

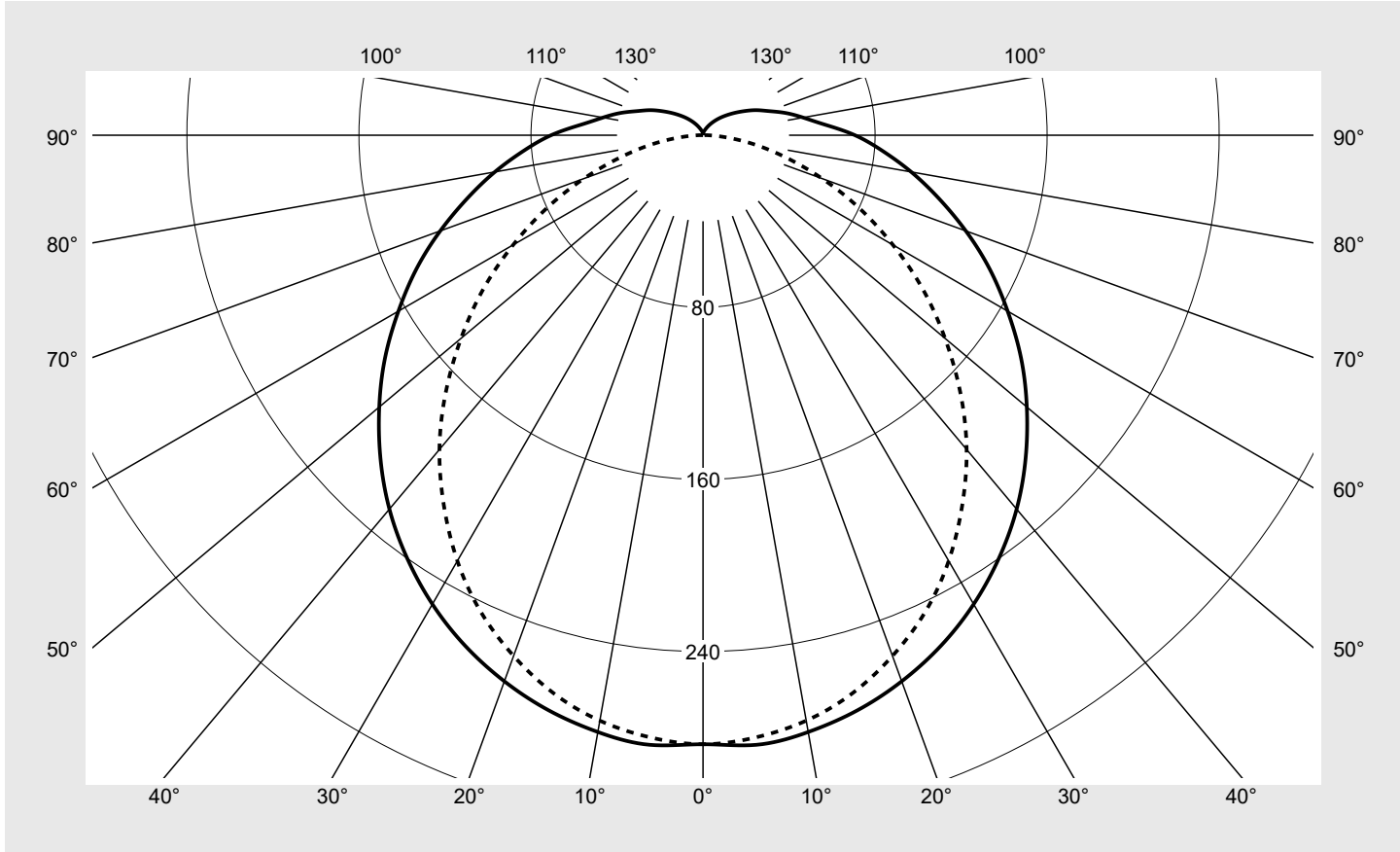


Photometric test report

| | | |
|--|---|---|
| Family Monsun® 31 tube | Order number: 51FT10NN4A0ATR1 EAN: 4058352742150 | LP number 59362_4 |
|  | Version tubular luminaire, diffuser, opal, PMMA, diffuse beam | serial documentation 01.03.2023 |
| | Lamps LED 4000 K CRI ≥ 80 Controlgear ECG-DALI Rated values Net luminous flux = 10000 lm Power consumption = 58.0 W Luminous efficacy = 172.4 lm/W | |
| | |  |

