

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: P291709

Luminaire Tested: **14GR-LD5-36-FGW080-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291709  
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-LD5-36-FGW080-UNV-L92765-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: 2469.0 lumens  
Efficiency: N/A  
Efficacy: 83.2 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

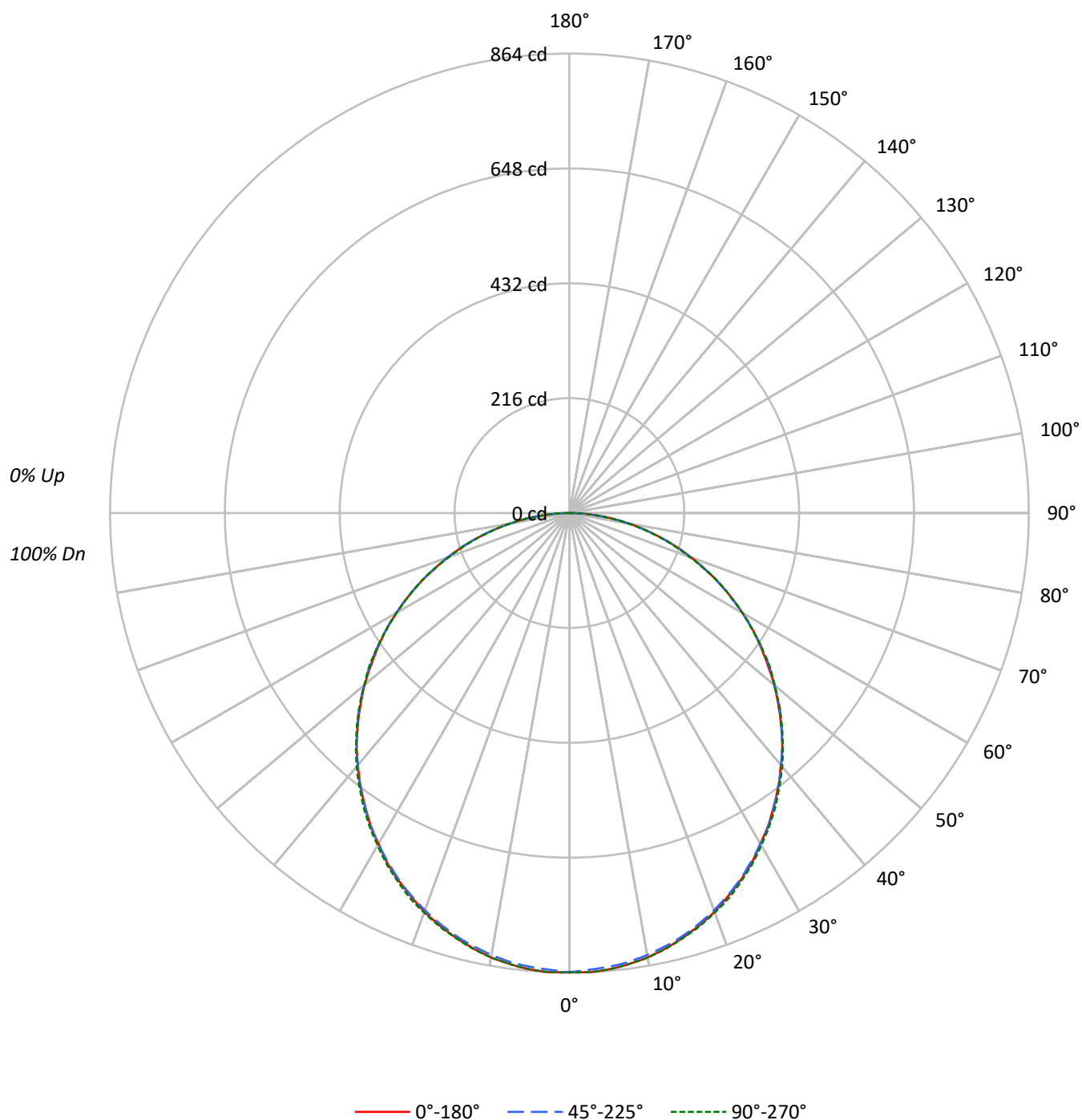
Input Watts (W): 29.667  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 93  |  | 97  | 94  | 91  |  | 93  | 90  | 88  |  | 89  | 87  | 85  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  |  | 84  | 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  | 40  | 68  | 55  | 47  | 40  |  | 53  | 46  | 40  |  | 52  | 45  | 40  |  | 50  | 44  | 39  |
| 7   | 64  | 51  | 42  | 36  | 63  | 50  | 42  | 36  |  | 48  | 41  | 35  |  | 47  | 40  | 35  |  | 46  | 39  | 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°  | 2324 | 2324 | 2324 |
| 5°  | 2326 | 2313 | 2326 |
| 10° | 2319 | 2305 | 2319 |
| 15° | 2302 | 2293 | 2305 |
| 20° | 2285 | 2276 | 2290 |
| 25° | 2261 | 2257 | 2268 |
| 30° | 2232 | 2232 | 2242 |
| 35° | 2204 | 2207 | 2217 |
| 40° | 2174 | 2177 | 2187 |
| 45° | 2141 | 2148 | 2151 |
| 50° | 2105 | 2111 | 2108 |
| 55° | 2062 | 2074 | 2070 |
| 60° | 2022 | 2022 | 2022 |
| 65° | 1975 | 1975 | 1985 |
| 70° | 1913 | 1913 | 1894 |
| 75° | 1847 | 1838 | 1830 |
| 80° | 1762 | 1750 | 1737 |
| 85° | 1658 | 1633 | 1584 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 81.7   | 3.3       |
| 10°-20°   | 233.0  | 9.4       |
| 20°-30°   | 351.2  | 14.2      |
| 30°-40°   | 420.8  | 17.0      |
| 40°-50°   | 435.2  | 17.6      |
| 50°-60°   | 394.6  | 16.0      |
| 60°-70°   | 306.6  | 12.4      |
| 70°-80°   | 187.3  | 7.6       |
| 80°-90°   | 58.6   | 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°    | 665.8  | 27.0      |
| 0°-40°    | 1086.7 | 44.0      |
| 0°-60°    | 1916.4 | 77.6      |
| 0°-90°    | 2469.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2469.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 864 | 864   | 864 | 864   | 864 |      |
| 5°  | 861 | 860   | 856 | 860   | 861 | 82   |
| 15° | 826 | 826   | 823 | 827   | 827 | 233  |
