

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: P474782

Luminaire Tested: **22CZ2-75VHE-UNV-L830-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P474782
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-75VHE-UNV-L830-CD1-U
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

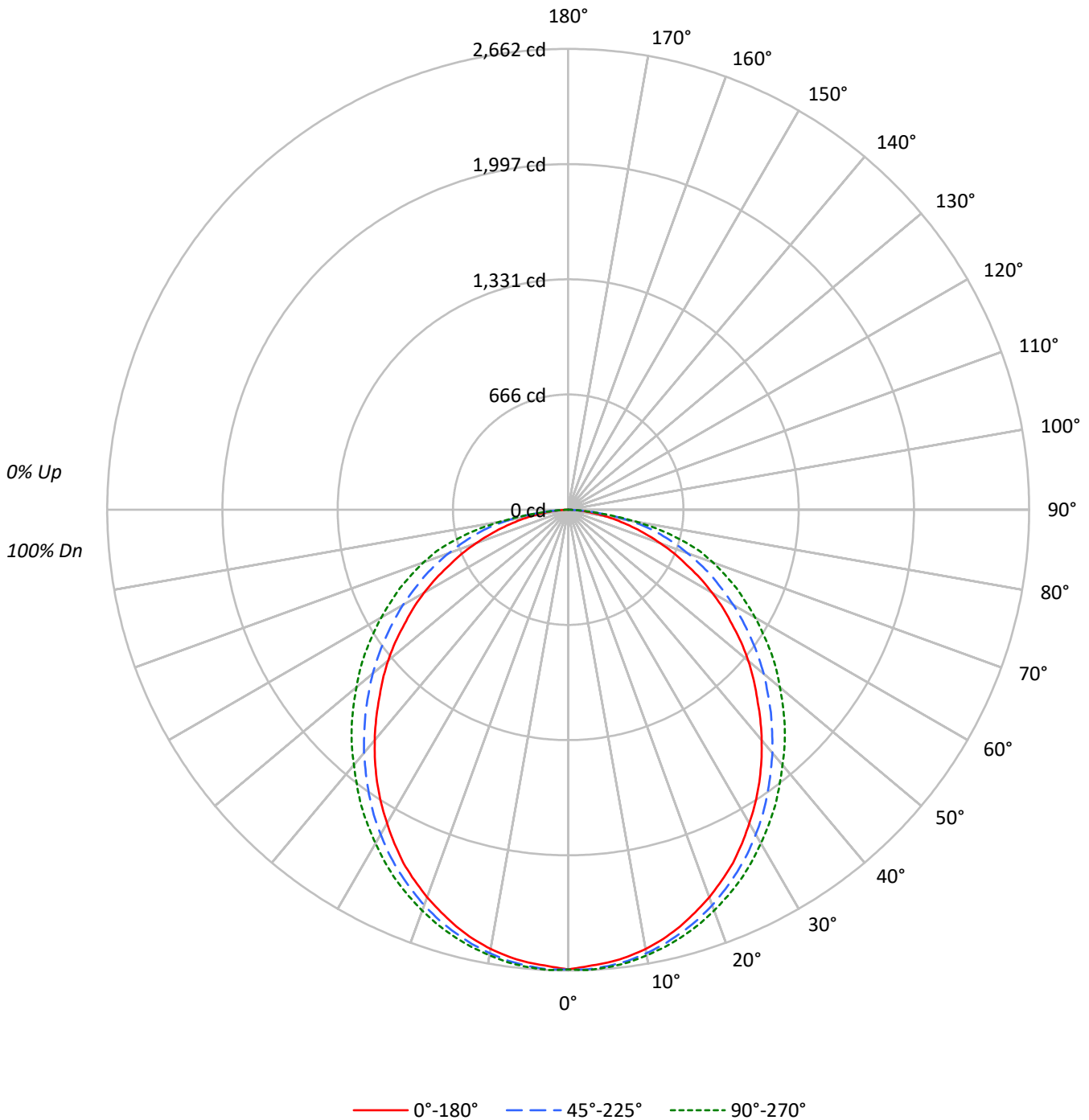
Lumens per Lamp: N/A
Luminaire Lumens: 7323.1 lumens
Efficiency: N/A
Efficacy: 132.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.25 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 55.2
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 | 109 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | | 93 | 91 | 88 | | 90 | 87 | 85 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 77 | 85 | 79 | 75 | | 81 | 77 | 73 | | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 78 | 70 | 64 | 75 | 68 | 63 | | 72 | 66 | 61 | | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | | 64 | 58 | 53 | | 62 | 56 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 73 | 62 | 53 | 47 | 59 | 52 | 46 | | 57 | 51 | 46 | | 56 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 54 | 46 | 40 | | 52 | 45 | 40 | | 50 | 44 | 40 | 38 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | | 47 | 41 | 36 | | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | | 43 | 37 | 32 | | 42 | 36 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | | 40 | 33 | 29 | | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | | 37 | 31 | 26 | | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 7146 | 7146 | 7146 |
| 5° | 7094 | 7149 | 7165 |
| 10° | 7041 | 7109 | 7142 |
| 15° | 6946 | 7045 | 7110 |
| 20° | 6821 | 6962 | 7056 |
| 25° | 6686 | 6856 | 6998 |
| 30° | 6502 | 6733 | 6915 |
| 35° | 6320 | 6589 | 6848 |
| 40° | 6105 | 6442 | 6763 |
| 45° | 5872 | 6296 | 6732 |
| 50° | 5682 | 6168 | 6680 |
| 55° | 5416 | 6034 | 6694 |
| 60° | 5173 | 5930 | 6713 |
| 65° | 4809 | 5854 | 6819 |
| 70° | 4445 | 5772 | 6989 |
| 75° | 3975 | 5744 | 7032 |
| 80° | 3333 | 5444 | 6140 |
| 85° | 2581 | 3727 | 3489 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 250.9 | 3.4 |
| 10°-20° | 712.3 | 9.7 |
| 20°-30° | 1062.0 | 14.5 |
| 30°-40° | 1253.7 | 17.1 |
| 40°-50° | 1277.8 | 17.4 |
| 50°-60° | 1152.3 | 15.7 |
| 60°-70° | 905.7 | 12.4 |
| 70°-80° | 567.1 | 7.7 |
| 80°-90° | 141.4 | 1.9 |
| 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° | 2025.2 | 27.7 |
| 0°-40° | 3278.9 | 44.8 |
| 0°-60° | 5709.0 | 78.0 |
| 0°-90° | 7323.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 7323.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2656 | 2656 | 2656 | 2656 | 2656 | |
| 5° | 2626 | 2632 | 2646 | 2653 | 2653 | 249 |
| 15° | 2493 | 2504 | 2529 | 2547 | 2552 | 702 |
| 25° | 2252 | 2269 | 2309 | 2345 | 2357 | 1035 |
| 35° | 1924 | 1948 | 2006 | 2061 | 2085 | 1202 |
| 45° | 1543 | 1577 | 1654 | 1735 | 1769 | 1194 |
| 55° | 1154 | 1190 | 1286 | 1385 | 1427 | 1036 |
| 65° | 755 | 802 | 919 | 1021 | 1071 | 753 |
| 75° | 382 | 440 | 552 | 652 | 676 | 406 |
| 85° | 84 | 107 | 121 | 121 | 113 | 101 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474782

