

## Lichttechnischer Prüfbefund

Familie  
Silica® 21

Bestell-Nr.: 51MX31TCTDS  
EAN: 4058352795873

LP-Nummer  
59310\_102



**Ausführung** Pendelleuchte, Reflektor, schwarz, direkt-/ indirekt strahlend, eng strahlend,  $UGR \leq 16$  ( $L65 \leq 3000 \text{ cd/m}^2$ ), Tunable White

**Bestückung** LED 4000 K | CRI  $\geq 80$

**Betriebsgerät** EVG-DALI

**Einstellung** Werkseinstellung

**Bemessungswerte** Nettolichtstrom = 15550 lm  
Systemleistung = 140.6 W  
Lichtausbeute = 110.6 lm/W

Seriendokumentation  
03.05.2023

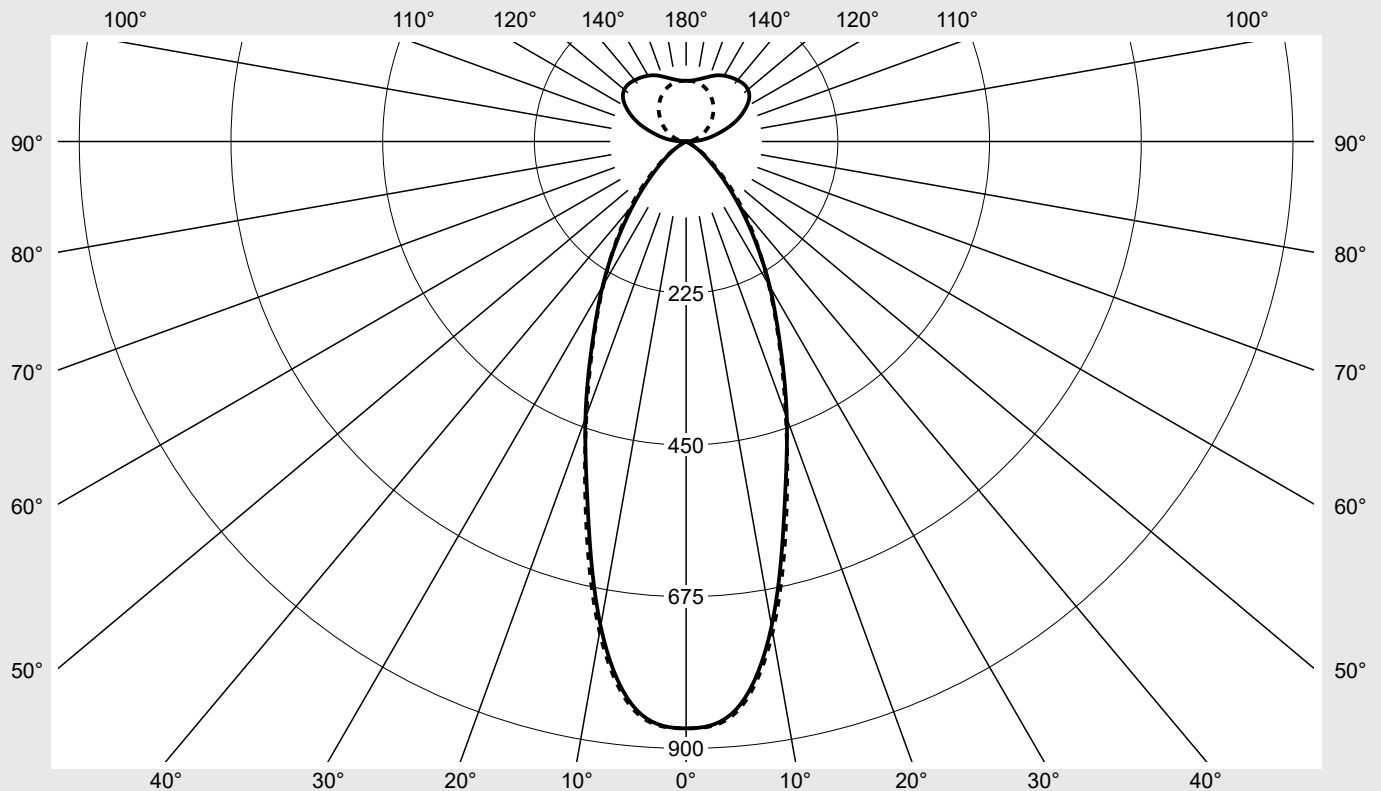
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Lichtstärke in cd/klm

C180-0

C270-90

Imax: 870 cd/klm



## Klassifizierungen

DIN 5040 C 7 2  
CIE N1=85 N2=99 N3=100  
N4=60 N5=100

## Leuchtenbetriebswirkungsgrade

$\eta_{LB}$  100,0%  
 $\phi_u$  59,6%  
 $\phi_o$  40,4%

## Messbedingungen

DIN EN 13032 und DIN 5032

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|  |  |                                      |
|--|--|--------------------------------------|
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| <b>Wertetabelle Lichtstärkemessung</b> |  | <b>Maximale Lichtstärke</b>          |
|  |  | <b>sITeco</b>                        |

| C-<br>Ebenen          | 0°<br>180° | 15°                  | 30°                  | 45°                  | 60°                  | 75°                  | 90°<br>270° | Phi-Zone | Summe<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° |             |          |                   |
| γ                     |            |                      |                      |                      |                      |                      |             |          |                   |
| Lichtstärke in cd/klm |            |                      |                      |                      |                      |                      |             |          |                   |
| Lichtstrom 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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|                              |  |                               |
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|------------------------------|--|-------------------------------|

| UGR-Tabelle     |     | Standardraum                        |      |      |      |      |                                       |      |      |      |      |
|-----------------|-----|-------------------------------------|------|------|------|------|---------------------------------------|------|------|------|------|
|                 |     | Blickrichtung quer zur Leuchte (C0) |      |      |      |      | Blickrichtung längs zur Leuchte (C90) |      |      |      |      |
| Raumabmessungen |     |                                     |      |      |      |      |                                       |      |      |      |      |
| 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 |

|  |  |
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| <b>Leuchtdichten-Tabelle</b> Max. für $\gamma \geq 65^\circ$ | <b>Lichttechnische Abmessungen in mm:</b> L = 2940<br>B = 49 |
|--|--|

| C-<br>Ebenen | $\gamma$ | Leuchtdichte 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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|-------------------------------------|--|--------------------------------------|

**Leuchtdichten in cd/m<sup>2</sup>**

|              |              |              |              |              |
|--------------|--------------|--------------|--------------|--------------|
| $\gamma$ 65° | $\gamma$ 70° | $\gamma$ 75° | $\gamma$ 80° | $\gamma$ 85° |
|--------------|--------------|--------------|--------------|--------------|

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