

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: P238950

Luminaire Tested: **24ENA-LD2-70-UNV-L835-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P238950  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1708-234-34)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24ENA-LD2-70-UNV-L835-CD1-U  
Description: METALUX ENCOUNTER 2X4 LED TROFFER  
AIR-VENTED OPTION  
Light Source: (308)3500K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6847.4 lumens  
Efficiency: N/A  
Efficacy: 113.7 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.29 / 1.4  
Luminous Opening: Rectangular (W 1.67' x L: 3.83' x H: 0')  
CIE Type: Direct

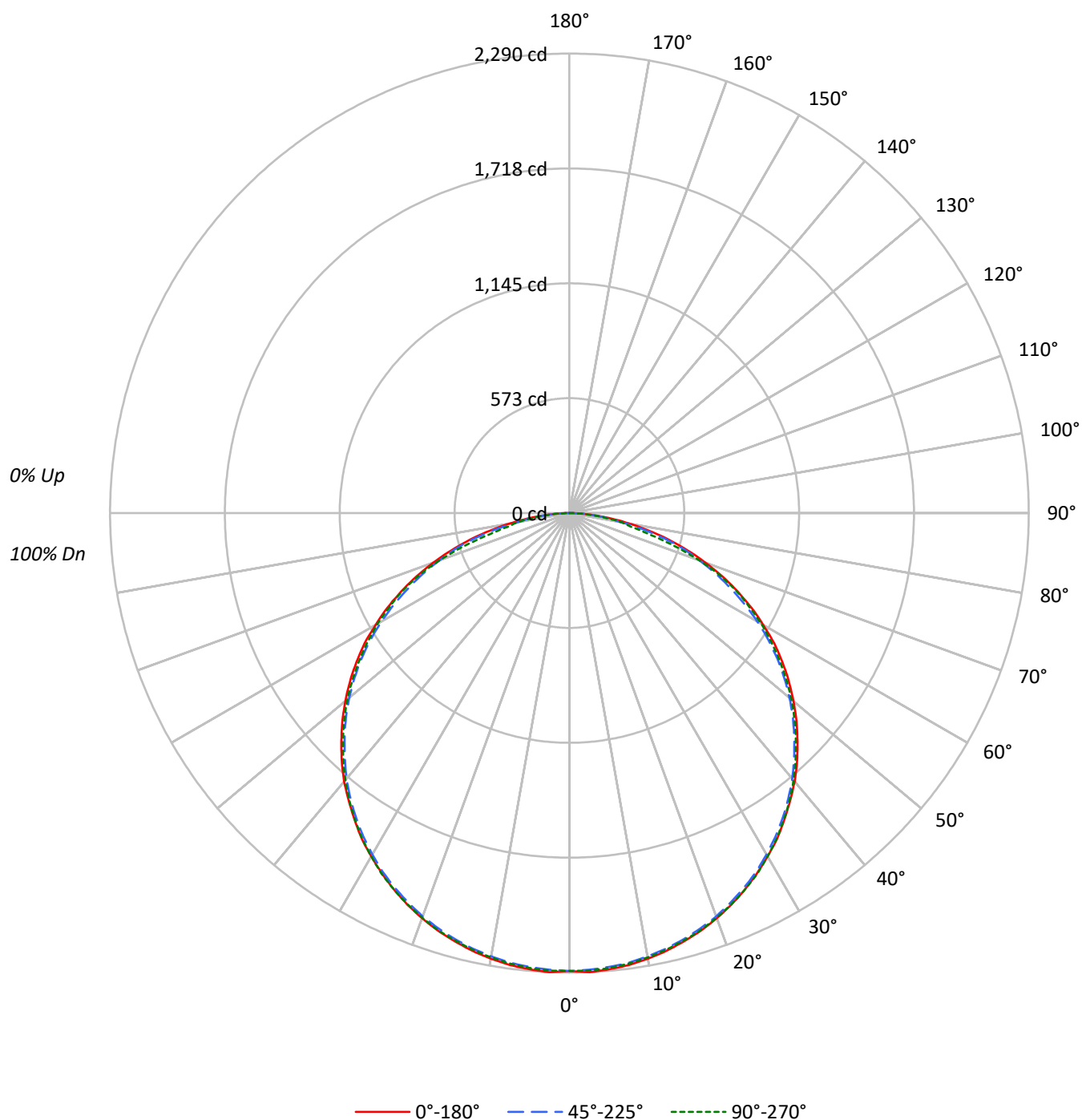
Input Watts (W): 60.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 109 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 90  | 87  | 85  | 83  |    |    |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |    |    |
| 3   | 90  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |    |    |
| 4   | 82  | 70  | 61  | 54  | 79  | 68  | 60  | 53  | 66  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 51  | 49  |    |    |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  | 59  | 51  | 45  | 57  | 50  | 45  | 55  | 49  | 44  | 42  |    |    |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  | 53  | 45  | 40  | 51  | 44  | 39  | 50  | 44  | 39  | 37  |    |    |
| 7   | 64  | 50  | 42  | 35  | 62  | 50  | 41  | 35  | 48  | 40  | 35  | 47  | 40  | 35  | 45  | 39  | 34  | 32  |    |    |
| 8   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 44  | 36  | 31  | 43  | 36  | 31  | 41  | 35  | 31  | 29  |    |    |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 40  | 33  | 28  | 39  | 33  | 28  | 38  | 32  | 28  | 26  |    |    |
| 10  | 52  | 39  | 31  | 26  | 51  | 38  | 31  | 25  | 37  | 30  | 25  | 36  | 30  | 25  | 35  | 29  | 25  | 23  |    |    |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3845 | 3845 | 3845 |
