

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: P475376

Luminaire Tested: **14CZ2-60HE-UNV-L850-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475376
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14CZ2-60HE-UNV-L850-CD1-U
Description: 1'X4' TROFFER LED MODULE, HIGH EFFICIENCY,RIBBED LENS
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6083.2 lumens
Efficiency: N/A
Efficacy: 136.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.29 / 1.37
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

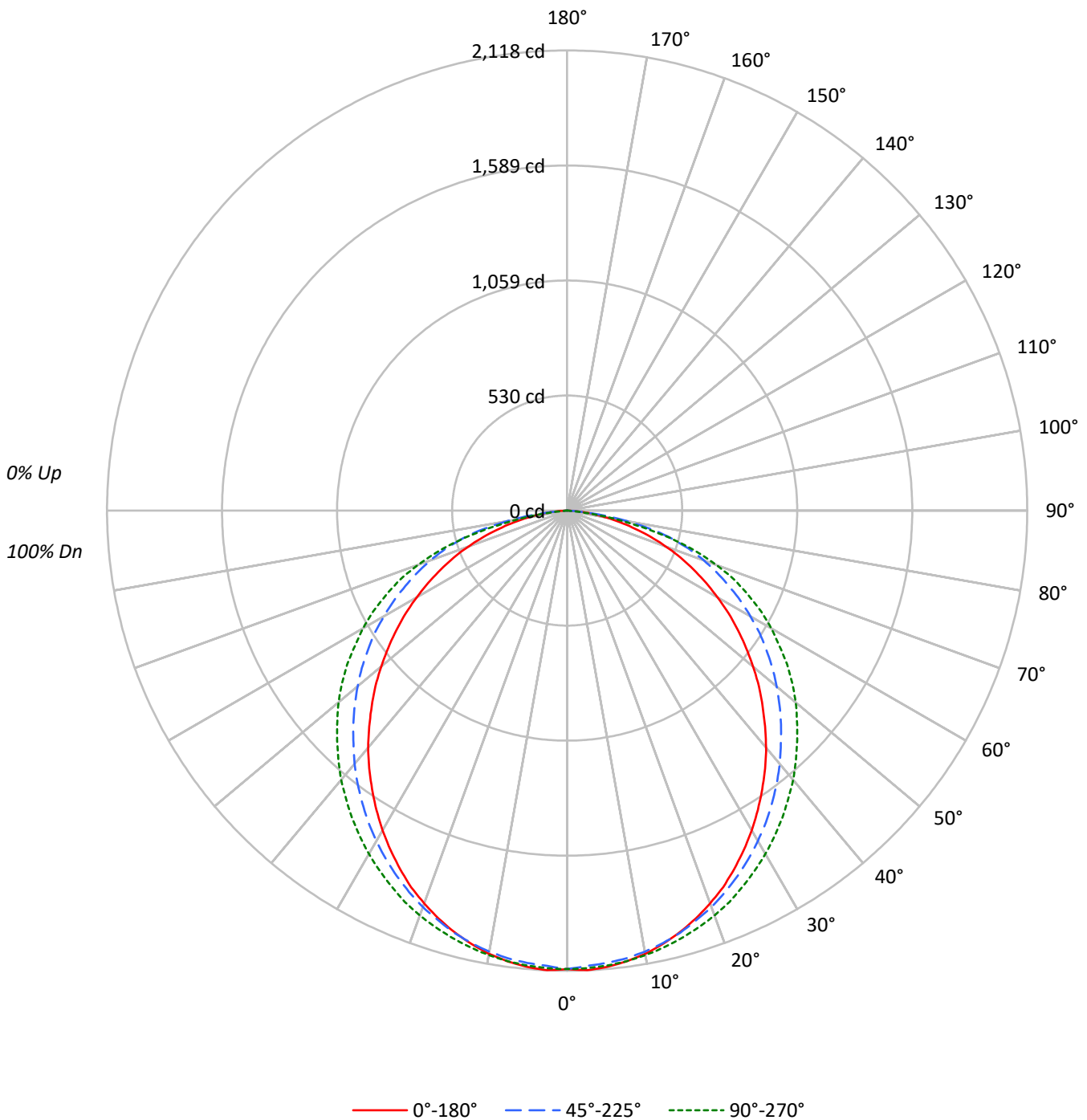
Input Watts (W): 44.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 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 | 42 |
| 6 | 69 | 56 | 47 | 40 | 68 | 55 | 46 | 40 | 53 | 46 | 40 | 51 | 45 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 29 | 55 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5679 | 5679 | 5679 |
| 5° | 5695 | 5646 | 5679 |
| 10° | 5661 | 5633 | 5677 |
| 15° | 5595 | 5604 | 5675 |
| 20° | 5509 | 5562 | 5679 |
| 25° | 5404 | 5510 | 5673 |
| 30° | 5281 | 5455 | 5671 |
| 35° | 5142 | 5399 | 5671 |
| 40° | 5004 | 5348 | 5684 |
| 45° | 4840 | 5297 | 5697 |
| 50° | 4675 | 5273 | 5750 |
| 55° | 4499 | 5249 | 5799 |
| 60° | 4300 | 5243 | 5841 |
| 65° | 4082 | 5230 | 5852 |
| 70° | 3800 | 5260 | 5740 |
| 75° | 3369 | 5191 | 5149 |
| 80° | 2827 | 4342 | 3505 |
| 85° | 1982 | 1698 | 408 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 199.6 | 3.3 |
| 10°-20° | 569.9 | 9.4 |
| 20°-30° | 858.7 | 14.1 |
| 30°-40° | 1030.7 | 16.9 |
| 40°-50° | 1073.0 | 17.6 |
| 50°-60° | 991.5 | 16.3 |
| 60°-70° | 794.1 | 13.1 |
| 70°-80° | 475.1 | 7.8 |
| 80°-90° | 90.6 | 1.5 |
| 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° | 1628.2 | 26.8 |
| 0°-40° | 2658.9 | 43.7 |
| 0°-60° | 4723.3 | 77.6 |
| 0°-90° | 6083.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6083.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2110 | 2110 | 2110 | 2110 | 2110 | |
| 5° | 2108 | 2103 | 2090 | 2105 | 2102 | 200 |
| 15° | 2008 | 2008 | 2012 | 2037 | 2037 | 566 |
| 25° | 1820 | 1830 | 1856 | 1902 | 1911 | 838 |
| 35° | 1565 | 1589 | 1644 | 1709 | 1726 | 979 |
| 45° | 1272 | 1309 | 1392 | 1474 | 1497 | 982 |
| 55° | 959 | 1011 | 1119 | 1206 | 1236 | 858 |
| 65° | 641 | 707 | 821 | 902 | 919 | 636 |
| 75° | 324 | 406 | 499 | 506 | 495 | 346 |
| 85° | 64 | 94 | 55 | 22 | 13 | 82 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475376

