

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: P685670

Luminaire Tested: **4CZL-7-UNV-LVR-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685670
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-7-UNV-LVR-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL @80 CRI and 4000K
Light Source: (392) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

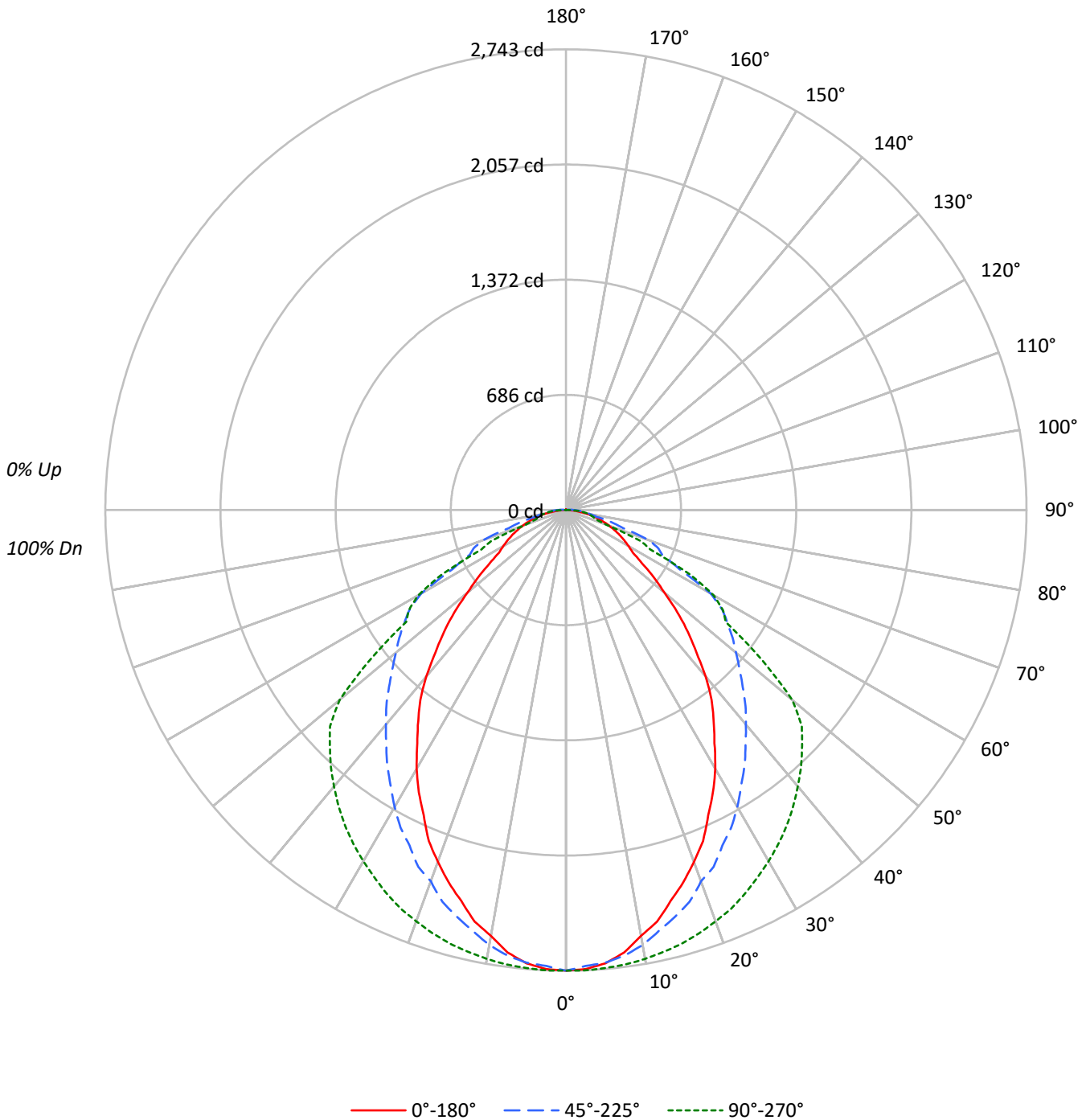
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6211.3 lumens
Efficiency: N/A
Efficacy: 141.2 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.31 / 1.26
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 (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: P685670
CATALOG NUMBER: 4CZL-7-UNV-LVR-L840-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685670
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 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 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 92 | 90 | 91 | 89 | 88 | 88 | 88 | 88 | 85 |
| 2 | 101 | 93 | 87 | 81 | 98 | 91 | 85 | 80 | 88 | 83 | 78 | 84 | 80 | 77 | 81 | 78 | 75 | 75 | 75 | 75 | 73 |
| 3 | 92 | 82 | 75 | 69 | 90 | 81 | 74 | 68 | 78 | 72 | 67 | 75 | 70 | 66 | 73 | 68 | 65 | 65 | 65 | 65 | 63 |
| 4 | 85 | 74 | 65 | 59 | 83 | 72 | 65 | 59 | 70 | 63 | 58 | 68 | 62 | 57 | 65 | 60 | 56 | 56 | 56 | 56 | 54 |
| 5 | 78 | 66 | 58 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 51 | 61 | 55 | 50 | 59 | 54 | 49 | 49 | 49 | 49 | 47 |
| 6 | 73 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 45 | 56 | 49 | 44 | 54 | 48 | 44 | 44 | 44 | 44 | 42 |
| 7 | 68 | 55 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 40 | 49 | 44 | 39 | 39 | 39 | 39 | 37 |
| 8 | 63 | 50 | 42 | 36 | 61 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 35 | 35 | 35 | 34 |
| 9 | 59 | 46 | 38 | 33 | 58 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 32 | 32 | 32 | 30 |
| 10 | 55 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 39 | 34 | 29 | 29 | 29 | 29 | 28 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 8857 | 8857 | 8857 |
