

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: P291796

Luminaire Tested: **22GR-LD5-32-F1-UNV-L82765-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291796  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-23)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-32-F1-UNV-L82765-W2A1-U-3000K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH F1 LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3043.0 lumens  
Efficiency: N/A  
Efficacy: 124.9 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.19 / 1.24  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

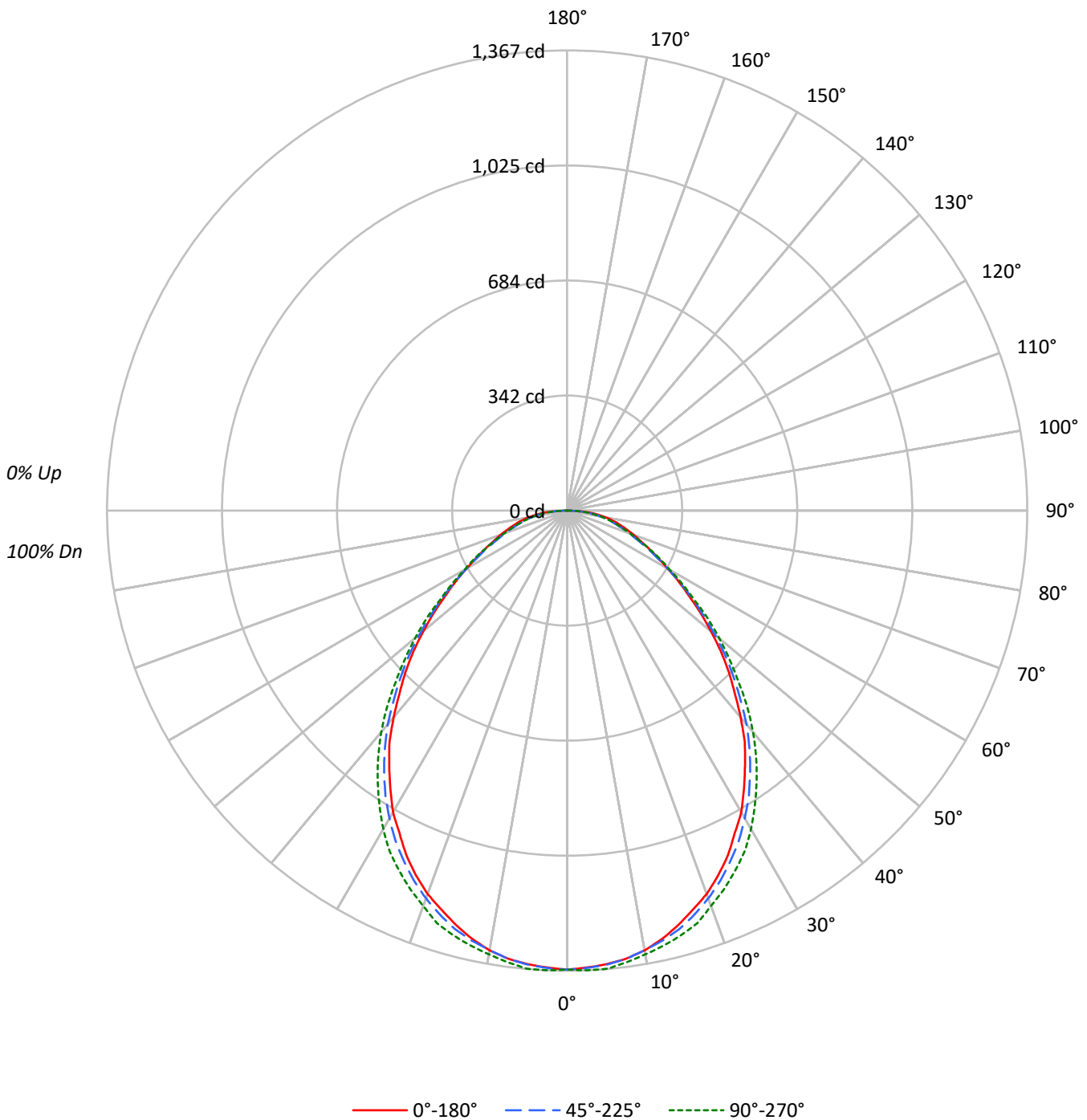
Input Watts (W): 24.366  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |     |    |    | 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  | 92  | 90  | 91  | 89  | 87  | 85  |    |    |    |    | 85  |   |  |   |
| 2   | 101 | 93  | 87  | 81  | 98  | 91  | 85  | 80  | 87  | 83  | 78  | 84  | 80  | 77  | 81  | 78  | 75  | 73  |    |    |    |    | 73  |   |  |   |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 63  |    |    |    |    | 63  |   |  |   |
| 4   | 85  | 74  | 66  | 59  | 83  | 73  | 65  | 59  | 70  | 63  | 58  | 68  | 62  | 57  | 66  | 61  | 57  | 55  |    |    |    |    | 55  |   |  |   |
| 5   | 79  | 67  | 58  | 52  | 77  | 66  | 58  | 52  | 63  | 56  | 51  | 62  | 55  | 51  | 60  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 6   | 73  | 60  | 52  | 46  | 71  | 59  | 51  | 46  | 58  | 51  | 45  | 56  | 50  | 45  | 55  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 7   | 68  | 55  | 47  | 41  | 66  | 54  | 46  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |    | 38  |   |  |   |
| 8   | 63  | 51  | 42  | 37  | 62  | 50  | 42  | 37  | 49  | 42  | 37  | 47  | 41  | 36  | 46  | 40  | 36  | 34  |    |    |    |    | 34  |   |  |   |
| 9   | 59  | 47  | 39  | 33  | 58  | 46  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 31  |    |    |    |    | 31  |   |  |   |
