

# Photometric test report

|   |  |  |
|---|--|--|
| <b>Family</b><br><b>Silica® 21</b>  | <b>Order number: 51MX11TBT5W</b><br><b>EAN: 4058352754719</b>  | <b>LP number</b><br><b>59274_48</b>              |
|   | <b>Version</b> recessed luminaire, reflector, black, direct distribution, narrow distribution, UGR≤19 (L65≤3000cd/m²), tunable white<br><b>Lamps</b> LED 4000 K   CRI ≥ 80<br><b>Controlgear</b> ECG-DALI<br><b>Setting</b> factory setting<br><b>Rated values</b> Net luminous flux = 4650 lm<br>Power consumption = 42.3 W<br>Luminous efficacy = 109.9 lm/W | <b>serial documentation</b><br><b>03.05.2023</b> |

**Luminous intensity in cd/klm**    **C180-0**    **C270-90**    **Imax: 1470 cd/klm**



| Classifications |                                     |
|-----------------|-------------------------------------|
| DIN 5040        | A 7 0                               |
| CIE             | N1=85 N2=99 N3=100<br>N4=100 N5=100 |

| Luminaire light output ratios |        |
|-------------------------------|--------|
| $\eta_{LB}$                   | 100.0% |
| $\phi_u$                      | 100.0% |
| $\phi_o$                      | 0.0%   |

| Measurement conditions    |
|---------------------------|
| DIN EN 13032 and DIN 5032 |

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

| C-planes<br>γ                | 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°                           | 1469.7     | 1469.7               | 1469.7               | 1469.7               | 1469.7               | 1469.7               | 1469.7      | 8.8                     | 8.8               |
| 5°                           | 1425.9     | 1423.7               | 1417.2               | 1426.5               | 1433.0               | 1431.2               | 1434.7      | 68.2                    | 77.0              |
| 10°                          | 1231.5     | 1233.2               | 1235.5               | 1249.4               | 1249.6               | 1243.0               | 1248.1      | 118.2                   | 195.2             |
| 15°                          | 943.7      | 950.9                | 962.6                | 981.4                | 980.5                | 965.2                | 966.6       | 137.0                   | 332.2             |
| 20°                          | 730.3      | 729.1                | 721.8                | 719.8                | 726.6                | 719.9                | 725.4       | 135.8                   | 468.0             |
| 25°                          | 554.7      | 552.6                | 536.3                | 523.0                | 531.2                | 537.4                | 545.0       | 124.7                   | 592.7             |
| 30°                          | 415.7      | 413.6                | 392.8                | 386.6                | 400.6                | 405.5                | 411.7       | 110.2                   | 702.9             |
| 35°                          | 297.0      | 298.7                | 284.3                | 282.2                | 303.6                | 308.4                | 303.5       | 93.1                    | 796.0             |
| 40°                          | 200.5      | 204.3                | 201.1                | 204.4                | 221.4                | 223.2                | 217.2       | 74.2                    | 870.2             |
| 45°                          | 125.8      | 129.2                | 131.9                | 140.1                | 150.2                | 148.5                | 143.7       | 53.9                    | 924.1             |
| 50°                          | 74.7       | 77.5                 | 82.6                 | 89.5                 | 95.9                 | 91.3                 | 86.7        | 36.2                    | 960.3             |
| 55°                          | 42.1       | 44.5                 | 49.0                 | 54.2                 | 57.0                 | 52.1                 | 48.8        | 22.6                    | 982.9             |
| 60°                          | 13.9       | 17.2                 | 26.8                 | 30.8                 | 30.6                 | 21.8                 | 18.2        | 11.3                    | 994.3             |
| 65°                          | 4.2        | 5.3                  | 8.3                  | 15.7                 | 9.7                  | 6.0                  | 5.5         | 4.1                     | 998.4             |
| 70°                          | 1.8        | 1.9                  | 1.6                  | 3.1                  | 2.1                  | 2.4                  | 2.5         | 1.1                     | 999.6             |
| 75°                          | 0.4        | 0.5                  | 0.5                  | 0.7                  | 0.7                  | 0.7                  | 0.5         | 0.3                     | 999.9             |
| 80°                          | 0.1        | 0.1                  | 0.1                  | 0.1                  | 0.2                  | 0.2                  | 0.2         | 0.1                     | 999.9             |
| 85°                          | 0.1        | 0.1                  | 0.1                  | 0.1                  | 0.2                  | 0.2                  | 0.2         | 0.1                     | 1000.0            |
| 90°                          | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 95°                          | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 100°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 105°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 110°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 115°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 120°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 125°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 130°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 135°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 140°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 145°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 150°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 155°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 160°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 165°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 170°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 175°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |
| 180°                         | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0         | 0.0                     | 1000.0            |

