

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: P276482

Luminaire Tested: **24CZ2-40HE-S-UNV-L82765-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276482
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: 24CZ2-40HE-S-UNV-L82765-W2A1-U-3500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 80 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3954.1 lumens
Efficiency: N/A
Efficacy: 139.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

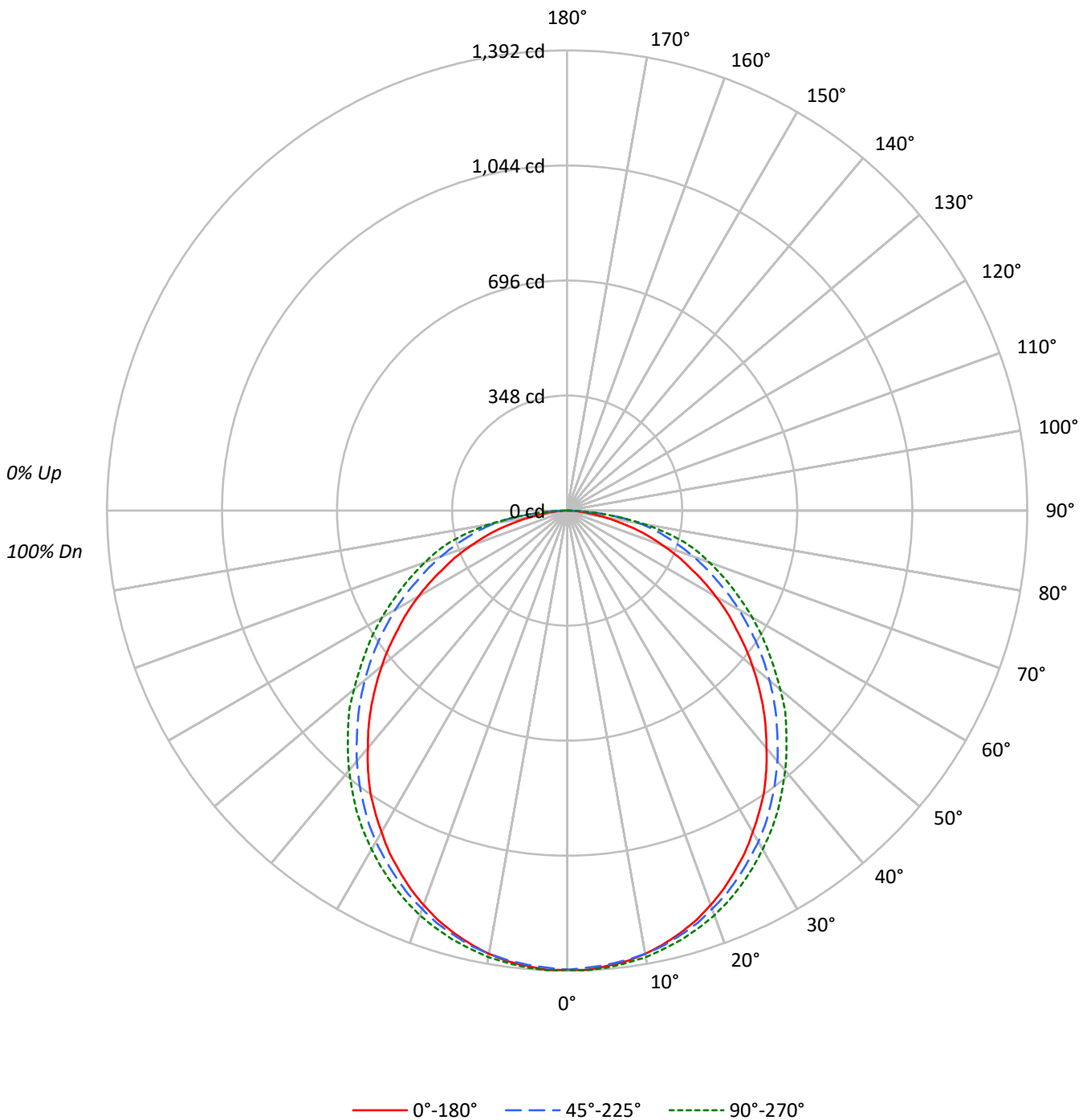
Input Watts (W): 28.365
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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° | 1869 | 1869 | 1869 |
| 5° | 1868 | 1863 | 1874 |
| 10° | 1860 | 1860 | 1874 |
| 15° | 1842 | 1851 | 1870 |
| 20° | 1818 | 1836 | 1865 |
| 25° | 1784 | 1818 | 1853 |
| 30° | 1744 | 1797 | 1838 |
| 35° | 1706 | 1768 | 1824 |
| 40° | 1648 | 1738 | 1802 |
| 45° | 1594 | 1704 | 1783 |
| 50° | 1533 | 1672 | 1761 |
| 55° | 1464 | 1641 | 1744 |
| 60° | 1396 | 1616 | 1741 |
| 65° | 1308 | 1587 | 1751 |
| 70° | 1210 | 1596 | 1799 |
| 75° | 1084 | 1626 | 1900 |
| 80° | 876 | 1722 | 1859 |
| 85° | 659 | 1513 | 1474 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 131.5 | 3.3 |
| 10°-20° | 375.8 | 9.5 |
| 20°-30° | 564.9 | 14.3 |
| 30°-40° | 672.8 | 17.0 |
| 40°-50° | 688.6 | 17.4 |
| 50°-60° | 619.9 | 15.7 |
| 60°-70° | 486.9 | 12.3 |
| 70°-80° | 316.0 | 8.0 |
| 80°-90° | 97.7 | 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° | 1072.1 | 27.1 |
| 0°-40° | 1745.0 | 44.1 |
| 0°-60° | 3053.5 | 77.2 |
| 0°-90° | 3954.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3954.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1389 | 1389 | 1389 | 1389 | 1389 | |
| 5° | 1383 | 1385 | 1379 | 1387 | 1388 | 131 |
| 15° | 1322 | 1326 | 1329 | 1340 | 1343 | 373 |
| 25° | 1202 | 1212 | 1225 | 1245 | 1248 | 554 |
| 35° | 1039 | 1051 | 1076 | 1103 | 1110 | 648 |
| 45° | 838 | 858 | 896 | 929 | 937 | 646 |
| 55° | 624 | 652 | 700 | 736 | 744 | 560 |
| 65° | 411 | 442 | 499 | 540 | 550 | 409 |
| 75° | 208 | 249 | 313 | 355 | 366 | 221 |
