

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: P685627

Luminaire Tested: **8CZL-24-UNV-FUL-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685627
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8CZL-24-UNV-FUL-L850-CD-U
Description: METALUX CRUZE LINEAR 8FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 5000K
Light Source: (1176) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

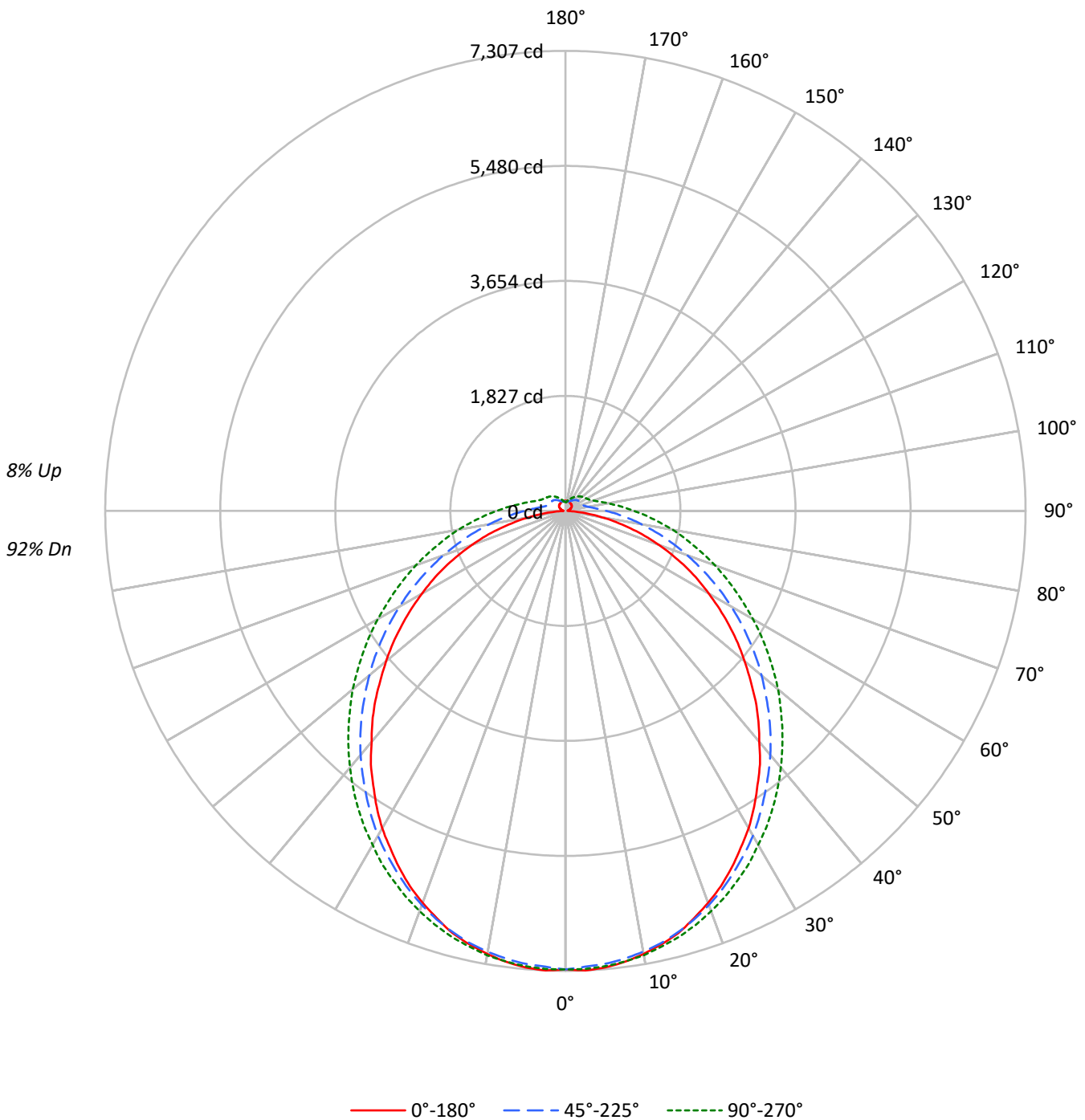
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22721.9 lumens
Efficiency: N/A
Efficacy: 147.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.34
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 8' x H: 0.17')
CIE Type: Direct

