

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: P345169

Luminaire Tested: **14CZ-35-L850-HRP-UNV-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P345169  
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-35-L850-HRP-UNV-CD1-U  
Description: CRUZE 1X4 WITH HRP LENS INSERT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3479.4 lumens  
Efficiency: N/A  
Efficacy: 110.5 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

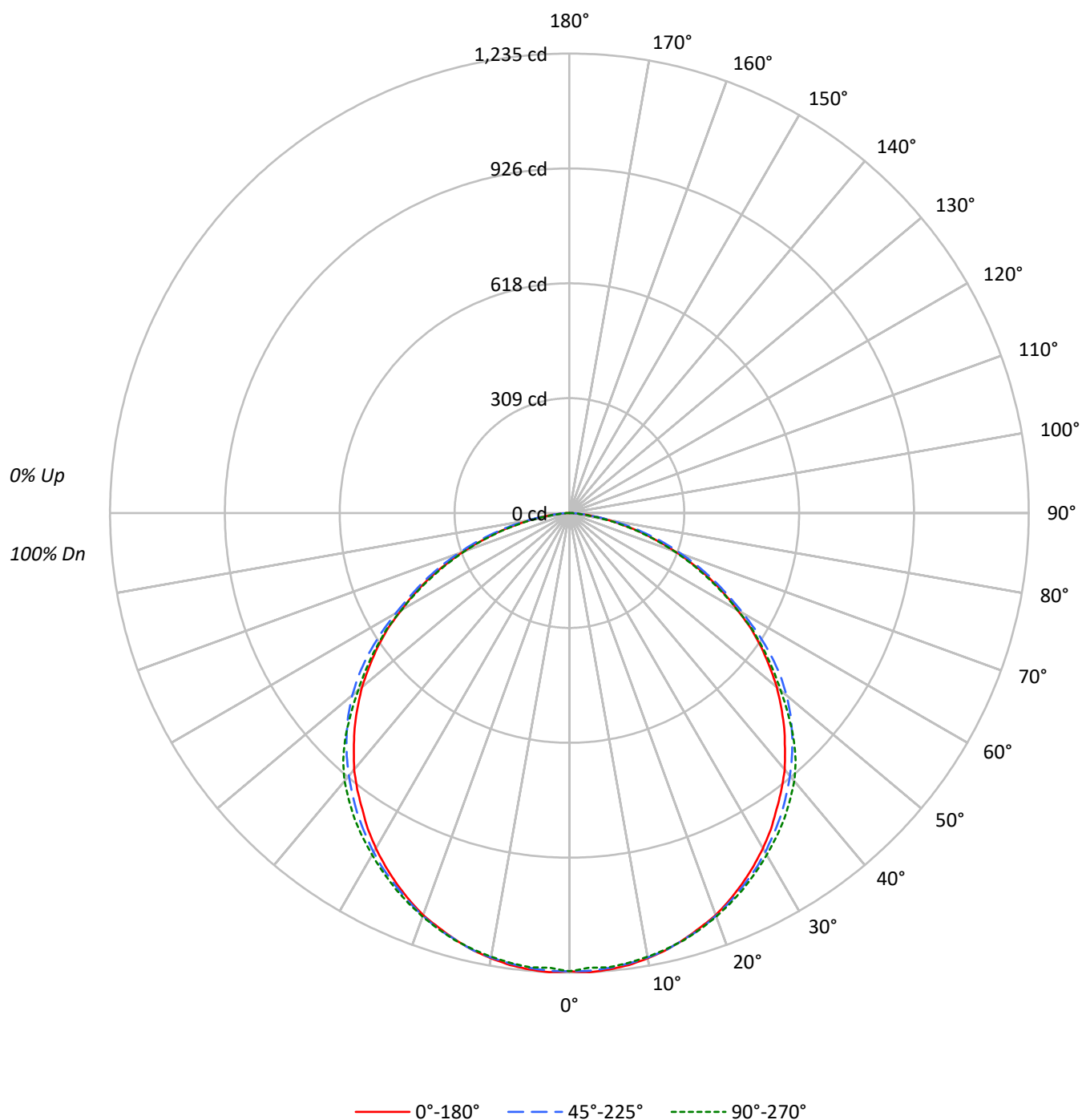
Input Watts (W): 31.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 3313 | 3313 | 3313 |
| 5°  | 3326 | 3315 | 3310 |
| 10° | 3320 | 3315 | 3309 |
| 15° | 3306 | 3306 | 3311 |
| 20° | 3293 | 3299 | 3305 |
| 25° | 3264 | 3282 | 3300 |
| 30° | 3232 | 3270 | 3296 |
| 35° | 3190 | 3257 | 3304 |
| 40° | 3162 | 3240 | 3305 |
| 45° | 3108 | 3225 | 3240 |
| 50° | 3045 | 3190 | 3105 |
| 55° | 2955 | 3088 | 2984 |
| 60° | 2810 | 2898 | 2810 |
| 65° | 2652 | 2730 | 2600 |
| 70° | 2382 | 2510 | 2350 |
| 75° | 2049 | 2218 | 2007 |
| 80° | 1605 | 1731 | 1449 |
| 85° | 1130 | 1003 | 877  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 116.5  | 3.3       |
| 10°-20°   | 334.8  | 9.6       |
| 20°-30°   | 508.6  | 14.6      |
| 30°-40°   | 617.8  | 17.8      |
| 40°-50°   | 645.3  | 18.5      |
| 50°-60°   | 573.9  | 16.5      |
| 60°-70°   | 418.9  | 12.0      |
| 70°-80°   | 218.5  | 6.3       |
| 80°-90°   | 45.1   | 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°    | 959.9  | 27.6      |
| 0°-40°    | 1577.7 | 45.3      |
| 0°-60°    | 2797.0 | 80.4      |
| 0°-90°    | 3479.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3479.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1231 | 1231  | 1231 | 1231  | 1231 |      |
| 5°  | 1231 | 1223  | 1227 | 1225  | 1225 | 117  |
| 15° | 1187 | 1180  | 1187 | 1189  | 1189 | 335  |
| 25° | 1099 | 1095  | 1105 | 1107  | 1111 | 507  |
| 35° | 971  | 971   | 992  | 998   | 1006 | 609  |
| 45° | 817  | 819   | 847  | 853   | 851  | 629  |
| 55° | 630  | 642   | 658  | 640   | 636  | 562  |
| 65° | 416  | 439   | 429  | 416   | 408  | 410  |
| 75° | 197  | 215   | 213  | 199   | 193  | 210  |
