

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: P345170

Luminaire Tested: **14CZ-39-L830-HRP-UNV-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P345170  
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-39-L830-HRP-UNV-CD1-U  
Description: CRUZE 1X4 WITH HRP LENS INSERT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3446.1 lumens  
Efficiency: N/A  
Efficacy: 96.5 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

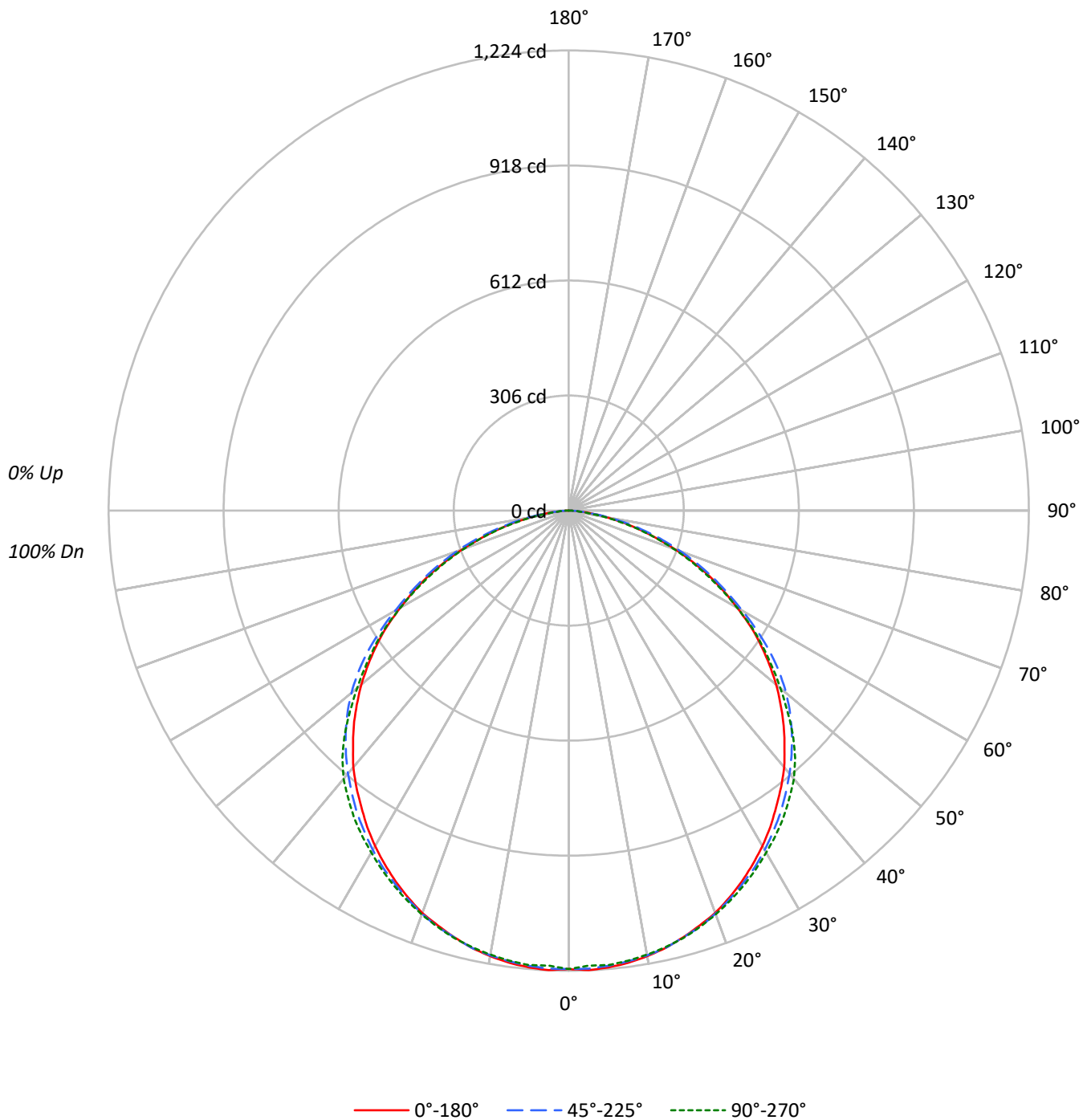
Input Watts (W): 35.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |  |  |
| 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 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84  |  |  |
| 2   | 99  | 91  | 84  | 79  | 97  | 89  | 83  | 78  | 86  | 80  | 76  | 82  | 78  | 74  | 79  | 76  | 73  | 70  |  |  |
| 3   | 90  | 80  | 72  | 65  | 88  | 78  | 71  | 65  | 75  | 69  | 64  | 73  | 67  | 63  | 70  | 66  | 62  | 59  |  |  |
| 4   | 83  | 71  | 62  | 55  | 81  | 70  | 61  | 55  | 67  | 60  | 54  | 65  | 59  | 54  | 63  | 57  | 53  | 51  |  |  |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 53  | 47  | 58  | 52  | 46  | 56  | 51  | 46  | 44  |  |  |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 41  | 54  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 38  |  |  |
| 7   | 65  | 52  | 43  | 37  | 63  | 51  | 43  | 37  | 49  | 42  | 36  | 48  | 41  | 36  | 46  | 40  | 36  | 34  |  |  |
| 8   | 61  | 47  | 39  | 33  | 59  | 46  | 38  | 33  | 45  | 38  | 32  | 44  | 37  | 32  | 43  | 37  | 32  | 30  |  |  |
| 9   | 57  | 43  | 35  | 29  | 55  | 43  | 35  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 39  | 33  | 29  | 27  |  |  |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 27  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 31  | 26  | 24  |  |  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3282 | 3282 | 3282 |