Luminous intensity in cd/klm C180-0 C270-90 **Imax: 284 cd/klm**




| Classifications | |
|-----------------|-----------------------------------|
| DIN 5040 | A 3 1 |
| CIE | N1=42 N2=71 N3=90 N4=91 N5=100 |

| Luminaire light output ratios | |
|-------------------------------|--------|
| η_{LB} | 100.0% |
| ϕ_u | 91.0% |
| ϕ_o | 9.0% |

Measurement conditions
 DIN EN 13032 and DIN 5032

Photometric test report

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| Table of values for luminous intensities | |  |
| Maximum luminous intensity | | |

| C-planes γ | 0° 180° | 15° 165° 195° 345° | 30° 150° 210° 330° | 45° 135° 225° 315° | 60° 120° 240° 300° | 75° 105° 255° 285° | 90° 270° | Phi-zone | Total Phi-zone |
|----------------------|------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------|----------|-------------------|
| | | | | | | | | | |
| 0° | 283.1 | 283.1 | 283.1 | 283.1 | 283.1 | 283.1 | 283.1 | 1.7 | 1.7 |
| 5° | 284.4 | 282.4 | 282.0 | 281.5 | 281.4 | 281.2 | 281.0 | 13.5 | 15.2 |
| 10° | 281.7 | 279.5 | 278.8 | 277.9 | 277.3 | 276.7 | 276.3 | 26.5 | 41.6 |
| 15° | 276.8 | 274.8 | 273.4 | 271.9 | 270.3 | 269.3 | 268.5 | 38.6 | 80.2 |
| 20° | 270.1 | 267.8 | 266.0 | 263.2 | 260.7 | 258.6 | 257.6 | 49.4 | 129.6 |
| 25° | 261.8 | 259.4 | 256.8 | 252.8 | 248.9 | 245.7 | 244.5 | 58.6 | 188.2 |
| 30° | 251.7 | 249.2 | 245.4 | 240.4 | 234.6 | 230.6 | 228.5 | 65.8 | 254.0 |
| 35° | 239.9 | 237.0 | 232.4 | 225.5 | 218.4 | 212.4 | 210.1 | 70.8 | 324.7 |
| 40° | 226.9 | 223.6 | 218.2 | 209.8 | 201.0 | 193.5 | 190.7 | 73.7 | 398.4 |
| 45° | 212.2 | 209.2 | 202.4 | 193.1 | 182.1 | 173.4 | 169.2 | 74.3 | 472.8 |
| 50° | 196.5 | 193.0 | 185.8 | 174.7 | 162.2 | 151.5 | 146.9 | 72.7 | 545.5 |
| 55° | 180.5 | 176.8 | 168.9 | 156.6 | 142.6 | 130.0 | 124.8 | 69.4 | 614.9 |
