

## Lichttechnischer Prüfbefund

Familie  
Silica® 21

Bestell-Nr.: 51MX34DA47BB  
EAN: 4058352885437

LP-Nummer  
59283\_75



**Ausführung** Pendelleuchte, Reflektor, schwarz, direkt-/indirekt strahlend, asymmetrisch strahlend

**Bestückung** LED 4000 K | CRI ≥ 80

**Betriebsgerät** EVG-DALI

**Bemessungswerte** Nettolichtstrom = 7680 lm  
Systemleistung = 49.9 W  
Lichtausbeute = 153.9 lm/W

Seriendokumentation  
02.08.2023

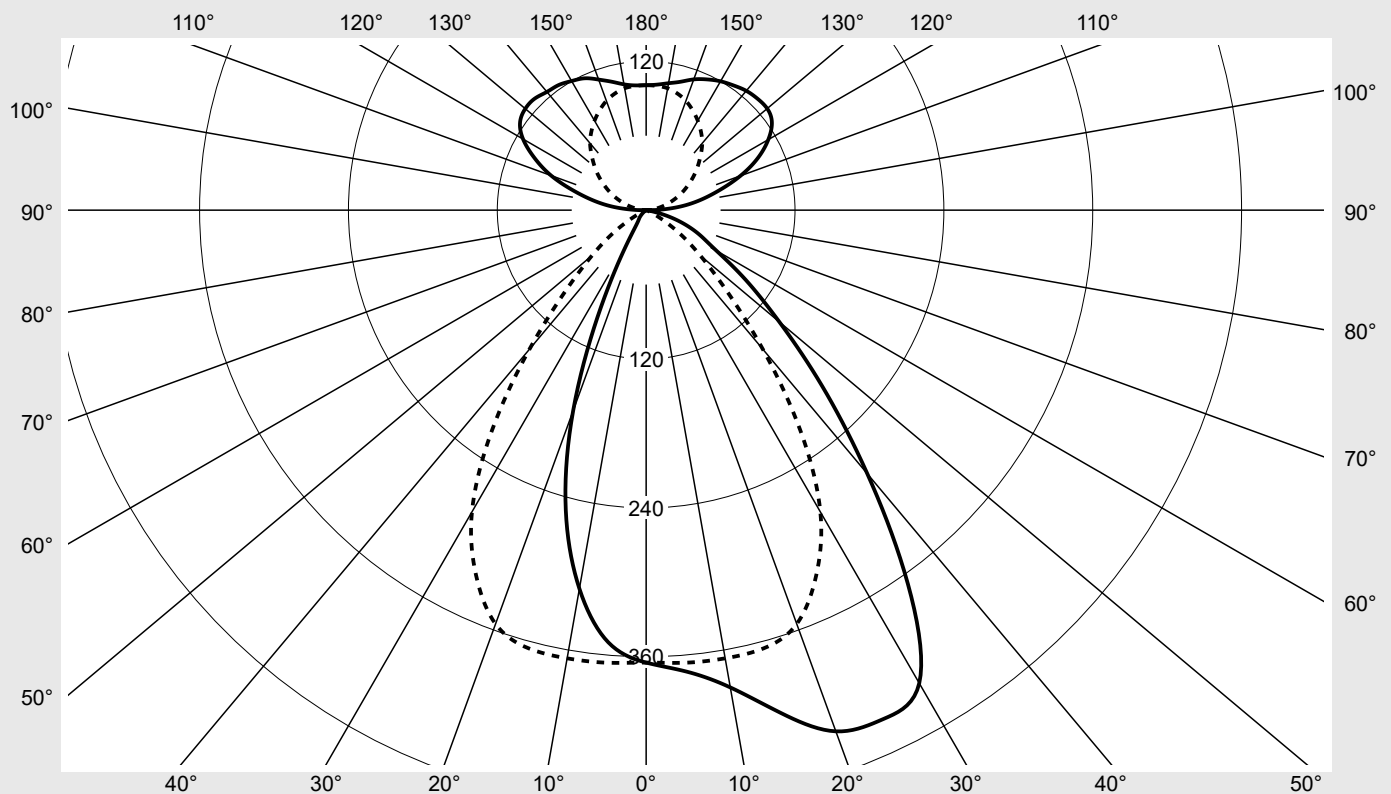
siteco

Lichtstärke in cd/klm

C180-0

C270-90

Imax: 461 cd/klm



## Klassifizierungen

DIN 5040 C 6 2  
CIE N1=74 N2=94 N3=99  
N4=56 N5=100

## Leuchtenbetriebswirkungsgrade

$\eta_{LB}$  100,0%  
 $\phi_u$  56,1%  
 $\phi_o$  43,9%

## Messbedingungen

DIN EN 13032 und DIN 5032

## Lichttechnischer Prüfbefund

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

| C-<br>Ebenen | 0°                    | 15°<br>345° | 30°<br>330° | 45°<br>315° | 60°<br>300° | 75°<br>285° | 90°<br>270° |
|--------------|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| $\gamma$     | Lichtstärke in cd/klm |             |             |             |             |             |             |
| 0°           | 364.7                 | 364.7       | 364.7       | 364.7       | 364.7       | 364.7       | 364.7       |
| 5°           | 373.4                 | 374.2       | 373.9       | 372.4       | 372.0       | 370.0       | 366.2       |
| 10°          | 390.7                 | 390.9       | 390.3       | 389.7       | 385.4       | 375.2       | 366.9       |
| 15°          | 419.6                 | 426.1       | 426.0       | 420.4       | 403.3       | 382.3       | 365.7       |
| 20°          | 447.1                 | 456.4       | 458.5       | 446.1       | 411.0       | 376.9       | 355.0       |
| 25°          | 452.6                 | 460.6       | 453.6       | 431.0       | 395.6       | 351.4       | 324.5       |
| 30°          | 440.3                 | 439.8       | 430.3       | 390.5       | 349.9       | 308.3       | 280.9       |
| 35°          | 367.9                 | 364.8       | 361.9       | 334.1       | 285.8       | 241.7       | 216.7       |
| 40°          | 277.4                 | 282.5       | 289.0       | 275.8       | 227.9       | 175.0       | 146.3       |
| 45°          | 200.8                 | 207.3       | 222.4       | 214.2       | 174.3       | 117.9       | 91.5        |
| 50°          | 140.2                 | 148.6       | 163.4       | 159.9       | 127.4       | 79.2        | 57.1        |
| 55°          | 98.0                  | 104.1       | 120.3       | 117.5       | 94.9        | 52.4        | 33.6        |
| 60°          | 65.5                  | 71.2        | 86.2        | 87.8        | 71.3        | 30.8        | 14.6        |
| 65°          | 48.2                  | 50.7        | 59.5        | 65.1        | 47.4        | 16.3        | 4.7         |
