

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: P238939

Luminaire Tested: **24ENA-LD2-54-UNV-L840-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P238939  
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-LD2-54-UNV-L840-CD1-U  
Description: METALUX ENCOUNTER 2X4 LED TROFFER  
AIR-VENTED OPTION  
Light Source: (308)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5380.0 lumens  
Efficiency: N/A  
Efficacy: 125.1 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

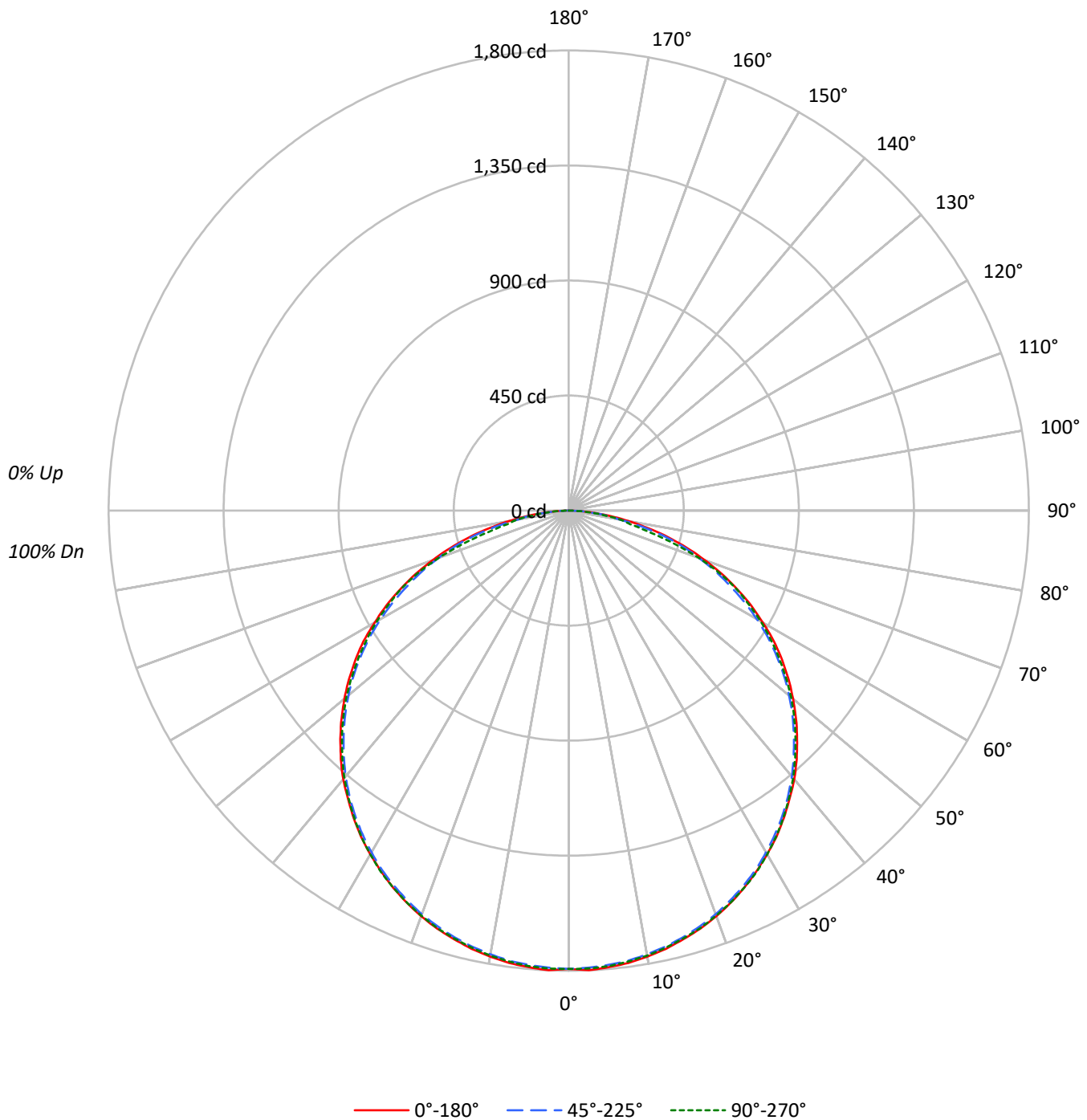
Input Watts (W): 43  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 3021 | 3021 | 3021 |
| 5°  | 3032 | 3017 | 3025 |
| 10° | 3031 | 3015 | 3023 |
| 15° | 3027 | 3014 | 3021 |
| 20° | 3027 | 3013 | 3023 |
| 25° | 3024 | 3009 | 3024 |
| 30° | 3020 | 3003 | 3020 |
| 35° | 3017 | 2996 | 3013 |
| 40° | 3019 | 2986 | 3004 |
| 45° | 3010 | 2968 | 2989 |
| 50° | 3002 | 2949 | 2976 |
| 55° | 2991 | 2919 | 2948 |
| 60° | 2954 | 2863 | 2924 |
| 65° | 2895 | 2774 | 2877 |
| 70° | 2791 | 2674 | 2669 |
| 75° | 2627 | 2510 | 2122 |
| 80° | 2312 | 1963 | 2018 |
| 85° | 1825 | 1717 | 1587 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 169.8  | 3.2       |
| 10°-20°   | 488.4  | 9.1       |
| 20°-30°   | 747.4  | 13.9      |
| 30°-40°   | 913.5  | 17.0      |
| 40°-50°   | 965.3  | 17.9      |
| 50°-60°   | 894.4  | 16.6      |
| 60°-70°   | 700.7  | 13.0      |
| 70°-80°   | 396.2  | 7.4       |
| 80°-90°   | 104.3  | 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°    | 1405.6 | 26.1      |
| 0°-40°    | 2319.1 | 43.1      |
| 0°-60°    | 4178.8 | 77.7      |
| 0°-90°    | 5380.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5380.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1793 | 1793  | 1793 | 1793  | 1793 |      |
| 5°  | 1793 | 1787  | 1784 | 1783  | 1788 | 171  |
| 15° | 1736 | 1729  | 1728 | 1727  | 1732 | 490  |
| 25° | 1627 | 1620  | 1619 | 1619  | 1627 | 750  |
| 35° | 1467 | 1460  | 1457 | 1457  | 1465 | 918  |
| 45° | 1264 | 1254  | 1246 | 1246  | 1254 | 975  |
| 55° | 1018 | 1007  | 994  | 996   | 1004 | 910  |
| 65° | 726  | 713   | 696  | 705   | 722  | 718  |