| 5°  | 3294 | 3283 | 3278 |
| 10° | 3288 | 3283 | 3277 |
| 15° | 3274 | 3274 | 3280 |
| 20° | 3262 | 3267 | 3273 |
| 25° | 3233 | 3250 | 3268 |
| 30° | 3201 | 3239 | 3264 |
| 35° | 3160 | 3226 | 3272 |
| 40° | 3131 | 3209 | 3273 |
| 45° | 3078 | 3193 | 3209 |
| 50° | 3016 | 3159 | 3075 |
| 55° | 2927 | 3059 | 2955 |
| 60° | 2784 | 2870 | 2784 |
| 65° | 2627 | 2704 | 2576 |
| 70° | 2359 | 2485 | 2327 |
| 75° | 2030 | 2197 | 1988 |
| 80° | 1590 | 1715 | 1435 |
| 85° | 1118 | 994  | 871  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 115.4  | 3.3       |
| 10°-20°   | 331.5  | 9.6       |
| 20°-30°   | 503.7  | 14.6      |
| 30°-40°   | 611.9  | 17.8      |
| 40°-50°   | 639.1  | 18.5      |
| 50°-60°   | 568.4  | 16.5      |
| 60°-70°   | 414.9  | 12.0      |
| 70°-80°   | 216.4  | 6.3       |
| 80°-90°   | 44.7   | 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°    | 950.7  | 27.6      |
| 0°-40°    | 1562.6 | 45.3      |
| 0°-60°    | 2770.1 | 80.4      |
| 0°-90°    | 3446.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3446.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1220 | 1220  | 1220 | 1220  | 1220 |      |
| 5°  | 1220 | 1211  | 1215 | 1213  | 1213 | 116  |
| 15° | 1175 | 1169  | 1175 | 1177  | 1177 | 332  |
| 25° | 1089 | 1085  | 1095 | 1097  | 1101 | 502  |
| 35° | 962  | 962   | 982  | 988   | 996  | 603  |
| 45° | 809  | 811   | 839  | 845   | 843  | 623  |
| 55° | 624  | 636   | 652  | 634   | 630  | 556  |
| 65° | 412  | 435   | 425  | 412   | 404  | 406  |
| 75° | 195  | 213   | 211  | 197   | 191  | 208  |
| 85° | 36   | 40    | 32   | 28    | 28   | 45   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1219.5 | 1219.5 | 1219.5 | 1219.5 | 1219.5 |
| 2.5°  | 1223.5 | 1215.4 | 1219.5 | 1217.4 | 1211.4 |
| 5°    | 1219.5 | 1211.4 | 1215.4 | 1213.4 | 1213.4 |
