

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: P292609

Luminaire Tested: **22GR-LD5-43-A19/156-UNV-L82765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P292609
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33284)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22GR-LD5-43-A19/156-UNV-L82765-W2A1-U-4000K
Description: GRLED 2x2 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (168) 80 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4280.0 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.24 / 1.21
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

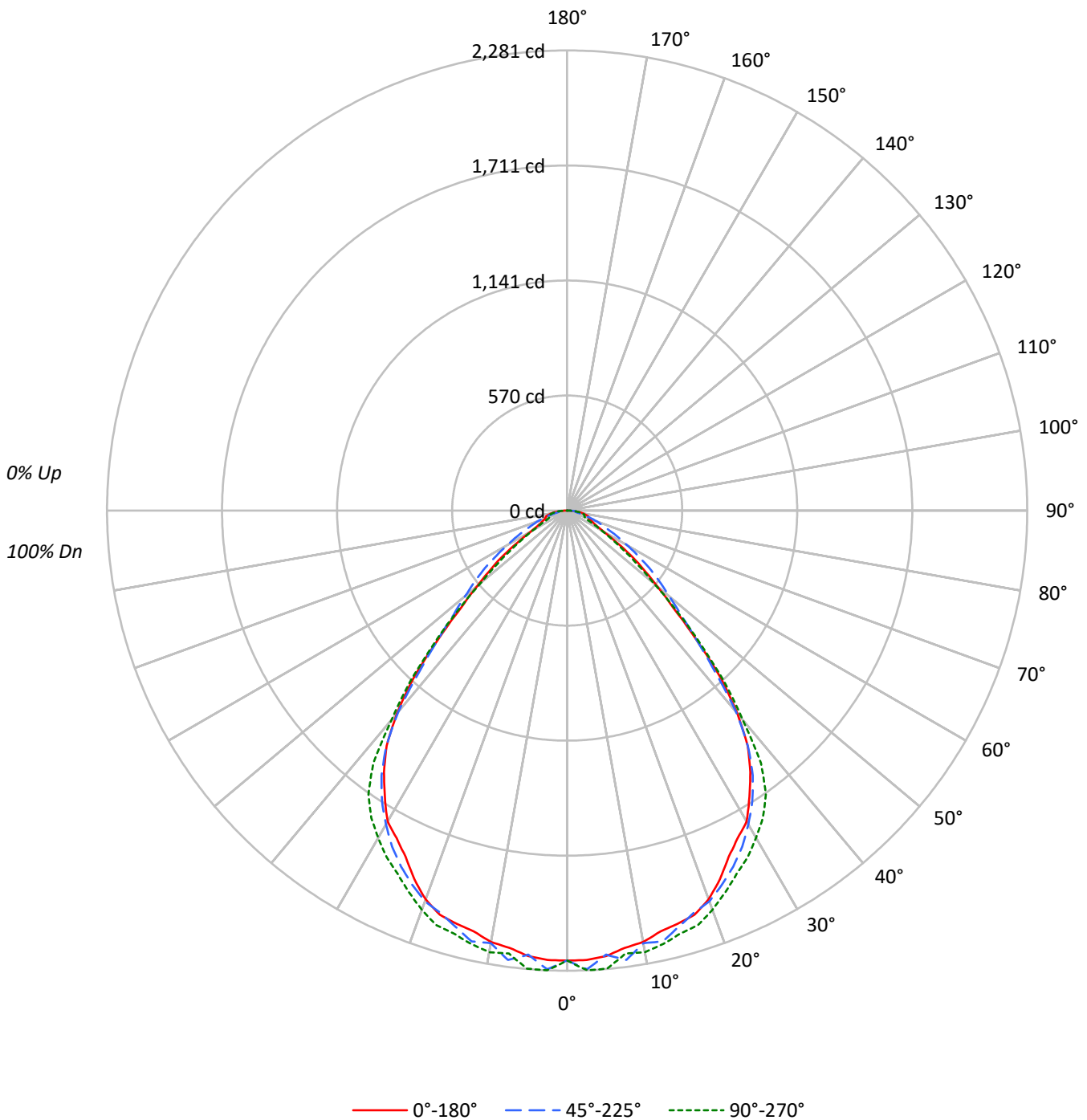
Input Watts (W): 35.526
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 91 | 90 | | | | | 88 | | | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | | | | | 77 | | | | |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 79 | 73 | 82 | 77 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | | | | | 68 | | | | |
| 4 | 88 | 78 | 71 | 65 | 86 | 77 | 70 | 64 | 75 | 68 | 64 | 72 | 67 | 63 | 70 | 66 | 62 | | | | | 60 | | | | |
| 5 | 82 | 71 | 63 | 58 | 80 | 70 | 63 | 57 | 68 | 62 | 57 | 66 | 61 | 56 | 64 | 59 | 56 | | | | | 54 | | | | |
| 6 | 77 | 65 | 57 | 51 | 75 | 64 | 57 | 51 | 62 | 56 | 51 | 61 | 55 | 50 | 59 | 54 | 50 | | | | | 48 | | | | |
| 7 | 72 | 60 | 52 | 46 | 70 | 59 | 51 | 46 | 57 | 51 | 46 | 56 | 50 | 46 | 55 | 49 | 45 | | | | | 44 | | | | |
| 8 | 67 | 55 | 47 | 42 | 66 | 54 | 47 | 42 | 53 | 46 | 42 | 52 | 46 | 41 | 51 | 45 | 41 | | | | | 40 | | | | |
| 9 | 63 | 51 | 43 | 38 | 62 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | | | | | 36 | | | | |
| 10 | 59 | 47 | 40 | 35 | 58 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | | | | | 33 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6002 | 6002 | 6002 |
