

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: METALUX

Report Number: P843337

Luminaire Tested: 24CGSB-55-L940

Issue Date: 5/31/2024

Tested By:

Approved By:



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Test Information

Test Method: LM-79-2019
 Report Number: P843337
 Test Lab: INNOVATION CENTER
 Issue Date: 5/31/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: METALUX
 Catalog Number: 24CGSB-55-L940
 Description: 2x4 CGSB AT 5500LM 4000K 90CRI
 Light Source: -
 Ballast/Driver: -

Summary

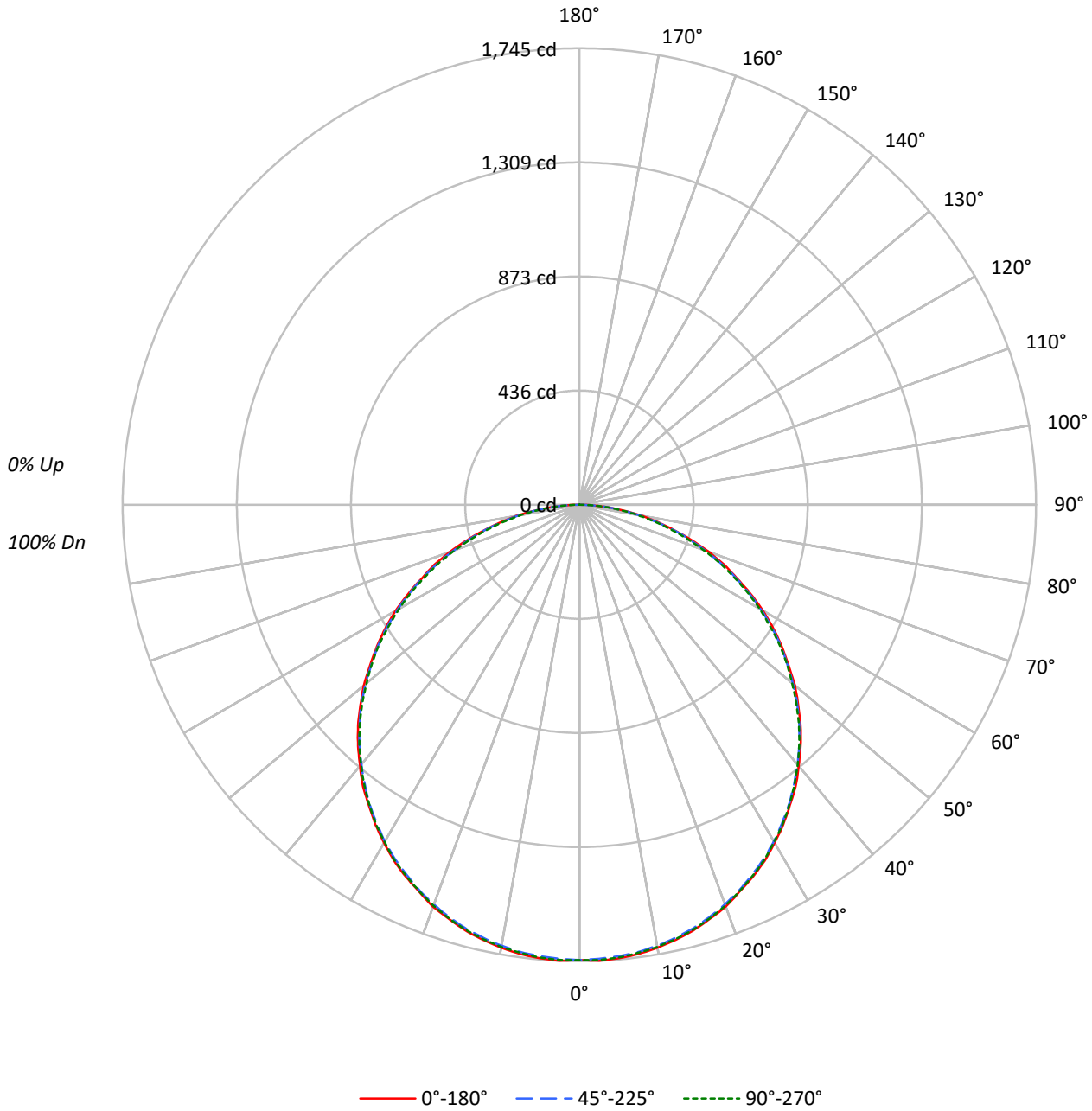
Lumens per Lamp: N/A
 Luminaire Lumens: 5149.0 lumens
 Efficiency: N/A
 Efficacy: 113.4 lumens/watt
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39
 Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
 CIE Type: Direct

Input Watts (W): 45.4
 Input Voltage (V): 120
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 24 FT

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | P3 | 10/30/2015 | 4/30/2016 |
| Power Meter | IN0214 | 1/12/2016 | 1/12/2017 |
| AC Power Source | IN0062 | 1/12/2016 | 1/12/2017 |
| DC Power Supply | -- | -- | -- |
| Room Thermometer | IN0145 | 1/13/2016 | 1/13/2017 |

