

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: P474250

Luminaire Tested: **24CZ2-130VHE-RDP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474250
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-130VHE-RDP-UNV-L835-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP
INSERT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8719.5 lumens
Efficiency: N/A
Efficacy: 94.6 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

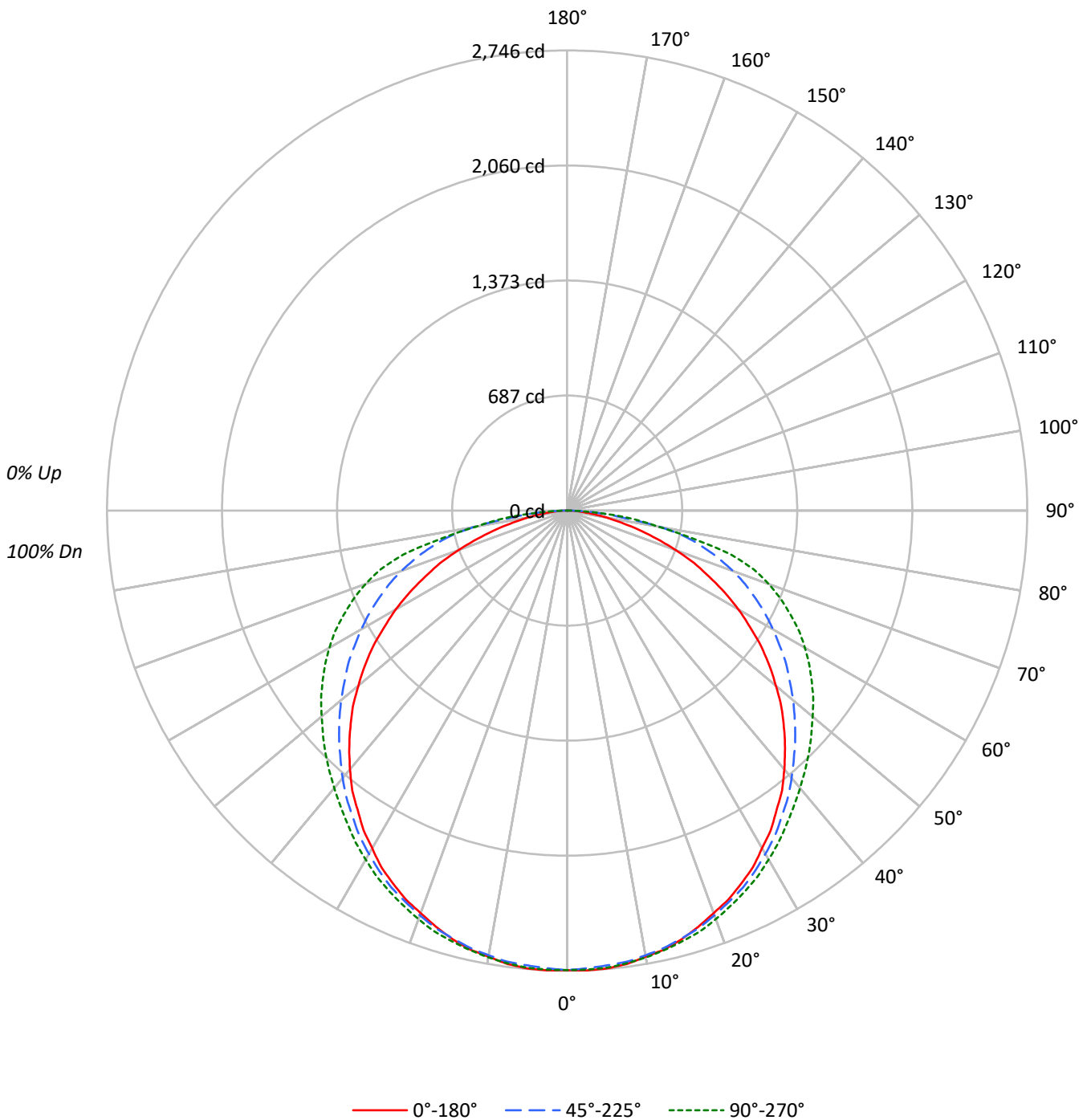
Input Watts (W): 92.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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° | 3690 | 3690 | 3690 |
| 5° | 3704 | 3680 | 3698 |
| 10° | 3693 | 3681 | 3699 |
| 15° | 3687 | 3681 | 3705 |
| 20° | 3660 | 3679 | 3716 |
| 25° | 3647 | 3685 | 3724 |
| 30° | 3615 | 3675 | 3736 |
| 35° | 3580 | 3665 | 3751 |
| 40° | 3540 | 3661 | 3798 |
| 45° | 3481 | 3663 | 3884 |
| 50° | 3404 | 3685 | 4002 |
| 55° | 3317 | 3744 | 4180 |
| 60° | 3178 | 3817 | 4411 |
| 65° | 2975 | 3951 | 4681 |
| 70° | 2705 | 4135 | 5035 |
| 75° | 2292 | 4362 | 5261 |
| 80° | 1811 | 4389 | 4255 |
| 85° | 1335 | 3341 | 3741 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 260.1 | 3.0 |
| 10°-20° | 748.6 | 8.6 |
| 20°-30° | 1144.7 | 13.1 |
| 30°-40° | 1399.3 | 16.0 |
| 40°-50° | 1491.5 | 17.1 |
| 50°-60° | 1426.1 | 16.4 |
| 60°-70° | 1208.0 | 13.9 |
| 70°-80° | 811.9 | 9.3 |
| 80°-90° | 229.1 | 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° | 2153.5 | 24.7 |
| 0°-40° | 3552.8 | 40.7 |
| 0°-60° | 6470.4 | 74.2 |
| 0°-90° | 8719.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 8719.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2742 | 2742 | 2742 | 2742 | 2742 | |
| 5° | 2742 | 2738 | 2725 | 2738 | 2738 | 261 |
| 15° | 2647 | 2647 | 2643 | 2664 | 2660 | 746 |
| 25° | 2457 | 2465 | 2482 | 2504 | 2508 | 1132 |
| 35° | 2180 | 2197 | 2232 | 2275 | 2284 | 1365 |
| 45° | 1830 | 1860 | 1925 | 2007 | 2041 | 1411 |
| 55° | 1414 | 1466 | 1596 | 1721 | 1782 | 1260 |
| 65° | 934 | 1029 | 1241 | 1406 | 1470 | 927 |
| 75° | 441 | 601 | 839 | 982 | 1012 | 472 |
| 85° | 86 | 177 | 216 | 234 | 242 | 107 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474250

