

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: P293936

Luminaire Tested: **24GR-LD5-42-A19/156-UNV-L83050-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P293936  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33308)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24GR-LD5-42-A19/156-UNV-L83050-W2A1-U-5000K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4325.0 lumens  
Efficiency: N/A  
Efficacy: 147.2 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.25  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

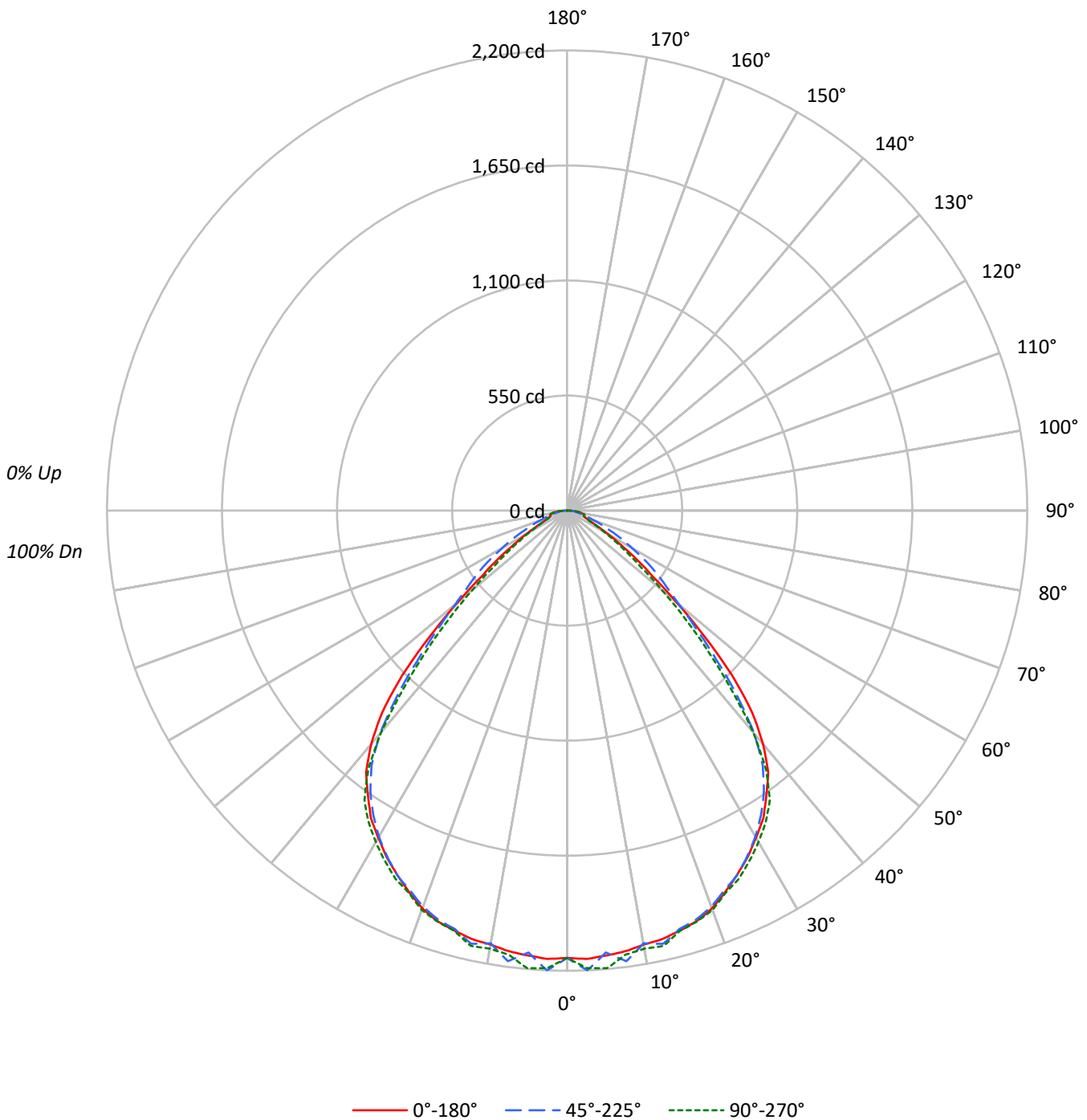
Input Watts (W): 29.388  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 2   | 103 | 96  | 90  | 86  | 100 | 94  | 89  | 85  | 91  | 86  | 83  | 88  | 84  | 81  | 85  | 82  | 79  | 77  |    |    |    |    | 77  |   |  |   |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 78  | 73  | 82  | 77  | 72  | 79  | 75  | 71  | 77  | 73  | 70  | 68  |    |    |    |    | 68  |   |  |   |
| 4   | 88  | 78  | 71  | 65  | 86  | 77  | 70  | 64  | 74  | 68  | 64  | 72  | 67  | 63  | 70  | 66  | 62  | 60  |    |    |    |    | 60  |   |  |   |
| 5   | 82  | 71  | 63  | 57  | 80  | 70  | 62  | 57  | 68  | 61  | 56  | 66  | 60  | 56  | 64  | 59  | 55  | 53  |    |    |    |    | 53  |   |  |   |
| 6   | 76  | 65  | 57  | 51  | 75  | 64  | 56  | 51  | 62  | 55  | 50  | 60  | 55  | 50  | 59  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 7   | 71  | 59  | 51  | 46  | 70  | 58  | 51  | 46  | 57  | 50  | 45  | 56  | 50  | 45  | 54  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 8   | 67  | 55  | 47  | 42  | 65  | 54  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 39  |    |    |    |    | 39  |   |  |   |
| 9   | 63  | 50  | 43  | 38  | 61  | 50  | 43  | 38  | 49  | 42  | 38  | 48  | 42  | 37  | 47  | 41  | 37  | 36  |    |    |    |    | 36  |   |  |   |
