

# Photometric test report

**Family**  
Silica® 21

**Order number: 51MX33DA47BB**  
**EAN: 4058352888926**

**LP number**  
**59331\_89**



**Version** Suspended luminaire, with homogeneous illumination, prismatic cover, direct-/ indirect distribution, extremely wide distribution, UGR≤16 (L65≤3000cd/m²)

**Lamps** LED 4000 K | CRI ≥ 80

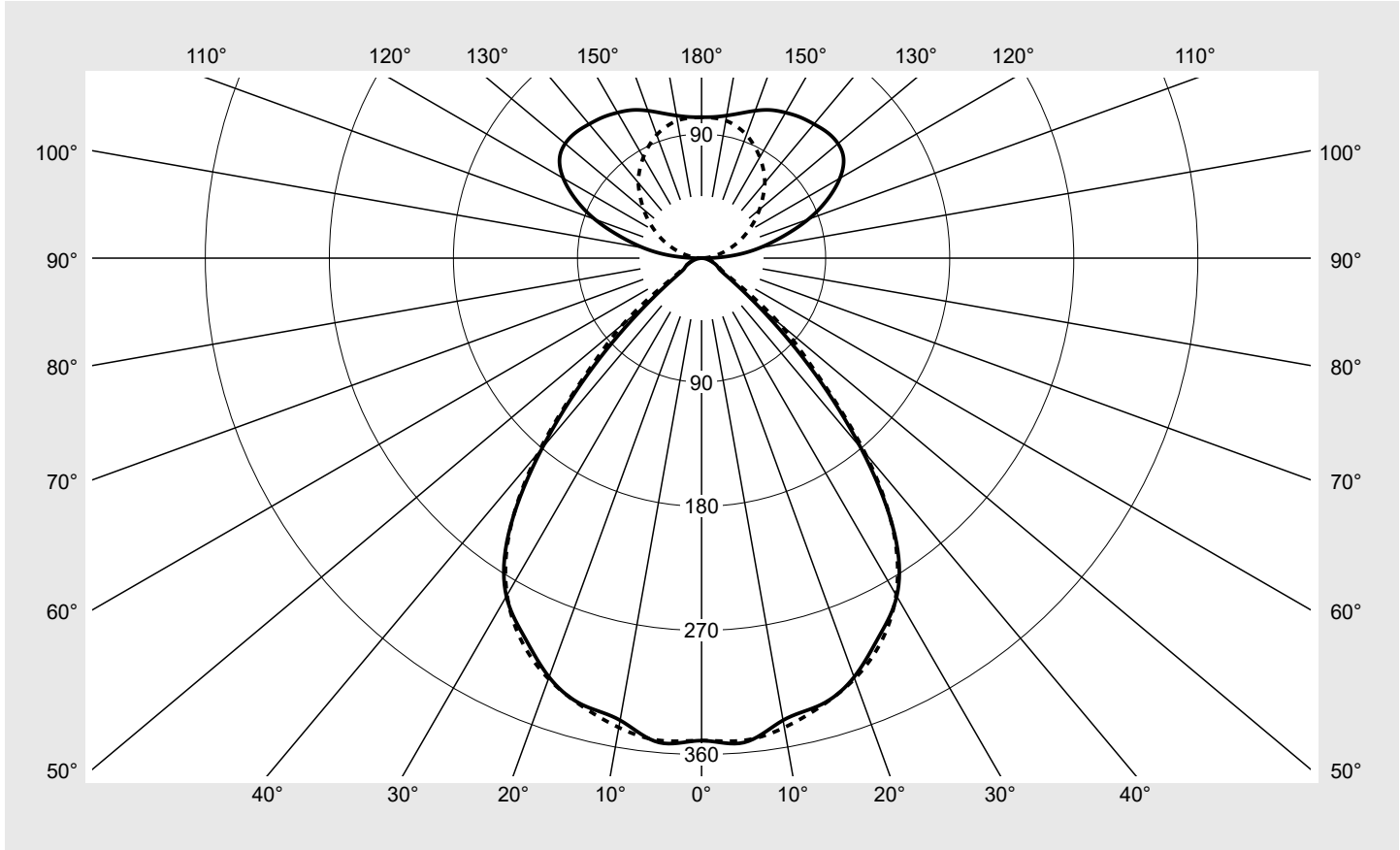
**Controlgear** ECG-DALI

**Rated values** Net luminous flux = 5910 lm  
Power consumption = 38.4 W  
Luminous efficacy = 153.9 lm/W

**serial documentation**  
**02.08.2023**



**Luminous intensity in cd/klm** C180-0 C270-90 **Imax: 353 cd/klm**



**Classifications**

|          |                   |
|----------|-------------------|
| DIN 5040 | C 6 2             |
| CIE      | N1=78 N2=96 N3=99 |
|          | N4=55 N5=100      |

