

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: P290632

Luminaire Tested: **14GR-LD5-36-F1-UNV-L82765-W2A1-U-4500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P290632  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 14GR-LD5-36-F1-UNV-L82765-W2A1-U-4500K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH F1 LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 4500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3713.0 lumens  
Efficiency: N/A  
Efficacy: 124.4 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.15 / 1.23  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

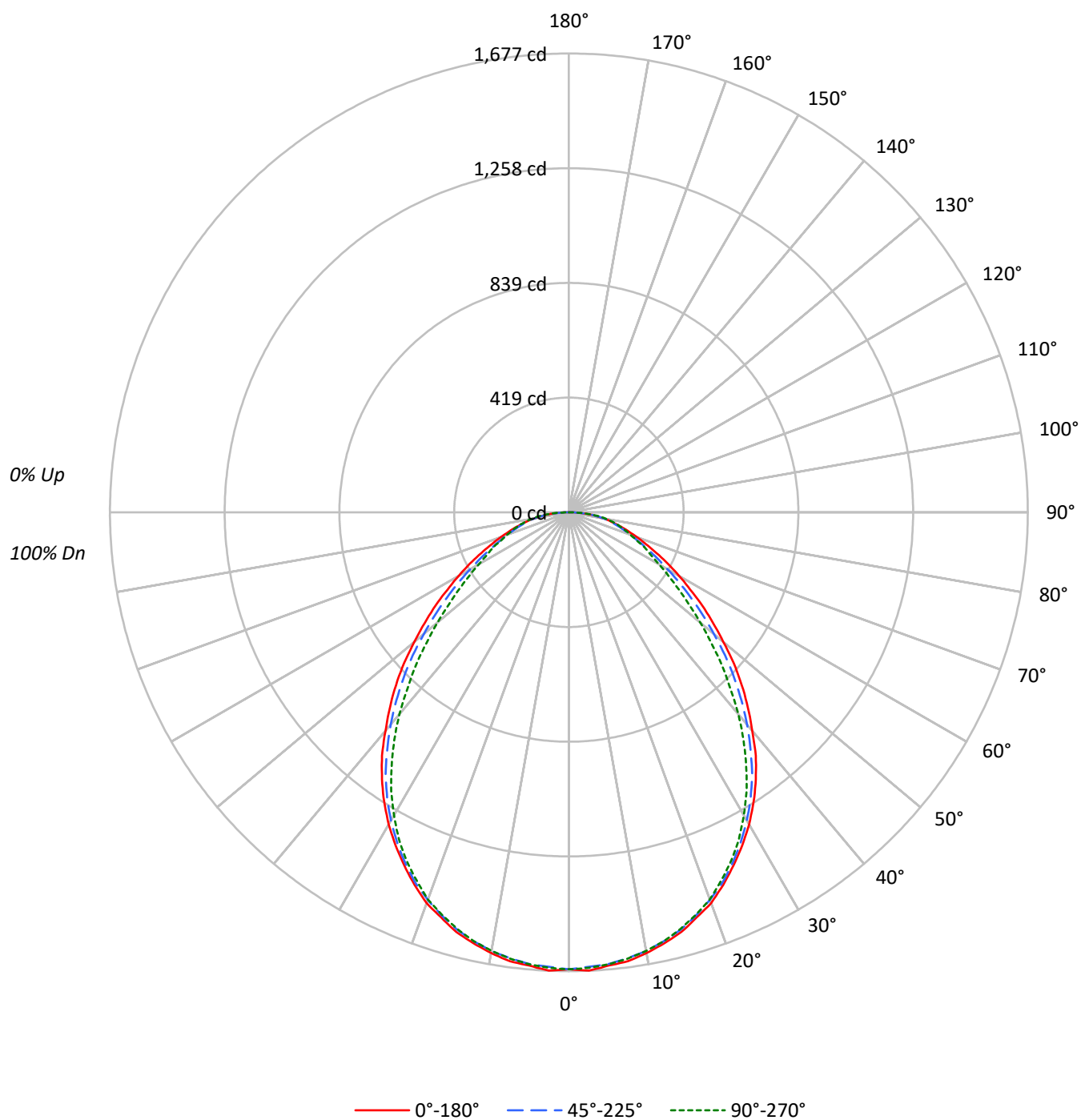
Input Watts (W): 29.853  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 110 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  |  | 95  | 92  | 90  |  | 91  |
| 2   | 101 | 93  | 87  | 81  | 98  | 91  | 85  | 80  | 88  | 83  | 78  |  | 84  | 80  | 77  |  | 81  |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  |  | 75  | 70  | 66  |  | 73  |
| 4   | 85  | 74  | 66  | 59  | 83  | 73  | 65  | 59  | 70  | 64  | 58  |  | 68  | 62  | 57  |  | 66  |
| 5   | 79  | 67  | 58  | 52  | 77  | 66  | 58  | 52  | 64  | 57  | 51  |  | 62  | 55  | 51  |  | 60  |
| 6   | 73  | 61  | 52  | 46  | 71  | 60  | 52  | 46  | 58  | 51  | 45  |  | 56  | 50  | 45  |  | 55  |
| 7   | 68  | 55  | 47  | 41  | 66  | 54  | 47  | 41  | 53  | 46  | 41  |  | 52  | 45  | 40  |  | 50  |
| 8   | 64  | 51  | 43  | 37  | 62  | 50  | 42  | 37  | 49  | 42  | 37  |  | 47  | 41  | 36  |  | 46  |
| 9   | 60  | 47  | 39  | 34  | 58  | 46  | 39  | 33  | 45  | 38  | 33  |  | 44  | 38  | 33  |  | 43  |
| 10  | 56  | 43  | 36  | 31  | 55  | 43  | 35  | 31  | 42  | 35  | 30  |  | 41  | 35  | 30  |  | 40  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4493 | 4493 | 4493 |
| 5°  | 4492 | 4476 | 4478 |
