

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



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P823334

Luminaire Tested: **TTN-D1-750-U-RW**

Issue Date: 4/16/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P823334  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2312-254-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TTN-D1-750-U-RW  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE  
5000K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

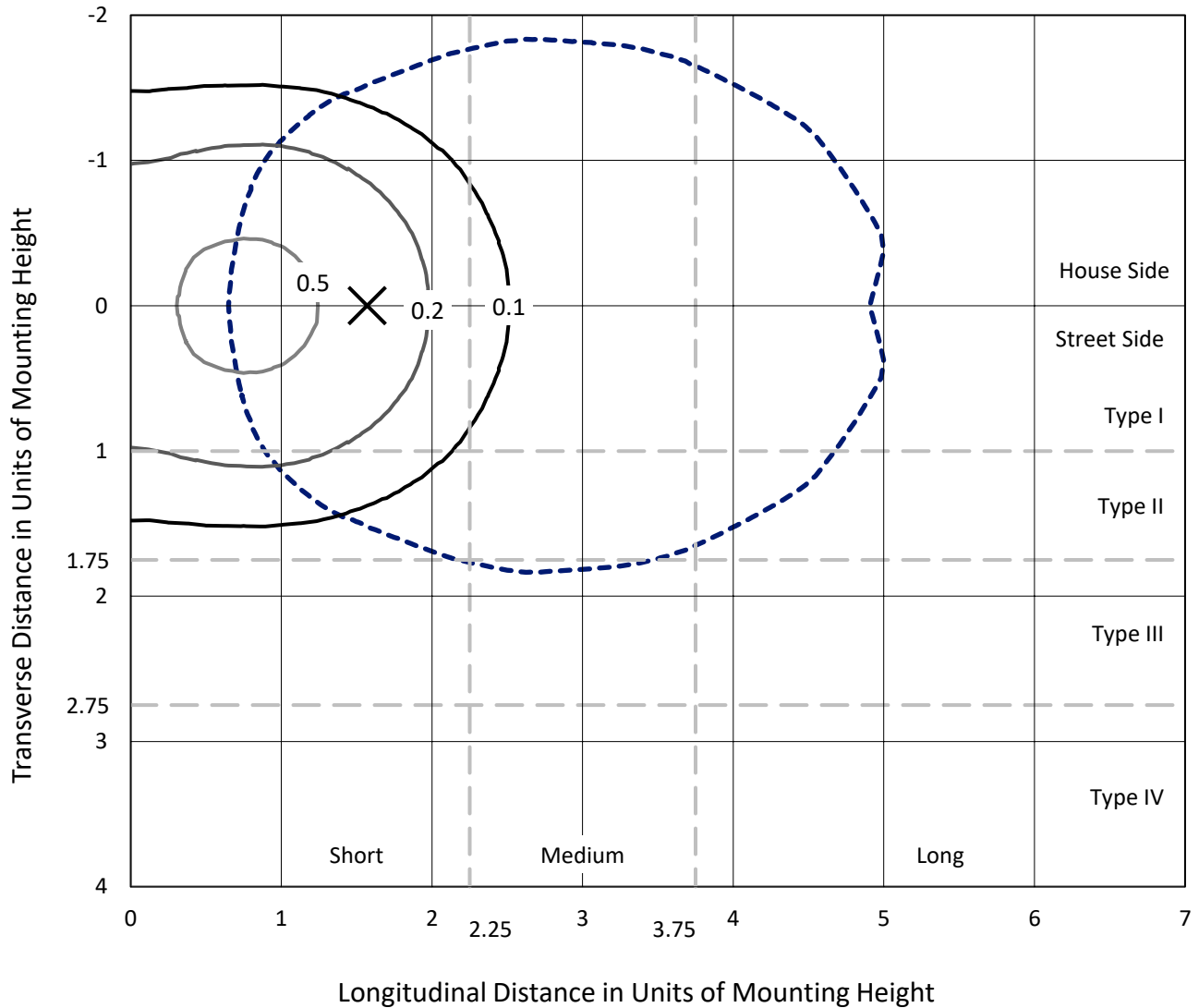
Lumens per Lamp: N/A  
Luminaire Lumens: 3278 lumens  
Efficiency: N/A  
Efficacy: 124.2 lumens/watt  
Luminous Opening: Circular (Dia: 0.71' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 26.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



