

Lichttechnischer Prüfbefund

Familie

Highbay 11

Bestell-Nr.: 51HN11DA4NLA

EAN: 4069025419385

LP-Nummer

59711\_228

Ausführung

primäre Lichtlenkung mit Linse, PMMA, Gehäuse, weiß, für Licross® Schiene, eng strahlend

Bestückung

LED 4000 K | CRI ≥ 80

Betriebsgerät

EVG-DALI

Bemessungswerte

Nettolichtstrom = 31500 lm

Systemleistung = 167.9 W

Lichtausbeute = 187.6 lm/W

Seriendokumentation

14.02.2025

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| Klassifizierungen |                    | Leuchtenbetriebswirkungsgrade |        |
|-------------------|--------------------|-------------------------------|--------|
| DIN 5040          | A 7 0              | $\eta_{LB}$                   | 100,0% |
| CIE               | N1=85 N2=97 N3=100 | $\phi_u$                      | 100,0% |
|                   | N4=100 N5=100      | $\phi_o$                      | 0,0%   |

| Messbedingungen           |
|---------------------------|
| DIN EN 13032 und DIN 5032 |

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|                                 |                                                 |                        |
|---------------------------------|-------------------------------------------------|------------------------|
| Familie<br>Highbay 11           | Bestell-Nr.: 51HN11DA4NLA<br>EAN: 4069025419385 | LP-Nummer<br>59711_228 |
| Wertetabelle Lichtstärkemessung |                                                 | Maximale Lichtstärke   |

