

Photometric test report

Family
Monsun® 12

Order number: **51FP20EP460H**
EAN: **4058352389331**

LP number
59060_31



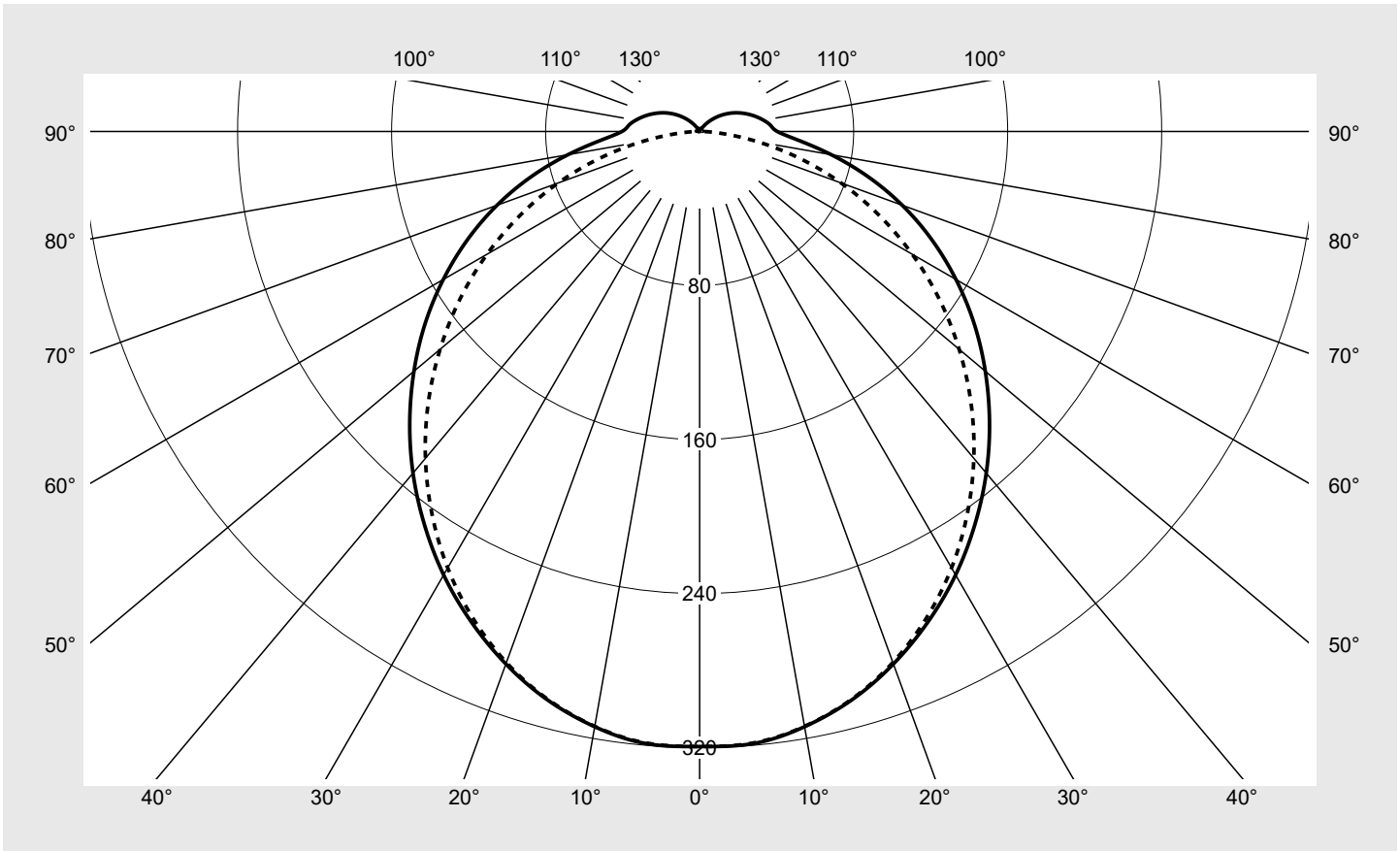
Version prismatic diffuser, opal, polycarbonate, wide distribution
Lamps LED 4000 K | CRI ≥ 80
Controlgear ECG-DALI
Rated values Net luminous flux = 5450 lm
Power consumption = 34.6 W
Luminous efficacy = 157.5 lm/W

