

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: P475335

Luminaire Tested: **22CZ2-85VHE-SQR-UNV-L850-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475335
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-85VHE-SQR-UNV-L850-CD1-U
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8293.6 lumens
Efficiency: N/A
Efficacy: 131.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.31 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

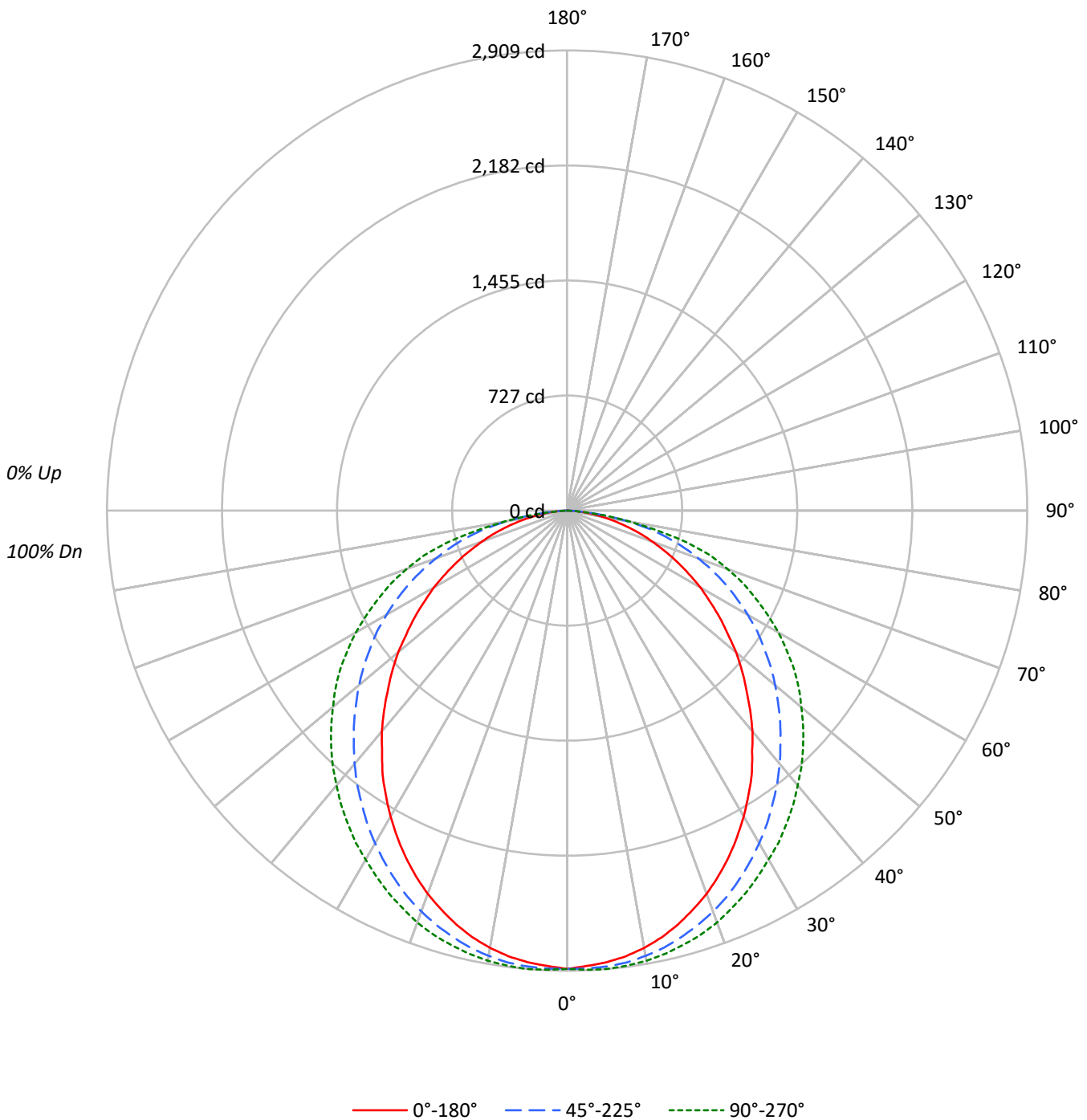
Input Watts (W): 63.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 76 | 85 | 79 | 75 | | 81 | 77 | 73 | | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 63 | 74 | 68 | 62 | | 72 | 66 | 61 | | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | | 64 | 57 | 52 | | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | | 57 | 50 | 45 | | 55 | 49 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 40 | 53 | 46 | 40 | | 52 | 45 | 40 | | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | | 47 | 40 | 35 | | 46 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 32 | | 43 | 36 | 31 | | 42 | 36 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 28 | | 40 | 33 | 28 | | 39 | 33 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | | 37 | 30 | 26 | | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 7796 | 7796 | 7796 |
| 5° | 7741 | 7815 | 7858 |
| 10° | 7670 | 7809 | 7894 |
| 15° | 7545 | 7775 | 7918 |
| 20° | 7383 | 7722 | 7936 |
| 25° | 7176 | 7643 | 7924 |
| 30° | 6935 | 7547 | 7914 |
| 35° | 6685 | 7435 | 7940 |
| 40° | 6402 | 7343 | 7966 |
| 45° | 6097 | 7250 | 8029 |
| 50° | 5833 | 7185 | 8091 |
| 55° | 5522 | 7128 | 8219 |
| 60° | 5232 | 7098 | 8305 |
| 65° | 4887 | 7042 | 8371 |
| 70° | 4489 | 6936 | 8486 |
| 75° | 4053 | 6752 | 8184 |
| 80° | 3476 | 5980 | 6163 |
| 85° | 2797 | 3523 | 2797 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 274.7 | 3.3 |
| 10°-20° | 785.3 | 9.5 |
| 20°-30° | 1179.5 | 14.2 |
| 30°-40° | 1406.6 | 17.0 |
| 40°-50° | 1454.3 | 17.5 |
| 50°-60° | 1337.1 | 16.1 |
| 60°-70° | 1064.4 | 12.8 |
| 70°-80° | 650.4 | 7.8 |
| 80°-90° | 141.3 | 1.7 |
| 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° | 2239.4 | 27.0 |
| 0°-40° | 3646.0 | 44.0 |
| 0°-60° | 6437.5 | 77.6 |
| 0°-90° | 8293.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 8293.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2897 | 2897 | 2897 | 2897 | 2897 | |
| 5° | 2866 | 2874 | 2893 | 2905 | 2909 | 272 |
| 15° | 2708 | 2740 | 2791 | 2830 | 2842 | 763 |
| 25° | 2417 | 2476 | 2574 | 2645 | 2669 | 1112 |
| 35° | 2035 | 2122 | 2263 | 2382 | 2417 | 1270 |
| 45° | 1602 | 1716 | 1905 | 2059 | 2110 | 1239 |
| 55° | 1177 | 1307 | 1519 | 1693 | 1752 | 1053 |
| 65° | 768 | 898 | 1106 | 1260 | 1315 | 760 |
| 75° | 390 | 504 | 649 | 764 | 787 | 415 |
| 85° | 91 | 110 | 114 | 98 | 91 | 104 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475335

