

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: INVUE

Report Number: P880153

Luminaire Tested: **EMM2-HTN-VA6-730-U-RW**

Issue Date: 10/01/2024



Test Information

Test Method: LM-79-08
Report Number: P880153
Test Lab: INNOVATION CENTER(G3)
Issue Date: 10/01/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: EMM2-HTN-VA6-730-U-RW
Description: EPIC MODERN TALL HOUSING 6W 70CRI 3000K VISUAL COMFORT FIXTURE w/
RECTANGULAR WIDE DISTRIBUTION OPTIC
Light Source: (1) 3000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

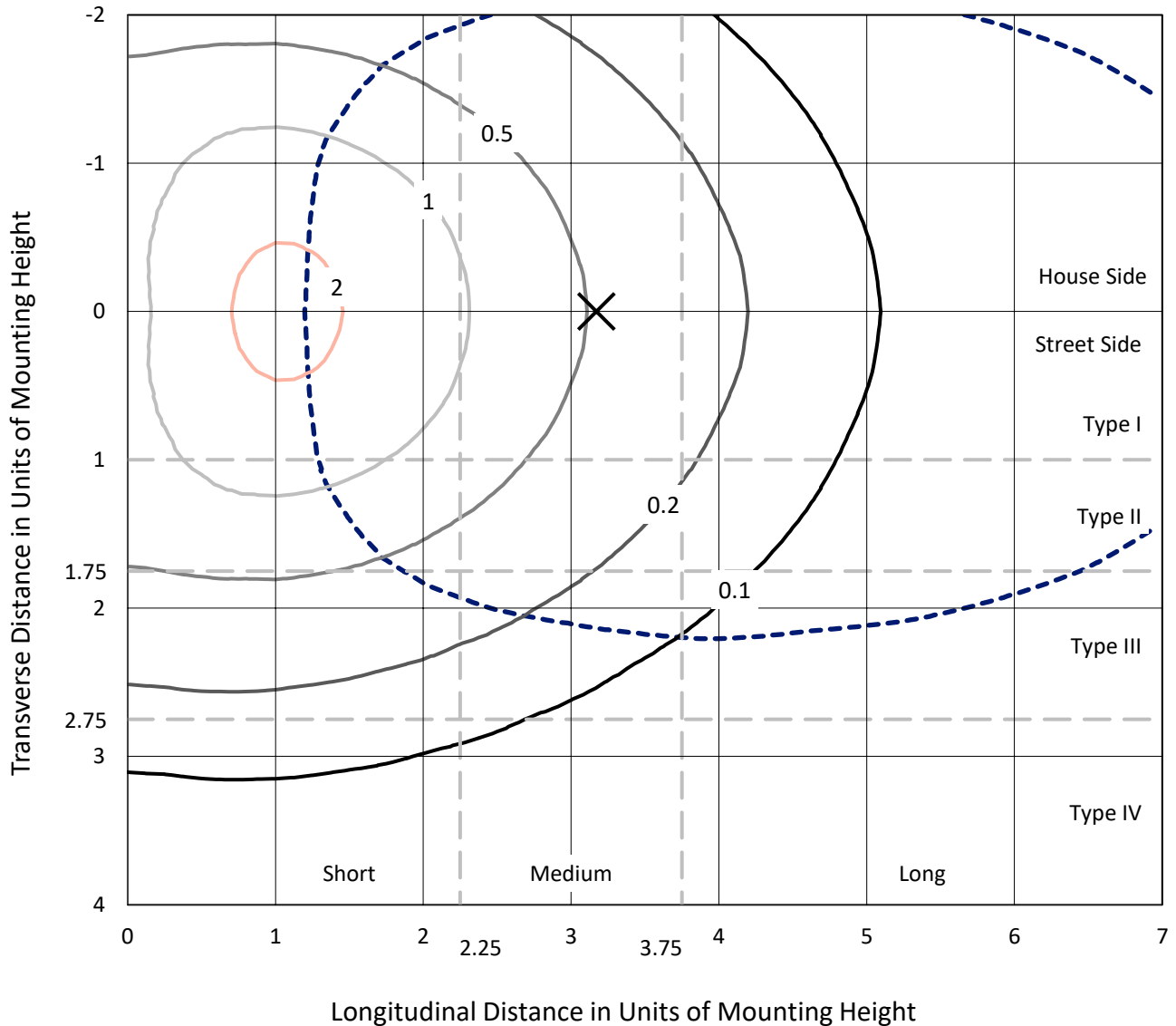
Lumens per Lamp: N/A
Luminaire Lumens: 7376.5 lumens
Efficiency: N/A
Efficacy: 69.6 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G3

