

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: P474806

Luminaire Tested: **22CZ2-50VHE-UNV-L835-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P474806
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-50VHE-UNV-L835-CD1-U
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

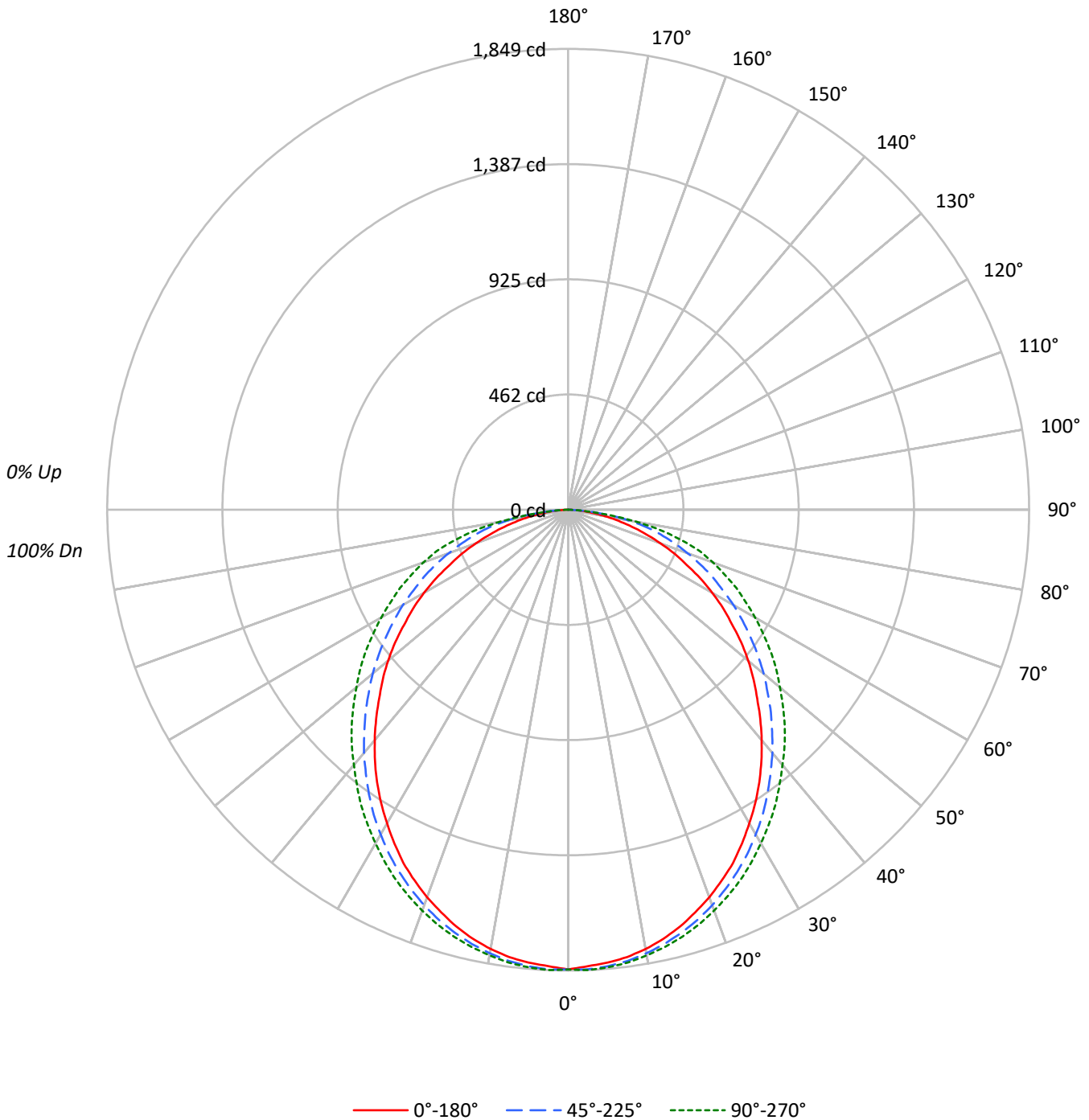
Lumens per Lamp: N/A
Luminaire Lumens: 5086.8 lumens
Efficiency: N/A
Efficacy: 145.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.25 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 35
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° | 4964 | 4964 | 4964 |
| 5° | 4928 | 4966 | 4977 |
| 10° | 4891 | 4938 | 4961 |
| 15° | 4825 | 4894 | 4939 |
| 20° | 4738 | 4836 | 4901 |
| 25° | 4644 | 4762 | 4861 |
| 30° | 4516 | 4676 | 4804 |
| 35° | 4390 | 4577 | 4757 |
| 40° | 4241 | 4475 | 4698 |
| 45° | 4079 | 4373 | 4676 |
| 50° | 3947 | 4284 | 4640 |
| 55° | 3763 | 4191 | 4650 |
| 60° | 3593 | 4119 | 4663 |
| 65° | 3340 | 4066 | 4737 |
| 70° | 3087 | 4009 | 4855 |
| 75° | 2760 | 3990 | 4885 |
| 80° | 2315 | 3781 | 4265 |
| 85° | 1794 | 2590 | 2424 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 174.3 | 3.4 |
| 10°-20° | 494.8 | 9.7 |
| 20°-30° | 737.7 | 14.5 |
| 30°-40° | 870.9 | 17.1 |
| 40°-50° | 887.6 | 17.4 |
| 50°-60° | 800.4 | 15.7 |
| 60°-70° | 629.1 | 12.4 |
| 70°-80° | 393.9 | 7.7 |
| 80°-90° | 98.2 | 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° | 1406.7 | 27.7 |
| 0°-40° | 2277.6 | 44.8 |
| 0°-60° | 3965.6 | 78.0 |
| 0°-90° | 5086.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5086.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1845 | 1845 | 1845 | 1845 | 1845 | |
| 5° | 1824 | 1829 | 1838 | 1843 | 1843 | 173 |
| 15° | 1732 | 1739 | 1757 | 1770 | 1773 | 488 |
| 25° | 1564 | 1576 | 1604 | 1629 | 1637 | 719 |
| 35° | 1336 | 1354 | 1393 | 1432 | 1448 | 835 |
| 45° | 1072 | 1095 | 1149 | 1205 | 1229 | 829 |
| 55° | 802 | 827 | 893 | 962 | 991 | 720 |
| 65° | 525 | 557 | 639 | 710 | 744 | 523 |
| 75° | 266 | 305 | 384 | 453 | 470 | 282 |
| 85° | 58 | 74 | 84 | 84 | 78 | 70 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474806