| 60° | 163.6 | 160.4 | 151.7 | 138.5 | 122.6 | 108.8 | 102.0 | 64.5 | 679.4 |
| 65° | 147.0 | 143.0 | 134.8 | 120.2 | 103.8 | 87.3 | 80.1 | 58.2 | 737.5 |
| 70° | 130.0 | 126.6 | 118.0 | 103.4 | 85.5 | 67.5 | 59.0 | 51.1 | 788.7 |
| 75° | 113.5 | 110.8 | 101.7 | 87.6 | 68.6 | 49.6 | 39.8 | 43.7 | 832.3 |
| 80° | 98.3 | 95.1 | 87.0 | 72.3 | 53.7 | 32.9 | 23.9 | 36.2 | 868.5 |
| 85° | 83.8 | 81.1 | 73.2 | 59.3 | 41.8 | 21.7 | 10.1 | 29.5 | 898.0 |
| 90° | 70.6 | 68.5 | 60.9 | 47.9 | 30.7 | 13.1 | 2.1 | 23.5 | 921.5 |
| 95° | 56.8 | 53.3 | 46.4 | 33.9 | 23.1 | 7.7 | 0.8 | 17.6 | 939.1 |
| 100° | 47.2 | 43.9 | 37.1 | 27.2 | 15.1 | 4.4 | 0.8 | 13.7 | 952.8 |
| 105° | 39.9 | 37.4 | 31.8 | 22.6 | 11.9 | 3.5 | 0.8 | 11.3 | 964.0 |
| 110° | 32.8 | 31.3 | 26.2 | 18.2 | 9.3 | 2.8 | 0.9 | 9.0 | 973.0 |
| 115° | 27.6 | 25.8 | 21.3 | 14.5 | 7.2 | 2.3 | 0.9 | 7.1 | 980.1 |
| 120° | 22.5 | 21.0 | 17.2 | 11.3 | 5.7 | 2.0 | 0.9 | 5.5 | 985.5 |
| 125° | 18.2 | 16.9 | 13.7 | 8.8 | 4.6 | 1.8 | 1.0 | 4.1 | 989.7 |
| 130° | 14.5 | 13.6 | 10.6 | 7.0 | 3.8 | 1.6 | 1.0 | 3.1 | 992.8 |
| 135° | 11.6 | 10.8 | 8.2 | 5.6 | 3.1 | 1.5 | 1.0 | 2.3 | 995.1 |
| 140° | 9.0 | 8.3 | 6.3 | 4.4 | 2.6 | 1.5 | 1.1 | 1.7 | 996.7 |
| 145° | 6.8 | 6.2 | 4.8 | 3.5 | 2.2 | 1.4 | 1.1 | 1.2 | 997.9 |
| 150° | 5.0 | 4.4 | 3.6 | 2.7 | 1.9 | 1.4 | 1.2 | 0.8 | 998.7 |
| 155° | 3.6 | 3.2 | 2.8 | 2.2 | 1.7 | 1.4 | 1.2 | 0.5 | 999.2 |
| 160° | 2.6 | 2.4 | 2.2 | 1.8 | 1.6 | 1.3 | 1.2 | 0.4 | 999.6 |
| 165° | 2.0 | 1.9 | 1.8 | 1.6 | 1.5 | 1.3 | 1.3 | 0.2 | 999.8 |
| 170° | 1.7 | 1.6 | 1.5 | 1.5 | 1.4 | 1.3 | 1.3 | 0.1 | 999.9 |
| 175° | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 | 0.1 | 1000.0 |
| 180° | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 0.0 | 1000.0 |

