

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: P292598

Luminaire Tested: **22GR-LD5-40-A19/156-UNV-L82765-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P292598  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33284)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-40-A19/156-UNV-L82765-W2A1-U-3000K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3791.0 lumens  
Efficiency: N/A  
Efficacy: 117.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.24 / 1.21  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

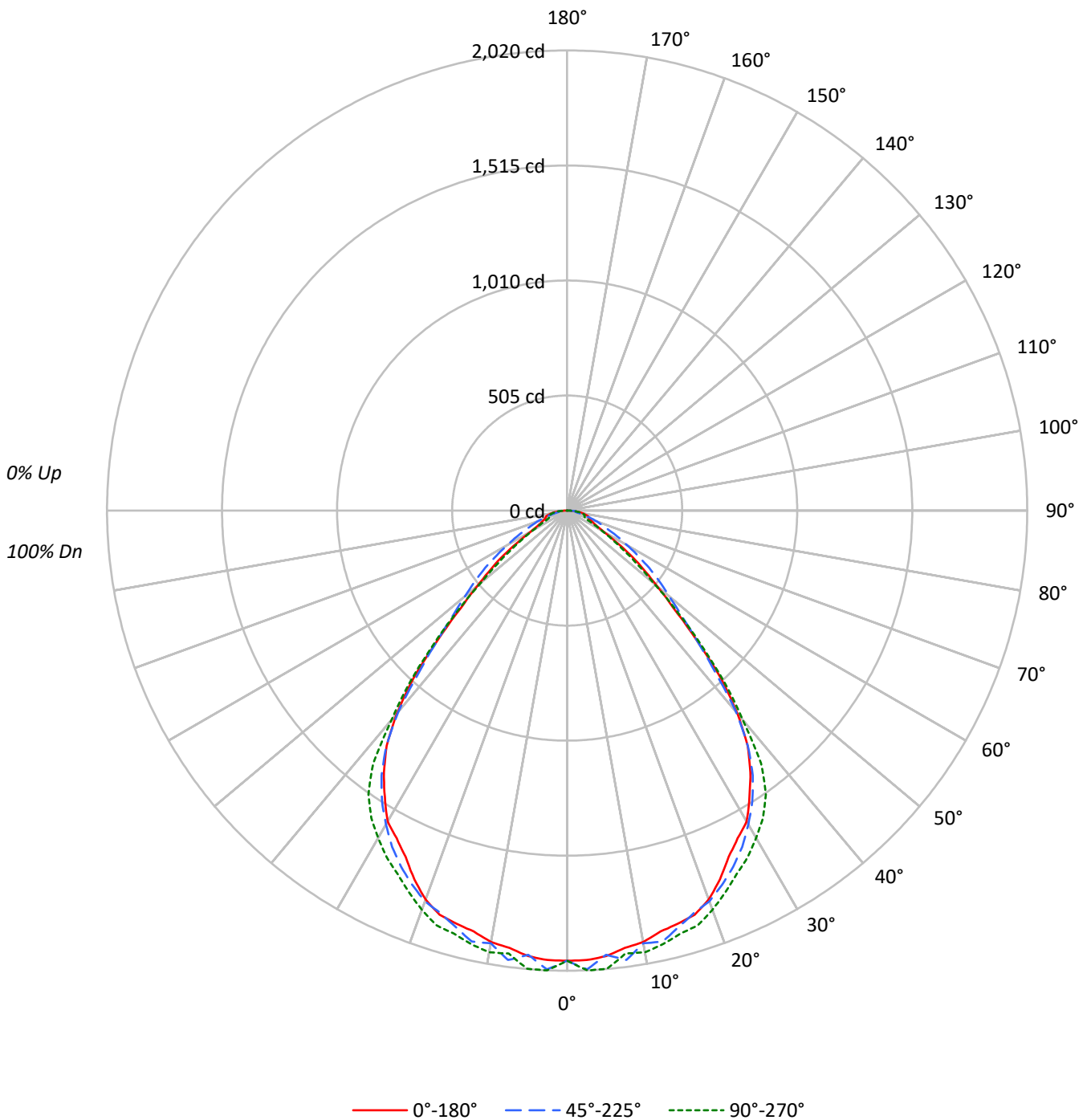
Input Watts (W): 32.178  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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  | 91  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 85  | 91  | 86  | 83  | 88  | 84  | 81  | 85  | 82  | 79  | 77  |    |    |    |    | 77  |   |  |   |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 79  | 73  | 82  | 77  | 72  | 79  | 75  | 71  | 77  | 73  | 70  | 68  |    |    |    |    | 68  |   |  |   |
| 4   | 88  | 78  | 71  | 65  | 86  | 77  | 70  | 64  | 75  | 68  | 64  | 72  | 67  | 63  | 70  | 66  | 62  | 60  |    |    |    |    | 60  |   |  |   |
| 5   | 82  | 71  | 63  | 58  | 80  | 70  | 63  | 57  | 68  | 62  | 57  | 66  | 61  | 56  | 64  | 59  | 56  | 54  |    |    |    |    | 54  |   |  |   |
| 6   | 77  | 65  | 57  | 51  | 75  | 64  | 57  | 51  | 62  | 56  | 51  | 61  | 55  | 50  | 59  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 7   | 72  | 60  | 52  | 46  | 70  | 59  | 51  | 46  | 57  | 51  | 46  | 56  | 50  | 46  | 55  | 49  | 45  | 44  |    |    |    |    | 44  |   |  |   |
| 8   | 67  | 55  | 47  | 42  | 66  | 54  | 47  | 42  | 53  | 46  | 42  | 52  | 46  | 41  | 51  | 45  | 41  | 40  |    |    |    |    | 40  |   |  |   |
| 9   | 63  | 51  | 43  | 38  | 62  | 50  | 43  | 38  | 49  | 43  | 38  | 48  | 42  | 38  | 47  | 42  | 38  | 36  |    |    |    |    | 36  |   |  |   |
