

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: P229919

Luminaire Tested: **24RLN-LD5-45-RDP-UNV-L840-CD1-SVPD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P229919  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1707-178-7)  
Test Lab: INNOVATION CENTER-G3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24RLN-LD5-45-RDP-UNV-L840-CD1-SVPD1-U  
Description: METALUX 2X4 RLN LED TROFFER WITH SENSOR AND RDP LENS  
Light Source: (252)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3724.0 lumens  
Efficiency: N/A  
Efficacy: 109.5 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.31 / 1.38  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

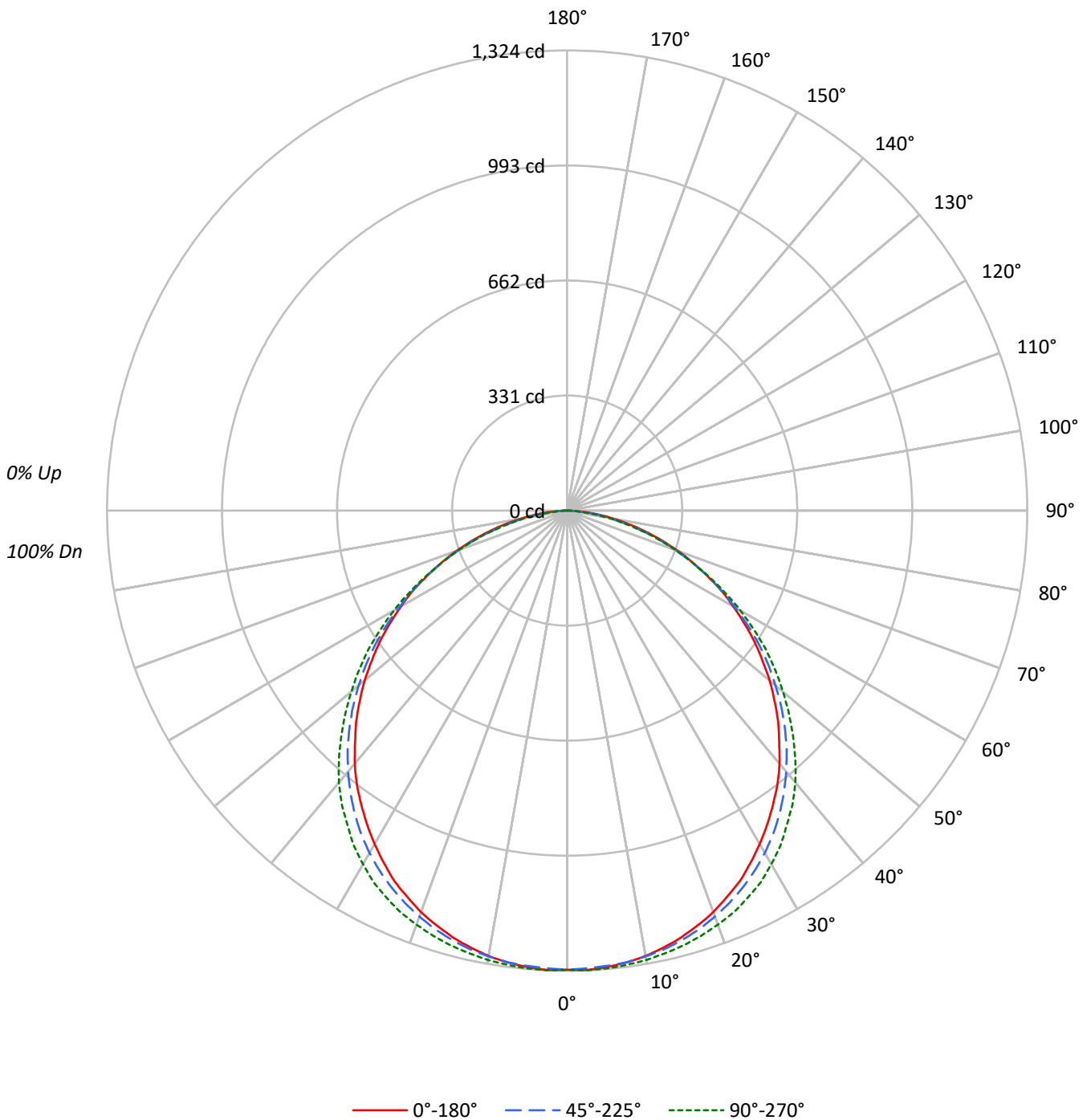
Input Watts (W): 34  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84  |
| 2   | 99  | 91  | 84  | 79  | 97  | 89  | 83  | 78  | 86  | 80  | 76  | 82  | 78  | 74  | 79  | 76  | 73  | 70  |
| 3   | 91  | 80  | 72  | 66  | 88  | 78  | 71  | 65  | 76  | 69  | 64  | 73  | 67  | 63  | 70  | 66  | 62  | 59  |
| 4   | 83  | 71  | 62  | 56  | 81  | 70  | 61  | 55  | 67  | 60  | 54  | 65  | 59  | 54  | 63  | 57  | 53  | 51  |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 48  | 60  | 53  | 47  | 58  | 52  | 47  | 56  | 51  | 46  | 44  |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 42  | 54  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 38  |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 49  | 42  | 36  | 48  | 41  | 36  | 47  | 41  | 36  | 34  |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 38  | 33  | 45  | 38  | 33  | 44  | 37  | 32  | 43  | 37  | 32  | 30  |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 29  | 27  |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 27  | 38  | 31  | 27  | 38  | 31  | 27  | 37  | 31  | 26  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2024 | 2024 | 2024 |
| 5°  | 2027 | 2022 | 2033 |
| 10° | 2024 | 2026 | 2042 |
| 15° | 2015 | 2027 | 2053 |
| 20° | 2004 | 2026 | 2066 |
| 25° | 1988 | 2022 | 2077 |
| 30° | 1959 | 2011 | 2077 |
| 35° | 1931 | 1992 | 2061 |
| 40° | 1901 | 1960 | 2043 |
| 45° | 1860 | 1919 | 1991 |
| 50° | 1813 | 1865 | 1931 |
| 55° | 1758 | 1801 | 1866 |
| 60° | 1691 | 1712 | 1764 |
| 65° | 1612 | 1612 | 1629 |
| 70° | 1516 | 1488 | 1485 |
| 75° | 1383 | 1300 | 1295 |
| 80° | 1205 | 1082 | 1034 |
| 85° | 954  | 750  | 587  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 125.4  | 3.4       |
| 10°-20°   | 361.7  | 9.7       |
| 20°-30°   | 552.6  | 14.8      |
| 30°-40°   | 666.6  | 17.9      |
| 40°-50°   | 683.3  | 18.3      |
| 50°-60°   | 602.0  | 16.2      |
| 60°-70°   | 440.6  | 11.8      |
| 70°-80°   | 236.8  | 6.4       |
| 80°-90°   | 55.1   | 1.5       |
| 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°    | 1039.6 | 27.9      |
