

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: P260871

Luminaire Tested: **24CZ-LD5-45-UNV-L92765-W2A1-U-5700K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P260871
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-LD5-45-UNV-L92765-W2A1-U-5700K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (336) 90 CRI LEDS TUNED AT 5700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4228.0 lumens
Efficiency: N/A
Efficacy: 130.6 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

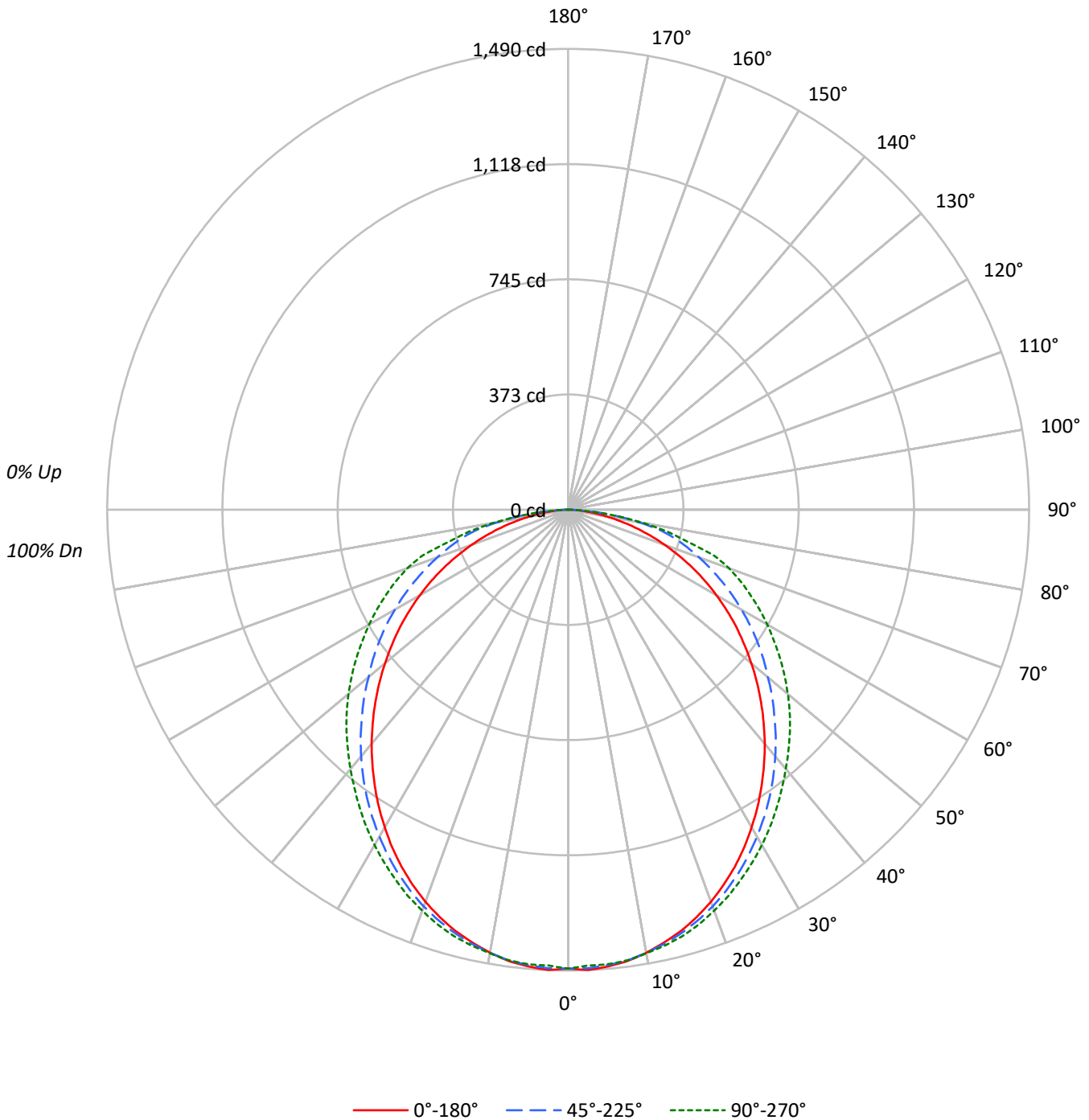
Input Watts (W): 32.364
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1996 | 1996 | 1996 |
| 5° | 2002 | 1996 | 1992 |
| 10° | 1988 | 1988 | 1990 |
| 15° | 1964 | 1974 | 1988 |
| 20° | 1932 | 1955 | 1975 |
| 25° | 1891 | 1928 | 1960 |
| 30° | 1842 | 1896 | 1945 |
| 35° | 1791 | 1864 | 1931 |
| 40° | 1737 | 1828 | 1922 |
| 45° | 1678 | 1793 | 1928 |
| 50° | 1618 | 1764 | 1939 |
| 55° | 1559 | 1752 | 1959 |
| 60° | 1488 | 1741 | 1998 |
| 65° | 1410 | 1742 | 2065 |
| 70° | 1304 | 1771 | 2175 |
| 75° | 1167 | 1851 | 2070 |
| 80° | 976 | 1772 | 1895 |
| 85° | 738 | 1363 | 1297 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 140.2 | 3.3 |
| 10°-20° | 399.1 | 9.4 |
| 20°-30° | 596.6 | 14.1 |
| 30°-40° | 707.7 | 16.7 |
| 40°-50° | 728.5 | 17.2 |
| 50°-60° | 668.3 | 15.8 |
| 60°-70° | 540.3 | 12.8 |
| 70°-80° | 350.7 | 8.3 |
| 80°-90° | 96.7 | 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° | 1135.9 | 26.9 |
| 0°-40° | 1843.6 | 43.6 |
| 0°-60° | 3240.3 | 76.6 |
| 0°-90° | 4228.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4228.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1484 | 1484 | 1484 | 1484 | 1484 | |
| 5° | 1482 | 1472 | 1478 | 1477 | 1475 | 141 |
| 15° | 1410 | 1404 | 1417 | 1423 | 1427 | 397 |
| 25° | 1274 | 1275 | 1298 | 1310 | 1320 | 586 |
| 35° | 1090 | 1099 | 1135 | 1160 | 1176 | 682 |
| 45° | 882 | 896 | 942 | 987 | 1013 | 680 |
| 55° | 664 | 685 | 747 | 808 | 835 | 594 |
| 65° | 443 | 469 | 547 | 620 | 648 | 438 |
