

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: P276105

Luminaire Tested: **24CZ2-65HE-UNV-L82765-W2A1-U-2700K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276105
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-2700K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (336) 80 CRI LEDS TUNED TO 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5673.2 lumens
Efficiency: N/A
Efficacy: 116.0 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

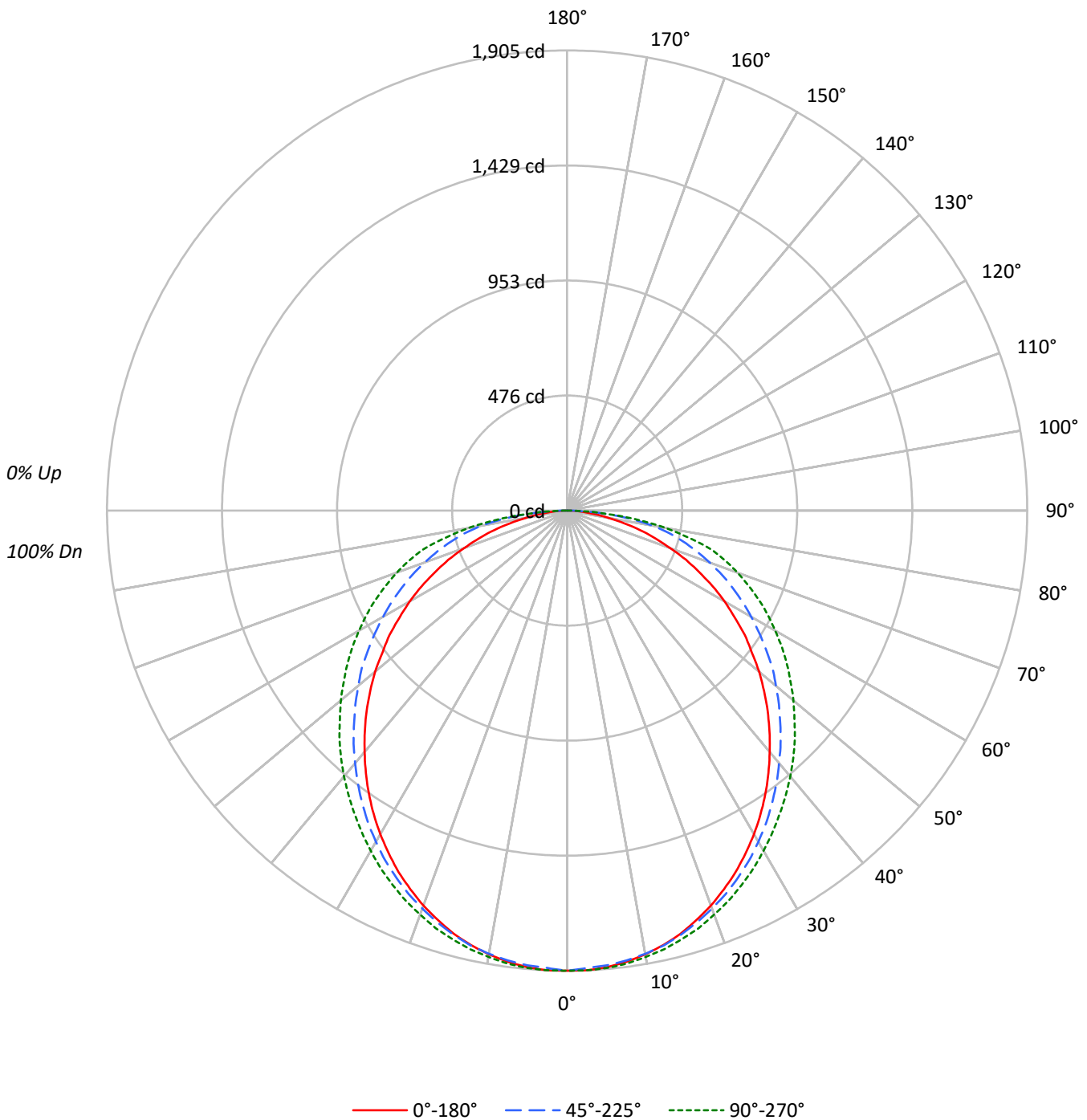
Input Watts (W): 48.918
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2563 | 2563 | 2563 |
| 5° | 2562 | 2552 | 2568 |
| 10° | 2548 | 2545 | 2563 |
| 15° | 2527 | 2532 | 2558 |
| 20° | 2491 | 2510 | 2548 |
| 25° | 2451 | 2488 | 2538 |
| 30° | 2403 | 2459 | 2527 |
| 35° | 2351 | 2429 | 2519 |
| 40° | 2291 | 2398 | 2524 |
| 45° | 2234 | 2374 | 2536 |
| 50° | 2172 | 2362 | 2560 |
| 55° | 2105 | 2358 | 2607 |
| 60° | 2023 | 2369 | 2675 |
| 65° | 1917 | 2405 | 2791 |
| 70° | 1780 | 2465 | 2950 |
| 75° | 1624 | 2589 | 3199 |
| 80° | 1335 | 2787 | 3199 |
| 85° | 1024 | 2572 | 2748 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 180.1 | 3.2 |
| 10°-20° | 514.3 | 9.1 |
| 20°-30° | 773.9 | 13.6 |
| 30°-40° | 927.5 | 16.3 |
| 40°-50° | 966.5 | 17.0 |
| 50°-60° | 899.2 | 15.9 |
| 60°-70° | 740.6 | 13.1 |
| 70°-80° | 504.4 | 8.9 |
| 80°-90° | 166.5 | 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° | 1468.4 | 25.9 |
| 0°-40° | 2395.8 | 42.2 |
| 0°-60° | 4261.6 | 75.1 |
| 0°-90° | 5673.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5673.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1905 | 1905 | 1905 | 1905 | 1905 | |
| 5° | 1897 | 1897 | 1890 | 1899 | 1901 | 180 |
| 15° | 1814 | 1816 | 1818 | 1835 | 1837 | 511 |
| 25° | 1651 | 1659 | 1676 | 1704 | 1710 | 760 |
| 35° | 1431 | 1448 | 1479 | 1518 | 1534 | 895 |
| 45° | 1174 | 1198 | 1248 | 1310 | 1333 | 905 |
| 55° | 898 | 928 | 1005 | 1085 | 1111 | 800 |
| 65° | 602 | 653 | 756 | 844 | 877 | 598 |
| 75° | 312 | 382 | 498 | 587 | 615 | 329 |
| 85° | 66 | 129 | 167 | 178 | 178 | 82 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P276105

