

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: P276256

Luminaire Tested: **24CZ2-70HE-UNV-L92765-W2A1-U-5700K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276256
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: 24CZ2-70HE-UNV-L92765-W2A1-U-5700K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (336) 90 CRI LEDS TUNED TO 5700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6288.1 lumens
Efficiency: N/A
Efficacy: 113.6 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

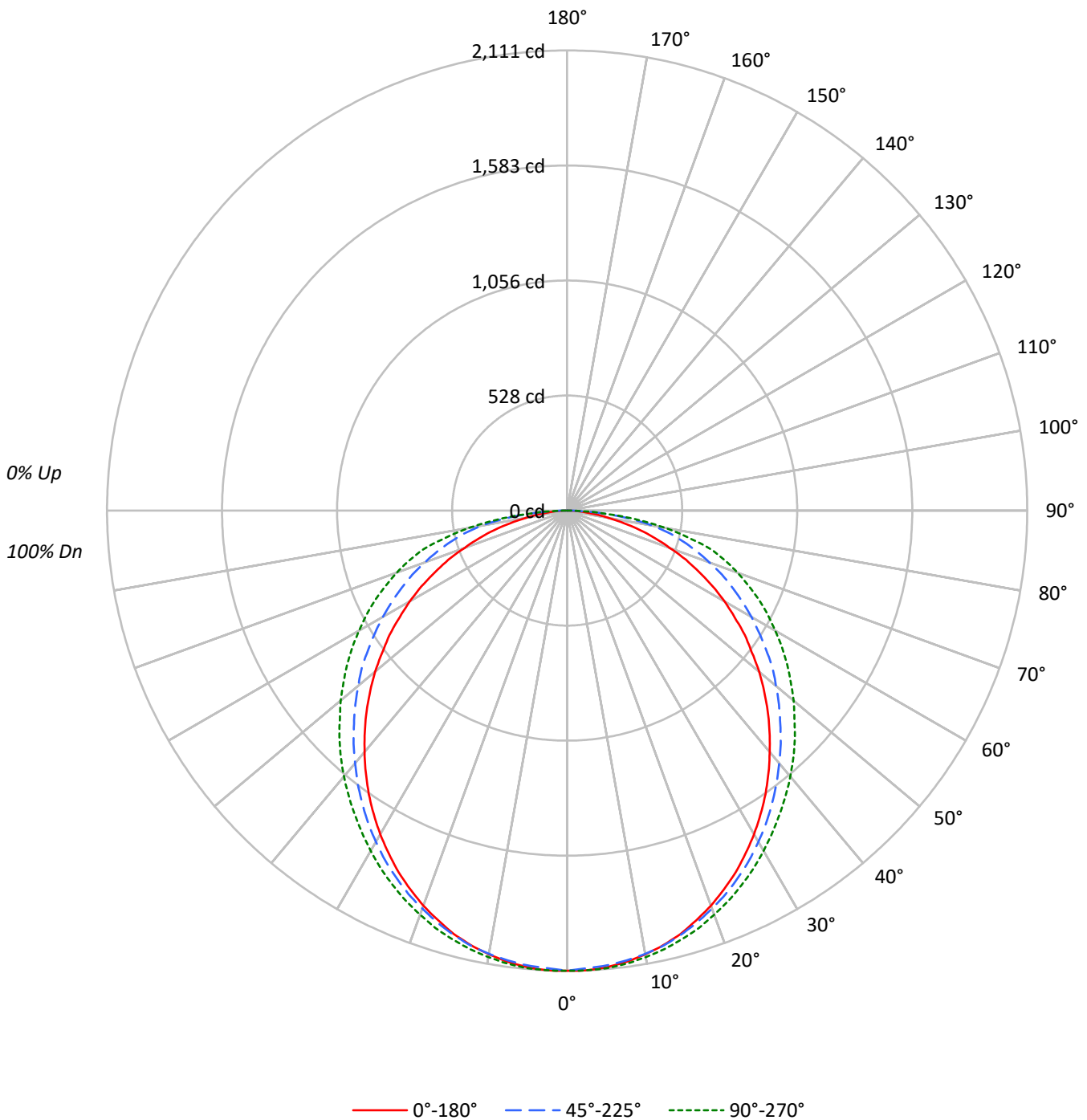
Input Watts (W): 55.335
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2841 | 2841 | 2841 |
| 5° | 2840 | 2829 | 2846 |
| 10° | 2824 | 2821 | 2841 |
| 15° | 2801 | 2806 | 2835 |
| 20° | 2761 | 2782 | 2825 |
| 25° | 2717 | 2757 | 2813 |
| 30° | 2664 | 2726 | 2801 |
| 35° | 2606 | 2692 | 2792 |
| 40° | 2540 | 2658 | 2798 |
| 45° | 2476 | 2632 | 2811 |
| 50° | 2407 | 2618 | 2838 |
| 55° | 2333 | 2614 | 2890 |
| 60° | 2242 | 2626 | 2965 |
| 65° | 2125 | 2666 | 3094 |
| 70° | 1973 | 2733 | 3269 |
| 75° | 1800 | 2869 | 3545 |
| 80° | 1480 | 3089 | 3545 |
| 85° | 1135 | 2851 | 3046 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 199.7 | 3.2 |
| 10°-20° | 570.0 | 9.1 |
| 20°-30° | 857.8 | 13.6 |
| 30°-40° | 1028.0 | 16.3 |
| 40°-50° | 1071.3 | 17.0 |
| 50°-60° | 996.7 | 15.9 |
| 60°-70° | 820.9 | 13.1 |
| 70°-80° | 559.1 | 8.9 |
| 80°-90° | 184.6 | 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° | 1627.5 | 25.9 |
| 0°-40° | 2655.5 | 42.2 |
| 0°-60° | 4723.5 | 75.1 |
| 0°-90° | 6288.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6288.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2111 | 2111 | 2111 | 2111 | 2111 | |
| 5° | 2103 | 2103 | 2094 | 2105 | 2107 | 200 |
| 15° | 2010 | 2013 | 2015 | 2034 | 2036 | 566 |
| 25° | 1830 | 1838 | 1857 | 1889 | 1895 | 842 |
| 35° | 1586 | 1605 | 1639 | 1683 | 1700 | 992 |
| 45° | 1301 | 1328 | 1383 | 1452 | 1477 | 1003 |
| 55° | 995 | 1028 | 1114 | 1202 | 1232 | 887 |
| 65° | 667 | 724 | 837 | 936 | 972 | 662 |
| 75° | 346 | 424 | 552 | 651 | 682 | 365 |
| 85° | 74 | 143 | 185 | 197 | 197 | 91 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P276256

