

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: P474354

Luminaire Tested: **24CZ2-150VHE-RDP-UNV-L850-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474354
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-150VHE-RDP-UNV-L850-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP
INSERT
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10260.1 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

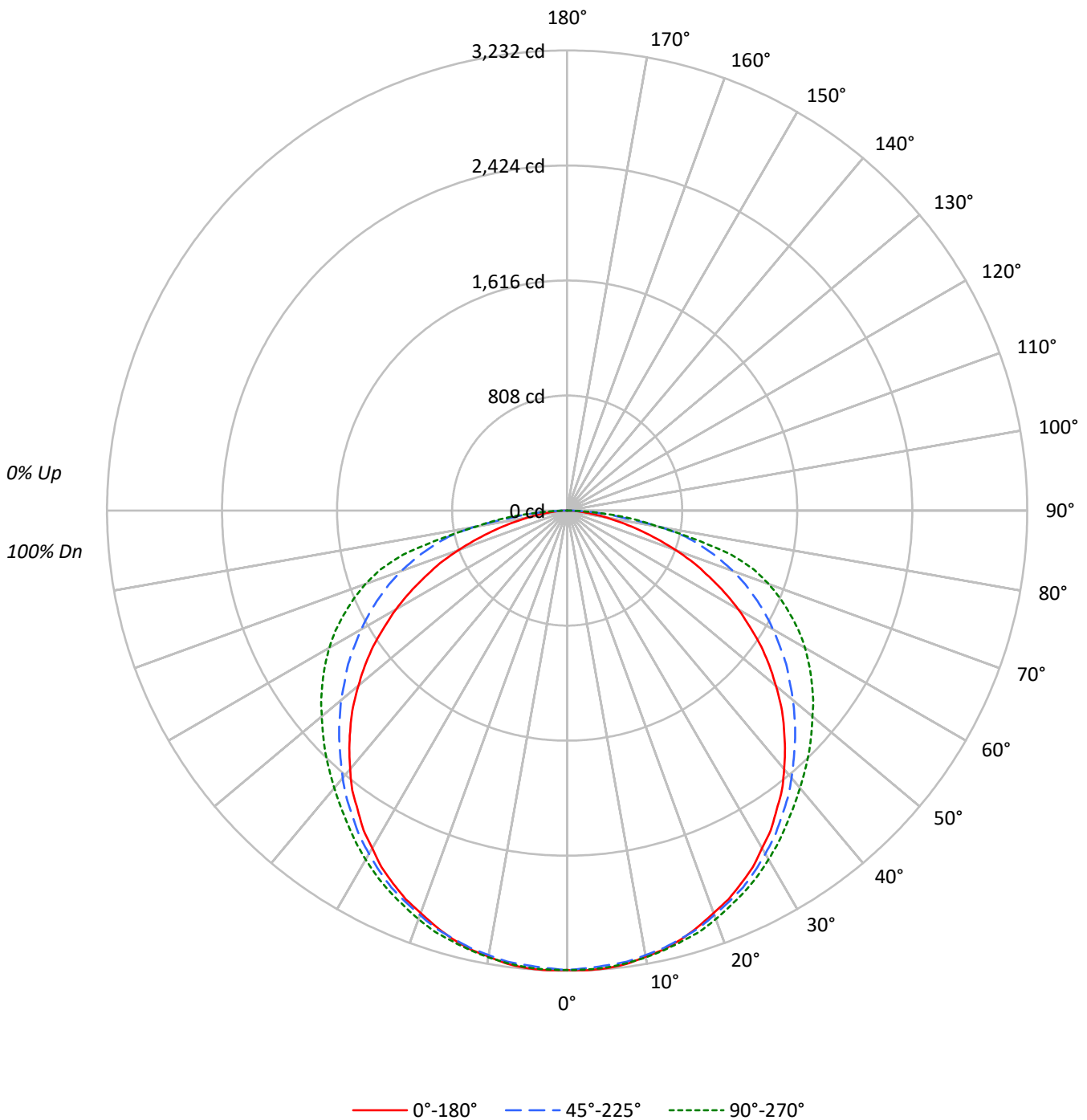
Input Watts (W): 109.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 98 | 94 | 105 | 100 | 96 | 92 | 96 | 93 | 89 | | 92 | 89 | 87 | | 88 | 86 | 84 | 82 |
| 2 | 97 | 89 | 81 | 75 | 95 | 87 | 80 | 74 | 83 | 77 | 72 | | 80 | 75 | 71 | | 77 | 73 | 69 | 67 |
| 3 | 88 | 77 | 68 | 62 | 86 | 76 | 67 | 61 | 72 | 66 | 60 | | 70 | 64 | 59 | | 67 | 62 | 58 | 56 |
| 4 | 81 | 68 | 59 | 52 | 78 | 67 | 58 | 51 | 64 | 57 | 51 | | 62 | 55 | 50 | | 59 | 54 | 49 | 47 |
| 5 | 74 | 60 | 51 | 44 | 72 | 59 | 51 | 44 | 57 | 49 | 43 | | 55 | 48 | 43 | | 53 | 47 | 42 | 40 |
| 6 | 68 | 54 | 45 | 38 | 66 | 53 | 45 | 38 | 51 | 44 | 38 | | 50 | 43 | 37 | | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 34 | 61 | 48 | 40 | 34 | 47 | 39 | 33 | | 45 | 38 | 33 | | 44 | 38 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 35 | 30 | | 41 | 34 | 29 | | 40 | 34 | 29 | 27 |
| 9 | 55 | 41 | 33 | 27 | 53 | 40 | 32 | 27 | 39 | 32 | 27 | | 38 | 31 | 26 | | 37 | 31 | 26 | 24 |
| 10 | 51 | 38 | 30 | 24 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | | 35 | 29 | 24 | | 34 | 28 | 24 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4341 | 4341 | 4341 |
| 5° | 4358 | 4331 | 4351 |
| 10° | 4346 | 4332 | 4353 |
| 15° | 4339 | 4332 | 4360 |
| 20° | 4307 | 4328 | 4372 |
