

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: P234109

Luminaire Tested: **22GR-LD5-70-A-UNV-L930-CD1-U**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P234109
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33296)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22GR-LD5-70-A-UNV-L930-CD1-U
Description: METALUX 2X2 GRLED TROFFER
WITH A LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5496.7 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.22 / 1.25
Luminous Opening: Rectangular (W 1.83' x L: 1.83' x H: 0')
CIE Type: Direct

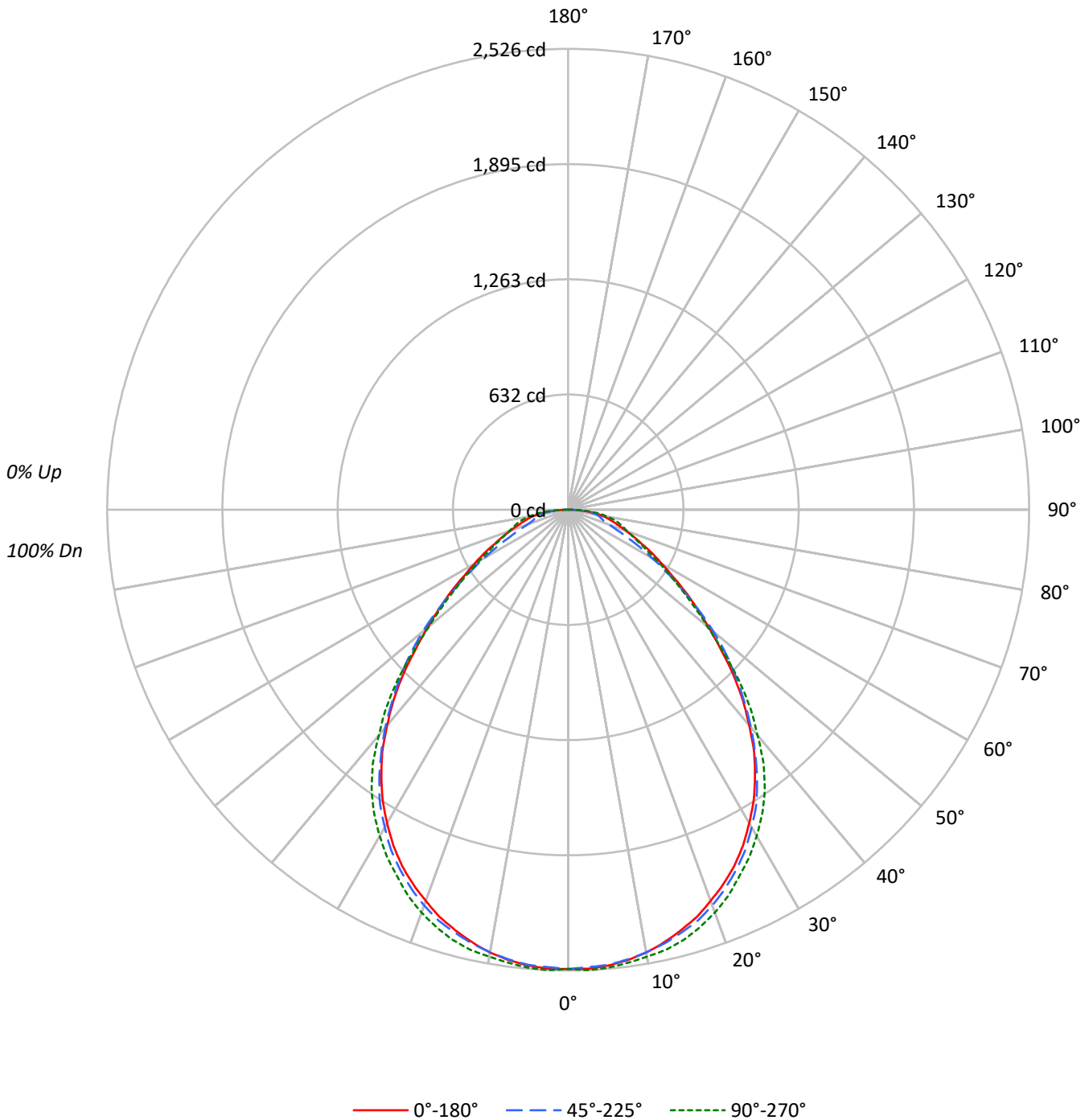
Input Watts (W): 64.16
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P234109

