

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: P292820

Luminaire Tested: **22GR-LD5-24-FGW080-UNV-L93050-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P292820  
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-LD5-24-FGW080-UNV-L93050-W2A1-U-5000K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH FGW080 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1903.0 lumens  
Efficiency: N/A  
Efficacy: 100.8 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

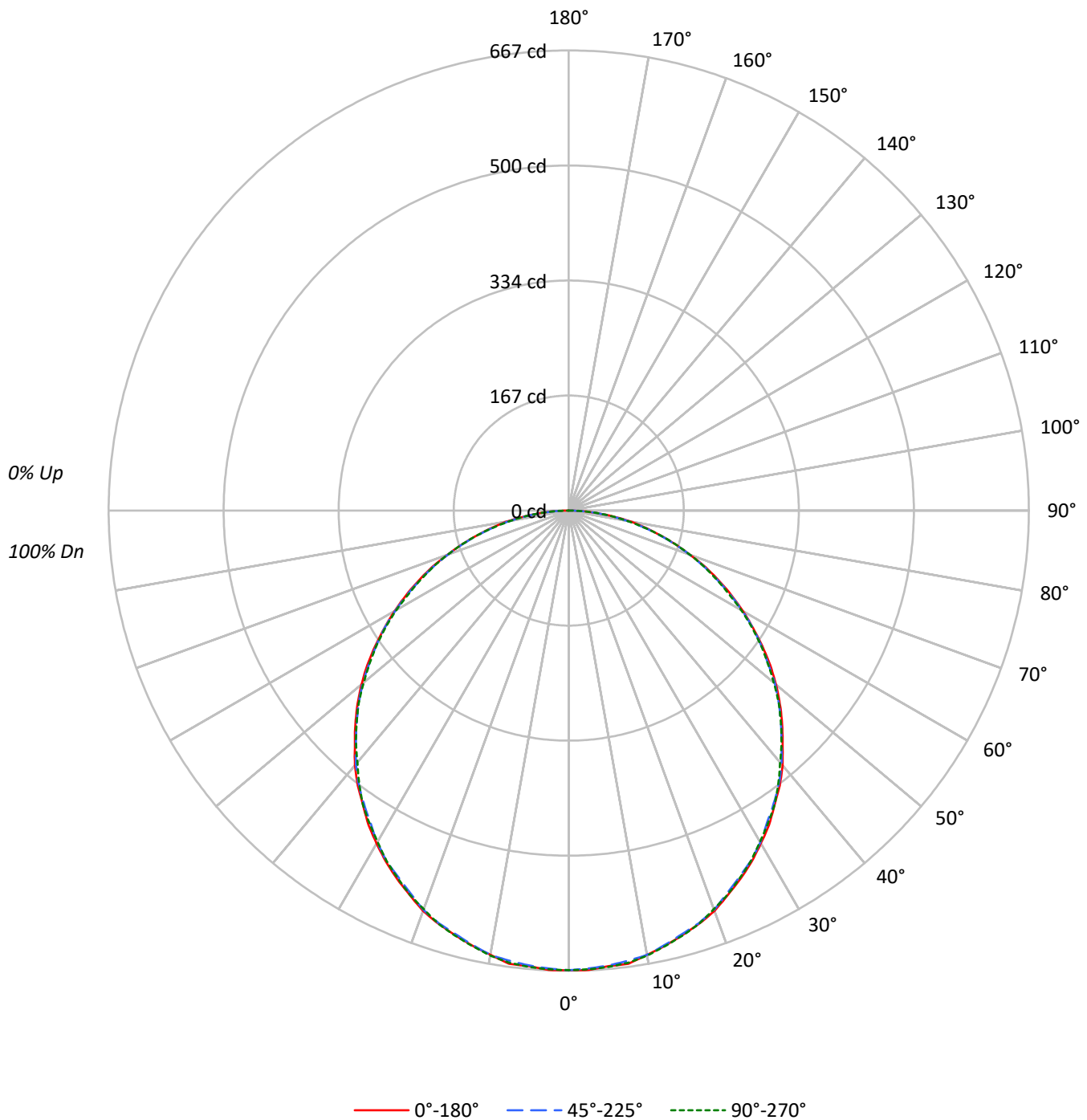
Input Watts (W): 18.879  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1792 | 1792 | 1792 |
| 5°  | 1790 | 1787 | 1793 |
| 10° | 1787 | 1787 | 1790 |
| 15° | 1775 | 1770 | 1776 |
| 20° | 1768 | 1763 | 1760 |
| 25° | 1749 | 1739 | 1744 |
| 30° | 1731 | 1726 | 1722 |
| 35° | 1709 | 1702 | 1709 |
| 40° | 1694 | 1686 | 1674 |
| 45° | 1665 | 1654 | 1654 |
| 50° | 1642 | 1633 | 1623 |
| 55° | 1607 | 1597 | 1594 |
| 60° | 1570 | 1561 | 1555 |
| 65° | 1530 | 1512 | 1505 |
| 70° | 1468 | 1464 | 1468 |
| 75° | 1417 | 1400 | 1412 |
| 80° | 1402 | 1334 | 1325 |
| 85° | 1241 | 1207 | 1226 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 63.0   | 3.3       |
| 10°-20°   | 179.8  | 9.4       |
| 20°-30°   | 270.7  | 14.2      |
| 30°-40°   | 324.9  | 17.1      |
| 40°-50°   | 336.2  | 17.7      |
| 50°-60°   | 304.6  | 16.0      |
| 60°-70°   | 236.1  | 12.4      |
| 70°-80°   | 143.4  | 7.5       |
| 80°-90°   | 44.4   | 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°    | 513.5  | 27.0      |
| 0°-40°    | 838.4  | 44.1      |
| 0°-60°    | 1479.2 | 77.7      |
| 0°-90°    | 1903.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1903.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 666 | 666   | 666 | 666   | 666 |      |
| 5°  | 663 | 663   | 662 | 663   | 664 | 63   |
| 15° | 637 | 637   | 635 | 638   | 638 | 180  |
| 25° | 589 | 588   | 586 | 588   | 587 | 271  |
| 35° | 520 | 520   | 518 | 518   | 520 | 326  |
| 45° | 438 | 437   | 435 | 435   | 435 | 338  |
| 55° | 342 | 342   | 340 | 340   | 340 | 306  |
