

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: P474116

Luminaire Tested: **24CZ2-55-S-UNV-L850-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474116
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-55-S-UNV-L850-CD1-U
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

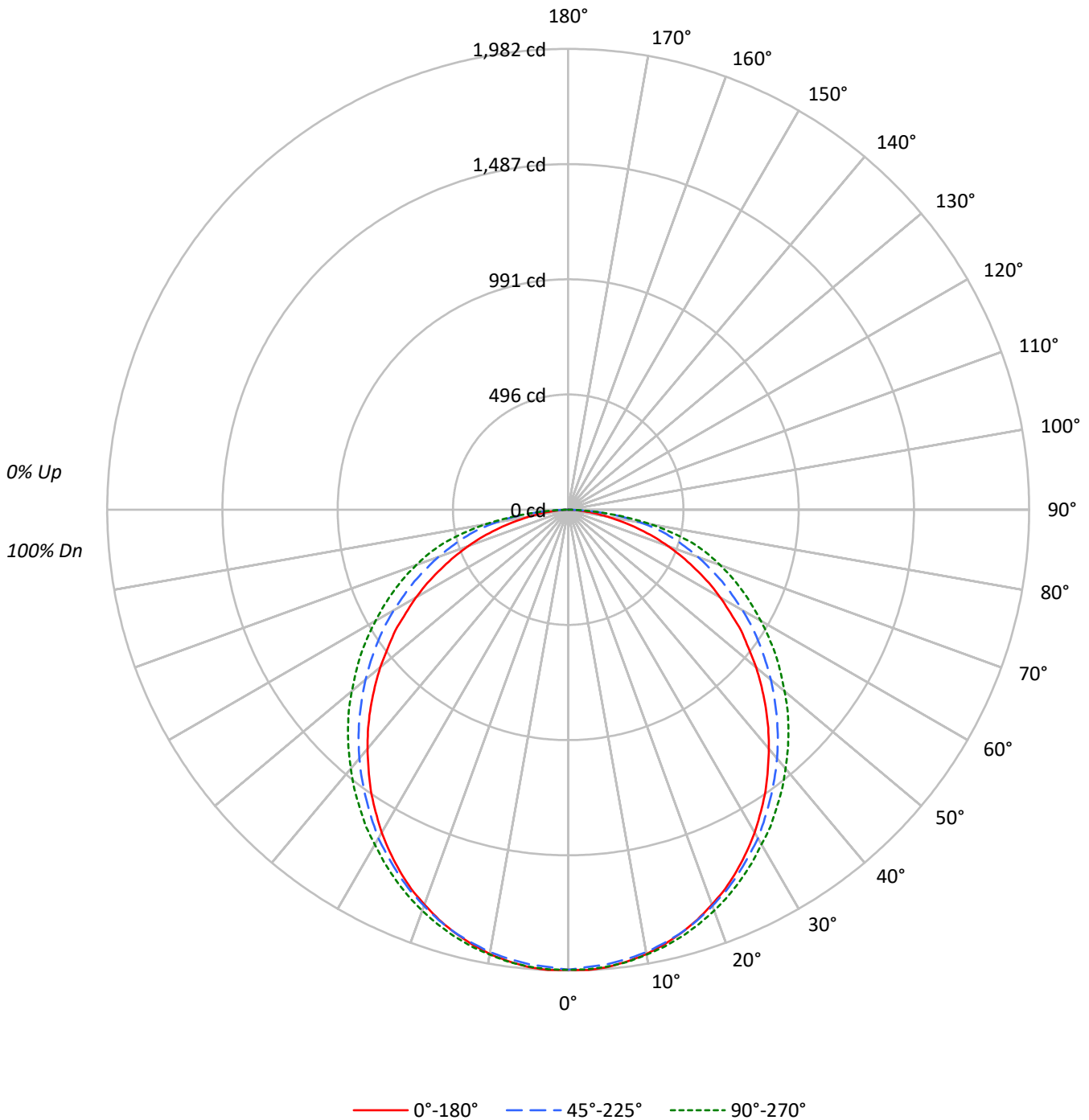
Lumens per Lamp: N/A
Luminaire Lumens: 5668.8 lumens
Efficiency: N/A
Efficacy: 131.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | | 106 | 106 | 106 | | 102 | 102 | 102 | 100 |
| 1 | 108 | 103 | 99 | 95 | 105 | 101 | 97 | 93 | 97 | 93 | 90 | | 93 | 90 | 87 | | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | | 81 | 76 | 72 | | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | | 71 | 65 | 61 | | 68 | 64 | 59 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | | 63 | 57 | 52 | | 61 | 55 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | | 57 | 50 | 45 | | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | | 51 | 44 | 39 | | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | | 47 | 40 | 35 | | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 31 | 44 | 37 | 31 | | 43 | 36 | 31 | | 42 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | | 39 | 33 | 28 | | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 30 | 26 | | 37 | 30 | 25 | | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2662 | 2662 | 2662 |
| 5° | 2666 | 2650 | 2664 |
| 10° | 2651 | 2640 | 2655 |
| 15° | 2624 | 2623 | 2645 |
| 20° | 2588 | 2596 | 2628 |
| 25° | 2545 | 2567 | 2607 |
| 30° | 2491 | 2535 | 2582 |
| 35° | 2429 | 2490 | 2568 |
| 40° | 2357 | 2453 | 2553 |
| 45° | 2286 | 2415 | 2548 |
| 50° | 2208 | 2382 | 2542 |
| 55° | 2130 | 2352 | 2556 |
| 60° | 2032 | 2330 | 2573 |
| 65° | 1924 | 2321 | 2635 |
| 70° | 1795 | 2333 | 2729 |
| 75° | 1598 | 2401 | 2875 |
| 80° | 1306 | 2453 | 2806 |
| 85° | 920 | 2141 | 2184 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 187.1 | 3.3 |
| 10°-20° | 532.8 | 9.4 |
| 20°-30° | 798.6 | 14.1 |
| 30°-40° | 951.2 | 16.8 |
| 40°-50° | 980.8 | 17.3 |
| 50°-60° | 894.9 | 15.8 |
| 60°-70° | 715.6 | 12.6 |
| 70°-80° | 467.4 | 8.2 |
| 80°-90° | 140.4 | 2.5 |
| 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° | 1518.5 | 26.8 |
| 0°-40° | 2469.7 | 43.6 |
| 0°-60° | 4345.4 | 76.7 |
| 0°-90° | 5668.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5668.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1979 | 1979 | 1979 | 1979 | 1979 | |
| 5° | 1974 | 1970 | 1962 | 1974 | 1972 | 187 |
| 15° | 1884 | 1885 | 1883 | 1899 | 1899 | 531 |
| 25° | 1714 | 1717 | 1729 | 1754 | 1756 | 789 |
| 35° | 1479 | 1489 | 1516 | 1554 | 1563 | 924 |
| 45° | 1201 | 1223 | 1269 | 1322 | 1339 | 926 |
| 55° | 908 | 934 | 1003 | 1069 | 1089 | 809 |
| 65° | 604 | 645 | 729 | 801 | 828 | 599 |
| 75° | 307 | 358 | 462 | 536 | 553 | 327 |
| 85° | 60 | 107 | 139 | 142 | 142 | 76 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474116