| 5°  | 3859 | 3840 | 3850 |
| 10° | 3857 | 3838 | 3848 |
| 15° | 3853 | 3836 | 3845 |
| 20° | 3853 | 3835 | 3848 |
| 25° | 3848 | 3830 | 3848 |
| 30° | 3844 | 3822 | 3844 |
| 35° | 3840 | 3814 | 3834 |
| 40° | 3842 | 3801 | 3823 |
| 45° | 3832 | 3777 | 3804 |
| 50° | 3821 | 3754 | 3787 |
| 55° | 3807 | 3715 | 3753 |
| 60° | 3760 | 3645 | 3722 |
| 65° | 3684 | 3530 | 3662 |
| 70° | 3552 | 3404 | 3397 |
| 75° | 3343 | 3194 | 2701 |
| 80° | 2943 | 2498 | 2568 |
| 85° | 2324 | 2184 | 2018 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 216.1  | 3.2       |
| 10°-20°   | 621.6  | 9.1       |
| 20°-30°   | 951.2  | 13.9      |
| 30°-40°   | 1162.7 | 17.0      |
| 40°-50°   | 1228.6 | 17.9      |
| 50°-60°   | 1138.3 | 16.6      |
| 60°-70°   | 891.8  | 13.0      |
| 70°-80°   | 504.2  | 7.4       |
| 80°-90°   | 132.8  | 1.9       |
| 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°    | 1789.0 | 26.1      |
| 0°-40°    | 2951.6 | 43.1      |
| 0°-60°    | 5318.6 | 77.7      |
| 0°-90°    | 6847.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6847.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2282 | 2282  | 2282 | 2282  | 2282 |      |
| 5°  | 2282 | 2275  | 2270 | 2269  | 2276 | 217  |
| 15° | 2209 | 2200  | 2199 | 2198  | 2205 | 624  |
| 25° | 2070 | 2062  | 2060 | 2060  | 2070 | 954  |
| 35° | 1867 | 1858  | 1854 | 1854  | 1864 | 1169 |
| 45° | 1608 | 1597  | 1585 | 1585  | 1597 | 1241 |
| 55° | 1296 | 1282  | 1265 | 1268  | 1278 | 1158 |
| 65° | 924  | 907   | 886  | 897   | 918  | 914  |
| 75° | 514  | 499   | 491  | 438   | 415  | 540  |
| 85° | 120  | 113   | 113  | 107   | 104  | 142  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2282.0 | 2282.0 | 2282.0 | 2282.0 | 2282.0 |
| 2.5°  | 2290.5 | 2280.5 | 2277.7 | 2274.8 | 2282.0 |
