

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: P1217208

Luminaire Tested: 14-ID2-40-CNV-L950-U

Issue Date: 12/5/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1217208  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2508-507-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/5/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: 14-ID2-40-CNV-L950-U  
Description: 1X4 IN DEPTH TROFFER WITH 2INCH CURVE DROP LENS  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

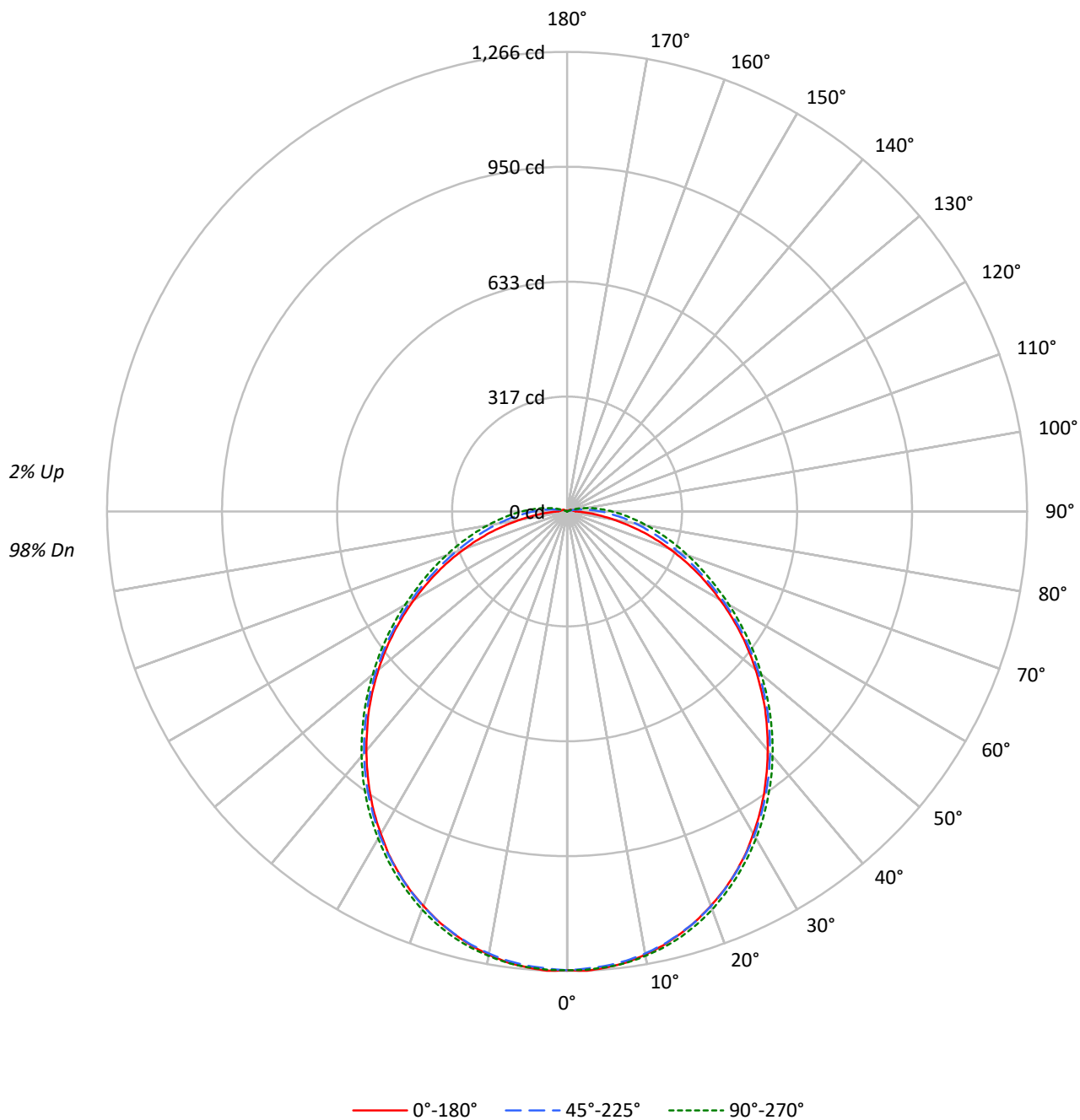
Lumens per Lamp: N/A  
Luminaire Lumens: 3597.0 lumens  
Efficiency: N/A  
Efficacy: 102.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 4' x H: 0.16')  
CIE Type: Direct

Input Watts (W): 35.1  
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: P1217208  
CATALOG NUMBER: 14-ID2-40-CNV-L950-U