Input Watts (W): 154
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: P685627
CATALOG NUMBER: 8CZL-24-UNV-FUL-L850-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685627
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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 | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 107 | 107 | 107 | 100 | 100 | 100 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| 1 | 106 | 101 | 96 | 92 | 102 | 98 | 93 | 90 | 92 | 88 | 85 | 87 | 84 | 81 | 82 | 79 | 77 | 77 | 77 | 77 | 75 |
| 2 | 96 | 87 | 80 | 74 | 93 | 85 | 78 | 73 | 80 | 74 | 70 | 75 | 71 | 67 | 71 | 68 | 64 | 64 | 64 | 64 | 62 |
| 3 | 87 | 77 | 68 | 61 | 84 | 74 | 67 | 60 | 70 | 64 | 58 | 66 | 61 | 56 | 63 | 58 | 54 | 54 | 54 | 54 | 52 |
| 4 | 80 | 68 | 59 | 52 | 77 | 66 | 58 | 51 | 62 | 55 | 50 | 59 | 53 | 48 | 56 | 51 | 47 | 47 | 47 | 47 | 44 |
| 5 | 74 | 61 | 51 | 45 | 71 | 59 | 50 | 44 | 56 | 49 | 43 | 53 | 47 | 42 | 50 | 45 | 41 | 41 | 41 | 41 | 38 |
| 6 | 68 | 54 | 45 | 39 | 65 | 53 | 45 | 38 | 50 | 43 | 38 | 48 | 42 | 37 | 46 | 40 | 36 | 36 | 36 | 36 | 33 |
| 7 | 63 | 49 | 41 | 34 | 61 | 48 | 40 | 34 | 46 | 39 | 33 | 44 | 37 | 32 | 42 | 36 | 32 | 32 | 32 | 32 | 30 |
| 8 | 59 | 45 | 37 | 31 | 57 | 44 | 36 | 30 | 42 | 35 | 30 | 40 | 34 | 29 | 38 | 33 | 28 | 28 | 28 | 28 | 26 |
| 9 | 55 | 41 | 33 | 28 | 53 | 40 | 33 | 27 | 39 | 32 | 27 | 37 | 31 | 26 | 35 | 30 | 26 | 26 | 26 | 26 | 24 |
| 10 | 51 | 38 | 30 | 25 | 50 | 37 | 30 | 25 | 36 | 29 | 24 | 34 | 28 | 24 | 33 | 27 | 23 | 23 | 23 | 23 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 11760 | 11760 | 11760 |
| 5° | 11776 | 11548 | 11565 |
| 10° | 11673 | 11344 | 11350 |
| 15° | 11539 | 11112 | 11106 |
| 20° | 11297 | 10832 | 10837 |
| 25° | 11026 | 10511 | 10548 |
| 30° | 10722 | 10186 | 10235 |
| 35° | 10331 | 9799 | 9934 |
| 40° | 9920 | 9431 | 9603 |
| 45° | 9552 | 9025 | 9265 |
| 50° | 9107 | 8611 | 8941 |
| 55° | 8676 | 8182 | 8583 |
| 60° | 8194 | 7729 | 8249 |
| 65° | 7723 | 7261 | 7935 |
| 70° | 7037 | 6808 | 7698 |
| 75° | 6188 | 6390 | 7486 |
| 80° | 4967 | 6079 | 7540 |
| 85° | 3126 | 5994 | 7765 |