| 10° | 4470 | 4449 | 4447 |
| 15° | 4424 | 4398 | 4391 |
| 20° | 4353 | 4316 | 4312 |
| 25° | 4228 | 4200 | 4170 |
| 30° | 4091 | 4041 | 3972 |
| 35° | 3912 | 3836 | 3710 |
| 40° | 3662 | 3561 | 3384 |
| 45° | 3401 | 3248 | 3012 |
| 50° | 3085 | 2893 | 2622 |
| 55° | 2791 | 2556 | 2292 |
| 60° | 2505 | 2240 | 2043 |
| 65° | 2249 | 2000 | 1956 |
| 70° | 2076 | 1862 | 1882 |
| 75° | 1982 | 1867 | 1973 |
| 80° | 2005 | 1991 | 2149 |
| 85° | 2075 | 2050 | 2285 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 157.6  | 4.2       |
| 10°-20°   | 445.6  | 12.0      |
| 20°-30°   | 650.8  | 17.5      |
| 30°-40°   | 725.2  | 19.5      |
| 40°-50°   | 653.4  | 17.6      |
| 50°-60°   | 488.4  | 13.2      |
| 60°-70°   | 322.2  | 8.7       |
| 70°-80°   | 196.7  | 5.3       |
| 80°-90°   | 73.0   | 2.0       |
| 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°    | 1254.1 | 33.8      |
| 0°-40°    | 1979.3 | 53.3      |
| 0°-60°    | 3121.2 | 84.1      |
| 0°-90°    | 3713.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3713.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1670 | 1670  | 1670 | 1670  | 1670 |      |
| 5°  | 1663 | 1661  | 1657 | 1666  | 1658 | 158  |
| 15° | 1588 | 1582  | 1579 | 1588  | 1576 | 447  |
| 25° | 1424 | 1419  | 1414 | 1417  | 1404 | 655  |
| 35° | 1191 | 1180  | 1168 | 1147  | 1129 | 742  |
| 45° | 894  | 884   | 854  | 814   | 792  | 688  |
| 55° | 595  | 586   | 545  | 500   | 488  | 533  |
| 65° | 353  | 342   | 314  | 301   | 307  | 354  |
| 75° | 191  | 187   | 180  | 186   | 190  | 204  |
| 85° | 67   | 65    | 66   | 73    | 74   | 72   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1669.8 | 1669.8 | 1669.8 | 1669.8 | 1669.8 |
| 2.5°  | 1676.6 | 1669.0 | 1662.2 | 1672.4 | 1666.4 |
| 5°    | 1663.0 | 1661.3 | 1657.1 | 1665.6 | 1657.9 |
