

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: P1214999

Luminaire Tested: 22-ID2-25-CNV-L940-U

Issue Date: 12/4/2025

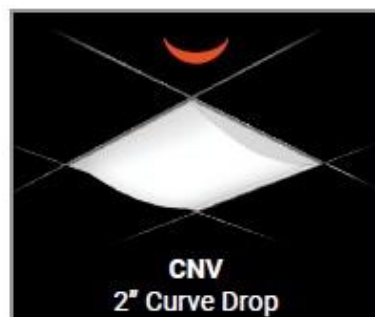
**Test Information**

Test Method: LM-79-2019  
Report Number: P1214999  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2506-458-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/4/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: 22-ID2-25-CNV-L940-U  
Description: 2X2 IN DEPTH TROFFER WITH 2INCH CURVE DROP  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2506.8 lumens  
Efficiency: N/A  
Efficacy: 115.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.31  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 2' x H: 0.16')  
CIE Type: Direct

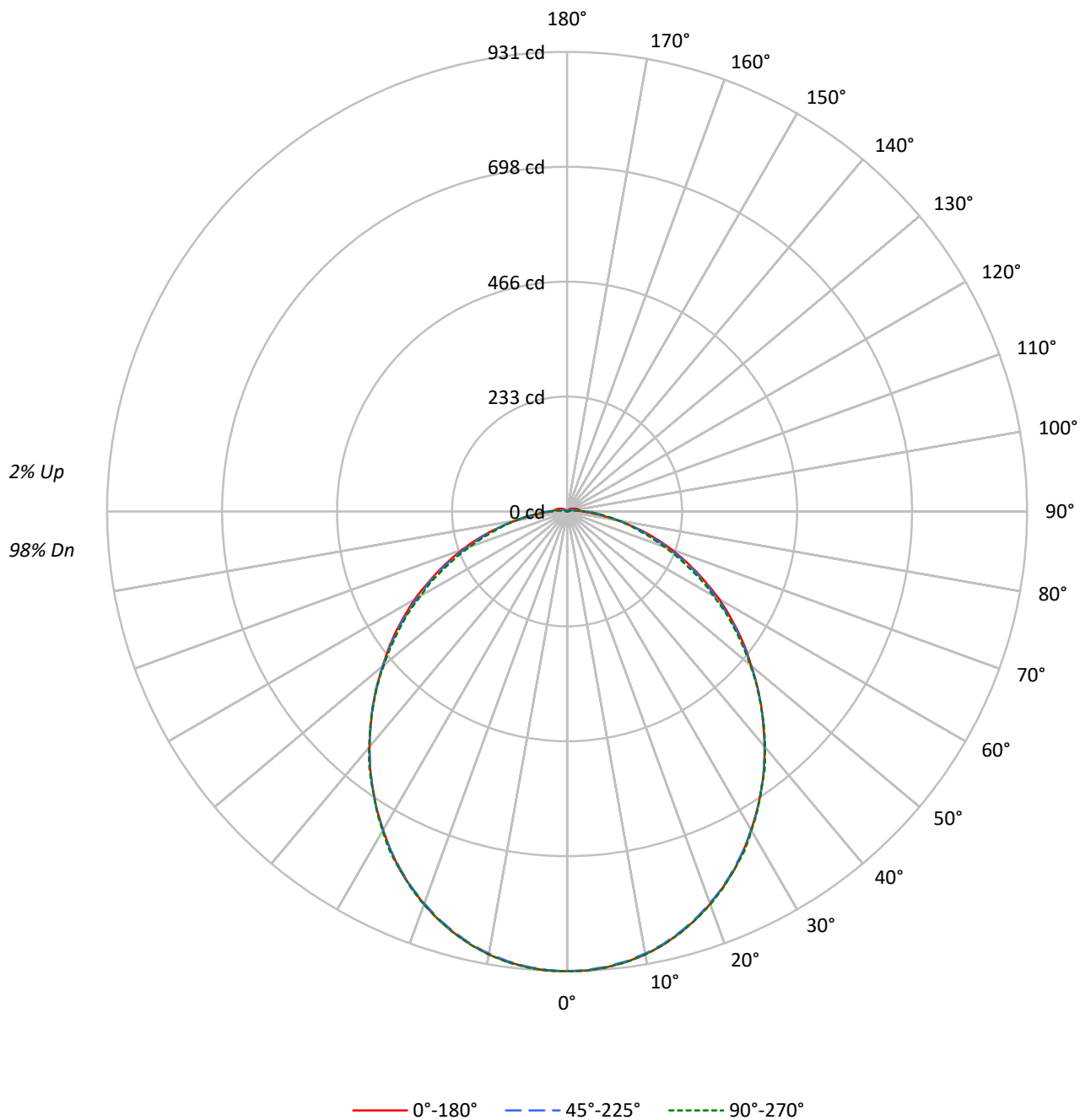
Input Watts (W): 21.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P1214999

