

Lichttechnischer Prüfbefund

Familie  
Highbay 11



Bestell-Nr.: 51HN12DA5FMA  
EAN: 4069025424631

Ausführung

primäre Lichtlenkung mit Linse, PMMA, Gehäuse, weiß, für Modario® Schiene, breit strahlend

Bestückung

LED 5000 K | CRI ≥ 80

Betriebsgerät

EVG-DALI

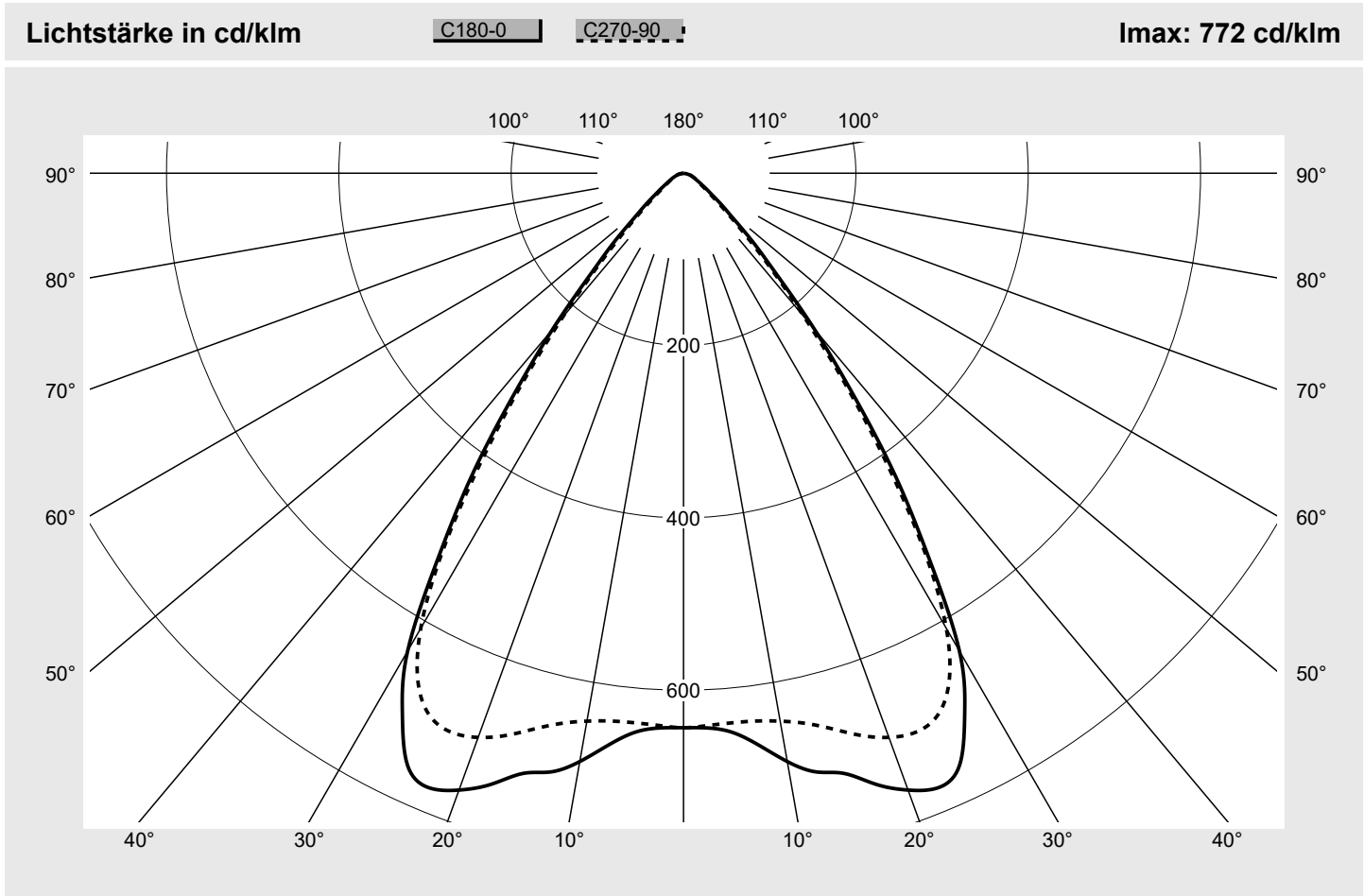
Bemessungswerte

Nettolichtstrom = 14930 lm  
Systemleistung = 73.2 W  
Lichtausbeute = 204 lm/W

LP-Nummer  
59710\_390

Seriodokumentation  
09.04.2025

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| Klassifizierungen |                    | Leuchtenbetriebswirkungsgrade |        |
|-------------------|--------------------|-------------------------------|--------|
| DIN 5040          | A 6 0              | $\eta_{LB}$                   | 100,0% |
| CIE               | N1=88 N2=98 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.: 51HN12DA5FMA<br>EAN: 4069025424631 | LP-Nummer<br>59710_390 |
| Wertetabelle Lichtstärkemessung |                                                 | Maximale Lichtstärke   |