CATALOG NUMBER: 14CZ2-60HE-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2110.3 | 2110.3 | 2110.3 | 2110.3 | 2110.3 |
| 2.5° | 2117.5 | 2111.4 | 2098.1 | 2111.4 | 2108.3 |
| 5° | 2108.3 | 2103.2 | 2090.0 | 2105.3 | 2102.2 |
| 7.5° | 2093.0 | 2088.9 | 2078.8 | 2095.1 | 2092.0 |
| 10° | 2071.6 | 2068.6 | 2061.4 | 2079.8 | 2077.7 |
| 12.5° | 2042.1 | 2043.1 | 2039.0 | 2061.4 | 2059.4 |
| 15° | 2008.4 | 2008.4 | 2011.5 | 2037.0 | 2037.0 |
| 17.5° | 1968.7 | 1970.7 | 1976.9 | 2010.5 | 2011.5 |
| 20° | 1923.9 | 1929.0 | 1942.2 | 1976.9 | 1983.0 |
| 22.5° | 1876.0 | 1882.1 | 1900.4 | 1941.2 | 1950.4 |
| 25° | 1819.9 | 1830.1 | 1855.6 | 1902.5 | 1910.6 |
| 27.5° | 1760.8 | 1776.1 | 1807.7 | 1858.7 | 1868.8 |
| 30° | 1699.7 | 1716.0 | 1755.7 | 1810.8 | 1825.0 |
| 32.5° | 1633.5 | 1654.9 | 1702.7 | 1760.8 | 1777.1 |
| 35° | 1565.2 | 1588.6 | 1643.6 | 1708.9 | 1726.2 |
| 37.5° | 1496.9 | 1522.4 | 1584.5 | 1654.9 | 1672.2 |
| 40° | 1424.6 | 1454.1 | 1522.4 | 1594.7 | 1618.2 |
| 42.5° | 1348.1 | 1380.7 | 1456.2 | 1535.6 | 1558.1 |
| 45° | 1271.7 | 1309.4 | 1392.0 | 1474.5 | 1496.9 |
| 47.5° | 1197.3 | 1236.0 | 1325.7 | 1411.3 | 1434.8 |
| 50° | 1116.8 | 1161.7 | 1259.5 | 1344.1 | 1373.6 |
| 52.5° | 1038.4 | 1088.3 | 1191.2 | 1276.8 | 1306.4 |
| 55° | 958.9 | 1010.8 | 1118.9 | 1205.5 | 1236.0 |
| 57.5° | 881.4 | 936.5 | 1050.6 | 1136.2 | 1157.6 |
| 60° | 798.9 | 859.0 | 974.2 | 1060.8 | 1085.2 |
| 62.5° | 721.5 | 783.6 | 899.8 | 983.3 | 1006.8 |
| 65° | 641.0 | 707.2 | 821.3 | 901.8 | 919.1 |
| 67.5° | 565.5 | 631.8 | 746.9 | 816.2 | 833.5 |
| 70° | 483.0 | 556.4 | 668.5 | 727.6 | 729.6 |
| 72.5° | 404.5 | 478.9 | 588.0 | 625.7 | 620.6 |
| 75° | 324.0 | 405.6 | 499.3 | 506.4 | 495.2 |
| 77.5° | 251.7 | 333.2 | 397.4 | 375.0 | 352.6 |
| 80° | 182.4 | 261.9 | 280.2 | 245.6 | 226.2 |
| 82.5° | 120.2 | 183.4 | 169.2 | 121.3 | 103.9 |
| 85° | 64.2 | 93.7 | 55.0 | 22.4 | 13.2 |
| 87.5° | 24.5 | 16.3 | 6.1 | 5.1 | 4.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)