

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: P276513

Luminaire Tested: **24CZ2-55HE-S-UNV-L82765-W2A1-U-5500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P276513  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-55HE-S-UNV-L82765-W2A1-U-5500K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 5500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5736.4 lumens  
Efficiency: N/A  
Efficacy: 139.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

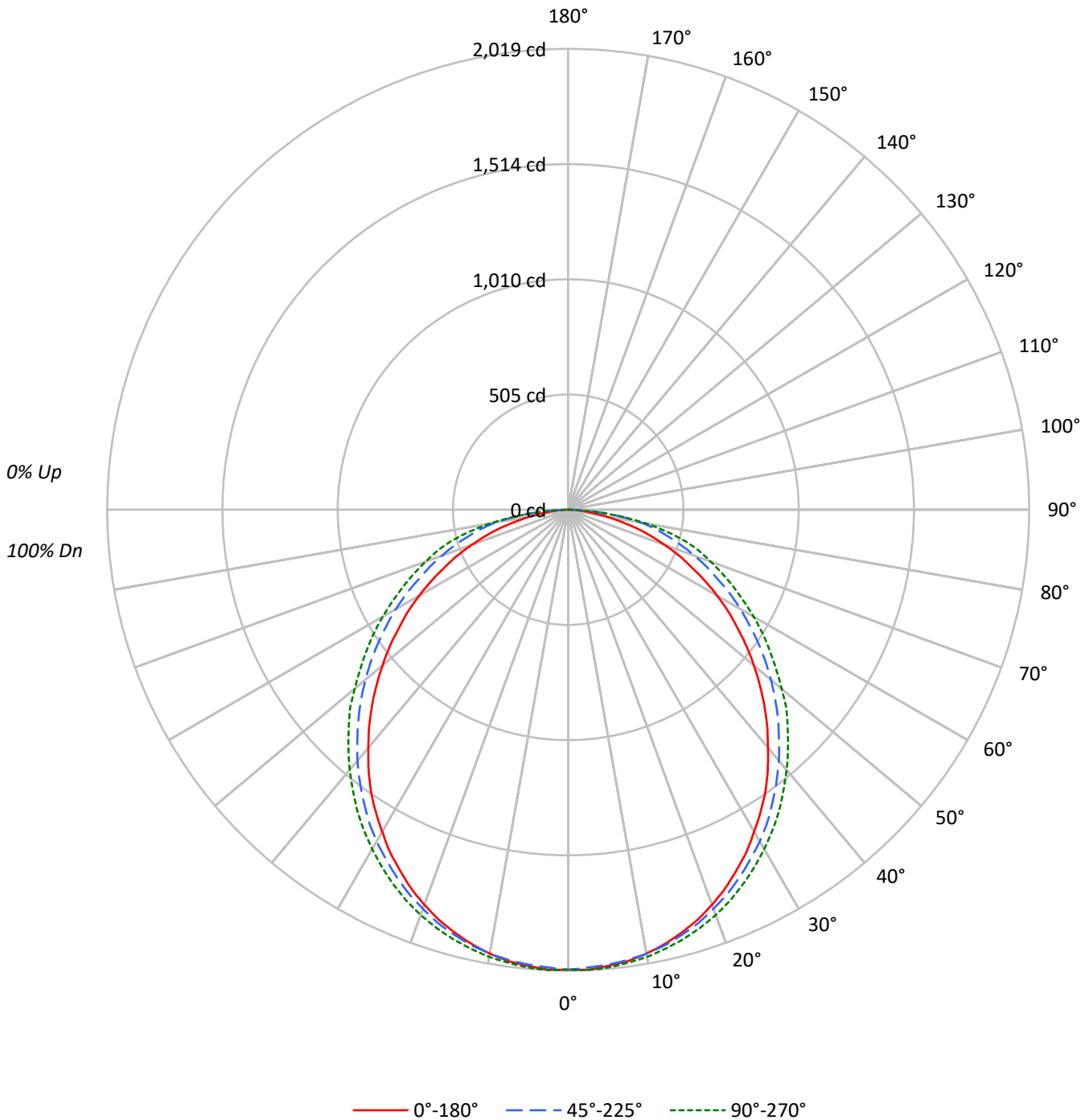
Input Watts (W): 41.199  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P276513