| 5°    | 2282.0 | 2274.8 | 2270.5 | 2269.1 | 2276.2 |
| 7.5°  | 2272.0 | 2263.4 | 2260.5 | 2257.6 | 2264.8 |
| 10°   | 2254.8 | 2246.2 | 2243.3 | 2241.9 | 2249.1 |
| 12.5° | 2234.8 | 2224.7 | 2223.3 | 2221.9 | 2229.0 |
| 15°   | 2209.0 | 2200.4 | 2199.0 | 2197.6 | 2204.7 |
| 17.5° | 2181.8 | 2173.2 | 2170.4 | 2168.9 | 2179.0 |
| 20°   | 2148.9 | 2140.3 | 2138.9 | 2137.5 | 2146.0 |
| 22.5° | 2111.7 | 2103.1 | 2100.3 | 2101.7 | 2110.3 |
| 25°   | 2070.2 | 2061.6 | 2060.2 | 2060.2 | 2070.2 |
| 27.5° | 2024.4 | 2015.9 | 2015.9 | 2015.9 | 2027.3 |
| 30°   | 1975.8 | 1968.6 | 1964.4 | 1965.8 | 1975.8 |
| 32.5° | 1925.7 | 1914.3 | 1911.4 | 1912.8 | 1922.9 |
| 35°   | 1867.1 | 1858.5 | 1854.2 | 1854.2 | 1864.2 |
| 37.5° | 1807.0 | 1798.4 | 1792.7 | 1792.7 | 1802.7 |
| 40°   | 1746.9 | 1734.0 | 1728.3 | 1725.4 | 1738.3 |
| 42.5° | 1679.6 | 1669.6 | 1656.7 | 1656.7 | 1668.2 |
| 45°   | 1608.1 | 1596.7 | 1585.2 | 1585.2 | 1596.7 |
| 47.5° | 1535.1 | 1523.7 | 1510.8 | 1510.8 | 1522.3 |
| 50°   | 1457.9 | 1446.4 | 1432.1 | 1432.1 | 1445.0 |
| 52.5° | 1379.2 | 1366.3 | 1350.6 | 1349.1 | 1362.0 |
| 55°   | 1296.2 | 1281.9 | 1264.7 | 1267.6 | 1277.6 |
| 57.5° | 1211.8 | 1193.2 | 1176.0 | 1176.0 | 1191.8 |
| 60°   | 1115.9 | 1100.2 | 1081.6 | 1084.5 | 1104.5 |
| 62.5° | 1024.4 | 1004.4 | 985.8  | 992.9  | 1010.1 |
| 65°   | 924.2  | 907.1  | 885.6  | 897.0  | 918.5  |
| 67.5° | 825.5  | 806.9  | 789.7  | 804.1  | 814.1  |
| 70°   | 721.1  | 703.9  | 691.0  | 691.0  | 689.6  |
| 72.5° | 616.6  | 600.9  | 598.0  | 570.8  | 553.7  |
| 75°   | 513.6  | 499.3  | 490.7  | 437.8  | 414.9  |
| 77.5° | 406.3  | 402.0  | 374.8  | 319.0  | 311.9  |
| 80°   | 303.3  | 306.2  | 257.5  | 259.0  | 264.7  |
| 82.5° | 208.9  | 204.6  | 193.1  | 184.6  | 181.7  |
| 85°   | 120.2  | 113.0  | 113.0  | 107.3  | 104.4  |
| 87.5° | 40.1   | 44.4   | 44.4   | 44.4   | 45.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)