

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: P219258

Luminaire Tested: **24GR-LD5-90-A19/156-UNV-L950-CD1-U**

Issue Date: 3/12/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219258  
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-L950-CD1-U  
Description: METALUX GR 2X4 LED TROFFER WITH A19/156 LENS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8189.1 lumens  
Efficiency: N/A  
Efficacy: 118.5 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

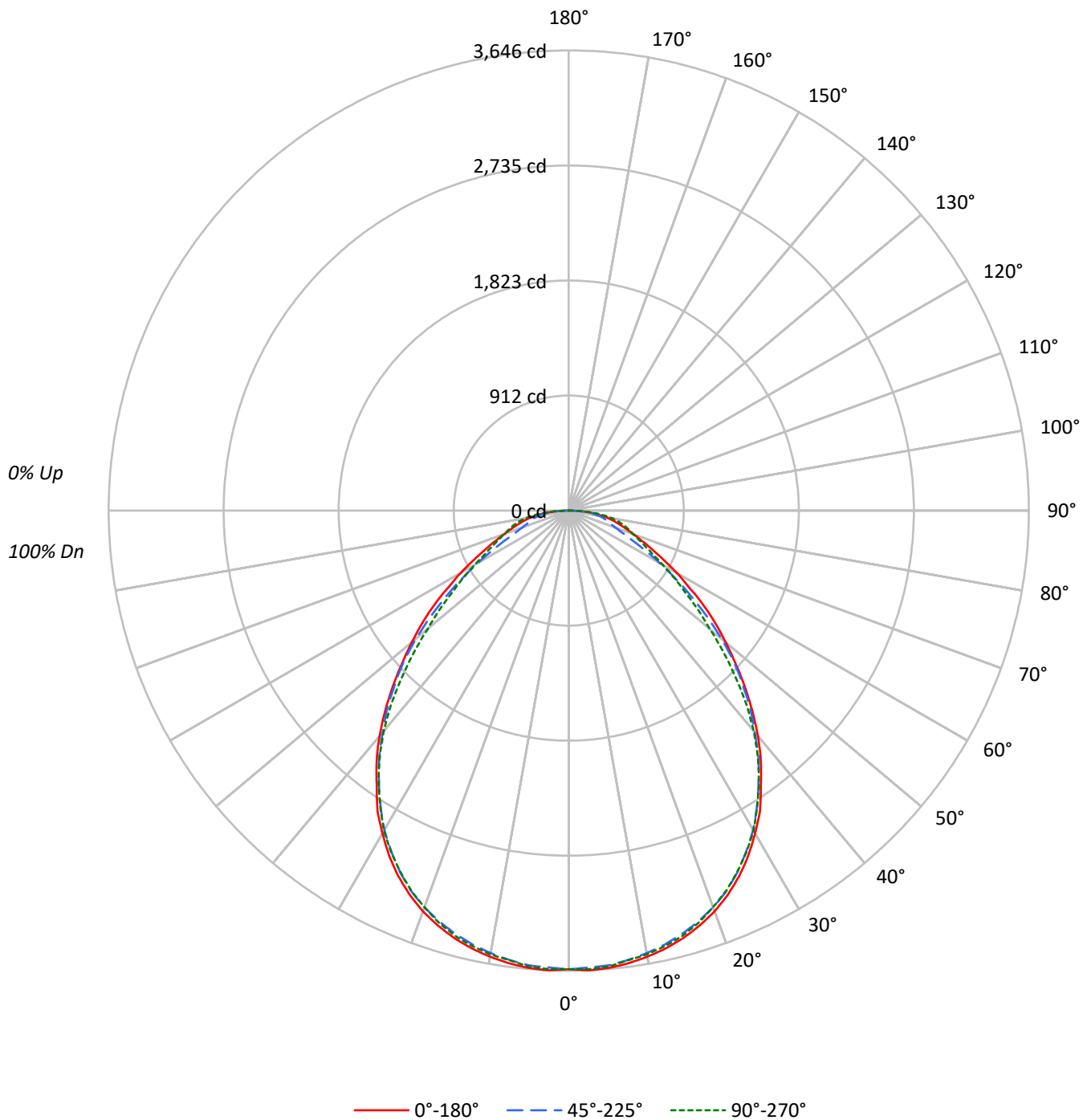
Input Watts (W): 69.117  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 110 | 105 | 101 | 98  | 107 | 103 | 99  | 96  |  | 99  | 96  | 93  |  | 95  | 93  | 90  |  | 91  | 89  | 88  |
| 2   | 101 | 93  | 87  | 82  | 98  | 91  | 86  | 81  |  | 88  | 83  | 79  |  | 85  | 81  | 77  |  | 82  | 78  | 75  |
| 3   | 93  | 83  | 75  | 69  | 90  | 81  | 74  | 69  |  | 79  | 73  | 68  |  | 76  | 71  | 67  |  | 73  | 69  | 65  |
| 4   | 86  | 74  | 66  | 60  | 83  | 73  | 65  | 60  |  | 71  | 64  | 59  |  | 68  | 63  | 58  |  | 66  | 61  | 57  |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 52  |  | 64  | 57  | 52  |  | 62  | 56  | 51  |  | 60  | 55  | 51  |
| 6   | 73  | 61  | 53  | 46  | 72  | 60  | 52  | 46  |  | 58  | 51  | 46  |  | 57  | 50  | 45  |  | 55  | 49  | 45  |
| 7   | 68  | 56  | 47  | 42  | 67  | 55  | 47  | 41  |  | 53  | 46  | 41  |  | 52  | 46  | 41  |  | 51  | 45  | 41  |
| 8   | 64  | 51  | 43  | 37  | 62  | 50  | 43  | 37  |  | 49  | 42  | 37  |  | 48  | 41  | 37  |  | 47  | 41  | 37  |
| 9   | 60  | 47  | 39  | 34  | 58  | 46  | 39  | 34  |  | 45  | 38  | 34  |  | 44  | 38  | 33  |  | 43  | 38  | 33  |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  |  | 42  | 35  | 31  |  | 41  | 35  | 31  |  | 40  | 35  | 30  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5565 | 5565 | 5565 |
