

## Photometric test report

Family  
**Monsun® 12**

Order number: **51FP20DP460HR**  
EAN: **4058352392355**

LP number  
**59060\_51**



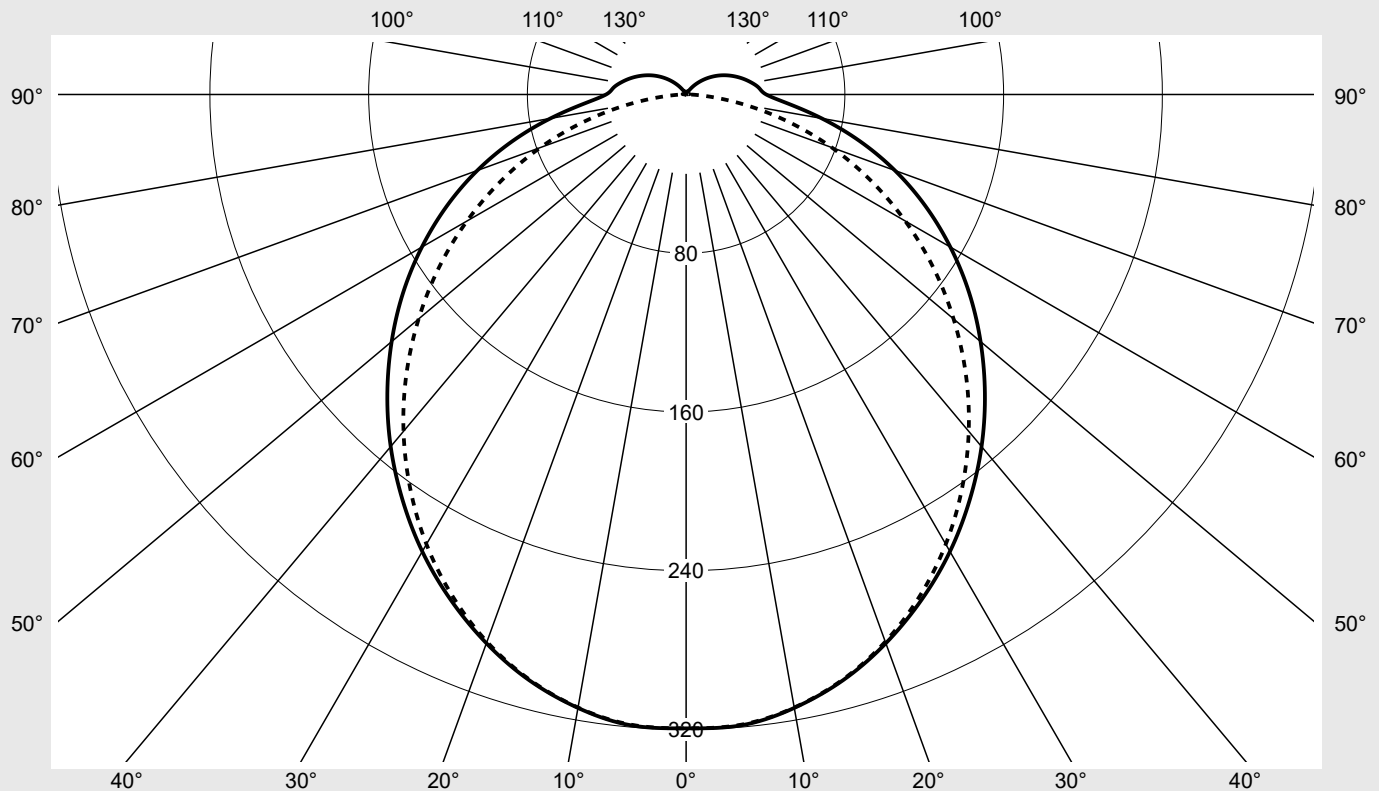
**Version** prismatic diffuser, opal, polycarbonate, wide distribution, changeover relay  
**Lamps** LED 4000 K | CRI ≥ 80  
**Controlgear** ECG-DALI  
**Setting** equivalent power supply (DC)  
**Rated values** Net luminous flux = 800 lm  
Power consumption = 6.9 W  
Luminous efficacy = 115.9 lm/W

serial  
documentation  
10.05.2021

sitEco

Luminous intensity in cd/klm **C180-0** **C270-90**

Imax: **319 cd/klm**



### Classifications

DIN 5040 A 4 1  
CIE N1=45 N2=75 N3=93  
N4=94 N5=100

### Luminaire light output ratios

$\eta_{LB}$  100.0%  
 $\phi_u$  93.7%  
 $\phi_o$  6.3%

### Measurement conditions

DIN EN 13032 and DIN 5032

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|   |   |                                     |
|---|---|-------------------------------------|
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| <b>Table of values for luminous intensities</b> |   | <b>Maximum luminous intensity</b>   |
|   |   | <b>siteco</b>                       |

