

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P1588670

Luminaire Tested: 24CZSP-A-49HE-L950-S

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1588670  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2608-884-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/3/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24CZSP-A-49HE-L950-S  
Description: 2x4 CZSP LED Luminaire, 5000K CCT and 4500 lumens, 90CRI, Smooth Lens, Air Vented Housing  
Light Source: -  
Ballast/Driver: -

**Summary**

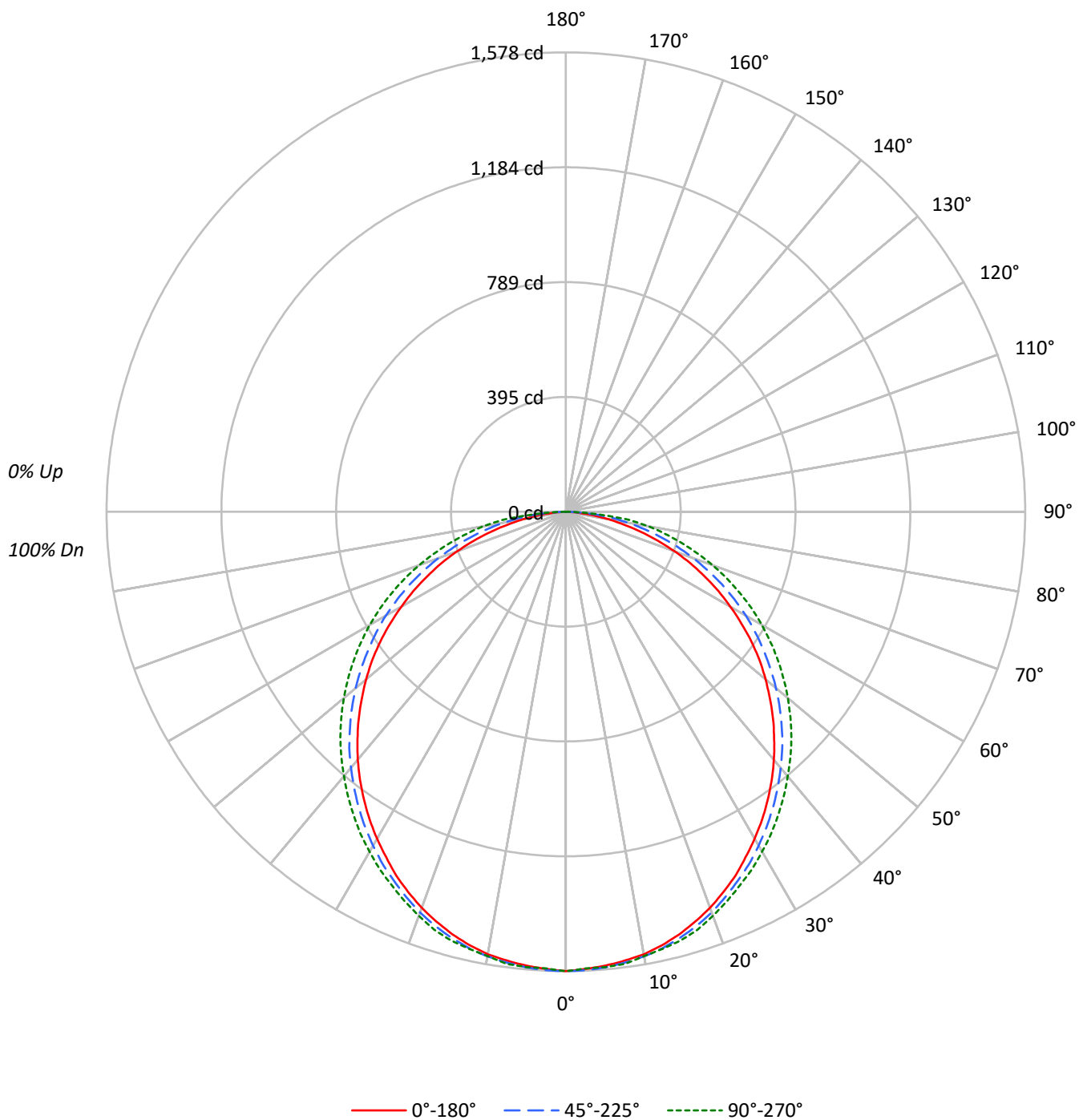
Lumens per Lamp: N/A  
Luminaire Lumens: 4607.0 lumens  
Efficiency: N/A  
Efficacy: 138.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

