

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: P685477

Luminaire Tested: **8CZL-24-UNV-M-L950-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685477  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 8CZL-24-UNV-M-L950-CD-U  
Description: METALUX CRUZE LINEAR 8FT MEDIUM LENS MODEL @90 CRI and 5000K  
Light Source: (1176) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

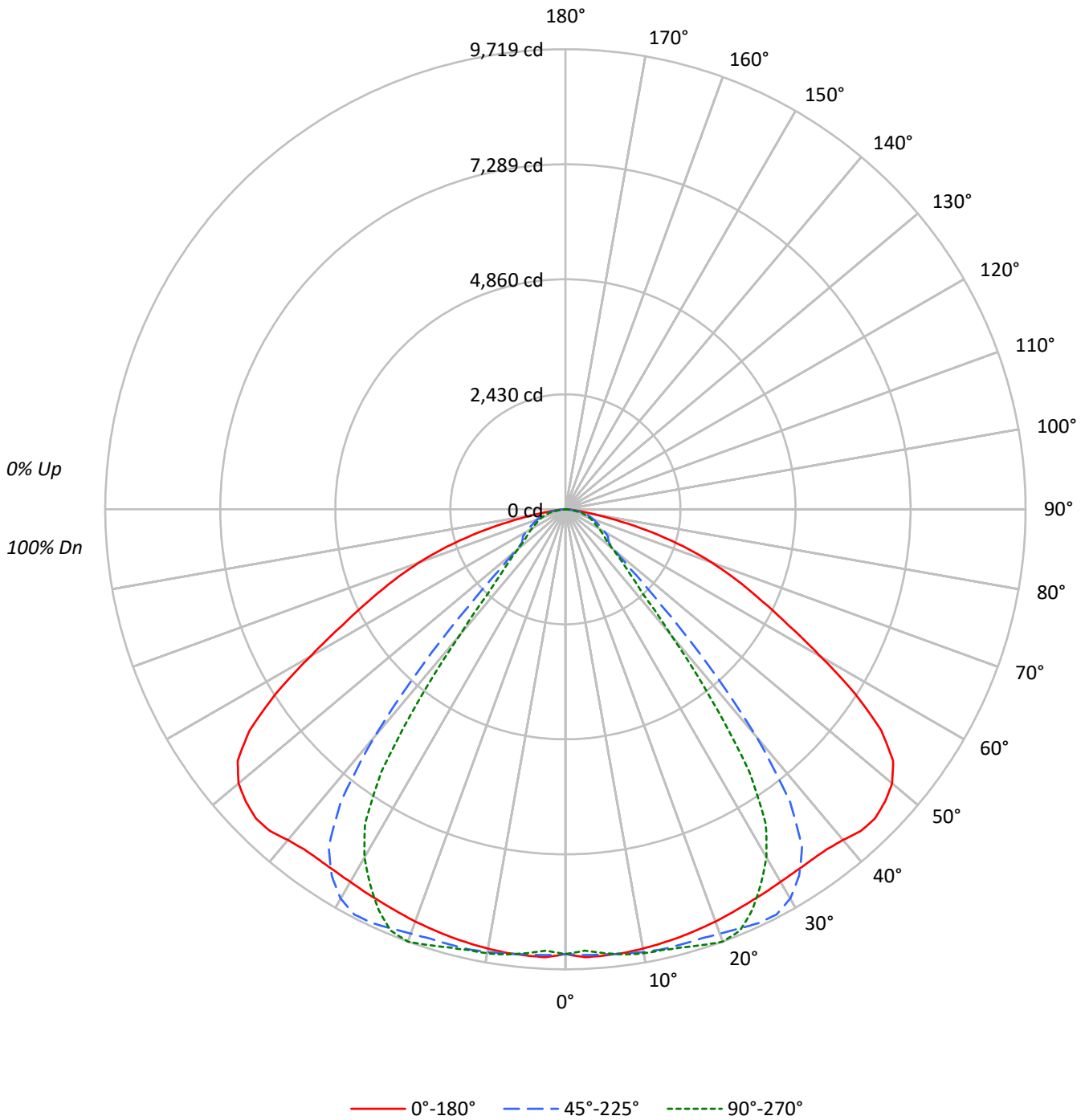
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20300.6 lumens  
Efficiency: N/A  
Efficacy: 131.8 lumens/watt  
Spacing Criteria (0/90/45): 1.48 / 1.28 / 1.22  
Luminous Opening: Rectangular (W 0.83' x L: 8' x H: 0')  
CIE Type: Direct

Input Watts (W): 154  
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  | 50  | 30  | 10  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 102 | 102 | 102 | 100 |
| 1   | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 90  | 90  | 90  | 88  |
| 2   | 103 | 96  | 90  | 86  | 100 | 94  | 89  | 85  | 91  | 87  | 83  | 88  | 84  | 81  | 85  | 82  | 79  | 79  | 79  | 79  | 77  |
| 3   | 95  | 86  | 80  | 74  | 93  | 85  | 79  | 73  | 82  | 77  | 72  | 79  | 75  | 71  | 77  | 73  | 70  | 70  | 70  | 70  | 68  |
| 4   | 88  | 78  | 71  | 65  | 86  | 77  | 70  | 64  | 74  | 68  | 64  | 72  | 67  | 63  | 70  | 66  | 62  | 62  | 62  | 62  | 60  |
| 5   | 82  | 71  | 63  | 57  | 80  | 70  | 63  | 57  | 68  | 61  | 56  | 66  | 60  | 56  | 64  | 59  | 55  | 55  | 55  | 55  | 53  |
| 6   | 76  | 65  | 57  | 51  | 75  | 64  | 56  | 51  | 62  | 55  | 51  | 61  | 55  | 50  | 59  | 54  | 50  | 50  | 50  | 50  | 48  |
| 7   | 71  | 59  | 51  | 46  | 70  | 59  | 51  | 46  | 57  | 50  | 46  | 56  | 50  | 45  | 54  | 49  | 45  | 45  | 45  | 45  | 43  |
| 8   | 67  | 55  | 47  | 42  | 65  | 54  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 41  | 41  | 41  | 39  |
| 9   | 63  | 50  | 43  | 38  | 61  | 50  | 43  | 38  | 49  | 42  | 38  | 48  | 42  | 37  | 47  | 41  | 37  | 37  | 37  | 37  | 36  |
