

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: P685879

Luminaire Tested: **4CZL-5-UNV-W-LVR-L940-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685879
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-5-UNV-W-LVR-L940-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH WIDE LENS @90 CRI and 4000K
Light Source: (392) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

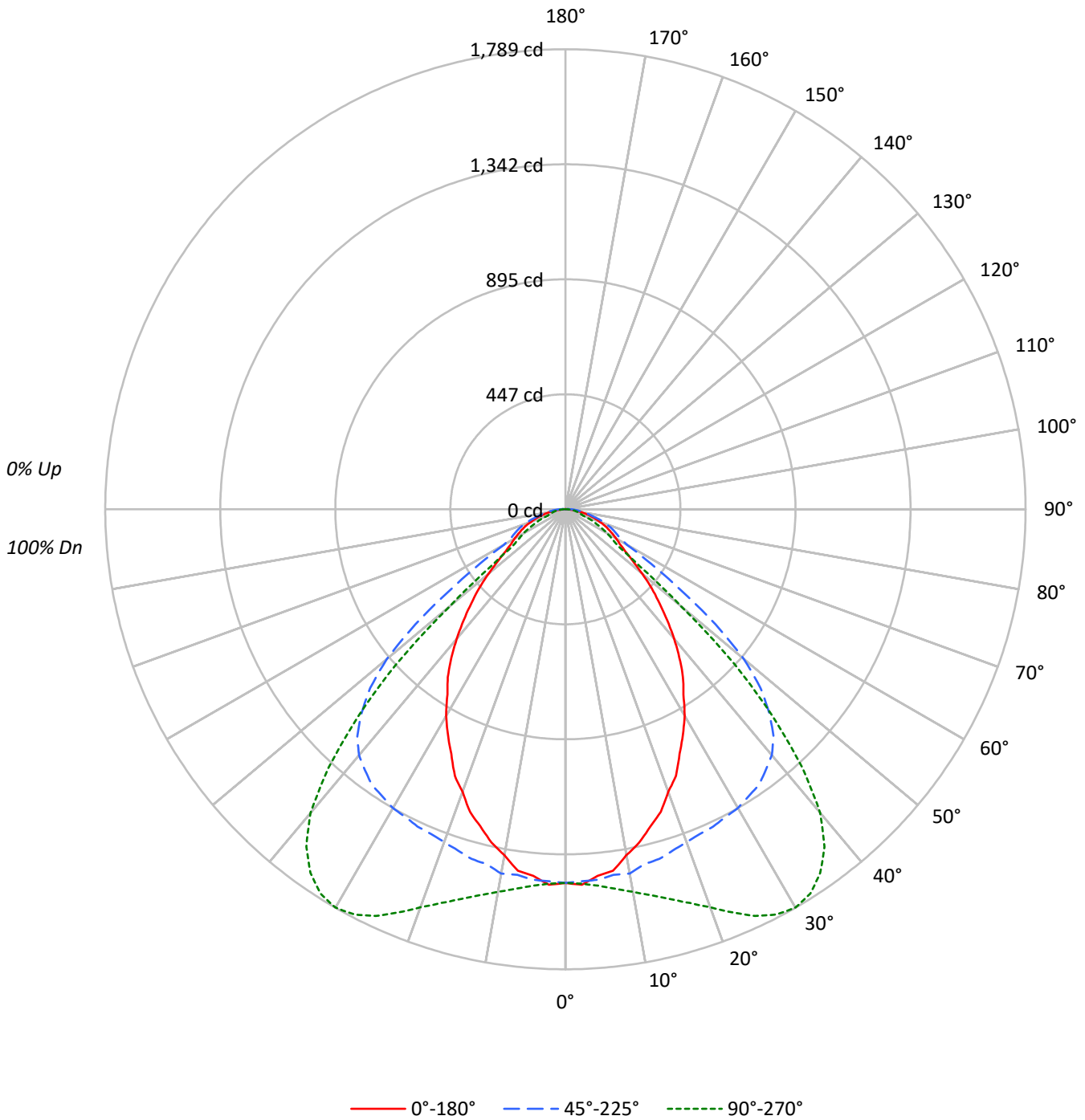
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3457.1 lumens
Efficiency: N/A
Efficacy: 111.5 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.64 / 1.46
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: P685879
CATALOG NUMBER: 4CZL-5-UNV-W-LVR-L940-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685879

