

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: P293988

Luminaire Tested: **24GR-LD5-38-A19/156-UNV-L82765-W2A1-U-6500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293988
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-LD5-38-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: 3915.0 lumens
Efficiency: N/A
Efficacy: 147.7 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

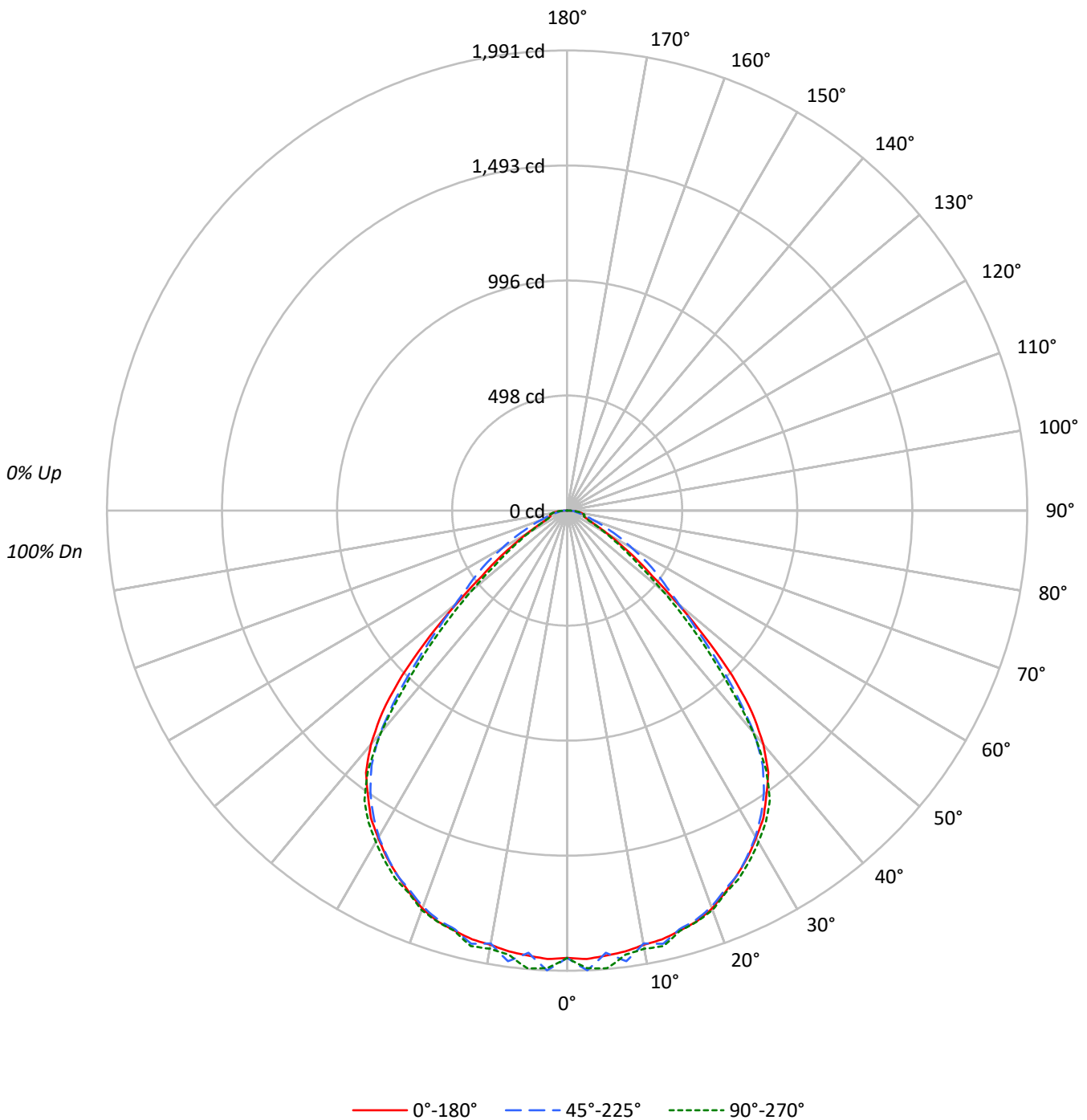
Input Watts (W): 26.505
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2605 | 2605 | 2605 |
| 5° | 2610 | 2593 | 2685 |
| 10° | 2606 | 2598 | 2630 |
| 15° | 2621 | 2612 | 2623 |
| 20° | 2623 | 2613 | 2634 |
| 25° | 2583 | 2585 | 2610 |
| 30° | 2540 | 2532 | 2573 |
| 35° | 2468 | 2438 | 2512 |
| 40° | 2318 | 2214 | 2202 |
| 45° | 1921 | 1738 | 1649 |
| 50° | 1292 | 1319 | 1127 |
| 55° | 852 | 1106 | 739 |
| 60° | 547 | 873 | 506 |
| 65° | 352 | 667 | 342 |
| 70° | 312 | 477 | 312 |
| 75° | 402 | 379 | 405 |
| 80° | 492 | 326 | 516 |
| 85° | 573 | 485 | 602 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 185.4 | 4.7 |
| 10°-20° | 532.2 | 13.6 |
| 20°-30° | 801.2 | 20.5 |
| 30°-40° | 928.7 | 23.7 |
| 40°-50° | 725.5 | 18.5 |
| 50°-60° | 387.4 | 9.9 |
| 60°-70° | 199.2 | 5.1 |
| 70°-80° | 112.7 | 2.9 |
| 80°-90° | 42.8 | 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° | 1518.8 | 38.8 |
| 0°-40° | 2447.5 | 62.5 |
| 0°-60° | 3560.3 | 90.9 |
| 0°-90° | 3915.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3915.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1936 | 1936 | 1936 | 1936 | 1936 | |
| 5° | 1933 | 1987 | 1920 | 1973 | 1988 | 184 |
| 15° | 1882 | 1894 | 1876 | 1887 | 1883 | 532 |
| 25° | 1740 | 1734 | 1741 | 1738 | 1758 | 802 |
| 35° | 1503 | 1496 | 1484 | 1514 | 1529 | 937 |
| 45° | 1010 | 1010 | 914 | 905 | 866 | 761 |
| 55° | 363 | 460 | 472 | 425 | 315 | 335 |
| 65° | 111 | 231 | 209 | 230 | 108 | 122 |
| 75° | 77 | 145 | 73 | 136 | 78 | 78 |
