

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: P276108

Luminaire Tested: **24CZ2-65HE-UNV-L82765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276108
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-L82765-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: 6171.7 lumens
Efficiency: N/A
Efficacy: 124.7 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

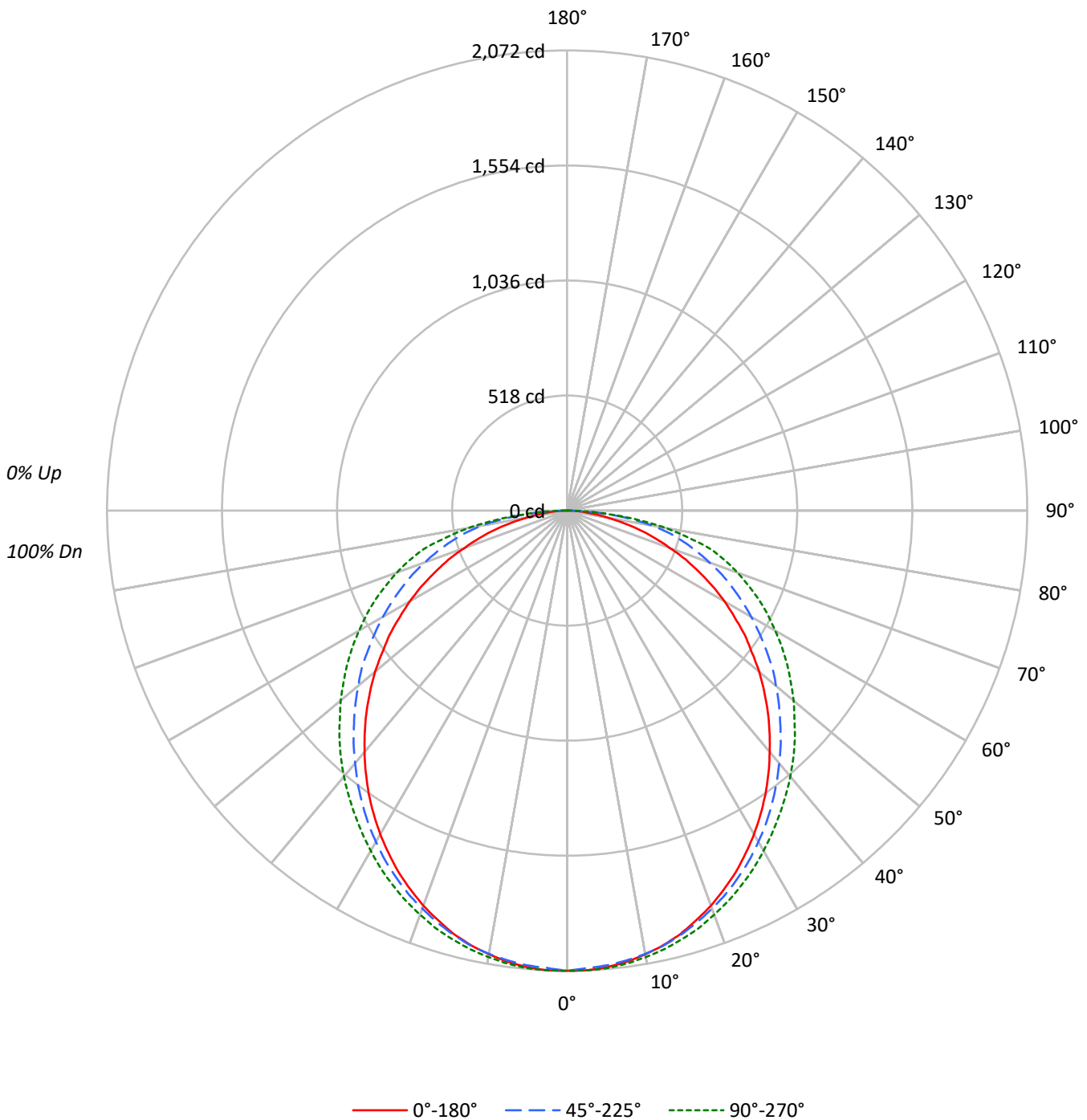
Input Watts (W): 49.476
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2788 | 2788 | 2788 |
| 5° | 2788 | 2776 | 2793 |
| 10° | 2772 | 2769 | 2789 |
| 15° | 2749 | 2754 | 2783 |
| 20° | 2710 | 2731 | 2772 |
| 25° | 2666 | 2706 | 2761 |
| 30° | 2614 | 2675 | 2749 |
| 35° | 2558 | 2642 | 2740 |
| 40° | 2493 | 2608 | 2746 |
| 45° | 2430 | 2583 | 2759 |
| 50° | 2363 | 2570 | 2785 |
| 55° | 2290 | 2566 | 2836 |
| 60° | 2200 | 2577 | 2910 |
| 65° | 2085 | 2616 | 3036 |
| 70° | 1937 | 2682 | 3209 |
| 75° | 1767 | 2816 | 3480 |
| 80° | 1452 | 3033 | 3479 |
| 85° | 1113 | 2799 | 2989 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 196.0 | 3.2 |
| 10°-20° | 559.5 | 9.1 |
| 20°-30° | 841.9 | 13.6 |
| 30°-40° | 1009.0 | 16.3 |
| 40°-50° | 1051.5 | 17.0 |
| 50°-60° | 978.2 | 15.9 |
| 60°-70° | 805.7 | 13.1 |
| 70°-80° | 548.7 | 8.9 |
| 80°-90° | 181.2 | 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° | 1597.4 | 25.9 |
| 0°-40° | 2606.4 | 42.2 |
| 0°-60° | 4636.1 | 75.1 |
| 0°-90° | 6171.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6171.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2072 | 2072 | 2072 | 2072 | 2072 | |
| 5° | 2064 | 2064 | 2056 | 2066 | 2068 | 196 |
| 15° | 1973 | 1975 | 1977 | 1996 | 1998 | 556 |
| 25° | 1796 | 1804 | 1823 | 1854 | 1860 | 827 |
| 35° | 1557 | 1576 | 1609 | 1652 | 1668 | 973 |
| 45° | 1277 | 1304 | 1357 | 1425 | 1450 | 985 |
| 55° | 976 | 1009 | 1094 | 1180 | 1209 | 870 |
| 65° | 655 | 711 | 822 | 919 | 954 | 650 |
| 75° | 340 | 416 | 542 | 638 | 669 | 358 |
| 85° | 72 | 140 | 181 | 194 | 194 | 89 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P276108