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

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|------------------|----------------------|---------------|
| UGR-Table | Standard room | siteco |
|------------------|----------------------|---------------|

| | | | | | | | | | | | |
|------------------------------|---------------------|------|------|------|------|--------------------|------|------|------|------|------|
| 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 | 22.7 | 24.4 | 23.0 | 24.7 | 25.1 | 21.8 | 23.6 | 22.2 | 23.9 | 24.2 |
| | 3H | 24.6 | 26.2 | 25.0 | 26.6 | 26.9 | 23.2 | 24.8 | 23.6 | 25.2 | 25.5 |
| | 4H | 25.6 | 27.1 | 26.0 | 27.4 | 27.8 | 23.7 | 25.3 | 24.1 | 25.6 | 26.0 |
| | 6H | 26.5 | 27.9 | 26.9 | 28.3 | 28.7 | 24.1 | 25.5 | 24.5 | 25.9 | 26.3 |
| | 8H | 27.0 | 28.3 | 27.4 | 28.7 | 29.1 | 24.3 | 25.6 | 24.7 | 26.0 | 26.4 |
| | 12H | 27.4 | 28.6 | 27.8 | 29.0 | 29.4 | 24.3 | 25.6 | 24.8 | 26.0 | 26.4 |
| 4H | 2H | 23.3 | 24.9 | 23.7 | 25.2 | 25.6 | 22.7 | 24.2 | 23.1 | 24.6 | 25.0 |
| | 3H | 25.5 | 26.9 | 26.0 | 27.3 | 27.7 | 24.3 | 25.6 | 24.7 | 26.0 | 26.4 |
| | 4H | 26.7 | 27.9 | 27.1 | 28.3 | 28.7 | 25.0 | 26.2 | 25.4 | 26.6 | 27.0 |
| | 6H | 27.8 | 28.8 | 28.2 | 29.3 | 29.7 | 25.5 | 26.6 | 25.9 | 27.0 | 27.4 |
| | 8H | 28.3 | 29.3 | 28.8 | 29.7 | 30.2 | 25.7 | 26.7 | 26.1 | 27.1 | 27.6 |
| | 12H | 28.8 | 29.7 | 29.3 | 30.2 | 30.6 | 25.8 | 26.7 | 26.3 | 27.2 | 27.6 |
| 8H | 4H | 27.0 | 28.0 | 27.5 | 28.5 | 28.9 | 25.6 | 26.6 | 26.1 | 27.0 | 27.5 |
| | 6H | 28.3 | 29.2 | 28.8 | 29.6 | 30.1 | 26.3 | 27.2 | 26.8 | 27.6 | 28.1 |
| | 8H | 29.0 | 29.8 | 29.5 | 30.2 | 30.8 | 26.6 | 27.4 | 27.1 | 27.9 | 28.4 |
| | 12H | 29.7 | 30.4 | 30.2 | 30.9 | 31.4 | 26.8 | 27.5 | 27.4 | 28.0 | 28.5 |
| 12H | 4H | 27.1 | 28.0 | 27.5 | 28.4 | 28.9 | 25.8 | 26.7 | 26.3 | 27.1 | 27.6 |
| | 6H | 28.4 | 29.2 | 28.9 | 29.7 | 30.2 | 26.6 | 27.3 | 27.1 | 27.8 | 28.3 |
| | 8H | 29.2 | 29.9 | 29.7 | 30.3 | 30.9 | 27.0 | 27.6 | 27.5 | 28.1 | 28.7 |

| | | | | | |
|------------------------|---|--------------------------------------|-----------------|-------------------|---------------------|
| Luminance table | Max. for $\gamma \geq 65^\circ$ | Photometric dimensions in mm: | L = 1420 | H(C0) = 35 | H(C180) = 35 |
| | | | B = 70 | H(C90) = 0 | H(C270) = 0 |

| C-planes | γ | Luminance in cd/m ² | | | | | | | |
|----------|----------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------|--|
| | | 0° 180° | 15° 165° 195° 345° | 30° 150° 210° 330° | 45° 135° 225° 315° | 60° 120° 240° 300° | 75° 105° 255° 285° | 90° 270° | |
| 45° | | 20123.3 | 20066.4 | 20097.5 | 20293.5 | 20721.4 | 21846.3 | 24075.3 | |
| 50° | | 19275.5 | 19175.9 | 19177.0 | 19234.0 | 19557.0 | 20539.7 | 22990.7 | |
| 55° | | 18473.0 | 18357.1 | 18303.9 | 18249.1 | 18426.7 | 19249.0 | 21884.8 | |
| 60° | | 17636.2 | 17576.9 | 17441.8 | 17288.0 | 17213.5 | 17888.2 | 20513.3 | |
| 65° | | 16891.7 | 16723.7 | 16642.5 | 16276.9 | 16089.7 | 16259.0 | 19077.0 | |
| 70° | | 16112.6 | 16003.4 | 15846.6 | 15432.1 | 14901.4 | 14650.3 | 17343.7 | |
| 75° | | 15395.0 | 15362.4 | 15116.0 | 14675.3 | 13795.1 | 12996.0 | 15470.0 | |
| 80° | | 14848.0 | 14732.8 | 14591.2 | 13937.9 | 12879.0 | 10995.2 | 13828.6 | |
| 85° | | 14407.3 | 14363.5 | 14201.3 | 13572.8 | 12513.6 | 10082.1 | 11663.0 | |

