

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: P475526

Luminaire Tested: **24GR-LD5-56-F1-UNV-L830-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475526
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-56-F1-UNV-L830-CD1-U
Description: GR 2'X4' LED TROFFER w/ F1 LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5494.5 lumens
Efficiency: N/A
Efficacy: 139.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.24 / 1.34
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

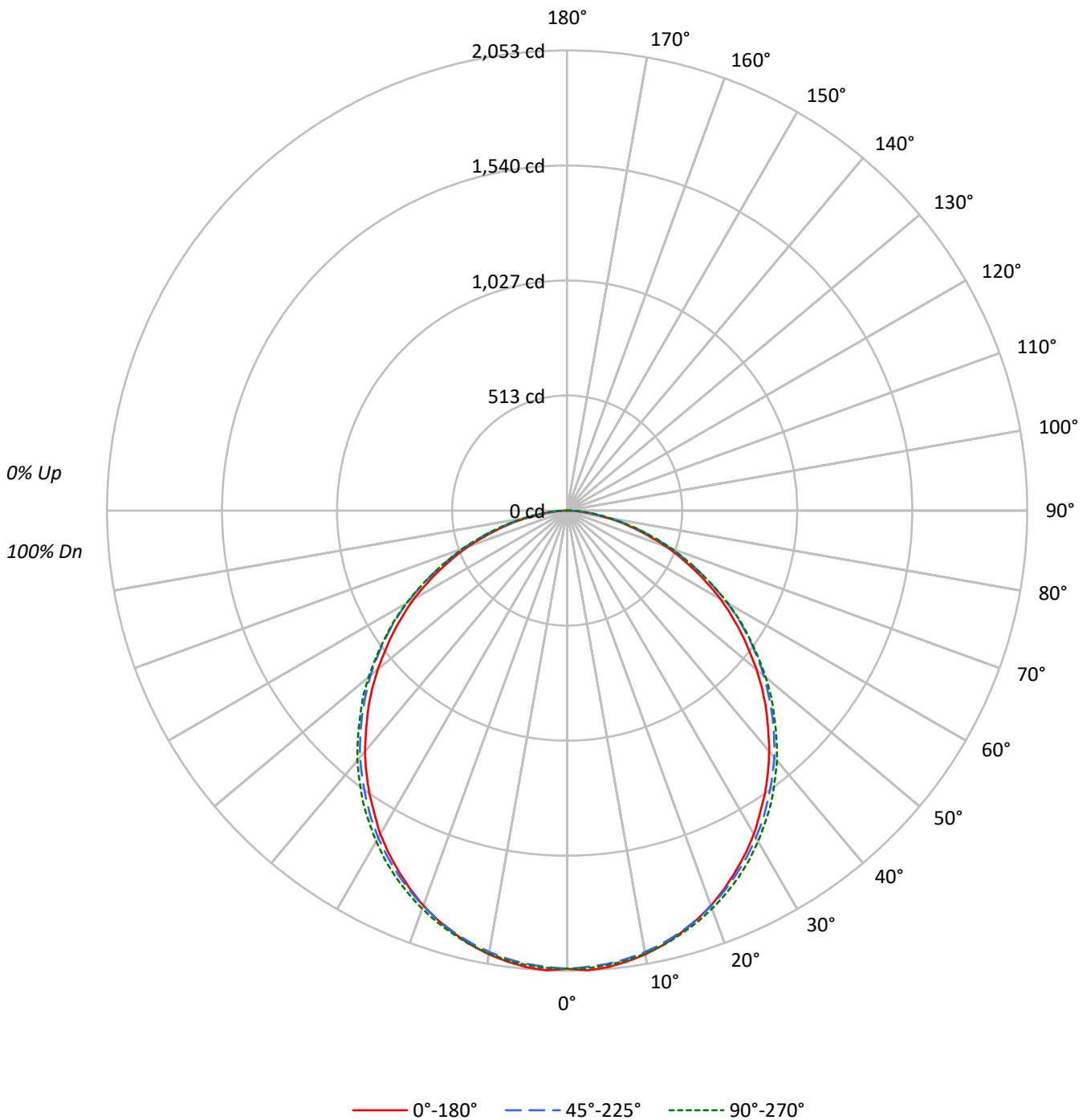
Input Watts (W): 39.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: 24GR-LD5-56-F1-UNV-L830-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P475526