| 10  | 59  | 47  | 39  | 35  | 58  | 46  | 39  | 35  | 45  | 39  | 34  | 44  | 38  | 34  | 44  | 38  | 34  | 34  | 34  | 34  | 33  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 15171 | 15171 | 15171 |
| 5°  | 15341 | 15298 | 15255 |
| 10° | 15453 | 15573 | 15617 |
| 15° | 15636 | 15904 | 16015 |
| 20° | 15923 | 16390 | 16699 |
| 25° | 16332 | 17188 | 16637 |
| 30° | 16946 | 17705 | 15826 |
| 35° | 17837 | 17175 | 13365 |
| 40° | 19224 | 13245 | 7310  |
| 45° | 21105 | 6512  | 4368  |
| 50° | 22630 | 3403  | 3258  |
| 55° | 22919 | 3106  | 2812  |
| 60° | 20099 | 3096  | 2651  |
| 65° | 17490 | 2975  | 2567  |
| 70° | 15521 | 3014  | 2583  |
| 75° | 11907 | 3095  | 2623  |
| 80° | 6060  | 3144  | 2172  |
| 85° | 2390  | 1773  | 619   |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 900.3   | 4.4       |
| 10°-20°   | 2683.4  | 13.2      |
| 20°-30°   | 4330.7  | 21.3      |
| 30°-40°   | 5071.9  | 25.0      |
| 40°-50°   | 3452.7  | 17.0      |
| 50°-60°   | 1999.3  | 9.8       |
| 60°-70°   | 1143.0  | 5.6       |
| 70°-80°   | 588.3   | 2.9       |
| 80°-90°   | 131.0   | 0.6       |
| 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°    | 7914.4  | 39.0      |
| 0°-40°    | 12986.3 | 64.0      |
| 0°-60°    | 18438.3 | 90.8      |
| 0°-90°    | 20300.6 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 20300.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 9396 | 9396  | 9396 | 9396  | 9396 |      |
| 5°  | 9465 | 9372  | 9439 | 9428  | 9412 | 902  |
| 15° | 9354 | 9340  | 9514 | 9539  | 9581 | 2648 |
| 25° | 9167 | 9296  | 9648 | 9499  | 9339 | 4243 |
| 35° | 9049 | 9497  | 8714 | 7348  | 6780 | 5697 |
| 45° | 9243 | 6877  | 2852 | 1921  | 1913 | 7101 |
| 55° | 8142 | 2360  | 1103 | 1027  | 999  | 7094 |
| 65° | 4578 | 842   | 779  | 687   | 672  | 4590 |
| 75° | 1909 | 520   | 496  | 433   | 420  | 2029 |
