

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: CORELITE

Report Number: P1036171

Luminaire Tested: SQ4R-BB-050D-B50-1D-UNV

Issue Date: 8/14/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P1036171  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P518604)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/14/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: SQ4R-BB-050D-B50-1D-UNV  
Description: CORELITE SQ4 SUSPENDED LED LUMINAIRE WITH, DIRECT ONLY 500 LUMENS PER FOOT DOV

Light Source: -  
Ballast/Driver: -

**Summary**

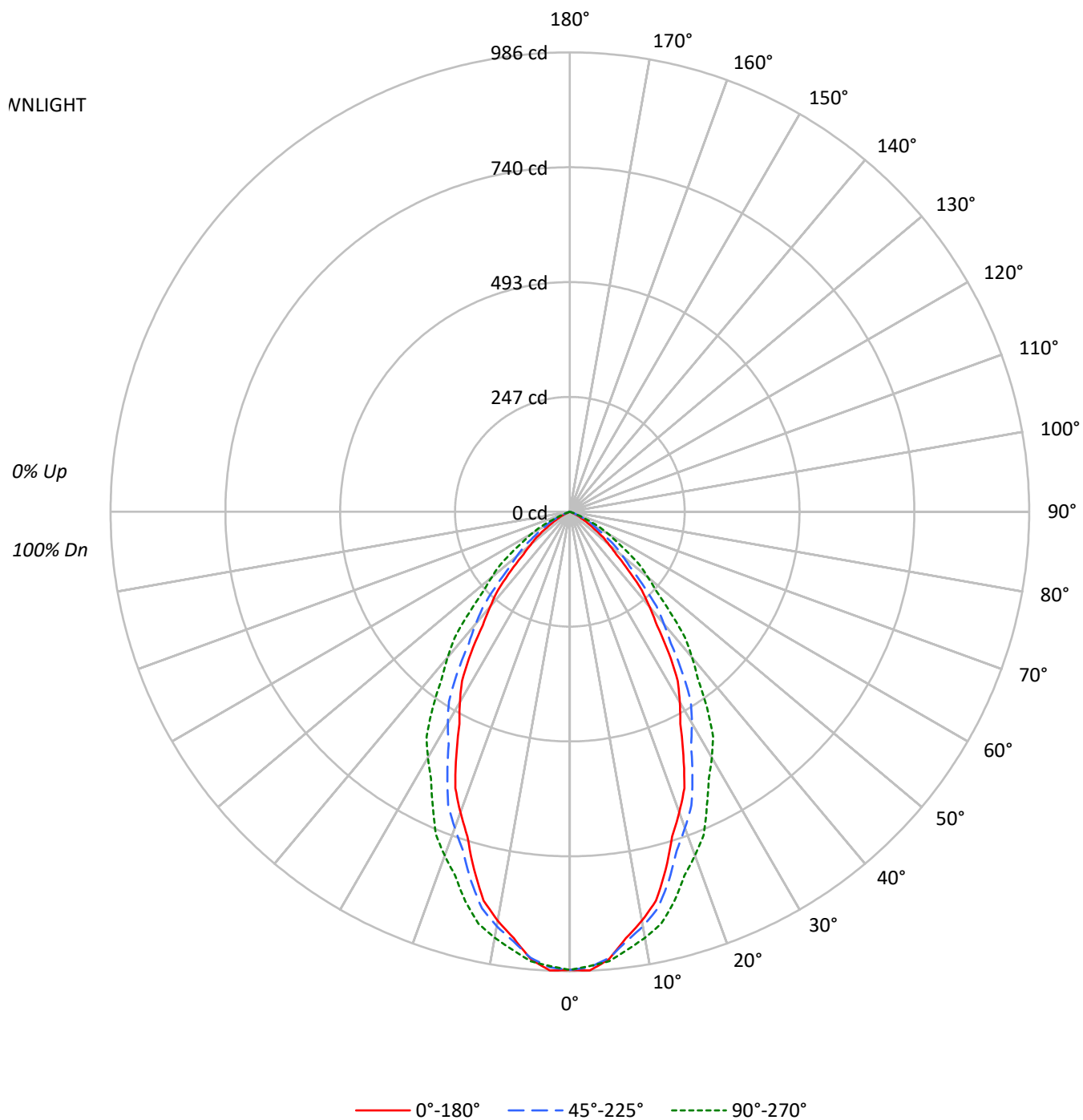
Lumens per Lamp: N/A  
Luminaire Lumens: 1172.9 lumens  
Efficiency: N/A  
Efficacy: 69.8 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.97 / 0.97  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.8  
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   | 112 | 109 | 106 | 104 | 110 | 107 | 104 | 102 | 103 | 101 | 99  |  | 99  | 98  | 96  |  | 96  |
| 2   | 106 | 100 | 95  | 91  | 103 | 98  | 94  | 90  | 95  | 91  | 88  |  | 92  | 89  | 86  |  | 89  |
| 3   | 99  | 91  | 85  | 81  | 97  | 90  | 84  | 80  | 87  | 82  | 79  |  | 85  | 81  | 77  |  | 82  |
| 4   | 93  | 84  | 77  | 72  | 91  | 82  | 76  | 72  | 80  | 75  | 71  |  | 78  | 74  | 70  |  | 76  |
