

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: P291009

Luminaire Tested: **14GR-LD5-28-A-UNV-L82765-W2A1-U-5700K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291009  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33314)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 14GR-LD5-28-A-UNV-L82765-W2A1-U-5700K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH A LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 5700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3036.0 lumens  
Efficiency: N/A  
Efficacy: 132.7 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.21 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

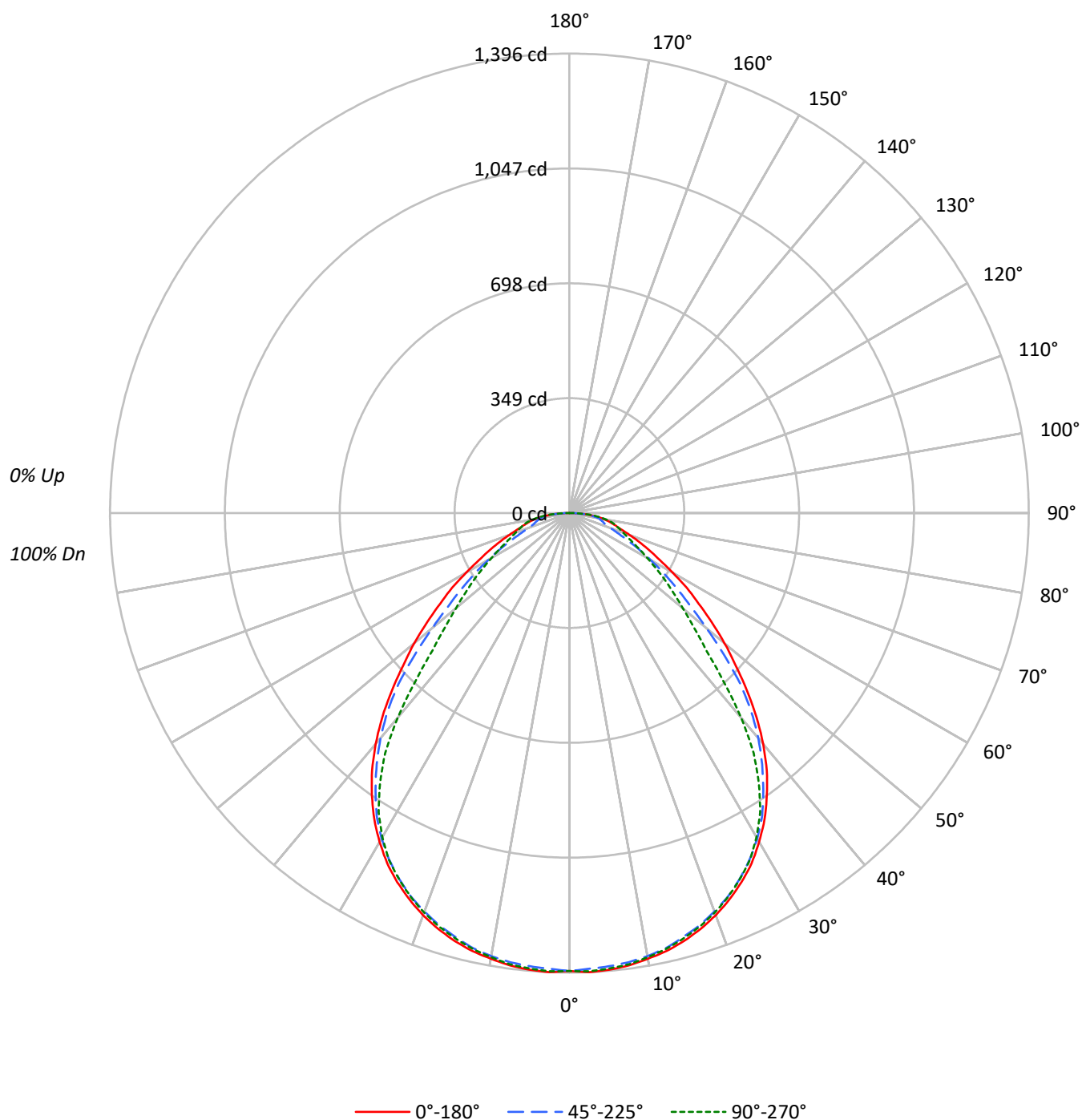
Input Watts (W): 22.878  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 50  | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  | 86  |    |    |
| 2   | 101 | 94  | 88  | 83  | 99  | 92  | 86  | 82  | 88  | 84  | 80  | 85  | 81  | 78  | 82  | 79  | 76  | 74  |    |    |
| 3   | 93  | 84  | 76  | 71  | 91  | 82  | 75  | 70  | 79  | 74  | 69  | 77  | 72  | 68  | 74  | 70  | 66  | 64  |    |    |
| 4   | 86  | 75  | 67  | 61  | 84  | 74  | 67  | 61  | 72  | 65  | 60  | 69  | 64  | 59  | 67  | 62  | 58  | 56  |    |    |
| 5   | 80  | 68  | 60  | 54  | 78  | 67  | 59  | 53  | 65  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 52  | 50  |    |    |
| 6   | 74  | 62  | 54  | 48  | 72  | 61  | 53  | 47  | 59  | 52  | 47  | 58  | 51  | 47  | 56  | 51  | 46  | 44  |    |    |
| 7   | 69  | 57  | 48  | 43  | 67  | 56  | 48  | 43  | 54  | 47  | 42  | 53  | 47  | 42  | 52  | 46  | 42  | 40  |    |    |
| 8   | 65  | 52  | 44  | 38  | 63  | 51  | 44  | 38  | 50  | 43  | 38  | 49  | 43  | 38  | 48  | 42  | 38  | 36  |    |    |
| 9   | 61  | 48  | 40  | 35  | 59  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 35  | 44  | 39  | 34  | 33  |    |    |
