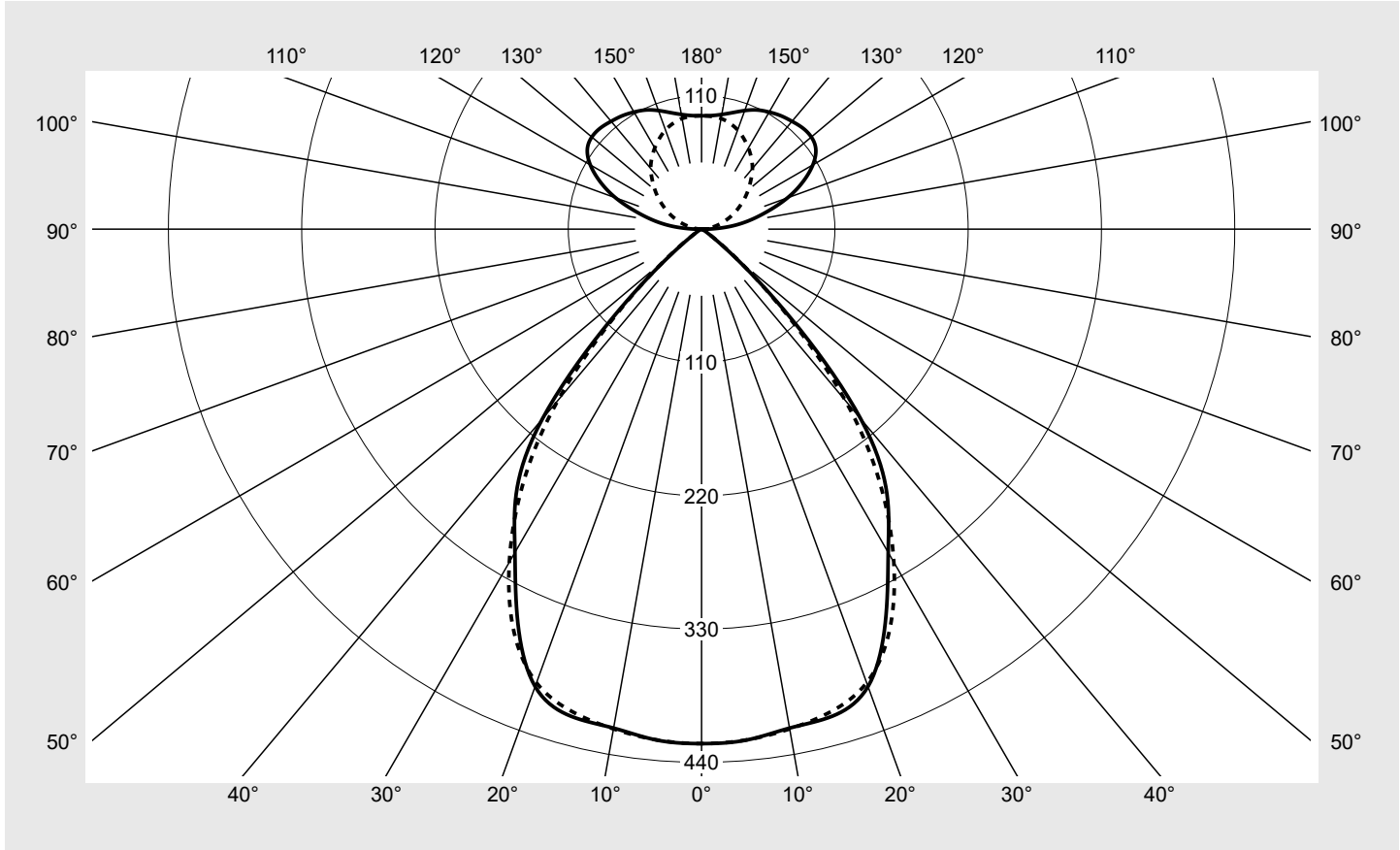


**Version** Suspended luminaire, reflector, black, direct-/indirect distribution, wide distribution, UGR≤16 (L65≤1000cd/m²)  
**Lamps** LED 4000 K | CRI ≥ 80  
**Controlgear** ECG-DALI  
**Rated values** Net luminous flux = 7290 lm  
 Power consumption = 43.8 W  
 Luminous efficacy = 166.4 lm/W