| 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°         | 643.6                 | 643.6                       | 643.6                       | 643.6                       | 643.6                       | 643.6                       | 643.6       | 1.0                  | 1.0               |
| 2,5°         | 644.5                 | 645.1                       | 645.0                       | 644.3                       | 644.2                       | 643.7                       | 641.7       | 7.7                  | 8.7               |
| 5,0°         | 651.5                 | 652.3                       | 650.7                       | 647.5                       | 645.3                       | 643.2                       | 640.4       | 15.5                 | 24.1              |
| 7,5°         | 669.6                 | 669.1                       | 664.2                       | 657.2                       | 651.2                       | 645.8                       | 641.3       | 23.5                 | 47.6              |
| 10,0°        | 693.4                 | 691.0                       | 681.5                       | 670.0                       | 659.9                       | 651.2                       | 645.8       | 31.9                 | 79.6              |
| 12,5°        | 711.8                 | 709.4                       | 700.3                       | 685.9                       | 671.9                       | 660.7                       | 654.0       | 40.7                 | 120.2             |
| 15,0°        | 721.3                 | 721.7                       | 717.1                       | 704.9                       | 689.4                       | 675.9                       | 667.7       | 49.7                 | 169.9             |
| 17,5°        | 743.8                 | 740.8                       | 737.9                       | 726.5                       | 708.9                       | 693.0                       | 684.2       | 59.4                 | 229.3             |
| 20,0°        | 761.9                 | 761.9                       | 759.6                       | 745.2                       | 724.0                       | 705.6                       | 696.8       | 69.2                 | 298.5             |
| 22,5°        | 772.0                 | 771.2                       | 770.0                       | 754.7                       | 731.1                       | 710.8                       | 702.6       | 78.2                 | 376.7             |
| 25,0°        | 758.1                 | 756.6                       | 756.3                       | 743.6                       | 722.7                       | 703.3                       | 695.6       | 85.1                 | 461.8             |
| 27,5°        | 706.7                 | 709.5                       | 709.5                       | 700.0                       | 685.7                       | 672.3                       | 667.0       | 87.8                 | 549.7             |
| 30,0°        | 640.4                 | 635.6                       | 633.7                       | 626.6                       | 621.7                       | 614.1                       | 609.9       | 85.8                 | 635.5             |
| 32,5°        | 530.6                 | 537.6                       | 535.6                       | 526.2                       | 530.2                       | 524.1                       | 520.8       | 78.1                 | 713.6             |
| 35,0°        | 428.2                 | 426.4                       | 425.9                       | 411.9                       | 420.8                       | 414.2                       | 411.4       | 66.0                 | 779.6             |
| 37,5°        | 322.5                 | 323.4                       | 327.0                       | 311.0                       | 319.4                       | 310.8                       | 308.2       | 53.0                 | 832.6             |
| 40,0°        | 236.1                 | 234.0                       | 241.6                       | 230.8                       | 230.9                       | 219.8                       | 218.4       | 40.7                 | 873.3             |
| 42,5°        | 162.3                 | 165.3                       | 172.9                       | 171.1                       | 161.7                       | 151.3                       | 150.8       | 30.2                 | 903.5             |
| 45,0°        | 117.3                 | 114.9                       | 119.4                       | 122.5                       | 109.3                       | 102.6                       | 102.3       | 21.9                 | 925.4             |
| 47,5°        | 80.5                  | 81.4                        | 82.8                        | 85.5                        | 75.2                        | 71.4                        | 70.8        | 15.9                 | 941.3             |
| 50,0°        | 59.4                  | 58.0                        | 58.0                        | 59.0                        | 52.9                        | 50.5                        | 49.6        | 11.7                 | 953.0             |
| 52,5°        | 43.3                  | 42.8                        | 42.8                        | 43.0                        | 39.3                        | 37.2                        | 36.6        | 8.9                  | 961.8             |
| 55,0°        | 33.3                  | 32.4                        | 32.9                        | 33.7                        | 30.5                        | 28.7                        | 28.3        | 7.1                  | 968.9             |
| 57,5°        | 25.9                  | 25.4                        | 25.9                        | 26.8                        | 24.5                        | 22.9                        | 22.9        | 5.8                  | 974.7             |
| 60,0°        | 20.9                  | 20.2                        | 21.2                        | 21.8                        | 20.4                        | 18.9                        | 19.2        | 4.9                  | 979.5             |
| 62,5°        | 16.9                  | 16.2                        | 17.4                        | 18.0                        | 17.2                        | 15.9                        | 16.4        | 4.1                  | 983.6             |
