

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: P293068

Luminaire Tested: **24GR-LD5-64-F1-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293068
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-LD5-64-F1-UNV-L93050-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: 5977.0 lumens
Efficiency: N/A
Efficacy: 124.9 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

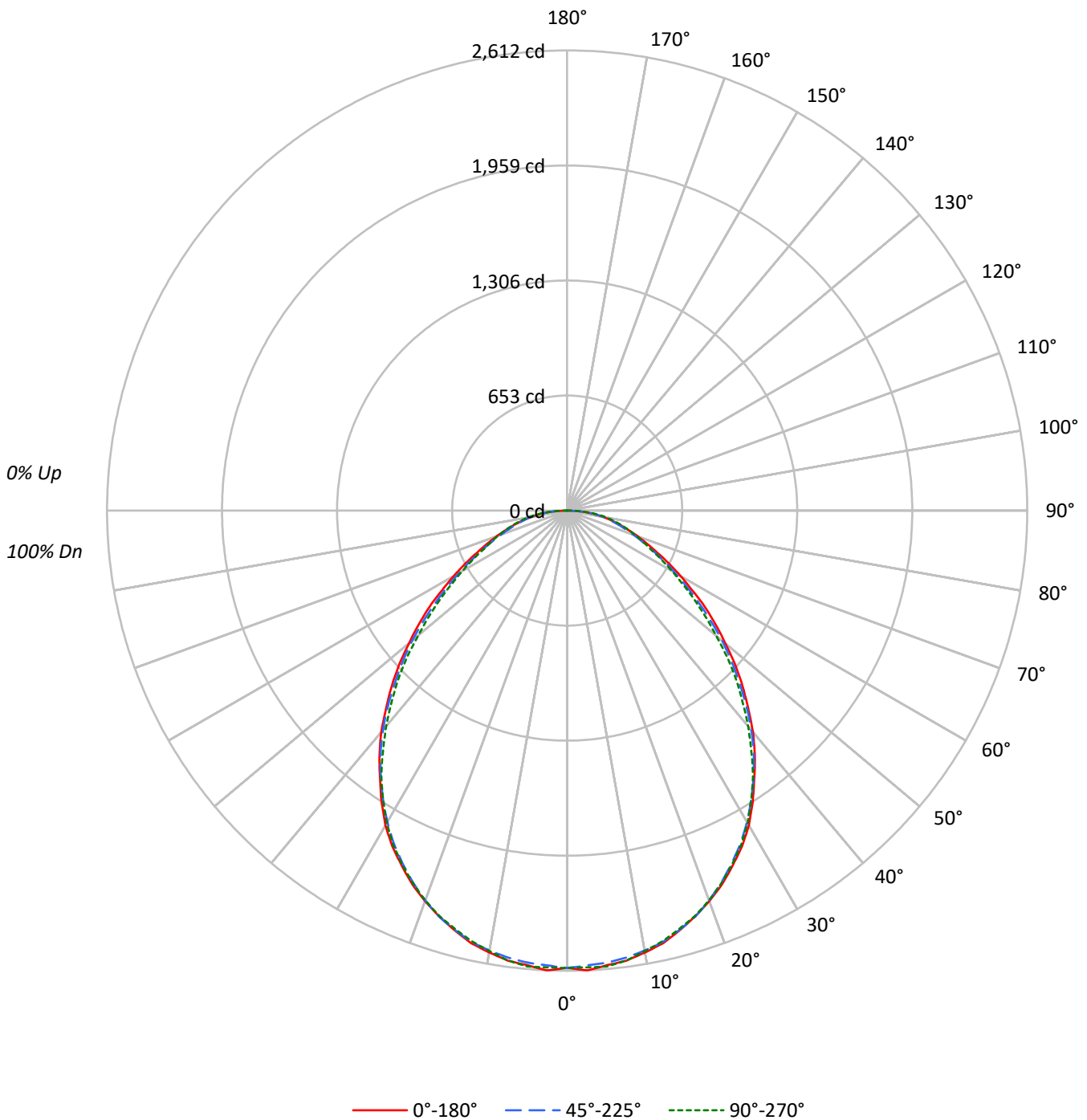
Input Watts (W): 47.871564
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P293068

