

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: P685593

Luminaire Tested: **4CZL-16-UNV-FL-L950-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685593
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-FL-L950-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL @90 CRI and 5000K
Light Source: (588) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

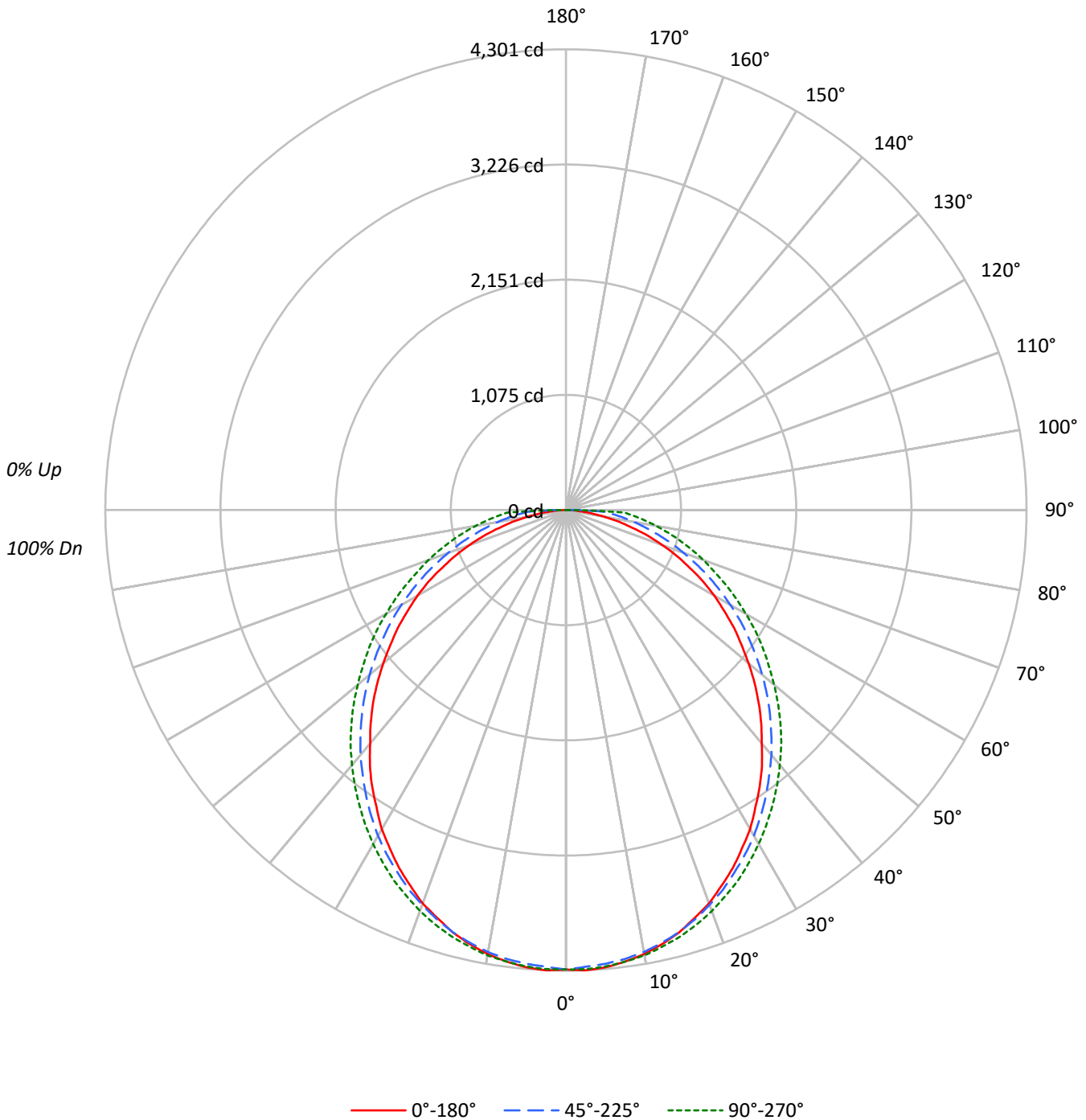
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12081.8 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.34
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 4' x H: 0.08')
CIE Type: Direct

Input Watts (W): 103
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: P685593
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Luminous Intensity Polar Plot