| 70°          | 32.8                  | 36.4        | 42.5        | 43.7        | 27.4        | 8.4         | 1.8         |
| 75°          | 16.4                  | 20.5        | 29.1        | 21.1        | 13.2        | 4.7         | 0.6         |
| 80°          | 2.7                   | 3.9         | 8.6         | 8.4         | 6.0         | 1.9         | 0.3         |
| 85°          | 1.0                   | 1.1         | 1.6         | 1.5         | 0.7         | 0.5         | 0.5         |
| 90°          | 5.1                   | 4.9         | 5.2         | 5.1         | 3.1         | 1.0         | 0.4         |
| 95°          | 23.6                  | 24.1        | 25.8        | 24.5        | 15.6        | 8.0         | 4.1         |
| 100°         | 42.3                  | 43.3        | 43.7        | 38.5        | 25.8        | 14.5        | 9.5         |
| 105°         | 60.4                  | 61.7        | 60.5        | 51.6        | 35.4        | 21.8        | 16.0        |
| 110°         | 80.9                  | 81.7        | 76.3        | 63.6        | 45.4        | 29.6        | 23.0        |
| 115°         | 99.3                  | 98.4        | 90.6        | 74.6        | 54.9        | 37.4        | 30.6        |
| 120°         | 113.7                 | 112.0       | 102.2       | 83.3        | 64.1        | 44.9        | 38.1        |
| 125°         | 123.7                 | 120.5       | 109.6       | 92.0        | 71.5        | 52.1        | 46.1        |
| 130°         | 127.4                 | 124.7       | 113.0       | 96.3        | 77.5        | 59.5        | 54.0        |
| 135°         | 127.0                 | 124.4       | 114.1       | 99.9        | 82.2        | 66.6        | 62.0        |
| 140°         | 125.6                 | 123.2       | 114.1       | 102.3       | 86.1        | 73.2        | 70.3        |
| 145°         | 122.8                 | 121.6       | 114.6       | 103.4       | 89.6        | 79.2        | 77.1        |
| 150°         | 119.9                 | 119.3       | 113.7       | 103.5       | 92.3        | 85.0        | 83.2        |
| 155°         | 116.3                 | 116.3       | 110.3       | 102.8       | 94.6        | 90.3        | 88.8        |
| 160°         | 112.2                 | 112.1       | 106.9       | 101.9       | 96.9        | 93.8        | 93.7        |
| 165°         | 107.2                 | 106.8       | 103.8       | 100.5       | 98.5        | 97.0        | 97.3        |
| 170°         | 103.9                 | 102.9       | 102.2       | 100.5       | 99.8        | 99.7        | 99.8        |
| 175°         | 101.6                 | 101.2       | 100.4       | 100.2       | 100.5       | 100.4       | 100.5       |
| 180°         | 100.7                 | 100.7       | 100.7       | 100.7       | 100.7       | 100.7       | 100.7       |