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

|           |               |               |  |
|-----------|---------------|---------------|--|
| UGR-Table | Standard room | <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                  | 16.6 | 17.9 | 17.0 | 18.2 | 18.5               | 17.2 | 18.5 | 17.6 | 18.8 | 19.1 |
|                              | 3H                  | 16.5 | 17.6 | 16.9 | 17.9 | 18.3               | 17.1 | 18.2 | 17.5 | 18.5 | 18.9 |
|                              | 4H                  | 16.4 | 17.4 | 16.8 | 17.8 | 18.1               | 17.0 | 18.0 | 17.4 | 18.4 | 18.8 |
|                              | 6H                  | 16.4 | 17.2 | 16.8 | 17.6 | 18.0               | 17.0 | 17.9 | 17.4 | 18.2 | 18.6 |
|                              | 8H                  | 16.4 | 17.2 | 16.8 | 17.5 | 18.0               | 17.0 | 17.8 | 17.5 | 18.2 | 18.6 |
|                              | 12H                 | 16.4 | 17.1 | 16.8 | 17.5 | 17.9               | 17.0 | 17.7 | 17.4 | 18.1 | 18.5 |
| 4H                           | 2H                  | 16.6 | 17.6 | 17.0 | 17.9 | 18.3               | 17.2 | 18.2 | 17.6 | 18.5 | 18.9 |
|                              | 3H                  | 16.4 | 17.3 | 16.9 | 17.6 | 18.1               | 17.0 | 17.8 | 17.5 | 18.2 | 18.6 |
|                              | 4H                  | 16.4 | 17.1 | 16.8 | 17.5 | 17.9               | 16.9 | 17.6 | 17.4 | 18.1 | 18.5 |
|                              | 6H                  | 16.3 | 16.9 | 16.7 | 17.3 | 17.8               | 16.9 | 17.5 | 17.3 | 17.9 | 18.4 |
|                              | 8H                  | 16.2 | 16.8 | 16.7 | 17.2 | 17.7               | 16.8 | 17.3 | 17.3 | 17.8 | 18.3 |
|                              | 12H                 | 16.2 | 16.7 | 16.7 | 17.1 | 17.6               | 16.8 | 17.2 | 17.3 | 17.7 | 18.2 |
| 8H                           | 4H                  | 16.2 | 16.8 | 16.7 | 17.2 | 17.7               | 16.8 | 17.3 | 17.3 | 17.8 | 18.3 |
|                              | 6H                  | 16.1 | 16.6 | 16.6 | 17.0 | 17.5               | 16.7 | 17.1 | 17.2 | 17.6 | 18.1 |
|                              | 8H                  | 16.1 | 16.4 | 16.6 | 16.9 | 17.5               | 16.6 | 17.0 | 17.1 | 17.5 | 18.0 |
|                              | 12H                 | 16.0 | 16.3 | 16.6 | 16.8 | 17.4               | 16.6 | 16.9 | 17.1 | 17.4 | 18.0 |
| 12H                          | 4H                  | 16.2 | 16.7 | 16.7 | 17.1 | 17.6               | 16.8 | 17.2 | 17.3 | 17.7 | 18.2 |
|                              | 6H                  | 16.1 | 16.4 | 16.6 | 16.9 | 17.5               | 16.7 | 17.0 | 17.2 | 17.5 | 18.0 |
|                              | 8H                  | 16.0 | 16.3 | 16.6 | 16.8 | 17.4               | 16.6 | 16.9 | 17.1 | 17.4 | 18.0 |

|                 |                                 |                               |                    |
|-----------------|---------------------------------|-------------------------------|--------------------|
| Luminance table | Max. for $\gamma \geq 65^\circ$ | Photometric dimensions in mm: | L = 1470<br>B = 49 |
|-----------------|---------------------------------|-------------------------------|--------------------|

| 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°      |          | 11481.0                        | 11794.1                     | 12044.7                     | 12792.5                     | 13711.6                     | 13561.9                     | 13115.7     |  |
| 50°      |          | 7504.0                         | 7783.0                      | 8297.8                      | 8984.0                      | 9628.1                      | 9169.6                      | 8703.1      |  |
| 55°      |          | 4738.3                         | 5006.9                      | 5511.6                      | 6098.8                      | 6410.3                      | 5861.2                      | 5487.0      |  |
| 60°      |          | 1797.5                         | 2215.8                      | 3464.6                      | 3982.0                      | 3945.0                      | 2813.8                      | 2344.9      |  |
| 65°      |          | 640.5                          | 811.4                       | 1274.4                      | 2400.2                      | 1484.8                      | 922.2                       | 835.6       |  |
| 70°      |          | 339.9                          | 362.4                       | 307.5                       | 581.0                       | 394.9                       | 457.7                       | 476.6       |  |
| 75°      |          | 90.3                           | 126.0                       | 123.7                       | 164.1                       | 164.1                       | 162.9                       | 133.2       |  |
| 80°      |          | 32.0                           | 35.3                        | 42.4                        | 51.3                        | 63.9                        | 78.1                        | 78.1        |  |
| 85°      |          | 56.3                           | 56.3                        | 70.4                        | 88.1                        | 112.6                       | 134.1                       | 148.1       |  |

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

**Luminance values in cd/m<sup>2</sup>**       $\gamma$  65°      $\gamma$  70°      $\gamma$  75°      $\gamma$  80°      $\gamma$  85°

