

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: P229895

Luminaire Tested: **24RLN-LD5-80-UNV-L940-CD1-SVPD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P229895  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P36062)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24RLN-LD5-80-UNV-L940-CD1-SVPD1-U  
Description: METALUX 2X4 RLN LED TROFFER WITH SENSOR  
Light Source: (252)4000K CCT, 90 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7030.0 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.31  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

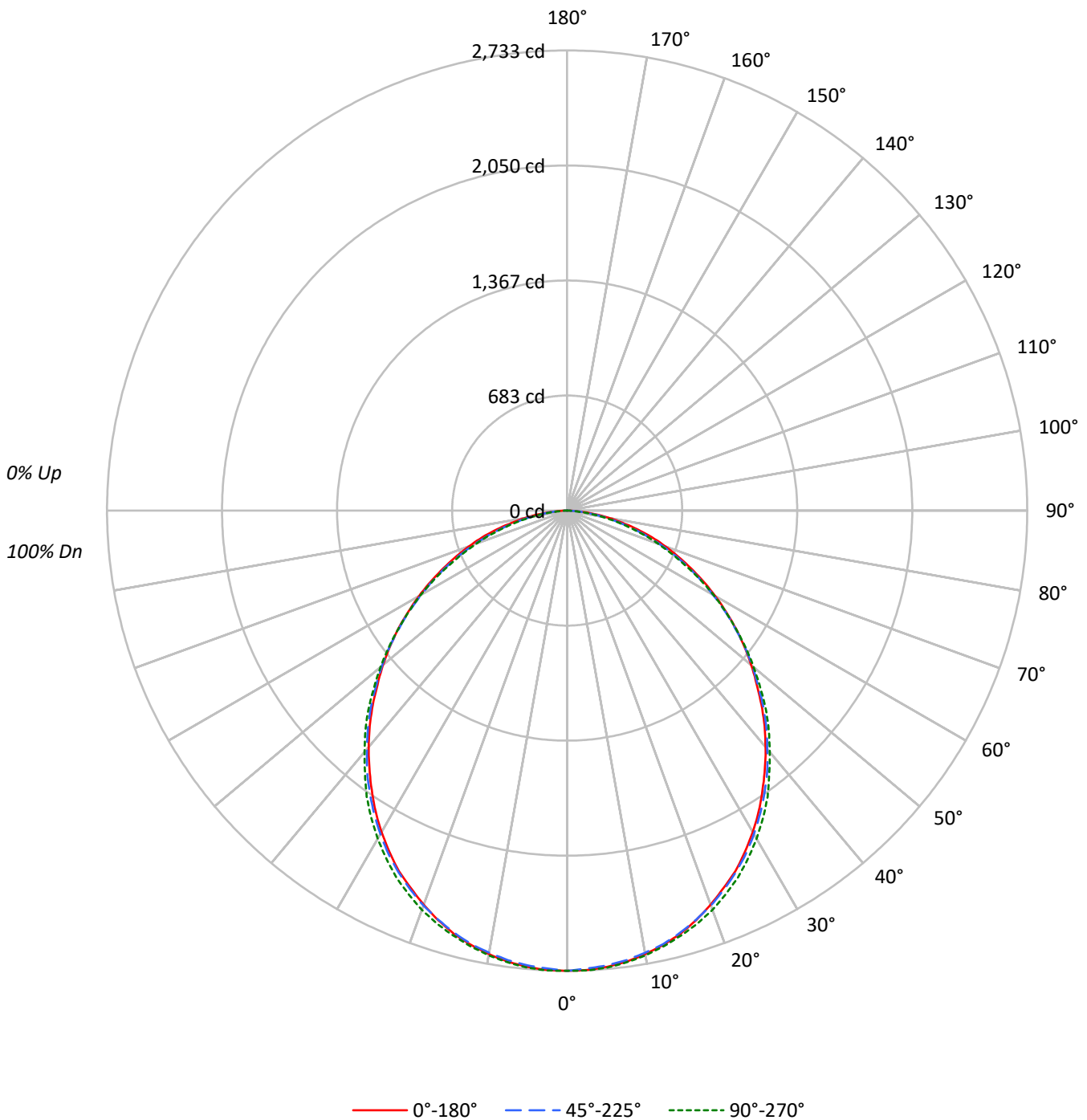
Input Watts (W): 67.45  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 105 | 101 | 97  | 107 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 89  | 91  | 89  | 87  | 85  |
| 2   | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  | 83  | 79  | 75  | 80  | 76  | 73  | 71  |
| 3   | 91  | 81  | 73  | 67  | 89  | 79  | 72  | 66  | 76  | 70  | 65  | 74  | 68  | 64  | 71  | 66  | 63  | 60  |
| 4   | 84  | 72  | 63  | 57  | 81  | 71  | 63  | 56  | 68  | 61  | 56  | 66  | 60  | 55  | 64  | 58  | 54  | 52  |
| 5   | 77  | 64  | 56  | 49  | 75  | 63  | 55  | 49  | 61  | 54  | 48  | 59  | 53  | 48  | 57  | 52  | 47  | 45  |
| 6   | 71  | 58  | 49  | 43  | 69  | 57  | 49  | 43  | 55  | 48  | 42  | 54  | 47  | 42  | 52  | 46  | 42  | 40  |
| 7   | 66  | 53  | 44  | 38  | 64  | 52  | 44  | 38  | 50  | 43  | 38  | 49  | 42  | 37  | 48  | 42  | 37  | 35  |
| 8   | 62  | 48  | 40  | 34  | 60  | 48  | 40  | 34  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 33  | 31  |
| 9   | 58  | 44  | 36  | 31  | 56  | 44  | 36  | 31  | 43  | 35  | 31  | 42  | 35  | 30  | 41  | 35  | 30  | 28  |
| 10  | 54  | 41  | 33  | 28  | 53  | 40  | 33  | 28  | 39  | 33  | 28  | 39  | 32  | 28  | 38  | 32  | 28  | 26  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4187 | 4187 | 4187 |
