

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: P685465

Luminaire Tested: **8CZL-14-UNV-M-L940-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685465
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8CZL-14-UNV-M-L940-CD-U
Description: METALUX CRUZE LINEAR 8FT MEDIUM LENS MODEL @90 CRI and 4000K
Light Source: (784) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

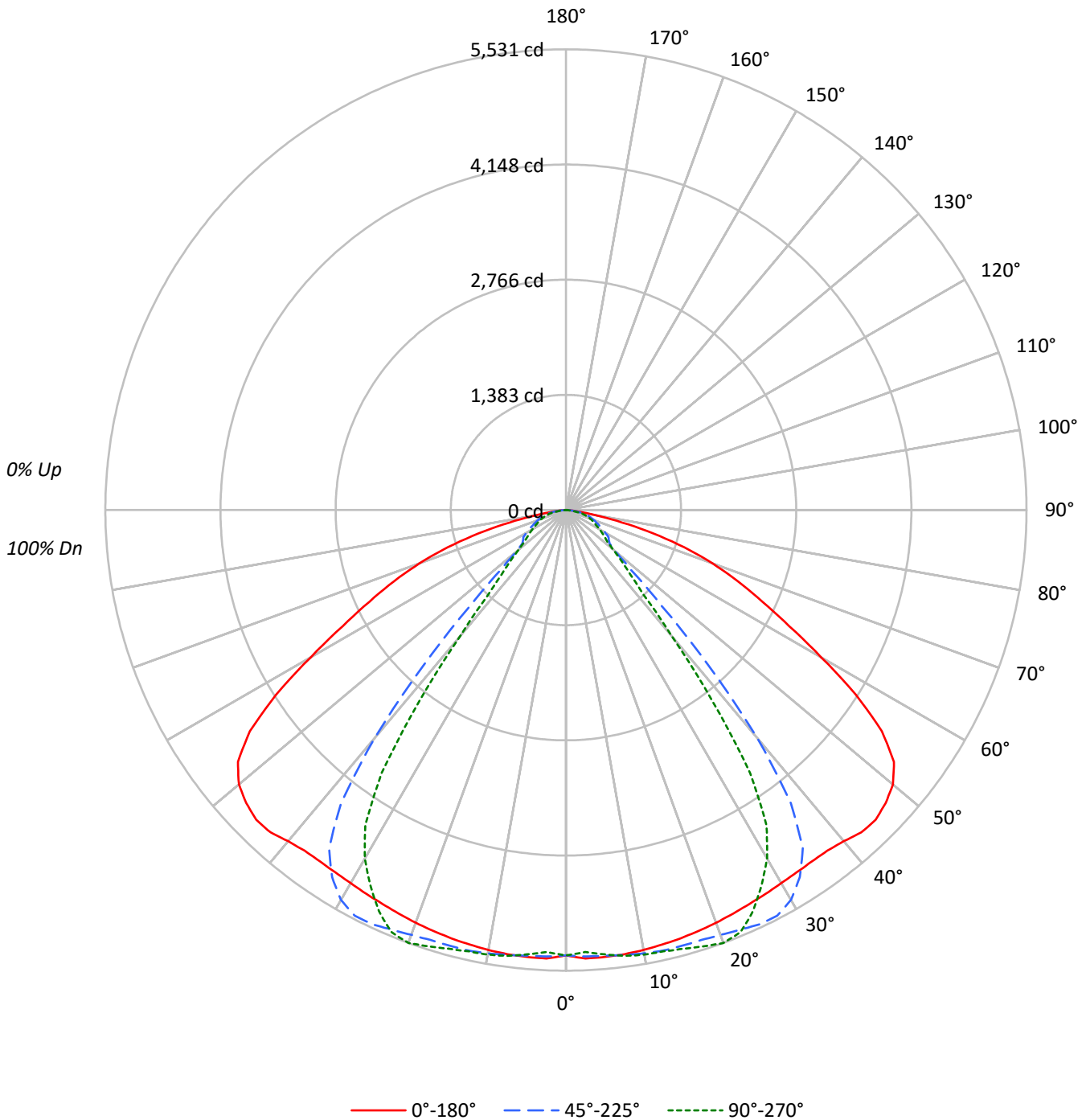
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11552.0 lumens
Efficiency: N/A
Efficacy: 129.8 lumens/watt
Spacing Criteria (0/90/45): 1.48 / 1.28 / 1.22
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 (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

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Luminous Intensity Polar Plot





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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 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 90 | 90 | 90 | 88 |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 79 | 79 | 79 | 77 |
| 3 | 95 | 86 | 80 | 74 | 93 | 85 | 79 | 73 | 82 | 77 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 70 | 70 | 70 | 68 |
| 4 | 88 | 78 | 71 | 65 | 86 | 77 | 70 | 64 | 74 | 68 | 64 | 72 | 67 | 63 | 70 | 66 | 62 | 62 | 62 | 62 | 60 |
| 5 | 82 | 71 | 63 | 57 | 80 | 70 | 63 | 57 | 68 | 61 | 56 | 66 | 60 | 56 | 64 | 59 | 55 | 55 | 55 | 55 | 53 |
| 6 | 76 | 65 | 57 | 51 | 75 | 64 | 56 | 51 | 62 | 55 | 51 | 61 | 55 | 50 | 59 | 54 | 50 | 50 | 50 | 50 | 48 |
| 7 | 71 | 59 | 51 | 46 | 70 | 59 | 51 | 46 | 57 | 50 | 46 | 56 | 50 | 45 | 54 | 49 | 45 | 45 | 45 | 45 | 43 |
| 8 | 67 | 55 | 47 | 42 | 65 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 41 | 41 | 41 | 39 |
| 9 | 63 | 50 | 43 | 38 | 61 | 50 | 43 | 38 | 49 | 42 | 38 | 48 | 42 | 37 | 47 | 41 | 37 | 37 | 37 | 37 | 36 |
