

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: P294033

Luminaire Tested: **24GR-LD5-72-A19/156-UNV-L82765-W2A1-U-6500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P294033  
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-LD5-72-A19/156-UNV-L82765-W2A1-U-6500K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 6500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7355.0 lumens  
Efficiency: N/A  
Efficacy: 134.0 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

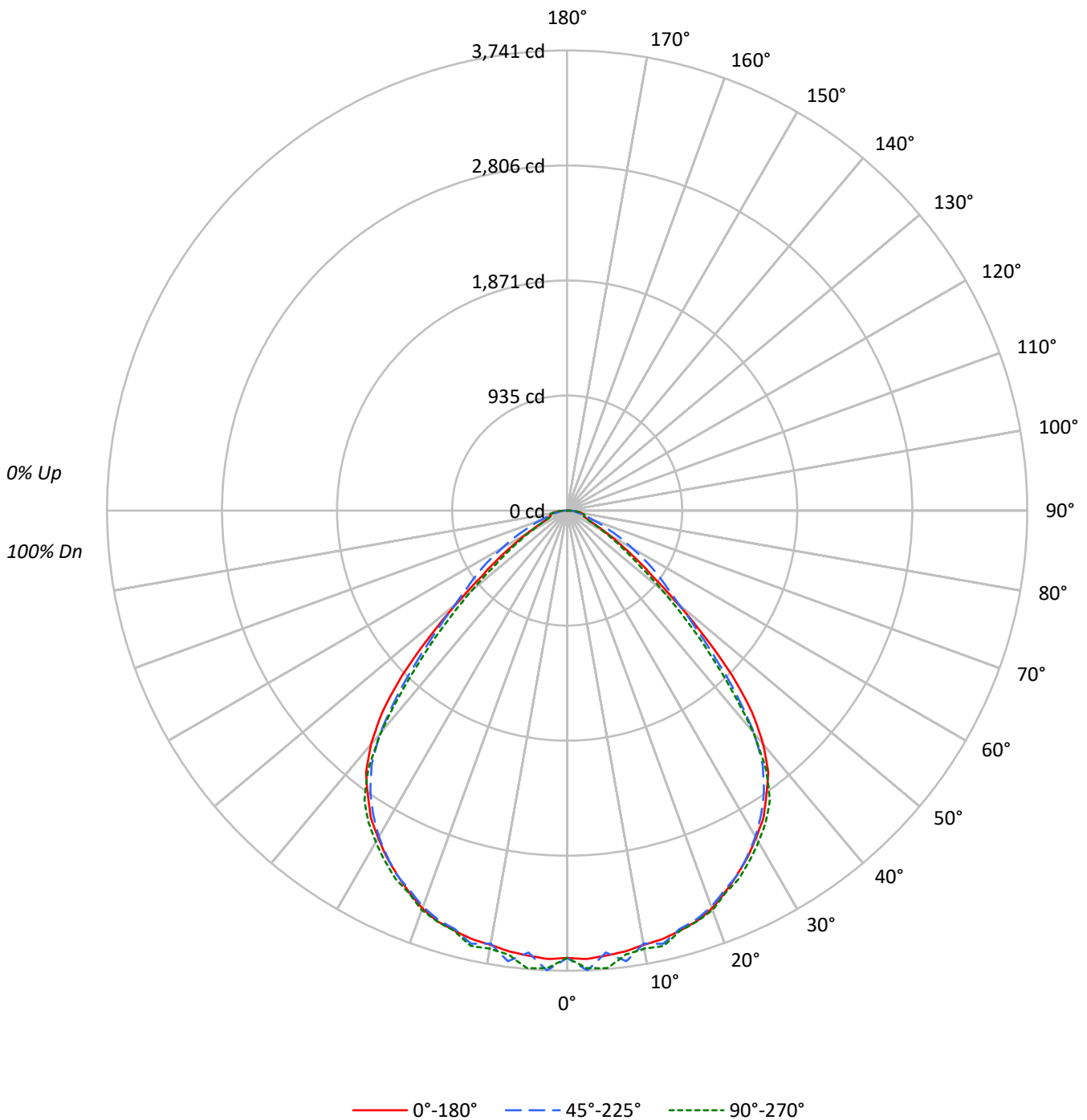
Input Watts (W): 54.87  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 4893 | 4893 | 4893 |
| 5°  | 4904 | 4872 | 5044 |
| 10° | 4896 | 4882 | 4941 |
| 15° | 4925 | 4908 | 4928 |
| 20° | 4928 | 4908 | 4949 |
| 25° | 4852 | 4856 | 4903 |
| 30° | 4771 | 4757 | 4834 |
| 35° | 4637 | 4581 | 4718 |
| 40° | 4355 | 4160 | 4137 |
| 45° | 3610 | 3266 | 3097 |
| 50° | 2428 | 2477 | 2116 |
| 55° | 1601 | 2078 | 1388 |
| 60° | 1027 | 1640 | 950  |
| 65° | 662  | 1252 | 643  |
| 70° | 585  | 897  | 585  |
| 75° | 755  | 712  | 762  |
| 80° | 924  | 613  | 970  |
| 85° | 1076 | 912  | 1130 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 348.2  | 4.7       |
| 10°-20°   | 999.9  | 13.6      |
| 20°-30°   | 1505.3 | 20.5      |
| 30°-40°   | 1744.7 | 23.7      |
| 40°-50°   | 1362.9 | 18.5      |
| 50°-60°   | 727.7  | 9.9       |
| 60°-70°   | 374.2  | 5.1       |
| 70°-80°   | 211.7  | 2.9       |
| 80°-90°   | 80.4   | 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°    | 2853.3 | 38.8      |
| 0°-40°    | 4598.0 | 62.5      |
| 0°-60°    | 6688.7 | 90.9      |
| 0°-90°    | 7355.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7355.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3637 | 3637  | 3637 | 3637  | 3637 |      |
| 5°  | 3631 | 3732  | 3607 | 3706  | 3735 | 345  |
| 15° | 3535 | 3558  | 3523 | 3546  | 3538 | 999  |
| 25° | 3268 | 3258  | 3271 | 3266  | 3303 | 1506 |
| 35° | 2823 | 2810  | 2789 | 2844  | 2873 | 1760 |
| 45° | 1897 | 1898  | 1716 | 1701  | 1628 | 1429 |
| 55° | 683  | 863   | 886  | 798   | 592  | 630  |
| 65° | 208  | 434   | 393  | 432   | 202  | 228  |