REPORT NUMBER: P823334  
 CATALOG NUMBER: TTN-D1-750-U-RW

### Iso-Footcandle Lines of Horizontal Illumination

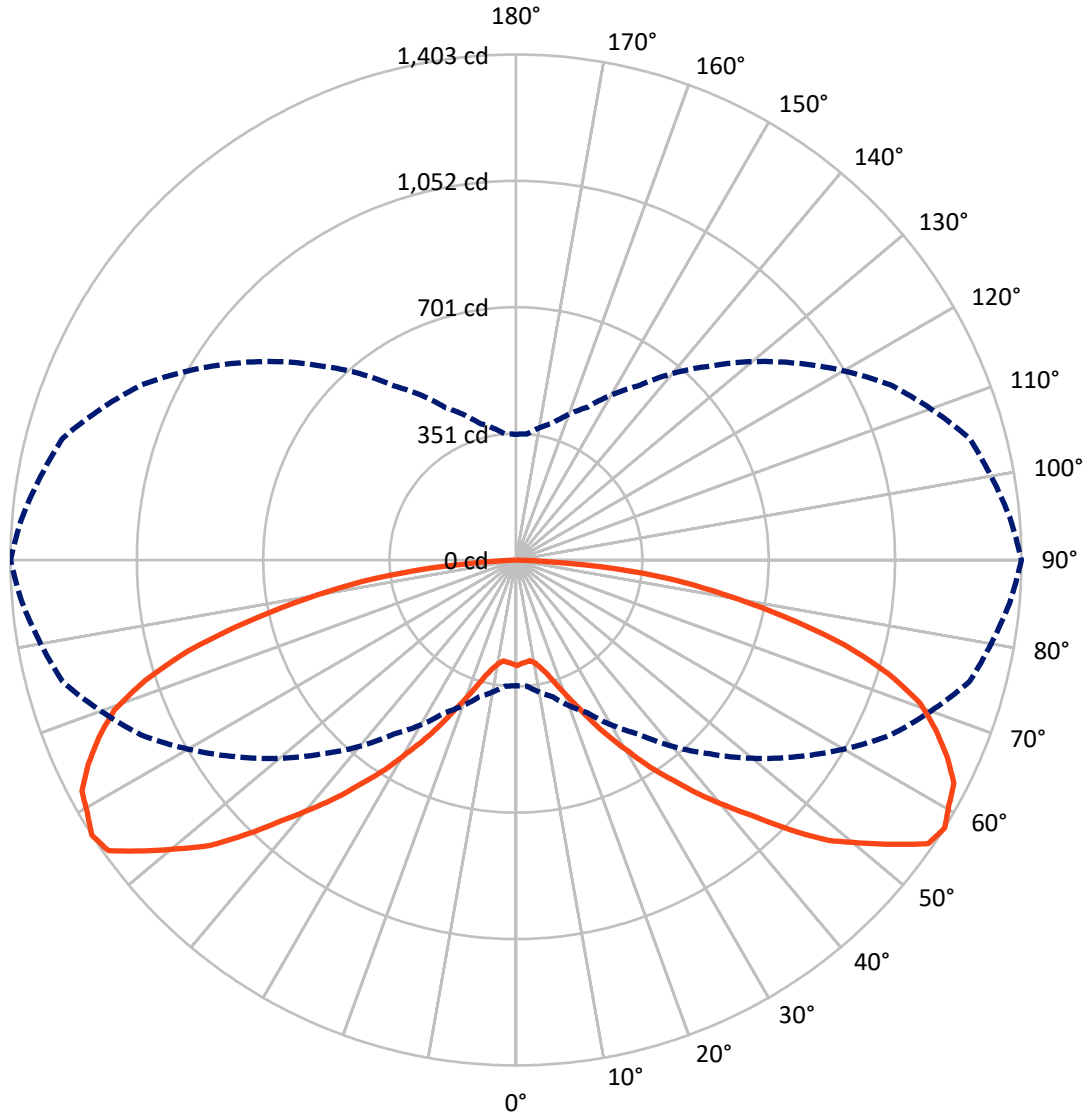
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc  
 Type II - Short - N/A

REPORT NUMBER: P823334  
CATALOG NUMBER: TTN-D1-750-U-RW

### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 57.5-Deg Vertical

REPORT NUMBER: P823334  
 CATALOG NUMBER: TTN-D1-750-U-RW

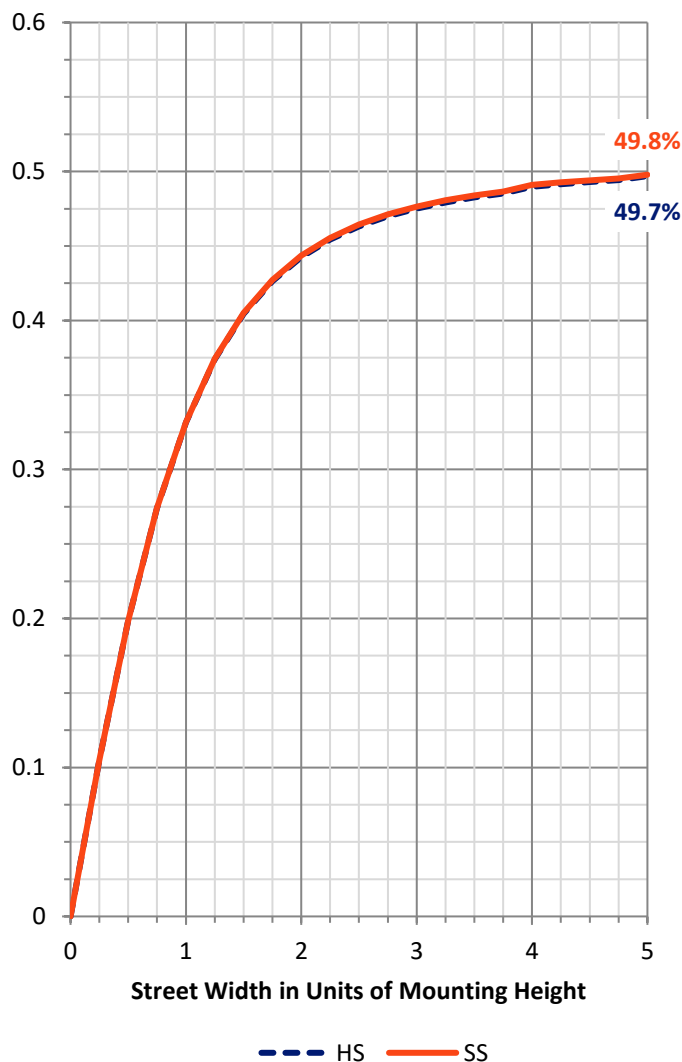
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1639.0	0.0	1639.0
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	1639.0	0.0	1639.0
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	3278.0	0.0	3278.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	27.5	0.8
10°-20°	87.9	2.7
20°-30°	183.4	5.6
30°-40°	328.9	10.0
40°-50°	525.6	16.0
50°-60°	719.5	22.0
60°-70°	742.2	22.6
70°-80°	527.8	16.1
80°-90°	135.1	4.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	3278.0	100.0
0°-180°	3278.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P823334

