

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: P294012

Luminaire Tested: **24GR-LD5-56-A19/156-UNV-L82765-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P294012  
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-LD5-56-A19/156-UNV-L82765-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: 5647.0 lumens  
Efficiency: N/A  
Efficacy: 141.5 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

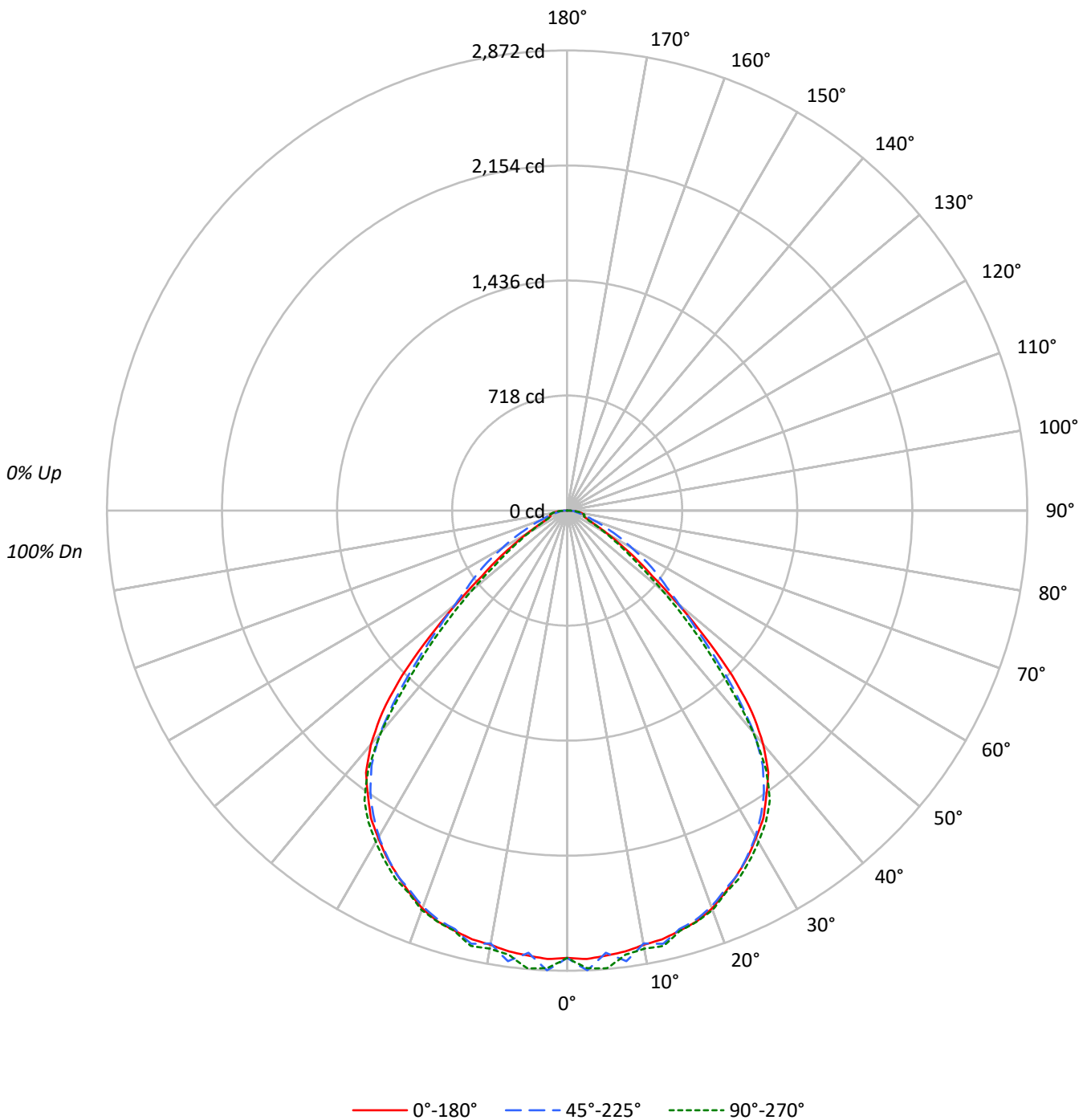
Input Watts (W): 39.897  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 3757 | 3757 | 3757 |
| 5°  | 3765 | 3741 | 3873 |
| 10° | 3759 | 3748 | 3794 |
| 15° | 3781 | 3768 | 3783 |
| 20° | 3784 | 3768 | 3799 |
| 25° | 3725 | 3728 | 3764 |
| 30° | 3663 | 3652 | 3711 |
| 35° | 3560 | 3517 | 3623 |
| 40° | 3343 | 3194 | 3176 |
| 45° | 2771 | 2507 | 2378 |
| 50° | 1864 | 1902 | 1625 |
| 55° | 1230 | 1596 | 1066 |
| 60° | 788  | 1259 | 730  |
| 65° | 508  | 961  | 494  |
| 70° | 450  | 688  | 450  |
| 75° | 580  | 547  | 585  |
| 80° | 710  | 471  | 745  |
| 85° | 826  | 699  | 868  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 267.4  | 4.7       |
| 10°-20°   | 767.7  | 13.6      |
| 20°-30°   | 1155.7 | 20.5      |
| 30°-40°   | 1339.5 | 23.7      |
| 40°-50°   | 1046.4 | 18.5      |
| 50°-60°   | 558.7  | 9.9       |
| 60°-70°   | 287.3  | 5.1       |
| 70°-80°   | 162.5  | 2.9       |
| 80°-90°   | 61.7   | 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°    | 2190.7 | 38.8      |
| 0°-40°    | 3530.3 | 62.5      |
| 0°-60°    | 5135.4 | 90.9      |
| 0°-90°    | 5647.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5647.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2792 | 2792  | 2792 | 2792  | 2792 |      |
| 5°  | 2788 | 2866  | 2770 | 2846  | 2868 | 265  |
| 15° | 2714 | 2732  | 2705 | 2722  | 2716 | 767  |
| 25° | 2509 | 2501  | 2511 | 2508  | 2536 | 1156 |
| 35° | 2167 | 2158  | 2141 | 2184  | 2206 | 1351 |
| 45° | 1456 | 1457  | 1318 | 1306  | 1250 | 1098 |
| 55° | 524  | 663   | 680  | 613   | 454  | 484  |
| 65° | 160  | 333   | 302  | 332   | 155  | 175  |
| 75° | 112  | 210   | 105  | 196   | 112  | 113  |