| 75° | 145  | 273   | 137  | 255   | 146  | 147  |
| 85° | 70   | 91    | 59   | 91    | 73   | 72   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 3636.8 | 3636.8 | 3636.8 | 3636.8 | 3636.8 |
| 2.5°  | 3648.6 | 3714.8 | 3740.8 | 3708.9 | 3723.1 |
| 5°    | 3630.9 | 3732.5 | 3607.3 | 3706.5 | 3734.9 |
| 7.5°  | 3614.4 | 3603.8 | 3694.7 | 3600.2 | 3640.4 |
| 10°   | 3583.7 | 3590.8 | 3573.1 | 3640.4 | 3616.8 |
| 12.5° | 3569.5 | 3610.9 | 3607.3 | 3573.1 | 3625.0 |
| 15°   | 3535.3 | 3557.7 | 3523.4 | 3545.9 | 3537.6 |
| 17.5° | 3501.0 | 3490.4 | 3486.8 | 3496.3 | 3504.5 |
| 20°   | 3441.9 | 3406.5 | 3427.8 | 3430.1 | 3456.1 |
| 22.5° | 3356.9 | 3335.6 | 3340.4 | 3361.6 | 3364.0 |
| 25°   | 3268.3 | 3257.7 | 3270.7 | 3265.9 | 3302.6 |
| 27.5° | 3176.2 | 3162.0 | 3170.3 | 3188.0 | 3210.4 |
| 30°   | 3071.1 | 3067.5 | 3061.6 | 3077.0 | 3111.2 |
| 32.5° | 2967.1 | 2938.8 | 2934.0 | 2965.9 | 3004.9 |
| 35°   | 2823.0 | 2810.0 | 2788.8 | 2844.3 | 2872.6 |
| 37.5° | 2686.0 | 2645.8 | 2611.6 | 2644.6 | 2656.5 |
| 40°   | 2479.3 | 2448.6 | 2368.3 | 2371.8 | 2355.3 |
| 42.5° | 2225.3 | 2202.9 | 2049.3 | 2022.2 | 1976.1 |
| 45°   | 1897.0 | 1898.1 | 1716.2 | 1700.9 | 1627.7 |
| 47.5° | 1515.4 | 1582.8 | 1424.5 | 1406.8 | 1298.1 |
| 50°   | 1159.9 | 1281.6 | 1183.5 | 1155.2 | 1011.1 |
| 52.5° | 870.5  | 1048.9 | 1018.2 | 956.8  | 758.3  |
| 55°   | 682.7  | 863.4  | 885.9  | 798.5  | 591.8  |
| 57.5° | 513.8  | 711.1  | 747.7  | 675.6  | 457.1  |
| 60°   | 381.5  | 598.9  | 609.5  | 581.1  | 353.2  |
| 62.5° | 283.5  | 509.1  | 494.9  | 498.5  | 262.2  |
| 65°   | 207.9  | 433.5  | 393.3  | 432.3  | 202.0  |
| 67.5° | 170.1  | 375.6  | 305.9  | 374.4  | 164.2  |
| 70°   | 148.8  | 333.1  | 228.0  | 329.5  | 148.8  |
| 72.5° | 144.1  | 305.9  | 180.7  | 292.9  | 145.3  |
| 75°   | 145.3  | 272.9  | 137.0  | 255.1  | 146.5  |
| 77.5° | 133.5  | 224.4  | 103.9  | 217.3  | 139.4  |
| 80°   | 119.3  | 170.1  | 79.1   | 172.5  | 125.2  |
| 82.5° | 101.6  | 124.0  | 63.8   | 127.6  | 105.1  |
| 85°   | 69.7   | 91.0   | 59.1   | 91.0   | 73.2   |
| 87.5° | 33.1   | 54.3   | 36.6   | 52.0   | 37.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)