

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: P393680

Luminaire Tested: **24EN-LD2-70-UNV-L83050-W2A-1-U (5700K)**

Issue Date: 3/28/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P393680  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-563-39)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24EN-LD2-70-UNV-L83050-W2A-1-U (5700K)  
Description: 2X4 ENCOUNTER, 7000 LUMENS, VIVIDTUNE TUNABLE WHITE  
Light Source: 2700K/6500K CCT, CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7144.7 lumens  
Efficiency: N/A  
Efficacy: 139.8 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

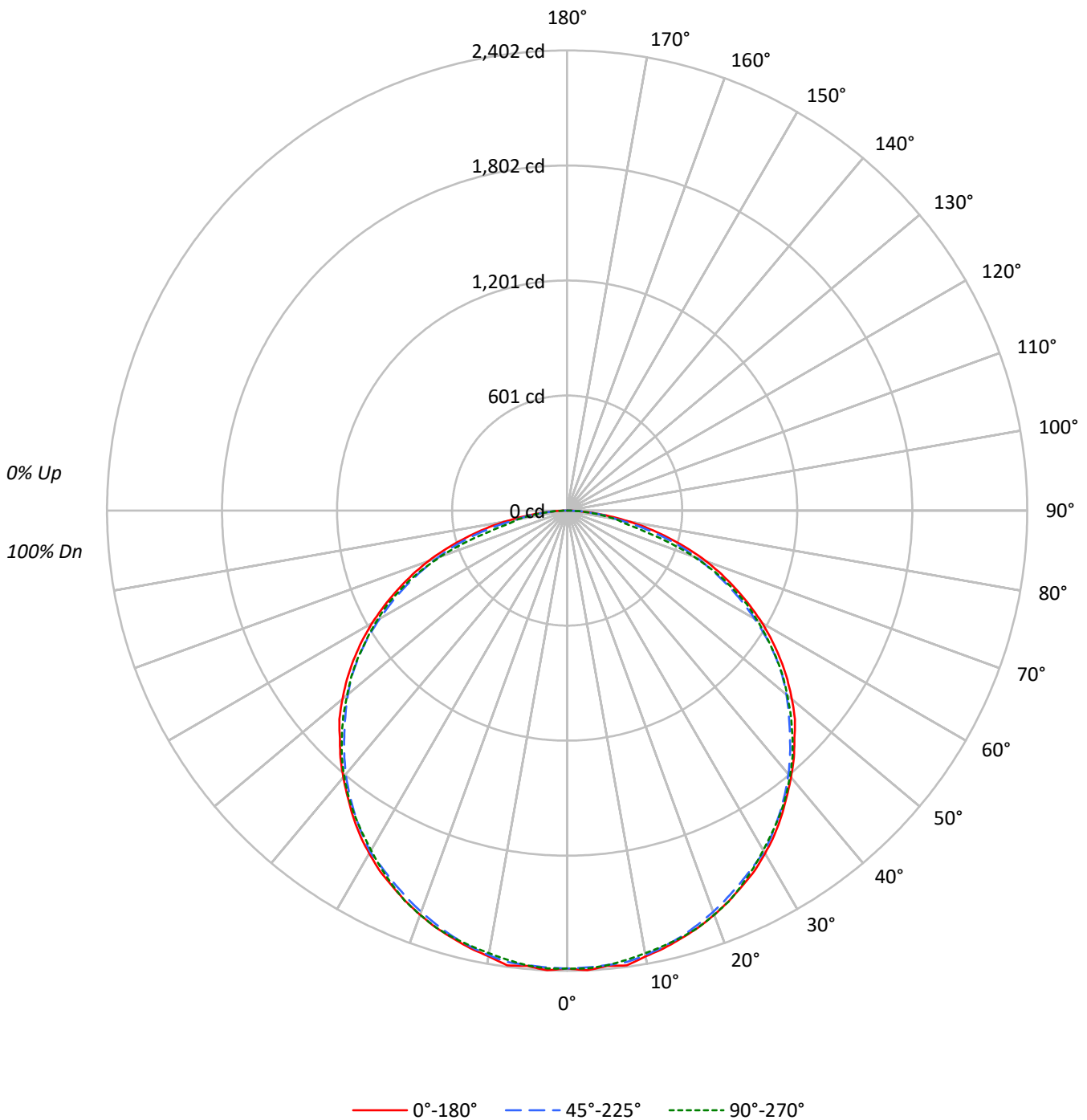
Input Watts (W): 51.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 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  | 85  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |
| 3   | 90  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 68  | 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°  | 3216 | 3216 | 3216 |
| 5°  | 3223 | 3217 | 3219 |
| 10° | 3228 | 3220 | 3206 |
| 15° | 3219 | 3206 | 3213 |
| 20° | 3215 | 3192 | 3214 |
| 25° | 3210 | 3181 | 3202 |
| 30° | 3210 | 3196 | 3180 |
| 35° | 3201 | 3175 | 3181 |
| 40° | 3193 | 3157 | 3180 |
| 45° | 3193 | 3129 | 3164 |
| 50° | 3206 | 3127 | 3137 |
| 55° | 3195 | 3112 | 3119 |
| 60° | 3164 | 3041 | 3082 |
| 65° | 3104 | 2952 | 3013 |
| 70° | 3034 | 2834 | 2769 |
| 75° | 2849 | 2622 | 2156 |
| 80° | 2526 | 2045 | 1998 |
| 85° | 2013 | 1840 | 1698 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 226.6  | 3.2       |
| 10°-20°   | 649.9  | 9.1       |
| 20°-30°   | 992.4  | 13.9      |
| 30°-40°   | 1211.2 | 17.0      |
| 40°-50°   | 1280.4 | 17.9      |
| 50°-60°   | 1190.7 | 16.7      |
| 60°-70°   | 931.8  | 13.0      |
| 70°-80°   | 522.9  | 7.3       |
| 80°-90°   | 138.7  | 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°    | 1869.0 | 26.2      |
| 0°-40°    | 3080.2 | 43.1      |
| 0°-60°    | 5551.4 | 77.7      |
| 0°-90°    | 7144.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7144.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2390 | 2390  | 2390 | 2390  | 2390 |      |
| 5°  | 2386 | 2383  | 2382 | 2380  | 2383 | 228  |
| 15° | 2311 | 2304  | 2302 | 2291  | 2307 | 653  |
| 25° | 2162 | 2151  | 2143 | 2155  | 2157 | 998  |
| 35° | 1949 | 1941  | 1933 | 1926  | 1937 | 1220 |
