

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: P276110

Luminaire Tested: **24CZ2-65HE-UNV-L82765-W2A1-U-5000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276110
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-5000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (336) 80 CRI LEDS TUNED TO 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6366.6 lumens
Efficiency: N/A
Efficacy: 127.2 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

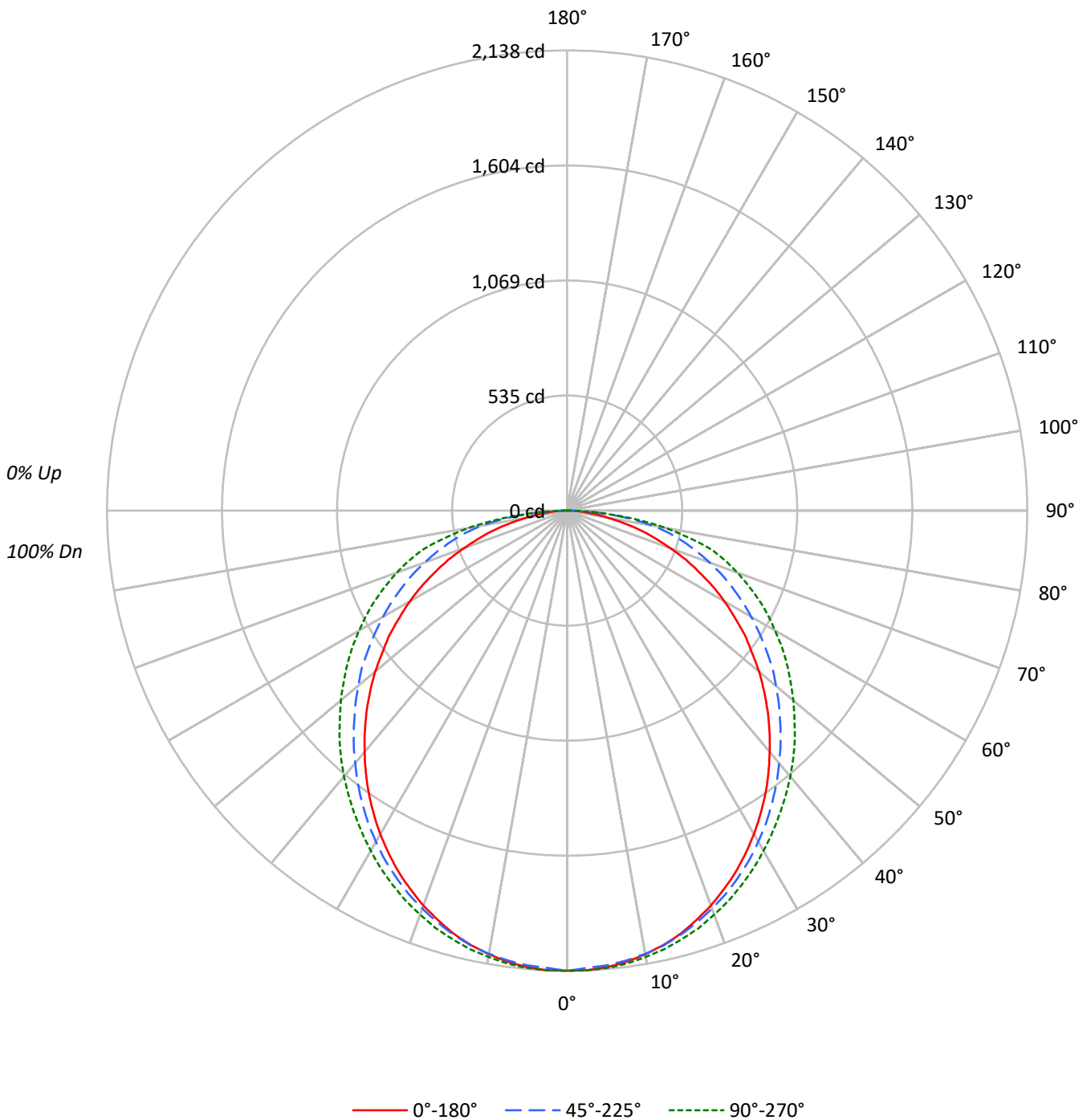
Input Watts (W): 50.034
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2876 | 2876 | 2876 |
| 5° | 2876 | 2864 | 2881 |
| 10° | 2859 | 2857 | 2877 |
| 15° | 2835 | 2841 | 2871 |
| 20° | 2796 | 2817 | 2860 |
| 25° | 2751 | 2792 | 2848 |
| 30° | 2697 | 2760 | 2836 |
| 35° | 2639 | 2726 | 2827 |
| 40° | 2571 | 2691 | 2833 |
| 45° | 2507 | 2664 | 2846 |
| 50° | 2437 | 2651 | 2873 |
| 55° | 2363 | 2647 | 2926 |
| 60° | 2270 | 2659 | 3002 |
| 65° | 2151 | 2699 | 3132 |
| 70° | 1998 | 2767 | 3310 |
| 75° | 1823 | 2905 | 3590 |
| 80° | 1499 | 3128 | 3589 |
| 85° | 1149 | 2887 | 3083 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 202.2 | 3.2 |
| 10°-20° | 577.2 | 9.1 |
| 20°-30° | 868.5 | 13.6 |
| 30°-40° | 1040.8 | 16.3 |
| 40°-50° | 1084.7 | 17.0 |
| 50°-60° | 1009.1 | 15.9 |
| 60°-70° | 831.2 | 13.1 |
| 70°-80° | 566.1 | 8.9 |
| 80°-90° | 186.9 | 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° | 1647.8 | 25.9 |
| 0°-40° | 2688.7 | 42.2 |
| 0°-60° | 4782.5 | 75.1 |
| 0°-90° | 6366.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6366.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2138 | 2138 | 2138 | 2138 | 2138 | |
| 5° | 2129 | 2129 | 2121 | 2131 | 2133 | 202 |
| 15° | 2036 | 2038 | 2040 | 2059 | 2061 | 573 |
| 25° | 1853 | 1861 | 1880 | 1912 | 1919 | 853 |
| 35° | 1606 | 1626 | 1660 | 1704 | 1721 | 1004 |
| 45° | 1317 | 1345 | 1400 | 1470 | 1496 | 1016 |
| 55° | 1007 | 1041 | 1128 | 1218 | 1247 | 898 |
| 65° | 676 | 733 | 848 | 948 | 984 | 671 |
| 75° | 351 | 429 | 559 | 659 | 691 | 370 |
| 85° | 74 | 144 | 187 | 200 | 200 | 92 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P276110

