

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: P219228

Luminaire Tested: **24GR-LD5-90-A19/156-UNV-L935-CD1-U**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P219228
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33306)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-90-A19/156-UNV-L935-CD1-U
Description: METALUX GR 2X4 LED TROFFER WITH A19/156 LENS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7521.6 lumens
Efficiency: N/A
Efficacy: 108.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.26
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')
CIE Type: Direct

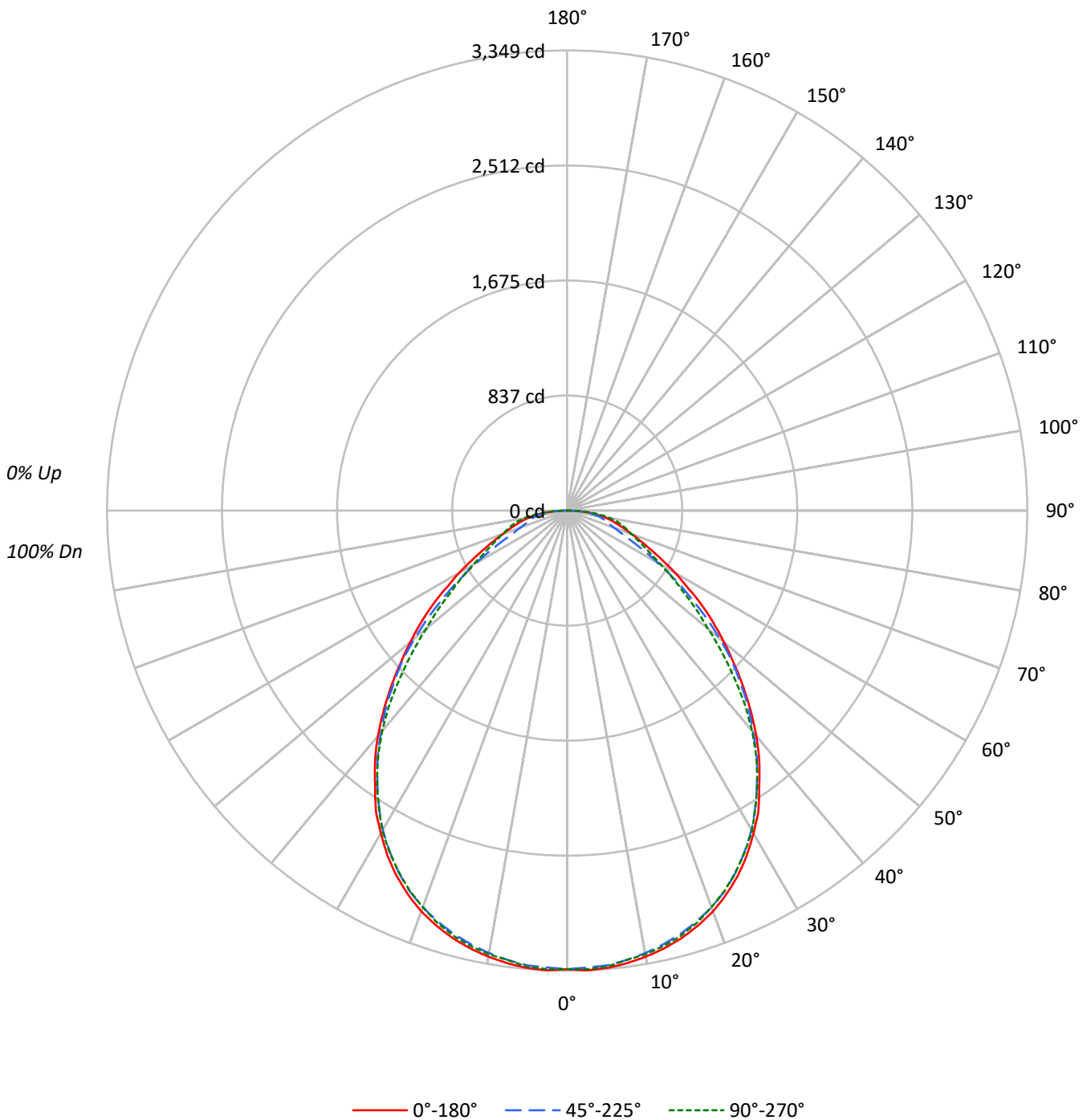
Input Watts (W): 69.117
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P219228