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

| C-<br>Ebenen | 105°<br>255°          | 120°<br>240° | 135°<br>225° | 150°<br>210° | 165°<br>195° | 180°  | Phi-Zone             | Summe<br>Phi-Zone |
|--------------|-----------------------|--------------|--------------|--------------|--------------|-------|----------------------|-------------------|
| $\gamma$     | Lichtstärke in cd/klm |              |              |              |              |       | Lichtstrom in lm/klm |                   |
| 0°           | 364.7                 | 364.7        | 364.7        | 364.7        | 364.7        | 364.7 | 2.2                  | 2.2               |
| 5°           | 362.9                 | 358.9        | 355.8        | 351.9        | 350.5        | 349.8 | 17.4                 | 19.6              |
| 10°          | 356.4                 | 346.7        | 334.3        | 322.3        | 312.5        | 309.9 | 34.3                 | 53.9              |
| 15°          | 351.5                 | 329.8        | 301.2        | 272.8        | 255.4        | 250.3 | 50.5                 | 104.3             |
| 20°          | 332.5                 | 299.0        | 251.5        | 205.7        | 180.6        | 172.0 | 63.8                 | 168.1             |
| 25°          | 300.5                 | 247.9        | 184.7        | 134.5        | 99.3         | 86.1  | 70.5                 | 238.6             |
| 30°          | 246.1                 | 187.5        | 119.2        | 65.0         | 36.4         | 29.2  | 70.5                 | 309.2             |
| 35°          | 174.7                 | 119.3        | 62.2         | 24.9         | 14.0         | 12.2  | 62.6                 | 371.8             |
| 40°          | 109.6                 | 67.1         | 27.5         | 12.3         | 9.3          | 8.7   | 51.8                 | 423.6             |
| 45°          | 65.7                  | 34.8         | 12.8         | 8.3          | 6.4          | 5.9   | 40.7                 | 464.3             |
| 50°          | 38.9                  | 17.2         | 7.5          | 5.5          | 3.9          | 3.3   | 30.8                 | 495.1             |
| 55°          | 21.5                  | 8.7          | 4.7          | 3.3          | 2.1          | 1.8   | 22.9                 | 518.0             |
| 60°          | 8.2                   | 4.3          | 2.8          | 2.0          | 1.5          | 1.3   | 16.4                 | 534.4             |
| 65°          | 2.7                   | 2.1          | 1.7          | 1.4          | 1.0          | 0.7   | 11.5                 | 545.9             |
| 70°          | 1.1                   | 1.1          | 0.9          | 0.8          | 0.6          | 0.3   | 7.8                  | 553.7             |
| 75°          | 0.4                   | 0.5          | 0.5          | 0.4          | 0.4          | 0.3   | 4.4                  | 558.1             |
| 80°          | 0.2                   | 0.3          | 0.3          | 0.3          | 0.2          | 0.2   | 1.4                  | 559.5             |
| 85°          | 0.5                   | 0.5          | 0.6          | 0.6          | 0.6          | 0.6   | 0.4                  | 559.9             |
| 90°          | 1.0                   | 3.1          | 5.1          | 5.2          | 4.9          | 5.1   | 2.0                  | 562.0             |
| 95°          | 8.1                   | 15.6         | 24.4         | 25.8         | 24.1         | 23.5  | 10.2                 | 572.1             |
| 100°         | 14.5                  | 25.6         | 38.0         | 43.6         | 43.3         | 41.9  | 17.2                 | 589.3             |
| 105°         | 21.9                  | 35.3         | 51.6         | 60.4         | 61.7         | 60.5  | 23.8                 | 613.1             |
| 110°         | 29.6                  | 45.2         | 63.5         | 76.5         | 81.3         | 81.5  | 29.9                 | 643.0             |
| 115°         | 37.4                  | 55.0         | 74.7         | 90.7         | 98.3         | 99.2  | 34.9                 | 677.9             |
| 120°         | 45.0                  | 63.8         | 83.7         | 102.6        | 112.6        | 114.6 | 38.2                 | 716.1             |
| 125°         | 52.1                  | 71.5         | 91.4         | 109.3        | 120.5        | 124.0 | 39.7                 | 755.8             |
| 130°         | 59.5                  | 77.1         | 96.8         | 112.7        | 124.3        | 127.2 | 39.3                 | 795.1             |
| 135°         | 66.2                  | 81.6         | 99.7         | 114.1        | 124.5        | 127.1 | 37.5                 | 832.6             |
| 140°         | 72.6                  | 85.5         | 102.0        | 114.8        | 123.0        | 124.4 | 35.0                 | 867.6             |
| 145°         | 78.7                  | 89.2         | 103.4        | 114.2        | 121.7        | 123.1 | 31.9                 | 899.4             |
| 150°         | 84.6                  | 92.4         | 103.1        | 112.6        | 119.8        | 120.2 | 28.1                 | 927.5             |
| 155°         | 89.7                  | 94.6         | 103.0        | 110.2        | 116.6        | 117.3 | 23.8                 | 951.3             |
| 160°         | 94.2                  | 96.3         | 102.1        | 107.0        | 111.6        | 112.0 | 19.2                 | 970.5             |
| 165°         | 97.4                  | 98.7         | 101.2        | 104.4        | 106.4        | 107.2 | 14.4                 | 985.0             |
| 170°         | 99.8                  | 100.1        | 101.3        | 102.3        | 102.9        | 103.0 | 9.6                  | 994.6             |
| 175°         | 100.7                 | 100.4        | 100.7        | 100.9        | 101.1        | 101.0 | 4.8                  | 999.4             |
| 180°         | 100.7                 | 100.7        | 100.7        | 100.7        | 100.7        | 100.7 | 0.6                  | 1000.0            |