CATALOG NUMBER: 22GR-LD5-70-A-UNV-L930-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P234109

CATALOG NUMBER: 22GR-LD5-70-A-UNV-L930-CD1-U

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 110 | 106 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 94 | 87 | 82 | 99 | 92 | 86 | 81 | 88 | 84 | 79 | 85 | 81 | 78 | 82 | 79 | 76 | 74 |
| 3 | 93 | 84 | 76 | 70 | 91 | 82 | 75 | 70 | 79 | 73 | 68 | 76 | 71 | 67 | 74 | 70 | 66 | 64 |
| 4 | 86 | 75 | 67 | 61 | 84 | 74 | 66 | 60 | 71 | 65 | 60 | 69 | 63 | 59 | 67 | 62 | 58 | 56 |
| 5 | 80 | 68 | 59 | 53 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 6 | 74 | 62 | 53 | 47 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 46 | 56 | 50 | 46 | 44 |
| 7 | 69 | 56 | 48 | 42 | 67 | 55 | 48 | 42 | 54 | 47 | 42 | 53 | 46 | 42 | 51 | 46 | 41 | 39 |
| 8 | 64 | 52 | 44 | 38 | 63 | 51 | 43 | 38 | 50 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 37 | 36 |
| 9 | 60 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 32 |
| 10 | 57 | 44 | 37 | 32 | 55 | 44 | 36 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 30 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 8061 | 8061 | 8061 |
| 5° | 8063 | 8051 | 8100 |
| 10° | 8015 | 8011 | 8090 |
| 15° | 7913 | 7956 | 8096 |
| 20° | 7777 | 7868 | 8008 |
| 25° | 7611 | 7697 | 7837 |
| 30° | 7336 | 7435 | 7639 |
| 35° | 6976 | 7056 | 7341 |
| 40° | 6449 | 6518 | 6749 |
| 45° | 5793 | 5897 | 5990 |
| 50° | 5009 | 5187 | 4958 |
| 55° | 4371 | 4257 | 4199 |
| 60° | 3785 | 3408 | 3637 |
| 65° | 3383 | 2675 | 3267 |
| 70° | 3138 | 2216 | 3222 |
| 75° | 3134 | 2342 | 3576 |
| 80° | 3467 | 2949 | 4033 |
| 85° | 3619 | 3197 | 4560 |



TEST NUMBER: P234109

CATALOG NUMBER: 22GR-LD5-70-A-UNV-L930-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 238.2 | 4.3 |
| 10°-20° | 678.4 | 12.3 |
| 20°-30° | 1003.4 | 18.3 |
| 30°-40° | 1132.3 | 20.6 |
| 40°-50° | 998.2 | 18.2 |
| 50°-60° | 684.8 | 12.5 |
| 60°-70° | 404.1 | 7.4 |
| 70°-80° | 252.1 | 4.6 |
| 80°-90° | 105.1 | 1.9 |
| 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° | 1920.1 | 34.9 |
| 0°-40° | 3052.4 | 55.5 |
| 0°-60° | 4735.3 | 86.1 |
| 0°-90° | 5496.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5496.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2517 | 2517 | 2517 | 2517 | 2517 | |
| 5° | 2508 | 2503 | 2504 | 2513 | 2520 | 238 |
| 15° | 2387 | 2389 | 2400 | 2429 | 2442 | 673 |
| 25° | 2154 | 2162 | 2178 | 2206 | 2218 | 989 |
| 35° | 1784 | 1800 | 1805 | 1848 | 1878 | 1112 |
| 45° | 1279 | 1286 | 1302 | 1310 | 1323 | 983 |
| 55° | 783 | 764 | 762 | 737 | 752 | 702 |
| 65° | 446 | 393 | 353 | 408 | 431 | 450 |
| 75° | 253 | 228 | 189 | 265 | 289 | 272 |
| 85° | 98 | 92 | 87 | 114 | 124 | 106 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P234109

