

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: P293963

Luminaire Tested: **24GR-LD5-30-A19/156-UNV-L82765-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P293963  
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-L82765-W2A1-U-3000K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (336) 80 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2801.0 lumens  
Efficiency: N/A  
Efficacy: 141.4 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

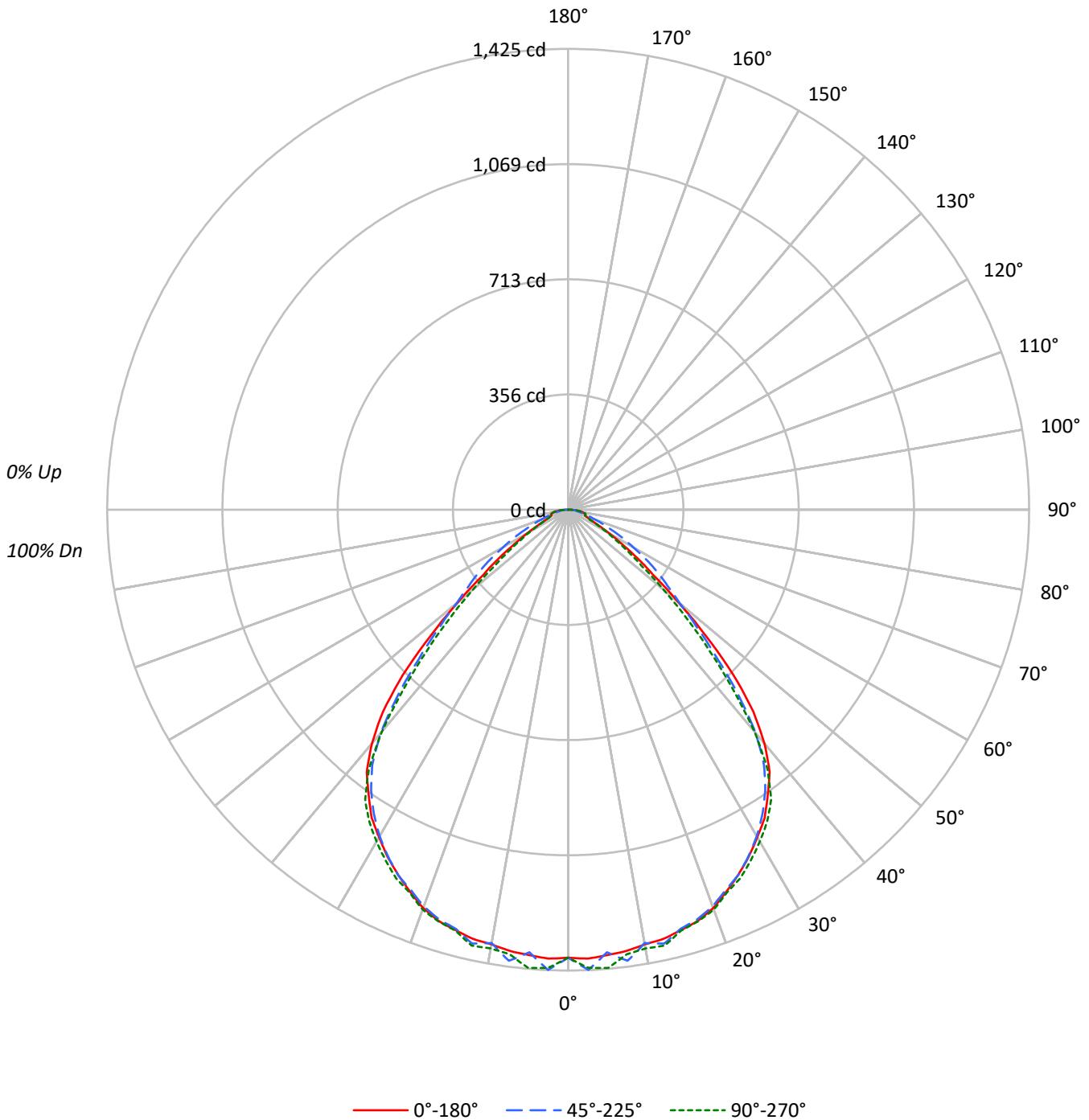
Input Watts (W): 19.809  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1864 | 1864 | 1864 |
| 5°  | 1868 | 1855 | 1921 |
| 10° | 1865 | 1859 | 1882 |
| 15° | 1875 | 1869 | 1877 |
| 20° | 1877 | 1869 | 1885 |
| 25° | 1848 | 1849 | 1867 |
| 30° | 1817 | 1811 | 1841 |
| 35° | 1766 | 1744 | 1797 |
| 40° | 1658 | 1584 | 1576 |
| 45° | 1375 | 1244 | 1180 |
| 50° | 925  | 943  | 806  |
| 55° | 610  | 791  | 529  |
| 60° | 391  | 625  | 362  |
| 65° | 252  | 477  | 245  |
| 70° | 223  | 341  | 223  |
| 75° | 287  | 271  | 290  |
| 80° | 352  | 233  | 370  |
| 85° | 409  | 347  | 431  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 132.6  | 4.7       |
| 10°-20°   | 380.8  | 13.6      |
| 20°-30°   | 573.3  | 20.5      |
| 30°-40°   | 664.4  | 23.7      |
| 40°-50°   | 519.0  | 18.5      |
| 50°-60°   | 277.1  | 9.9       |
| 60°-70°   | 142.5  | 5.1       |
| 70°-80°   | 80.6   | 2.9       |
| 80°-90°   | 30.6   | 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°    | 1086.6 | 38.8      |
| 0°-40°    | 1751.1 | 62.5      |
| 0°-60°    | 2547.3 | 90.9      |
| 0°-90°    | 2801.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2801.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1385 | 1385  | 1385 | 1385  | 1385 |      |
| 5°  | 1383 | 1422  | 1374 | 1412  | 1422 | 131  |
| 15° | 1346 | 1355  | 1342 | 1350  | 1347 | 380  |
| 25° | 1245 | 1241  | 1246 | 1244  | 1258 | 574  |
| 35° | 1075 | 1070  | 1062 | 1083  | 1094 | 670  |
| 45° | 722  | 723   | 654  | 648   | 620  | 544  |
| 55° | 260  | 329   | 337  | 304   | 225  | 240  |
| 65° | 79   | 165   | 150  | 165   | 77   | 87   |