| 5° | 5987 | 5968 | 6156 |
| 10° | 5933 | 5949 | 6073 |
| 15° | 5905 | 5950 | 6046 |
| 20° | 5874 | 5903 | 6030 |
| 25° | 5623 | 5782 | 5902 |
| 30° | 5531 | 5581 | 5819 |
| 35° | 5201 | 5267 | 5641 |
| 40° | 4608 | 4577 | 4757 |
| 45° | 3442 | 3450 | 3546 |
| 50° | 2423 | 2757 | 2347 |
| 55° | 1788 | 2327 | 1604 |
| 60° | 1118 | 1840 | 1047 |
| 65° | 912 | 1457 | 732 |
| 70° | 905 | 1214 | 722 |
| 75° | 1122 | 891 | 933 |
| 80° | 1251 | 704 | 1141 |
| 85° | 1244 | 1309 | 1275 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 212.3 | 5.0 |
| 10°-20° | 604.8 | 14.1 |
| 20°-30° | 895.8 | 20.9 |
| 30°-40° | 1003.4 | 23.4 |
| 40°-50° | 737.3 | 17.2 |
| 50°-60° | 412.1 | 9.6 |
| 60°-70° | 229.7 | 5.4 |
| 70°-80° | 135.0 | 3.2 |
| 80°-90° | 49.6 | 1.2 |
| 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° | 1712.9 | 40.0 |
| 0°-40° | 2716.4 | 63.5 |
| 0°-60° | 3865.8 | 90.3 |
| 0°-90° | 4280.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4280.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2231 | 2231 | 2231 | 2231 | 2231 | |
| 5° | 2216 | 2258 | 2209 | 2255 | 2279 | 210 |
| 15° | 2120 | 2133 | 2136 | 2168 | 2170 | 599 |
| 25° | 1894 | 1909 | 1947 | 1974 | 1988 | 878 |
| 35° | 1583 | 1584 | 1603 | 1676 | 1717 | 981 |
| 45° | 904 | 978 | 907 | 971 | 932 | 707 |
| 55° | 381 | 464 | 496 | 495 | 342 | 340 |
| 65° | 143 | 254 | 229 | 293 | 115 | 148 |
| 75° | 108 | 152 | 86 | 172 | 90 | 108 |
| 85° | 40 | 60 | 42 | 54 | 41 | 44 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2230.6 | 2230.6 | 2230.6 | 2230.6 | 2230.6 |
| 2.5° | 2229.6 | 2249.8 | 2276.0 | 2279.0 | 2281.0 |
| 5° | 2216.5 | 2257.8 | 2209.4 | 2254.8 | 2279.0 |
