

# Photometric test report

**Family**  
Silica® 21

**Order number: 51MX31TCTDB**  
**EAN: 4058352795859**

**LP number**  
**59310\_76**



**Version** Suspended luminaire, reflector, black, direct-/indirect distribution, narrow distribution, UGR≤16 (L65≤3000cd/m²), tunable white

**Lamps** LED 6500 K | CRI ≥ 80

**Controlgear** ECG-DALI

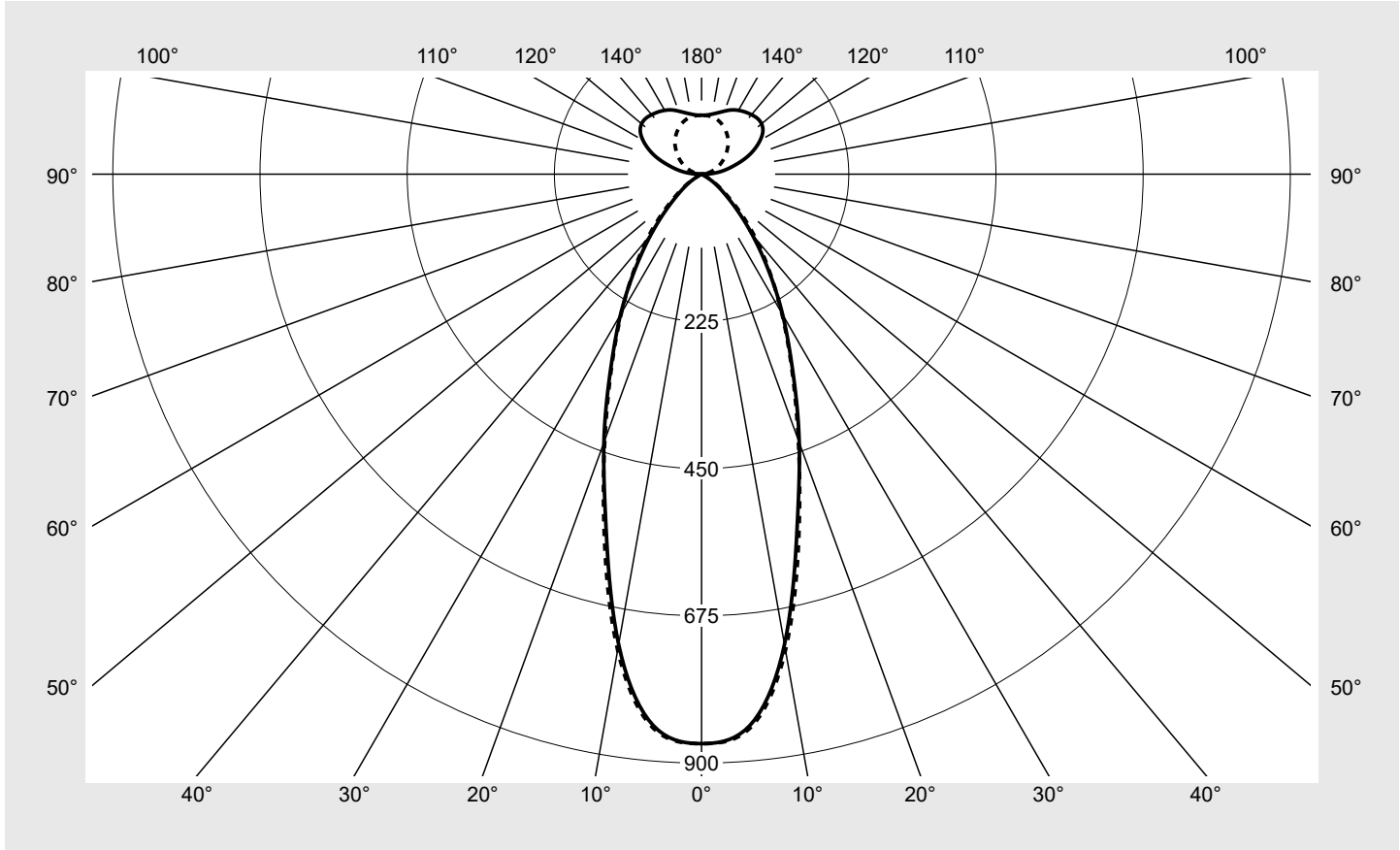
**Setting** individual position

**Rated values** Net luminous flux = 15550 lm  
Power consumption = 133.9 W  
Luminous efficacy = 116.1 lm/W

**serial documentation**  
03.05.2023

**sitEco**

**Luminous intensity in cd/klm** C180-0 C270-90 **Imax: 870 cd/klm**



**Classifications**

|          |                                    |
|----------|------------------------------------|
| DIN 5040 | C 7 2                              |
| CIE      | N1=85 N2=99 N3=100<br>N4=60 N5=100 |

**Luminaire light output ratios**

|             |        |
|-------------|--------|
| $\eta_{LB}$ | 100.0% |
| $\phi_u$    | 59.6%  |
| $\phi_o$    | 40.4%  |