| 5°  | 4182 | 4168 | 4189 |
| 10° | 4161 | 4147 | 4171 |
| 15° | 4125 | 4114 | 4143 |
| 20° | 4061 | 4069 | 4112 |
| 25° | 3995 | 4006 | 4060 |
| 30° | 3900 | 3924 | 3979 |
| 35° | 3784 | 3822 | 3880 |
| 40° | 3666 | 3697 | 3742 |
| 45° | 3535 | 3569 | 3617 |
| 50° | 3403 | 3419 | 3446 |
| 55° | 3270 | 3252 | 3264 |
| 60° | 3114 | 3065 | 3079 |
| 65° | 2937 | 2872 | 2824 |
| 70° | 2777 | 2627 | 2567 |
| 75° | 2557 | 2332 | 2252 |
| 80° | 2251 | 1975 | 1856 |
| 85° | 1770 | 1378 | 1023 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 258.0  | 3.7       |
| 10°-20°   | 733.5  | 10.4      |
| 20°-30°   | 1093.4 | 15.6      |
| 30°-40°   | 1278.2 | 18.2      |
| 40°-50°   | 1269.3 | 18.1      |
| 50°-60°   | 1090.0 | 15.5      |
| 60°-70°   | 785.2  | 11.2      |
| 70°-80°   | 422.8  | 6.0       |
| 80°-90°   | 99.7   | 1.4       |
| 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°    | 2084.9 | 29.7      |
| 0°-40°    | 3363.1 | 47.8      |
| 0°-60°    | 5722.4 | 81.4      |
| 0°-90°    | 7030.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7030.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2733 | 2733  | 2733 | 2733  | 2733 |      |
| 5°  | 2720 | 2718  | 2711 | 2720  | 2724 | 258  |
| 15° | 2601 | 2595  | 2595 | 2610  | 2612 | 733  |
| 25° | 2364 | 2355  | 2371 | 2395  | 2402 | 1087 |
| 35° | 2024 | 2022  | 2044 | 2066  | 2075 | 1266 |
| 45° | 1632 | 1628  | 1648 | 1661  | 1670 | 1259 |
| 55° | 1224 | 1213  | 1218 | 1224  | 1222 | 1094 |
| 65° | 810  | 797   | 792  | 786   | 779  | 805  |
| 75° | 432  | 405   | 394  | 383   | 381  | 458  |
| 85° | 101  | 92    | 78   | 63    | 58   | 121  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2733.4 | 2733.4 | 2733.4 | 2733.4 | 2733.4 |
| 2.5°  | 2731.2 | 2728.9 | 2722.2 | 2731.2 | 2733.4 |
| 5°    | 2720.0 | 2717.7 | 2711.0 | 2720.0 | 2724.4 |
