

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: P275927

Luminaire Tested: **24CZ2-65HE-UNV-L83050-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P275927  
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: 24CZ2-65HE-UNV-L83050-W2A1-U-3000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER  
WITH RIBBED LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5843.0 lumens  
Efficiency: N/A  
Efficacy: 119.7 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

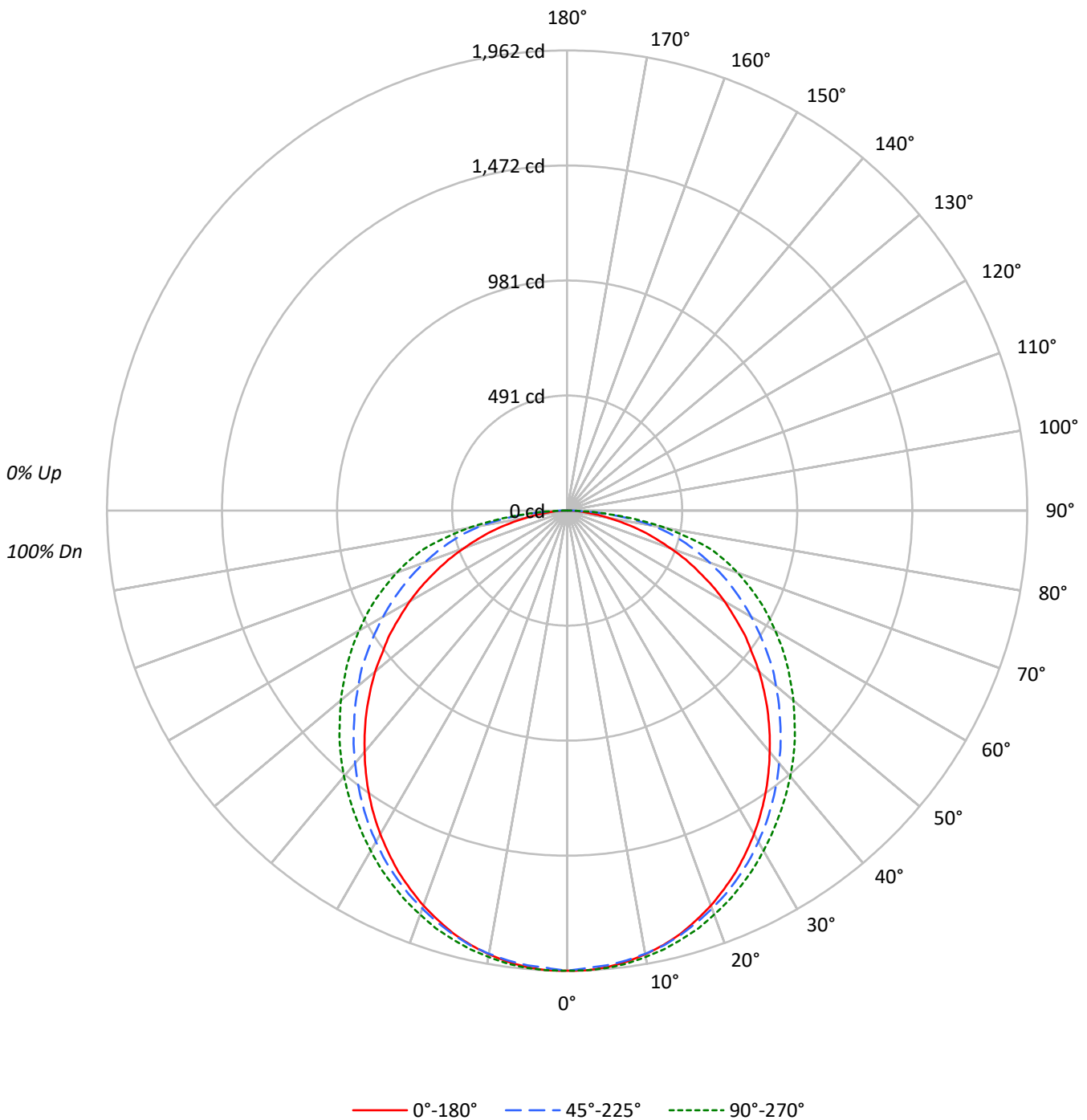
Input Watts (W): 48.825  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 2640 | 2640 | 2640 |
| 5°  | 2639 | 2629 | 2644 |
| 10° | 2624 | 2622 | 2640 |
| 15° | 2602 | 2608 | 2635 |
| 20° | 2566 | 2586 | 2625 |
| 25° | 2525 | 2562 | 2614 |
| 30° | 2475 | 2533 | 2602 |
| 35° | 2422 | 2502 | 2595 |
| 40° | 2360 | 2470 | 2600 |
| 45° | 2300 | 2445 | 2612 |
| 50° | 2237 | 2433 | 2637 |
| 55° | 2168 | 2429 | 2685 |
| 60° | 2083 | 2440 | 2755 |
| 65° | 1974 | 2477 | 2875 |
| 70° | 1834 | 2539 | 3038 |
| 75° | 1673 | 2666 | 3295 |
| 80° | 1375 | 2871 | 3294 |
| 85° | 1054 | 2649 | 2830 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 185.5  | 3.2       |
| 10°-20°   | 529.7  | 9.1       |
| 20°-30°   | 797.1  | 13.6      |
| 30°-40°   | 955.2  | 16.3      |
| 40°-50°   | 995.4  | 17.0      |
| 50°-60°   | 926.1  | 15.9      |
| 60°-70°   | 762.8  | 13.1      |
| 70°-80°   | 519.5  | 8.9       |
| 80°-90°   | 171.5  | 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°    | 1512.3 | 25.9      |
| 0°-40°    | 2467.6 | 42.2      |
| 0°-60°    | 4389.2 | 75.1      |
| 0°-90°    | 5843.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5843.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1962 | 1962  | 1962 | 1962  | 1962 |      |
| 5°  | 1954 | 1954  | 1946 | 1956  | 1958 | 185  |
| 15° | 1868 | 1870  | 1872 | 1890  | 1892 | 526  |
| 25° | 1700 | 1708  | 1726 | 1755  | 1761 | 783  |
| 35° | 1474 | 1492  | 1523 | 1564  | 1580 | 922  |
| 45° | 1209 | 1234  | 1285 | 1349  | 1373 | 932  |
| 55° | 924  | 956   | 1036 | 1117  | 1145 | 824  |
| 65° | 620  | 673   | 778  | 870   | 903  | 616  |