| 10  | 57  | 44  | 37  | 32  | 56  | 44  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 32  | 41  | 36  | 31  | 30  |    |    |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3744 | 3744 | 3744 |
| 5°  | 3762 | 3733 | 3752 |
| 10° | 3757 | 3734 | 3744 |
| 15° | 3750 | 3717 | 3728 |
| 20° | 3724 | 3689 | 3699 |
| 25° | 3674 | 3639 | 3641 |
| 30° | 3585 | 3547 | 3532 |
| 35° | 3438 | 3375 | 3299 |
| 40° | 3218 | 3136 | 2853 |
| 45° | 2906 | 2796 | 2230 |
| 50° | 2577 | 2270 | 1886 |
| 55° | 2250 | 1863 | 1664 |
| 60° | 1950 | 1533 | 1469 |
| 65° | 1711 | 1230 | 1356 |
| 70° | 1526 | 1043 | 1365 |
| 75° | 1488 | 1100 | 1525 |
| 80° | 1650 | 1389 | 1748 |
| 85° | 1720 | 1479 | 2047 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 132.0  | 4.3       |
| 10°-20°   | 378.1  | 12.5      |
| 20°-30°   | 565.7  | 18.6      |
| 30°-40°   | 638.5  | 21.0      |
| 40°-50°   | 541.7  | 17.8      |
| 50°-60°   | 366.5  | 12.1      |
| 60°-70°   | 218.8  | 7.2       |
| 70°-80°   | 137.0  | 4.5       |
| 80°-90°   | 57.6   | 1.9       |
| 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°    | 1075.8 | 35.4      |
| 0°-40°    | 1714.3 | 56.5      |
| 0°-60°    | 2622.6 | 86.4      |
| 0°-90°    | 3036.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3036.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1391 | 1391  | 1391 | 1391  | 1391 |      |
| 5°  | 1393 | 1388  | 1382 | 1392  | 1389 | 132  |
| 15° | 1346 | 1343  | 1334 | 1343  | 1338 | 380  |
| 25° | 1238 | 1233  | 1226 | 1231  | 1226 | 569  |
| 35° | 1046 | 1039  | 1027 | 1018  | 1004 | 652  |
| 45° | 764  | 766   | 735  | 630   | 586  | 588  |
| 55° | 480  | 457   | 397  | 355   | 355  | 432  |
| 65° | 269  | 223   | 193  | 206   | 213  | 269  |
| 75° | 143  | 128   | 106  | 140   | 147  | 154  |
| 85° | 56   | 53    | 48   | 62    | 66   | 60   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1391.2 | 1391.2 | 1391.2 | 1391.2 | 1391.2 |
| 2.5°  | 1396.2 | 1391.9 | 1385.6 | 1394.1 | 1393.3 |