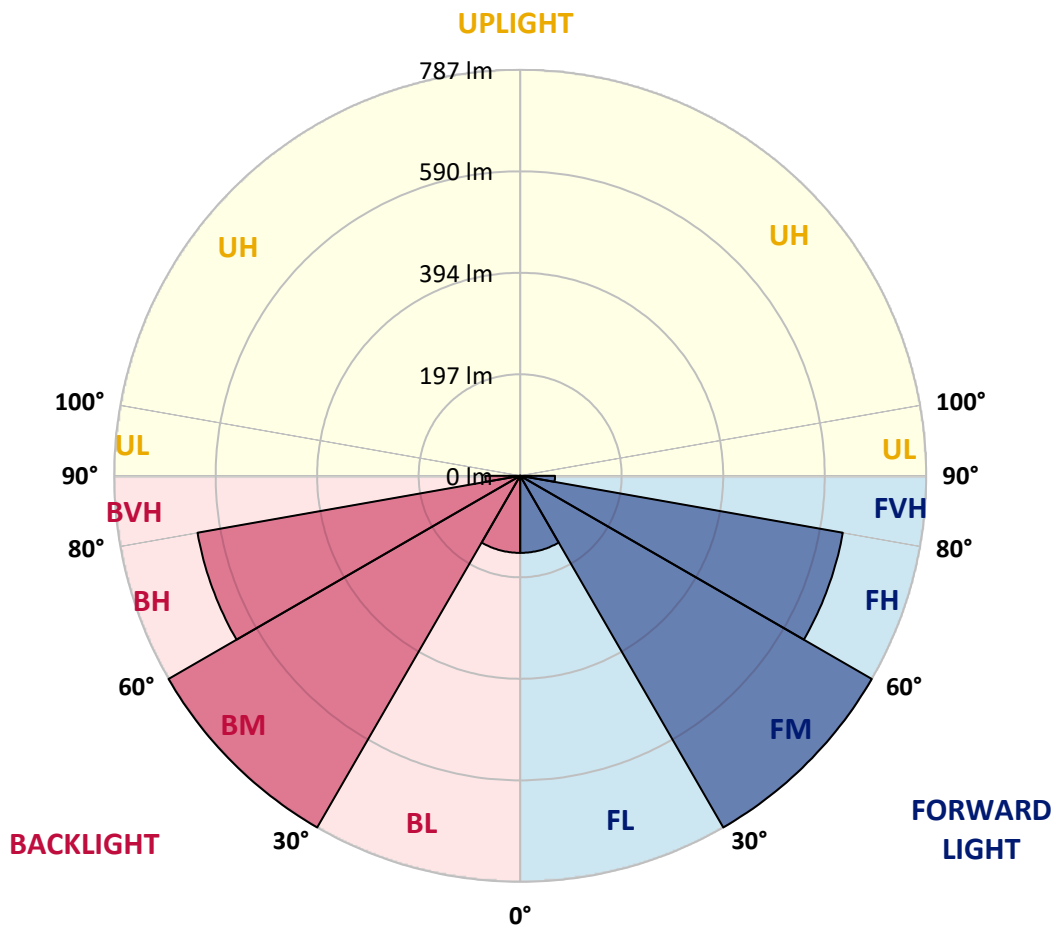
CATALOG NUMBER: TTN-D1-750-U-RW

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	149.4	4.6			
FM (30°-60°)	787.0	24.0			
FH (60°-80°)	635.0	19.4			G0/660
FVH (80°-90°)	67.5	2.1			G1/100
BL (0°-30°)	149.4	4.6	B1/500		
BM (30°-60°)	787.0	24.0	B1/1000		
BH (60°-80°)	635.0	19.4	B2/1000		G2/1000
BVH (80°-90°)	67.5	2.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





