

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: P345094

Luminaire Tested: **24CZ-50SE-L830-HRP-UNV-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P345094
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1905-313-5)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-50SE-L830-HRP-UNV-CD1-U
Description: CRUZE 2X4 WITH HRP LENS INSERT
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4278.1 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.29 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

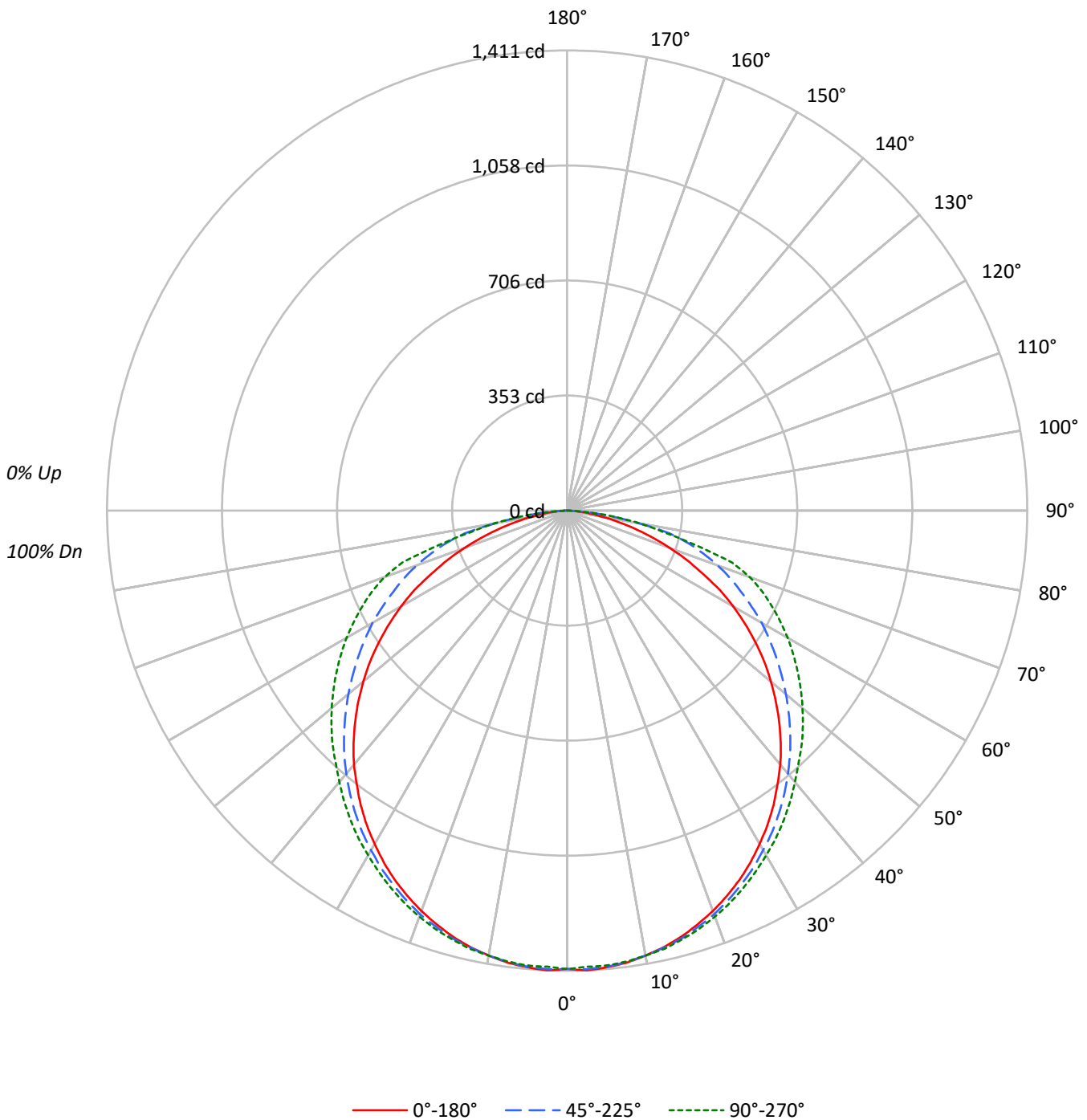
Input Watts (W): 46.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 105 | 101 | 97 | 93 | 97 | 93 | 90 | | 93 | 90 | 87 | | 89 | 87 | 85 | 83 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 81 | 75 | 84 | 78 | 74 | | 81 | 76 | 72 | | 77 | 74 | 70 | 68 |
| 3 | 89 | 78 | 70 | 63 | 86 | 76 | 69 | 62 | 73 | 67 | 61 | | 71 | 65 | 60 | | 68 | 63 | 59 | 57 |
| 4 | 81 | 69 | 60 | 53 | 79 | 68 | 59 | 52 | 65 | 58 | 52 | | 63 | 56 | 51 | | 60 | 55 | 50 | 48 |
| 5 | 75 | 61 | 52 | 45 | 72 | 60 | 52 | 45 | 58 | 50 | 44 | | 56 | 49 | 44 | | 54 | 48 | 43 | 41 |
| 6 | 69 | 55 | 46 | 39 | 67 | 54 | 45 | 39 | 52 | 45 | 39 | | 51 | 44 | 38 | | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 41 | 34 | 48 | 40 | 34 | | 46 | 39 | 34 | | 45 | 38 | 34 | 32 |
| 8 | 59 | 45 | 37 | 31 | 58 | 45 | 36 | 31 | 43 | 36 | 31 | | 42 | 35 | 30 | | 41 | 35 | 30 | 28 |
| 9 | 55 | 42 | 33 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 27 | | 39 | 32 | 27 | | 38 | 32 | 27 | 25 |
| 10 | 52 | 38 | 30 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | | 36 | 29 | 25 | | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1891 | 1891 | 1891 |
| 5° | 1898 | 1896 | 1891 |