| 10 | 59 | 47 | 39 | 35 | 58 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 44 | 38 | 34 | 34 | 34 | 34 | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|------|
| 0° | 8633 | 8633 | 8633 |
| 5° | 8730 | 8705 | 8681 |
| 10° | 8793 | 8862 | 8887 |
| 15° | 8898 | 9050 | 9113 |
| 20° | 9061 | 9326 | 9503 |
| 25° | 9293 | 9781 | 9467 |
| 30° | 9643 | 10075 | 9006 |
| 35° | 10150 | 9773 | 7605 |
| 40° | 10939 | 7537 | 4160 |
| 45° | 12010 | 3705 | 2486 |
| 50° | 12878 | 1936 | 1854 |
| 55° | 13042 | 1768 | 1600 |
| 60° | 11437 | 1762 | 1508 |
| 65° | 9953 | 1693 | 1461 |
| 70° | 8833 | 1715 | 1470 |
| 75° | 6775 | 1761 | 1492 |
| 80° | 3449 | 1789 | 1236 |
| 85° | 1360 | 1008 | 352 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 512.3 | 4.4 |
| 10°-20° | 1527.0 | 13.2 |
| 20°-30° | 2464.4 | 21.3 |
| 30°-40° | 2886.2 | 25.0 |
| 40°-50° | 1964.8 | 17.0 |
| 50°-60° | 1137.7 | 9.8 |
| 60°-70° | 650.4 | 5.6 |
| 70°-80° | 334.8 | 2.9 |
| 80°-90° | 74.5 | 0.6 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 4503.7 | 39.0 |
| 0°-40° | 7389.8 | 64.0 |
| 0°-60° | 10492.2 | 90.8 |
| 0°-90° | 11552.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 11552.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 5347 | 5347 | 5347 | 5347 | 5347 | |
| 5° | 5386 | 5333 | 5371 | 5365 | 5356 | 513 |
| 15° | 5323 | 5315 | 5414 | 5428 | 5452 | 1507 |
| 25° | 5217 | 5290 | 5490 | 5406 | 5314 | 2415 |
| 35° | 5150 | 5404 | 4958 | 4181 | 3858 | 3242 |
| 45° | 5260 | 3913 | 1623 | 1093 | 1089 | 4041 |
| 55° | 4633 | 1343 | 628 | 585 | 568 | 4037 |
| 65° | 2605 | 479 | 443 | 391 | 382 | 2612 |
| 75° | 1086 | 296 | 282 | 246 | 239 | 1155 |
| 85° | 73 | 90 | 54 | 25 | 19 | 124 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P685465

CATALOG NUMBER: 8CZL-14-UNV-M-L940-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5347.0 | 5347.0 | 5347.0 | 5347.0 | 5347.0 | 5347.0 | 5347.0 | 5347.0 | 5347.0 | 5347.0 | 5347.0 |