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| C-<br>Ebenen | 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° | Phi-Zone             | Summe<br>Phi-Zone |
|--------------|-----------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------|----------------------|-------------------|
| γ            | Lichtstärke in cd/klm |                             |                             |                             |                             |                             |             | Lichtstrom in lm/klm |                   |
| 0,0°         | 2678.6                | 2678.6                      | 2678.6                      | 2678.6                      | 2678.6                      | 2678.6                      | 2678.6      | 4.0                  | 4.0               |
| 2,5°         | 2608.0                | 2619.4                      | 2619.4                      | 2616.5                      | 2617.6                      | 2616.2                      | 2606.1      | 31.3                 | 35.3              |
| 5,0°         | 2420.1                | 2415.7                      | 2414.1                      | 2408.4                      | 2406.6                      | 2402.3                      | 2391.7      | 57.6                 | 92.8              |
| 7,5°         | 2113.4                | 2116.1                      | 2112.3                      | 2103.0                      | 2097.6                      | 2090.5                      | 2079.6      | 75.2                 | 168.1             |
| 10,0°        | 1780.1                | 1768.7                      | 1762.7                      | 1751.6                      | 1743.6                      | 1735.2                      | 1724.7      | 83.4                 | 251.5             |
| 12,5°        | 1410.1                | 1409.3                      | 1404.7                      | 1395.9                      | 1388.1                      | 1380.5                      | 1373.1      | 82.8                 | 334.3             |
| 15,0°        | 1106.5                | 1097.8                      | 1095.0                      | 1089.4                      | 1083.1                      | 1078.4                      | 1073.9      | 77.3                 | 411.5             |
| 17,5°        | 830.1                 | 840.2                       | 835.5                       | 831.1                       | 826.6                       | 824.9                       | 824.1       | 68.5                 | 480.0             |
| 20,0°        | 671.1                 | 661.9                       | 651.8                       | 643.2                       | 639.9                       | 639.4                       | 641.0       | 60.8                 | 540.8             |
| 22,5°        | 531.9                 | 530.5                       | 514.2                       | 498.9                       | 497.0                       | 496.6                       | 496.8       | 53.4                 | 594.2             |
| 25,0°        | 450.6                 | 441.3                       | 420.6                       | 401.3                       | 399.0                       | 395.8                       | 392.4       | 47.9                 | 642.1             |
| 27,5°        | 370.8                 | 368.7                       | 351.4                       | 331.7                       | 326.8                       | 321.1                       | 316.0       | 43.1                 | 685.2             |
| 30,0°        | 320.4                 | 312.1                       | 300.8                       | 284.1                       | 278.0                       | 270.2                       | 264.7       | 39.7                 | 724.9             |
| 32,5°        | 271.0                 | 266.8                       | 259.0                       | 245.6                       | 238.0                       | 229.0                       | 224.7       | 36.5                 | 761.4             |
| 35,0°        | 235.8                 | 228.9                       | 222.7                       | 210.5                       | 201.6                       | 193.0                       | 191.7       | 33.3                 | 794.7             |
| 37,5°        | 204.4                 | 197.8                       | 191.5                       | 181.1                       | 172.0                       | 164.3                       | 162.4       | 30.3                 | 825.0             |
| 40,0°        | 176.7                 | 170.7                       | 163.1                       | 154.3                       | 146.1                       | 138.3                       | 135.6       | 27.3                 | 852.2             |
| 42,5°        | 147.6                 | 145.5                       | 138.6                       | 130.6                       | 123.2                       | 115.8                       | 113.3       | 24.2                 | 876.4             |
| 45,0°        | 126.0                 | 121.8                       | 116.3                       | 109.0                       | 102.0                       | 95.3                        | 93.2        | 21.1                 | 897.6             |
| 47,5°        | 103.2                 | 101.5                       | 97.1                        | 90.9                        | 84.6                        | 78.4                        | 76.7        | 18.3                 | 915.9             |
| 50,0°        | 85.9                  | 82.9                        | 79.4                        | 74.6                        | 69.1                        | 63.7                        | 61.9        | 15.5                 | 931.4             |
| 52,5°        | 69.0                  | 67.2                        | 64.5                        | 61.0                        | 56.2                        | 51.6                        | 49.7        | 13.0                 | 944.4             |
| 55,0°        | 55.6                  | 54.1                        | 52.2                        | 49.5                        | 45.7                        | 41.7                        | 40.0        | 10.9                 | 955.3             |
| 57,5°        | 43.6                  | 43.1                        | 41.8                        | 39.8                        | 37.0                        | 33.6                        | 32.2        | 9.0                  | 964.3             |
| 60,0°        | 33.2                  | 33.3                        | 33.9                        | 32.4                        | 30.5                        | 27.5                        | 26.1        | 7.4                  | 971.7             |
| 62,5°        | 25.9                  | 26.0                        | 27.0                        | 26.2                        | 25.1                        | 22.4                        | 21.3        | 6.1                  | 977.8             |
| 65,0°        | 21.6                  | 21.2                        | 21.7                        | 21.3                        | 20.9                        | 18.8                        | 17.7        | 5.1                  | 982.9             |
| 67,5°        | 17.0                  | 17.1                        | 17.8                        | 17.0                        | 17.3                        | 15.6                        | 14.8        | 4.3                  | 987.2             |
| 70,0°        | 13.5                  | 13.4                        | 14.4                        | 13.6                        | 14.1                        | 13.0                        | 12.4        | 3.5                  | 990.7             |
| 72,5°        | 11.0                  | 10.8                        | 10.9                        | 10.9                        | 11.0                        | 10.7                        | 10.6        | 2.8                  | 993.5             |
| 75,0°        | 9.0                   | 8.4                         | 8.4                         | 8.3                         | 8.6                         | 9.0                         | 8.9         | 2.3                  | 995.8             |
| 77,5°        | 6.6                   | 6.4                         | 6.2                         | 6.2                         | 6.6                         | 7.3                         | 7.4         | 1.8                  | 997.5             |
| 80,0°        | 4.4                   | 4.2                         | 4.1                         | 4.2                         | 4.7                         | 5.7                         | 5.8         | 1.3                  | 998.8             |
| 82,5°        | 2.0                   | 2.1                         | 2.2                         | 2.4                         | 3.0                         | 3.9                         | 4.1         | 0.8                  | 999.6             |
| 85,0°        | 0.8                   | 0.8                         | 0.8                         | 1.0                         | 1.5                         | 2.2                         | 2.4         | 0.4                  | 999.9             |
| 87,5°        | 0.3                   | 0.3                         | 0.3                         | 0.3                         | 0.3                         | 0.4                         | 0.5         | 0.1                  | 1000.0            |
| 90,0°        | 0.0                   | 0.0                         | 0.0                         | 0.0                         | 0.0                         | 0.0                         | 0.0         | 0.0                  | 1000.0            |