| 75° | 224 | 266 | 356 | 398 | 398 | 238 |
| 85° | 48 | 81 | 88 | 85 | 84 | 58 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1483.8 | 1483.8 | 1483.8 | 1483.8 | 1483.8 |
| 2.5° | 1489.6 | 1478.0 | 1483.8 | 1482.4 | 1475.1 |
| 5° | 1482.4 | 1472.2 | 1478.0 | 1476.6 | 1475.1 |
| 7.5° | 1472.2 | 1462.1 | 1469.3 | 1467.9 | 1469.3 |
| 10° | 1454.9 | 1446.2 | 1454.9 | 1456.3 | 1456.3 |
| 12.5° | 1433.1 | 1425.9 | 1437.5 | 1440.4 | 1443.3 |
| 15° | 1410.0 | 1404.2 | 1417.2 | 1423.0 | 1427.4 |
| 17.5° | 1381.0 | 1376.7 | 1392.6 | 1399.8 | 1405.6 |
| 20° | 1349.2 | 1347.7 | 1365.1 | 1372.3 | 1379.6 |
| 22.5° | 1313.0 | 1313.0 | 1333.3 | 1341.9 | 1352.1 |
| 25° | 1273.9 | 1275.4 | 1298.5 | 1310.1 | 1320.2 |
| 27.5° | 1231.9 | 1233.4 | 1260.9 | 1275.4 | 1286.9 |
| 30° | 1185.6 | 1191.4 | 1220.3 | 1239.2 | 1252.2 |
| 32.5° | 1139.3 | 1146.5 | 1178.4 | 1200.1 | 1214.6 |
| 35° | 1090.1 | 1098.7 | 1134.9 | 1159.5 | 1175.5 |
| 37.5° | 1039.4 | 1049.5 | 1088.6 | 1116.1 | 1134.9 |
| 40° | 988.7 | 1000.3 | 1040.8 | 1072.7 | 1094.4 |
| 42.5° | 935.2 | 948.2 | 993.1 | 1030.7 | 1053.9 |
| 45° | 881.6 | 896.1 | 942.4 | 987.3 | 1013.3 |
| 47.5° | 828.0 | 845.4 | 894.6 | 943.8 | 971.4 |
| 50° | 773.0 | 790.4 | 842.5 | 899.0 | 926.5 |
| 52.5° | 718.0 | 738.3 | 796.2 | 854.1 | 881.6 |
| 55° | 664.5 | 684.7 | 747.0 | 807.8 | 835.3 |
| 57.5° | 609.4 | 629.7 | 697.8 | 761.4 | 789.0 |
| 60° | 553.0 | 576.2 | 647.1 | 712.2 | 742.6 |
| 62.5° | 498.0 | 522.6 | 597.9 | 667.4 | 696.3 |
| 65° | 443.0 | 469.0 | 547.2 | 619.6 | 648.5 |
| 67.5° | 386.5 | 416.9 | 498.0 | 571.8 | 602.2 |
| 70° | 331.5 | 364.8 | 450.2 | 524.0 | 553.0 |
| 72.5° | 277.9 | 314.1 | 402.4 | 477.7 | 495.1 |
| 75° | 224.4 | 266.4 | 356.1 | 398.1 | 398.1 |
| 77.5° | 173.7 | 220.0 | 304.0 | 319.9 | 328.6 |
| 80° | 125.9 | 176.6 | 228.7 | 247.5 | 244.6 |
| 82.5° | 84.0 | 134.6 | 163.6 | 163.6 | 159.2 |
| 85° | 47.8 | 81.1 | 88.3 | 85.4 | 84.0 |
| 87.5° | 20.3 | 30.4 | 27.5 | 21.7 | 18.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)