

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: P475696

Luminaire Tested: **24GR-LD5-100-A19/156-UNV-L850-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475696
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-100-A19/156-UNV-L850-CD1-U
Description: GR 2'X4' LED TROFFER w/ A19/156 LENS
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9732.3 lumens
Efficiency: N/A
Efficacy: 145.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.25 / 1.28
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

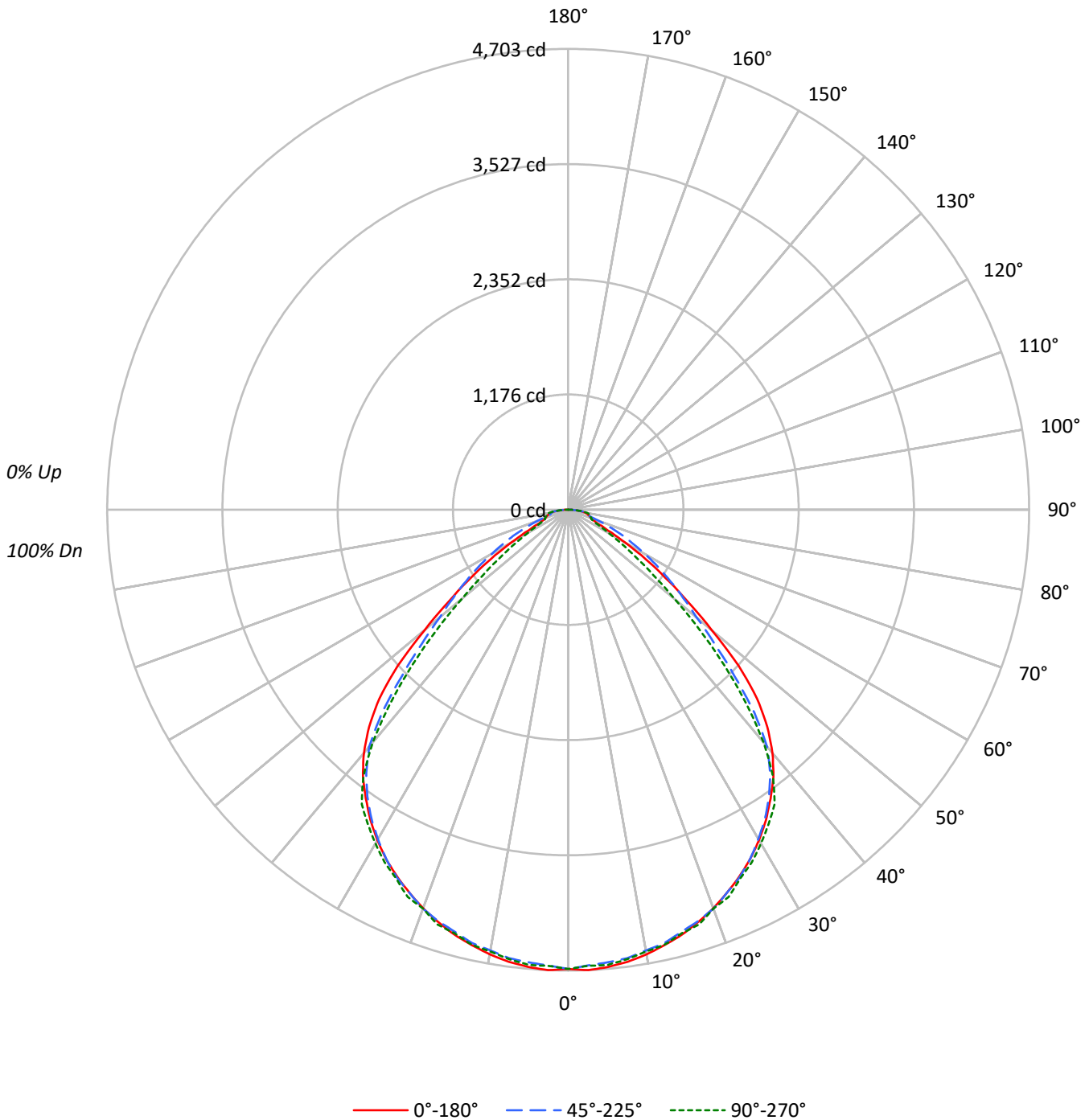
Input Watts (W): 67.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P475696

