

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: P685771

Luminaire Tested: **4CZL-9-UNV-N-LVR-L950-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685771  
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-LVR-L950-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @90 CRI and 5000K  
Light Source: (588) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

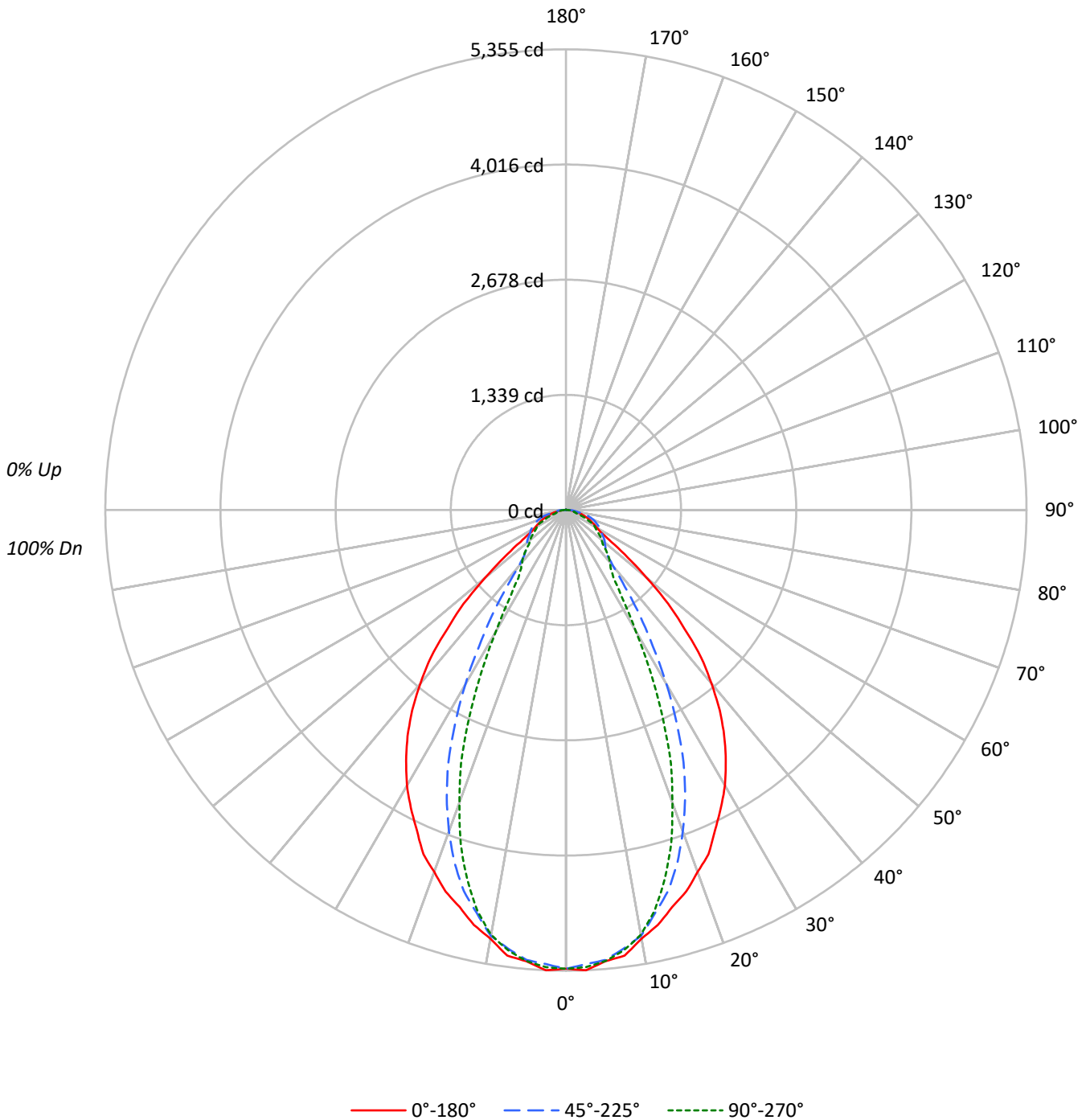
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6312.8 lumens  
Efficiency: N/A  
Efficacy: 116.9 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.8 / 0.85  
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 (A<sub>in</sub>): 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  | 93  | 92  | 90  | 88  |
| 2   | 103 | 97  | 92  | 87  | 101 | 95  | 90  | 86  | 92  | 88  | 84  | 88  | 85  | 82  | 86  | 83  | 80  | 86  | 83  | 80  | 78  |
| 3   | 97  | 88  | 82  | 77  | 94  | 87  | 81  | 76  | 84  | 79  | 75  | 81  | 77  | 73  | 79  | 75  | 72  | 79  | 75  | 72  | 70  |
| 4   | 90  | 81  | 74  | 68  | 88  | 79  | 73  | 68  | 77  | 71  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 73  | 69  | 65  | 63  |
| 5   | 85  | 74  | 67  | 62  | 83  | 73  | 66  | 61  | 71  | 65  | 61  | 69  | 64  | 60  | 68  | 63  | 59  | 68  | 63  | 59  | 58  |
| 6   | 80  | 69  | 61  | 56  | 78  | 68  | 61  | 56  | 66  | 60  | 55  | 65  | 59  | 55  | 63  | 58  | 55  | 63  | 58  | 55  | 53  |
| 7   | 75  | 64  | 57  | 51  | 73  | 63  | 56  | 51  | 62  | 55  | 51  | 60  | 55  | 51  | 59  | 54  | 50  | 59  | 54  | 50  | 49  |
| 8   | 71  | 59  | 52  | 47  | 69  | 59  | 52  | 47  | 58  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 55  | 50  | 47  | 45  |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 47  | 43  | 52  | 47  | 43  | 42  |
| 10  | 64  | 52  | 46  | 41  | 62  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 49  | 44  | 41  | 49  | 44  | 41  | 39  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 17217 | 17217 | 17217 |
| 5°  | 17065 | 17017 | 17061 |
| 10° | 16584 | 16482 | 16442 |
| 15° | 15969 | 15331 | 14845 |
| 20° | 15381 | 13658 | 12433 |
