

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: P234147

Luminaire Tested: **22GR-LD5-60-A19/156-UNV-L940-CD1-U**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P234147
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33284)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22GR-LD5-60-A19/156-UNV-L940-CD1-U
Description: METALUX 2X2 GRLED TROFFER
WITH A19/156 LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5022.4 lumens
Efficiency: N/A
Efficacy: 101.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.24 / 1.21
Luminous Opening: Rectangular (W 1.83' x L: 1.83' x H: 0')
CIE Type: Direct

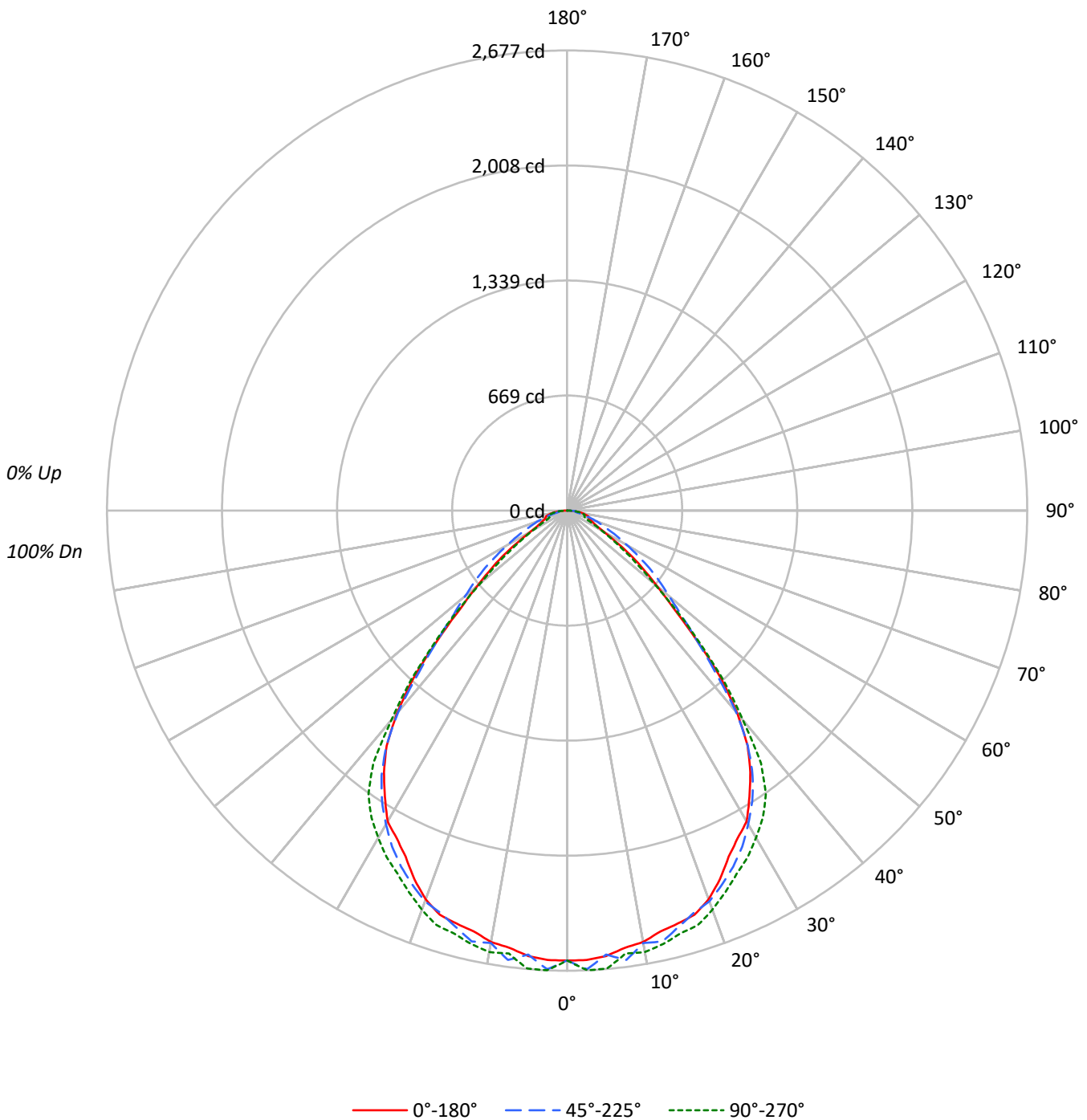
Input Watts (W): 49.58
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P234147

