

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: P293145

Luminaire Tested: **24GR-LD5-72-F1-UNV-L92765-W2A1-U-3500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P293145  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-12)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24GR-LD5-72-F1-UNV-L92765-W2A1-U-3500K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH F1 LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6186.0 lumens  
Efficiency: N/A  
Efficacy: 117.5 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.18 / 1.25  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

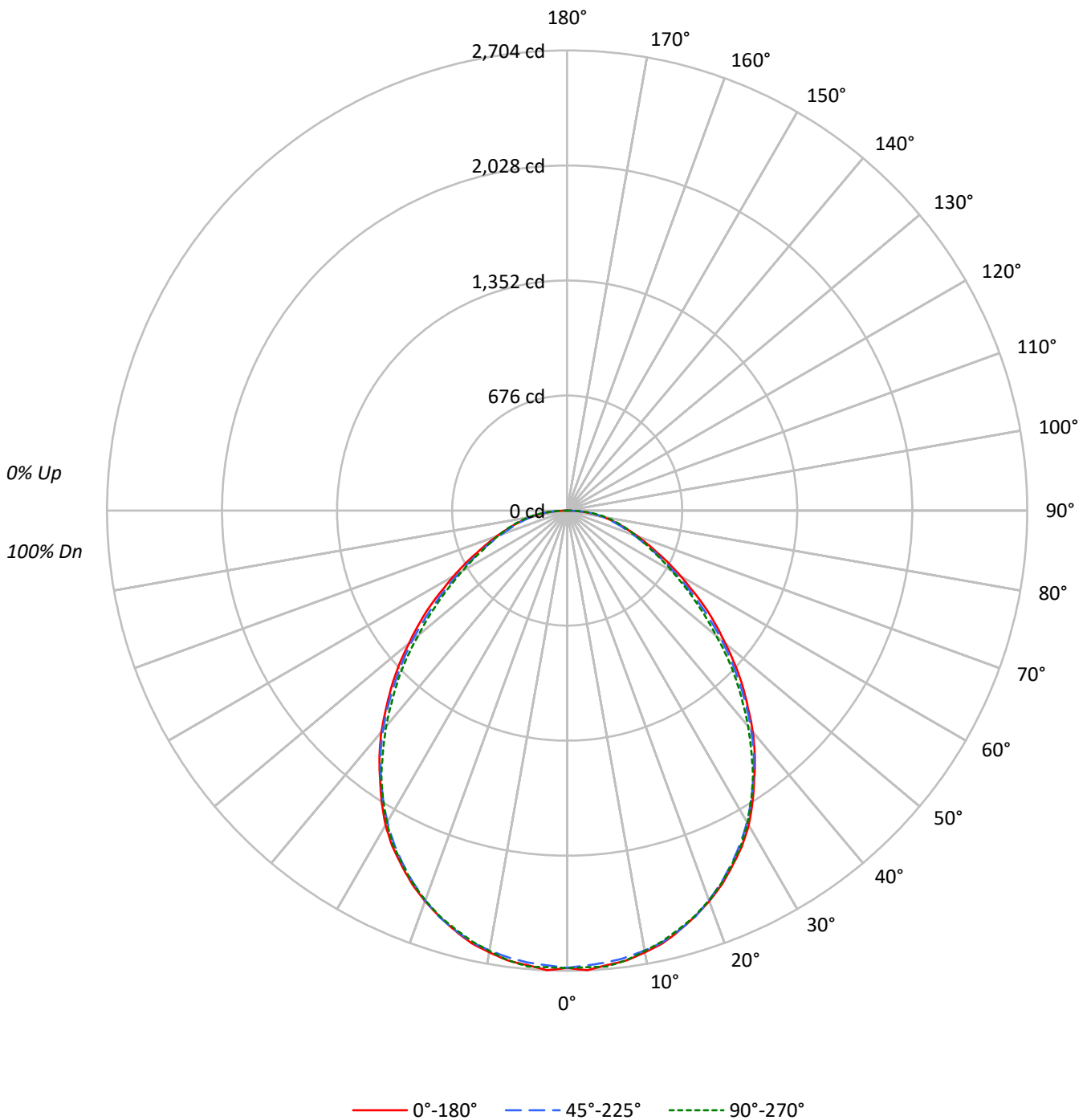
Input Watts (W): 52.638  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 109 | 105 | 101 | 97  | 107 | 103 | 99  | 96  | 98  | 95  | 93  | 95  | 92  | 90  | 91  | 89  | 87  | 85  |    |    |    |    | 85  |   |  |   |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  | 84  | 80  | 76  | 81  | 78  | 75  | 72  |    |    |    |    | 72  |   |  |   |
| 3   | 92  | 82  | 74  | 68  | 90  | 81  | 73  | 68  | 78  | 72  | 67  | 75  | 70  | 65  | 72  | 68  | 64  | 62  |    |    |    |    | 62  |   |  |   |
| 4   | 85  | 73  | 65  | 59  | 83  | 72  | 64  | 58  | 70  | 63  | 58  | 67  | 62  | 57  | 65  | 60  | 56  | 54  |    |    |    |    | 54  |   |  |   |
| 5   | 78  | 66  | 58  | 51  | 76  | 65  | 57  | 51  | 63  | 56  | 50  | 61  | 55  | 50  | 59  | 54  | 49  | 47  |    |    |    |    | 47  |   |  |   |
| 6   | 73  | 60  | 51  | 45  | 71  | 59  | 51  | 45  | 57  | 50  | 45  | 56  | 49  | 44  | 54  | 48  | 44  | 42  |    |    |    |    | 42  |   |  |   |
| 7   | 68  | 55  | 46  | 40  | 66  | 54  | 46  | 40  | 52  | 45  | 40  | 51  | 44  | 40  | 50  | 44  | 39  | 37  |    |    |    |    | 37  |   |  |   |
| 8   | 63  | 50  | 42  | 36  | 62  | 49  | 42  | 36  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 36  | 34  |    |    |    |    | 34  |   |  |   |