| 5°  | 5592 | 5561 | 5575 |
| 10° | 5582 | 5537 | 5552 |
| 15° | 5561 | 5505 | 5529 |
| 20° | 5508 | 5452 | 5450 |
| 25° | 5400 | 5343 | 5339 |
| 30° | 5222 | 5168 | 5180 |
| 35° | 4960 | 4903 | 4911 |
| 40° | 4664 | 4583 | 4556 |
| 45° | 4275 | 4217 | 4050 |
| 50° | 3865 | 3759 | 3476 |
| 55° | 3470 | 3159 | 2996 |
| 60° | 3038 | 2542 | 2635 |
| 65° | 2650 | 1999 | 2425 |
| 70° | 2424 | 1745 | 2424 |
| 75° | 2426 | 1857 | 2672 |
| 80° | 2634 | 2187 | 3046 |
| 85° | 2889 | 2467 | 3269 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 344.1  | 4.2       |
| 10°-20°   | 981.9  | 12.0      |
| 20°-30°   | 1456.0 | 17.8      |
| 30°-40°   | 1642.5 | 20.1      |
| 40°-50°   | 1487.7 | 18.2      |
| 50°-60°   | 1073.2 | 13.1      |
| 60°-70°   | 640.8  | 7.8       |
| 70°-80°   | 396.1  | 4.8       |
| 80°-90°   | 166.9  | 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°    | 2782.0 | 34.0      |
| 0°-40°    | 4424.5 | 54.0      |
| 0°-60°    | 6985.4 | 85.3      |
| 0°-90°    | 8189.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 8189.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3633 | 3633  | 3633 | 3633  | 3633 |      |
| 5°  | 3637 | 3632  | 3617 | 3613  | 3626 | 346  |
| 15° | 3507 | 3485  | 3472 | 3473  | 3487 | 989  |
| 25° | 3196 | 3178  | 3162 | 3150  | 3159 | 1468 |
| 35° | 2653 | 2649  | 2622 | 2624  | 2626 | 1660 |
| 45° | 1974 | 1961  | 1947 | 1899  | 1870 | 1521 |
| 55° | 1299 | 1259  | 1183 | 1125  | 1122 | 1160 |
| 65° | 731  | 644   | 552  | 626   | 669  | 736  |
| 75° | 410  | 356   | 314  | 391   | 452  | 438  |
| 85° | 164  | 144   | 140  | 184   | 186  | 172  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 3633.4 | 3633.4 | 3633.4 | 3633.4 | 3633.4 |
| 2.5°  | 3646.0 | 3635.9 | 3623.3 | 3630.9 | 3637.2 |
| 5°    | 3637.2 | 3632.2 | 3617.0 | 3613.2 | 3625.8 |