| 45° | 1678 | 1665  | 1644 | 1655  | 1663 | 1297 |
| 55° | 1362 | 1344  | 1327 | 1320  | 1330 | 1216 |
| 65° | 975  | 954   | 927  | 932   | 946  | 965  |
| 75° | 548  | 528   | 504  | 445   | 415  | 579  |
| 85° | 130  | 121   | 119  | 111   | 110  | 152  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2390.3 | 2390.3 | 2390.3 | 2390.3 | 2390.3 |
| 2.5°  | 2401.5 | 2386.2 | 2387.2 | 2392.3 | 2392.3 |
| 5°    | 2386.2 | 2383.1 | 2382.1 | 2380.1 | 2383.1 |
| 7.5°  | 2394.3 | 2374.0 | 2377.0 | 2364.8 | 2365.8 |
| 10°   | 2362.7 | 2354.6 | 2356.6 | 2347.5 | 2346.4 |
| 12.5° | 2339.3 | 2336.3 | 2331.2 | 2322.0 | 2327.1 |
| 15°   | 2310.8 | 2303.7 | 2301.6 | 2291.4 | 2306.7 |
| 17.5° | 2281.2 | 2270.0 | 2267.0 | 2260.9 | 2281.2 |
| 20°   | 2245.6 | 2235.4 | 2229.3 | 2228.3 | 2244.6 |
| 22.5° | 2205.8 | 2195.7 | 2186.5 | 2193.6 | 2207.9 |
| 25°   | 2162.0 | 2150.8 | 2142.7 | 2154.9 | 2156.9 |
| 27.5° | 2119.2 | 2106.0 | 2097.8 | 2105.0 | 2104.0 |
| 30°   | 2066.3 | 2055.0 | 2057.1 | 2050.0 | 2046.9 |
| 32.5° | 2011.2 | 2001.0 | 1996.0 | 1988.8 | 1991.9 |
| 35°   | 1949.1 | 1940.9 | 1932.8 | 1925.7 | 1936.9 |
| 37.5° | 1882.9 | 1877.8 | 1866.6 | 1859.4 | 1876.7 |
| 40°   | 1817.7 | 1806.4 | 1797.3 | 1792.2 | 1810.5 |
| 42.5° | 1751.4 | 1739.2 | 1722.9 | 1721.9 | 1741.2 |
| 45°   | 1678.1 | 1664.8 | 1644.4 | 1654.6 | 1662.8 |
| 47.5° | 1612.9 | 1591.5 | 1569.1 | 1579.2 | 1584.3 |
| 50°   | 1531.4 | 1514.0 | 1493.7 | 1497.7 | 1498.7 |
| 52.5° | 1448.8 | 1434.6 | 1415.2 | 1410.1 | 1419.3 |
| 55°   | 1362.2 | 1343.9 | 1326.6 | 1320.4 | 1329.6 |
| 57.5° | 1270.5 | 1254.2 | 1231.8 | 1223.7 | 1235.9 |
| 60°   | 1175.8 | 1154.4 | 1129.9 | 1129.9 | 1145.2 |
| 62.5° | 1075.9 | 1058.6 | 1029.1 | 1033.1 | 1055.5 |
| 65°   | 975.1  | 953.7  | 927.2  | 932.3  | 946.5  |
| 67.5° | 874.2  | 852.8  | 821.2  | 828.3  | 834.4  |
| 70°   | 771.3  | 744.8  | 720.3  | 713.2  | 704.0  |
| 72.5° | 660.2  | 635.8  | 619.5  | 580.8  | 565.5  |
| 75°   | 548.1  | 527.8  | 504.3  | 445.2  | 414.7  |
| 77.5° | 438.1  | 424.9  | 387.2  | 317.9  | 305.7  |
| 80°   | 326.0  | 319.9  | 263.9  | 258.8  | 257.8  |
| 82.5° | 222.1  | 218.0  | 200.7  | 186.5  | 183.4  |
| 85°   | 130.4  | 121.2  | 119.2  | 111.1  | 110.0  |
| 87.5° | 44.8   | 48.9   | 47.9   | 48.9   | 47.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)