Input Watts (W): 106
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 5%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

REPORT NUMBER: P880153
 CATALOG NUMBER: EMM2-HTN-VA6-730-U-RW

Iso-Footcandle Lines of Horizontal Illumination

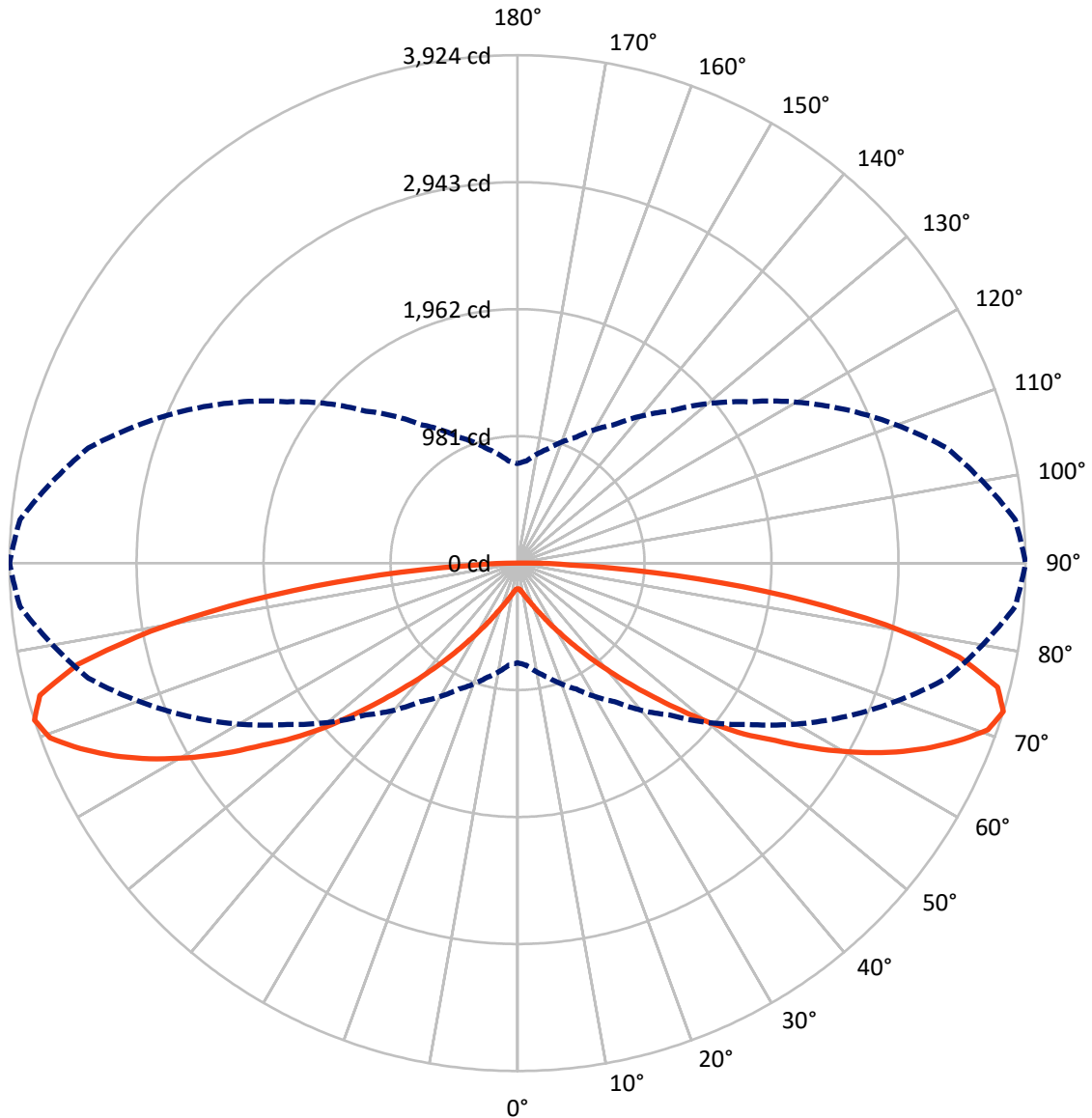
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 2.3 fc
 Type III - Short - N/A