**serial documentation**  
**02.08.2023**

**sitEco**

**Luminous intensity in cd/klm** C180-0 C270-90 **Imax: 425 cd/klm**



**Classifications**

|          |                                    |
|----------|------------------------------------|
| DIN 5040 | C 6 2                              |
| CIE      | N1=86 N2=99 N3=100<br>N4=59 N5=100 |

**Luminaire light output ratios**

|             |        |
|-------------|--------|
| $\eta_{LB}$ | 100.0% |
| $\phi_u$    | 59.2%  |
| $\phi_o$    | 40.8%  |

**Measurement conditions**  
DIN EN 13032 and DIN 5032

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|  |  |                               |
|--|--|-------------------------------|
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| Table of values for luminous intensities |  | Maximum luminous intensity    |
|  |  | <b>siteco</b>                 |

| C-planes<br>$\gamma$         | 0°<br>180° | 15°                  | 30°                  | 45°                  | 60°                  | 75°                  | 90°<br>270° | Phi-zone                | Total<br>Phi-zone |
|------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------|-------------------------|-------------------|
|                              |            | 165°<br>195°<br>345° | 150°<br>210°<br>330° | 135°<br>225°<br>315° | 120°<br>240°<br>300° | 105°<br>255°<br>285° |             |                         |                   |
| Luminous intensity in cd/klm |            |                      |                      |                      |                      |                      |             | Luminous flux in lm/klm |                   |
| 0°                           | 424.5      | 424.5                | 424.5                | 424.5                | 424.5                | 424.5                | 424.5       | 2.5                     | 2.5               |
| 5°                           | 423.2      | 423.7                | 423.1                | 423.1                | 423.3                | 423.7                | 423.1       | 20.2                    | 22.8              |
| 10°                          | 418.0      | 417.2                | 417.3                | 418.4                | 419.3                | 417.7                | 418.7       | 39.8                    | 62.6              |
| 15°                          | 416.1      | 416.5                | 413.5                | 413.8                | 413.5                | 412.7                | 412.2       | 58.7                    | 121.3             |
| 20°                          | 401.6      | 404.7                | 402.8                | 404.0                | 399.5                | 397.4                | 398.3       | 75.3                    | 196.5             |
| 25°                          | 358.7      | 364.9                | 370.6                | 376.3                | 375.4                | 369.4                | 366.5       | 85.7                    | 282.2             |
| 30°                          | 308.1      | 312.2                | 314.3                | 321.5                | 326.7                | 320.5                | 317.3       | 87.1                    | 369.4             |
| 35°                          | 266.7      | 269.2                | 262.0                | 257.7                | 262.2                | 261.4                | 257.3       | 82.5                    | 451.9             |
| 40°                          | 204.3      | 207.3                | 203.4                | 196.7                | 194.2                | 189.2                | 184.5       | 69.6                    | 521.5             |
| 45°                          | 105.6      | 109.2                | 112.9                | 113.5                | 110.1                | 103.6                | 98.8        | 42.1                    | 563.6             |
| 50°                          | 35.1       | 38.0                 | 43.5                 | 46.6                 | 44.5                 | 40.2                 | 37.5        | 17.4                    | 581.0             |
| 55°                          | 9.3        | 10.9                 | 14.6                 | 18.5                 | 15.5                 | 12.0                 | 10.3        | 6.1                     | 587.1             |
| 60°                          | 3.6        | 4.0                  | 5.4                  | 7.2                  | 5.8                  | 4.5                  | 4.1         | 2.4                     | 589.5             |
| 65°                          | 1.2        | 1.4                  | 2.0                  | 2.5                  | 2.2                  | 1.8                  | 1.6         | 0.9                     | 590.5             |
| 70°                          | 0.8        | 0.8                  | 0.6                  | 0.6                  | 0.7                  | 0.9                  | 0.9         | 0.4                     | 590.8             |