| 7.5°  | 1213.4 | 1205.4 | 1209.4 | 1207.4 | 1207.4 |
| 10°   | 1203.4 | 1195.3 | 1201.3 | 1199.3 | 1199.3 |
| 12.5° | 1191.3 | 1183.2 | 1191.3 | 1189.3 | 1189.3 |
| 15°   | 1175.2 | 1169.1 | 1175.2 | 1177.2 | 1177.2 |
| 17.5° | 1157.1 | 1153.0 | 1161.1 | 1161.1 | 1161.1 |
| 20°   | 1139.0 | 1132.9 | 1141.0 | 1141.0 | 1143.0 |
| 22.5° | 1114.8 | 1108.8 | 1118.8 | 1116.8 | 1122.9 |
| 25°   | 1088.7 | 1084.6 | 1094.7 | 1096.7 | 1100.7 |
| 27.5° | 1060.5 | 1058.5 | 1070.5 | 1072.6 | 1076.6 |
| 30°   | 1030.3 | 1026.3 | 1042.4 | 1044.4 | 1050.4 |
| 32.5° | 998.1  | 998.1  | 1012.2 | 1016.2 | 1024.3 |
| 35°   | 961.9  | 961.9  | 982.0  | 988.0  | 996.1  |
| 37.5° | 927.7  | 927.7  | 947.8  | 957.9  | 963.9  |
| 40°   | 891.4  | 891.4  | 913.6  | 923.6  | 931.7  |
| 42.5° | 849.2  | 851.2  | 877.4  | 887.4  | 891.4  |
| 45°   | 808.9  | 811.0  | 839.1  | 845.2  | 843.2  |
| 47.5° | 764.7  | 770.7  | 798.9  | 794.9  | 788.8  |
| 50°   | 720.4  | 726.4  | 754.6  | 738.5  | 734.5  |
| 52.5° | 672.1  | 682.2  | 706.3  | 684.2  | 682.2  |
| 55°   | 623.8  | 635.9  | 652.0  | 633.9  | 629.9  |
| 57.5° | 573.5  | 589.6  | 593.6  | 581.6  | 577.5  |
| 60°   | 517.2  | 539.3  | 533.3  | 523.2  | 517.2  |
| 62.5° | 464.8  | 485.0  | 476.9  | 466.9  | 460.8  |
| 65°   | 412.5  | 434.7  | 424.6  | 412.5  | 404.5  |
| 67.5° | 356.2  | 382.3  | 370.3  | 356.2  | 350.1  |
| 70°   | 299.8  | 322.0  | 315.9  | 301.8  | 295.8  |
| 72.5° | 245.5  | 265.6  | 263.6  | 249.5  | 243.5  |
| 75°   | 195.2  | 213.3  | 211.3  | 197.2  | 191.2  |
| 77.5° | 146.9  | 165.0  | 159.0  | 146.9  | 140.9  |
| 80°   | 102.6  | 118.7  | 110.7  | 98.6   | 92.6   |
| 82.5° | 66.4   | 74.5   | 66.4   | 56.3   | 52.3   |
| 85°   | 36.2   | 40.2   | 32.2   | 28.2   | 28.2   |
| 87.5° | 12.1   | 14.1   | 14.1   | 14.1   | 14.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)