CATALOG NUMBER: 24CZ2-130VHE-RDP-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2742.2 | 2742.2 | 2742.2 | 2742.2 | 2742.2 |
| 2.5° | 2746.5 | 2746.5 | 2733.5 | 2742.2 | 2742.2 |
| 5° | 2742.2 | 2737.8 | 2724.9 | 2737.8 | 2737.8 |
| 7.5° | 2729.2 | 2724.9 | 2716.2 | 2729.2 | 2724.9 |
| 10° | 2703.2 | 2703.2 | 2694.6 | 2707.6 | 2707.6 |
| 12.5° | 2681.6 | 2677.3 | 2672.9 | 2690.2 | 2685.9 |
| 15° | 2647.0 | 2647.0 | 2642.6 | 2664.3 | 2660.0 |
| 17.5° | 2603.7 | 2608.0 | 2612.4 | 2629.7 | 2634.0 |
| 20° | 2556.1 | 2564.8 | 2569.1 | 2595.0 | 2595.0 |
| 22.5° | 2512.8 | 2517.2 | 2525.8 | 2551.8 | 2551.8 |
| 25° | 2456.6 | 2465.2 | 2482.5 | 2504.2 | 2508.5 |
| 27.5° | 2400.3 | 2404.6 | 2426.3 | 2456.6 | 2460.9 |
| 30° | 2326.8 | 2339.7 | 2365.7 | 2400.3 | 2404.6 |
| 32.5° | 2261.8 | 2274.8 | 2305.1 | 2339.7 | 2348.4 |
| 35° | 2179.6 | 2196.9 | 2231.6 | 2274.8 | 2283.5 |
| 37.5° | 2106.1 | 2119.0 | 2162.3 | 2209.9 | 2222.9 |
| 40° | 2015.6 | 2041.2 | 2084.4 | 2140.7 | 2162.3 |
| 42.5° | 1924.8 | 1950.7 | 2002.6 | 2075.8 | 2101.7 |
| 45° | 1829.6 | 1859.8 | 1924.8 | 2007.0 | 2041.2 |
| 47.5° | 1734.4 | 1769.0 | 1842.5 | 1937.7 | 1976.7 |
| 50° | 1626.2 | 1669.4 | 1760.3 | 1868.5 | 1911.8 |
| 52.5° | 1522.3 | 1574.2 | 1673.8 | 1794.9 | 1851.2 |
| 55° | 1414.1 | 1466.1 | 1595.9 | 1721.4 | 1782.0 |
| 57.5° | 1293.0 | 1362.2 | 1505.0 | 1647.8 | 1712.7 |
| 60° | 1180.9 | 1245.4 | 1418.5 | 1574.2 | 1639.2 |
| 62.5° | 1059.7 | 1146.3 | 1331.9 | 1496.4 | 1561.3 |
| 65° | 934.3 | 1029.4 | 1241.1 | 1405.5 | 1470.4 |
| 67.5° | 821.7 | 925.6 | 1150.6 | 1314.6 | 1379.5 |
| 70° | 687.6 | 817.4 | 1051.1 | 1215.1 | 1280.0 |
| 72.5° | 562.1 | 704.9 | 947.2 | 1107.3 | 1167.9 |
| 75° | 440.9 | 601.1 | 839.1 | 981.8 | 1012.1 |
| 77.5° | 328.9 | 497.2 | 726.5 | 787.1 | 765.5 |
| 80° | 233.7 | 398.1 | 566.4 | 536.1 | 549.1 |
| 82.5° | 151.5 | 302.9 | 350.5 | 398.1 | 410.7 |
| 85° | 86.5 | 177.4 | 216.4 | 233.7 | 242.3 |
| 87.5° | 38.9 | 64.9 | 86.5 | 86.5 | 82.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)