

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: P843146

Luminaire Tested: **24CZ2-60HE-HRP-UNV-B40**

Issue Date: 1/5/2024



Test Information

Test Method: LM-79-08
Report Number: P843146
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P295011)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 1/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-60HE-HRP-UNV-B40
Description: 2X4 6000 LUMEN CRUZE TROFFER WITH BIO UP LEDS AT 4000K CCT AND HRP LENS

Light Source: -
Ballast/Driver: -

Summary

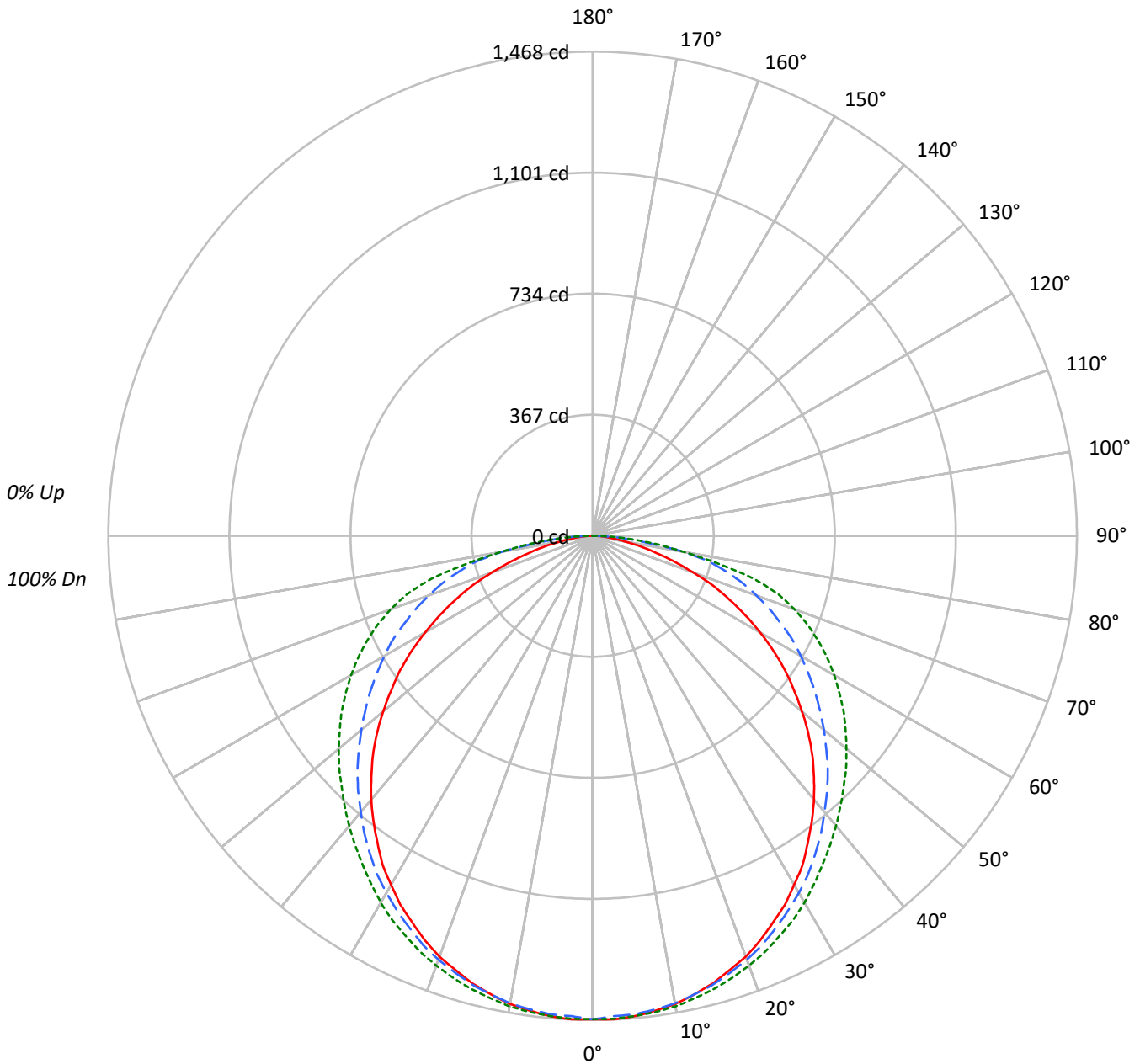
Lumens per Lamp: N/A
Luminaire Lumens: 4518.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 1.92' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 45
Input Voltage (V): NR
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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CATALOG NUMBER: 24CZ2-60HE-HRP-UNV-B40

