

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: CORELITE

Report Number: P959015

Luminaire Tested: CB3-B-055U-030D-830-1D-UNV-STD-W-4

Issue Date: 2/12/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P959015  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-119-2, G2-2312-242-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/12/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: CB3-B-055U-030D-830-1D-UNV-STD-W-4  
Description: CORELITE BASIC SLOT LED LUMINAIRE, BATWING UPLIGHT  
3-INCH APERTURE  
DOWNLIGHT 300 LUMENS PER FOOT  
UPLIGHT 550 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

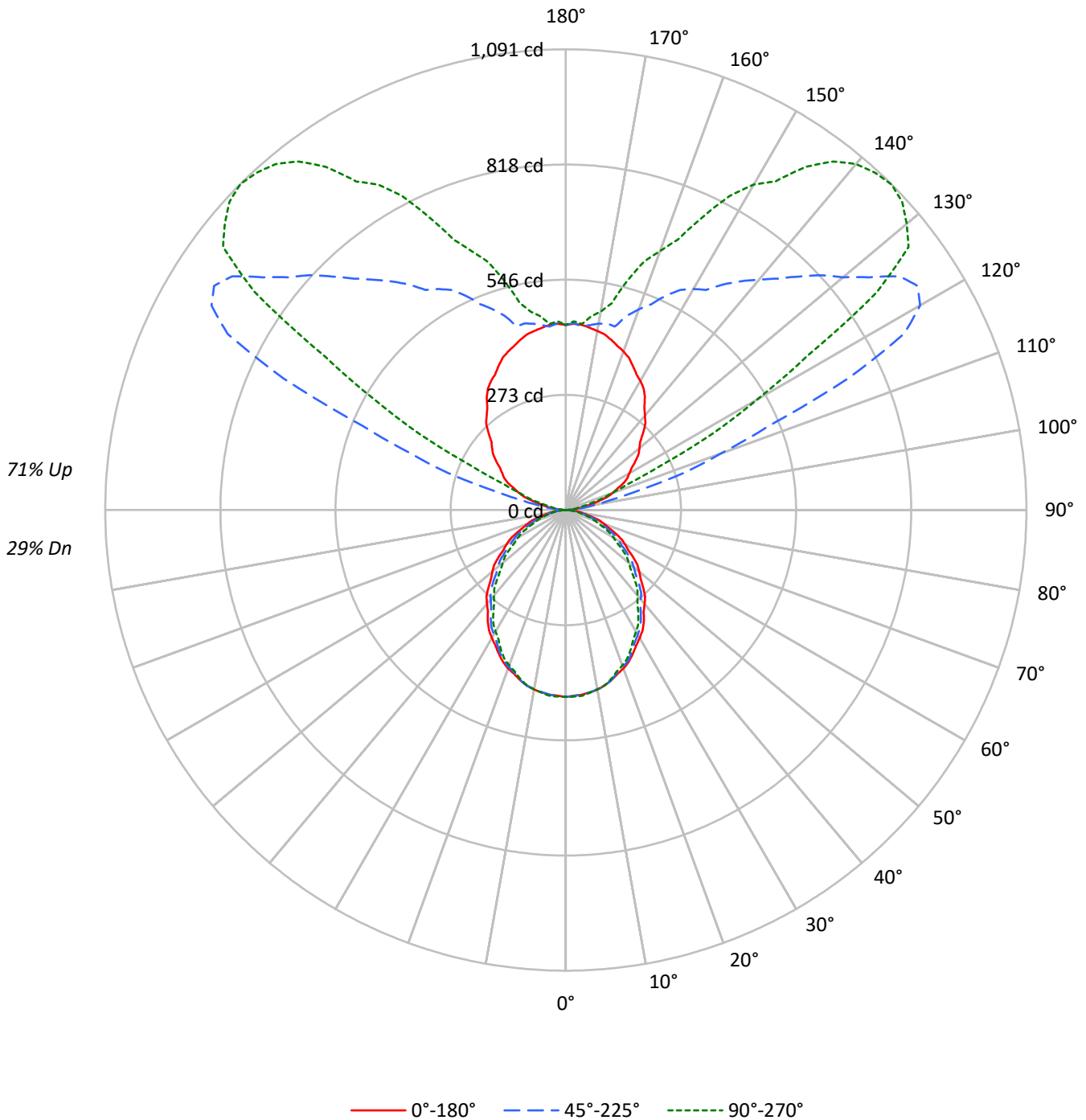
Lumens per Lamp: N/A  
Luminaire Lumens: 3637.1 lumens  
Efficiency: N/A  
Efficacy: 148.5 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.13 / 1.26  
Luminous Opening: Rectangular (W 0.24' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 24.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P959015  
CATALOG NUMBER: CB3-B-055U-030D-830-1D-UNV-STD-W-4

### Luminous Intensity Polar Plot





TEST NUMBER: P959015

CATALOG NUMBER: CB3-B-055U-030D-830-1D-UNV-STD-W-4

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

|     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RF  | 20  |     |     |     | 20 |    |    |    | 20 |    |    |    | 20 |    |    |    | 20 |    |    |    |    |
| RC  | 80  |     |     |     | 70 |    |    |    | 50 |    |    |    | 30 |    |    |    | 10 |    |    | 0  |    |
| RW  | 70  | 50  | 30  | 10  | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 102 | 102 | 102 | 102 | 92 | 92 | 92 | 92 | 72 | 72 | 72 | 54 | 54 | 54 | 37 | 37 | 37 | 29 |    |    | 29 |
| 1   | 93  | 89  | 85  | 82  | 83 | 80 | 77 | 74 | 63 | 61 | 59 | 47 | 46 | 45 | 33 | 32 | 31 | 25 |    |    | 25 |
| 2   | 85  | 78  | 72  | 67  | 76 | 70 | 65 | 61 | 55 | 52 | 49 | 42 | 39 | 37 | 29 | 28 | 27 | 21 |    |    | 21 |
| 3   | 77  | 68  | 61  | 56  | 69 | 62 | 56 | 51 | 49 | 45 | 41 | 37 | 34 | 32 | 26 | 24 | 23 | 18 |    |    | 18 |
| 4   | 71  | 61  | 53  | 47  | 63 | 55 | 48 | 43 | 43 | 39 | 35 | 33 | 30 | 27 | 23 | 21 | 20 | 15 |    |    | 15 |
| 5   | 65  | 54  | 46  | 40  | 58 | 49 | 42 | 37 | 39 | 34 | 30 | 29 | 26 | 24 | 21 | 19 | 17 | 13 |    |    | 13 |
| 6   | 60  | 48  | 40  | 35  | 53 | 44 | 37 | 32 | 35 | 30 | 26 | 27 | 23 | 21 | 19 | 17 | 15 | 12 |    |    | 12 |
| 7   | 55  | 43  | 36  | 30  | 49 | 39 | 33 | 28 | 31 | 27 | 23 | 24 | 21 | 18 | 17 | 15 | 13 | 11 |    |    | 11 |
| 8   | 51  | 39  | 32  | 27  | 46 | 36 | 29 | 25 | 29 | 24 | 20 | 22 | 19 | 16 | 16 | 14 | 12 | 9  |    |    | 9  |
| 9   | 47  | 36  | 29  | 24  | 43 | 32 | 26 | 22 | 26 | 21 | 18 | 20 | 17 | 14 | 15 | 12 | 11 | 9  |    |    | 9  |
| 10  | 44  | 33  | 26  | 21  | 40 | 30 | 24 | 19 | 24 | 19 | 16 | 19 | 15 | 13 | 14 | 11 | 10 | 8  |    |    | 8  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5008 | 5008 | 5008 |
| 5°  | 4984 | 4987 | 5016 |
| 10° | 4962 | 4955 | 4955 |
| 15° | 4886 | 4886 | 4857 |
| 20° | 4807 | 4757 | 4716 |
| 25° | 4685 | 4627 | 4544 |
| 30° | 4571 | 4451 | 4345 |
| 35° | 4450 | 4285 | 4133 |
| 40° | 4289 | 4085 | 3910 |
| 45° | 4144 | 3907 | 3666 |
| 50° | 3994 | 3696 | 3431 |
| 55° | 3833 | 3492 | 3206 |
| 60° | 3657 | 3279 | 2951 |
| 65° | 3451 | 3039 | 2685 |
| 70° | 3212 | 2756 | 2392 |
| 75° | 2911 | 2418 | 2129 |
| 80° | 2541 | 2026 | 1883 |
| 85° | 1960 | 1714 | 1714 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4144 cd/sqm