| 2.5° | 5390.1 | 5374.9 | 5344.5 | 5331.8 | 5331.8 | 5364.7 | 5369.8 | 5349.6 | 5345.8 | 5328.0 | 5311.6 |
| 5° | 5386.3 | 5371.1 | 5342.0 | 5330.6 | 5334.4 | 5371.1 | 5379.9 | 5363.5 | 5368.5 | 5363.5 | 5355.9 |
| 7.5° | 5378.7 | 5362.2 | 5335.6 | 5328.0 | 5339.4 | 5386.3 | 5401.5 | 5392.6 | 5404.0 | 5401.5 | 5398.9 |
| 10° | 5363.5 | 5350.8 | 5325.5 | 5324.2 | 5347.0 | 5405.3 | 5424.2 | 5412.8 | 5416.6 | 5415.4 | 5420.4 |
| 12.5° | 5343.2 | 5331.8 | 5310.3 | 5321.7 | 5354.6 | 5416.6 | 5429.3 | 5411.6 | 5416.6 | 5417.9 | 5426.8 |
| 15° | 5323.0 | 5309.0 | 5295.1 | 5321.7 | 5355.9 | 5414.1 | 5426.8 | 5424.2 | 5439.4 | 5440.7 | 5452.1 |
| 17.5° | 5297.7 | 5288.8 | 5285.0 | 5320.4 | 5347.0 | 5411.6 | 5440.7 | 5455.9 | 5476.1 | 5481.2 | 5492.6 |
| 20° | 5273.6 | 5266.0 | 5274.9 | 5314.1 | 5343.2 | 5428.0 | 5468.5 | 5491.3 | 5512.9 | 5519.2 | 5530.6 |
| 22.5° | 5244.5 | 5239.4 | 5263.5 | 5305.2 | 5349.6 | 5453.4 | 5498.9 | 5501.5 | 5492.6 | 5476.1 | 5483.7 |
| 25° | 5216.6 | 5216.6 | 5252.1 | 5302.7 | 5368.5 | 5490.1 | 5493.9 | 5421.7 | 5357.1 | 5314.1 | 5314.1 |
| 27.5° | 5193.9 | 5198.9 | 5243.2 | 5314.1 | 5405.3 | 5492.6 | 5387.5 | 5244.5 | 5149.5 | 5087.5 | 5083.7 |
| 30° | 5172.3 | 5181.2 | 5243.2 | 5345.8 | 5431.8 | 5404.0 | 5200.2 | 5026.8 | 4895.1 | 4835.6 | 4830.5 |
| 32.5° | 5157.1 | 5171.1 | 5266.0 | 5393.9 | 5400.2 | 5225.5 | 4959.7 | 4740.7 | 4585.0 | 4496.4 | 4481.2 |
| 35° | 5149.5 | 5166.0 | 5309.0 | 5435.6 | 5272.3 | 4958.4 | 4581.2 | 4243.2 | 3996.3 | 3882.4 | 3858.4 |
| 37.5° | 5154.6 | 5183.7 | 5368.5 | 5400.2 | 4952.1 | 4433.1 | 3891.3 | 3406.4 | 3067.2 | 2959.6 | 2884.9 |
| 40° | 5190.1 | 5239.4 | 5415.4 | 5111.6 | 4279.9 | 3576.1 | 2858.3 | 2336.8 | 2102.6 | 2025.4 | 1973.5 |
| 42.5° | 5249.5 | 5298.9 | 5292.6 | 4450.8 | 3343.2 | 2540.6 | 1841.8 | 1529.2 | 1415.2 | 1402.6 | 1378.5 |
