

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: P685915

Luminaire Tested: **8CZL-14-UNV-LVRF-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685915
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8CZL-14-UNV-LVRF-L840-CD-U
Description: METALUX CRUZE LINEAR 8FT LOUVER MODEL WITH FROSTED LAY-IN @80 CRI and 4000K
Light Source: (784) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

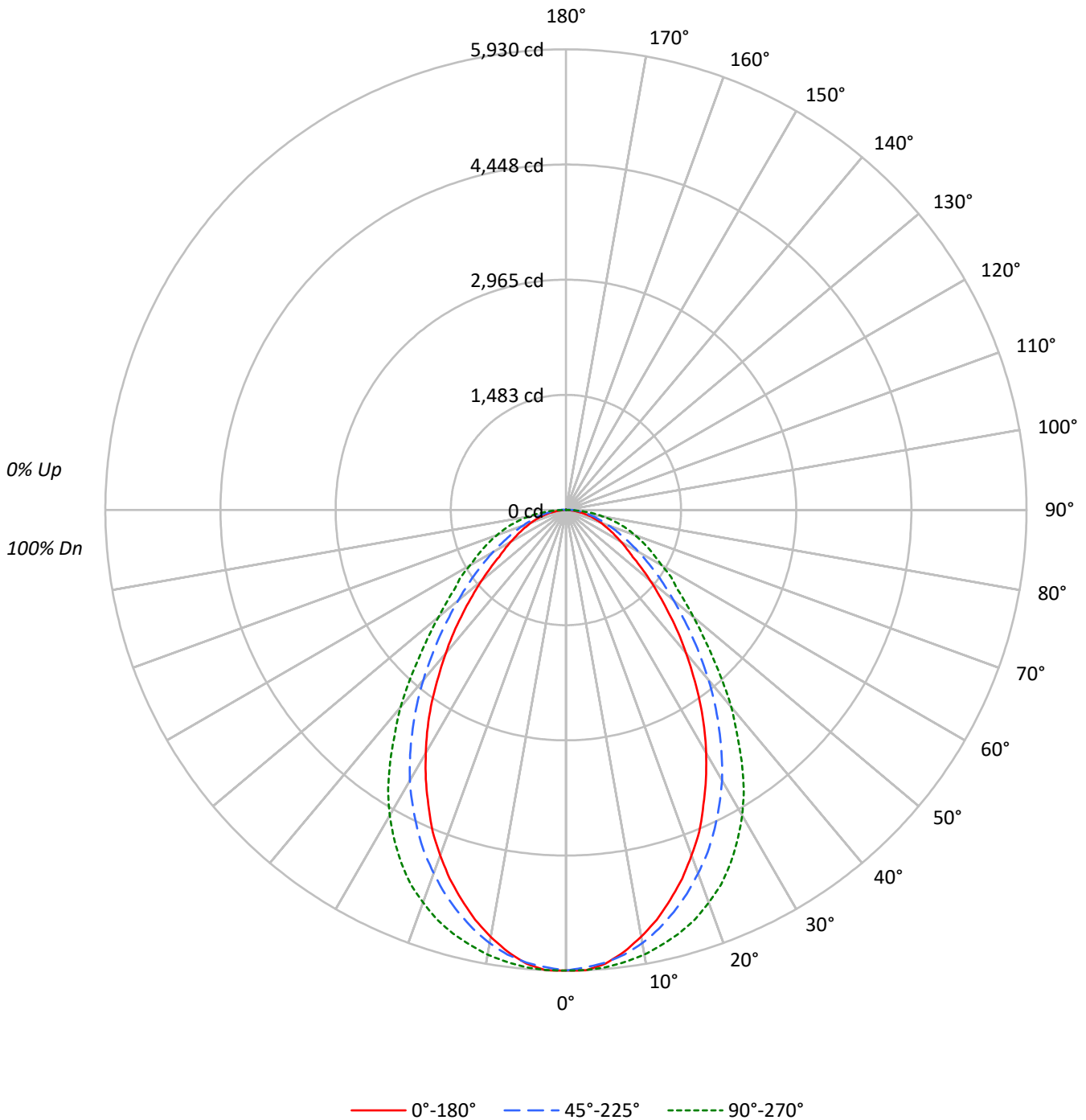
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10934.5 lumens
Efficiency: N/A
Efficacy: 122.9 lumens/watt
Spacing Criteria (0/90/45): 0.97 / 1.15 / 1.12
Luminous Opening: Rectangular (W 0.83' x L: 8' x H: 0')
CIE Type: Direct

