

## Lichttechnischer Prüfbefund

**Familie**  
Highbay 11

**Bestell-Nr.:** 51HLA1D14FCA + 59HL91002  
**EAN:** 4058352321720 + 4058352341650

**LP-Nummer**  
58920\_12

**Ausführung** eng strahlend, UGR≤22, Abdeckscheibe, PC

**Bestückung** LED 4000 K | CRI ≥ 80

**Betriebsgerät** EVG-DALI

**Bemessungswerte**  
Nettolichtstrom = 12800 lm  
Systemleistung = 81.2 W  
Lichtausbeute = 157.6 lm/W

**Seriendokumentation**  
13.06.2019

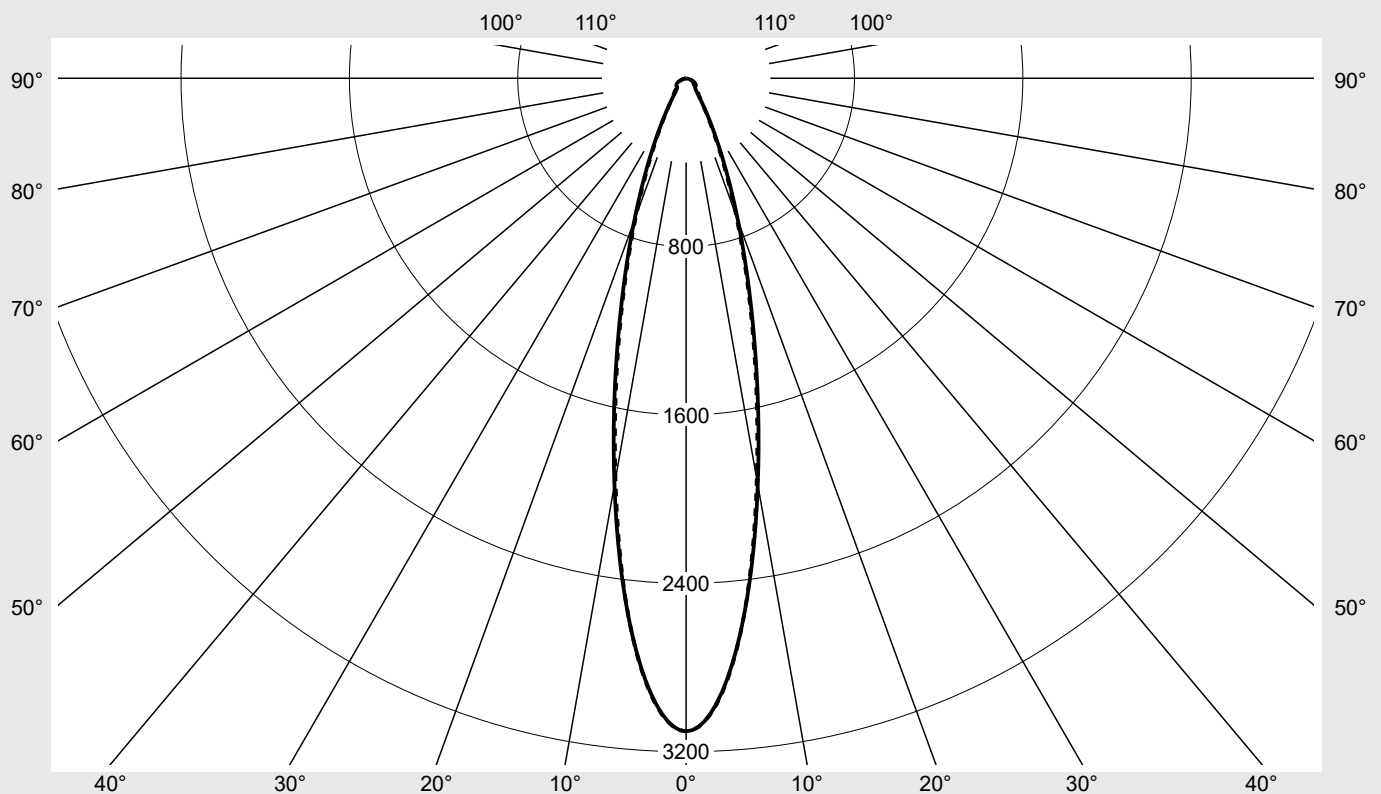
siteco

Lichtstärke in cd/klm

C180-0

C270-90

Imax: 3103 cd/klm



#### Klassifizierungen

DIN 5040 A 7 0  
CIE N1=85 N2=94 N3=99  
N4=100 N5=100

#### Leuchtenbetriebswirkungsgrade

$\eta_{LB}$  100,0%  
 $\phi_u$  100,0%  
 $\phi_o$  0,0%

#### 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    |          |
|-----------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------|----------|----------|----------|
|                       |            | 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° |             |          | Phi-Zone | Phi-Zone |
| γ                     |            |                      |                      |                      |                      |                      |             |          |          |          |
| Lichtstärke in cd/klm |            |                      |                      |                      |                      |                      |             |          |          |          |
| Lichtstrom in lm/klm  |            |                      |                      |                      |                      |                      |             |          |          |          |
| 0°                    | 3103.3     | 3103.3               | 3103.3               | 3103.3               | 3103.3               | 3103.3               | 3103.3      | 18.6     | 18.6     |          |
| 5°                    | 2728.1     | 2725.7               | 2734.5               | 2735.8               | 2731.2               | 2739.6               | 2732.7      | 130.6    | 149.1    |          |
| 10°                   | 1961.3     | 1955.1               | 1962.7               | 1959.8               | 1944.6               | 1940.4               | 1933.3      | 185.8    | 334.9    |          |
| 15°                   | 1234.5     | 1231.5               | 1237.4               | 1233.6               | 1223.5               | 1217.2               | 1209.8      | 174.2    | 509.0    |          |
| 20°                   | 720.2      | 721.2                | 730.7                | 731.8                | 720.5                | 706.3                | 696.1       | 134.9    | 644.0    |          |
| 25°                   | 391.5      | 395.5                | 407.7                | 412.0                | 396.6                | 377.5                | 368.6       | 91.5     | 735.4    |          |
| 30°                   | 203.6      | 206.8                | 216.0                | 219.0                | 212.4                | 200.7                | 194.3       | 57.3     | 792.7    |          |
| 35°                   | 109.3      | 109.5                | 113.4                | 118.8                | 120.5                | 117.6                | 115.6       | 36.3     | 829.0    |          |
| 40°                   | 71.8       | 72.6                 | 76.4                 | 83.5                 | 87.0                 | 87.1                 | 87.3        | 28.5     | 857.5    |          |
| 45°                   | 59.8       | 60.1                 | 64.9                 | 71.1                 | 68.6                 | 64.2                 | 62.9        | 25.2     | 882.8    |          |
| 50°                   | 58.8       | 60.0                 | 64.4                 | 66.4                 | 57.1                 | 49.4                 | 48.5        | 24.6     | 907.3    |          |
| 55°                   | 56.5       | 57.6                 | 60.7                 | 58.9                 | 51.3                 | 43.9                 | 43.6        | 24.1     | 931.5    |          |
| 60°                   | 50.4       | 50.7                 | 52.1                 | 52.2                 | 45.2                 | 38.5                 | 38.0        | 22.4     | 953.8    |          |
| 65°                   | 40.7       | 40.4                 | 41.4                 | 42.5                 | 37.1                 | 32.0                 | 31.7        | 19.0     | 972.8    |          |
| 70°                   | 28.4       | 28.2                 | 29.2                 | 30.2                 | 27.5                 | 24.4                 | 24.3        | 14.2     | 987.1    |          |