CATALOG NUMBER: 24CZ2-65HE-UNV-L82765-W2A1-U-5000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2137.6 | 2137.6 | 2137.6 | 2137.6 | 2137.6 |
| 2.5° | 2137.6 | 2137.6 | 2126.9 | 2137.6 | 2137.6 |
| 5° | 2129.1 | 2129.1 | 2120.6 | 2131.2 | 2133.3 |
| 7.5° | 2114.2 | 2116.3 | 2107.8 | 2120.6 | 2122.7 |
| 10° | 2092.9 | 2095.1 | 2090.8 | 2103.6 | 2105.7 |
| 12.5° | 2067.4 | 2069.6 | 2069.6 | 2084.4 | 2086.6 |
| 15° | 2035.6 | 2037.7 | 2039.8 | 2058.9 | 2061.1 |
| 17.5° | 1995.2 | 2001.6 | 2005.8 | 2029.2 | 2033.4 |
| 20° | 1952.7 | 1959.1 | 1967.6 | 1993.1 | 1997.3 |
| 22.5° | 1903.8 | 1912.3 | 1927.2 | 1954.8 | 1961.2 |
| 25° | 1852.8 | 1861.3 | 1880.5 | 1912.3 | 1918.7 |
| 27.5° | 1795.5 | 1808.2 | 1831.6 | 1865.6 | 1874.1 |
| 30° | 1736.0 | 1748.7 | 1776.3 | 1812.5 | 1825.2 |
| 32.5° | 1672.2 | 1689.2 | 1721.1 | 1761.5 | 1774.2 |
| 35° | 1606.4 | 1625.5 | 1659.5 | 1704.1 | 1721.1 |
| 37.5° | 1536.2 | 1557.5 | 1597.9 | 1646.7 | 1668.0 |
| 40° | 1464.0 | 1489.5 | 1532.0 | 1589.4 | 1612.7 |
| 42.5° | 1391.7 | 1415.1 | 1468.2 | 1529.9 | 1555.4 |
| 45° | 1317.4 | 1345.0 | 1400.2 | 1470.4 | 1495.9 |
| 47.5° | 1240.9 | 1268.5 | 1334.4 | 1408.7 | 1432.1 |
| 50° | 1164.4 | 1192.0 | 1266.4 | 1345.0 | 1372.6 |
| 52.5° | 1081.5 | 1117.6 | 1202.6 | 1281.3 | 1308.9 |
| 55° | 1007.2 | 1041.2 | 1128.3 | 1217.5 | 1247.3 |
| 57.5° | 922.2 | 962.5 | 1058.2 | 1151.6 | 1183.5 |
| 60° | 843.5 | 886.0 | 988.0 | 1083.7 | 1115.5 |
| 62.5° | 762.8 | 809.6 | 917.9 | 1015.7 | 1051.8 |
| 65° | 675.7 | 733.1 | 847.8 | 947.7 | 983.8 |
| 67.5° | 597.1 | 656.6 | 777.7 | 879.7 | 911.5 |
| 70° | 507.8 | 580.1 | 703.3 | 805.3 | 841.4 |
| 72.5° | 431.3 | 503.6 | 633.2 | 733.1 | 769.2 |
| 75° | 350.6 | 429.2 | 558.8 | 658.7 | 690.6 |
| 77.5° | 269.9 | 357.0 | 486.6 | 563.1 | 573.7 |
| 80° | 193.4 | 284.7 | 403.7 | 448.3 | 463.2 |
| 82.5° | 136.0 | 218.9 | 297.5 | 327.2 | 335.7 |
| 85° | 74.4 | 144.5 | 187.0 | 199.7 | 199.7 |
| 87.5° | 31.9 | 61.6 | 74.4 | 76.5 | 78.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)