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: 24 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  | 93  | 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  | 65  | 61  |  | 69  | 64  | 60  | 57  |
| 4   | 82  | 69  | 60  | 54  | 79  | 68  | 60  | 53  | 66  | 58  | 52  |  | 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  | 44  | 39  |  | 50  | 44  | 39  | 37  |
| 7   | 64  | 50  | 42  | 35  | 62  | 50  | 41  | 35  | 48  | 40  | 35  |  | 47  | 40  | 35  |  | 45  | 39  | 34  | 32  |
| 8   | 60  | 46  | 37  | 32  | 58  | 45  | 37  | 31  | 44  | 37  | 31  |  | 43  | 36  | 31  |  | 42  | 35  | 31  | 29  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 40  | 33  | 28  |  | 39  | 33  | 28  |  | 38  | 32  | 28  | 26  |
| 10  | 52  | 39  | 31  | 26  | 51  | 38  | 31  | 26  | 37  | 30  | 25  |  | 37  | 30  | 25  |  | 36  | 30  | 25  | 23  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2417 | 2417 | 2417 |
| 5°  | 2406 | 2415 | 2414 |
| 10° | 2401 | 2412 | 2410 |
| 15° | 2384 | 2403 | 2417 |
| 20° | 2359 | 2388 | 2407 |
| 25° | 2330 | 2363 | 2392 |
| 30° | 2294 | 2342 | 2385 |
| 35° | 2261 | 2319 | 2378 |
| 40° | 2223 | 2296 | 2371 |
| 45° | 2181 | 2273 | 2374 |
| 50° | 2134 | 2245 | 2373 |
| 55° | 2079 | 2213 | 2376 |
| 60° | 2000 | 2189 | 2381 |
| 65° | 1909 | 2147 | 2389 |
| 70° | 1779 | 2087 | 2399 |
| 75° | 1585 | 2004 | 2423 |
| 80° | 1311 | 1908 | 2541 |
| 85° | 852  | 1724 | 2221 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 82.5°