| 85° | 129  | 157   | 96   | 44    | 33   | 219  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 9396.4 | 9396.4 | 9396.4 | 9396.4 | 9396.4 | 9396.4 | 9396.4 | 9396.4 | 9396.4 | 9396.4 | 9396.4 |
| 2.5°  | 9472.1 | 9445.4 | 9392.0 | 9369.7 | 9369.7 | 9427.6 | 9436.5 | 9400.9 | 9394.2 | 9363.1 | 9334.1 |
| 5°    | 9465.4 | 9438.7 | 9387.5 | 9367.5 | 9374.2 | 9438.7 | 9454.3 | 9425.4 | 9434.3 | 9425.4 | 9412.0 |
| 7.5°  | 9452.0 | 9423.1 | 9376.4 | 9363.1 | 9383.1 | 9465.4 | 9492.1 | 9476.5 | 9496.5 | 9492.1 | 9487.6 |
| 10°   | 9425.4 | 9403.1 | 9358.6 | 9356.4 | 9396.4 | 9498.8 | 9532.1 | 9512.1 | 9518.8 | 9516.6 | 9525.5 |
| 12.5° | 9389.8 | 9369.7 | 9331.9 | 9351.9 | 9409.8 | 9518.8 | 9541.0 | 9509.9 | 9518.8 | 9521.0 | 9536.6 |
| 15°   | 9354.2 | 9329.7 | 9305.2 | 9351.9 | 9412.0 | 9514.3 | 9536.6 | 9532.1 | 9558.8 | 9561.1 | 9581.1 |
| 17.5° | 9309.7 | 9294.1 | 9287.4 | 9349.7 | 9396.4 | 9509.9 | 9561.1 | 9587.7 | 9623.3 | 9632.2 | 9652.3 |
| 20°   | 9267.4 | 9254.1 | 9269.6 | 9338.6 | 9389.8 | 9538.8 | 9610.0 | 9650.0 | 9687.8 | 9699.0 | 9719.0 |
| 22.5° | 9216.2 | 9207.3 | 9249.6 | 9323.0 | 9400.9 | 9583.3 | 9663.4 | 9667.8 | 9652.3 | 9623.3 | 9636.7 |
| 25°   | 9167.3 | 9167.3 | 9229.6 | 9318.6 | 9434.3 | 9647.8 | 9654.5 | 9527.7 | 9414.2 | 9338.6 | 9338.6 |
| 27.5° | 9127.3 | 9136.2 | 9214.0 | 9338.6 | 9498.8 | 9652.3 | 9467.6 | 9216.2 | 9049.4 | 8940.4 | 8933.7 |
| 30°   | 9089.4 | 9105.0 | 9214.0 | 9394.2 | 9545.5 | 9496.5 | 9138.4 | 8833.6 | 8602.3 | 8497.7 | 8488.8 |
| 32.5° | 9062.8 | 9087.2 | 9254.1 | 9478.7 | 9489.9 | 9182.9 | 8715.7 | 8330.9 | 8057.3 | 7901.5 | 7874.9 |
| 35°   | 9049.4 | 9078.3 | 9329.7 | 9552.2 | 9265.2 | 8713.5 | 8050.6 | 7456.6 | 7022.9 | 6822.6 | 6780.4 |
| 37.5° | 9058.3 | 9109.5 | 9434.3 | 9489.9 | 8702.4 | 7790.3 | 6838.2 | 5986.2 | 5390.0 | 5201.0 | 5069.7 |
| 40°   | 9120.6 | 9207.3 | 9516.6 | 8982.7 | 7521.2 | 6284.3 | 5023.0 | 4106.5 | 3695.0 | 3559.3 | 3468.0 |
| 42.5° | 9225.1 | 9311.9 | 9300.8 | 7821.5 | 5875.0 | 4464.6 | 3236.7 | 2687.2 | 2487.0 | 2464.8 | 2422.5 |
