

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: P475300

Luminaire Tested: **22CZ2-55VHE-SQR-UNV-L840-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475300
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-55VHE-SQR-UNV-L840-CD1-U
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5387.4 lumens
Efficiency: N/A
Efficacy: 139.9 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

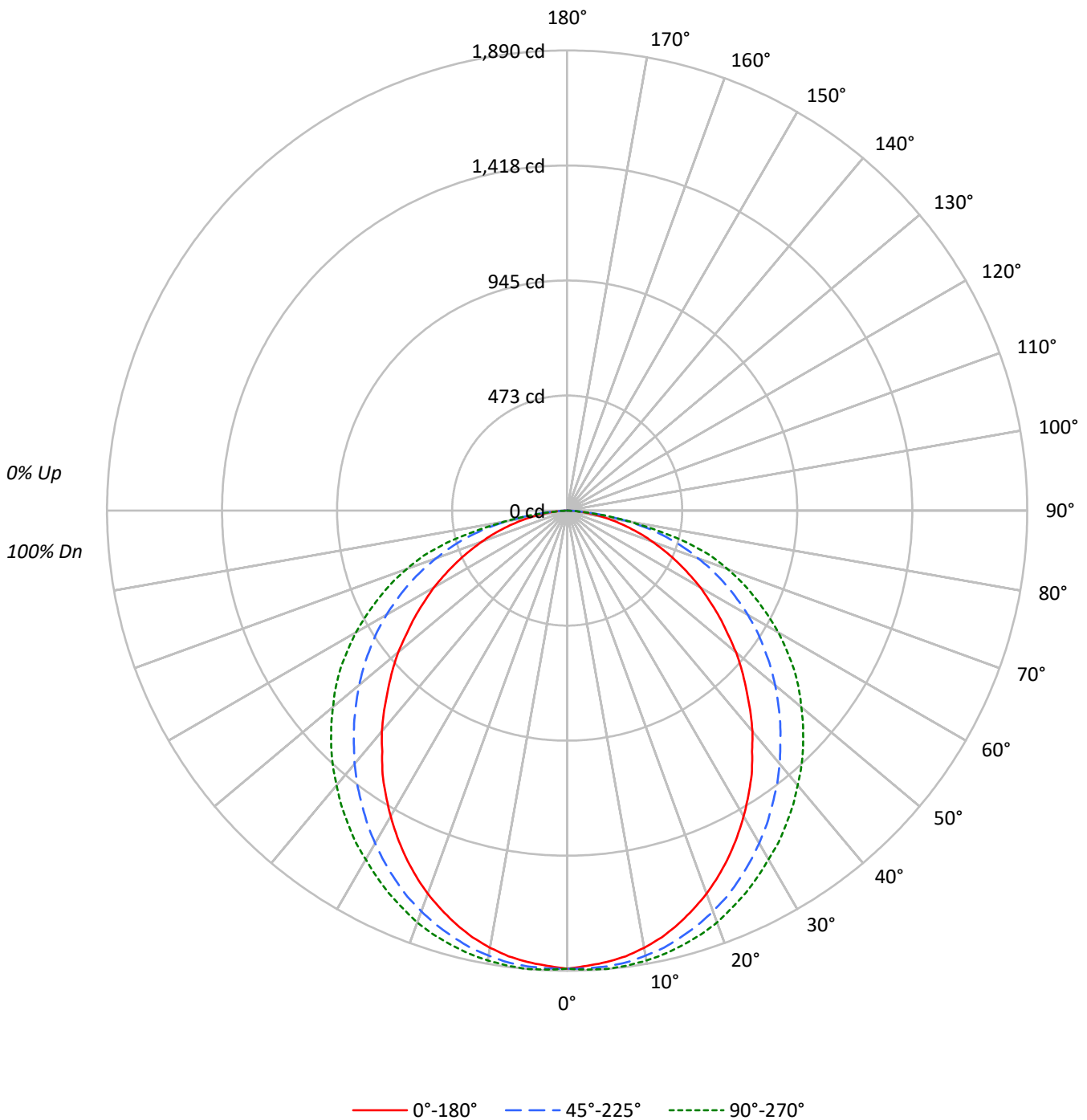
Input Watts (W): 38.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 5064 | 5064 | 5064 |
| 5° | 5028 | 5076 | 5105 |
| 10° | 4982 | 5073 | 5128 |
| 15° | 4901 | 5050 | 5143 |
| 20° | 4796 | 5016 | 5155 |
| 25° | 4662 | 4965 | 5147 |
| 30° | 4505 | 4902 | 5141 |
| 35° | 4343 | 4830 | 5158 |
| 40° | 4158 | 4770 | 5174 |
| 45° | 3961 | 4710 | 5216 |
| 50° | 3789 | 4667 | 5256 |
| 55° | 3587 | 4630 | 5339 |
| 60° | 3399 | 4611 | 5395 |
| 65° | 3174 | 4574 | 5437 |
| 70° | 2917 | 4506 | 5512 |
| 75° | 2633 | 4387 | 5316 |
| 80° | 2258 | 3885 | 4003 |
| 85° | 1819 | 2288 | 1819 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 178.4 | 3.3 |
| 10°-20° | 510.1 | 9.5 |
| 20°-30° | 766.2 | 14.2 |
| 30°-40° | 913.7 | 17.0 |
| 40°-50° | 944.7 | 17.5 |
| 50°-60° | 868.5 | 16.1 |
| 60°-70° | 691.4 | 12.8 |
| 70°-80° | 422.5 | 7.8 |
| 80°-90° | 91.8 | 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° | 1454.7 | 27.0 |
| 0°-40° | 2368.4 | 44.0 |
| 0°-60° | 4181.7 | 77.6 |
| 0°-90° | 5387.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5387.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1882 | 1882 | 1882 | 1882 | 1882 | |
| 5° | 1862 | 1867 | 1879 | 1887 | 1890 | 177 |
| 15° | 1759 | 1780 | 1813 | 1839 | 1846 | 495 |
| 25° | 1570 | 1608 | 1672 | 1718 | 1734 | 722 |
| 35° | 1322 | 1378 | 1470 | 1547 | 1570 | 825 |
| 45° | 1041 | 1115 | 1238 | 1338 | 1371 | 805 |
| 55° | 764 | 849 | 987 | 1100 | 1138 | 684 |
| 65° | 498 | 583 | 718 | 818 | 854 | 494 |
| 75° | 253 | 327 | 422 | 496 | 511 | 270 |
| 85° | 59 | 72 | 74 | 64 | 59 | 68 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475300

