

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: P293120

Luminaire Tested: **24GR-LD5-48-F1-UNV-L92765-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293120
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-12)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-48-F1-UNV-L92765-W2A1-U-4500K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH F1 LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4394.0 lumens
Efficiency: N/A
Efficacy: 131.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.18 / 1.25
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

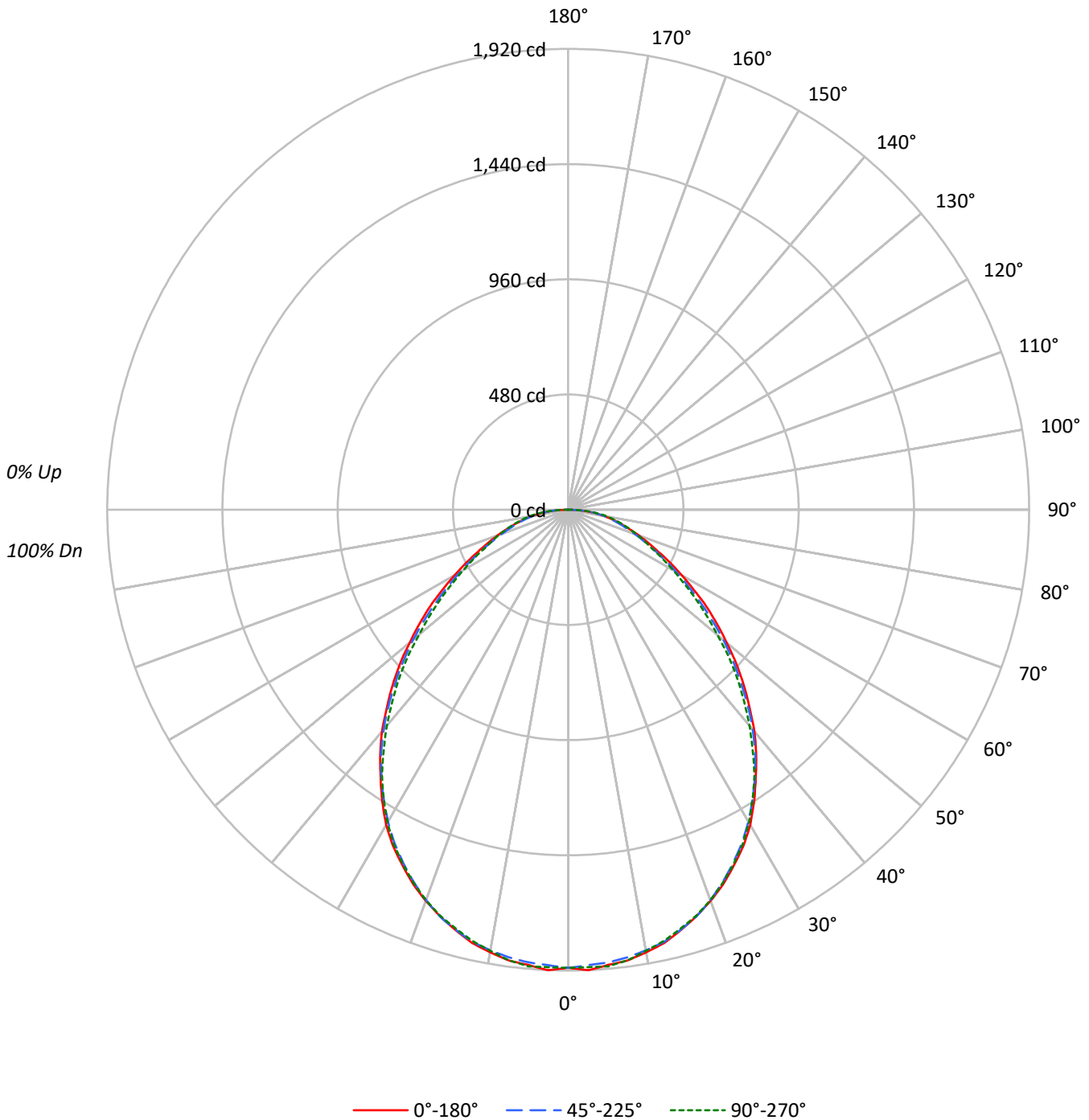
Input Watts (W): 33.48
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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 | | | | | 100 | | | |
| 1 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 | | | | | 85 | | | |
| 2 | 100 | 93 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 72 | | | | | 72 | | | |
| 3 | 92 | 82 | 74 | 68 | 90 | 81 | 73 | 68 | 78 | 72 | 67 | 75 | 70 | 65 | 72 | 68 | 64 | 62 | | | | | 62 | | | |
| 4 | 85 | 73 | 65 | 59 | 83 | 72 | 64 | 58 | 70 | 63 | 58 | 67 | 62 | 57 | 65 | 60 | 56 | 54 | | | | | 54 | | | |
| 5 | 78 | 66 | 58 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 50 | 61 | 55 | 50 | 59 | 54 | 49 | 47 | | | | | 47 | | | |
| 6 | 73 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 45 | 56 | 49 | 44 | 54 | 48 | 44 | 42 | | | | | 42 | | | |
| 7 | 68 | 55 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 37 | | | | | 37 | | | |
| 8 | 63 | 50 | 42 | 36 | 62 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 36 | 34 | | | | | 34 | | | |
| 9 | 59 | 46 | 38 | 33 | 58 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 32 | 42 | 37 | 32 | 31 | | | | | 31 | | | |