| 65,0°        | 14.9                  | 13.6                        | 14.4                        | 15.1                        | 14.8                        | 13.6                        | 14.4        | 3.6                  | 987.2             |
| 67,5°        | 12.3                  | 11.4                        | 12.5                        | 12.4                        | 13.0                        | 11.7                        | 12.6        | 3.1                  | 990.3             |
| 70,0°        | 10.4                  | 9.5                         | 10.5                        | 10.1                        | 11.1                        | 10.1                        | 11.0        | 2.7                  | 993.0             |
| 72,5°        | 8.2                   | 7.7                         | 7.9                         | 8.2                         | 8.7                         | 8.6                         | 9.5         | 2.2                  | 995.2             |
| 75,0°        | 6.5                   | 6.0                         | 6.0                         | 6.4                         | 6.6                         | 7.1                         | 7.9         | 1.7                  | 996.9             |
| 77,5°        | 4.5                   | 4.3                         | 4.4                         | 4.7                         | 5.1                         | 5.6                         | 6.3         | 1.3                  | 998.2             |
| 80,0°        | 2.9                   | 2.7                         | 2.9                         | 3.1                         | 3.5                         | 4.1                         | 4.7         | 0.9                  | 999.1             |
| 82,5°        | 1.3                   | 1.4                         | 1.6                         | 1.8                         | 2.2                         | 2.7                         | 3.3         | 0.5                  | 999.7             |
| 85,0°        | 0.6                   | 0.6                         | 0.6                         | 0.7                         | 1.0                         | 1.4                         | 1.8         | 0.3                  | 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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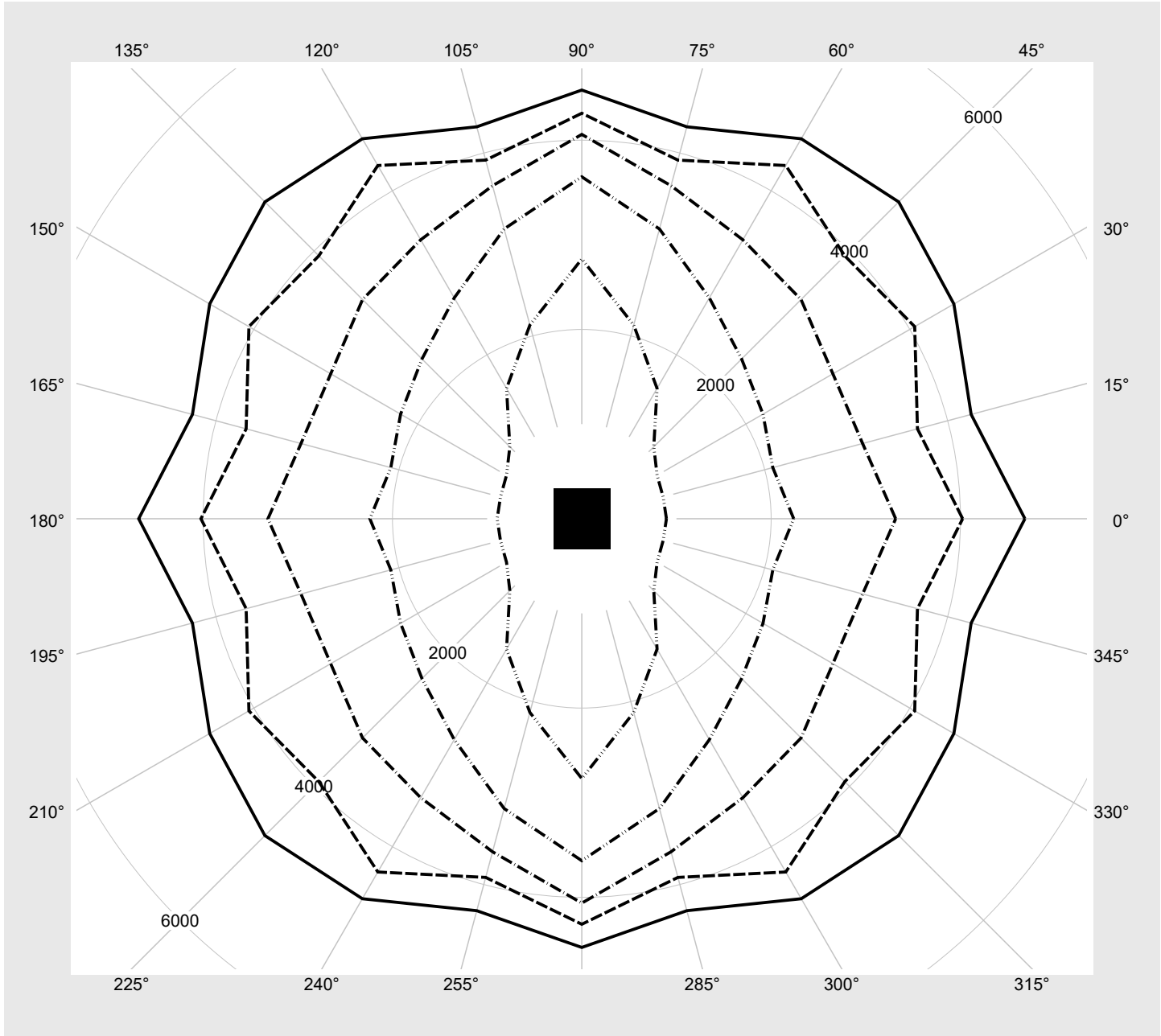
|                       |     |                                                 |      |      |      |      |                                       |      |                        |      |
|-----------------------|-----|-------------------------------------------------|------|------|------|------|---------------------------------------|------|------------------------|------|
| Familie<br>Highbay 11 |     | Bestell-Nr.: 51HN12DA5FMA<br>EAN: 4069025424631 |      |      |      |      |                                       |      | LP-Nummer<br>59710_390 |      |
| 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  | 19,9                                            | 21,2 | 20,3 | 21,5 | 21,8 | 19,6                                  | 20,9 | 20,0                   | 21,2 |
|                       | 3H  | 19,9                                            | 21,0 | 20,3 | 21,4 | 21,7 | 19,6                                  | 20,8 | 20,0                   | 21,1 |
|                       | 4H  | 19,9                                            | 20,9 | 20,3 | 21,3 | 21,7 | 19,7                                  | 20,7 | 20,1                   | 21,0 |
|                       | 6H  | 19,9                                            | 20,8 | 20,3 | 21,2 | 21,6 | 19,7                                  | 20,6 | 20,1                   | 21,0 |
|                       | 8H  | 19,9                                            | 20,7 | 20,4 | 21,1 | 21,5 | 19,8                                  | 20,6 | 20,2                   | 21,0 |
|                       | 12H | 19,9                                            | 20,6 | 20,4 | 21,0 | 21,5 | 19,8                                  | 20,5 | 20,2                   | 20,9 |
| 4H                    | 2H  | 19,8                                            | 20,8 | 20,2 | 21,2 | 21,6 | 19,5                                  | 20,6 | 19,9                   | 20,9 |
|                       | 3H  | 19,8                                            | 20,7 | 20,3 | 21,1 | 21,5 | 19,6                                  | 20,4 | 20,0                   | 20,8 |
|                       | 4H  | 19,8                                            | 20,6 | 20,3 | 21,0 | 21,5 | 19,6                                  | 20,4 | 20,1                   | 20,8 |
|                       | 6H  | 19,8                                            | 20,5 | 20,3 | 20,9 | 21,4 | 19,7                                  | 20,3 | 20,1                   | 20,8 |
|                       | 8H  | 19,8                                            | 20,4 | 20,3 | 20,8 | 21,3 | 19,7                                  | 20,3 | 20,2                   | 20,7 |
|                       | 12H | 19,8                                            | 20,3 | 20,3 | 20,7 | 21,2 | 19,7                                  | 20,2 | 20,2                   | 20,7 |
| 8H                    | 4H  | 19,8                                            | 20,4 | 20,2 | 20,8 | 21,3 | 19,6                                  | 20,1 | 20,0                   | 20,6 |
|                       | 6H  | 19,7                                            | 20,2 | 20,2 | 20,7 | 21,2 | 19,6                                  | 20,1 | 20,1                   | 20,6 |
|                       | 8H  | 19,7                                            | 20,1 | 20,2 | 20,6 | 21,1 | 19,6                                  | 20,1 | 20,1                   | 20,5 |
|                       | 12H | 19,7                                            | 20,0 | 20,2 | 20,5 | 21,1 | 19,7                                  | 20,0 | 20,2                   | 20,5 |
| 12H                   | 4H  | 19,8                                            | 20,3 | 20,3 | 20,7 | 21,2 | 19,6                                  | 20,0 | 20,1                   | 20,5 |
|                       | 6H  | 19,8                                            | 20,1 | 20,3 | 20,6 | 21,1 | 19,6                                  | 20,0 | 20,1                   | 20,5 |
|                       | 8H  | 19,7                                            | 20,0 | 20,2 | 20,5 | 21,1 | 19,6                                  | 20,0 | 20,2                   | 20,5 |