| 75°                          | 0.2        | 0.2                  | 0.2                  | 0.3                  | 0.2                  | 0.3                  | 0.2         | 0.1                     | 591.0             |
| 80°                          | 0.0        | 0.0                  | 0.0                  | 0.1                  | 0.1                  | 0.1                  | 0.1         | 0.0                     | 591.0             |
| 85°                          | 0.4        | 0.4                  | 0.4                  | 0.4                  | 0.4                  | 0.4                  | 0.4         | 0.2                     | 591.2             |
| 90°                          | 4.7        | 4.5                  | 4.8                  | 4.8                  | 2.8                  | 1.0                  | 0.4         | 1.9                     | 593.1             |
| 95°                          | 21.9       | 22.4                 | 24.0                 | 22.7                 | 14.5                 | 7.5                  | 3.9         | 9.5                     | 602.5             |
| 100°                         | 39.1       | 40.2                 | 40.5                 | 35.5                 | 23.8                 | 13.4                 | 8.9         | 16.0                    | 618.5             |
| 105°                         | 56.1       | 57.3                 | 56.2                 | 48.0                 | 32.8                 | 20.3                 | 14.9        | 22.1                    | 640.6             |
| 110°                         | 75.4       | 75.7                 | 70.9                 | 59.1                 | 42.1                 | 27.5                 | 21.3        | 27.8                    | 668.4             |
| 115°                         | 92.2       | 91.4                 | 84.2                 | 69.3                 | 51.0                 | 34.7                 | 28.4        | 32.4                    | 700.7             |
| 120°                         | 106.0      | 104.3                | 95.1                 | 77.6                 | 59.4                 | 41.8                 | 35.4        | 35.5                    | 736.3             |
| 125°                         | 115.1      | 111.9                | 101.7                | 85.2                 | 66.4                 | 48.4                 | 42.8        | 36.9                    | 773.1             |
| 130°                         | 118.2      | 115.6                | 104.8                | 89.7                 | 71.8                 | 55.3                 | 50.2        | 36.5                    | 809.6             |
| 135°                         | 118.0      | 115.6                | 106.0                | 92.7                 | 76.1                 | 61.7                 | 57.6        | 34.9                    | 844.5             |
| 140°                         | 116.1      | 114.4                | 106.3                | 94.9                 | 79.7                 | 67.7                 | 65.3        | 32.5                    | 877.0             |
| 145°                         | 114.2      | 113.0                | 106.3                | 96.1                 | 83.1                 | 73.4                 | 71.6        | 29.6                    | 906.6             |
| 150°                         | 111.5      | 111.1                | 105.1                | 96.0                 | 85.8                 | 78.8                 | 77.3        | 26.1                    | 932.7             |
| 155°                         | 108.5      | 108.2                | 102.4                | 95.6                 | 87.9                 | 83.6                 | 82.4        | 22.1                    | 954.8             |
| 160°                         | 104.1      | 103.9                | 99.3                 | 94.8                 | 89.7                 | 87.3                 | 87.1        | 17.8                    | 972.6             |
| 165°                         | 99.5       | 99.0                 | 96.7                 | 93.7                 | 91.6                 | 90.3                 | 90.4        | 13.4                    | 986.0             |
| 170°                         | 96.1       | 95.6                 | 95.0                 | 93.7                 | 92.8                 | 92.7                 | 92.7        | 9.0                     | 995.0             |
| 175°                         | 94.1       | 94.0                 | 93.5                 | 93.3                 | 93.3                 | 93.4                 | 93.4        | 4.5                     | 999.4             |
| 180°                         | 93.6       | 93.6                 | 93.6                 | 93.6                 | 93.6                 | 93.6                 | 93.6        | 0.6                     | 1000.0            |

