

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: P1586456

Luminaire Tested: 22CZSP-49HE-L840-S

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1586456  
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: 22CZSP-49HE-L840-S  
Description: 2x2 CZSP LED Luminaire, 4000K CCT and 4500 lumens, 80CRI, Smooth Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

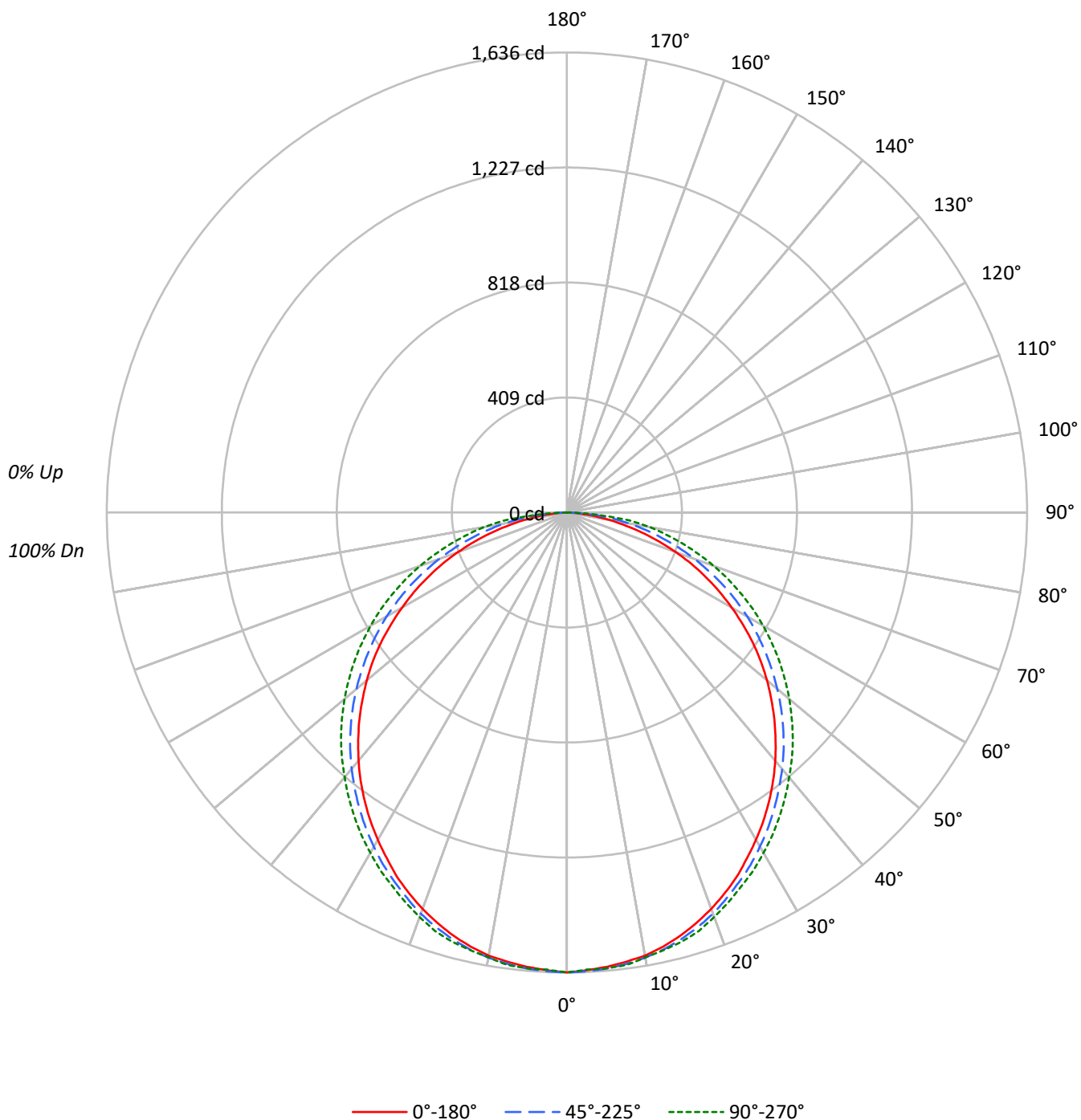
Lumens per Lamp: N/A  
Luminaire Lumens: 4775.0 lumens  
Efficiency: N/A  
Efficacy: 148.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 1.88' x L: 1.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 32.2  
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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 93  | 97  | 93  | 90  |  | 93  | 90  | 88  |  | 89  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 81  | 76  | 84  | 79  | 74  |  | 81  | 76  | 72  |  | 78  |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 67  | 62  |  | 71  | 65  | 61  |  | 69  |
| 4   | 82  | 69  | 60  | 54  | 79  | 68  | 60  | 53  | 66  | 58  | 52  |  | 63  | 57  | 52  |  | 61  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  | 59  | 51  | 45  |  | 57  | 50  | 45  |  | 55  |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  | 53  | 45  | 40  |  | 51  | 44  | 39  |  | 50  |
| 7   | 64  | 50  | 42  | 35  | 62  | 50  | 41  | 35  | 48  | 40  | 35  |  | 47  | 40  | 35  |  | 45  |
| 8   | 60  | 46  | 37  | 32  | 58  | 45  | 37  | 31  | 44  | 37  | 31  |  | 43  | 36  | 31  |  | 42  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 40  | 33  | 28  |  | 39  | 33  | 28  |  | 38  |
| 10  | 52  | 39  | 31  | 26  | 51  | 38  | 31  | 26  | 37  | 30  | 25  |  | 37  | 30  | 25  |  | 36  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5122 | 5122 | 5122 |
| 5°  | 5098 | 5118 | 5115 |
| 10° | 5087 | 5111 | 5107 |
| 15° | 5051 | 5092 | 5122 |
| 20° | 5000 | 5059 | 5101 |
| 25° | 4938 | 5007 | 5068 |
| 30° | 4861 | 4963 | 5054 |
| 35° | 4790 | 4914 | 5039 |
| 40° | 4711 | 4866 | 5024 |
| 45° | 4621 | 4816 | 5030 |
| 50° | 4522 | 4757 | 5028 |
| 55° | 4405 | 4691 | 5033 |
| 60° | 4239 | 4639 | 5046 |
| 65° | 4045 | 4549 | 5061 |
| 70° | 3770 | 4422 | 5084 |
| 75° | 3360 | 4247 | 5133 |
| 80° | 2777 | 4043 | 5385 |
| 85° | 1807 | 3650 | 4707 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 82.5°