CATALOG NUMBER: 22-ID2-25-CNV-L940-U

### Luminous Intensity Polar Plot



TEST NUMBER: P1214999

CATALOG NUMBER: 22-ID2-25-CNV-L940-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| RF  | 20  |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20 |
| RC  | 80  |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |     |     | 0  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 0  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 110 | 110 | 110 | 105 | 105 | 105 | 100 | 100 | 100 | 100 | 100 | 98 |
| 1   | 108 | 103 | 99  | 95  | 105 | 101 | 97  | 93  | 96  | 93  | 90  | 92  | 89  | 87  | 88  | 86  | 84  | 82  | 80  | 82 |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  | 81  | 76  | 72  | 77  | 74  | 70  | 68  | 66  | 68 |
| 3   | 90  | 79  | 71  | 65  | 87  | 77  | 70  | 64  | 74  | 68  | 62  | 71  | 66  | 61  | 68  | 64  | 60  | 58  | 56  | 58 |
| 4   | 82  | 70  | 62  | 55  | 80  | 69  | 61  | 54  | 66  | 59  | 53  | 64  | 57  | 52  | 61  | 56  | 52  | 49  | 47  | 49 |
| 5   | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  | 59  | 52  | 46  | 57  | 51  | 46  | 55  | 50  | 45  | 43  | 41  | 43 |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 47  | 41  | 54  | 46  | 41  | 52  | 45  | 40  | 50  | 44  | 40  | 38  | 36  | 38 |
| 7   | 65  | 52  | 43  | 37  | 63  | 51  | 42  | 37  | 49  | 42  | 36  | 47  | 41  | 36  | 46  | 40  | 35  | 33  | 31  | 33 |
| 8   | 61  | 47  | 39  | 33  | 59  | 46  | 38  | 33  | 45  | 38  | 32  | 43  | 37  | 32  | 42  | 36  | 32  | 30  | 28  | 30 |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 41  | 34  | 29  | 40  | 34  | 29  | 39  | 33  | 29  | 27  | 25  | 27 |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 27  | 38  | 31  | 27  | 37  | 31  | 26  | 36  | 30  | 26  | 24  | 22  | 24 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2506 | 2506 | 2506 |
| 5°  | 2486 | 2475 | 2487 |
| 10° | 2455 | 2436 | 2456 |
| 15° | 2410 | 2385 | 2412 |
| 20° | 2355 | 2323 | 2357 |
| 25° | 2292 | 2253 | 2292 |
| 30° | 2212 | 2173 | 2217 |
| 35° | 2132 | 2088 | 2134 |
| 40° | 2047 | 1995 | 2052 |
| 45° | 1958 | 1896 | 1954 |
| 50° | 1859 | 1796 | 1850 |
| 55° | 1776 | 1689 | 1742 |
| 60° | 1681 | 1572 | 1617 |
| 65° | 1566 | 1454 | 1491 |
| 70° | 1452 | 1313 | 1353 |
| 75° | 1305 | 1162 | 1217 |
| 80° | 1105 | 1012 | 1123 |
| 85° | 921  | 895  | 1063 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1958 cd/sqm

TEST NUMBER: P1214999  
 CATALOG NUMBER: 22-ID2-25-CNV-L940-U

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 87.9   | 3.5       |
| 10°-20°   | 248.9  | 9.9       |
| 20°-30°   | 368.2  | 14.7      |
| 30°-40°   | 429.0  | 17.1      |
| 40°-50°   | 428.4  | 17.1      |
| 50°-60°   | 373.9  | 14.9      |
| 60°-70°   | 280.3  | 11.2      |
| 70°-80°   | 168.8  | 6.7       |
| 80°-90°   | 72.9   | 2.9       |
| 90°-100°  | 24.1   | 1.0       |
| 100°-110° | 11.1   | 0.4       |
| 110°-120° | 6.9    | 0.3       |
| 120°-130° | 3.7    | 0.1       |
| 130°-140° | 1.8    | 0.1       |
| 140°-150° | 0.6    | 0.0       |
| 150°-160° | 0.2    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 705.0  | 28.1      |
| 0°-40°    | 1134.0 | 45.2      |
| 0°-60°    | 1936.3 | 77.2      |
| 0°-90°    | 2458.4 | 98.1      |
| 90°-120°  | 42.0   | 1.7       |
| 90°-150°  | 48.2   | 1.9       |
| 90°-180°  | 48.0   | 1.9       |
| 0°-180°   | 2506.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 931 | 931   | 931 | 931   | 931 |      |
| 5°   | 927 | 926   | 925 | 927   | 927 | 88   |
| 15°  | 884 | 883   | 882 | 884   | 884 | 249  |
| 25°  | 801 | 799   | 799 | 801   | 801 | 368  |
| 35°  | 686 | 685   | 686 | 687   | 686 | 429  |
| 45°  | 556 | 555   | 555 | 556   | 555 | 428  |
| 55°  | 422 | 420   | 418 | 416   | 414 | 377  |
| 65°  | 288 | 286   | 284 | 279   | 274 | 286  |
| 75°  | 163 | 162   | 159 | 157   | 152 | 172  |
| 85°  | 57  | 60    | 66  | 68    | 66  | 57   |
| 90°  | 30  | 34    | 38  | 38    | 36  | 18   |
| 95°  | 26  | 23    | 20  | 18    | 15  | 21   |
| 105° | 20  | 17    | 11  | 4     | 0   | 21   |
| 115° | 14  | 12    | 7   | 2     | 0   | 14   |
| 125° | 9   | 8     | 4   | 0     | 0   | 8    |
| 135° | 5   | 4     | 2   | 0     | 0   | 4    |
| 145° | 2   | 2     | 1   | 0     | 0   | 1    |
| 155° | 1   | 0     | 0   | 0     | 0   | 0    |
| 165° | 0   | 0     | 0   | 0     | 0   | 0    |
| 175° | 0   | 0     | 0   | 0     | 0   | 0    |
| 180° | 0   | 0     | 0   | 0     | 0   | 0    |