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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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 82 | 78 | 74 | 79 | 76 | 73 | 70 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 67 | 63 | 70 | 66 | 62 | 60 |
| 4 | 83 | 71 | 62 | 56 | 81 | 70 | 62 | 55 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 |
| 5 | 76 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 57 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 51 | 45 | 41 | 39 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 36 | 34 |
| 8 | 61 | 48 | 39 | 33 | 59 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 28 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2751 | 2751 | 2751 |
| 5° | 2763 | 2743 | 2750 |
| 10° | 2747 | 2732 | 2742 |
| 15° | 2719 | 2714 | 2726 |
| 20° | 2685 | 2688 | 2707 |
| 25° | 2638 | 2655 | 2682 |
| 30° | 2589 | 2618 | 2647 |
| 35° | 2528 | 2570 | 2609 |
| 40° | 2464 | 2525 | 2557 |
| 45° | 2390 | 2463 | 2488 |
| 50° | 2309 | 2398 | 2419 |
| 55° | 2218 | 2317 | 2330 |
| 60° | 2127 | 2221 | 2230 |
| 65° | 1994 | 2088 | 2083 |
| 70° | 1846 | 1931 | 1950 |
| 75° | 1636 | 1731 | 1743 |
| 80° | 1361 | 1461 | 1495 |
| 85° | 1031 | 1132 | 1272 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 193.2 | 3.5 |
| 10°-20° | 550.1 | 10.0 |
| 20°-30° | 824.3 | 15.0 |
| 30°-40° | 977.9 | 17.8 |
| 40°-50° | 993.1 | 18.1 |
| 50°-60° | 874.6 | 15.9 |
| 60°-70° | 642.7 | 11.7 |
| 70°-80° | 349.5 | 6.4 |
| 80°-90° | 89.1 | 1.6 |
| 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° | 1567.6 | 28.5 |
| 0°-40° | 2545.5 | 46.3 |
| 0°-60° | 4413.3 | 80.3 |
| 0°-90° | 5494.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5494.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2044 | 2044 | 2044 | 2044 | 2044 | |
| 5° | 2046 | 2037 | 2031 | 2031 | 2036 | 194 |
| 15° | 1952 | 1948 | 1948 | 1951 | 1957 | 551 |
| 25° | 1777 | 1779 | 1788 | 1799 | 1807 | 819 |
| 35° | 1539 | 1548 | 1565 | 1580 | 1588 | 962 |
| 45° | 1256 | 1266 | 1294 | 1309 | 1308 | 968 |
| 55° | 946 | 959 | 988 | 997 | 993 | 846 |
| 65° | 626 | 636 | 656 | 661 | 654 | 621 |
| 75° | 315 | 321 | 333 | 334 | 335 | 335 |
| 85° | 67 | 68 | 73 | 80 | 82 | 81 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475526

CATALOG NUMBER: 24GR-LD5-56-F1-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2044.4 | 2044.4 | 2044.4 | 2044.4 | 2044.4 |
| 2.5° | 2053.0 | 2045.0 | 2038.0 | 2038.0 | 2042.8 |
| 5° | 2045.5 | 2036.9 | 2030.9 | 2030.9 | 2036.3 |
| 7.5° | 2029.9 | 2022.9 | 2018.0 | 2018.0 | 2023.9 |
| 10° | 2010.5 | 2003.5 | 1999.7 | 2000.2 | 2006.7 |
| 12.5° | 1984.6 | 1978.1 | 1976.5 | 1977.6 | 1985.7 |
| 15° | 1952.3 | 1948.5 | 1948.5 | 1951.2 | 1957.1 |
| 17.5° | 1916.2 | 1912.4 | 1915.1 | 1918.9 | 1926.4 |
| 20° | 1875.2 | 1872.5 | 1877.4 | 1883.3 | 1890.3 |
| 22.5° | 1828.3 | 1827.3 | 1835.3 | 1843.4 | 1850.4 |
| 25° | 1776.6 | 1778.8 | 1788.5 | 1798.7 | 1806.8 |
| 27.5° | 1723.3 | 1725.4 | 1738.9 | 1749.7 | 1757.7 |
| 30° | 1666.7 | 1667.8 | 1685.0 | 1697.9 | 1703.9 |
| 32.5° | 1600.9 | 1609.6 | 1627.9 | 1640.3 | 1645.7 |
| 35° | 1539.0 | 1547.6 | 1564.8 | 1580.5 | 1588.5 |
| 37.5° | 1471.6 | 1479.2 | 1501.8 | 1518.5 | 1521.2 |
| 40° | 1402.6 | 1409.6 | 1437.7 | 1451.7 | 1456.0 |
| 42.5° | 1327.2 | 1340.7 | 1366.0 | 1380.0 | 1382.7 |
| 45° | 1256.1 | 1266.3 | 1294.3 | 1309.4 | 1307.8 |
| 47.5° | 1180.1 | 1191.4 | 1218.9 | 1233.4 | 1236.1 |
| 50° | 1103.0 | 1116.0 | 1145.6 | 1155.3 | 1155.8 |
| 52.5° | 1022.2 | 1038.9 | 1065.9 | 1078.8 | 1074.5 |
| 55° | 945.7 | 959.2 | 987.7 | 996.9 | 993.1 |
| 57.5° | 867.0 | 882.1 | 908.5 | 913.4 | 913.9 |
| 60° | 790.5 | 802.9 | 825.5 | 830.4 | 828.8 |
| 62.5° | 706.4 | 718.8 | 739.3 | 744.2 | 740.4 |
| 65° | 626.2 | 636.4 | 655.8 | 660.6 | 654.2 |
| 67.5° | 546.4 | 556.6 | 571.7 | 579.3 | 572.3 |
| 70° | 469.3 | 477.4 | 490.9 | 495.2 | 495.7 |
| 72.5° | 387.4 | 402.0 | 411.7 | 411.1 | 409.5 |
| 75° | 314.7 | 321.2 | 333.0 | 334.1 | 335.2 |
| 77.5° | 245.2 | 246.8 | 259.2 | 262.4 | 260.3 |
| 80° | 175.7 | 181.6 | 188.6 | 192.4 | 192.9 |
| 82.5° | 115.9 | 120.2 | 126.1 | 132.6 | 132.6 |
| 85° | 66.8 | 68.4 | 73.3 | 79.8 | 82.4 |
| 87.5° | 26.9 | 29.6 | 34.5 | 39.3 | 39.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)