

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: P292831

Luminaire Tested: **22GR-LD5-36-FGW080-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P292831  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-26)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-36-FGW080-UNV-L93050-W2A1-U-3000K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH FGW080 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2351.0 lumens  
Efficiency: N/A  
Efficacy: 81.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

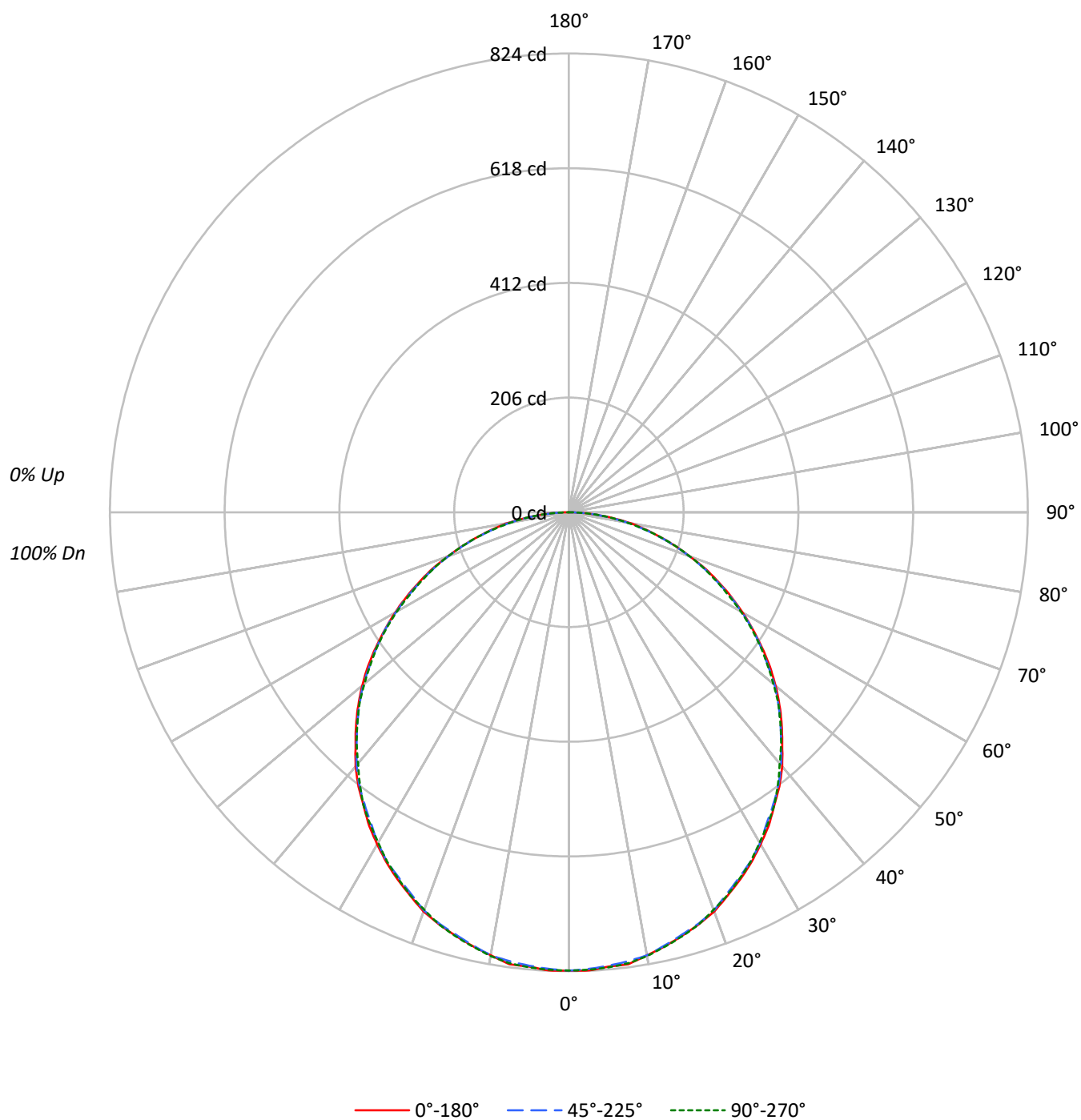
Input Watts (W): 28.737  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2214 | 2214 | 2214 |
| 5°  | 2212 | 2208 | 2215 |
| 10° | 2207 | 2207 | 2211 |
| 15° | 2193 | 2187 | 2194 |
| 20° | 2184 | 2178 | 2175 |
| 25° | 2160 | 2148 | 2154 |
| 30° | 2139 | 2132 | 2128 |
| 35° | 2111 | 2102 | 2111 |
| 40° | 2093 | 2083 | 2069 |
| 45° | 2057 | 2044 | 2044 |
| 50° | 2029 | 2017 | 2006 |
| 55° | 1985 | 1972 | 1969 |
| 60° | 1940 | 1928 | 1921 |
| 65° | 1890 | 1868 | 1859 |
| 70° | 1814 | 1809 | 1814 |
| 75° | 1751 | 1730 | 1744 |
| 80° | 1733 | 1647 | 1636 |
| 85° | 1535 | 1491 | 1513 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 77.8   | 3.3       |
| 10°-20°   | 222.1  | 9.4       |
| 20°-30°   | 334.5  | 14.2      |
| 30°-40°   | 401.4  | 17.1      |
| 40°-50°   | 415.3  | 17.7      |
| 50°-60°   | 376.3  | 16.0      |
| 60°-70°   | 291.7  | 12.4      |
| 70°-80°   | 177.1  | 7.5       |
| 80°-90°   | 54.8   | 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°    | 634.4  | 27.0      |
| 0°-40°    | 1035.8 | 44.1      |
| 0°-60°    | 1827.4 | 77.7      |
| 0°-90°    | 2351.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2351.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 823 | 823   | 823 | 823   | 823 |      |
| 5°  | 819 | 819   | 817 | 819   | 820 | 78   |
| 15° | 787 | 787   | 785 | 788   | 788 | 222  |
| 25° | 728 | 726   | 724 | 726   | 726 | 335  |
| 35° | 643 | 643   | 640 | 641   | 643 | 403  |
| 45° | 540 | 540   | 537 | 537   | 537 | 417  |