serial
documentation
26.08.2020

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

η_{LB} 100.0%
 ϕ_u 93.7%
 ϕ_o 6.3%

Measurement conditions

DIN EN 13032 and DIN 5032

Photometric test report

| | | |
|---|--|-------------------------------------|
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| Table of values for luminous intensities | | Maximum luminous intensity |
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| C-planes γ | 0° 180° | 15° | 30° | 45° | 60° | 75° | 90° 270° | Phi-zone | Total Phi-zone |
|------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------------|----------|-------------------|
| | | 165° 195° 345° | 150° 210° 330° | 135° 225° 315° | 120° 240° 300° | 105° 255° 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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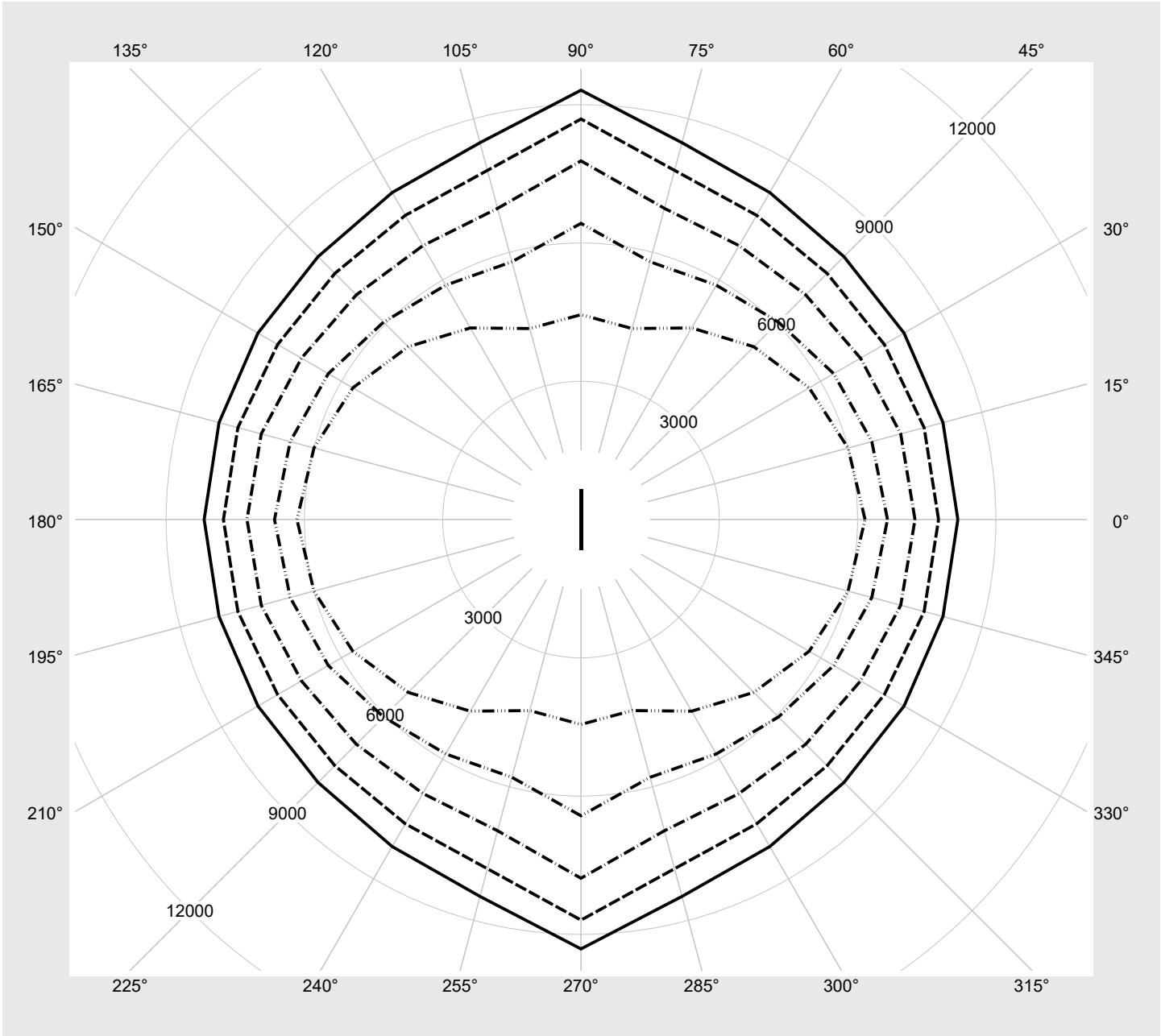
| UGR-Table | | Standard room | | | | | | | | | |
|------------------------------|-----|---------------------|------|------|------|------|--------------------|------|------|------|------|
| Reflection factor of ceiling | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | |
| Reflection factor 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 | 20.0 | 21.7 | 20.3 | 22.0 | 22.3 | 19.8 | 21.5 | 20.2 | 21.8 | 22.2 |
| | 3H | 21.8 | 23.4 | 22.2 | 23.7 | 24.1 | 21.4 | 22.9 | 21.7 | 23.3 | 23.6 |