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

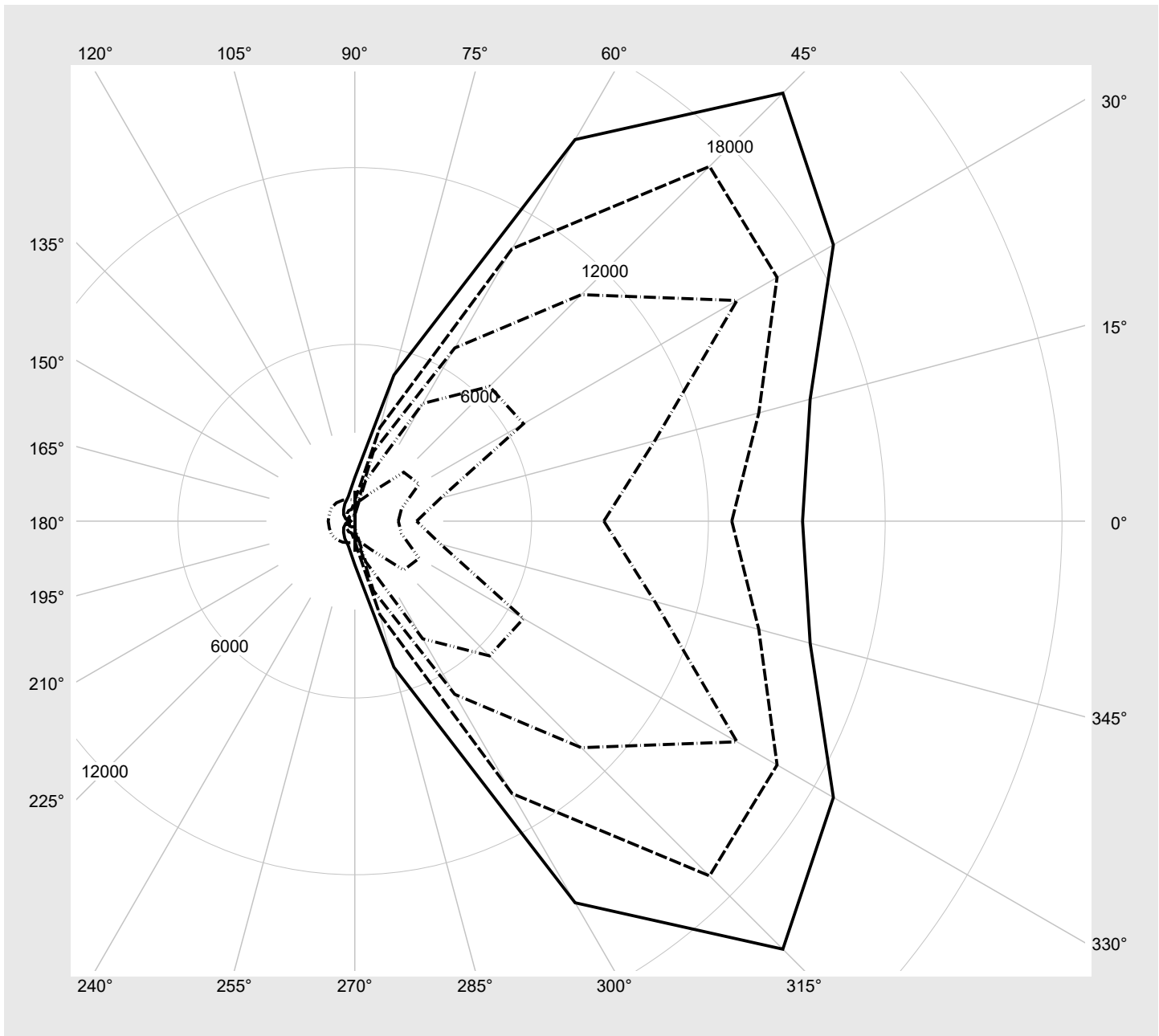
| UGR-Tabelle     |     | Standardraum                        |      |      |      |      |                                       |      |      |      |      |
|-----------------|-----|-------------------------------------|------|------|------|------|---------------------------------------|------|------|------|------|
| Raumabmessungen |     | Blickrichtung quer zur Leuchte (C0) |      |      |      |      | Blickrichtung längs zur Leuchte (C90) |      |      |      |      |
| x               | y   |                                     |      |      |      |      |                                       |      |      |      |      |
| 2H              | 2H  | 22,1                                | 23,0 | 22,9 | 23,8 | 24,9 | 17,5                                  | 18,4 | 18,3 | 19,2 | 20,3 |
|                 | 3H  | 22,4                                | 23,2 | 23,3 | 24,1 | 25,3 | 17,3                                  | 18,1 | 18,2 | 19,0 | 20,1 |
|                 | 4H  | 22,5                                | 23,2 | 23,4 | 24,1 | 25,3 | 17,2                                  | 17,9 | 18,1 | 18,8 | 20,0 |
|                 | 6H  | 22,4                                | 23,0 | 23,3 | 23,9 | 25,1 | 17,0                                  | 17,7 | 17,9 | 18,6 | 19,8 |
|                 | 8H  | 22,3                                | 22,9 | 23,2 | 23,8 | 25,0 | 16,9                                  | 17,6 | 17,9 | 18,5 | 19,7 |
|                 | 12H | 22,2                                | 22,7 | 23,1 | 23,7 | 24,9 | 16,8                                  | 17,4 | 17,8 | 18,3 | 19,5 |
| 4H              | 2H  | 22,3                                | 23,0 | 23,2 | 23,9 | 25,0 | 18,1                                  | 18,8 | 19,0 | 19,7 | 20,9 |