### Luminous Intensity Polar Plot



TEST NUMBER: P1217208

CATALOG NUMBER: 14-ID2-40-CNV-L950-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  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 |  | 110 | 110 | 110 |  | 105 | 105 | 105 |  | 100 | 100 | 100 |
| 1   | 107 | 102 | 98  | 94  | 104 | 100 | 96  | 92  |  | 95  | 92  | 88  |  | 91  | 88  | 85  |  | 87  | 84  | 82  |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 80  | 75  |  | 83  | 77  | 73  |  | 79  | 75  | 71  |  | 76  | 72  | 69  |
| 3   | 89  | 78  | 70  | 63  | 86  | 76  | 69  | 62  |  | 73  | 66  | 61  |  | 70  | 64  | 60  |  | 67  | 62  | 58  |
| 4   | 81  | 69  | 60  | 54  | 79  | 68  | 59  | 53  |  | 65  | 58  | 52  |  | 62  | 56  | 51  |  | 60  | 54  | 50  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  |  | 58  | 51  | 45  |  | 56  | 49  | 44  |  | 54  | 48  | 44  |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  |  | 53  | 45  | 39  |  | 51  | 44  | 39  |  | 49  | 43  | 38  |
| 7   | 64  | 51  | 42  | 36  | 62  | 50  | 41  | 35  |  | 48  | 40  | 35  |  | 46  | 40  | 35  |  | 45  | 39  | 34  |
| 8   | 60  | 46  | 38  | 32  | 58  | 45  | 37  | 32  |  | 44  | 37  | 31  |  | 42  | 36  | 31  |  | 41  | 35  | 31  |
| 9   | 56  | 42  | 34  | 29  | 54  | 42  | 34  | 29  |  | 40  | 33  | 28  |  | 39  | 33  | 28  |  | 38  | 32  | 28  |
| 10  | 52  | 39  | 31  | 26  | 51  | 39  | 31  | 26  |  | 37  | 30  | 26  |  | 36  | 30  | 25  |  | 35  | 29  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3401 | 3401 | 3401 |
| 5°  | 3394 | 3351 | 3357 |
| 10° | 3364 | 3297 | 3304 |
| 15° | 3320 | 3230 | 3241 |
| 20° | 3263 | 3152 | 3158 |
| 25° | 3199 | 3061 | 3063 |
| 30° | 3113 | 2960 | 2959 |
| 35° | 3022 | 2849 | 2847 |
| 40° | 2921 | 2729 | 2725 |
| 45° | 2821 | 2601 | 2593 |
| 50° | 2706 | 2461 | 2453 |
| 55° | 2584 | 2308 | 2314 |
| 60° | 2444 | 2157 | 2171 |
| 65° | 2295 | 1997 | 2041 |
| 70° | 2122 | 1847 | 1934 |
| 75° | 1921 | 1733 | 1850 |
| 80° | 1657 | 1649 | 1813 |
| 85° | 1447 | 1620 | 1854 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2821 cd/sqm

TEST NUMBER: P1217208  
 CATALOG NUMBER: 14-ID2-40-CNV-L950-U

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 119.5  | 3.3       |
| 10°-20°   | 340.0  | 9.5       |
| 20°-30°   | 506.7  | 14.1      |
| 30°-40°   | 596.3  | 16.6      |
| 40°-50°   | 601.6  | 16.7      |
| 50°-60°   | 530.4  | 14.7      |
| 60°-70°   | 406.3  | 11.3      |
| 70°-80°   | 266.1  | 7.4       |
| 80°-90°   | 142.3  | 4.0       |
| 90°-100°  | 60.5   | 1.7       |
| 100°-110° | 19.3   | 0.5       |
| 110°-120° | 4.5    | 0.1       |
| 120°-130° | 2.1    | 0.1       |
| 130°-140° | 1.0    | 0.0       |
| 140°-150° | 0.4    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 966.2  | 26.9      |
| 0°-40°    | 1562.5 | 43.4      |
| 0°-60°    | 2694.6 | 74.9      |
| 0°-90°    | 3509.3 | 97.6      |
| 90°-120°  | 84.3   | 2.3       |
| 90°-150°  | 87.7   | 2.4       |
| 90°-180°  | 88.0   | 2.4       |
| 0°-180°   | 3597.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1264 | 1264  | 1264 | 1264  | 1264 |      |
| 5°   | 1261 | 1259  | 1256 | 1257  | 1260 | 120  |
| 15°  | 1205 | 1203  | 1203 | 1208  | 1213 | 340  |
| 25°  | 1098 | 1096  | 1099 | 1104  | 1108 | 505  |
| 35°  | 946  | 946   | 953  | 961   | 964  | 591  |
| 45°  | 771  | 772   | 780  | 789   | 790  | 594  |
| 55°  | 582  | 582   | 591  | 604   | 606  | 521  |
| 65°  | 391  | 393   | 409  | 424   | 431  | 388  |
| 75°  | 212  | 221   | 255  | 278   | 284  | 225  |
| 85°  | 68   | 94    | 137  | 163   | 170  | 69   |
| 90°  | 24   | 53    | 92   | 117   | 124  | 16   |
| 95°  | 20   | 27    | 57   | 79    | 86   | 16   |
| 105° | 14   | 11    | 12   | 24    | 29   | 15   |
| 115° | 9    | 7     | 4    | 0     | 0    | 9    |
| 125° | 5    | 4     | 2    | 0     | 0    | 5    |
| 135° | 3    | 2     | 1    | 0     | 0    | 3    |
| 145° | 2    | 1     | 0    | 0     | 0    | 1    |
| 155° | 0    | 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: P1217208