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|-----------------------------|--|-------------------------------|

|                  |                      |               |
|------------------|----------------------|---------------|
| <b>UGR-Table</b> | <b>Standard room</b> | <b>siteco</b> |
|------------------|----------------------|---------------|

|                              |                     |      |      |      |      |                    |      |      |      |      |      |
|------------------------------|---------------------|------|------|------|------|--------------------|------|------|------|------|------|
| 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                  | 16.3 | 17.1 | 17.1 | 18.0 | 19.0               | 16.1 | 17.0 | 16.9 | 17.8 | 18.8 |
|                              | 3H                  | 16.0 | 16.7 | 16.9 | 17.6 | 18.7               | 15.8 | 16.6 | 16.7 | 17.5 | 18.5 |
|                              | 4H                  | 15.8 | 16.5 | 16.7 | 17.4 | 18.5               | 15.7 | 16.4 | 16.6 | 17.3 | 18.4 |
|                              | 6H                  | 15.7 | 16.3 | 16.6 | 17.2 | 18.3               | 15.5 | 16.2 | 16.5 | 17.1 | 18.2 |
|                              | 8H                  | 15.6 | 16.1 | 16.5 | 17.1 | 18.2               | 15.4 | 15.9 | 16.3 | 16.9 | 18.0 |
|                              | 12H                 | 15.5 | 16.0 | 16.4 | 16.9 | 18.1               | 15.3 | 15.9 | 16.3 | 16.8 | 18.0 |
| 4H                           | 2H                  | 15.9 | 16.6 | 16.8 | 17.5 | 18.6               | 15.7 | 16.4 | 16.6 | 17.3 | 18.4 |
|                              | 3H                  | 15.6 | 16.2 | 16.5 | 17.1 | 18.3               | 15.4 | 16.0 | 16.3 | 16.9 | 18.1 |
|                              | 4H                  | 15.5 | 16.0 | 16.4 | 16.9 | 18.1               | 15.3 | 15.8 | 16.2 | 16.7 | 17.9 |
|                              | 6H                  | 15.3 | 15.7 | 16.2 | 16.7 | 17.9               | 15.1 | 15.6 | 16.1 | 16.5 | 17.7 |
|                              | 8H                  | 15.2 | 15.6 | 16.2 | 16.5 | 17.8               | 15.0 | 15.4 | 16.0 | 16.4 | 17.6 |
|                              | 12H                 | 15.1 | 15.4 | 16.1 | 16.4 | 17.6               | 14.9 | 15.3 | 15.9 | 16.2 | 17.5 |
| 8H                           | 4H                  | 15.2 | 15.6 | 16.2 | 16.6 | 17.8               | 15.0 | 15.4 | 16.0 | 16.4 | 17.6 |
|                              | 6H                  | 15.1 | 15.4 | 16.1 | 16.4 | 17.6               | 14.9 | 15.2 | 15.8 | 16.1 | 17.4 |
|                              | 8H                  | 15.0 | 15.3 | 16.0 | 16.3 | 17.5               | 14.8 | 15.1 | 15.8 | 16.1 | 17.3 |
|                              | 12H                 | 14.9 | 15.1 | 15.9 | 16.1 | 17.4               | 14.7 | 15.0 | 15.7 | 15.9 | 17.2 |
| 12H                          | 4H                  | 15.1 | 15.5 | 16.1 | 16.4 | 17.7               | 14.9 | 15.3 | 15.9 | 16.2 | 17.4 |
|                              | 6H                  | 15.0 | 15.3 | 16.0 | 16.2 | 17.5               | 14.8 | 15.1 | 15.8 | 16.0 | 17.3 |
|                              | 8H                  | 14.9 | 15.1 | 15.9 | 16.1 | 17.4               | 14.7 | 14.9 | 15.7 | 15.9 | 17.2 |