| 10  | 59  | 47  | 40  | 35  | 58  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 35  | 44  | 39  | 35  | 33  |    |    |    |    | 33  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5317 | 5317 | 5317 |
| 5°  | 5303 | 5286 | 5453 |
| 10° | 5255 | 5269 | 5379 |
| 15° | 5231 | 5270 | 5355 |
| 20° | 5203 | 5228 | 5341 |
| 25° | 4980 | 5121 | 5227 |
| 30° | 4899 | 4943 | 5154 |
| 35° | 4607 | 4665 | 4997 |
| 40° | 4082 | 4054 | 4214 |
| 45° | 3049 | 3056 | 3141 |
| 50° | 2146 | 2442 | 2079 |
| 55° | 1584 | 2062 | 1421 |
| 60° | 990  | 1630 | 928  |
| 65° | 807  | 1291 | 648  |
| 70° | 801  | 1076 | 640  |
| 75° | 994  | 789  | 827  |
| 80° | 1108 | 623  | 1010 |
| 85° | 1102 | 1158 | 1130 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 188.1  | 5.0       |
| 10°-20°   | 535.7  | 14.1      |
| 20°-30°   | 793.4  | 20.9      |
| 30°-40°   | 888.8  | 23.4      |
| 40°-50°   | 653.1  | 17.2      |
| 50°-60°   | 365.0  | 9.6       |
| 60°-70°   | 203.4  | 5.4       |
| 70°-80°   | 119.5  | 3.2       |
| 80°-90°   | 43.9   | 1.2       |
| 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°    | 1517.2 | 40.0      |
| 0°-40°    | 2406.0 | 63.5      |
| 0°-60°    | 3424.1 | 90.3      |
| 0°-90°    | 3791.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3791.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1976 | 1976  | 1976 | 1976  | 1976 |      |
| 5°  | 1963 | 2000  | 1957 | 1997  | 2019 | 186  |
| 15° | 1878 | 1889  | 1892 | 1920  | 1922 | 530  |
| 25° | 1677 | 1691  | 1725 | 1749  | 1760 | 777  |
| 35° | 1402 | 1403  | 1420 | 1484  | 1521 | 869  |
| 45° | 801  | 866   | 803  | 860   | 825  | 626  |
| 55° | 338  | 411   | 440  | 439   | 303  | 301  |
| 65° | 127  | 225   | 203  | 260   | 102  | 131  |
| 75° | 96   | 135   | 76   | 153   | 80   | 96   |
| 85° | 36   | 53    | 38   | 48    | 37   | 39   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1975.8 | 1975.8 | 1975.8 | 1975.8 | 1975.8 |
