

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: P293942

Luminaire Tested: **24GR-LD5-56-A19/156-UNV-L83050-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293942
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-L83050-W2A1-U-3000K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (336) 80 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5183.0 lumens
Efficiency: N/A
Efficacy: 133.3 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

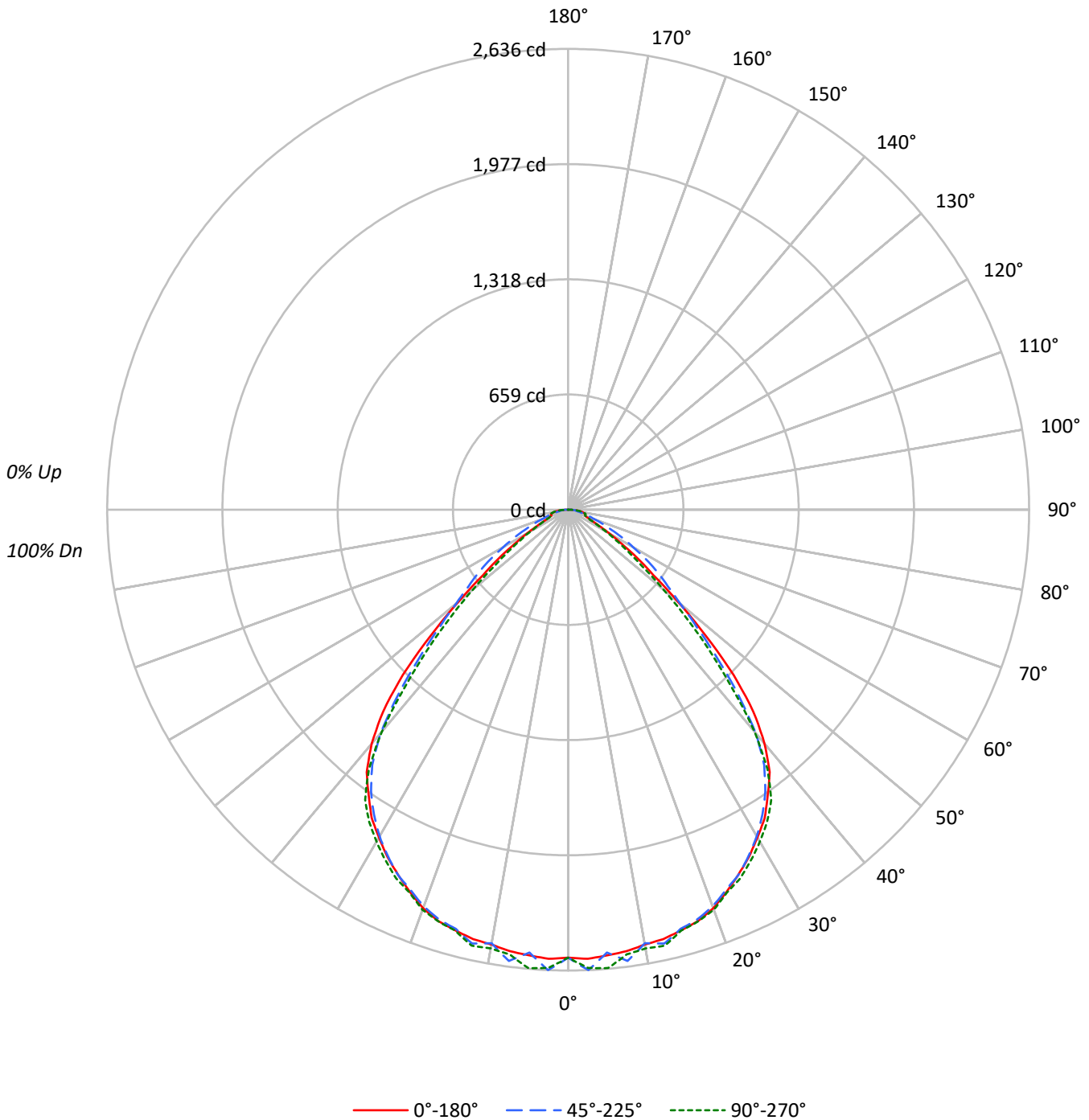
Input Watts (W): 38.874
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P293942