TEST NUMBER: P1214999

CATALOG NUMBER: 22-ID2-25-CNV-L940-U

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 931.4 | 931.4 | 931.4 | 931.4 | 931.4 |
| 2.5°   | 930.8 | 930.2 | 929.5 | 930.2 | 931.1 |
| 5°     | 926.7 | 926.1 | 925.4 | 926.7 | 927.0 |
| 7.5°   | 920.4 | 919.7 | 918.8 | 919.7 | 920.7 |
| 10°    | 911.2 | 910.3 | 909.3 | 910.3 | 911.5 |
| 12.5°  | 899.3 | 898.9 | 897.7 | 898.3 | 899.3 |
| 15°    | 883.5 | 883.2 | 882.2 | 883.5 | 884.4 |
| 17.5°  | 866.8 | 865.2 | 864.9 | 865.8 | 866.8 |
| 20°    | 846.3 | 845.6 | 844.7 | 846.3 | 847.2 |
| 22.5°  | 824.2 | 824.2 | 823.3 | 824.2 | 825.2 |
| 25°    | 800.6 | 799.0 | 798.7 | 800.9 | 800.6 |
| 27.5°  | 773.4 | 774.1 | 773.1 | 773.8 | 776.3 |
| 30°    | 744.8 | 745.1 | 745.1 | 746.3 | 746.6 |
| 32.5°  | 716.1 | 716.4 | 716.7 | 717.0 | 717.3 |
| 35°    | 685.5 | 685.2 | 685.8 | 687.1 | 686.1 |
| 37.5°  | 654.9 | 653.9 | 654.3 | 654.6 | 657.1 |
| 40°    | 621.8 | 621.5 | 621.8 | 623.7 | 623.4 |
| 42.5°  | 588.0 | 588.0 | 589.6 | 590.3 | 589.3 |
| 45°    | 555.6 | 555.3 | 554.6 | 556.2 | 554.6 |
| 47.5°  | 521.8 | 520.9 | 520.6 | 521.8 | 520.3 |
| 50°    | 486.5 | 487.5 | 486.8 | 485.9 | 484.0 |
| 52.5°  | 455.0 | 454.0 | 452.8 | 451.5 | 448.7 |
| 55°    | 421.9 | 420.3 | 418.1 | 416.5 | 413.7 |
| 57.5°  | 388.1 | 386.2 | 384.0 | 381.2 | 379.9 |
| 60°    | 355.7 | 352.5 | 349.4 | 347.2 | 342.1 |
| 62.5°  | 320.7 | 320.0 | 315.9 | 313.4 | 310.6 |
| 65°    | 288.2 | 286.0 | 283.8 | 278.7 | 274.3 |
| 67.5°  | 256.0 | 255.1 | 250.4 | 246.6 | 242.5 |
| 70°    | 225.1 | 222.0 | 218.8 | 215.0 | 209.7 |
| 72.5°  | 193.9 | 192.0 | 188.2 | 184.1 | 180.0 |
| 75°    | 163.0 | 161.8 | 158.9 | 156.7 | 152.0 |
| 77.5°  | 131.8 | 131.8 | 132.1 | 131.2 | 128.0 |
| 80°    | 103.7 | 105.6 | 107.2 | 107.8 | 105.3 |
| 82.5°  | 78.8  | 80.7  | 86.1  | 87.7  | 84.5  |
| 85°    | 57.1  | 60.2  | 66.5  | 68.1  | 65.9  |
| 87.5°  | 40.7  | 45.4  | 50.4  | 52.3  | 50.1  |
| 90°    | 30.3  | 34.1  | 37.8  | 38.5  | 36.3  |
| 92.5°  | 27.7  | 26.8  | 27.7  | 27.1  | 24.9  |
| 95°    | 25.9  | 23.0  | 20.5  | 18.0  | 15.4  |
| 97.5°  | 24.3  | 21.4  | 15.4  | 11.0  | 8.8   |
| 100°   | 22.7  | 19.9  | 12.9  | 6.3   | 3.5   |
| 102.5° | 21.1  | 18.6  | 12.0  | 4.1   | 0.6   |
| 105°   | 19.5  | 17.0  | 10.7  | 3.5   | 0.3   |
| 107.5° | 18.0  | 15.8  | 9.8   | 2.8   | 0.3   |
| 110°   | 16.4  | 14.5  | 8.8   | 2.5   | 0.3   |

TEST NUMBER: P1214999

CATALOG NUMBER: 22-ID2-25-CNV-L940-U

**CANDELA DISTRIBUTION (continued):**

|        | 0°   | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|-----|-------|-----|
| 112.5° | 15.1 | 13.2  | 7.9 | 1.9   | 0.0 |
| 115°   | 13.6 | 11.7  | 7.3 | 1.6   | 0.0 |
| 117.5° | 12.3 | 10.7  | 6.3 | 1.3   | 0.0 |
| 120°   | 11.0 | 9.5   | 5.7 | 0.9   | 0.0 |
| 122.5° | 9.8  | 8.5   | 4.7 | 0.6   | 0.0 |
| 125°   | 8.8  | 7.6   | 4.1 | 0.3   | 0.0 |
| 127.5° | 7.6  | 6.6   | 3.5 | 0.3   | 0.0 |
| 130°   | 6.6  | 5.7   | 3.2 | 0.3   | 0.3 |
| 132.5° | 6.0  | 5.0   | 2.5 | 0.3   | 0.3 |
| 135°   | 5.0  | 4.1   | 1.9 | 0.3   | 0.3 |
| 137.5° | 4.4  | 3.5   | 1.6 | 0.3   | 0.3 |
| 140°   | 3.5  | 2.8   | 1.3 | 0.3   | 0.3 |
| 142.5° | 2.8  | 2.2   | 0.9 | 0.3   | 0.3 |
| 145°   | 2.2  | 1.9   | 0.6 | 0.3   | 0.3 |
| 147.5° | 1.6  | 1.3   | 0.3 | 0.3   | 0.3 |
| 150°   | 1.3  | 0.9   | 0.3 | 0.3   | 0.3 |
| 152.5° | 0.9  | 0.6   | 0.3 | 0.3   | 0.3 |
| 155°   | 0.6  | 0.3   | 0.3 | 0.3   | 0.3 |
| 157.5° | 0.3  | 0.3   | 0.3 | 0.3   | 0.3 |
| 160°   | 0.3  | 0.3   | 0.3 | 0.3   | 0.3 |
| 162.5° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 165°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 167.5° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 170°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 172.5° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 175°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 177.5° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 180°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |

TEST NUMBER: P1214999

CATALOG NUMBER: 22-ID2-25-CNV-L940-U

**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 | 13.65            | 15.24 | 14.05 | 15.59 | 15.95 | 13.55          | 15.13 | 13.95 | 15.49 | 15.85 |
|                 | 3H   | 15.39            | 16.82 | 15.80 | 17.19 | 17.60 | 15.20          | 16.63 | 15.60 | 16.99 | 17.40 |
|                 | 4H   | 16.05            | 17.40 | 16.48 | 17.79 | 18.21 | 15.81          | 17.16 | 16.24 | 17.55 | 17.97 |
|                 | 6H   | 16.53            | 17.78 | 16.97 | 18.19 | 18.63 | 16.32          | 17.58 | 16.77 | 17.98 | 18.42 |
|                 | 8H   | 16.70            | 17.89 | 17.15 | 18.32 | 18.77 | 16.52          | 17.72 | 16.98 | 18.15 | 18.59 |
|                 | 12H  | 16.82            | 17.97 | 17.28 | 18.39 | 18.87 | 16.70          | 17.84 | 17.16 | 18.27 | 18.74 |
| 4H              | 2H   | 14.22            | 15.57 | 14.65 | 15.95 | 16.38 | 14.13          | 15.48 | 14.56 | 15.87 | 16.29 |
|                 | 3H   | 16.16            | 17.30 | 16.60 | 17.73 | 18.18 | 15.99          | 17.13 | 16.44 | 17.57 | 18.01 |
|                 | 4H   | 16.95            | 17.98 | 17.41 | 18.43 | 18.91 | 16.74          | 17.77 | 17.21 | 18.22 | 18.71 |
|                 | 6H   | 17.56            | 18.46 | 18.04 | 18.94 | 19.44 | 17.39          | 18.29 | 17.88 | 18.77 | 19.27 |
|                 | 8H   | 17.78            | 18.62 | 18.27 | 19.10 | 19.61 | 17.65          | 18.50 | 18.14 | 18.98 | 19.49 |
|                 | 12H  | 17.96            | 18.72 | 18.47 | 19.23 | 19.74 | 17.89          | 18.65 | 18.40 | 19.16 | 19.68 |
| 8H              | 4H   | 17.22            | 18.07 | 17.71 | 18.54 | 19.05 | 17.04          | 17.89 | 17.53 | 18.37 | 18.88 |
|                 | 6H   | 17.96            | 18.67 | 18.48 | 19.19 | 19.71 | 17.82          | 18.53 | 18.35 | 19.05 | 19.57 |
|                 | 8H   | 18.26            | 18.89 | 18.79 | 19.43 | 19.96 | 18.18          | 18.81 | 18.72 | 19.35 | 19.88 |
|                 | 12H  | 18.52            | 19.09 | 19.06 | 19.61 | 20.21 | 18.52          | 19.09 | 19.06 | 19.61 | 20.21 |
| 12H             | 4H   | 17.25            | 18.02 | 17.76 | 18.53 | 19.04 | 17.08          | 17.84 | 17.59 | 18.35 | 18.86 |
|                 | 6H   | 18.02            | 18.66 | 18.56 | 19.20 | 19.73 | 17.89          | 18.53 | 18.43 | 19.07 | 19.59 |
|                 | 8H   | 18.38            | 18.94 | 18.92 | 19.47 | 20.07 | 18.31          | 18.87 | 18.84 | 19.40 | 20.00 |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Corelite

Report Number: SP1-2506-458-11

Test Date: 08/26/2025

Luminaire Tested: 22ID2-55-CFR1-L940-U

Data in this report applies to families of products including 22ID2-55-CFR1-L940-U

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2506-458-11  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 08/27/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Corelite  
 Catalog Number: **22ID2-55-CFR1-L940-U**  
 Description: 2X2 CGTX WITH INDEPTH FRAME AND CFR1 LENS - 5500 LUMEN 4000K 90CRI

### Spectral Parameters

CCT (K): 3910  
 CIE  $u'$ : 0.2263  
 CIE  $v'$ : 0.5043  
 Duv: 0.0008  
 CIE x: 0.3851  
 CIE y: 0.3813  
 CIE z: 0.2336  
 Peak Wavelength (nm): 451  
 Dominant Wavelength (nm): 578  
 Purity: 30.01895  
 R<sub>f</sub>: 90.8  
 R<sub>g</sub>: 98.8

CRI (Ra): 92.4  
 R1: 92.5  
 R2: 94.9  
 R3: 95.8  
 R4: 92.7  
 R5: 91.7  
 R6: 92.1  
 R7: 94.3  
 R8: 85.2  
 R9: 62.0  
 R10: 87.0  
 R11: 92.8  
 R12: 71.7  
 R13: 93.2  
 R14: 97.3  
 R15: 89.6



### Test Conditions

Stabilization Time: 31M  
 Operation Time: 1H 31M  
 Sphere Temperature (°C): 25.2.