| 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°                 | 22026.8               | 21568.2                         | 22419.8                     | 22994.4                               | 20514.2                     | 19260.8                     | 19204.1     |
| 50,0°                 | 12272.5               | 11982.3                         | 11969.7                     | 12183.5                               | 10932.8                     | 10424.1                     | 10245.2     |
| 55,0°                 | 7712.6                | 7506.3                          | 7613.5                      | 7788.3                                | 7065.0                      | 6641.2                      | 6561.3      |
| 60,0°                 | 5547.2                | 5355.0                          | 5626.6                      | 5795.5                                | 5426.2                      | 5025.0                      | 5089.0      |
| 65,0°                 | 4680.7                | 4257.9                          | 4538.4                      | 4734.1                                | 4635.8                      | 4287.1                      | 4529.3      |
| 70,0°                 | 4023.1                | 3670.7                          | 4060.4                      | 3928.4                                | 4309.6                      | 3923.0                      | 4284.4      |
| 75,0°                 | 3315.5                | 3070.9                          | 3062.6                      | 3275.5                                | 3403.2                      | 3642.8                      | 4060.8      |
| 80,0°                 | 2238.4                | 2088.6                          | 2210.2                      | 2387.5                                | 2694.9                      | 3169.6                      | 3613.0      |
| 85,0°                 | 894.1                 | 889.5                           | 918.5                       | 1075.4                                | 1590.2                      | 2118.7                      | 2744.8      |