| 7.5°  | 3618.3 | 3605.6 | 3591.7 | 3598.0 | 3593.0 |
| 10°   | 3589.1 | 3577.8 | 3560.0 | 3561.3 | 3570.1 |
| 12.5° | 3553.7 | 3539.8 | 3520.8 | 3525.9 | 3533.4 |
| 15°   | 3506.9 | 3485.4 | 3471.5 | 3472.7 | 3486.7 |
| 17.5° | 3447.4 | 3431.0 | 3413.2 | 3417.0 | 3423.4 |
| 20°   | 3379.1 | 3370.3 | 3345.0 | 3337.3 | 3343.7 |
| 22.5° | 3293.1 | 3276.6 | 3262.7 | 3258.9 | 3260.2 |
| 25°   | 3195.6 | 3178.0 | 3161.5 | 3150.1 | 3159.0 |
| 27.5° | 3081.8 | 3066.6 | 3045.1 | 3041.3 | 3049.0 |
| 30°   | 2952.8 | 2941.4 | 2922.4 | 2917.4 | 2928.7 |
| 32.5° | 2821.2 | 2802.3 | 2775.7 | 2775.7 | 2778.1 |
| 35°   | 2652.9 | 2649.1 | 2622.5 | 2623.8 | 2626.4 |
| 37.5° | 2501.1 | 2483.4 | 2468.2 | 2453.1 | 2460.6 |
| 40°   | 2332.9 | 2312.6 | 2292.4 | 2282.3 | 2278.5 |
| 42.5° | 2152.0 | 2136.8 | 2127.9 | 2091.3 | 2082.4 |
| 45°   | 1973.6 | 1961.0 | 1947.0 | 1898.9 | 1869.9 |
| 47.5° | 1791.4 | 1788.9 | 1777.5 | 1692.7 | 1663.7 |
| 50°   | 1621.9 | 1618.1 | 1577.6 | 1487.8 | 1458.6 |
| 52.5° | 1461.2 | 1435.9 | 1382.7 | 1294.2 | 1289.1 |
| 55°   | 1299.3 | 1258.8 | 1182.9 | 1124.7 | 1122.1 |
| 57.5° | 1128.5 | 1080.4 | 1003.3 | 971.6  | 988.1  |
| 60°   | 991.8  | 918.5  | 829.9  | 833.7  | 860.3  |
| 62.5° | 850.1  | 767.9  | 680.6  | 718.6  | 750.2  |
| 65°   | 731.3  | 643.9  | 551.6  | 626.3  | 669.2  |
| 67.5° | 627.5  | 546.5  | 458.0  | 557.9  | 599.7  |
| 70°   | 541.4  | 475.7  | 389.7  | 494.7  | 541.4  |
| 72.5° | 473.1  | 412.4  | 345.3  | 444.1  | 498.5  |
| 75°   | 409.9  | 355.5  | 313.8  | 390.9  | 451.6  |
| 77.5° | 355.5  | 302.4  | 283.4  | 345.3  | 404.9  |
| 80°   | 298.6  | 250.5  | 248.0  | 301.1  | 345.3  |
| 82.5° | 232.8  | 199.9  | 199.9  | 251.8  | 278.4  |
| 85°   | 164.4  | 144.2  | 140.4  | 183.5  | 186.0  |
| 87.5° | 84.7   | 81.0   | 73.3   | 96.2   | 96.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)