| 10° | 1893 | 1893 | 1893 |
| 15° | 1884 | 1892 | 1897 |
| 20° | 1871 | 1887 | 1897 |
| 25° | 1855 | 1877 | 1896 |
| 30° | 1834 | 1868 | 1896 |
| 35° | 1812 | 1860 | 1902 |
| 40° | 1786 | 1851 | 1909 |
| 45° | 1751 | 1841 | 1935 |
| 50° | 1707 | 1834 | 1972 |
| 55° | 1655 | 1836 | 2025 |
| 60° | 1583 | 1854 | 2101 |
| 65° | 1465 | 1873 | 2205 |
| 70° | 1319 | 1932 | 2343 |
| 75° | 1115 | 1991 | 2096 |
| 80° | 866 | 1704 | 1760 |
| 85° | 622 | 1159 | 1019 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 133.2 | 3.1 |
| 10°-20° | 382.6 | 8.9 |
| 20°-30° | 581.8 | 13.6 |
| 30°-40° | 706.9 | 16.5 |
| 40°-50° | 746.1 | 17.4 |
| 50°-60° | 701.0 | 16.4 |
| 60°-70° | 577.1 | 13.5 |
| 70°-80° | 363.6 | 8.5 |
| 80°-90° | 85.8 | 2.0 |
| 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° | 1097.6 | 25.7 |
| 0°-40° | 1804.5 | 42.2 |
| 0°-60° | 3251.6 | 76.0 |
| 0°-90° | 4278.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4278.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1406 | 1406 | 1406 | 1406 | 1406 | |
| 5° | 1406 | 1398 | 1404 | 1402 | 1400 | 134 |
| 15° | 1352 | 1347 | 1358 | 1362 | 1362 | 382 |
| 25° | 1250 | 1248 | 1264 | 1272 | 1277 | 576 |
| 35° | 1103 | 1109 | 1132 | 1147 | 1158 | 690 |
| 45° | 920 | 935 | 968 | 995 | 1017 | 709 |
| 55° | 706 | 731 | 782 | 838 | 863 | 630 |
| 65° | 460 | 504 | 588 | 663 | 693 | 457 |
| 75° | 214 | 280 | 383 | 418 | 403 | 229 |
| 85° | 40 | 68 | 75 | 70 | 66 | 51 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P345094

CATALOG NUMBER: 24CZ-50SE-L830-HRP-UNV-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1405.6 | 1405.6 | 1405.6 | 1405.6 | 1405.6 |
| 2.5° | 1411.1 | 1401.9 | 1407.4 | 1405.6 | 1400.1 |
| 5° | 1405.6 | 1398.3 | 1403.8 | 1401.9 | 1400.1 |
