

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: P685841

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685841
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-9-UNV-W-LVR-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH WIDE LENS @80 CRI and 3500K
Light Source: (588) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

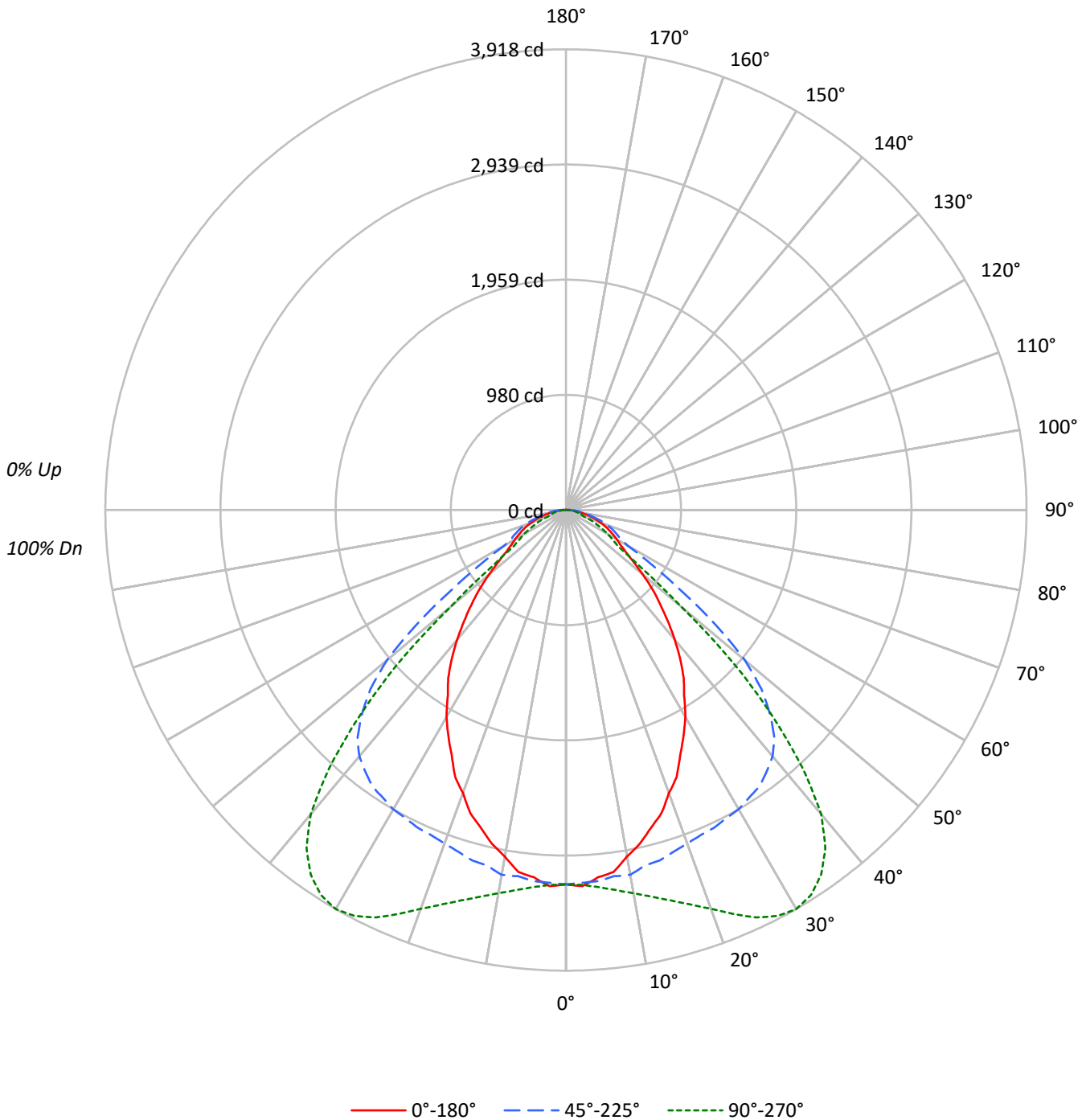
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7573.9 lumens
Efficiency: N/A
Efficacy: 140.3 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.64 / 1.46
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