| C-planes<br>γ                | 0°<br>180° | 15°                  | 30°                  | 45°                  | 60°                  | 75°                  | 90°<br>270° | Phi-zone                | Total<br>Phi-zone |
|------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------|-------------------------|-------------------|
|                              |            | 165°<br>195°<br>345° | 150°<br>210°<br>330° | 135°<br>225°<br>315° | 120°<br>240°<br>300° | 105°<br>255°<br>285° |             |                         |                   |
| Luminous intensity in cd/klm |            |                      |                      |                      |                      |                      |             | Luminous flux in lm/klm |                   |
| 0°                           | 319.4      | 319.4                | 319.4                | 319.4                | 319.4                | 319.4                | 319.4       | 1.9                     | 1.9               |
| 5°                           | 319.1      | 317.8                | 316.0                | 317.2                | 318.6                | 318.6                | 318.8       | 15.2                    | 17.1              |
| 10°                          | 313.9      | 312.8                | 311.0                | 312.1                | 313.5                | 313.5                | 313.7       | 29.8                    | 46.9              |
| 15°                          | 305.6      | 304.7                | 302.7                | 303.7                | 305.0                | 304.9                | 305.2       | 43.2                    | 90.1              |
| 20°                          | 294.3      | 293.5                | 291.4                | 292.2                | 293.3                | 293.1                | 293.5       | 54.9                    | 145.0             |
| 25°                          | 280.9      | 280.2                | 277.7                | 277.9                | 278.8                | 278.5                | 278.8       | 64.6                    | 209.6             |
| 30°                          | 265.9      | 265.3                | 262.4                | 261.6                | 261.9                | 261.4                | 261.7       | 72.0                    | 281.6             |
| 35°                          | 249.2      | 248.5                | 245.6                | 243.7                | 242.9                | 242.2                | 242.4       | 77.0                    | 358.5             |
| 40°                          | 231.6      | 230.8                | 227.5                | 224.6                | 222.7                | 221.4                | 221.6       | 79.5                    | 438.0             |
| 45°                          | 212.9      | 211.8                | 208.5                | 204.2                | 201.3                | 199.0                | 199.4       | 79.5                    | 517.5             |
| 50°                          | 193.7      | 192.3                | 188.8                | 183.7                | 179.4                | 175.9                | 176.0       | 77.3                    | 594.9             |
| 55°                          | 174.1      | 172.4                | 168.8                | 162.7                | 157.2                | 152.3                | 152.1       | 73.1                    | 667.9             |
| 60°                          | 153.8      | 152.1                | 148.1                | 141.4                | 134.9                | 128.8                | 127.5       | 66.9                    | 734.9             |
| 65°                          | 133.1      | 131.4                | 127.0                | 119.9                | 112.8                | 105.5                | 102.8       | 59.2                    | 794.0             |
| 70°                          | 112.0      | 110.4                | 105.0                | 98.0                 | 90.2                 | 82.2                 | 78.2        | 49.9                    | 843.9             |
| 75°                          | 90.5       | 88.8                 | 83.0                 | 75.7                 | 67.3                 | 58.8                 | 53.6        | 39.3                    | 883.2             |
| 80°                          | 69.4       | 67.4                 | 62.0                 | 54.0                 | 45.3                 | 36.4                 | 30.4        | 28.3                    | 911.6             |