| 10  | 59  | 47  | 39  | 35  | 58  | 46  | 39  | 35  | 45  | 39  | 34  | 44  | 38  | 34  | 44  | 38  | 34  | 33  |    |    |    |    | 33  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2877 | 2877 | 2877 |
| 5°  | 2884 | 2865 | 2966 |
| 10° | 2879 | 2871 | 2906 |
| 15° | 2896 | 2886 | 2898 |
| 20° | 2898 | 2886 | 2910 |
| 25° | 2853 | 2855 | 2883 |
| 30° | 2806 | 2797 | 2842 |
| 35° | 2727 | 2694 | 2775 |
| 40° | 2561 | 2446 | 2433 |
| 45° | 2123 | 1920 | 1821 |
| 50° | 1428 | 1457 | 1245 |
| 55° | 942  | 1222 | 816  |
| 60° | 604  | 964  | 559  |
| 65° | 389  | 736  | 378  |
| 70° | 344  | 528  | 344  |
| 75° | 444  | 419  | 448  |
| 80° | 544  | 360  | 570  |
| 85° | 633  | 536  | 665  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 204.8  | 4.7       |
| 10°-20°   | 587.9  | 13.6      |
| 20°-30°   | 885.2  | 20.5      |
| 30°-40°   | 1025.9 | 23.7      |
| 40°-50°   | 801.4  | 18.5      |
| 50°-60°   | 427.9  | 9.9       |
| 60°-70°   | 220.1  | 5.1       |
| 70°-80°   | 124.5  | 2.9       |
| 80°-90°   | 47.3   | 1.1       |
| 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°    | 1677.9 | 38.8      |
| 0°-40°    | 2703.8 | 62.5      |
| 0°-60°    | 3933.2 | 90.9      |
| 0°-90°    | 4325.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4325.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2139 | 2139  | 2139 | 2139  | 2139 |      |
| 5°  | 2135 | 2195  | 2121 | 2180  | 2196 | 203  |
| 15° | 2079 | 2092  | 2072 | 2085  | 2080 | 587  |
| 25° | 1922 | 1916  | 1923 | 1920  | 1942 | 886  |
| 35° | 1660 | 1652  | 1640 | 1672  | 1689 | 1035 |
| 45° | 1116 | 1116  | 1009 | 1000  | 957  | 841  |
| 55° | 402  | 508   | 521  | 470   | 348  | 370  |
| 65° | 122  | 255   | 231  | 254   | 119  | 134  |
| 75° | 85   | 160   | 81   | 150   | 86   | 87   |
| 85° | 41   | 54    | 35   | 54    | 43   | 42   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2138.6 | 2138.6 | 2138.6 | 2138.6 | 2138.6 |
| 2.5°  | 2145.5 | 2184.4 | 2199.7 | 2181.0 | 2189.3 |