| 10  | 56  | 43  | 36  | 31  | 55  | 43  | 35  | 30  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 28  |    |    |    |    | 28  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3669 | 3669 | 3669 |
| 5°  | 3653 | 3657 | 3691 |
| 10° | 3625 | 3623 | 3657 |
| 15° | 3552 | 3587 | 3639 |
| 20° | 3471 | 3511 | 3579 |
| 25° | 3356 | 3410 | 3505 |
| 30° | 3214 | 3279 | 3394 |
| 35° | 3026 | 3114 | 3224 |
| 40° | 2816 | 2912 | 3018 |
| 45° | 2586 | 2660 | 2742 |
| 50° | 2332 | 2390 | 2467 |
| 55° | 2069 | 2118 | 2154 |
| 60° | 1855 | 1858 | 1896 |
| 65° | 1709 | 1651 | 1709 |
| 70° | 1650 | 1529 | 1573 |
| 75° | 1679 | 1497 | 1526 |
| 80° | 1808 | 1570 | 1570 |
| 85° | 2007 | 1661 | 1639 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 128.6  | 4.2       |
| 10°-20°   | 362.8  | 11.9      |
| 20°-30°   | 529.5  | 17.4      |
| 30°-40°   | 592.8  | 19.5      |
| 40°-50°   | 539.5  | 17.7      |
| 50°-60°   | 406.1  | 13.3      |
| 60°-70°   | 265.0  | 8.7       |
| 70°-80°   | 158.9  | 5.2       |
| 80°-90°   | 59.6   | 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°    | 1021.0 | 33.6      |
| 0°-40°    | 1613.8 | 53.0      |
| 0°-60°    | 2559.4 | 84.1      |
| 0°-90°    | 3043.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3043.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1364 | 1364  | 1364 | 1364  | 1364 |      |
| 5°  | 1352 | 1350  | 1354 | 1359  | 1366 | 128  |
| 15° | 1275 | 1276  | 1287 | 1298  | 1306 | 359  |
| 25° | 1130 | 1134  | 1148 | 1169  | 1180 | 519  |
| 35° | 921  | 930   | 948  | 970   | 981  | 576  |
| 45° | 679  | 686   | 699  | 714   | 721  | 523  |
| 55° | 441  | 447   | 452  | 458   | 459  | 399  |
| 65° | 268  | 266   | 259  | 264   | 268  | 268  |
| 75° | 162  | 156   | 144  | 145   | 147  | 171  |
| 85° | 65   | 63    | 54   | 51    | 53   | 67   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1363.6 | 1363.6 | 1363.6 | 1363.6 | 1363.6 |