| 5° | 8780 | 8768 | 8872 |
| 10° | 8439 | 8624 | 8898 |
| 15° | 8056 | 8383 | 8934 |
| 20° | 7660 | 8086 | 8955 |
| 25° | 7143 | 7853 | 8984 |
| 30° | 6633 | 7611 | 8999 |
| 35° | 6046 | 7313 | 9040 |
| 40° | 5455 | 7028 | 9057 |
| 45° | 4692 | 6802 | 9080 |
| 50° | 3835 | 6642 | 8842 |
| 55° | 3122 | 6616 | 6540 |
| 60° | 2784 | 6432 | 6561 |
| 65° | 2692 | 4827 | 4231 |
| 70° | 2586 | 4946 | 2405 |
| 75° | 2493 | 3486 | 2147 |
| 80° | 2272 | 2836 | 2559 |
| 85° | 2034 | 3535 | 3186 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 256.9 | 4.1 |
| 10°-20° | 712.2 | 11.5 |
| 20°-30° | 1030.3 | 16.6 |
| 30°-40° | 1176.0 | 18.9 |
| 40°-50° | 1155.5 | 18.6 |
| 50°-60° | 921.7 | 14.8 |
| 60°-70° | 580.6 | 9.3 |
| 70°-80° | 257.2 | 4.1 |
| 80°-90° | 98.6 | 1.6 |
| 90°-100° | 19.6 | 0.3 |
| 100°-110° | 1.3 | 0.0 |
| 110°-120° | 0.1 | 0.0 |
| 120°-130° | 0.2 | 0.0 |
| 130°-140° | 0.3 | 0.0 |
| 140°-150° | 0.3 | 0.0 |
| 150°-160° | 0.2 | 0.0 |
| 160°-170° | 0.2 | 0.0 |
| 170°-180° | 0.1 | 0.0 |
| 0°-30° | 1999.4 | 32.2 |
| 0°-40° | 3175.4 | 51.1 |
| 0°-60° | 5252.6 | 84.6 |
| 0°-90° | 6189.0 | 99.6 |
| 90°-120° | 21.0 | 0.3 |
| 90°-150° | 21.8 | 0.4 |
| 90°-180° | 22.0 | 0.4 |
| 0°-180° | 6211.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 2743 | 2743 | 2743 | 2743 | 2743 | |
| 5° | 2709 | 2715 | 2705 | 2727 | 2737 | 254 |
| 15° | 2410 | 2433 | 2508 | 2625 | 2672 | 678 |
| 25° | 2005 | 2070 | 2204 | 2406 | 2522 | 924 |
| 35° | 1534 | 1627 | 1855 | 2128 | 2293 | 959 |
| 45° | 1027 | 1177 | 1490 | 1823 | 1988 | 790 |
| 55° | 555 | 751 | 1175 | 1267 | 1162 | 510 |
| 65° | 352 | 480 | 632 | 673 | 554 | 349 |
| 75° | 200 | 231 | 279 | 212 | 172 | 209 |
| 85° | 55 | 67 | 95 | 123 | 86 | 58 |
| 90° | 0 | 23 | 50 | 73 | 14 | 3 |
| 95° | 0 | 3 | 21 | 36 | 5 | 0 |
| 105° | 0 | 0 | 0 | 1 | 0 | 0 |
| 115° | 0 | 0 | 0 | 0 | 0 | 0 |
| 125° | 0 | 1 | 0 | 0 | 0 | 0 |
| 135° | 0 | 1 | 0 | 0 | 0 | 0 |
