

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: P291758

Luminaire Tested: **22GR-LD5-40-F1-UNV-L83050-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291758  
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-LD5-40-F1-UNV-L83050-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: 3854.0 lumens  
Efficiency: N/A  
Efficacy: 119.4 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

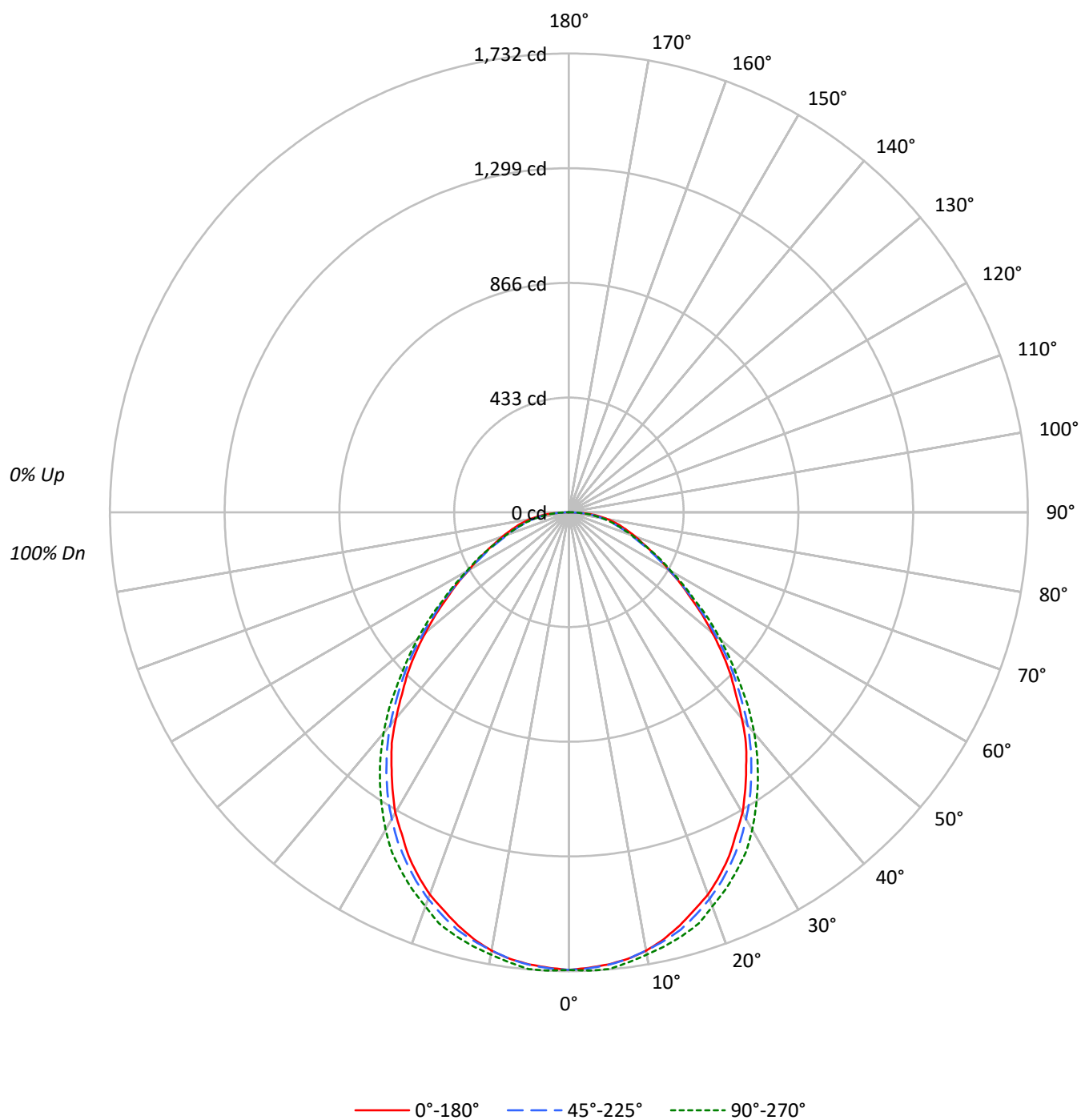
Input Watts (W): 32.271  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |  | 87  | 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  | 63  | 58  |  | 68  | 62  | 57  |  | 66  | 61  | 57  |
| 5   | 79  | 67  | 58  | 52  | 77  | 66  | 58  | 52  |  | 63  | 56  | 51  |  | 62  | 55  | 51  |  | 60  | 54  | 50  |
| 6   | 73  | 60  | 52  | 46  | 71  | 59  | 51  | 46  |  | 58  | 51  | 45  |  | 56  | 50  | 45  |  | 55  | 49  | 45  |
| 7   | 68  | 55  | 47  | 41  | 66  | 54  | 46  | 41  |  | 53  | 46  | 41  |  | 51  | 45  | 40  |  | 50  | 44  | 40  |
| 8   | 63  | 51  | 42  | 37  | 62  | 50  | 42  | 37  |  | 49  | 42  | 37  |  | 47  | 41  | 36  |  | 46  | 40  | 36  |
| 9   | 59  | 47  | 39  | 33  | 58  | 46  | 39  | 33  |  | 45  | 38  | 33  |  | 44  | 38  | 33  |  | 43  | 37  | 33  |
| 10  | 56  | 43  | 36  | 31  | 55  | 43  | 35  | 30  |  | 42  | 35  | 30  |  | 41  | 35  | 30  |  | 40  | 34  | 30  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4648 | 4648 | 4648 |
| 5°  | 4627 | 4632 | 4675 |
| 10° | 4591 | 4589 | 4632 |
| 15° | 4498 | 4543 | 4609 |
| 20° | 4396 | 4446 | 4533 |
| 25° | 4250 | 4318 | 4439 |
| 30° | 4071 | 4153 | 4299 |
| 35° | 3833 | 3943 | 4083 |
| 40° | 3567 | 3688 | 3822 |
| 45° | 3274 | 3369 | 3473 |
| 50° | 2954 | 3028 | 3124 |
| 55° | 2621 | 2683 | 2729 |
| 60° | 2349 | 2354 | 2401 |
| 65° | 2164 | 2091 | 2164 |
| 70° | 2090 | 1936 | 1992 |
| 75° | 2126 | 1896 | 1933 |
| 80° | 2290 | 1990 | 1990 |
| 85° | 2541 | 2106 | 2078 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 162.9  | 4.2       |
| 10°-20°   | 459.5  | 11.9      |
| 20°-30°   | 670.6  | 17.4      |
| 30°-40°   | 750.8  | 19.5      |
| 40°-50°   | 683.3  | 17.7      |
| 50°-60°   | 514.3  | 13.3      |
| 60°-70°   | 335.6  | 8.7       |
| 70°-80°   | 201.3  | 5.2       |
| 80°-90°   | 75.5   | 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°    | 1293.1 | 33.6      |
| 0°-40°    | 2043.9 | 53.0      |
| 0°-60°    | 3241.6 | 84.1      |
| 0°-90°    | 3854.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3854.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1727 | 1727  | 1727 | 1727  | 1727 |      |
