

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: METALUX

Report Number: P1589804

Luminaire Tested: 24CZSP-SB-49HE-L935-S

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1589804  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2608-884-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/3/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24CZSP-SB-49HE-L935-S  
Description: 2x4 CZSP LED Luminaire, 3500K CCT and 4500 lumens, 90CRI, Smooth Lens, SB housing  
Light Source: -  
Ballast/Driver: -

**Summary**

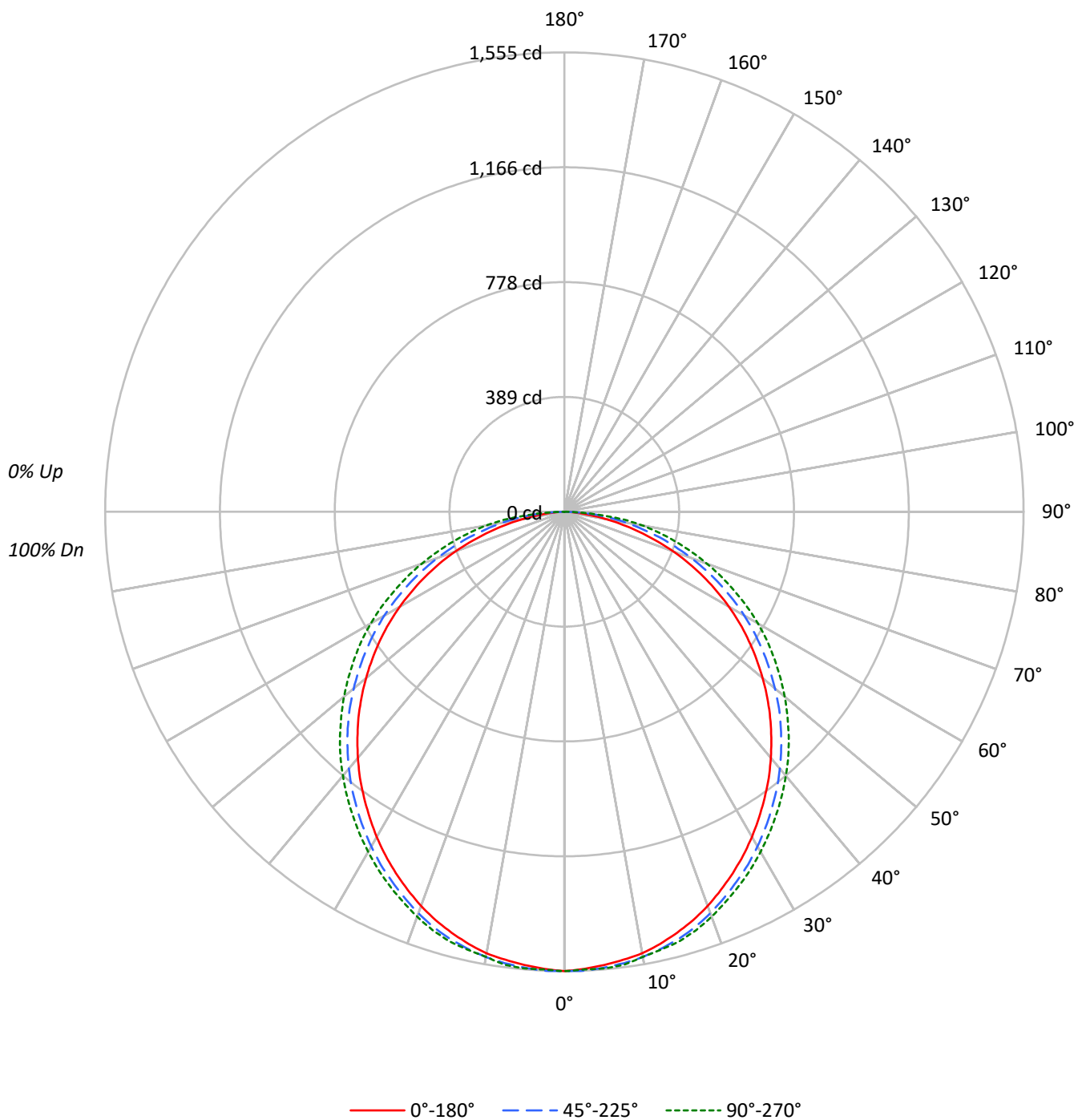
Lumens per Lamp: N/A  
Luminaire Lumens: 4523.0 lumens  
Efficiency: N/A  
Efficacy: 135.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
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: 28.75 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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 | 100 |
| 1   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 93  | 97  | 94  | 90  |  | 93  | 90  | 88  |  | 89  | 87  | 85  | 83  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 81  | 76  | 84  | 79  | 74  |  | 81  | 76  | 72  |  | 78  | 74  | 71  | 69  |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 67  | 62  |  | 71  | 66  | 61  |  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 79  | 68  | 60  | 53  | 66  | 58  | 53  |  | 63  | 57  | 52  |  | 61  | 