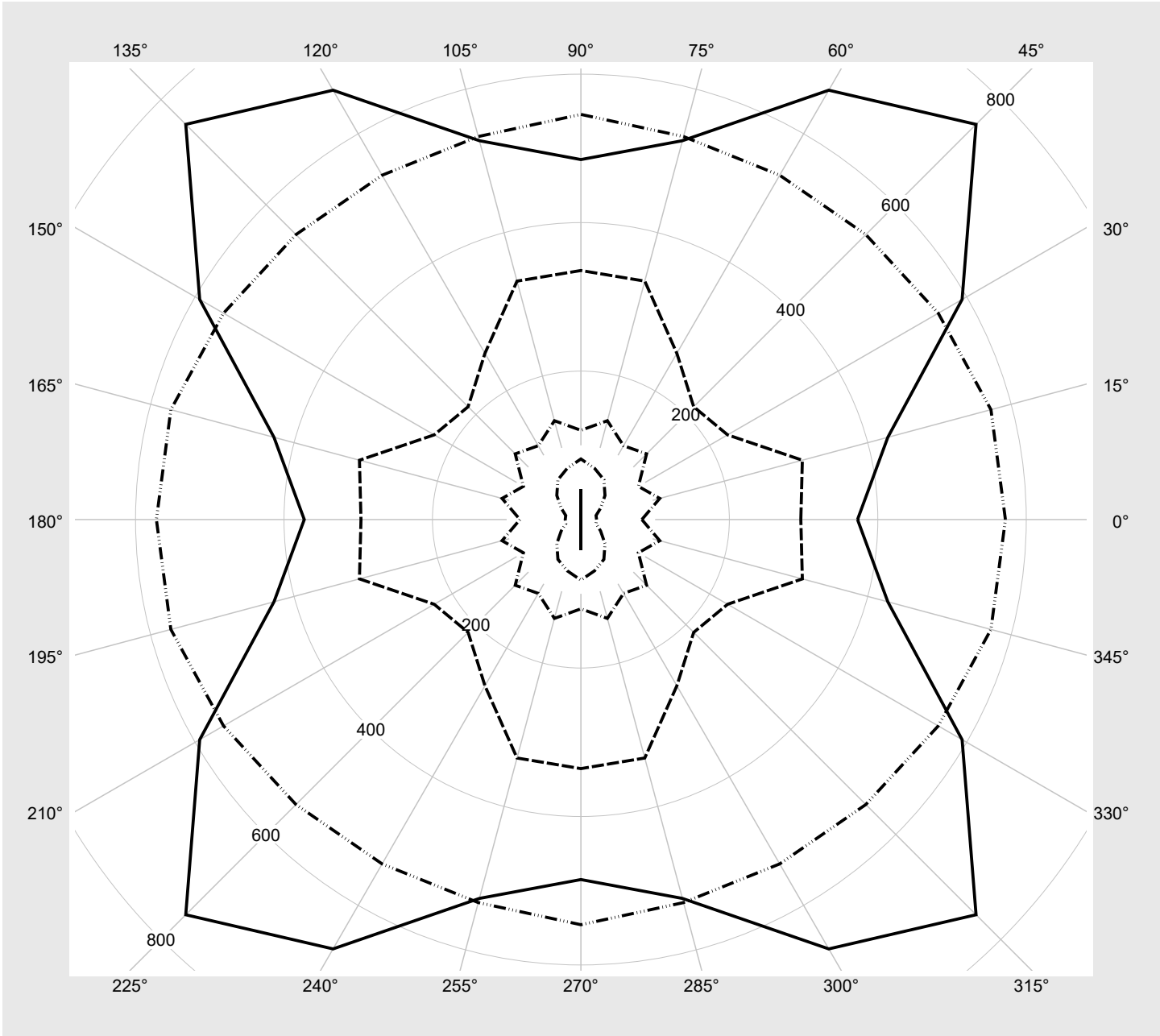
|                        |   |                                      |                                  |
|------------------------|---|--------------------------------------|----------------------------------|
| <b>Luminance table</b> | <b>Max. for <math>\gamma \geq 65^\circ</math></b> | <b>Photometric dimensions in mm:</b> | <b>L = 1176</b><br><b>B = 49</b> |
|------------------------|---|--------------------------------------|----------------------------------|