TEST NUMBER: P959015  
 CATALOG NUMBER: CB3-B-055U-030D-830-1D-UNV-STD-W-4

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 41.8   | 1.1       |
| 10°-20°   | 117.3  | 3.2       |
| 20°-30°   | 170.4  | 4.7       |
| 30°-40°   | 193.8  | 5.3       |
| 40°-50°   | 188.1  | 5.2       |
| 50°-60°   | 158.8  | 4.4       |
| 60°-70°   | 113.0  | 3.1       |
| 70°-80°   | 60.4   | 1.7       |
| 80°-90°   | 15.9   | 0.4       |
| 90°-100°  | 29.6   | 0.8       |
| 100°-110° | 155.3  | 4.3       |
| 110°-120° | 390.9  | 10.7      |
| 120°-130° | 603.1  | 16.6      |
| 130°-140° | 552.1  | 15.2      |
| 140°-150° | 407.5  | 11.2      |
| 150°-160° | 259.7  | 7.1       |
| 160°-170° | 136.7  | 3.8       |
| 170°-180° | 42.6   | 1.2       |
| 0°-30°    | 329.5  | 9.1       |
| 0°-40°    | 523.3  | 14.4      |
| 0°-60°    | 870.2  | 23.9      |
| 0°-90°    | 1059.6 | 29.1      |
| 90°-120°  | 575.9  | 15.8      |
| 90°-150°  | 2138.5 | 58.8      |
| 90°-180°  | 2578.0 | 70.9      |
| 0°-180°   | 3637.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90°  | Flux |
|------|-----|-------|-----|-------|------|------|
| 0°   | 443 | 443   | 443 | 443   | 443  |      |
| 5°   | 439 | 444   | 439 | 439   | 442  | 42   |
| 15°  | 417 | 421   | 417 | 415   | 415  | 117  |
| 25°  | 375 | 376   | 371 | 366   | 364  | 173  |
| 35°  | 322 | 319   | 310 | 301   | 299  | 201  |
| 45°  | 259 | 255   | 244 | 232   | 229  | 200  |
| 55°  | 194 | 189   | 177 | 166   | 162  | 174  |
| 65°  | 129 | 124   | 114 | 103   | 100  | 128  |
| 75°  | 67  | 63    | 55  | 50    | 49   | 71   |
| 85°  | 15  | 14    | 13  | 13    | 13   | 18   |
| 90°  | 0   | 0     | 0   | 0     | 0    | 1    |
| 95°  | 15  | 44    | 17  | 10    | 10   | 20   |
| 105° | 79  | 245   | 178 | 73    | 60   | 85   |
| 115° | 151 | 307   | 738 | 321   | 243  | 147  |
| 125° | 201 | 310   | 965 | 973   | 900  | 180  |
| 135° | 259 | 346   | 782 | 1066  | 1091 | 200  |
| 145° | 326 | 377   | 652 | 907   | 992  | 203  |
| 155° | 376 | 405   | 560 | 693   | 764  | 174  |
| 165° | 417 | 428   | 450 | 526   | 562  | 118  |
| 175° | 440 | 450   | 436 | 438   | 442  | 42   |
| 180° | 438 | 438   | 438 | 438   | 438  |      |

TEST NUMBER: P959015

CATALOG NUMBER: CB3-B-055U-030D-830-1D-UNV-STD-W-4

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 442.6 | 442.6 | 442.6 | 442.6 | 442.6 |
| 2.5°   | 440.3 | 444.7 | 440.8 | 441.3 | 442.3 |
| 5°     | 438.8 | 444.3 | 439.1 | 438.6 | 441.6 |
| 7.5°   | 435.4 | 440.5 | 435.0 | 433.8 | 436.5 |
| 10°    | 431.9 | 437.4 | 431.3 | 429.7 | 431.3 |
| 12.5°  | 425.6 | 431.4 | 426.5 | 423.9 | 425.2 |
| 15°    | 417.1 | 420.8 | 417.1 | 414.6 | 414.6 |
| 17.5°  | 406.7 | 410.6 | 403.7 | 401.9 | 401.2 |
| 20°    | 399.2 | 402.6 | 395.1 | 392.6 | 391.7 |
| 22.5°  | 389.1 | 392.3 | 386.1 | 381.8 | 380.6 |
| 25°    | 375.3 | 376.5 | 370.6 | 365.5 | 364.0 |
| 27.5°  | 361.4 | 361.7 | 353.6 | 347.4 | 345.4 |
| 30°    | 349.9 | 350.2 | 340.7 | 334.1 | 332.6 |
| 32.5°  | 338.3 | 337.4 | 328.4 | 320.5 | 319.5 |
| 35°    | 322.2 | 319.1 | 310.2 | 301.1 | 299.2 |
| 37.5°  | 302.8 | 300.9 | 290.4 | 281.3 | 278.5 |
| 40°    | 290.4 | 287.4 | 276.6 | 267.4 | 264.7 |
| 42.5°  | 278.1 | 274.6 | 263.5 | 253.3 | 250.3 |
| 45°    | 259.0 | 255.0 | 244.2 | 232.5 | 229.1 |
| 47.5°  | 239.8 | 235.4 | 223.6 | 212.2 | 208.5 |
| 50°    | 226.9 | 222.3 | 210.0 | 198.9 | 194.9 |
| 52.5°  | 213.9 | 209.0 | 196.6 | 185.3 | 182.1 |
| 55°    | 194.3 | 189.0 | 177.0 | 165.6 | 162.5 |
| 57.5°  | 174.6 | 169.5 | 157.5 | 146.7 | 143.0 |
| 60°    | 161.6 | 156.6 | 144.9 | 134.1 | 130.4 |
| 62.5°  | 148.2 | 143.6 | 132.1 | 121.6 | 118.1 |
| 65°    | 128.9 | 124.3 | 113.5 | 103.3 | 100.3 |
| 67.5°  | 109.7 | 105.8 | 95.1  | 85.8  | 83.4  |
| 70°    | 97.1  | 93.4  | 83.3  | 74.8  | 72.3  |
| 72.5°  | 85.1  | 81.1  | 71.5  | 64.2  | 62.5  |
| 75°    | 66.6  | 63.0  | 55.3  | 49.6  | 48.7  |
| 77.5°  | 49.8  | 46.8  | 40.2  | 37.0  | 36.5  |
| 80°    | 39.0  | 36.2  | 31.1  | 28.9  | 28.9  |
| 82.5°  | 28.9  | 26.6  | 23.3  | 22.4  | 22.4  |
| 85°    | 15.1  | 13.9  | 13.2  | 13.2  | 13.2  |
| 87.5°  | 4.5   | 4.5   | 4.3   | 4.0   | 4.0   |
| 90°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 92.5°  | 4.6   | 10.7  | 3.1   | 1.6   | 3.1   |
| 95°    | 15.4  | 43.8  | 17.4  | 9.7   | 9.7   |
| 97.5°  | 32.0  | 97.7  | 44.8  | 23.9  | 21.6  |
| 100°   | 44.4  | 138.8 | 69.5  | 34.7  | 30.9  |
| 102.5° | 58.3  | 179.9 | 105.0 | 46.9  | 40.2  |
| 105°   | 79.2  | 245.3 | 177.6 | 73.1  | 59.8  |
| 107.5° | 102.3 | 289.9 | 292.7 | 112.6 | 90.7  |
| 110°   | 117.8 | 308.4 | 390.0 | 147.9 | 113.9 |