|                 | 3H  | 22,9                                | 23,5 | 23,8 | 24,4 | 25,6 | 18,1                                  | 18,7 | 19,1 | 19,7 | 20,9 |
|                 | 4H  | 23,0                                | 23,6 | 24,0 | 24,5 | 25,7 | 18,1                                  | 18,6 | 19,0 | 19,5 | 20,7 |
|                 | 6H  | 22,9                                | 23,4 | 23,9 | 24,3 | 25,6 | 17,9                                  | 18,4 | 18,9 | 19,3 | 20,6 |
|                 | 8H  | 22,8                                | 23,3 | 23,8 | 24,2 | 25,5 | 17,8                                  | 18,2 | 18,8 | 19,2 | 20,5 |
|                 | 12H | 22,7                                | 23,1 | 23,7 | 24,1 | 25,4 | 17,7                                  | 18,1 | 18,7 | 19,1 | 20,3 |
| 8H              | 4H  | 23,0                                | 23,4 | 23,9 | 24,3 | 25,6 | 18,1                                  | 18,5 | 19,1 | 19,5 | 20,8 |
|                 | 6H  | 22,9                                | 23,3 | 23,9 | 24,3 | 25,5 | 18,1                                  | 18,4 | 19,1 | 19,4 | 20,7 |
|                 | 8H  | 22,8                                | 23,2 | 23,9 | 24,1 | 25,4 | 18,0                                  | 18,3 | 19,0 | 19,3 | 20,6 |
|                 | 12H | 22,8                                | 23,0 | 23,8 | 24,0 | 25,3 | 17,9                                  | 18,2 | 18,9 | 19,2 | 20,5 |
| 12H             | 4H  | 22,9                                | 23,2 | 23,8 | 24,2 | 25,5 | 18,1                                  | 18,4 | 19,0 | 19,4 | 20,7 |
|                 | 6H  | 22,8                                | 23,1 | 23,8 | 24,1 | 25,4 | 18,0                                  | 18,3 | 19,0 | 19,3 | 20,6 |
|                 | 8H  | 22,8                                | 23,0 | 23,8 | 24,0 | 25,3 | 17,9                                  | 18,2 | 19,0 | 19,2 | 20,5 |