| 7.5° | 1398.3 | 1390.9 | 1396.4 | 1394.6 | 1394.6 |
| 10° | 1385.4 | 1379.9 | 1385.4 | 1385.4 | 1385.4 |
| 12.5° | 1370.8 | 1365.3 | 1372.6 | 1374.5 | 1376.3 |
| 15° | 1352.5 | 1347.0 | 1358.0 | 1361.6 | 1361.6 |
| 17.5° | 1330.5 | 1326.8 | 1337.8 | 1341.5 | 1345.1 |
| 20° | 1306.6 | 1304.8 | 1317.6 | 1321.3 | 1325.0 |
| 22.5° | 1279.2 | 1279.2 | 1292.0 | 1295.6 | 1303.0 |
| 25° | 1249.8 | 1248.0 | 1264.5 | 1271.8 | 1277.3 |
| 27.5° | 1216.8 | 1216.8 | 1235.2 | 1244.3 | 1249.8 |
| 30° | 1180.2 | 1183.9 | 1202.2 | 1213.2 | 1220.5 |
| 32.5° | 1143.5 | 1147.2 | 1169.2 | 1182.0 | 1191.2 |
| 35° | 1103.2 | 1108.7 | 1132.5 | 1147.2 | 1158.2 |
| 37.5° | 1059.2 | 1068.4 | 1094.1 | 1110.6 | 1123.4 |
| 40° | 1017.1 | 1024.4 | 1053.7 | 1072.1 | 1086.7 |
| 42.5° | 969.4 | 982.3 | 1011.6 | 1033.6 | 1050.1 |
| 45° | 920.0 | 934.6 | 967.6 | 995.1 | 1017.1 |
| 47.5° | 868.7 | 887.0 | 921.8 | 958.5 | 980.4 |
| 50° | 815.5 | 835.7 | 876.0 | 920.0 | 942.0 |
| 52.5° | 762.4 | 784.4 | 828.3 | 879.6 | 903.5 |
| 55° | 705.6 | 731.2 | 782.5 | 837.5 | 863.2 |
| 57.5° | 646.9 | 676.2 | 734.9 | 797.2 | 822.8 |
| 60° | 588.3 | 619.4 | 689.1 | 751.4 | 780.7 |
| 62.5° | 527.8 | 562.6 | 637.7 | 709.2 | 736.7 |
| 65° | 460.0 | 504.0 | 588.3 | 663.4 | 692.7 |
| 67.5° | 397.7 | 443.5 | 540.6 | 615.8 | 646.9 |
| 70° | 335.4 | 388.5 | 491.1 | 566.3 | 595.6 |
| 72.5° | 273.1 | 335.4 | 436.2 | 513.1 | 529.6 |
| 75° | 214.4 | 280.4 | 383.0 | 417.8 | 403.2 |
| 77.5° | 157.6 | 230.9 | 322.5 | 304.2 | 300.5 |
| 80° | 111.8 | 183.3 | 219.9 | 221.7 | 227.2 |
| 82.5° | 71.5 | 135.6 | 142.9 | 144.8 | 146.6 |
| 85° | 40.3 | 67.8 | 75.1 | 69.6 | 66.0 |
| 87.5° | 18.3 | 22.0 | 18.3 | 12.8 | 11.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)