

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: P291646

Luminaire Tested: **14GR-LD5-28-FGW080-UNV-L93050-W2A1-U-3500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291646  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-24)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 14GR-LD5-28-FGW080-UNV-L93050-W2A1-U-3500K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH FGW080 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1873.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.36  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

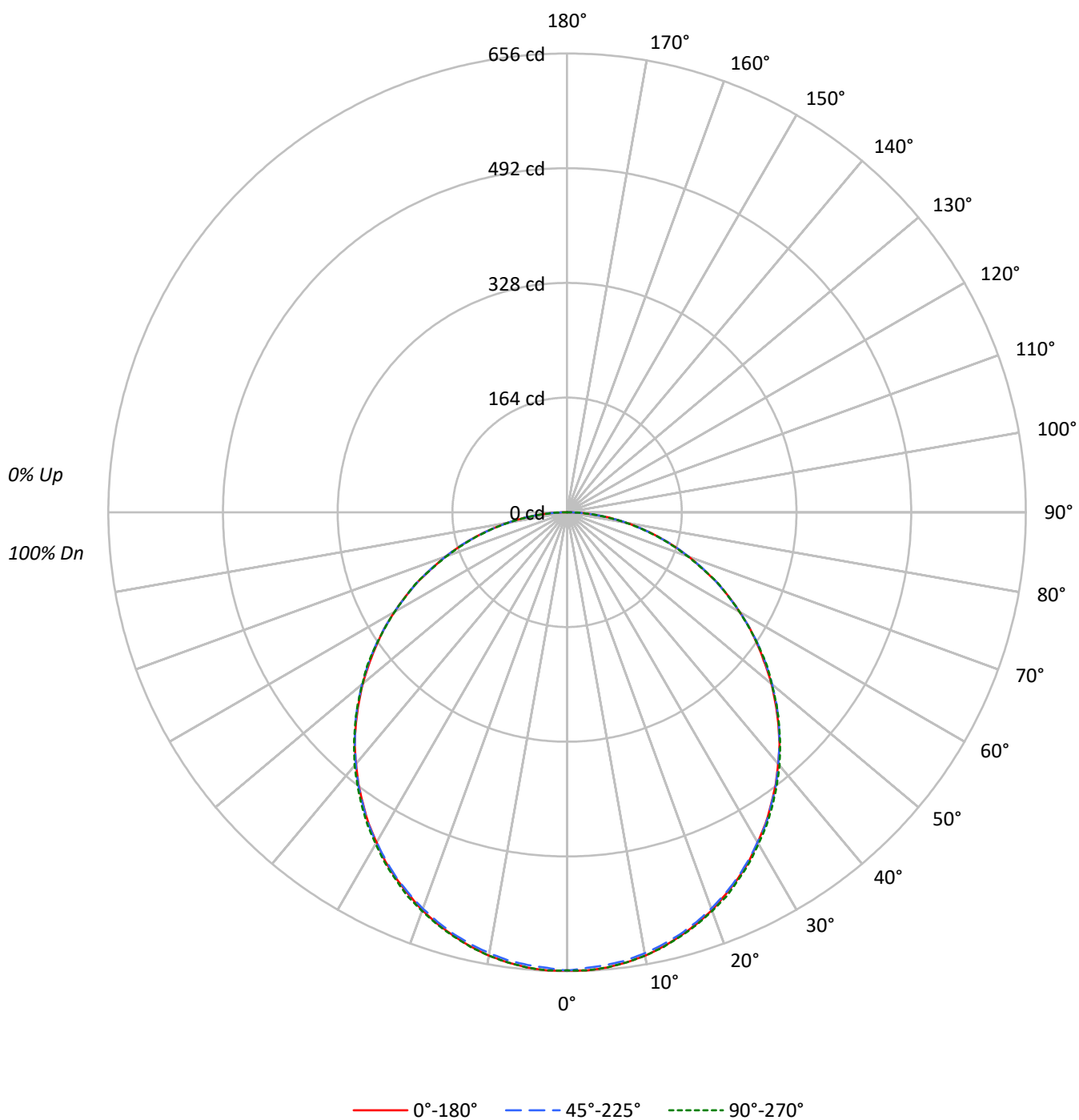
Input Watts (W): 22.692  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1763 | 1763 | 1763 |
| 5°  | 1764 | 1755 | 1764 |
| 10° | 1759 | 1749 | 1759 |
| 15° | 1746 | 1740 | 1748 |
| 20° | 1733 | 1727 | 1737 |
| 25° | 1716 | 1712 | 1721 |
| 30° | 1693 | 1693 | 1701 |
| 35° | 1672 | 1674 | 1682 |
| 40° | 1649 | 1651 | 1659 |
| 45° | 1625 | 1629 | 1631 |
| 50° | 1597 | 1602 | 1599 |
| 55° | 1565 | 1573 | 1570 |
| 60° | 1534 | 1534 | 1534 |
| 65° | 1498 | 1498 | 1506 |
| 70° | 1451 | 1451 | 1437 |
| 75° | 1400 | 1394 | 1388 |
| 80° | 1336 | 1327 | 1317 |
| 85° | 1257 | 1238 | 1201 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 61.9   | 3.3       |
| 10°-20°   | 176.8  | 9.4       |
| 20°-30°   | 266.4  | 14.2      |
| 30°-40°   | 319.3  | 17.0      |
| 40°-50°   | 330.1  | 17.6      |
| 50°-60°   | 299.3  | 16.0      |
| 60°-70°   | 232.6  | 12.4      |
| 70°-80°   | 142.1  | 7.6       |
| 80°-90°   | 44.5   | 2.4       |
| 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°    | 505.1  | 27.0      |
| 0°-40°    | 824.4  | 44.0      |
| 0°-60°    | 1453.8 | 77.6      |
| 0°-90°    | 1873.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1873.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 655 | 655   | 655 | 655   | 655 |      |
| 5°  | 653 | 653   | 650 | 653   | 653 | 62   |
| 15° | 627 | 627   | 624 | 628   | 628 | 177  |
| 25° | 578 | 578   | 577 | 580   | 580 | 266  |
| 35° | 509 | 510   | 510 | 512   | 512 | 319  |
| 45° | 427 | 428   | 428 | 429   | 429 | 329  |