Input Watts (W): 89
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: P685915
CATALOG NUMBER: 8CZL-14-UNV-LVRF-L840-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685915

CATALOG NUMBER: 8CZL-14-UNV-LVRF-L840-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 | 110 | 106 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 88 | 88 | 88 | 86 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 85 | 82 | 78 | 82 | 79 | 76 | 76 | 76 | 76 | 74 |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 70 | 80 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 67 | 67 | 67 | 67 | 65 |
| 4 | 87 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 66 | 61 | 70 | 64 | 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 | 63 | 55 | 49 | 73 | 62 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 48 | 57 | 51 | 47 | 47 | 47 | 47 | 45 |
| 7 | 70 | 57 | 49 | 44 | 68 | 57 | 49 | 44 | 55 | 48 | 43 | 54 | 48 | 43 | 52 | 47 | 43 | 43 | 43 | 43 | 41 |
| 8 | 65 | 53 | 45 | 40 | 64 | 52 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 39 | 39 | 39 | 37 |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 36 | 36 | 36 | 34 |
| 10 | 58 | 46 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 33 | 33 | 33 | 31 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 9571 | 9571 | 9571 |
| 5° | 9501 | 9479 | 9574 |
| 10° | 9145 | 9281 | 9527 |
| 15° | 8678 | 8957 | 9427 |
| 20° | 8127 | 8548 | 9239 |
| 25° | 7462 | 8065 | 8933 |
| 30° | 6726 | 7495 | 8459 |
| 35° | 5924 | 6779 | 7769 |
| 40° | 5070 | 6019 | 6986 |
| 45° | 4272 | 5246 | 6085 |
| 50° | 3567 | 4547 | 5380 |
| 55° | 2952 | 3995 | 4877 |
| 60° | 2660 | 3502 | 4600 |
| 65° | 2418 | 3082 | 4498 |
| 70° | 2252 | 2767 | 4464 |
| 75° | 2089 | 2583 | 4555 |
| 80° | 1893 | 2559 | 4563 |
| 85° | 1625 | 2999 | 4513 |



