

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: P260575

Luminaire Tested: **24CZ-LD5-50-UNV-L83050-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P260575
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-50-UNV-L83050-W2A1-U-4500K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (336) 80 CRI LEDS TUNED AT 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5328.0 lumens
Efficiency: N/A
Efficacy: 142.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

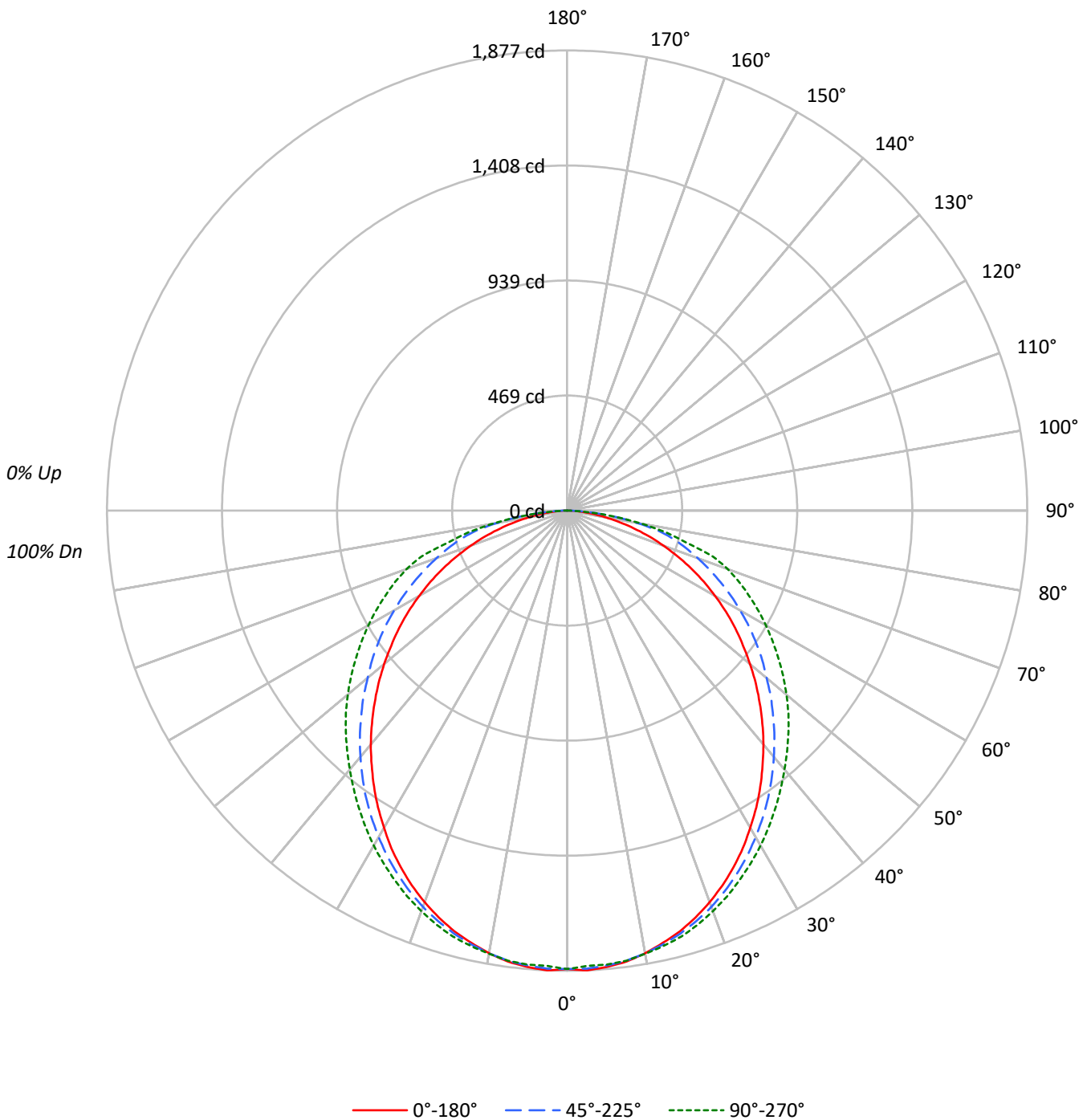
Input Watts (W): 37.461888
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 108 | 103 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2516 | 2516 | 2516 |
| 5° | 2523 | 2516 | 2511 |
| 10° | 2505 | 2505 | 2507 |
| 15° | 2475 | 2488 | 2506 |
| 20° | 2434 | 2463 | 2489 |
| 25° | 2383 | 2429 | 2470 |
| 30° | 2321 | 2389 | 2452 |
| 35° | 2256 | 2349 | 2433 |
| 40° | 2188 | 2304 | 2422 |
| 45° | 2114 | 2260 | 2430 |
| 50° | 2039 | 2222 | 2444 |
| 55° | 1964 | 2208 | 2469 |
| 60° | 1875 | 2194 | 2518 |
| 65° | 1777 | 2195 | 2602 |
| 70° | 1644 | 2232 | 2742 |
| 75° | 1470 | 2333 | 2608 |
| 80° | 1230 | 2233 | 2389 |
| 85° | 929 | 1718 | 1633 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 176.7 | 3.3 |
| 10°-20° | 502.9 | 9.4 |
| 20°-30° | 751.8 | 14.1 |
| 30°-40° | 891.9 | 16.7 |
| 40°-50° | 918.0 | 17.2 |
| 50°-60° | 842.1 | 15.8 |
| 60°-70° | 680.9 | 12.8 |
| 70°-80° | 441.9 | 8.3 |
| 80°-90° | 121.8 | 2.3 |
| 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° | 1431.4 | 26.9 |
| 0°-40° | 2323.3 | 43.6 |
| 0°-60° | 4083.4 | 76.6 |
| 0°-90° | 5328.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5328.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1870 | 1870 | 1870 | 1870 | 1870 | |
| 5° | 1868 | 1855 | 1863 | 1861 | 1859 | 177 |
| 15° | 1777 | 1770 | 1786 | 1793 | 1799 | 501 |
| 25° | 1605 | 1607 | 1636 | 1651 | 1664 | 739 |
| 35° | 1374 | 1385 | 1430 | 1461 | 1481 | 859 |
| 45° | 1111 | 1129 | 1188 | 1244 | 1277 | 857 |
| 55° | 837 | 863 | 941 | 1018 | 1053 | 748 |
| 65° | 558 | 591 | 690 | 781 | 817 | 552 |
| 75° | 283 | 336 | 449 | 502 | 502 | 301 |
| 85° | 60 | 102 | 111 | 108 | 106 | 74 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P260575