TEST NUMBER: P685593
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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 | 108 | 103 | 98 | 94 | 105 | 101 | 96 | 93 | 96 | 93 | 90 | 92 | 90 | 87 | 89 | 86 | 84 | 84 | 84 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 81 | 75 | 84 | 78 | 74 | 81 | 76 | 72 | 78 | 74 | 70 | 70 | 70 | 70 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 59 | 59 | 59 | 59 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 51 | 51 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 44 | 44 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 68 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 45 | 39 | 50 | 44 | 39 | 39 | 39 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 41 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 35 | 35 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 31 | 31 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 28 | 28 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 26 | 26 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 13851 | 13851 | 13851 |
| 5° | 13865 | 13682 | 13744 |
| 10° | 13749 | 13537 | 13605 |
| 15° | 13571 | 13334 | 13421 |
| 20° | 13330 | 13075 | 13211 |
| 25° | 13012 | 12775 | 12972 |
| 30° | 12673 | 12475 | 12692 |
| 35° | 12256 | 12109 | 12390 |
| 40° | 11788 | 11740 | 12084 |
| 45° | 11390 | 11330 | 11765 |
| 50° | 10910 | 10906 | 11393 |
| 55° | 10466 | 10444 | 11057 |
| 60° | 9976 | 9981 | 10672 |
| 65° | 9326 | 9482 | 10336 |
| 70° | 8570 | 8927 | 10132 |
| 75° | 7456 | 8445 | 10015 |
| 80° | 6020 | 8098 | 10148 |
| 85° | 3854 | 8161 | 10994 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 405.7 | 3.4 |
| 10°-20° | 1154.5 | 9.6 |
| 20°-30° | 1724.3 | 14.3 |
| 30°-40° | 2039.3 | 16.9 |
| 40°-50° | 2077.9 | 17.2 |
| 50°-60° | 1861.9 | 15.4 |
| 60°-70° | 1450.2 | 12.0 |
| 70°-80° | 938.9 | 7.8 |
| 80°-90° | 429.1 | 3.6 |
| 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° | 3284.5 | 27.2 |
| 0°-40° | 5323.8 | 44.1 |
| 0°-60° | 9263.6 | 76.7 |
| 0°-90° | 12081.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 12081.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 4289 | 4289 | 4289 | 4289 | 4289 | |
| 5° | 4285 | 4278 | 4252 | 4278 | 4277 | 406 |
| 15° | 4082 | 4082 | 4080 | 4118 | 4122 | 1150 |
| 25° | 3688 | 3701 | 3728 | 3794 | 3811 | 1697 |
| 35° | 3154 | 3184 | 3255 | 3344 | 3363 | 1971 |
| 45° | 2546 | 2592 | 2693 | 2796 | 2834 | 1962 |
| 55° | 1914 | 1968 | 2081 | 2201 | 2244 | 1709 |
| 65° | 1275 | 1330 | 1468 | 1591 | 1643 | 1266 |
| 75° | 644 | 726 | 893 | 1041 | 1102 | 691 |
| 85° | 129 | 249 | 435 | 593 | 636 | 165 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P685593

CATALOG NUMBER: 4CZL-16-UNV-FL-L950-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 4289.2 | 4289.2 | 4289.2 | 4289.2 | 4289.2 |
| 2.5° | 4301.4 | 4294.1 | 4268.0 | 4290.8 | 4290.0 |
| 5° | 4285.1 | 4277.8 | 4252.5 | 4277.8 | 4277.0 |
| 7.5° | 4251.7 | 4249.3 | 4226.4 | 4254.2 | 4251.7 |
| 10° | 4208.5 | 4205.2 | 4190.6 | 4218.3 | 4222.4 |
| 12.5° | 4151.4 | 4149.8 | 4138.4 | 4171.0 | 4173.4 |
| 15° | 4082.1 | 4082.1 | 4079.7 | 4118.0 | 4122.1 |
| 17.5° | 3993.3 | 4004.7 | 4007.1 | 4048.7 | 4057.7 |
| 20° | 3908.5 | 3911.7 | 3923.2 | 3973.7 | 3984.3 |
| 22.5° | 3796.8 | 3810.6 | 3833.5 | 3888.9 | 3897.9 |
| 25° | 3687.5 | 3700.6 | 3728.3 | 3794.3 | 3810.6 |
| 27.5° | 3560.4 | 3585.6 | 3623.9 | 3690.0 | 3706.3 |
| 30° | 3439.7 | 3460.9 | 3510.6 | 3584.0 | 3600.3 |
| 32.5° | 3292.1 | 3328.0 | 3385.1 | 3462.5 | 3484.5 |
| 35° | 3154.3 | 3184.5 | 3255.4 | 3343.5 | 3363.1 |
| 37.5° | 3006.8 | 3042.6 | 3117.7 | 3211.4 | 3238.3 |
| 40° | 2845.3 | 2897.5 | 2984.8 | 3078.5 | 3107.1 |
| 42.5° | 2697.8 | 2745.9 | 2838.0 | 2944.0 | 2976.6 |
| 45° | 2546.1 | 2591.8 | 2692.9 | 2795.6 | 2833.9 |
| 47.5° | 2388.0 | 2435.3 | 2545.3 | 2654.6 | 2688.8 |
| 50° | 2225.7 | 2282.0 | 2392.0 | 2507.0 | 2538.0 |
| 52.5° | 2064.3 | 2120.6 | 2237.1 | 2352.1 | 2387.2 |
| 55° | 1914.3 | 1968.1 | 2081.4 | 2201.3 | 2244.5 |
| 57.5° | 1751.2 | 1808.3 | 1933.0 | 2048.8 | 2095.3 |
| 60° | 1600.4 | 1642.0 | 1774.1 | 1893.9 | 1938.7 |
| 62.5° | 1444.7 | 1489.5 | 1618.3 | 1741.4 | 1794.4 |
| 65° | 1275.1 | 1330.5 | 1468.3 | 1591.4 | 1642.8 |
| 67.5° | 1120.2 | 1173.2 | 1315.1 | 1453.7 | 1495.2 |
| 70° | 959.6 | 1020.7 | 1167.5 | 1309.3 | 1368.0 |
| 72.5° | 806.3 | 869.9 | 1031.3 | 1172.4 | 1231.9 |
| 75° | 644.1 | 726.4 | 892.7 | 1041.1 | 1102.3 |
| 77.5° | 510.4 | 591.9 | 762.3 | 917.2 | 975.9 |
| 80° | 362.0 | 462.3 | 646.5 | 803.1 | 855.2 |
| 82.5° | 241.3 | 343.2 | 536.5 | 688.9 | 745.2 |
| 85° | 128.8 | 248.7 | 435.4 | 592.7 | 635.9 |
| 87.5° | 56.3 | 173.7 | 353.0 | 493.2 | 544.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)