

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: P345176

Luminaire Tested: **14CZ-44-L840-HRP-UNV-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P345176  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1905-313-1)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 14CZ-44-L840-HRP-UNV-CD1-U  
Description: CRUZE 1X4 WITH HRP LENS INSERT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3939.7 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.28 / 1.4  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

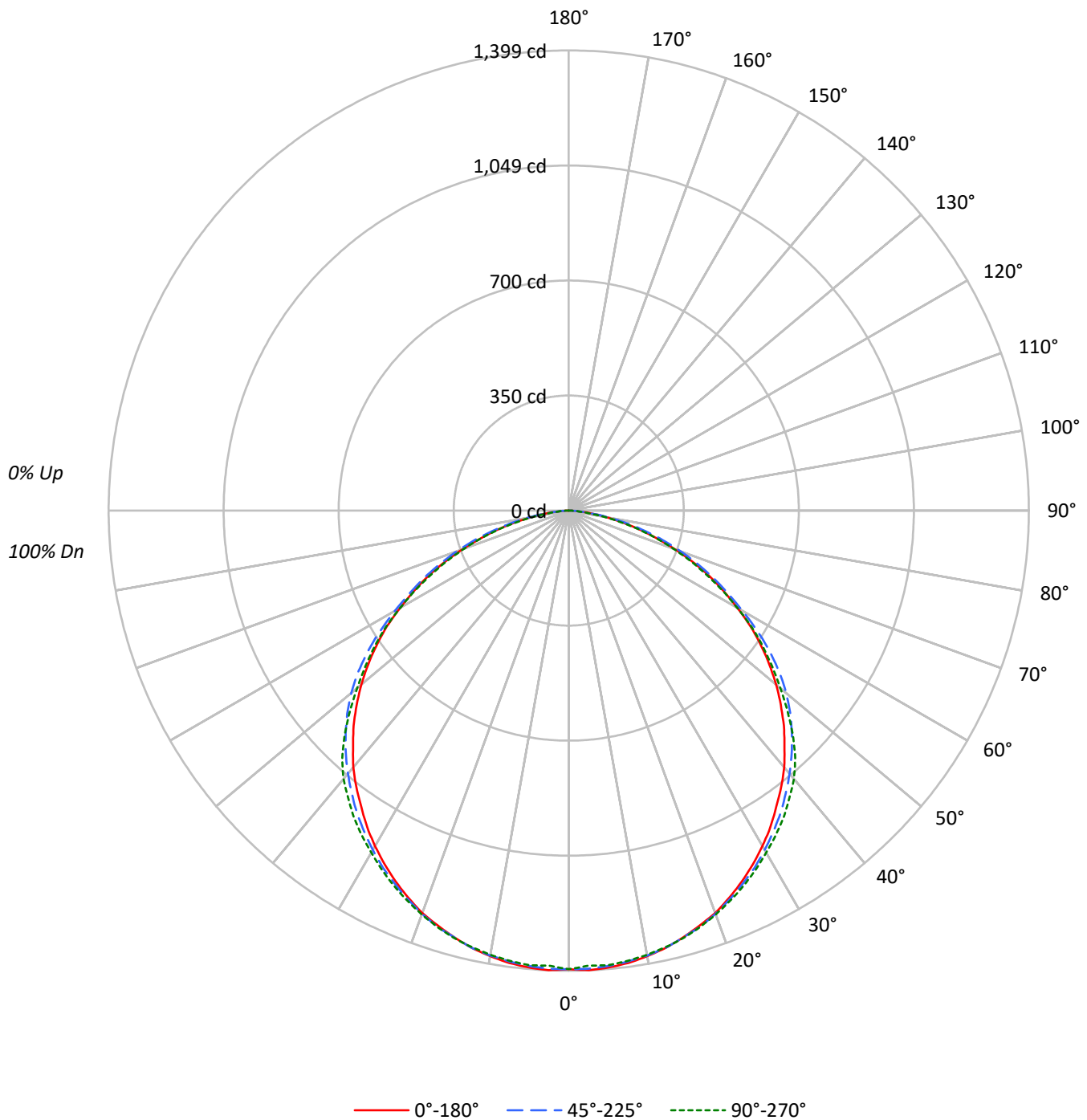
Input Watts (W): 41.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |     |  | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 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 |  | 100 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  |  | 94  | 91  | 89  |  | 84  |
| 2   | 99  | 91  | 84  | 79  | 97  | 89  | 83  | 78  | 86  | 80  | 76  |  | 82  | 78  | 74  |  | 70  |
| 3   | 90  | 80  | 72  | 65  | 88  | 78  | 71  | 65  | 75  | 69  | 64  |  | 73  | 67  | 63  |  | 59  |
| 4   | 83  | 71  | 62  | 55  | 81  | 70  | 61  | 55  | 67  | 60  | 54  |  | 65  | 59  | 54  |  | 51  |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 53  | 47  |  | 58  | 52  | 46  |  | 44  |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 41  | 54  | 47  | 41  |  | 53  | 46  | 41  |  | 38  |
| 7   | 65  | 52  | 43  | 37  | 63  | 51  | 43  | 37  | 49  | 42  | 36  |  | 48  | 41  | 36  |  | 34  |
| 8   | 61  | 47  | 39  | 33  | 59  | 46  | 38  | 33  | 45  | 38  | 32  |  | 44  | 37  | 32  |  | 30  |
| 9   | 57  | 43  | 35  | 29  | 55  | 43  | 35  | 29  | 41  | 34  | 29  |  | 40  | 34  | 29  |  | 27  |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 27  | 38  | 31  | 26  |  | 37  | 31  | 26  |  | 24  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3752 | 3752 | 3752 |