| 45°   | 9242.9 | 9276.3 | 8602.3 | 6302.1 | 4273.3 | 2851.9 | 2084.4 | 1922.0 | 1917.5 | 1933.1 | 1913.1 |
| 47.5° | 9149.5 | 9085.0 | 7594.6 | 4820.6 | 2943.1 | 1844.1 | 1568.3 | 1595.0 | 1608.3 | 1597.2 | 1581.6 |
| 50°   | 9009.4 | 8771.3 | 6464.5 | 3543.7 | 1962.0 | 1354.7 | 1368.1 | 1392.6 | 1345.8 | 1314.7 | 1296.9 |
| 52.5° | 8724.6 | 8261.9 | 5209.9 | 2511.5 | 1357.0 | 1156.8 | 1263.5 | 1192.4 | 1125.6 | 1107.8 | 1105.6 |
| 55°   | 8141.8 | 7505.6 | 4008.6 | 1810.8 | 1036.6 | 1103.4 | 1123.4 | 1032.2 | 1012.2 | 1003.3 | 998.8  |
| 57.5° | 7254.2 | 6564.6 | 3014.2 | 1308.0 | 909.8  | 1065.6 | 976.6  | 941.0  | 921.0  | 914.3  | 907.6  |
| 60°   | 6224.2 | 5512.4 | 2246.8 | 961.0  | 883.1  | 958.8  | 885.4  | 852.0  | 829.8  | 820.9  | 820.9  |
| 62.5° | 5312.2 | 4562.5 | 1661.7 | 780.8  | 876.5  | 865.3  | 798.6  | 763.0  | 749.7  | 745.2  | 740.8  |
| 65°   | 4578.1 | 3670.5 | 1199.0 | 723.0  | 818.6  | 778.6  | 714.1  | 689.6  | 680.7  | 671.8  | 671.8  |
| 67.5° | 3924.1 | 2874.1 | 883.1  | 709.6  | 751.9  | 700.7  | 651.8  | 631.8  | 620.6  | 618.4  | 616.2  |
| 70°   | 3287.9 | 2117.8 | 671.8  | 694.1  | 714.1  | 638.4  | 591.7  | 567.3  | 553.9  | 547.2  | 547.2  |
| 72.5° | 2618.3 | 1452.6 | 536.1  | 638.4  | 654.0  | 565.0  | 518.3  | 500.5  | 489.4  | 482.7  | 480.5  |
| 75°   | 1908.7 | 912.1  | 471.6  | 536.1  | 562.8  | 496.1  | 449.4  | 433.8  | 429.3  | 422.7  | 420.4  |
| 77.5° | 1214.6 | 545.0  | 402.6  | 438.2  | 460.5  | 418.2  | 382.6  | 362.6  | 360.4  | 353.7  | 351.5  |
| 80°   | 651.8  | 349.3  | 322.6  | 344.8  | 358.2  | 338.1  | 295.9  | 255.8  | 244.7  | 235.8  | 233.6  |
| 82.5° | 302.5  | 222.5  | 240.2  | 260.3  | 266.9  | 215.8  | 178.0  | 160.2  | 149.0  | 137.9  | 131.2  |
| 85°   | 129.0  | 120.1  | 149.0  | 160.2  | 131.2  | 95.7   | 62.3   | 46.7   | 37.8   | 35.6   | 33.4   |
| 87.5° | 46.7   | 46.7   | 55.6   | 37.8   | 22.2   | 17.8   | 17.8   | 15.6   | 13.3   | 11.1   | 11.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)