CATALOG NUMBER: 14-ID2-40-CNV-L950-U

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1263.9 | 1263.9 | 1263.9 | 1263.9 | 1263.9 |
| 2.5°   | 1266.3 | 1264.5 | 1260.2 | 1261.4 | 1263.3 |
| 5°     | 1260.8 | 1259.0 | 1256.0 | 1256.6 | 1260.2 |
| 7.5°   | 1253.0 | 1250.6 | 1248.1 | 1250.0 | 1254.2 |
| 10°    | 1239.7 | 1238.5 | 1236.7 | 1239.1 | 1243.3 |
| 12.5°  | 1224.0 | 1222.7 | 1222.1 | 1225.2 | 1230.0 |
| 15°    | 1204.6 | 1203.4 | 1203.4 | 1208.2 | 1213.1 |
| 17.5°  | 1182.2 | 1181.6 | 1182.8 | 1188.3 | 1191.9 |
| 20°    | 1156.2 | 1155.6 | 1157.4 | 1162.9 | 1167.1 |
| 22.5°  | 1129.0 | 1127.8 | 1129.6 | 1134.5 | 1138.7 |
| 25°    | 1097.6 | 1095.8 | 1098.8 | 1104.2 | 1108.5 |
| 27.5°  | 1063.7 | 1060.7 | 1065.5 | 1071.6 | 1075.2 |
| 30°    | 1025.0 | 1025.6 | 1030.4 | 1036.5 | 1040.1 |
| 32.5°  | 986.9  | 986.3  | 992.3  | 999.6  | 1003.2 |
| 35°    | 945.8  | 945.8  | 953.0  | 960.9  | 963.9  |
| 37.5°  | 902.8  | 904.7  | 911.9  | 919.2  | 922.8  |
| 40°    | 859.3  | 861.7  | 869.0  | 876.8  | 879.9  |
| 42.5°  | 814.6  | 817.0  | 824.8  | 833.3  | 835.7  |
| 45°    | 771.0  | 771.6  | 780.1  | 789.2  | 790.4  |
| 47.5°  | 723.8  | 724.5  | 733.5  | 742.6  | 744.4  |
| 50°    | 677.3  | 677.9  | 687.0  | 696.6  | 697.8  |
| 52.5°  | 630.1  | 630.7  | 638.6  | 650.1  | 652.5  |
| 55°    | 582.3  | 582.3  | 591.4  | 603.5  | 605.9  |
| 57.5°  | 534.6  | 534.6  | 544.2  | 556.9  | 560.0  |
| 60°    | 485.6  | 486.8  | 498.9  | 511.0  | 515.2  |
| 62.5°  | 438.4  | 439.6  | 452.9  | 465.6  | 471.1  |
| 65°    | 391.3  | 393.1  | 408.8  | 423.9  | 430.6  |
| 67.5°  | 345.3  | 347.7  | 365.9  | 385.2  | 391.3  |
| 70°    | 299.3  | 304.2  | 325.9  | 347.1  | 353.8  |
| 72.5°  | 255.2  | 260.6  | 289.7  | 312.0  | 318.1  |
| 75°    | 212.3  | 220.7  | 254.6  | 277.6  | 284.2  |
| 77.5°  | 170.5  | 183.2  | 221.9  | 246.7  | 252.8  |
| 80°    | 131.2  | 150.0  | 191.7  | 216.5  | 223.1  |
| 82.5°  | 98.0   | 119.1  | 163.9  | 189.3  | 195.3  |
| 85°    | 68.3   | 93.7   | 137.3  | 163.3  | 169.9  |
| 87.5°  | 44.1   | 72.0   | 113.7  | 139.1  | 146.3  |
| 90°    | 24.2   | 53.2   | 92.5   | 116.7  | 124.0  |
| 92.5°  | 21.8   | 38.7   | 73.8   | 96.8   | 104.0  |
| 95°    | 20.0   | 27.2   | 56.8   | 78.6   | 85.9   |
| 97.5°  | 18.1   | 18.1   | 42.3   | 62.3   | 68.9   |
| 100°   | 16.9   | 13.3   | 30.2   | 47.8   | 54.4   |
| 102.5° | 15.1   | 12.1   | 20.0   | 35.1   | 41.1   |
| 105°   | 13.9   | 10.9   | 12.1   | 24.2   | 29.0   |
| 107.5° | 12.7   | 9.7    | 6.0    | 15.1   | 19.4   |
| 110°   | 11.5   | 9.1    | 4.8    | 7.3    | 11.5   |