| 25° | 14616 | 11532 | 9480  |
| 30° | 13787 | 8723  | 6057  |
| 35° | 12654 | 5914  | 3806  |
| 40° | 11098 | 3603  | 3338  |
| 45° | 8891  | 3002  | 2991  |
| 50° | 6148  | 2966  | 2701  |
| 55° | 3622  | 2940  | 2543  |
| 60° | 2699  | 3055  | 2512  |
| 65° | 2554  | 3075  | 2209  |
| 70° | 2457  | 3280  | 1667  |
| 75° | 2317  | 3291  | 1426  |
| 80° | 2150  | 2730  | 1612  |
| 85° | 1908  | 3312  | 1993  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 495.3  | 7.8       |
| 10°-20°   | 1282.4 | 20.3      |
| 20°-30°   | 1498.2 | 23.7      |
| 30°-40°   | 1111.5 | 17.6      |
| 40°-50°   | 736.8  | 11.7      |
| 50°-60°   | 488.7  | 7.7       |
| 60°-70°   | 364.6  | 5.8       |
| 70°-80°   | 215.2  | 3.4       |
| 80°-90°   | 90.6   | 1.4       |
| 90°-100°  | 19.6   | 0.3       |
| 100°-110° | 2.7    | 0.0       |
| 110°-120° | 1.4    | 0.0       |
| 120°-130° | 1.2    | 0.0       |
| 130°-140° | 1.2    | 0.0       |
| 140°-150° | 1.2    | 0.0       |
| 150°-160° | 1.1    | 0.0       |
| 160°-170° | 0.8    | 0.0       |
| 170°-180° | 0.3    | 0.0       |
| 0°-30°    | 3275.9 | 51.9      |
| 0°-40°    | 4387.4 | 69.5      |
| 0°-60°    | 5612.9 | 88.9      |
| 0°-90°    | 6283.4 | 99.5      |
| 90°-120°  | 23.6   | 0.4       |
| 90°-150°  | 27.3   | 0.4       |
| 90°-180°  | 29.0   | 0.5       |
| 0°-180°   | 6312.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 5332 | 5332  | 5332 | 5332  | 5332 |      |
| 5°   | 5264 | 5260  | 5250 | 5269  | 5263 | 498  |
| 15°  | 4777 | 4720  | 4586 | 4507  | 4441 | 1348 |
| 25°  | 4102 | 3807  | 3237 | 2776  | 2661 | 1889 |
| 35°  | 3210 | 2378  | 1500 | 1014  | 965  | 1993 |
| 45°  | 1947 | 1149  | 657  | 682   | 655  | 1499 |
| 55°  | 643  | 565   | 522  | 504   | 452  | 633  |
| 65°  | 334  | 374   | 402  | 394   | 289  | 333  |
| 75°  | 186  | 208   | 264  | 192   | 114  | 196  |
| 85°  | 52   | 63    | 89   | 119   | 54   | 56   |
| 90°  | 1    | 19    | 45   | 77    | 16   | 3    |
| 95°  | 0    | 3     | 18   | 38    | 8    | 0    |
| 105° | 0    | 1     | 2    | 3     | 3    | 1    |
| 115° | 0    | 1     | 1    | 2     | 2    | 0    |