| 10 | 56 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 39 | 34 | 30 | 28 | | | | | 28 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2568 | 2568 | 2568 |
| 5° | 2572 | 2557 | 2579 |
| 10° | 2558 | 2547 | 2550 |
| 15° | 2526 | 2524 | 2517 |
| 20° | 2484 | 2479 | 2479 |
| 25° | 2426 | 2412 | 2418 |
| 30° | 2356 | 2332 | 2339 |
| 35° | 2237 | 2227 | 2221 |
| 40° | 2119 | 2100 | 2063 |
| 45° | 1969 | 1935 | 1897 |
| 50° | 1804 | 1764 | 1698 |
| 55° | 1648 | 1573 | 1520 |
| 60° | 1468 | 1397 | 1361 |
| 65° | 1322 | 1252 | 1235 |
| 70° | 1227 | 1151 | 1198 |
| 75° | 1173 | 1121 | 1215 |
| 80° | 1173 | 1173 | 1299 |
| 85° | 1216 | 1232 | 1371 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 180.3 | 4.1 |
| 10°-20° | 510.1 | 11.6 |
| 20°-30° | 748.6 | 17.0 |
| 30°-40° | 846.4 | 19.3 |
| 40°-50° | 782.2 | 17.8 |
| 50°-60° | 602.7 | 13.7 |
| 60°-70° | 399.1 | 9.1 |
| 70°-80° | 237.6 | 5.4 |
| 80°-90° | 87.0 | 2.0 |
| 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° | 1439.0 | 32.7 |
| 0°-40° | 2285.4 | 52.0 |
| 0°-60° | 3670.3 | 83.5 |
| 0°-90° | 4394.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4394.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1909 | 1909 | 1909 | 1909 | 1909 | |
| 5° | 1904 | 1904 | 1893 | 1894 | 1910 | 181 |
| 15° | 1814 | 1810 | 1812 | 1811 | 1807 | 511 |
| 25° | 1634 | 1630 | 1625 | 1623 | 1629 | 752 |
| 35° | 1362 | 1360 | 1356 | 1350 | 1352 | 852 |
| 45° | 1035 | 1028 | 1017 | 999 | 997 | 797 |
| 55° | 702 | 688 | 671 | 652 | 648 | 627 |
| 65° | 415 | 409 | 393 | 390 | 388 | 416 |
| 75° | 226 | 220 | 216 | 226 | 234 | 241 |
| 85° | 79 | 74 | 80 | 88 | 89 | 84 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P293120

CATALOG NUMBER: 24GR-LD5-48-F1-UNV-L92765-W2A1-U-4500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1908.6 | 1908.6 | 1908.6 | 1908.6 | 1908.6 |