REPORT NUMBER: P880153
CATALOG NUMBER: EMM2-HTN-VA6-730-U-RW

Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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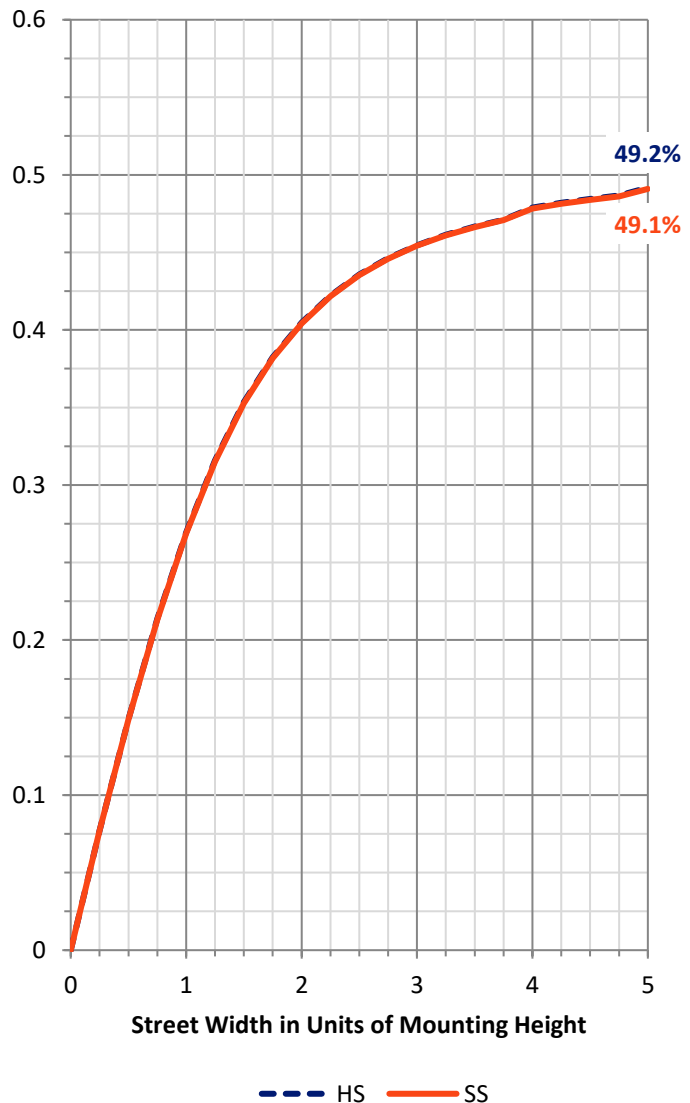
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3688.3	0.0	3688.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	3688.3	0.0	3688.3
	% Fixture	50.0	0.0	50.0
Total	Lumens	7376.5	0.0	7376.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.3	0.3
10°-20°	75.5	1.0
20°-30°	174.4	2.4
30°-40°	373.8	5.1
40°-50°	771.9	10.5
50°-60°	1417.8	19.2
60°-70°	2021.4	27.4
70°-80°	1880.3	25.5
80°-90°	641.1	8.7
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°	7376.5	100.0
0°-180°	7376.5	100.0