| 5°    | 1392.6 | 1388.4 | 1382.1 | 1391.9 | 1389.1 |
| 7.5°  | 1386.3 | 1382.8 | 1376.4 | 1385.6 | 1382.8 |
| 10°   | 1375.0 | 1372.2 | 1366.5 | 1374.3 | 1370.1 |
| 12.5° | 1363.0 | 1360.9 | 1353.9 | 1360.9 | 1356.7 |
| 15°   | 1346.1 | 1343.3 | 1334.1 | 1343.3 | 1338.3 |
| 17.5° | 1324.9 | 1321.4 | 1313.7 | 1321.4 | 1317.2 |
| 20°   | 1300.3 | 1296.0 | 1288.3 | 1296.0 | 1291.8 |
| 22.5° | 1270.7 | 1267.1 | 1260.1 | 1267.1 | 1261.5 |
| 25°   | 1237.5 | 1233.3 | 1225.5 | 1231.2 | 1226.2 |
| 27.5° | 1199.4 | 1193.8 | 1186.7 | 1191.0 | 1188.2 |
| 30°   | 1153.6 | 1146.5 | 1141.6 | 1141.6 | 1136.7 |
| 32.5° | 1103.5 | 1098.6 | 1090.1 | 1085.2 | 1078.9 |
| 35°   | 1046.4 | 1039.4 | 1027.4 | 1018.2 | 1004.1 |
| 37.5° | 985.1  | 976.6  | 961.8  | 938.5  | 919.5  |
| 40°   | 916.0  | 905.4  | 892.7  | 846.9  | 812.3  |
| 42.5° | 841.9  | 839.8  | 818.0  | 739.7  | 691.7  |
| 45°   | 763.7  | 766.5  | 734.7  | 629.7  | 586.0  |
| 47.5° | 684.7  | 694.6  | 636.7  | 533.8  | 511.2  |
| 50°   | 615.6  | 619.1  | 542.2  | 463.3  | 450.6  |
| 52.5° | 544.4  | 538.7  | 462.6  | 407.6  | 398.4  |
| 55°   | 479.5  | 456.9  | 397.0  | 355.4  | 354.7  |
| 57.5° | 422.4  | 380.8  | 339.2  | 308.1  | 311.7  |
| 60°   | 362.4  | 315.9  | 284.9  | 268.0  | 272.9  |
| 62.5° | 309.6  | 265.1  | 237.6  | 232.7  | 241.2  |
| 65°   | 268.7  | 222.8  | 193.2  | 205.9  | 213.0  |
| 67.5° | 229.9  | 191.1  | 157.2  | 187.6  | 190.4  |
| 70°   | 193.9  | 165.7  | 132.6  | 172.8  | 173.5  |
| 72.5° | 164.3  | 146.7  | 114.9  | 156.5  | 158.7  |
| 75°   | 143.1  | 127.6  | 105.8  | 139.6  | 146.7  |
| 77.5° | 125.5  | 109.3  | 98.0   | 120.6  | 132.6  |
| 80°   | 106.5  | 88.1   | 89.6   | 100.8  | 112.8  |
| 82.5° | 81.8   | 68.4   | 71.2   | 83.2   | 91.7   |
| 85°   | 55.7   | 52.9   | 47.9   | 62.1   | 66.3   |
| 87.5° | 29.6   | 28.2   | 24.7   | 35.3   | 33.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)