

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: P276534

Luminaire Tested: **24CZ2-70HE-S-UNV-L82765-W2A1-U-2700K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P276534  
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: 24CZ2-70HE-S-UNV-L82765-W2A1-U-2700K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER  
WITH SMOOTH LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6431.2 lumens  
Efficiency: N/A  
Efficacy: 119.8 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

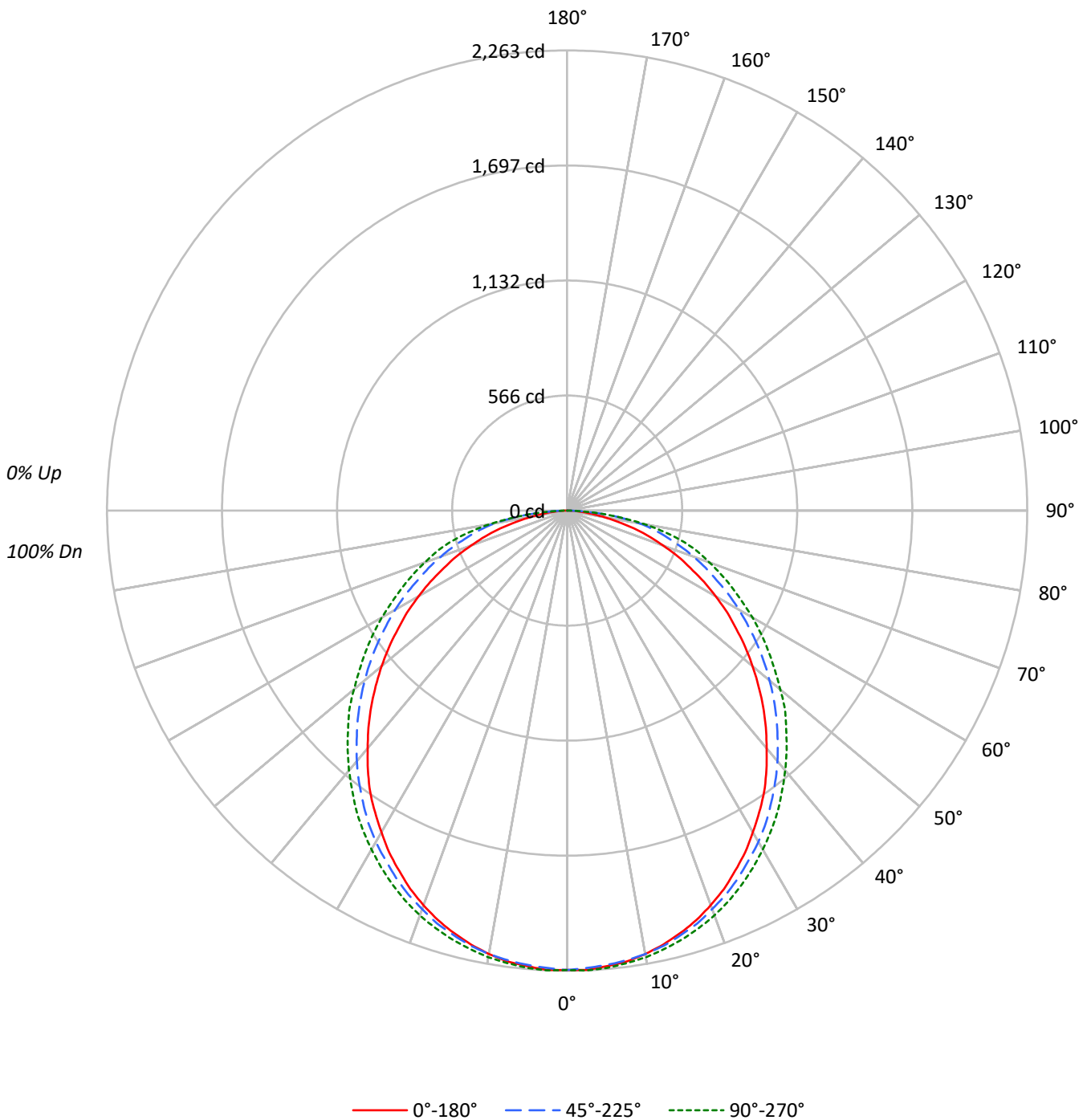
Input Watts (W): 53.661  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3040 | 3040 | 3040 |
| 5°  | 3038 | 3029 | 3049 |
| 10° | 3025 | 3025 | 3048 |
| 15° | 2996 | 3010 | 3042 |
| 20° | 2957 | 2986 | 3033 |
| 25° | 2902 | 2957 | 3014 |
| 30° | 2837 | 2923 | 2990 |
| 35° | 2775 | 2876 | 2966 |
| 40° | 2680 | 2827 | 2931 |
| 45° | 2593 | 2771 | 2900 |
| 50° | 2493 | 2719 | 2865 |
| 55° | 2382 | 2669 | 2837 |
| 60° | 2270 | 2627 | 2831 |
| 65° | 2127 | 2582 | 2848 |
| 70° | 1969 | 2596 | 2925 |
| 75° | 1763 | 2644 | 3090 |
| 80° | 1424 | 2802 | 3023 |
| 85° | 1073 | 2459 | 2397 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 213.9  | 3.3       |
| 10°-20°   | 611.2  | 9.5       |
| 20°-30°   | 918.7  | 14.3      |
| 30°-40°   | 1094.3 | 17.0      |
| 40°-50°   | 1120.0 | 17.4      |
| 50°-60°   | 1008.3 | 15.7      |
| 60°-70°   | 791.9  | 12.3      |
| 70°-80°   | 513.9  | 8.0       |
| 80°-90°   | 159.0  | 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°    | 1743.8 | 27.1      |
| 0°-40°    | 2838.1 | 44.1      |
| 0°-60°    | 4966.4 | 77.2      |
| 0°-90°    | 6431.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6431.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2259 | 2259  | 2259 | 2259  | 2259 |      |
| 5°  | 2249 | 2253  | 2243 | 2255  | 2257 | 214  |
| 15° | 2151 | 2157  | 2161 | 2180  | 2184 | 607  |
| 25° | 1955 | 1971  | 1992 | 2024  | 2030 | 901  |
| 35° | 1689 | 1710  | 1751 | 1794  | 1806 | 1054 |
| 45° | 1362 | 1395  | 1456 | 1512  | 1524 | 1050 |
| 55° | 1015 | 1060  | 1138 | 1197  | 1209 | 910  |
| 65° | 668  | 719   | 811  | 878   | 895  | 665  |