REPORT NUMBER: SP1-2506-458-11

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 6/16/2025        | 12/16/2025           |
| Power Meter                    | XITRON INXT2011004    | 1/21/2025        | 1/21/2026            |
| AC Power Source                | CHROMA 61603 IN0063   | 10/22/2024       | 10/22/2025           |
| DC Power Source                | AGILENT E3634A IN0208 | 10/22/2024       | 10/22/2025           |
| Sphere Thermometer             | ONSET IN0085          | 10/22/2024       | 10/22/2025           |
| Room Thermometer               | ONSET IN0046          | 10/22/2024       | 10/22/2025           |

REPORT NUMBER: SP1-2506-458-11

**CIE 1931 Chromaticity Diagram**



**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2506-458-11

**Photopic Flux vs. Wavelength**

**Photopic Lumens: NR**

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 394                                  | NR                             | 620               | 868                                  | NR                             | 750               | 58                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 449                                  | NR                             | 625               | 858                                  | NR                             | 755               | 49                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 505                                  | NR                             | 630               | 839                                  | NR                             | 760               | 42                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 553                                  | NR                             | 635               | 813                                  | NR                             | 765               | 36                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 593                                  | NR                             | 640               | 783                                  | NR                             | 770               | 31                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 628                                  | NR                             | 645               | 746                                  | NR                             | 775               | 26                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 651                                  | NR                             | 650               | 702                                  | NR                             | 780               | 22                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 4                                    | NR                             | 525               | 670                                  | NR                             | 655               | 657                                  | NR                             | 785               | 19                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 5                                    | NR                             | 530               | 687                                  | NR                             | 660               | 607                                  | NR                             | 790               | 16                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 8                                    | NR                             | 535               | 705                                  | NR                             | 665               | 559                                  | NR                             | 795               | 14                                   | NR                             | 925               | 0                                    | NR                             |
| 410               | 12                                   | NR                             | 540               | 717                                  | NR                             | 670               | 507                                  | NR                             | 800               | 12                                   | NR                             | 930               | 0                                    | NR                             |
| 415               | 19                                   | NR                             | 545               | 731                                  | NR                             | 675               | 458                                  | NR                             | 805               | 10                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 34                                   | NR                             | 550               | 745                                  | NR                             | 680               | 413                                  | NR                             | 810               | 9                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 60                                   | NR                             | 555               | 757                                  | NR                             | 685               | 367                                  | NR                             | 815               | 7                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 107                                  | NR                             | 560               | 767                                  | NR                             | 690               | 328                                  | NR                             | 820               | 6                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 194                                  | NR                             | 565               | 777                                  | NR                             | 695               | 289                                  | NR                             | 825               | 5                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 349                                  | NR                             | 570               | 785                                  | NR                             | 700               | 253                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 678                                  | NR                             | 575               | 794                                  | NR                             | 705               | 221                                  | NR                             | 835               | 4                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 997                                  | NR                             | 580               | 809                                  | NR                             | 710               | 192                                  | NR                             | 840               | 3                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 819                                  | NR                             | 585               | 820                                  | NR                             | 715               | 165                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 581                                  | NR                             | 590               | 838                                  | NR                             | 720               | 144                                  | NR                             | 850               | 2                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 517                                  | NR                             | 595               | 851                                  | NR                             | 725               | 124                                  | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 406                                  | NR                             | 600               | 861                                  | NR                             | 730               | 107                                  | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 327                                  | NR                             | 605               | 873                                  | NR                             | 735               | 91                                   | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 330                                  | NR                             | 610               | 875                                  | NR                             | 740               | 78                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 356                                  | NR                             | 615               | 877                                  | NR                             | 745               | 67                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2506-458-11

