

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: P290723

Luminaire Tested: **14GR-LD5-32-F1-UNV-L92765-W2A1-U-5500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P290723  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 14GR-LD5-32-F1-UNV-L92765-W2A1-U-5500K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH F1 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 5500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3069.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.15 / 1.23  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

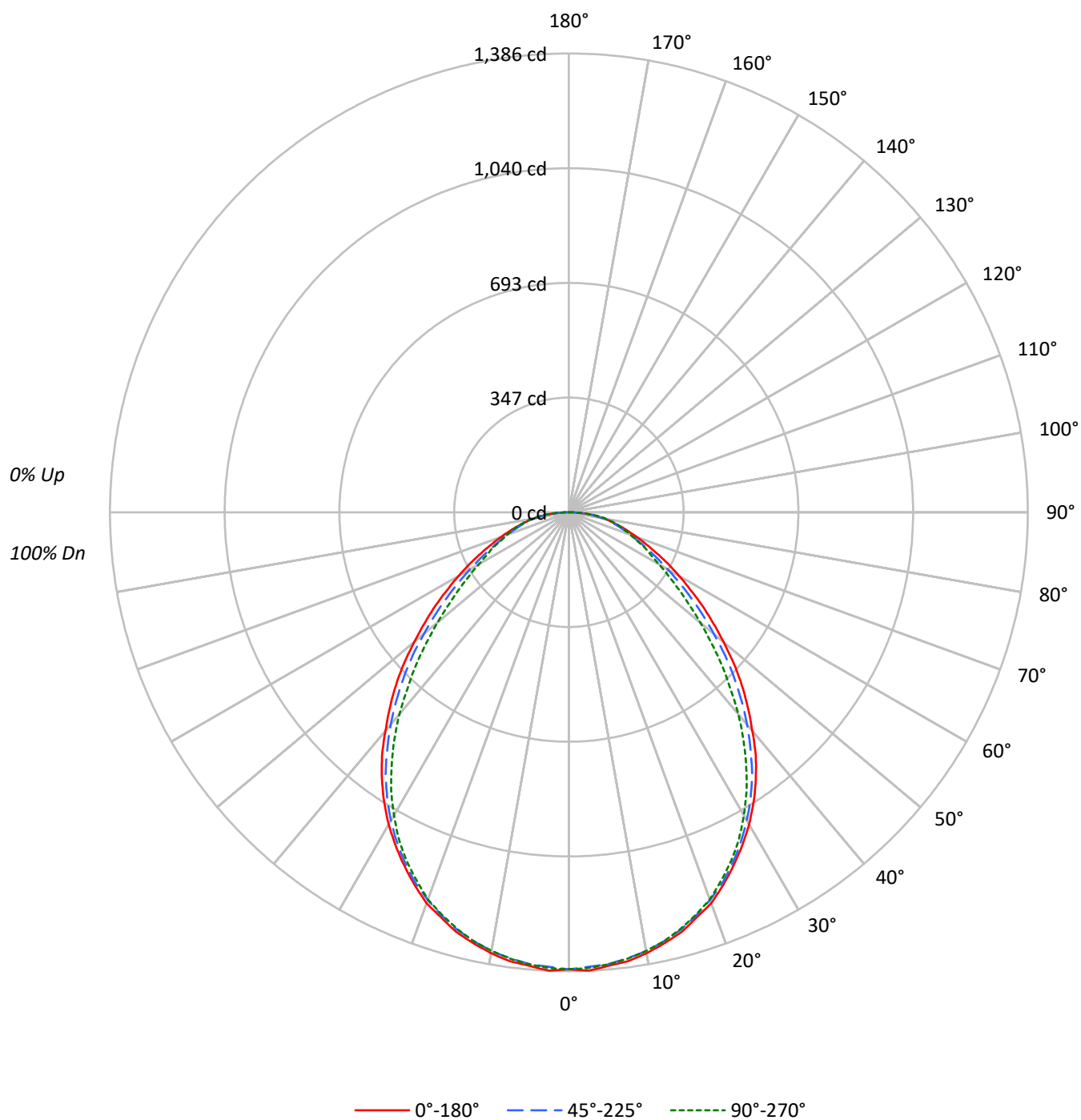
Input Watts (W): 26.412  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 92  | 90  |  | 91  | 89  | 87  |
| 2   | 101 | 93  | 87  | 81  | 98  | 91  | 85  | 80  |  | 88  | 83  | 78  |  | 84  | 80  | 77  |  | 81  | 78  | 75  |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  |  | 78  | 72  | 67  |  | 75  | 70  | 66  |  | 73  | 69  | 65  |
| 4   | 85  | 74  | 66  | 59  | 83  | 73  | 65  | 59  |  | 70  | 64  | 58  |  | 68  | 62  | 57  |  | 66  | 61  | 57  |
| 5   | 79  | 67  | 58  | 52  | 77  | 66  | 58  | 52  |  | 64  | 57  | 51  |  | 62  | 55  | 51  |  | 60  | 54  | 50  |
| 6   | 73  | 61  | 52  | 46  | 71  | 60  | 52  | 46  |  | 58  | 51  | 45  |  | 56  | 50  | 45  |  | 55  | 49  | 45  |
| 7   | 68  | 55  | 47  | 41  | 66  | 54  | 47  | 41  |  | 53  | 46  | 41  |  | 52  | 45  | 40  |  | 50  | 44  | 40  |
| 8   | 64  | 51  | 43  | 37  | 62  | 50  | 42  | 37  |  | 49  | 42  | 37  |  | 47  | 41  | 36  |  | 46  | 41  | 36  |
| 9   | 60  | 47  | 39  | 34  | 58  | 46  | 39  | 33  |  | 45  | 38  | 33  |  | 44  | 38  | 33  |  | 43  | 37  | 33  |
| 10  | 56  | 43  | 36  | 31  | 55  | 43  | 35  | 31  |  | 42  | 35  | 30  |  | 41  | 35  | 30  |  | 40  | 34  | 30  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3714 | 3714 | 3714 |