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|                       |     |                                     |                                                 |      |      |      |                                       |      |                        |      |      |
|-----------------------|-----|-------------------------------------|-------------------------------------------------|------|------|------|---------------------------------------|------|------------------------|------|------|
| Familie<br>Highbay 11 |     |                                     | Bestell-Nr.: 51HN11DA4NLA<br>EAN: 4069025419385 |      |      |      |                                       |      | LP-Nummer<br>59711_228 |      |      |
| UGR-Tabelle           |     |                                     | Standardraum                                    |      |      |      |                                       |      | siteco                 |      |      |
| Reflexionsgrad Decke  |     | 0,7                                 | 0,7                                             | 0,5  | 0,5  | 0,3  | 0,7                                   | 0,7  | 0,5                    | 0,5  | 0,3  |
| Reflexionsgrad Wände  |     | 0,5                                 | 0,3                                             | 0,5  | 0,3  | 0,3  | 0,5                                   | 0,3  | 0,5                    | 0,3  | 0,3  |
| Reflexionsgrad Boden  |     | 0,2                                 | 0,2                                             | 0,2  | 0,2  | 0,2  | 0,2                                   | 0,2  | 0,2                    | 0,2  | 0,2  |
| Raumabmessungen       |     | Blickrichtung quer zur Leuchte (C0) |                                                 |      |      |      | Blickrichtung längs zur Leuchte (C90) |      |                        |      |      |
| x                     | y   |                                     |                                                 |      |      |      |                                       |      |                        |      |      |
| 2H                    | 2H  | 21,5                                | 22,6                                            | 21,8 | 23,0 | 23,3 | 20,3                                  | 21,5 | 20,6                   | 21,8 | 22,1 |
|                       | 3H  | 21,7                                | 22,7                                            | 22,1 | 23,1 | 23,4 | 20,6                                  | 21,6 | 21,0                   | 21,9 | 22,3 |
|                       | 4H  | 21,8                                | 22,7                                            | 22,2 | 23,1 | 23,5 | 20,7                                  | 21,7 | 21,1                   | 22,0 | 22,4 |
|                       | 6H  | 21,8                                | 22,7                                            | 22,3 | 23,0 | 23,4 | 20,9                                  | 21,7 | 21,3                   | 22,1 | 22,5 |
|                       | 8H  | 21,9                                | 22,6                                            | 22,3 | 23,0 | 23,4 | 21,0                                  | 21,7 | 21,4                   | 22,1 | 22,5 |
|                       | 12H | 21,9                                | 22,5                                            | 22,3 | 22,9 | 23,3 | 21,0                                  | 21,6 | 21,4                   | 22,0 | 22,5 |
| 4H                    | 2H  | 21,5                                | 22,5                                            | 21,9 | 22,8 | 23,2 | 20,5                                  | 21,4 | 20,9                   | 21,8 | 22,1 |
|                       | 3H  | 21,9                                | 22,6                                            | 22,3 | 23,0 | 23,4 | 20,9                                  | 21,7 | 21,3                   | 22,0 | 22,5 |
|                       | 4H  | 22,0                                | 22,7                                            | 22,4 | 23,1 | 23,5 | 21,1                                  | 21,8 | 21,5                   | 22,2 | 22,6 |
|                       | 6H  | 22,0                                | 22,6                                            | 22,5 | 23,1 | 23,5 | 21,3                                  | 21,9 | 21,7                   | 22,3 | 22,8 |
|                       | 8H  | 22,0                                | 22,5                                            | 22,5 | 23,0 | 23,5 | 21,3                                  | 21,9 | 21,8                   | 22,3 | 22,8 |
|                       | 12H | 22,0                                | 22,4                                            | 22,5 | 22,9 | 23,4 | 21,4                                  | 21,8 | 21,9                   | 22,3 | 22,8 |
| 8H                    | 4H  | 22,0                                | 22,5                                            | 22,4 | 22,9 | 23,4 | 21,1                                  | 21,6 | 21,6                   | 22,1 | 22,5 |
|                       | 6H  | 22,0                                | 22,5                                            | 22,5 | 22,9 | 23,4 | 21,3                                  | 21,7 | 21,8                   | 22,2 | 22,7 |
|                       | 8H  | 22,0                                | 22,4                                            | 22,5 | 22,9 | 23,4 | 21,4                                  | 21,8 | 21,9                   | 22,3 | 22,8 |
|                       | 12H | 22,0                                | 22,3                                            | 22,5 | 22,8 | 23,3 | 21,5                                  | 21,8 | 22,0                   | 22,3 | 22,9 |
| 12H                   | 4H  | 21,9                                | 22,4                                            | 22,4 | 22,8 | 23,3 | 21,1                                  | 21,5 | 21,6                   | 22,0 | 22,5 |
|                       | 6H  | 22,0                                | 22,4                                            | 22,5 | 22,9 | 23,4 | 21,3                                  | 21,7 | 21,8                   | 22,1 | 22,7 |
|                       | 8H  | 22,0                                | 22,3                                            | 22,5 | 22,8 | 23,4 | 21,4                                  | 21,7 | 21,9                   | 22,2 | 22,8 |

