

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: METALUX

Report Number: P293927

Luminaire Tested: **24GR-LD5-38-A19/156-UNV-L83050-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293927
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33308)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-38-A19/156-UNV-L83050-W2A1-U-3000K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (336) 80 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3539.0 lumens
Efficiency: N/A
Efficacy: 139.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.25
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

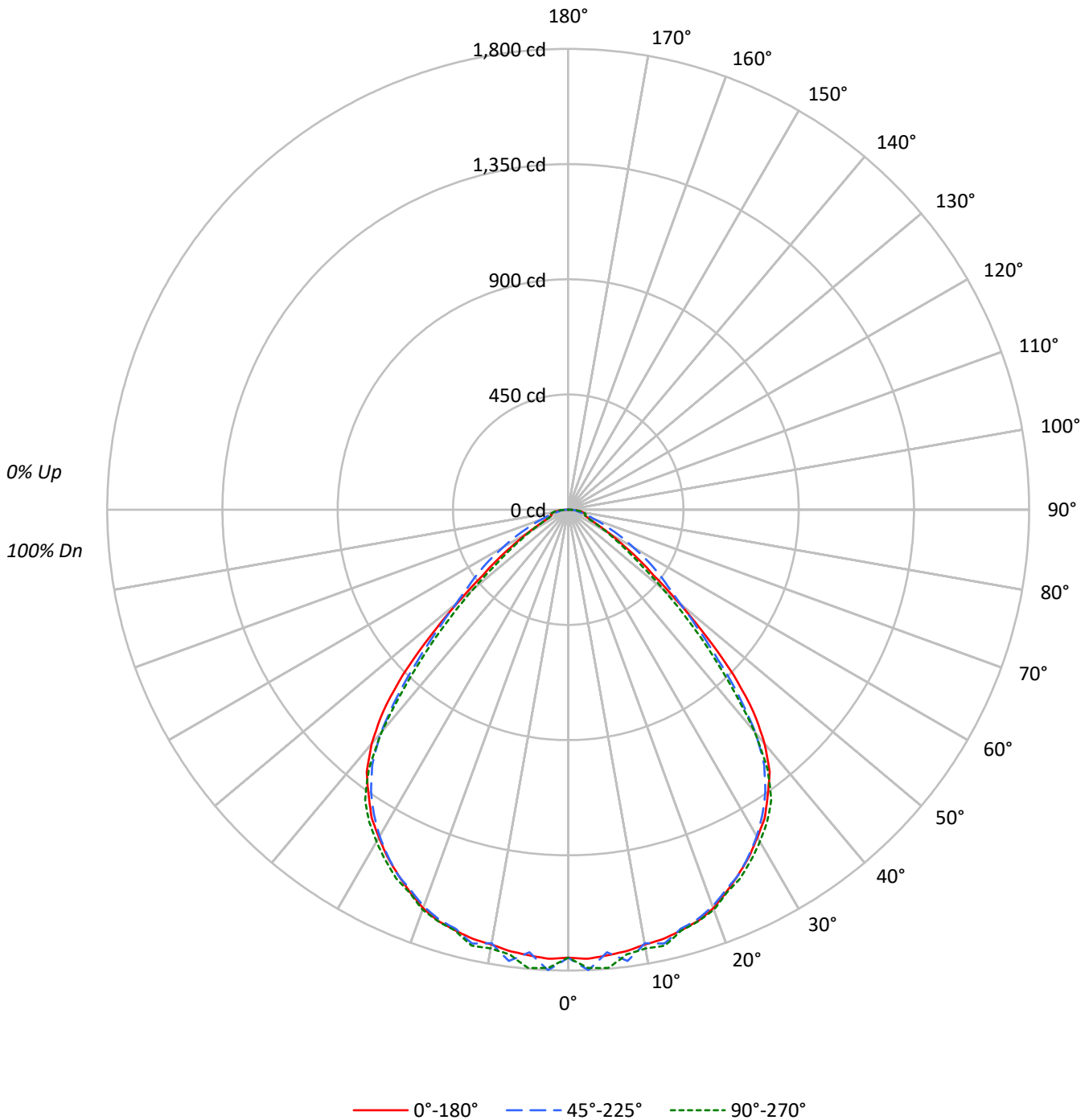
Input Watts (W): 25.296
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 | | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | | 50 | 30 | 10 | | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | | 106 | 106 | 106 | | 102 | 102 | 102 | 100 |
| 1 | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | | 97 | 95 | 93 | | 93 | 92 | 90 | 88 |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | | 88 | 84 | 81 | | 85 | 82 | 79 | 77 |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 78 | 73 | 82 | 77 | 72 | | 79 | 75 | 71 | | 77 | 73 | 70 | 68 |
| 4 | 88 | 78 | 71 | 65 | 86 | 77 | 70 | 64 | 74 | 68 | 64 | | 72 | 67 | 63 | | 70 | 66 | 62 | 60 |
| 5 | 82 | 71 | 63 | 57 | 80 | 70 | 62 | 57 | 68 | 61 | 56 | | 66 | 60 | 56 | | 64 | 59 | 55 | 53 |
| 6 | 76 | 65 | 57 | 51 | 75 | 64 | 56 | 51 | 62 | 55 | 50 | | 60 | 55 | 50 | | 59 | 54 | 50 | 48 |
| 7 | 71 | 59 | 51 | 46 | 70 | 58 | 51 | 46 | 57 | 50 | 45 | | 56 | 50 | 45 | | 54 | 49 | 45 | 43 |
| 8 | 67 | 55 | 47 | 42 | 65 | 54 | 47 | 41 | 53 | 46 | 41 | | 51 | 45 | 41 | | 50 | 45 | 41 | 39 |