CATALOG NUMBER: 24GR-LD5-100-A19/156-UNV-L850-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P475696

CATALOG NUMBER: 24GR-LD5-100-A19/156-UNV-L850-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 | 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 | 104 | 101 | 98 | 100 | 98 | 95 | 96 | 94 | 92 | 93 | 91 | 90 | | | | | 88 | | | | |
| 2 | 102 | 95 | 90 | 85 | 100 | 94 | 88 | 84 | 90 | 86 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | | | | | 76 | | | | |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | | | | | 67 | | | | |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 63 | 71 | 66 | 62 | 69 | 65 | 61 | | | | | 59 | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 62 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | | | | | 52 | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 60 | 54 | 49 | 58 | 53 | 49 | | | | | 47 | | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 48 | 44 | | | | | 42 | | | | |
| 8 | 66 | 54 | 46 | 40 | 65 | 53 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | | | | | 38 | | | | |
| 9 | 62 | 49 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 36 | 46 | 40 | 36 | | | | | 34 | | | | |
| 10 | 58 | 46 | 38 | 34 | 57 | 45 | 38 | 34 | 44 | 38 | 33 | 43 | 37 | 33 | 43 | 37 | 33 | | | | | 31 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6306 | 6306 | 6306 |
| 5° | 6326 | 6264 | 6296 |
| 10° | 6295 | 6240 | 6255 |
| 15° | 6253 | 6213 | 6234 |
| 20° | 6200 | 6204 | 6201 |
| 25° | 6134 | 6144 | 6165 |
| 30° | 6048 | 6030 | 6110 |
| 35° | 5911 | 5867 | 6030 |
| 40° | 5696 | 5546 | 5447 |
| 45° | 5185 | 4562 | 4304 |
| 50° | 4001 | 3578 | 2957 |
| 55° | 2842 | 2984 | 1957 |
| 60° | 1800 | 2410 | 1277 |
| 65° | 1044 | 1896 | 934 |
| 70° | 967 | 1306 | 990 |
| 75° | 1112 | 994 | 1180 |
| 80° | 1389 | 1375 | 1558 |
| 85° | 1514 | 1606 | 1667 |



TEST NUMBER: P475696

CATALOG NUMBER: 24GR-LD5-100-A19/156-UNV-L850-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 441.6 | 4.5 |
| 10°-20° | 1263.2 | 13.0 |
| 20°-30° | 1906.1 | 19.6 |
| 30°-40° | 2237.3 | 23.0 |
| 40°-50° | 1883.5 | 19.4 |
| 50°-60° | 1069.9 | 11.0 |
| 60°-70° | 534.0 | 5.5 |
| 70°-80° | 280.0 | 2.9 |
| 80°-90° | 116.7 | 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° | 3610.9 | 37.1 |
| 0°-40° | 5848.2 | 60.1 |
| 0°-60° | 8801.6 | 90.4 |
| 0°-90° | 9732.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 9732.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 4686 | 4686 | 4686 | 4686 | 4686 | |
| 5° | 4684 | 4650 | 4638 | 4646 | 4662 | 445 |
| 15° | 4489 | 4478 | 4461 | 4472 | 4475 | 1266 |
| 25° | 4132 | 4134 | 4139 | 4150 | 4152 | 1903 |
| 35° | 3599 | 3579 | 3572 | 3632 | 3671 | 2247 |
| 45° | 2725 | 2616 | 2398 | 2356 | 2262 | 2052 |
| 55° | 1212 | 1296 | 1272 | 1097 | 834 | 1102 |
| 65° | 328 | 680 | 596 | 505 | 293 | 373 |
| 75° | 214 | 330 | 191 | 287 | 227 | 227 |
| 85° | 98 | 117 | 104 | 132 | 108 | 104 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475696