TEST NUMBER: P1217208

CATALOG NUMBER: 14-ID2-40-CNV-L950-U

**CANDELA DISTRIBUTION (continued):**

|        | 0°   | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|-----|-------|-----|
| 112.5° | 10.3 | 7.9   | 4.2 | 1.8   | 4.2 |
| 115°   | 9.1  | 7.3   | 3.6 | 0.0   | 0.0 |
| 117.5° | 7.9  | 6.7   | 3.0 | 0.0   | 0.0 |
| 120°   | 7.3  | 5.4   | 3.0 | 0.0   | 0.0 |
| 122.5° | 6.7  | 4.8   | 2.4 | 0.0   | 0.0 |
| 125°   | 5.4  | 4.2   | 1.8 | 0.0   | 0.0 |
| 127.5° | 4.8  | 3.6   | 1.8 | 0.0   | 0.0 |
| 130°   | 4.2  | 3.6   | 1.2 | 0.0   | 0.0 |
| 132.5° | 3.6  | 3.0   | 1.2 | 0.0   | 0.0 |
| 135°   | 3.0  | 2.4   | 1.2 | 0.0   | 0.0 |
| 137.5° | 3.0  | 2.4   | 0.6 | 0.0   | 0.0 |
| 140°   | 2.4  | 1.8   | 0.6 | 0.0   | 0.0 |
| 142.5° | 1.8  | 1.2   | 0.6 | 0.0   | 0.0 |
| 145°   | 1.8  | 1.2   | 0.0 | 0.0   | 0.0 |
| 147.5° | 1.2  | 1.2   | 0.0 | 0.0   | 0.0 |
| 150°   | 1.2  | 0.6   | 0.0 | 0.0   | 0.0 |
| 152.5° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 155°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 157.5° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 160°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 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: P1217208

CATALOG NUMBER: 14-ID2-40-CNV-L950-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 | 14.32            | 15.91 | 14.72 | 16.28 | 16.65 | 14.96          | 16.55 | 15.36 | 16.92 | 17.29 |
|                 | 3H   | 15.92            | 17.36 | 16.33 | 17.74 | 18.16 | 16.94          | 18.38 | 17.35 | 18.76 | 19.18 |
|                 | 4H   | 16.49            | 17.85 | 16.92 | 18.25 | 18.68 | 17.83          | 19.20 | 18.27 | 19.59 | 20.03 |
|                 | 6H   | 16.88            | 18.15 | 17.33 | 18.56 | 19.01 | 18.70          | 19.97 | 19.15 | 20.39 | 20.84 |
|                 | 8H   | 17.00            | 18.22 | 17.47 | 18.65 | 19.11 | 19.13          | 20.34 | 19.59 | 20.78 | 21.24 |
|                 | 12H  | 17.08            | 18.25 | 17.55 | 18.68 | 19.17 | 19.57          | 20.73 | 20.04 | 21.16 | 21.65 |
| 4H              | 2H   | 14.96            | 16.32 | 15.40 | 16.72 | 17.16 | 15.47          | 16.84 | 15.91 | 17.24 | 17.67 |
|                 | 3H   | 16.78            | 17.93 | 17.23 | 18.38 | 18.84 | 17.68          | 18.83 | 18.13 | 19.28 | 19.74 |
|                 | 4H   | 17.47            | 18.52 | 17.94 | 18.98 | 19.47 | 18.73          | 19.78 | 19.20 | 20.24 | 20.74 |
|                 | 6H   | 17.99            | 18.92 | 18.48 | 19.40 | 19.91 | 19.79          | 20.71 | 20.28 | 21.20 | 21.71 |
|                 | 8H   | 18.16            | 19.03 | 18.66 | 19.52 | 20.04 | 20.30          | 21.17 | 20.80 | 21.66 | 22.18 |
|                 | 12H  | 18.29            | 19.08 | 18.81 | 19.59 | 20.12 | 20.85          | 21.63 | 21.36 | 22.15 | 22.68 |
| 8H              | 4H   | 17.90            | 18.76 | 18.39 | 19.25 | 19.77 | 19.01          | 19.87 | 19.50 | 20.36 | 20.88 |
|                 | 6H   | 18.57            | 19.30 | 19.10 | 19.83 | 20.36 | 20.23          | 20.96 | 20.76 | 21.49 | 22.02 |
|                 | 8H   | 18.82            | 19.48 | 19.37 | 20.03 | 20.57 | 20.87          | 21.53 | 21.42 | 22.08 | 22.62 |
|                 | 12H  | 19.03            | 19.62 | 19.57 | 20.15 | 20.76 | 21.59          | 22.17 | 22.13 | 22.70 | 23.32 |
| 12H             | 4H   | 17.99            | 18.78 | 18.51 | 19.29 | 19.82 | 19.03          | 19.81 | 19.55 | 20.33 | 20.86 |
|                 | 6H   | 18.72            | 19.38 | 19.27 | 19.93 | 20.47 | 20.29          | 20.95 | 20.83 | 21.49 | 22.03 |
|                 | 8H   | 19.06            | 19.64 | 19.60 | 20.18 | 20.79 | 21.01          | 21.59 | 21.55 | 22.12 | 22.74 |