| 25° | 762 | 762   | 760 | 765   | 764 | 351  |
| 35° | 671 | 672   | 672 | 675   | 675 | 420  |
| 45° | 563 | 564   | 564 | 565   | 565 | 434  |
| 55° | 440 | 441   | 442 | 442   | 441 | 393  |
| 65° | 310 | 310   | 310 | 309   | 312 | 306  |
| 75° | 178 | 178   | 177 | 176   | 176 | 188  |
| 85° | 54  | 52    | 53  | 51    | 51  | 59   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 863.5 | 863.5 | 863.5 | 863.5 | 863.5 |
| 2.5°  | 864.2 | 863.5 | 859.5 | 863.5 | 864.2 |
| 5°    | 861.1 | 860.3 | 856.4 | 860.3 | 861.1 |
| 7.5°  | 855.6 | 855.6 | 851.6 | 855.6 | 855.6 |
| 10°   | 848.5 | 847.7 | 843.7 | 847.7 | 848.5 |
| 12.5° | 838.2 | 838.2 | 834.3 | 838.2 | 839.0 |
| 15°   | 826.4 | 826.4 | 823.2 | 827.2 | 827.2 |
| 17.5° | 812.9 | 813.7 | 809.8 | 814.5 | 814.5 |
| 20°   | 797.9 | 797.2 | 794.8 | 798.7 | 799.5 |
| 22.5° | 779.8 | 780.6 | 778.2 | 783.0 | 783.7 |
| 25°   | 761.6 | 761.6 | 760.1 | 764.8 | 764.0 |
| 27.5° | 741.9 | 741.9 | 739.5 | 743.5 | 744.3 |
| 30°   | 718.2 | 719.0 | 718.2 | 722.2 | 721.4 |
| 32.5° | 696.1 | 696.9 | 696.9 | 698.5 | 699.3 |
| 35°   | 670.9 | 671.7 | 671.7 | 674.8 | 674.8 |
| 37.5° | 645.6 | 645.6 | 646.4 | 648.8 | 648.8 |
| 40°   | 618.8 | 619.6 | 619.6 | 621.9 | 622.7 |
| 42.5° | 592.7 | 591.2 | 592.0 | 594.3 | 594.3 |
| 45°   | 562.7 | 563.5 | 564.3 | 565.1 | 565.1 |
| 47.5° | 532.8 | 534.3 | 535.1 | 535.9 | 535.1 |
| 50°   | 502.8 | 504.3 | 504.3 | 503.6 | 503.6 |
| 52.5° | 470.4 | 474.3 | 473.6 | 473.6 | 475.1 |
| 55°   | 439.6 | 441.2 | 442.0 | 442.0 | 441.2 |
| 57.5° | 408.8 | 410.4 | 408.8 | 409.6 | 408.1 |
| 60°   | 375.7 | 376.5 | 375.7 | 375.7 | 375.7 |
| 62.5° | 343.3 | 344.1 | 342.5 | 342.5 | 342.5 |
| 65°   | 310.2 | 310.2 | 310.2 | 308.6 | 311.8 |
| 67.5° | 275.5 | 277.0 | 277.0 | 277.8 | 274.7 |
| 70°   | 243.1 | 243.9 | 243.1 | 242.3 | 240.7 |
| 72.5° | 210.7 | 211.5 | 212.3 | 209.2 | 208.4 |
| 75°   | 177.6 | 177.6 | 176.8 | 176.0 | 176.0 |
| 77.5° | 145.2 | 145.2 | 145.2 | 143.6 | 143.6 |
| 80°   | 113.7 | 114.4 | 112.9 | 112.9 | 112.1 |
| 82.5° | 82.9  | 82.9  | 82.9  | 82.1  | 80.5  |
| 85°   | 53.7  | 52.1  | 52.9  | 51.3  | 51.3  |
| 87.5° | 24.5  | 24.5  | 24.5  | 22.9  | 26.0  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)