TEST NUMBER: P959015

CATALOG NUMBER: CB3-B-055U-030D-830-1D-UNV-STD-W-4

**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 131.7 | 313.2 | 519.7 | 201.7  | 155.6  |
| 115°   | 150.6 | 307.3 | 737.5 | 320.6  | 243.2  |
| 117.5° | 164.5 | 292.5 | 902.7 | 510.1  | 393.4  |
| 120°   | 173.7 | 292.7 | 969.1 | 653.4  | 523.2  |
| 122.5° | 184.6 | 294.4 | 987.6 | 795.7  | 676.1  |
| 125°   | 200.8 | 310.3 | 965.3 | 973.2  | 899.6  |
| 127.5° | 217.0 | 321.9 | 905.0 | 1046.2 | 1023.2 |
| 130°   | 227.8 | 329.7 | 857.1 | 1071.0 | 1054.1 |
| 132.5° | 238.6 | 337.5 | 823.2 | 1071.6 | 1080.3 |
| 135°   | 258.7 | 345.5 | 781.9 | 1066.2 | 1090.7 |
| 137.5° | 279.2 | 355.4 | 743.2 | 1032.4 | 1083.4 |
| 140°   | 291.5 | 363.2 | 712.4 | 995.9  | 1069.5 |
| 142.5° | 305.4 | 369.6 | 683.0 | 962.0  | 1040.2 |
| 145°   | 326.3 | 377.2 | 652.5 | 907.3  | 992.3  |
| 147.5° | 342.5 | 381.4 | 618.1 | 852.2  | 922.4  |
| 150°   | 353.3 | 381.6 | 604.2 | 803.1  | 890.0  |
| 152.5° | 362.5 | 389.4 | 587.3 | 758.2  | 837.5  |
| 155°   | 376.4 | 404.8 | 559.8 | 692.8  | 764.5  |
| 157.5° | 390.3 | 417.5 | 527.4 | 644.0  | 692.7  |
| 160°   | 399.6 | 422.3 | 505.8 | 620.4  | 652.5  |
| 162.5° | 407.3 | 427.0 | 482.6 | 580.4  | 617.0  |
| 165°   | 417.0 | 428.3 | 449.8 | 525.9  | 561.8  |
| 167.5° | 425.9 | 431.5 | 452.5 | 472.5  | 501.5  |
| 170°   | 430.5 | 436.2 | 447.9 | 467.4  | 476.8  |
| 172.5° | 435.1 | 443.8 | 441.7 | 455.0  | 462.9  |
| 175°   | 440.2 | 449.6 | 436.3 | 438.3  | 442.1  |
| 177.5° | 441.3 | 445.8 | 442.9 | 443.0  | 447.5  |
| 180°   | 438.2 | 438.2 | 438.2 | 438.2  | 438.2  |

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

Report Prepared for

Cooper Lighting Solutions

CORELITE

Report Number: SP1-2312-242-1

Test Date: 01/31/2024

Luminaire Tested: CB2-055U055D-830-1D-UNV-STD-D-W-4

Data in this report applies to families of products including CB2-055U055D-830-1D-UNV-STD-D-W-4.



**Test Information**

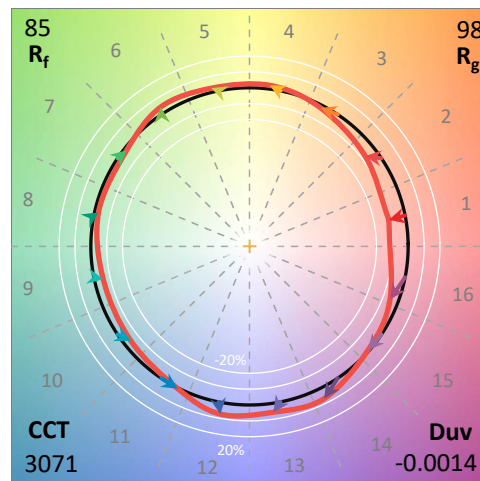
Test Method: LM-79-2019  
 Report Number: SP1-2312-242-1  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 01/31/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: CORELITE  
 Catalog Number: **CB2-055U055D-830-1D-UNV-STD-D-W-4**  
 Description: CORELITE BASIC 2-INCH SUSPENDED LED LUMINAIRE. 550 LUMENS PER FOOT UPLIGHT, 550 LUMENS PER FOOT DOWNLIGHT

UPLIGHT, 550 LUMENS PER FOOT DOWNLIGHT

**Spectral Parameters**

CCT (K): 3071  
 CIE u': 0.2486  
 CIE v': 0.5180  
 Duv: -0.0014  
 CIE x: 0.4300  
 CIE y: 0.3983  
 CIE z: 0.1717  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 583  
 Purity: 48.7  
 Rf: 85.3  
 Rg: 97.6

|           |      |      |      |
|-----------|------|------|------|
| CRI (Ra): | 83.9 |      |      |
| R1:       | 82.7 | R9:  | 12.3 |
| R2:       | 91.6 | R10: | 81.0 |
| R3:       | 96.5 | R11: | 83.0 |
| R4:       | 82.7 | R12: | 73.2 |
| R5:       | 83.1 | R13: | 84.9 |
| R6:       | 89.9 | R14: | 98.7 |
| R7:       | 83.5 |      |      |
| R8:       | 61.5 |      |      |



**Test Conditions**

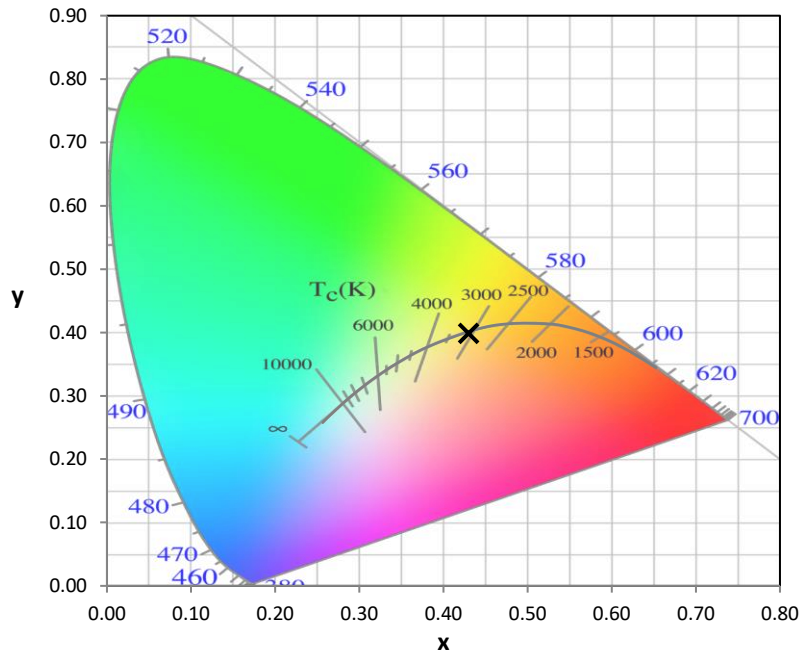
Stabilization Time: 26M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.8/25%  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2312-242-1

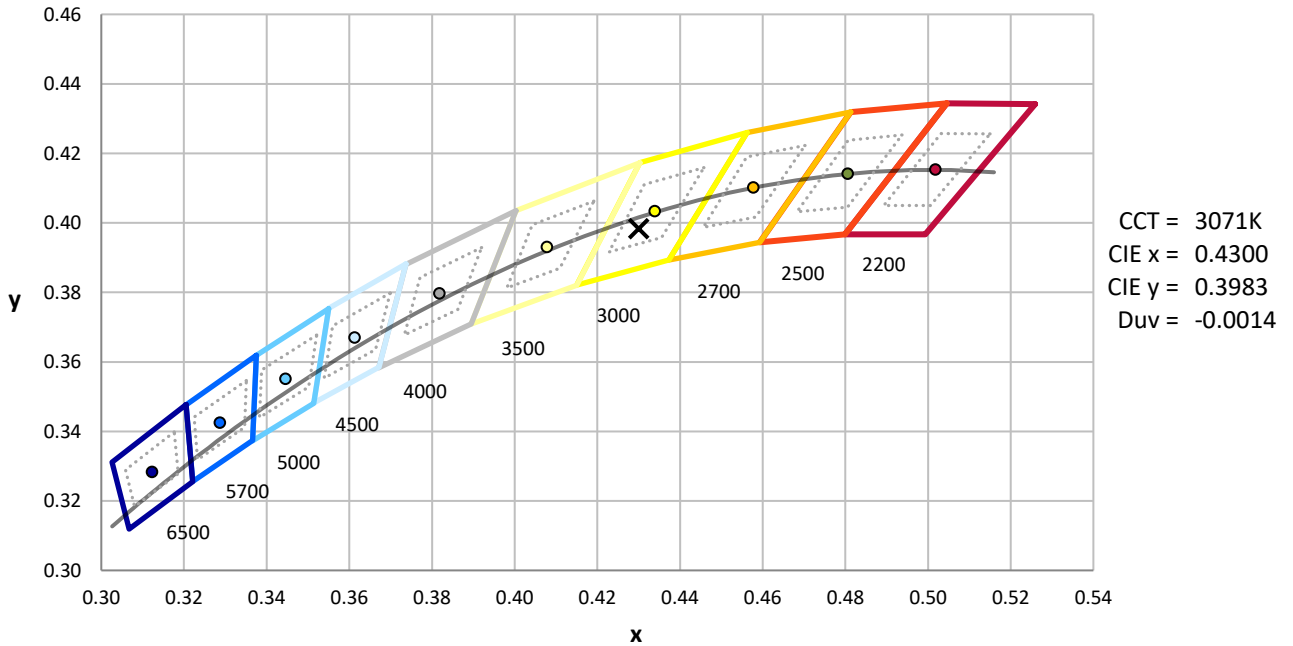
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 8/9/2023         | 2/9/2024             |
| Power Meter                    | XITRON 2801 IN0071    | 10/23/2023       | 10/23/2024           |
| AC Power Source                | CHROMA 61603 IN0063   | 10/24/2023       | 10/24/2024           |
| DC Power Source                | AGILENT E3634A IN0208 | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | ONSET IN0085          | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | ONSET IN0046          | 10/24/2023       | 10/24/2024           |

