

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: P238914

Luminaire Tested: **24EN-LD2-74-UNV-L835-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P238914  
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: 24EN-LD2-74-UNV-L835-CD1-U  
Description: METALUX ENCOUNTER 2X4 LED TROFFER  
STANDARD OPTION  
Light Source: (308)3500K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7484.0 lumens  
Efficiency: N/A  
Efficacy: 117.7 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.29 / 1.4  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

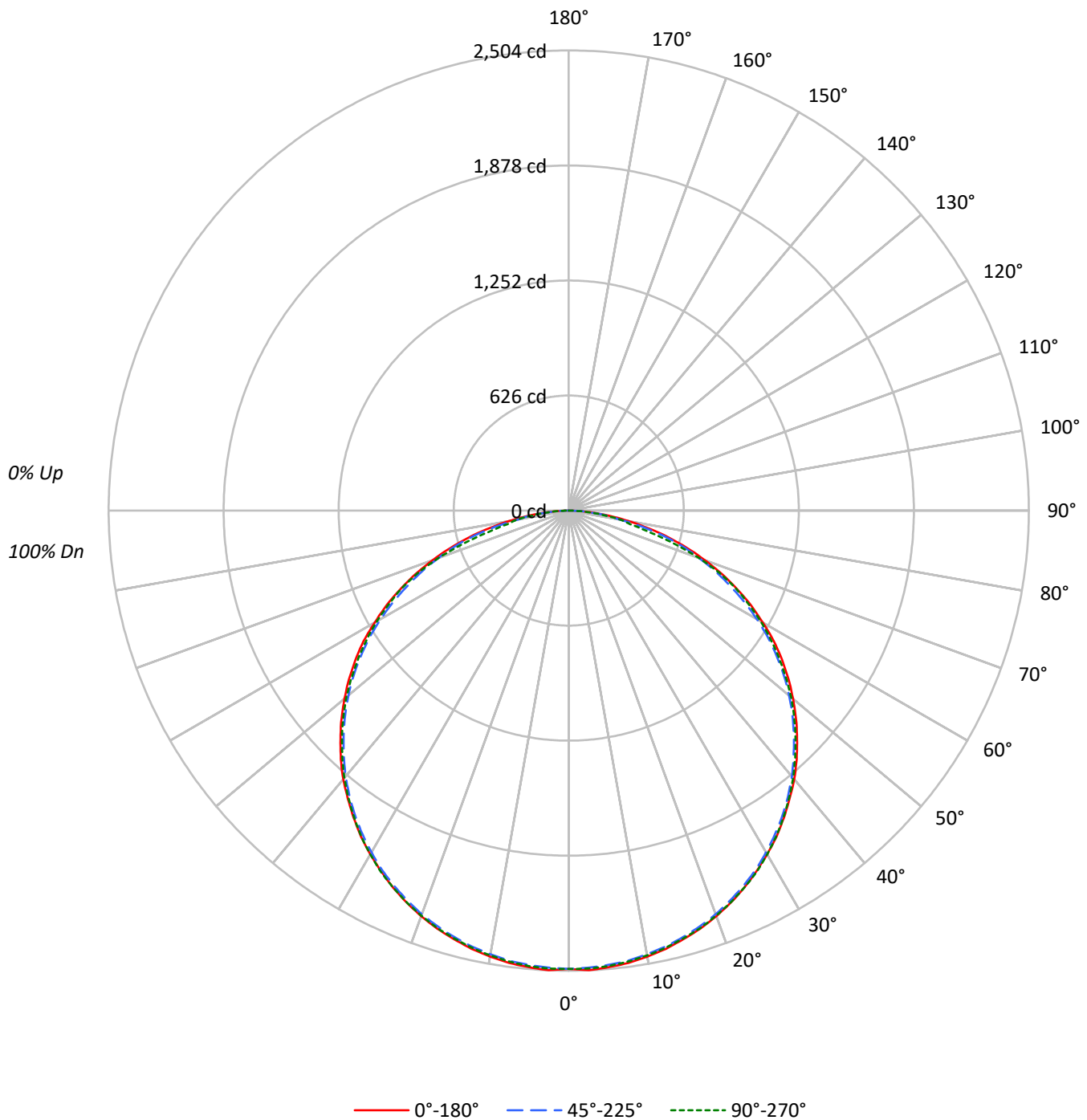
Input Watts (W): 63.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3820 | 3820 | 3820 |
| 5°  | 3835 | 3815 | 3825 |
| 10° | 3833 | 3813 | 3823 |
| 15° | 3828 | 3811 | 3821 |
| 20° | 3828 | 3810 | 3823 |
| 25° | 3824 | 3805 | 3824 |
| 30° | 3819 | 3797 | 3819 |
| 35° | 3815 | 3789 | 3810 |
| 40° | 3817 | 3777 | 3799 |
| 45° | 3807 | 3753 | 3780 |
| 50° | 3797 | 3730 | 3763 |
| 55° | 3783 | 3691 | 3729 |
| 60° | 3736 | 3621 | 3698 |
| 65° | 3661 | 3508 | 3638 |
| 70° | 3529 | 3382 | 3375 |
| 75° | 3322 | 3174 | 2684 |
| 80° | 2924 | 2483 | 2552 |
| 85° | 2309 | 2170 | 2007 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 236.2  | 3.2       |
| 10°-20°   | 679.4  | 9.1       |
| 20°-30°   | 1039.6 | 13.9      |
| 30°-40°   | 1270.8 | 17.0      |
| 40°-50°   | 1342.8 | 17.9      |
| 50°-60°   | 1244.2 | 16.6      |
| 60°-70°   | 974.8  | 13.0      |
| 70°-80°   | 551.1  | 7.4       |
| 80°-90°   | 145.1  | 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°    | 1955.3 | 26.1      |
| 0°-40°    | 3226.1 | 43.1      |
| 0°-60°    | 5813.1 | 77.7      |
| 0°-90°    | 7484.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7484.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2494 | 2494  | 2494 | 2494  | 2494 |      |
| 5°  | 2494 | 2486  | 2482 | 2480  | 2488 | 237  |
| 15° | 2414 | 2405  | 2403 | 2402  | 2410 | 682  |
| 25° | 2263 | 2253  | 2252 | 2252  | 2263 | 1043 |
| 35° | 2041 | 2031  | 2027 | 2027  | 2038 | 1278 |
| 45° | 1758 | 1745  | 1733 | 1733  | 1745 | 1356 |
| 55° | 1417 | 1401  | 1382 | 1385  | 1396 | 1265 |