| 5°    | 2135.1 | 2194.8 | 2121.2 | 2179.6 | 2196.2 |
| 7.5°  | 2125.4 | 2119.1 | 2172.6 | 2117.1 | 2140.7 |
| 10°   | 2107.3 | 2111.5 | 2101.1 | 2140.7 | 2126.8 |
| 12.5° | 2099.0 | 2123.3 | 2121.2 | 2101.1 | 2131.6 |
| 15°   | 2078.9 | 2092.1 | 2071.9 | 2085.1 | 2080.2 |
| 17.5° | 2058.7 | 2052.5 | 2050.4 | 2055.9 | 2060.8 |
| 20°   | 2024.0 | 2003.1 | 2015.6 | 2017.0 | 2032.3 |
| 22.5° | 1974.0 | 1961.5 | 1964.3 | 1976.8 | 1978.1 |
| 25°   | 1921.9 | 1915.6 | 1923.3 | 1920.5 | 1942.0 |
| 27.5° | 1867.7 | 1859.4 | 1864.2 | 1874.7 | 1887.8 |
| 30°   | 1805.9 | 1803.8 | 1800.3 | 1809.4 | 1829.5 |
| 32.5° | 1744.8 | 1728.1 | 1725.3 | 1744.1 | 1767.0 |
| 35°   | 1660.0 | 1652.4 | 1639.9 | 1672.5 | 1689.2 |
| 37.5° | 1579.5 | 1555.8 | 1535.7 | 1555.1 | 1562.1 |
| 40°   | 1457.9 | 1439.8 | 1392.6 | 1394.7 | 1385.0 |
| 42.5° | 1308.6 | 1295.4 | 1205.1 | 1189.1 | 1162.0 |
| 45°   | 1115.5 | 1116.2 | 1009.2 | 1000.2 | 957.1  |
| 47.5° | 891.1  | 930.7  | 837.7  | 827.2  | 763.3  |
| 50°   | 682.1  | 753.6  | 696.0  | 679.3  | 594.6  |
| 52.5° | 511.9  | 616.8  | 598.7  | 562.6  | 445.9  |
| 55°   | 401.5  | 507.7  | 520.9  | 469.5  | 348.0  |
| 57.5° | 302.1  | 418.1  | 439.7  | 397.3  | 268.8  |
| 60°   | 224.3  | 352.1  | 358.4  | 341.7  | 207.7  |
| 62.5° | 166.7  | 299.4  | 291.0  | 293.1  | 154.2  |
| 65°   | 122.2  | 254.9  | 231.3  | 254.2  | 118.8  |
| 67.5° | 100.0  | 220.9  | 179.9  | 220.2  | 96.5   |
| 70°   | 87.5   | 195.9  | 134.1  | 193.8  | 87.5   |
| 72.5° | 84.7   | 179.9  | 106.3  | 172.3  | 85.4   |
| 75°   | 85.4   | 160.4  | 80.6   | 150.0  | 86.1   |
| 77.5° | 78.5   | 132.0  | 61.1   | 127.8  | 82.0   |
| 80°   | 70.2   | 100.0  | 46.5   | 101.4  | 73.6   |
| 82.5° | 59.7   | 72.9   | 37.5   | 75.0   | 61.8   |
| 85°   | 41.0   | 53.5   | 34.7   | 53.5   | 43.1   |
| 87.5° | 19.4   | 32.0   | 21.5   | 30.6   | 22.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)