REPORT NUMBER: SP1-2312-242-1

CIE 1931 Chromaticity Diagram



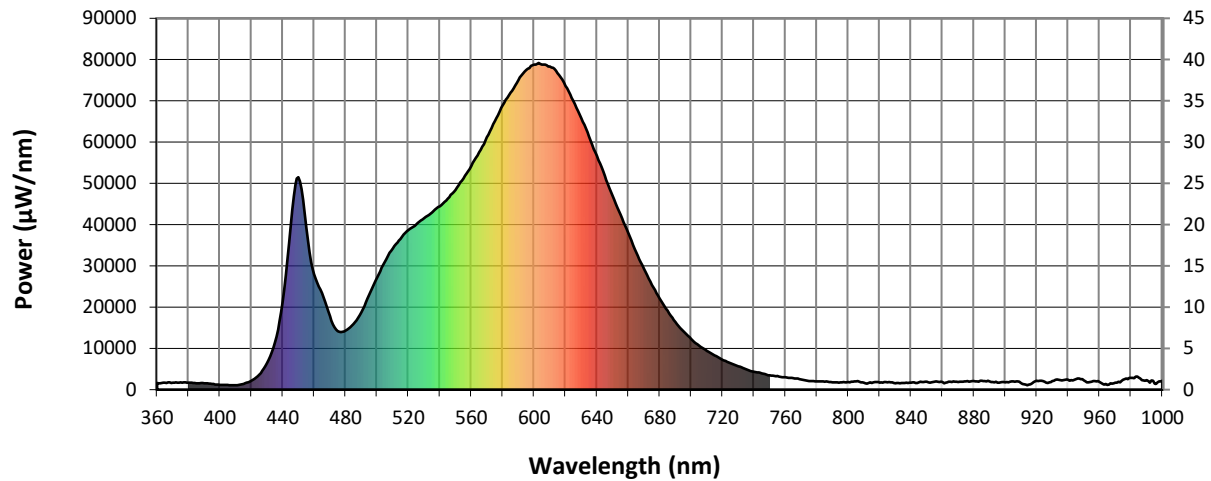
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2312-242-1

**Photopic Flux vs. Wavelength**

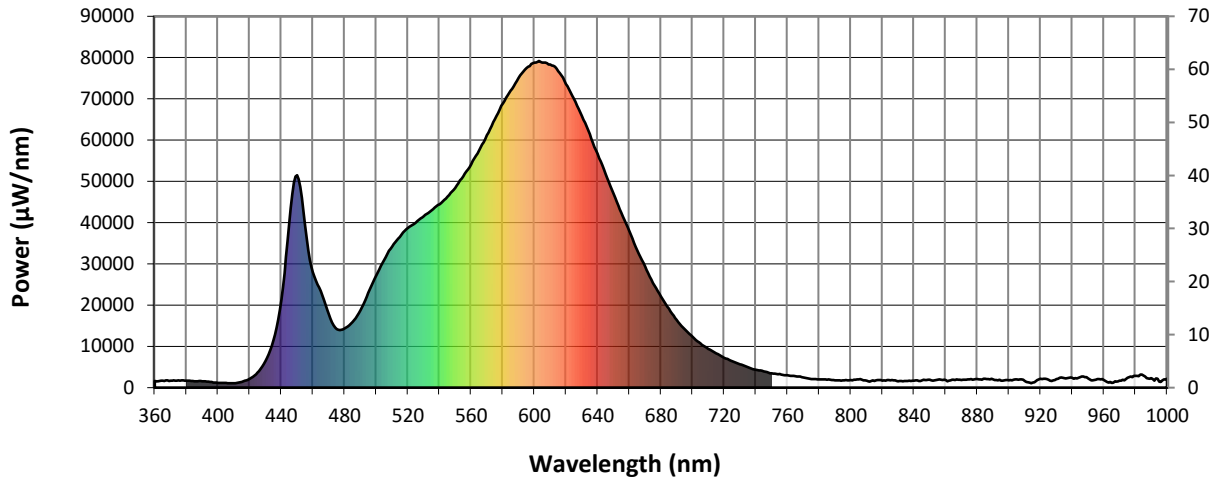


#####

| $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 1638                                 | NR                             | 490               | 18774                                | NR                             | 620               | 73569                                | NR                             | 750               | 3454                                 | NR                             | 880               | 2051                                 | NR                             |
| 365               | 1662                                 | NR                             | 495               | 22975                                | NR                             | 625               | 70020                                | NR                             | 755               | 3312                                 | NR                             | 885               | 2153                                 | NR                             |
| 370               | 1656                                 | NR                             | 500               | 27096                                | NR                             | 630               | 65803                                | NR                             | 760               | 3014                                 | NR                             | 890               | 2009                                 | NR                             |
| 375               | 1770                                 | NR                             | 505               | 30929                                | NR                             | 635               | 61387                                | NR                             | 765               | 2769                                 | NR                             | 895               | 1712                                 | NR                             |
| 380               | 1729                                 | NR                             | 510               | 34180                                | NR                             | 640               | 56660                                | NR                             | 770               | 2504                                 | NR                             | 900               | 1761                                 | NR                             |
| 385               | 1518                                 | NR                             | 515               | 36518                                | NR                             | 645               | 51817                                | NR                             | 775               | 2115                                 | NR                             | 905               | 1983                                 | NR                             |
| 390               | 1548                                 | NR                             | 520               | 38707                                | NR                             | 650               | 46959                                | NR                             | 780               | 2019                                 | NR                             | 910               | 1641                                 | NR                             |
| 395               | 1397                                 | NR                             | 525               | 40022                                | NR                             | 655               | 42381                                | NR                             | 785               | 1959                                 | NR                             | 915               | 1210                                 | NR                             |
| 400               | 1152                                 | NR                             | 530               | 41531                                | NR                             | 660               | 37988                                | NR                             | 790               | 1801                                 | NR                             | 920               | 2137                                 | NR                             |
| 405               | 1114                                 | NR                             | 535               | 42959                                | NR                             | 665               | 33226                                | NR                             | 795               | 1791                                 | NR                             | 925               | 1888                                 | NR                             |
| 410               | 1082                                 | NR                             | 540               | 44456                                | NR                             | 670               | 29309                                | NR                             | 800               | 1854                                 | NR                             | 930               | 2049                                 | NR                             |
| 415               | 1365                                 | NR                             | 545               | 46323                                | NR                             | 675               | 25362                                | NR                             | 805               | 2036                                 | NR                             | 935               | 2328                                 | NR                             |
| 420               | 2134                                 | NR                             | 550               | 48405                                | NR                             | 680               | 22111                                | NR                             | 810               | 1669                                 | NR                             | 940               | 2366                                 | NR                             |
| 425               | 3614                                 | NR                             | 555               | 51180                                | NR                             | 685               | 19110                                | NR                             | 815               | 1640                                 | NR                             | 945               | 2536                                 | NR                             |
| 430               | 6425                                 | NR                             | 560               | 54143                                | NR                             | 690               | 16401                                | NR                             | 820               | 1697                                 | NR                             | 950               | 2198                                 | NR                             |
| 435               | 11468                                | NR                             | 565               | 57516                                | NR                             | 695               | 14174                                | NR                             | 825               | 1795                                 | NR                             | 955               | 1936                                 | NR                             |
| 440               | 21323                                | NR                             | 570               | 61145                                | NR                             | 700               | 12303                                | NR                             | 830               | 1560                                 | NR                             | 960               | 1858                                 | NR                             |
| 445               | 39520                                | NR                             | 575               | 65023                                | NR                             | 705               | 10670                                | NR                             | 835               | 1592                                 | NR                             | 965               | 1183                                 | NR                             |
| 450               | 51461                                | NR                             | 580               | 68883                                | NR                             | 710               | 9399                                 | NR                             | 840               | 1683                                 | NR                             | 970               | 1720                                 | NR                             |
| 455               | 39205                                | NR                             | 585               | 71953                                | NR                             | 715               | 8320                                 | NR                             | 845               | 1780                                 | NR                             | 975               | 2378                                 | NR                             |
| 460               | 27949                                | NR                             | 590               | 75087                                | NR                             | 720               | 7212                                 | NR                             | 850               | 1939                                 | NR                             | 980               | 2863                                 | NR                             |
| 465               | 23410                                | NR                             | 595               | 77461                                | NR                             | 725               | 6424                                 | NR                             | 855               | 1958                                 | NR                             | 985               | 2933                                 | NR                             |
| 470               | 17812                                | NR                             | 600               | 78820                                | NR                             | 730               | 5661                                 | NR                             | 860               | 1851                                 | NR                             | 990               | 2307                                 | NR                             |
| 475               | 14177                                | NR                             | 605               | 78757                                | NR                             | 735               | 4959                                 | NR                             | 865               | 1941                                 | NR                             | 995               | 1431                                 | NR                             |
| 480               | 14309                                | NR                             | 610               | 78335                                | NR                             | 740               | 4317                                 | NR                             | 870               | 1825                                 | NR                             | 1000              | 2153                                 | NR                             |
| 485               | 15862                                | NR                             | 615               | 76712                                | NR                             | 745               | 3947                                 | NR                             | 875               | 2023                                 | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2312-242-1

