

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: P294412

Luminaire Tested: **24GR-LD5-85-FGW080-UNV-L92765-W2A1-U-2700K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P294412  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-25)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24GR-LD5-85-FGW080-UNV-L92765-W2A1-U-2700K  
Description: GRLED 2x4 TUNABLE WHITE TROFFER  
WITH FGW080 LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5664.0 lumens  
Efficiency: N/A  
Efficacy: 91.0 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

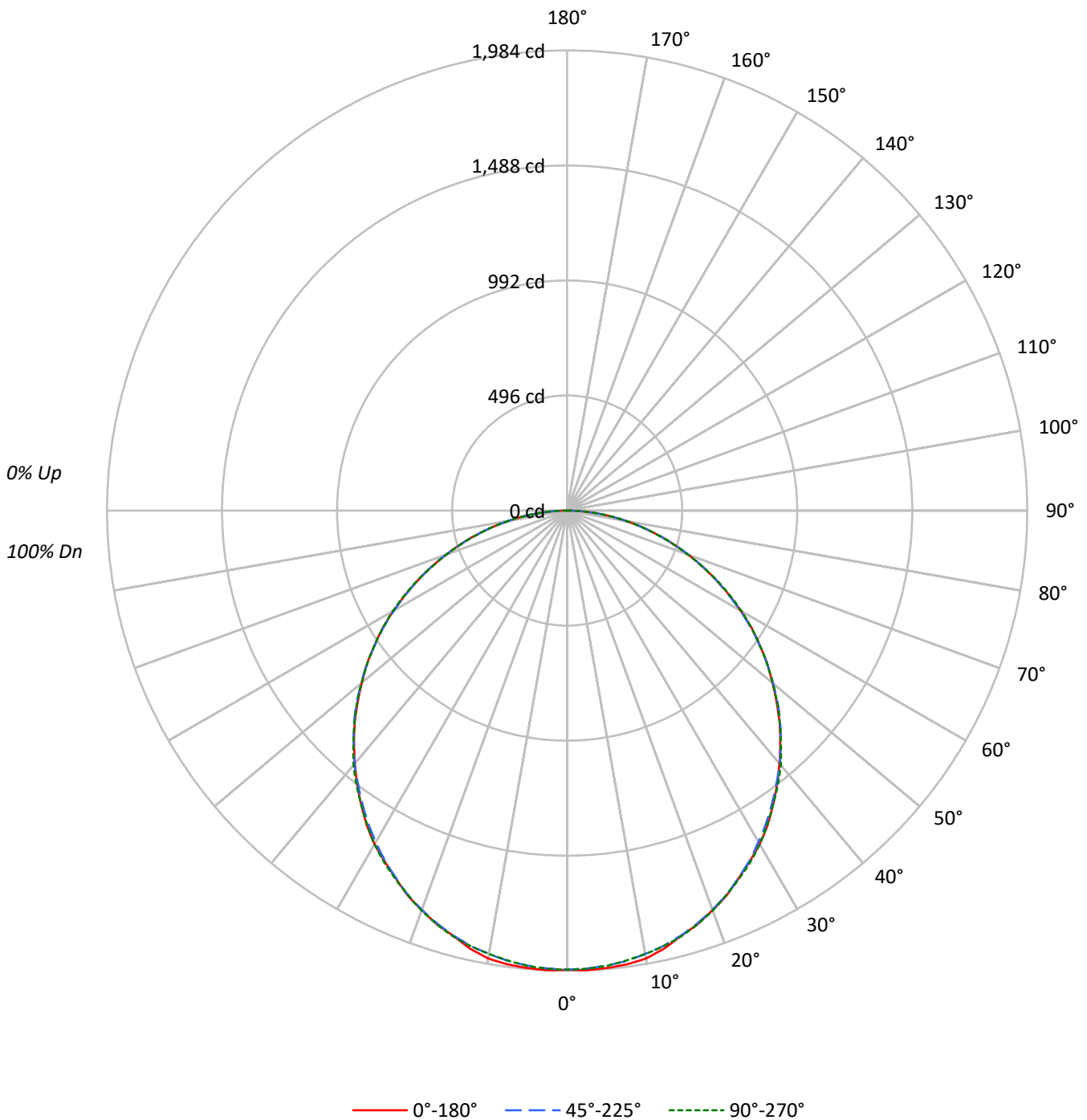
Input Watts (W): 62.217  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 0 |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    | 100 |   |  |   |
| 1   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |    |    |    |    | 83  |   |  |   |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |    |    |    |    | 69  |   |  |   |
| 3   | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 63  | 74  | 68  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |    |    |    |    | 58  |   |  |   |
| 4   | 82  | 70  | 61  | 54  | 80  | 68  | 60  | 54  | 66  | 59  | 53  | 64  | 57  | 52  | 61  | 56  | 51  | 49  |    |    |    |    | 49  |   |  |   |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  | 59  | 51  | 46  | 57  | 50  | 45  | 55  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 40  | 53  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 39  | 37  |    |    |    |    | 37  |   |  |   |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 48  | 41  | 35  | 47  | 40  | 35  | 46  | 40  | 35  | 33  |    |    |    |    | 33  |   |  |   |
| 8   | 60  | 46  | 38  | 32  | 58  | 46  | 37  | 32  | 44  | 37  | 32  | 43  | 36  | 31  | 42  | 36  | 31  | 29  |    |    |    |    | 29  |   |  |   |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 28  | 40  | 33  | 28  | 39  | 33  | 28  | 26  |    |    |    |    | 26  |   |  |   |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 26  | 36  | 30  | 26  | 24  |    |    |    |    | 24  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2664 | 2664 | 2664 |
