

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: P685829

Luminaire Tested: **4CZL-5-UNV-M-LVR-L950-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685829
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-5-UNV-M-LVR-L950-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @90 CRI and 5000K
Light Source: (392) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

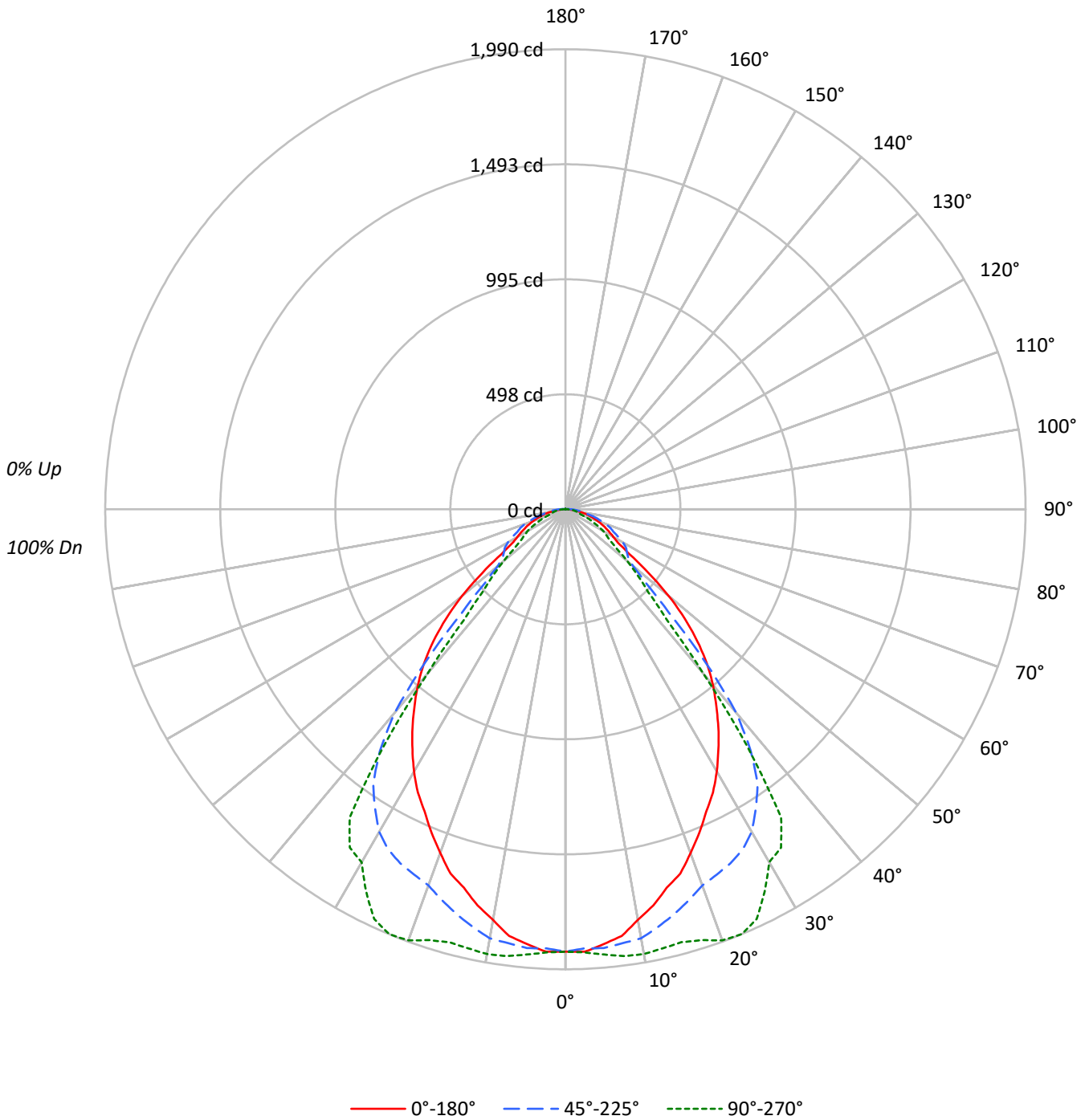
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3539.1 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.34 / 1.2
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31
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: P685829
CATALOG NUMBER: 4CZL-5-UNV-M-LVR-L950-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685829

