

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: P293921

Luminaire Tested: **24GR-LD5-30-A19/156-UNV-L83050-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P293921  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33308)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24GR-LD5-30-A19/156-UNV-L83050-W2A1-U-5000K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3145.0 lumens  
Efficiency: N/A  
Efficacy: 149.6 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.25  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

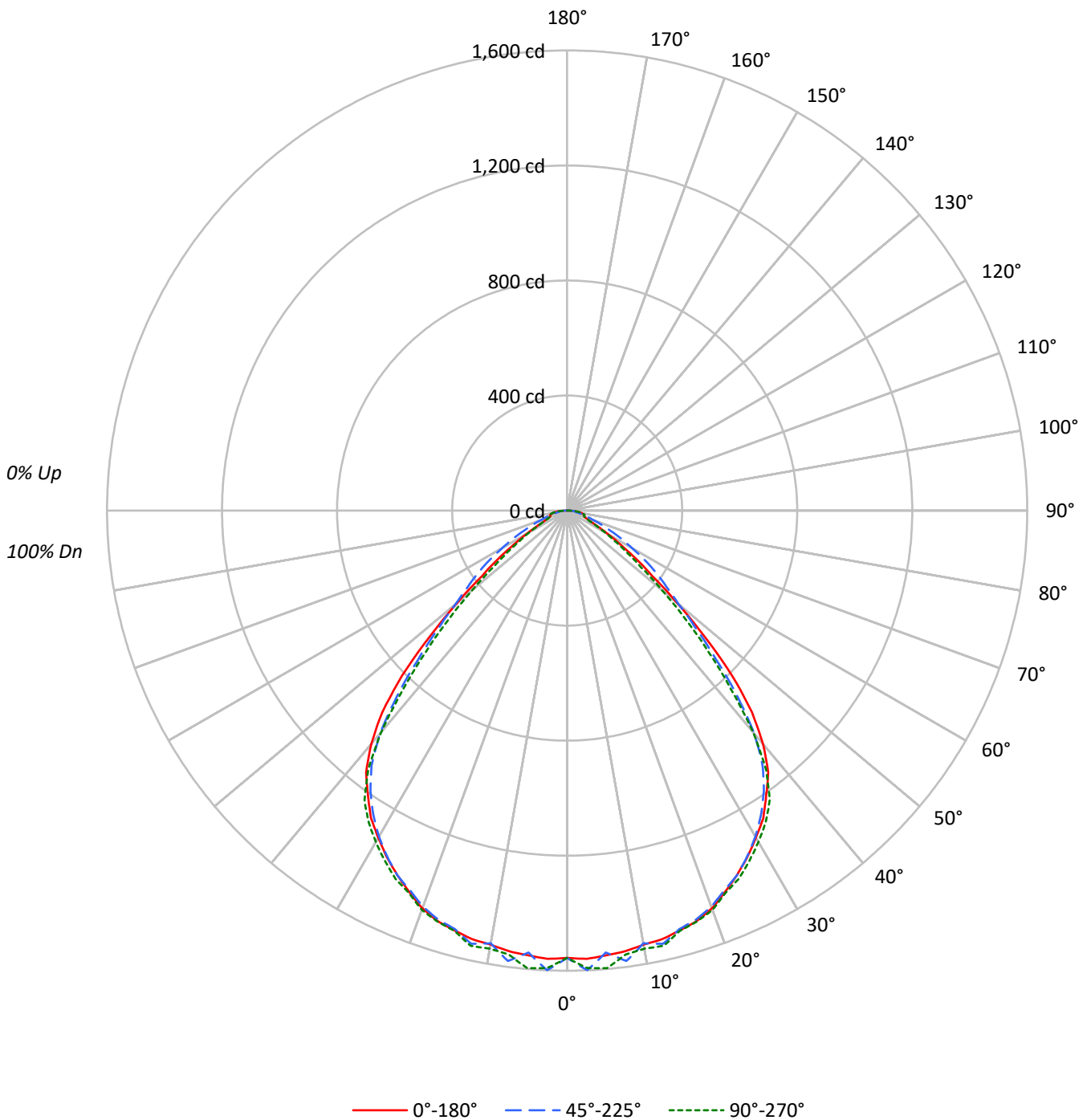
Input Watts (W): 21.018  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 | 100 |
| 1   | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  |  | 97  | 95  | 93  |  | 93  | 92  | 90  | 88  |
| 2   | 103 | 96  | 90  | 86  | 100 | 94  | 89  | 85  | 91  | 86  | 83  |  | 88  | 84  | 81  |  | 85  | 82  | 79  | 77  |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 78  | 73  | 82  | 77  | 72  |  | 79  | 75  | 71  |  | 77  | 73  | 70  | 68  |
| 4   | 88  | 78  | 71  | 65  | 86  | 77  | 70  | 64  | 74  | 68  | 64  |  | 72  | 67  | 63  |  | 70  | 66  | 62  | 60  |
| 5   | 82  | 71  | 63  | 57  | 80  | 70  | 62  | 57  | 68  | 61  | 56  |  | 66  | 60  | 56  |  | 64  | 59  | 55  | 53  |
| 6   | 76  | 65  | 57  | 51  | 75  | 64  | 56  | 51  | 62  | 55  | 50  |  | 60  | 55  | 50  |  | 59  | 54  | 50  | 48  |
| 7   | 71  | 59  | 51  | 46  | 70  | 58  | 51  | 46  | 57  | 50  | 45  |  | 56  | 50  | 45  |  | 54  | 49  | 45  | 43  |
| 8   | 67  | 55  | 47  | 42  | 65  | 54  | 47  | 41  | 53  | 46  | 41  |  | 51  | 45  | 41  |  | 50  | 45  | 41  | 39  |
| 9   | 63  | 50  | 43  | 38  | 61  | 50  | 43  | 38  | 49  | 42  | 38  |  | 48  | 42  | 37  |  | 47  | 41  | 37  | 36  |
| 10  | 59  | 47  | 39  | 35  | 58  | 46  | 39  | 35  | 45  | 39  | 34  |  | 44  | 38  | 34  |  | 44  | 38  | 34  | 33  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2092 | 2092 | 2092 |