CATALOG NUMBER: 24CZ2-55HE-S-UNV-L82765-W2A1-U-5500K

### Luminous Intensity Polar Plot





TEST NUMBER: P276513

CATALOG NUMBER: 24CZ2-55HE-S-UNV-L82765-W2A1-U-5500K

**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  | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 93  | 97  | 93  | 90  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |    |    |    |    | 83  |   |  |   |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 81  | 76  | 84  | 79  | 74  | 81  | 76  | 72  | 78  | 74  | 71  | 69  |    |    |    |    | 69  |   |  |   |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |    |    |    |    | 58  |   |  |   |
| 4   | 82  | 70  | 61  | 54  | 80  | 68  | 60  | 54  | 66  | 59  | 53  | 63  | 57  | 52  | 61  | 56  | 51  | 49  |    |    |    |    | 49  |   |  |   |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  | 59  | 51  | 46  | 57  | 50  | 45  | 55  | 49  | 45  | 42  |    |    |    |    | 42  |   |  |   |
| 6   | 70  | 56  | 47  | 40  | 68  | 55  | 47  | 40  | 53  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 39  | 37  |    |    |    |    | 37  |   |  |   |
| 7   | 64  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 48  | 41  | 35  | 47  | 40  | 35  | 46  | 39  | 35  | 33  |    |    |    |    | 33  |   |  |   |
| 8   | 60  | 46  | 38  | 32  | 58  | 46  | 37  | 32  | 44  | 37  | 32  | 43  | 36  | 31  | 42  | 36  | 31  | 29  |    |    |    |    | 29  |   |  |   |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 28  | 40  | 33  | 28  | 39  | 33  | 28  | 26  |    |    |    |    | 26  |   |  |   |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 26  | 36  | 30  | 26  | 24  |    |    |    |    | 24  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2711 | 2711 | 2711 |
| 5°  | 2709 | 2702 | 2719 |
| 10° | 2698 | 2698 | 2718 |
| 15° | 2673 | 2685 | 2713 |
| 20° | 2638 | 2664 | 2705 |
| 25° | 2589 | 2637 | 2689 |
| 30° | 2531 | 2607 | 2667 |
| 35° | 2475 | 2565 | 2646 |
| 40° | 2391 | 2522 | 2615 |
| 45° | 2312 | 2472 | 2586 |
| 50° | 2224 | 2426 | 2555 |
| 55° | 2124 | 2381 | 2530 |
| 60° | 2025 | 2344 | 2525 |
| 65° | 1897 | 2303 | 2541 |
| 70° | 1756 | 2315 | 2609 |
| 75° | 1573 | 2359 | 2756 |
| 80° | 1271 | 2499 | 2696 |
| 85° | 957  | 2194 | 2138 |



TEST NUMBER: P276513

CATALOG NUMBER: 24CZ2-55HE-S-UNV-L82765-W2A1-U-5500K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 190.8  | 3.3       |
| 10°-20°   | 545.1  | 9.5       |
| 20°-30°   | 819.5  | 14.3      |
| 30°-40°   | 976.1  | 17.0      |
| 40°-50°   | 999.0  | 17.4      |
| 50°-60°   | 899.4  | 15.7      |
| 60°-70°   | 706.3  | 12.3      |
| 70°-80°   | 458.4  | 8.0       |
| 80°-90°   | 141.8  | 2.5       |
| 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°    | 1555.4 | 27.1      |
| 0°-40°    | 2531.5 | 44.1      |
| 0°-60°    | 4429.9 | 77.2      |
| 0°-90°    | 5736.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5736.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2015 | 2015  | 2015 | 2015  | 2015 |      |
| 5°  | 2006 | 2010  | 2001 | 2012  | 2013 | 191  |
| 15° | 1919 | 1924  | 1928 | 1944  | 1948 | 541  |
| 25° | 1744 | 1758  | 1776 | 1806  | 1811 | 803  |
| 35° | 1507 | 1525  | 1562 | 1600  | 1611 | 940  |
| 45° | 1215 | 1244  | 1299 | 1348  | 1359 | 937  |
| 55° | 906  | 946   | 1015 | 1068  | 1079 | 812  |
| 65° | 596  | 641   | 723  | 784   | 798  | 593  |
| 75° | 302  | 361   | 454  | 516   | 530  | 320  |
| 85° | 62   | 115   | 142  | 138   | 138  | 75   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P276513