| 85°                          | 51.2       | 49.1                 | 43.8                 | 35.9                 | 26.7                 | 17.7                 | 11.3        | 18.6                    | 930.2             |
| 90°                          | 40.3       | 38.3                 | 33.0                 | 25.3                 | 16.4                 | 7.5                  | 1.9         | 12.9                    | 943.1             |
| 95°                          | 36.9       | 35.1                 | 30.2                 | 22.8                 | 14.1                 | 5.6                  | 1.6         | 11.6                    | 954.7             |
| 100°                         | 33.7       | 31.9                 | 27.1                 | 20.1                 | 11.9                 | 4.0                  | 1.5         | 10.1                    | 964.8             |
| 105°                         | 30.1       | 28.5                 | 23.8                 | 17.3                 | 9.5                  | 2.6                  | 1.3         | 8.6                     | 973.4             |
| 110°                         | 26.5       | 24.6                 | 20.5                 | 14.4                 | 7.3                  | 1.5                  | 1.2         | 7.1                     | 980.4             |
| 115°                         | 22.8       | 21.1                 | 17.3                 | 11.6                 | 5.2                  | 1.3                  | 1.2         | 5.7                     | 986.1             |
| 120°                         | 19.1       | 17.5                 | 14.1                 | 8.9                  | 3.4                  | 1.3                  | 1.1         | 4.4                     | 990.5             |
| 125°                         | 15.4       | 13.9                 | 10.8                 | 6.2                  | 1.7                  | 1.2                  | 1.0         | 3.2                     | 993.6             |
| 130°                         | 11.8       | 10.5                 | 7.7                  | 3.9                  | 1.4                  | 1.2                  | 1.0         | 2.2                     | 995.8             |
| 135°                         | 8.3        | 7.2                  | 5.0                  | 2.0                  | 1.4                  | 1.2                  | 1.1         | 1.4                     | 997.2             |
| 140°                         | 5.1        | 4.3                  | 2.5                  | 1.6                  | 1.3                  | 1.1                  | 1.0         | 0.8                     | 998.0             |
| 145°                         | 2.4        | 2.0                  | 1.8                  | 1.6                  | 1.4                  | 1.2                  | 1.2         | 0.5                     | 998.5             |
| 150°                         | 1.9        | 1.9                  | 1.8                  | 1.5                  | 1.4                  | 1.3                  | 1.2         | 0.4                     | 999.0             |
| 155°                         | 1.8        | 1.8                  | 1.6                  | 1.5                  | 1.4                  | 1.3                  | 1.3         | 0.4                     | 999.3             |
| 160°                         | 1.6        | 1.6                  | 1.5                  | 1.5                  | 1.4                  | 1.4                  | 1.3         | 0.3                     | 999.6             |
| 165°                         | 1.5        | 1.5                  | 1.4                  | 1.4                  | 1.4                  | 1.4                  | 1.3         | 0.2                     | 999.8             |
| 170°                         | 1.4        | 1.4                  | 1.4                  | 1.4                  | 1.4                  | 1.4                  | 1.3         | 0.1                     | 999.9             |
| 175°                         | 1.3        | 1.3                  | 1.3                  | 1.4                  | 1.4                  | 1.4                  | 1.3         | 0.1                     | 1000.0            |
| 180°                         | 1.3        | 1.3                  | 1.3                  | 1.3                  | 1.3                  | 1.3                  | 1.3         | 0.0                     | 1000.0            |