| Leuchtdichten-Tabelle |                       | Max. für $\gamma \geq 65^\circ$ |                             | Lichttechnische<br>Abmessungen in mm: |                             | L = 426<br>B = 264          |             |
|-----------------------|-----------------------|---------------------------------|-----------------------------|---------------------------------------|-----------------------------|-----------------------------|-------------|
| C-<br>Ebenen          | 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° |
| $\gamma$              | Leuchtdichte in cd/m² |                                 |                             |                                       |                             |                             |             |
| 45,0°                 | 49904.7               | 48238.6                         | 46065.6                     | 43184.3                               | 40403.7                     | 37760.4                     | 36915.2     |
| 50,0°                 | 37411.9               | 36109.5                         | 34580.1                     | 32526.8                               | 30088.0                     | 27738.5                     | 26953.3     |
| 55,0°                 | 27146.3               | 26411.3                         | 25496.2                     | 24171.9                               | 22309.9                     | 20364.0                     | 19545.6     |
| 60,0°                 | 18625.4               | 18645.6                         | 18992.3                     | 18145.3                               | 17066.4                     | 15397.6                     | 14629.1     |
| 65,0°                 | 14300.1               | 14058.9                         | 14377.7                     | 14145.0                               | 13846.1                     | 12443.1                     | 11761.8     |
| 70,0°                 | 11079.3               | 10945.8                         | 11759.0                     | 11104.7                               | 11523.9                     | 10609.2                     | 10139.1     |
| 75,0°                 | 9712.6                | 9115.2                          | 9135.8                      | 9012.4                                | 9298.1                      | 9695.3                      | 9678.0      |
| 80,0°                 | 7085.8                | 6822.9                          | 6600.3                      | 6719.6                                | 7508.4                      | 9118.1                      | 9303.6      |
| 85,0°                 | 2622.4                | 2590.2                          | 2709.1                      | 3062.6                                | 4701.6                      | 6922.2                      | 7844.6      |