CATALOG NUMBER: 22CZ2-55VHE-SQR-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1881.8 | 1881.8 | 1881.8 | 1881.8 | 1881.8 |
| 2.5° | 1871.7 | 1874.2 | 1881.8 | 1887.2 | 1887.2 |
| 5° | 1861.5 | 1866.6 | 1879.3 | 1887.2 | 1889.8 |
| 7.5° | 1846.2 | 1853.8 | 1871.7 | 1881.8 | 1884.7 |
| 10° | 1823.3 | 1833.5 | 1856.4 | 1871.7 | 1876.7 |
| 12.5° | 1795.0 | 1810.3 | 1838.6 | 1858.9 | 1864.0 |
| 15° | 1759.3 | 1779.7 | 1812.8 | 1838.6 | 1846.2 |
| 17.5° | 1718.3 | 1743.8 | 1784.8 | 1815.6 | 1825.8 |
| 20° | 1674.7 | 1700.5 | 1751.7 | 1787.3 | 1800.1 |
| 22.5° | 1623.8 | 1656.9 | 1715.8 | 1756.8 | 1767.0 |
| 25° | 1570.0 | 1608.2 | 1672.2 | 1718.3 | 1733.6 |
| 27.5° | 1511.2 | 1557.3 | 1626.3 | 1682.7 | 1695.4 |
| 30° | 1449.8 | 1498.5 | 1577.7 | 1639.1 | 1654.4 |
| 32.5° | 1385.8 | 1442.2 | 1526.5 | 1595.5 | 1616.2 |
| 35° | 1321.9 | 1378.2 | 1470.2 | 1547.1 | 1570.0 |
| 37.5° | 1247.8 | 1314.3 | 1416.7 | 1495.9 | 1523.9 |
| 40° | 1183.8 | 1247.8 | 1357.8 | 1444.7 | 1473.0 |
| 42.5° | 1112.2 | 1181.3 | 1296.4 | 1390.9 | 1424.3 |
| 45° | 1040.7 | 1114.8 | 1237.6 | 1337.5 | 1370.6 |
| 47.5° | 974.2 | 1048.3 | 1176.2 | 1281.2 | 1314.3 |
| 50° | 905.1 | 981.8 | 1114.8 | 1222.3 | 1255.4 |
| 52.5° | 831.0 | 915.3 | 1053.4 | 1160.9 | 1199.4 |
| 55° | 764.5 | 848.8 | 986.9 | 1099.5 | 1138.0 |
| 57.5° | 695.5 | 782.3 | 925.8 | 1033.0 | 1069.0 |
| 60° | 631.5 | 715.8 | 856.7 | 961.4 | 1002.5 |
| 62.5° | 562.5 | 649.3 | 787.4 | 889.8 | 928.3 |
| 65° | 498.5 | 583.1 | 718.4 | 818.3 | 853.9 |
| 67.5° | 434.6 | 519.2 | 646.8 | 741.6 | 782.3 |
| 70° | 370.7 | 455.3 | 572.7 | 664.9 | 700.6 |
| 72.5° | 314.6 | 388.8 | 501.1 | 585.7 | 618.8 |
| 75° | 253.2 | 327.4 | 421.9 | 496.0 | 511.3 |
| 77.5° | 196.9 | 263.4 | 342.6 | 375.7 | 381.1 |
| 80° | 145.7 | 196.9 | 250.7 | 258.3 | 258.3 |
| 82.5° | 97.0 | 135.5 | 155.9 | 158.4 | 155.9 |
| 85° | 58.9 | 71.6 | 74.1 | 63.9 | 58.9 |
| 87.5° | 20.4 | 20.4 | 12.7 | 7.6 | 2.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)