

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: P293630

Luminaire Tested: **24GR-LD5-56-A-UNV-L92765-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293630
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33306)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-56-A-UNV-L92765-W2A1-U-3000K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A LENS
Light Source: (336) 90 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4645.0 lumens
Efficiency: N/A
Efficacy: 120.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.26
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

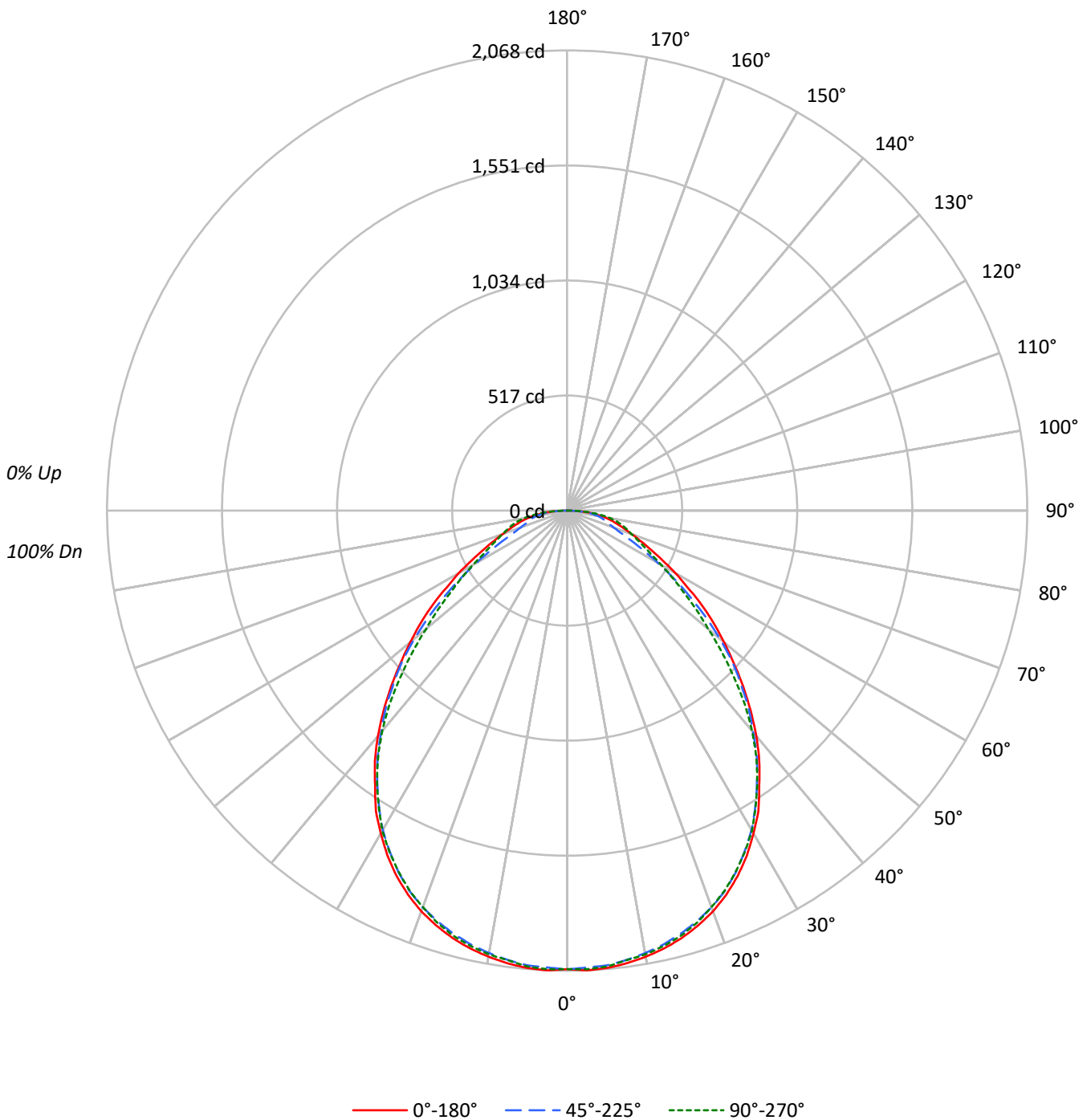
Input Watts (W): 38.595
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P293630

