

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: P275904

Luminaire Tested: **24CZ2-40HE-UNV-L83050-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P275904
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40HE-UNV-L83050-W2A1-U-4000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (336) 80 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4046.0 lumens
Efficiency: N/A
Efficacy: 139.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

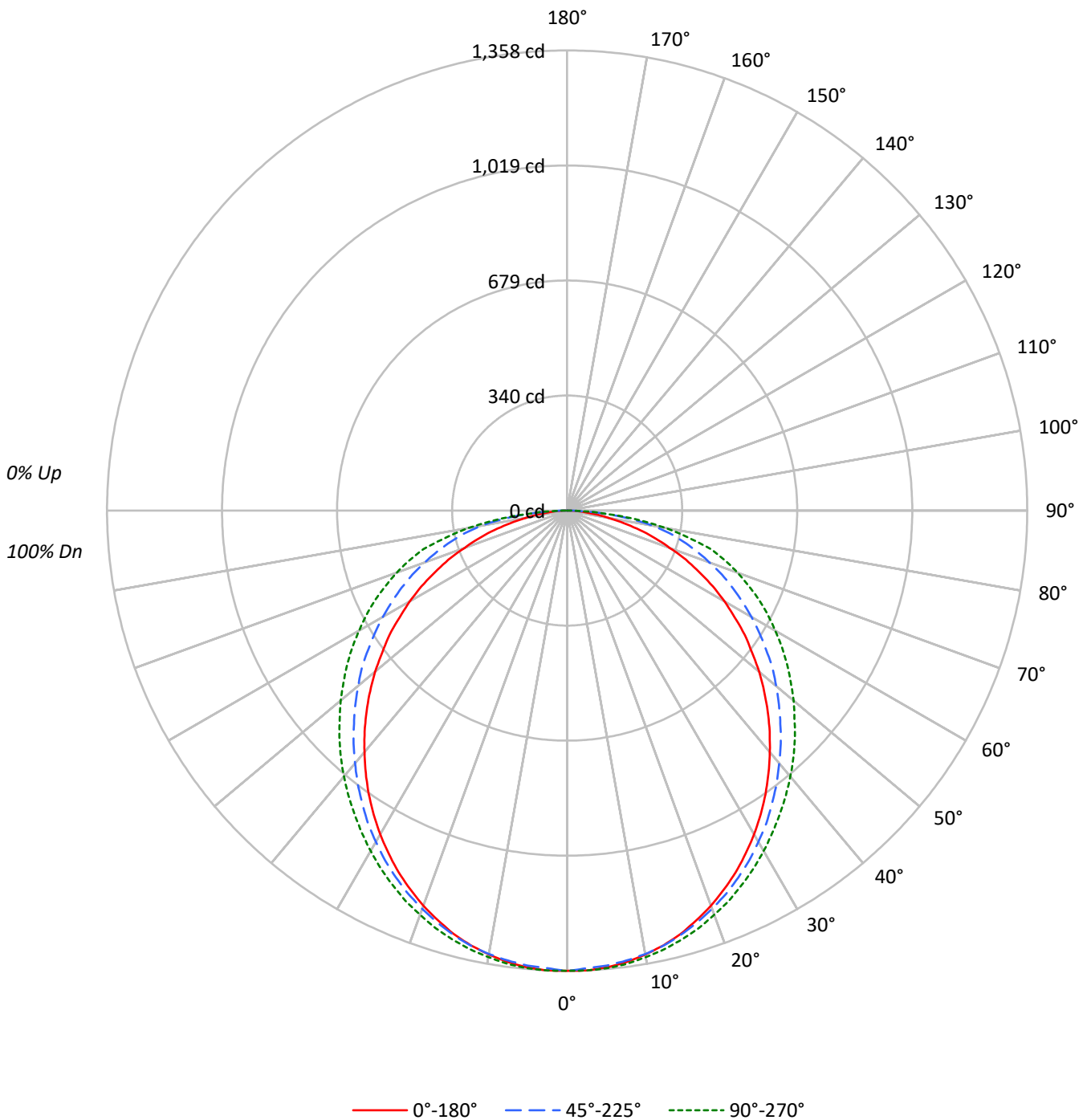
Input Watts (W): 28.923
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 98 | 94 | 105 | 100 | 96 | 92 | 96 | 93 | 89 | 92 | 89 | 87 | 89 | 86 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 80 | 75 | 83 | 78 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 67 |
| 3 | 89 | 78 | 69 | 62 | 86 | 76 | 68 | 62 | 73 | 66 | 61 | 70 | 64 | 60 | 68 | 63 | 58 | 56 |
| 4 | 81 | 69 | 59 | 52 | 79 | 67 | 59 | 52 | 65 | 57 | 51 | 62 | 56 | 51 | 60 | 55 | 50 | 48 |
| 5 | 74 | 61 | 52 | 45 | 72 | 60 | 51 | 45 | 58 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 43 | 41 |
| 6 | 69 | 55 | 46 | 39 | 67 | 54 | 45 | 39 | 52 | 44 | 39 | 50 | 44 | 38 | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 40 | 34 | 47 | 40 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 32 |
| 8 | 59 | 45 | 37 | 31 | 58 | 45 | 36 | 31 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 28 |
| 9 | 55 | 42 | 33 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 25 |
| 10 | 52 | 38 | 30 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 29 | 25 | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1828 | 1828 | 1828 |
| 5° | 1827 | 1820 | 1831 |
| 10° | 1817 | 1815 | 1828 |
| 15° | 1802 | 1806 | 1824 |
| 20° | 1777 | 1790 | 1817 |
| 25° | 1748 | 1774 | 1810 |
| 30° | 1714 | 1754 | 1802 |
| 35° | 1677 | 1732 | 1797 |
| 40° | 1634 | 1710 | 1800 |
| 45° | 1593 | 1693 | 1809 |
| 50° | 1549 | 1685 | 1826 |
| 55° | 1502 | 1682 | 1859 |
| 60° | 1443 | 1690 | 1908 |
| 65° | 1367 | 1715 | 1990 |
| 70° | 1269 | 1758 | 2103 |
| 75° | 1158 | 1846 | 2282 |
| 80° | 952 | 1988 | 2281 |
| 85° | 730 | 1834 | 1959 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 128.5 | 3.2 |
| 10°-20° | 366.8 | 9.1 |
| 20°-30° | 552.0 | 13.6 |
| 30°-40° | 661.5 | 16.3 |
| 40°-50° | 689.3 | 17.0 |
| 50°-60° | 641.3 | 15.9 |
| 60°-70° | 528.2 | 13.1 |
| 70°-80° | 359.7 | 8.9 |
| 80°-90° | 118.8 | 2.9 |
| 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° | 1047.2 | 25.9 |
| 0°-40° | 1708.7 | 42.2 |
| 0°-60° | 3039.3 | 75.1 |
| 0°-90° | 4046.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4046.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1358 | 1358 | 1358 | 1358 | 1358 | |
| 5° | 1353 | 1353 | 1348 | 1354 | 1356 | 128 |
| 15° | 1294 | 1295 | 1296 | 1308 | 1310 | 364 |
| 25° | 1178 | 1183 | 1195 | 1215 | 1219 | 542 |
| 35° | 1021 | 1033 | 1055 | 1083 | 1094 | 638 |
| 45° | 837 | 855 | 890 | 934 | 951 | 646 |
| 55° | 640 | 662 | 717 | 774 | 793 | 571 |
| 65° | 429 | 466 | 539 | 602 | 625 | 426 |
| 75° | 223 | 273 | 355 | 419 | 439 | 235 |
| 85° | 47 | 92 | 119 | 127 | 127 | 59 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P275904