| 5°  | 2674 | 2659 | 2661 |
| 10° | 2679 | 2652 | 2652 |
| 15° | 2644 | 2642 | 2648 |
| 20° | 2624 | 2622 | 2628 |
| 25° | 2596 | 2594 | 2602 |
| 30° | 2580 | 2563 | 2582 |
| 35° | 2543 | 2530 | 2543 |
| 40° | 2501 | 2503 | 2517 |
| 45° | 2465 | 2473 | 2468 |
| 50° | 2419 | 2427 | 2421 |
| 55° | 2381 | 2375 | 2381 |
| 60° | 2326 | 2319 | 2340 |
| 65° | 2254 | 2262 | 2271 |
| 70° | 2181 | 2191 | 2175 |
| 75° | 2104 | 2104 | 2104 |
| 80° | 1987 | 1987 | 2008 |
| 85° | 1836 | 1856 | 1794 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 187.2  | 3.3       |
| 10°-20°   | 535.1  | 9.4       |
| 20°-30°   | 806.4  | 14.2      |
| 30°-40°   | 965.8  | 17.1      |
| 40°-50°   | 999.8  | 17.7      |
| 50°-60°   | 906.5  | 16.0      |
| 60°-70°   | 702.8  | 12.4      |
| 70°-80°   | 427.4  | 7.5       |
| 80°-90°   | 133.0  | 2.3       |
| 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°    | 1528.7 | 27.0      |
| 0°-40°    | 2494.5 | 44.0      |
| 0°-60°    | 4400.8 | 77.7      |
| 0°-90°    | 5664.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5664.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1980 | 1980  | 1980 | 1980  | 1980 |      |
| 5°  | 1980 | 1968  | 1969 | 1966  | 1970 | 188  |
| 15° | 1898 | 1900  | 1897 | 1890  | 1901 | 537  |
| 25° | 1748 | 1748  | 1747 | 1752  | 1752 | 807  |
| 35° | 1548 | 1538  | 1540 | 1547  | 1548 | 968  |
| 45° | 1296 | 1298  | 1300 | 1294  | 1297 | 998  |
| 55° | 1015 | 1010  | 1012 | 1016  | 1015 | 907  |
| 65° | 708  | 712   | 711  | 708   | 713  | 702  |
| 75° | 405  | 403   | 405  | 403   | 405  | 428  |
| 85° | 119  | 118   | 120  | 119   | 116  | 133  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1979.6 | 1979.6 | 1979.6 | 1979.6 | 1979.6 |
