

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: P182388

Luminaire Tested: **24FR-50-UNV-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P182388
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26767)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24FR-50-UNV-L850-CD1-U
Description: METALUX 2X4 FR TROFFER LED FIXTURE

Light Source: EATON LED 5000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5798.0 lumens
Efficiency: N/A
Efficacy: 128.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.32
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

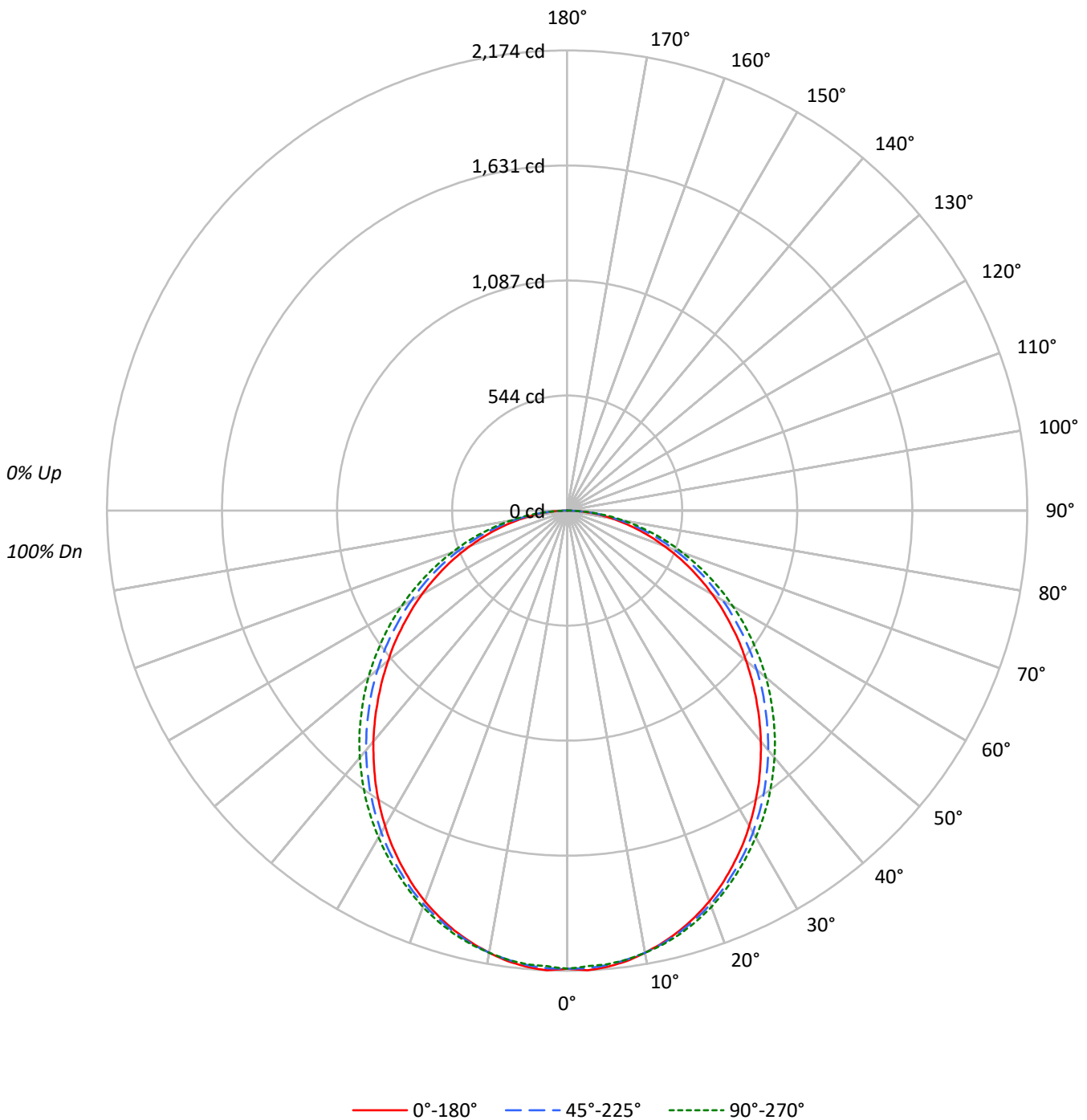
Input Watts (W): 45.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P182388

