

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: P293948

Luminaire Tested: **24GR-LD5-64-A19/156-UNV-L83050-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293948
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-LD5-64-A19/156-UNV-L83050-W2A1-U-3500K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (336) 80 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6228.0 lumens
Efficiency: N/A
Efficacy: 135.6 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

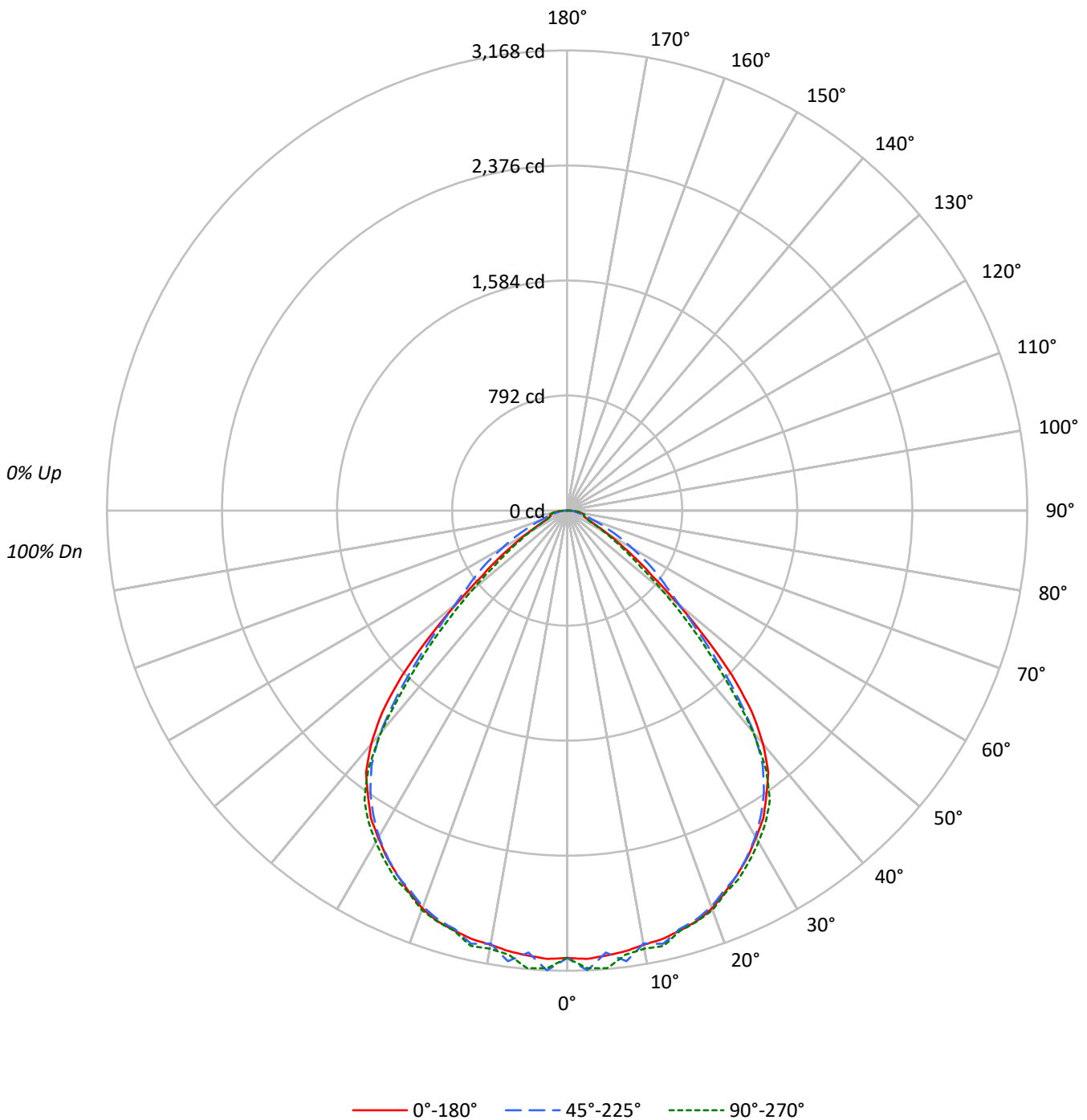
Input Watts (W): 45.942
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 78 | 73 | 82 | 77 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 68 |
| 4 | 88 | 78 | 71 | 65 | 86 | 77 | 70 | 64 | 74 | 68 | 64 | 72 | 67 | 63 | 70 | 66 | 62 | 60 |
| 5 | 82 | 71 | 63 | 57 | 80 | 70 | 62 | 57 | 68 | 61 | 56 | 66 | 60 | 56 | 64 | 59 | 55 | 53 |
| 6 | 76 | 65 | 57 | 51 | 75 | 64 | 56 | 51 | 62 | 55 | 50 | 60 | 55 | 50 | 59 | 54 | 50 | 48 |
| 7 | 71 | 59 | 51 | 46 | 70 | 58 | 51 | 46 | 57 | 50 | 45 | 56 | 50 | 45 | 54 | 49 | 45 | 43 |
| 8 | 67 | 55 | 47 | 42 | 65 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 |
| 9 | 63 | 50 | 43 | 38 | 61 | 50 | 43 | 38 | 49 | 42 | 38 | 48 | 42 | 37 | 47 | 41 | 37 | 36 |
| 10 | 59 | 47 | 39 | 35 | 58 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 44 | 38 | 34 | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4144 | 4144 | 4144 |
| 5° | 4153 | 4126 | 4271 |
| 10° | 4146 | 4134 | 4184 |
| 15° | 4170 | 4156 | 4173 |
| 20° | 4173 | 4156 | 4190 |
| 25° | 4109 | 4112 | 4152 |
| 30° | 4040 | 4028 | 4093 |
| 35° | 3926 | 3879 | 3995 |
| 40° | 3687 | 3522 | 3503 |
| 45° | 3056 | 2765 | 2623 |
| 50° | 2056 | 2098 | 1792 |
| 55° | 1356 | 1760 | 1175 |
| 60° | 869 | 1389 | 805 |
| 65° | 560 | 1060 | 544 |
| 70° | 496 | 759 | 496 |
| 75° | 639 | 603 | 645 |
| 80° | 783 | 519 | 821 |
| 85° | 911 | 772 | 957 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 294.9 | 4.7 |
| 10°-20° | 846.6 | 13.6 |
| 20°-30° | 1274.6 | 20.5 |
| 30°-40° | 1477.4 | 23.7 |
| 40°-50° | 1154.1 | 18.5 |
| 50°-60° | 616.2 | 9.9 |
| 60°-70° | 316.9 | 5.1 |
| 70°-80° | 179.2 | 2.9 |
| 80°-90° | 68.1 | 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° | 2416.1 | 38.8 |
| 0°-40° | 3893.5 | 62.5 |
| 0°-60° | 5663.8 | 90.9 |
| 0°-90° | 6228.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6228.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3080 | 3080 | 3080 | 3080 | 3080 | |
| 5° | 3075 | 3161 | 3055 | 3139 | 3163 | 292 |
| 15° | 2994 | 3013 | 2984 | 3003 | 2996 | 846 |
| 25° | 2768 | 2758 | 2770 | 2766 | 2796 | 1275 |
| 35° | 2390 | 2379 | 2361 | 2408 | 2432 | 1490 |
| 45° | 1606 | 1607 | 1453 | 1440 | 1378 | 1210 |
| 55° | 578 | 731 | 750 | 676 | 501 | 533 |
| 65° | 176 | 367 | 333 | 366 | 171 | 193 |
| 75° | 123 | 231 | 116 | 216 | 124 | 125 |
| 85° | 59 | 77 | 50 | 77 | 62 | 61 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P293948