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

Report Prepared for

Cooper Lighting Solutions

Corelite

Report Number: SP1-2506-458-13

Test Date: 08/27/2025

Luminaire Tested: 22ID2-55-CFR1-L950-U

Data in this report applies to families of products including 22ID2-55-CFR1-L950-U

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2506-458-13  
 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-L950-U**  
 Description: 2X2 CGTX WITH INDEPTH FRAME AND CFR1 LENS - 5500 LUMEN 5000K 90CRI

### Spectral Parameters

CCT (K): 4919  
 CIE  $u'$ : 0.2096  
 CIE  $v'$ : 0.4901  
 Duv: 0.0038  
 CIE x: 0.3483  
 CIE y: 0.3619  
 CIE z: 0.2898  
 Peak Wavelength (nm): 453  
 Dominant Wavelength (nm): 570  
 Purity: 13.10873  
 R<sub>f</sub>: 90.8  
 R<sub>g</sub>: 97.4

CRI (Ra): 94.0  
 R1: 94.8  
 R2: 97.7  
 R3: 98.4  
 R4: 90.8  
 R5: 92.2  
 R6: 94.3  
 R7: 94.0  
 R8: 90.0  
 R9: 77.7  
 R10: 93.1  
 R11: 92.0  
 R12: 65.9  
 R13: 95.9  
 R14: 99.0  
 R15: 91.4



### Test Conditions

Stabilization Time: M  
 Operation Time: 1H 0M  
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-458-13

| 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: SP1-2506-458-13

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2506-458-13

### 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               | 419                                  | NR                             | 620               | 583                                  | NR                             | 750               | 44                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 441                                  | NR                             | 625               | 580                                  | NR                             | 755               | 37                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 472                                  | NR                             | 630               | 572                                  | NR                             | 760               | 32                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 501                                  | NR                             | 635               | 559                                  | NR                             | 765               | 27                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 524                                  | NR                             | 640               | 543                                  | NR                             | 770               | 23                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 545                                  | NR                             | 645               | 522                                  | NR                             | 775               | 20                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 559                                  | NR                             | 650               | 496                                  | NR                             | 780               | 17                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 3                                    | NR                             | 525               | 572                                  | NR                             | 655               | 468                                  | NR                             | 785               | 14                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 581                                  | NR                             | 660               | 435                                  | NR                             | 790               | 12                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 7                                    | NR                             | 535               | 590                                  | NR                             | 665               | 403                                  | NR                             | 795               | 10                                   | NR                             | 925               | 0                                    | NR                             |
| 410               | 9                                    | NR                             | 540               | 595                                  | NR                             | 670               | 368                                  | NR                             | 800               | 9                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 14                                   | NR                             | 545               | 599                                  | NR                             | 675               | 335                                  | NR                             | 805               | 8                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 23                                   | NR                             | 550               | 599                                  | NR                             | 680               | 304                                  | NR                             | 810               | 6                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 40                                   | NR                             | 555               | 599                                  | NR                             | 685               | 271                                  | NR                             | 815               | 6                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 72                                   | NR                             | 560               | 595                                  | NR                             | 690               | 243                                  | NR                             | 820               | 5                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 132                                  | NR                             | 565               | 589                                  | NR                             | 695               | 215                                  | NR                             | 825               | 4                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 243                                  | NR                             | 570               | 581                                  | NR                             | 700               | 189                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 488                                  | NR                             | 575               | 575                                  | NR                             | 705               | 165                                  | NR                             | 835               | 3                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 879                                  | NR                             | 580               | 573                                  | NR                             | 710               | 144                                  | NR                             | 840               | 3                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 974                                  | NR                             | 585               | 570                                  | NR                             | 715               | 124                                  | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 726                                  | NR                             | 590               | 572                                  | NR                             | 720               | 108                                  | NR                             | 850               | 2                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 627                                  | NR                             | 595               | 574                                  | NR                             | 725               | 93                                   | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 546                                  | NR                             | 600               | 576                                  | NR                             | 730               | 80                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 434                                  | NR                             | 605               | 581                                  | NR                             | 735               | 69                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 395                                  | NR                             | 610               | 582                                  | NR                             | 740               | 59                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 403                                  | NR                             | 615               | 586                                  | NR                             | 745               | 51                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2506-458-13