REPORT NUMBER: P823334  
 CATALOG NUMBER: TTN-D1-750-U-RW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2
2.5°	293.2	293.2	290.5	290.5	290.5	287.7	287.7	287.7	287.7	284.9	287.7
5°	293.2	293.2	293.2	293.2	290.5	287.7	287.7	287.7	284.9	284.9	284.9
7.5°	290.5	290.5	290.5	290.5	287.7	284.9	284.9	284.9	282.2	282.2	282.2
10°	287.7	290.5	287.7	287.7	284.9	284.9	287.7	287.7	290.5	290.5	290.5
12.5°	284.9	284.9	284.9	287.7	287.7	290.5	296.0	301.5	304.3	307.1	307.1
15°	284.9	284.9	287.7	290.5	296.0	301.5	309.8	318.1	323.7	329.2	329.2
17.5°	284.9	284.9	287.7	296.0	304.3	315.4	329.2	340.3	351.3	359.6	362.4
20°	284.9	284.9	290.5	301.5	318.1	334.7	354.1	370.7	387.3	401.1	401.1
22.5°	287.7	290.5	296.0	309.8	334.7	359.6	384.5	409.4	428.8	445.4	445.4
25°	293.2	293.2	301.5	323.7	354.1	387.3	423.2	453.7	478.6	500.7	500.7
27.5°	296.0	298.8	309.8	337.5	376.2	417.7	467.5	503.5	536.7	556.0	558.8
30°	301.5	304.3	320.9	348.6	395.6	448.1	506.2	556.0	592.0	611.4	616.9
32.5°	304.3	307.1	329.2	362.4	414.9	475.8	542.2	605.8	655.6	677.7	686.0
35°	312.6	315.4	337.5	376.2	437.1	506.2	583.7	658.4	716.5	744.1	749.7
37.5°	320.9	323.7	345.8	390.1	459.2	539.4	628.0	713.7	780.1	813.3	824.4
40°	326.4	329.2	354.1	406.6	484.1	575.4	677.7	771.8	846.5	888.0	896.3
42.5°	334.7	337.5	365.2	420.5	506.2	611.4	730.3	835.4	915.7	962.7	973.7
45°	343.0	345.8	376.2	437.1	531.1	650.1	782.9	910.1	1001.4	1056.7	1067.8
47.5°	351.3	354.1	387.3	453.7	556.0	688.8	838.2	976.5	1087.2	1139.7	1161.9
50°	354.1	359.6	392.8	464.7	572.6	722.0	885.2	1042.9	1159.1	1228.2	1233.8
52.5°	356.9	362.4	398.4	473.0	586.5	746.9	924.0	1098.2	1233.8	1316.8	1311.2
55°	359.6	359.6	398.4	473.0	592.0	763.5	951.6	1134.2	1283.6	1350.0	1388.7
57.5°	348.6	351.3	392.8	467.5	589.2	760.7	951.6	1148.0	1302.9	1374.9	1402.5
60°	334.7	340.3	379.0	453.7	578.2	752.4	946.1	1142.5	1311.2	1388.7	1380.4
62.5°	315.4	326.4	359.6	434.3	561.6	733.1	937.8	1128.7	1291.9	1372.1	1363.8
65°	293.2	304.3	334.7	414.9	525.6	686.0	893.5	1101.0	1239.3	1330.6	1314.0
67.5°	271.1	279.4	309.8	381.8	484.1	636.3	835.4	1040.1	1164.6	1264.2	1255.9
70°	246.2	249.0	279.4	343.0	442.6	586.5	780.1	954.4	1098.2	1172.9	1189.5
72.5°	215.8	215.8	246.2	301.5	392.8	520.1	705.4	857.6	993.1	1056.7	1081.6
75°	177.0	179.8	204.7	254.5	329.2	445.4	600.3	755.2	868.6	935.0	943.3
77.5°	138.3	141.1	160.4	201.9	265.6	359.6	495.2	616.9	724.8	782.9	766.3
80°	99.6	102.4	116.2	146.6	196.4	268.3	381.8	489.6	567.1	614.1	592.0
82.5°	60.9	63.6	71.9	91.3	124.5	174.3	260.0	340.3	401.1	439.8	431.5
85°	30.4	30.4	36.0	41.5	52.6	77.5	124.5	171.5	218.5	246.2	237.9
87.5°	5.5	8.3	8.3	8.3	8.3	5.5	8.3	8.3	8.3	13.8	5.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2411-284-3

Test Date: 11/21/2024

Luminaire Tested: TTN-D0-750-U-WQ

Data in this report applies to TT and TTN families of products



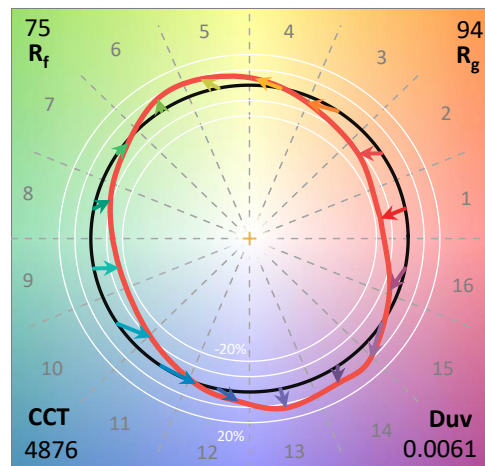
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2411-284-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 11/21/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **TTN-D0-750-U-WQ**  
 Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 5000K, 70 CRI LEDS AND WIDE DISTRIBUTION

**Spectral Parameters**

CCT (K): 4876  
 CIE u': 0.2086  
 CIE v': 0.4932  
 Duv: 0.0061  
 CIE x: 0.3502  
 CIE y: 0.3680  
 CIE z: 0.2818  
 Peak Wavelength (nm): 451  
 Dominant Wavelength (nm): 569  
 Purity: 15.51324  
 Rf: 74.6  
 Rg: 94.4

CRI (Ra):	72.6		
R1:	69.5	R9:	-24.6
R2:	77.0	R10:	44.8
R3:	82.2	R11:	68.2
R4:	72.6	R12:	36.1
R5:	69.3	R13:	70.5
R6:	67.6	R14:	89.9
R7:	83.7	R15:	63.1
R8:	58.6		



**Test Conditions**

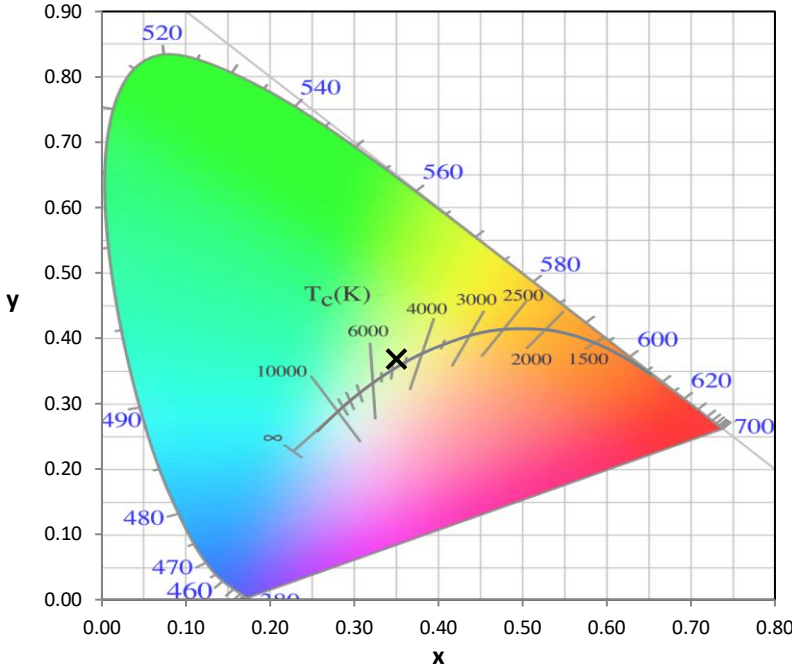
Stabilization Time: 51M  
 Operation Time: 1H 51M  
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-3