| 45° | 5259.7 | 5278.7 | 4895.1 | 3586.2 | 2431.7 | 1622.8 | 1186.1 | 1093.7 | 1091.2 | 1100.0 | 1088.6 |
| 47.5° | 5206.5 | 5169.8 | 4321.7 | 2743.1 | 1674.7 | 1049.4 | 892.4 | 907.6 | 915.2 | 908.9 | 900.0 |
| 50° | 5126.8 | 4991.3 | 3678.6 | 2016.5 | 1116.5 | 770.9 | 778.5 | 792.4 | 765.8 | 748.1 | 738.0 |
| 52.5° | 4964.7 | 4701.4 | 2964.7 | 1429.2 | 772.2 | 658.3 | 719.0 | 678.5 | 640.5 | 630.4 | 629.1 |
| 55° | 4633.1 | 4271.0 | 2281.1 | 1030.4 | 589.9 | 627.9 | 639.3 | 587.4 | 576.0 | 570.9 | 568.4 |
| 57.5° | 4128.0 | 3735.6 | 1715.2 | 744.3 | 517.7 | 606.4 | 555.7 | 535.5 | 524.1 | 520.3 | 516.5 |
| 60° | 3541.9 | 3136.8 | 1278.5 | 546.9 | 502.5 | 545.6 | 503.8 | 484.8 | 472.2 | 467.1 | 467.1 |
| 62.5° | 3022.9 | 2596.3 | 945.6 | 444.3 | 498.8 | 492.4 | 454.4 | 434.2 | 426.6 | 424.1 | 421.5 |
| 65° | 2605.2 | 2088.7 | 682.3 | 411.4 | 465.8 | 443.1 | 406.3 | 392.4 | 387.4 | 382.3 | 382.3 |
| 67.5° | 2233.0 | 1635.5 | 502.5 | 403.8 | 427.9 | 398.7 | 370.9 | 359.5 | 353.2 | 351.9 | 350.6 |
| 70° | 1871.0 | 1205.1 | 382.3 | 395.0 | 406.3 | 363.3 | 336.7 | 322.8 | 315.2 | 311.4 | 311.4 |
| 72.5° | 1489.9 | 826.6 | 305.1 | 363.3 | 372.2 | 321.5 | 294.9 | 284.8 | 278.5 | 274.7 | 273.4 |
| 75° | 1086.1 | 519.0 | 268.4 | 305.1 | 320.3 | 282.3 | 255.7 | 246.8 | 244.3 | 240.5 | 239.2 |
| 77.5° | 691.2 | 310.1 | 229.1 | 249.4 | 262.0 | 238.0 | 217.7 | 206.3 | 205.1 | 201.3 | 200.0 |
| 80° | 370.9 | 198.7 | 183.6 | 196.2 | 203.8 | 192.4 | 168.4 | 145.6 | 139.2 | 134.2 | 132.9 |
| 82.5° | 172.2 | 126.6 | 136.7 | 148.1 | 151.9 | 122.8 | 101.3 | 91.1 | 84.8 | 78.5 | 74.7 |
| 85° | 73.4 | 68.4 | 84.8 | 91.1 | 74.7 | 54.4 | 35.4 | 26.6 | 21.5 | 20.3 | 19.0 |
| 87.5° | 26.6 | 26.6 | 31.6 | 21.5 | 12.7 | 10.1 | 10.1 | 8.9 | 7.6 | 6.3 | 6.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)