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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 | 110 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 89 | 88 | 86 | | | | | 86 | | | |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 78 | 75 | 73 | | | | | 73 | | | |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 73 | 69 | 65 | 63 | | | | | 63 | | | |
| 4 | 86 | 74 | 66 | 60 | 83 | 73 | 65 | 60 | 71 | 64 | 59 | 68 | 63 | 58 | 66 | 61 | 57 | 55 | | | | | 55 | | | |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 | | | | | 49 | | | |
| 6 | 73 | 61 | 53 | 46 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 43 | | | | | 43 | | | |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 41 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 | | | | | 39 | | | |
| 8 | 64 | 51 | 43 | 37 | 62 | 50 | 43 | 37 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 35 | | | | | 35 | | | |
| 9 | 60 | 47 | 39 | 34 | 58 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 33 | 43 | 38 | 33 | 32 | | | | | 32 | | | |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 31 | 40 | 35 | 30 | 29 | | | | | 29 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2773 | 2773 | 2773 |
| 5° | 2786 | 2771 | 2778 |
| 10° | 2781 | 2759 | 2767 |
| 15° | 2771 | 2743 | 2755 |
| 20° | 2744 | 2717 | 2716 |
| 25° | 2691 | 2662 | 2660 |
| 30° | 2602 | 2575 | 2581 |
| 35° | 2472 | 2443 | 2447 |
| 40° | 2324 | 2284 | 2270 |
| 45° | 2130 | 2101 | 2018 |
| 50° | 1926 | 1873 | 1732 |
| 55° | 1729 | 1574 | 1493 |
| 60° | 1514 | 1267 | 1313 |
| 65° | 1321 | 996 | 1209 |
| 70° | 1208 | 869 | 1208 |
| 75° | 1209 | 925 | 1332 |
| 80° | 1313 | 1089 | 1518 |
| 85° | 1440 | 1230 | 1629 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 195.2 | 4.2 |
| 10°-20° | 557.0 | 12.0 |
| 20°-30° | 825.9 | 17.8 |
| 30°-40° | 931.7 | 20.1 |
| 40°-50° | 843.8 | 18.2 |
| 50°-60° | 608.8 | 13.1 |
| 60°-70° | 363.5 | 7.8 |
| 70°-80° | 224.6 | 4.8 |
| 80°-90° | 94.6 | 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° | 1578.0 | 34.0 |
| 0°-40° | 2509.6 | 54.0 |
| 0°-60° | 3962.2 | 85.3 |
| 0°-90° | 4645.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4645.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2061 | 2061 | 2061 | 2061 | 2061 | |
| 5° | 2063 | 2060 | 2052 | 2050 | 2057 | 196 |
| 15° | 1989 | 1977 | 1969 | 1970 | 1978 | 561 |
| 25° | 1813 | 1803 | 1793 | 1787 | 1792 | 833 |
| 35° | 1505 | 1503 | 1488 | 1488 | 1490 | 942 |
| 45° | 1119 | 1112 | 1104 | 1077 | 1061 | 863 |
| 55° | 737 | 714 | 671 | 638 | 636 | 658 |
| 65° | 415 | 365 | 313 | 355 | 380 | 417 |
| 75° | 232 | 202 | 178 | 222 | 256 | 248 |
| 85° | 93 | 82 | 80 | 104 | 106 | 97 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2060.9 | 2060.9 | 2060.9 | 2060.9 | 2060.9 |
| 2.5° | 2068.1 | 2062.4 | 2055.2 | 2059.5 | 2063.1 |
| 5° | 2063.1 | 2060.2 | 2051.6 | 2049.5 | 2056.6 |
| 7.5° | 2052.3 | 2045.1 | 2037.3 | 2040.8 | 2038.0 |
| 10° | 2035.8 | 2029.4 | 2019.3 | 2020.0 | 2025.1 |
| 12.5° | 2015.7 | 2007.8 | 1997.1 | 1999.9 | 2004.2 |
| 15° | 1989.2 | 1977.0 | 1969.1 | 1969.8 | 1977.7 |
| 17.5° | 1955.4 | 1946.1 | 1936.1 | 1938.2 | 1941.8 |
| 20° | 1916.7 | 1911.7 | 1897.3 | 1893.0 | 1896.6 |
| 22.5° | 1867.9 | 1858.6 | 1850.7 | 1848.5 | 1849.2 |
| 25° | 1812.6 | 1802.6 | 1793.3 | 1786.8 | 1791.8 |
| 27.5° | 1748.1 | 1739.5 | 1727.3 | 1725.1 | 1729.4 |
| 30° | 1674.9 | 1668.4 | 1657.6 | 1654.8 | 1661.2 |
| 32.5° | 1600.2 | 1589.5 | 1574.4 | 1574.4 | 1575.8 |
| 35° | 1504.8 | 1502.6 | 1487.6 | 1488.3 | 1489.7 |
| 37.5° | 1418.7 | 1408.6 | 1400.0 | 1391.4 | 1395.7 |
| 40° | 1323.2 | 1311.8 | 1300.3 | 1294.5 | 1292.4 |
| 42.5° | 1220.6 | 1212.0 | 1207.0 | 1186.2 | 1181.2 |
| 45° | 1119.4 | 1112.3 | 1104.4 | 1077.1 | 1060.6 |
| 47.5° | 1016.1 | 1014.7 | 1008.2 | 960.1 | 943.6 |
| 50° | 920.0 | 917.8 | 894.8 | 843.9 | 827.4 |
| 52.5° | 828.8 | 814.5 | 784.3 | 734.1 | 731.2 |
| 55° | 737.0 | 714.0 | 671.0 | 637.9 | 636.5 |
| 57.5° | 640.1 | 612.8 | 569.1 | 551.1 | 560.4 |
| 60° | 562.6 | 521.0 | 470.7 | 472.9 | 488.0 |
| 62.5° | 482.2 | 435.6 | 386.1 | 407.6 | 425.5 |
| 65° | 414.8 | 365.3 | 312.9 | 355.2 | 379.6 |
| 67.5° | 355.9 | 310.0 | 259.8 | 316.5 | 340.1 |
| 70° | 307.1 | 269.8 | 221.0 | 280.6 | 307.1 |
| 72.5° | 268.4 | 233.9 | 195.9 | 251.9 | 282.7 |
| 75° | 232.5 | 201.6 | 178.0 | 221.7 | 256.2 |
| 77.5° | 201.6 | 171.5 | 160.7 | 195.9 | 229.6 |
| 80° | 169.4 | 142.1 | 140.6 | 170.8 | 195.9 |
| 82.5° | 132.0 | 113.4 | 113.4 | 142.8 | 157.9 |
| 85° | 93.3 | 81.8 | 79.7 | 104.1 | 105.5 |
| 87.5° | 48.1 | 45.9 | 41.6 | 54.5 | 54.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)