| 55° | 334 | 335   | 335 | 335   | 335 | 298  |
| 65° | 235 | 235   | 235 | 234   | 236 | 232  |
| 75° | 135 | 135   | 134 | 134   | 134 | 142  |
| 85° | 41  | 40    | 40  | 39    | 39  | 45   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 655.0 | 655.0 | 655.0 | 655.0 | 655.0 |
| 2.5°  | 655.6 | 655.0 | 652.0 | 655.0 | 655.6 |
| 5°    | 653.2 | 652.6 | 649.6 | 652.6 | 653.2 |
| 7.5°  | 649.0 | 649.0 | 646.0 | 649.0 | 649.0 |
| 10°   | 643.6 | 643.1 | 640.1 | 643.1 | 643.6 |
| 12.5° | 635.9 | 635.9 | 632.9 | 635.9 | 636.5 |
| 15°   | 626.9 | 626.9 | 624.5 | 627.5 | 627.5 |
| 17.5° | 616.7 | 617.3 | 614.3 | 617.9 | 617.9 |
| 20°   | 605.3 | 604.7 | 602.9 | 605.9 | 606.5 |
| 22.5° | 591.6 | 592.2 | 590.4 | 594.0 | 594.6 |
| 25°   | 577.8 | 577.8 | 576.6 | 580.2 | 579.6 |
| 27.5° | 562.8 | 562.8 | 561.0 | 564.0 | 564.6 |
| 30°   | 544.9 | 545.5 | 544.9 | 547.9 | 547.3 |
| 32.5° | 528.1 | 528.7 | 528.7 | 529.9 | 530.5 |
| 35°   | 508.9 | 509.5 | 509.5 | 511.9 | 511.9 |
| 37.5° | 489.8 | 489.8 | 490.4 | 492.2 | 492.2 |
| 40°   | 469.4 | 470.0 | 470.0 | 471.8 | 472.4 |
| 42.5° | 449.7 | 448.5 | 449.1 | 450.9 | 450.9 |
| 45°   | 426.9 | 427.5 | 428.1 | 428.7 | 428.7 |
| 47.5° | 404.2 | 405.3 | 405.9 | 406.5 | 405.9 |
| 50°   | 381.4 | 382.6 | 382.6 | 382.0 | 382.0 |
| 52.5° | 356.9 | 359.8 | 359.2 | 359.2 | 360.4 |
| 55°   | 333.5 | 334.7 | 335.3 | 335.3 | 334.7 |
| 57.5° | 310.1 | 311.3 | 310.1 | 310.7 | 309.6 |
| 60°   | 285.0 | 285.6 | 285.0 | 285.0 | 285.0 |
| 62.5° | 260.5 | 261.1 | 259.9 | 259.9 | 259.9 |
| 65°   | 235.3 | 235.3 | 235.3 | 234.1 | 236.5 |
| 67.5° | 209.0 | 210.2 | 210.2 | 210.8 | 208.4 |
| 70°   | 184.4 | 185.0 | 184.4 | 183.8 | 182.6 |
| 72.5° | 159.9 | 160.5 | 161.1 | 158.7 | 158.1 |
| 75°   | 134.7 | 134.7 | 134.1 | 133.5 | 133.5 |
| 77.5° | 110.2 | 110.2 | 110.2 | 109.0 | 109.0 |
| 80°   | 86.2  | 86.8  | 85.6  | 85.6  | 85.0  |
| 82.5° | 62.9  | 62.9  | 62.9  | 62.3  | 61.1  |
| 85°   | 40.7  | 39.5  | 40.1  | 38.9  | 38.9  |
| 87.5° | 18.6  | 18.6  | 18.6  | 17.4  | 19.8  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)