

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: P229967

Luminaire Tested: **24CZ-LD5-40-UNV-L950-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P229967
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-40-UNV-L950-CD1-U
Description: CRUZE 2x4 LED TROFFER
WITH RIBBED LENS
Light Source: (168) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3805.0 lumens
Efficiency: N/A
Efficacy: 131.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

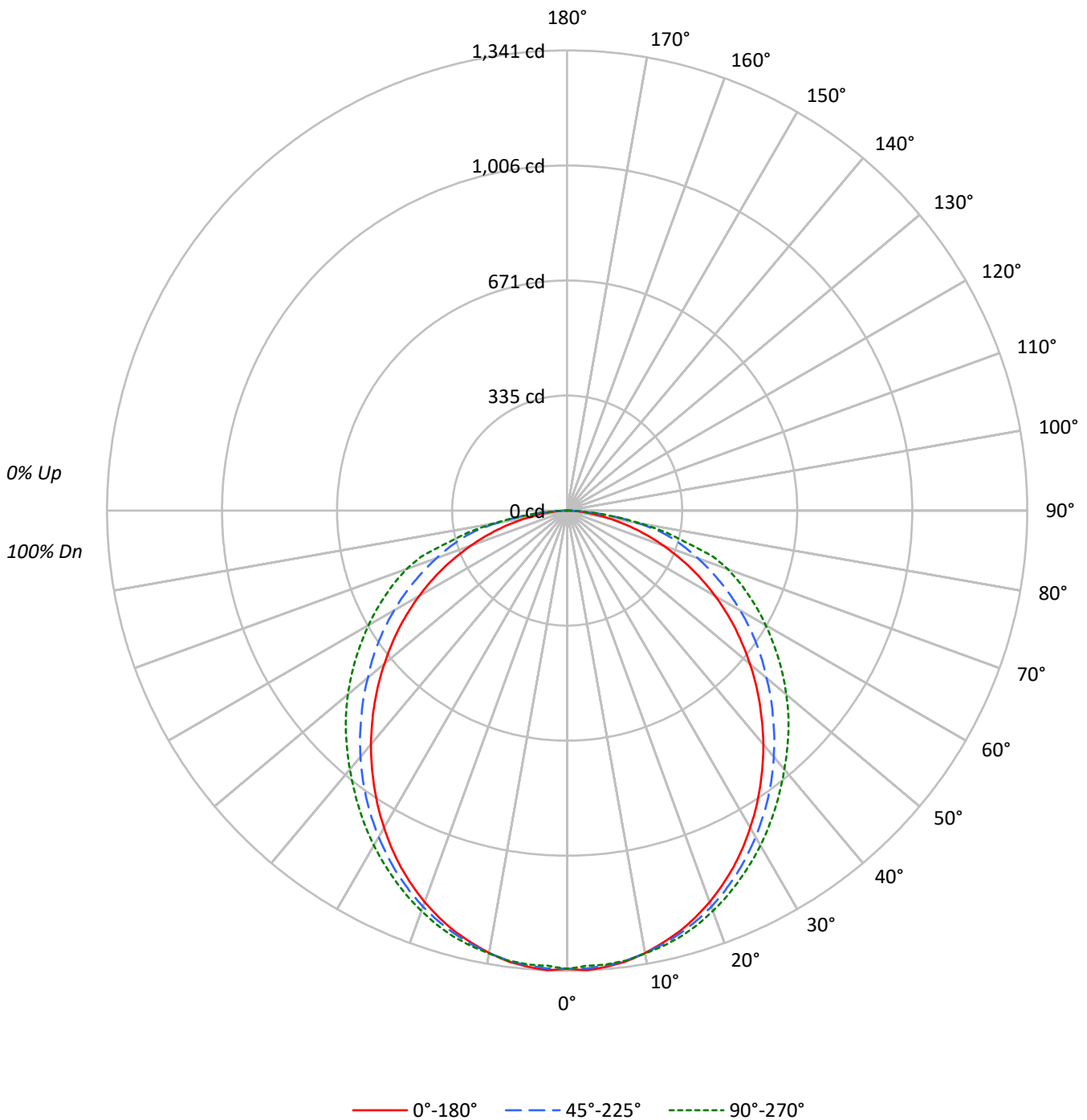
Input Watts (W): 29.04
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1797 | 1797 | 1797 |
| 5° | 1802 | 1796 | 1793 |
| 10° | 1789 | 1789 | 1791 |
| 15° | 1768 | 1777 | 1789 |
| 20° | 1739 | 1759 | 1778 |
| 25° | 1702 | 1735 | 1764 |
| 30° | 1658 | 1706 | 1751 |
| 35° | 1611 | 1678 | 1738 |
| 40° | 1563 | 1645 | 1730 |
| 45° | 1510 | 1614 | 1735 |
| 50° | 1456 | 1587 | 1745 |
| 55° | 1403 | 1577 | 1763 |
| 60° | 1339 | 1567 | 1798 |
| 65° | 1269 | 1568 | 1858 |
| 70° | 1173 | 1594 | 1958 |
| 75° | 1050 | 1666 | 1863 |
| 80° | 878 | 1595 | 1706 |
| 85° | 664 | 1227 | 1167 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 126.2 | 3.3 |
| 10°-20° | 359.1 | 9.4 |
| 20°-30° | 536.9 | 14.1 |
| 30°-40° | 636.9 | 16.7 |
| 40°-50° | 655.6 | 17.2 |
| 50°-60° | 601.4 | 15.8 |
| 60°-70° | 486.3 | 12.8 |
| 70°-80° | 315.6 | 8.3 |
| 80°-90° | 87.0 | 2.3 |
| 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° | 1022.2 | 26.9 |
| 0°-40° | 1659.2 | 43.6 |
| 0°-60° | 2916.1 | 76.6 |
| 0°-90° | 3805.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3805.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1335 | 1335 | 1335 | 1335 | 1335 | |
| 5° | 1334 | 1325 | 1330 | 1329 | 1328 | 127 |
| 15° | 1269 | 1264 | 1275 | 1281 | 1284 | 357 |
| 25° | 1146 | 1148 | 1169 | 1179 | 1188 | 528 |
| 35° | 981 | 989 | 1021 | 1044 | 1058 | 613 |
| 45° | 793 | 806 | 848 | 888 | 912 | 612 |
| 55° | 598 | 616 | 672 | 727 | 752 | 534 |
| 65° | 399 | 422 | 492 | 558 | 584 | 394 |
| 75° | 202 | 240 | 320 | 358 | 358 | 215 |
| 85° | 43 | 73 | 80 | 77 | 76 | 53 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P229967

