

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: P276225

Luminaire Tested: **24CZ2-55HE-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P276225  
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: 24CZ2-55HE-UNV-L92765-W2A1-U-4000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER  
WITH RIBBED LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4637.3 lumens  
Efficiency: N/A  
Efficacy: 114.4 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

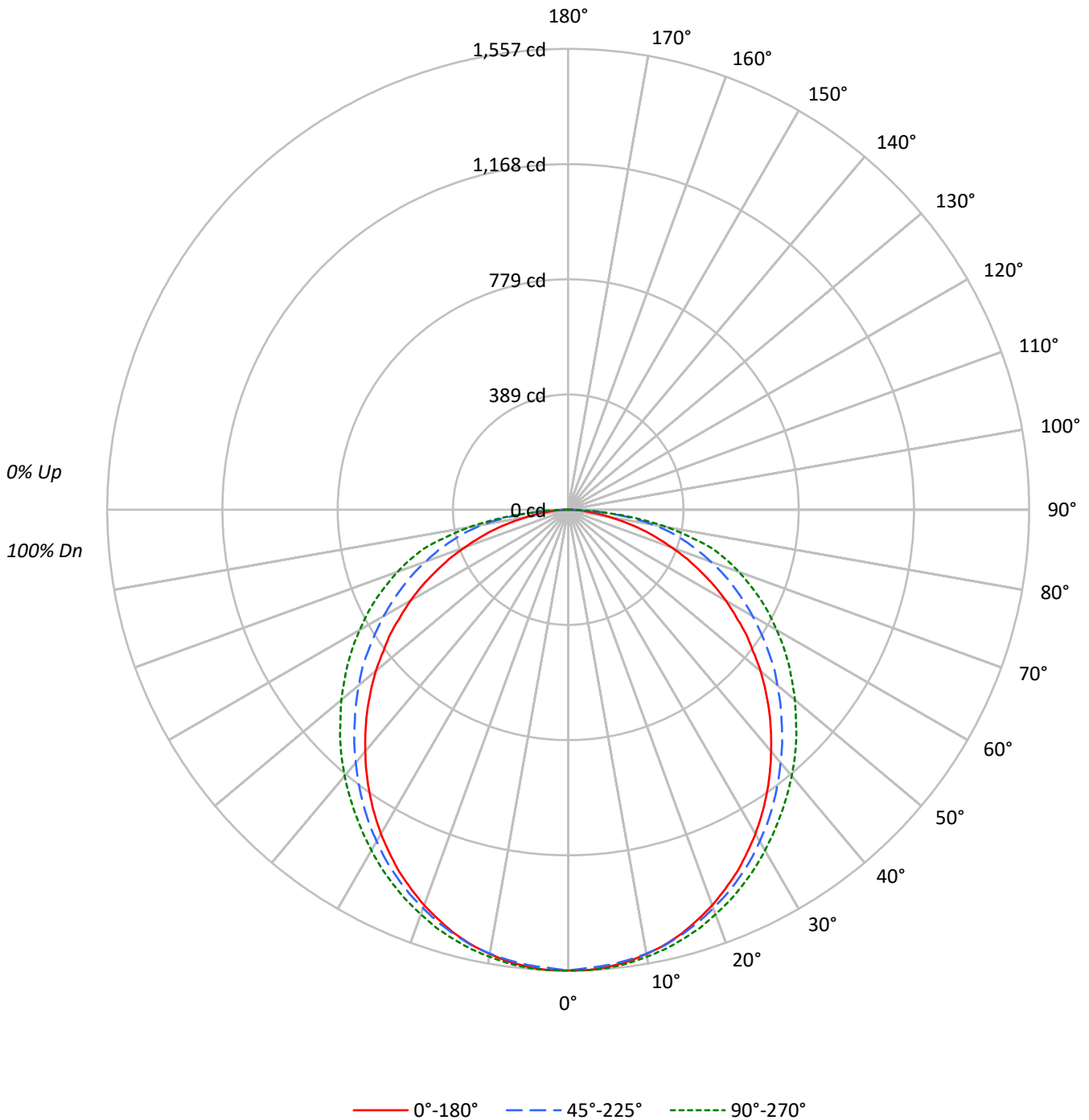
Input Watts (W): 40.548  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 2095 | 2095 | 2095 |
| 5°  | 2095 | 2086 | 2099 |
| 10° | 2083 | 2081 | 2095 |
| 15° | 2065 | 2070 | 2091 |
| 20° | 2037 | 2052 | 2083 |
| 25° | 2004 | 2033 | 2075 |
| 30° | 1964 | 2010 | 2065 |
| 35° | 1922 | 1985 | 2059 |
| 40° | 1873 | 1960 | 2063 |
| 45° | 1826 | 1941 | 2073 |
| 50° | 1775 | 1931 | 2093 |
| 55° | 1721 | 1928 | 2131 |
| 60° | 1653 | 1937 | 2186 |
| 65° | 1567 | 1966 | 2281 |
| 70° | 1455 | 2015 | 2411 |
| 75° | 1328 | 2116 | 2615 |
| 80° | 1091 | 2279 | 2614 |
| 85° | 837  | 2103 | 2246 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 147.3  | 3.2       |
| 10°-20°   | 420.4  | 9.1       |
| 20°-30°   | 632.6  | 13.6      |
| 30°-40°   | 758.1  | 16.3      |
| 40°-50°   | 790.0  | 17.0      |
| 50°-60°   | 735.0  | 15.9      |
| 60°-70°   | 605.4  | 13.1      |
| 70°-80°   | 412.3  | 8.9       |
| 80°-90°   | 136.1  | 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°    | 1200.3 | 25.9      |
| 0°-40°    | 1958.4 | 42.2      |
| 0°-60°    | 3483.5 | 75.1      |
| 0°-90°    | 4637.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4637.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1557 | 1557  | 1557 | 1557  | 1557 |      |
| 5°  | 1551 | 1551  | 1545 | 1552  | 1554 | 147  |
| 15° | 1483 | 1484  | 1486 | 1500  | 1501 | 418  |
| 25° | 1350 | 1356  | 1370 | 1393  | 1398 | 621  |
| 35° | 1170 | 1184  | 1209 | 1241  | 1254 | 731  |
| 45° | 960  | 980   | 1020 | 1071  | 1090 | 740  |
| 55° | 734  | 758   | 822  | 887   | 908  | 654  |
| 65° | 492  | 534   | 618  | 690   | 717  | 489  |