| 5°  | 3766 | 3753 | 3747 |
| 10° | 3759 | 3753 | 3747 |
| 15° | 3743 | 3743 | 3749 |
| 20° | 3729 | 3735 | 3742 |
| 25° | 3695 | 3716 | 3736 |
| 30° | 3660 | 3703 | 3732 |
| 35° | 3613 | 3688 | 3741 |
| 40° | 3580 | 3669 | 3742 |
| 45° | 3519 | 3651 | 3668 |
| 50° | 3448 | 3612 | 3515 |
| 55° | 3346 | 3497 | 3378 |
| 60° | 3182 | 3281 | 3182 |
| 65° | 3003 | 3091 | 2944 |
| 70° | 2697 | 2842 | 2661 |
| 75° | 2321 | 2512 | 2273 |
| 80° | 1818 | 1960 | 1640 |
| 85° | 1278 | 1136 | 994  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 132.0  | 3.3       |
| 10°-20°   | 379.0  | 9.6       |
| 20°-30°   | 575.9  | 14.6      |
| 30°-40°   | 699.6  | 17.8      |
| 40°-50°   | 730.7  | 18.5      |
| 50°-60°   | 649.9  | 16.5      |
| 60°-70°   | 474.3  | 12.0      |
| 70°-80°   | 247.4  | 6.3       |
| 80°-90°   | 51.1   | 1.3       |
| 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°    | 1086.9 | 27.6      |
| 0°-40°    | 1786.4 | 45.3      |
| 0°-60°    | 3167.0 | 80.4      |
| 0°-90°    | 3939.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3939.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1394 | 1394  | 1394 | 1394  | 1394 |      |
| 5°  | 1394 | 1385  | 1390 | 1387  | 1387 | 133  |
| 15° | 1344 | 1337  | 1344 | 1346  | 1346 | 379  |
| 25° | 1245 | 1240  | 1252 | 1254  | 1258 | 574  |
| 35° | 1100 | 1100  | 1123 | 1130  | 1139 | 689  |
| 45° | 925  | 927   | 959  | 966   | 964  | 713  |
| 55° | 713  | 727   | 745  | 725   | 720  | 636  |
| 65° | 472  | 497   | 485  | 472   | 462  | 464  |
| 75° | 223  | 244   | 242  | 226   | 219  | 238  |
| 85° | 41   | 46    | 37   | 32    | 32   | 52   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1394.2 | 1394.2 | 1394.2 | 1394.2 | 1394.2 |
| 2.5°  | 1398.8 | 1389.5 | 1394.2 | 1391.9 | 1384.9 |
| 5°    | 1394.2 | 1384.9 | 1389.5 | 1387.2 | 1387.2 |