| 75°                   | 15.1       | 15.6                 | 16.5                 | 18.0                 | 16.8                 | 16.4                 | 16.8        | 8.8      | 995.8    |          |
| 80°                   | 5.3        | 5.6                  | 6.2                  | 6.9                  | 7.4                  | 7.5                  | 9.1         | 3.7      | 999.5    |          |
| 85°                   | 0.5        | 0.5                  | 0.6                  | 0.8                  | 1.1                  | 1.3                  | 1.8         | 0.5      | 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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|                              |                                                                                           |                              |
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| UGR-Tabelle     |     | Standardraum                        |      |      |      |      |                                       |      |      |      |      |
|-----------------|-----|-------------------------------------|------|------|------|------|---------------------------------------|------|------|------|------|
|                 |     | Blickrichtung quer zur Leuchte (C0) |      |      |      |      | Blickrichtung längs zur Leuchte (C90) |      |      |      |      |
| Raumabmessungen |     |                                     |      |      |      |      |                                       |      |      |      |      |
| x               | y   |                                     |      |      |      |      |                                       |      |      |      |      |
| 2H              | 2H  | 18,3                                | 19,5 | 18,7 | 19,8 | 20,1 | 17,3                                  | 18,5 | 17,6 | 18,8 | 19,1 |
|                 | 3H  | 19,8                                | 20,8 | 20,2 | 21,1 | 21,5 | 18,7                                  | 19,7 | 19,0 | 20,0 | 20,4 |
|                 | 4H  | 20,1                                | 21,1 | 20,5 | 21,4 | 21,8 | 19,2                                  | 20,1 | 19,6 | 20,5 | 20,9 |
|                 | 6H  | 20,3                                | 21,1 | 20,7 | 21,5 | 21,9 | 19,5                                  | 20,4 | 19,9 | 20,7 | 21,1 |
|                 | 8H  | 20,3                                | 21,0 | 20,7 | 21,4 | 21,8 | 19,7                                  | 20,4 | 20,1 | 20,8 | 21,2 |
|                 | 12H | 20,3                                | 20,9 | 20,7 | 21,3 | 21,8 | 19,7                                  | 20,3 | 20,1 | 20,7 | 21,1 |
| 4H              | 2H  | 19,1                                | 20,0 | 19,4 | 20,4 | 20,7 | 18,3                                  | 19,2 | 18,7 | 19,6 | 20,0 |
|                 | 3H  | 20,6                                | 21,4 | 21,0 | 21,8 | 22,2 | 19,8                                  | 20,5 | 20,2 | 20,9 | 21,4 |
|                 | 4H  | 21,0                                | 21,7 | 21,5 | 22,1 | 22,6 | 20,3                                  | 21,0 | 20,8 | 21,4 | 21,9 |
|                 | 6H  | 21,1                                | 21,7 | 21,6 | 22,2 | 22,6 | 20,7                                  | 21,3 | 21,1 | 21,7 | 22,2 |
|                 | 8H  | 21,1                                | 21,7 | 21,6 | 22,1 | 22,6 | 20,7                                  | 21,3 | 21,2 | 21,7 | 22,2 |
|                 | 12H | 21,1                                | 21,5 | 21,6 | 22,0 | 22,5 | 20,7                                  | 21,2 | 21,2 | 21,7 | 22,2 |
| 8H              | 4H  | 21,2                                | 21,7 | 21,7 | 22,1 | 22,6 | 20,6                                  | 21,1 | 21,0 | 21,5 | 22,0 |
|                 | 6H  | 21,3                                | 21,8 | 21,8 | 22,2 | 22,7 | 21,0                                  | 21,4 | 21,5 | 21,8 | 22,4 |
|                 | 8H  | 21,3                                | 21,7 | 21,8 | 22,2 | 22,7 | 21,0                                  | 21,4 | 21,5 | 21,9 | 22,4 |
|                 | 12H | 21,3                                | 21,6 | 21,8 | 22,1 | 22,6 | 21,0                                  | 21,3 | 21,5 | 21,8 | 22,4 |
| 12H             | 4H  | 21,2                                | 21,6 | 21,7 | 22,1 | 22,6 | 20,6                                  | 21,0 | 21,0 | 21,5 | 22,0 |
|                 | 6H  | 21,3                                | 21,7 | 21,8 | 22,2 | 22,7 | 20,9                                  | 21,3 | 21,4 | 21,8 | 22,3 |
|                 | 8H  | 21,3                                | 21,6 | 21,8 | 22,1 | 22,6 | 21,0                                  | 21,3 | 21,5 | 21,8 | 22,4 |