| 55° | 423 | 422   | 420 | 420   | 420 | 378  |
| 65° | 297 | 297   | 293 | 295   | 292 | 293  |
| 75° | 168 | 168   | 166 | 166   | 168 | 179  |
| 85° | 50  | 49    | 48  | 48    | 49  | 57   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 822.9 | 822.9 | 822.9 | 822.9 | 822.9 |
| 2.5°  | 823.6 | 820.1 | 820.8 | 822.2 | 822.2 |
| 5°    | 818.7 | 818.7 | 817.3 | 819.4 | 820.1 |
| 7.5°  | 818.7 | 815.3 | 813.2 | 815.3 | 816.7 |
| 10°   | 807.7 | 806.3 | 807.7 | 807.0 | 809.1 |
| 12.5° | 798.0 | 796.6 | 796.6 | 798.7 | 798.7 |
| 15°   | 787.0 | 787.0 | 784.9 | 788.4 | 787.7 |
| 17.5° | 775.9 | 775.9 | 774.5 | 774.5 | 775.9 |
| 20°   | 762.8 | 759.4 | 760.7 | 760.1 | 759.4 |
| 22.5° | 744.9 | 742.8 | 741.4 | 743.5 | 744.2 |
| 25°   | 727.6 | 726.2 | 723.5 | 726.2 | 725.5 |
| 27.5° | 709.0 | 707.6 | 706.9 | 705.5 | 706.9 |
| 30°   | 688.3 | 686.9 | 686.2 | 684.8 | 684.8 |
| 32.5° | 667.5 | 664.8 | 661.3 | 664.8 | 664.1 |
| 35°   | 642.7 | 642.7 | 639.9 | 640.6 | 642.7 |
| 37.5° | 620.6 | 619.2 | 617.8 | 615.8 | 616.5 |
| 40°   | 595.8 | 593.7 | 593.0 | 591.6 | 588.9 |
| 42.5° | 566.8 | 566.8 | 564.0 | 564.7 | 564.0 |
| 45°   | 540.5 | 539.8 | 537.1 | 537.1 | 537.1 |
| 47.5° | 512.9 | 512.2 | 510.2 | 508.8 | 510.2 |
| 50°   | 484.6 | 481.8 | 481.8 | 479.8 | 479.1 |
| 52.5° | 454.9 | 452.9 | 450.1 | 450.8 | 449.4 |
| 55°   | 423.2 | 422.5 | 420.4 | 419.7 | 419.7 |
| 57.5° | 391.4 | 392.1 | 390.7 | 388.0 | 388.7 |
| 60°   | 360.4 | 359.7 | 358.3 | 356.9 | 356.9 |
| 62.5° | 328.6 | 328.6 | 325.8 | 325.8 | 323.1 |
| 65°   | 296.8 | 296.8 | 293.4 | 294.8 | 292.0 |
| 67.5° | 265.1 | 264.4 | 262.3 | 261.6 | 262.3 |
| 70°   | 230.6 | 231.3 | 229.9 | 229.9 | 230.6 |
| 72.5° | 199.5 | 198.8 | 198.1 | 198.1 | 199.5 |
| 75°   | 168.4 | 167.7 | 166.4 | 166.4 | 167.7 |
| 77.5° | 140.1 | 136.7 | 136.0 | 137.4 | 135.3 |
| 80°   | 111.8 | 107.0 | 106.3 | 105.6 | 105.6 |
| 82.5° | 78.7  | 76.6  | 77.3  | 76.6  | 78.0  |
| 85°   | 49.7  | 49.0  | 48.3  | 48.3  | 49.0  |
| 87.5° | 23.5  | 22.1  | 22.1  | 21.4  | 21.4  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)