### Scotopic Flux vs. Wavelength



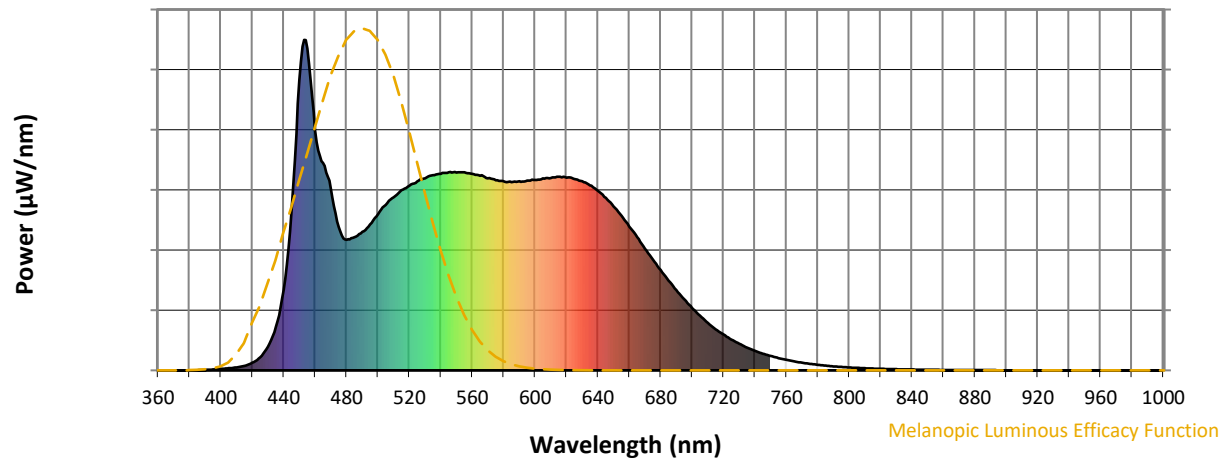
Scotopic Lumens: NR

S/P: 2.09

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 419                      | NR            | 620    | 583                      | NR            | 750    | 44                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 441                      | NR            | 625    | 580                      | NR            | 755    | 37                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 472                      | NR            | 630    | 572                      | NR            | 760    | 32                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 501                      | NR            | 635    | 559                      | NR            | 765    | 27                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 524                      | NR            | 640    | 543                      | NR            | 770    | 23                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 545                      | NR            | 645    | 522                      | NR            | 775    | 20                       | NR            | 905    | 0                        | NR            |
| 390    | 1                        | NR            | 520    | 559                      | NR            | 650    | 496                      | NR            | 780    | 17                       | NR            | 910    | 0                        | NR            |
| 395    | 3                        | NR            | 525    | 572                      | NR            | 655    | 468                      | NR            | 785    | 14                       | NR            | 915    | 0                        | NR            |
| 400    | 4                        | NR            | 530    | 581                      | NR            | 660    | 435                      | NR            | 790    | 12                       | NR            | 920    | 0                        | NR            |
| 405    | 7                        | NR            | 535    | 590                      | NR            | 665    | 403                      | NR            | 795    | 10                       | NR            | 925    | 0                        | NR            |
| 410    | 9                        | NR            | 540    | 595                      | NR            | 670    | 368                      | NR            | 800    | 9                        | NR            | 930    | 0                        | NR            |
| 415    | 14                       | NR            | 545    | 599                      | NR            | 675    | 335                      | NR            | 805    | 8                        | NR            | 935    | 0                        | NR            |
| 420    | 23                       | NR            | 550    | 599                      | NR            | 680    | 304                      | NR            | 810    | 6                        | NR            | 940    | 0                        | NR            |
| 425    | 40                       | NR            | 555    | 599                      | NR            | 685    | 271                      | NR            | 815    | 6                        | NR            | 945    | 0                        | NR            |
| 430    | 72                       | NR            | 560    | 595                      | NR            | 690    | 243                      | NR            | 820    | 5                        | NR            | 950    | 0                        | NR            |
| 435    | 132                      | NR            | 565    | 589                      | NR            | 695    | 215                      | NR            | 825    | 4                        | NR            | 955    | 0                        | NR            |
| 440    | 243                      | NR            | 570    | 581                      | NR            | 700    | 189                      | NR            | 830    | 3                        | NR            | 960    | 0                        | NR            |
| 445    | 488                      | NR            | 575    | 575                      | NR            | 705    | 165                      | NR            | 835    | 3                        | NR            | 965    | 0                        | NR            |
| 450    | 879                      | NR            | 580    | 573                      | NR            | 710    | 144                      | NR            | 840    | 3                        | NR            | 970    | 0                        | NR            |
| 455    | 974                      | NR            | 585    | 570                      | NR            | 715    | 124                      | NR            | 845    | 2                        | NR            | 975    | 0                        | NR            |
| 460    | 726                      | NR            | 590    | 572                      | NR            | 720    | 108                      | NR            | 850    | 2                        | NR            | 980    | 0                        | NR            |
| 465    | 627                      | NR            | 595    | 574                      | NR            | 725    | 93                       | NR            | 855    | 2                        | NR            | 985    | 0                        | NR            |
| 470    | 546                      | NR            | 600    | 576                      | NR            | 730    | 80                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 434                      | NR            | 605    | 581                      | NR            | 735    | 69                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 395                      | NR            | 610    | 582                      | NR            | 740    | 59                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 403                      | NR            | 615    | 586                      | NR            | 745    | 51                       | NR            | 875    | 1                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2506-458-13

### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 4.55

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 419                      | NR            | 620    | 583                      | NR            | 750    | 44                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 441                      | NR            | 625    | 580                      | NR            | 755    | 37                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 472                      | NR            | 630    | 572                      | NR            | 760    | 32                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 501                      | NR            | 635    | 559                      | NR            | 765    | 27                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 524                      | NR            | 640    | 543                      | NR            | 770    | 23                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 545                      | NR            | 645    | 522                      | NR            | 775    | 20                       | NR            | 905    | 0                        | NR            |
| 390    | 1                        | NR            | 520    | 559                      | NR            | 650    | 496                      | NR            | 780    | 17                       | NR            | 910    | 0                        | NR            |
| 395    | 3                        | NR            | 525    | 572                      | NR            | 655    | 468                      | NR            | 785    | 14                       | NR            | 915    | 0                        | NR            |
| 400    | 4                        | NR            | 530    | 581                      | NR            | 660    | 435                      | NR            | 790    | 12                       | NR            | 920    | 0                        | NR            |
| 405    | 7                        | NR            | 535    | 590                      | NR            | 665    | 403                      | NR            | 795    | 10                       | NR            | 925    | 0                        | NR            |
| 410    | 9                        | NR            | 540    | 595                      | NR            | 670    | 368                      | NR            | 800    | 9                        | NR            | 930    | 0                        | NR            |
| 415    | 14                       | NR            | 545    | 599                      | NR            | 675    | 335                      | NR            | 805    | 8                        | NR            | 935    | 0                        | NR            |
| 420    | 23                       | NR            | 550    | 599                      | NR            | 680    | 304                      | NR            | 810    | 6                        | NR            | 940    | 0                        | NR            |
| 425    | 40                       | NR            | 555    | 599                      | NR            | 685    | 271                      | NR            | 815    | 6                        | NR            | 945    | 0                        | NR            |
| 430    | 72                       | NR            | 560    | 595                      | NR            | 690    | 243                      | NR            | 820    | 5                        | NR            | 950    | 0                        | NR            |
| 435    | 132                      | NR            | 565    | 589                      | NR            | 695    | 215                      | NR            | 825    | 4                        | NR            | 955    | 0                        | NR            |
| 440    | 243                      | NR            | 570    | 581                      | NR            | 700    | 189                      | NR            | 830    | 3                        | NR            | 960    | 0                        | NR            |
| 445    | 488                      | NR            | 575    | 575                      | NR            | 705    | 165                      | NR            | 835    | 3                        | NR            | 965    | 0                        | NR            |
| 450    | 879                      | NR            | 580    | 573                      | NR            | 710    | 144                      | NR            | 840    | 3                        | NR            | 970    | 0                        | NR            |
| 455    | 974                      | NR            | 585    | 570                      | NR            | 715    | 124                      | NR            | 845    | 2                        | NR            | 975    | 0                        | NR            |
| 460    | 726                      | NR            | 590    | 572                      | NR            | 720    | 108                      | NR            | 850    | 2                        | NR            | 980    | 0                        | NR            |
| 465    | 627                      | NR            | 595    | 574                      | NR            | 725    | 93                       | NR            | 855    | 2                        | NR            | 985    | 0                        | NR            |
| 470    | 546                      | NR            | 600    | 576                      | NR            | 730    | 80                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 434                      | NR            | 605    | 581                      | NR            | 735    | 69                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 395                      | NR            | 610    | 582                      | NR            | 740    | 59                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 403                      | NR            | 615    | 586                      | NR            | 745    | 51                       | NR            | 875    | 1                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2506-458-13

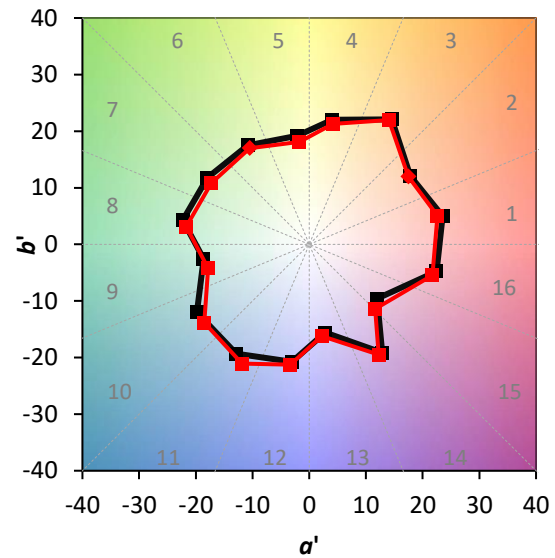
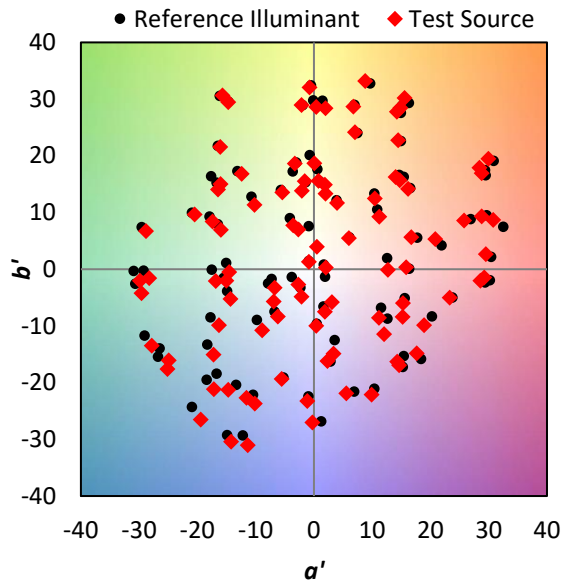
TM-30-18