CATALOG NUMBER: 24GR-LD5-56-A19/156-UNV-L83050-W2A1-U-3000K

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° | 3448 | 3448 | 3448 |
| 5° | 3456 | 3433 | 3555 |
| 10° | 3450 | 3440 | 3482 |
| 15° | 3470 | 3459 | 3472 |
| 20° | 3473 | 3459 | 3487 |
| 25° | 3419 | 3422 | 3455 |
| 30° | 3362 | 3352 | 3406 |
| 35° | 3268 | 3228 | 3325 |
| 40° | 3069 | 2931 | 2915 |
| 45° | 2544 | 2301 | 2183 |
| 50° | 1711 | 1746 | 1491 |
| 55° | 1129 | 1464 | 978 |
| 60° | 724 | 1156 | 670 |
| 65° | 466 | 883 | 453 |
| 70° | 413 | 632 | 413 |
| 75° | 532 | 502 | 536 |
| 80° | 652 | 432 | 683 |
| 85° | 758 | 642 | 797 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 245.4 | 4.7 |
| 10°-20° | 704.6 | 13.6 |
| 20°-30° | 1060.7 | 20.5 |
| 30°-40° | 1229.5 | 23.7 |
| 40°-50° | 960.4 | 18.5 |
| 50°-60° | 512.8 | 9.9 |
| 60°-70° | 263.7 | 5.1 |
| 70°-80° | 149.2 | 2.9 |
| 80°-90° | 56.7 | 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° | 2010.7 | 38.8 |
| 0°-40° | 3240.2 | 62.5 |
| 0°-60° | 4713.4 | 90.9 |
| 0°-90° | 5183.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5183.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2563 | 2563 | 2563 | 2563 | 2563 | |
| 5° | 2559 | 2630 | 2542 | 2612 | 2632 | 243 |
| 15° | 2491 | 2507 | 2483 | 2499 | 2493 | 704 |
| 25° | 2303 | 2296 | 2305 | 2302 | 2327 | 1061 |
| 35° | 1989 | 1980 | 1965 | 2004 | 2024 | 1240 |
| 45° | 1337 | 1338 | 1209 | 1199 | 1147 | 1007 |
| 55° | 481 | 608 | 624 | 563 | 417 | 444 |
| 65° | 146 | 306 | 277 | 305 | 142 | 161 |
| 75° | 102 | 192 | 97 | 180 | 103 | 104 |
| 85° | 49 | 64 | 42 | 64 | 52 | 51 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2562.8 | 2562.8 | 2562.8 | 2562.8 | 2562.8 |
| 2.5° | 2571.2 | 2617.8 | 2636.1 | 2613.6 | 2623.6 |
| 5° | 2558.7 | 2630.3 | 2542.0 | 2612.0 | 2631.9 |
| 7.5° | 2547.0 | 2539.5 | 2603.6 | 2537.0 | 2565.3 |
| 10° | 2525.4 | 2530.4 | 2517.9 | 2565.3 | 2548.7 |
| 12.5° | 2515.4 | 2544.5 | 2542.0 | 2517.9 | 2554.5 |
| 15° | 2491.3 | 2507.1 | 2482.9 | 2498.8 | 2492.9 |
| 17.5° | 2467.1 | 2459.6 | 2457.1 | 2463.8 | 2469.6 |
| 20° | 2425.5 | 2400.5 | 2415.5 | 2417.2 | 2435.5 |
| 22.5° | 2365.6 | 2350.6 | 2353.9 | 2368.9 | 2370.6 |
| 25° | 2303.1 | 2295.7 | 2304.8 | 2301.5 | 2327.3 |
| 27.5° | 2238.2 | 2228.2 | 2234.1 | 2246.5 | 2262.4 |
| 30° | 2164.1 | 2161.6 | 2157.5 | 2168.3 | 2192.4 |
| 32.5° | 2090.9 | 2070.9 | 2067.6 | 2090.1 | 2117.5 |
| 35° | 1989.3 | 1980.2 | 1965.2 | 2004.3 | 2024.3 |
| 37.5° | 1892.8 | 1864.5 | 1840.4 | 1863.7 | 1872.0 |
| 40° | 1747.1 | 1725.5 | 1668.9 | 1671.4 | 1659.7 |
| 42.5° | 1568.2 | 1552.4 | 1444.1 | 1425.0 | 1392.5 |
| 45° | 1336.8 | 1337.6 | 1209.4 | 1198.6 | 1147.0 |
| 47.5° | 1067.9 | 1115.4 | 1003.8 | 991.3 | 914.8 |
| 50° | 817.4 | 903.1 | 834.0 | 814.1 | 712.5 |
| 52.5° | 613.5 | 739.1 | 717.5 | 674.2 | 534.4 |
| 55° | 481.1 | 608.5 | 624.3 | 562.7 | 417.0 |
| 57.5° | 362.1 | 501.1 | 526.9 | 476.1 | 322.1 |
| 60° | 268.9 | 422.0 | 429.5 | 409.5 | 248.9 |
| 62.5° | 199.8 | 358.7 | 348.8 | 351.3 | 184.8 |
| 65° | 146.5 | 305.5 | 277.2 | 304.6 | 142.3 |
| 67.5° | 119.9 | 264.7 | 215.6 | 263.9 | 115.7 |
| 70° | 104.9 | 234.7 | 160.6 | 232.2 | 104.9 |
| 72.5° | 101.5 | 215.6 | 127.4 | 206.4 | 102.4 |
| 75° | 102.4 | 192.3 | 96.6 | 179.8 | 103.2 |
| 77.5° | 94.1 | 158.1 | 73.2 | 153.2 | 98.2 |
| 80° | 84.1 | 119.9 | 55.8 | 121.5 | 88.2 |
| 82.5° | 71.6 | 87.4 | 44.9 | 89.9 | 74.1 |
| 85° | 49.1 | 64.1 | 41.6 | 64.1 | 51.6 |
| 87.5° | 23.3 | 38.3 | 25.8 | 36.6 | 26.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)