Luminance: 5556 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 154.7  | 3.2       |
| 10°-20°   | 442.9  | 9.3       |
| 20°-30°   | 668.0  | 14.0      |
| 30°-40°   | 804.6  | 16.8      |
| 40°-50°   | 840.3  | 17.6      |
| 50°-60°   | 771.7  | 16.2      |
| 60°-70°   | 607.8  | 12.7      |
| 70°-80°   | 372.9  | 7.8       |
| 80°-90°   | 112.2  | 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°    | 1265.6 | 26.5      |
| 0°-40°    | 2070.2 | 43.4      |
| 0°-60°    | 3682.1 | 77.1      |
| 0°-90°    | 4775.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4775.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1636 | 1636  | 1636 | 1636  | 1636 |      |
| 5°  | 1622 | 1624  | 1628 | 1634  | 1627 | 154  |
| 15° | 1558 | 1561  | 1571 | 1580  | 1580 | 439  |
| 25° | 1429 | 1432  | 1449 | 1467  | 1467 | 658  |
| 35° | 1253 | 1259  | 1286 | 1312  | 1318 | 784  |
| 45° | 1044 | 1055  | 1088 | 1125  | 1136 | 805  |
| 55° | 807  | 821   | 859  | 907   | 922  | 720  |
| 65° | 546  | 565   | 614  | 665   | 683  | 540  |
| 75° | 278  | 300   | 351  | 406   | 424  | 294  |
| 85° | 50   | 69    | 102  | 129   | 131  | 66   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1635.6 | 1635.6 | 1635.6 | 1635.6 | 1635.6 |
| 2.5°  | 1629.3 | 1632.4 | 1633.5 | 1634.5 | 1627.2 |
| 5°    | 1621.9 | 1624.0 | 1628.2 | 1633.5 | 1627.2 |
| 7.5°  | 1611.5 | 1613.6 | 1618.8 | 1626.1 | 1623.0 |
| 10°   | 1599.9 | 1601.0 | 1607.3 | 1612.5 | 1606.2 |
| 12.5° | 1581.1 | 1584.2 | 1591.6 | 1595.7 | 1593.7 |
| 15°   | 1558.0 | 1561.2 | 1570.6 | 1580.0 | 1580.0 |
| 17.5° | 1530.8 | 1535.0 | 1546.5 | 1559.1 | 1560.1 |
| 20°   | 1500.4 | 1503.5 | 1518.2 | 1530.8 | 1530.8 |
| 22.5° | 1465.8 | 1470.0 | 1484.7 | 1498.3 | 1500.4 |
| 25°   | 1429.2 | 1432.3 | 1449.1 | 1466.9 | 1466.9 |
| 27.5° | 1386.2 | 1392.5 | 1413.4 | 1431.3 | 1435.4 |
| 30°   | 1344.3 | 1349.5 | 1372.6 | 1394.6 | 1397.7 |
| 32.5° | 1300.3 | 1306.6 | 1330.7 | 1354.8 | 1360.0 |
| 35°   | 1253.1 | 1259.4 | 1285.6 | 1311.8 | 1318.1 |
| 37.5° | 1203.9 | 1211.2 | 1238.5 | 1268.8 | 1275.1 |
| 40°   | 1152.5 | 1160.9 | 1190.3 | 1222.7 | 1229.0 |
| 42.5° | 1098.1 | 1109.6 | 1141.0 | 1174.5 | 1184.0 |
| 45°   | 1043.6 | 1055.1 | 1087.6 | 1125.3 | 1135.8 |
| 47.5° | 985.9  | 999.6  | 1033.1 | 1072.9 | 1084.4 |
| 50°   | 928.3  | 941.9  | 976.5  | 1019.5 | 1032.1 |
| 52.5° | 869.6  | 883.3  | 918.9  | 963.9  | 977.6  |
| 55°   | 806.8  | 821.4  | 859.2  | 907.4  | 922.0  |
| 57.5° | 741.8  | 760.7  | 800.5  | 849.7  | 864.4  |
| 60°   | 676.9  | 695.7  | 740.8  | 789.0  | 805.7  |
| 62.5° | 612.9  | 630.8  | 676.9  | 728.2  | 746.0  |
| 65°   | 545.9  | 564.7  | 614.0  | 665.3  | 683.1  |
| 67.5° | 479.9  | 498.7  | 548.0  | 601.4  | 620.3  |
| 70°   | 411.8  | 432.7  | 483.0  | 536.5  | 555.3  |