| 75° | 322  | 394   | 513  | 604   | 634  | 339  |
| 85° | 68   | 133   | 172  | 183   | 183  | 85   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1961.8 | 1961.8 | 1961.8 | 1961.8 | 1961.8 |
| 2.5°  | 1961.8 | 1961.8 | 1952.0 | 1961.8 | 1961.8 |
| 5°    | 1954.0 | 1954.0 | 1946.2 | 1955.9 | 1957.9 |
| 7.5°  | 1940.3 | 1942.3 | 1934.5 | 1946.2 | 1948.1 |
| 10°   | 1920.8 | 1922.8 | 1918.9 | 1930.6 | 1932.5 |
| 12.5° | 1897.4 | 1899.4 | 1899.4 | 1913.0 | 1915.0 |
| 15°   | 1868.2 | 1870.1 | 1872.1 | 1889.6 | 1891.6 |
| 17.5° | 1831.1 | 1837.0 | 1840.9 | 1862.3 | 1866.2 |
| 20°   | 1792.1 | 1798.0 | 1805.8 | 1829.2 | 1833.1 |
| 22.5° | 1747.3 | 1755.1 | 1768.7 | 1794.1 | 1799.9 |
| 25°   | 1700.5 | 1708.3 | 1725.8 | 1755.1 | 1760.9 |
| 27.5° | 1647.8 | 1659.5 | 1681.0 | 1712.2 | 1720.0 |
| 30°   | 1593.2 | 1604.9 | 1630.3 | 1663.4 | 1675.1 |
| 32.5° | 1534.7 | 1550.3 | 1579.6 | 1616.6 | 1628.3 |
| 35°   | 1474.3 | 1491.8 | 1523.0 | 1564.0 | 1579.6 |
| 37.5° | 1409.9 | 1429.4 | 1466.4 | 1511.3 | 1530.8 |
| 40°   | 1343.6 | 1367.0 | 1406.0 | 1458.6 | 1480.1 |
| 42.5° | 1277.3 | 1298.7 | 1347.5 | 1404.0 | 1427.4 |
| 45°   | 1209.0 | 1234.4 | 1285.1 | 1349.4 | 1372.8 |
| 47.5° | 1138.8 | 1164.2 | 1224.6 | 1292.9 | 1314.3 |
| 50°   | 1068.6 | 1094.0 | 1162.2 | 1234.4 | 1259.7 |
| 52.5° | 992.6  | 1025.7 | 1103.7 | 1175.9 | 1201.2 |
| 55°   | 924.3  | 955.5  | 1035.5 | 1117.4 | 1144.7 |
| 57.5° | 846.3  | 883.4  | 971.1  | 1056.9 | 1086.2 |
| 60°   | 774.2  | 813.2  | 906.8  | 994.5  | 1023.8 |
| 62.5° | 700.1  | 743.0  | 842.4  | 932.1  | 965.3  |
| 65°   | 620.1  | 672.8  | 778.1  | 869.7  | 902.9  |
| 67.5° | 548.0  | 602.6  | 713.7  | 807.3  | 836.6  |
| 70°   | 466.1  | 532.4  | 645.5  | 739.1  | 772.2  |
| 72.5° | 395.9  | 462.2  | 581.1  | 672.8  | 705.9  |
| 75°   | 321.8  | 393.9  | 512.9  | 604.5  | 633.8  |
| 77.5° | 247.7  | 327.6  | 446.6  | 516.8  | 526.5  |
| 80°   | 177.5  | 261.3  | 370.5  | 411.5  | 425.1  |
| 82.5° | 124.8  | 200.9  | 273.0  | 300.3  | 308.1  |
| 85°   | 68.3   | 132.6  | 171.6  | 183.3  | 183.3  |
| 87.5° | 29.3   | 56.6   | 68.3   | 70.2   | 72.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)