| 5°  | 2097 | 2083 | 2157 |
| 10° | 2094 | 2087 | 2113 |
| 15° | 2106 | 2099 | 2107 |
| 20° | 2107 | 2099 | 2116 |
| 25° | 2075 | 2076 | 2097 |
| 30° | 2040 | 2034 | 2067 |
| 35° | 1983 | 1959 | 2018 |
| 40° | 1862 | 1779 | 1769 |
| 45° | 1543 | 1396 | 1324 |
| 50° | 1038 | 1059 | 905  |
| 55° | 685  | 889  | 593  |
| 60° | 439  | 701  | 406  |
| 65° | 283  | 535  | 275  |
| 70° | 250  | 384  | 250  |
| 75° | 323  | 305  | 325  |
| 80° | 395  | 262  | 415  |
| 85° | 460  | 391  | 483  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 148.9  | 4.7       |
| 10°-20°   | 427.5  | 13.6      |
| 20°-30°   | 643.7  | 20.5      |
| 30°-40°   | 746.0  | 23.7      |
| 40°-50°   | 582.8  | 18.5      |
| 50°-60°   | 311.2  | 9.9       |
| 60°-70°   | 160.0  | 5.1       |
| 70°-80°   | 90.5   | 2.9       |
| 80°-90°   | 34.4   | 1.1       |
| 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°    | 1220.1 | 38.8      |
| 0°-40°    | 1966.1 | 62.5      |
| 0°-60°    | 2860.1 | 90.9      |
| 0°-90°    | 3145.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3145.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1555 | 1555  | 1555 | 1555  | 1555 |      |
| 5°  | 1553 | 1596  | 1542 | 1585  | 1597 | 148  |
| 15° | 1512 | 1521  | 1507 | 1516  | 1513 | 427  |
| 25° | 1398 | 1393  | 1398 | 1396  | 1412 | 644  |
| 35° | 1207 | 1202  | 1192 | 1216  | 1228 | 753  |
| 45° | 811  | 812   | 734  | 727   | 696  | 611  |
| 55° | 292  | 369   | 379  | 341   | 253  | 269  |
| 65° | 89   | 185   | 168  | 185   | 86   | 98   |
| 75° | 62   | 117   | 59   | 109   | 63   | 63   |
| 85° | 30   | 39    | 25   | 39    | 31   | 31   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1555.1 | 1555.1 | 1555.1 | 1555.1 | 1555.1 |
| 2.5°  | 1560.2 | 1588.4 | 1599.6 | 1585.9 | 1592.0 |