CATALOG NUMBER: 4CZL-5-UNV-M-LVR-L950-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 | 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 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 98 | 95 | 96 | 94 | 92 | 93 | 91 | 90 | 93 | 91 | 90 | 88 |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 84 | 91 | 86 | 83 | 87 | 84 | 81 | 84 | 81 | 79 | 84 | 81 | 79 | 77 |
| 3 | 95 | 87 | 80 | 74 | 93 | 85 | 79 | 74 | 82 | 77 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 77 | 73 | 70 | 68 |
| 4 | 89 | 78 | 71 | 65 | 86 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 67 | 63 | 70 | 66 | 62 | 70 | 66 | 62 | 60 |
| 5 | 83 | 72 | 64 | 58 | 81 | 70 | 63 | 58 | 68 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 65 | 60 | 56 | 54 |
| 6 | 77 | 65 | 58 | 52 | 75 | 65 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 55 | 51 | 60 | 55 | 51 | 49 |
| 7 | 72 | 60 | 53 | 47 | 70 | 59 | 52 | 47 | 58 | 51 | 47 | 57 | 51 | 46 | 55 | 50 | 46 | 55 | 50 | 46 | 44 |
| 8 | 68 | 56 | 48 | 43 | 66 | 55 | 48 | 43 | 54 | 47 | 42 | 52 | 47 | 42 | 51 | 46 | 42 | 51 | 46 | 42 | 40 |
| 9 | 64 | 52 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 39 | 48 | 42 | 39 | 48 | 42 | 39 | 37 |
| 10 | 60 | 48 | 41 | 36 | 59 | 47 | 41 | 36 | 46 | 40 | 36 | 46 | 40 | 36 | 45 | 39 | 35 | 45 | 39 | 35 | 34 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6178 | 6178 | 6178 |
| 5° | 6121 | 6176 | 6268 |
| 10° | 5914 | 6180 | 6405 |
| 15° | 5665 | 6064 | 6481 |
| 20° | 5436 | 5949 | 6818 |
| 25° | 5136 | 6020 | 6969 |
| 30° | 4882 | 6007 | 6573 |
| 35° | 4546 | 5712 | 6409 |
| 40° | 4185 | 4842 | 3906 |
| 45° | 3687 | 2886 | 2315 |
| 50° | 2926 | 1917 | 1747 |
| 55° | 1894 | 1823 | 1326 |
| 60° | 1547 | 1853 | 1218 |
| 65° | 1473 | 1746 | 995 |
| 70° | 1399 | 1752 | 786 |
| 75° | 1329 | 1641 | 731 |
| 80° | 1229 | 1549 | 822 |
| 85° | 1100 | 1893 | 1008 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 181.6 | 5.1 |
| 10°-20° | 515.0 | 14.6 |
| 20°-30° | 776.6 | 21.9 |
| 30°-40° | 858.1 | 24.2 |
| 40°-50° | 538.0 | 15.2 |
| 50°-60° | 289.7 | 8.2 |
| 60°-70° | 196.7 | 5.6 |
| 70°-80° | 117.5 | 3.3 |
| 80°-90° | 51.0 | 1.4 |
| 90°-100° | 11.2 | 0.3 |
| 100°-110° | 1.3 | 0.0 |
| 110°-120° | 0.5 | 0.0 |
| 120°-130° | 0.4 | 0.0 |
| 130°-140° | 0.5 | 0.0 |
| 140°-150° | 0.4 | 0.0 |
| 150°-160° | 0.3 | 0.0 |
| 160°-170° | 0.3 | 0.0 |
| 170°-180° | 0.1 | 0.0 |
| 0°-30° | 1473.1 | 41.6 |
| 0°-40° | 2331.2 | 65.9 |
| 0°-60° | 3158.9 | 89.3 |
| 0°-90° | 3524.2 | 99.6 |
| 90°-120° | 12.9 | 0.4 |
| 90°-150° | 14.2 | 0.4 |
| 90°-180° | 15.0 | 0.4 |
| 0°-180° | 3539.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1913 | 1913 | 1913 | 1913 | 1913 | |
| 5° | 1888 | 1892 | 1905 | 1928 | 1934 | 178 |
| 15° | 1694 | 1754 | 1814 | 1902 | 1938 | 478 |
| 25° | 1442 | 1529 | 1690 | 1870 | 1956 | 665 |
| 35° | 1153 | 1289 | 1449 | 1559 | 1626 | 720 |
| 45° | 807 | 879 | 632 | 515 | 507 | 616 |
| 55° | 336 | 352 | 324 | 280 | 236 | 327 |
| 65° | 193 | 212 | 228 | 186 | 130 | 191 |
| 75° | 106 | 118 | 132 | 108 | 59 | 112 |
| 85° | 30 | 36 | 51 | 67 | 27 | 32 |
| 90° | 1 | 11 | 26 | 43 | 8 | 2 |
| 95° | 0 | 2 | 10 | 22 | 4 | 0 |
| 105° | 0 | 0 | 1 | 2 | 1 | 0 |
| 115° | 0 | 0 | 0 | 0 | 0 | 0 |
| 125° | 0 | 0 | 0 | 0 | 0 | 0 |
| 135° | 0 | 0 | 1 | 1 | 1 | 0 |
| 145° | 0 | 1 | 1 | 1 | 1 | 0 |
| 155° | 1 | 1 | 1 | 1 | 1 | 0 |
| 165° | 1 | 1 | 1 | 1 | 1 | 0 |
| 175° | 1 | 1 | 1 | 1 | 1 | 0 |
| 180° | 1 | 1 | 1 | 1 | 1 | |



