

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: P277093

Luminaire Tested: **24CZ2-70HE-RDP-UNV-L92765-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P277093
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-70HE-RDP-UNV-L92765-W2A1-U-4500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RDP LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4065.0 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

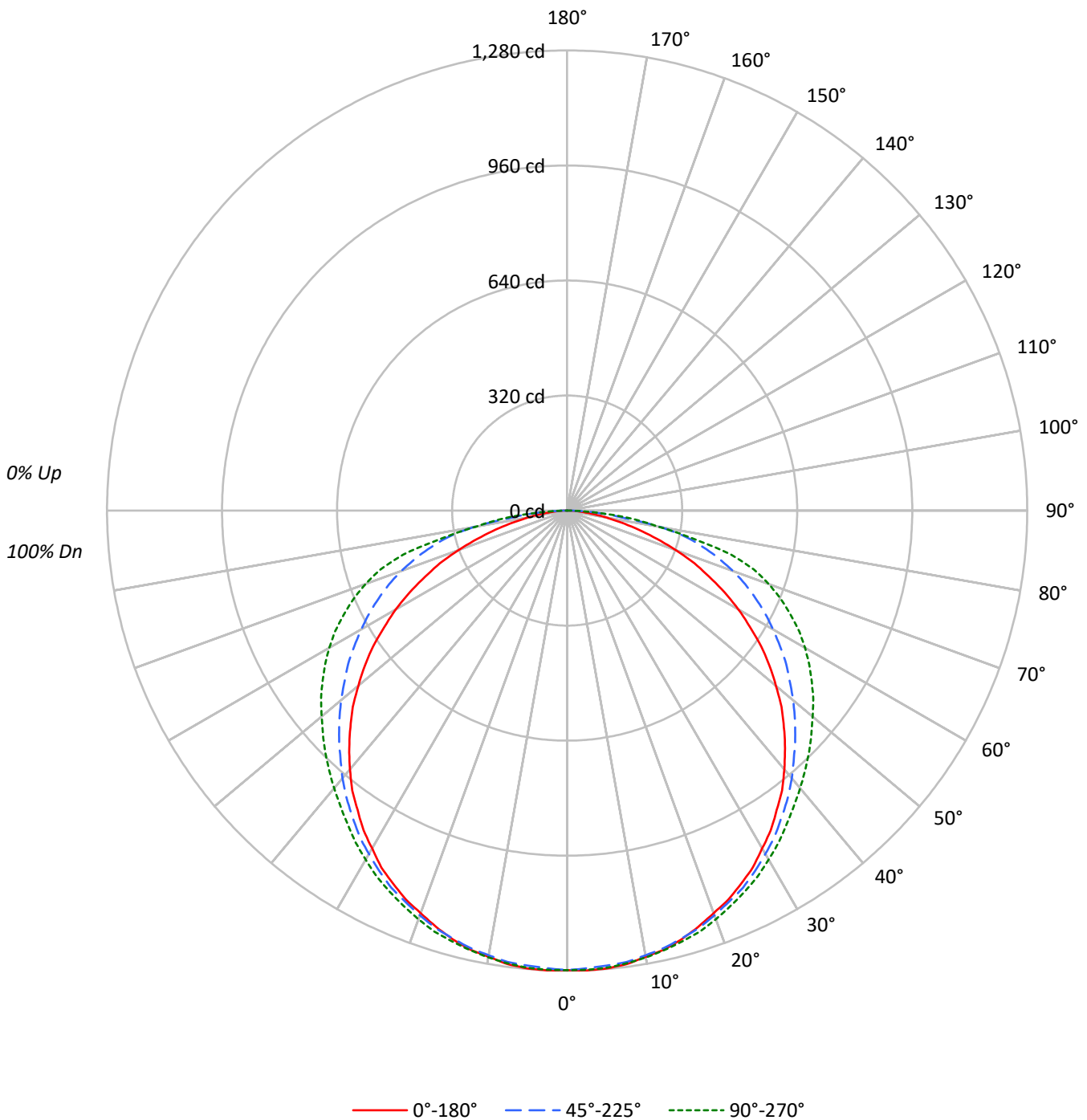
Input Watts (W): 54.684
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 88 | 86 | 84 | 82 |
| 2 | 97 | 89 | 81 | 75 | 95 | 87 | 80 | 74 | 83 | 77 | 72 | 80 | 75 | 71 | 77 | 73 | 69 | 67 |
| 3 | 88 | 77 | 68 | 62 | 86 | 76 | 67 | 61 | 72 | 66 | 60 | 70 | 64 | 59 | 67 | 62 | 58 | 56 |
| 4 | 81 | 68 | 59 | 52 | 78 | 67 | 58 | 51 | 64 | 57 | 51 | 62 | 55 | 50 | 59 | 54 | 49 | 47 |
| 5 | 74 | 60 | 51 | 44 | 72 | 59 | 51 | 44 | 57 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 40 |
| 6 | 68 | 54 | 45 | 38 | 66 | 53 | 45 | 38 | 51 | 44 | 38 | 50 | 43 | 37 | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 34 | 61 | 48 | 40 | 34 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 9 | 55 | 41 | 33 | 27 | 53 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 24 |
| 10 | 51 | 38 | 30 | 24 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | 35 | 29 | 24 | 34 | 28 | 24 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1720 | 1720 | 1720 |
| 5° | 1727 | 1716 | 1724 |
| 10° | 1722 | 1716 | 1724 |
| 15° | 1719 | 1716 | 1727 |
| 20° | 1706 | 1715 | 1732 |
| 25° | 1700 | 1718 | 1736 |
| 30° | 1685 | 1714 | 1742 |
| 35° | 1669 | 1709 | 1749 |
| 40° | 1650 | 1707 | 1771 |
| 45° | 1623 | 1707 | 1811 |
| 50° | 1587 | 1718 | 1865 |
| 55° | 1547 | 1745 | 1949 |
| 60° | 1481 | 1780 | 2056 |
| 65° | 1387 | 1842 | 2182 |
| 70° | 1261 | 1928 | 2348 |
| 75° | 1069 | 2034 | 2453 |
| 80° | 844 | 2046 | 1984 |
| 85° | 622 | 1556 | 1743 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 121.3 | 3.0 |
| 10°-20° | 349.0 | 8.6 |
| 20°-30° | 533.7 | 13.1 |
| 30°-40° | 652.4 | 16.0 |
| 40°-50° | 695.3 | 17.1 |
| 50°-60° | 664.8 | 16.4 |
| 60°-70° | 563.2 | 13.9 |
| 70°-80° | 378.5 | 9.3 |
| 80°-90° | 106.8 | 2.6 |
| 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° | 1003.9 | 24.7 |
| 0°-40° | 1656.3 | 40.7 |
| 0°-60° | 3016.5 | 74.2 |
| 0°-90° | 4065.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4065.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1278 | 1278 | 1278 | 1278 | 1278 | |
| 5° | 1278 | 1276 | 1270 | 1276 | 1276 | 121 |
| 15° | 1234 | 1234 | 1232 | 1242 | 1240 | 348 |
| 25° | 1145 | 1149 | 1157 | 1167 | 1169 | 528 |
| 35° | 1016 | 1024 | 1040 | 1061 | 1065 | 637 |
| 45° | 853 | 867 | 897 | 936 | 952 | 658 |
| 55° | 659 | 684 | 744 | 802 | 831 | 587 |
| 65° | 436 | 480 | 579 | 655 | 686 | 432 |
| 75° | 206 | 280 | 391 | 458 | 472 | 220 |
| 85° | 40 | 83 | 101 | 109 | 113 | 50 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P277093