| 2.5°  | 1983.6 | 1975.6 | 1975.6 | 1973.0 | 1977.0 |
| 5°    | 1979.6 | 1967.6 | 1968.9 | 1966.3 | 1970.3 |
| 7.5°  | 1973.0 | 1956.9 | 1958.3 | 1955.6 | 1956.9 |
| 10°   | 1960.9 | 1942.2 | 1940.9 | 1939.6 | 1940.9 |
| 12.5° | 1934.2 | 1923.5 | 1922.2 | 1919.5 | 1923.5 |
| 15°   | 1898.2 | 1899.5 | 1896.8 | 1890.1 | 1900.8 |
| 17.5° | 1870.1 | 1868.8 | 1866.1 | 1859.4 | 1870.1 |
| 20°   | 1832.7 | 1834.0 | 1831.4 | 1828.7 | 1835.4 |
| 22.5° | 1796.6 | 1792.6 | 1794.0 | 1792.6 | 1794.0 |
| 25°   | 1748.5 | 1748.5 | 1747.2 | 1752.5 | 1752.5 |
| 27.5° | 1704.5 | 1699.1 | 1701.8 | 1707.1 | 1709.8 |
| 30°   | 1660.4 | 1647.0 | 1649.7 | 1655.0 | 1661.7 |
| 32.5° | 1608.3 | 1594.9 | 1597.6 | 1602.9 | 1605.6 |
| 35°   | 1548.2 | 1537.5 | 1540.2 | 1546.8 | 1548.2 |
| 37.5° | 1486.7 | 1480.0 | 1482.7 | 1488.1 | 1492.1 |
| 40°   | 1423.9 | 1421.3 | 1425.3 | 1423.9 | 1433.3 |
| 42.5° | 1359.8 | 1358.5 | 1362.5 | 1362.5 | 1363.8 |
| 45°   | 1295.7 | 1298.4 | 1299.7 | 1294.4 | 1297.0 |
| 47.5° | 1224.9 | 1226.3 | 1231.6 | 1228.9 | 1230.3 |
| 50°   | 1155.5 | 1154.1 | 1159.5 | 1160.8 | 1156.8 |
| 52.5° | 1088.7 | 1082.0 | 1087.3 | 1090.0 | 1087.3 |
| 55°   | 1015.2 | 1009.9 | 1012.5 | 1016.5 | 1015.2 |
| 57.5° | 943.1  | 937.7  | 939.1  | 945.7  | 943.1  |
| 60°   | 864.3  | 862.9  | 861.6  | 866.9  | 869.6  |
| 62.5° | 786.8  | 785.4  | 782.8  | 788.1  | 790.8  |
| 65°   | 708.0  | 712.0  | 710.6  | 708.0  | 713.3  |
| 67.5° | 633.2  | 637.2  | 633.2  | 630.5  | 630.5  |
| 70°   | 554.4  | 558.4  | 557.0  | 554.4  | 553.0  |
| 72.5° | 480.9  | 480.9  | 478.2  | 476.9  | 478.2  |
| 75°   | 404.7  | 403.4  | 404.7  | 403.4  | 404.7  |
| 77.5° | 329.9  | 331.3  | 331.3  | 331.3  | 329.9  |
| 80°   | 256.5  | 256.5  | 256.5  | 257.8  | 259.1  |
| 82.5° | 188.3  | 184.3  | 188.3  | 185.7  | 187.0  |
| 85°   | 118.9  | 117.5  | 120.2  | 118.9  | 116.2  |
| 87.5° | 53.4   | 54.8   | 54.8   | 56.1   | 56.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)