

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: P293995

Luminaire Tested: **24GR-LD5-42-A19/156-UNV-L82765-W2A1-U-5500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P293995  
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-L82765-W2A1-U-5500K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 5500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4242.0 lumens  
Efficiency: N/A  
Efficacy: 147.6 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

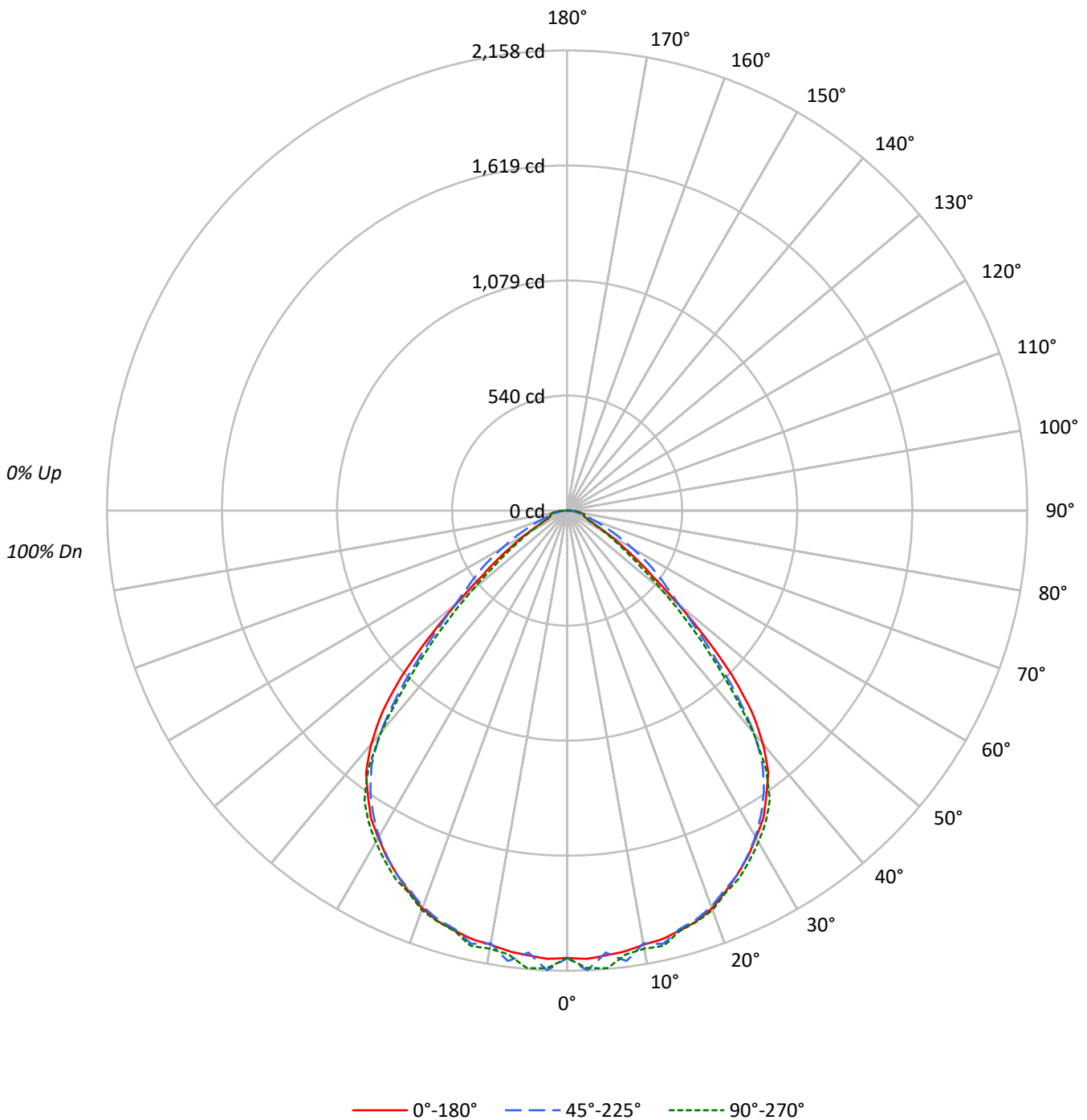
Input Watts (W): 28.737  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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°  | 2822 | 2822 | 2822 |
| 5°  | 2828 | 2810 | 2909 |
| 10° | 2824 | 2816 | 2850 |
| 15° | 2840 | 2831 | 2842 |
| 20° | 2842 | 2831 | 2854 |
| 25° | 2798 | 2801 | 2828 |
| 30° | 2752 | 2743 | 2788 |
| 35° | 2674 | 2642 | 2721 |
| 40° | 2511 | 2399 | 2386 |
| 45° | 2082 | 1883 | 1786 |
| 50° | 1400 | 1429 | 1221 |
| 55° | 924  | 1198 | 801  |
| 60° | 592  | 946  | 548  |
| 65° | 382  | 722  | 371  |
| 70° | 338  | 517  | 338  |
| 75° | 436  | 411  | 439  |
| 80° | 533  | 353  | 559  |
| 85° | 621  | 526  | 651  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 200.8  | 4.7       |
| 10°-20°   | 576.7  | 13.6      |
| 20°-30°   | 868.2  | 20.5      |
| 30°-40°   | 1006.3 | 23.7      |
| 40°-50°   | 786.1  | 18.5      |
| 50°-60°   | 419.7  | 9.9       |
| 60°-70°   | 215.8  | 5.1       |
| 70°-80°   | 122.1  | 2.9       |
| 80°-90°   | 46.4   | 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°    | 1645.7 | 38.8      |
| 0°-40°    | 2651.9 | 62.5      |
| 0°-60°    | 3857.7 | 90.9      |
| 0°-90°    | 4242.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4242.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2098 | 2098  | 2098 | 2098  | 2098 |      |
| 5°  | 2094 | 2153  | 2080 | 2138  | 2154 | 199  |
| 15° | 2039 | 2052  | 2032 | 2045  | 2040 | 576  |
| 25° | 1885 | 1879  | 1886 | 1884  | 1905 | 869  |
| 35° | 1628 | 1621  | 1608 | 1640  | 1657 | 1015 |
| 45° | 1094 | 1095  | 990  | 981   | 939  | 824  |
| 55° | 394  | 498   | 511  | 460   | 341  | 363  |
| 65° | 120  | 250   | 227  | 249   | 116  | 132  |