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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 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 89 | 89 | 89 | 87 |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 88 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 77 | 77 | 77 | 75 |
| 3 | 94 | 85 | 78 | 72 | 92 | 83 | 77 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 68 | 68 | 68 | 66 |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 68 | 62 | 72 | 66 | 61 | 70 | 65 | 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 | 62 | 54 | 48 | 73 | 62 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 47 | 47 | 47 | 45 |
| 7 | 69 | 57 | 49 | 43 | 68 | 56 | 48 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 42 | 42 | 42 | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 51 | 44 | 39 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 38 | 38 | 38 | 36 |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 34 | 34 | 34 | 34 | 33 |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 41 | 35 | 31 | 31 | 31 | 31 | 30 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4692 | 4692 | 4692 |
| 5° | 4639 | 4687 | 4764 |
| 10° | 4479 | 4716 | 4953 |
| 15° | 4268 | 4706 | 5244 |
| 20° | 4017 | 4732 | 5661 |
| 25° | 3740 | 4849 | 6217 |
| 30° | 3458 | 5002 | 6669 |
| 35° | 3142 | 5164 | 6809 |
| 40° | 2770 | 5261 | 6496 |
| 45° | 2361 | 5118 | 5208 |
| 50° | 1957 | 4550 | 2955 |
| 55° | 1594 | 3074 | 1414 |
| 60° | 1471 | 1788 | 1221 |
| 65° | 1419 | 1644 | 993 |
| 70° | 1339 | 1614 | 709 |
| 75° | 1246 | 1472 | 690 |
| 80° | 1136 | 1447 | 757 |
| 85° | 871 | 1734 | 834 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 138.2 | 4.0 |
| 10°-20° | 401.1 | 11.6 |
| 20°-30° | 636.5 | 18.4 |
| 30°-40° | 795.0 | 23.0 |
| 40°-50° | 730.2 | 21.1 |
| 50°-60° | 389.7 | 11.3 |
| 60°-70° | 200.5 | 5.8 |
| 70°-80° | 110.3 | 3.2 |
| 80°-90° | 45.5 | 1.3 |
| 90°-100° | 8.8 | 0.3 |
| 100°-110° | 0.5 | 0.0 |
| 110°-120° | 0.1 | 0.0 |
| 120°-130° | 0.1 | 0.0 |
| 130°-140° | 0.3 | 0.0 |
| 140°-150° | 0.2 | 0.0 |
| 150°-160° | 0.2 | 0.0 |
| 160°-170° | 0.1 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 1175.7 | 34.0 |
| 0°-40° | 1970.7 | 57.0 |
| 0°-60° | 3090.5 | 89.4 |
| 0°-90° | 3446.8 | 99.7 |
| 90°-120° | 9.3 | 0.3 |
| 90°-150° | 9.9 | 0.3 |
| 90°-180° | 10.0 | 0.3 |
| 0°-180° | 3457.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1453 | 1453 | 1453 | 1453 | 1453 | |
| 5° | 1431 | 1435 | 1446 | 1468 | 1470 | 135 |
| 15° | 1277 | 1318 | 1408 | 1522 | 1569 | 359 |
| 25° | 1050 | 1148 | 1361 | 1610 | 1745 | 484 |
| 35° | 797 | 944 | 1310 | 1596 | 1727 | 495 |
| 45° | 517 | 745 | 1121 | 1161 | 1140 | 400 |
| 55° | 283 | 508 | 546 | 306 | 251 | 261 |
| 65° | 186 | 243 | 215 | 176 | 130 | 183 |
| 75° | 100 | 111 | 118 | 105 | 55 | 106 |
| 85° | 24 | 31 | 47 | 62 | 22 | 27 |
| 90° | 0 | 9 | 23 | 37 | 5 | 1 |
| 95° | 0 | 1 | 9 | 17 | 2 | 0 |
| 105° | 0 | 0 | 0 | 0 | 0 | 0 |
| 115° | 0 | 0 | 0 | 0 | 0 | 0 |
| 125° | 0 | 0 | 0 | 0 | 0 | 0 |
| 135° | 0 | 0 | 0 | 0 | 0 | 0 |
| 145° | 0 | 0 | 0 | 0 | 0 | 0 |
| 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 1 | 0 | 0 | 0 | 0 |
| 175° | 1 | 1 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P685879