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

|                  |                      |               |
|------------------|----------------------|---------------|
| <b>UGR-Table</b> | <b>Standard room</b> | <b>siteco</b> |
|------------------|----------------------|---------------|

|                              |                     |      |      |      |      |                    |      |      |      |      |      |
|------------------------------|---------------------|------|------|------|------|--------------------|------|------|------|------|------|
| Reflection factor of ceiling | 0.7                 | 0.7  | 0.5  | 0.5  | 0.3  | 0.7                | 0.7  | 0.5  | 0.5  | 0.3  |      |
| Reflection factor of walls   | 0.5                 | 0.3  | 0.5  | 0.3  | 0.3  | 0.5                | 0.3  | 0.5  | 0.3  | 0.3  |      |
| Reflection factor of floor   | 0.2                 | 0.2  | 0.2  | 0.2  | 0.2  | 0.2                | 0.2  | 0.2  | 0.2  | 0.2  |      |
| Room dimensions              | View crosswise (C0) |      |      |      |      | View endwise (C90) |      |      |      |      |      |
| x                            | y                   |      |      |      |      |                    |      |      |      |      |      |
| 2H                           | 2H                  | 13.3 | 15.1 | 13.7 | 15.4 | 15.7               | 13.1 | 14.9 | 13.5 | 15.2 | 15.5 |
|                              | 3H                  | 15.1 | 16.7 | 15.5 | 17.0 | 17.4               | 14.7 | 16.3 | 15.1 | 16.6 | 17.0 |
|                              | 4H                  | 16.0 | 17.4 | 16.4 | 17.8 | 18.2               | 15.3 | 16.8 | 15.7 | 17.1 | 17.5 |
|                              | 6H                  | 16.7 | 18.1 | 17.1 | 18.4 | 18.8               | 15.7 | 17.1 | 16.1 | 17.5 | 17.9 |
|                              | 8H                  | 17.0 | 18.3 | 17.4 | 18.7 | 19.1               | 15.9 | 17.2 | 16.3 | 17.6 | 18.0 |
|                              | 12H                 | 17.3 | 18.5 | 17.7 | 18.9 | 19.3               | 15.9 | 17.2 | 16.4 | 17.6 | 18.0 |
| 4H                           | 2H                  | 14.1 | 15.5 | 14.5 | 15.9 | 16.3               | 13.9 | 15.4 | 14.3 | 15.7 | 16.1 |
|                              | 3H                  | 16.1 | 17.3 | 16.5 | 17.7 | 18.1               | 15.7 | 16.9 | 16.1 | 17.3 | 17.7 |
|                              | 4H                  | 17.0 | 18.2 | 17.5 | 18.6 | 19.0               | 16.4 | 17.6 | 16.8 | 18.0 | 18.4 |
|                              | 6H                  | 17.9 | 18.9 | 18.4 | 19.3 | 19.8               | 16.9 | 18.0 | 17.4 | 18.4 | 18.8 |
|                              | 8H                  | 18.3 | 19.2 | 18.8 | 19.7 | 20.1               | 17.1 | 18.0 | 17.6 | 18.5 | 19.0 |
|                              | 12H                 | 18.7 | 19.5 | 19.1 | 19.9 | 20.4               | 17.2 | 18.1 | 17.7 | 18.5 | 19.0 |
| 8H                           | 4H                  | 17.4 | 18.3 | 17.8 | 18.8 | 19.2               | 16.8 | 17.8 | 17.3 | 18.2 | 18.7 |
|                              | 6H                  | 18.4 | 19.2 | 18.9 | 19.7 | 20.2               | 17.5 | 18.3 | 18.0 | 18.8 | 19.3 |
|                              | 8H                  | 18.9 | 19.6 | 19.4 | 20.1 | 20.6               | 17.8 | 18.5 | 18.2 | 18.9 | 19.4 |
|                              | 12H                 | 19.4 | 20.0 | 19.9 | 20.5 | 21.0               | 17.9 | 18.5 | 18.4 | 19.0 | 19.6 |
| 12H                          | 4H                  | 17.4 | 18.3 | 17.9 | 18.7 | 19.2               | 16.9 | 17.8 | 17.4 | 18.2 | 18.7 |
|                              | 6H                  | 18.5 | 19.2 | 19.0 | 19.7 | 20.2               | 17.7 | 18.3 | 18.2 | 18.8 | 19.3 |
|                              | 8H                  | 19.0 | 19.6 | 19.5 | 20.1 | 20.7               | 18.0 | 18.6 | 18.5 | 19.0 | 19.6 |

|                        |   |                                      |                 |                    |                     |
|------------------------|---|--------------------------------------|-----------------|--------------------|---------------------|
| <b>Luminance table</b> | <b>Max. for <math>\gamma \geq 65^\circ</math></b> | <b>Photometric dimensions in mm:</b> | <b>L = 1590</b> | <b>H(C0) = 21</b>  | <b>H(C180) = 21</b> |
|                        |   |                                      | <b>B = 87</b>   | <b>H(C90) = 21</b> | <b>H(C270) = 21</b> |

| C-planes | $\gamma$ | Luminance 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°      |          | 1403.0                         | 1401.1                      | 1402.6                      | 1415.5                      | 1453.9                      | 1513.6                      | 1609.3      |  |
| 50°      |          | 1353.5                         | 1349.6                      | 1351.7                      | 1361.0                      | 1394.6                      | 1452.2                      | 1558.7      |  |
| 55°      |          | 1305.5                         | 1299.1                      | 1301.0                      | 1304.9                      | 1333.4                      | 1386.6                      | 1505.0      |  |
| 60°      |          | 1254.1                         | 1247.8                      | 1247.2                      | 1247.1                      | 1270.0                      | 1317.8                      | 1441.9      |  |
| 65°      |          | 1200.1                         | 1193.4                      | 1187.9                      | 1184.1                      | 1202.5                      | 1242.6                      | 1367.4      |  |
| 70°      |          | 1138.6                         | 1131.2                      | 1115.4                      | 1108.6                      | 1118.8                      | 1151.2                      | 1275.6      |  |
| 75°      |          | 1063.6                         | 1054.1                      | 1027.9                      | 1011.9                      | 1007.2                      | 1026.1                      | 1142.3      |  |
| 80°      |          | 976.0                          | 958.8                       | 929.3                       | 889.2                       | 861.9                       | 849.9                       | 943.4       |  |
| 85°      |          | 904.6                          | 880.4                       | 838.9                       | 778.4                       | 704.7                       | 629.8                       | 652.5       |  |

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



**Luminance values in cd/m<sup>2</sup>**

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