56  | 51  | 49  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  | 59  | 51  | 45  |  | 57  | 50  | 45  |  | 55  | 49  | 44  | 42  |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  | 53  | 45  | 40  |  | 51  | 45  | 39  |  | 50  | 44  | 39  | 37  |
| 7   | 64  | 51  | 42  | 35  | 63  | 50  | 41  | 35  | 48  | 41  | 35  |  | 47  | 40  | 35  |  | 45  | 39  | 35  | 33  |
| 8   | 60  | 46  | 38  | 32  | 58  | 45  | 37  | 31  | 44  | 37  | 31  |  | 43  | 36  | 31  |  | 42  | 35  | 31  | 29  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 41  | 33  | 28  |  | 39  | 33  | 28  |  | 38  | 32  | 28  | 26  |
| 10  | 52  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 30  | 26  |  | 37  | 30  | 25  |  | 36  | 30  | 25  | 24  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2382 | 2382 | 2382 |
| 5°  | 2368 | 2382 | 2386 |
| 10° | 2361 | 2380 | 2379 |
| 15° | 2339 | 2373 | 2387 |
| 20° | 2314 | 2357 | 2377 |
| 25° | 2281 | 2333 | 2363 |
| 30° | 2247 | 2313 | 2351 |
| 35° | 2210 | 2290 | 2340 |
| 40° | 2175 | 2270 | 2332 |
| 45° | 2135 | 2247 | 2327 |
| 50° | 2089 | 2219 | 2321 |
| 55° | 2037 | 2190 | 2318 |
| 60° | 1973 | 2158 | 2319 |
| 65° | 1883 | 2112 | 2306 |
| 70° | 1760 | 2048 | 2300 |
| 75° | 1561 | 1969 | 2309 |
| 80° | 1270 | 1871 | 2377 |
| 85° | 821  | 1727 | 2053 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 82.5°

