

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: P290727

Luminaire Tested: **14GR-LD5-36-F1-UNV-L92765-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P290727  
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-L92765-W2A1-U-3000K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH F1 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2978.0 lumens  
Efficiency: N/A  
Efficacy: 102.6 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

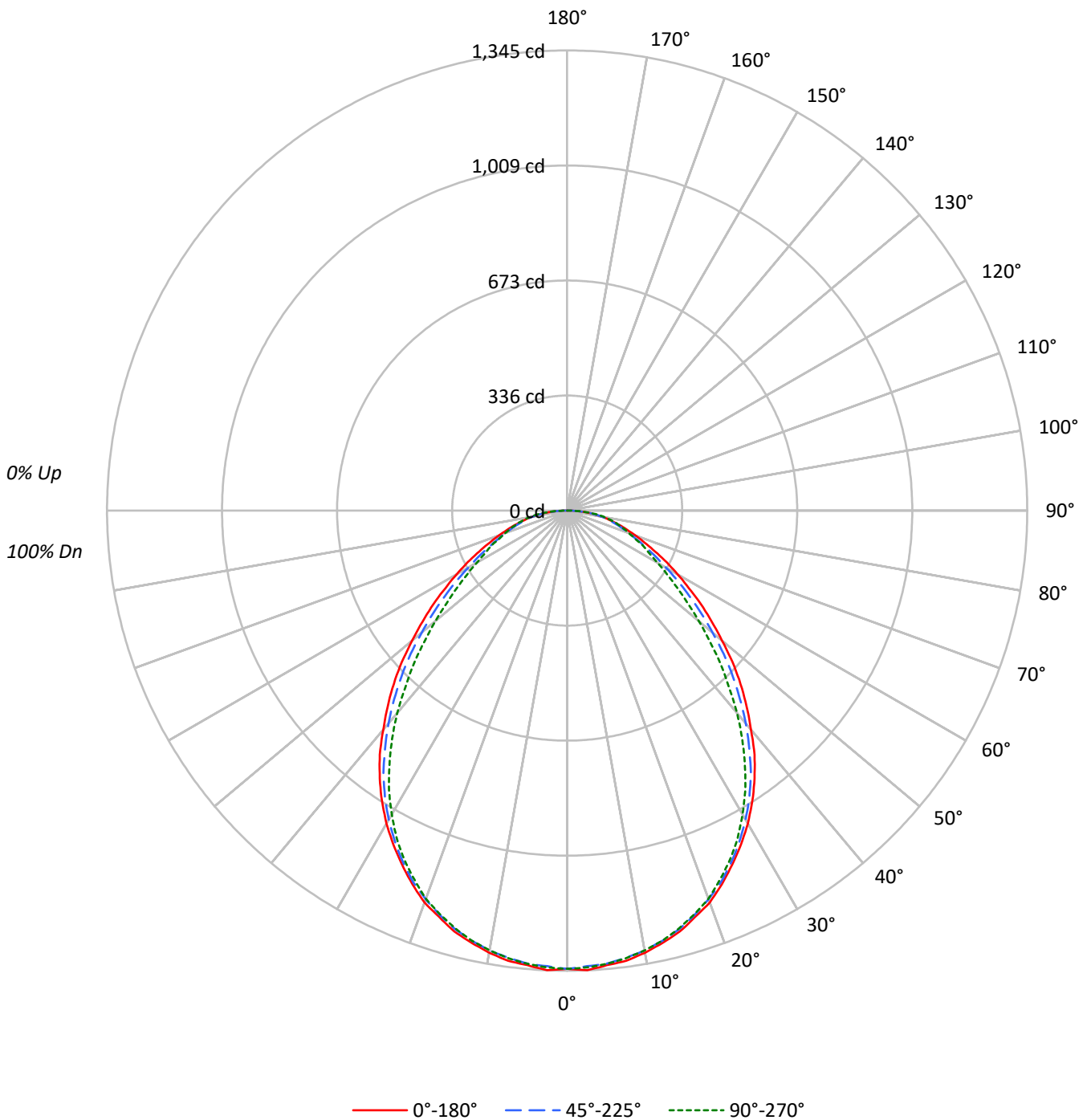
Input Watts (W): 29.016  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |    |     |   |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 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 | 102 | 102 | 102 | 100 |    |    |    |    | 100 |   |  |   |
| 1   | 110 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  | 95  | 92  | 90  | 91  | 89  | 87  | 85  |    |    |    |    | 85  |   |  |   |
| 2   | 101 | 93  | 87  | 81  | 98  | 91  | 85  | 80  | 88  | 83  | 78  | 84  | 80  | 77  | 81  | 78  | 75  | 73  |    |    |    |    | 73  |   |  |   |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 63  |    |    |    |    | 63  |   |  |   |
| 4   | 85  | 74  | 66  | 59  | 83  | 73  | 65  | 59  | 70  | 64  | 58  | 68  | 62  | 57  | 66  | 61  | 57  | 55  |    |    |    |    | 55  |   |  |   |
| 5   | 79  | 67  | 58  | 52  | 77  | 66  | 58  | 52  | 64  | 57  | 51  | 62  | 55  | 51  | 60  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 6   | 73  | 61  | 52  | 46  | 71  | 60  | 52  | 46  | 58  | 51  | 45  | 56  | 50  | 45  | 55  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 7   | 68  | 55  | 47  | 41  | 66  | 54  | 47  | 41  | 53  | 46  | 41  | 52  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |    | 38  |   |  |   |
| 8   | 64  | 51  | 43  | 37  | 62  | 50  | 42  | 37  | 49  | 42  | 37  | 47  | 41  | 36  | 46  | 41  | 36  | 34  |    |    |    |    | 34  |   |  |   |