| 5   | 87  | 77  | 70  | 65  | 85  | 76  | 70  | 65  | 74  | 68  | 64  |  | 72  | 67  | 64  |  | 71  |
| 6   | 82  | 71  | 64  | 59  | 80  | 70  | 64  | 59  | 69  | 63  | 58  |  | 67  | 62  | 58  |  | 66  |
| 7   | 77  | 66  | 59  | 54  | 75  | 65  | 59  | 54  | 64  | 58  | 53  |  | 62  | 57  | 53  |  | 61  |
| 8   | 72  | 61  | 54  | 50  | 71  | 61  | 54  | 49  | 59  | 53  | 49  |  | 58  | 53  | 49  |  | 57  |
| 9   | 68  | 57  | 50  | 46  | 67  | 57  | 50  | 46  | 56  | 50  | 46  |  | 55  | 49  | 45  |  | 54  |
| 10  | 65  | 54  | 47  | 42  | 63  | 53  | 47  | 42  | 52  | 46  | 42  |  | 51  | 46  | 42  |  | 51  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 9072 | 9072 | 9072 |
| 5°  | 8925 | 8904 | 8970 |
| 10° | 8351 | 8464 | 8699 |
| 15° | 7592 | 7833 | 8270 |
| 20° | 6739 | 7090 | 7710 |
| 25° | 5869 | 6333 | 7084 |
| 30° | 5027 | 5579 | 6491 |
| 35° | 4168 | 4736 | 5776 |
| 40° | 3202 | 3788 | 4921 |
| 45° | 2316 | 2868 | 3960 |
| 50° | 1577 | 2136 | 3142 |
| 55° | 1026 | 1546 | 2442 |
| 60° | 589  | 1089 | 1766 |
| 65° | 155  | 666  | 893  |
| 70° | 81   | 205  | 256  |
| 75° | 36   | 18   | 0    |
| 80° | 27   | 0    | 0    |
| 85° | 0    | 0    | 0    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3960 cd/sqm

