

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: P685740

Luminaire Tested: **4CZL-7-UNV-N-LVR-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685740
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-7-UNV-N-LVR-L850-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @80 CRI and 5000K
Light Source: (392) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

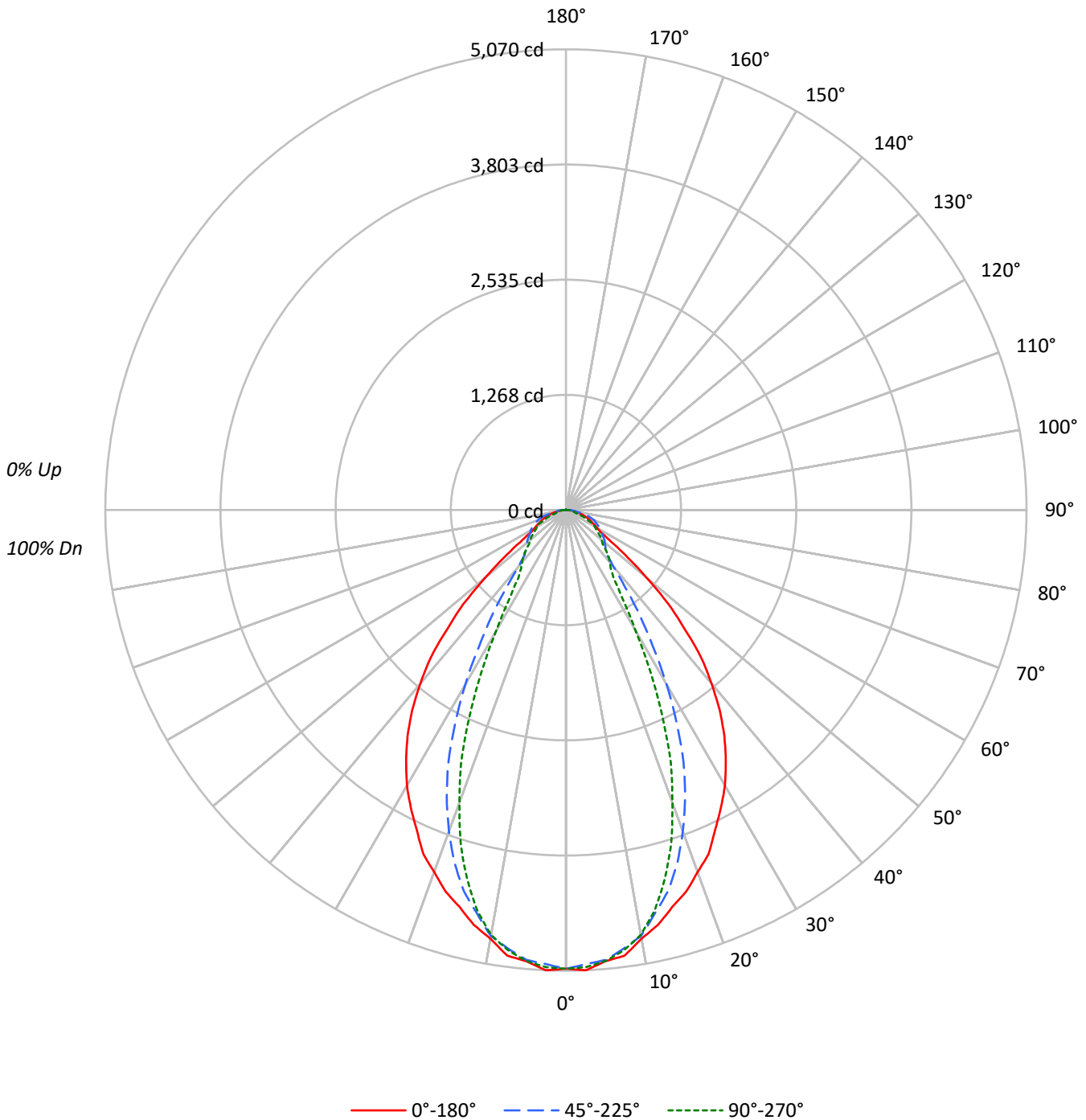
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5976.9 lumens
Efficiency: N/A
Efficacy: 135.8 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): 44
Input Voltage (V): 120
Input Current (A_{in}): 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