TEST NUMBER: P685829

CATALOG NUMBER: 4CZL-5-UNV-M-LVR-L950-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1913.3 | 1913.3 | 1913.3 | 1913.3 | 1913.3 |
| 2.5° | 1915.8 | 1910.5 | 1900.8 | 1918.3 | 1918.5 |
| 5° | 1888.3 | 1891.6 | 1905.3 | 1927.7 | 1933.7 |
| 7.5° | 1861.6 | 1874.1 | 1892.6 | 1946.7 | 1949.4 |
| 10° | 1803.5 | 1829.4 | 1884.6 | 1936.7 | 1953.4 |
| 12.5° | 1755.1 | 1793.5 | 1850.4 | 1919.0 | 1945.0 |
| 15° | 1694.5 | 1753.8 | 1814.0 | 1901.8 | 1938.5 |
| 17.5° | 1652.1 | 1699.7 | 1773.3 | 1893.8 | 1953.9 |
| 20° | 1582.0 | 1649.1 | 1731.1 | 1899.3 | 1983.9 |
| 22.5° | 1513.8 | 1595.4 | 1709.9 | 1901.3 | 1990.1 |
| 25° | 1441.5 | 1529.1 | 1689.5 | 1869.6 | 1955.9 |
| 27.5° | 1381.6 | 1455.0 | 1659.0 | 1803.5 | 1865.9 |
| 30° | 1309.3 | 1395.6 | 1610.9 | 1702.5 | 1762.8 |
| 32.5° | 1231.4 | 1341.0 | 1532.8 | 1625.1 | 1734.9 |
| 35° | 1153.1 | 1288.6 | 1449.0 | 1558.8 | 1625.9 |
| 37.5° | 1071.3 | 1245.4 | 1317.3 | 1335.0 | 1289.1 |
| 40° | 992.7 | 1185.3 | 1148.6 | 977.2 | 926.6 |
| 42.5° | 906.9 | 1056.1 | 895.9 | 672.4 | 649.6 |
| 45° | 807.3 | 878.9 | 631.9 | 515.2 | 506.9 |
| 47.5° | 701.3 | 680.6 | 471.3 | 430.6 | 425.9 |
| 50° | 582.5 | 544.1 | 381.5 | 380.0 | 347.8 |
| 52.5° | 454.1 | 432.1 | 342.0 | 329.6 | 278.4 |
| 55° | 336.5 | 352.0 | 323.8 | 280.2 | 235.5 |
| 57.5° | 269.4 | 305.4 | 311.1 | 244.7 | 210.6 |
| 60° | 239.5 | 267.2 | 286.9 | 225.0 | 188.6 |
| 62.5° | 214.8 | 236.8 | 257.0 | 208.8 | 162.7 |
| 65° | 192.8 | 212.1 | 228.5 | 185.6 | 130.2 |
| 67.5° | 169.6 | 189.6 | 209.8 | 159.4 | 110.8 |
| 70° | 148.2 | 169.4 | 185.6 | 141.5 | 83.3 |
| 72.5° | 126.0 | 147.9 | 155.2 | 118.3 | 66.6 |
| 75° | 106.5 | 118.5 | 131.5 | 108.0 | 58.6 |
| 77.5° | 86.1 | 96.3 | 101.5 | 99.0 | 51.6 |
| 80° | 66.1 | 74.3 | 83.3 | 90.1 | 44.2 |
| 82.5° | 48.4 | 54.4 | 66.6 | 79.3 | 35.4 |
| 85° | 29.7 | 36.4 | 51.1 | 67.4 | 27.2 |