| 9   | 60  | 47  | 39  | 34  | 58  | 46  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 31  |    |    |    |    | 31  |   |  |   |
| 10  | 56  | 43  | 36  | 31  | 55  | 43  | 35  | 31  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 29  |    |    |    |    | 29  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3604 | 3604 | 3604 |
| 5°  | 3603 | 3590 | 3592 |
| 10° | 3585 | 3568 | 3566 |
| 15° | 3549 | 3528 | 3522 |
| 20° | 3491 | 3462 | 3458 |
| 25° | 3391 | 3369 | 3344 |
| 30° | 3281 | 3241 | 3186 |
| 35° | 3137 | 3076 | 2976 |
| 40° | 2937 | 2856 | 2714 |
| 45° | 2727 | 2606 | 2416 |
| 50° | 2475 | 2321 | 2103 |
| 55° | 2238 | 2050 | 1838 |
| 60° | 2010 | 1796 | 1638 |
| 65° | 1804 | 1604 | 1569 |
| 70° | 1665 | 1493 | 1509 |
| 75° | 1590 | 1497 | 1582 |
| 80° | 1609 | 1598 | 1725 |
| 85° | 1664 | 1643 | 1834 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 126.4  | 4.2       |
| 10°-20°   | 357.4  | 12.0      |
| 20°-30°   | 522.0  | 17.5      |
| 30°-40°   | 581.6  | 19.5      |
| 40°-50°   | 524.1  | 17.6      |
| 50°-60°   | 391.7  | 13.2      |
| 60°-70°   | 258.4  | 8.7       |
| 70°-80°   | 157.8  | 5.3       |
| 80°-90°   | 58.5   | 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°    | 1005.8 | 33.8      |
| 0°-40°    | 1587.5 | 53.3      |
| 0°-60°    | 2503.3 | 84.1      |
| 0°-90°    | 2978.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2978.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1339 | 1339  | 1339 | 1339  | 1339 |      |
| 5°  | 1334 | 1332  | 1329 | 1336  | 1330 | 127  |
| 15° | 1274 | 1269  | 1266 | 1274  | 1264 | 358  |
| 25° | 1142 | 1138  | 1134 | 1136  | 1126 | 526  |
| 35° | 955  | 947   | 936  | 920   | 906  | 595  |
| 45° | 717  | 709   | 685  | 653   | 635  | 552  |
| 55° | 477  | 470   | 437  | 401   | 392  | 427  |
| 65° | 283  | 274   | 252  | 242   | 246  | 284  |
| 75° | 153  | 150   | 144  | 149   | 152  | 163  |
| 85° | 54   | 52    | 53   | 59    | 59   | 57   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1339.3 | 1339.3 | 1339.3 | 1339.3 | 1339.3 |
