

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: P685361

Luminaire Tested: **4CZL-9-UNV-N-L835-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685361  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-9-UNV-N-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT NARROW LENS MODEL @80 CRI and 3500K  
Light Source: (588) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

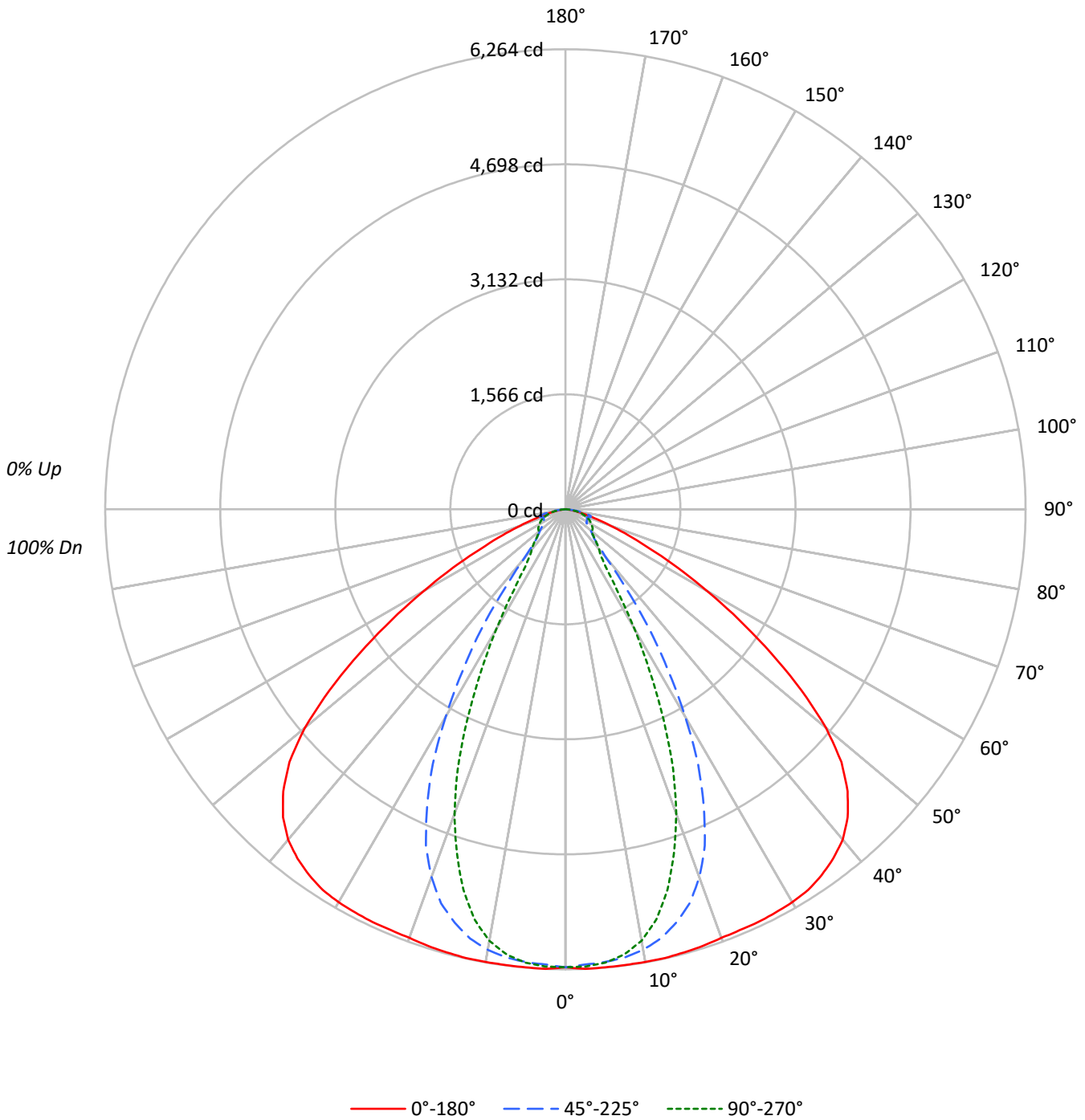
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8804.2 lumens  
Efficiency: N/A  
Efficacy: 163.0 lumens/watt  
Spacing Criteria (0/90/45): 1.48 / 0.81 / 0.89  
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 54  
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 | 100 | 100 | 100 | 100 |
| 1   | 111 | 107 | 104 | 101 | 109 | 105 | 102 | 99  | 101 | 99  | 96  | 97  | 95  | 93  | 94  | 92  | 91  | 89  | 89  | 89  | 89  |
| 2   | 104 | 97  | 92  | 87  | 101 | 95  | 90  | 86  | 92  | 88  | 84  | 89  | 85  | 82  | 86  | 83  | 80  | 79  | 79  | 79  | 79  |
| 3   | 96  | 88  | 81  | 76  | 94  | 86  | 80  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 79  | 75  | 72  | 70  | 70  | 70  | 70  |
| 4   | 90  | 80  | 73  | 68  | 88  | 79  | 72  | 67  | 77  | 71  | 66  | 74  | 70  | 66  | 72  | 68  | 65  | 63  | 63  | 63  | 63  |
| 5   | 84  | 74  | 66  | 61  | 82  | 73  | 66  | 60  | 71  | 64  | 60  | 69  | 63  | 59  | 67  | 62  | 59  | 57  | 57  | 57  | 57  |
| 6   | 79  | 68  | 60  | 55  | 77  | 67  | 60  | 55  | 65  | 59  | 54  | 64  | 58  | 54  | 62  | 57  | 53  | 52  | 52  | 52  | 52  |
| 7   | 74  | 63  | 55  | 50  | 73  | 62  | 55  | 50  | 61  | 54  | 50  | 59  | 54  | 49  | 58  | 53  | 49  | 47  | 47  | 47  | 47  |
| 8   | 70  | 58  | 51  | 46  | 68  | 58  | 51  | 46  | 56  | 50  | 46  | 55  | 50  | 45  | 54  | 49  | 45  | 44  | 44  | 44  | 44  |
| 9   | 66  | 54  | 47  | 42  | 65  | 54  | 47  | 42  | 53  | 47  | 42  | 52  | 46  | 42  | 51  | 46  | 42  | 40  | 40  | 40  | 40  |