| 9   | 59  | 46  | 38  | 33  | 58  | 46  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 32  | 42  | 37  | 32  | 31  |    |    |    |    | 31  |   |  |   |
| 10  | 56  | 43  | 35  | 30  | 54  | 42  | 35  | 30  | 41  | 34  | 30  | 40  | 34  | 30  | 39  | 34  | 30  | 28  |    |    |    |    | 28  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3615 | 3615 | 3615 |
| 5°  | 3621 | 3600 | 3631 |
| 10° | 3601 | 3586 | 3589 |
| 15° | 3556 | 3553 | 3544 |
| 20° | 3497 | 3489 | 3489 |
| 25° | 3415 | 3396 | 3404 |
| 30° | 3316 | 3283 | 3293 |
| 35° | 3150 | 3135 | 3127 |
| 40° | 2983 | 2956 | 2904 |
| 45° | 2773 | 2724 | 2671 |
| 50° | 2540 | 2484 | 2390 |
| 55° | 2320 | 2215 | 2140 |
| 60° | 2067 | 1967 | 1916 |
| 65° | 1861 | 1763 | 1739 |
| 70° | 1727 | 1621 | 1686 |
| 75° | 1652 | 1579 | 1711 |
| 80° | 1651 | 1651 | 1829 |
| 85° | 1714 | 1734 | 1930 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 253.8  | 4.1       |
| 10°-20°   | 718.1  | 11.6      |
| 20°-30°   | 1054.0 | 17.0      |
| 30°-40°   | 1191.6 | 19.3      |
| 40°-50°   | 1101.3 | 17.8      |
| 50°-60°   | 848.5  | 13.7      |
| 60°-70°   | 561.8  | 9.1       |
| 70°-80°   | 334.5  | 5.4       |
| 80°-90°   | 122.5  | 2.0       |
| 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°    | 2025.9 | 32.7      |
| 0°-40°    | 3217.4 | 52.0      |
| 0°-60°    | 5167.2 | 83.5      |
| 0°-90°    | 6186.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6186.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2687 | 2687  | 2687 | 2687  | 2687 |      |
| 5°  | 2681 | 2681  | 2665 | 2667  | 2688 | 255  |
| 15° | 2553 | 2548  | 2550 | 2549  | 2544 | 720  |
| 25° | 2300 | 2294  | 2288 | 2285  | 2293 | 1059 |
| 35° | 1918 | 1915  | 1909 | 1900  | 1904 | 1200 |
| 45° | 1457 | 1447  | 1432 | 1406  | 1404 | 1122 |
| 55° | 989  | 968   | 944  | 919   | 912  | 882  |
| 65° | 584  | 575   | 554  | 549   | 546  | 586  |
| 75° | 318  | 310   | 304  | 318   | 329  | 339  |
| 85° | 111  | 105   | 112  | 124   | 125  | 118  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2687.1 | 2687.1 | 2687.1 | 2687.1 | 2687.1 |
