

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: P294305

Luminaire Tested: **24GR-LD5-38-FGW080-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P294305  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-25)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24GR-LD5-38-FGW080-UNV-L93050-W2A1-U-3000K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH FGW080 LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2611.0 lumens  
Efficiency: N/A  
Efficacy: 100.5 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

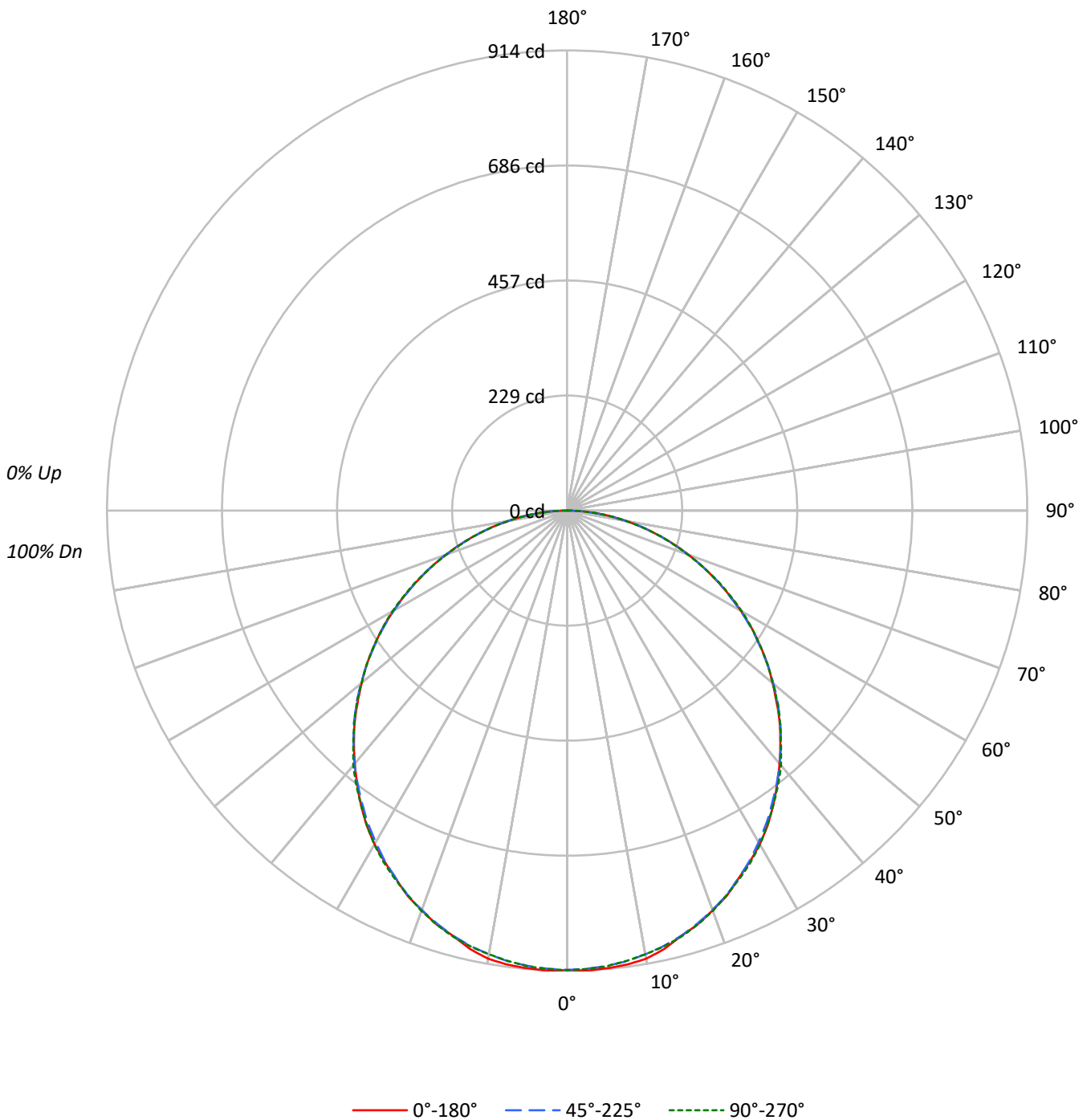
Input Watts (W): 25.972947  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 | 100 |
| 1   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  |  | 93  | 90  | 88  |  | 89  | 87  | 85  | 83  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  |  | 81  | 77  | 73  |  | 78  | 74  | 71  | 69  |
| 3   | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 63  | 74  | 68  | 62  |  | 71  | 66  | 61  |  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 68  | 60  | 54  | 66  | 59  | 53  |  | 64  | 57  | 52  |  | 61  | 56  | 51  | 49  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  | 59  | 51  | 46  |  | 57  | 50  | 45  |  | 55  | 49  | 45  | 43  |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 40  | 53  | 46  | 40  |  | 52  | 45  | 40  |  | 50  | 44  | 39  | 37  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 48  | 41  | 35  |  | 47  | 40  | 35  |  | 46  | 40  | 35  | 33  |
| 8   | 60  | 46  | 38  | 32  | 58  | 46  | 37  | 32  | 44  | 37  | 32  |  | 43  | 36  | 31  |  | 42  | 36  | 31  | 29  |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 28  |  | 40  | 33  | 28  |  | 39  | 33  | 28  | 26  |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  |  | 37  | 30  | 26  |  | 36  | 30  | 26  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1228 | 1228 | 1228 |
| 5°  | 1233 | 1226 | 1227 |
| 10° | 1235 | 1222 | 1222 |
| 15° | 1219 | 1218 | 1221 |
| 20° | 1210 | 1209 | 1211 |
| 25° | 1197 | 1196 | 1199 |
| 30° | 1189 | 1182 | 1190 |
| 35° | 1172 | 1166 | 1172 |
| 40° | 1153 | 1154 | 1160 |
| 45° | 1137 | 1140 | 1138 |
| 50° | 1115 | 1119 | 1116 |
| 55° | 1098 | 1095 | 1098 |
| 60° | 1072 | 1069 | 1079 |
| 65° | 1039 | 1043 | 1047 |
| 70° | 1005 | 1010 | 1003 |
| 75° | 970  | 970  | 970  |
| 80° | 916  | 916  | 926  |
| 85° | 846  | 855  | 827  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 86.3   | 3.3       |
| 10°-20°   | 246.7  | 9.4       |
| 20°-30°   | 371.7  | 14.2      |
| 30°-40°   | 445.2  | 17.1      |
| 40°-50°   | 460.9  | 17.7      |
| 50°-60°   | 417.9  | 16.0      |
| 60°-70°   | 324.0  | 12.4      |
| 70°-80°   | 197.0  | 7.5       |