| 145° | 1 | 1 | 0 | 0 | 0 | 1 |
| 155° | 1 | 1 | 0 | 0 | 0 | 0 |
| 165° | 1 | 1 | 1 | 0 | 0 | 0 |
| 175° | 1 | 1 | 1 | 0 | 0 | 0 |
| 180° | 1 | 1 | 1 | 1 | 1 | |



TEST NUMBER: P685670

CATALOG NUMBER: 4CZL-7-UNV-LVR-L840-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 2742.7 | 2742.7 | 2742.7 | 2742.7 | 2742.7 |
| 2.5° | 2735.4 | 2733.7 | 2717.1 | 2740.5 | 2743.1 |
| 5° | 2708.6 | 2714.6 | 2704.8 | 2727.3 | 2737.1 |
| 7.5° | 2657.1 | 2663.5 | 2675.0 | 2716.3 | 2728.2 |
| 10° | 2573.6 | 2589.8 | 2630.2 | 2688.2 | 2713.7 |
| 12.5° | 2509.7 | 2529.7 | 2565.9 | 2664.3 | 2693.7 |
| 15° | 2409.6 | 2433.4 | 2507.6 | 2625.1 | 2672.4 |
| 17.5° | 2324.4 | 2367.8 | 2446.6 | 2575.7 | 2641.7 |
| 20° | 2229.0 | 2263.9 | 2352.9 | 2527.1 | 2605.9 |
| 22.5° | 2133.6 | 2177.9 | 2299.3 | 2462.4 | 2569.7 |
| 25° | 2004.9 | 2069.7 | 2203.9 | 2405.8 | 2521.6 |
| 27.5° | 1895.9 | 1977.7 | 2131.9 | 2338.9 | 2467.9 |
| 30° | 1778.8 | 1842.2 | 2041.1 | 2270.7 | 2413.4 |
| 32.5° | 1646.7 | 1746.4 | 1943.2 | 2192.8 | 2356.3 |
| 35° | 1533.8 | 1626.7 | 1855.0 | 2128.5 | 2293.3 |
| 37.5° | 1424.8 | 1512.1 | 1757.5 | 2055.6 | 2223.4 |
| 40° | 1294.0 | 1409.0 | 1667.2 | 1972.6 | 2148.5 |
| 42.5° | 1149.2 | 1290.2 | 1583.2 | 1894.2 | 2072.2 |
| 45° | 1027.4 | 1176.9 | 1489.5 | 1823.1 | 1988.3 |
| 47.5° | 900.9 | 1058.5 | 1401.8 | 1736.6 | 1905.3 |
| 50° | 763.3 | 955.0 | 1322.1 | 1656.5 | 1760.0 |
| 52.5° | 662.8 | 847.2 | 1250.6 | 1511.7 | 1483.6 |
| 55° | 554.6 | 750.9 | 1175.2 | 1267.2 | 1161.6 |
| 57.5° | 472.4 | 664.1 | 1104.5 | 995.0 | 1108.7 |
| 60° | 431.1 | 594.6 | 995.9 | 947.3 | 1015.9 |
| 62.5° | 392.3 | 533.7 | 761.6 | 888.5 | 835.7 |
| 65° | 352.3 | 479.6 | 631.7 | 673.0 | 553.7 |
| 67.5° | 313.5 | 432.8 | 595.5 | 502.6 | 482.2 |
| 70° | 273.9 | 396.6 | 523.9 | 428.5 | 254.7 |
| 72.5° | 236.4 | 354.8 | 358.2 | 237.3 | 189.1 |
| 75° | 199.8 | 230.9 | 279.4 | 211.7 | 172.1 |
| 77.5° | 159.7 | 198.1 | 187.0 | 189.5 | 155.9 |
| 80° | 122.2 | 136.3 | 152.5 | 169.5 | 137.6 |