TEST NUMBER: P685740
CATALOG NUMBER: 4CZL-7-UNV-N-LVR-L850-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685740

CATALOG NUMBER: 4CZL-7-UNV-N-LVR-L850-CD-U

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 |
| 2 | 103 | 97 | 92 | 87 | 101 | 95 | 90 | 86 | 92 | 88 | 84 | 88 | 85 | 82 | 86 | 83 | 80 | 78 |
| 3 | 97 | 88 | 82 | 77 | 94 | 87 | 81 | 76 | 84 | 79 | 75 | 81 | 77 | 73 | 79 | 75 | 72 | 70 |
| 4 | 90 | 81 | 74 | 68 | 88 | 79 | 73 | 68 | 77 | 71 | 67 | 75 | 70 | 66 | 73 | 69 | 65 | 63 |
| 5 | 85 | 74 | 67 | 62 | 83 | 73 | 66 | 61 | 71 | 65 | 61 | 69 | 64 | 60 | 68 | 63 | 59 | 58 |
| 6 | 80 | 69 | 61 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 55 | 53 |
| 7 | 75 | 64 | 57 | 51 | 73 | 63 | 56 | 51 | 62 | 55 | 51 | 60 | 55 | 51 | 59 | 54 | 50 | 49 |
| 8 | 71 | 59 | 52 | 47 | 69 | 59 | 52 | 47 | 58 | 51 | 47 | 56 | 51 | 47 | 55 | 50 | 47 | 45 |
| 9 | 67 | 56 | 49 | 44 | 66 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 52 | 47 | 43 | 42 |
| 10 | 64 | 52 | 46 | 41 | 62 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 49 | 44 | 41 | 39 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 16302 | 16302 | 16302 |
| 5° | 16157 | 16111 | 16153 |
| 10° | 15702 | 15605 | 15567 |
| 15° | 15119 | 14516 | 14055 |
| 20° | 14563 | 12931 | 11771 |
| 25° | 13839 | 10919 | 8976 |
| 30° | 13053 | 8260 | 5735 |
| 35° | 11981 | 5599 | 3603 |
| 40° | 10507 | 3411 | 3161 |
| 45° | 8418 | 2842 | 2832 |
| 50° | 5820 | 2808 | 2557 |
| 55° | 3429 | 2783 | 2408 |
| 60° | 2555 | 2892 | 2379 |
| 65° | 2418 | 2912 | 2091 |
| 70° | 2326 | 3105 | 1579 |
| 75° | 2193 | 3117 | 1350 |
| 80° | 2036 | 2585 | 1527 |
| 85° | 1808 | 3138 | 1886 |



TEST NUMBER: P685740
 CATALOG NUMBER: 4CZL-7-UNV-N-LVR-L850-CD-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 468.9 | 7.8 |
| 10°-20° | 1214.2 | 20.3 |
| 20°-30° | 1418.5 | 23.7 |
| 30°-40° | 1052.4 | 17.6 |
| 40°-50° | 697.6 | 11.7 |
| 50°-60° | 462.7 | 7.7 |
| 60°-70° | 345.2 | 5.8 |
| 70°-80° | 203.7 | 3.4 |
| 80°-90° | 85.8 | 1.4 |
| 90°-100° | 18.5 | 0.3 |
| 100°-110° | 2.5 | 0.0 |
| 110°-120° | 1.3 | 0.0 |
| 120°-130° | 1.2 | 0.0 |
| 130°-140° | 1.1 | 0.0 |
| 140°-150° | 1.1 | 0.0 |
| 150°-160° | 1.0 | 0.0 |
| 160°-170° | 0.8 | 0.0 |
| 170°-180° | 0.3 | 0.0 |
| 0°-30° | 3101.6 | 51.9 |
| 0°-40° | 4154.0 | 69.5 |
| 0°-60° | 5314.3 | 88.9 |
| 0°-90° | 5949.1 | 99.5 |
| 90°-120° | 22.3 | 0.4 |
| 90°-150° | 25.8 | 0.4 |
| 90°-180° | 28.0 | 0.5 |
| 0°-180° | 5976.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 5048 | 5048 | 5048 | 5048 | 5048 | |
| 5° | 4984 | 4980 | 4970 | 4988 | 4983 | 472 |
| 15° | 4522 | 4469 | 4342 | 4267 | 4204 | 1276 |
| 25° | 3884 | 3605 | 3064 | 2629 | 2519 | 1789 |
| 35° | 3039 | 2252 | 1420 | 960 | 914 | 1887 |
| 45° | 1843 | 1088 | 622 | 646 | 620 | 1419 |
| 55° | 609 | 535 | 494 | 477 | 428 | 599 |
| 65° | 316 | 354 | 381 | 372 | 274 | 316 |
| 75° | 176 | 197 | 250 | 181 | 108 | 186 |
| 85° | 49 | 60 | 85 | 112 | 51 | 53 |
| 90° | 1 | 18 | 42 | 73 | 15 | 3 |
| 95° | 0 | 3 | 17 | 36 | 8 | 0 |
| 105° | 0 | 1 | 2 | 3 | 3 | 0 |
| 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 | 3 | 4 | 0 |
| 180° | 3 | 3 | 3 | 3 | 3 | |