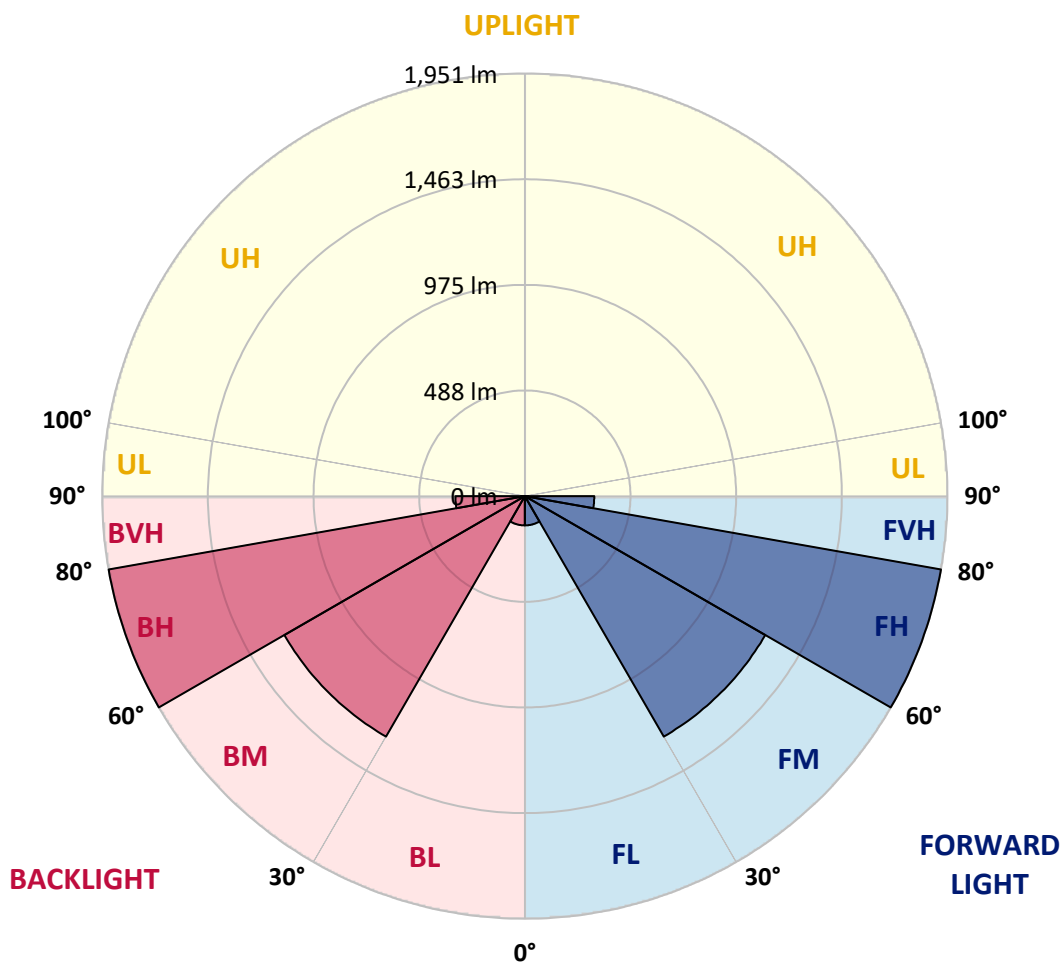
REPORT NUMBER: P880153
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	135.2	1.8			
FM (30°-60°)	1281.7	17.4			
FH (60°-80°)	1950.8	26.4			G2/5000
FVH (80°-90°)	320.6	4.3			G3/500
BL (0°-30°)	135.2	1.8	B1/500		
BM (30°-60°)	1281.7	17.4	B2/2500		
BH (60°-80°)	1950.8	26.4	B3/2500		G3/2500
BVH (80°-90°)	320.6	4.3			G3/500
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	198.5	198.5	198.5	198.5	198.5	198.5	198.5	198.5	198.5	198.5	198.5
2.5°	199.5	199.5	199.5	199.5	200.4	200.4	200.4	200.4	200.4	200.4	200.4
5°	202.3	202.3	202.3	203.2	205.1	206.0	207.0	207.0	207.9	207.9	207.9
7.5°	207.0	207.0	207.9	210.7	212.6	215.4	218.2	219.1	221.9	221.9	221.9
10°	213.5	213.5	215.4	218.2	222.9	228.5	233.2	236.9	238.8	239.7	240.7
12.5°	221.9	221.9	224.8	229.4	236.9	243.5	251.0	255.7	260.3	262.2	262.2
15°	232.2	232.2	236.0	242.5	251.0	260.3	270.6	279.1	285.6	288.4	289.4
17.5°	242.5	243.5	248.2	256.6	267.8	280.0	293.1	304.4	314.7	318.4	320.3
20°	255.7	255.7	261.3	272.5	286.6	303.4	321.2	336.2	349.3	356.8	357.7
22.5°	270.6	271.6	277.2	291.2	309.0	330.6	354.0	374.6	393.3	402.7	401.8
25°	285.6	286.6	295.0	311.8	334.3	364.3	394.3	421.4	446.7	457.9	457.9
27.5°	303.4	304.4	314.7	334.3	364.3	401.8	441.1	480.4	505.7	522.6	528.2
30°	325.0	325.9	338.1	363.4	398.0	444.8	497.3	547.8	581.6	605.9	606.8
32.5°	348.4	350.2	365.2	394.3	439.2	498.2	563.8	626.5	673.3	704.2	703.3
35°	380.2	382.1	402.7	435.5	489.8	560.0	639.6	724.8	779.2	814.7	818.5
37.5°	413.0	416.7	440.1	483.2	548.8	633.1	733.3	828.8	909.3	942.1	951.5
40°	451.4	455.1	484.2	536.6	612.5	720.2	843.8	960.8	1053.5	1098.5	1105.0