CATALOG NUMBER: 24GR-LD5-64-A19/156-UNV-L83050-W2A1-U-3500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3079.6 | 3079.6 | 3079.6 | 3079.6 | 3079.6 |
| 2.5° | 3089.6 | 3145.6 | 3167.6 | 3140.6 | 3152.6 |
| 5° | 3074.6 | 3160.6 | 3054.6 | 3138.6 | 3162.6 |
| 7.5° | 3060.6 | 3051.6 | 3128.6 | 3048.6 | 3082.6 |
| 10° | 3034.6 | 3040.6 | 3025.6 | 3082.6 | 3062.6 |
| 12.5° | 3022.6 | 3057.6 | 3054.6 | 3025.6 | 3069.6 |
| 15° | 2993.6 | 3012.6 | 2983.5 | 3002.6 | 2995.6 |
| 17.5° | 2964.5 | 2955.5 | 2952.5 | 2960.5 | 2967.5 |
| 20° | 2914.5 | 2884.5 | 2902.5 | 2904.5 | 2926.5 |
| 22.5° | 2842.5 | 2824.5 | 2828.5 | 2846.5 | 2848.5 |
| 25° | 2767.5 | 2758.5 | 2769.5 | 2765.5 | 2796.5 |
| 27.5° | 2689.5 | 2677.5 | 2684.5 | 2699.5 | 2718.5 |
| 30° | 2600.5 | 2597.5 | 2592.5 | 2605.5 | 2634.5 |
| 32.5° | 2512.5 | 2488.5 | 2484.5 | 2511.5 | 2544.5 |
| 35° | 2390.4 | 2379.4 | 2361.4 | 2408.4 | 2432.4 |
| 37.5° | 2274.4 | 2240.4 | 2211.4 | 2239.4 | 2249.4 |
| 40° | 2099.4 | 2073.4 | 2005.4 | 2008.4 | 1994.4 |
| 42.5° | 1884.3 | 1865.3 | 1735.3 | 1712.3 | 1673.3 |
| 45° | 1606.3 | 1607.3 | 1453.3 | 1440.3 | 1378.3 |
| 47.5° | 1283.2 | 1340.2 | 1206.2 | 1191.2 | 1099.2 |
| 50° | 982.2 | 1085.2 | 1002.2 | 978.2 | 856.2 |
| 52.5° | 737.1 | 888.2 | 862.2 | 810.1 | 642.1 |
| 55° | 578.1 | 731.1 | 750.1 | 676.1 | 501.1 |
| 57.5° | 435.1 | 602.1 | 633.1 | 572.1 | 387.1 |
| 60° | 323.1 | 507.1 | 516.1 | 492.1 | 299.1 |
| 62.5° | 240.0 | 431.1 | 419.1 | 422.1 | 222.0 |
| 65° | 176.0 | 367.1 | 333.1 | 366.1 | 171.0 |
| 67.5° | 144.0 | 318.1 | 259.0 | 317.1 | 139.0 |
| 70° | 126.0 | 282.1 | 193.0 | 279.1 | 126.0 |
| 72.5° | 122.0 | 259.0 | 153.0 | 248.0 | 123.0 |
| 75° | 123.0 | 231.0 | 116.0 | 216.0 | 124.0 |
| 77.5° | 113.0 | 190.0 | 88.0 | 184.0 | 118.0 |
| 80° | 101.0 | 144.0 | 67.0 | 146.0 | 106.0 |
| 82.5° | 86.0 | 105.0 | 54.0 | 108.0 | 89.0 |
| 85° | 59.0 | 77.0 | 50.0 | 77.0 | 62.0 |
| 87.5° | 28.0 | 46.0 | 31.0 | 44.0 | 32.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)