| Leuchtdichten-Tabelle |  | Max. für $\gamma \geq 65^\circ$    |             |             |             |             |             |             |              |              |              |              |              |        |
|-----------------------|--|------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------|
|                       |  | Lichttechnische Abmessungen in mm: |             |             |             |             |             |             |              |              |              |              |              |        |
|                       |  | L = 1176                           |             |             |             |             |             |             |              |              |              |              |              |        |
|                       |  | B = 49                             |             |             |             |             |             |             |              |              |              |              |              |        |
| C-Ebenen              |  | 0°                                 | 15°<br>345° | 30°<br>330° | 45°<br>315° | 60°<br>300° | 75°<br>285° | 90°<br>270° | 105°<br>255° | 120°<br>240° | 135°<br>225° | 150°<br>210° | 165°<br>195° | 180°   |
| $\gamma$              |  | Leuchtdichte in cd/m <sup>2</sup>  |             |             |             |             |             |             |              |              |              |              |              |        |
| 45°                   |  | 37847.1                            | 39066.6     | 41924.1     | 40365.0     | 32848.9     | 22219.0     | 17240.8     | 12382.6      | 6567.9       | 2406.2       | 1567.6       | 1215.3       | 1109.8 |
| 50°                   |  | 29067.9                            | 30810.4     | 33888.8     | 33146.8     | 26408.9     | 16415.6     | 11845.9     | 8064.2       | 3571.3       | 1552.6       | 1140.8       | 806.4        | 677.6  |
| 55°                   |  | 22763.6                            | 24190.8     | 27955.8     | 27307.0     | 22040.1     | 12165.8     | 7803.0      | 5001.4       | 2028.8       | 1096.5       | 776.1        | 479.4        | 412.9  |
| 60°                   |  | 17451.9                            | 18977.7     | 22985.1     | 23414.0     | 18995.8     | 8209.6      | 3899.2      | 2185.5       | 1136.6       | 756.0        | 524.0        | 408.9        | 347.9  |
| 65°                   |  | 15195.7                            | 15999.0     | 18754.9     | 20544.0     | 14954.8     | 5133.1      | 1478.7      | 858.1        | 677.7        | 537.7        | 435.2        | 322.6        | 214.1  |
| 70°                   |  | 12794.7                            | 14194.0     | 16548.5     | 17025.4     | 10672.5     | 3279.9      | 694.4       | 413.8        | 416.2        | 369.4        | 305.5        | 220.6        | 135.2  |
| 75°                   |  | 8452.8                             | 10540.4     | 14977.7     | 10871.5     | 6786.5      | 2443.9      | 319.3       | 210.1        | 256.4        | 244.6        | 225.5        | 182.3        | 147.3  |
| 80°                   |  | 2097.6                             | 3013.3      | 6611.4      | 6464.8      | 4610.5      | 1421.4      | 202.6       | 191.1        | 225.6        | 231.8        | 220.3        | 191.1        | 174.2  |
| 85°                   |  | 1477.2                             | 1640.8      | 2520.1      | 2347.3      | 1120.9      | 731.0       | 721.8       | 756.9        | 822.7        | 880.8        | 912.9        | 896.1        | 902.2  |

