

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: P294161

Luminaire Tested: **24GR-LD5-85-A19/156-UNV-L92765-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P294161
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-LD5-85-A19/156-UNV-L92765-W2A1-U-3000K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (336) 90 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6574.0 lumens
Efficiency: N/A
Efficacy: 106.3 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

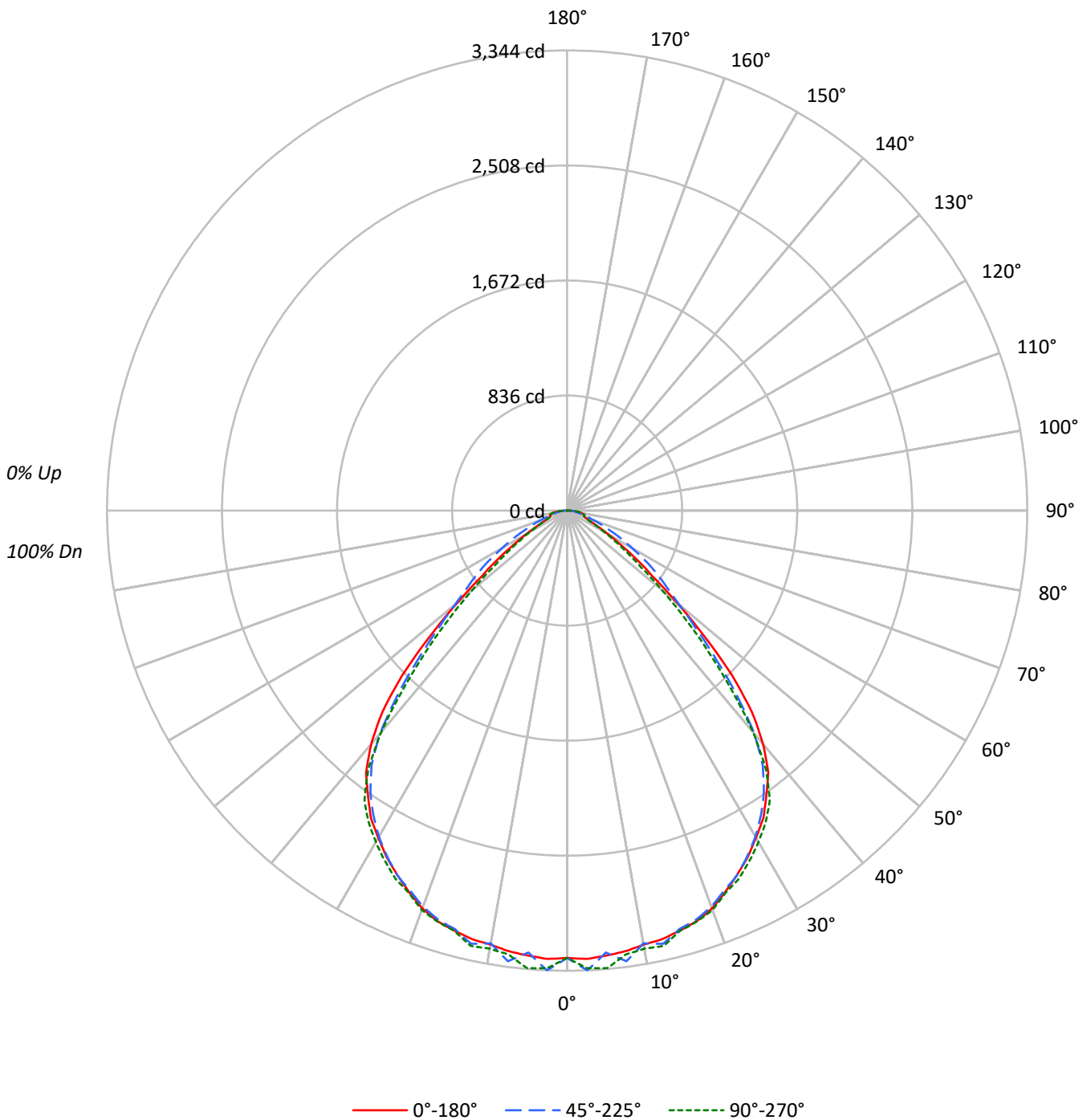
Input Watts (W): 61.845
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 4374 | 4374 | 4374 |
| 5° | 4383 | 4355 | 4509 |
| 10° | 4376 | 4363 | 4417 |
| 15° | 4402 | 4387 | 4405 |
| 20° | 4405 | 4387 | 4423 |
| 25° | 4337 | 4340 | 4382 |
| 30° | 4265 | 4252 | 4320 |
| 35° | 4144 | 4094 | 4217 |
| 40° | 3892 | 3718 | 3698 |
| 45° | 3226 | 2919 | 2768 |
| 50° | 2170 | 2214 | 1892 |
| 55° | 1431 | 1857 | 1241 |
| 60° | 918 | 1466 | 850 |
| 65° | 592 | 1119 | 575 |
| 70° | 523 | 802 | 523 |
| 75° | 675 | 637 | 680 |
| 80° | 826 | 548 | 867 |
| 85° | 962 | 815 | 1011 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 311.2 | 4.7 |
| 10°-20° | 893.7 | 13.6 |
| 20°-30° | 1345.4 | 20.5 |
| 30°-40° | 1559.4 | 23.7 |
| 40°-50° | 1218.2 | 18.5 |
| 50°-60° | 650.5 | 9.9 |
| 60°-70° | 334.5 | 5.1 |
| 70°-80° | 189.2 | 2.9 |
| 80°-90° | 71.9 | 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° | 2550.4 | 38.8 |
| 0°-40° | 4109.8 | 62.5 |
| 0°-60° | 5978.4 | 90.9 |
| 0°-90° | 6574.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6574.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3251 | 3251 | 3251 | 3251 | 3251 | |
| 5° | 3245 | 3336 | 3224 | 3313 | 3338 | 309 |
| 15° | 3160 | 3180 | 3149 | 3169 | 3162 | 892 |
| 25° | 2921 | 2912 | 2923 | 2919 | 2952 | 1346 |
| 35° | 2523 | 2512 | 2493 | 2542 | 2568 | 1573 |
| 45° | 1696 | 1697 | 1534 | 1520 | 1455 | 1278 |
| 55° | 610 | 772 | 792 | 714 | 529 | 563 |
| 65° | 186 | 388 | 352 | 386 | 180 | 204 |