TEST NUMBER: P685841
CATALOG NUMBER: 4CZL-9-UNV-W-LVR-L835-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685841
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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 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 89 | 89 | 89 | 87 |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 88 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 77 | 77 | 77 | 75 |
| 3 | 94 | 85 | 78 | 72 | 92 | 83 | 77 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 68 | 68 | 68 | 66 |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 68 | 62 | 72 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 59 | 59 | 59 | 59 | 57 |
| 5 | 80 | 69 | 61 | 55 | 78 | 68 | 60 | 54 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 53 | 53 | 53 | 51 |
| 6 | 75 | 62 | 54 | 48 | 73 | 62 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 47 | 47 | 47 | 45 |
| 7 | 69 | 57 | 49 | 43 | 68 | 56 | 48 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 42 | 42 | 42 | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 51 | 44 | 39 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 38 | 38 | 38 | 36 |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 34 | 34 | 34 | 34 | 33 |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 41 | 35 | 31 | 31 | 31 | 31 | 30 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 10280 | 10280 | 10280 |
| 5° | 10162 | 10268 | 10436 |
| 10° | 9812 | 10330 | 10851 |
| 15° | 9350 | 10311 | 11490 |
| 20° | 8801 | 10367 | 12401 |
| 25° | 8194 | 10622 | 13621 |
| 30° | 7576 | 10958 | 14611 |
| 35° | 6883 | 11312 | 14917 |
| 40° | 6068 | 11526 | 14232 |
| 45° | 5173 | 11211 | 11410 |
| 50° | 4287 | 9969 | 6475 |
| 55° | 3492 | 6736 | 3097 |
| 60° | 3224 | 3916 | 2675 |
| 65° | 3108 | 3603 | 2175 |
| 70° | 2933 | 3535 | 1554 |
| 75° | 2730 | 3226 | 1511 |
| 80° | 2488 | 3171 | 1659 |
| 85° | 1908 | 3798 | 1830 |



TEST NUMBER: P685841
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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 302.7 | 4.0 |
| 10°-20° | 878.7 | 11.6 |
| 20°-30° | 1394.4 | 18.4 |
| 30°-40° | 1741.6 | 23.0 |
| 40°-50° | 1599.6 | 21.1 |
| 50°-60° | 853.7 | 11.3 |
| 60°-70° | 439.4 | 5.8 |
| 70°-80° | 241.6 | 3.2 |
| 80°-90° | 99.7 | 1.3 |
| 90°-100° | 19.2 | 0.3 |
| 100°-110° | 1.0 | 0.0 |
| 110°-120° | 0.2 | 0.0 |
| 120°-130° | 0.3 | 0.0 |
| 130°-140° | 0.6 | 0.0 |
| 140°-150° | 0.5 | 0.0 |
| 150°-160° | 0.4 | 0.0 |
| 160°-170° | 0.3 | 0.0 |
| 170°-180° | 0.1 | 0.0 |
| 0°-30° | 2575.8 | 34.0 |
| 0°-40° | 4317.4 | 57.0 |
| 0°-60° | 6770.6 | 89.4 |
| 0°-90° | 7551.2 | 99.7 |
| 90°-120° | 20.5 | 0.3 |
| 90°-150° | 21.9 | 0.3 |
| 90°-180° | 23.0 | 0.3 |
| 0°-180° | 7573.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 3184 | 3184 | 3184 | 3184 | 3184 | |
| 5° | 3135 | 3143 | 3168 | 3216 | 3220 | 296 |
| 15° | 2797 | 2888 | 3084 | 3335 | 3437 | 786 |
| 25° | 2300 | 2516 | 2981 | 3527 | 3823 | 1060 |
| 35° | 1746 | 2068 | 2870 | 3496 | 3784 | 1084 |
| 45° | 1133 | 1633 | 2455 | 2544 | 2498 | 877 |
| 55° | 620 | 1112 | 1196 | 670 | 550 | 573 |
| 65° | 407 | 533 | 472 | 384 | 285 | 402 |
| 75° | 219 | 243 | 259 | 230 | 121 | 232 |
| 85° | 52 | 67 | 102 | 135 | 49 | 59 |
| 90° | 0 | 19 | 50 | 82 | 11 | 2 |
| 95° | 0 | 2 | 19 | 38 | 5 | 0 |
| 105° | 0 | 0 | 0 | 0 | 0 | 0 |
| 115° | 0 | 0 | 0 | 0 | 0 | 0 |
| 125° | 0 | 0 | 0 | 0 | 0 | 0 |
| 135° | 0 | 1 | 1 | 0 | 0 | 0 |
| 145° | 0 | 1 | 1 | 0 | 0 | 0 |
| 155° | 1 | 1 | 1 | 0 | 0 | 0 |
| 165° | 1 | 2 | 1 | 0 | 0 | 0 |
| 175° | 2 | 2 | 1 | 0 | 0 | 0 |
| 180° | 1 | 1 | 1 | 1 | 1 | |