| 7.5°  | 1654.5 | 1648.6 | 1643.4 | 1653.7 | 1645.1 |
| 10°   | 1635.8 | 1632.4 | 1628.1 | 1636.6 | 1627.3 |
| 12.5° | 1612.8 | 1609.4 | 1605.1 | 1615.4 | 1605.1 |
| 15°   | 1588.1 | 1582.2 | 1578.8 | 1588.1 | 1576.2 |
| 17.5° | 1552.4 | 1549.8 | 1544.7 | 1554.1 | 1542.2 |
| 20°   | 1520.0 | 1510.7 | 1507.3 | 1514.1 | 1505.6 |
| 22.5° | 1473.2 | 1466.4 | 1465.6 | 1469.8 | 1455.4 |
| 25°   | 1423.9 | 1418.8 | 1414.5 | 1417.1 | 1404.3 |
| 27.5° | 1371.9 | 1365.1 | 1360.0 | 1359.2 | 1345.6 |
| 30°   | 1316.6 | 1308.1 | 1300.5 | 1293.7 | 1278.3 |
| 32.5° | 1256.2 | 1246.0 | 1235.8 | 1224.7 | 1208.5 |
| 35°   | 1190.7 | 1180.5 | 1167.7 | 1147.3 | 1129.4 |
| 37.5° | 1121.7 | 1109.8 | 1089.4 | 1065.6 | 1047.7 |
| 40°   | 1042.6 | 1036.6 | 1013.6 | 983.0  | 963.4  |
| 42.5° | 968.5  | 961.7  | 932.8  | 898.7  | 872.4  |
| 45°   | 893.6  | 884.3  | 853.6  | 814.5  | 791.5  |
| 47.5° | 817.0  | 807.7  | 773.6  | 725.1  | 704.7  |
| 50°   | 737.0  | 731.9  | 691.1  | 646.8  | 626.4  |
| 52.5° | 663.8  | 657.9  | 616.2  | 571.9  | 553.2  |
| 55°   | 594.9  | 585.5  | 544.7  | 499.6  | 488.5  |
| 57.5° | 526.0  | 515.8  | 477.5  | 439.2  | 431.5  |
| 60°   | 465.5  | 452.8  | 416.2  | 386.4  | 379.6  |
| 62.5° | 408.5  | 394.1  | 363.4  | 340.4  | 337.0  |
| 65°   | 353.2  | 342.1  | 314.1  | 301.3  | 307.2  |
| 67.5° | 305.5  | 294.5  | 274.0  | 268.9  | 267.2  |
| 70°   | 263.8  | 253.6  | 236.6  | 238.3  | 239.2  |
| 72.5° | 225.5  | 219.6  | 206.8  | 211.1  | 214.5  |
| 75°   | 190.6  | 187.2  | 179.6  | 185.5  | 189.8  |
| 77.5° | 159.2  | 156.6  | 153.2  | 158.3  | 165.1  |
| 80°   | 129.4  | 127.7  | 128.5  | 131.9  | 138.7  |
| 82.5° | 99.6   | 96.2   | 98.7   | 105.5  | 109.8  |
| 85°   | 67.2   | 64.7   | 66.4   | 73.2   | 74.0   |
| 87.5° | 31.5   | 31.5   | 30.6   | 35.7   | 35.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)