**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°                           | 870.3      | 870.3                | 870.3                | 870.3                | 870.3                | 870.3                | 870.3                   | 5.2      | 5.2               |
| 5°                           | 846.0      | 847.0                | 846.3                | 847.4                | 849.1                | 850.7                | 849.9                   | 40.5     | 45.7              |
| 10°                          | 729.9      | 730.5                | 735.4                | 740.2                | 741.6                | 737.5                | 738.7                   | 70.1     | 115.8             |
| 15°                          | 563.5      | 566.8                | 573.7                | 583.4                | 582.7                | 575.8                | 574.3                   | 81.6     | 197.4             |
| 20°                          | 436.6      | 435.3                | 429.7                | 429.7                | 431.1                | 427.8                | 432.4                   | 80.9     | 278.3             |
| 25°                          | 328.9      | 328.2                | 319.1                | 311.5                | 316.6                | 319.6                | 325.6                   | 74.2     | 352.5             |
| 30°                          | 247.8      | 246.0                | 233.3                | 230.7                | 239.5                | 241.8                | 245.2                   | 65.7     | 418.2             |
| 35°                          | 177.2      | 177.8                | 169.0                | 168.0                | 180.3                | 183.5                | 180.9                   | 55.4     | 473.6             |
| 40°                          | 120.1      | 121.7                | 120.2                | 121.8                | 131.6                | 132.5                | 129.5                   | 44.2     | 517.8             |
| 45°                          | 75.2       | 76.8                 | 78.8                 | 83.5                 | 89.3                 | 88.1                 | 85.7                    | 32.1     | 549.9             |
| 50°                          | 44.3       | 46.1                 | 49.1                 | 53.4                 | 57.3                 | 54.4                 | 51.5                    | 21.6     | 571.5             |
| 55°                          | 25.2       | 26.5                 | 29.2                 | 32.4                 | 34.1                 | 31.0                 | 29.0                    | 13.5     | 585.0             |
| 60°                          | 8.3        | 10.2                 | 15.9                 | 18.3                 | 18.2                 | 12.9                 | 10.8                    | 6.7      | 591.7             |
| 65°                          | 2.5        | 3.2                  | 5.0                  | 9.4                  | 5.8                  | 3.6                  | 3.2                     | 2.5      | 594.2             |
| 70°                          | 1.1        | 1.1                  | 1.0                  | 1.8                  | 1.2                  | 1.4                  | 1.5                     | 0.7      | 594.9             |
| 75°                          | 0.2        | 0.3                  | 0.3                  | 0.4                  | 0.4                  | 0.4                  | 0.3                     | 0.2      | 595.0             |
| 80°                          | 0.1        | 0.1                  | 0.1                  | 0.1                  | 0.1                  | 0.1                  | 0.1                     | 0.0      | 595.1             |
| 85°                          | 0.4        | 0.4                  | 0.4                  | 0.4                  | 0.4                  | 0.4                  | 0.4                     | 0.2      | 595.3             |
| 90°                          | 5.7        | 5.5                  | 5.8                  | 5.6                  | 3.2                  | 1.1                  | 0.4                     | 2.2      | 597.5             |
| 95°                          | 20.7       | 21.1                 | 22.8                 | 21.9                 | 14.5                 | 7.6                  | 3.9                     | 9.1      | 606.6             |
| 100°                         | 36.3       | 37.4                 | 38.2                 | 34.3                 | 23.7                 | 13.6                 | 9.0                     | 15.3     | 621.9             |
| 105°                         | 52.3       | 53.6                 | 53.5                 | 47.0                 | 32.7                 | 20.5                 | 15.0                    | 21.3     | 643.2             |
| 110°                         | 71.5       | 72.2                 | 68.8                 | 58.2                 | 41.9                 | 27.5                 | 21.3                    | 27.0     | 670.2             |
| 115°                         | 88.7       | 88.3                 | 82.4                 | 68.5                 | 50.8                 | 34.7                 | 28.2                    | 31.7     | 701.9             |