| | 4H | 22.6 | 24.1 | 23.0 | 24.5 | 24.8 | 22.0 | 23.5 | 22.4 | 23.8 | 24.2 |
| | 6H | 23.4 | 24.7 | 23.8 | 25.1 | 25.5 | 22.4 | 23.8 | 22.8 | 24.1 | 24.5 |
| | 8H | 23.7 | 25.0 | 24.1 | 25.4 | 25.8 | 22.5 | 23.8 | 23.0 | 24.2 | 24.6 |
| | 12H | 24.0 | 25.2 | 24.4 | 25.6 | 26.0 | 22.6 | 23.8 | 23.0 | 24.2 | 24.6 |
| 4H | 2H | 20.7 | 22.2 | 21.1 | 22.6 | 22.9 | 20.6 | 22.1 | 21.0 | 22.4 | 22.8 |
| | 3H | 22.7 | 24.0 | 23.2 | 24.4 | 24.8 | 22.3 | 23.6 | 22.8 | 24.0 | 24.4 |
| | 4H | 23.7 | 24.9 | 24.1 | 25.3 | 25.7 | 23.1 | 24.2 | 23.5 | 24.6 | 25.1 |
| | 6H | 24.6 | 25.6 | 25.0 | 26.0 | 26.5 | 23.6 | 24.6 | 24.1 | 25.0 | 25.5 |
| | 8H | 25.0 | 25.9 | 25.4 | 26.3 | 26.8 | 23.8 | 24.7 | 24.2 | 25.2 | 25.6 |
| | 12H | 25.3 | 26.2 | 25.8 | 26.6 | 27.1 | 23.9 | 24.7 | 24.4 | 25.2 | 25.7 |
| 8H | 4H | 24.0 | 25.0 | 24.5 | 25.4 | 25.9 | 23.5 | 24.4 | 24.0 | 24.9 | 25.3 |
| | 6H | 25.1 | 25.9 | 25.6 | 26.3 | 26.8 | 24.2 | 25.0 | 24.7 | 25.4 | 25.9 |
| | 8H | 25.6 | 26.3 | 26.1 | 26.7 | 27.3 | 24.4 | 25.1 | 24.9 | 25.6 | 26.1 |
| | 12H | 26.1 | 26.7 | 26.6 | 27.2 | 27.7 | 24.6 | 25.2 | 25.1 | 25.7 | 26.2 |
| 12H | 4H | 24.1 | 24.9 | 24.6 | 25.4 | 25.9 | 23.6 | 24.4 | 24.1 | 24.9 | 25.4 |
| | 6H | 25.2 | 25.9 | 25.7 | 26.3 | 26.9 | 24.3 | 25.0 | 24.8 | 25.5 | 26.0 |
| | 8H | 25.7 | 26.3 | 26.2 | 26.8 | 27.3 | 24.6 | 25.2 | 25.1 | 25.7 | 26.2 |