CATALOG NUMBER: 22CZ2-85VHE-SQR-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2897.0 | 2897.0 | 2897.0 | 2897.0 | 2897.0 |
| 2.5° | 2881.3 | 2885.2 | 2897.0 | 2905.3 | 2905.3 |
| 5° | 2865.6 | 2873.5 | 2893.1 | 2905.3 | 2909.2 |
| 7.5° | 2842.1 | 2853.9 | 2881.3 | 2897.0 | 2901.3 |
| 10° | 2806.8 | 2822.5 | 2857.8 | 2881.3 | 2889.1 |
| 12.5° | 2763.3 | 2786.8 | 2830.3 | 2861.7 | 2869.5 |
| 15° | 2708.4 | 2739.7 | 2790.7 | 2830.3 | 2842.1 |
| 17.5° | 2645.2 | 2684.4 | 2747.6 | 2795.1 | 2810.7 |
| 20° | 2578.1 | 2617.8 | 2696.6 | 2751.5 | 2771.1 |
| 22.5° | 2499.7 | 2550.7 | 2641.3 | 2704.5 | 2720.1 |
| 25° | 2417.0 | 2475.8 | 2574.2 | 2645.2 | 2668.7 |
| 27.5° | 2326.4 | 2397.4 | 2503.7 | 2590.3 | 2609.9 |
| 30° | 2231.9 | 2306.8 | 2428.7 | 2523.3 | 2546.8 |
| 32.5° | 2133.4 | 2220.1 | 2349.9 | 2456.2 | 2488.0 |
| 35° | 2035.0 | 2121.7 | 2263.2 | 2381.7 | 2417.0 |
| 37.5° | 1920.9 | 2023.2 | 2180.9 | 2302.9 | 2346.0 |
| 40° | 1822.4 | 1920.9 | 2090.3 | 2224.0 | 2267.6 |
| 42.5° | 1712.2 | 1818.5 | 1995.8 | 2141.3 | 2192.7 |
| 45° | 1602.0 | 1716.2 | 1905.2 | 2058.9 | 2109.9 |
| 47.5° | 1499.7 | 1613.8 | 1810.7 | 1972.3 | 2023.2 |
| 50° | 1393.4 | 1511.4 | 1716.2 | 1881.7 | 1932.6 |
| 52.5° | 1279.3 | 1409.1 | 1621.6 | 1787.2 | 1846.4 |
| 55° | 1176.9 | 1306.7 | 1519.3 | 1692.6 | 1751.9 |
| 57.5° | 1070.6 | 1204.4 | 1425.2 | 1590.3 | 1645.6 |
| 60° | 972.2 | 1102.0 | 1318.9 | 1480.1 | 1543.2 |
| 62.5° | 865.9 | 999.6 | 1212.2 | 1369.9 | 1429.1 |
| 65° | 767.5 | 897.7 | 1105.9 | 1259.7 | 1314.6 |
| 67.5° | 669.0 | 799.3 | 995.7 | 1141.6 | 1204.4 |
| 70° | 570.6 | 700.8 | 881.6 | 1023.6 | 1078.5 |
| 72.5° | 484.4 | 598.5 | 771.4 | 901.6 | 952.6 |
| 75° | 389.8 | 504.0 | 649.4 | 763.6 | 787.1 |
| 77.5° | 303.2 | 405.5 | 527.5 | 578.4 | 586.7 |
| 80° | 224.3 | 303.2 | 385.9 | 397.7 | 397.7 |
| 82.5° | 149.4 | 208.6 | 240.0 | 243.9 | 240.0 |
| 85° | 90.6 | 110.2 | 114.1 | 98.4 | 90.6 |
| 87.5° | 31.4 | 31.4 | 19.6 | 11.8 | 3.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)