

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: P475706

Luminaire Tested: **24GR-LD5-56-A-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475706  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24GR-LD5-56-A-UNV-L830-CD1-U  
Description: GR 2'X4' LED TROFFER w/ A LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5329.9 lumens  
Efficiency: N/A  
Efficacy: 135.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.21 / 1.28  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

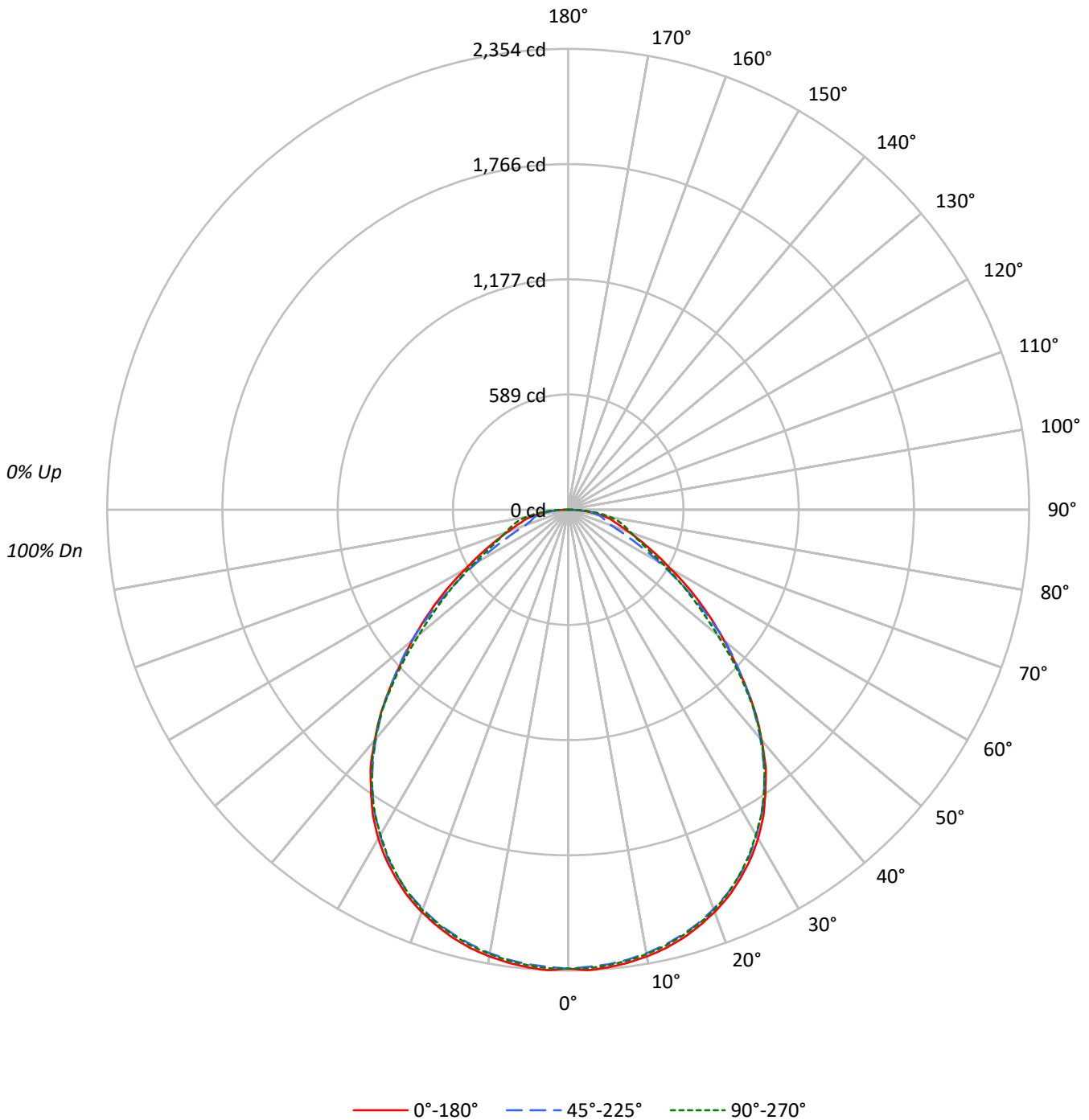
Input Watts (W): 39.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 110 | 105 | 102 | 98  | 107 | 103 | 100 | 96  | 99  | 96  | 93  | 95  | 93  | 91  | 92  | 90  | 88  | 86  |
| 2   | 101 | 93  | 87  | 82  | 98  | 92  | 86  | 81  | 88  | 83  | 79  | 85  | 81  | 77  | 82  | 79  | 76  | 74  |
| 3   | 93  | 83  | 76  | 70  | 90  | 82  | 75  | 69  | 79  | 73  | 68  | 76  | 71  | 67  | 74  | 69  | 66  | 64  |
| 4   | 86  | 75  | 66  | 60  | 83  | 73  | 66  | 60  | 71  | 64  | 59  | 69  | 63  | 58  | 66  | 62  | 58  | 56  |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 52  | 64  | 57  | 52  | 62  | 56  | 51  | 60  | 55  | 51  | 49  |
| 6   | 74  | 61  | 53  | 47  | 72  | 60  | 52  | 46  | 58  | 51  | 46  | 57  | 50  | 46  | 55  | 50  | 45  | 43  |
| 7   | 68  | 56  | 47  | 42  | 67  | 55  | 47  | 42  | 53  | 46  | 41  | 52  | 46  | 41  | 51  | 45  | 41  | 39  |
| 8   | 64  | 51  | 43  | 38  | 62  | 50  | 43  | 37  | 49  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 35  |
| 9   | 60  | 47  | 39  | 34  | 59  | 47  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 43  | 38  | 33  | 32  |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  | 42  | 35  | 31  | 41  | 35  | 31  | 40  | 35  | 31  | 29  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3154 | 3154 | 3154 |