| 85° | 37 | 48 | 31 | 48 | 39 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1935.9 | 1935.9 | 1935.9 | 1935.9 | 1935.9 |
| 2.5° | 1942.1 | 1977.4 | 1991.2 | 1974.2 | 1981.8 |
| 5° | 1932.7 | 1986.8 | 1920.1 | 1973.0 | 1988.0 |
| 7.5° | 1923.9 | 1918.3 | 1966.7 | 1916.4 | 1937.7 |
| 10° | 1907.6 | 1911.3 | 1901.9 | 1937.7 | 1925.2 |
| 12.5° | 1900.0 | 1922.0 | 1920.1 | 1901.9 | 1929.6 |
| 15° | 1881.8 | 1893.7 | 1875.5 | 1887.4 | 1883.0 |
| 17.5° | 1863.6 | 1857.9 | 1856.0 | 1861.0 | 1865.4 |
| 20° | 1832.1 | 1813.3 | 1824.6 | 1825.8 | 1839.7 |
| 22.5° | 1786.8 | 1775.5 | 1778.0 | 1789.4 | 1790.6 |
| 25° | 1739.7 | 1734.0 | 1740.9 | 1738.4 | 1757.9 |
| 27.5° | 1690.7 | 1683.1 | 1687.5 | 1696.9 | 1708.9 |
| 30° | 1634.7 | 1632.8 | 1629.7 | 1637.8 | 1656.1 |
| 32.5° | 1579.4 | 1564.3 | 1561.8 | 1578.7 | 1599.5 |
| 35° | 1502.7 | 1495.7 | 1484.4 | 1514.0 | 1529.1 |
| 37.5° | 1429.7 | 1408.4 | 1390.1 | 1407.7 | 1414.0 |
| 40° | 1319.7 | 1303.4 | 1260.6 | 1262.5 | 1253.7 |
| 42.5° | 1184.5 | 1172.6 | 1090.8 | 1076.4 | 1051.9 |
| 45° | 1009.7 | 1010.4 | 913.5 | 905.4 | 866.4 |
| 47.5° | 806.7 | 842.5 | 758.2 | 748.8 | 691.0 |
| 50° | 617.4 | 682.2 | 630.0 | 614.9 | 538.2 |
| 52.5° | 463.4 | 558.3 | 542.0 | 509.3 | 403.6 |
| 55° | 363.4 | 459.6 | 471.5 | 425.0 | 315.0 |
| 57.5° | 273.5 | 378.5 | 398.0 | 359.6 | 243.3 |
| 60° | 203.1 | 318.8 | 324.4 | 309.3 | 188.0 |
| 62.5° | 150.9 | 271.0 | 263.4 | 265.3 | 139.6 |
| 65° | 110.7 | 230.7 | 209.4 | 230.1 | 107.5 |
| 67.5° | 90.5 | 199.9 | 162.8 | 199.3 | 87.4 |
| 70° | 79.2 | 177.3 | 121.3 | 175.4 | 79.2 |
| 72.5° | 76.7 | 162.8 | 96.2 | 155.9 | 77.3 |
| 75° | 77.3 | 145.2 | 72.9 | 135.8 | 78.0 |
| 77.5° | 71.0 | 119.5 | 55.3 | 115.7 | 74.2 |
| 80° | 63.5 | 90.5 | 42.1 | 91.8 | 66.6 |
| 82.5° | 54.1 | 66.0 | 34.0 | 67.9 | 56.0 |
| 85° | 37.1 | 48.4 | 31.4 | 48.4 | 39.0 |
| 87.5° | 17.6 | 28.9 | 19.5 | 27.7 | 20.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)