| 0°-40°    | 1706.2 | 45.8      |
| 0°-60°    | 2991.5 | 80.3      |
| 0°-90°    | 3724.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3724.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1321 | 1321  | 1321 | 1321  | 1321 |      |
| 5°  | 1318 | 1317  | 1315 | 1319  | 1322 | 125  |
| 15° | 1271 | 1272  | 1279 | 1289  | 1295 | 359  |
| 25° | 1176 | 1179  | 1196 | 1220  | 1229 | 541  |
| 35° | 1032 | 1038  | 1065 | 1095  | 1102 | 646  |
| 45° | 859  | 858   | 886  | 911   | 919  | 661  |
| 55° | 658  | 654   | 675  | 690   | 699  | 588  |
| 65° | 445  | 437   | 445  | 450   | 450  | 441  |
| 75° | 234  | 223   | 220  | 220   | 219  | 248  |
| 85° | 54   | 48    | 43   | 35    | 33   | 65   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1321.3 | 1321.3 | 1321.3 | 1321.3 | 1321.3 |
| 2.5°  | 1322.9 | 1320.6 | 1318.2 | 1320.6 | 1323.7 |
| 5°    | 1318.2 | 1316.7 | 1315.1 | 1319.0 | 1322.1 |
| 7.5°  | 1311.2 | 1309.7 | 1310.5 | 1315.9 | 1318.2 |
| 10°   | 1301.2 | 1301.2 | 1302.7 | 1308.9 | 1312.8 |
| 12.5° | 1287.2 | 1288.0 | 1292.6 | 1300.4 | 1304.3 |
| 15°   | 1270.9 | 1272.4 | 1278.6 | 1288.7 | 1294.9 |
| 17.5° | 1250.7 | 1254.6 | 1263.1 | 1275.5 | 1282.5 |
| 20°   | 1229.7 | 1232.1 | 1242.9 | 1260.8 | 1267.8 |
| 22.5° | 1202.6 | 1207.2 | 1221.2 | 1242.1 | 1251.5 |
| 25°   | 1176.2 | 1179.3 | 1196.3 | 1219.6 | 1229.0 |
| 27.5° | 1142.8 | 1147.4 | 1168.4 | 1195.6 | 1205.7 |
| 30°   | 1107.8 | 1113.3 | 1137.3 | 1163.7 | 1174.6 |
| 32.5° | 1071.4 | 1078.3 | 1103.2 | 1131.1 | 1142.8 |
| 35°   | 1032.5 | 1038.0 | 1065.1 | 1094.6 | 1102.4 |
| 37.5° | 993.7  | 995.3  | 1024.0 | 1052.7 | 1065.1 |
| 40°   | 951.0  | 952.6  | 980.5  | 1007.7 | 1021.7 |
| 42.5° | 902.9  | 907.5  | 934.7  | 961.1  | 972.0  |
| 45°   | 858.6  | 857.9  | 885.8  | 911.4  | 919.2  |
| 47.5° | 808.9  | 810.5  | 836.1  | 861.0  | 865.6  |
| 50°   | 760.8  | 760.0  | 782.6  | 804.3  | 810.5  |
| 52.5° | 708.0  | 707.2  | 729.8  | 747.6  | 755.4  |
| 55°   | 658.3  | 654.5  | 674.6  | 690.2  | 698.7  |
| 57.5° | 604.8  | 599.3  | 617.2  | 632.7  | 636.6  |
| 60°   | 552.0  | 545.8  | 559.0  | 570.6  | 576.0  |
| 62.5° | 501.5  | 493.8  | 502.3  | 512.4  | 513.2  |
| 65°   | 444.8  | 437.1  | 444.8  | 450.3  | 449.5  |
| 67.5° | 391.3  | 382.7  | 386.6  | 388.9  | 388.2  |
| 70°   | 338.5  | 326.8  | 332.3  | 330.7  | 331.5  |
| 72.5° | 285.7  | 276.4  | 275.6  | 273.3  | 275.6  |
| 75°   | 233.7  | 222.8  | 219.7  | 219.7  | 218.9  |
| 77.5° | 184.0  | 173.1  | 170.0  | 168.5  | 166.1  |
| 80°   | 136.6  | 128.1  | 122.7  | 121.9  | 117.2  |
| 82.5° | 96.3   | 85.4   | 83.8   | 76.9   | 72.2   |
| 85°   | 54.3   | 48.1   | 42.7   | 34.9   | 33.4   |
| 87.5° | 20.2   | 17.9   | 14.0   | 13.2   | 12.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)