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1869.9 | 1869.9 | 1869.9 | 1869.9 | 1869.9 |
| 2.5° | 1877.1 | 1862.6 | 1869.9 | 1868.0 | 1858.9 |
| 5° | 1868.0 | 1855.3 | 1862.6 | 1860.7 | 1858.9 |
| 7.5° | 1855.3 | 1842.5 | 1851.6 | 1849.8 | 1851.6 |
| 10° | 1833.4 | 1822.4 | 1833.4 | 1835.2 | 1835.2 |
| 12.5° | 1806.0 | 1796.9 | 1811.5 | 1815.1 | 1818.8 |
| 15° | 1776.8 | 1769.5 | 1785.9 | 1793.2 | 1798.7 |
| 17.5° | 1740.3 | 1734.9 | 1754.9 | 1764.0 | 1771.3 |
| 20° | 1700.2 | 1698.4 | 1720.3 | 1729.4 | 1738.5 |
| 22.5° | 1654.6 | 1654.6 | 1680.1 | 1691.1 | 1703.8 |
| 25° | 1605.3 | 1607.2 | 1636.3 | 1650.9 | 1663.7 |
| 27.5° | 1552.4 | 1554.3 | 1588.9 | 1607.2 | 1621.8 |
| 30° | 1494.1 | 1501.4 | 1537.8 | 1561.6 | 1578.0 |
| 32.5° | 1435.7 | 1444.8 | 1484.9 | 1512.3 | 1530.5 |
| 35° | 1373.7 | 1384.6 | 1430.2 | 1461.2 | 1481.3 |
| 37.5° | 1309.8 | 1322.6 | 1371.8 | 1406.5 | 1430.2 |
| 40° | 1246.0 | 1260.6 | 1311.6 | 1351.8 | 1379.1 |
| 42.5° | 1178.5 | 1194.9 | 1251.4 | 1298.9 | 1328.1 |
| 45° | 1111.0 | 1129.2 | 1187.6 | 1244.1 | 1277.0 |
| 47.5° | 1043.5 | 1065.4 | 1127.4 | 1189.4 | 1224.1 |
| 50° | 974.1 | 996.0 | 1061.7 | 1132.9 | 1167.5 |
| 52.5° | 904.8 | 930.4 | 1003.3 | 1076.3 | 1111.0 |
| 55° | 837.3 | 862.9 | 941.3 | 1017.9 | 1052.6 |
| 57.5° | 768.0 | 793.5 | 879.3 | 959.6 | 994.2 |
| 60° | 696.9 | 726.0 | 815.4 | 897.5 | 935.8 |
| 62.5° | 627.5 | 658.6 | 753.4 | 841.0 | 877.5 |
| 65° | 558.2 | 591.1 | 689.6 | 780.8 | 817.3 |
| 67.5° | 487.1 | 525.4 | 627.5 | 720.6 | 758.9 |
| 70° | 417.8 | 459.7 | 567.3 | 660.4 | 696.9 |
| 72.5° | 350.3 | 395.9 | 507.1 | 602.0 | 623.9 |
| 75° | 282.8 | 335.7 | 448.8 | 501.7 | 501.7 |
| 77.5° | 218.9 | 277.3 | 383.1 | 403.2 | 414.1 |
| 80° | 158.7 | 222.6 | 288.2 | 311.9 | 308.3 |
| 82.5° | 105.8 | 169.7 | 206.1 | 206.1 | 200.7 |
| 85° | 60.2 | 102.2 | 111.3 | 107.6 | 105.8 |
| 87.5° | 25.5 | 38.3 | 34.7 | 27.4 | 23.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)