

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: P291642

Luminaire Tested: **14GR-LD5-24-FGW080-UNV-L93050-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291642  
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-LD5-24-FGW080-UNV-L93050-W2A1-U-4000K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH FGW080 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1694.0 lumens  
Efficiency: N/A  
Efficacy: 90.6 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

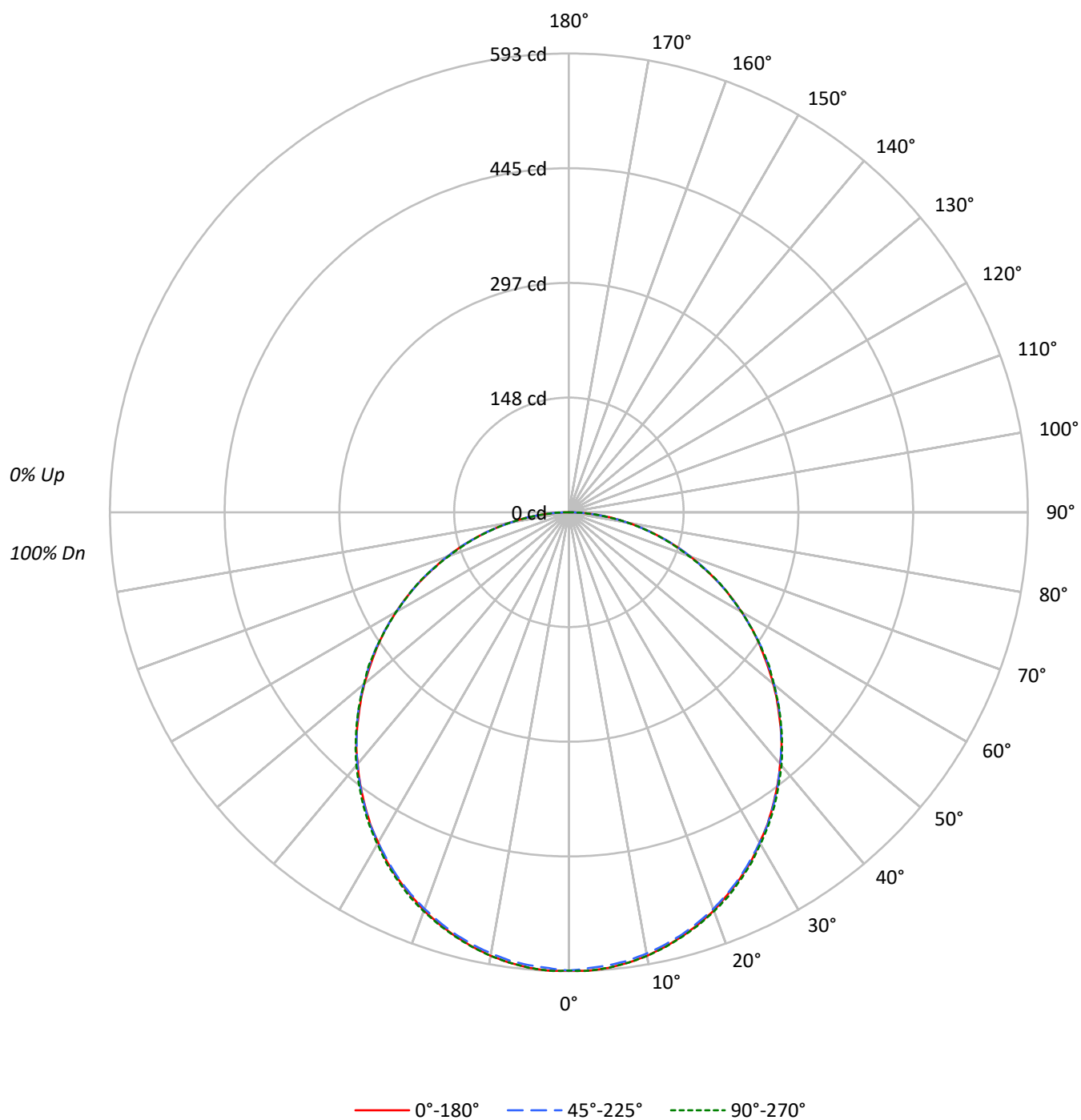
Input Watts (W): 18.693  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 93  | 97  | 94  | 91  |  | 93  | 90  | 88  |  | 89  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 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  | 40  | 68  | 55  | 47  | 40  | 53  | 46  | 40  |  | 52  | 45  | 40  |  | 50  |
| 7   | 64  | 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°  | 1594 | 1594 | 1594 |
| 5°  | 1596 | 1587 | 1596 |
| 10° | 1591 | 1582 | 1591 |
| 15° | 1580 | 1573 | 1581 |
| 20° | 1568 | 1562 | 1571 |
| 25° | 1552 | 1548 | 1556 |
| 30° | 1531 | 1531 | 1538 |
| 35° | 1512 | 1514 | 1521 |
| 40° | 1492 | 1493 | 1501 |
| 45° | 1469 | 1474 | 1475 |
| 50° | 1444 | 1449 | 1446 |
| 55° | 1415 | 1423 | 1420 |
| 60° | 1387 | 1387 | 1387 |
| 65° | 1355 | 1355 | 1362 |
| 70° | 1312 | 1312 | 1300 |
| 75° | 1266 | 1261 | 1256 |
| 80° | 1209 | 1199 | 1192 |
| 85° | 1136 | 1121 | 1087 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 56.0   | 3.3       |
| 10°-20°   | 159.9  | 9.4       |
| 20°-30°   | 240.9  | 14.2      |
| 30°-40°   | 288.7  | 17.0      |
| 40°-50°   | 298.6  | 17.6      |
| 50°-60°   | 270.7  | 16.0      |
| 60°-70°   | 210.4  | 12.4      |
| 70°-80°   | 128.5  | 7.6       |
| 80°-90°   | 40.2   | 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°    | 456.8  | 27.0      |
| 0°-40°    | 745.6  | 44.0      |
| 0°-60°    | 1314.9 | 77.6      |
| 0°-90°    | 1694.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1694.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 592 | 592   | 592 | 592   | 592 |      |
| 5°  | 591 | 590   | 588 | 590   | 591 | 56   |
| 15° | 567 | 567   | 565 | 568   | 568 | 160  |