| 7.5° | 2186.2 | 2211.5 | 2246.8 | 2201.4 | 2214.5 |
| 10° | 2171.1 | 2177.2 | 2177.2 | 2233.6 | 2222.5 |
| 12.5° | 2136.8 | 2177.2 | 2187.3 | 2176.2 | 2200.4 |
| 15° | 2119.7 | 2132.8 | 2135.8 | 2168.1 | 2170.1 |
| 17.5° | 2100.5 | 2097.5 | 2090.4 | 2113.6 | 2155.0 |
| 20° | 2051.1 | 2040.0 | 2061.2 | 2089.4 | 2105.6 |
| 22.5° | 1978.5 | 1981.5 | 2006.7 | 2029.9 | 2048.1 |
| 25° | 1893.8 | 1908.9 | 1947.3 | 1974.5 | 1987.6 |
| 27.5° | 1830.3 | 1852.5 | 1878.7 | 1910.9 | 1937.2 |
| 30° | 1779.9 | 1777.8 | 1796.0 | 1842.4 | 1872.6 |
| 32.5° | 1682.0 | 1689.1 | 1708.3 | 1763.7 | 1806.1 |
| 35° | 1583.2 | 1584.2 | 1603.4 | 1676.0 | 1717.3 |
| 37.5° | 1469.3 | 1461.2 | 1472.3 | 1550.9 | 1578.2 |
| 40° | 1311.9 | 1314.0 | 1302.9 | 1358.3 | 1354.3 |
| 42.5° | 1128.4 | 1144.6 | 1087.1 | 1159.7 | 1154.6 |
| 45° | 904.5 | 978.2 | 906.6 | 971.1 | 931.8 |
| 47.5° | 714.0 | 822.9 | 763.4 | 810.8 | 737.2 |
| 50° | 578.8 | 690.8 | 658.5 | 679.7 | 560.7 |
| 52.5° | 475.0 | 565.7 | 575.8 | 580.8 | 437.7 |
| 55° | 381.2 | 463.9 | 496.1 | 495.1 | 341.9 |
| 57.5° | 281.3 | 377.1 | 414.5 | 429.6 | 259.2 |
| 60° | 207.7 | 313.6 | 341.9 | 375.1 | 194.6 |
| 62.5° | 167.4 | 275.3 | 282.4 | 328.7 | 148.2 |
| 65° | 143.2 | 254.1 | 228.9 | 293.4 | 115.0 |
| 67.5° | 127.1 | 237.0 | 186.6 | 262.2 | 97.8 |
| 70° | 115.0 | 210.8 | 154.3 | 235.0 | 91.8 |
| 72.5° | 111.9 | 179.5 | 119.0 | 209.8 | 90.8 |
| 75° | 107.9 | 152.3 | 85.7 | 172.4 | 89.7 |
| 77.5° | 92.8 | 130.1 | 61.5 | 133.1 | 83.7 |
| 80° | 80.7 | 103.9 | 45.4 | 99.8 | 73.6 |
| 82.5° | 62.5 | 78.7 | 40.3 | 75.6 | 59.5 |
| 85° | 40.3 | 59.5 | 42.4 | 54.5 | 41.3 |
| 87.5° | 19.2 | 33.3 | 30.3 | 29.2 | 21.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)