Scotopic Flux vs. Wavelength



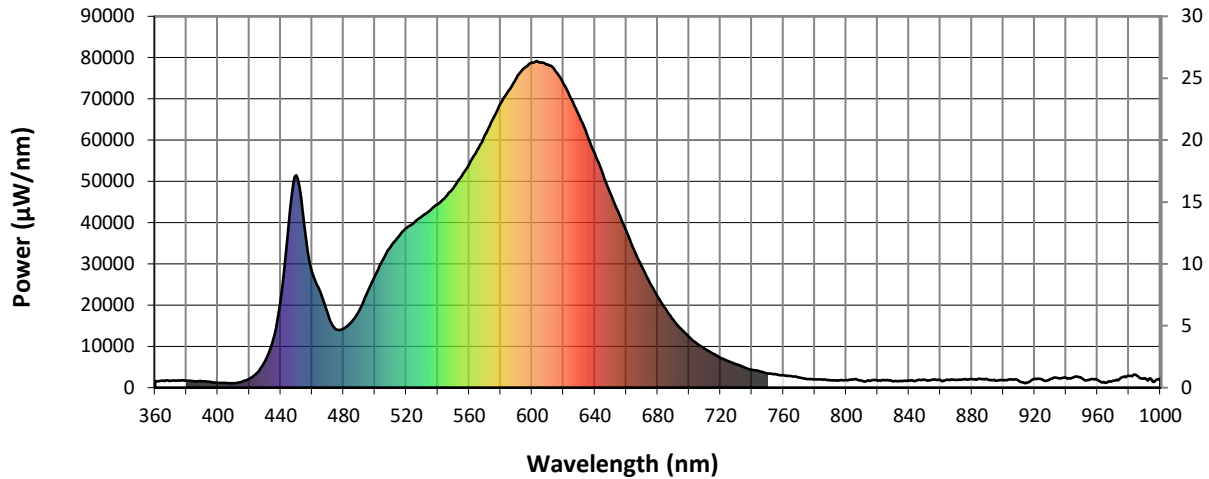
Scotopic Lumens: 5426.6

S/P: 1.39

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 1638          | NR            | 490    | 18774         | NR            | 620    | 73569         | NR            | 750    | 3454          | NR            | 880    | 2051          | NR            |
| 365    | 1662          | NR            | 495    | 22975         | NR            | 625    | 70020         | NR            | 755    | 3312          | NR            | 885    | 2153          | NR            |
| 370    | 1656          | NR            | 500    | 27096         | NR            | 630    | 65803         | NR            | 760    | 3014          | NR            | 890    | 2009          | NR            |
| 375    | 1770          | NR            | 505    | 30929         | NR            | 635    | 61387         | NR            | 765    | 2769          | NR            | 895    | 1712          | NR            |
| 380    | 1729          | NR            | 510    | 34180         | NR            | 640    | 56660         | NR            | 770    | 2504          | NR            | 900    | 1761          | NR            |
| 385    | 1518          | NR            | 515    | 36518         | NR            | 645    | 51817         | NR            | 775    | 2115          | NR            | 905    | 1983          | NR            |
| 390    | 1548          | NR            | 520    | 38707         | NR            | 650    | 46959         | NR            | 780    | 2019          | NR            | 910    | 1641          | NR            |
| 395    | 1397          | NR            | 525    | 40022         | NR            | 655    | 42381         | NR            | 785    | 1959          | NR            | 915    | 1210          | NR            |
| 400    | 1152          | NR            | 530    | 41531         | NR            | 660    | 37988         | NR            | 790    | 1801          | NR            | 920    | 2137          | NR            |
| 405    | 1114          | NR            | 535    | 42959         | NR            | 665    | 33226         | NR            | 795    | 1791          | NR            | 925    | 1888          | NR            |
| 410    | 1082          | NR            | 540    | 44456         | NR            | 670    | 29309         | NR            | 800    | 1854          | NR            | 930    | 2049          | NR            |
| 415    | 1365          | NR            | 545    | 46323         | NR            | 675    | 25362         | NR            | 805    | 2036          | NR            | 935    | 2328          | NR            |
| 420    | 2134          | NR            | 550    | 48405         | NR            | 680    | 22111         | NR            | 810    | 1669          | NR            | 940    | 2366          | NR            |
| 425    | 3614          | NR            | 555    | 51180         | NR            | 685    | 19110         | NR            | 815    | 1640          | NR            | 945    | 2536          | NR            |
| 430    | 6425          | NR            | 560    | 54143         | NR            | 690    | 16401         | NR            | 820    | 1697          | NR            | 950    | 2198          | NR            |
| 435    | 11468         | NR            | 565    | 57516         | NR            | 695    | 14174         | NR            | 825    | 1795          | NR            | 955    | 1936          | NR            |
| 440    | 21323         | NR            | 570    | 61145         | NR            | 700    | 12303         | NR            | 830    | 1560          | NR            | 960    | 1858          | NR            |
| 445    | 39520         | NR            | 575    | 65023         | NR            | 705    | 10670         | NR            | 835    | 1592          | NR            | 965    | 1183          | NR            |
| 450    | 51461         | NR            | 580    | 68883         | NR            | 710    | 9399          | NR            | 840    | 1683          | NR            | 970    | 1720          | NR            |
| 455    | 39205         | NR            | 585    | 71953         | NR            | 715    | 8320          | NR            | 845    | 1780          | NR            | 975    | 2378          | NR            |
| 460    | 27949         | NR            | 590    | 75087         | NR            | 720    | 7212          | NR            | 850    | 1939          | NR            | 980    | 2863          | NR            |
| 465    | 23410         | NR            | 595    | 77461         | NR            | 725    | 6424          | NR            | 855    | 1958          | NR            | 985    | 2933          | NR            |
| 470    | 17812         | NR            | 600    | 78820         | NR            | 730    | 5661          | NR            | 860    | 1851          | NR            | 990    | 2307          | NR            |
| 475    | 14177         | NR            | 605    | 78757         | NR            | 735    | 4959          | NR            | 865    | 1941          | NR            | 995    | 1431          | NR            |
| 480    | 14309         | NR            | 610    | 78335         | NR            | 740    | 4317          | NR            | 870    | 1825          | NR            | 1000   | 2153          | NR            |
| 485    | 15862         | NR            | 615    | 76712         | NR            | 745    | 3947          | NR            | 875    | 2023          | NR            |        |               |               |

