

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: P276506

Luminaire Tested: **24CZ2-50HE-S-UNV-L82765-W2A1-U-6500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P276506  
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: 24CZ2-50HE-S-UNV-L82765-W2A1-U-6500K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER  
WITH SMOOTH LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 6500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5222.4 lumens  
Efficiency: N/A  
Efficacy: 140.0 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

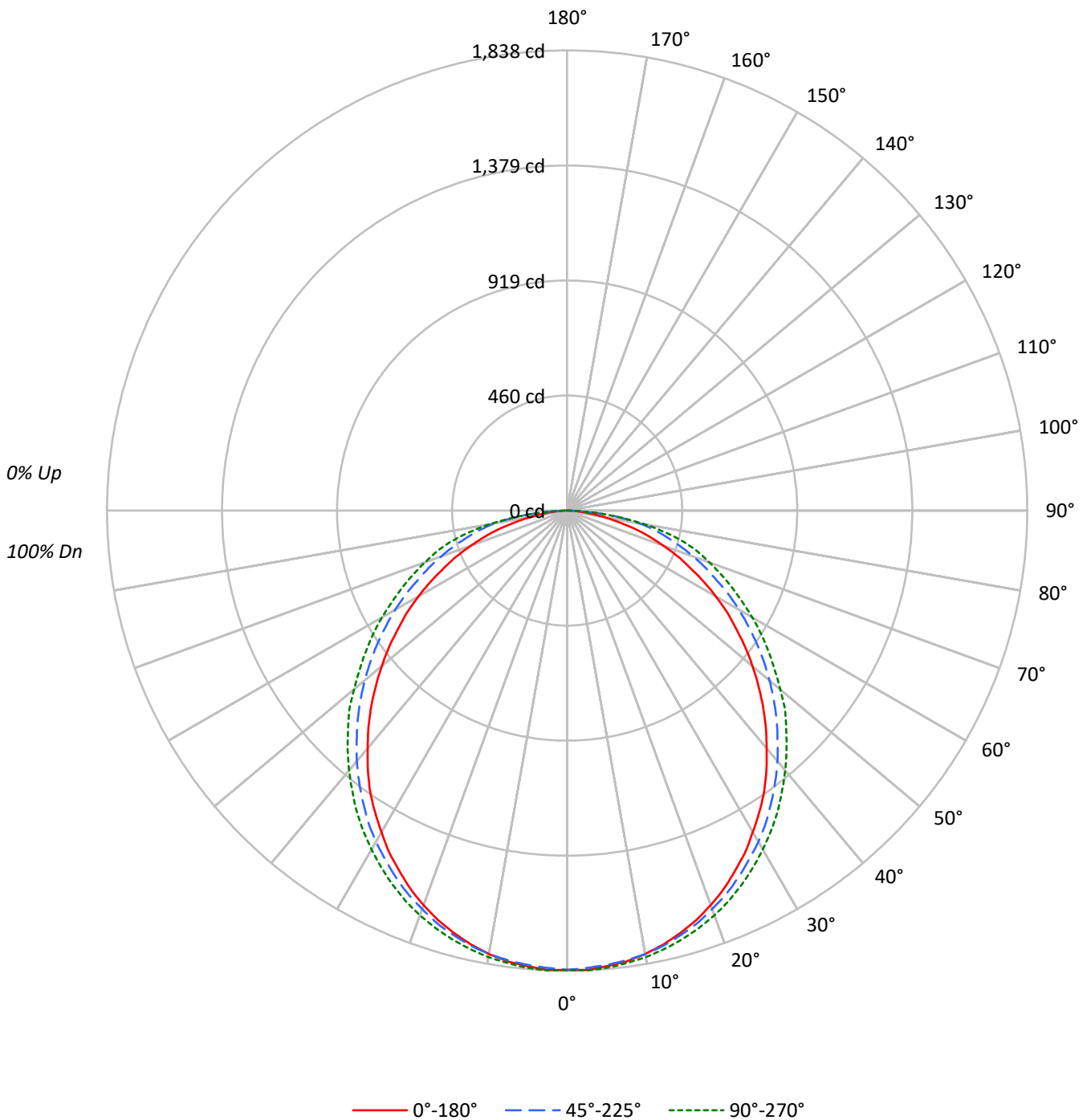
Input Watts (W): 37.293  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 2469 | 2469 | 2469 |
| 5°  | 2467 | 2460 | 2476 |
| 10° | 2457 | 2457 | 2475 |
| 15° | 2433 | 2445 | 2470 |
| 20° | 2401 | 2425 | 2463 |
| 25° | 2357 | 2401 | 2448 |
| 30° | 2304 | 2374 | 2428 |
| 35° | 2253 | 2335 | 2409 |
| 40° | 2177 | 2296 | 2380 |
| 45° | 2105 | 2251 | 2355 |
| 50° | 2024 | 2208 | 2326 |
| 55° | 1934 | 2168 | 2304 |
| 60° | 1844 | 2134 | 2299 |
| 65° | 1727 | 2097 | 2313 |
| 70° | 1599 | 2108 | 2375 |
| 75° | 1432 | 2148 | 2509 |
| 80° | 1157 | 2275 | 2455 |
| 85° | 871  | 1998 | 1947 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 173.7  | 3.3       |
| 10°-20°   | 496.3  | 9.5       |
| 20°-30°   | 746.0  | 14.3      |
| 30°-40°   | 888.7  | 17.0      |
| 40°-50°   | 909.5  | 17.4      |
| 50°-60°   | 818.8  | 15.7      |
| 60°-70°   | 643.0  | 12.3      |
| 70°-80°   | 417.3  | 8.0       |
| 80°-90°   | 129.1  | 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°    | 1416.0 | 27.1      |
| 0°-40°    | 2304.7 | 44.1      |
| 0°-60°    | 4033.0 | 77.2      |
| 0°-90°    | 5222.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5222.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1835 | 1835  | 1835 | 1835  | 1835 |      |
| 5°  | 1826 | 1830  | 1821 | 1831  | 1833 | 174  |
| 15° | 1747 | 1752  | 1755 | 1770  | 1773 | 493  |
| 25° | 1588 | 1601  | 1617 | 1644  | 1649 | 731  |
| 35° | 1372 | 1388  | 1422 | 1456  | 1466 | 856  |
| 45° | 1106 | 1133  | 1183 | 1228  | 1238 | 853  |
| 55° | 824  | 861   | 924  | 972   | 982  | 739  |