| 125° | 1    | 1     | 1    | 2     | 2    | 1    |
| 135° | 1    | 1     | 1    | 2     | 2    | 1    |
| 145° | 1    | 2     | 2    | 2     | 2    | 1    |
| 155° | 2    | 2     | 2    | 3     | 3    | 1    |
| 165° | 2    | 3     | 3    | 3     | 3    | 1    |
| 175° | 2    | 3     | 3    | 4     | 4    | 0    |
| 180° | 3    | 3     | 3    | 3     | 3    |      |

TEST NUMBER: P685771

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 5331.8 | 5331.8 | 5331.8 | 5331.8 | 5331.8 |
| 2.5°   | 5354.9 | 5326.0 | 5284.4 | 5321.9 | 5318.7 |
| 5°     | 5264.5 | 5260.0 | 5249.6 | 5268.6 | 5263.2 |
| 7.5°   | 5223.9 | 5199.5 | 5141.6 | 5186.4 | 5161.1 |
| 10°    | 5057.6 | 5029.2 | 5026.5 | 5017.4 | 5014.3 |
| 12.5°  | 4939.7 | 4905.4 | 4795.6 | 4789.7 | 4765.3 |
| 15°    | 4776.6 | 4719.7 | 4586.0 | 4507.0 | 4440.6 |
| 17.5°  | 4650.2 | 4526.4 | 4303.2 | 4156.0 | 4070.6 |
| 20°    | 4475.8 | 4339.4 | 3974.4 | 3717.3 | 3617.9 |
| 22.5°  | 4332.1 | 4090.5 | 3621.1 | 3257.5 | 3189.2 |
| 25°    | 4102.2 | 3807.2 | 3236.7 | 2776.4 | 2660.7 |
| 27.5°  | 3902.5 | 3495.5 | 2783.1 | 2278.1 | 2136.3 |
| 30°    | 3697.4 | 3146.3 | 2339.5 | 1789.3 | 1624.4 |
| 32.5°  | 3458.5 | 2794.4 | 1882.8 | 1342.6 | 1223.3 |
| 35°    | 3210.0 | 2378.4 | 1500.2 | 1014.1 | 965.4  |
| 37.5°  | 2936.3 | 2004.3 | 1127.5 | 847.0  | 855.1  |
| 40°    | 2632.7 | 1678.2 | 854.7  | 776.5  | 791.9  |
| 42.5°  | 2330.0 | 1403.5 | 711.0  | 730.5  | 735.0  |
| 45°    | 1947.0 | 1148.8 | 657.3  | 682.1  | 655.0  |
| 47.5°  | 1612.2 | 938.7  | 619.3  | 616.6  | 578.2  |
| 50°    | 1223.7 | 765.2  | 590.4  | 557.9  | 537.6  |
| 52.5°  | 906.2  | 645.5  | 562.9  | 527.2  | 506.4  |
| 55°    | 643.3  | 565.1  | 522.2  | 504.1  | 451.7  |
| 57.5°  | 483.4  | 508.2  | 491.0  | 450.4  | 413.8  |
| 60°    | 417.9  | 458.1  | 473.0  | 424.6  | 388.9  |
| 62.5°  | 377.2  | 415.1  | 443.6  | 409.3  | 356.0  |
| 65°    | 334.3  | 373.6  | 402.5  | 393.5  | 289.1  |
| 67.5°  | 296.8  | 340.6  | 376.3  | 337.4  | 236.3  |
| 70°    | 260.2  | 300.9  | 347.4  | 286.4  | 176.6  |
| 72.5°  | 220.9  | 251.6  | 307.6  | 222.7  | 128.7  |