| 75° | 404  | 392   | 386  | 344   | 326  | 424  |
| 85° | 94   | 89    | 89   | 84    | 82   | 111  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1792.9 | 1792.9 | 1792.9 | 1792.9 | 1792.9 |
| 2.5°  | 1799.7 | 1791.8 | 1789.6 | 1787.3 | 1792.9 |
| 5°    | 1792.9 | 1787.3 | 1784.0 | 1782.8 | 1788.5 |
| 7.5°  | 1785.1 | 1778.3 | 1776.1 | 1773.8 | 1779.5 |
| 10°   | 1771.6 | 1764.8 | 1762.6 | 1761.5 | 1767.1 |
| 12.5° | 1755.9 | 1748.0 | 1746.9 | 1745.7 | 1751.4 |
| 15°   | 1735.6 | 1728.9 | 1727.8 | 1726.6 | 1732.2 |
| 17.5° | 1714.3 | 1707.5 | 1705.3 | 1704.1 | 1712.0 |
| 20°   | 1688.4 | 1681.7 | 1680.5 | 1679.4 | 1686.2 |
| 22.5° | 1659.2 | 1652.4 | 1650.2 | 1651.3 | 1658.1 |
| 25°   | 1626.6 | 1619.8 | 1618.7 | 1618.7 | 1626.6 |
| 27.5° | 1590.6 | 1583.9 | 1583.9 | 1583.9 | 1592.9 |
| 30°   | 1552.4 | 1546.8 | 1543.4 | 1544.5 | 1552.4 |
| 32.5° | 1513.0 | 1504.1 | 1501.8 | 1502.9 | 1510.8 |
| 35°   | 1467.0 | 1460.2 | 1456.8 | 1456.8 | 1464.7 |
| 37.5° | 1419.7 | 1413.0 | 1408.5 | 1408.5 | 1416.4 |
| 40°   | 1372.5 | 1362.4 | 1357.9 | 1355.7 | 1365.8 |
| 42.5° | 1319.7 | 1311.8 | 1301.7 | 1301.7 | 1310.7 |
| 45°   | 1263.5 | 1254.5 | 1245.5 | 1245.5 | 1254.5 |
| 47.5° | 1206.2 | 1197.2 | 1187.1 | 1187.1 | 1196.0 |
| 50°   | 1145.5 | 1136.5 | 1125.2 | 1125.2 | 1135.3 |
| 52.5° | 1083.6 | 1073.5 | 1061.2 | 1060.0 | 1070.1 |
| 55°   | 1018.4 | 1007.2 | 993.7  | 996.0  | 1003.8 |
| 57.5° | 952.1  | 937.5  | 924.0  | 924.0  | 936.4  |
| 60°   | 876.8  | 864.4  | 849.8  | 852.1  | 867.8  |
| 62.5° | 804.9  | 789.1  | 774.5  | 780.1  | 793.6  |
| 65°   | 726.2  | 712.7  | 695.8  | 704.8  | 721.7  |
| 67.5° | 648.6  | 634.0  | 620.5  | 631.7  | 639.6  |
| 70°   | 566.5  | 553.1  | 542.9  | 542.9  | 541.8  |
| 72.5° | 484.5  | 472.1  | 469.9  | 448.5  | 435.0  |
| 75°   | 403.6  | 392.3  | 385.6  | 344.0  | 326.0  |
| 77.5° | 319.2  | 315.9  | 294.5  | 250.7  | 245.1  |
| 80°   | 238.3  | 240.6  | 202.3  | 203.5  | 208.0  |
| 82.5° | 164.1  | 160.7  | 151.8  | 145.0  | 142.8  |
| 85°   | 94.4   | 88.8   | 88.8   | 84.3   | 82.1   |
| 87.5° | 31.5   | 34.8   | 34.8   | 34.8   | 36.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)