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

**Leuchtdichten in cd/m²**

γ 65°

γ 70°

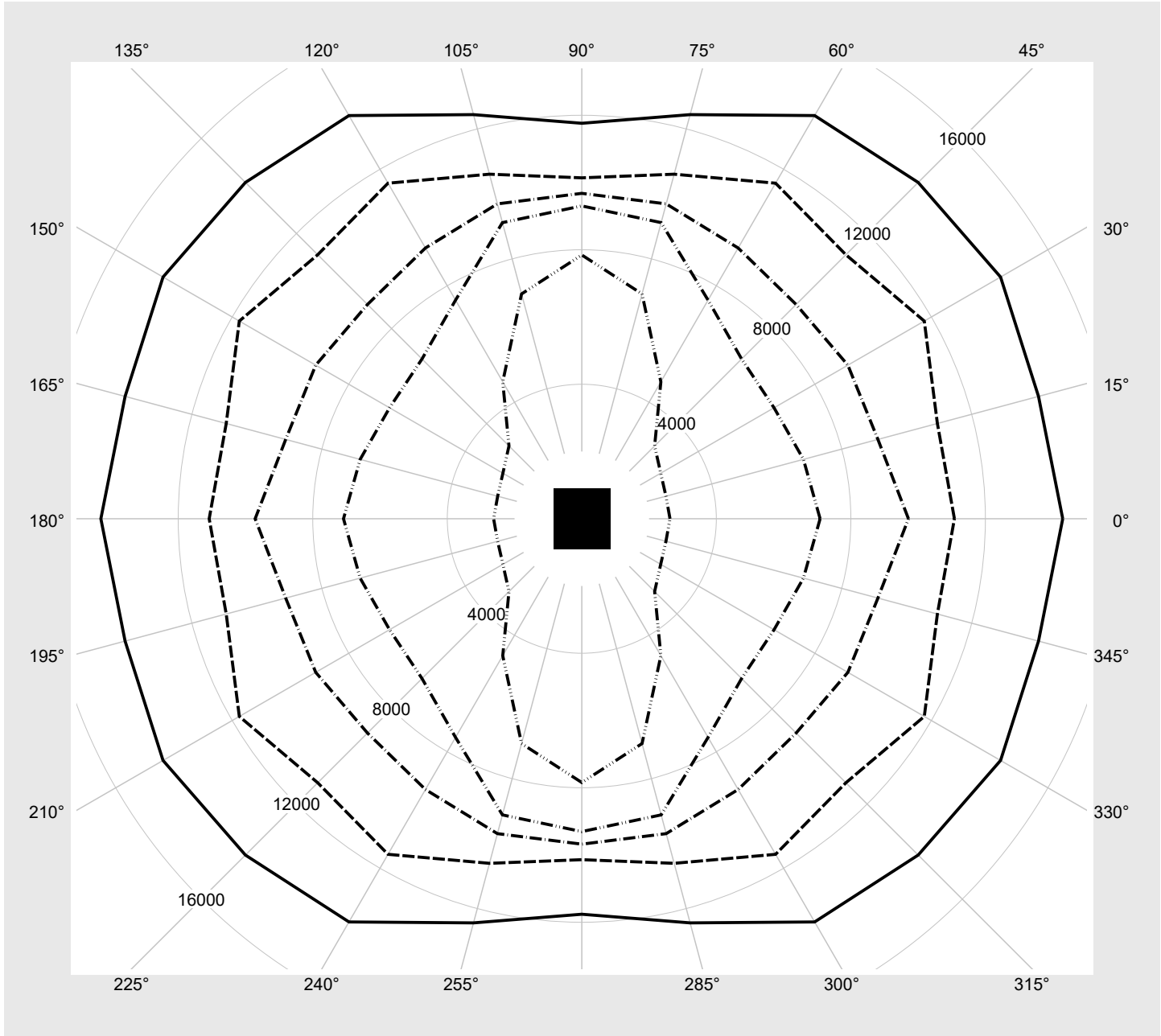
γ 75°

γ 80°

γ 85°

sit

eco



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|                                                        |                                                               |                                      |
|--------------------------------------------------------|---------------------------------------------------------------|--------------------------------------|
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| <b>Dimmstufen-Tabelle</b><br>Umgebungstemperatur: 25°C |                                                               | <b>sit</b> eco                       |

| Lichtstrom [%] | Dimmstufe linear | Dimmstufe logarithmisch | Lichtstrom [lm] | Systemleistung [W] |
|----------------|------------------|-------------------------|-----------------|--------------------|
| 100            | 254              | 254                     | 31500           | 167.9              |
| 95             | 240              | 252                     | 29894           | 158.8              |
| 90             | 226              | 250                     | 28303           | 148.5              |
| 85             | 213              | 248                     | 26810           | 139.7              |
| 80             | 199              | 245                     | 25167           | 130.2              |
| 75             | 186              | 243                     | 23638           | 121.3              |
| 70             | 173              | 240                     | 22107           | 112.7              |
| 65             | 159              | 237                     | 20436           | 103.4              |
| 60             | 146              | 234                     | 18872           | 94.9               |
| 55             | 133              | 230                     | 17285           | 86.4               |
| 50             | 121              | 227                     | 15808           | 78.5               |
| 45             | 108              | 223                     | 14186           | 70.2               |
| 40             | 95               | 218                     | 12554           | 61.9               |
| 35             | 83               | 213                     | 11024           | 54.1               |
| 30             | 71               | 207                     | 9480            | 46.6               |
| 25             | 59               | 201                     | 7914            | 39.0               |
| 20             | 47               | 192                     | 6334            | 31.7               |
| 15             | 35               | 181                     | 4729            | 24.3               |
| 10             | 23               | 166                     | 3107            | 16.9               |
| 5              | 12               | 142                     | 1596            | 9.9                |
| 2              | 6                | 117                     | 763             | 6.0                |