| 5°  | 3713 | 3700 | 3702 |
| 10° | 3695 | 3677 | 3675 |
| 15° | 3657 | 3635 | 3629 |
| 20° | 3598 | 3568 | 3564 |
| 25° | 3494 | 3472 | 3446 |
| 30° | 3382 | 3340 | 3283 |
| 35° | 3233 | 3171 | 3067 |
| 40° | 3027 | 2943 | 2797 |
| 45° | 2811 | 2685 | 2490 |
| 50° | 2550 | 2391 | 2168 |
| 55° | 2307 | 2112 | 1894 |
| 60° | 2071 | 1851 | 1688 |
| 65° | 1859 | 1653 | 1617 |
| 70° | 1716 | 1539 | 1555 |
| 75° | 1639 | 1543 | 1631 |
| 80° | 1657 | 1646 | 1777 |
| 85° | 1717 | 1695 | 1890 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 130.3  | 4.2       |
| 10°-20°   | 368.4  | 12.0      |
| 20°-30°   | 537.9  | 17.5      |
| 30°-40°   | 599.4  | 19.5      |
| 40°-50°   | 540.1  | 17.6      |
| 50°-60°   | 403.7  | 13.2      |
| 60°-70°   | 266.3  | 8.7       |
| 70°-80°   | 162.6  | 5.3       |
| 80°-90°   | 60.3   | 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°    | 1036.6 | 33.8      |
| 0°-40°    | 1636.0 | 53.3      |
| 0°-60°    | 2579.8 | 84.1      |
| 0°-90°    | 3069.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3069.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1380 | 1380  | 1380 | 1380  | 1380 |      |
| 5°  | 1375 | 1373  | 1370 | 1377  | 1370 | 131  |
| 15° | 1313 | 1308  | 1305 | 1313  | 1303 | 369  |
| 25° | 1177 | 1173  | 1169 | 1171  | 1161 | 542  |
| 35° | 984  | 976   | 965  | 948   | 934  | 614  |
| 45° | 739  | 731   | 706  | 673   | 654  | 568  |
| 55° | 492  | 484   | 450  | 413   | 404  | 440  |
| 65° | 292  | 283   | 260  | 249   | 254  | 293  |
| 75° | 158  | 155   | 148  | 153   | 157  | 168  |
| 85° | 56   | 54    | 55   | 60    | 61   | 59   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1380.2 | 1380.2 | 1380.2 | 1380.2 | 1380.2 |
| 2.5°  | 1385.8 | 1379.5 | 1373.9 | 1382.3 | 1377.4 |
| 5°    | 1374.6 | 1373.2 | 1369.7 | 1376.7 | 1370.4 |
