

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: P293435

Luminaire Tested: **24GR-LD5-48-A-UNV-L83050-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293435
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-LD5-48-A-UNV-L83050-W2A1-U-4000K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A LENS
Light Source: (336) 80 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5151.0 lumens
Efficiency: N/A
Efficacy: 153.4 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

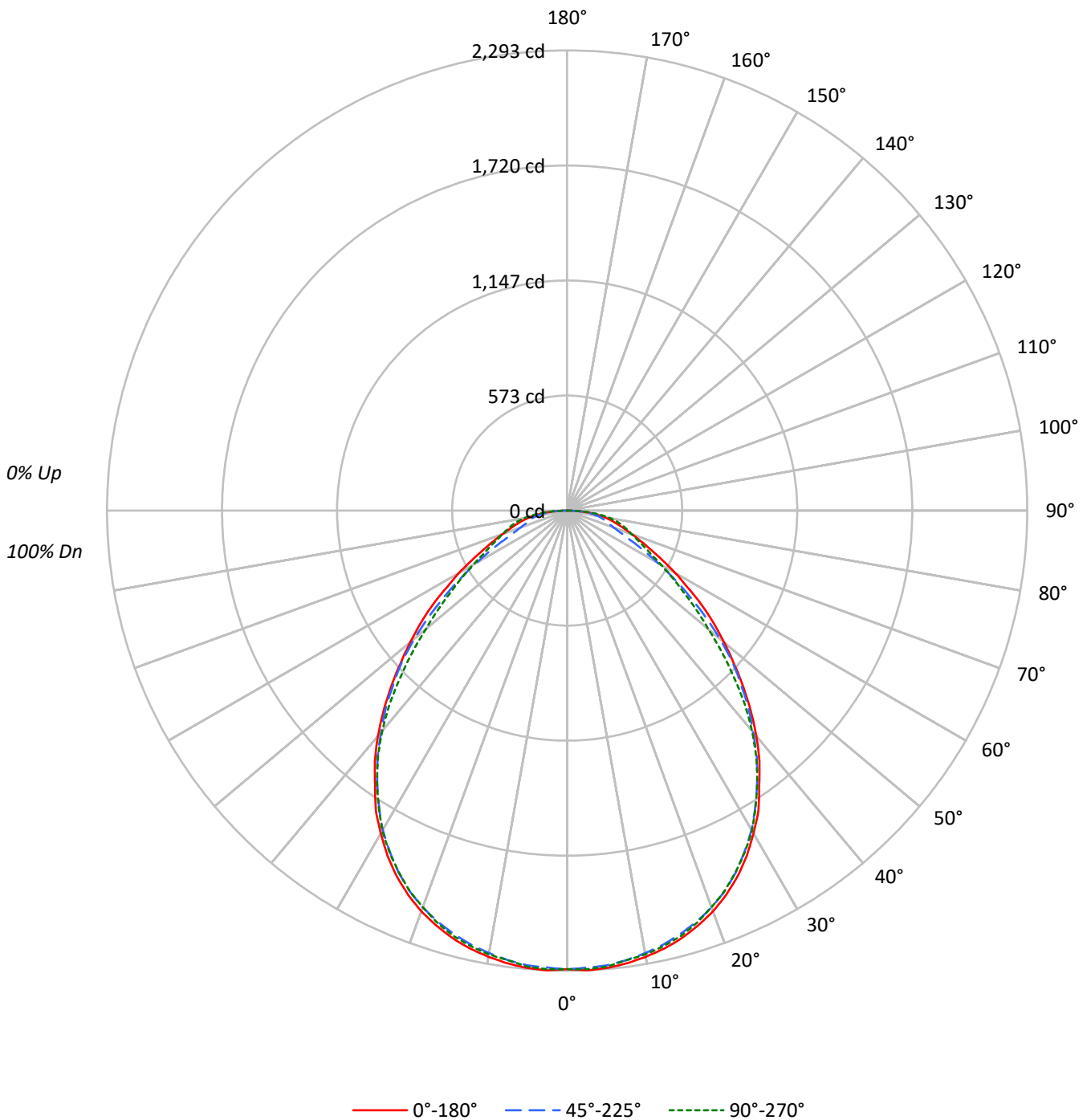
Input Watts (W): 33.573
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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° | 3075 | 3075 | 3075 |
| 5° | 3090 | 3073 | 3080 |
| 10° | 3084 | 3059 | 3068 |
| 15° | 3073 | 3042 | 3055 |
| 20° | 3043 | 3013 | 3011 |
| 25° | 2984 | 2952 | 2950 |
| 30° | 2886 | 2856 | 2862 |
| 35° | 2741 | 2710 | 2713 |
| 40° | 2577 | 2533 | 2517 |
| 45° | 2362 | 2330 | 2238 |
| 50° | 2135 | 2077 | 1921 |
| 55° | 1917 | 1745 | 1656 |
| 60° | 1679 | 1405 | 1456 |
| 65° | 1465 | 1105 | 1340 |
| 70° | 1340 | 964 | 1340 |
| 75° | 1340 | 1026 | 1477 |
| 80° | 1455 | 1209 | 1683 |
| 85° | 1596 | 1363 | 1806 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 216.4 | 4.2 |
| 10°-20° | 617.6 | 12.0 |
| 20°-30° | 915.8 | 17.8 |
| 30°-40° | 1033.2 | 20.1 |
| 40°-50° | 935.7 | 18.2 |
| 50°-60° | 675.1 | 13.1 |
| 60°-70° | 403.1 | 7.8 |
| 70°-80° | 249.1 | 4.8 |
| 80°-90° | 105.0 | 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° | 1749.9 | 34.0 |
| 0°-40° | 2783.0 | 54.0 |
| 0°-60° | 4393.8 | 85.3 |
| 0°-90° | 5151.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5151.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2285 | 2285 | 2285 | 2285 | 2285 | |
| 5° | 2288 | 2285 | 2275 | 2273 | 2281 | 217 |
| 15° | 2206 | 2192 | 2184 | 2184 | 2193 | 622 |
| 25° | 2010 | 1999 | 1989 | 1982 | 1987 | 923 |
| 35° | 1669 | 1666 | 1650 | 1650 | 1652 | 1044 |
| 45° | 1241 | 1233 | 1225 | 1194 | 1176 | 957 |
| 55° | 817 | 792 | 744 | 707 | 706 | 730 |
| 65° | 460 | 405 | 347 | 394 | 421 | 463 |
| 75° | 258 | 224 | 197 | 246 | 284 | 275 |
| 85° | 103 | 91 | 88 | 115 | 117 | 108 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P293435