**Luminaire light output ratios**

|             |        |
|-------------|--------|
| $\eta_{LB}$ | 100.0% |
| $\phi_u$    | 55.4%  |
| $\phi_o$    | 44.6%  |

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

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|  |  |                              |
|--|--|------------------------------|
| Family<br><b>Silica® 21</b>              | Order number: <b>51MX33DA47BB</b><br>EAN: <b>4058352888926</b> | LP number<br><b>59331_89</b> |
| 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°                           | 349.9      | 349.9                | 349.9                | 349.9                | 349.9                | 349.9                | 349.9       | 2.1                     | 2.1               |
| 5°                           | 352.7      | 353.3                | 353.1                | 353.3                | 352.9                | 352.0                | 351.1       | 16.9                    | 18.9              |
| 10°                          | 340.4      | 339.5                | 339.7                | 341.6                | 345.2                | 345.5                | 345.7       | 32.6                    | 51.5              |
| 15°                          | 335.2      | 334.1                | 331.5                | 331.4                | 333.4                | 336.4                | 336.2       | 47.3                    | 98.9              |
| 20°                          | 323.4      | 322.7                | 318.7                | 319.6                | 318.0                | 320.3                | 324.7       | 60.1                    | 159.0             |
| 25°                          | 303.6      | 304.4                | 302.2                | 302.2                | 302.6                | 302.3                | 307.6       | 70.2                    | 229.2             |
| 30°                          | 283.2      | 283.0                | 279.5                | 280.9                | 281.3                | 280.3                | 282.2       | 77.1                    | 306.3             |
| 35°                          | 244.1      | 243.6                | 241.2                | 242.6                | 243.2                | 242.2                | 242.9       | 76.3                    | 382.6             |
| 40°                          | 179.9      | 179.6                | 180.9                | 182.1                | 183.5                | 183.3                | 184.4       | 64.1                    | 446.7             |
| 45°                          | 110.1      | 109.9                | 111.2                | 112.6                | 113.8                | 115.2                | 117.5       | 43.7                    | 490.4             |
| 50°                          | 51.7       | 59.9                 | 67.3                 | 61.6                 | 55.5                 | 66.0                 | 73.6        | 26.1                    | 516.5             |
| 55°                          | 21.0       | 28.2                 | 26.7                 | 30.5                 | 23.0                 | 31.8                 | 29.6        | 12.4                    | 528.9             |
| 60°                          | 14.1       | 14.7                 | 15.5                 | 14.4                 | 14.4                 | 15.4                 | 16.1        | 7.1                     | 536.0             |
| 65°                          | 11.6       | 11.5                 | 12.0                 | 11.7                 | 12.2                 | 12.2                 | 12.1        | 5.9                     | 541.9             |
| 70°                          | 8.4        | 8.6                  | 8.9                  | 8.9                  | 9.1                  | 9.2                  | 9.2         | 4.6                     | 546.5             |
| 75°                          | 5.8        | 6.1                  | 6.7                  | 6.4                  | 6.5                  | 6.9                  | 6.6         | 3.4                     | 549.9             |
| 80°                          | 3.5        | 3.8                  | 4.1                  | 4.5                  | 4.2                  | 4.7                  | 4.7         | 2.3                     | 552.2             |
| 85°                          | 1.8        | 1.8                  | 1.8                  | 2.1                  | 2.2                  | 2.5                  | 2.7         | 1.2                     | 553.3             |
| 90°                          | 5.2        | 5.0                  | 5.3                  | 5.2                  | 3.1                  | 1.1                  | 0.4         | 2.0                     | 555.4             |
| 95°                          | 23.9       | 24.4                 | 26.2                 | 24.8                 | 15.9                 | 8.2                  | 4.2         | 10.3                    | 565.7             |
| 100°                         | 42.8       | 43.9                 | 44.3                 | 38.8                 | 26.0                 | 14.7                 | 9.7         | 17.5                    | 583.2             |
| 105°                         | 61.3       | 62.6                 | 61.4                 | 52.4                 | 35.9                 | 22.2                 | 16.3        | 24.1                    | 607.3             |
| 110°                         | 82.4       | 82.7                 | 77.5                 | 64.5                 | 46.0                 | 30.0                 | 23.3        | 30.4                    | 637.7             |