| C-planes | $\gamma$ | Luminance in cd/m <sup>2</sup> |                             |                             |                             |                             |                             |             |  |
|----------|----------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------|--|
|          |          | 0°<br>180°                     | 15°<br>165°<br>195°<br>345° | 30°<br>150°<br>210°<br>330° | 45°<br>135°<br>225°<br>315° | 60°<br>120°<br>240°<br>300° | 75°<br>105°<br>255°<br>285° | 90°<br>270° |  |
| 45°      |          | 18899.4                        | 19534.5                     | 20198.6                     | 20312.6                     | 19701.6                     | 18543.1                     | 17683.5     |  |
| 50°      |          | 6913.1                         | 7477.4                      | 8559.5                      | 9162.5                      | 8756.1                      | 7918.2                      | 7387.8      |  |
| 55°      |          | 2044.6                         | 2413.0                      | 3214.9                      | 4080.4                      | 3424.2                      | 2637.1                      | 2267.4      |  |
| 60°      |          | 914.4                          | 1019.2                      | 1361.5                      | 1812.4                      | 1471.3                      | 1147.7                      | 1042.4      |  |
| 65°      |          | 372.7                          | 428.1                       | 593.0                       | 752.9                       | 667.8                       | 528.3                       | 484.9       |  |
| 70°      |          | 296.3                          | 308.9                       | 228.2                       | 214.9                       | 258.6                       | 332.5                       | 335.5       |  |
| 75°      |          | 82.1                           | 110.0                       | 89.4                        | 125.1                       | 114.9                       | 137.8                       | 120.2       |  |
| 80°      |          | 21.1                           | 21.1                        | 30.6                        | 45.9                        | 61.9                        | 71.4                        | 81.6        |  |
| 85°      |          | 571.9                          | 571.9                       | 555.9                       | 542.9                       | 535.6                       | 534.2                       | 545.8       |  |

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**Luminance values in cd/m<sup>2</sup>**      γ 65°    γ 70°    γ 75°    γ 80°    γ 85°      **siteco**



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|                             |                                 |               |
|-----------------------------|---------------------------------|---------------|
| <b>Dimming levels table</b> | environmental temperature: 25°C | <b>sITeco</b> |
|-----------------------------|---------------------------------|---------------|

| Luminous flux % | Dimming level linear | Dimming level logarithmic | Luminous flux [lm] | Power consumption [W] |
|-----------------|----------------------|---------------------------|--------------------|-----------------------|
| 100             | 254                  | 254                       | 7290               | 43.8                  |
| 95              | 241                  | 252                       | 6937               | 41.6                  |
| 90              | 227                  | 250                       | 6554               | 39.2                  |
| 85              | 214                  | 248                       | 6196               | 37.0                  |
| 80              | 201                  | 245                       | 5834               | 34.8                  |
| 75              | 188                  | 243                       | 5471               | 32.6                  |
| 70              | 175                  | 240                       | 5106               | 30.5                  |
| 65              | 162                  | 238                       | 4739               | 28.4                  |
| 60              | 149                  | 234                       | 4370               | 26.1                  |
| 55              | 136                  | 231                       | 3997               | 24.0                  |
| 50              | 124                  | 228                       | 3653               | 22.0                  |
| 45              | 111                  | 224                       | 3276               | 19.9                  |
| 40              | 99                   | 219                       | 2928               | 17.9                  |
| 35              | 86                   | 214                       | 2548               | 15.8                  |
| 30              | 74                   | 209                       | 2195               | 13.9                  |
| 25              | 61                   | 202                       | 1809               | 11.7                  |
| 20              | 49                   | 194                       | 1453               | 9.7                   |
| 15              | 37                   | 183                       | 1096               | 7.7                   |
| 10              | 25                   | 169                       | 737                | 5.8                   |
| 5               | 13                   | 145                       | 377                | 4.0                   |
| 2               | 6                    | 117                       | 165                | 3.4                   |