

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: P238990

Luminaire Tested: **24EN-LD2-70-UNV-L935-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P238990  
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-LD2-70-UNV-L935-CD1-U  
Description: METALUX ENCOUNTER 2X4 LED TROFFER  
STANDARD OPTION  
Light Source: (308)3500K CCT, 90 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6046.8 lumens  
Efficiency: N/A  
Efficacy: 100.4 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

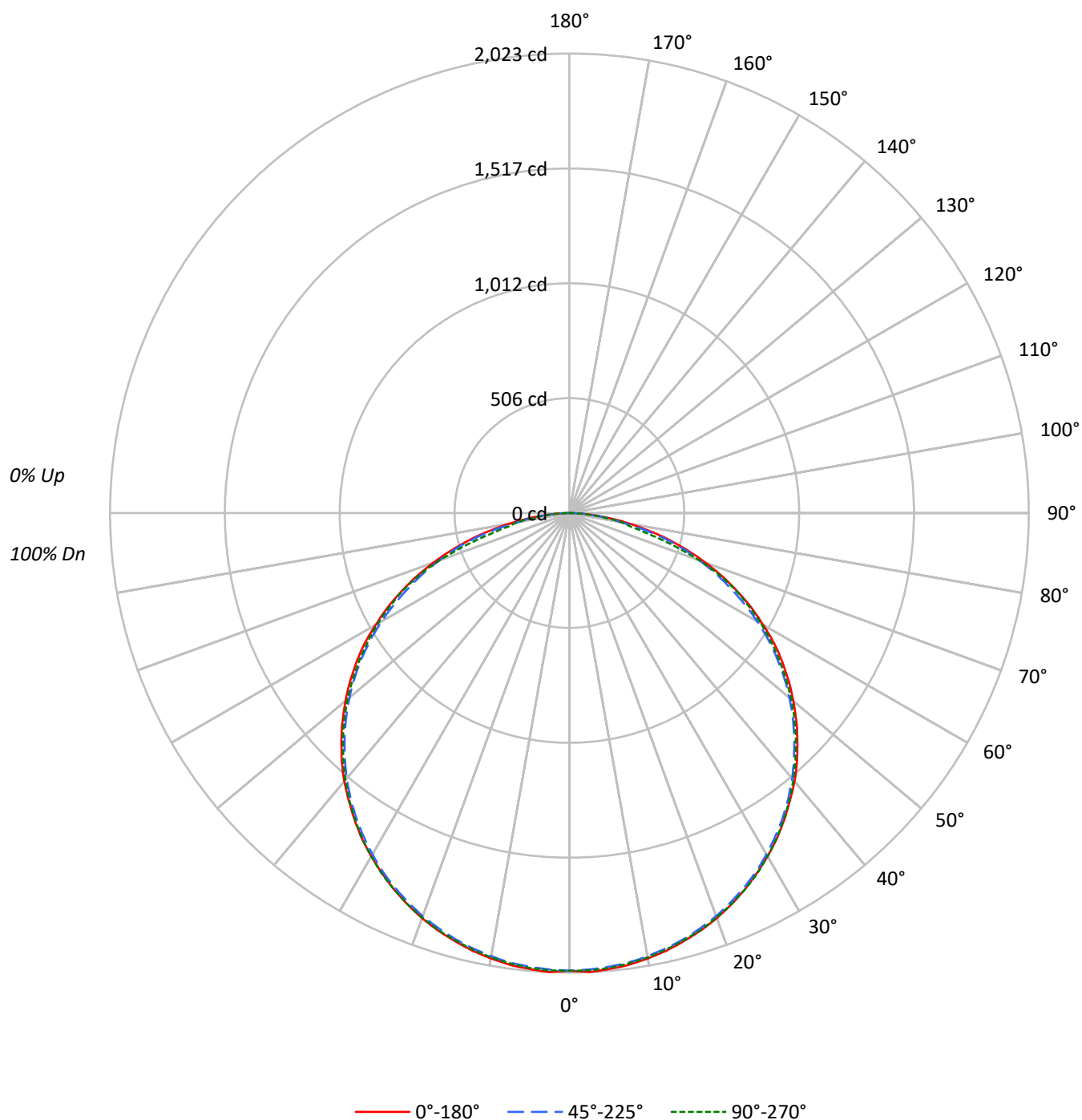
Input Watts (W): 60.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3087 | 3087 | 3087 |
| 5°  | 3098 | 3083 | 3090 |
| 10° | 3097 | 3081 | 3089 |
| 15° | 3093 | 3079 | 3087 |
| 20° | 3093 | 3079 | 3089 |
| 25° | 3090 | 3075 | 3090 |
| 30° | 3086 | 3068 | 3086 |
| 35° | 3083 | 3062 | 3078 |
| 40° | 3084 | 3051 | 3069 |
| 45° | 3076 | 3032 | 3054 |
| 50° | 3068 | 3014 | 3041 |
| 55° | 3057 | 2982 | 3013 |
| 60° | 3019 | 2926 | 2988 |
| 65° | 2958 | 2834 | 2940 |
| 70° | 2852 | 2733 | 2727 |
| 75° | 2684 | 2565 | 2168 |
| 80° | 2362 | 2006 | 2061 |
| 85° | 1865 | 1754 | 1620 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 190.9  | 3.2       |
| 10°-20°   | 548.9  | 9.1       |
| 20°-30°   | 840.0  | 13.9      |
| 30°-40°   | 1026.7 | 17.0      |
| 40°-50°   | 1085.0 | 17.9      |
| 50°-60°   | 1005.3 | 16.6      |
| 60°-70°   | 787.6  | 13.0      |
| 70°-80°   | 445.2  | 7.4       |
| 80°-90°   | 117.3  | 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°    | 1579.8 | 26.1      |
| 0°-40°    | 2606.5 | 43.1      |
| 0°-60°    | 4696.8 | 77.7      |
| 0°-90°    | 6046.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6046.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2015 | 2015  | 2015 | 2015  | 2015 |      |
| 5°  | 2015 | 2009  | 2005 | 2004  | 2010 | 192  |
| 15° | 1951 | 1943  | 1942 | 1941  | 1947 | 551  |
| 25° | 1828 | 1821  | 1819 | 1819  | 1828 | 843  |
| 35° | 1649 | 1641  | 1637 | 1637  | 1646 | 1032 |
| 45° | 1420 | 1410  | 1400 | 1400  | 1410 | 1096 |
| 55° | 1145 | 1132  | 1117 | 1119  | 1128 | 1022 |
| 65° | 816  | 801   | 782  | 792   | 811  | 807  |