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|                                                                                                                                 |                                                            |                                   |
|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------|
| <p>Familie</p> <p>Highbay 11</p>                                                                                                | <p>Bestell-Nr.: 51HN12DA5FMA</p> <p>EAN: 4069025424631</p> | <p>LP-Nummer</p> <p>59710_390</p> |
| <p>Leuchtdichten in cd/m²</p> <div> <div>γ 65°</div> <div>γ 70°</div> <div>γ 75°</div> <div>γ 80°</div> <div>γ 85°</div> </div> |                                                            |                                   |

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|                       |                                                 |                           |
|-----------------------|-------------------------------------------------|---------------------------|
| Familie<br>Highbay 11 | Bestell-Nr.: 51HN12DA5FMA<br>EAN: 4069025424631 | LP-Nummer<br>59710_390    |
| Dimmstufen-Tabelle    |                                                 | Umgebungstemperatur: 25°C |

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| Lichtstrom<br>[%] | Dimmstufe<br>linear | Dimmstufe<br>logarithmisch | Lichtstrom<br>[lm] | Systemleistung<br>[W] |
|-------------------|---------------------|----------------------------|--------------------|-----------------------|
| 100               | 254                 | 254                        | 14930              | 73.2                  |
| 95                | 241                 | 252                        | 14197              | 69.4                  |
| 90                | 227                 | 250                        | 13409              | 65.3                  |
| 85                | 214                 | 248                        | 12674              | 61.5                  |
| 80                | 201                 | 245                        | 11932              | 57.8                  |
| 75                | 188                 | 243                        | 11191              | 53.9                  |
| 70                | 175                 | 240                        | 10443              | 50.2                  |
| 65                | 162                 | 238                        | 9689               | 46.4                  |
| 60                | 149                 | 234                        | 8934               | 42.7                  |
| 55                | 137                 | 231                        | 8233               | 39.3                  |
| 50                | 124                 | 228                        | 7465               | 35.6                  |
| 45                | 111                 | 224                        | 6699               | 31.9                  |
| 40                | 99                  | 219                        | 5987               | 28.6                  |
| 35                | 86                  | 214                        | 5206               | 24.9                  |
| 30                | 74                  | 209                        | 4484               | 21.7                  |
| 25                | 62                  | 202                        | 3759               | 18.3                  |
| 20                | 49                  | 194                        | 2963               | 14.8                  |
| 15                | 37                  | 183                        | 2227               | 11.6                  |
| 10                | 25                  | 169                        | 1488               | 8.2                   |
| 5                 | 13                  | 145                        | 738                | 4.7                   |
| 2                 | 5                   | 110                        | 238                | 2.5                   |