CATALOG NUMBER: 22CZ2-50VHE-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1844.7 | 1844.7 | 1844.7 | 1844.7 | 1844.7 |
| 2.5° | 1832.9 | 1837.2 | 1845.8 | 1849.0 | 1849.0 |
| 5° | 1824.3 | 1828.6 | 1838.3 | 1842.6 | 1842.6 |
| 7.5° | 1810.3 | 1814.6 | 1826.5 | 1831.8 | 1832.9 |
| 10° | 1789.9 | 1795.3 | 1807.1 | 1815.7 | 1815.7 |
| 12.5° | 1764.1 | 1769.5 | 1784.5 | 1795.3 | 1796.4 |
| 15° | 1731.9 | 1739.4 | 1756.6 | 1769.5 | 1772.7 |
| 17.5° | 1694.2 | 1706.1 | 1725.4 | 1741.5 | 1744.8 |
| 20° | 1654.5 | 1666.3 | 1688.9 | 1707.1 | 1711.4 |
| 22.5° | 1610.4 | 1621.1 | 1648.0 | 1670.6 | 1676.0 |
| 25° | 1564.2 | 1576.0 | 1603.9 | 1628.7 | 1637.3 |
| 27.5° | 1509.3 | 1523.3 | 1556.6 | 1584.6 | 1593.2 |
| 30° | 1453.4 | 1470.6 | 1505.0 | 1536.2 | 1545.9 |
| 32.5° | 1396.5 | 1412.6 | 1451.3 | 1484.6 | 1497.5 |
| 35° | 1336.3 | 1353.5 | 1393.2 | 1431.9 | 1448.1 |
| 37.5° | 1272.8 | 1290.0 | 1333.0 | 1377.1 | 1392.2 |
| 40° | 1207.2 | 1227.7 | 1273.9 | 1321.2 | 1337.3 |
| 42.5° | 1140.6 | 1162.1 | 1210.5 | 1263.1 | 1284.7 |
| 45° | 1071.8 | 1095.4 | 1149.2 | 1205.1 | 1228.7 |
| 47.5° | 1009.4 | 1028.8 | 1084.7 | 1146.0 | 1168.5 |
| 50° | 942.8 | 961.1 | 1023.4 | 1084.7 | 1108.3 |
| 52.5° | 875.1 | 892.3 | 958.9 | 1023.4 | 1052.4 |
| 55° | 802.0 | 826.7 | 893.3 | 962.1 | 991.2 |
| 57.5° | 737.5 | 760.0 | 828.8 | 898.7 | 926.7 |
| 60° | 667.6 | 691.2 | 765.4 | 836.4 | 866.5 |
| 62.5° | 597.7 | 623.5 | 698.8 | 775.1 | 803.0 |
| 65° | 524.6 | 556.9 | 638.6 | 709.5 | 743.9 |
| 67.5° | 462.3 | 493.4 | 574.1 | 648.2 | 678.3 |
| 70° | 392.4 | 428.9 | 509.6 | 584.8 | 617.1 |
| 72.5° | 326.8 | 363.4 | 446.1 | 521.4 | 553.6 |
| 75° | 265.5 | 305.3 | 383.8 | 452.6 | 469.8 |
| 77.5° | 206.4 | 244.0 | 322.5 | 362.3 | 380.6 |
| 80° | 149.4 | 186.0 | 244.0 | 270.9 | 275.2 |
| 82.5° | 101.1 | 132.2 | 165.6 | 173.1 | 168.8 |
| 85° | 58.1 | 74.2 | 83.9 | 83.9 | 78.5 |
| 87.5° | 23.7 | 23.7 | 20.4 | 12.9 | 7.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)