CATALOG NUMBER: 24CZ2-55HE-S-UNV-L82765-W2A1-U-5500K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2015.2 | 2015.2 | 2015.2 | 2015.2 | 2015.2 |
| 2.5°  | 2017.0 | 2017.0 | 2007.9 | 2017.0 | 2018.9 |
| 5°    | 2006.1 | 2009.7 | 2000.6 | 2011.6 | 2013.4 |
| 7.5°  | 1995.2 | 1995.2 | 1989.7 | 2000.6 | 2002.5 |
| 10°   | 1975.1 | 1977.0 | 1975.1 | 1987.9 | 1989.7 |
| 12.5° | 1949.6 | 1953.3 | 1955.1 | 1967.8 | 1969.7 |
| 15°   | 1918.6 | 1924.1 | 1927.8 | 1944.2 | 1947.8 |
| 17.5° | 1884.0 | 1889.5 | 1898.6 | 1916.8 | 1920.5 |
| 20°   | 1842.1 | 1849.4 | 1860.3 | 1884.0 | 1889.5 |
| 22.5° | 1796.6 | 1803.9 | 1822.1 | 1843.9 | 1853.0 |
| 25°   | 1743.7 | 1758.3 | 1776.5 | 1805.7 | 1811.1 |
| 27.5° | 1690.9 | 1703.6 | 1727.3 | 1758.3 | 1765.6 |
| 30°   | 1628.9 | 1649.0 | 1678.1 | 1709.1 | 1716.4 |
| 32.5° | 1568.8 | 1588.8 | 1623.5 | 1656.3 | 1665.4 |
| 35°   | 1506.9 | 1525.1 | 1561.5 | 1599.8 | 1610.7 |
| 37.5° | 1435.8 | 1459.5 | 1499.6 | 1537.8 | 1548.8 |
| 40°   | 1361.1 | 1390.2 | 1435.8 | 1475.9 | 1488.6 |
| 42.5° | 1290.0 | 1321.0 | 1366.6 | 1410.3 | 1424.9 |
| 45°   | 1215.3 | 1244.5 | 1299.1 | 1348.3 | 1359.3 |
| 47.5° | 1138.8 | 1171.6 | 1229.9 | 1279.1 | 1297.3 |
| 50°   | 1062.3 | 1096.9 | 1158.8 | 1209.9 | 1220.8 |
| 52.5° | 985.7  | 1022.2 | 1087.8 | 1142.4 | 1147.9 |
| 55°   | 905.6  | 945.7  | 1014.9 | 1067.7 | 1078.7 |
| 57.5° | 832.7  | 867.3  | 942.0  | 996.7  | 1009.4 |
| 60°   | 752.5  | 790.8  | 871.0  | 922.0  | 938.4  |
| 62.5° | 676.0  | 716.1  | 799.9  | 850.9  | 865.5  |
| 65°   | 595.8  | 641.4  | 723.4  | 783.5  | 798.1  |
| 67.5° | 526.6  | 570.3  | 657.8  | 716.1  | 730.7  |
| 70°   | 446.4  | 495.6  | 588.5  | 648.7  | 663.2  |
| 72.5° | 377.2  | 428.2  | 521.1  | 579.4  | 601.3  |
| 75°   | 302.5  | 360.8  | 453.7  | 515.6  | 530.2  |
| 77.5° | 229.6  | 297.0  | 391.7  | 439.1  | 439.1  |
| 80°   | 164.0  | 235.0  | 322.5  | 344.4  | 348.0  |
| 82.5° | 107.5  | 176.7  | 238.7  | 236.9  | 236.9  |
| 85°   | 62.0   | 114.8  | 142.1  | 138.5  | 138.5  |
| 87.5° | 23.7   | 47.4   | 51.0   | 51.0   | 49.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)