CATALOG NUMBER: 24GR-LD5-48-A-UNV-L83050-W2A1-U-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2285.4 | 2285.4 | 2285.4 | 2285.4 | 2285.4 |
| 2.5° | 2293.4 | 2287.0 | 2279.1 | 2283.8 | 2287.8 |
| 5° | 2287.8 | 2284.6 | 2275.1 | 2272.7 | 2280.7 |
| 7.5° | 2275.9 | 2267.9 | 2259.2 | 2263.2 | 2260.0 |
| 10° | 2257.6 | 2250.4 | 2239.3 | 2240.1 | 2245.7 |
| 12.5° | 2235.3 | 2226.6 | 2214.6 | 2217.8 | 2222.6 |
| 15° | 2205.9 | 2192.3 | 2183.6 | 2184.4 | 2193.1 |
| 17.5° | 2168.5 | 2158.1 | 2147.0 | 2149.4 | 2153.3 |
| 20° | 2125.5 | 2119.9 | 2104.0 | 2099.2 | 2103.2 |
| 22.5° | 2071.4 | 2061.0 | 2052.3 | 2049.9 | 2050.7 |
| 25° | 2010.1 | 1999.0 | 1988.6 | 1981.5 | 1987.0 |
| 27.5° | 1938.5 | 1928.9 | 1915.4 | 1913.0 | 1917.8 |
| 30° | 1857.3 | 1850.2 | 1838.2 | 1835.0 | 1842.2 |
| 32.5° | 1774.6 | 1762.6 | 1745.9 | 1745.9 | 1747.5 |
| 35° | 1668.7 | 1666.3 | 1649.6 | 1650.4 | 1652.0 |
| 37.5° | 1573.2 | 1562.1 | 1552.5 | 1543.0 | 1547.8 |
| 40° | 1467.4 | 1454.7 | 1441.9 | 1435.6 | 1433.2 |
| 42.5° | 1353.6 | 1344.0 | 1338.5 | 1315.4 | 1309.8 |
| 45° | 1241.4 | 1233.4 | 1224.7 | 1194.4 | 1176.1 |
| 47.5° | 1126.8 | 1125.2 | 1118.1 | 1064.7 | 1046.4 |
| 50° | 1020.2 | 1017.8 | 992.3 | 935.8 | 917.5 |
| 52.5° | 919.1 | 903.2 | 869.8 | 814.1 | 810.9 |
| 55° | 817.3 | 791.8 | 744.0 | 707.4 | 705.8 |
| 57.5° | 709.8 | 679.6 | 631.0 | 611.1 | 621.5 |
| 60° | 623.9 | 577.7 | 522.0 | 524.4 | 541.1 |
| 62.5° | 534.8 | 483.0 | 428.1 | 452.0 | 471.9 |
| 65° | 460.0 | 405.0 | 347.0 | 393.9 | 421.0 |
| 67.5° | 394.7 | 343.8 | 288.1 | 350.9 | 377.2 |
| 70° | 340.6 | 299.2 | 245.1 | 311.1 | 340.6 |
| 72.5° | 297.6 | 259.4 | 217.2 | 279.3 | 313.5 |
| 75° | 257.8 | 223.6 | 197.3 | 245.9 | 284.1 |
| 77.5° | 223.6 | 190.2 | 178.3 | 217.2 | 254.6 |
| 80° | 187.8 | 157.6 | 156.0 | 189.4 | 217.2 |
| 82.5° | 146.4 | 125.7 | 125.7 | 158.4 | 175.1 |
| 85° | 103.4 | 90.7 | 88.3 | 115.4 | 117.0 |
| 87.5° | 53.3 | 50.9 | 46.2 | 60.5 | 60.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)