| 75° | 55   | 104   | 52   | 97    | 56   | 56   |
| 85° | 26   | 35    | 22   | 35    | 28   | 27   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1385.0 | 1385.0 | 1385.0 | 1385.0 | 1385.0 |
| 2.5°  | 1389.5 | 1414.7 | 1424.6 | 1412.5 | 1417.9 |
| 5°    | 1382.8 | 1421.5 | 1373.8 | 1411.6 | 1422.3 |
| 7.5°  | 1376.5 | 1372.4 | 1407.1 | 1371.1 | 1386.4 |
| 10°   | 1364.8 | 1367.5 | 1360.7 | 1386.4 | 1377.4 |
| 12.5° | 1359.4 | 1375.1 | 1373.8 | 1360.7 | 1380.5 |
| 15°   | 1346.3 | 1354.9 | 1341.8 | 1350.4 | 1347.2 |
| 17.5° | 1333.3 | 1329.2 | 1327.9 | 1331.5 | 1334.6 |
| 20°   | 1310.8 | 1297.3 | 1305.4 | 1306.3 | 1316.2 |
| 22.5° | 1278.4 | 1270.3 | 1272.1 | 1280.2 | 1281.1 |
| 25°   | 1244.7 | 1240.6 | 1245.6 | 1243.8 | 1257.7 |
| 27.5° | 1209.6 | 1204.2 | 1207.3 | 1214.1 | 1222.6 |
| 30°   | 1169.5 | 1168.2 | 1165.9 | 1171.8 | 1184.8 |
| 32.5° | 1130.0 | 1119.2 | 1117.4 | 1129.5 | 1144.4 |
| 35°   | 1075.1 | 1070.1 | 1062.0 | 1083.2 | 1094.0 |
| 37.5° | 1022.9 | 1007.6 | 994.6  | 1007.2 | 1011.7 |
| 40°   | 944.2  | 932.5  | 901.9  | 903.3  | 897.0  |
| 42.5° | 847.5  | 838.9  | 780.4  | 770.1  | 752.6  |
| 45°   | 722.4  | 722.9  | 653.6  | 647.7  | 619.9  |
| 47.5° | 577.1  | 602.8  | 542.5  | 535.7  | 494.4  |
| 50°   | 441.7  | 488.1  | 450.7  | 439.9  | 385.1  |
| 52.5° | 331.5  | 399.4  | 387.8  | 364.4  | 288.8  |
| 55°   | 260.0  | 328.8  | 337.4  | 304.1  | 225.4  |
| 57.5° | 195.7  | 270.8  | 284.7  | 257.3  | 174.1  |
| 60°   | 145.3  | 228.1  | 232.1  | 221.3  | 134.5  |
| 62.5° | 108.0  | 193.9  | 188.5  | 189.8  | 99.9   |
| 65°   | 79.2   | 165.1  | 149.8  | 164.6  | 76.9   |
| 67.5° | 64.8   | 143.0  | 116.5  | 142.6  | 62.5   |
| 70°   | 56.7   | 126.9  | 86.8   | 125.5  | 56.7   |
| 72.5° | 54.9   | 116.5  | 68.8   | 111.6  | 55.3   |
| 75°   | 55.3   | 103.9  | 52.2   | 97.2   | 55.8   |
| 77.5° | 50.8   | 85.5   | 39.6   | 82.8   | 53.1   |
| 80°   | 45.4   | 64.8   | 30.1   | 65.7   | 47.7   |
| 82.5° | 38.7   | 47.2   | 24.3   | 48.6   | 40.0   |
| 85°   | 26.5   | 34.6   | 22.5   | 34.6   | 27.9   |
| 87.5° | 12.6   | 20.7   | 13.9   | 19.8   | 14.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)