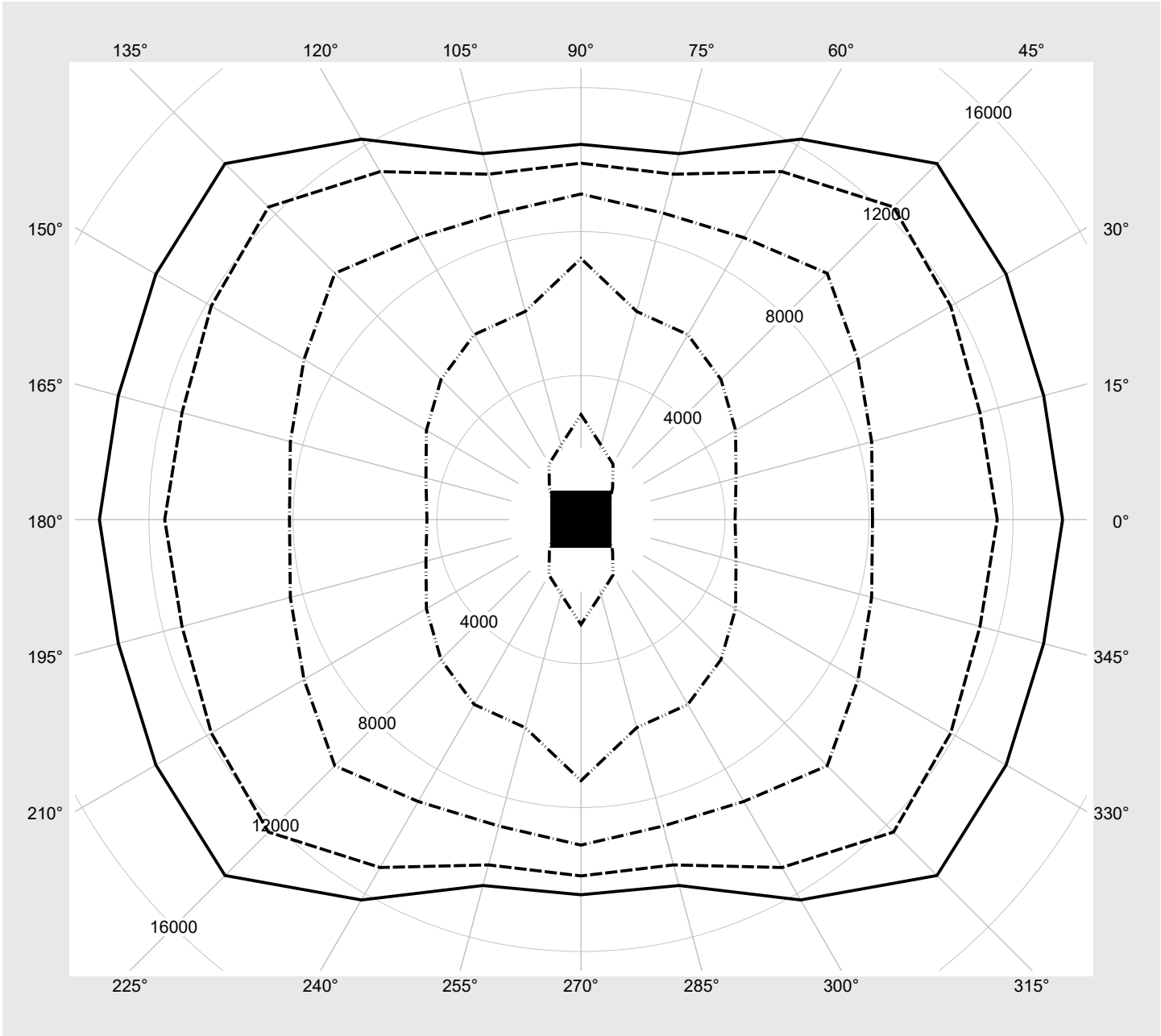
|                                                              |                                                              |
|--------------------------------------------------------------|--------------------------------------------------------------|
| <b>Leuchtdichten-Tabelle</b> Max. für $\gamma \geq 65^\circ$ | <b>Lichttechnische Abmessungen in mm:</b> L = 295<br>B = 312 |
|--------------------------------------------------------------|--------------------------------------------------------------|