| 80°-90°   | 61.3   | 2.3       |
| 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°    | 704.7  | 27.0      |
| 0°-40°    | 1149.9 | 44.0      |
| 0°-60°    | 2028.7 | 77.7      |
| 0°-90°    | 2611.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2611.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 913 | 913   | 913 | 913   | 913 |      |
| 5°  | 913 | 907   | 908 | 906   | 908 | 87   |
| 15° | 875 | 876   | 874 | 871   | 876 | 247  |
| 25° | 806 | 806   | 805 | 808   | 808 | 372  |
| 35° | 714 | 709   | 710 | 713   | 714 | 446  |
| 45° | 597 | 598   | 599 | 597   | 598 | 460  |
| 55° | 468 | 466   | 467 | 469   | 468 | 418  |
| 65° | 326 | 328   | 328 | 326   | 329 | 324  |
| 75° | 187 | 186   | 187 | 186   | 187 | 197  |
| 85° | 55  | 54    | 55  | 55    | 54  | 61   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 912.6 | 912.6 | 912.6 | 912.6 | 912.6 |
| 2.5°  | 914.4 | 910.7 | 910.7 | 909.5 | 911.3 |
| 5°    | 912.6 | 907.0 | 907.6 | 906.4 | 908.3 |
| 7.5°  | 909.5 | 902.1 | 902.7 | 901.5 | 902.1 |
| 10°   | 904.0 | 895.3 | 894.7 | 894.1 | 894.7 |
| 12.5° | 891.6 | 886.7 | 886.1 | 884.9 | 886.7 |
| 15°   | 875.0 | 875.6 | 874.4 | 871.3 | 876.2 |
| 17.5° | 862.1 | 861.5 | 860.2 | 857.2 | 862.1 |
| 20°   | 844.8 | 845.5 | 844.2 | 843.0 | 846.1 |
| 22.5° | 828.2 | 826.4 | 827.0 | 826.4 | 827.0 |
| 25°   | 806.0 | 806.0 | 805.4 | 807.9 | 807.9 |
| 27.5° | 785.7 | 783.3 | 784.5 | 787.0 | 788.2 |
| 30°   | 765.4 | 759.2 | 760.5 | 762.9 | 766.0 |
| 32.5° | 741.4 | 735.2 | 736.5 | 738.9 | 740.2 |
| 35°   | 713.7 | 708.8 | 710.0 | 713.1 | 713.7 |
| 37.5° | 685.4 | 682.3 | 683.5 | 686.0 | 687.8 |
| 40°   | 656.4 | 655.2 | 657.0 | 656.4 | 660.7 |
| 42.5° | 626.9 | 626.2 | 628.1 | 628.1 | 628.7 |
| 45°   | 597.3 | 598.5 | 599.1 | 596.7 | 597.9 |
| 47.5° | 564.7 | 565.3 | 567.7 | 566.5 | 567.1 |
| 50°   | 532.6 | 532.0 | 534.5 | 535.1 | 533.3 |
| 52.5° | 501.9 | 498.8 | 501.2 | 502.5 | 501.2 |
| 55°   | 468.0 | 465.5 | 466.8 | 468.6 | 468.0 |
| 57.5° | 434.7 | 432.3 | 432.9 | 436.0 | 434.7 |
| 60°   | 398.4 | 397.8 | 397.2 | 399.6 | 400.9 |
| 62.5° | 362.7 | 362.1 | 360.8 | 363.3 | 364.5 |
| 65°   | 326.4 | 328.2 | 327.6 | 326.4 | 328.8 |
| 67.5° | 291.9 | 293.7 | 291.9 | 290.6 | 290.6 |
| 70°   | 255.5 | 257.4 | 256.8 | 255.5 | 254.9 |
| 72.5° | 221.7 | 221.7 | 220.4 | 219.8 | 220.4 |
| 75°   | 186.6 | 186.0 | 186.6 | 186.0 | 186.6 |
| 77.5° | 152.1 | 152.7 | 152.7 | 152.7 | 152.1 |
| 80°   | 118.2 | 118.2 | 118.2 | 118.8 | 119.5 |
| 82.5° | 86.8  | 85.0  | 86.8  | 85.6  | 86.2  |
| 85°   | 54.8  | 54.2  | 55.4  | 54.8  | 53.6  |
| 87.5° | 24.6  | 25.2  | 25.2  | 25.9  | 25.9  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)