| 2.5°  | 1974.9 | 1992.7 | 2016.0 | 2018.6 | 2020.4 |
| 5°    | 1963.3 | 1999.9 | 1957.0 | 1997.2 | 2018.6 |
| 7.5°  | 1936.5 | 1958.8 | 1990.1 | 1949.9 | 1961.5 |
| 10°   | 1923.1 | 1928.4 | 1928.4 | 1978.4 | 1968.6 |
| 12.5° | 1892.7 | 1928.4 | 1937.4 | 1927.5 | 1949.0 |
| 15°   | 1877.5 | 1889.1 | 1891.8 | 1920.4 | 1922.2 |
| 17.5° | 1860.5 | 1857.9 | 1851.6 | 1872.2 | 1908.8 |
| 20°   | 1816.8 | 1806.9 | 1825.7 | 1850.7 | 1865.0 |
| 22.5° | 1752.5 | 1755.1 | 1777.5 | 1798.0 | 1814.1 |
| 25°   | 1677.4 | 1690.8 | 1724.8 | 1748.9 | 1760.5 |
| 27.5° | 1621.2 | 1640.8 | 1664.0 | 1692.6 | 1715.8 |
| 30°   | 1576.5 | 1574.7 | 1590.8 | 1631.9 | 1658.7 |
| 32.5° | 1489.9 | 1496.1 | 1513.1 | 1562.2 | 1599.7 |
| 35°   | 1402.3 | 1403.2 | 1420.2 | 1484.5 | 1521.1 |
| 37.5° | 1301.4 | 1294.3 | 1304.1 | 1373.7 | 1397.9 |
| 40°   | 1162.1 | 1163.8 | 1154.0 | 1203.1 | 1199.6 |
| 42.5° | 999.5  | 1013.8 | 962.9  | 1027.2 | 1022.7 |
| 45°   | 801.2  | 866.4  | 803.0  | 860.2  | 825.3  |
| 47.5° | 632.4  | 728.9  | 676.2  | 718.1  | 652.9  |
| 50°   | 512.7  | 611.8  | 583.3  | 602.0  | 496.6  |
| 52.5° | 420.7  | 501.1  | 510.0  | 514.5  | 387.6  |
| 55°   | 337.6  | 410.9  | 439.5  | 438.6  | 302.8  |
| 57.5° | 249.2  | 334.1  | 367.1  | 380.5  | 229.6  |
| 60°   | 184.0  | 277.8  | 302.8  | 332.3  | 172.4  |
| 62.5° | 148.3  | 243.8  | 250.1  | 291.2  | 131.3  |
| 65°   | 126.8  | 225.1  | 202.8  | 259.9  | 101.8  |
| 67.5° | 112.5  | 209.9  | 165.2  | 232.2  | 86.6   |
| 70°   | 101.8  | 186.7  | 136.7  | 208.1  | 81.3   |
| 72.5° | 99.1   | 159.0  | 105.4  | 185.8  | 80.4   |
| 75°   | 95.6   | 134.9  | 75.9   | 152.7  | 79.5   |
| 77.5° | 82.2   | 115.2  | 54.5   | 117.9  | 74.1   |
| 80°   | 71.5   | 92.0   | 40.2   | 88.4   | 65.2   |
| 82.5° | 55.4   | 69.7   | 35.7   | 67.0   | 52.7   |
| 85°   | 35.7   | 52.7   | 37.5   | 48.2   | 36.6   |
| 87.5° | 17.0   | 29.5   | 26.8   | 25.9   | 18.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)