TEST NUMBER: P685915
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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 554.6 | 5.1 |
| 10°-20° | 1515.7 | 13.9 |
| 20°-30° | 2094.3 | 19.2 |
| 30°-40° | 2154.4 | 19.7 |
| 40°-50° | 1766.2 | 16.2 |
| 50°-60° | 1267.4 | 11.6 |
| 60°-70° | 852.4 | 7.8 |
| 70°-80° | 497.5 | 4.5 |
| 80°-90° | 191.7 | 1.8 |
| 90°-100° | 33.2 | 0.3 |
| 100°-110° | 2.8 | 0.0 |
| 110°-120° | 0.6 | 0.0 |
| 120°-130° | 0.5 | 0.0 |
| 130°-140° | 0.7 | 0.0 |
| 140°-150° | 0.9 | 0.0 |
| 150°-160° | 0.7 | 0.0 |
| 160°-170° | 0.6 | 0.0 |
| 170°-180° | 0.2 | 0.0 |
| 0°-30° | 4164.6 | 38.1 |
| 0°-40° | 6319.0 | 57.8 |
| 0°-60° | 9352.6 | 85.5 |
| 0°-90° | 10894.2 | 99.6 |
| 90°-120° | 36.6 | 0.3 |
| 90°-150° | 38.7 | 0.4 |
| 90°-180° | 40.0 | 0.4 |
| 0°-180° | 10934.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 5928 | 5928 | 5928 | 5928 | 5928 | |
| 5° | 5862 | 5866 | 5848 | 5903 | 5907 | 550 |
| 15° | 5191 | 5244 | 5358 | 5566 | 5640 | 1456 |
| 25° | 4189 | 4287 | 4527 | 4842 | 5014 | 1923 |
| 35° | 3006 | 3144 | 3439 | 3761 | 3942 | 1873 |
| 45° | 1871 | 2016 | 2298 | 2523 | 2665 | 1452 |
| 55° | 1049 | 1174 | 1419 | 1614 | 1733 | 965 |
| 65° | 633 | 670 | 807 | 1036 | 1177 | 631 |
| 75° | 335 | 347 | 414 | 575 | 730 | 355 |
| 85° | 88 | 109 | 162 | 242 | 244 | 95 |
| 90° | 1 | 37 | 83 | 126 | 26 | 5 |
| 95° | 1 | 6 | 35 | 60 | 11 | 0 |
| 105° | 0 | 1 | 2 | 3 | 2 | 0 |
| 115° | 1 | 1 | 1 | 0 | 0 | 1 |
| 125° | 1 | 1 | 1 | 0 | 0 | 1 |
| 135° | 1 | 2 | 1 | 1 | 0 | 1 |
| 145° | 2 | 2 | 2 | 1 | 1 | 1 |
| 155° | 2 | 3 | 2 | 1 | 1 | 1 |
| 165° | 3 | 3 | 3 | 2 | 1 | 1 |
| 175° | 3 | 3 | 3 | 2 | 2 | 0 |
| 180° | 3 | 3 | 3 | 3 | 3 | |

TEST NUMBER: P685915

CATALOG NUMBER: 8CZL-14-UNV-LVRF-L840-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 5927.5 | 5927.5 | 5927.5 | 5927.5 | 5927.5 |
| 2.5° | 5930.0 | 5924.9 | 5891.7 | 5930.0 | 5928.3 |
| 5° | 5861.9 | 5866.1 | 5848.2 | 5902.8 | 5907.0 |
| 7.5° | 5734.9 | 5752.0 | 5771.6 | 5851.6 | 5866.1 |
| 10° | 5578.2 | 5603.7 | 5660.8 | 5780.1 | 5810.8 |
| 12.5° | 5401.8 | 5430.0 | 5522.8 | 5687.2 | 5729.8 |
| 15° | 5191.4 | 5244.2 | 5358.4 | 5566.3 | 5639.5 |
| 17.5° | 4974.2 | 5038.9 | 5180.4 | 5426.6 | 5525.4 |
| 20° | 4729.7 | 4794.4 | 4975.0 | 5249.4 | 5377.1 |
| 22.5° | 4484.4 | 4547.4 | 4768.0 | 5060.2 | 5219.5 |
| 25° | 4188.8 | 4286.7 | 4527.0 | 4842.2 | 5014.2 |
| 27.5° | 3905.9 | 4009.9 | 4277.3 | 4615.5 | 4786.8 |
| 30° | 3607.8 | 3729.6 | 4020.1 | 4342.9 | 4537.2 |
| 32.5° | 3312.2 | 3435.7 | 3732.1 | 4068.6 | 4261.2 |
| 35° | 3005.5 | 3144.3 | 3439.1 | 3761.1 | 3941.7 |
| 37.5° | 2694.5 | 2846.2 | 3149.4 | 3466.3 | 3612.0 |
| 40° | 2405.7 | 2554.8 | 2855.5 | 3139.2 | 3314.7 |
| 42.5° | 2139.1 | 2285.6 | 2564.2 | 2821.5 | 2979.1 |
| 45° | 1870.8 | 2016.4 | 2297.6 | 2523.3 | 2664.7 |
| 47.5° | 1630.5 | 1779.6 | 2041.1 | 2269.4 | 2387.9 |
| 50° | 1420.1 | 1555.6 | 1810.3 | 2017.3 | 2141.7 |
| 52.5° | 1227.6 | 1351.1 | 1603.3 | 1804.3 | 1924.4 |
| 55° | 1048.7 | 1173.9 | 1419.3 | 1613.5 | 1732.7 |
| 57.5° | 928.6 | 1018.0 | 1238.7 | 1454.2 | 1607.5 |
| 60° | 823.8 | 879.2 | 1084.5 | 1340.0 | 1424.4 |
| 62.5° | 717.3 | 767.6 | 936.2 | 1161.1 | 1292.3 |
| 65° | 633.0 | 670.4 | 806.7 | 1035.9 | 1177.3 |
| 67.5° | 549.5 | 577.6 | 694.3 | 914.9 | 1058.0 |
| 70° | 477.1 | 494.9 | 586.1 | 795.7 | 945.6 |
| 72.5° | 408.1 | 417.4 | 499.2 | 686.6 | 835.7 |
| 75° | 334.8 | 346.7 | 414.0 | 575.0 | 730.1 |
| 77.5° | 264.9 | 282.0 | 341.6 | 479.6 | 609.1 |
| 80° | 203.6 | 217.2 | 275.2 | 394.4 | 490.7 |
| 82.5° | 141.4 | 160.2 | 214.7 | 311.8 | 375.7 |
| 85° | 87.7 | 109.0 | 161.9 | 241.9 | 243.6 |
| 87.5° | 36.6 | 68.2 | 118.4 | 178.9 | 124.4 |
| 90° | 0.9 | 36.6 | 82.6 | 126.1 | 26.4 |
| 92.5° | 0.0 | 17.0 | 56.2 | 90.3 | 15.3 |
| 95° | 0.9 | 6.0 | 34.9 | 60.5 | 11.1 |
| 97.5° | 0.0 | 1.7 | 18.7 | 38.3 | 6.8 |
| 100° | 0.0 | 0.9 | 7.7 | 21.3 | 4.3 |
| 102.5° | 0.0 | 0.9 | 3.4 | 9.4 | 2.6 |
| 105° | 0.0 | 0.9 | 1.7 | 3.4 | 1.7 |
| 107.5° | 0.0 | 0.9 | 0.9 | 0.9 | 0.9 |
| 110° | 0.9 | 0.9 | 0.9 | 0.9 | 0.0 |