42.5°	495.4	502.0	535.7	596.5	692.1	816.6	960.8	1105.0	1222.1	1281.1	1277.4
45°	558.1	563.8	606.8	675.2	782.9	926.2	1101.3	1282.0	1408.5	1476.8	1475.9
47.5°	618.1	625.6	677.1	763.2	887.8	1054.5	1260.5	1466.5	1611.7	1687.5	1700.7
50°	679.9	690.2	755.7	852.2	1000.2	1204.3	1435.6	1656.6	1832.7	1926.3	1948.8
52.5°	784.8	794.1	863.4	964.6	1122.8	1348.5	1614.5	1862.7	2057.5	2156.7	2193.2
55°	855.9	870.9	959.0	1085.4	1265.2	1504.0	1796.2	2082.7	2302.8	2400.2	2420.8
57.5°	879.4	895.3	1001.1	1157.5	1380.4	1667.9	1986.3	2293.4	2532.2	2664.3	2697.1
60°	880.3	900.0	1014.2	1183.7	1436.6	1783.1	2155.8	2520.1	2790.7	2935.9	2964.0
62.5°	910.3	932.7	1054.5	1212.7	1464.7	1836.4	2271.0	2712.1	3043.6	3190.6	3221.5
65°	944.0	970.2	1099.4	1275.5	1528.3	1893.6	2344.0	2850.7	3271.1	3442.5	3457.5
67.5°	909.3	931.8	1067.6	1250.2	1513.4	1904.8	2395.5	2936.8	3407.9	3656.0	3668.2
70°	852.2	875.6	1004.8	1171.5	1430.0	1819.6	2336.5	2936.8	3488.4	3800.2	3856.4
72.5°	768.9	792.3	914.9	1074.1	1306.4	1659.4	2172.6	2802.0	3433.1	3858.3	3923.9
75°	666.8	688.3	801.6	946.8	1150.0	1469.3	1934.8	2545.4	3217.8	3750.6	3829.3
77.5°	556.3	575.9	672.4	789.5	961.8	1245.5	1644.5	2197.0	2841.3	3387.3	3489.3
80°	437.3	457.0	531.0	622.8	761.4	978.6	1309.2	1767.1	2324.3	2781.4	2881.6
82.5°	327.8	337.1	389.6	456.1	545.0	706.1	949.6	1306.4	1723.1	2050.9	2095.8
85°	206.0	214.5	250.0	295.9	349.3	433.6	585.3	799.8	1041.4	1225.9	1228.7
87.5°	63.7	74.0	85.2	112.4	128.3	154.5	185.4	261.3	343.7	433.6	407.4
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
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Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-176-3