| 85° | 37   | 41    | 32   | 28    | 28   | 46   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1231.3 | 1231.3 | 1231.3 | 1231.3 | 1231.3 |
| 2.5°  | 1235.3 | 1227.2 | 1231.3 | 1229.2 | 1223.1 |
| 5°    | 1231.3 | 1223.1 | 1227.2 | 1225.2 | 1225.2 |
| 7.5°  | 1225.2 | 1217.0 | 1221.1 | 1219.1 | 1219.1 |
| 10°   | 1215.0 | 1206.9 | 1213.0 | 1210.9 | 1210.9 |
| 12.5° | 1202.8 | 1194.7 | 1202.8 | 1200.8 | 1200.8 |
| 15°   | 1186.6 | 1180.5 | 1186.6 | 1188.6 | 1188.6 |
| 17.5° | 1168.3 | 1164.2 | 1172.3 | 1172.3 | 1172.3 |
| 20°   | 1150.0 | 1143.9 | 1152.0 | 1152.0 | 1154.1 |
| 22.5° | 1125.6 | 1119.5 | 1129.7 | 1127.6 | 1133.7 |
| 25°   | 1099.2 | 1095.1 | 1105.3 | 1107.3 | 1111.4 |
| 27.5° | 1070.8 | 1068.7 | 1080.9 | 1082.9 | 1087.0 |
| 30°   | 1040.3 | 1036.2 | 1052.5 | 1054.5 | 1060.6 |
| 32.5° | 1007.8 | 1007.8 | 1022.0 | 1026.1 | 1034.2 |
| 35°   | 971.2  | 971.2  | 991.5  | 997.6  | 1005.7 |
| 37.5° | 936.7  | 936.7  | 957.0  | 967.1  | 973.2  |
| 40°   | 900.1  | 900.1  | 922.4  | 932.6  | 940.7  |
| 42.5° | 857.4  | 859.4  | 885.9  | 896.0  | 900.1  |
| 45°   | 816.8  | 818.8  | 847.3  | 853.4  | 851.3  |
| 47.5° | 772.1  | 778.2  | 806.6  | 802.6  | 796.5  |
| 50°   | 727.4  | 733.5  | 761.9  | 745.7  | 741.6  |
| 52.5° | 678.6  | 688.8  | 713.2  | 690.8  | 688.8  |
| 55°   | 629.9  | 642.0  | 658.3  | 640.0  | 636.0  |
| 57.5° | 579.1  | 595.3  | 599.4  | 587.2  | 583.1  |
| 60°   | 522.2  | 544.5  | 538.4  | 528.3  | 522.2  |
| 62.5° | 469.3  | 489.7  | 481.5  | 471.4  | 465.3  |
| 65°   | 416.5  | 438.9  | 428.7  | 416.5  | 408.4  |
| 67.5° | 359.6  | 386.0  | 373.9  | 359.6  | 353.5  |
| 70°   | 302.7  | 325.1  | 319.0  | 304.8  | 298.7  |
| 72.5° | 247.9  | 268.2  | 266.2  | 251.9  | 245.8  |
| 75°   | 197.1  | 215.4  | 213.3  | 199.1  | 193.0  |
| 77.5° | 148.3  | 166.6  | 160.5  | 148.3  | 142.2  |
| 80°   | 103.6  | 119.9  | 111.7  | 99.6   | 93.5   |
| 82.5° | 67.0   | 75.2   | 67.0   | 56.9   | 52.8   |
| 85°   | 36.6   | 40.6   | 32.5   | 28.4   | 28.4   |
| 87.5° | 12.2   | 14.2   | 14.2   | 14.2   | 14.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)