| 2.5°  | 1358.7 | 1358.0 | 1360.1 | 1363.6 | 1367.1 |
| 5°    | 1352.5 | 1350.4 | 1353.8 | 1358.7 | 1366.4 |
| 7.5°  | 1342.7 | 1342.7 | 1342.7 | 1351.8 | 1353.1 |
| 10°   | 1326.6 | 1328.0 | 1325.9 | 1335.0 | 1338.5 |
| 12.5° | 1303.5 | 1304.2 | 1308.4 | 1317.5 | 1323.8 |
| 15°   | 1274.9 | 1276.3 | 1287.4 | 1297.9 | 1306.3 |
| 17.5° | 1242.7 | 1247.6 | 1258.1 | 1274.9 | 1285.4 |
| 20°   | 1212.0 | 1217.6 | 1225.9 | 1244.1 | 1249.7 |
| 22.5° | 1172.8 | 1179.1 | 1189.6 | 1205.7 | 1217.6 |
| 25°   | 1130.2 | 1133.7 | 1148.4 | 1169.3 | 1180.5 |
| 27.5° | 1079.2 | 1086.9 | 1105.0 | 1126.7 | 1142.1 |
| 30°   | 1034.4 | 1038.6 | 1055.4 | 1080.6 | 1092.4 |
| 32.5° | 977.8  | 990.4  | 1004.4 | 1026.7 | 1037.9 |
| 35°   | 921.2  | 929.6  | 947.8  | 970.1  | 981.3  |
| 37.5° | 866.7  | 871.6  | 889.8  | 908.6  | 922.6  |
| 40°   | 801.7  | 810.8  | 828.9  | 849.2  | 859.0  |
| 42.5° | 736.7  | 750.0  | 761.8  | 782.1  | 792.6  |
| 45°   | 679.4  | 686.4  | 698.9  | 713.6  | 720.6  |
| 47.5° | 619.3  | 622.8  | 637.4  | 646.5  | 654.2  |
| 50°   | 557.1  | 561.2  | 571.0  | 580.1  | 589.2  |
| 52.5° | 499.7  | 503.2  | 509.5  | 517.9  | 527.0  |
| 55°   | 441.0  | 447.3  | 451.5  | 457.8  | 459.2  |
| 57.5° | 393.5  | 392.8  | 395.6  | 400.5  | 405.4  |
| 60°   | 344.6  | 346.0  | 345.3  | 350.2  | 352.3  |
| 62.5° | 304.0  | 303.3  | 299.1  | 306.1  | 311.7  |
| 65°   | 268.4  | 265.6  | 259.3  | 263.5  | 268.4  |
| 67.5° | 235.5  | 234.1  | 223.7  | 227.2  | 231.3  |
| 70°   | 209.7  | 204.8  | 194.3  | 196.4  | 199.9  |
| 72.5° | 184.5  | 178.9  | 168.4  | 169.1  | 171.2  |
| 75°   | 161.5  | 155.9  | 144.0  | 144.7  | 146.8  |
| 77.5° | 139.8  | 132.8  | 122.3  | 120.9  | 122.3  |
| 80°   | 116.7  | 110.4  | 101.3  | 97.2   | 101.3  |
| 82.5° | 93.0   | 89.5   | 79.0   | 74.8   | 76.2   |
| 85°   | 65.0   | 62.9   | 53.8   | 51.0   | 53.1   |
| 87.5° | 30.1   | 32.2   | 27.3   | 25.2   | 25.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)