| 7.5°  | 1387.2 | 1378.0 | 1382.6 | 1380.3 | 1380.3 |
| 10°   | 1375.7 | 1366.5 | 1373.4 | 1371.1 | 1371.1 |
| 12.5° | 1361.9 | 1352.7 | 1361.9 | 1359.6 | 1359.6 |
| 15°   | 1343.5 | 1336.6 | 1343.5 | 1345.8 | 1345.8 |
| 17.5° | 1322.8 | 1318.2 | 1327.4 | 1327.4 | 1327.4 |
| 20°   | 1302.1 | 1295.2 | 1304.4 | 1304.4 | 1306.7 |
| 22.5° | 1274.5 | 1267.6 | 1279.1 | 1276.8 | 1283.7 |
| 25°   | 1244.6 | 1240.0 | 1251.5 | 1253.8 | 1258.4 |
| 27.5° | 1212.4 | 1210.1 | 1223.9 | 1226.2 | 1230.8 |
| 30°   | 1177.9 | 1173.3 | 1191.7 | 1194.0 | 1200.9 |
| 32.5° | 1141.1 | 1141.1 | 1157.2 | 1161.8 | 1171.0 |
| 35°   | 1099.7 | 1099.7 | 1122.7 | 1129.6 | 1138.8 |
| 37.5° | 1060.6 | 1060.6 | 1083.6 | 1095.1 | 1102.0 |
| 40°   | 1019.2 | 1019.2 | 1044.5 | 1056.0 | 1065.2 |
| 42.5° | 970.8  | 973.1  | 1003.1 | 1014.6 | 1019.2 |
| 45°   | 924.8  | 927.1  | 959.3  | 966.2  | 963.9  |
| 47.5° | 874.2  | 881.1  | 913.3  | 908.7  | 901.8  |
| 50°   | 823.6  | 830.5  | 862.7  | 844.3  | 839.7  |
| 52.5° | 768.4  | 779.9  | 807.5  | 782.2  | 779.9  |
| 55°   | 713.2  | 727.0  | 745.4  | 724.7  | 720.1  |
| 57.5° | 655.7  | 674.1  | 678.7  | 664.9  | 660.3  |
| 60°   | 591.2  | 616.6  | 609.7  | 598.2  | 591.2  |
| 62.5° | 531.4  | 554.4  | 545.2  | 533.7  | 526.8  |
| 65°   | 471.6  | 496.9  | 485.4  | 471.6  | 462.4  |
| 67.5° | 407.2  | 437.1  | 423.3  | 407.2  | 400.3  |
| 70°   | 342.8  | 368.1  | 361.2  | 345.1  | 338.2  |
| 72.5° | 280.7  | 303.7  | 301.4  | 285.3  | 278.4  |
| 75°   | 223.2  | 243.9  | 241.6  | 225.5  | 218.6  |
| 77.5° | 167.9  | 188.6  | 181.7  | 167.9  | 161.0  |
| 80°   | 117.3  | 135.7  | 126.5  | 112.7  | 105.8  |
| 82.5° | 75.9   | 85.1   | 75.9   | 64.4   | 59.8   |
| 85°   | 41.4   | 46.0   | 36.8   | 32.2   | 32.2   |
| 87.5° | 13.8   | 16.1   | 16.1   | 16.1   | 16.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)