| 65° | 542  | 584   | 659  | 713   | 727  | 540  |
| 75° | 275  | 328   | 413  | 470   | 483  | 291  |
| 85° | 56   | 104   | 129  | 126   | 126  | 68   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1834.7 | 1834.7 | 1834.7 | 1834.7 | 1834.7 |
| 2.5°  | 1836.3 | 1836.3 | 1828.0 | 1836.3 | 1838.0 |
| 5°    | 1826.4 | 1829.7 | 1821.4 | 1831.4 | 1833.0 |
| 7.5°  | 1816.4 | 1816.4 | 1811.5 | 1821.4 | 1823.1 |
| 10°   | 1798.2 | 1799.8 | 1798.2 | 1809.8 | 1811.5 |
| 12.5° | 1775.0 | 1778.3 | 1779.9 | 1791.5 | 1793.2 |
| 15°   | 1746.8 | 1751.7 | 1755.1 | 1770.0 | 1773.3 |
| 17.5° | 1715.2 | 1720.2 | 1728.5 | 1745.1 | 1748.4 |
| 20°   | 1677.1 | 1683.7 | 1693.7 | 1715.2 | 1720.2 |
| 22.5° | 1635.6 | 1642.3 | 1658.8 | 1678.7 | 1687.0 |
| 25°   | 1587.5 | 1600.8 | 1617.4 | 1643.9 | 1648.9 |
| 27.5° | 1539.4 | 1551.0 | 1572.6 | 1600.8 | 1607.4 |
| 30°   | 1483.0 | 1501.3 | 1527.8 | 1556.0 | 1562.6 |
| 32.5° | 1428.3 | 1446.5 | 1478.0 | 1507.9 | 1516.2 |
| 35°   | 1371.9 | 1388.5 | 1421.6 | 1456.5 | 1466.4 |
| 37.5° | 1307.2 | 1328.7 | 1365.2 | 1400.1 | 1410.0 |
| 40°   | 1239.2 | 1265.7 | 1307.2 | 1343.7 | 1355.3 |
| 42.5° | 1174.5 | 1202.7 | 1244.1 | 1283.9 | 1297.2 |
| 45°   | 1106.4 | 1133.0 | 1182.8 | 1227.5 | 1237.5 |
| 47.5° | 1036.8 | 1066.6 | 1119.7 | 1164.5 | 1181.1 |
| 50°   | 967.1  | 998.6  | 1055.0 | 1101.5 | 1111.4 |
| 52.5° | 897.4  | 930.6  | 990.3  | 1040.1 | 1045.1 |
| 55°   | 824.4  | 860.9  | 924.0  | 972.1  | 982.0  |
| 57.5° | 758.1  | 789.6  | 857.6  | 907.4  | 919.0  |
| 60°   | 685.1  | 719.9  | 792.9  | 839.4  | 854.3  |
| 62.5° | 615.4  | 651.9  | 728.2  | 774.7  | 788.0  |
| 65°   | 542.4  | 583.9  | 658.6  | 713.3  | 726.6  |
| 67.5° | 479.4  | 519.2  | 598.8  | 651.9  | 665.2  |
| 70°   | 406.4  | 451.2  | 535.8  | 590.5  | 603.8  |
| 72.5° | 343.4  | 389.8  | 474.4  | 527.5  | 547.4  |
| 75°   | 275.4  | 328.5  | 413.1  | 469.5  | 482.7  |
| 77.5° | 209.0  | 270.4  | 356.7  | 399.8  | 399.8  |
| 80°   | 149.3  | 214.0  | 293.6  | 313.5  | 316.8  |
| 82.5° | 97.9   | 160.9  | 217.3  | 215.6  | 215.6  |
| 85°   | 56.4   | 104.5  | 129.4  | 126.1  | 126.1  |
| 87.5° | 21.6   | 43.1   | 46.4   | 46.4   | 44.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)