TEST NUMBER: P685627
 CATALOG NUMBER: 8CZL-24-UNV-FUL-L850-CD-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 689.0 | 3.0 |
| 10°-20° | 1960.3 | 8.6 |
| 20°-30° | 2927.0 | 12.9 |
| 30°-40° | 3460.2 | 15.2 |
| 40°-50° | 3526.0 | 15.5 |
| 50°-60° | 3179.3 | 14.0 |
| 60°-70° | 2515.7 | 11.1 |
| 70°-80° | 1700.1 | 7.5 |
| 80°-90° | 950.8 | 4.2 |
| 90°-100° | 517.4 | 2.3 |
| 100°-110° | 339.4 | 1.5 |
| 110°-120° | 269.2 | 1.2 |
| 120°-130° | 229.0 | 1.0 |
| 130°-140° | 183.2 | 0.8 |
| 140°-150° | 131.1 | 0.6 |
| 150°-160° | 84.5 | 0.4 |
| 160°-170° | 45.6 | 0.2 |
| 170°-180° | 14.3 | 0.1 |
| 0°-30° | 5576.3 | 24.5 |
| 0°-40° | 9036.5 | 39.8 |
| 0°-60° | 15741.8 | 69.3 |
| 0°-90° | 20908.4 | 92.0 |
| 90°-120° | 1125.9 | 5.0 |
| 90°-150° | 1669.1 | 7.3 |
| 90°-180° | 1814.0 | 8.0 |
| 0°-180° | 22721.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 7284 | 7284 | 7284 | 7284 | 7284 | |
| 5° | 7279 | 7268 | 7222 | 7263 | 7260 | 690 |
| 15° | 6942 | 6933 | 6926 | 6986 | 7000 | 1953 |
| 25° | 6250 | 6279 | 6330 | 6448 | 6473 | 2877 |
| 35° | 5318 | 5391 | 5515 | 5690 | 5746 | 3329 |
| 45° | 4270 | 4355 | 4570 | 4783 | 4869 | 3289 |
| 55° | 3174 | 3292 | 3555 | 3824 | 3920 | 2839 |
| 65° | 2112 | 2218 | 2537 | 2849 | 2968 | 2085 |
| 75° | 1069 | 1217 | 1621 | 1980 | 2096 | 1136 |
| 85° | 209 | 469 | 901 | 1252 | 1377 | 256 |
| 90° | 32 | 258 | 648 | 968 | 1088 | 24 |
| 95° | 35 | 169 | 476 | 761 | 868 | 30 |
| 105° | 60 | 150 | 311 | 491 | 564 | 63 |
| 115° | 94 | 162 | 278 | 380 | 422 | 93 |
| 125° | 124 | 168 | 264 | 342 | 370 | 110 |
| 135° | 137 | 165 | 245 | 305 | 326 | 106 |
| 145° | 143 | 158 | 206 | 260 | 275 | 90 |
| 155° | 153 | 155 | 171 | 215 | 220 | 71 |
| 165° | 159 | 156 | 153 | 161 | 174 | 45 |
| 175° | 161 | 158 | 152 | 133 | 134 | 15 |
| 180° | 149 | 149 | 149 | 149 | 149 | |

TEST NUMBER: P685627

CATALOG NUMBER: 8CZL-24-UNV-FUL-L850-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 7283.5 | 7283.5 | 7283.5 | 7283.5 | 7283.5 |
| 2.5° | 7306.9 | 7295.2 | 7247.0 | 7285.0 | 7283.5 |
| 5° | 7279.2 | 7267.5 | 7222.2 | 7263.1 | 7260.2 |
| 7.5° | 7225.1 | 7217.8 | 7175.5 | 7220.7 | 7219.3 |
| 10° | 7146.3 | 7146.3 | 7109.7 | 7162.3 | 7166.7 |
| 12.5° | 7051.3 | 7049.9 | 7030.9 | 7084.9 | 7084.9 |
| 15° | 6941.8 | 6933.0 | 6925.7 | 6985.6 | 7000.2 |
| 17.5° | 6785.5 | 6791.4 | 6804.5 | 6876.1 | 6890.7 |
| 20° | 6624.9 | 6638.0 | 6662.8 | 6747.5 | 6766.5 |
| 22.5° | 6452.5 | 6467.1 | 6506.6 | 6598.6 | 6629.2 |
| 25° | 6249.5 | 6278.7 | 6329.8 | 6448.1 | 6473.0 |
| 27.5° | 6030.4 | 6081.6 | 6147.3 | 6272.9 | 6315.2 |
| 30° | 5820.1 | 5861.0 | 5955.9 | 6087.4 | 6123.9 |
| 32.5° | 5577.7 | 5627.3 | 5738.3 | 5896.1 | 5945.7 |
| 35° | 5317.7 | 5390.7 | 5514.9 | 5690.1 | 5745.6 |
| 37.5° | 5075.3 | 5133.7 | 5287.0 | 5474.0 | 5539.7 |
| 40° | 4789.0 | 4883.9 | 5060.7 | 5244.7 | 5320.6 |
| 42.5° | 4537.8 | 4619.6 | 4818.2 | 5021.2 | 5100.1 |
| 45° | 4270.5 | 4355.2 | 4569.9 | 4783.2 | 4869.3 |
| 47.5° | 3984.3 | 4085.0 | 4314.3 | 4552.4 | 4632.7 |
| 50° | 3715.5 | 3820.7 | 4066.1 | 4307.0 | 4407.8 |
| 52.5° | 3451.2 | 3560.7 | 3814.8 | 4069.0 | 4162.4 |
| 55° | 3173.7 | 3292.0 | 3554.9 | 3823.6 | 3920.0 |
| 57.5° | 2902.0 | 3020.3 | 3300.7 | 3578.2 | 3681.9 |
| 60° | 2628.9 | 2739.9 | 3040.8 | 3325.6 | 3439.5 |
| 62.5° | 2373.3 | 2481.4 | 2791.0 | 3097.7 | 3197.0 |
| 65° | 2111.9 | 2218.5 | 2536.9 | 2849.4 | 2967.7 |
| 67.5° | 1841.7 | 1970.2 | 2290.1 | 2617.2 | 2742.8 |
| 70° | 1575.9 | 1707.3 | 2060.8 | 2401.1 | 2526.7 |
| 72.5° | 1324.7 | 1473.7 | 1830.0 | 2177.6 | 2306.1 |
| 75° | 1069.1 | 1216.6 | 1621.2 | 1980.4 | 2095.8 |
| 77.5° | 828.1 | 1000.4 | 1416.7 | 1778.9 | 1914.7 |
| 80° | 597.3 | 793.1 | 1232.7 | 1587.6 | 1730.7 |
| 82.5° | 392.9 | 616.3 | 1061.8 | 1413.8 | 1542.3 |
| 85° | 208.9 | 468.8 | 901.1 | 1251.7 | 1377.3 |
| 87.5° | 81.8 | 347.6 | 766.8 | 1104.1 | 1229.7 |
| 90° | 32.1 | 258.5 | 648.5 | 968.3 | 1088.1 |
| 92.5° | 32.1 | 201.5 | 552.1 | 858.8 | 971.2 |
| 95° | 35.1 | 169.4 | 476.1 | 760.9 | 867.5 |
| 97.5° | 38.0 | 153.4 | 416.2 | 674.8 | 769.7 |
| 100° | 43.8 | 147.5 | 371.0 | 604.6 | 690.8 |
| 102.5° | 51.1 | 147.5 | 334.5 | 540.4 | 622.2 |
| 105° | 59.9 | 150.4 | 311.1 | 490.7 | 563.8 |
| 107.5° | 67.2 | 153.4 | 295.0 | 449.8 | 515.6 |
| 110° | 75.9 | 157.7 | 286.3 | 419.2 | 476.1 |

