

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: P276576

Luminaire Tested: **24CZ2-40-S-UNV-L82765-W2A1-U-5500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276576
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40-S-UNV-L82765-W2A1-U-5500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (168) 80 CRI LEDS TUNED TO 5500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4183.7 lumens
Efficiency: N/A
Efficacy: 133.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

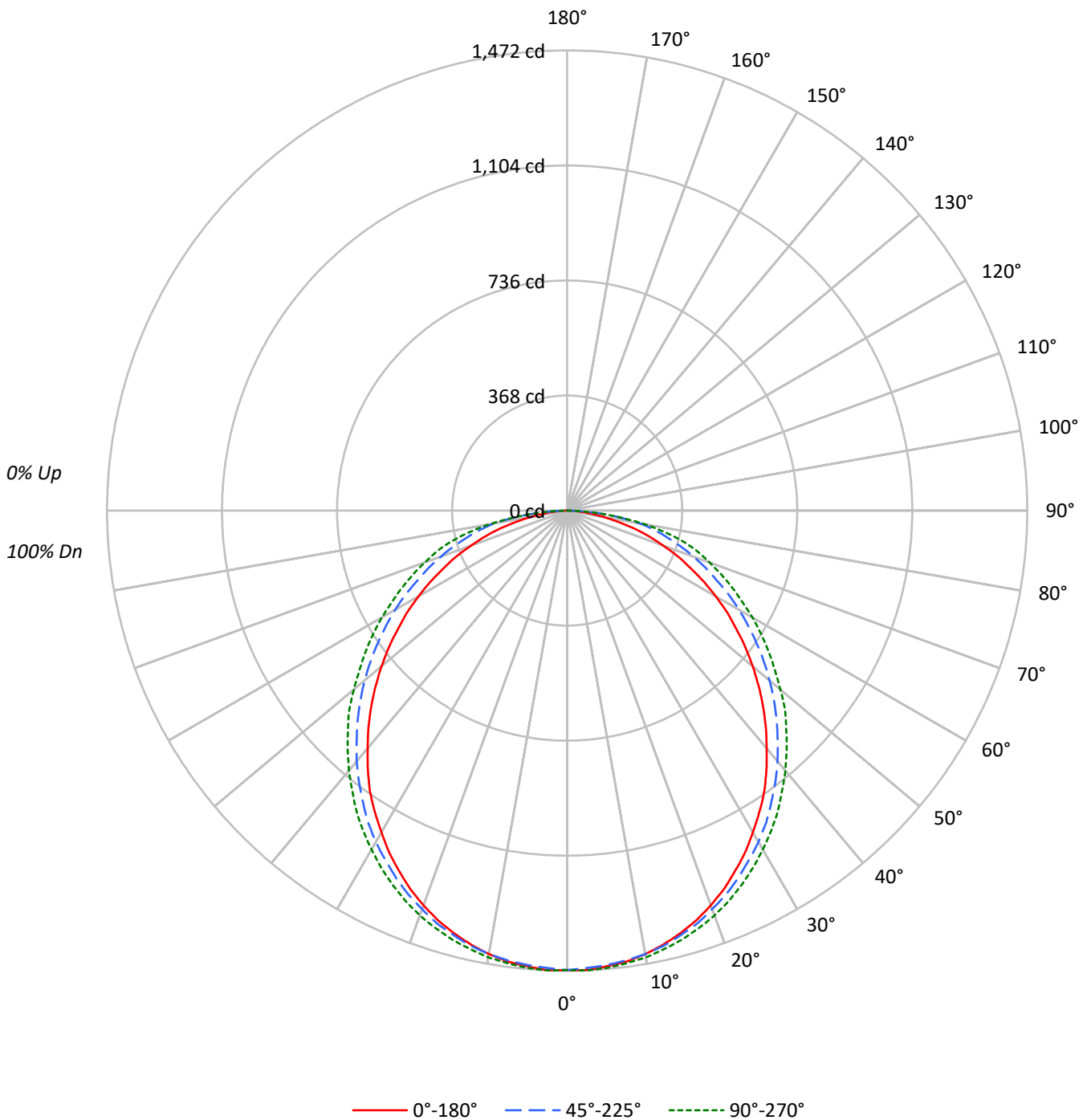
Input Watts (W): 31.248
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 96 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 69 |
| 3 | 89 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 42 |
| 6 | 70 | 56 | 47 | 40 | 68 | 55 | 47 | 40 | 53 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1978 | 1978 | 1978 |
| 5° | 1976 | 1971 | 1983 |
| 10° | 1968 | 1968 | 1983 |
| 15° | 1949 | 1958 | 1979 |
| 20° | 1924 | 1943 | 1973 |
| 25° | 1888 | 1924 | 1961 |
| 30° | 1846 | 1901 | 1945 |
| 35° | 1805 | 1871 | 1930 |
| 40° | 1744 | 1839 | 1907 |
| 45° | 1687 | 1803 | 1886 |
| 50° | 1622 | 1769 | 1864 |
| 55° | 1549 | 1736 | 1845 |
| 60° | 1477 | 1709 | 1842 |
| 65° | 1384 | 1680 | 1853 |
| 70° | 1281 | 1688 | 1903 |
| 75° | 1147 | 1720 | 2010 |
| 80° | 927 | 1822 | 1967 |
| 85° | 698 | 1601 | 1559 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 139.1 | 3.3 |
| 10°-20° | 397.6 | 9.5 |
| 20°-30° | 597.7 | 14.3 |
| 30°-40° | 711.9 | 17.0 |
| 40°-50° | 728.6 | 17.4 |
| 50°-60° | 656.0 | 15.7 |
| 60°-70° | 515.1 | 12.3 |
| 70°-80° | 334.3 | 8.0 |
| 80°-90° | 103.4 | 2.5 |
| 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° | 1134.4 | 27.1 |
| 0°-40° | 1846.3 | 44.1 |
| 0°-60° | 3230.9 | 77.2 |
| 0°-90° | 4183.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4183.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1470 | 1470 | 1470 | 1470 | 1470 | |
| 5° | 1463 | 1466 | 1459 | 1467 | 1468 | 139 |
| 15° | 1399 | 1403 | 1406 | 1418 | 1421 | 395 |
| 25° | 1272 | 1282 | 1296 | 1317 | 1321 | 586 |
| 35° | 1099 | 1112 | 1139 | 1167 | 1175 | 686 |