| 25° | 523 | 523   | 522 | 525   | 524 | 241  |
| 35° | 460 | 461   | 461 | 463   | 463 | 288  |
| 45° | 386 | 387   | 387 | 388   | 388 | 298  |
| 55° | 302 | 303   | 303 | 303   | 303 | 270  |
| 65° | 213 | 213   | 213 | 212   | 214 | 210  |
| 75° | 122 | 122   | 121 | 121   | 121 | 129  |
| 85° | 37  | 36    | 36  | 35    | 35  | 41   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 592.4 | 592.4 | 592.4 | 592.4 | 592.4 |
| 2.5°  | 593.0 | 592.4 | 589.7 | 592.4 | 593.0 |
| 5°    | 590.8 | 590.3 | 587.6 | 590.3 | 590.8 |
| 7.5°  | 587.0 | 587.0 | 584.3 | 587.0 | 587.0 |
| 10°   | 582.1 | 581.6 | 578.9 | 581.6 | 582.1 |
| 12.5° | 575.1 | 575.1 | 572.4 | 575.1 | 575.6 |
| 15°   | 567.0 | 567.0 | 564.8 | 567.5 | 567.5 |
| 17.5° | 557.8 | 558.3 | 555.6 | 558.9 | 558.9 |
| 20°   | 547.5 | 546.9 | 545.3 | 548.0 | 548.6 |
| 22.5° | 535.0 | 535.6 | 533.9 | 537.2 | 537.7 |
| 25°   | 522.6 | 522.6 | 521.5 | 524.7 | 524.2 |
| 27.5° | 509.0 | 509.0 | 507.4 | 510.1 | 510.7 |
| 30°   | 492.8 | 493.3 | 492.8 | 495.5 | 495.0 |
| 32.5° | 477.6 | 478.2 | 478.2 | 479.2 | 479.8 |
| 35°   | 460.3 | 460.8 | 460.8 | 463.0 | 463.0 |
| 37.5° | 443.0 | 443.0 | 443.5 | 445.1 | 445.1 |
| 40°   | 424.6 | 425.1 | 425.1 | 426.7 | 427.3 |
| 42.5° | 406.7 | 405.6 | 406.1 | 407.8 | 407.8 |
| 45°   | 386.1 | 386.6 | 387.2 | 387.7 | 387.7 |
| 47.5° | 365.5 | 366.6 | 367.2 | 367.7 | 367.2 |
| 50°   | 344.9 | 346.0 | 346.0 | 345.5 | 345.5 |
| 52.5° | 322.7 | 325.5 | 324.9 | 324.9 | 326.0 |
| 55°   | 301.6 | 302.7 | 303.3 | 303.3 | 302.7 |
| 57.5° | 280.5 | 281.6 | 280.5 | 281.1 | 280.0 |
| 60°   | 257.8 | 258.3 | 257.8 | 257.8 | 257.8 |
| 62.5° | 235.6 | 236.1 | 235.0 | 235.0 | 235.0 |
| 65°   | 212.8 | 212.8 | 212.8 | 211.7 | 213.9 |
| 67.5° | 189.0 | 190.1 | 190.1 | 190.6 | 188.4 |
| 70°   | 166.8 | 167.3 | 166.8 | 166.2 | 165.2 |
| 72.5° | 144.6 | 145.1 | 145.7 | 143.5 | 143.0 |
| 75°   | 121.8 | 121.8 | 121.3 | 120.8 | 120.8 |
| 77.5° | 99.6  | 99.6  | 99.6  | 98.6  | 98.6  |
| 80°   | 78.0  | 78.5  | 77.4  | 77.4  | 76.9  |
| 82.5° | 56.9  | 56.9  | 56.9  | 56.3  | 55.2  |
| 85°   | 36.8  | 35.7  | 36.3  | 35.2  | 35.2  |
| 87.5° | 16.8  | 16.8  | 16.8  | 15.7  | 17.9  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)