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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 | 110 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 89 | 88 | 86 | | | | | 86 | | | |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 78 | 75 | 73 | | | | | 73 | | | |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 73 | 69 | 65 | 63 | | | | | 63 | | | |
| 4 | 86 | 74 | 66 | 60 | 83 | 73 | 65 | 60 | 71 | 64 | 59 | 68 | 63 | 58 | 66 | 61 | 57 | 55 | | | | | 55 | | | |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 | | | | | 49 | | | |
| 6 | 73 | 61 | 53 | 46 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 43 | | | | | 43 | | | |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 41 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 | | | | | 39 | | | |
| 8 | 64 | 51 | 43 | 37 | 62 | 50 | 43 | 37 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 35 | | | | | 35 | | | |
| 9 | 60 | 47 | 39 | 34 | 58 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 33 | 43 | 38 | 33 | 32 | | | | | 32 | | | |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 31 | 40 | 35 | 30 | 29 | | | | | 29 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5111 | 5111 | 5111 |
| 5° | 5136 | 5108 | 5120 |
| 10° | 5127 | 5086 | 5100 |
| 15° | 5108 | 5056 | 5078 |
| 20° | 5059 | 5008 | 5006 |
| 25° | 4960 | 4907 | 4903 |
| 30° | 4797 | 4747 | 4757 |
| 35° | 4556 | 4504 | 4510 |
| 40° | 4284 | 4210 | 4184 |
| 45° | 3926 | 3874 | 3720 |
| 50° | 3550 | 3453 | 3192 |
| 55° | 3187 | 2901 | 2752 |
| 60° | 2791 | 2335 | 2421 |
| 65° | 2434 | 1836 | 2228 |
| 70° | 2227 | 1603 | 2227 |
| 75° | 2228 | 1705 | 2455 |
| 80° | 2419 | 2008 | 2798 |
| 85° | 2654 | 2265 | 3002 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 316.0 | 4.2 |
| 10°-20° | 901.9 | 12.0 |
| 20°-30° | 1337.3 | 17.8 |
| 30°-40° | 1508.6 | 20.1 |
| 40°-50° | 1366.4 | 18.2 |
| 50°-60° | 985.8 | 13.1 |
| 60°-70° | 588.6 | 7.8 |
| 70°-80° | 363.8 | 4.8 |
| 80°-90° | 153.2 | 2.0 |
| 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° | 2555.2 | 34.0 |
| 0°-40° | 4063.9 | 54.0 |
| 0°-60° | 6416.0 | 85.3 |
| 0°-90° | 7521.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 7521.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3337 | 3337 | 3337 | 3337 | 3337 | |
| 5° | 3341 | 3336 | 3322 | 3319 | 3330 | 317 |
| 15° | 3221 | 3201 | 3188 | 3190 | 3202 | 908 |
| 25° | 2935 | 2919 | 2904 | 2893 | 2902 | 1348 |
| 35° | 2437 | 2433 | 2409 | 2410 | 2412 | 1525 |
| 45° | 1813 | 1801 | 1788 | 1744 | 1717 | 1397 |
| 55° | 1193 | 1156 | 1086 | 1033 | 1031 | 1065 |
| 65° | 672 | 591 | 507 | 575 | 615 | 676 |
| 75° | 376 | 326 | 288 | 359 | 415 | 402 |
| 85° | 151 | 132 | 129 | 168 | 171 | 158 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P219228

CATALOG NUMBER: 24GR-LD5-90-A19/156-UNV-L935-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3337.3 | 3337.3 | 3337.3 | 3337.3 | 3337.3 |
| 2.5° | 3348.9 | 3339.6 | 3328.0 | 3335.0 | 3340.8 |
| 5° | 3340.8 | 3336.1 | 3322.1 | 3318.7 | 3330.3 |
| 7.5° | 3323.3 | 3311.7 | 3298.9 | 3304.7 | 3300.1 |
| 10° | 3296.6 | 3286.1 | 3269.9 | 3271.1 | 3279.1 |
| 12.5° | 3264.1 | 3251.2 | 3233.8 | 3238.5 | 3245.5 |
| 15° | 3221.1 | 3201.4 | 3188.5 | 3189.7 | 3202.5 |
| 17.5° | 3166.4 | 3151.4 | 3135.1 | 3138.5 | 3144.4 |
| 20° | 3103.7 | 3095.5 | 3072.3 | 3065.4 | 3071.1 |
| 22.5° | 3024.7 | 3009.6 | 2996.8 | 2993.3 | 2994.5 |
| 25° | 2935.2 | 2919.0 | 2903.9 | 2893.4 | 2901.5 |
| 27.5° | 2830.7 | 2816.7 | 2796.9 | 2793.4 | 2800.4 |
| 30° | 2712.1 | 2701.6 | 2684.2 | 2679.5 | 2690.0 |
| 32.5° | 2591.2 | 2573.8 | 2549.4 | 2549.4 | 2551.8 |
| 35° | 2436.7 | 2433.2 | 2408.8 | 2410.0 | 2412.3 |
| 37.5° | 2297.3 | 2281.0 | 2267.0 | 2253.1 | 2260.1 |
| 40° | 2142.8 | 2124.2 | 2105.5 | 2096.3 | 2092.8 |
| 42.5° | 1976.6 | 1962.6 | 1954.5 | 1920.8 | 1912.7 |
| 45° | 1812.7 | 1801.1 | 1788.3 | 1744.2 | 1717.4 |
| 47.5° | 1645.4 | 1643.0 | 1632.6 | 1554.7 | 1528.0 |
| 50° | 1489.7 | 1486.2 | 1449.0 | 1366.5 | 1339.8 |
| 52.5° | 1342.1 | 1318.9 | 1270.1 | 1188.7 | 1184.0 |
| 55° | 1193.4 | 1156.2 | 1086.5 | 1033.0 | 1030.7 |
| 57.5° | 1036.5 | 992.4 | 921.5 | 892.4 | 907.5 |
| 60° | 911.0 | 843.6 | 762.3 | 765.8 | 790.2 |
| 62.5° | 780.9 | 705.3 | 625.2 | 660.0 | 689.1 |
| 65° | 671.7 | 591.4 | 506.6 | 575.2 | 614.7 |
| 67.5° | 576.4 | 502.0 | 420.7 | 512.5 | 550.8 |
| 70° | 497.3 | 436.9 | 357.9 | 454.3 | 497.3 |
| 72.5° | 434.6 | 378.8 | 317.2 | 407.8 | 457.8 |
| 75° | 376.5 | 326.5 | 288.2 | 359.0 | 414.8 |
| 77.5° | 326.5 | 277.7 | 260.3 | 317.2 | 371.9 |
| 80° | 274.2 | 230.1 | 227.7 | 276.6 | 317.2 |
| 82.5° | 213.8 | 183.6 | 183.6 | 231.2 | 255.7 |
| 85° | 151.0 | 132.4 | 128.9 | 168.5 | 170.8 |
| 87.5° | 77.9 | 74.4 | 67.4 | 88.3 | 88.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)