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 50 | | | | | | | | | 30 | | | | | | | | | 10 | | | | | | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 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 | 101 | 96 | 93 | 96 | 93 | 90 | 92 | 90 | 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 | 59 | 68 | 63 | 58 | 56 | | | | | | | | | | | | | | | | | | | |
| 4 | 81 | 68 | 59 | 52 | 79 | 67 | 59 | 52 | 65 | 57 | 51 | 62 | 56 | 50 | 60 | 54 | 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 | 38 | 50 | 43 | 38 | 49 | 42 | 38 | 36 | | | | | | | | | | | | | | | | | | | |
| 7 | 63 | 50 | 41 | 34 | 62 | 49 | 40 | 34 | 47 | 39 | 34 | 46 | 39 | 34 | 44 | 38 | 33 | 31 | | | | | | | | | | | | | | | | | | | |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 28 | | | | | | | | | | | | | | | | | | | |
| 9 | 55 | 41 | 33 | 27 | 54 | 41 | 33 | 27 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 25 | | | | | | | | | | | | | | | | | | | |
| 10 | 52 | 38 | 30 | 25 | 50 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 29 | 24 | 35 | 29 | 24 | 23 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2069 | 2069 | 2069 |
| 5° | 2072 | 2063 | 2072 |
| 10° | 2066 | 2063 | 2076 |
| 15° | 2053 | 2059 | 2078 |
| 20° | 2040 | 2054 | 2082 |
| 25° | 2015 | 2044 | 2085 |
| 30° | 1991 | 2038 | 2093 |
| 35° | 1959 | 2027 | 2095 |
| 40° | 1923 | 2014 | 2115 |
| 45° | 1880 | 2012 | 2148 |
| 50° | 1819 | 2010 | 2205 |
| 55° | 1754 | 2024 | 2285 |
| 60° | 1655 | 2055 | 2386 |
| 65° | 1529 | 2104 | 2520 |
| 70° | 1335 | 2178 | 2685 |
| 75° | 1083 | 2290 | 2774 |
| 80° | 798 | 2245 | 2245 |
| 85° | 614 | 1655 | 1867 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 138.9 | 3.1 |
| 10°-20° | 398.8 | 8.8 |
| 20°-30° | 607.1 | 13.4 |
| 30°-40° | 737.1 | 16.3 |
| 40°-50° | 778.8 | 17.2 |
| 50°-60° | 734.8 | 16.3 |
| 60°-70° | 611.0 | 13.5 |
| 70°-80° | 402.0 | 8.9 |
| 80°-90° | 109.6 | 2.4 |
| 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° | 1144.7 | 25.3 |
| 0°-40° | 1881.8 | 41.7 |
| 0°-60° | 3395.4 | 75.2 |
| 0°-90° | 4518.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4518.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1466 | 1466 | 1466 | 1466 | 1466 | |
| 5° | 1462 | 1462 | 1456 | 1462 | 1462 | 139 |
| 15° | 1405 | 1407 | 1409 | 1422 | 1422 | 396 |
| 25° | 1294 | 1301 | 1313 | 1335 | 1339 | 597 |
| 35° | 1137 | 1150 | 1177 | 1207 | 1216 | 712 |
| 45° | 942 | 961 | 1008 | 1057 | 1076 | 725 |
| 55° | 713 | 743 | 823 | 900 | 929 | 635 |
| 65° | 458 | 511 | 630 | 723 | 755 | 453 |
| 75° | 199 | 289 | 420 | 498 | 509 | 214 |
| 85° | 38 | 83 | 102 | 113 | 115 | 46 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P843146