| 120°                         | 103.3      | 102.0                | 94.0                 | 77.2                 | 59.3                 | 41.7                 | 35.0                    | 35.1     | 737.0             |
| 125°                         | 114.4      | 111.6                | 102.0                | 85.5                 | 66.7                 | 48.3                 | 42.1                    | 36.8     | 773.8             |
| 130°                         | 119.7      | 117.2                | 106.2                | 90.6                 | 72.3                 | 55.0                 | 49.2                    | 36.8     | 810.6             |
| 135°                         | 120.6      | 118.1                | 107.9                | 93.8                 | 76.4                 | 61.1                 | 56.3                    | 35.3     | 845.9             |
| 140°                         | 118.7      | 116.7                | 108.1                | 95.8                 | 79.5                 | 66.7                 | 63.6                    | 32.8     | 878.7             |
| 145°                         | 116.0      | 114.8                | 107.5                | 96.4                 | 82.4                 | 71.9                 | 69.6                    | 29.6     | 908.3             |
| 150°                         | 112.6      | 112.0                | 105.4                | 95.3                 | 84.5                 | 76.9                 | 75.0                    | 25.9     | 934.3             |
| 155°                         | 108.3      | 107.8                | 101.5                | 94.1                 | 86.0                 | 81.3                 | 79.8                    | 21.8     | 956.1             |
| 160°                         | 102.5      | 102.2                | 97.5                 | 92.7                 | 87.4                 | 84.6                 | 84.2                    | 17.4     | 973.5             |
| 165°                         | 97.2       | 96.6                 | 94.2                 | 91.1                 | 88.8                 | 87.3                 | 87.2                    | 13.0     | 986.5             |
| 170°                         | 93.2       | 92.7                 | 92.0                 | 90.7                 | 89.7                 | 89.4                 | 89.3                    | 8.7      | 995.2             |
| 175°                         | 90.7       | 90.6                 | 90.1                 | 89.9                 | 89.9                 | 89.9                 | 89.9                    | 4.3      | 999.5             |
| 180°                         | 90.1       | 90.1                 | 90.1                 | 90.1                 | 90.1                 | 90.1                 | 90.1                    | 0.5      | 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                  | 13.9 | 14.7 | 14.7 | 15.5 | 16.6               | 14.5 | 15.3 | 15.3 | 16.1 | 17.2 |
|                              | 3H                  | 13.6 | 14.3 | 14.5 | 15.2 | 16.3               | 14.2 | 15.0 | 15.1 | 15.8 | 16.9 |
|                              | 4H                  | 13.4 | 14.1 | 14.3 | 15.0 | 16.1               | 14.1 | 14.8 | 15.0 | 15.6 | 16.7 |
|                              | 6H                  | 13.2 | 13.8 | 14.2 | 14.7 | 15.9               | 13.9 | 14.5 | 14.8 | 15.4 | 16.6 |
|                              | 8H                  | 13.2 | 13.7 | 14.1 | 14.6 | 15.8               | 13.8 | 14.3 | 14.7 | 15.2 | 16.4 |
|                              | 12H                 | 13.1 | 13.5 | 14.0 | 14.5 | 15.6               | 13.7 | 14.2 | 14.7 | 15.1 | 16.3 |
| 4H                           | 2H                  | 13.7 | 14.3 | 14.5 | 15.2 | 16.3               | 14.2 | 14.8 | 15.1 | 15.7 | 16.8 |
|                              | 3H                  | 13.4 | 13.9 | 14.3 | 14.8 | 16.0               | 13.9 | 14.5 | 14.9 | 15.4 | 16.5 |
|                              | 4H                  | 13.2 | 13.7 | 14.2 | 14.6 | 15.8               | 13.8 | 14.3 | 14.7 | 15.2 | 16.4 |
|                              | 6H                  | 13.0 | 13.5 | 14.0 | 14.4 | 15.6               | 13.6 | 14.1 | 14.6 | 15.0 | 16.2 |
|                              | 8H                  | 13.0 | 13.3 | 13.9 | 14.3 | 15.5               | 13.6 | 13.9 | 14.5 | 14.9 | 16.1 |
|                              | 12H                 | 12.8 | 13.2 | 13.8 | 14.1 | 15.4               | 13.5 | 13.8 | 14.4 | 14.7 | 16.0 |
| 8H                           | 4H                  | 13.0 | 13.4 | 13.9 | 14.3 | 15.5               | 13.5 | 13.9 | 14.5 | 14.9 | 16.1 |
|                              | 6H                  | 12.8 | 13.2 | 13.8 | 14.1 | 15.3               | 13.4 | 13.7 | 14.3 | 14.6 | 15.9 |
|                              | 8H                  | 12.7 | 13.0 | 13.7 | 14.0 | 15.2               | 13.3 | 13.6 | 14.3 | 14.6 | 15.8 |
|                              | 12H                 | 12.6 | 12.9 | 13.6 | 13.9 | 15.1               | 13.2 | 13.4 | 14.2 | 14.4 | 15.7 |
| 12H                          | 4H                  | 12.9 | 13.2 | 13.9 | 14.2 | 15.4               | 13.4 | 13.7 | 14.4 | 14.7 | 15.9 |
|                              | 6H                  | 12.7 | 13.0 | 13.7 | 14.0 | 15.2               | 13.3 | 13.5 | 14.3 | 14.5 | 15.8 |
|                              | 8H                  | 12.6 | 12.9 | 13.6 | 13.9 | 15.1               | 13.2 | 13.4 | 14.2 | 14.4 | 15.7 |