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-730-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-730-U-WQ

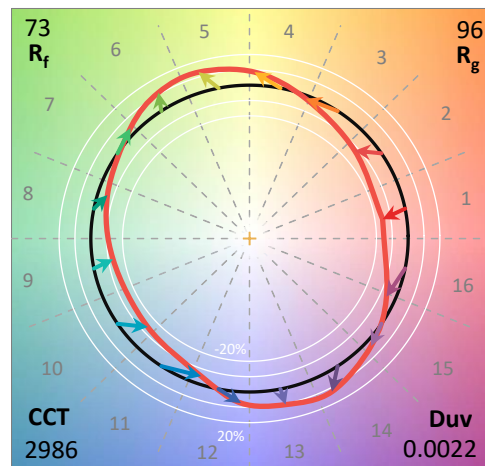
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-176-3
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 09/27/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **MEM2-HTN-VA-30-730-U-WQ**
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K): 2986
 CIE u': 0.2503
 CIE v': 0.5248
 Duv: 0.0022
 CIE x: 0.4413
 CIE y: 0.4112
 CIE z: 0.1476
 Peak Wavelength (nm): 596
 Dominant Wavelength (nm): 582
 Purity: 55.87534
 Rf: 73.2
 Rg: 95.9

CRI (Ra):	71.3		
R1:	68.5	R9:	-25.2
R2:	79.2	R10:	51.0
R3:	88.4	R11:	63.6
R4:	69.4	R12:	39.8
R5:	66.3	R13:	69.9
R6:	70.0	R14:	92.9
R7:	80.1	R15:	61.4
R8:	48.3		



Test Conditions

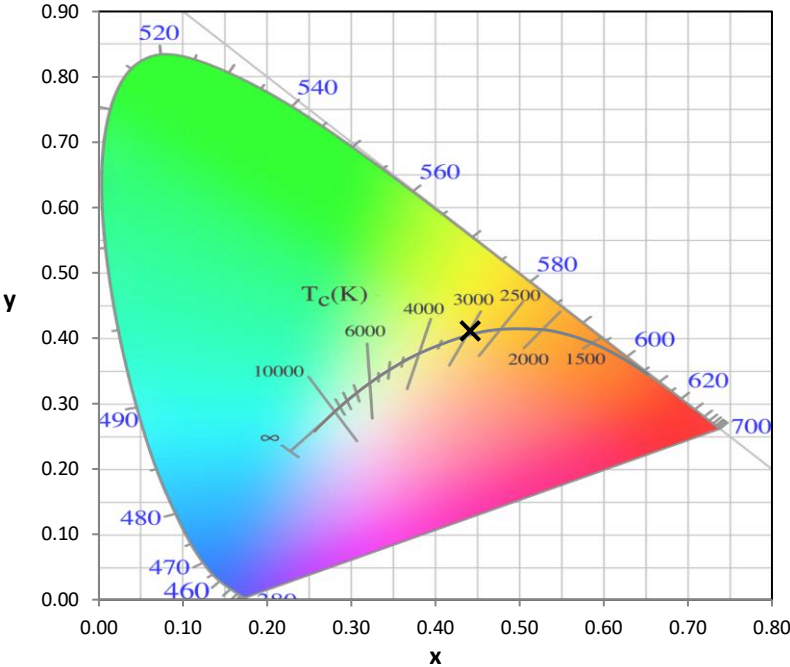
Stabilization Time: 27M
 Operation Time: 1H 27M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-176-3