CATALOG NUMBER: 24CZ2-65HE-UNV-L82765-W2A1-U-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2072.1 | 2072.1 | 2072.1 | 2072.1 | 2072.1 |
| 2.5° | 2072.1 | 2072.1 | 2061.8 | 2072.1 | 2072.1 |
| 5° | 2063.9 | 2063.9 | 2055.6 | 2065.9 | 2068.0 |
| 7.5° | 2049.5 | 2051.5 | 2043.3 | 2055.6 | 2057.7 |
| 10° | 2028.9 | 2030.9 | 2026.8 | 2039.2 | 2041.2 |
| 12.5° | 2004.2 | 2006.2 | 2006.2 | 2020.6 | 2022.7 |
| 15° | 1973.3 | 1975.3 | 1977.4 | 1995.9 | 1998.0 |
| 17.5° | 1934.1 | 1940.3 | 1944.4 | 1967.1 | 1971.2 |
| 20° | 1892.9 | 1899.1 | 1907.3 | 1932.1 | 1936.2 |
| 22.5° | 1845.6 | 1853.8 | 1868.2 | 1895.0 | 1901.2 |
| 25° | 1796.1 | 1804.4 | 1822.9 | 1853.8 | 1860.0 |
| 27.5° | 1740.5 | 1752.9 | 1775.5 | 1808.5 | 1816.7 |
| 30° | 1682.8 | 1695.2 | 1722.0 | 1757.0 | 1769.3 |
| 32.5° | 1621.0 | 1637.5 | 1668.4 | 1707.5 | 1719.9 |
| 35° | 1557.2 | 1575.7 | 1608.7 | 1651.9 | 1668.4 |
| 37.5° | 1489.2 | 1509.8 | 1548.9 | 1596.3 | 1616.9 |
| 40° | 1419.2 | 1443.9 | 1485.1 | 1540.7 | 1563.4 |
| 42.5° | 1349.1 | 1371.8 | 1423.3 | 1483.0 | 1507.8 |
| 45° | 1277.1 | 1303.8 | 1357.4 | 1425.4 | 1450.1 |
| 47.5° | 1202.9 | 1229.7 | 1293.5 | 1365.6 | 1388.3 |
| 50° | 1128.8 | 1155.5 | 1227.6 | 1303.8 | 1330.6 |
| 52.5° | 1048.4 | 1083.4 | 1165.8 | 1242.0 | 1268.8 |
| 55° | 976.3 | 1009.3 | 1093.7 | 1180.2 | 1209.1 |
| 57.5° | 893.9 | 933.1 | 1025.8 | 1116.4 | 1147.3 |
| 60° | 817.7 | 858.9 | 957.8 | 1050.5 | 1081.4 |
| 62.5° | 739.5 | 784.8 | 889.8 | 984.6 | 1019.6 |
| 65° | 655.0 | 710.6 | 821.8 | 918.7 | 953.7 |
| 67.5° | 578.8 | 636.5 | 753.9 | 852.7 | 883.6 |
| 70° | 492.3 | 562.3 | 681.8 | 780.7 | 815.7 |
| 72.5° | 418.1 | 488.2 | 613.8 | 710.6 | 745.6 |
| 75° | 339.9 | 416.1 | 541.7 | 638.5 | 669.4 |
| 77.5° | 261.6 | 346.0 | 471.7 | 545.8 | 556.1 |
| 80° | 187.4 | 276.0 | 391.4 | 434.6 | 449.0 |
| 82.5° | 131.8 | 212.2 | 288.4 | 317.2 | 325.4 |
| 85° | 72.1 | 140.1 | 181.3 | 193.6 | 193.6 |
| 87.5° | 30.9 | 59.7 | 72.1 | 74.2 | 76.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)