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1358.4 | 1358.4 | 1358.4 | 1358.4 | 1358.4 |
| 2.5° | 1358.4 | 1358.4 | 1351.7 | 1358.4 | 1358.4 |
| 5° | 1353.0 | 1353.0 | 1347.6 | 1354.4 | 1355.7 |
| 7.5° | 1343.6 | 1344.9 | 1339.5 | 1347.6 | 1349.0 |
| 10° | 1330.1 | 1331.4 | 1328.7 | 1336.8 | 1338.2 |
| 12.5° | 1313.9 | 1315.2 | 1315.2 | 1324.7 | 1326.0 |
| 15° | 1293.6 | 1295.0 | 1296.3 | 1308.5 | 1309.8 |
| 17.5° | 1268.0 | 1272.0 | 1274.7 | 1289.6 | 1292.3 |
| 20° | 1241.0 | 1245.0 | 1250.4 | 1266.6 | 1269.3 |
| 22.5° | 1209.9 | 1215.3 | 1224.7 | 1242.3 | 1246.4 |
| 25° | 1177.5 | 1182.9 | 1195.0 | 1215.3 | 1219.3 |
| 27.5° | 1141.0 | 1149.1 | 1164.0 | 1185.6 | 1191.0 |
| 30° | 1103.2 | 1111.3 | 1128.9 | 1151.8 | 1159.9 |
| 32.5° | 1062.7 | 1073.5 | 1093.8 | 1119.4 | 1127.5 |
| 35° | 1020.8 | 1033.0 | 1054.6 | 1083.0 | 1093.8 |
| 37.5° | 976.3 | 989.8 | 1015.4 | 1046.5 | 1060.0 |
| 40° | 930.4 | 946.6 | 973.6 | 1010.0 | 1024.9 |
| 42.5° | 884.5 | 899.3 | 933.1 | 972.2 | 988.4 |
| 45° | 837.2 | 854.8 | 889.9 | 934.4 | 950.6 |
| 47.5° | 788.6 | 806.1 | 848.0 | 895.3 | 910.1 |
| 50° | 740.0 | 757.5 | 804.8 | 854.8 | 872.3 |
| 52.5° | 687.3 | 710.3 | 764.3 | 814.2 | 831.8 |
| 55° | 640.1 | 661.7 | 717.0 | 773.7 | 792.6 |
| 57.5° | 586.0 | 611.7 | 672.5 | 731.9 | 752.1 |
| 60° | 536.1 | 563.1 | 627.9 | 688.7 | 708.9 |
| 62.5° | 484.8 | 514.5 | 583.3 | 645.5 | 668.4 |
| 65° | 429.4 | 465.9 | 538.8 | 602.2 | 625.2 |
| 67.5° | 379.4 | 417.3 | 494.2 | 559.0 | 579.3 |
| 70° | 322.7 | 368.6 | 447.0 | 511.8 | 534.7 |
| 72.5° | 274.1 | 320.0 | 402.4 | 465.9 | 488.8 |
| 75° | 222.8 | 272.8 | 355.1 | 418.6 | 438.9 |
| 77.5° | 171.5 | 226.9 | 309.2 | 357.8 | 364.6 |
| 80° | 122.9 | 180.9 | 256.6 | 284.9 | 294.4 |
| 82.5° | 86.4 | 139.1 | 189.0 | 208.0 | 213.4 |
| 85° | 47.3 | 91.8 | 118.8 | 126.9 | 126.9 |
| 87.5° | 20.3 | 39.2 | 47.3 | 48.6 | 50.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)