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1465.9 | 1465.9 | 1465.9 | 1465.9 | 1465.9 |
| 2.5° | 1467.8 | 1465.9 | 1458.2 | 1465.9 | 1465.9 |
| 5° | 1462.2 | 1462.2 | 1456.3 | 1462.2 | 1462.2 |
| 7.5° | 1452.6 | 1452.6 | 1448.8 | 1456.3 | 1456.3 |
| 10° | 1441.4 | 1441.4 | 1439.3 | 1448.8 | 1448.8 |
| 12.5° | 1424.3 | 1426.2 | 1424.3 | 1435.5 | 1435.5 |
| 15° | 1405.3 | 1407.2 | 1409.1 | 1422.4 | 1422.4 |
| 17.5° | 1380.8 | 1384.5 | 1388.3 | 1403.5 | 1405.3 |
| 20° | 1358.1 | 1360.0 | 1367.4 | 1384.5 | 1386.4 |
| 22.5° | 1327.7 | 1333.5 | 1342.9 | 1360.0 | 1365.6 |
| 25° | 1293.8 | 1301.3 | 1312.7 | 1335.4 | 1339.1 |
| 27.5° | 1261.5 | 1267.3 | 1282.3 | 1306.9 | 1314.6 |
| 30° | 1222.0 | 1231.3 | 1250.3 | 1274.8 | 1284.2 |
| 32.5° | 1184.1 | 1193.4 | 1216.1 | 1242.8 | 1250.3 |
| 35° | 1136.8 | 1149.9 | 1176.6 | 1206.8 | 1216.1 |
| 37.5° | 1091.4 | 1104.5 | 1136.8 | 1170.7 | 1182.2 |
| 40° | 1043.9 | 1059.2 | 1093.3 | 1133.1 | 1148.0 |
| 42.5° | 993.0 | 1013.8 | 1051.7 | 1095.2 | 1112.3 |
| 45° | 942.0 | 960.9 | 1008.2 | 1057.3 | 1076.2 |
| 47.5° | 887.0 | 909.7 | 960.9 | 1019.4 | 1042.1 |
| 50° | 828.5 | 856.8 | 915.5 | 979.9 | 1004.4 |
| 52.5° | 769.8 | 801.8 | 868.0 | 940.1 | 966.5 |
| 55° | 713.0 | 743.4 | 822.7 | 900.3 | 928.6 |
| 57.5° | 650.7 | 688.4 | 775.4 | 858.7 | 887.0 |
| 60° | 586.4 | 628.1 | 728.2 | 815.2 | 845.4 |
| 62.5° | 522.1 | 569.3 | 682.8 | 769.8 | 801.8 |
| 65° | 457.8 | 510.6 | 629.9 | 722.6 | 754.6 |
| 67.5° | 395.3 | 454.0 | 580.6 | 673.4 | 705.5 |
| 70° | 323.5 | 397.2 | 527.7 | 618.5 | 650.7 |
| 72.5° | 257.3 | 342.4 | 476.7 | 561.9 | 590.2 |
| 75° | 198.6 | 289.3 | 419.9 | 497.5 | 508.8 |
| 77.5° | 145.7 | 236.5 | 361.2 | 387.8 | 389.7 |
| 80° | 98.2 | 189.2 | 276.2 | 272.3 | 276.2 |
| 82.5° | 64.3 | 141.8 | 174.0 | 194.8 | 196.7 |
| 85° | 37.9 | 83.3 | 102.2 | 113.4 | 115.3 |
| 87.5° | 18.9 | 28.3 | 36.0 | 37.9 | 41.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)