| 2.5° | 1920.4 | 1910.5 | 1899.6 | 1899.6 | 1907.7 |
| 5° | 1904.1 | 1904.1 | 1893.2 | 1894.1 | 1909.6 |
| 7.5° | 1894.1 | 1888.7 | 1881.5 | 1881.5 | 1893.2 |
| 10° | 1872.4 | 1867.9 | 1864.2 | 1862.4 | 1866.1 |
| 12.5° | 1848.8 | 1841.6 | 1844.3 | 1841.6 | 1840.7 |
| 15° | 1813.5 | 1809.9 | 1811.7 | 1810.8 | 1807.1 |
| 17.5° | 1775.4 | 1773.6 | 1777.2 | 1770.9 | 1773.6 |
| 20° | 1734.6 | 1729.2 | 1731.0 | 1727.4 | 1731.0 |
| 22.5° | 1688.4 | 1684.8 | 1680.3 | 1675.7 | 1683.0 |
| 25° | 1634.0 | 1629.5 | 1625.0 | 1623.2 | 1628.6 |
| 27.5° | 1579.7 | 1572.4 | 1566.1 | 1564.3 | 1572.4 |
| 30° | 1516.2 | 1508.1 | 1500.8 | 1499.0 | 1505.3 |
| 32.5° | 1441.0 | 1439.2 | 1430.1 | 1426.5 | 1429.2 |
| 35° | 1362.2 | 1360.3 | 1355.8 | 1349.5 | 1352.2 |
| 37.5° | 1286.9 | 1286.0 | 1279.7 | 1268.8 | 1261.6 |
| 40° | 1206.3 | 1199.9 | 1195.4 | 1180.0 | 1174.6 |
| 42.5° | 1117.5 | 1115.6 | 1107.5 | 1090.3 | 1083.9 |
| 45° | 1035.0 | 1027.7 | 1016.9 | 998.7 | 996.9 |
| 47.5° | 949.8 | 939.8 | 929.9 | 907.2 | 906.3 |
| 50° | 861.9 | 854.6 | 842.9 | 820.2 | 811.1 |
| 52.5° | 780.3 | 770.3 | 754.0 | 732.3 | 727.8 |
| 55° | 702.4 | 687.9 | 670.7 | 652.5 | 648.0 |
| 57.5° | 619.0 | 612.7 | 591.8 | 577.3 | 571.9 |
| 60° | 545.6 | 540.1 | 519.3 | 505.7 | 505.7 |
| 62.5° | 479.4 | 471.3 | 453.1 | 444.1 | 444.1 |
| 65° | 415.1 | 408.7 | 393.3 | 389.7 | 387.9 |
| 67.5° | 359.8 | 351.6 | 340.8 | 339.9 | 344.4 |
| 70° | 311.8 | 301.8 | 292.7 | 301.8 | 304.5 |
| 72.5° | 266.4 | 260.1 | 251.9 | 263.7 | 269.2 |
| 75° | 225.7 | 220.2 | 215.7 | 225.7 | 233.8 |
| 77.5° | 188.5 | 183.1 | 183.1 | 193.9 | 201.2 |
| 80° | 151.4 | 147.7 | 151.4 | 160.4 | 167.7 |
| 82.5° | 116.0 | 113.3 | 117.8 | 126.9 | 131.4 |
| 85° | 78.8 | 74.3 | 79.8 | 87.9 | 88.8 |
| 87.5° | 37.2 | 36.3 | 39.9 | 45.3 | 44.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)