| 75° | 339  | 404   | 509  | 578   | 594  | 359  |
| 85° | 70   | 129   | 159  | 155   | 155  | 84   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2259.3 | 2259.3 | 2259.3 | 2259.3 | 2259.3 |
| 2.5°  | 2261.3 | 2261.3 | 2251.1 | 2261.3 | 2263.4 |
| 5°    | 2249.1 | 2253.2 | 2243.0 | 2255.2 | 2257.3 |
| 7.5°  | 2236.8 | 2236.8 | 2230.7 | 2243.0 | 2245.0 |
| 10°   | 2214.4 | 2216.4 | 2214.4 | 2228.7 | 2230.7 |
| 12.5° | 2185.8 | 2189.8 | 2191.9 | 2206.2 | 2208.2 |
| 15°   | 2151.0 | 2157.2 | 2161.2 | 2179.6 | 2183.7 |
| 17.5° | 2112.2 | 2118.4 | 2128.6 | 2149.0 | 2153.1 |
| 20°   | 2065.2 | 2073.4 | 2085.7 | 2112.2 | 2118.4 |
| 22.5° | 2014.2 | 2022.3 | 2042.8 | 2067.3 | 2077.5 |
| 25°   | 1954.9 | 1971.3 | 1991.7 | 2024.4 | 2030.5 |
| 27.5° | 1895.7 | 1910.0 | 1936.5 | 1971.3 | 1979.4 |
| 30°   | 1826.2 | 1848.7 | 1881.4 | 1916.1 | 1924.3 |
| 32.5° | 1758.8 | 1781.3 | 1820.1 | 1856.9 | 1867.1 |
| 35°   | 1689.4 | 1709.8 | 1750.7 | 1793.6 | 1805.8 |
| 37.5° | 1609.7 | 1636.3 | 1681.2 | 1724.1 | 1736.4 |
| 40°   | 1525.9 | 1558.6 | 1609.7 | 1654.6 | 1668.9 |
| 42.5° | 1446.3 | 1481.0 | 1532.1 | 1581.1 | 1597.4 |
| 45°   | 1362.5 | 1395.2 | 1456.5 | 1511.6 | 1523.9 |
| 47.5° | 1276.7 | 1313.5 | 1378.9 | 1434.0 | 1454.5 |
| 50°   | 1190.9 | 1229.7 | 1299.2 | 1356.4 | 1368.7 |
| 52.5° | 1105.1 | 1146.0 | 1219.5 | 1280.8 | 1286.9 |
| 55°   | 1015.3 | 1060.2 | 1137.8 | 1197.1 | 1209.3 |
| 57.5° | 933.5  | 972.4  | 1056.1 | 1117.4 | 1131.7 |
| 60°   | 843.7  | 886.6  | 976.4  | 1033.6 | 1052.0 |
| 62.5° | 757.9  | 802.8  | 896.8  | 954.0  | 970.3  |
| 65°   | 668.0  | 719.1  | 811.0  | 878.4  | 894.7  |
| 67.5° | 590.4  | 639.4  | 737.4  | 802.8  | 819.2  |
| 70°   | 500.5  | 555.6  | 659.8  | 727.2  | 743.6  |
| 72.5° | 422.9  | 480.1  | 584.2  | 649.6  | 674.1  |
| 75°   | 339.1  | 404.5  | 508.6  | 578.1  | 594.4  |
| 77.5° | 257.4  | 333.0  | 439.2  | 492.3  | 492.3  |
| 80°   | 183.8  | 263.5  | 361.6  | 386.1  | 390.2  |
| 82.5° | 120.5  | 198.1  | 267.6  | 265.6  | 265.6  |
| 85°   | 69.5   | 128.7  | 159.3  | 155.3  | 155.3  |
| 87.5° | 26.6   | 53.1   | 57.2   | 57.2   | 55.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)