

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: P219104

Luminaire Tested: **24GR-LD5-56-A-UNV-L935-CD1-U**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P219104
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33306)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-56-A-UNV-L935-CD1-U
Description: METALUX GR 2X4 LED TROFFER WITH A LENS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4831.2 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.26
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')
CIE Type: Direct

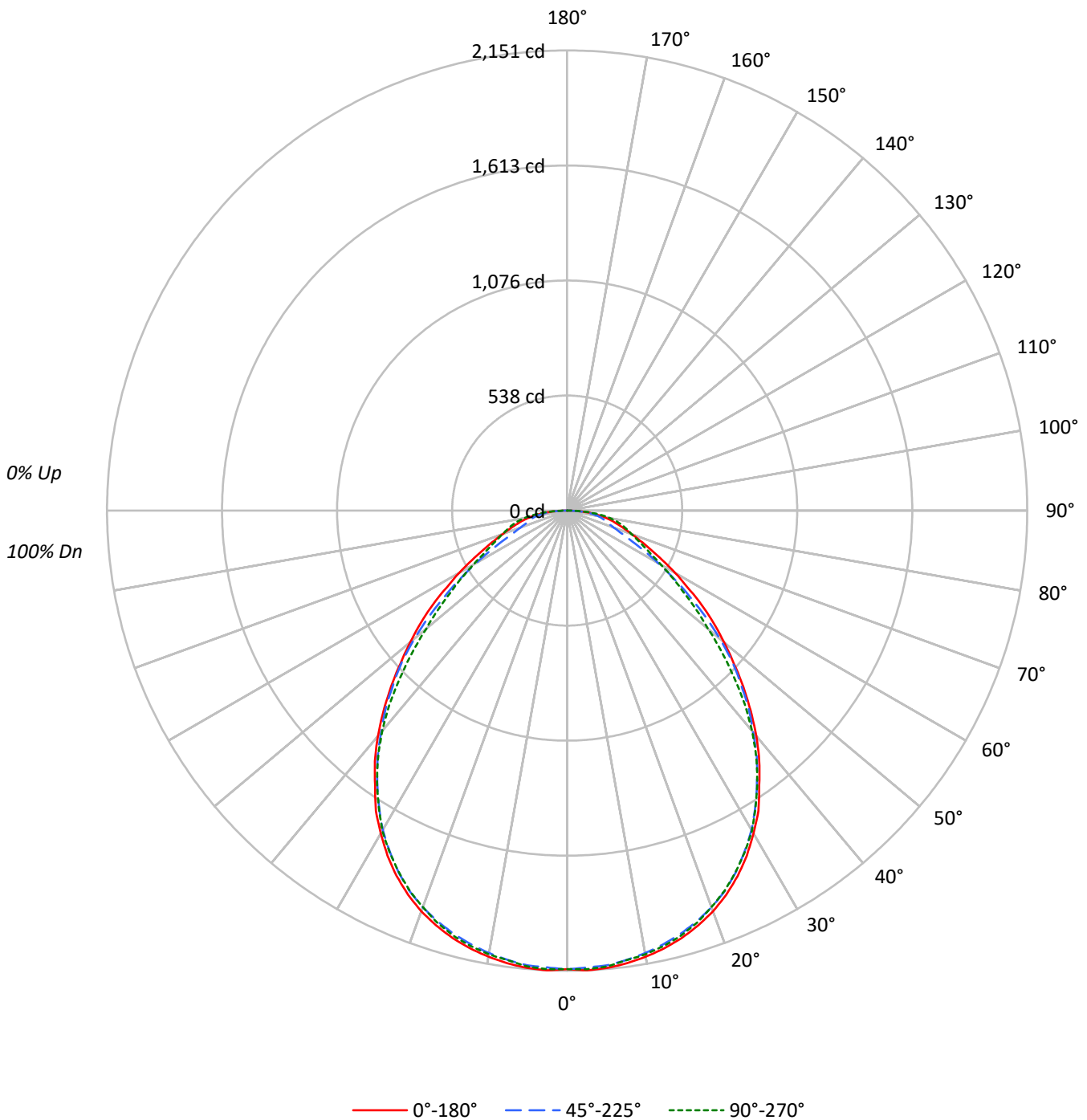
Input Watts (W): 45.182
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3283 | 3283 | 3283 |
| 5° | 3299 | 3281 | 3289 |
| 10° | 3293 | 3266 | 3276 |
| 15° | 3281 | 3248 | 3262 |
| 20° | 3249 | 3216 | 3215 |
| 25° | 3186 | 3152 | 3150 |
| 30° | 3081 | 3049 | 3056 |
| 35° | 2926 | 2893 | 2897 |
| 40° | 2752 | 2704 | 2688 |
| 45° | 2522 | 2488 | 2389 |
| 50° | 2280 | 2218 | 2050 |
| 55° | 2047 | 1863 | 1768 |
| 60° | 1792 | 1500 | 1555 |
| 65° | 1563 | 1179 | 1431 |
| 70° | 1430 | 1030 | 1430 |
| 75° | 1431 | 1095 | 1577 |
| 80° | 1553 | 1290 | 1797 |
| 85° | 1706 | 1457 | 1928 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 203.0 | 4.2 |
| 10°-20° | 579.3 | 12.0 |
| 20°-30° | 859.0 | 17.8 |
| 30°-40° | 969.0 | 20.1 |
| 40°-50° | 877.7 | 18.2 |
| 50°-60° | 633.2 | 13.1 |
| 60°-70° | 378.1 | 7.8 |
| 70°-80° | 233.7 | 4.8 |
| 80°-90° | 98.4 | 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° | 1641.3 | 34.0 |
| 0°-40° | 2610.3 | 54.0 |
| 0°-60° | 4121.1 | 85.3 |
| 0°-90° | 4831.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4831.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2144 | 2144 | 2144 | 2144 | 2144 | |
| 5° | 2146 | 2143 | 2134 | 2132 | 2139 | 204 |
| 15° | 2069 | 2056 | 2048 | 2049 | 2057 | 583 |
| 25° | 1885 | 1875 | 1865 | 1858 | 1864 | 866 |
| 35° | 1565 | 1563 | 1547 | 1548 | 1550 | 979 |
| 45° | 1164 | 1157 | 1149 | 1120 | 1103 | 897 |
| 55° | 766 | 743 | 698 | 664 | 662 | 684 |
| 65° | 431 | 380 | 325 | 370 | 395 | 434 |
| 75° | 242 | 210 | 185 | 231 | 266 | 258 |
| 85° | 97 | 85 | 83 | 108 | 110 | 101 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P219104