| 5°  | 3170 | 3149 | 3156 |
| 10° | 3165 | 3143 | 3150 |
| 15° | 3156 | 3131 | 3138 |
| 20° | 3131 | 3109 | 3117 |
| 25° | 3088 | 3065 | 3063 |
| 30° | 3013 | 2985 | 2978 |
| 35° | 2883 | 2865 | 2865 |
| 40° | 2698 | 2682 | 2693 |
| 45° | 2449 | 2445 | 2426 |
| 50° | 2173 | 2189 | 2082 |
| 55° | 1909 | 1826 | 1783 |
| 60° | 1625 | 1442 | 1517 |
| 65° | 1420 | 1121 | 1338 |
| 70° | 1284 | 923  | 1336 |
| 75° | 1285 | 985  | 1493 |
| 80° | 1415 | 1212 | 1708 |
| 85° | 1459 | 1362 | 1863 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 222.0  | 4.2       |
| 10°-20°   | 635.5  | 11.9      |
| 20°-30°   | 950.7  | 17.8      |
| 30°-40°   | 1087.9 | 20.4      |
| 40°-50°   | 985.7  | 18.5      |
| 50°-60°   | 697.8  | 13.1      |
| 60°-70°   | 403.1  | 7.6       |
| 70°-80°   | 244.4  | 4.6       |
| 80°-90°   | 102.9  | 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°    | 1808.2 | 33.9      |
| 0°-40°    | 2896.1 | 54.3      |
| 0°-60°    | 4579.6 | 85.9      |
| 0°-90°    | 5329.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5329.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2344 | 2344  | 2344 | 2344  | 2344 |      |
| 5°  | 2347 | 2338  | 2331 | 2331  | 2336 | 223  |
| 15° | 2266 | 2257  | 2248 | 2248  | 2253 | 639  |
| 25° | 2080 | 2071  | 2065 | 2063  | 2063 | 957  |
| 35° | 1756 | 1748  | 1744 | 1742  | 1744 | 1095 |
| 45° | 1287 | 1285  | 1285 | 1276  | 1275 | 992  |
| 55° | 814  | 787   | 778  | 755   | 760  | 729  |
| 65° | 446  | 400   | 352  | 403   | 420  | 448  |
| 75° | 247  | 222   | 190  | 244   | 287  | 265  |
| 85° | 94   | 85    | 88   | 113   | 121  | 102  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2344.3 | 2344.3 | 2344.3 | 2344.3 | 2344.3 |
| 2.5°  | 2354.3 | 2345.3 | 2337.5 | 2338.5 | 2344.3 |
| 5°    | 2346.9 | 2338.5 | 2331.2 | 2330.6 | 2336.4 |