REPORT NUMBER: SP1-2312-242-1

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 2079.1 M/P: 0.53**

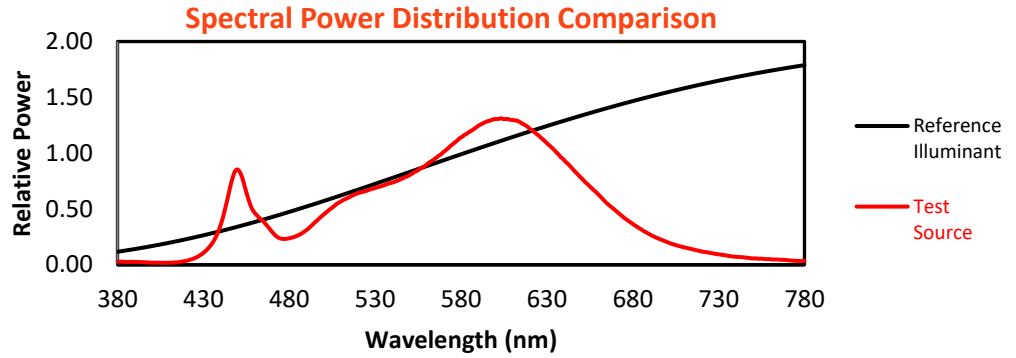
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 1638          | NR            | 490    | 18774         | NR            | 620    | 73569         | NR            | 750    | 3454          | NR            | 880    | 2051          | NR            |
| 365    | 1662          | NR            | 495    | 22975         | NR            | 625    | 70020         | NR            | 755    | 3312          | NR            | 885    | 2153          | NR            |
| 370    | 1656          | NR            | 500    | 27096         | NR            | 630    | 65803         | NR            | 760    | 3014          | NR            | 890    | 2009          | NR            |
| 375    | 1770          | NR            | 505    | 30929         | NR            | 635    | 61387         | NR            | 765    | 2769          | NR            | 895    | 1712          | NR            |
| 380    | 1729          | NR            | 510    | 34180         | NR            | 640    | 56660         | NR            | 770    | 2504          | NR            | 900    | 1761          | NR            |
| 385    | 1518          | NR            | 515    | 36518         | NR            | 645    | 51817         | NR            | 775    | 2115          | NR            | 905    | 1983          | NR            |
| 390    | 1548          | NR            | 520    | 38707         | NR            | 650    | 46959         | NR            | 780    | 2019          | NR            | 910    | 1641          | NR            |
| 395    | 1397          | NR            | 525    | 40022         | NR            | 655    | 42381         | NR            | 785    | 1959          | NR            | 915    | 1210          | NR            |
| 400    | 1152          | NR            | 530    | 41531         | NR            | 660    | 37988         | NR            | 790    | 1801          | NR            | 920    | 2137          | NR            |
| 405    | 1114          | NR            | 535    | 42959         | NR            | 665    | 33226         | NR            | 795    | 1791          | NR            | 925    | 1888          | NR            |
| 410    | 1082          | NR            | 540    | 44456         | NR            | 670    | 29309         | NR            | 800    | 1854          | NR            | 930    | 2049          | NR            |
| 415    | 1365          | NR            | 545    | 46323         | NR            | 675    | 25362         | NR            | 805    | 2036          | NR            | 935    | 2328          | NR            |
| 420    | 2134          | NR            | 550    | 48405         | NR            | 680    | 22111         | NR            | 810    | 1669          | NR            | 940    | 2366          | NR            |
| 425    | 3614          | NR            | 555    | 51180         | NR            | 685    | 19110         | NR            | 815    | 1640          | NR            | 945    | 2536          | NR            |
| 430    | 6425          | NR            | 560    | 54143         | NR            | 690    | 16401         | NR            | 820    | 1697          | NR            | 950    | 2198          | NR            |
| 435    | 11468         | NR            | 565    | 57516         | NR            | 695    | 14174         | NR            | 825    | 1795          | NR            | 955    | 1936          | NR            |
| 440    | 21323         | NR            | 570    | 61145         | NR            | 700    | 12303         | NR            | 830    | 1560          | NR            | 960    | 1858          | NR            |
| 445    | 39520         | NR            | 575    | 65023         | NR            | 705    | 10670         | NR            | 835    | 1592          | NR            | 965    | 1183          | NR            |
| 450    | 51461         | NR            | 580    | 68883         | NR            | 710    | 9399          | NR            | 840    | 1683          | NR            | 970    | 1720          | NR            |
| 455    | 39205         | NR            | 585    | 71953         | NR            | 715    | 8320          | NR            | 845    | 1780          | NR            | 975    | 2378          | NR            |
| 460    | 27949         | NR            | 590    | 75087         | NR            | 720    | 7212          | NR            | 850    | 1939          | NR            | 980    | 2863          | NR            |
| 465    | 23410         | NR            | 595    | 77461         | NR            | 725    | 6424          | NR            | 855    | 1958          | NR            | 985    | 2933          | NR            |
| 470    | 17812         | NR            | 600    | 78820         | NR            | 730    | 5661          | NR            | 860    | 1851          | NR            | 990    | 2307          | NR            |
| 475    | 14177         | NR            | 605    | 78757         | NR            | 735    | 4959          | NR            | 865    | 1941          | NR            | 995    | 1431          | NR            |
| 480    | 14309         | NR            | 610    | 78335         | NR            | 740    | 4317          | NR            | 870    | 1825          | NR            | 1000   | 2153          | NR            |
| 485    | 15862         | NR            | 615    | 76712         | NR            | 745    | 3947          | NR            | 875    | 2023          | NR            |        |               |               |

REPORT NUMBER: SP1-2312-242-1

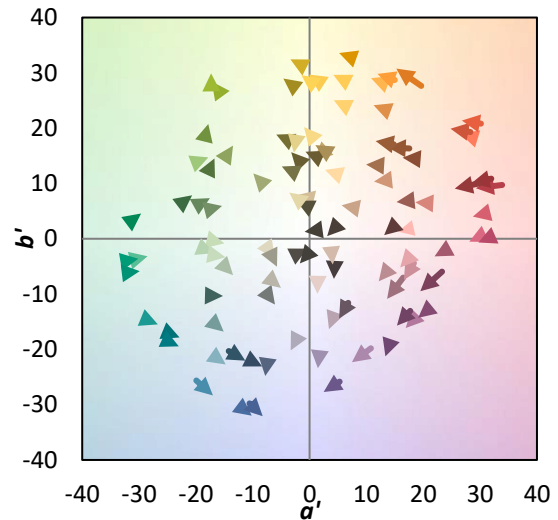
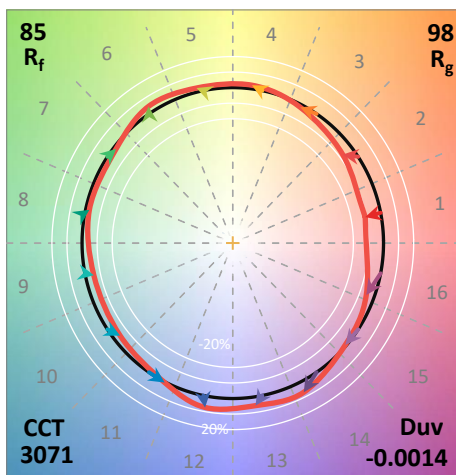
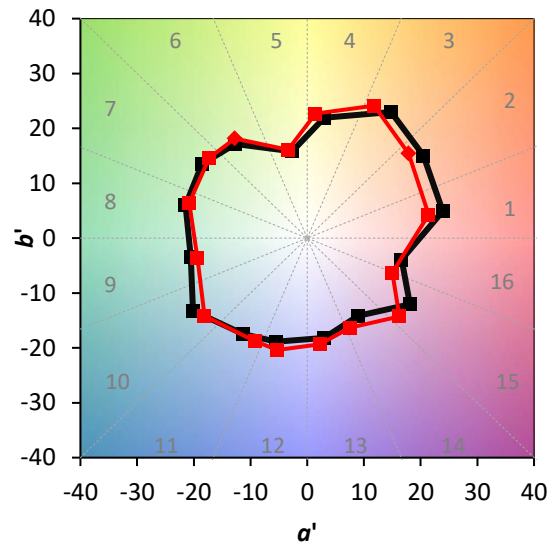
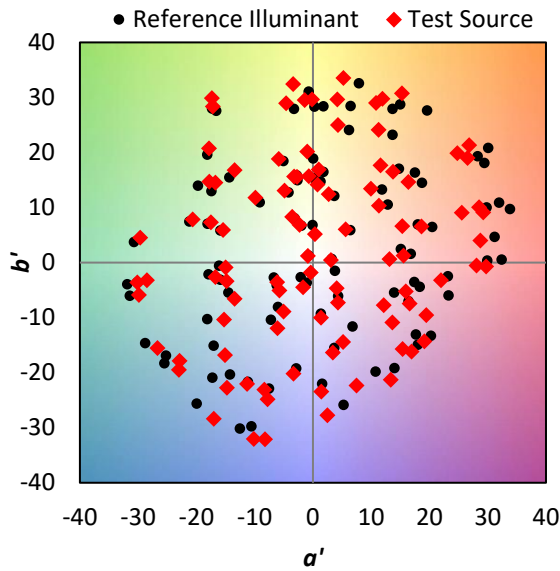
TM-30-18