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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° | 8383 | 8383 | 8383 |
| 5° | 8361 | 8335 | 8597 |
| 10° | 8285 | 8308 | 8481 |
| 15° | 8247 | 8310 | 8443 |
| 20° | 8203 | 8243 | 8421 |
| 25° | 7853 | 8074 | 8241 |
| 30° | 7723 | 7793 | 8126 |
| 35° | 7263 | 7356 | 7878 |
| 40° | 6436 | 6392 | 6644 |
| 45° | 4807 | 4818 | 4952 |
| 50° | 3384 | 3850 | 3278 |
| 55° | 2497 | 3251 | 2240 |
| 60° | 1561 | 2570 | 1463 |
| 65° | 1273 | 2035 | 1022 |
| 70° | 1263 | 1695 | 1008 |
| 75° | 1566 | 1245 | 1304 |
| 80° | 1746 | 981 | 1592 |
| 85° | 1738 | 1826 | 1782 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 249.2 | 5.0 |
| 10°-20° | 709.7 | 14.1 |
| 20°-30° | 1051.2 | 20.9 |
| 30°-40° | 1177.5 | 23.4 |
| 40°-50° | 865.2 | 17.2 |
| 50°-60° | 483.6 | 9.6 |
| 60°-70° | 269.5 | 5.4 |
| 70°-80° | 158.4 | 3.2 |
| 80°-90° | 58.2 | 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° | 2010.1 | 40.0 |
| 0°-40° | 3187.5 | 63.5 |
| 0°-60° | 4536.3 | 90.3 |
| 0°-90° | 5022.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5022.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2618 | 2618 | 2618 | 2618 | 2618 | |
| 5° | 2601 | 2650 | 2593 | 2646 | 2674 | 246 |
| 15° | 2487 | 2503 | 2506 | 2544 | 2546 | 702 |
| 25° | 2222 | 2240 | 2285 | 2317 | 2332 | 1030 |
| 35° | 1858 | 1859 | 1882 | 1967 | 2015 | 1151 |
| 45° | 1061 | 1148 | 1064 | 1140 | 1093 | 829 |
| 55° | 447 | 544 | 582 | 581 | 401 | 399 |
| 65° | 168 | 298 | 269 | 344 | 135 | 174 |
| 75° | 127 | 179 | 101 | 202 | 105 | 127 |
| 85° | 47 | 70 | 50 | 64 | 48 | 52 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P234147

CATALOG NUMBER: 22GR-LD5-60-A19/156-UNV-L940-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2617.5 | 2617.5 | 2617.5 | 2617.5 | 2617.5 |
| 2.5° | 2616.4 | 2640.0 | 2670.8 | 2674.3 | 2676.7 |
| 5° | 2601.0 | 2649.5 | 2592.7 | 2646.0 | 2674.3 |
| 7.5° | 2565.5 | 2595.0 | 2636.5 | 2583.2 | 2598.6 |
| 10° | 2547.8 | 2554.8 | 2554.8 | 2621.1 | 2608.0 |
| 12.5° | 2507.5 | 2554.8 | 2566.7 | 2553.6 | 2582.1 |
| 15° | 2487.4 | 2502.8 | 2506.3 | 2544.1 | 2546.5 |
| 17.5° | 2464.8 | 2461.3 | 2453.1 | 2480.2 | 2528.7 |
| 20° | 2406.9 | 2393.9 | 2418.8 | 2451.9 | 2470.8 |
| 22.5° | 2321.7 | 2325.3 | 2354.9 | 2382.0 | 2403.4 |
| 25° | 2222.3 | 2240.0 | 2285.0 | 2316.9 | 2332.3 |
| 27.5° | 2147.8 | 2173.8 | 2204.5 | 2242.4 | 2273.2 |
| 30° | 2088.6 | 2086.2 | 2107.5 | 2162.0 | 2197.5 |
| 32.5° | 1973.8 | 1982.0 | 2004.6 | 2069.7 | 2119.4 |
| 35° | 1857.9 | 1859.0 | 1881.5 | 1966.7 | 2015.2 |
| 37.5° | 1724.1 | 1714.7 | 1727.7 | 1819.9 | 1851.9 |
| 40° | 1539.5 | 1541.9 | 1528.9 | 1593.9 | 1589.2 |
| 42.5° | 1324.1 | 1343.1 | 1275.6 | 1360.9 | 1354.9 |
| 45° | 1061.4 | 1147.8 | 1063.8 | 1139.6 | 1093.4 |
| 47.5° | 837.8 | 965.6 | 895.8 | 951.4 | 865.0 |
| 50° | 679.2 | 810.6 | 772.7 | 797.6 | 657.9 |
| 52.5° | 557.4 | 663.8 | 675.7 | 681.6 | 513.6 |
| 55° | 447.3 | 544.3 | 582.2 | 581.0 | 401.2 |
| 57.5° | 330.2 | 442.6 | 486.3 | 504.1 | 304.1 |
| 60° | 243.7 | 368.0 | 401.2 | 440.2 | 228.4 |
| 62.5° | 196.4 | 323.0 | 331.4 | 385.8 | 174.0 |
| 65° | 168.0 | 298.2 | 268.6 | 344.3 | 134.9 |
| 67.5° | 149.1 | 278.1 | 219.0 | 307.7 | 114.8 |
| 70° | 134.9 | 247.3 | 181.0 | 275.7 | 107.7 |
| 72.5° | 131.3 | 210.6 | 139.7 | 246.1 | 106.5 |
| 75° | 126.6 | 178.7 | 100.6 | 202.4 | 105.4 |
| 77.5° | 108.9 | 152.6 | 72.2 | 156.2 | 98.2 |
| 80° | 94.7 | 121.9 | 53.2 | 117.1 | 86.3 |
| 82.5° | 73.4 | 92.3 | 47.3 | 88.8 | 69.8 |
| 85° | 47.3 | 69.8 | 49.7 | 63.9 | 48.5 |
| 87.5° | 22.4 | 39.0 | 35.5 | 34.3 | 24.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)