| 5°    | 1552.6 | 1596.0 | 1542.5 | 1584.9 | 1597.0 |
| 7.5°  | 1545.5 | 1541.0 | 1579.9 | 1539.5 | 1556.6 |
| 10°   | 1532.4 | 1535.4 | 1527.8 | 1556.6 | 1546.5 |
| 12.5° | 1526.3 | 1544.0 | 1542.5 | 1527.8 | 1550.1 |
| 15°   | 1511.7 | 1521.3 | 1506.6 | 1516.2 | 1512.7 |
| 17.5° | 1497.0 | 1492.5 | 1491.0 | 1495.0 | 1498.5 |
| 20°   | 1471.8 | 1456.6 | 1465.7 | 1466.7 | 1477.8 |
| 22.5° | 1435.4 | 1426.3 | 1428.3 | 1437.4 | 1438.4 |
| 25°   | 1397.5 | 1393.0 | 1398.5 | 1396.5 | 1412.2 |
| 27.5° | 1358.1 | 1352.1 | 1355.6 | 1363.2 | 1372.8 |
| 30°   | 1313.2 | 1311.7 | 1309.1 | 1315.7 | 1330.4 |
| 32.5° | 1268.7 | 1256.6 | 1254.6 | 1268.2 | 1284.9 |
| 35°   | 1207.1 | 1201.6 | 1192.5 | 1216.2 | 1228.3 |
| 37.5° | 1148.5 | 1131.4 | 1116.7 | 1130.9 | 1135.9 |
| 40°   | 1060.1 | 1047.0 | 1012.7 | 1014.2 | 1007.1 |
| 42.5° | 951.6  | 942.0  | 876.3  | 864.7  | 845.0  |
| 45°   | 811.1  | 811.6  | 733.9  | 727.3  | 696.0  |
| 47.5° | 648.0  | 676.8  | 609.1  | 601.5  | 555.1  |
| 50°   | 496.0  | 548.0  | 506.1  | 494.0  | 432.3  |
| 52.5° | 372.2  | 448.5  | 435.4  | 409.1  | 324.3  |
| 55°   | 291.9  | 369.2  | 378.8  | 341.4  | 253.0  |
| 57.5° | 219.7  | 304.1  | 319.7  | 288.9  | 195.5  |
| 60°   | 163.1  | 256.1  | 260.6  | 248.5  | 151.0  |
| 62.5° | 121.2  | 217.7  | 211.6  | 213.1  | 112.1  |
| 65°   | 88.9   | 185.4  | 168.2  | 184.9  | 86.4   |
| 67.5° | 72.7   | 160.6  | 130.8  | 160.1  | 70.2   |
| 70°   | 63.6   | 142.4  | 97.5   | 140.9  | 63.6   |
| 72.5° | 61.6   | 130.8  | 77.3   | 125.3  | 62.1   |
| 75°   | 62.1   | 116.7  | 58.6   | 109.1  | 62.6   |
| 77.5° | 57.1   | 96.0   | 44.4   | 92.9   | 59.6   |
| 80°   | 51.0   | 72.7   | 33.8   | 73.7   | 53.5   |
| 82.5° | 43.4   | 53.0   | 27.3   | 54.5   | 45.0   |
| 85°   | 29.8   | 38.9   | 25.3   | 38.9   | 31.3   |
| 87.5° | 14.1   | 23.2   | 15.7   | 22.2   | 16.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)