CATALOG NUMBER: 24GR-LD5-64-F1-UNV-L93050-W2A1-U-4500K

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° | 3493 | 3493 | 3493 |
| 5° | 3498 | 3478 | 3508 |
| 10° | 3480 | 3465 | 3468 |
| 15° | 3436 | 3433 | 3424 |
| 20° | 3379 | 3371 | 3371 |
| 25° | 3300 | 3282 | 3289 |
| 30° | 3204 | 3172 | 3181 |
| 35° | 3043 | 3029 | 3021 |
| 40° | 2882 | 2856 | 2806 |
| 45° | 2679 | 2632 | 2580 |
| 50° | 2454 | 2400 | 2310 |
| 55° | 2241 | 2140 | 2068 |
| 60° | 1997 | 1901 | 1851 |
| 65° | 1798 | 1703 | 1680 |
| 70° | 1668 | 1566 | 1629 |
| 75° | 1596 | 1525 | 1654 |
| 80° | 1595 | 1595 | 1767 |
| 85° | 1656 | 1675 | 1865 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 245.2 | 4.1 |
| 10°-20° | 693.9 | 11.6 |
| 20°-30° | 1018.4 | 17.0 |
| 30°-40° | 1151.3 | 19.3 |
| 40°-50° | 1064.1 | 17.8 |
| 50°-60° | 819.8 | 13.7 |
| 60°-70° | 542.9 | 9.1 |
| 70°-80° | 323.2 | 5.4 |
| 80°-90° | 118.4 | 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° | 1957.4 | 32.7 |
| 0°-40° | 3108.7 | 52.0 |
| 0°-60° | 4992.6 | 83.5 |
| 0°-90° | 5977.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5977.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2596 | 2596 | 2596 | 2596 | 2596 | |
| 5° | 2590 | 2590 | 2575 | 2576 | 2598 | 246 |
| 15° | 2467 | 2462 | 2464 | 2463 | 2458 | 695 |
| 25° | 2223 | 2217 | 2210 | 2208 | 2215 | 1023 |
| 35° | 1853 | 1850 | 1844 | 1836 | 1839 | 1159 |
| 45° | 1408 | 1398 | 1383 | 1358 | 1356 | 1084 |
| 55° | 955 | 936 | 912 | 888 | 881 | 852 |
| 65° | 565 | 556 | 535 | 530 | 528 | 566 |
| 75° | 307 | 300 | 293 | 307 | 318 | 327 |
| 85° | 107 | 101 | 108 | 120 | 121 | 114 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P293068

CATALOG NUMBER: 24GR-LD5-64-F1-UNV-L93050-W2A1-U-4500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2596.3 | 2596.3 | 2596.3 | 2596.3 | 2596.3 |
| 2.5° | 2612.3 | 2598.7 | 2583.9 | 2583.9 | 2595.0 |
| 5° | 2590.1 | 2590.1 | 2575.3 | 2576.5 | 2597.5 |
| 7.5° | 2576.5 | 2569.1 | 2559.3 | 2559.3 | 2575.3 |
| 10° | 2547.0 | 2540.8 | 2535.9 | 2533.4 | 2538.3 |
| 12.5° | 2514.9 | 2505.0 | 2508.7 | 2505.0 | 2503.8 |
| 15° | 2466.8 | 2461.9 | 2464.4 | 2463.1 | 2458.2 |
| 17.5° | 2415.0 | 2412.6 | 2417.5 | 2408.9 | 2412.6 |
| 20° | 2359.6 | 2352.2 | 2354.6 | 2349.7 | 2354.6 |
| 22.5° | 2296.7 | 2291.8 | 2285.6 | 2279.4 | 2289.3 |
| 25° | 2222.7 | 2216.6 | 2210.4 | 2207.9 | 2215.3 |
| 27.5° | 2148.8 | 2138.9 | 2130.3 | 2127.8 | 2138.9 |
| 30° | 2062.5 | 2051.4 | 2041.5 | 2039.0 | 2047.7 |
| 32.5° | 1960.1 | 1957.7 | 1945.4 | 1940.4 | 1944.1 |
| 35° | 1852.9 | 1850.4 | 1844.3 | 1835.6 | 1839.3 |
| 37.5° | 1750.6 | 1749.3 | 1740.7 | 1725.9 | 1716.1 |
| 40° | 1640.9 | 1632.2 | 1626.1 | 1605.1 | 1597.7 |
| 42.5° | 1520.0 | 1517.6 | 1506.5 | 1483.1 | 1474.4 |
| 45° | 1407.9 | 1398.0 | 1383.2 | 1358.5 | 1356.1 |
| 47.5° | 1292.0 | 1278.4 | 1264.8 | 1234.0 | 1232.8 |
| 50° | 1172.4 | 1162.5 | 1146.5 | 1115.7 | 1103.4 |
| 52.5° | 1061.4 | 1047.9 | 1025.7 | 996.1 | 989.9 |
| 55° | 955.4 | 935.7 | 912.3 | 887.6 | 881.4 |
| 57.5° | 842.0 | 833.4 | 805.0 | 785.3 | 777.9 |
| 60° | 742.1 | 734.7 | 706.4 | 687.9 | 687.9 |
| 62.5° | 652.1 | 641.1 | 616.4 | 604.1 | 604.1 |
| 65° | 564.6 | 556.0 | 535.0 | 530.1 | 527.6 |
| 67.5° | 489.4 | 478.3 | 463.5 | 462.3 | 468.5 |
| 70° | 424.1 | 410.5 | 398.2 | 410.5 | 414.2 |
| 72.5° | 362.4 | 353.8 | 342.7 | 358.7 | 366.1 |
| 75° | 307.0 | 299.6 | 293.4 | 307.0 | 318.1 |
| 77.5° | 256.4 | 249.0 | 249.0 | 263.8 | 273.7 |
| 80° | 205.9 | 200.9 | 205.9 | 218.2 | 228.1 |
| 82.5° | 157.8 | 154.1 | 160.3 | 172.6 | 178.8 |
| 85° | 107.3 | 101.1 | 108.5 | 119.6 | 120.8 |
| 87.5° | 50.5 | 49.3 | 54.2 | 61.6 | 60.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)