| 75° | 255  | 313   | 407  | 480   | 503  | 269  |
| 85° | 54   | 105   | 136  | 146   | 146  | 67   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1557.0 | 1557.0 | 1557.0 | 1557.0 | 1557.0 |
| 2.5°  | 1557.0 | 1557.0 | 1549.2 | 1557.0 | 1557.0 |
| 5°    | 1550.8 | 1550.8 | 1544.6 | 1552.3 | 1553.9 |
| 7.5°  | 1539.9 | 1541.5 | 1535.3 | 1544.6 | 1546.1 |
| 10°   | 1524.5 | 1526.0 | 1522.9 | 1532.2 | 1533.7 |
| 12.5° | 1505.9 | 1507.4 | 1507.4 | 1518.3 | 1519.8 |
| 15°   | 1482.7 | 1484.2 | 1485.8 | 1499.7 | 1501.2 |
| 17.5° | 1453.3 | 1457.9 | 1461.0 | 1478.0 | 1481.1 |
| 20°   | 1422.3 | 1427.0 | 1433.1 | 1451.7 | 1454.8 |
| 22.5° | 1386.7 | 1392.9 | 1403.7 | 1423.9 | 1428.5 |
| 25°   | 1349.6 | 1355.8 | 1369.7 | 1392.9 | 1397.5 |
| 27.5° | 1307.8 | 1317.1 | 1334.1 | 1358.9 | 1365.0 |
| 30°   | 1264.4 | 1273.7 | 1293.9 | 1320.2 | 1329.4 |
| 32.5° | 1218.0 | 1230.4 | 1253.6 | 1283.0 | 1292.3 |
| 35°   | 1170.0 | 1184.0 | 1208.7 | 1241.2 | 1253.6 |
| 37.5° | 1119.0 | 1134.4 | 1163.8 | 1199.4 | 1214.9 |
| 40°   | 1066.3 | 1084.9 | 1115.9 | 1157.7 | 1174.7 |
| 42.5° | 1013.7 | 1030.7 | 1069.4 | 1114.3 | 1132.9 |
| 45°   | 959.6  | 979.7  | 1019.9 | 1071.0 | 1089.6 |
| 47.5° | 903.8  | 924.0  | 971.9  | 1026.1 | 1043.1 |
| 50°   | 848.1  | 868.2  | 922.4  | 979.7  | 999.8  |
| 52.5° | 787.8  | 814.1  | 876.0  | 933.2  | 953.4  |
| 55°   | 733.6  | 758.4  | 821.8  | 886.8  | 908.5  |
| 57.5° | 671.7  | 701.1  | 770.7  | 838.8  | 862.1  |
| 60°   | 614.4  | 645.4  | 719.7  | 789.3  | 812.5  |
| 62.5° | 555.6  | 589.7  | 668.6  | 739.8  | 766.1  |
| 65°   | 492.2  | 533.9  | 617.5  | 690.3  | 716.6  |
| 67.5° | 434.9  | 478.2  | 566.4  | 640.7  | 663.9  |
| 70°   | 369.9  | 422.5  | 512.3  | 586.6  | 612.9  |
| 72.5° | 314.2  | 366.8  | 461.2  | 533.9  | 560.3  |
| 75°   | 255.4  | 312.6  | 407.0  | 479.8  | 503.0  |
| 77.5° | 196.6  | 260.0  | 354.4  | 410.1  | 417.9  |
| 80°   | 140.8  | 207.4  | 294.1  | 326.6  | 337.4  |
| 82.5° | 99.1   | 159.4  | 216.7  | 238.3  | 244.5  |
| 85°   | 54.2   | 105.2  | 136.2  | 145.5  | 145.5  |
| 87.5° | 23.2   | 44.9   | 54.2   | 55.7   | 57.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)