|                        |   |                                      |                                  |
|------------------------|---|--------------------------------------|----------------------------------|
| <b>Luminance table</b> | <b>Max. for <math>\gamma \geq 65^\circ</math></b> | <b>Photometric dimensions in mm:</b> | <b>L = 2940</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°      |          | 11481.4                        | 11728.8                     | 12025.0                     | 12747.8                     | 13628.8                     | 13454.0                     | 13084.7     |  |
| 50°      |          | 7443.7                         | 7741.1                      | 8252.8                      | 8967.8                      | 9613.8                      | 9135.7                      | 8645.4      |  |
| 55°      |          | 4742.9                         | 4994.6                      | 5493.3                      | 6092.3                      | 6409.2                      | 5839.9                      | 5462.8      |  |
| 60°      |          | 1795.1                         | 2206.3                      | 3437.5                      | 3943.5                      | 3930.1                      | 2794.2                      | 2337.1      |  |
| 65°      |          | 638.8                          | 808.1                       | 1266.8                      | 2394.5                      | 1474.2                      | 919.0                       | 827.5       |  |
| 70°      |          | 338.6                          | 360.4                       | 305.5                       | 579.8                       | 393.2                       | 455.7                       | 474.7       |  |
| 75°      |          | 89.7                           | 125.5                       | 123.4                       | 163.5                       | 163.5                       | 162.7                       | 133.0       |  |
| 80°      |          | 32.3                           | 35.4                        | 42.3                        | 51.0                        | 64.0                        | 77.7                        | 77.7        |  |
| 85°      |          | 505.3                          | 506.5                       | 500.3                       | 476.8                       | 459.5                       | 465.7                       | 474.3       |  |

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

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