CATALOG NUMBER: 24CZ2-70HE-UNV-L92765-W2A1-U-5700K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2111.2 | 2111.2 | 2111.2 | 2111.2 | 2111.2 |
| 2.5° | 2111.2 | 2111.2 | 2100.7 | 2111.2 | 2111.2 |
| 5° | 2102.8 | 2102.8 | 2094.4 | 2104.9 | 2107.0 |
| 7.5° | 2088.1 | 2090.2 | 2081.8 | 2094.4 | 2096.5 |
| 10° | 2067.1 | 2069.2 | 2065.0 | 2077.6 | 2079.7 |
| 12.5° | 2041.9 | 2044.0 | 2044.0 | 2058.7 | 2060.8 |
| 15° | 2010.5 | 2012.6 | 2014.7 | 2033.5 | 2035.6 |
| 17.5° | 1970.6 | 1976.9 | 1981.1 | 2004.2 | 2008.4 |
| 20° | 1928.6 | 1934.9 | 1943.3 | 1968.5 | 1972.7 |
| 22.5° | 1880.3 | 1888.7 | 1903.4 | 1930.7 | 1937.0 |
| 25° | 1830.0 | 1838.4 | 1857.3 | 1888.7 | 1895.0 |
| 27.5° | 1773.3 | 1785.9 | 1809.0 | 1842.6 | 1851.0 |
| 30° | 1714.6 | 1727.2 | 1754.4 | 1790.1 | 1802.7 |
| 32.5° | 1651.6 | 1668.4 | 1699.9 | 1739.7 | 1752.3 |
| 35° | 1586.5 | 1605.4 | 1639.0 | 1683.1 | 1699.9 |
| 37.5° | 1517.3 | 1538.3 | 1578.1 | 1626.4 | 1647.4 |
| 40° | 1445.9 | 1471.1 | 1513.1 | 1569.8 | 1592.8 |
| 42.5° | 1374.6 | 1397.7 | 1450.1 | 1511.0 | 1536.2 |
| 45° | 1301.1 | 1328.4 | 1383.0 | 1452.2 | 1477.4 |
| 47.5° | 1225.6 | 1252.9 | 1317.9 | 1391.4 | 1414.5 |
| 50° | 1150.0 | 1177.3 | 1250.8 | 1328.4 | 1355.7 |
| 52.5° | 1068.2 | 1103.9 | 1187.8 | 1265.5 | 1292.7 |
| 55° | 994.7 | 1028.3 | 1114.4 | 1202.5 | 1231.9 |
| 57.5° | 910.8 | 950.7 | 1045.1 | 1137.4 | 1168.9 |
| 60° | 833.1 | 875.1 | 975.9 | 1070.3 | 1101.8 |
| 62.5° | 753.4 | 799.6 | 906.6 | 1003.1 | 1038.8 |
| 65° | 667.4 | 724.0 | 837.3 | 936.0 | 971.7 |
| 67.5° | 589.7 | 648.5 | 768.1 | 868.8 | 900.3 |
| 70° | 501.6 | 572.9 | 694.6 | 795.4 | 831.0 |
| 72.5° | 426.0 | 497.4 | 625.4 | 724.0 | 759.7 |
| 75° | 346.3 | 423.9 | 551.9 | 650.6 | 682.0 |
| 77.5° | 266.5 | 352.6 | 480.6 | 556.1 | 566.6 |
| 80° | 191.0 | 281.2 | 398.7 | 442.8 | 457.5 |
| 82.5° | 134.3 | 216.2 | 293.8 | 323.2 | 331.6 |
| 85° | 73.5 | 142.7 | 184.7 | 197.3 | 197.3 |
| 87.5° | 31.5 | 60.9 | 73.5 | 75.5 | 77.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)