| 82.5° | 86.5 | 101.4 | 123.5 | 148.2 | 112.9 |
| 85° | 54.9 | 66.9 | 95.4 | 123.1 | 86.0 |
| 87.5° | 21.7 | 42.2 | 71.1 | 99.2 | 50.7 |
| 90° | 0.4 | 23.0 | 50.3 | 73.3 | 14.1 |
| 92.5° | 0.4 | 10.6 | 33.6 | 53.7 | 7.2 |
| 95° | 0.4 | 3.4 | 20.9 | 35.8 | 4.7 |
| 97.5° | 0.4 | 1.3 | 11.1 | 22.1 | 2.6 |
| 100° | 0.4 | 0.4 | 4.7 | 11.9 | 1.3 |
| 102.5° | 0.4 | 0.4 | 1.7 | 4.7 | 0.4 |
| 105° | 0.4 | 0.4 | 0.4 | 1.3 | 0.0 |
| 107.5° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 110° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P685670
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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 115° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 117.5° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 120° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 122.5° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 125° | 0.4 | 0.9 | 0.0 | 0.0 | 0.0 |
| 127.5° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 130° | 0.4 | 0.9 | 0.4 | 0.0 | 0.0 |
| 132.5° | 0.4 | 0.9 | 0.4 | 0.0 | 0.0 |
| 135° | 0.4 | 0.9 | 0.4 | 0.0 | 0.0 |
| 137.5° | 0.4 | 0.9 | 0.4 | 0.0 | 0.0 |
| 140° | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 142.5° | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 145° | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 147.5° | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 150° | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 152.5° | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 155° | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 157.5° | 0.9 | 1.3 | 0.4 | 0.0 | 0.0 |
| 160° | 1.3 | 1.3 | 0.4 | 0.0 | 0.0 |
| 162.5° | 1.3 | 1.3 | 0.9 | 0.4 | 0.0 |
| 165° | 1.3 | 1.3 | 0.9 | 0.4 | 0.0 |
| 167.5° | 1.3 | 1.3 | 0.9 | 0.4 | 0.0 |
| 170° | 1.3 | 1.3 | 0.9 | 0.4 | 0.4 |
| 172.5° | 1.3 | 1.3 | 0.9 | 0.4 | 0.4 |
| 175° | 1.3 | 1.3 | 0.9 | 0.4 | 0.4 |
| 177.5° | 1.3 | 1.3 | 0.9 | 0.4 | 0.4 |
| 180° | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |

(END OF REPORT)