CATALOG NUMBER: 4CZL-5-UNV-W-LVR-L940-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1453.1 | 1453.1 | 1453.1 | 1453.1 | 1453.1 |
| 2.5° | 1461.6 | 1458.5 | 1448.0 | 1457.5 | 1456.8 |
| 5° | 1431.1 | 1434.7 | 1445.9 | 1468.2 | 1469.6 |
| 7.5° | 1417.5 | 1427.4 | 1433.7 | 1482.0 | 1488.3 |
| 10° | 1365.9 | 1381.4 | 1438.1 | 1488.3 | 1510.6 |
| 12.5° | 1327.1 | 1358.3 | 1413.4 | 1498.4 | 1537.2 |
| 15° | 1276.7 | 1318.4 | 1407.8 | 1522.4 | 1568.7 |
| 17.5° | 1233.8 | 1276.4 | 1390.8 | 1540.6 | 1605.3 |
| 20° | 1169.0 | 1246.4 | 1377.0 | 1559.5 | 1647.3 |
| 22.5° | 1122.7 | 1201.0 | 1366.3 | 1576.3 | 1697.0 |
| 25° | 1049.8 | 1148.4 | 1360.8 | 1609.9 | 1745.0 |
| 27.5° | 988.7 | 1104.1 | 1348.4 | 1631.5 | 1776.7 |
| 30° | 927.4 | 1049.8 | 1341.4 | 1635.4 | 1788.6 |
| 32.5° | 853.5 | 1005.7 | 1323.7 | 1626.4 | 1771.6 |
| 35° | 797.0 | 944.1 | 1309.9 | 1595.6 | 1727.3 |
| 37.5° | 728.1 | 895.6 | 1279.6 | 1539.9 | 1654.5 |
| 40° | 657.1 | 850.8 | 1248.1 | 1452.9 | 1541.1 |
| 42.5° | 585.4 | 800.4 | 1197.6 | 1336.8 | 1363.7 |
| 45° | 517.0 | 745.3 | 1120.6 | 1161.3 | 1140.4 |
| 47.5° | 455.7 | 686.2 | 1029.4 | 941.2 | 892.2 |
| 50° | 389.5 | 626.1 | 905.8 | 716.5 | 588.3 |
| 52.5° | 329.9 | 575.9 | 735.7 | 485.3 | 366.0 |
| 55° | 283.1 | 507.6 | 546.1 | 305.9 | 251.1 |
| 57.5° | 249.9 | 455.2 | 394.1 | 241.9 | 215.0 |
| 60° | 227.8 | 389.8 | 276.8 | 222.0 | 189.1 |
| 62.5° | 206.0 | 308.3 | 236.8 | 202.4 | 159.0 |
| 65° | 185.7 | 243.4 | 215.2 | 175.5 | 129.9 |
| 67.5° | 164.6 | 197.5 | 194.4 | 159.2 | 108.3 |
| 70° | 141.8 | 162.4 | 170.9 | 133.3 | 75.1 |
| 72.5° | 121.4 | 136.2 | 145.4 | 113.9 | 63.7 |
| 75° | 99.9 | 110.8 | 118.0 | 105.0 | 55.3 |
| 77.5° | 79.3 | 89.2 | 96.2 | 95.0 | 48.5 |
| 80° | 61.1 | 67.6 | 77.8 | 85.1 | 40.7 |
| 82.5° | 41.7 | 46.5 | 61.3 | 73.4 | 31.8 |
| 85° | 23.5 | 30.8 | 46.8 | 61.6 | 22.5 |
| 87.5° | 6.8 | 18.2 | 33.9 | 49.4 | 13.1 |
| 90° | 0.0 | 8.7 | 23.0 | 37.3 | 4.8 |
| 92.5° | 0.0 | 3.4 | 15.0 | 26.2 | 3.4 |
| 95° | 0.0 | 1.0 | 8.7 | 17.2 | 2.2 |
| 97.5° | 0.0 | 0.2 | 4.1 | 10.2 | 1.0 |
| 100° | 0.0 | 0.2 | 1.5 | 4.8 | 0.2 |
| 102.5° | 0.0 | 0.2 | 0.5 | 1.7 | 0.0 |
| 105° | 0.0 | 0.2 | 0.2 | 0.2 | 0.0 |
| 107.5° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| 110° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |



TEST NUMBER: P685879
CATALOG NUMBER: 4CZL-5-UNV-W-LVR-L940-CD-U

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| 115° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| 117.5° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| 120° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| 122.5° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| 125° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| 127.5° | 0.2 | 0.2 | 0.2 | 0.2 | 0.0 |
| 130° | 0.2 | 0.5 | 0.5 | 0.2 | 0.0 |
| 132.5° | 0.2 | 0.5 | 0.5 | 0.2 | 0.0 |
| 135° | 0.2 | 0.5 | 0.5 | 0.2 | 0.2 |
| 137.5° | 0.2 | 0.5 | 0.5 | 0.2 | 0.2 |
| 140° | 0.2 | 0.5 | 0.5 | 0.2 | 0.2 |
| 142.5° | 0.2 | 0.5 | 0.5 | 0.2 | 0.2 |
| 145° | 0.2 | 0.5 | 0.5 | 0.2 | 0.2 |
| 147.5° | 0.2 | 0.5 | 0.5 | 0.2 | 0.2 |
| 150° | 0.2 | 0.5 | 0.5 | 0.2 | 0.2 |
| 152.5° | 0.5 | 0.5 | 0.5 | 0.2 | 0.2 |
| 155° | 0.5 | 0.5 | 0.5 | 0.2 | 0.2 |
| 157.5° | 0.5 | 0.5 | 0.5 | 0.2 | 0.2 |
| 160° | 0.5 | 0.5 | 0.5 | 0.2 | 0.2 |
| 162.5° | 0.5 | 0.7 | 0.5 | 0.2 | 0.2 |
| 165° | 0.5 | 0.7 | 0.5 | 0.2 | 0.2 |
| 167.5° | 0.5 | 0.7 | 0.5 | 0.2 | 0.2 |
| 170° | 0.5 | 0.7 | 0.5 | 0.2 | 0.2 |
| 172.5° | 0.5 | 0.7 | 0.5 | 0.2 | 0.2 |
| 175° | 0.7 | 0.7 | 0.5 | 0.2 | 0.2 |
| 177.5° | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 |
| 180° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

(END OF REPORT)