| 75°    | 185.7  | 207.8  | 263.8  | 191.5  | 114.3  |
| 77.5°  | 148.6  | 167.1  | 180.7  | 174.4  | 100.7  |
| 80°    | 115.6  | 134.2  | 146.8  | 158.6  | 86.7   |
| 82.5°  | 84.0   | 96.2   | 116.5  | 140.5  | 72.3   |
| 85°    | 51.5   | 62.8   | 89.4   | 118.8  | 53.8   |
| 87.5°  | 22.1   | 38.4   | 65.5   | 98.5   | 35.2   |
| 90°    | 0.9    | 19.0   | 44.7   | 76.8   | 15.8   |
| 92.5°  | 0.5    | 8.1    | 28.9   | 56.5   | 10.4   |
| 95°    | 0.5    | 3.2    | 17.6   | 38.4   | 8.1    |
| 97.5°  | 0.5    | 1.4    | 9.0    | 24.8   | 5.9    |
| 100°   | 0.5    | 0.9    | 5.0    | 14.5   | 4.1    |
| 102.5° | 0.5    | 0.9    | 2.3    | 7.2    | 3.2    |
| 105°   | 0.5    | 0.9    | 1.8    | 3.2    | 2.7    |
| 107.5° | 0.5    | 0.9    | 1.4    | 2.3    | 2.3    |
| 110°   | 0.5    | 0.9    | 1.4    | 2.3    | 2.3    |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.5 | 0.9   | 1.4 | 2.3   | 2.3 |
| 115°   | 0.5 | 0.9   | 1.4 | 1.8   | 1.8 |
| 117.5° | 0.5 | 0.9   | 1.4 | 1.8   | 1.8 |
| 120°   | 0.5 | 0.9   | 1.4 | 1.8   | 1.8 |
| 122.5° | 0.5 | 0.9   | 1.4 | 1.8   | 1.8 |
| 125°   | 0.9 | 0.9   | 1.4 | 1.8   | 1.8 |
| 127.5° | 0.9 | 1.4   | 1.4 | 1.8   | 1.8 |
| 130°   | 0.9 | 1.4   | 1.4 | 1.8   | 1.8 |
| 132.5° | 0.9 | 1.4   | 1.4 | 1.8   | 1.8 |
| 135°   | 0.9 | 1.4   | 1.4 | 1.8   | 1.8 |
| 137.5° | 0.9 | 1.4   | 1.8 | 1.8   | 1.8 |
| 140°   | 1.4 | 1.8   | 1.8 | 1.8   | 1.8 |
| 142.5° | 1.4 | 1.8   | 1.8 | 2.3   | 1.8 |
| 145°   | 1.4 | 1.8   | 1.8 | 2.3   | 2.3 |
| 147.5° | 1.4 | 1.8   | 2.3 | 2.3   | 2.3 |
| 150°   | 1.4 | 1.8   | 2.3 | 2.7   | 2.7 |
| 152.5° | 1.8 | 1.8   | 2.3 | 2.7   | 2.7 |
| 155°   | 1.8 | 2.3   | 2.3 | 2.7   | 2.7 |
| 157.5° | 1.8 | 2.3   | 2.3 | 2.7   | 3.2 |
| 160°   | 1.8 | 2.3   | 2.7 | 3.2   | 3.2 |
| 162.5° | 1.8 | 2.3   | 2.7 | 3.2   | 3.2 |
| 165°   | 2.3 | 2.7   | 2.7 | 3.2   | 3.2 |
| 167.5° | 2.3 | 2.7   | 3.2 | 3.2   | 3.6 |
| 170°   | 2.3 | 2.7   | 3.2 | 3.6   | 3.6 |
| 172.5° | 2.3 | 2.7   | 3.2 | 3.6   | 3.6 |
| 175°   | 2.3 | 2.7   | 3.2 | 3.6   | 4.1 |
| 177.5° | 2.3 | 2.7   | 3.2 | 3.6   | 4.1 |
| 180°   | 3.2 | 3.2   | 3.2 | 3.2   | 3.2 |

(END OF REPORT)