| 85° | 54   | 70    | 45   | 70    | 56   | 55   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2792.3 | 2792.3 | 2792.3 | 2792.3 | 2792.3 |
| 2.5°  | 2801.3 | 2852.1 | 2872.1 | 2847.6 | 2858.5 |
| 5°    | 2787.7 | 2865.7 | 2769.6 | 2845.8 | 2867.6 |
| 7.5°  | 2775.0 | 2766.9 | 2836.7 | 2764.2 | 2795.0 |
| 10°   | 2751.5 | 2756.9 | 2743.3 | 2795.0 | 2776.9 |
| 12.5° | 2740.6 | 2772.3 | 2769.6 | 2743.3 | 2783.2 |
| 15°   | 2714.3 | 2731.5 | 2705.2 | 2722.4 | 2716.1 |
| 17.5° | 2688.0 | 2679.8 | 2677.1 | 2684.4 | 2690.7 |
| 20°   | 2642.6 | 2615.4 | 2631.8 | 2633.6 | 2653.5 |
| 22.5° | 2577.3 | 2561.0 | 2564.7 | 2581.0 | 2582.8 |
| 25°   | 2509.3 | 2501.2 | 2511.1 | 2507.5 | 2535.6 |
| 27.5° | 2438.6 | 2427.7 | 2434.1 | 2447.7 | 2464.9 |
| 30°   | 2357.9 | 2355.2 | 2350.6 | 2362.4 | 2388.7 |
| 32.5° | 2278.1 | 2256.3 | 2252.7 | 2277.2 | 2307.1 |
| 35°   | 2167.4 | 2157.5 | 2141.1 | 2183.8 | 2205.5 |
| 37.5° | 2062.2 | 2031.4 | 2005.1 | 2030.5 | 2039.6 |
| 40°   | 1903.5 | 1880.0 | 1818.3 | 1821.0 | 1808.3 |
| 42.5° | 1708.6 | 1691.3 | 1573.4 | 1552.6 | 1517.2 |
| 45°   | 1456.4 | 1457.4 | 1317.7 | 1305.9 | 1249.7 |
| 47.5° | 1163.5 | 1215.2 | 1093.7 | 1080.1 | 996.7  |
| 50°   | 890.6  | 984.0  | 908.7  | 886.9  | 776.3  |
| 52.5° | 668.4  | 805.3  | 781.7  | 734.6  | 582.2  |
| 55°   | 524.2  | 662.9  | 680.2  | 613.1  | 454.3  |
| 57.5° | 394.5  | 545.9  | 574.1  | 518.7  | 351.0  |
| 60°   | 292.9  | 459.8  | 467.9  | 446.2  | 271.2  |
| 62.5° | 217.7  | 390.9  | 380.0  | 382.7  | 201.3  |
| 65°   | 159.6  | 332.8  | 302.0  | 331.9  | 155.1  |
| 67.5° | 130.6  | 288.4  | 234.9  | 287.5  | 126.1  |
| 70°   | 114.3  | 255.7  | 175.0  | 253.0  | 114.3  |
| 72.5° | 110.6  | 234.9  | 138.8  | 224.9  | 111.5  |
| 75°   | 111.5  | 209.5  | 105.2  | 195.9  | 112.5  |
| 77.5° | 102.5  | 172.3  | 79.8   | 166.9  | 107.0  |
| 80°   | 91.6   | 130.6  | 60.8   | 132.4  | 96.1   |
| 82.5° | 78.0   | 95.2   | 49.0   | 97.9   | 80.7   |
| 85°   | 53.5   | 69.8   | 45.3   | 69.8   | 56.2   |
| 87.5° | 25.4   | 41.7   | 28.1   | 39.9   | 29.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)