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CATALOG NUMBER: SQ4R-BB-050D-B50-1D-UNV

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 89.7   | 7.7       |
| 10°-20°   | 229.5  | 19.6      |
| 20°-30°   | 287.3  | 24.5      |
| 30°-40°   | 265.3  | 22.6      |
| 40°-50°   | 178.3  | 15.2      |
| 50°-60°   | 92.1   | 7.9       |
| 60°-70°   | 28.8   | 2.5       |
| 70°-80°   | 1.8    | 0.2       |
| 80°-90°   | 0.0    | 0.0       |
| 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       |
| <hr/>     |        |           |
| 0°-30°    | 606.5  | 51.7      |
| 0°-40°    | 871.8  | 74.3      |
| 0°-60°    | 1142.2 | 97.4      |
| 0°-90°    | 1172.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1172.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 983 | 983   | 983 | 983   | 983 |      |
| 5°  | 964 | 954   | 961 | 965   | 968 | 89   |
| 15° | 795 | 792   | 820 | 848   | 866 | 221  |
| 25° | 576 | 581   | 622 | 665   | 696 | 264  |
| 35° | 370 | 379   | 420 | 470   | 513 | 229  |
| 45° | 178 | 188   | 220 | 263   | 304 | 139  |
| 55° | 64  | 74    | 96  | 123   | 152 | 60   |
| 65° | 7   | 14    | 30  | 37    | 41  | 12   |
| 75° | 1   | 1     | 0   | 0     | 0   | 1    |
| 85° | 0   | 0     | 0   | 0     | 0   | 0    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |

TEST NUMBER: P1036171

CATALOG NUMBER: SQ4R-BB-050D-B50-1D-UNV

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 983.3 | 983.3 | 983.3 | 983.3 | 983.3 |
| 2.5°  | 985.5 | 976.2 | 978.6 | 978.6 | 976.0 |
| 5°    | 963.7 | 953.9 | 961.4 | 964.7 | 968.5 |
| 7.5°  | 923.1 | 915.4 | 929.7 | 940.1 | 947.9 |
| 10°   | 891.4 | 884.9 | 903.4 | 917.8 | 928.5 |
| 12.5° | 854.8 | 849.8 | 872.1 | 892.0 | 905.7 |
| 15°   | 794.8 | 792.1 | 820.1 | 847.6 | 865.8 |
| 17.5° | 730.6 | 730.5 | 762.4 | 796.7 | 818.5 |
| 20°   | 686.4 | 687.8 | 722.1 | 759.8 | 785.3 |
| 22.5° | 642.2 | 645.5 | 682.1 | 721.4 | 750.8 |
| 25°   | 576.5 | 581.1 | 622.1 | 664.8 | 695.9 |
| 27.5° | 513.3 | 520.2 | 563.3 | 607.5 | 645.5 |
| 30°   | 471.9 | 479.8 | 523.7 | 570.3 | 609.3 |
| 32.5° | 431.1 | 440.6 | 483.3 | 532.7 | 572.4 |
| 35°   | 370.1 | 379.4 | 420.5 | 470.0 | 512.8 |
| 37.5° | 307.0 | 316.1 | 356.2 | 405.0 | 451.3 |
| 40°   | 265.9 | 276.1 | 314.5 | 361.7 | 408.6 |
| 42.5° | 228.7 | 238.9 | 274.8 | 321.2 | 365.6 |
| 45°   | 177.5 | 188.1 | 219.8 | 262.6 | 303.5 |
| 47.5° | 135.1 | 146.6 | 174.3 | 213.2 | 250.4 |
| 50°   | 109.9 | 121.5 | 148.8 | 183.0 | 218.9 |
| 52.5° | 89.7  | 101.0 | 125.7 | 157.8 | 190.6 |
| 55°   | 63.8  | 74.4  | 96.1  | 123.4 | 151.8 |
| 57.5° | 44.1  | 53.3  | 72.7  | 95.4  | 117.7 |
| 60°   | 31.9  | 40.7  | 59.0  | 77.4  | 95.7  |
| 62.5° | 21.2  | 29.3  | 47.1  | 61.4  | 73.6  |
| 65°   | 7.1   | 13.7  | 30.5  | 36.7  | 40.9  |
| 67.5° | 3.6   | 4.3   | 15.9  | 16.9  | 18.3  |
| 70°   | 3.0   | 3.0   | 7.6   | 8.1   | 9.5   |
| 72.5° | 2.0   | 2.0   | 3.0   | 3.9   | 4.2   |
| 75°   | 1.0   | 1.0   | 0.5   | 0.0   | 0.0   |
| 77.5° | 0.5   | 0.5   | 0.5   | 0.0   | 0.0   |
| 80°   | 0.5   | 0.5   | 0.0   | 0.0   | 0.0   |
| 82.5° | 0.1   | 0.1   | 0.0   | 0.0   | 0.0   |
| 85°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 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 | 7.59             | 8.82 | 7.96 | 9.13 | 9.45 | 12.17          | 13.41 | 12.54 | 13.72 | 14.03 |
|                 | 3H   | 7.47             | 8.55 | 7.85 | 8.88 | 9.25 | 12.15          | 13.23 | 12.53 | 13.56 | 13.93 |
|                 | 4H   | 7.39             | 8.39 | 7.80 | 8.75 | 9.13 | 12.07          | 13.07 | 12.47 | 13.42 | 13.81 |
|                 | 6H   | 7.31             | 8.22 | 7.72 | 8.59 | 8.99 | 11.98          | 12.90 | 12.40 | 13.27 | 13.66 |
|                 | 8H   | 7.26             | 8.12 | 7.69 | 8.52 | 8.92 | 11.93          | 12.80 | 12.36 | 13.19 | 13.60 |
|                 | 12H  | 7.21             | 8.04 | 7.64 | 8.42 | 8.85 | 11.89          | 12.71 | 12.32 | 13.09 | 13.53 |
| 4H              | 2H   | 7.96             | 8.96 | 8.36 | 9.31 | 9.70 | 12.11          | 13.11 | 12.51 | 13.46 | 13.85 |
|                 | 3H   | 7.84             | 8.65 | 8.26 | 9.06 | 9.46 | 12.09          | 12.90 | 12.50 | 13.30 | 13.71 |
|                 | 4H   | 7.75             | 8.47 | 8.19 | 8.89 | 9.34 | 11.99          | 12.71 | 12.43 | 13.13 | 13.58 |
|                 | 6H   | 7.66             | 8.28 | 8.13 | 8.73 | 9.20 | 11.90          | 12.52 | 12.37 | 12.96 | 13.43 |
|                 | 8H   | 7.60             | 8.17 | 8.07 | 8.62 | 9.10 | 11.84          | 12.41 | 12.31 | 12.86 | 13.33 |
|                 | 12H  | 7.55             | 8.05 | 8.04 | 8.54 | 9.01 | 11.78          | 12.29 | 12.27 | 12.77 | 13.25 |
| 8H              | 4H   | 7.61             | 8.18 | 8.08 | 8.63 | 9.10 | 11.84          | 12.41 | 12.31 | 12.86 | 13.33 |
|                 | 6H   | 7.50             | 7.96 | 8.01 | 8.46 | 8.95 | 11.73          | 12.19 | 12.23 | 12.69 | 13.18 |
|                 | 8H   | 7.43             | 7.85 | 7.96 | 8.37 | 8.86 | 11.66          | 12.08 | 12.19 | 12.60 | 13.09 |
|                 | 12H  | 7.38             | 7.75 | 7.90 | 8.25 | 8.82 | 11.61          | 11.98 | 12.13 | 12.47 | 13.05 |
| 12H             | 4H   | 7.56             | 8.06 | 8.04 | 8.54 | 9.02 | 11.79          | 12.29 | 12.27 | 12.77 | 13.25 |
|                 | 6H   | 7.43             | 7.85 | 7.96 | 8.37 | 8.86 | 11.66          | 12.08 | 12.19 | 12.60 | 13.09 |
|                 | 8H   | 7.38             | 7.75 | 7.90 | 8.25 | 8.82 | 11.61          | 11.98 | 12.13 | 12.47 | 13.05 |