| 115°                         | 100.7      | 99.8                 | 92.0                 | 75.7                 | 55.8                 | 37.9                 | 31.1        | 35.4                    | 673.0             |
| 120°                         | 115.9      | 114.0                | 103.9                | 84.8                 | 64.9                 | 45.6                 | 38.7        | 38.8                    | 711.8             |
| 125°                         | 125.7      | 122.3                | 111.1                | 93.1                 | 72.6                 | 52.9                 | 46.8        | 40.3                    | 752.1             |
| 130°                         | 129.2      | 126.3                | 114.5                | 98.0                 | 78.5                 | 60.4                 | 54.8        | 39.9                    | 792.0             |
| 135°                         | 129.0      | 126.3                | 115.8                | 101.3                | 83.2                 | 67.4                 | 62.9        | 38.1                    | 830.1             |
| 140°                         | 126.9      | 124.9                | 116.2                | 103.6                | 87.1                 | 74.0                 | 71.4        | 35.5                    | 865.6             |
| 145°                         | 124.8      | 123.4                | 116.1                | 105.0                | 90.7                 | 80.2                 | 78.2        | 32.3                    | 897.9             |
| 150°                         | 121.9      | 121.3                | 114.8                | 104.9                | 93.7                 | 86.1                 | 84.5        | 28.5                    | 926.4             |
| 155°                         | 118.5      | 118.2                | 111.9                | 104.4                | 96.0                 | 91.3                 | 90.1        | 24.2                    | 950.6             |
| 160°                         | 113.8      | 113.5                | 108.5                | 103.6                | 98.0                 | 95.4                 | 95.1        | 19.5                    | 970.1             |
| 165°                         | 108.8      | 108.2                | 105.6                | 102.3                | 100.0                | 98.6                 | 98.8        | 14.6                    | 984.7             |
| 170°                         | 105.0      | 104.5                | 103.8                | 102.4                | 101.4                | 101.2                | 101.3       | 9.8                     | 994.5             |
| 175°                         | 102.8      | 102.7                | 102.1                | 101.9                | 102.0                | 102.0                | 102.0       | 4.9                     | 999.4             |
| 180°                         | 102.2      | 102.2                | 102.2                | 102.2                | 102.2                | 102.2                | 102.2       | 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                  | 15.4 | 16.3 | 16.3 | 17.2 | 18.3               | 15.6 | 16.5 | 16.5 | 17.4 | 18.5 |
|                              | 3H                  | 15.3 | 16.1 | 16.2 | 17.0 | 18.1               | 15.6 | 16.3 | 16.5 | 17.2 | 18.4 |
|                              | 4H                  | 15.3 | 16.0 | 16.2 | 16.9 | 18.1               | 15.6 | 16.3 | 16.5 | 17.2 | 18.4 |
|                              | 6H                  | 15.2 | 15.8 | 16.1 | 16.8 | 18.0               | 15.5 | 16.2 | 16.5 | 17.1 | 18.3 |
|                              | 8H                  | 15.1 | 15.7 | 16.1 | 16.7 | 17.9               | 15.4 | 16.0 | 16.4 | 17.0 | 18.2 |
|                              | 12H                 | 15.0 | 15.6 | 16.0 | 16.5 | 17.8               | 15.5 | 16.0 | 16.4 | 16.9 | 18.2 |
| 4H                           | 2H                  | 15.2 | 15.9 | 16.1 | 16.8 | 17.9               | 15.3 | 16.0 | 16.2 | 16.9 | 18.1 |
|                              | 3H                  | 15.2 | 15.7 | 16.1 | 16.7 | 17.9               | 15.4 | 15.9 | 16.3 | 16.9 | 18.1 |
|                              | 4H                  | 15.2 | 15.7 | 16.1 | 16.6 | 17.9               | 15.4 | 15.9 | 16.4 | 16.9 | 18.1 |
|                              | 6H                  | 15.1 | 15.6 | 16.1 | 16.6 | 17.8               | 15.5 | 15.9 | 16.4 | 16.9 | 18.1 |
|                              | 8H                  | 15.1 | 15.5 | 16.1 | 16.5 | 17.8               | 15.5 | 15.9 | 16.5 | 16.9 | 18.1 |
|                              | 12H                 | 15.0 | 15.4 | 16.0 | 16.4 | 17.7               | 15.5 | 15.8 | 16.5 | 16.8 | 18.1 |
| 8H                           | 4H                  | 15.0 | 15.4 | 16.0 | 16.4 | 17.7               | 15.2 | 15.6 | 16.2 | 16.6 | 17.9 |
|                              | 6H                  | 15.1 | 15.5 | 16.1 | 16.4 | 17.7               | 15.4 | 15.7 | 16.4 | 16.7 | 18.0 |
|                              | 8H                  | 15.1 | 15.4 | 16.1 | 16.4 | 17.7               | 15.5 | 15.8 | 16.5 | 16.8 | 18.1 |
|                              | 12H                 | 15.1 | 15.3 | 16.1 | 16.3 | 17.7               | 15.5 | 15.8 | 16.6 | 16.8 | 18.1 |
| 12H                          | 4H                  | 15.0 | 15.3 | 16.0 | 16.3 | 17.6               | 15.1 | 15.5 | 16.2 | 16.5 | 17.8 |
|                              | 6H                  | 15.1 | 15.3 | 16.1 | 16.3 | 17.6               | 15.3 | 15.6 | 16.3 | 16.6 | 17.9 |
|                              | 8H                  | 15.1 | 15.3 | 16.1 | 16.3 | 17.6               | 15.4 | 15.7 | 16.4 | 16.7 | 18.0 |