| 10  | 62  | 51  | 44  | 39  | 61  | 50  | 44  | 39  | 49  | 43  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  | 37  | 37  | 37  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 20138 | 20138 | 20138 |
| 5°  | 20294 | 20060 | 20092 |
| 10° | 20520 | 19975 | 19561 |
| 15° | 20878 | 19481 | 17935 |
| 20° | 21338 | 18320 | 15161 |
| 25° | 22105 | 15878 | 11266 |
| 30° | 23030 | 12161 | 6990  |
| 35° | 23977 | 7861  | 3749  |
| 40° | 24753 | 3660  | 3002  |
| 45° | 24807 | 2483  | 2556  |
| 50° | 23257 | 2275  | 2353  |
| 55° | 19228 | 2050  | 2553  |
| 60° | 14392 | 2162  | 2621  |
| 65° | 9702  | 2472  | 2807  |
| 70° | 6159  | 3014  | 2887  |
| 75° | 3716  | 4489  | 2882  |
| 80° | 2267  | 4007  | 2685  |
| 85° | 1467  | 2594  | 1841  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 590.4  | 6.7       |
| 10°-20°   | 1629.9 | 18.5      |
| 20°-30°   | 2081.7 | 23.6      |
| 30°-40°   | 1688.3 | 19.2      |
| 40°-50°   | 1194.6 | 13.6      |
| 50°-60°   | 778.0  | 8.8       |
| 60°-70°   | 477.8  | 5.4       |
| 70°-80°   | 283.8  | 3.2       |
| 80°-90°   | 79.7   | 0.9       |
| 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°    | 4301.9 | 48.9      |
| 0°-40°    | 5990.3 | 68.0      |
| 0°-60°    | 7962.9 | 90.4      |
| 0°-90°    | 8804.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 8804.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 6236 | 6236  | 6236 | 6236  | 6236 |      |
| 5°  | 6261 | 6247  | 6189 | 6214  | 6198 | 597  |
| 15° | 6245 | 6161  | 5827 | 5524  | 5365 | 1769 |
| 25° | 6204 | 5692  | 4456 | 3464  | 3162 | 2868 |
| 35° | 6082 | 4129  | 1994 | 1070  | 951  | 3804 |
| 45° | 5432 | 2079  | 544  | 578   | 560  | 4143 |
| 55° | 3415 | 700   | 364  | 425   | 453  | 3052 |
| 65° | 1270 | 359   | 324  | 388   | 367  | 1319 |
| 75° | 298  | 204   | 360  | 264   | 231  | 347  |
| 85° | 40   | 79    | 70   | 63    | 50   | 55   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 6236.1 | 6236.1 | 6236.1 | 6236.1 | 6236.1 |