| 2.5°  | 2703.6 | 2689.6 | 2674.3 | 2674.3 | 2685.8 |
| 5°    | 2680.7 | 2680.7 | 2665.4 | 2666.6 | 2688.3 |
| 7.5°  | 2666.6 | 2659.0 | 2648.8 | 2648.8 | 2665.4 |
| 10°   | 2636.0 | 2629.6 | 2624.5 | 2622.0 | 2627.1 |
| 12.5° | 2602.8 | 2592.6 | 2596.5 | 2592.6 | 2591.4 |
| 15°   | 2553.1 | 2548.0 | 2550.5 | 2549.3 | 2544.2 |
| 17.5° | 2499.5 | 2496.9 | 2502.0 | 2493.1 | 2496.9 |
| 20°   | 2442.1 | 2434.4 | 2437.0 | 2431.9 | 2437.0 |
| 22.5° | 2377.0 | 2371.9 | 2365.5 | 2359.1 | 2369.4 |
| 25°   | 2300.5 | 2294.1 | 2287.7 | 2285.1 | 2292.8 |
| 27.5° | 2223.9 | 2213.7 | 2204.8 | 2202.2 | 2213.7 |
| 30°   | 2134.6 | 2123.1 | 2112.9 | 2110.3 | 2119.3 |
| 32.5° | 2028.7 | 2026.1 | 2013.4 | 2008.3 | 2012.1 |
| 35°   | 1917.7 | 1915.1 | 1908.8 | 1899.8 | 1903.6 |
| 37.5° | 1811.8 | 1810.5 | 1801.6 | 1786.3 | 1776.1 |
| 40°   | 1698.2 | 1689.3 | 1682.9 | 1661.2 | 1653.6 |
| 42.5° | 1573.2 | 1570.6 | 1559.2 | 1534.9 | 1526.0 |
| 45°   | 1457.1 | 1446.9 | 1431.6 | 1406.0 | 1403.5 |
| 47.5° | 1337.1 | 1323.1 | 1309.1 | 1277.2 | 1275.9 |
| 50°   | 1213.4 | 1203.2 | 1186.6 | 1154.7 | 1141.9 |
| 52.5° | 1098.6 | 1084.5 | 1061.6 | 1030.9 | 1024.6 |
| 55°   | 988.8  | 968.4  | 944.2  | 918.7  | 912.3  |
| 57.5° | 871.4  | 862.5  | 833.2  | 812.8  | 805.1  |
| 60°   | 768.1  | 760.4  | 731.1  | 712.0  | 712.0  |
| 62.5° | 675.0  | 663.5  | 638.0  | 625.2  | 625.2  |
| 65°   | 584.4  | 575.4  | 553.7  | 548.6  | 546.1  |
| 67.5° | 506.5  | 495.1  | 479.7  | 478.5  | 484.8  |
| 70°   | 438.9  | 424.9  | 412.1  | 424.9  | 428.7  |
| 72.5° | 375.1  | 366.2  | 354.7  | 371.3  | 378.9  |
| 75°   | 317.7  | 310.0  | 303.7  | 317.7  | 329.2  |
| 77.5° | 265.4  | 257.7  | 257.7  | 273.0  | 283.3  |
| 80°   | 213.1  | 208.0  | 213.1  | 225.8  | 236.0  |
| 82.5° | 163.3  | 159.5  | 165.9  | 178.6  | 185.0  |
| 85°   | 111.0  | 104.6  | 112.3  | 123.8  | 125.0  |
| 87.5° | 52.3   | 51.0   | 56.1   | 63.8   | 62.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)