

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: P294060

Luminaire Tested: **24GR-LD5-42-A19/156-UNV-L93050-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P294060  
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-LD5-42-A19/156-UNV-L93050-W2A1-U-4000K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3745.0 lumens  
Efficiency: N/A  
Efficacy: 130.4 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

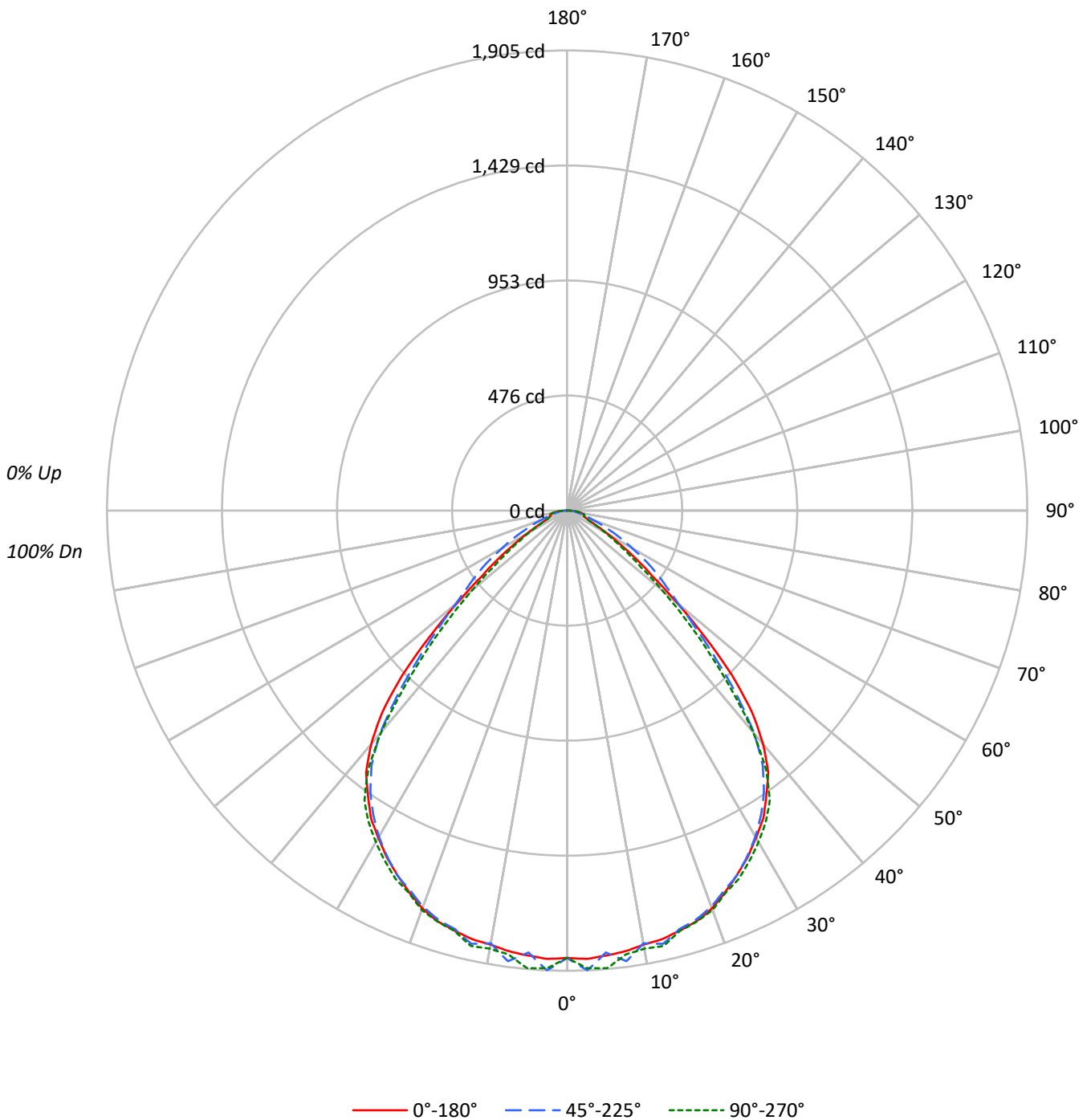
Input Watts (W): 28.720818  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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°  | 2492 | 2492 | 2492 |
| 5°  | 2497 | 2481 | 2568 |
| 10° | 2493 | 2486 | 2516 |
| 15° | 2507 | 2499 | 2509 |
| 20° | 2509 | 2499 | 2520 |
| 25° | 2470 | 2472 | 2496 |
| 30° | 2429 | 2422 | 2461 |
| 35° | 2361 | 2332 | 2403 |
| 40° | 2217 | 2118 | 2106 |
| 45° | 1838 | 1663 | 1577 |
| 50° | 1236 | 1261 | 1078 |
| 55° | 815  | 1058 | 707  |
| 60° | 523  | 835  | 484  |
| 65° | 337  | 638  | 327  |
| 70° | 298  | 457  | 298  |
| 75° | 385  | 363  | 388  |
| 80° | 470  | 312  | 494  |
| 85° | 548  | 465  | 576  |



