

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: P291075

Luminaire Tested: **14GR-LD5-40-A-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291075  
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-LD5-40-A-UNV-L93050-W2A1-U-4500K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH A LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 4500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3861.0 lumens  
Efficiency: N/A  
Efficacy: 110.1 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

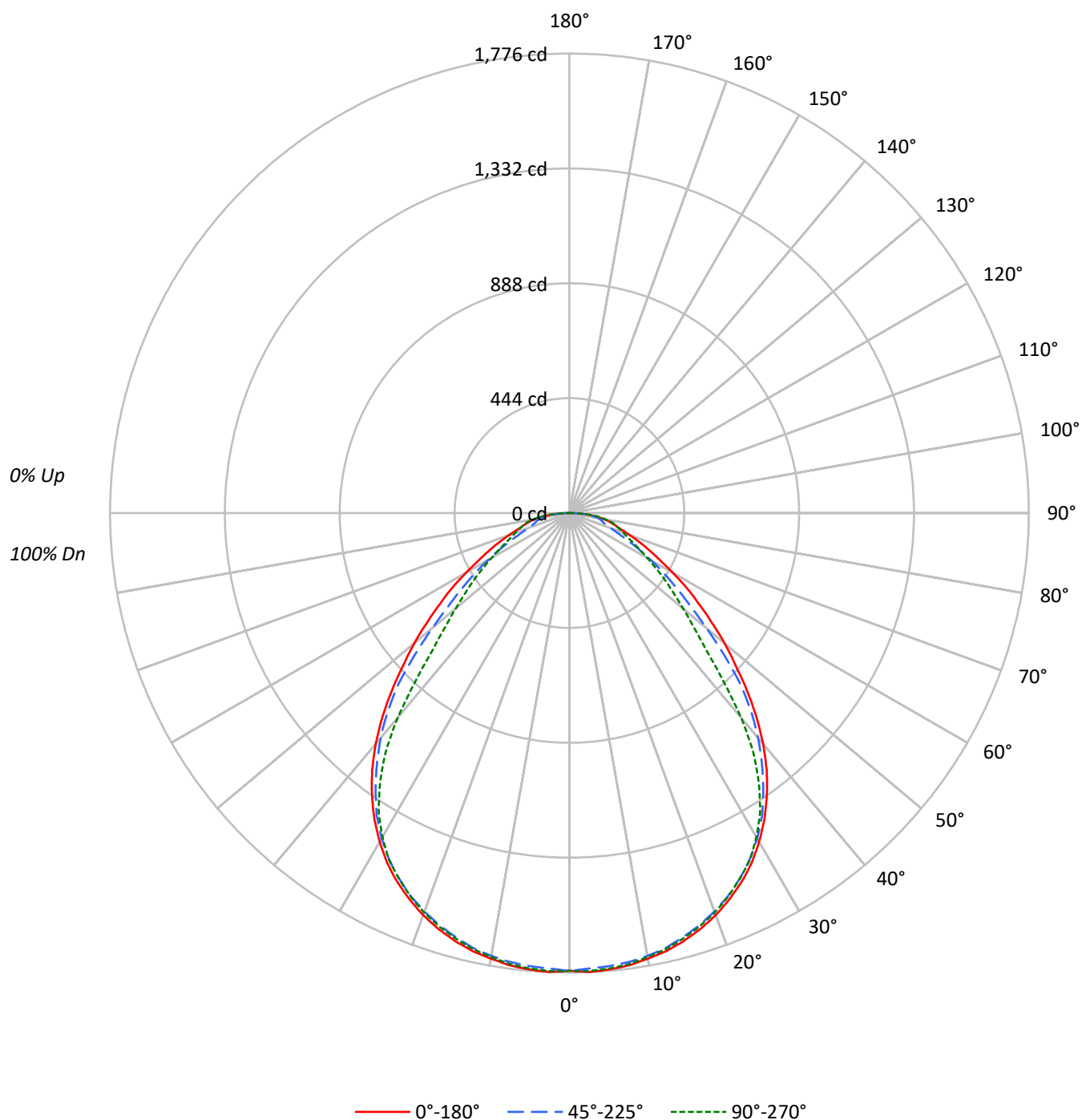
Input Watts (W): 35.061  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4761 | 4761 | 4761 |
| 5°  | 4784 | 4748 | 4772 |
| 10° | 4778 | 4749 | 4761 |
| 15° | 4769 | 4727 | 4742 |
| 20° | 4735 | 4692 | 4704 |
| 25° | 4673 | 4627 | 4630 |
| 30° | 4559 | 4511 | 4492 |
| 35° | 4372 | 4292 | 4195 |
| 40° | 4092 | 3988 | 3629 |
| 45° | 3696 | 3556 | 2836 |
| 50° | 3278 | 2887 | 2399 |
| 55° | 2861 | 2369 | 2116 |
| 60° | 2481 | 1950 | 1868 |
| 65° | 2176 | 1564 | 1724 |
| 70° | 1940 | 1327 | 1736 |
| 75° | 1892 | 1398 | 1939 |
| 80° | 2098 | 1765 | 2224 |
| 85° | 2186 | 1883 | 2603 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 167.9  | 4.3       |
| 10°-20°   | 480.9  | 12.5      |
| 20°-30°   | 719.4  | 18.6      |
| 30°-40°   | 812.1  | 21.0      |
| 40°-50°   | 688.9  | 17.8      |
| 50°-60°   | 466.1  | 12.1      |
| 60°-70°   | 278.2  | 7.2       |
| 70°-80°   | 174.2  | 4.5       |
| 80°-90°   | 73.3   | 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°    | 1368.1 | 35.4      |
| 0°-40°    | 2180.2 | 56.5      |
| 0°-60°    | 3335.2 | 86.4      |
| 0°-90°    | 3861.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3861.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1769 | 1769  | 1769 | 1769  | 1769 |      |
| 5°  | 1771 | 1766  | 1758 | 1770  | 1767 | 168  |
| 15° | 1712 | 1708  | 1697 | 1708  | 1702 | 483  |
| 25° | 1574 | 1568  | 1558 | 1566  | 1559 | 724  |
| 35° | 1331 | 1322  | 1307 | 1295  | 1277 | 829  |
| 45° | 971  | 975   | 934  | 801   | 745  | 748  |
| 55° | 610  | 581   | 505  | 452   | 451  | 549  |
| 65° | 342  | 283   | 246  | 262   | 271  | 341  |