| 9 | 63 | 50 | 43 | 38 | 61 | 50 | 43 | 38 | 49 | 42 | 38 | | 48 | 42 | 37 | | 47 | 41 | 37 | 36 |
| 10 | 59 | 47 | 39 | 35 | 58 | 46 | 39 | 35 | 45 | 39 | 34 | | 44 | 38 | 34 | | 44 | 38 | 34 | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2354 | 2354 | 2354 |
| 5° | 2360 | 2344 | 2427 |
| 10° | 2356 | 2349 | 2378 |
| 15° | 2370 | 2362 | 2371 |
| 20° | 2371 | 2362 | 2381 |
| 25° | 2335 | 2336 | 2359 |
| 30° | 2296 | 2289 | 2326 |
| 35° | 2231 | 2204 | 2270 |
| 40° | 2095 | 2001 | 1991 |
| 45° | 1737 | 1571 | 1490 |
| 50° | 1168 | 1192 | 1018 |
| 55° | 771 | 1000 | 668 |
| 60° | 494 | 789 | 457 |
| 65° | 318 | 603 | 309 |
| 70° | 282 | 432 | 282 |
| 75° | 363 | 343 | 366 |
| 80° | 445 | 295 | 466 |
| 85° | 517 | 438 | 543 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 167.5 | 4.7 |
| 10°-20° | 481.1 | 13.6 |
| 20°-30° | 724.3 | 20.5 |
| 30°-40° | 839.5 | 23.7 |
| 40°-50° | 655.8 | 18.5 |
| 50°-60° | 350.2 | 9.9 |
| 60°-70° | 180.1 | 5.1 |
| 70°-80° | 101.9 | 2.9 |
| 80°-90° | 38.7 | 1.1 |
| 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° | 1372.9 | 38.8 |
| 0°-40° | 2212.4 | 62.5 |
| 0°-60° | 3218.4 | 90.9 |
| 0°-90° | 3539.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3539.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1750 | 1750 | 1750 | 1750 | 1750 | |
| 5° | 1747 | 1796 | 1736 | 1784 | 1797 | 166 |
| 15° | 1701 | 1712 | 1695 | 1706 | 1702 | 480 |
| 25° | 1573 | 1568 | 1574 | 1572 | 1589 | 725 |
| 35° | 1358 | 1352 | 1342 | 1369 | 1382 | 847 |
| 45° | 913 | 913 | 826 | 818 | 783 | 688 |
| 55° | 328 | 416 | 426 | 384 | 285 | 303 |
| 65° | 100 | 209 | 189 | 208 | 97 | 110 |
| 75° | 70 | 131 | 66 | 123 | 70 | 71 |
| 85° | 34 | 44 | 28 | 44 | 35 | 35 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P293927