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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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 74 | 79 | 75 | 72 | 70 |
| 3 | 90 | 80 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 69 | 63 | 72 | 67 | 62 | 70 | 65 | 61 | 59 |
| 4 | 83 | 71 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 60 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 50 |
| 5 | 76 | 63 | 54 | 48 | 74 | 62 | 54 | 47 | 60 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 46 | 44 |
| 6 | 70 | 57 | 48 | 42 | 68 | 56 | 48 | 41 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 38 |
| 7 | 65 | 52 | 43 | 37 | 63 | 51 | 43 | 37 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 41 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 38 | 33 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2912 | 2912 | 2912 |
| 5° | 2923 | 2912 | 2906 |
| 10° | 2898 | 2898 | 2898 |
| 15° | 2861 | 2871 | 2883 |
| 20° | 2814 | 2835 | 2853 |
| 25° | 2747 | 2785 | 2812 |
| 30° | 2674 | 2728 | 2769 |
| 35° | 2591 | 2664 | 2726 |
| 40° | 2501 | 2597 | 2677 |
| 45° | 2404 | 2521 | 2622 |
| 50° | 2309 | 2446 | 2566 |
| 55° | 2221 | 2365 | 2499 |
| 60° | 2132 | 2285 | 2432 |
| 65° | 2033 | 2207 | 2362 |
| 70° | 1915 | 2118 | 2277 |
| 75° | 1798 | 2023 | 2197 |
| 80° | 1664 | 1901 | 2096 |
| 85° | 1485 | 1766 | 1916 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 204.5 | 3.5 |
| 10°-20° | 580.2 | 10.0 |
| 20°-30° | 861.6 | 14.9 |
| 30°-40° | 1011.0 | 17.4 |
| 40°-50° | 1020.0 | 17.6 |
| 50°-60° | 901.1 | 15.5 |
| 60°-70° | 684.6 | 11.8 |
| 70°-80° | 409.6 | 7.1 |
| 80°-90° | 125.5 | 2.2 |
| 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° | 1646.2 | 28.4 |
| 0°-40° | 2657.2 | 45.8 |
| 0°-60° | 4578.3 | 79.0 |
| 0°-90° | 5798.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5798.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2164 | 2164 | 2164 | 2164 | 2164 | |
| 5° | 2164 | 2148 | 2156 | 2153 | 2152 | 205 |
| 15° | 2054 | 2044 | 2061 | 2067 | 2070 | 579 |
| 25° | 1851 | 1848 | 1876 | 1886 | 1894 | 852 |
| 35° | 1577 | 1583 | 1622 | 1644 | 1660 | 986 |
| 45° | 1264 | 1277 | 1325 | 1364 | 1378 | 975 |
| 55° | 947 | 962 | 1008 | 1052 | 1066 | 848 |
| 65° | 639 | 654 | 693 | 728 | 742 | 633 |
| 75° | 346 | 363 | 389 | 411 | 423 | 367 |
| 85° | 96 | 105 | 114 | 121 | 124 | 108 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P182388

CATALOG NUMBER: 24FR-50-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2164.4 | 2164.4 | 2164.4 | 2164.4 | 2164.4 |
| 2.5° | 2174.1 | 2157.4 | 2164.4 | 2161.6 | 2154.6 |
| 5° | 2164.4 | 2147.6 | 2156.0 | 2153.2 | 2151.8 |
| 7.5° | 2147.6 | 2132.3 | 2140.7 | 2140.7 | 2140.7 |
| 10° | 2121.2 | 2108.6 | 2121.2 | 2121.2 | 2121.2 |
| 12.5° | 2090.5 | 2079.3 | 2094.7 | 2096.0 | 2098.8 |
| 15° | 2054.2 | 2044.4 | 2061.2 | 2066.8 | 2069.6 |
| 17.5° | 2012.4 | 2004.0 | 2022.1 | 2030.5 | 2033.3 |
| 20° | 1965.0 | 1956.6 | 1980.3 | 1985.9 | 1992.8 |
| 22.5° | 1910.6 | 1906.4 | 1931.5 | 1937.1 | 1945.4 |
| 25° | 1850.6 | 1847.8 | 1875.7 | 1885.5 | 1893.8 |
| 27.5° | 1789.2 | 1787.8 | 1818.5 | 1831.1 | 1839.4 |
| 30° | 1720.9 | 1722.3 | 1755.8 | 1771.1 | 1782.3 |
| 32.5° | 1649.8 | 1654.0 | 1690.2 | 1708.4 | 1722.3 |
| 35° | 1577.3 | 1582.8 | 1621.9 | 1644.2 | 1659.5 |
| 37.5° | 1500.6 | 1508.9 | 1550.8 | 1577.3 | 1592.6 |
| 40° | 1423.9 | 1433.6 | 1478.3 | 1506.1 | 1524.3 |
| 42.5° | 1344.4 | 1356.9 | 1401.5 | 1437.8 | 1453.1 |
| 45° | 1263.5 | 1277.4 | 1324.8 | 1363.9 | 1377.8 |
| 47.5° | 1184.0 | 1202.1 | 1248.1 | 1287.2 | 1302.5 |
| 50° | 1103.1 | 1119.8 | 1168.7 | 1209.1 | 1225.8 |
| 52.5° | 1027.8 | 1043.1 | 1089.2 | 1131.0 | 1146.3 |
| 55° | 946.9 | 962.3 | 1008.3 | 1051.5 | 1065.5 |
| 57.5° | 870.2 | 884.2 | 928.8 | 972.0 | 986.0 |
| 60° | 792.1 | 806.1 | 849.3 | 888.3 | 903.7 |
| 62.5° | 715.4 | 729.4 | 772.6 | 808.9 | 822.8 |
| 65° | 638.7 | 654.1 | 693.1 | 728.0 | 741.9 |
| 67.5° | 563.4 | 578.7 | 615.0 | 648.5 | 659.6 |
| 70° | 486.7 | 503.4 | 538.3 | 569.0 | 578.7 |
| 72.5° | 415.6 | 432.3 | 463.0 | 489.5 | 502.0 |
| 75° | 345.9 | 362.6 | 389.1 | 411.4 | 422.6 |
| 77.5° | 278.9 | 295.7 | 316.6 | 334.7 | 344.5 |
| 80° | 214.8 | 230.1 | 245.4 | 263.6 | 270.5 |
| 82.5° | 153.4 | 166.0 | 178.5 | 192.5 | 198.0 |
| 85° | 96.2 | 104.6 | 114.4 | 121.3 | 124.1 |
| 87.5° | 41.8 | 47.4 | 48.8 | 50.2 | 48.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)