CATALOG NUMBER: 24GR-LD5-100-A19/156-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 4686.5 | 4686.5 | 4686.5 | 4686.5 | 4686.5 |
| 2.5° | 4703.3 | 4680.5 | 4654.8 | 4647.8 | 4659.7 |
| 5° | 4683.5 | 4649.8 | 4637.9 | 4645.9 | 4661.7 |
| 7.5° | 4652.8 | 4618.1 | 4616.1 | 4602.3 | 4626.0 |
| 10° | 4607.2 | 4584.4 | 4567.6 | 4575.5 | 4578.5 |
| 12.5° | 4549.8 | 4542.8 | 4529.9 | 4519.0 | 4545.8 |
| 15° | 4489.3 | 4478.4 | 4460.6 | 4472.5 | 4475.4 |
| 17.5° | 4412.0 | 4406.1 | 4403.1 | 4412.0 | 4437.8 |
| 20° | 4329.8 | 4329.8 | 4332.8 | 4334.8 | 4330.8 |
| 22.5° | 4231.7 | 4228.7 | 4232.7 | 4240.6 | 4278.3 |
| 25° | 4131.6 | 4133.6 | 4138.6 | 4149.5 | 4152.4 |
| 27.5° | 4020.7 | 4021.7 | 4019.7 | 4030.6 | 4056.3 |
| 30° | 3892.9 | 3888.9 | 3881.0 | 3904.7 | 3932.5 |
| 32.5° | 3754.1 | 3746.2 | 3737.3 | 3774.0 | 3803.7 |
| 35° | 3598.6 | 3578.8 | 3571.8 | 3632.3 | 3670.9 |
| 37.5° | 3439.1 | 3398.4 | 3383.6 | 3428.2 | 3433.1 |
| 40° | 3242.9 | 3182.5 | 3157.7 | 3114.1 | 3101.2 |
| 42.5° | 3007.1 | 2944.7 | 2810.9 | 2743.5 | 2696.0 |
| 45° | 2724.7 | 2615.7 | 2397.7 | 2356.1 | 2262.0 |
| 47.5° | 2360.1 | 2244.2 | 2026.2 | 1937.0 | 1830.0 |
| 50° | 1911.3 | 1843.9 | 1709.1 | 1598.2 | 1412.9 |
| 52.5° | 1527.8 | 1541.7 | 1478.3 | 1324.7 | 1094.8 |
| 55° | 1211.7 | 1296.0 | 1272.2 | 1096.8 | 834.3 |
| 57.5° | 932.3 | 1113.7 | 1084.9 | 902.6 | 637.1 |
| 60° | 668.8 | 954.1 | 895.7 | 743.1 | 474.6 |
| 62.5° | 458.7 | 814.4 | 734.2 | 613.3 | 363.6 |
| 65° | 328.0 | 679.7 | 595.5 | 505.3 | 293.3 |
| 67.5° | 269.5 | 555.8 | 456.8 | 429.0 | 255.6 |
| 70° | 245.7 | 447.8 | 331.9 | 374.5 | 251.7 |
| 72.5° | 233.8 | 375.5 | 243.7 | 328.0 | 239.8 |
| 75° | 214.0 | 329.9 | 191.2 | 287.3 | 226.9 |
| 77.5° | 198.2 | 285.4 | 178.3 | 251.7 | 220.9 |
| 80° | 179.3 | 225.9 | 177.4 | 213.0 | 201.1 |
| 82.5° | 144.7 | 164.5 | 149.6 | 174.4 | 162.5 |
| 85° | 98.1 | 116.9 | 104.0 | 131.8 | 108.0 |
| 87.5° | 48.5 | 57.5 | 46.6 | 62.4 | 47.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)