| 72.5° | 343.7  | 365.7  | 417.0  | 471.5  | 489.3  |
| 75°   | 277.7  | 299.7  | 351.0  | 406.5  | 424.3  |
| 77.5° | 212.7  | 236.8  | 287.1  | 343.7  | 360.4  |
| 80°   | 154.0  | 177.1  | 224.2  | 279.8  | 298.6  |
| 82.5° | 98.5   | 118.4  | 165.5  | 217.9  | 231.6  |
| 85°   | 50.3   | 69.2   | 101.6  | 128.9  | 131.0  |
| 87.5° | 15.7   | 22.0   | 33.5   | 50.3   | 51.3   |
| 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 | 17.15            | 18.82 | 17.52 | 19.13 | 19.44 | 17.98          | 19.65 | 18.35 | 19.96 | 20.27 |
|                 | 3H   | 18.91            | 20.42 | 19.29 | 20.74 | 21.10 | 20.10          | 21.61 | 20.48 | 21.93 | 22.29 |
|                 | 4H   | 19.53            | 20.95 | 19.93 | 21.30 | 21.67 | 20.99          | 22.41 | 21.39 | 22.76 | 23.13 |
|                 | 6H   | 19.94            | 21.26 | 20.35 | 21.62 | 22.01 | 21.77          | 23.09 | 22.18 | 23.45 | 23.84 |
|                 | 8H   | 20.05            | 21.31 | 20.47 | 21.70 | 22.10 | 22.09          | 23.35 | 22.51 | 23.74 | 24.14 |
|                 | 12H  | 20.10            | 21.31 | 20.53 | 21.69 | 22.12 | 22.30          | 23.51 | 22.73 | 23.89 | 24.32 |
| 4H              | 2H   | 17.93            | 19.35 | 18.32 | 19.69 | 20.07 | 18.57          | 19.99 | 18.97 | 20.34 | 20.72 |
|                 | 3H   | 19.90            | 21.10 | 20.31 | 21.50 | 21.90 | 20.93          | 22.12 | 21.34 | 22.52 | 22.92 |
|                 | 4H   | 20.64            | 21.73 | 21.07 | 22.14 | 22.57 | 21.98          | 23.06 | 22.41 | 23.48 | 23.91 |
|                 | 6H   | 21.17            | 22.12 | 21.62 | 22.56 | 23.01 | 22.93          | 23.88 | 23.38 | 24.32 | 24.78 |
|                 | 8H   | 21.31            | 22.21 | 21.77 | 22.65 | 23.11 | 23.33          | 24.22 | 23.79 | 24.66 | 25.13 |
|                 | 12H  | 21.40            | 22.20 | 21.88 | 22.68 | 23.14 | 23.60          | 24.41 | 24.08 | 24.88 | 25.35 |
| 8H              | 4H   | 21.10            | 21.99 | 21.56 | 22.43 | 22.90 | 22.27          | 23.16 | 22.73 | 23.60 | 24.07 |
|                 | 6H   | 21.76            | 22.50 | 22.25 | 22.99 | 23.46 | 23.38          | 24.12 | 23.87 | 24.61 | 25.08 |
|                 | 8H   | 21.97            | 22.64 | 22.48 | 23.14 | 23.63 | 23.89          | 24.56 | 24.40 | 25.06 | 25.55 |
|                 | 12H  | 22.11            | 22.70 | 22.61 | 23.19 | 23.75 | 24.28          | 24.87 | 24.78 | 25.36 | 25.92 |
| 12H             | 4H   | 21.19            | 21.99 | 21.67 | 22.47 | 22.93 | 22.29          | 23.10 | 22.77 | 23.57 | 24.04 |
|                 | 6H   | 21.89            | 22.56 | 22.40 | 23.07 | 23.55 | 23.43          | 24.10 | 23.93 | 24.60 | 25.09 |
|                 | 8H   | 22.17            | 22.76 | 22.67 | 23.25 | 23.81 | 24.00          | 24.60 | 24.51 | 25.09 | 25.64 |