

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: P261039

Luminaire Tested: **24CZ-LD5-45SE-S-UNV-L83050-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P261039
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25694)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-45SE-S-UNV-L83050-W2A1-U-4000K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (168) 80 CRI LEDS TUNED AT 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4854.0 lumens
Efficiency: N/A
Efficacy: 135.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

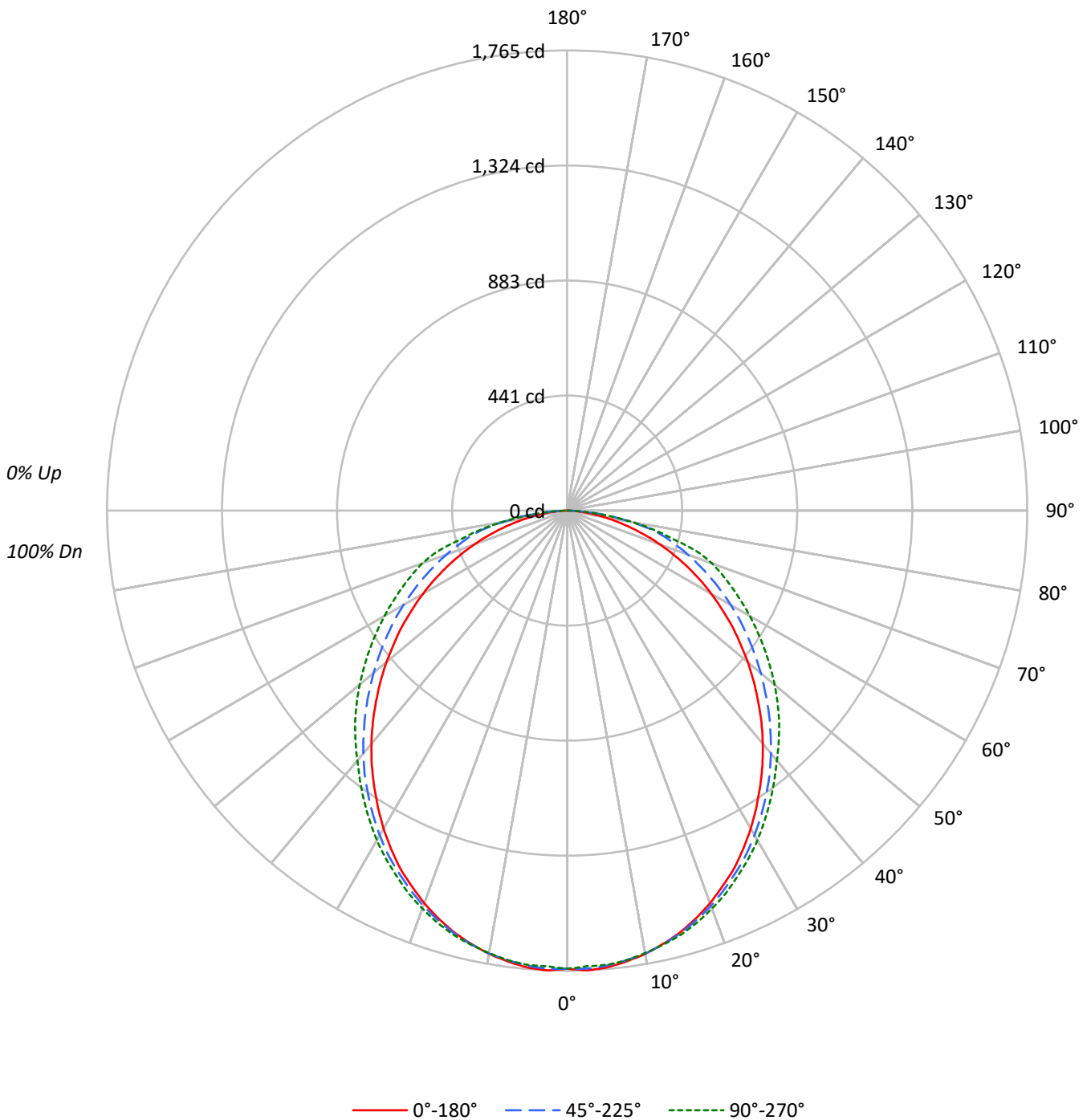
Input Watts (W): 35.772264
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 52 | 62 | 56 | 52 | 50 |
| 5 | 76 | 63 | 53 | 47 | 73 | 61 | 53 | 47 | 59 | 52 | 46 | 57 | 51 | 45 | 55 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 54 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 38 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 35 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2364 | 2364 | 2364 |
| 5° | 2376 | 2367 | 2363 |
| 10° | 2359 | 2357 | 2354 |
| 15° | 2333 | 2338 | 2347 |
| 20° | 2294 | 2310 | 2326 |
| 25° | 2249 | 2273 | 2297 |
| 30° | 2188 | 2233 | 2268 |
| 35° | 2120 | 2186 | 2231 |
| 40° | 2051 | 2136 | 2199 |
| 45° | 1973 | 2081 | 2188 |
| 50° | 1893 | 2029 | 2174 |
| 55° | 1811 | 1985 | 2167 |
| 60° | 1717 | 1951 | 2178 |
| 65° | 1614 | 1928 | 2221 |
| 70° | 1487 | 1938 | 2325 |
| 75° | 1318 | 2007 | 2166 |
| 80° | 1101 | 1902 | 1953 |
| 85° | 823 | 1521 | 1396 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 166.1 | 3.4 |
| 10°-20° | 472.5 | 9.7 |
| 20°-30° | 704.2 | 14.5 |
| 30°-40° | 828.9 | 17.1 |
| 40°-50° | 842.3 | 17.4 |
| 50°-60° | 757.3 | 15.6 |
| 60°-70° | 598.3 | 12.3 |
| 70°-80° | 379.6 | 7.8 |
| 80°-90° | 104.7 | 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° | 1342.8 | 27.7 |
| 0°-40° | 2171.7 | 44.7 |
| 0°-60° | 3771.4 | 77.7 |
| 0°-90° | 4854.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4854.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1757 | 1757 | 1757 | 1757 | 1757 | |
| 5° | 1759 | 1744 | 1752 | 1749 | 1749 | 167 |
| 15° | 1675 | 1667 | 1678 | 1683 | 1685 | 472 |
| 25° | 1515 | 1513 | 1531 | 1541 | 1547 | 697 |
| 35° | 1290 | 1298 | 1331 | 1345 | 1358 | 807 |
| 45° | 1037 | 1051 | 1093 | 1126 | 1150 | 800 |
| 55° | 772 | 791 | 846 | 901 | 924 | 689 |
| 65° | 507 | 533 | 606 | 672 | 698 | 502 |
| 75° | 254 | 297 | 386 | 420 | 417 | 270 |
| 85° | 53 | 92 | 98 | 90 | 90 | 65 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P261039