| Luminance table | | Max. for $\gamma \geq 65^\circ$ | | Photometric dimensions in mm: | | L = 1590 | H(C0) = 21 | H(C180) = 21 |
|--------------------------------|----------|---------------------------------|--------|-------------------------------|--------|----------|-------------|--------------|
| | | | | | | B = 87 | H(C90) = 21 | H(C270) = 21 |
| C-planes | γ | 0° | 15° | 30° | 45° | 60° | 75° | 90° |
| | | 180° | 165° | 150° | 135° | 120° | 105° | 270° |
| | | 195° | 210° | 225° | 240° | 255° | | |
| | | 345° | 330° | 315° | 300° | 285° | | |
| Luminance in cd/m ² | | | | | | | | |
| 45° | | 9558.0 | 9544.8 | 9555.5 | 9643.3 | 9904.7 | 10311.5 | 10963.1 |
| 50° | | 9220.8 | 9193.8 | 9208.3 | 9271.9 | 9500.7 | 9893.0 | 10618.5 |
| 55° | | 8893.5 | 8849.9 | 8863.1 | 8889.6 | 9083.7 | 9446.3 | 10252.9 |
| 60° | | 8543.5 | 8500.4 | 8496.8 | 8495.9 | 8651.6 | 8977.7 | 9822.6 |
| 65° | | 8175.6 | 8129.8 | 8092.5 | 8067.0 | 8192.0 | 8464.9 | 9315.1 |
| 70° | | 7757.0 | 7706.4 | 7598.7 | 7552.1 | 7621.8 | 7842.7 | 8689.8 |
| 75° | | 7245.7 | 7181.1 | 7002.5 | 6893.9 | 6861.6 | 6990.0 | 7781.7 |
| 80° | | 6649.3 | 6531.9 | 6330.6 | 6057.6 | 5871.5 | 5790.0 | 6426.7 |
| 85° | | 6162.6 | 5997.7 | 5715.3 | 5302.6 | 4800.8 | 4290.6 | 4445.2 |

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Luminance values in cd/m² γ 65° γ 70° γ 75° γ 80° γ 85° **siteco**



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| Dimming levels table | environmental temperature: 25°C | sITeco |
|-----------------------------|---------------------------------|---------------|

| Luminous flux % | Dimming level linear | Dimming level logarithmic | Luminous flux [lm] | Power consumption [W] |
|-----------------|----------------------|---------------------------|--------------------|-----------------------|
| 100 | 254 | 254 | 5450 | 34.6 |
| 95 | 241 | 252 | 5185 | 33.0 |
| 90 | 227 | 250 | 4895 | 31.1 |
| 85 | 214 | 248 | 4624 | 29.4 |
| 80 | 201 | 245 | 4352 | 27.7 |
| 75 | 188 | 243 | 4078 | 26.0 |
| 70 | 176 | 241 | 3822 | 24.5 |
| 65 | 163 | 238 | 3545 | 22.8 |
| 60 | 150 | 235 | 3266 | 21.2 |
| 55 | 138 | 232 | 3007 | 19.6 |
| 50 | 125 | 228 | 2725 | 18.0 |
| 45 | 113 | 224 | 2463 | 16.4 |
| 40 | 100 | 220 | 2178 | 14.8 |
| 35 | 88 | 215 | 1913 | 13.2 |
| 30 | 75 | 209 | 1627 | 11.5 |
| 25 | 63 | 203 | 1360 | 10.0 |
| 20 | 51 | 195 | 1091 | 8.4 |
| 15 | 39 | 185 | 820 | 7.0 |
| 10 | 27 | 172 | 549 | 5.5 |
| 5 | 15 | 150 | 275 | 4.1 |
| 2 | 8 | 127 | 116 | 3.2 |