|                        |   |                                      |                                  |
|------------------------|---|--------------------------------------|----------------------------------|
| <b>Luminance table</b> | <b>Max. for <math>\gamma \geq 65^\circ</math></b> | <b>Photometric dimensions in mm:</b> | <b>L = 1200</b><br><b>B = 50</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°      | 45°      | 15337.5                        | 15304.3                     | 15496.3                     | 15678.9                     | 15848.6                     | 16051.1                     | 16365.1     |  |
| 50°      | 50°      | 7920.8                         | 9176.2                      | 10319.4                     | 9444.3                      | 8511.2                      | 10108.4                     | 11284.7     |  |
| 55°      | 55°      | 3601.3                         | 4851.2                      | 4582.4                      | 5234.8                      | 3953.7                      | 5459.5                      | 5074.6      |  |
| 60°      | 60°      | 2787.2                         | 2892.4                      | 3057.4                      | 2834.0                      | 2844.5                      | 3025.1                      | 3162.0      |  |
| 65°      | 65°      | 2707.8                         | 2686.6                      | 2794.5                      | 2726.0                      | 2841.6                      | 2837.4                      | 2825.1      |  |
| 70°      | 70°      | 2422.6                         | 2467.8                      | 2567.8                      | 2567.8                      | 2608.1                      | 2638.0                      | 2641.2      |  |
| 75°      | 75°      | 2224.5                         | 2308.9                      | 2544.5                      | 2430.0                      | 2485.9                      | 2613.0                      | 2527.4      |  |
| 80°      | 80°      | 2009.2                         | 2128.3                      | 2347.2                      | 2554.8                      | 2369.9                      | 2643.9                      | 2654.7      |  |
| 85°      | 85°      | 1984.6                         | 1997.0                      | 2072.7                      | 2395.9                      | 2519.1                      | 2872.9                      | 2994.9      |  |