| 65° | 1010 | 991   | 968  | 980   | 1004 | 999  |
| 75° | 561  | 546   | 536  | 478   | 454  | 590  |
| 85° | 131  | 124   | 124  | 117   | 114  | 155  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2494.1 | 2494.1 | 2494.1 | 2494.1 | 2494.1 |
| 2.5°  | 2503.5 | 2492.5 | 2489.4 | 2486.3 | 2494.1 |
| 5°    | 2494.1 | 2486.3 | 2481.6 | 2480.0 | 2487.9 |
| 7.5°  | 2483.2 | 2473.8 | 2470.7 | 2467.5 | 2475.3 |
| 10°   | 2464.4 | 2455.0 | 2451.9 | 2450.3 | 2458.1 |
| 12.5° | 2442.5 | 2431.6 | 2430.0 | 2428.4 | 2436.3 |
| 15°   | 2414.4 | 2405.0 | 2403.4 | 2401.9 | 2409.7 |
| 17.5° | 2384.7 | 2375.3 | 2372.1 | 2370.6 | 2381.5 |
| 20°   | 2348.7 | 2339.3 | 2337.7 | 2336.2 | 2345.6 |
| 22.5° | 2308.0 | 2298.6 | 2295.5 | 2297.1 | 2306.5 |
| 25°   | 2262.7 | 2253.3 | 2251.7 | 2251.7 | 2262.7 |
| 27.5° | 2212.6 | 2203.3 | 2203.3 | 2203.3 | 2215.8 |
| 30°   | 2159.5 | 2151.7 | 2147.0 | 2148.5 | 2159.5 |
| 32.5° | 2104.7 | 2092.2 | 2089.1 | 2090.7 | 2101.6 |
| 35°   | 2040.6 | 2031.3 | 2026.6 | 2026.6 | 2037.5 |
| 37.5° | 1975.0 | 1965.6 | 1959.3 | 1959.3 | 1970.3 |
| 40°   | 1909.3 | 1895.2 | 1889.0 | 1885.8 | 1899.9 |
| 42.5° | 1835.8 | 1824.8 | 1810.8 | 1810.8 | 1823.3 |
| 45°   | 1757.6 | 1745.1 | 1732.6 | 1732.6 | 1745.1 |
| 47.5° | 1677.9 | 1665.3 | 1651.3 | 1651.3 | 1663.8 |
| 50°   | 1593.4 | 1580.9 | 1565.3 | 1565.3 | 1579.3 |
| 52.5° | 1507.4 | 1493.3 | 1476.1 | 1474.6 | 1488.6 |
| 55°   | 1416.7 | 1401.1 | 1382.3 | 1385.4 | 1396.4 |
| 57.5° | 1324.5 | 1304.1 | 1285.4 | 1285.4 | 1302.6 |
| 60°   | 1219.7 | 1202.5 | 1182.2 | 1185.3 | 1207.2 |
| 62.5° | 1119.6 | 1097.7 | 1077.4 | 1085.2 | 1104.0 |
| 65°   | 1010.2 | 991.4  | 967.9  | 980.4  | 1003.9 |
| 67.5° | 902.3  | 881.9  | 863.2  | 878.8  | 889.7  |
| 70°   | 788.1  | 769.3  | 755.3  | 755.3  | 753.7  |
| 72.5° | 674.0  | 656.8  | 653.6  | 623.9  | 605.2  |
| 75°   | 561.4  | 545.7  | 536.4  | 478.5  | 453.5  |
| 77.5° | 444.1  | 439.4  | 409.7  | 348.7  | 340.9  |
| 80°   | 331.5  | 334.6  | 281.5  | 283.0  | 289.3  |
| 82.5° | 228.3  | 223.6  | 211.1  | 201.7  | 198.6  |
| 85°   | 131.4  | 123.5  | 123.5  | 117.3  | 114.2  |
| 87.5° | 43.8   | 48.5   | 48.5   | 48.5   | 50.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)