**Summary**

$R_f = 85.3$   
 $R_g = 97.6$   
 $CIE R_a = 83.9$   
 $R_9 = 12.3$



**Color Vector Graphics**

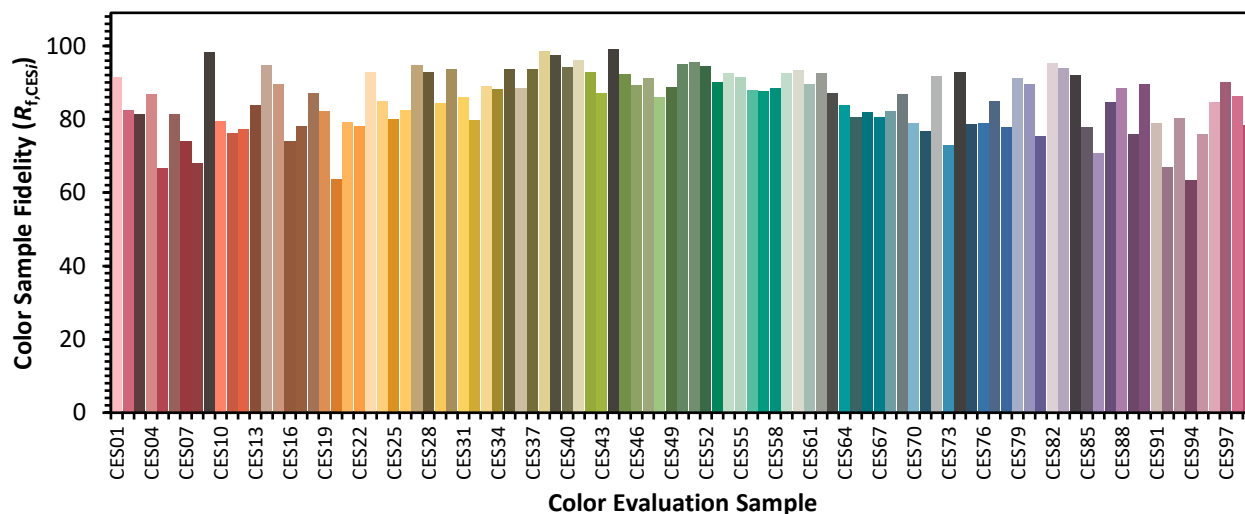


REPORT NUMBER: SP1-2312-242-1

TM-30-18

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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 82 | CES51 = 96 | CES76 = 79 |
| CES02 = 63 | CES27 = 95 | CES52 = 94 | CES77 = 85 |
| CES03 = 31 | CES28 = 93 | CES53 = 90 | CES78 = 78 |
| CES04 = 70 | CES29 = 84 | CES54 = 93 | CES79 = 91 |
| CES05 = 50 | CES30 = 94 | CES55 = 92 | CES80 = 90 |
| CES06 = 51 | CES31 = 86 | CES56 = 88 | CES81 = 75 |
| CES07 = 42 | CES32 = 80 | CES57 = 88 | CES82 = 95 |
| CES08 = 41 | CES33 = 89 | CES58 = 89 | CES83 = 94 |
| CES09 = 29 | CES34 = 88 | CES59 = 93 | CES84 = 92 |
| CES10 = 76 | CES35 = 94 | CES60 = 93 | CES85 = 78 |
| CES11 = 59 | CES36 = 88 | CES61 = 90 | CES86 = 71 |
| CES12 = 65 | CES37 = 94 | CES62 = 93 | CES87 = 85 |
| CES13 = 43 | CES38 = 98 | CES63 = 87 | CES88 = 88 |
| CES14 = 74 | CES39 = 97 | CES64 = 84 | CES89 = 76 |
| CES15 = 72 | CES40 = 94 | CES65 = 81 | CES90 = 90 |
| CES16 = 48 | CES41 = 96 | CES66 = 82 | CES91 = 79 |
| CES17 = 50 | CES42 = 93 | CES67 = 81 | CES92 = 67 |
| CES18 = 56 | CES43 = 87 | CES68 = 82 | CES93 = 80 |
| CES19 = 72 | CES44 = 99 | CES69 = 87 | CES94 = 63 |
| CES20 = 67 | CES45 = 92 | CES70 = 79 | CES95 = 76 |
| CES21 = 87 | CES46 = 89 | CES71 = 77 | CES96 = 85 |
| CES22 = 79 | CES47 = 91 | CES72 = 92 | CES97 = 90 |
| CES23 = 92 | CES48 = 86 | CES73 = 73 | CES98 = 86 |
| CES24 = 91 | CES49 = 89 | CES74 = 93 | CES99 = 78 |
| CES25 = 72 | CES50 = 95 | CES75 = 79 |            |

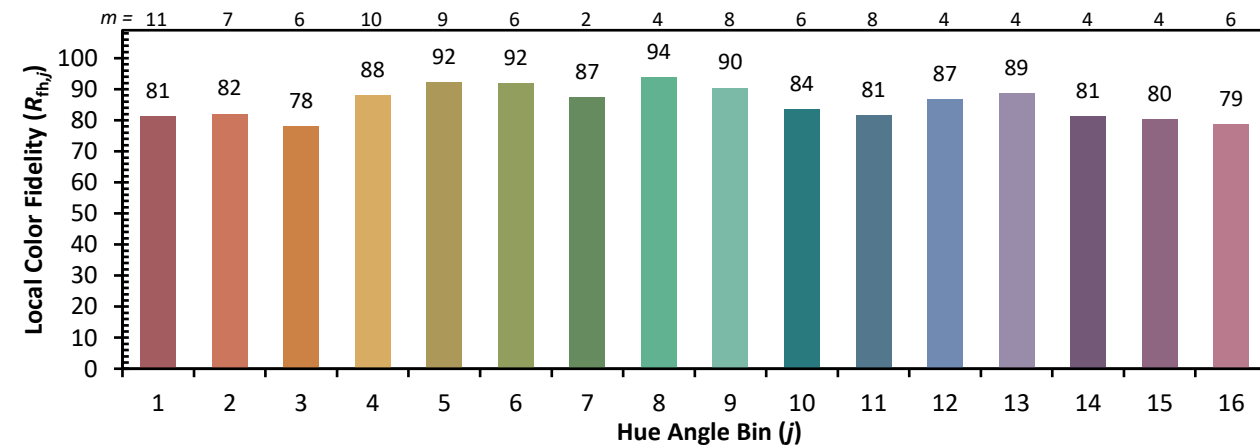
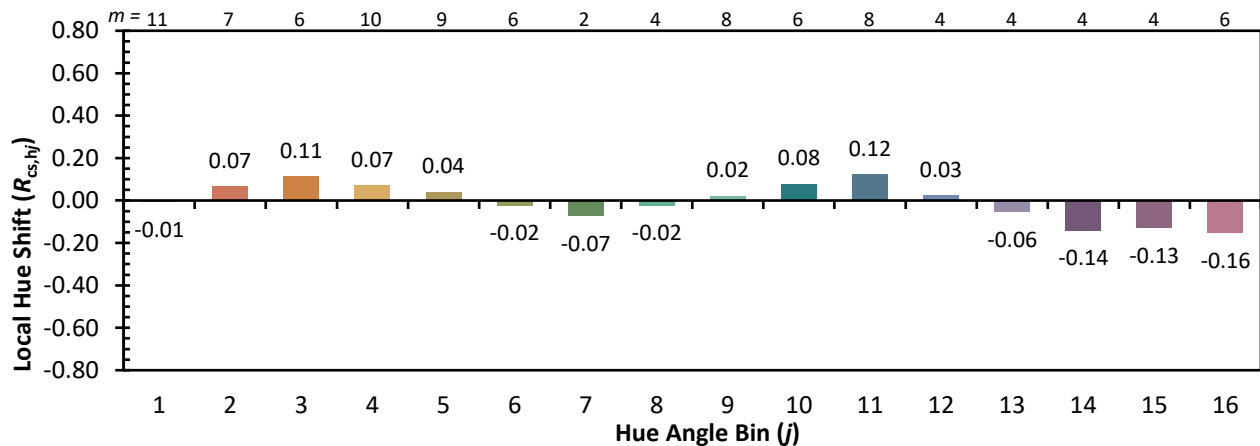
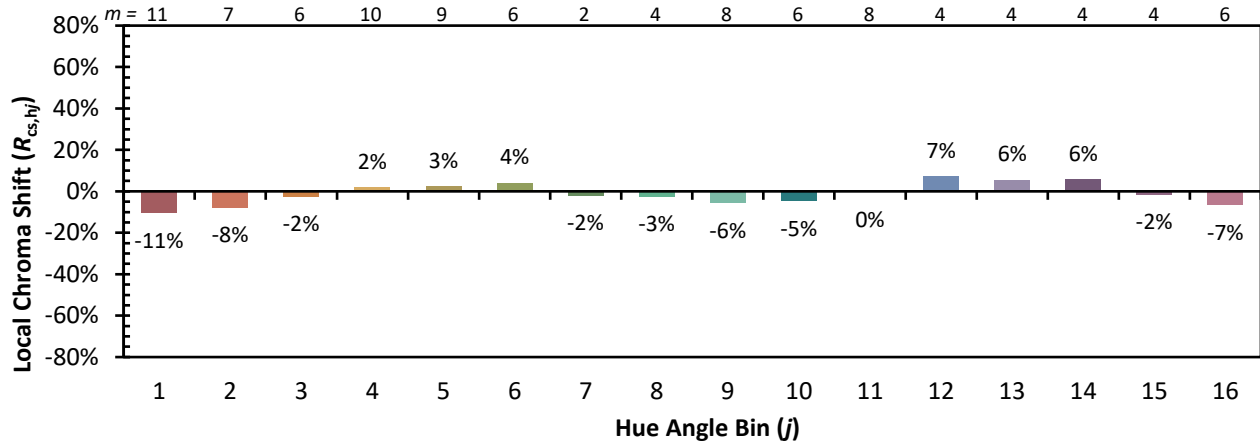