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.75

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 394                         | NR               | 620       | 868                         | NR               | 750       | 58                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 449                         | NR               | 625       | 858                         | NR               | 755       | 49                          | NR               | 885       | 1                           | NR               |
| 370       | 0                           | NR               | 500       | 505                         | NR               | 630       | 839                         | NR               | 760       | 42                          | NR               | 890       | 1                           | NR               |
| 375       | 0                           | NR               | 505       | 553                         | NR               | 635       | 813                         | NR               | 765       | 36                          | NR               | 895       | 1                           | NR               |
| 380       | 0                           | NR               | 510       | 593                         | NR               | 640       | 783                         | NR               | 770       | 31                          | NR               | 900       | 1                           | NR               |
| 385       | 0                           | NR               | 515       | 628                         | NR               | 645       | 746                         | NR               | 775       | 26                          | NR               | 905       | 1                           | NR               |
| 390       | 1                           | NR               | 520       | 651                         | NR               | 650       | 702                         | NR               | 780       | 22                          | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 670                         | NR               | 655       | 657                         | NR               | 785       | 19                          | NR               | 915       | 0                           | NR               |
| 400       | 5                           | NR               | 530       | 687                         | NR               | 660       | 607                         | NR               | 790       | 16                          | NR               | 920       | 0                           | NR               |
| 405       | 8                           | NR               | 535       | 705                         | NR               | 665       | 559                         | NR               | 795       | 14                          | NR               | 925       | 0                           | NR               |
| 410       | 12                          | NR               | 540       | 717                         | NR               | 670       | 507                         | NR               | 800       | 12                          | NR               | 930       | 0                           | NR               |
| 415       | 19                          | NR               | 545       | 731                         | NR               | 675       | 458                         | NR               | 805       | 10                          | NR               | 935       | 0                           | NR               |
| 420       | 34                          | NR               | 550       | 745                         | NR               | 680       | 413                         | NR               | 810       | 9                           | NR               | 940       | 0                           | NR               |
| 425       | 60                          | NR               | 555       | 757                         | NR               | 685       | 367                         | NR               | 815       | 7                           | NR               | 945       | 0                           | NR               |
| 430       | 107                         | NR               | 560       | 767                         | NR               | 690       | 328                         | NR               | 820       | 6                           | NR               | 950       | 0                           | NR               |
| 435       | 194                         | NR               | 565       | 777                         | NR               | 695       | 289                         | NR               | 825       | 5                           | NR               | 955       | 0                           | NR               |
| 440       | 349                         | NR               | 570       | 785                         | NR               | 700       | 253                         | NR               | 830       | 5                           | NR               | 960       | 0                           | NR               |
| 445       | 678                         | NR               | 575       | 794                         | NR               | 705       | 221                         | NR               | 835       | 4                           | NR               | 965       | 0                           | NR               |
| 450       | 997                         | NR               | 580       | 809                         | NR               | 710       | 192                         | NR               | 840       | 3                           | NR               | 970       | 0                           | NR               |
| 455       | 819                         | NR               | 585       | 820                         | NR               | 715       | 165                         | NR               | 845       | 3                           | NR               | 975       | 0                           | NR               |
| 460       | 581                         | NR               | 590       | 838                         | NR               | 720       | 144                         | NR               | 850       | 2                           | NR               | 980       | 0                           | NR               |
| 465       | 517                         | NR               | 595       | 851                         | NR               | 725       | 124                         | NR               | 855       | 2                           | NR               | 985       | 0                           | NR               |
| 470       | 406                         | NR               | 600       | 861                         | NR               | 730       | 107                         | NR               | 860       | 2                           | NR               | 990       | 0                           | NR               |
| 475       | 327                         | NR               | 605       | 873                         | NR               | 735       | 91                          | NR               | 865       | 2                           | NR               | 995       | 0                           | NR               |
| 480       | 330                         | NR               | 610       | 875                         | NR               | 740       | 78                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 356                         | NR               | 615       | 877                         | NR               | 745       | 67                          | NR               | 875       | 1                           | NR               |           |                             |                  |

REPORT NUMBER: SP1-2506-458-11

### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.61

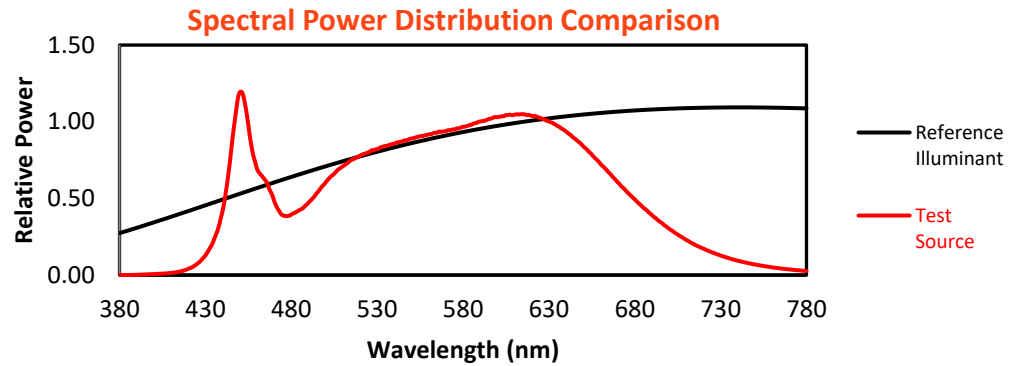
| λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 394                         | NR               | 620       | 868                         | NR               | 750       | 58                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 449                         | NR               | 625       | 858                         | NR               | 755       | 49                          | NR               | 885       | 1                           | NR               |
| 370       | 0                           | NR               | 500       | 505                         | NR               | 630       | 839                         | NR               | 760       | 42                          | NR               | 890       | 1                           | NR               |
| 375       | 0                           | NR               | 505       | 553                         | NR               | 635       | 813                         | NR               | 765       | 36                          | NR               | 895       | 1                           | NR               |
| 380       | 0                           | NR               | 510       | 593                         | NR               | 640       | 783                         | NR               | 770       | 31                          | NR               | 900       | 1                           | NR               |
| 385       | 0                           | NR               | 515       | 628                         | NR               | 645       | 746                         | NR               | 775       | 26                          | NR               | 905       | 1                           | NR               |
| 390       | 1                           | NR               | 520       | 651                         | NR               | 650       | 702                         | NR               | 780       | 22                          | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 670                         | NR               | 655       | 657                         | NR               | 785       | 19                          | NR               | 915       | 0                           | NR               |
| 400       | 5                           | NR               | 530       | 687                         | NR               | 660       | 607                         | NR               | 790       | 16                          | NR               | 920       | 0                           | NR               |
| 405       | 8                           | NR               | 535       | 705                         | NR               | 665       | 559                         | NR               | 795       | 14                          | NR               | 925       | 0                           | NR               |
| 410       | 12                          | NR               | 540       | 717                         | NR               | 670       | 507                         | NR               | 800       | 12                          | NR               | 930       | 0                           | NR               |
| 415       | 19                          | NR               | 545       | 731                         | NR               | 675       | 458                         | NR               | 805       | 10                          | NR               | 935       | 0                           | NR               |
| 420       | 34                          | NR               | 550       | 745                         | NR               | 680       | 413                         | NR               | 810       | 9                           | NR               | 940       | 0                           | NR               |
| 425       | 60                          | NR               | 555       | 757                         | NR               | 685       | 367                         | NR               | 815       | 7                           | NR               | 945       | 0                           | NR               |
| 430       | 107                         | NR               | 560       | 767                         | NR               | 690       | 328                         | NR               | 820       | 6                           | NR               | 950       | 0                           | NR               |
| 435       | 194                         | NR               | 565       | 777                         | NR               | 695       | 289                         | NR               | 825       | 5                           | NR               | 955       | 0                           | NR               |
| 440       | 349                         | NR               | 570       | 785                         | NR               | 700       | 253                         | NR               | 830       | 5                           | NR               | 960       | 0                           | NR               |
| 445       | 678                         | NR               | 575       | 794                         | NR               | 705       | 221                         | NR               | 835       | 4                           | NR               | 965       | 0                           | NR               |
| 450       | 997                         | NR               | 580       | 809                         | NR               | 710       | 192                         | NR               | 840       | 3                           | NR               | 970       | 0                           | NR               |
| 455       | 819                         | NR               | 585       | 820                         | NR               | 715       | 165                         | NR               | 845       | 3                           | NR               | 975       | 0                           | NR               |
| 460       | 581                         | NR               | 590       | 838                         | NR               | 720       | 144                         | NR               | 850       | 2                           | NR               | 980       | 0                           | NR               |
| 465       | 517                         | NR               | 595       | 851                         | NR               | 725       | 124                         | NR               | 855       | 2                           | NR               | 985       | 0                           | NR               |
| 470       | 406                         | NR               | 600       | 861                         | NR               | 730       | 107                         | NR               | 860       | 2                           | NR               | 990       | 0                           | NR               |
| 475       | 327                         | NR               | 605       | 873                         | NR               | 735       | 91                          | NR               | 865       | 2                           | NR               | 995       | 0                           | NR               |
| 480       | 330                         | NR               | 610       | 875                         | NR               | 740       | 78                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 356                         | NR               | 615       | 877                         | NR               | 745       | 67                          | NR               | 875       | 1                           | NR               |           |                             |                  |