CATALOG NUMBER: 24CZ2-55-S-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1978.7 | 1978.7 | 1978.7 | 1978.7 | 1978.7 |
| 2.5° | 1981.5 | 1978.7 | 1968.4 | 1980.5 | 1978.7 |
| 5° | 1974.0 | 1970.3 | 1961.9 | 1974.0 | 1972.2 |
| 7.5° | 1959.1 | 1957.3 | 1948.9 | 1962.8 | 1961.0 |
| 10° | 1940.5 | 1938.6 | 1932.1 | 1946.1 | 1943.3 |
| 12.5° | 1914.4 | 1913.5 | 1908.8 | 1925.6 | 1923.7 |
| 15° | 1883.7 | 1884.6 | 1882.8 | 1898.6 | 1898.6 |
| 17.5° | 1848.3 | 1847.4 | 1851.1 | 1870.7 | 1868.8 |
| 20° | 1807.3 | 1808.3 | 1812.9 | 1835.3 | 1835.3 |
| 22.5° | 1764.5 | 1763.6 | 1773.8 | 1796.2 | 1798.0 |
| 25° | 1714.2 | 1717.0 | 1729.1 | 1754.3 | 1756.1 |
| 27.5° | 1660.2 | 1664.9 | 1679.8 | 1708.6 | 1711.4 |
| 30° | 1603.4 | 1609.0 | 1631.4 | 1658.4 | 1662.1 |
| 32.5° | 1541.0 | 1553.1 | 1573.6 | 1608.1 | 1617.4 |
| 35° | 1478.6 | 1488.9 | 1515.9 | 1554.1 | 1563.4 |
| 37.5° | 1409.7 | 1426.5 | 1457.2 | 1499.1 | 1511.2 |
| 40° | 1341.8 | 1358.5 | 1396.7 | 1440.5 | 1453.5 |
| 42.5° | 1272.9 | 1290.6 | 1334.3 | 1383.7 | 1397.6 |
| 45° | 1201.2 | 1222.6 | 1269.1 | 1322.2 | 1339.0 |
| 47.5° | 1127.6 | 1152.8 | 1203.0 | 1260.8 | 1279.4 |
| 50° | 1055.0 | 1080.1 | 1137.9 | 1197.4 | 1214.2 |
| 52.5° | 976.8 | 1008.4 | 1069.9 | 1134.1 | 1150.9 |
| 55° | 907.9 | 933.9 | 1002.8 | 1068.9 | 1089.4 |
| 57.5° | 826.9 | 862.2 | 935.8 | 1002.8 | 1022.4 |
| 60° | 755.2 | 787.7 | 866.0 | 933.9 | 956.3 |
| 62.5° | 682.5 | 716.0 | 794.3 | 871.5 | 892.0 |
| 65° | 604.3 | 645.3 | 729.1 | 800.8 | 827.8 |
| 67.5° | 529.8 | 572.7 | 658.3 | 734.7 | 762.6 |
| 70° | 456.3 | 500.0 | 593.1 | 671.4 | 693.7 |
| 72.5° | 383.6 | 429.3 | 526.1 | 602.4 | 628.5 |
| 75° | 307.3 | 358.5 | 461.8 | 536.3 | 553.1 |
| 77.5° | 235.6 | 292.4 | 396.7 | 446.9 | 459.1 |
| 80° | 168.5 | 230.9 | 316.6 | 352.9 | 362.2 |
| 82.5° | 110.8 | 171.3 | 236.5 | 256.1 | 253.3 |
| 85° | 59.6 | 107.1 | 138.7 | 141.5 | 141.5 |
| 87.5° | 23.3 | 42.8 | 43.8 | 33.5 | 31.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)