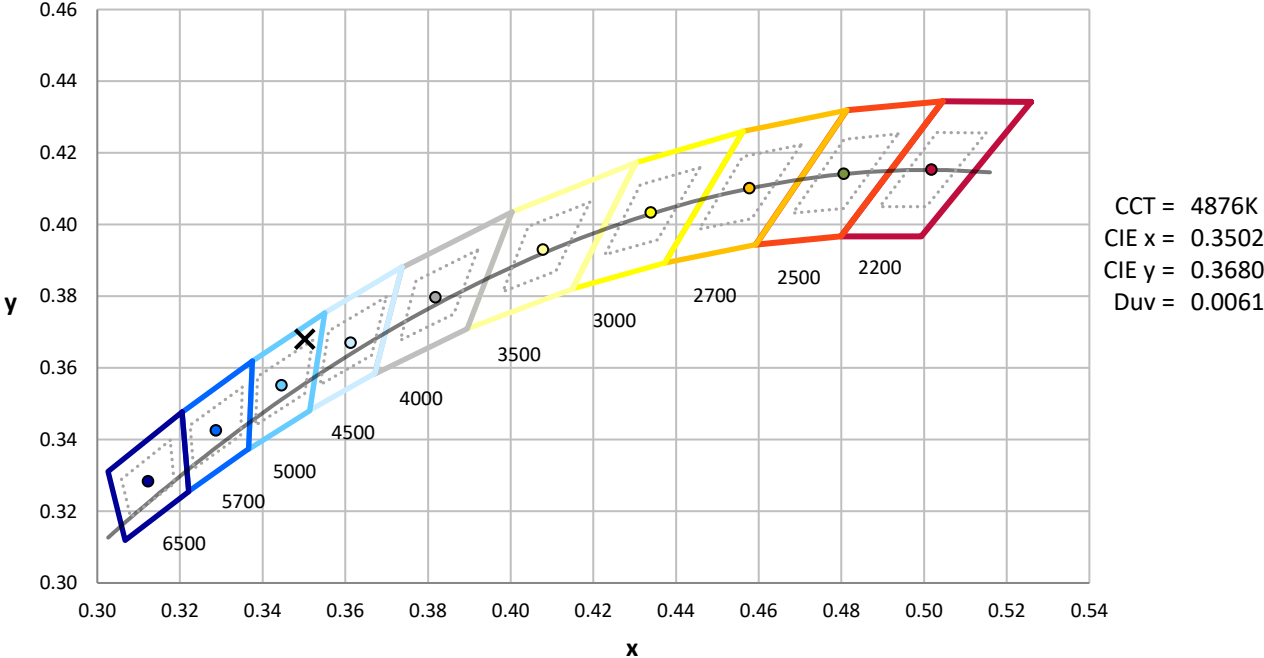
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085	10/22/2024	10/22/2025
Room Thermometer	IN0046	10/22/2024	10/22/2025

REPORT NUMBER: SP1-2411-284-3

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2411-284-3

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

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	119	NR	620	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	398	NR	755	14	NR	885	0	NR
370	0	NR	500	214	NR	630	368	NR	760	12	NR	890	0	NR
375	0	NR	505	286	NR	635	336	NR	765	11	NR	895	0	NR
380	0	NR	510	357	NR	640	306	NR	770	9	NR	900	0	NR
385	0	NR	515	425	NR	645	276	NR	775	8	NR	905	0	NR
390	1	NR	520	480	NR	650	248	NR	780	7	NR	910	0	NR
395	2	NR	525	523	NR	655	221	NR	785	6	NR	915	0	NR
400	4	NR	530	554	NR	660	196	NR	790	5	NR	920	0	NR
405	7	NR	535	575	NR	665	173	NR	795	4	NR	925	0	NR
410	11	NR	540	592	NR	670	152	NR	800	4	NR	930	0	NR
415	21	NR	545	603	NR	675	133	NR	805	3	NR	935	0	NR
420	42	NR	550	609	NR	680	117	NR	810	3	NR	940	0	NR
425	85	NR	555	615	NR	685	102	NR	815	3	NR	945	0	NR
430	165	NR	560	617	NR	690	89	NR	820	2	NR	950	1	NR
435	316	NR	565	617	NR	695	77	NR	825	2	NR	955	0	NR
440	497	NR	570	616	NR	700	67	NR	830	2	NR	960	0	NR
445	702	NR	575	613	NR	705	58	NR	835	2	NR	965	0	NR
450	981	NR	580	607	NR	710	50	NR	840	1	NR	970	0	NR
455	840	NR	585	598	NR	715	43	NR	845	1	NR	975	0	NR
460	446	NR	590	583	NR	720	36	NR	850	1	NR	980	0	NR
465	300	NR	595	566	NR	725	31	NR	855	1	NR	985	0	NR
470	215	NR	600	546	NR	730	26	NR	860	1	NR	990	0	NR
475	135	NR	605	521	NR	735	23	NR	865	1	NR	995	0	NR
480	105	NR	610	494	NR	740	20	NR	870	1	NR	1000	0	NR
485	106	NR	615	463	NR	745	18	NR	875	0	NR			