| 75° | 182  | 162   | 134  | 178   | 186  | 196  |
| 85° | 71   | 67    | 61   | 79    | 84   | 76   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1769.3 | 1769.3 | 1769.3 | 1769.3 | 1769.3 |
| 2.5°  | 1775.6 | 1770.2 | 1762.1 | 1772.9 | 1772.0 |
| 5°    | 1771.1 | 1765.7 | 1757.6 | 1770.2 | 1766.6 |
| 7.5°  | 1763.0 | 1758.5 | 1750.4 | 1762.1 | 1758.5 |
| 10°   | 1748.7 | 1745.1 | 1737.9 | 1747.8 | 1742.4 |
| 12.5° | 1733.4 | 1730.7 | 1721.8 | 1730.7 | 1725.3 |
| 15°   | 1711.9 | 1708.3 | 1696.6 | 1708.3 | 1702.0 |
| 17.5° | 1685.0 | 1680.5 | 1670.6 | 1680.5 | 1675.1 |
| 20°   | 1653.6 | 1648.2 | 1638.4 | 1648.2 | 1642.8 |
| 22.5° | 1615.9 | 1611.5 | 1602.5 | 1611.5 | 1604.3 |
| 25°   | 1573.8 | 1568.4 | 1558.5 | 1565.7 | 1559.4 |
| 27.5° | 1525.4 | 1518.2 | 1509.2 | 1514.6 | 1511.0 |
| 30°   | 1467.1 | 1458.1 | 1451.8 | 1451.8 | 1445.6 |
| 32.5° | 1403.4 | 1397.1 | 1386.4 | 1380.1 | 1372.0 |
| 35°   | 1330.8 | 1321.8 | 1306.6 | 1294.9 | 1277.0 |
| 37.5° | 1252.8 | 1242.0 | 1223.2 | 1193.6 | 1169.4 |
| 40°   | 1164.9 | 1151.4 | 1135.3 | 1077.0 | 1033.1 |
| 42.5° | 1070.7 | 1068.0 | 1040.2 | 940.7  | 879.7  |
| 45°   | 971.2  | 974.8  | 934.4  | 800.8  | 745.2  |
| 47.5° | 870.7  | 883.3  | 809.8  | 678.8  | 650.1  |
| 50°   | 782.9  | 787.3  | 689.6  | 589.2  | 573.0  |
| 52.5° | 692.3  | 685.1  | 588.3  | 518.3  | 506.7  |
| 55°   | 609.8  | 581.1  | 504.9  | 452.0  | 451.1  |
| 57.5° | 537.2  | 484.2  | 431.3  | 391.9  | 396.4  |
| 60°   | 460.9  | 401.7  | 362.3  | 340.8  | 347.0  |
| 62.5° | 393.7  | 337.2  | 302.2  | 295.9  | 306.7  |
| 65°   | 341.7  | 283.4  | 245.7  | 261.9  | 270.8  |
| 67.5° | 292.3  | 243.0  | 200.0  | 238.5  | 242.1  |
| 70°   | 246.6  | 210.7  | 168.6  | 219.7  | 220.6  |
| 72.5° | 208.9  | 186.5  | 146.2  | 199.1  | 201.8  |
| 75°   | 182.0  | 162.3  | 134.5  | 177.6  | 186.5  |
| 77.5° | 159.6  | 139.0  | 124.6  | 153.3  | 168.6  |
| 80°   | 135.4  | 112.1  | 113.9  | 128.2  | 143.5  |
| 82.5° | 104.0  | 87.0   | 90.6   | 105.8  | 116.6  |
| 85°   | 70.8   | 67.3   | 61.0   | 78.9   | 84.3   |
| 87.5° | 37.7   | 35.9   | 31.4   | 44.8   | 42.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)