| 75° | 454  | 441   | 433  | 387   | 366  | 477  |
| 85° | 106  | 100   | 100  | 95    | 92   | 125  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2015.2 | 2015.2 | 2015.2 | 2015.2 | 2015.2 |
| 2.5°  | 2022.7 | 2013.9 | 2011.4 | 2008.8 | 2015.2 |
| 5°    | 2015.2 | 2008.8 | 2005.0 | 2003.8 | 2010.1 |
| 7.5°  | 2006.3 | 1998.7 | 1996.2 | 1993.7 | 2000.0 |
| 10°   | 1991.1 | 1983.6 | 1981.0 | 1979.8 | 1986.1 |
| 12.5° | 1973.5 | 1964.6 | 1963.4 | 1962.1 | 1968.4 |
| 15°   | 1950.7 | 1943.1 | 1941.9 | 1940.6 | 1946.9 |
| 17.5° | 1926.7 | 1919.1 | 1916.6 | 1915.3 | 1924.2 |
| 20°   | 1897.7 | 1890.1 | 1888.8 | 1887.5 | 1895.1 |
| 22.5° | 1864.8 | 1857.2 | 1854.7 | 1856.0 | 1863.5 |
| 25°   | 1828.2 | 1820.6 | 1819.3 | 1819.3 | 1828.2 |
| 27.5° | 1787.7 | 1780.2 | 1780.2 | 1780.2 | 1790.3 |
| 30°   | 1744.8 | 1738.5 | 1734.7 | 1735.9 | 1744.8 |
| 32.5° | 1700.6 | 1690.5 | 1687.9 | 1689.2 | 1698.0 |
| 35°   | 1648.8 | 1641.2 | 1637.4 | 1637.4 | 1646.2 |
| 37.5° | 1595.7 | 1588.1 | 1583.1 | 1583.1 | 1591.9 |
| 40°   | 1542.6 | 1531.3 | 1526.2 | 1523.7 | 1535.1 |
| 42.5° | 1483.3 | 1474.4 | 1463.0 | 1463.0 | 1473.1 |
| 45°   | 1420.1 | 1410.0 | 1399.9 | 1399.9 | 1410.0 |
| 47.5° | 1355.6 | 1345.5 | 1334.2 | 1334.2 | 1344.3 |
| 50°   | 1287.4 | 1277.3 | 1264.7 | 1264.7 | 1276.1 |
| 52.5° | 1217.9 | 1206.6 | 1192.7 | 1191.4 | 1202.8 |
| 55°   | 1144.7 | 1132.0 | 1116.9 | 1119.4 | 1128.2 |
| 57.5° | 1070.1 | 1053.7 | 1038.5 | 1038.5 | 1052.4 |
| 60°   | 985.5  | 971.6  | 955.1  | 957.7  | 975.4  |
| 62.5° | 904.6  | 886.9  | 870.5  | 876.8  | 892.0  |
| 65°   | 816.2  | 801.0  | 782.1  | 792.2  | 811.1  |
| 67.5° | 729.0  | 712.6  | 697.4  | 710.0  | 718.9  |
| 70°   | 636.8  | 621.6  | 610.2  | 610.2  | 609.0  |
| 72.5° | 544.5  | 530.6  | 528.1  | 504.1  | 488.9  |
| 75°   | 453.6  | 440.9  | 433.4  | 386.6  | 366.4  |
| 77.5° | 358.8  | 355.0  | 331.0  | 281.7  | 275.4  |
| 80°   | 267.8  | 270.4  | 227.4  | 228.7  | 233.7  |
| 82.5° | 184.5  | 180.7  | 170.6  | 163.0  | 160.5  |
| 85°   | 106.1  | 99.8   | 99.8   | 94.8   | 92.2   |
| 87.5° | 35.4   | 39.2   | 39.2   | 39.2   | 40.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)