| 65° | 240 | 240   | 238 | 239   | 236 | 238  |
| 75° | 136 | 136   | 135 | 135   | 136 | 145  |
| 85° | 40  | 40    | 39  | 39    | 40  | 46   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 666.1 | 666.1 | 666.1 | 666.1 | 666.1 |
| 2.5°  | 666.6 | 663.8 | 664.4 | 665.5 | 665.5 |
| 5°    | 662.7 | 662.7 | 661.6 | 663.3 | 663.8 |
| 7.5°  | 662.7 | 659.9 | 658.2 | 659.9 | 661.0 |
| 10°   | 653.8 | 652.7 | 653.8 | 653.2 | 654.9 |
| 12.5° | 646.0 | 644.8 | 644.8 | 646.5 | 646.5 |
| 15°   | 637.0 | 637.0 | 635.3 | 638.1 | 637.6 |
| 17.5° | 628.1 | 628.1 | 627.0 | 627.0 | 628.1 |
| 20°   | 617.5 | 614.7 | 615.8 | 615.2 | 614.7 |
| 22.5° | 602.9 | 601.2 | 600.1 | 601.8 | 602.4 |
| 25°   | 589.0 | 587.8 | 585.6 | 587.8 | 587.3 |
| 27.5° | 573.9 | 572.8 | 572.2 | 571.1 | 572.2 |
| 30°   | 557.1 | 556.0 | 555.4 | 554.3 | 554.3 |
| 32.5° | 540.3 | 538.1 | 535.3 | 538.1 | 537.5 |
| 35°   | 520.2 | 520.2 | 518.0 | 518.5 | 520.2 |
| 37.5° | 502.3 | 501.2 | 500.1 | 498.4 | 499.0 |
| 40°   | 482.2 | 480.6 | 480.0 | 478.9 | 476.6 |
| 42.5° | 458.8 | 458.8 | 456.5 | 457.1 | 456.5 |
| 45°   | 437.5 | 437.0 | 434.7 | 434.7 | 434.7 |
| 47.5° | 415.2 | 414.6 | 412.9 | 411.8 | 412.9 |
| 50°   | 392.3 | 390.0 | 390.0 | 388.4 | 387.8 |
| 52.5° | 368.2 | 366.6 | 364.3 | 364.9 | 363.8 |
| 55°   | 342.5 | 342.0 | 340.3 | 339.7 | 339.7 |
| 57.5° | 316.8 | 317.4 | 316.3 | 314.0 | 314.6 |
| 60°   | 291.7 | 291.1 | 290.0 | 288.9 | 288.9 |
| 62.5° | 266.0 | 266.0 | 263.7 | 263.7 | 261.5 |
| 65°   | 240.3 | 240.3 | 237.5 | 238.6 | 236.4 |
| 67.5° | 214.6 | 214.0 | 212.3 | 211.8 | 212.3 |
| 70°   | 186.6 | 187.2 | 186.1 | 186.1 | 186.6 |
| 72.5° | 161.5 | 160.9 | 160.4 | 160.4 | 161.5 |
| 75°   | 136.3 | 135.8 | 134.7 | 134.7 | 135.8 |
| 77.5° | 113.4 | 110.6 | 110.1 | 111.2 | 109.5 |
| 80°   | 90.5  | 86.6  | 86.1  | 85.5  | 85.5  |
| 82.5° | 63.7  | 62.0  | 62.6  | 62.0  | 63.1  |
| 85°   | 40.2  | 39.7  | 39.1  | 39.1  | 39.7  |
| 87.5° | 19.0  | 17.9  | 17.9  | 17.3  | 17.3  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)