TEST NUMBER: P685740

CATALOG NUMBER: 4CZL-7-UNV-N-LVR-L850-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 5048.2 | 5048.2 | 5048.2 | 5048.2 | 5048.2 |
| 2.5° | 5070.0 | 5042.6 | 5003.2 | 5038.7 | 5035.7 |
| 5° | 4984.4 | 4980.1 | 4970.3 | 4988.3 | 4983.1 |
| 7.5° | 4945.9 | 4922.8 | 4868.1 | 4910.4 | 4886.5 |
| 10° | 4788.5 | 4761.6 | 4759.0 | 4750.5 | 4747.5 |
| 12.5° | 4676.9 | 4644.4 | 4540.5 | 4534.9 | 4511.8 |
| 15° | 4522.5 | 4468.6 | 4342.0 | 4267.2 | 4204.3 |
| 17.5° | 4402.8 | 4285.6 | 4074.3 | 3934.8 | 3854.0 |
| 20° | 4237.7 | 4108.5 | 3762.9 | 3519.5 | 3425.5 |
| 22.5° | 4101.7 | 3872.8 | 3428.4 | 3084.2 | 3019.6 |
| 25° | 3884.0 | 3604.7 | 3064.5 | 2628.6 | 2519.2 |
| 27.5° | 3694.9 | 3309.5 | 2635.1 | 2156.9 | 2022.6 |
| 30° | 3500.7 | 2978.9 | 2215.1 | 1694.1 | 1538.0 |
| 32.5° | 3274.5 | 2645.8 | 1782.7 | 1271.1 | 1158.2 |
| 35° | 3039.2 | 2251.8 | 1420.4 | 960.2 | 914.0 |
| 37.5° | 2780.1 | 1897.7 | 1067.5 | 801.9 | 809.6 |
| 40° | 2492.6 | 1588.9 | 809.2 | 735.2 | 749.8 |
| 42.5° | 2206.1 | 1328.9 | 673.2 | 691.6 | 695.9 |
| 45° | 1843.4 | 1087.6 | 622.3 | 645.8 | 620.2 |
| 47.5° | 1526.5 | 888.8 | 586.4 | 583.8 | 547.5 |
| 50° | 1158.6 | 724.5 | 559.0 | 528.2 | 509.0 |
| 52.5° | 858.0 | 611.2 | 532.9 | 499.1 | 479.5 |
| 55° | 609.0 | 535.1 | 494.4 | 477.3 | 427.7 |
| 57.5° | 457.6 | 481.2 | 464.9 | 426.4 | 391.8 |
| 60° | 395.6 | 433.7 | 447.8 | 402.0 | 368.3 |
| 62.5° | 357.1 | 393.1 | 420.0 | 387.5 | 337.0 |
| 65° | 316.5 | 353.7 | 381.1 | 372.5 | 273.7 |
| 67.5° | 281.0 | 322.5 | 356.3 | 319.5 | 223.7 |
| 70° | 246.4 | 284.8 | 328.9 | 271.2 | 167.2 |
| 72.5° | 209.1 | 238.2 | 291.3 | 210.9 | 121.9 |
| 75° | 175.8 | 196.7 | 249.8 | 181.3 | 108.2 |
| 77.5° | 140.7 | 158.2 | 171.1 | 165.1 | 95.4 |
| 80° | 109.5 | 127.0 | 139.0 | 150.1 | 82.1 |
| 82.5° | 79.6 | 91.1 | 110.3 | 133.0 | 68.4 |
| 85° | 48.8 | 59.5 | 84.7 | 112.5 | 50.9 |
| 87.5° | 21.0 | 36.4 | 62.0 | 93.2 | 33.4 |
| 90° | 0.9 | 18.0 | 42.3 | 72.7 | 15.0 |
| 92.5° | 0.4 | 7.7 | 27.4 | 53.5 | 9.8 |
| 95° | 0.4 | 3.0 | 16.7 | 36.4 | 7.7 |
| 97.5° | 0.4 | 1.3 | 8.6 | 23.5 | 5.6 |
| 100° | 0.4 | 0.9 | 4.7 | 13.7 | 3.8 |
| 102.5° | 0.4 | 0.9 | 2.1 | 6.8 | 3.0 |
| 105° | 0.4 | 0.9 | 1.7 | 3.0 | 2.6 |
| 107.5° | 0.4 | 0.9 | 1.3 | 2.1 | 2.1 |
| 110° | 0.4 | 0.9 | 1.3 | 2.1 | 2.1 |