| 7.5°  | 2334.3 | 2327.0 | 2318.6 | 2318.6 | 2323.3 |
| 10°   | 2316.5 | 2309.1 | 2300.7 | 2300.2 | 2305.4 |
| 12.5° | 2295.5 | 2286.0 | 2277.1 | 2277.1 | 2282.9 |
| 15°   | 2265.6 | 2256.6 | 2247.7 | 2247.7 | 2253.0 |
| 17.5° | 2228.8 | 2221.0 | 2213.6 | 2214.1 | 2218.3 |
| 20°   | 2186.8 | 2179.0 | 2171.1 | 2172.1 | 2176.9 |
| 22.5° | 2138.6 | 2129.1 | 2122.8 | 2122.3 | 2125.4 |
| 25°   | 2079.8 | 2071.4 | 2064.6 | 2063.0 | 2063.0 |
| 27.5° | 2014.2 | 2005.3 | 2000.5 | 1993.2 | 1995.3 |
| 30°   | 1939.1 | 1929.7 | 1921.3 | 1917.1 | 1916.6 |
| 32.5° | 1854.6 | 1845.2 | 1837.8 | 1837.3 | 1839.4 |
| 35°   | 1755.5 | 1747.6 | 1744.4 | 1741.8 | 1744.4 |
| 37.5° | 1657.3 | 1642.6 | 1640.0 | 1639.5 | 1646.3 |
| 40°   | 1536.1 | 1530.8 | 1527.2 | 1524.5 | 1533.5 |
| 42.5° | 1419.6 | 1409.1 | 1410.1 | 1400.2 | 1415.9 |
| 45°   | 1287.3 | 1284.7 | 1285.2 | 1275.8 | 1274.7 |
| 47.5° | 1156.1 | 1155.6 | 1163.5 | 1137.2 | 1135.7 |
| 50°   | 1038.1 | 1032.8 | 1045.9 | 1005.5 | 994.5  |
| 52.5° | 925.2  | 910.5  | 906.3  | 869.6  | 869.6  |
| 55°   | 814.0  | 786.7  | 778.3  | 755.2  | 759.9  |
| 57.5° | 708.5  | 669.6  | 652.3  | 651.8  | 659.7  |
| 60°   | 604.0  | 560.0  | 535.8  | 554.7  | 563.6  |
| 62.5° | 521.1  | 472.8  | 436.1  | 471.8  | 480.2  |
| 65°   | 446.1  | 399.9  | 352.1  | 403.0  | 420.4  |
| 67.5° | 381.5  | 343.2  | 283.4  | 350.0  | 373.1  |
| 70°   | 326.4  | 292.3  | 234.6  | 308.6  | 339.5  |
| 72.5° | 282.9  | 254.5  | 204.1  | 275.5  | 312.8  |
| 75°   | 247.2  | 221.5  | 189.5  | 243.5  | 287.1  |
| 77.5° | 218.8  | 188.4  | 177.4  | 213.1  | 257.7  |
| 80°   | 182.6  | 154.8  | 156.4  | 183.2  | 220.4  |
| 82.5° | 140.6  | 119.7  | 126.0  | 151.7  | 173.2  |
| 85°   | 94.5   | 85.0   | 88.2   | 112.8  | 120.7  |
| 87.5° | 46.7   | 45.1   | 48.3   | 66.1   | 66.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)