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2143.6 | 2143.6 | 2143.6 | 2143.6 | 2143.6 |
| 2.5° | 2151.0 | 2145.1 | 2137.6 | 2142.1 | 2145.8 |
| 5° | 2145.8 | 2142.8 | 2133.8 | 2131.6 | 2139.1 |
| 7.5° | 2134.6 | 2127.1 | 2119.0 | 2122.7 | 2119.7 |
| 10° | 2117.4 | 2110.7 | 2100.3 | 2101.0 | 2106.3 |
| 12.5° | 2096.5 | 2088.4 | 2077.1 | 2080.1 | 2084.6 |
| 15° | 2069.0 | 2056.2 | 2048.1 | 2048.8 | 2057.0 |
| 17.5° | 2033.9 | 2024.2 | 2013.7 | 2015.9 | 2019.7 |
| 20° | 1993.6 | 1988.3 | 1973.4 | 1968.9 | 1972.7 |
| 22.5° | 1942.8 | 1933.1 | 1924.9 | 1922.6 | 1923.4 |
| 25° | 1885.3 | 1874.9 | 1865.2 | 1858.4 | 1863.7 |
| 27.5° | 1818.2 | 1809.2 | 1796.6 | 1794.3 | 1798.8 |
| 30° | 1742.1 | 1735.3 | 1724.1 | 1721.2 | 1727.9 |
| 32.5° | 1664.4 | 1653.2 | 1637.5 | 1637.5 | 1639.1 |
| 35° | 1565.1 | 1562.9 | 1547.3 | 1547.9 | 1549.5 |
| 37.5° | 1475.6 | 1465.1 | 1456.1 | 1447.2 | 1451.7 |
| 40° | 1376.3 | 1364.3 | 1352.4 | 1346.5 | 1344.2 |
| 42.5° | 1269.6 | 1260.6 | 1255.4 | 1233.8 | 1228.5 |
| 45° | 1164.3 | 1156.8 | 1148.7 | 1120.3 | 1103.1 |
| 47.5° | 1056.9 | 1055.4 | 1048.6 | 998.7 | 981.5 |
| 50° | 956.8 | 954.6 | 930.8 | 877.7 | 860.5 |
| 52.5° | 862.1 | 847.1 | 815.7 | 763.6 | 760.6 |
| 55° | 766.5 | 742.6 | 697.8 | 663.5 | 662.1 |
| 57.5° | 665.8 | 637.4 | 591.9 | 573.2 | 582.9 |
| 60° | 585.1 | 541.9 | 489.6 | 491.9 | 507.5 |
| 62.5° | 501.6 | 453.0 | 401.5 | 424.0 | 442.6 |
| 65° | 431.4 | 379.9 | 325.4 | 369.5 | 394.8 |
| 67.5° | 370.2 | 322.4 | 270.2 | 329.1 | 353.8 |
| 70° | 319.4 | 280.7 | 229.9 | 291.8 | 319.4 |
| 72.5° | 279.1 | 243.4 | 203.7 | 262.0 | 294.1 |
| 75° | 241.8 | 209.7 | 185.1 | 230.6 | 266.5 |
| 77.5° | 209.7 | 178.4 | 167.2 | 203.7 | 238.8 |
| 80° | 176.1 | 147.8 | 146.3 | 177.6 | 203.7 |
| 82.5° | 137.4 | 117.9 | 117.9 | 148.5 | 164.2 |
| 85° | 97.1 | 85.1 | 82.9 | 108.2 | 109.7 |
| 87.5° | 50.0 | 47.8 | 43.3 | 56.7 | 56.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)