| 25° | 4291 | 4337 | 4382 |
| 30° | 4254 | 4325 | 4396 |
| 35° | 4213 | 4313 | 4414 |
| 40° | 4166 | 4308 | 4469 |
| 45° | 4096 | 4310 | 4570 |
| 50° | 4005 | 4336 | 4709 |
| 55° | 3903 | 4405 | 4919 |
| 60° | 3739 | 4492 | 5190 |
| 65° | 3500 | 4649 | 5508 |
| 70° | 3183 | 4866 | 5925 |
| 75° | 2698 | 5133 | 6191 |
| 80° | 2131 | 5164 | 5007 |
| 85° | 1572 | 3930 | 4401 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 306.1 | 3.0 |
| 10°-20° | 880.9 | 8.6 |
| 20°-30° | 1347.0 | 13.1 |
| 30°-40° | 1646.6 | 16.0 |
| 40°-50° | 1755.1 | 17.1 |
| 50°-60° | 1678.0 | 16.4 |
| 60°-70° | 1421.5 | 13.9 |
| 70°-80° | 955.4 | 9.3 |
| 80°-90° | 269.6 | 2.6 |
| 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° | 2534.0 | 24.7 |
| 0°-40° | 4180.6 | 40.7 |
| 0°-60° | 7613.7 | 74.2 |
| 0°-90° | 10260.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 10260.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3227 | 3227 | 3227 | 3227 | 3227 | |
| 5° | 3227 | 3222 | 3206 | 3222 | 3222 | 307 |
| 15° | 3115 | 3115 | 3110 | 3135 | 3130 | 878 |
| 25° | 2891 | 2901 | 2921 | 2947 | 2952 | 1332 |
| 35° | 2565 | 2585 | 2626 | 2677 | 2687 | 1607 |
| 45° | 2153 | 2188 | 2265 | 2362 | 2402 | 1660 |
| 55° | 1664 | 1725 | 1878 | 2026 | 2097 | 1482 |
| 65° | 1099 | 1211 | 1460 | 1654 | 1730 | 1091 |
| 75° | 519 | 707 | 987 | 1155 | 1191 | 556 |
| 85° | 102 | 209 | 255 | 275 | 285 | 126 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474354

CATALOG NUMBER: 24CZ2-150VHE-RDP-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3226.7 | 3226.7 | 3226.7 | 3226.7 | 3226.7 |
| 2.5° | 3231.8 | 3231.8 | 3216.5 | 3226.7 | 3226.7 |
| 5° | 3226.7 | 3221.6 | 3206.3 | 3221.6 | 3221.6 |
| 7.5° | 3211.4 | 3206.3 | 3196.2 | 3211.4 | 3206.3 |