Luminance: 2409 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 147.1  | 3.3       |
| 10°-20°   | 421.4  | 9.3       |
| 20°-30°   | 635.3  | 14.0      |
| 30°-40°   | 764.4  | 16.9      |
| 40°-50°   | 797.4  | 17.6      |
| 50°-60°   | 730.9  | 16.2      |
| 60°-70°   | 573.9  | 12.7      |
| 70°-80°   | 349.3  | 7.7       |
| 80°-90°   | 103.3  | 2.3       |
| 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°    | 1203.8 | 26.6      |
| 0°-40°    | 1968.2 | 43.5      |
| 0°-60°    | 3496.4 | 77.3      |
| 0°-90°    | 4523.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4523.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1555 | 1555  | 1555 | 1555  | 1555 |      |
| 5°  | 1540 | 1550  | 1549 | 1547  | 1552 | 146  |
| 15° | 1475 | 1490  | 1496 | 1498  | 1505 | 416  |
| 25° | 1350 | 1368  | 1381 | 1389  | 1398 | 622  |
| 35° | 1182 | 1201  | 1225 | 1242  | 1251 | 740  |
| 45° | 986  | 1006  | 1037 | 1062  | 1074 | 760  |
| 55° | 763  | 782   | 820  | 853   | 868  | 682  |
| 65° | 520  | 539   | 583  | 622   | 636  | 514  |
| 75° | 264  | 288   | 333  | 373   | 390  | 280  |
| 85° | 47   | 66    | 98   | 110   | 117  | 61   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1554.9 | 1554.9 | 1554.9 | 1554.9 | 1554.9 |
| 2.5°  | 1549.0 | 1556.8 | 1554.9 | 1548.0 | 1551.0 |
| 5°    | 1540.3 | 1550.0 | 1549.0 | 1547.1 | 1551.9 |
| 7.5°  | 1529.6 | 1540.3 | 1541.2 | 1541.2 | 1547.1 |
| 10°   | 1517.9 | 1528.6 | 1530.5 | 1527.6 | 1529.6 |
| 12.5° | 1498.4 | 1511.1 | 1515.0 | 1515.0 | 1517.9 |
| 15°   | 1475.1 | 1489.7 | 1496.5 | 1498.4 | 1505.2 |
| 17.5° | 1449.8 | 1465.3 | 1474.1 | 1479.0 | 1484.8 |
| 20°   | 1419.6 | 1436.1 | 1445.9 | 1451.7 | 1458.5 |
| 22.5° | 1385.5 | 1404.0 | 1414.7 | 1420.6 | 1428.4 |
| 25°   | 1349.5 | 1368.0 | 1380.7 | 1389.4 | 1398.2 |
| 27.5° | 1311.6 | 1329.1 | 1346.6 | 1357.3 | 1365.1 |
| 30°   | 1270.7 | 1289.2 | 1307.7 | 1321.3 | 1329.1 |
| 32.5° | 1227.0 | 1246.4 | 1267.8 | 1282.4 | 1291.2 |
| 35°   | 1182.2 | 1200.7 | 1225.0 | 1242.5 | 1251.3 |
| 37.5° | 1136.5 | 1155.9 | 1181.2 | 1199.7 | 1210.4 |
| 40°   | 1087.8 | 1108.2 | 1135.5 | 1155.9 | 1166.6 |
| 42.5° | 1037.2 | 1056.7 | 1086.8 | 1110.2 | 1122.8 |
| 45°   | 985.6  | 1006.1 | 1037.2 | 1061.5 | 1074.2 |
| 47.5° | 932.1  | 951.6  | 985.6  | 1013.9 | 1024.6 |
| 50°   | 876.7  | 895.2  | 931.2  | 961.3  | 974.0  |
| 52.5° | 820.2  | 839.7  | 875.7  | 907.8  | 921.4  |
| 55°   | 762.8  | 782.3  | 820.2  | 853.3  | 867.9  |
| 57.5° | 704.5  | 723.9  | 762.8  | 796.9  | 814.4  |
| 60°   | 644.1  | 663.6  | 704.5  | 739.5  | 757.0  |
| 62.5° | 581.9  | 602.3  | 644.1  | 680.1  | 698.6  |
| 65°   | 519.6  | 539.0  | 582.8  | 621.7  | 636.3  |
| 67.5° | 457.3  | 476.8  | 519.6  | 558.5  | 576.0  |
| 70°   | 393.1  | 415.5  | 457.3  | 498.2  | 513.7  |
| 72.5° | 326.0  | 351.3  | 393.1  | 435.9  | 451.5  |
| 75°   | 263.7  | 288.0  | 332.8  | 372.7  | 390.2  |
| 77.5° | 202.4  | 228.7  | 270.5  | 311.4  | 328.9  |
| 80°   | 144.0  | 169.3  | 212.1  | 251.0  | 269.5  |
| 82.5° | 91.5   | 113.8  | 156.7  | 191.7  | 205.3  |
| 85°   | 46.7   | 66.2   | 98.3   | 109.9  | 116.8  |
| 87.5° | 13.6   | 23.4   | 35.0   | 43.8   | 48.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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**CIE UGR TABLE:**