TEST NUMBER: P685740
 CATALOG NUMBER: 4CZL-7-UNV-N-LVR-L850-CD-U

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.4 | 0.9 | 1.3 | 2.1 | 2.1 |
| 115° | 0.4 | 0.9 | 1.3 | 1.7 | 1.7 |
| 117.5° | 0.4 | 0.9 | 1.3 | 1.7 | 1.7 |
| 120° | 0.4 | 0.9 | 1.3 | 1.7 | 1.7 |
| 122.5° | 0.4 | 0.9 | 1.3 | 1.7 | 1.7 |
| 125° | 0.9 | 0.9 | 1.3 | 1.7 | 1.7 |
| 127.5° | 0.9 | 1.3 | 1.3 | 1.7 | 1.7 |
| 130° | 0.9 | 1.3 | 1.3 | 1.7 | 1.7 |
| 132.5° | 0.9 | 1.3 | 1.3 | 1.7 | 1.7 |
| 135° | 0.9 | 1.3 | 1.3 | 1.7 | 1.7 |
| 137.5° | 0.9 | 1.3 | 1.7 | 1.7 | 1.7 |
| 140° | 1.3 | 1.7 | 1.7 | 1.7 | 1.7 |
| 142.5° | 1.3 | 1.7 | 1.7 | 2.1 | 1.7 |
| 145° | 1.3 | 1.7 | 1.7 | 2.1 | 2.1 |
| 147.5° | 1.3 | 1.7 | 2.1 | 2.1 | 2.1 |
| 150° | 1.3 | 1.7 | 2.1 | 2.6 | 2.6 |
| 152.5° | 1.7 | 1.7 | 2.1 | 2.6 | 2.6 |
| 155° | 1.7 | 2.1 | 2.1 | 2.6 | 2.6 |
| 157.5° | 1.7 | 2.1 | 2.1 | 2.6 | 3.0 |
| 160° | 1.7 | 2.1 | 2.6 | 3.0 | 3.0 |
| 162.5° | 1.7 | 2.1 | 2.6 | 3.0 | 3.0 |
| 165° | 2.1 | 2.6 | 2.6 | 3.0 | 3.0 |
| 167.5° | 2.1 | 2.6 | 3.0 | 3.0 | 3.4 |
| 170° | 2.1 | 2.6 | 3.0 | 3.4 | 3.4 |
| 172.5° | 2.1 | 2.6 | 3.0 | 3.4 | 3.4 |
| 175° | 2.1 | 2.6 | 3.0 | 3.4 | 3.8 |
| 177.5° | 2.1 | 2.6 | 3.0 | 3.4 | 3.8 |
| 180° | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

(END OF REPORT)