| 45° | 886 | 908 | 948 | 983 | 991 | 683 |
| 55° | 660 | 690 | 740 | 779 | 787 | 592 |
| 65° | 435 | 468 | 528 | 571 | 582 | 433 |
| 75° | 221 | 263 | 331 | 376 | 387 | 233 |
| 85° | 45 | 84 | 104 | 101 | 101 | 55 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1469.8 | 1469.8 | 1469.8 | 1469.8 | 1469.8 |
| 2.5° | 1471.1 | 1471.1 | 1464.5 | 1471.1 | 1472.4 |
| 5° | 1463.1 | 1465.8 | 1459.1 | 1467.1 | 1468.4 |
| 7.5° | 1455.2 | 1455.2 | 1451.2 | 1459.1 | 1460.5 |
| 10° | 1440.5 | 1441.9 | 1440.5 | 1449.8 | 1451.2 |
| 12.5° | 1421.9 | 1424.6 | 1425.9 | 1435.2 | 1436.5 |
| 15° | 1399.3 | 1403.3 | 1406.0 | 1417.9 | 1420.6 |
| 17.5° | 1374.1 | 1378.1 | 1384.7 | 1398.0 | 1400.7 |
| 20° | 1343.5 | 1348.8 | 1356.8 | 1374.1 | 1378.1 |
| 22.5° | 1310.3 | 1315.6 | 1328.9 | 1344.9 | 1351.5 |
| 25° | 1271.8 | 1282.4 | 1295.7 | 1316.9 | 1320.9 |
| 27.5° | 1233.2 | 1242.5 | 1259.8 | 1282.4 | 1287.7 |
| 30° | 1188.0 | 1202.7 | 1223.9 | 1246.5 | 1251.8 |
| 32.5° | 1144.2 | 1158.8 | 1184.1 | 1208.0 | 1214.6 |
| 35° | 1099.0 | 1112.3 | 1138.9 | 1166.8 | 1174.8 |
| 37.5° | 1047.2 | 1064.5 | 1093.7 | 1121.6 | 1129.6 |
| 40° | 992.7 | 1014.0 | 1047.2 | 1076.4 | 1085.7 |
| 42.5° | 940.9 | 963.5 | 996.7 | 1028.6 | 1039.2 |
| 45° | 886.4 | 907.6 | 947.5 | 983.4 | 991.4 |
| 47.5° | 830.6 | 854.5 | 897.0 | 932.9 | 946.2 |
| 50° | 774.8 | 800.0 | 845.2 | 882.4 | 890.4 |
| 52.5° | 718.9 | 745.5 | 793.4 | 833.2 | 837.2 |
| 55° | 660.5 | 689.7 | 740.2 | 778.7 | 786.7 |
| 57.5° | 607.3 | 632.6 | 687.0 | 726.9 | 736.2 |
| 60° | 548.8 | 576.7 | 635.2 | 672.4 | 684.4 |
| 62.5° | 493.0 | 522.3 | 583.4 | 620.6 | 631.2 |
| 65° | 434.6 | 467.8 | 527.6 | 571.4 | 582.1 |
| 67.5° | 384.1 | 415.9 | 479.7 | 522.3 | 532.9 |
| 70° | 325.6 | 361.5 | 429.2 | 473.1 | 483.7 |
| 72.5° | 275.1 | 312.3 | 380.1 | 422.6 | 438.5 |
| 75° | 220.6 | 263.1 | 330.9 | 376.1 | 386.7 |
| 77.5° | 167.4 | 216.6 | 285.7 | 320.3 | 320.3 |
| 80° | 119.6 | 171.4 | 235.2 | 251.2 | 253.8 |
| 82.5° | 78.4 | 128.9 | 174.1 | 172.8 | 172.8 |
| 85° | 45.2 | 83.7 | 103.7 | 101.0 | 101.0 |
| 87.5° | 17.3 | 34.6 | 37.2 | 37.2 | 35.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)