REPORT NUMBER: SP1-2506-458-11

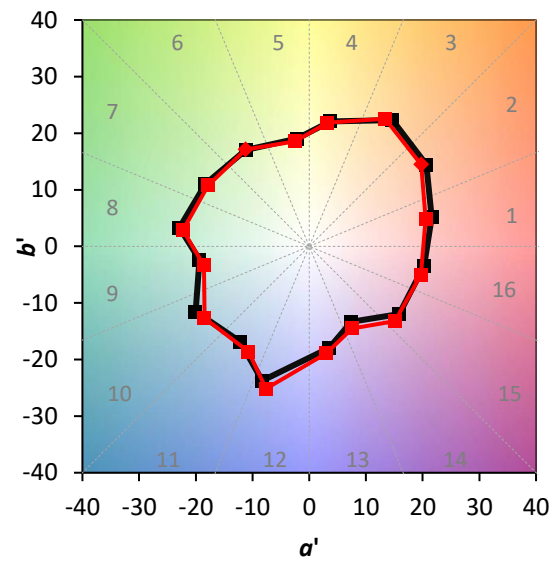
TM-30-18

### Summary

$R_f = 90.8$   
 $R_g = 98.8$   
 $CIE R_a = 92.4$   
 $R_9 = 62.0$



### Color Vector Graphics

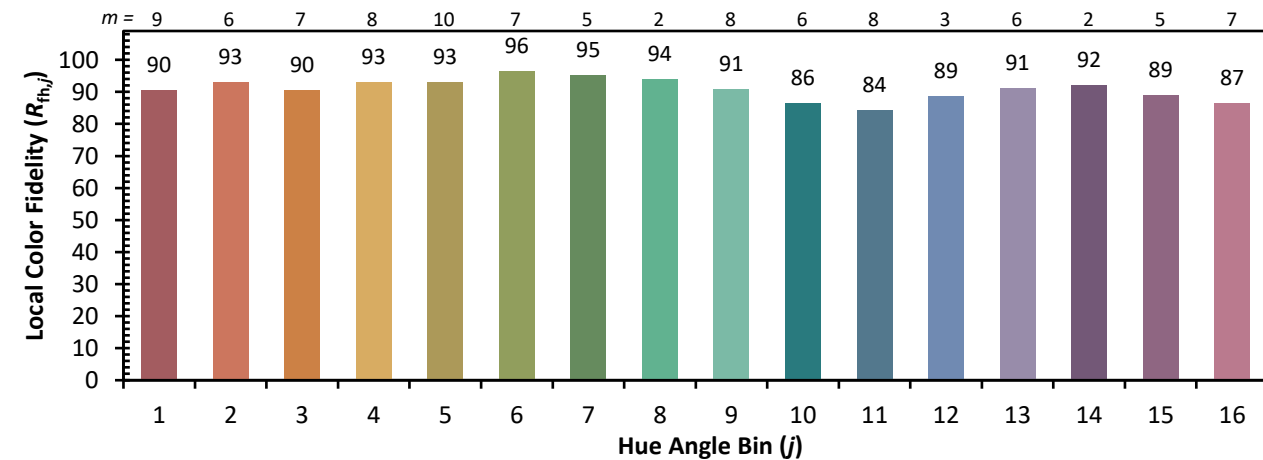


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

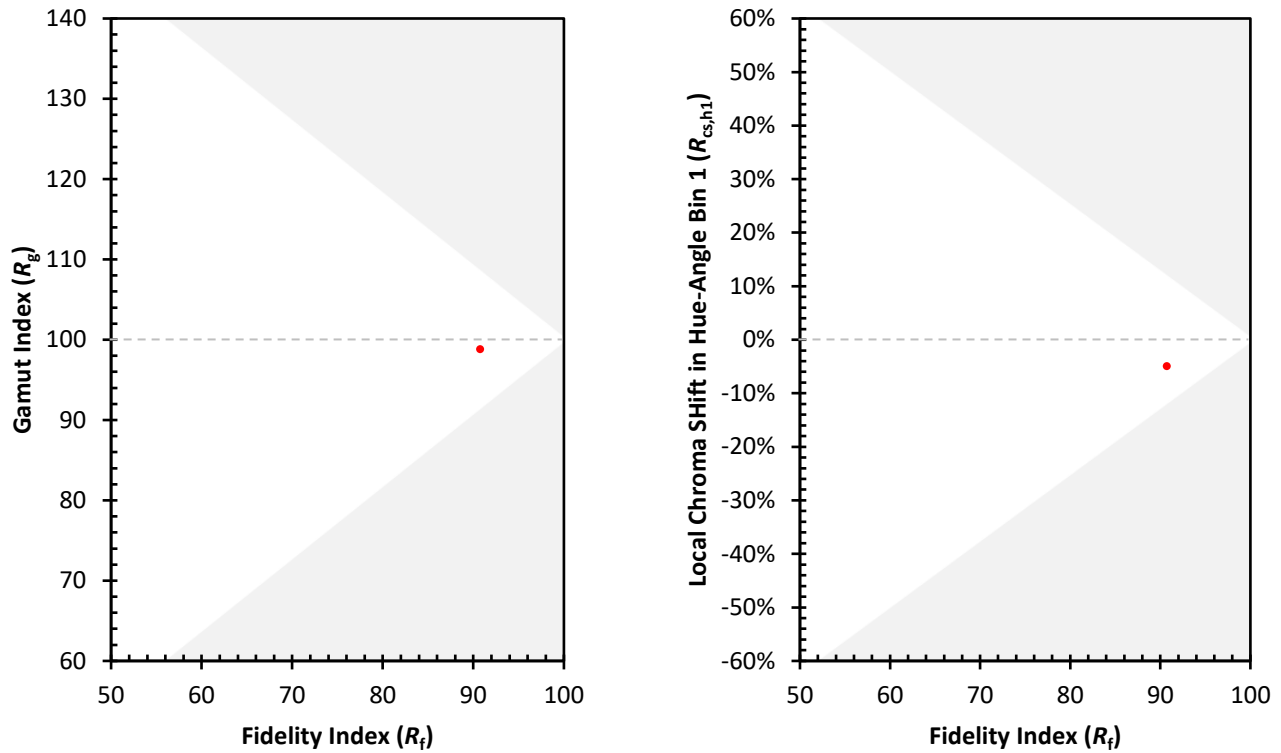
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 93 | CES51 = 96 | CES76 = 85 |
| CES02 = 62 | CES27 = 90 | CES52 = 98 | CES77 = 88 |
| CES03 = 31 | CES28 = 96 | CES53 = 96 | CES78 = 82 |
| CES04 = 69 | CES29 = 96 | CES54 = 92 | CES79 = 96 |
| CES05 = 49 | CES30 = 90 | CES55 = 90 | CES80 = 93 |
| CES06 = 50 | CES31 = 97 | CES56 = 93 | CES81 = 89 |
| CES07 = 42 | CES32 = 91 | CES57 = 91 | CES82 = 97 |
| CES08 = 41 | CES33 = 98 | CES58 = 92 | CES83 = 98 |
| CES09 = 29 | CES34 = 93 | CES59 = 96 | CES84 = 93 |
| CES10 = 74 | CES35 = 96 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 79 | CES61 = 91 | CES86 = 88 |
| CES12 = 63 | CES37 = 95 | CES62 = 84 | CES87 = 91 |
| CES13 = 43 | CES38 = 85 | CES63 = 91 | CES88 = 96 |
| CES14 = 74 | CES39 = 99 | CES64 = 87 | CES89 = 87 |
| CES15 = 71 | CES40 = 98 | CES65 = 87 | CES90 = 96 |
| CES16 = 47 | CES41 = 96 | CES66 = 84 | CES91 = 71 |
| CES17 = 49 | CES42 = 95 | CES67 = 83 | CES92 = 79 |
| CES18 = 56 | CES43 = 95 | CES68 = 86 | CES93 = 87 |
| CES19 = 71 | CES44 = 99 | CES69 = 87 | CES94 = 81 |
| CES20 = 66 | CES45 = 98 | CES70 = 84 | CES95 = 82 |
| CES21 = 85 | CES46 = 97 | CES71 = 77 | CES96 = 91 |
| CES22 = 78 | CES47 = 97 | CES72 = 93 | CES97 = 96 |
| CES23 = 91 | CES48 = 90 | CES73 = 78 | CES98 = 94 |
| CES24 = 90 | CES49 = 96 | CES74 = 91 | CES99 = 91 |
| CES25 = 71 | CES50 = 97 | CES75 = 80 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)