CATALOG NUMBER: 22CZ2-75VHE-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2655.7 | 2655.7 | 2655.7 | 2655.7 | 2655.7 |
| 2.5° | 2638.7 | 2644.9 | 2657.3 | 2661.9 | 2661.9 |
| 5° | 2626.3 | 2632.5 | 2646.4 | 2652.6 | 2652.6 |
| 7.5° | 2606.2 | 2612.4 | 2629.4 | 2637.2 | 2638.7 |
| 10° | 2576.8 | 2584.5 | 2601.6 | 2613.9 | 2613.9 |
| 12.5° | 2539.7 | 2547.4 | 2569.1 | 2584.5 | 2586.1 |
| 15° | 2493.2 | 2504.1 | 2528.8 | 2547.4 | 2552.0 |
| 17.5° | 2439.1 | 2456.1 | 2483.9 | 2507.2 | 2511.8 |
| 20° | 2381.8 | 2398.8 | 2431.3 | 2457.6 | 2463.8 |
| 22.5° | 2318.3 | 2333.8 | 2372.5 | 2405.0 | 2412.8 |
| 25° | 2251.8 | 2268.8 | 2309.1 | 2344.7 | 2357.0 |
| 27.5° | 2172.9 | 2193.0 | 2241.0 | 2281.2 | 2293.6 |
| 30° | 2092.4 | 2117.2 | 2166.7 | 2211.6 | 2225.5 |
| 32.5° | 2010.4 | 2033.6 | 2089.3 | 2137.3 | 2155.8 |
| 35° | 1923.7 | 1948.5 | 2005.7 | 2061.4 | 2084.7 |
| 37.5° | 1832.4 | 1857.2 | 1919.1 | 1982.5 | 2004.2 |
| 40° | 1738.0 | 1767.4 | 1833.9 | 1902.0 | 1925.3 |
| 42.5° | 1642.0 | 1673.0 | 1742.6 | 1818.5 | 1849.4 |
| 45° | 1543.0 | 1577.0 | 1654.4 | 1734.9 | 1768.9 |
| 47.5° | 1453.2 | 1481.1 | 1561.6 | 1649.8 | 1682.3 |
| 50° | 1357.3 | 1383.6 | 1473.3 | 1561.6 | 1595.6 |
| 52.5° | 1259.8 | 1284.5 | 1380.5 | 1473.3 | 1515.1 |
| 55° | 1154.5 | 1190.1 | 1286.1 | 1385.1 | 1426.9 |
| 57.5° | 1061.7 | 1094.2 | 1193.2 | 1293.8 | 1334.1 |
| 60° | 961.1 | 995.1 | 1101.9 | 1204.1 | 1247.4 |
| 62.5° | 860.5 | 897.6 | 1006.0 | 1115.8 | 1156.1 |
| 65° | 755.2 | 801.7 | 919.3 | 1021.4 | 1071.0 |
| 67.5° | 665.5 | 710.4 | 826.4 | 933.2 | 976.6 |
| 70° | 564.9 | 617.5 | 733.6 | 841.9 | 888.3 |
| 72.5° | 470.5 | 523.1 | 642.3 | 750.6 | 797.0 |
| 75° | 382.3 | 439.5 | 552.5 | 651.6 | 676.3 |
| 77.5° | 297.1 | 351.3 | 464.3 | 521.6 | 547.9 |
| 80° | 215.1 | 267.7 | 351.3 | 390.0 | 396.2 |
| 82.5° | 145.5 | 190.4 | 238.3 | 249.2 | 243.0 |
| 85° | 83.6 | 106.8 | 120.7 | 120.7 | 113.0 |
| 87.5° | 34.0 | 34.0 | 29.4 | 18.6 | 10.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)