| 75° | 130 | 244 | 122 | 228 | 131 | 132 |
| 85° | 62 | 81 | 53 | 81 | 66 | 64 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3250.7 | 3250.7 | 3250.7 | 3250.7 | 3250.7 |
| 2.5° | 3261.2 | 3320.3 | 3343.6 | 3315.1 | 3327.7 |
| 5° | 3245.4 | 3336.2 | 3224.3 | 3312.9 | 3338.3 |
| 7.5° | 3230.6 | 3221.1 | 3302.4 | 3217.9 | 3253.8 |
| 10° | 3203.1 | 3209.5 | 3193.6 | 3253.8 | 3232.7 |
| 12.5° | 3190.5 | 3227.4 | 3224.3 | 3193.6 | 3240.1 |
| 15° | 3159.9 | 3179.9 | 3149.3 | 3169.4 | 3162.0 |
| 17.5° | 3129.2 | 3119.7 | 3116.6 | 3125.0 | 3132.4 |
| 20° | 3076.5 | 3044.8 | 3063.8 | 3065.9 | 3089.1 |
| 22.5° | 3000.4 | 2981.4 | 2985.7 | 3004.7 | 3006.8 |
| 25° | 2921.3 | 2911.8 | 2923.4 | 2919.1 | 2951.9 |
| 27.5° | 2838.9 | 2826.2 | 2833.6 | 2849.5 | 2869.5 |
| 30° | 2745.0 | 2741.8 | 2736.5 | 2750.2 | 2780.8 |
| 32.5° | 2652.0 | 2626.7 | 2622.5 | 2651.0 | 2685.8 |
| 35° | 2523.2 | 2511.6 | 2492.6 | 2542.2 | 2567.6 |
| 37.5° | 2400.8 | 2364.9 | 2334.3 | 2363.8 | 2374.4 |
| 40° | 2216.0 | 2188.6 | 2116.8 | 2119.9 | 2105.2 |
| 42.5° | 1989.0 | 1969.0 | 1831.7 | 1807.4 | 1766.3 |
| 45° | 1695.5 | 1696.6 | 1534.0 | 1520.3 | 1454.8 |
| 47.5° | 1354.5 | 1414.7 | 1273.2 | 1257.4 | 1160.3 |
| 50° | 1036.7 | 1145.5 | 1057.9 | 1032.5 | 903.7 |
| 52.5° | 778.1 | 937.5 | 910.1 | 855.2 | 677.8 |
| 55° | 610.2 | 771.8 | 791.8 | 713.7 | 528.9 |
| 57.5° | 459.3 | 635.6 | 668.3 | 603.9 | 408.6 |
| 60° | 341.0 | 535.3 | 544.8 | 519.4 | 315.7 |
| 62.5° | 253.4 | 455.0 | 442.4 | 445.5 | 234.4 |
| 65° | 185.8 | 387.5 | 351.6 | 386.4 | 180.5 |
| 67.5° | 152.0 | 335.7 | 273.4 | 334.7 | 146.7 |
| 70° | 133.0 | 297.7 | 203.8 | 294.6 | 133.0 |
| 72.5° | 128.8 | 273.4 | 161.5 | 261.8 | 129.9 |
| 75° | 129.9 | 243.9 | 122.5 | 228.0 | 130.9 |
| 77.5° | 119.3 | 200.6 | 92.9 | 194.3 | 124.6 |
| 80° | 106.6 | 152.0 | 70.7 | 154.1 | 111.9 |
| 82.5° | 90.8 | 110.9 | 57.0 | 114.0 | 94.0 |
| 85° | 62.3 | 81.3 | 52.8 | 81.3 | 65.5 |
| 87.5° | 29.6 | 48.6 | 32.7 | 46.5 | 33.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)