CATALOG NUMBER: 24CZ-LD5-45SE-S-UNV-L83050-W2A1-U-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1757.2 | 1757.2 | 1757.2 | 1757.2 | 1757.2 |
| 2.5° | 1765.3 | 1752.4 | 1758.9 | 1755.6 | 1749.2 |
| 5° | 1758.9 | 1744.3 | 1752.4 | 1749.2 | 1749.2 |
| 7.5° | 1744.3 | 1733.0 | 1739.5 | 1737.9 | 1739.5 |
| 10° | 1726.6 | 1715.2 | 1724.9 | 1724.9 | 1723.3 |
| 12.5° | 1702.3 | 1692.6 | 1703.9 | 1703.9 | 1705.6 |
| 15° | 1674.9 | 1666.8 | 1678.1 | 1682.9 | 1684.6 |
| 17.5° | 1640.9 | 1632.9 | 1647.4 | 1652.3 | 1657.1 |
| 20° | 1602.2 | 1599.0 | 1613.5 | 1618.3 | 1624.8 |
| 22.5° | 1558.6 | 1558.6 | 1573.1 | 1579.6 | 1589.3 |
| 25° | 1515.0 | 1513.4 | 1531.1 | 1540.8 | 1547.3 |
| 27.5° | 1463.3 | 1464.9 | 1487.5 | 1497.2 | 1505.3 |
| 30° | 1408.4 | 1411.6 | 1437.4 | 1448.8 | 1460.1 |
| 32.5° | 1350.2 | 1356.7 | 1385.8 | 1398.7 | 1410.0 |
| 35° | 1290.5 | 1298.5 | 1330.8 | 1345.4 | 1358.3 |
| 37.5° | 1230.7 | 1242.0 | 1275.9 | 1290.5 | 1305.0 |
| 40° | 1167.7 | 1177.4 | 1216.2 | 1233.9 | 1251.7 |
| 42.5° | 1103.1 | 1116.0 | 1154.8 | 1180.6 | 1201.6 |
| 45° | 1036.9 | 1051.4 | 1093.4 | 1125.7 | 1150.0 |
| 47.5° | 970.7 | 990.1 | 1030.4 | 1074.0 | 1095.0 |
| 50° | 904.5 | 923.8 | 969.1 | 1017.5 | 1038.5 |
| 52.5° | 836.6 | 856.0 | 907.7 | 957.8 | 980.4 |
| 55° | 772.0 | 791.4 | 846.3 | 901.2 | 923.8 |
| 57.5° | 704.2 | 725.2 | 786.6 | 843.1 | 865.7 |
| 60° | 638.0 | 659.0 | 725.2 | 784.9 | 809.2 |
| 62.5° | 573.4 | 596.0 | 665.4 | 728.4 | 752.6 |
| 65° | 507.1 | 533.0 | 605.7 | 671.9 | 697.7 |
| 67.5° | 442.5 | 471.6 | 547.5 | 617.0 | 644.4 |
| 70° | 377.9 | 411.9 | 492.6 | 563.7 | 591.1 |
| 72.5° | 314.9 | 352.1 | 437.7 | 508.8 | 523.3 |
| 75° | 253.6 | 297.2 | 386.0 | 419.9 | 416.7 |
| 77.5° | 195.4 | 243.9 | 327.9 | 334.3 | 344.0 |
| 80° | 142.1 | 195.4 | 245.5 | 258.4 | 252.0 |
| 82.5° | 93.7 | 147.0 | 176.0 | 169.6 | 168.0 |
| 85° | 53.3 | 92.1 | 98.5 | 90.4 | 90.4 |
| 87.5° | 22.6 | 37.1 | 32.3 | 24.2 | 22.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)