CATALOG NUMBER: 24GR-LD5-38-A19/156-UNV-L83050-W2A1-U-3000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1749.9 | 1749.9 | 1749.9 | 1749.9 | 1749.9 |
| 2.5° | 1755.6 | 1787.4 | 1799.9 | 1784.6 | 1791.4 |
| 5° | 1747.1 | 1796.0 | 1735.7 | 1783.5 | 1797.1 |
| 7.5° | 1739.1 | 1734.0 | 1777.8 | 1732.3 | 1751.6 |
| 10° | 1724.4 | 1727.8 | 1719.2 | 1751.6 | 1740.3 |
| 12.5° | 1717.5 | 1737.4 | 1735.7 | 1719.2 | 1744.3 |
| 15° | 1701.1 | 1711.9 | 1695.4 | 1706.2 | 1702.2 |
| 17.5° | 1684.6 | 1679.5 | 1677.8 | 1682.3 | 1686.3 |
| 20° | 1656.2 | 1639.1 | 1649.3 | 1650.5 | 1663.0 |
| 22.5° | 1615.2 | 1605.0 | 1607.3 | 1617.5 | 1618.6 |
| 25° | 1572.6 | 1567.5 | 1573.7 | 1571.5 | 1589.1 |
| 27.5° | 1528.3 | 1521.5 | 1525.4 | 1534.0 | 1544.8 |
| 30° | 1477.7 | 1476.0 | 1473.2 | 1480.5 | 1497.0 |
| 32.5° | 1427.7 | 1414.0 | 1411.8 | 1427.1 | 1445.9 |
| 35° | 1358.3 | 1352.1 | 1341.9 | 1368.6 | 1382.2 |
| 37.5° | 1292.4 | 1273.1 | 1256.6 | 1272.5 | 1278.2 |
| 40° | 1193.0 | 1178.2 | 1139.5 | 1141.2 | 1133.3 |
| 42.5° | 1070.8 | 1060.0 | 986.1 | 973.0 | 950.8 |
| 45° | 912.8 | 913.3 | 825.8 | 818.4 | 783.2 |
| 47.5° | 729.2 | 761.6 | 685.4 | 676.9 | 624.6 |
| 50° | 558.1 | 616.7 | 569.5 | 555.8 | 486.5 |
| 52.5° | 418.9 | 504.7 | 489.9 | 460.4 | 364.9 |
| 55° | 328.5 | 415.5 | 426.3 | 384.2 | 284.7 |
| 57.5° | 247.2 | 342.1 | 359.8 | 325.1 | 219.9 |
| 60° | 183.6 | 288.2 | 293.3 | 279.6 | 169.9 |
| 62.5° | 136.4 | 245.0 | 238.1 | 239.8 | 126.2 |
| 65° | 100.0 | 208.6 | 189.3 | 208.0 | 97.2 |
| 67.5° | 81.8 | 180.7 | 147.2 | 180.2 | 79.0 |
| 70° | 71.6 | 160.3 | 109.7 | 158.6 | 71.6 |
| 72.5° | 69.3 | 147.2 | 87.0 | 140.9 | 69.9 |
| 75° | 69.9 | 131.3 | 65.9 | 122.8 | 70.5 |
| 77.5° | 64.2 | 108.0 | 50.0 | 104.6 | 67.1 |
| 80° | 57.4 | 81.8 | 38.1 | 83.0 | 60.2 |
| 82.5° | 48.9 | 59.7 | 30.7 | 61.4 | 50.6 |
| 85° | 33.5 | 43.8 | 28.4 | 43.8 | 35.2 |
| 87.5° | 15.9 | 26.1 | 17.6 | 25.0 | 18.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)