TEST NUMBER: P685841

CATALOG NUMBER: 4CZL-9-UNV-W-LVR-L835-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 3183.5 | 3183.5 | 3183.5 | 3183.5 | 3183.5 |
| 2.5° | 3202.0 | 3195.1 | 3172.3 | 3193.0 | 3191.4 |
| 5° | 3135.1 | 3143.1 | 3167.5 | 3216.4 | 3219.6 |
| 7.5° | 3105.4 | 3127.2 | 3141.0 | 3246.7 | 3260.5 |
| 10° | 2992.3 | 3026.3 | 3150.5 | 3260.5 | 3309.3 |
| 12.5° | 2907.3 | 2975.8 | 3096.4 | 3282.8 | 3367.7 |
| 15° | 2796.9 | 2888.2 | 3084.2 | 3335.3 | 3436.8 |
| 17.5° | 2702.9 | 2796.3 | 3047.0 | 3375.2 | 3516.9 |
| 20° | 2561.1 | 2730.5 | 3016.7 | 3416.6 | 3608.8 |
| 22.5° | 2459.7 | 2631.2 | 2993.4 | 3453.2 | 3717.7 |
| 25° | 2299.8 | 2516.0 | 2981.1 | 3527.0 | 3822.8 |
| 27.5° | 2166.0 | 2418.8 | 2954.1 | 3574.3 | 3892.4 |
| 30° | 2031.7 | 2299.8 | 2938.7 | 3582.8 | 3918.4 |
| 32.5° | 1869.7 | 2203.2 | 2899.9 | 3563.1 | 3881.2 |
| 35° | 1746.0 | 2068.3 | 2869.6 | 3495.7 | 3784.0 |
| 37.5° | 1595.2 | 1962.1 | 2803.3 | 3373.6 | 3624.7 |
| 40° | 1439.6 | 1863.9 | 2734.2 | 3182.9 | 3376.2 |
| 42.5° | 1282.4 | 1753.4 | 2623.8 | 2928.6 | 2987.5 |
| 45° | 1132.7 | 1632.9 | 2454.9 | 2544.1 | 2498.4 |
| 47.5° | 998.3 | 1503.3 | 2255.2 | 2061.9 | 1954.7 |
| 50° | 853.3 | 1371.6 | 1984.4 | 1569.7 | 1288.8 |
| 52.5° | 722.7 | 1261.7 | 1611.6 | 1063.1 | 801.8 |
| 55° | 620.2 | 1112.0 | 1196.4 | 670.1 | 550.1 |
| 57.5° | 547.5 | 997.3 | 863.4 | 530.0 | 471.0 |
| 60° | 499.2 | 853.9 | 606.4 | 486.4 | 414.2 |
| 62.5° | 451.4 | 675.5 | 518.8 | 443.4 | 348.3 |
| 65° | 406.8 | 533.1 | 471.5 | 384.5 | 284.6 |
| 67.5° | 360.6 | 432.8 | 425.9 | 348.9 | 237.4 |
| 70° | 310.6 | 355.8 | 374.4 | 292.1 | 164.6 |
| 72.5° | 266.0 | 298.4 | 318.6 | 249.6 | 139.7 |
| 75° | 218.8 | 242.7 | 258.6 | 229.9 | 121.1 |
| 77.5° | 173.6 | 195.4 | 210.8 | 208.2 | 106.2 |
| 80° | 133.8 | 148.2 | 170.5 | 186.4 | 89.2 |
| 82.5° | 91.3 | 102.0 | 134.3 | 160.9 | 69.6 |
| 85° | 51.5 | 67.4 | 102.5 | 134.9 | 49.4 |
| 87.5° | 14.9 | 39.8 | 74.3 | 108.3 | 28.7 |
| 90° | 0.0 | 19.1 | 50.4 | 81.8 | 10.6 |
| 92.5° | 0.0 | 7.4 | 32.9 | 57.4 | 7.4 |
| 95° | 0.0 | 2.1 | 19.1 | 37.7 | 4.8 |
| 97.5° | 0.0 | 0.5 | 9.0 | 22.3 | 2.1 |
| 100° | 0.0 | 0.5 | 3.2 | 10.6 | 0.5 |
| 102.5° | 0.0 | 0.5 | 1.1 | 3.7 | 0.0 |
| 105° | 0.0 | 0.5 | 0.5 | 0.5 | 0.0 |
| 107.5° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |
| 110° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |



TEST NUMBER: P685841
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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |
| 115° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |
| 117.5° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |
| 120° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |
| 122.5° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |
| 125° | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 |
| 127.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.0 |
| 130° | 0.5 | 1.1 | 1.1 | 0.5 | 0.0 |
| 132.5° | 0.5 | 1.1 | 1.1 | 0.5 | 0.0 |
| 135° | 0.5 | 1.1 | 1.1 | 0.5 | 0.5 |
| 137.5° | 0.5 | 1.1 | 1.1 | 0.5 | 0.5 |
| 140° | 0.5 | 1.1 | 1.1 | 0.5 | 0.5 |
| 142.5° | 0.5 | 1.1 | 1.1 | 0.5 | 0.5 |
| 145° | 0.5 | 1.1 | 1.1 | 0.5 | 0.5 |
| 147.5° | 0.5 | 1.1 | 1.1 | 0.5 | 0.5 |
| 150° | 0.5 | 1.1 | 1.1 | 0.5 | 0.5 |
| 152.5° | 1.1 | 1.1 | 1.1 | 0.5 | 0.5 |
| 155° | 1.1 | 1.1 | 1.1 | 0.5 | 0.5 |
| 157.5° | 1.1 | 1.1 | 1.1 | 0.5 | 0.5 |
| 160° | 1.1 | 1.1 | 1.1 | 0.5 | 0.5 |
| 162.5° | 1.1 | 1.6 | 1.1 | 0.5 | 0.5 |
| 165° | 1.1 | 1.6 | 1.1 | 0.5 | 0.5 |
| 167.5° | 1.1 | 1.6 | 1.1 | 0.5 | 0.5 |
| 170° | 1.1 | 1.6 | 1.1 | 0.5 | 0.5 |
| 172.5° | 1.1 | 1.6 | 1.1 | 0.5 | 0.5 |
| 175° | 1.6 | 1.6 | 1.1 | 0.5 | 0.5 |
| 177.5° | 1.6 | 1.6 | 1.1 | 1.1 | 1.1 |
| 180° | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |

(END OF REPORT)