CATALOG NUMBER: 22GR-LD5-70-A-UNV-L930-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2517.2 | 2517.2 | 2517.2 | 2517.2 | 2517.2 |
| 2.5° | 2518.5 | 2512.2 | 2509.6 | 2519.8 | 2526.2 |
| 5° | 2508.3 | 2503.2 | 2504.4 | 2513.4 | 2519.8 |
| 7.5° | 2490.4 | 2486.6 | 2486.6 | 2499.4 | 2505.8 |
| 10° | 2464.8 | 2463.5 | 2463.5 | 2478.9 | 2487.8 |
| 12.5° | 2429.0 | 2430.2 | 2435.4 | 2455.8 | 2471.2 |
| 15° | 2386.8 | 2389.3 | 2399.6 | 2429.0 | 2441.8 |
| 17.5° | 2340.8 | 2340.8 | 2361.2 | 2384.2 | 2399.6 |
| 20° | 2281.9 | 2285.8 | 2308.8 | 2334.4 | 2349.7 |
| 22.5° | 2221.8 | 2228.2 | 2247.4 | 2276.8 | 2290.8 |
| 25° | 2154.0 | 2161.7 | 2178.3 | 2206.5 | 2217.9 |
| 27.5° | 2074.7 | 2084.9 | 2102.8 | 2123.3 | 2147.6 |
| 30° | 1983.9 | 1999.2 | 2010.7 | 2038.8 | 2065.7 |
| 32.5° | 1891.7 | 1905.8 | 1918.6 | 1948.1 | 1978.7 |
| 35° | 1784.3 | 1799.7 | 1804.8 | 1848.3 | 1877.7 |
| 37.5° | 1674.4 | 1680.8 | 1683.3 | 1726.8 | 1758.7 |
| 40° | 1542.6 | 1555.4 | 1559.2 | 1593.8 | 1614.3 |
| 42.5° | 1416.0 | 1421.1 | 1428.8 | 1454.4 | 1478.6 |
| 45° | 1279.1 | 1285.5 | 1302.1 | 1309.8 | 1322.6 |
| 47.5° | 1135.9 | 1155.1 | 1174.2 | 1149.9 | 1151.2 |
| 50° | 1005.4 | 1020.7 | 1041.2 | 995.2 | 995.2 |
| 52.5° | 889.0 | 896.7 | 897.9 | 859.5 | 867.2 |
| 55° | 782.8 | 763.6 | 762.4 | 736.8 | 752.1 |
| 57.5° | 676.7 | 651.1 | 642.1 | 634.4 | 652.3 |
| 60° | 591.0 | 544.9 | 532.1 | 543.6 | 567.9 |
| 62.5° | 520.6 | 461.7 | 437.5 | 466.9 | 488.6 |
| 65° | 446.4 | 392.7 | 353.0 | 408.0 | 431.1 |
| 67.5° | 388.8 | 337.7 | 286.5 | 364.6 | 381.1 |
| 70° | 335.1 | 295.4 | 236.7 | 331.3 | 344.1 |
| 72.5° | 291.6 | 260.9 | 204.7 | 299.3 | 314.6 |
| 75° | 253.3 | 227.7 | 189.3 | 264.8 | 289.0 |
| 77.5° | 222.5 | 194.4 | 176.5 | 228.9 | 258.4 |
| 80° | 188.0 | 159.9 | 159.9 | 191.9 | 218.7 |
| 82.5° | 148.3 | 125.4 | 129.2 | 156.0 | 175.2 |
| 85° | 98.5 | 92.1 | 87.0 | 113.8 | 124.1 |
| 87.5° | 49.9 | 51.2 | 46.1 | 58.9 | 60.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)