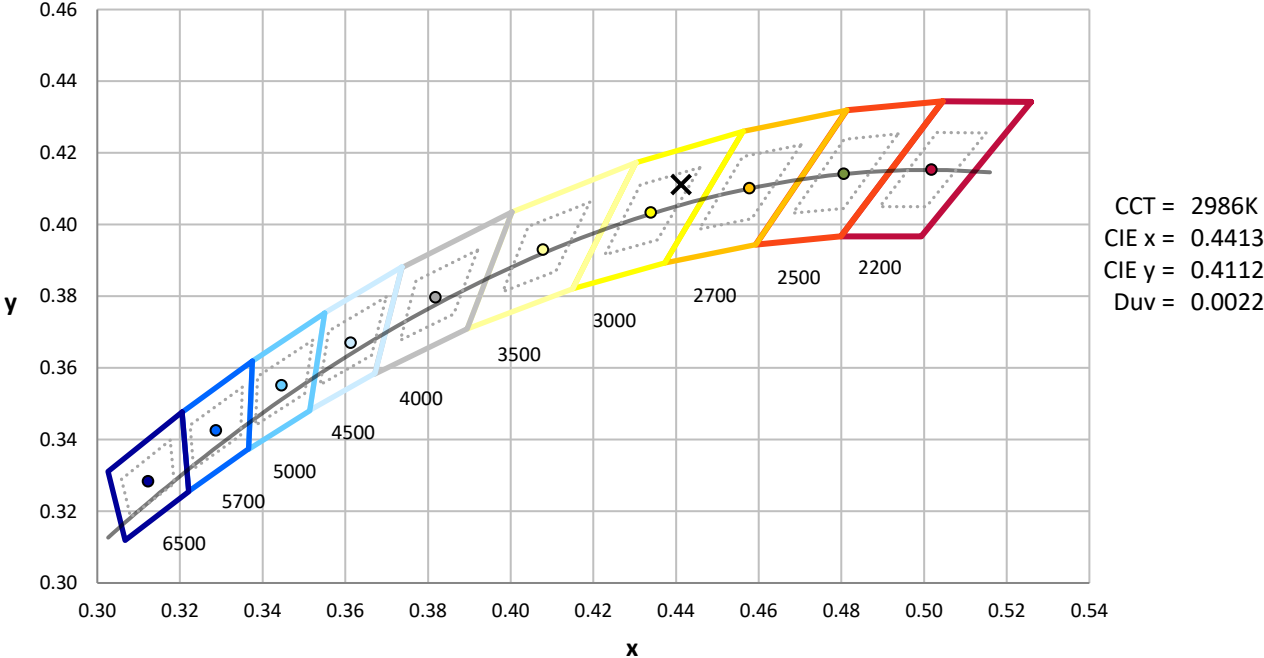
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