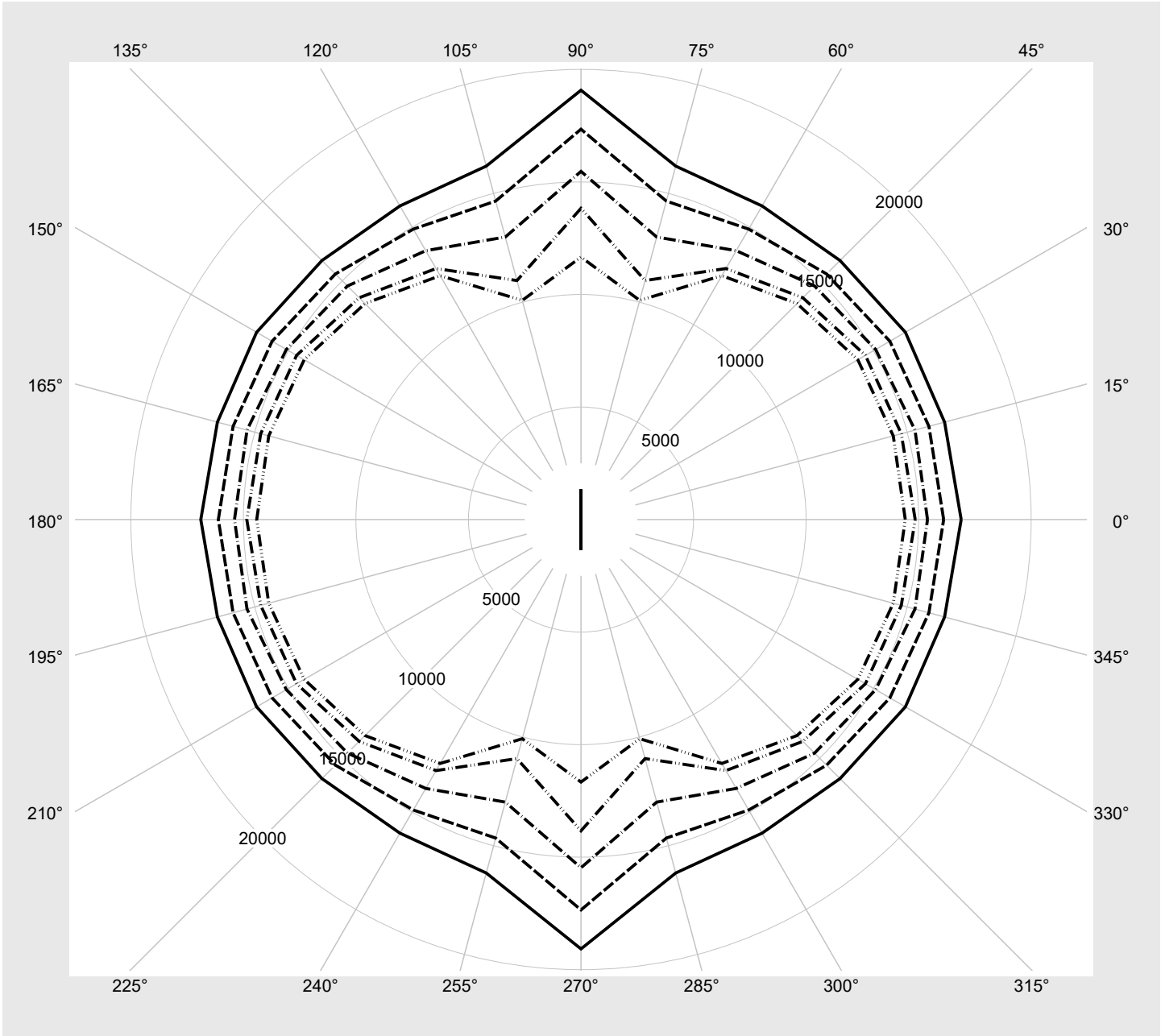
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Luminance values in cd/m²

γ 65°
 γ 70°
 γ 75°
 γ 80°
 γ 85°



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

| | | |
|-------------------------|---------------------------------|---|
| Multilumen Table | environmental temperature: 25°C |  |
|-------------------------|---------------------------------|---|

| DIP-Step | Switch Setting | | | | Luminous flux [lm] | Power consumption [W] |
|----------|----------------|-----|-----|-----|-----------------------|--------------------------|
| | 1 | 2 | 3 | 4 | | |
| 4 | OFF | OFF | ON | OFF | 10000 | 58.0 |
| 7 | ON | ON | ON | OFF | 8000 | 46.0 |
| 9 | ON | OFF | OFF | ON | 6500 | 37.0 |
| 12 | OFF | OFF | ON | ON | 4450 | 25.0 |