### Summary

$R_f = 90.8$   
 $R_g = 97.4$   
 $CIE R_a = 94.0$   
 $R_9 = 77.7$



### Color Vector Graphics



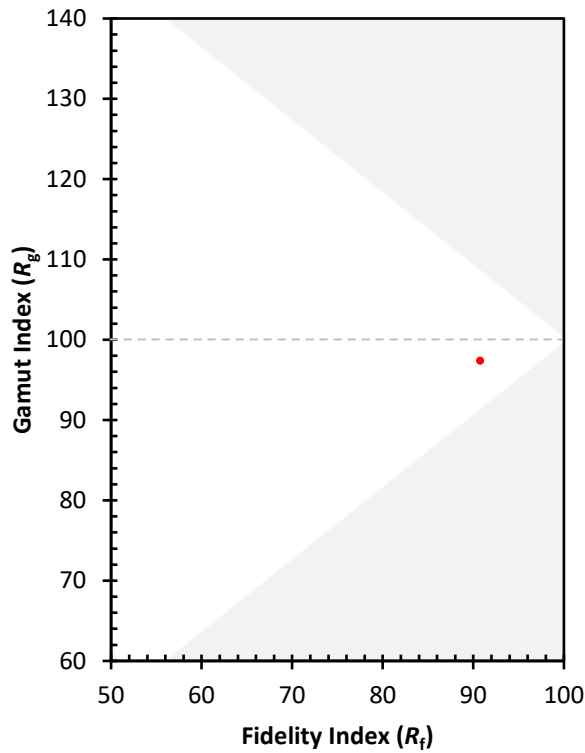
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 98 | CES51 = 93 | CES76 = 91 |
| CES02 = 61 | CES27 = 86 | CES52 = 96 | CES77 = 89 |
| CES03 = 31 | CES28 = 98 | CES53 = 93 | CES78 = 87 |
| CES04 = 68 | CES29 = 90 | CES54 = 89 | CES79 = 97 |
| CES05 = 48 | CES30 = 80 | CES55 = 86 | CES80 = 94 |
| CES06 = 50 | CES31 = 92 | CES56 = 89 | CES81 = 89 |
| CES07 = 41 | CES32 = 97 | CES57 = 87 | CES82 = 97 |
| CES08 = 40 | CES33 = 89 | CES58 = 87 | CES83 = 96 |
| CES09 = 29 | CES34 = 98 | CES59 = 96 | CES84 = 94 |
| CES10 = 73 | CES35 = 98 | CES60 = 89 | CES85 = 84 |
| CES11 = 56 | CES36 = 74 | CES61 = 90 | CES86 = 90 |
| CES12 = 62 | CES37 = 97 | CES62 = 78 | CES87 = 92 |
| CES13 = 42 | CES38 = 75 | CES63 = 89 | CES88 = 95 |
| CES14 = 74 | CES39 = 97 | CES64 = 85 | CES89 = 90 |
| CES15 = 71 | CES40 = 97 | CES65 = 87 | CES90 = 92 |
| CES16 = 47 | CES41 = 91 | CES66 = 82 | CES91 = 69 |
| CES17 = 48 | CES42 = 99 | CES67 = 82 | CES92 = 81 |
| CES18 = 56 | CES43 = 97 | CES68 = 86 | CES93 = 88 |
| CES19 = 70 | CES44 = 99 | CES69 = 87 | CES94 = 86 |
| CES20 = 65 | CES45 = 97 | CES70 = 86 | CES95 = 83 |
| CES21 = 84 | CES46 = 94 | CES71 = 77 | CES96 = 94 |
| CES22 = 77 | CES47 = 90 | CES72 = 93 | CES97 = 97 |
| CES23 = 91 | CES48 = 83 | CES73 = 82 | CES98 = 94 |
| CES24 = 89 | CES49 = 95 | CES74 = 89 | CES99 = 92 |
| CES25 = 70 | CES50 = 94 | CES75 = 81 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)