CATALOG NUMBER: 24CZ2-70HE-RDP-UNV-L92765-W2A1-U-4500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1278.3 | 1278.3 | 1278.3 | 1278.3 | 1278.3 |
| 2.5° | 1280.3 | 1280.3 | 1274.3 | 1278.3 | 1278.3 |
| 5° | 1278.3 | 1276.3 | 1270.3 | 1276.3 | 1276.3 |
| 7.5° | 1272.3 | 1270.3 | 1266.2 | 1272.3 | 1270.3 |
| 10° | 1260.2 | 1260.2 | 1256.1 | 1262.2 | 1262.2 |
| 12.5° | 1250.1 | 1248.1 | 1246.1 | 1254.1 | 1252.1 |
| 15° | 1234.0 | 1234.0 | 1231.9 | 1242.0 | 1240.0 |
| 17.5° | 1213.8 | 1215.8 | 1217.8 | 1225.9 | 1227.9 |
| 20° | 1191.6 | 1195.6 | 1197.7 | 1209.8 | 1209.8 |
| 22.5° | 1171.5 | 1173.5 | 1177.5 | 1189.6 | 1189.6 |
| 25° | 1145.2 | 1149.3 | 1157.3 | 1167.4 | 1169.4 |
| 27.5° | 1119.0 | 1121.0 | 1131.1 | 1145.2 | 1147.3 |
| 30° | 1084.8 | 1090.8 | 1102.9 | 1119.0 | 1121.0 |
| 32.5° | 1054.5 | 1060.6 | 1074.7 | 1090.8 | 1094.8 |
| 35° | 1016.2 | 1024.3 | 1040.4 | 1060.6 | 1064.6 |
| 37.5° | 981.9 | 988.0 | 1008.1 | 1030.3 | 1036.4 |
| 40° | 939.6 | 951.7 | 971.8 | 998.1 | 1008.1 |
| 42.5° | 897.2 | 909.3 | 933.5 | 967.8 | 979.9 |
| 45° | 852.9 | 867.0 | 897.2 | 935.5 | 951.7 |
| 47.5° | 808.5 | 824.7 | 858.9 | 903.3 | 921.4 |
| 50° | 758.1 | 778.3 | 820.6 | 871.0 | 891.2 |
| 52.5° | 709.7 | 733.9 | 780.3 | 836.8 | 863.0 |
| 55° | 659.3 | 683.5 | 744.0 | 802.5 | 830.7 |
| 57.5° | 602.9 | 635.1 | 701.7 | 768.2 | 798.4 |
| 60° | 550.4 | 580.7 | 661.3 | 733.9 | 764.2 |
| 62.5° | 494.0 | 534.3 | 621.0 | 697.6 | 727.9 |
| 65° | 435.5 | 479.9 | 578.7 | 655.3 | 685.5 |
| 67.5° | 383.1 | 431.5 | 536.3 | 612.9 | 643.2 |
| 70° | 320.6 | 381.1 | 490.0 | 566.6 | 596.8 |
| 72.5° | 262.1 | 328.7 | 441.6 | 516.2 | 544.4 |
| 75° | 205.7 | 280.3 | 391.2 | 457.7 | 471.8 |
| 77.5° | 153.2 | 231.9 | 338.7 | 367.0 | 356.9 |
| 80° | 108.9 | 185.5 | 264.1 | 250.0 | 256.1 |
| 82.5° | 70.6 | 141.1 | 163.3 | 185.5 | 191.5 |
| 85° | 40.3 | 82.7 | 100.8 | 108.9 | 112.9 |
| 87.5° | 18.1 | 30.2 | 40.3 | 40.3 | 38.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)