Luminance: 2621 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 149.2  | 3.2       |
| 10°-20°   | 427.3  | 9.3       |
| 20°-30°   | 644.5  | 14.0      |
| 30°-40°   | 776.3  | 16.8      |
| 40°-50°   | 810.7  | 17.6      |
| 50°-60°   | 744.5  | 16.2      |
| 60°-70°   | 586.4  | 12.7      |
| 70°-80°   | 359.8  | 7.8       |
| 80°-90°   | 108.3  | 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°    | 1221.1 | 26.5      |
| 0°-40°    | 1997.3 | 43.4      |
| 0°-60°    | 3552.5 | 77.1      |
| 0°-90°    | 4607.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4607.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1578 | 1578  | 1578 | 1578  | 1578 |      |
| 5°  | 1565 | 1567  | 1571 | 1576  | 1570 | 149  |
| 15° | 1503 | 1506  | 1515 | 1524  | 1524 | 424  |
| 25° | 1379 | 1382  | 1398 | 1415  | 1415 | 635  |
| 35° | 1209 | 1215  | 1240 | 1266  | 1272 | 756  |
| 45° | 1007 | 1018  | 1049 | 1086  | 1096 | 776  |
| 55° | 778  | 792   | 829  | 875   | 890  | 695  |
| 65° | 527  | 545   | 592  | 642   | 659  | 521  |
| 75° | 268  | 289   | 339  | 392   | 409  | 284  |
| 85° | 48   | 67    | 98   | 124   | 126  | 63   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1578.0 | 1578.0 | 1578.0 | 1578.0 | 1578.0 |
| 2.5°  | 1572.0 | 1575.0 | 1576.0 | 1577.0 | 1569.9 |
| 5°    | 1564.9 | 1566.9 | 1570.9 | 1576.0 | 1569.9 |
| 7.5°  | 1554.8 | 1556.8 | 1561.8 | 1568.9 | 1565.9 |
| 10°   | 1543.6 | 1544.7 | 1550.7 | 1555.8 | 1549.7 |
| 12.5° | 1525.5 | 1528.5 | 1535.6 | 1539.6 | 1537.6 |
| 15°   | 1503.2 | 1506.2 | 1515.3 | 1524.4 | 1524.4 |
| 17.5° | 1476.9 | 1481.0 | 1492.1 | 1504.2 | 1505.2 |
| 20°   | 1447.6 | 1450.6 | 1464.8 | 1476.9 | 1476.9 |
| 22.5° | 1414.3 | 1418.3 | 1432.5 | 1445.6 | 1447.6 |
| 25°   | 1378.9 | 1381.9 | 1398.1 | 1415.3 | 1415.3 |
| 27.5° | 1337.4 | 1343.5 | 1363.7 | 1380.9 | 1384.9 |
| 30°   | 1297.0 | 1302.0 | 1324.3 | 1345.5 | 1348.5 |
| 32.5° | 1254.5 | 1260.6 | 1283.8 | 1307.1 | 1312.2 |
| 35°   | 1209.0 | 1215.1 | 1240.4 | 1265.7 | 1271.7 |
| 37.5° | 1161.5 | 1168.6 | 1194.9 | 1224.2 | 1230.3 |
| 40°   | 1112.0 | 1120.1 | 1148.4 | 1179.7 | 1185.8 |
| 42.5° | 1059.4 | 1070.5 | 1100.9 | 1133.2 | 1142.3 |
| 45°   | 1006.9 | 1018.0 | 1049.3 | 1085.7 | 1095.8 |
| 47.5° | 951.3  | 964.4  | 996.8  | 1035.2 | 1046.3 |
| 50°   | 895.7  | 908.8  | 942.2  | 983.6  | 995.7  |
| 52.5° | 839.0  | 852.2  | 886.6  | 930.0  | 943.2  |
| 55°   | 778.4  | 792.5  | 828.9  | 875.4  | 889.6  |
| 57.5° | 715.7  | 733.9  | 772.3  | 819.8  | 834.0  |
| 60°   | 653.0  | 671.2  | 714.7  | 761.2  | 777.4  |
| 62.5° | 591.4  | 608.6  | 653.0  | 702.6  | 719.8  |
| 65°   | 526.7  | 544.9  | 592.4  | 641.9  | 659.1  |
| 67.5° | 463.0  | 481.2  | 528.7  | 580.3  | 598.5  |
| 70°   | 397.3  | 417.5  | 466.0  | 517.6  | 535.8  |
| 72.5° | 331.6  | 352.8  | 402.3  | 454.9  | 472.1  |
| 75°   | 267.9  | 289.1  | 338.7  | 392.2  | 409.4  |
| 77.5° | 205.2  | 228.5  | 277.0  | 331.6  | 347.8  |
| 80°   | 148.6  | 170.8  | 216.3  | 269.9  | 288.1  |
| 82.5° | 95.0   | 114.2  | 159.7  | 210.3  | 223.4  |
| 85°   | 48.5   | 66.7   | 98.1   | 124.3  | 126.4  |
| 87.5° | 15.2   | 21.2   | 32.3   | 48.5   | 49.5   |
| 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 | 14.54            | 16.21 | 14.91 | 16.52 | 16.83 | 15.37          | 17.04 | 15.74 | 17.35 | 17.66 |
|                 | 3H   | 16.30            | 17.81 | 16.68 | 18.13 | 18.49 | 17.49          | 19.00 | 17.87 | 19.32 | 19.68 |
|                 | 4H   | 16.92            | 18.34 | 17.32 | 18.69 | 19.06 | 18.38          | 19.80 | 18.78 | 20.15 | 20.52 |
|                 | 6H   | 17.33            | 18.65 | 17.74 | 19.01 | 19.40 | 19.16          | 20.48 | 19.57 | 20.85 | 21.24 |
|                 | 8H   | 17.44            | 18.70 | 17.86 | 19.09 | 19.49 | 19.48          | 20.74 | 19.90 | 21.13 | 21.53 |
|                 | 12H  | 17.49            | 18.70 | 17.92 | 19.08 | 19.51 | 19.69          | 20.90 | 20.12 | 21.28 | 21.71 |
| 4H              | 2H   | 15.32            | 16.74 | 15.71 | 17.09 | 17.46 | 15.96          | 17.38 | 16.36 | 17.73 | 18.11 |
|                 | 3H   | 17.29            | 18.49 | 17.70 | 18.89 | 19.29 | 18.32          | 19.52 | 18.73 | 19.91 | 20.31 |
|                 | 4H   | 18.03            | 19.12 | 18.46 | 19.53 | 19.96 | 19.37          | 20.46 | 19.80 | 20.87 | 21.30 |
|                 | 6H   | 18.56            | 19.51 | 19.01 | 19.95 | 20.40 | 20.32          | 21.27 | 20.77 | 21.71 | 22.17 |
|                 | 8H   | 18.70            | 19.60 | 19.16 | 20.04 | 20.50 | 20.72          | 21.61 | 21.18 | 22.05 | 22.52 |
|                 | 12H  | 18.79            | 19.59 | 19.27 | 20.07 | 20.53 | 21.00          | 21.80 | 21.47 | 22.27 | 22.74 |
| 8H              | 4H   | 18.49            | 19.38 | 18.95 | 19.82 | 20.29 | 19.66          | 20.55 | 20.12 | 20.99 | 21.46 |
|                 | 6H   | 19.15            | 19.89 | 19.64 | 20.38 | 20.85 | 20.77          | 21.51 | 21.26 | 22.00 | 22.48 |
|                 | 8H   | 19.36            | 20.03 | 19.87 | 20.53 | 21.02 | 21.28          | 21.95 | 21.79 | 22.46 | 22.94 |
|                 | 12H  | 19.50            | 20.09 | 20.00 | 20.58 | 21.14 | 21.67          | 22.26 | 22.17 | 22.75 | 23.31 |
| 12H             | 4H   | 18.58            | 19.38 | 19.06 | 19.86 | 20.32 | 19.68          | 20.49 | 20.16 | 20.96 | 21.43 |
|                 | 6H   | 19.28            | 19.95 | 19.79 | 20.46 | 20.94 | 20.82          | 21.49 | 21.32 | 21.99 | 22.48 |
|                 | 8H   | 19.56            | 20.15 | 20.07 | 20.64 | 21.20 | 21.40          | 21.99 | 21.90 | 22.48 | 23.04 |