| 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°          |          | 11760.9                           | 11829.2                     | 12761.4                     | 13980.6                     | 13489.3                     | 12634.2                     | 12364.7     |
| 50°          |          | 12716.5                           | 12976.9                     | 13924.4                     | 14370.3                     | 12361.6                     | 10698.1                     | 10489.7     |
| 55°          |          | 13696.4                           | 13955.3                     | 14725.1                     | 14287.5                     | 12426.6                     | 10645.3                     | 10577.6     |
| 60°          |          | 14004.3                           | 14113.1                     | 14502.2                     | 14510.6                     | 12577.5                     | 10704.5                     | 10566.3     |
| 65°          |          | 13378.6                           | 13305.8                     | 13636.9                     | 13984.7                     | 12202.8                     | 10524.9                     | 10423.2     |
| 70°          |          | 11564.1                           | 11474.6                     | 11859.7                     | 12278.1                     | 11161.5                     | 9932.8                      | 9899.8      |
| 75°          |          | 8098.6                            | 8358.6                      | 8886.8                      | 9672.9                      | 9044.3                      | 8814.8                      | 9044.3      |
| 80°          |          | 4280.7                            | 4459.3                      | 4958.2                      | 5500.4                      | 5932.9                      | 5984.9                      | 7252.7      |
| 85°          |          | 734.0                             | 737.2                       | 903.1                       | 1241.4                      | 1777.6                      | 2144.6                      | 2915.3      |

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|                                     |                                                                                           |                                     |
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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                     | 12800           | 81.2               |
| 95             | 241              | 252                     | 12160           | 76.8               |
| 90             | 227              | 250                     | 11520           | 72.5               |
| 85             | 214              | 248                     | 10880           | 68.4               |
| 80             | 201              | 245                     | 10240           | 64.2               |
| 75             | 188              | 243                     | 9600            | 60.0               |
| 70             | 175              | 240                     | 8960            | 56.0               |
| 65             | 162              | 238                     | 8320            | 51.9               |
| 60             | 149              | 235                     | 7680            | 48.0               |
| 55             | 136              | 232                     | 7040            | 44.1               |
| 50             | 124              | 228                     | 6400            | 40.1               |
| 45             | 111              | 225                     | 5760            | 36.3               |
| 40             | 99               | 220                     | 5120            | 32.5               |
| 35             | 86               | 216                     | 4480            | 28.8               |
| 30             | 74               | 211                     | 3840            | 25.1               |
| 25             | 62               | 205                     | 3200            | 21.3               |
| 20             | 50               | 198                     | 2560            | 17.6               |
| 15             | 38               | 190                     | 1920            | 14.0               |
| 10             | 26               | 179                     | 1279            | 10.4               |