REPORT NUMBER: SP1-2411-284-3

Scotopic Flux vs. Wavelength



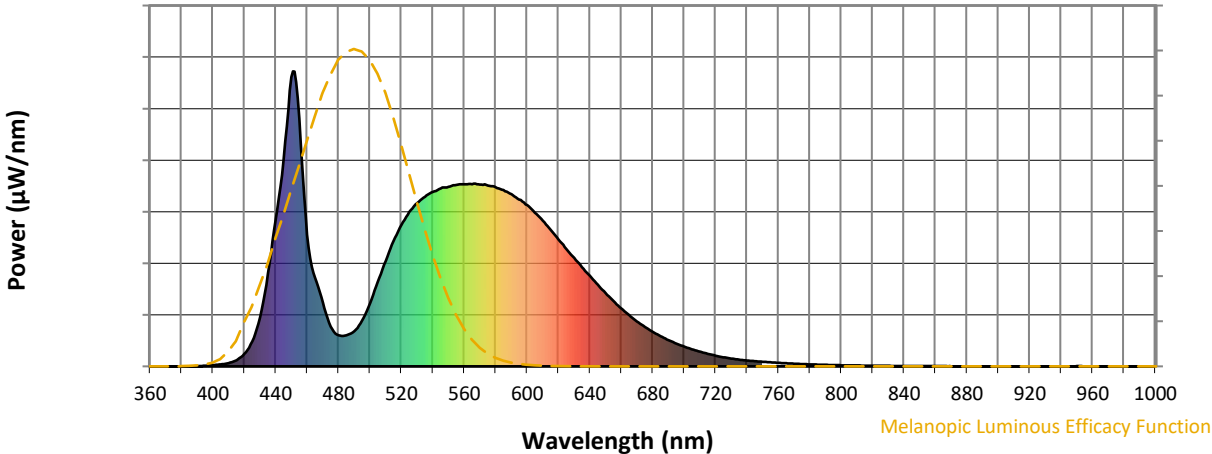
Scotopic Lumens: NR

S/P: 1.74

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	119	NR	620	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	398	NR	755	14	NR	885	0	NR
370	0	NR	500	214	NR	630	368	NR	760	12	NR	890	0	NR
375	0	NR	505	286	NR	635	336	NR	765	11	NR	895	0	NR
380	0	NR	510	357	NR	640	306	NR	770	9	NR	900	0	NR
385	0	NR	515	425	NR	645	276	NR	775	8	NR	905	0	NR
390	1	NR	520	480	NR	650	248	NR	780	7	NR	910	0	NR
395	2	NR	525	523	NR	655	221	NR	785	6	NR	915	0	NR
400	4	NR	530	554	NR	660	196	NR	790	5	NR	920	0	NR
405	7	NR	535	575	NR	665	173	NR	795	4	NR	925	0	NR
410	11	NR	540	592	NR	670	152	NR	800	4	NR	930	0	NR
415	21	NR	545	603	NR	675	133	NR	805	3	NR	935	0	NR
420	42	NR	550	609	NR	680	117	NR	810	3	NR	940	0	NR
425	85	NR	555	615	NR	685	102	NR	815	3	NR	945	0	NR
430	165	NR	560	617	NR	690	89	NR	820	2	NR	950	1	NR
435	316	NR	565	617	NR	695	77	NR	825	2	NR	955	0	NR
440	497	NR	570	616	NR	700	67	NR	830	2	NR	960	0	NR
445	702	NR	575	613	NR	705	58	NR	835	2	NR	965	0	NR
450	981	NR	580	607	NR	710	50	NR	840	1	NR	970	0	NR
455	840	NR	585	598	NR	715	43	NR	845	1	NR	975	0	NR
460	446	NR	590	583	NR	720	36	NR	850	1	NR	980	0	NR
465	300	NR	595	566	NR	725	31	NR	855	1	NR	985	0	NR
470	215	NR	600	546	NR	730	26	NR	860	1	NR	990	0	NR
475	135	NR	605	521	NR	735	23	NR	865	1	NR	995	0	NR
480	105	NR	610	494	NR	740	20	NR	870	1	NR	1000	0	NR
485	106	NR	615	463	NR	745	18	NR	875	0	NR			