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 108 | 103 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 94 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 69 |
| 3 | 89 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 62 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 37 | 32 | 58 | 45 | 37 | 31 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 36 | 30 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2342 | 2342 | 2342 |
| 5° | 2350 | 2340 | 2346 |
| 10° | 2350 | 2339 | 2345 |
| 15° | 2347 | 2336 | 2342 |
| 20° | 2342 | 2328 | 2335 |
| 25° | 2329 | 2318 | 2325 |
| 30° | 2319 | 2309 | 2312 |
| 35° | 2303 | 2296 | 2298 |
| 40° | 2291 | 2276 | 2279 |
| 45° | 2276 | 2261 | 2258 |
| 50° | 2251 | 2232 | 2222 |
| 55° | 2214 | 2203 | 2192 |
| 60° | 2182 | 2156 | 2139 |
| 65° | 2111 | 2096 | 2066 |
| 70° | 2066 | 2009 | 1978 |
| 75° | 1955 | 1930 | 1864 |
| 80° | 1868 | 1807 | 1733 |
| 85° | 1666 | 1641 | 1519 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2276 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 164.9 | 3.2 |
| 10°-20° | 473.8 | 9.2 |
| 20°-30° | 721.0 | 14.0 |
| 30°-40° | 875.2 | 17.0 |
| 40°-50° | 916.6 | 17.8 |
| 50°-60° | 837.5 | 16.3 |
| 60°-70° | 650.9 | 12.6 |
| 70°-80° | 390.4 | 7.6 |
| 80°-90° | 118.7 | 2.3 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 1359.8 | 26.4 |
| 0°-40° | 2235.0 | 43.4 |
| 0°-60° | 3989.0 | 77.5 |
| 0°-90° | 5149.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5149.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1740 | 1740 | 1740 | 1740 | 1740 | |
| 5° | 1740 | 1736 | 1732 | 1732 | 1737 | 165 |
| 15° | 1685 | 1678 | 1677 | 1677 | 1682 | 475 |
| 25° | 1569 | 1563 | 1561 | 1563 | 1566 | 723 |
| 35° | 1402 | 1399 | 1398 | 1398 | 1399 | 879 |
| 45° | 1196 | 1190 | 1188 | 1187 | 1187 | 921 |
| 55° | 944 | 941 | 939 | 931 | 934 | 844 |
| 65° | 663 | 662 | 658 | 650 | 649 | 660 |
| 75° | 376 | 374 | 371 | 365 | 358 | 400 |
| 85° | 108 | 106 | 106 | 103 | 98 | 121 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1740.3 | 1740.3 | 1740.3 | 1740.3 | 1740.3 |
| 2.5° | 1745.1 | 1738.7 | 1737.1 | 1737.1 | 1741.9 |
| 5° | 1740.3 | 1735.6 | 1732.4 | 1732.4 | 1737.1 |
| 7.5° | 1732.4 | 1726.0 | 1724.5 | 1724.5 | 1727.6 |
| 10° | 1719.7 | 1714.9 | 1711.8 | 1711.8 | 1716.5 |
| 12.5° | 1703.8 | 1697.5 | 1695.9 | 1697.5 | 1700.7 |
| 15° | 1684.8 | 1678.5 | 1676.9 | 1676.9 | 1681.6 |
| 17.5° | 1659.4 | 1654.7 | 1653.1 | 1653.1 | 1657.8 |
| 20° | 1635.6 | 1627.7 | 1626.1 | 1627.7 | 1630.9 |
| 22.5° | 1600.7 | 1597.5 | 1596.0 | 1597.5 | 1599.1 |
| 25° | 1569.0 | 1562.6 | 1561.1 | 1562.6 | 1565.8 |
| 27.5° | 1534.1 | 1527.7 | 1526.2 | 1526.2 | 1530.9 |
| 30° | 1492.8 | 1488.1 | 1486.5 | 1486.5 | 1488.1 |
| 32.5° | 1450.0 | 1446.8 | 1442.1 | 1443.7 | 1446.8 |
| 35° | 1402.4 | 1399.2 | 1397.7 | 1397.7 | 1399.2 |
| 37.5° | 1358.0 | 1351.6 | 1346.9 | 1346.9 | 1350.1 |
| 40° | 1304.1 | 1300.9 | 1296.1 | 1297.7 | 1297.7 |
| 42.5° | 1251.7 | 1246.9 | 1243.8 | 1242.2 | 1243.8 |
| 45° | 1196.2 | 1189.8 | 1188.2 | 1186.7 | 1186.7 |
| 47.5° | 1134.3 | 1134.3 | 1129.5 | 1126.4 | 1124.8 |
| 50° | 1075.6 | 1069.3 | 1066.1 | 1061.3 | 1061.3 |
| 52.5° | 1007.4 | 1005.8 | 1001.0 | 999.5 | 999.5 |
| 55° | 943.9 | 940.8 | 939.2 | 931.2 | 934.4 |
| 57.5° | 878.9 | 872.5 | 871.0 | 866.2 | 863.0 |
| 60° | 810.7 | 807.5 | 801.2 | 794.8 | 794.8 |
| 62.5° | 737.7 | 736.1 | 729.8 | 725.0 | 723.4 |
| 65° | 663.1 | 661.5 | 658.4 | 650.4 | 648.9 |
| 67.5° | 599.7 | 593.3 | 585.4 | 579.0 | 579.0 |
| 70° | 525.1 | 517.2 | 510.8 | 504.5 | 502.9 |
| 72.5° | 449.0 | 444.2 | 441.0 | 434.7 | 429.9 |
| 75° | 376.0 | 374.4 | 371.2 | 364.9 | 358.5 |
| 77.5° | 307.8 | 306.2 | 298.3 | 293.5 | 288.7 |
| 80° | 241.1 | 234.8 | 233.2 | 226.9 | 223.7 |
| 82.5° | 169.7 | 172.9 | 165.0 | 163.4 | 161.8 |
| 85° | 107.9 | 106.3 | 106.3 | 103.1 | 98.4 |
| 87.5° | 47.6 | 49.2 | 49.2 | 49.2 | 49.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)