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1904.7 | 1904.7 | 1904.7 | 1904.7 | 1904.7 |
| 2.5° | 1904.7 | 1904.7 | 1895.3 | 1904.7 | 1904.7 |
| 5° | 1897.2 | 1897.2 | 1889.6 | 1899.1 | 1901.0 |
| 7.5° | 1883.9 | 1885.8 | 1878.2 | 1889.6 | 1891.5 |
| 10° | 1865.0 | 1866.9 | 1863.1 | 1874.5 | 1876.3 |
| 12.5° | 1842.3 | 1844.2 | 1844.2 | 1857.4 | 1859.3 |
| 15° | 1813.9 | 1815.8 | 1817.6 | 1834.7 | 1836.6 |
| 17.5° | 1777.9 | 1783.6 | 1787.4 | 1808.2 | 1812.0 |
| 20° | 1740.0 | 1745.7 | 1753.3 | 1776.0 | 1779.8 |
| 22.5° | 1696.5 | 1704.0 | 1717.3 | 1741.9 | 1747.6 |
| 25° | 1651.0 | 1658.6 | 1675.6 | 1704.0 | 1709.7 |
| 27.5° | 1599.9 | 1611.3 | 1632.1 | 1662.4 | 1670.0 |
| 30° | 1546.9 | 1558.3 | 1582.9 | 1615.1 | 1626.4 |
| 32.5° | 1490.1 | 1505.2 | 1533.6 | 1569.6 | 1581.0 |
| 35° | 1431.4 | 1448.4 | 1478.7 | 1518.5 | 1533.6 |
| 37.5° | 1368.9 | 1387.9 | 1423.8 | 1467.4 | 1486.3 |
| 40° | 1304.5 | 1327.3 | 1365.1 | 1416.3 | 1437.1 |
| 42.5° | 1240.2 | 1261.0 | 1308.3 | 1363.2 | 1386.0 |
| 45° | 1173.9 | 1198.5 | 1247.7 | 1310.2 | 1332.9 |
| 47.5° | 1105.7 | 1130.4 | 1189.0 | 1255.3 | 1276.1 |
| 50° | 1037.6 | 1062.2 | 1128.5 | 1198.5 | 1223.1 |
| 52.5° | 963.7 | 995.9 | 1071.7 | 1141.7 | 1166.3 |
| 55° | 897.5 | 927.8 | 1005.4 | 1084.9 | 1111.4 |
| 57.5° | 821.7 | 857.7 | 942.9 | 1026.2 | 1054.6 |
| 60° | 751.7 | 789.5 | 880.4 | 965.6 | 994.0 |
| 62.5° | 679.7 | 721.4 | 817.9 | 905.0 | 937.2 |
| 65° | 602.1 | 653.2 | 755.5 | 844.4 | 876.6 |
| 67.5° | 532.0 | 585.1 | 693.0 | 783.9 | 812.3 |
| 70° | 452.5 | 516.9 | 626.7 | 717.6 | 749.8 |
| 72.5° | 384.4 | 448.7 | 564.2 | 653.2 | 685.4 |
| 75° | 312.4 | 382.5 | 498.0 | 586.9 | 615.3 |
| 77.5° | 240.5 | 318.1 | 433.6 | 501.7 | 511.2 |
| 80° | 172.3 | 253.7 | 359.7 | 399.5 | 412.8 |
| 82.5° | 121.2 | 195.0 | 265.1 | 291.6 | 299.2 |
| 85° | 66.3 | 128.8 | 166.6 | 178.0 | 178.0 |
| 87.5° | 28.4 | 54.9 | 66.3 | 68.2 | 70.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)