

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: P#

Luminaire Tested: **24CZ-LD5-40SE-S-UNV-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25694)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-40SE-S-UNV-L850-CD1-U
Description: CRUZE 2x4 LED TROFFER

Light Source: -
Ballast/Driver: -

Summary

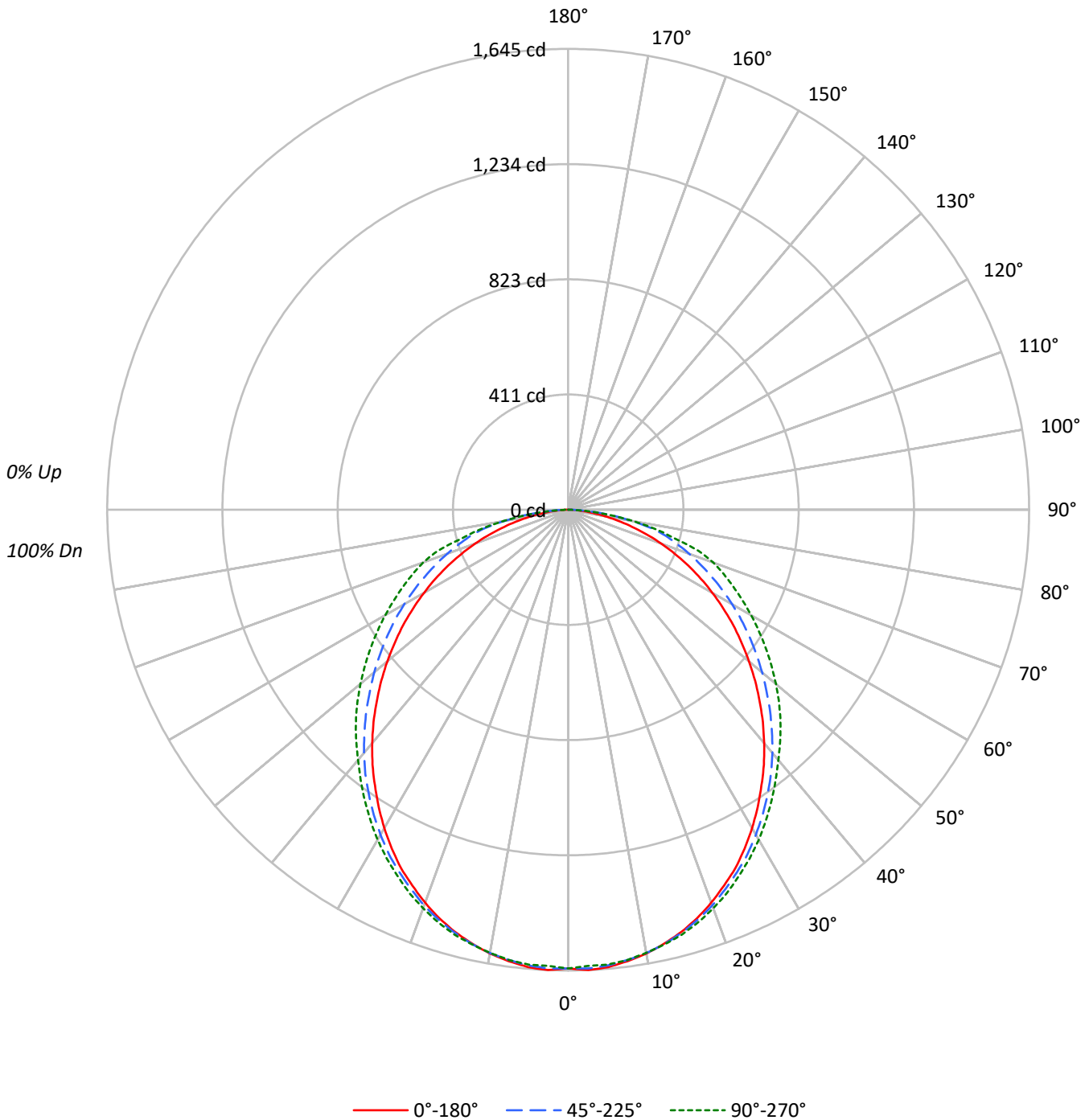
Lumens per Lamp: N/A
Luminaire Lumens: 4523.0 lumens
Efficiency: N/A
Efficacy: 139.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 4' x H: 0.1')
CIE Type: Direct

Input Watts (W): 32.55
Input Voltage (V): NR
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



TEST NUMBER: P#
CATALOG NUMBER: 24CZ-LD5-40SE-S-UNV-L850-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-40SE-S-UNV-L850-CD1-U

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| RF | 20 | | | | 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 | 50 | 30 | 10 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | |
| 1 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 | 83 | |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 | 69 | |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 | 58 | |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 52 | 62 | 56 | 52 | 50 | 50 | |
| 5 | 76 | 63 | 53 | 47 | 73 | 61 | 53 | 47 | 59 | 52 | 46 | 57 | 51 | 45 | 55 | 50 | 45 | 43 | 43 | |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 54 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 38 | 38 | |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 35 | 46 | 40 | 35 | 33 | 33 | |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 | 30 | |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 | 27 | |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 | 24 | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2203 | 2203 | 2203 |
| 5° | 2209 | 2195 | 2192 |
| 10° | 2188 | 2176 | 2175 |
| 15° | 2160 | 2148 | 2158 |
| 20° | 2118 | 2112 | 2129 |
| 25° | 2072 | 2067 | 2092 |
| 30° | 2010 | 2019 | 2054 |
| 35° | 1941 | 1964 | 2009 |
| 40° | 1872 | 1906 | 1966 |
| 45° | 1794 | 1841 | 1942 |
| 50° | 1713 | 1778 | 1912 |
| 55° | 1629 | 1720 | 1885 |
| 60° | 1533 | 1665 | 1867 |
| 65° | 1428 | 1613 | 1870 |
| 70° | 1296 | 1576 | 1905 |
| 75° | 1124 | 1561 | 1701 |
| 80° | 898 | 1363 | 1417 |
| 85° | 597 | 882 | 828 |



TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-40SE-S-UNV-L850-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 154.8 | 3.4 |
| 10°-20° | 440.3 | 9.7 |
| 20°-30° | 656.1 | 14.5 |
| 30°-40° | 772.4 | 17.1 |
| 40°-50° | 784.9 | 17.4 |
| 50°-60° | 705.7 | 15.6 |
| 60°-70° | 557.5 | 12.3 |
| 70°-80° | 353.7 | 7.8 |
| 80°-90° | 97.6 | 2.2 |
| 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° | 1251.2 | 27.7 |
| 0°-40° | 2023.6 | 44.7 |
| 0°-60° | 3514.2 | 77.7 |
| 0°-90° | 4523.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4523.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1637 | 1637 | 1637 | 1637 | 1637 | |
| 5° | 1639 | 1625 | 1633 | 1630 | 1630 | 155 |
| 15° | 1561 | 1553 | 1564 | 1568 | 1570 | 440 |
| 25° | 1412 | 1410 | 1427 | 1436 | 1442 | 649 |
| 35° | 1202 | 1210 | 1240 | 1254 | 1266 | 752 |
| 45° | 966 | 980 | 1019 | 1049 | 1072 | 746 |
| 55° | 719 | 737 | 789 | 840 | 861 | 642 |
| 65° | 473 | 497 | 564 | 626 | 650 | 468 |
| 75° | 236 | 277 | 360 | 391 | 388 | 252 |
| 85° | 50 | 86 | 92 | 84 | 84 | 61 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-40SE-S-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1637.4 | 1637.4 | 1637.4 | 1637.4 | 1637.4 |
| 2.5° | 1644.9 | 1632.9 | 1638.9 | 1635.9 | 1629.9 |
| 5° | 1638.9 | 1625.4 | 1632.9 | 1629.9 | 1629.9 |
| 7.5° | 1625.4 | 1614.8 | 1620.9 | 1619.4 | 1620.9 |
| 10° | 1608.8 | 1598.3 | 1607.3 | 1607.3 | 1605.8 |
| 12.5° | 1586.2 | 1577.2 | 1587.8 | 1587.8 | 1589.3 |
| 15° | 1560.7 | 1553.1 | 1563.7 | 1568.2 | 1569.7 |
| 17.5° | 1529.1 | 1521.5 | 1535.1 | 1539.6 | 1544.1 |
| 20° | 1492.9 | 1489.9 | 1503.5 | 1508.0 | 1514.0 |
| 22.5° | 1452.3 | 1452.3 | 1465.9 | 1471.9 | 1480.9 |
| 25° | 1411.7 | 1410.2 | 1426.7 | 1435.8 | 1441.8 |
| 27.5° | 1363.5 | 1365.0 | 1386.1 | 1395.1 | 1402.6 |
| 30° | 1312.3 | 1315.4 | 1339.4 | 1350.0 | 1360.5 |
| 32.5° | 1258.2 | 1264.2 | 1291.3 | 1303.3 | 1313.8 |
| 35° | 1202.5 | 1210.0 | 1240.1 | 1253.6 | 1265.7 |
| 37.5° | 1146.8 | 1157.3 | 1188.9 | 1202.5 | 1216.0 |
| 40° | 1088.1 | 1097.1 | 1133.2 | 1149.8 | 1166.4 |
| 42.5° | 1027.9 | 1039.9 | 1076.1 | 1100.1 | 1119.7 |
| 45° | 966.2 | 979.7 | 1018.9 | 1049.0 | 1071.5 |
| 47.5° | 904.5 | 922.6 | 960.2 | 1000.8 | 1020.4 |
| 50° | 842.8 | 860.8 | 903.0 | 948.1 | 967.7 |
| 52.5° | 779.6 | 797.6 | 845.8 | 892.5 | 913.5 |
| 55° | 719.4 | 737.4 | 788.6 | 839.8 | 860.8 |
| 57.5° | 656.2 | 675.7 | 732.9 | 785.6 | 806.7 |
| 60° | 594.5 | 614.0 | 675.7 | 731.4 | 754.0 |
| 62.5° | 534.3 | 555.3 | 620.1 | 678.7 | 701.3 |
| 65° | 472.6 | 496.6 | 564.4 | 626.1 | 650.2 |
| 67.5° | 412.4 | 439.5 | 510.2 | 574.9 | 600.5 |
| 70° | 352.2 | 383.8 | 459.0 | 525.2 | 550.8 |
| 72.5° | 293.5 | 328.1 | 407.8 | 474.1 | 487.6 |
| 75° | 236.3 | 276.9 | 359.7 | 391.3 | 388.3 |
| 77.5° | 182.1 | 227.3 | 305.5 | 311.5 | 320.6 |
| 80° | 132.4 | 182.1 | 228.8 | 240.8 | 234.8 |
| 82.5° | 87.3 | 137.0 | 164.0 | 158.0 | 156.5 |
| 85° | 49.7 | 85.8 | 91.8 | 84.3 | 84.3 |
| 87.5° | 21.1 | 34.6 | 30.1 | 22.6 | 21.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)