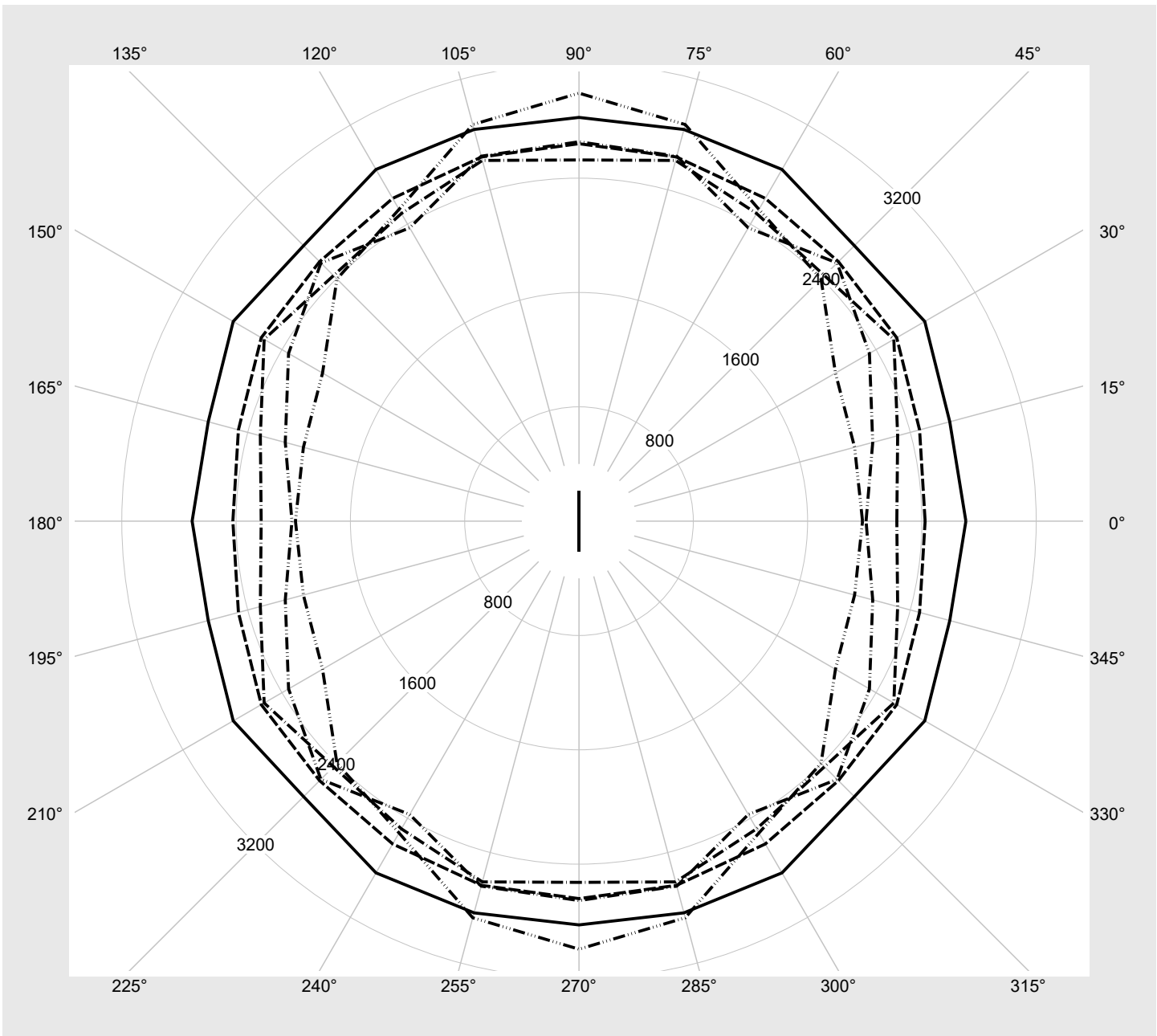
**Photometric test report**

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Silica® 21

**Order number: 51MX33DA47BB**  
**EAN: 4058352888926**

**LP number**  
59331\_89

**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                       | 5910               | 38.4                  |
| 95              | 241                  | 252                       | 5621               | 36.4                  |
| 90              | 228                  | 250                       | 5330               | 34.4                  |
| 85              | 214                  | 248                       | 5015               | 32.4                  |
| 80              | 201                  | 245                       | 4721               | 30.4                  |
| 75              | 188                  | 243                       | 4426               | 28.5                  |
| 70              | 175                  | 240                       | 4129               | 26.5                  |
| 65              | 162                  | 238                       | 3830               | 24.5                  |
| 60              | 150                  | 235                       | 3553               | 22.9                  |
| 55              | 137                  | 231                       | 3252               | 21.1                  |
| 50              | 124                  | 228                       | 2948               | 19.4                  |
| 45              | 112                  | 224                       | 2668               | 17.7                  |
| 40              | 99                   | 219                       | 2361               | 15.8                  |
| 35              | 87                   | 215                       | 2077               | 14.0                  |
| 30              | 74                   | 209                       | 1767               | 12.1                  |
| 25              | 62                   | 202                       | 1481               | 10.3                  |
| 20              | 49                   | 194                       | 1170               | 8.4                   |
| 15              | 37                   | 183                       | 882                | 6.6                   |
| 10              | 25                   | 169                       | 592                | 4.7                   |
| 6               | 14                   | 148                       | 326                | 2.9                   |