| Reflectances:   |      |                  |      |      |      |      |                |      |      |      |      |
|-----------------|------|------------------|------|------|------|------|----------------|------|------|------|------|
| Ceiling         |      | 0.7              | 0.7  | 0.5  | 0.5  | 0.3  | 0.7            | 0.7  | 0.5  | 0.5  | 0.3  |
| Wall            |      | 0.5              | 0.3  | 0.5  | 0.3  | 0.3  | 0.5            | 0.3  | 0.5  | 0.3  | 0.3  |
| Reference plane |      | 0.2              | 0.2  | 0.2  | 0.2  | 0.2  | 0.2            | 0.2  | 0.2  | 0.2  | 0.2  |
| Room Dimensions |      | Viewed crosswise |      |      |      |      | Viewed endwise |      |      |      |      |
| X=2H            | Y=2H | 14.5             | 16.2 | 14.9 | 16.5 | 16.8 | 15.2           | 16.9 | 15.6 | 17.2 | 17.5 |
|                 | 3H   | 16.3             | 17.8 | 16.7 | 18.1 | 18.5 | 17.3           | 18.8 | 17.7 | 19.2 | 19.5 |
|                 | 4H   | 16.9             | 18.3 | 17.3 | 18.7 | 19.0 | 18.2           | 19.6 | 18.6 | 20.0 | 20.3 |
|                 | 6H   | 17.3             | 18.6 | 17.7 | 19.0 | 19.4 | 18.9           | 20.3 | 19.3 | 20.6 | 21.0 |
|                 | 8H   | 17.4             | 18.7 | 17.8 | 19.1 | 19.5 | 19.2           | 20.5 | 19.7 | 20.9 | 21.3 |
|                 | 12H  | 17.5             | 18.7 | 17.9 | 19.1 | 19.5 | 19.4           | 20.6 | 19.9 | 21.0 | 21.4 |
| 4H              | 2H   | 15.3             | 16.7 | 15.7 | 17.0 | 17.4 | 15.9           | 17.3 | 16.3 | 17.6 | 18.0 |
|                 | 3H   | 17.3             | 18.5 | 17.7 | 18.9 | 19.3 | 18.2           | 19.4 | 18.6 | 19.8 | 20.2 |
|                 | 4H   | 18.0             | 19.1 | 18.4 | 19.5 | 19.9 | 19.2           | 20.3 | 19.6 | 20.7 | 21.1 |
|                 | 6H   | 18.5             | 19.5 | 19.0 | 19.9 | 20.4 | 20.1           | 21.0 | 20.5 | 21.5 | 21.9 |
|                 | 8H   | 18.7             | 19.6 | 19.1 | 20.0 | 20.5 | 20.5           | 21.3 | 20.9 | 21.8 | 22.3 |
|                 | 12H  | 18.8             | 19.6 | 19.2 | 20.0 | 20.5 | 20.7           | 21.5 | 21.2 | 22.0 | 22.5 |
| 8H              | 4H   | 18.5             | 19.4 | 18.9 | 19.8 | 20.3 | 19.5           | 20.4 | 19.9 | 20.8 | 21.3 |
|                 | 6H   | 19.1             | 19.9 | 19.6 | 20.4 | 20.8 | 20.5           | 21.3 | 21.0 | 21.8 | 22.2 |
|                 | 8H   | 19.3             | 20.0 | 19.8 | 20.5 | 21.0 | 21.0           | 21.7 | 21.5 | 22.2 | 22.7 |
|                 | 12H  | 19.5             | 20.1 | 20.0 | 20.6 | 21.1 | 21.4           | 22.0 | 21.9 | 22.4 | 23.0 |
| 12H             | 4H   | 18.5             | 19.3 | 19.0 | 19.8 | 20.3 | 19.5           | 20.3 | 20.0 | 20.8 | 21.3 |
|                 | 6H   | 19.3             | 19.9 | 19.8 | 20.4 | 20.9 | 20.6           | 21.3 | 21.1 | 21.7 | 22.3 |
|                 | 8H   | 19.5             | 20.1 | 20.0 | 20.6 | 21.2 | 21.1           | 21.7 | 21.6 | 22.2 | 22.8 |

(END OF REPORT)