REPORT NUMBER: SP1-2312-242-1

TM-30-18

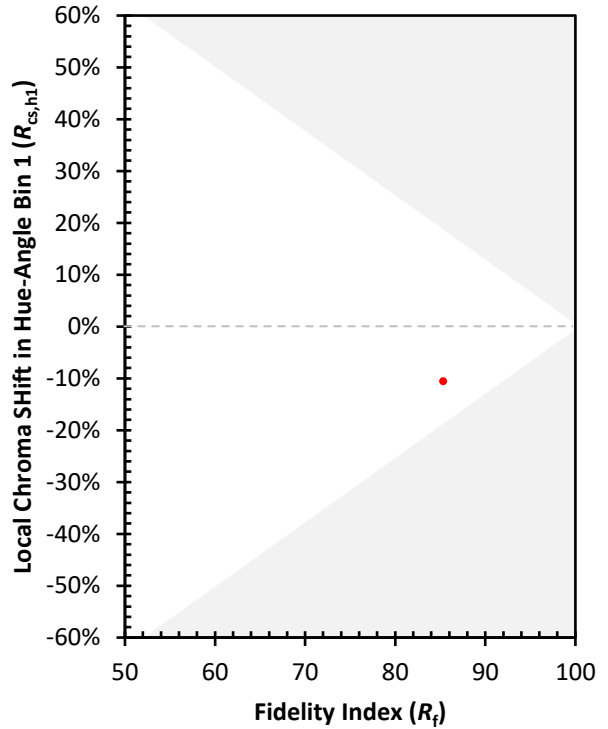
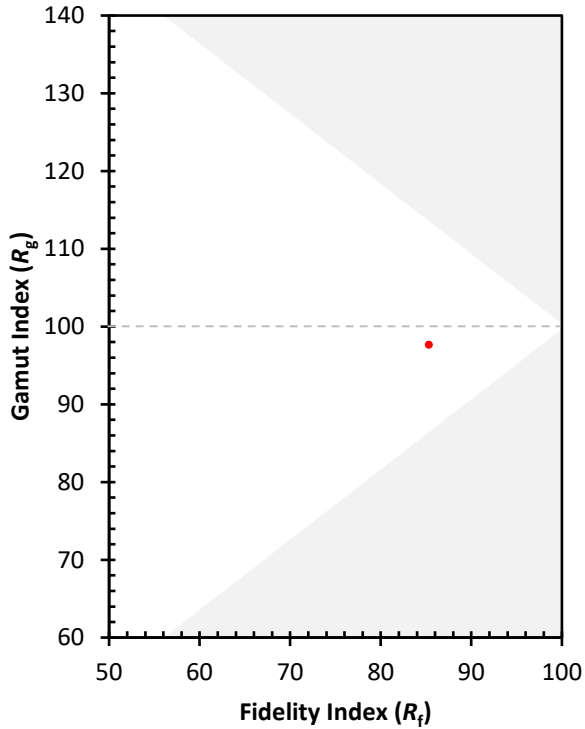
Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-2312-242-1

TM-30-18

Measure Comparisons





TEST NUMBER: P959015  
 CATALOG NUMBER: CB3-B-055U-030D-830-1D-UNV-STD-W-4

**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 | 10.41            | 11.10 | 11.53 | 12.22 | 13.76 | 9.33           | 10.03 | 10.45 | 11.14 | 12.68 |
|                 | 3H   | 12.06            | 12.68 | 13.19 | 13.81 | 15.36 | 10.73          | 11.35 | 11.86 | 12.47 | 14.03 |
|                 | 4H   | 12.69            | 13.28 | 13.82 | 14.40 | 15.96 | 11.24          | 11.83 | 12.38 | 12.95 | 14.52 |
|                 | 6H   | 13.06            | 13.61 | 14.21 | 14.73 | 16.30 | 11.55          | 12.09 | 12.70 | 13.22 | 14.79 |
|                 | 8H   | 13.19            | 13.71 | 14.34 | 14.85 | 16.42 | 11.67          | 12.19 | 12.82 | 13.32 | 14.89 |
|                 | 12H  | 13.26            | 13.75 | 14.41 | 14.88 | 16.47 | 11.74          | 12.23 | 12.89 | 13.36 | 14.95 |
| 4H              | 2H   | 10.80            | 11.39 | 11.94 | 12.51 | 14.07 | 9.94           | 10.53 | 11.08 | 11.65 | 13.21 |
|                 | 3H   | 12.67            | 13.16 | 13.82 | 14.31 | 15.89 | 11.54          | 12.03 | 12.69 | 13.18 | 14.76 |
|                 | 4H   | 13.41            | 13.87 | 14.57 | 15.00 | 16.60 | 12.14          | 12.59 | 13.29 | 13.73 | 15.32 |
|                 | 6H   | 13.91            | 14.29 | 15.06 | 15.45 | 17.04 | 12.54          | 12.93 | 13.70 | 14.09 | 15.68 |
|                 | 8H   | 14.09            | 14.45 | 15.25 | 15.60 | 17.21 | 12.71          | 13.07 | 13.87 | 14.22 | 15.82 |
|                 | 12H  | 14.18            | 14.51 | 15.36 | 15.67 | 17.28 | 12.81          | 13.14 | 13.98 | 14.30 | 15.90 |
| 8H              | 4H   | 13.53            | 13.89 | 14.69 | 15.04 | 16.64 | 12.39          | 12.75 | 13.55 | 13.90 | 15.50 |
|                 | 6H   | 14.14            | 14.44 | 15.32 | 15.63 | 17.23 | 12.91          | 13.21 | 14.09 | 14.40 | 16.00 |
|                 | 8H   | 14.42            | 14.68 | 15.60 | 15.85 | 17.47 | 13.16          | 13.42 | 14.35 | 14.59 | 16.21 |
|                 | 12H  | 14.57            | 14.80 | 15.76 | 15.97 | 17.62 | 13.33          | 13.56 | 14.52 | 14.73 | 16.38 |
| 12H             | 4H   | 13.49            | 13.82 | 14.67 | 14.98 | 16.59 | 12.38          | 12.71 | 13.56 | 13.87 | 15.48 |
|                 | 6H   | 14.16            | 14.42 | 15.34 | 15.59 | 17.21 | 12.97          | 13.23 | 14.15 | 14.40 | 16.02 |
|                 | 8H   | 14.45            | 14.68 | 15.64 | 15.84 | 17.50 | 13.24          | 13.47 | 14.43 | 14.64 | 16.29 |