| 7.5°  | 1367.5 | 1362.6 | 1358.4 | 1366.8 | 1359.8 |
| 10°   | 1352.1 | 1349.3 | 1345.7 | 1352.8 | 1345.0 |
| 12.5° | 1333.1 | 1330.3 | 1326.7 | 1335.2 | 1326.7 |
| 15°   | 1312.7 | 1307.7 | 1304.9 | 1312.7 | 1302.8 |
| 17.5° | 1283.1 | 1281.0 | 1276.8 | 1284.5 | 1274.7 |
| 20°   | 1256.4 | 1248.7 | 1245.8 | 1251.5 | 1244.4 |
| 22.5° | 1217.7 | 1212.1 | 1211.4 | 1214.9 | 1202.9 |
| 25°   | 1176.9 | 1172.7 | 1169.2 | 1171.3 | 1160.7 |
| 27.5° | 1134.0 | 1128.4 | 1124.1 | 1123.4 | 1112.2 |
| 30°   | 1088.3 | 1081.2 | 1074.9 | 1069.3 | 1056.6 |
| 32.5° | 1038.3 | 1029.9 | 1021.4 | 1012.3 | 998.9  |
| 35°   | 984.2  | 975.7  | 965.2  | 948.3  | 933.5  |
| 37.5° | 927.2  | 917.3  | 900.4  | 880.7  | 866.0  |
| 40°   | 861.7  | 856.8  | 837.8  | 812.5  | 796.3  |
| 42.5° | 800.5  | 794.9  | 771.0  | 742.9  | 721.1  |
| 45°   | 738.6  | 730.9  | 705.6  | 673.2  | 654.2  |
| 47.5° | 675.3  | 667.6  | 639.5  | 599.4  | 582.5  |
| 50°   | 609.2  | 605.0  | 571.2  | 534.6  | 517.8  |
| 52.5° | 548.7  | 543.8  | 509.3  | 472.7  | 457.3  |
| 55°   | 491.7  | 484.0  | 450.2  | 412.9  | 403.8  |
| 57.5° | 434.7  | 426.3  | 394.6  | 363.0  | 356.7  |
| 60°   | 384.8  | 374.2  | 344.0  | 319.4  | 313.7  |
| 62.5° | 337.7  | 325.7  | 300.4  | 281.4  | 278.6  |
| 65°   | 291.9  | 282.8  | 259.6  | 249.0  | 254.0  |
| 67.5° | 252.5  | 243.4  | 226.5  | 222.3  | 220.9  |
| 70°   | 218.1  | 209.6  | 195.6  | 197.0  | 197.7  |
| 72.5° | 186.4  | 181.5  | 170.9  | 174.5  | 177.3  |
| 75°   | 157.6  | 154.8  | 148.4  | 153.4  | 156.9  |
| 77.5° | 131.5  | 129.4  | 126.6  | 130.8  | 136.5  |
| 80°   | 106.9  | 105.5  | 106.2  | 109.0  | 114.7  |
| 82.5° | 82.3   | 79.5   | 81.6   | 87.2   | 90.7   |
| 85°   | 55.6   | 53.5   | 54.9   | 60.5   | 61.2   |
| 87.5° | 26.0   | 26.0   | 25.3   | 29.5   | 29.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)