REPORT NUMBER: SP1-2411-284-3

Melanopic Flux vs. Wavelength



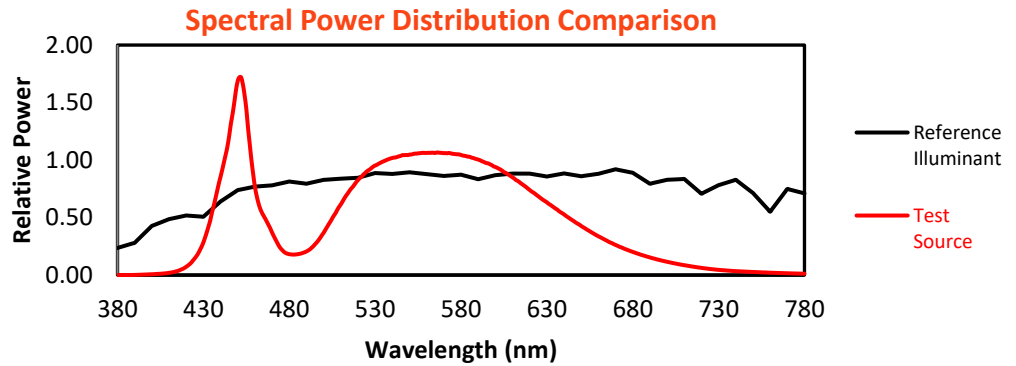
Melanopic Lumens: NR

M/P: 3.51

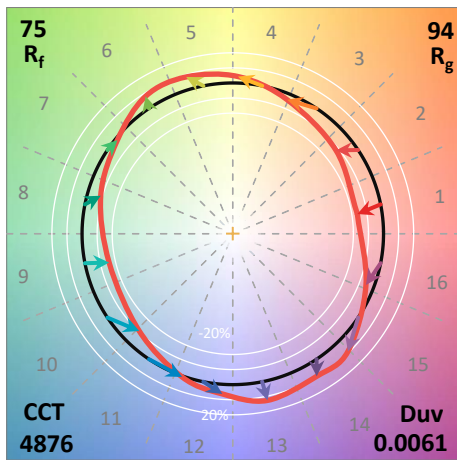
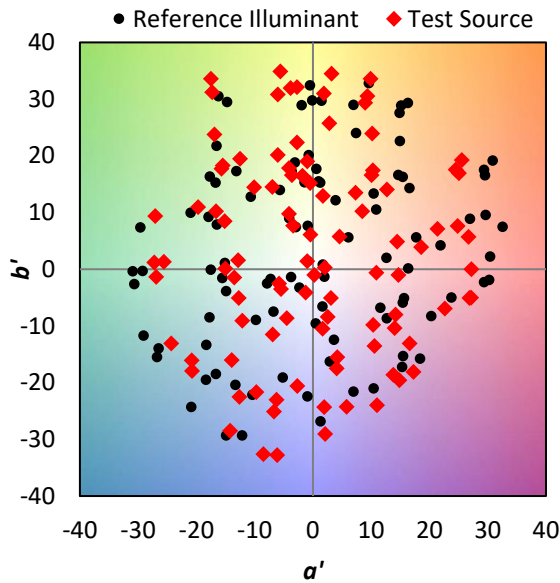
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	398	NR	755	14	NR	885	0	NR
370	0	NR	500	214	NR	630	368	NR	760	12	NR	890	0	NR
375	0	NR	505	286	NR	635	336	NR	765	11	NR	895	0	NR
380	0	NR	510	357	NR	640	306	NR	770	9	NR	900	0	NR
385	0	NR	515	425	NR	645	276	NR	775	8	NR	905	0	NR
390	1	NR	520	480	NR	650	248	NR	780	7	NR	910	0	NR
395	2	NR	525	523	NR	655	221	NR	785	6	NR	915	0	NR
400	4	NR	530	554	NR	660	196	NR	790	5	NR	920	0	NR
405	7	NR	535	575	NR	665	173	NR	795	4	NR	925	0	NR
410	11	NR	540	592	NR	670	152	NR	800	4	NR	930	0	NR
415	21	NR	545	603	NR	675	133	NR	805	3	NR	935	0	NR
420	42	NR	550	609	NR	680	117	NR	810	3	NR	940	0	NR
425	85	NR	555	615	NR	685	102	NR	815	3	NR	945	0	NR
430	165	NR	560	617	NR	690	89	NR	820	2	NR	950	1	NR
435	316	NR	565	617	NR	695	77	NR	825	2	NR	955	0	NR
440	497	NR	570	616	NR	700	67	NR	830	2	NR	960	0	NR
445	702	NR	575	613	NR	705	58	NR	835	2	NR	965	0	NR
450	981	NR	580	607	NR	710	50	NR	840	1	NR	970	0	NR
455	840	NR	585	598	NR	715	43	NR	845	1	NR	975	0	NR
460	446	NR	590	583	NR	720	36	NR	850	1	NR	980	0	NR
465	300	NR	595	566	NR	725	31	NR	855	1	NR	985	0	NR
470	215	NR	600	546	NR	730	26	NR	860	1	NR	990	0	NR
475	135	NR	605	521	NR	735	23	NR	865	1	NR	995	0	NR
480	105	NR	610	494	NR	740	20	NR	870	1	NR	1000	0	NR
485	106	NR	615	463	NR	745	18	NR	875	0	NR			