TEST NUMBER: P294060

CATALOG NUMBER: 24GR-LD5-42-A19/156-UNV-L93050-W2A1-U-4000K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 177.3  | 4.7       |
| 10°-20°   | 509.1  | 13.6      |
| 20°-30°   | 766.4  | 20.5      |
| 30°-40°   | 888.4  | 23.7      |
| 40°-50°   | 694.0  | 18.5      |
| 50°-60°   | 370.5  | 9.9       |
| 60°-70°   | 190.6  | 5.1       |
| 70°-80°   | 107.8  | 2.9       |
| 80°-90°   | 40.9   | 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°    | 1452.9 | 38.8      |
| 0°-40°    | 2341.2 | 62.5      |
| 0°-60°    | 3405.7 | 90.9      |
| 0°-90°    | 3745.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3745.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1852 | 1852  | 1852 | 1852  | 1852 |      |
| 5°  | 1849 | 1900  | 1837 | 1887  | 1902 | 176  |
| 15° | 1800 | 1812  | 1794 | 1806  | 1801 | 508  |
| 25° | 1664 | 1659  | 1665 | 1663  | 1682 | 767  |
| 35° | 1437 | 1431  | 1420 | 1448  | 1463 | 896  |
| 45° | 966  | 966   | 874  | 866   | 829  | 728  |
| 55° | 348  | 440   | 451  | 407   | 301  | 321  |
| 65° | 106  | 221   | 200  | 220   | 103  | 116  |
| 75° | 74   | 139   | 70   | 130   | 75   | 75   |
| 85° | 36   | 46    | 30   | 46    | 37   | 37   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1851.8 | 1851.8 | 1851.8 | 1851.8 | 1851.8 |
| 2.5°  | 1857.8 | 1891.5 | 1904.7 | 1888.5 | 1895.7 |
| 5°    | 1848.8 | 1900.5 | 1836.8 | 1887.3 | 1901.7 |
| 7.5°  | 1840.4 | 1835.0 | 1881.3 | 1833.2 | 1853.6 |
| 10°   | 1824.7 | 1828.3 | 1819.3 | 1853.6 | 1841.6 |
| 12.5° | 1817.5 | 1838.6 | 1836.8 | 1819.3 | 1845.8 |
| 15°   | 1800.1 | 1811.5 | 1794.1 | 1805.5 | 1801.3 |
| 17.5° | 1782.6 | 1777.2 | 1775.4 | 1780.2 | 1784.4 |
| 20°   | 1752.6 | 1734.5 | 1745.3 | 1746.5 | 1759.8 |
| 22.5° | 1709.3 | 1698.4 | 1700.8 | 1711.7 | 1712.9 |
| 25°   | 1664.1 | 1658.7 | 1665.4 | 1662.9 | 1681.6 |
| 27.5° | 1617.2 | 1610.0 | 1614.2 | 1623.3 | 1634.7 |
| 30°   | 1563.7 | 1561.9 | 1558.9 | 1566.7 | 1584.2 |
| 32.5° | 1510.8 | 1496.4 | 1493.9 | 1510.2 | 1530.0 |
| 35°   | 1437.4 | 1430.8 | 1420.0 | 1448.2 | 1462.7 |
| 37.5° | 1367.6 | 1347.2 | 1329.8 | 1346.6 | 1352.6 |
| 40°   | 1262.4 | 1246.8 | 1205.9 | 1207.7 | 1199.2 |
| 42.5° | 1133.1 | 1121.7 | 1043.5 | 1029.6 | 1006.2 |
| 45°   | 965.9  | 966.5  | 873.9  | 866.1  | 828.8  |
| 47.5° | 771.6  | 805.9  | 725.3  | 716.3  | 661.0  |
| 50°   | 590.6  | 652.5  | 602.6  | 588.2  | 514.8  |
| 52.5° | 443.3  | 534.1  | 518.4  | 487.2  | 386.1  |
| 55°   | 347.6  | 439.6  | 451.1  | 406.6  | 301.3  |
| 57.5° | 261.6  | 362.1  | 380.7  | 344.0  | 232.8  |
| 60°   | 194.3  | 304.9  | 310.3  | 295.9  | 179.8  |
| 62.5° | 144.3  | 259.2  | 252.0  | 253.8  | 133.5  |
| 65°   | 105.9  | 220.7  | 200.3  | 220.1  | 102.8  |
| 67.5° | 86.6   | 191.3  | 155.8  | 190.7  | 83.6   |
| 70°   | 75.8   | 169.6  | 116.1  | 167.8  | 75.8   |
| 72.5° | 73.4   | 155.8  | 92.0   | 149.2  | 74.0   |
| 75°   | 74.0   | 138.9  | 69.8   | 129.9  | 74.6   |
| 77.5° | 68.0   | 114.3  | 52.9   | 110.7  | 71.0   |
| 80°   | 60.7   | 86.6   | 40.3   | 87.8   | 63.8   |
| 82.5° | 51.7   | 63.1   | 32.5   | 65.0   | 53.5   |
| 85°   | 35.5   | 46.3   | 30.1   | 46.3   | 37.3   |
| 87.5° | 16.8   | 27.7   | 18.6   | 26.5   | 19.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)