| 85° | 43 | 79 | 98 | 96 | 96 | 52 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: 24CZ2-40HE-S-UNV-L82765-W2A1-U-3500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1389.1 | 1389.1 | 1389.1 | 1389.1 | 1389.1 |
| 2.5° | 1390.4 | 1390.4 | 1384.1 | 1390.4 | 1391.6 |
| 5° | 1382.8 | 1385.3 | 1379.1 | 1386.6 | 1387.8 |
| 7.5° | 1375.3 | 1375.3 | 1371.5 | 1379.1 | 1380.3 |
| 10° | 1361.5 | 1362.7 | 1361.5 | 1370.3 | 1371.5 |
| 12.5° | 1343.9 | 1346.4 | 1347.7 | 1356.4 | 1357.7 |
| 15° | 1322.5 | 1326.3 | 1328.8 | 1340.1 | 1342.6 |
| 17.5° | 1298.7 | 1302.4 | 1308.7 | 1321.3 | 1323.8 |
| 20° | 1269.8 | 1274.8 | 1282.3 | 1298.7 | 1302.4 |
| 22.5° | 1238.4 | 1243.4 | 1256.0 | 1271.0 | 1277.3 |
| 25° | 1202.0 | 1212.0 | 1224.6 | 1244.7 | 1248.4 |
| 27.5° | 1165.5 | 1174.3 | 1190.7 | 1212.0 | 1217.0 |
| 30° | 1122.8 | 1136.7 | 1156.7 | 1178.1 | 1183.1 |
| 32.5° | 1081.4 | 1095.2 | 1119.1 | 1141.7 | 1148.0 |
| 35° | 1038.7 | 1051.2 | 1076.4 | 1102.7 | 1110.3 |
| 37.5° | 989.7 | 1006.0 | 1033.7 | 1060.0 | 1067.6 |
| 40° | 938.2 | 958.3 | 989.7 | 1017.3 | 1026.1 |
| 42.5° | 889.2 | 910.6 | 942.0 | 972.1 | 982.2 |
| 45° | 837.7 | 857.8 | 895.5 | 929.4 | 937.0 |
| 47.5° | 785.0 | 807.6 | 847.8 | 881.7 | 894.3 |
| 50° | 732.2 | 756.1 | 798.8 | 834.0 | 841.5 |
| 52.5° | 679.5 | 704.6 | 749.8 | 787.5 | 791.3 |
| 55° | 624.2 | 651.8 | 699.6 | 736.0 | 743.5 |
| 57.5° | 574.0 | 597.8 | 649.3 | 687.0 | 695.8 |
| 60° | 518.7 | 545.1 | 600.4 | 635.5 | 646.8 |
| 62.5° | 466.0 | 493.6 | 551.4 | 586.5 | 596.6 |
| 65° | 410.7 | 442.1 | 498.6 | 540.1 | 550.1 |
| 67.5° | 363.0 | 393.1 | 453.4 | 493.6 | 503.6 |
| 70° | 307.7 | 341.6 | 405.7 | 447.1 | 457.2 |
| 72.5° | 260.0 | 295.2 | 359.2 | 399.4 | 414.5 |
| 75° | 208.5 | 248.7 | 312.7 | 355.4 | 365.5 |
| 77.5° | 158.3 | 204.7 | 270.0 | 302.7 | 302.7 |
| 80° | 113.0 | 162.0 | 222.3 | 237.4 | 239.9 |
| 82.5° | 74.1 | 121.8 | 164.5 | 163.3 | 163.3 |
| 85° | 42.7 | 79.1 | 98.0 | 95.5 | 95.5 |
| 87.5° | 16.3 | 32.7 | 35.2 | 35.2 | 33.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)