TEST NUMBER: P685915

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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.0 | 0.9 | 0.9 | 0.0 | 0.0 |
| 115° | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 117.5° | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 120° | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 122.5° | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 125° | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 127.5° | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 130° | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 132.5° | 0.9 | 1.7 | 0.9 | 0.9 | 0.0 |
| 135° | 0.9 | 1.7 | 0.9 | 0.9 | 0.0 |
| 137.5° | 0.9 | 1.7 | 0.9 | 0.9 | 0.0 |
| 140° | 0.9 | 1.7 | 0.9 | 0.9 | 0.9 |
| 142.5° | 1.7 | 1.7 | 1.7 | 0.9 | 0.9 |
| 145° | 1.7 | 1.7 | 1.7 | 0.9 | 0.9 |
| 147.5° | 1.7 | 1.7 | 1.7 | 0.9 | 0.9 |
| 150° | 1.7 | 1.7 | 1.7 | 0.9 | 0.9 |
| 152.5° | 1.7 | 2.6 | 1.7 | 0.9 | 0.9 |
| 155° | 1.7 | 2.6 | 1.7 | 0.9 | 0.9 |
| 157.5° | 1.7 | 2.6 | 1.7 | 0.9 | 0.9 |
| 160° | 1.7 | 2.6 | 1.7 | 0.9 | 0.9 |
| 162.5° | 2.6 | 2.6 | 1.7 | 1.7 | 0.9 |
| 165° | 2.6 | 2.6 | 2.6 | 1.7 | 0.9 |
| 167.5° | 2.6 | 2.6 | 2.6 | 1.7 | 0.9 |
| 170° | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 |
| 172.5° | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 |
| 175° | 2.6 | 3.4 | 2.6 | 1.7 | 1.7 |
| 177.5° | 2.6 | 3.4 | 2.6 | 1.7 | 1.7 |
| 180° | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |

(END OF REPORT)