| 75° | 84   | 157   | 79   | 147   | 84   | 85   |
| 85° | 40   | 52    | 34   | 52    | 42   | 41   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2097.5 | 2097.5 | 2097.5 | 2097.5 | 2097.5 |
| 2.5°  | 2104.4 | 2142.5 | 2157.5 | 2139.1 | 2147.3 |
| 5°    | 2094.1 | 2152.7 | 2080.5 | 2137.7 | 2154.1 |
| 7.5°  | 2084.6 | 2078.5 | 2130.9 | 2076.4 | 2099.6 |
| 10°   | 2066.9 | 2071.0 | 2060.8 | 2099.6 | 2086.0 |
| 12.5° | 2058.7 | 2082.6 | 2080.5 | 2060.8 | 2090.7 |
| 15°   | 2039.0 | 2051.9 | 2032.1 | 2045.1 | 2040.3 |
| 17.5° | 2019.2 | 2013.1 | 2011.0 | 2016.5 | 2021.2 |
| 20°   | 1985.1 | 1964.7 | 1977.0 | 1978.3 | 1993.3 |
| 22.5° | 1936.1 | 1923.8 | 1926.6 | 1938.8 | 1940.2 |
| 25°   | 1885.0 | 1878.9 | 1886.4 | 1883.6 | 1904.8 |
| 27.5° | 1831.9 | 1823.7 | 1828.5 | 1838.7 | 1851.6 |
| 30°   | 1771.2 | 1769.2 | 1765.8 | 1774.6 | 1794.4 |
| 32.5° | 1711.3 | 1694.9 | 1692.2 | 1710.6 | 1733.1 |
| 35°   | 1628.2 | 1620.7 | 1608.4 | 1640.4 | 1656.8 |
| 37.5° | 1549.1 | 1526.0 | 1506.2 | 1525.3 | 1532.1 |
| 40°   | 1429.9 | 1412.2 | 1365.9 | 1367.9 | 1358.4 |
| 42.5° | 1283.5 | 1270.5 | 1182.0 | 1166.3 | 1139.7 |
| 45°   | 1094.1 | 1094.8 | 989.8  | 981.0  | 938.8  |
| 47.5° | 874.0  | 912.9  | 821.6  | 811.4  | 748.7  |
| 50°   | 669.0  | 739.1  | 682.6  | 666.3  | 583.1  |
| 52.5° | 502.1  | 604.9  | 587.2  | 551.8  | 437.4  |
| 55°   | 393.8  | 498.0  | 510.9  | 460.5  | 341.3  |
| 57.5° | 296.3  | 410.1  | 431.2  | 389.7  | 263.6  |
| 60°   | 220.0  | 345.4  | 351.5  | 335.2  | 203.7  |
| 62.5° | 163.5  | 293.6  | 285.4  | 287.5  | 151.2  |
| 65°   | 119.9  | 250.0  | 226.9  | 249.3  | 116.5  |
| 67.5° | 98.1   | 216.6  | 176.4  | 216.0  | 94.7   |
| 70°   | 85.8   | 192.1  | 131.5  | 190.1  | 85.8   |
| 72.5° | 83.1   | 176.4  | 104.2  | 168.9  | 83.8   |
| 75°   | 83.8   | 157.4  | 79.0   | 147.1  | 84.5   |
| 77.5° | 77.0   | 129.4  | 59.9   | 125.3  | 80.4   |
| 80°   | 68.8   | 98.1   | 45.6   | 99.5   | 72.2   |
| 82.5° | 58.6   | 71.5   | 36.8   | 73.6   | 60.6   |
| 85°   | 40.2   | 52.5   | 34.1   | 52.5   | 42.2   |
| 87.5° | 19.1   | 31.3   | 21.1   | 30.0   | 21.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)