**Summary**

$R_f = 74.6$   
 $R_g = 94.4$   
 $CIE R_a = 72.6$   
 $R_9 = -24.6$

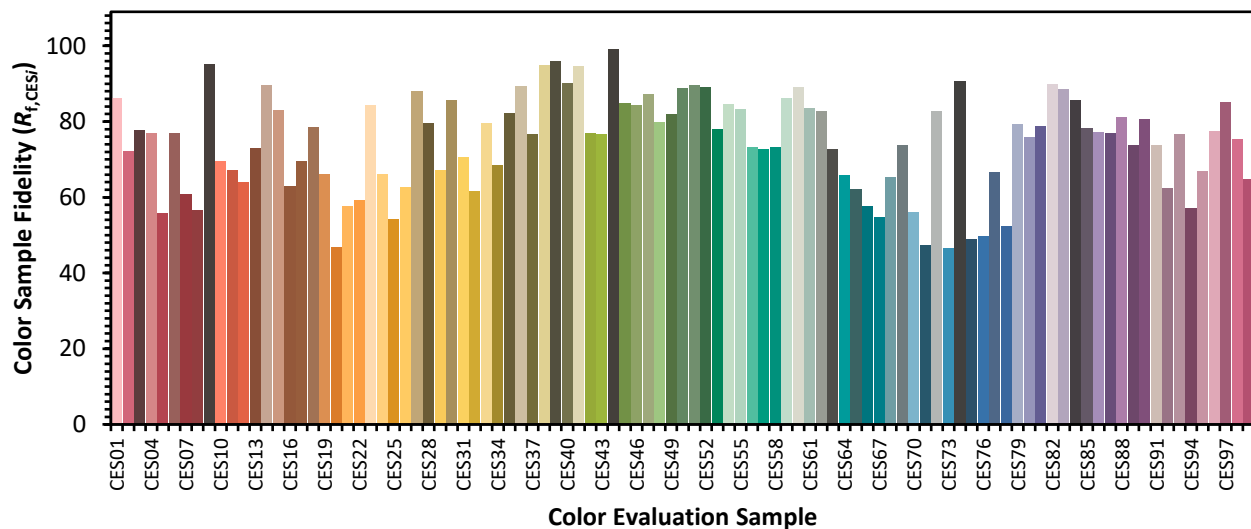


**Color Vector Graphics**



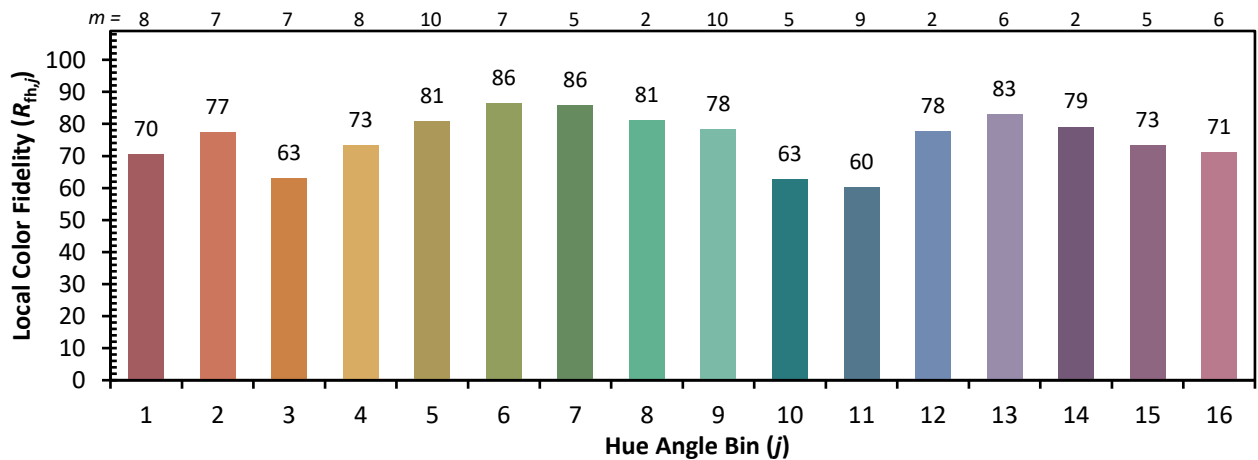
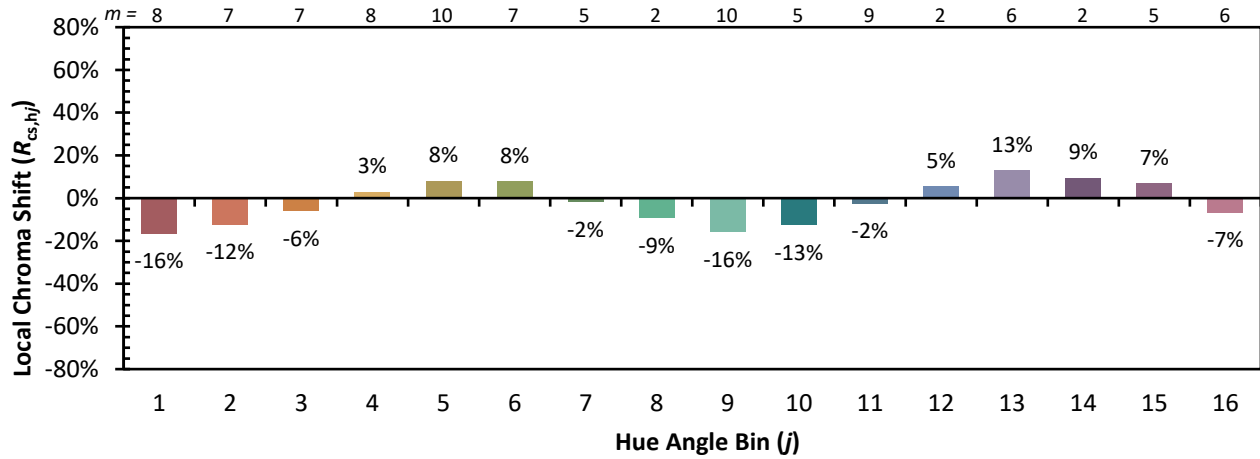
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 85	CES26 = 63	CES51 = 90	CES76 = 50
CES02 = 59	CES27 = 88	CES52 = 89	CES77 = 67
CES03 = 30	CES28 = 80	CES53 = 78	CES78 = 52
CES04 = 69	CES29 = 67	CES54 = 85	CES79 = 79
CES05 = 46	CES30 = 86	CES55 = 83	CES80 = 76
CES06 = 50	CES31 = 70	CES56 = 73	CES81 = 79
CES07 = 39	CES32 = 62	CES57 = 73	CES82 = 90
CES08 = 38	CES33 = 80	CES58 = 73	CES83 = 89
CES09 = 29	CES34 = 69	CES59 = 86	CES84 = 86
CES10 = 72	CES35 = 82	CES60 = 89	CES85 = 78
CES11 = 55	CES36 = 89	CES61 = 83	CES86 = 77
CES12 = 61	CES37 = 77	CES62 = 83	CES87 = 77
CES13 = 41	CES38 = 95	CES63 = 73	CES88 = 81
CES14 = 74	CES39 = 96	CES64 = 66	CES89 = 74
CES15 = 70	CES40 = 90	CES65 = 62	CES90 = 81
CES16 = 46	CES41 = 95	CES66 = 58	CES91 = 74
CES17 = 49	CES42 = 77	CES67 = 55	CES92 = 62
CES18 = 55	CES43 = 77	CES68 = 65	CES93 = 77
CES19 = 71	CES44 = 99	CES69 = 74	CES94 = 57
CES20 = 64	CES45 = 85	CES70 = 56	CES95 = 67
CES21 = 85	CES46 = 84	CES71 = 47	CES96 = 77
CES22 = 77	CES47 = 87	CES72 = 83	CES97 = 85
CES23 = 91	CES48 = 80	CES73 = 46	CES98 = 75
CES24 = 90	CES49 = 82	CES74 = 91	CES99 = 65
CES25 = 71	CES50 = 89	CES75 = 49	





Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)