| 2.5°  | 6263.9 | 6251.6 | 6204.1 | 6241.5 | 6230.8 |
| 5°    | 6260.7 | 6247.4 | 6188.6 | 6213.7 | 6198.2 |
| 7.5°  | 6258.6 | 6238.8 | 6155.4 | 6147.9 | 6115.8 |
| 10°   | 6258.1 | 6223.3 | 6091.8 | 6019.6 | 5965.6 |
| 12.5° | 6259.1 | 6197.6 | 5987.5 | 5828.2 | 5718.6 |
| 15°   | 6245.2 | 6160.8 | 5827.1 | 5524.5 | 5364.7 |
| 17.5° | 6232.4 | 6076.3 | 5625.0 | 5152.9 | 4912.9 |
| 20°   | 6209.4 | 5992.9 | 5331.0 | 4697.4 | 4411.9 |
| 22.5° | 6203.0 | 5866.7 | 4959.4 | 4110.9 | 3828.1 |
| 25°   | 6204.1 | 5691.9 | 4456.3 | 3464.5 | 3161.9 |
| 27.5° | 6192.3 | 5458.8 | 3908.3 | 2839.5 | 2481.3 |
| 30°   | 6176.3 | 5128.4 | 3261.4 | 2169.6 | 1874.5 |
| 32.5° | 6147.9 | 4664.8 | 2598.9 | 1546.2 | 1301.3 |
| 35°   | 6082.2 | 4129.1 | 1994.2 | 1069.8 | 951.1  |
| 37.5° | 5990.7 | 3533.5 | 1344.6 | 803.0  | 783.8  |
| 40°   | 5872.0 | 2993.0 | 868.3  | 702.0  | 712.2  |
| 42.5° | 5688.1 | 2526.2 | 634.1  | 638.4  | 639.4  |
| 45°   | 5432.0 | 2078.7 | 543.7  | 578.0  | 559.8  |
| 47.5° | 5095.2 | 1632.3 | 494.0  | 503.6  | 501.0  |
| 50°   | 4629.5 | 1222.2 | 452.8  | 450.7  | 468.4  |
| 52.5° | 4053.7 | 904.1  | 410.6  | 428.8  | 461.9  |
| 55°   | 3415.3 | 699.9  | 364.1  | 425.0  | 453.4  |
| 57.5° | 2803.2 | 567.3  | 337.4  | 414.4  | 430.9  |
| 60°   | 2228.4 | 472.6  | 334.7  | 394.6  | 405.8  |
| 62.5° | 1721.6 | 405.3  | 333.1  | 384.9  | 389.2  |
| 65°   | 1269.8 | 358.7  | 323.5  | 388.2  | 367.3  |
| 67.5° | 924.9  | 343.8  | 316.0  | 382.8  | 338.4  |
| 70°   | 652.3  | 302.1  | 319.2  | 353.4  | 305.8  |
| 72.5° | 442.7  | 252.4  | 355.0  | 311.7  | 267.9  |
| 75°   | 297.8  | 203.7  | 359.8  | 263.6  | 231.0  |
| 77.5° | 193.5  | 169.5  | 305.8  | 215.5  | 191.4  |
| 80°   | 121.9  | 141.1  | 215.5  | 165.7  | 144.4  |
| 82.5° | 79.1   | 108.5  | 136.3  | 117.1  | 99.4   |
| 85°   | 39.6   | 79.1   | 70.0   | 62.6   | 49.7   |
| 87.5° | 23.5   | 48.1   | 37.4   | 27.3   | 25.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)