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

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



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

|                           |                           |               |
|---------------------------|---------------------------|---------------|
| <b>Dimmstufen-Tabelle</b> | Umgebungstemperatur: 25°C | <b>sITeco</b> |
|---------------------------|---------------------------|---------------|

| Lichtstrom [%] | Dimmstufe linear | Dimmstufe logarithmisch | Lichtstrom [lm] | Systemleistung [W] |
|----------------|------------------|-------------------------|-----------------|--------------------|
| 100            | 254              | 254                     | 7680            | 49.9               |
| 95             | 240              | 252                     | 7283            | 47.2               |
| 90             | 227              | 250                     | 6912            | 44.6               |
| 85             | 214              | 248                     | 6537            | 42.2               |
| 80             | 200              | 245                     | 6131            | 39.5               |
| 75             | 187              | 243                     | 5751            | 36.9               |
| 70             | 174              | 240                     | 5367            | 34.5               |
| 65             | 161              | 237                     | 4981            | 32.0               |
| 60             | 149              | 234                     | 4622            | 29.7               |
| 55             | 136              | 231                     | 4231            | 27.2               |
| 50             | 123              | 227                     | 3837            | 24.7               |
| 45             | 111              | 224                     | 3471            | 22.5               |
| 40             | 98               | 219                     | 3072            | 20.1               |
| 35             | 86               | 214                     | 2702            | 17.8               |
| 30             | 73               | 208                     | 2298            | 15.3               |
| 25             | 61               | 202                     | 1922            | 13.1               |
| 20             | 49               | 194                     | 1544            | 10.8               |
| 15             | 37               | 183                     | 1165            | 8.6                |
| 10             | 24               | 168                     | 753             | 6.2                |
| 5              | 12               | 142                     | 370             | 4.1                |
| 2              | 5                | 110                     | 146             | 3.4                |