| 5°  | 1713 | 1710  | 1715 | 1721  | 1731 | 163  |
| 15° | 1615 | 1616  | 1631 | 1644  | 1654 | 455  |
| 25° | 1431 | 1436  | 1454 | 1481  | 1495 | 657  |
| 35° | 1167 | 1177  | 1200 | 1229  | 1243 | 729  |
| 45° | 860  | 869   | 885  | 904   | 913  | 662  |
| 55° | 559  | 566   | 572  | 580   | 582  | 505  |
| 65° | 340  | 336   | 328  | 334   | 340  | 340  |
| 75° | 204  | 197   | 182  | 183   | 186  | 217  |
| 85° | 82   | 80    | 68   | 65    | 67   | 85   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1727.1 | 1727.1 | 1727.1 | 1727.1 | 1727.1 |
| 2.5°  | 1720.9 | 1720.0 | 1722.6 | 1727.1 | 1731.5 |
| 5°    | 1712.9 | 1710.2 | 1714.7 | 1720.9 | 1730.6 |
| 7.5°  | 1700.5 | 1700.5 | 1700.5 | 1712.0 | 1713.8 |
| 10°   | 1680.1 | 1681.9 | 1679.3 | 1690.8 | 1695.2 |
| 12.5° | 1650.9 | 1651.8 | 1657.1 | 1668.6 | 1676.6 |
| 15°   | 1614.6 | 1616.4 | 1630.6 | 1643.9 | 1654.5 |
| 17.5° | 1573.9 | 1580.1 | 1593.4 | 1614.6 | 1627.9 |
| 20°   | 1535.0 | 1542.1 | 1552.7 | 1575.7 | 1582.8 |
| 22.5° | 1485.4 | 1493.4 | 1506.6 | 1527.0 | 1542.1 |
| 25°   | 1431.4 | 1435.8 | 1454.4 | 1481.0 | 1495.1 |
| 27.5° | 1366.8 | 1376.5 | 1399.5 | 1427.0 | 1446.4 |
| 30°   | 1310.1 | 1315.4 | 1336.7 | 1368.5 | 1383.6 |
| 32.5° | 1238.4 | 1254.4 | 1272.1 | 1300.4 | 1314.5 |
| 35°   | 1166.7 | 1177.3 | 1200.4 | 1228.7 | 1242.8 |
| 37.5° | 1097.7 | 1103.9 | 1126.9 | 1150.8 | 1168.5 |
| 40°   | 1015.3 | 1026.9 | 1049.9 | 1075.5 | 1087.9 |
| 42.5° | 933.0  | 949.8  | 964.9  | 990.6  | 1003.8 |
| 45°   | 860.4  | 869.3  | 885.2  | 903.8  | 912.7  |
| 47.5° | 784.3  | 788.7  | 807.3  | 818.8  | 828.6  |
| 50°   | 705.5  | 710.8  | 723.2  | 734.7  | 746.2  |
| 52.5° | 632.9  | 637.4  | 645.3  | 655.9  | 667.5  |
| 55°   | 558.6  | 566.5  | 571.9  | 579.8  | 581.6  |
| 57.5° | 498.4  | 497.5  | 501.0  | 507.2  | 513.4  |
| 60°   | 436.4  | 438.2  | 437.3  | 443.5  | 446.1  |
| 62.5° | 385.1  | 384.2  | 378.9  | 387.7  | 394.8  |
| 65°   | 339.9  | 336.4  | 328.4  | 333.7  | 339.9  |
| 67.5° | 298.3  | 296.5  | 283.3  | 287.7  | 293.0  |
| 70°   | 265.6  | 259.4  | 246.1  | 248.7  | 253.2  |
| 72.5° | 233.7  | 226.6  | 213.3  | 214.2  | 216.9  |
| 75°   | 204.5  | 197.4  | 182.4  | 183.2  | 185.9  |
| 77.5° | 177.0  | 168.2  | 154.9  | 153.1  | 154.9  |
| 80°   | 147.8  | 139.9  | 128.4  | 123.0  | 128.4  |
| 82.5° | 117.7  | 113.3  | 100.0  | 94.7   | 96.5   |
| 85°   | 82.3   | 79.7   | 68.2   | 64.6   | 67.3   |
| 87.5° | 38.1   | 40.7   | 34.5   | 31.9   | 32.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)