| 7.5°  | 2702.1 | 2697.6 | 2693.1 | 2702.1 | 2706.5 |
| 10°   | 2675.2 | 2670.7 | 2666.2 | 2677.4 | 2681.9 |
| 12.5° | 2641.6 | 2637.1 | 2637.1 | 2646.1 | 2650.6 |
| 15°   | 2601.3 | 2594.6 | 2594.6 | 2610.3 | 2612.5 |
| 17.5° | 2549.8 | 2545.4 | 2547.6 | 2565.5 | 2572.2 |
| 20°   | 2491.6 | 2489.4 | 2496.1 | 2516.3 | 2523.0 |
| 22.5° | 2426.7 | 2424.5 | 2435.7 | 2460.3 | 2464.8 |
| 25°   | 2364.0 | 2355.1 | 2370.7 | 2395.4 | 2402.1 |
| 27.5° | 2285.7 | 2279.0 | 2299.1 | 2321.5 | 2328.2 |
| 30°   | 2205.1 | 2198.4 | 2218.5 | 2243.1 | 2249.9 |
| 32.5° | 2117.8 | 2113.3 | 2133.4 | 2158.1 | 2164.8 |
| 35°   | 2023.7 | 2021.5 | 2043.9 | 2066.3 | 2075.2 |
| 37.5° | 1929.7 | 1927.5 | 1952.1 | 1970.0 | 1972.3 |
| 40°   | 1833.5 | 1829.0 | 1849.1 | 1869.3 | 1871.5 |
| 42.5° | 1735.0 | 1728.2 | 1750.6 | 1766.3 | 1773.0 |
| 45°   | 1632.0 | 1627.5 | 1647.7 | 1661.1 | 1670.0 |
| 47.5° | 1526.8 | 1526.8 | 1538.0 | 1553.6 | 1555.9 |
| 50°   | 1428.3 | 1421.5 | 1435.0 | 1443.9 | 1446.2 |
| 52.5° | 1325.3 | 1318.6 | 1329.8 | 1332.0 | 1336.5 |
| 55°   | 1224.5 | 1213.4 | 1217.8 | 1224.5 | 1222.3 |
| 57.5° | 1119.3 | 1101.4 | 1110.4 | 1110.4 | 1114.9 |
| 60°   | 1016.4 | 1000.7 | 1000.7 | 1000.7 | 1005.2 |
| 62.5° | 913.4  | 897.7  | 897.7  | 895.5  | 893.2  |
| 65°   | 810.4  | 797.0  | 792.5  | 785.8  | 779.1  |
| 67.5° | 711.9  | 696.2  | 687.3  | 678.3  | 671.6  |
| 70°   | 620.1  | 593.2  | 586.5  | 573.1  | 573.1  |
| 72.5° | 528.3  | 501.5  | 488.0  | 479.1  | 476.8  |
| 75°   | 432.1  | 405.2  | 394.0  | 382.8  | 380.6  |
| 77.5° | 338.0  | 320.1  | 302.2  | 293.3  | 288.8  |
| 80°   | 255.2  | 239.5  | 223.9  | 208.2  | 210.4  |
| 82.5° | 174.6  | 158.9  | 147.8  | 134.3  | 129.8  |
| 85°   | 100.7  | 91.8   | 78.4   | 62.7   | 58.2   |
| 87.5° | 42.5   | 31.3   | 22.4   | 22.4   | 22.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)