CATALOG NUMBER: 24CZ-LD5-40-UNV-L950-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1335.4 | 1335.4 | 1335.4 | 1335.4 | 1335.4 |
| 2.5° | 1340.6 | 1330.1 | 1335.4 | 1334.1 | 1327.5 |
| 5° | 1334.1 | 1324.9 | 1330.1 | 1328.8 | 1327.5 |
| 7.5° | 1324.9 | 1315.8 | 1322.3 | 1321.0 | 1322.3 |
| 10° | 1309.3 | 1301.5 | 1309.3 | 1310.6 | 1310.6 |
| 12.5° | 1289.8 | 1283.2 | 1293.7 | 1296.3 | 1298.9 |
| 15° | 1268.9 | 1263.7 | 1275.4 | 1280.6 | 1284.5 |
| 17.5° | 1242.9 | 1239.0 | 1253.3 | 1259.8 | 1265.0 |
| 20° | 1214.2 | 1212.9 | 1228.5 | 1235.0 | 1241.6 |
| 22.5° | 1181.6 | 1181.6 | 1199.9 | 1207.7 | 1216.8 |
| 25° | 1146.5 | 1147.8 | 1168.6 | 1179.0 | 1188.1 |
| 27.5° | 1108.7 | 1110.0 | 1134.7 | 1147.8 | 1158.2 |
| 30° | 1067.0 | 1072.2 | 1098.2 | 1115.2 | 1126.9 |
| 32.5° | 1025.3 | 1031.8 | 1060.5 | 1080.0 | 1093.0 |
| 35° | 981.0 | 988.8 | 1021.4 | 1043.5 | 1057.9 |
| 37.5° | 935.4 | 944.5 | 979.7 | 1004.4 | 1021.4 |
| 40° | 889.8 | 900.2 | 936.7 | 965.4 | 984.9 |
| 42.5° | 841.6 | 853.3 | 893.7 | 927.6 | 948.4 |
| 45° | 793.4 | 806.4 | 848.1 | 888.5 | 912.0 |
| 47.5° | 745.2 | 760.8 | 805.1 | 849.4 | 874.2 |
| 50° | 695.7 | 711.3 | 758.2 | 809.0 | 833.8 |
| 52.5° | 646.2 | 664.4 | 716.5 | 768.6 | 793.4 |
| 55° | 598.0 | 616.2 | 672.2 | 727.0 | 751.7 |
| 57.5° | 548.5 | 566.7 | 627.9 | 685.3 | 710.0 |
| 60° | 497.7 | 518.5 | 582.3 | 641.0 | 668.3 |
| 62.5° | 448.2 | 470.3 | 538.1 | 600.6 | 626.6 |
| 65° | 398.7 | 422.1 | 492.5 | 557.6 | 583.6 |
| 67.5° | 347.8 | 375.2 | 448.2 | 514.6 | 542.0 |
| 70° | 298.3 | 328.3 | 405.2 | 471.6 | 497.7 |
| 72.5° | 250.1 | 282.7 | 362.2 | 429.9 | 445.6 |
| 75° | 201.9 | 239.7 | 320.5 | 358.3 | 358.3 |
| 77.5° | 156.3 | 198.0 | 273.6 | 287.9 | 295.7 |
| 80° | 113.3 | 158.9 | 205.8 | 222.8 | 220.2 |
| 82.5° | 75.6 | 121.2 | 147.2 | 147.2 | 143.3 |
| 85° | 43.0 | 73.0 | 79.5 | 76.9 | 75.6 |
| 87.5° | 18.2 | 27.4 | 24.8 | 19.5 | 16.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)