| 87.5° | 13.2 | 21.7 | 37.7 | 55.6 | 17.5 |
| 90° | 0.7 | 11.2 | 25.9 | 43.2 | 8.0 |
| 92.5° | 0.2 | 5.0 | 17.0 | 31.9 | 5.5 |
| 95° | 0.2 | 1.7 | 10.2 | 22.2 | 4.0 |
| 97.5° | 0.2 | 0.7 | 5.7 | 14.2 | 2.5 |
| 100° | 0.2 | 0.5 | 2.7 | 8.2 | 1.7 |
| 102.5° | 0.2 | 0.5 | 1.2 | 4.0 | 1.2 |
| 105° | 0.2 | 0.5 | 0.7 | 1.7 | 0.7 |
| 107.5° | 0.2 | 0.5 | 0.5 | 0.7 | 0.5 |
| 110° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |



TEST NUMBER: P685829
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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 115° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 117.5° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 120° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 122.5° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 125° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 127.5° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 130° | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| 132.5° | 0.5 | 0.5 | 0.7 | 0.7 | 0.7 |
| 135° | 0.5 | 0.5 | 0.7 | 0.7 | 0.7 |
| 137.5° | 0.5 | 0.7 | 0.7 | 0.7 | 0.7 |
| 140° | 0.5 | 0.7 | 0.7 | 0.7 | 0.7 |
| 142.5° | 0.5 | 0.7 | 0.7 | 0.7 | 0.7 |
| 145° | 0.5 | 0.7 | 0.7 | 0.7 | 1.0 |
| 147.5° | 0.5 | 0.7 | 0.7 | 0.7 | 1.0 |
| 150° | 0.5 | 0.7 | 0.7 | 0.7 | 0.7 |
| 152.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| 155° | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| 157.5° | 0.7 | 0.7 | 0.7 | 1.0 | 1.0 |
| 160° | 0.7 | 1.0 | 1.0 | 1.0 | 1.0 |
| 162.5° | 0.7 | 1.0 | 1.0 | 1.0 | 1.0 |
| 165° | 0.7 | 1.0 | 1.0 | 1.0 | 1.0 |
| 167.5° | 0.7 | 1.0 | 1.0 | 1.0 | 1.2 |
| 170° | 1.0 | 1.0 | 1.0 | 1.2 | 1.2 |
| 172.5° | 1.0 | 1.0 | 1.0 | 1.2 | 1.2 |
| 175° | 1.0 | 1.0 | 1.0 | 1.2 | 1.2 |
| 177.5° | 1.0 | 1.2 | 1.0 | 1.2 | 1.5 |
| 180° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |

(END OF REPORT)