| 10° | 3180.9 | 3180.9 | 3170.7 | 3186.0 | 3186.0 |
| 12.5° | 3155.4 | 3150.3 | 3145.2 | 3165.6 | 3160.5 |
| 15° | 3114.7 | 3114.7 | 3109.6 | 3135.0 | 3130.0 |
| 17.5° | 3063.8 | 3068.9 | 3073.9 | 3094.3 | 3099.4 |
| 20° | 3007.8 | 3017.9 | 3023.0 | 3053.6 | 3053.6 |
| 22.5° | 2956.8 | 2961.9 | 2972.1 | 3002.7 | 3002.7 |
| 25° | 2890.6 | 2900.8 | 2921.2 | 2946.7 | 2951.7 |
| 27.5° | 2824.4 | 2829.5 | 2855.0 | 2890.6 | 2895.7 |
| 30° | 2737.9 | 2753.2 | 2783.7 | 2824.4 | 2829.5 |
| 32.5° | 2661.5 | 2676.8 | 2712.4 | 2753.2 | 2763.3 |
| 35° | 2564.8 | 2585.1 | 2625.9 | 2676.8 | 2687.0 |
| 37.5° | 2478.2 | 2493.5 | 2544.4 | 2600.4 | 2615.7 |
| 40° | 2371.8 | 2401.8 | 2452.7 | 2518.9 | 2544.4 |
| 42.5° | 2264.9 | 2295.4 | 2356.5 | 2442.6 | 2473.1 |
| 45° | 2152.8 | 2188.5 | 2264.9 | 2361.6 | 2401.8 |
| 47.5° | 2040.8 | 2081.5 | 2168.1 | 2280.1 | 2326.0 |
| 50° | 1913.5 | 1964.4 | 2071.4 | 2198.7 | 2249.6 |
| 52.5° | 1791.3 | 1852.4 | 1969.5 | 2112.1 | 2178.3 |
| 55° | 1664.0 | 1725.1 | 1877.9 | 2025.5 | 2096.8 |
| 57.5° | 1521.4 | 1602.9 | 1770.9 | 1939.0 | 2015.4 |
| 60° | 1389.6 | 1465.4 | 1669.1 | 1852.4 | 1928.8 |
| 62.5° | 1247.0 | 1348.8 | 1567.3 | 1760.8 | 1837.1 |
| 65° | 1099.3 | 1211.3 | 1460.3 | 1653.8 | 1730.2 |
| 67.5° | 966.9 | 1089.1 | 1353.9 | 1546.9 | 1623.3 |
| 70° | 809.1 | 961.8 | 1236.8 | 1429.8 | 1506.2 |
| 72.5° | 661.4 | 829.5 | 1114.6 | 1303.0 | 1374.3 |
| 75° | 518.9 | 707.3 | 987.3 | 1155.3 | 1191.0 |
| 77.5° | 387.0 | 585.1 | 854.9 | 926.2 | 900.7 |
| 80° | 275.0 | 468.4 | 666.5 | 630.9 | 646.2 |
| 82.5° | 178.2 | 356.4 | 412.4 | 468.4 | 483.2 |
| 85° | 101.8 | 208.8 | 254.6 | 275.0 | 285.1 |
| 87.5° | 45.8 | 76.4 | 101.8 | 101.8 | 96.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)