TEST NUMBER: P685627

CATALOG NUMBER: 8CZL-24-UNV-FUL-L850-CD-U

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 84.7 | 160.7 | 280.4 | 397.3 | 446.9 |
| 115° | 93.5 | 162.1 | 277.5 | 379.7 | 422.1 |
| 117.5° | 102.2 | 165.0 | 274.6 | 368.0 | 404.6 |
| 120° | 111.0 | 166.5 | 271.7 | 359.3 | 391.4 |
| 122.5° | 118.3 | 166.5 | 268.7 | 350.5 | 379.7 |
| 125° | 124.1 | 168.0 | 264.4 | 341.8 | 369.5 |
| 127.5° | 128.5 | 169.4 | 261.4 | 333.0 | 357.8 |
| 130° | 132.9 | 168.0 | 257.0 | 324.2 | 347.6 |
| 132.5° | 135.8 | 166.5 | 251.2 | 315.5 | 337.4 |
| 135° | 137.3 | 165.0 | 245.4 | 305.2 | 325.7 |
| 137.5° | 138.7 | 163.6 | 236.6 | 295.0 | 314.0 |
| 140° | 138.7 | 162.1 | 226.4 | 283.3 | 300.9 |
| 142.5° | 140.2 | 159.2 | 216.2 | 271.7 | 287.7 |
| 145° | 143.1 | 157.7 | 205.9 | 260.0 | 274.6 |
| 147.5° | 146.1 | 154.8 | 197.2 | 246.8 | 260.0 |
| 150° | 149.0 | 154.8 | 188.4 | 235.1 | 246.8 |
| 152.5° | 150.4 | 154.8 | 179.6 | 224.9 | 233.7 |
| 155° | 153.4 | 154.8 | 170.9 | 214.7 | 220.5 |
| 157.5° | 154.8 | 154.8 | 165.0 | 201.5 | 207.4 |
| 160° | 156.3 | 156.3 | 159.2 | 186.9 | 195.7 |
| 162.5° | 159.2 | 156.3 | 156.3 | 172.3 | 184.0 |
| 165° | 159.2 | 156.3 | 153.4 | 160.7 | 173.8 |
| 167.5° | 160.7 | 157.7 | 151.9 | 151.9 | 165.0 |
| 170° | 160.7 | 157.7 | 151.9 | 144.6 | 151.9 |
| 172.5° | 160.7 | 157.7 | 151.9 | 138.7 | 141.7 |
| 175° | 160.7 | 157.7 | 151.9 | 132.9 | 134.4 |
| 177.5° | 160.7 | 157.7 | 150.4 | 128.5 | 134.4 |
| 180° | 149.0 | 149.0 | 149.0 | 149.0 | 149.0 |

(END OF REPORT)