| 2.5°  | 1344.7 | 1338.6 | 1333.1 | 1341.3 | 1336.6 |
| 5°    | 1333.8 | 1332.5 | 1329.0 | 1335.9 | 1329.7 |
| 7.5°  | 1327.0 | 1322.2 | 1318.1 | 1326.3 | 1319.5 |
| 10°   | 1312.0 | 1309.2 | 1305.8 | 1312.7 | 1305.2 |
| 12.5° | 1293.5 | 1290.8 | 1287.4 | 1295.6 | 1287.4 |
| 15°   | 1273.8 | 1269.0 | 1266.2 | 1273.8 | 1264.2 |
| 17.5° | 1245.1 | 1243.0 | 1238.9 | 1246.4 | 1236.9 |
| 20°   | 1219.1 | 1211.6 | 1208.9 | 1214.4 | 1207.5 |
| 22.5° | 1181.6 | 1176.1 | 1175.5 | 1178.9 | 1167.3 |
| 25°   | 1142.0 | 1137.9 | 1134.5 | 1136.5 | 1126.3 |
| 27.5° | 1100.4 | 1094.9 | 1090.8 | 1090.1 | 1079.2 |
| 30°   | 1056.0 | 1049.2 | 1043.0 | 1037.6 | 1025.3 |
| 32.5° | 1007.5 | 999.3  | 991.2  | 982.3  | 969.3  |
| 35°   | 955.0  | 946.8  | 936.5  | 920.2  | 905.8  |
| 37.5° | 899.7  | 890.1  | 873.7  | 854.6  | 840.3  |
| 40°   | 836.2  | 831.4  | 813.0  | 788.4  | 772.7  |
| 42.5° | 776.8  | 771.3  | 748.1  | 720.8  | 699.7  |
| 45°   | 716.7  | 709.2  | 684.7  | 653.3  | 634.8  |
| 47.5° | 655.3  | 647.8  | 620.5  | 581.6  | 565.2  |
| 50°   | 591.1  | 587.0  | 554.3  | 518.8  | 502.4  |
| 52.5° | 532.4  | 527.7  | 494.2  | 458.7  | 443.7  |
| 55°   | 477.1  | 469.6  | 436.9  | 400.7  | 391.8  |
| 57.5° | 421.9  | 413.7  | 382.9  | 352.2  | 346.1  |
| 60°   | 373.4  | 363.1  | 333.8  | 309.9  | 304.4  |
| 62.5° | 327.7  | 316.0  | 291.5  | 273.0  | 270.3  |
| 65°   | 283.3  | 274.4  | 251.9  | 241.6  | 246.4  |
| 67.5° | 245.1  | 236.2  | 219.8  | 215.7  | 214.3  |
| 70°   | 211.6  | 203.4  | 189.8  | 191.1  | 191.8  |
| 72.5° | 180.9  | 176.1  | 165.9  | 169.3  | 172.0  |
| 75°   | 152.9  | 150.2  | 144.0  | 148.8  | 152.2  |
| 77.5° | 127.6  | 125.6  | 122.9  | 127.0  | 132.4  |
| 80°   | 103.8  | 102.4  | 103.1  | 105.8  | 111.3  |
| 82.5° | 79.9   | 77.1   | 79.2   | 84.6   | 88.1   |
| 85°   | 53.9   | 51.9   | 53.2   | 58.7   | 59.4   |
| 87.5° | 25.3   | 25.3   | 24.6   | 28.7   | 28.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)