REPORT NUMBER: SP1-2407-176-3

CIE 1931 Chromaticity Diagram



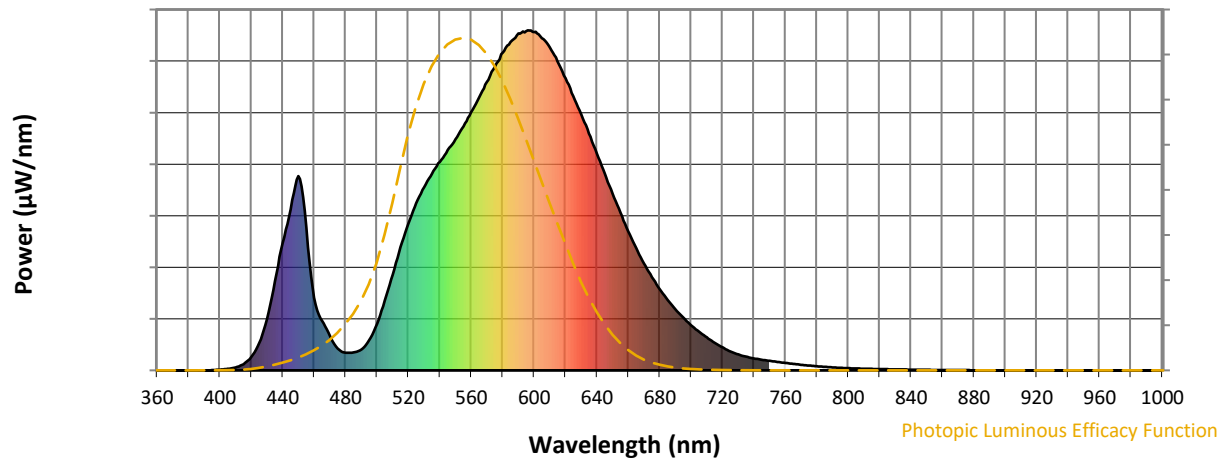
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-3

Photopic Flux vs. Wavelength

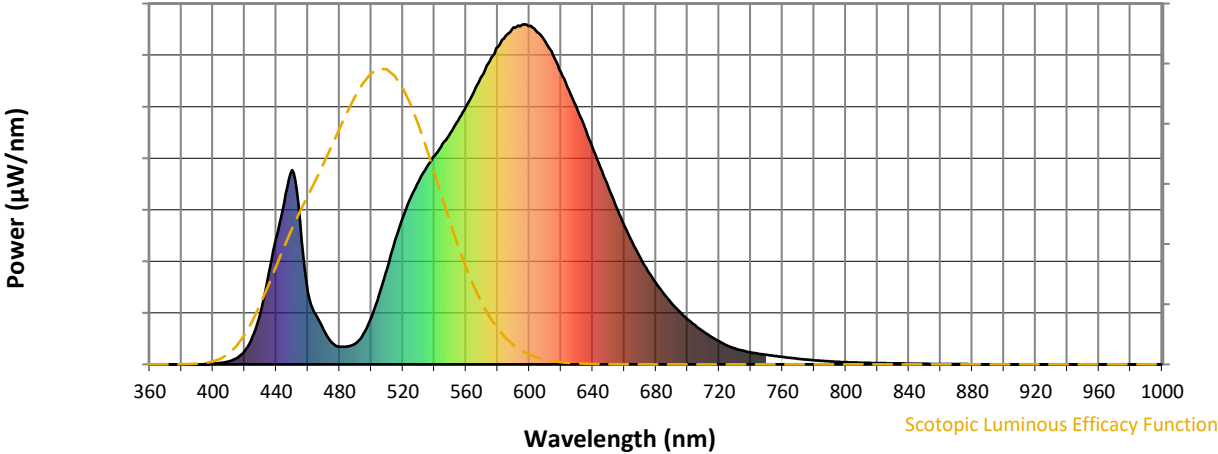


Photopic Lumens: NR

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	61	NR	620	859	NR	750	28	NR	880	0	NR
365	0	NR	495	88	NR	625	807	NR	755	25	NR	885	0	NR
370	0	NR	500	137	NR	630	753	NR	760	22	NR	890	0	NR
375	0	NR	505	205	NR	635	697	NR	765	19	NR	895	0	NR
380	0	NR	510	281	NR	640	637	NR	770	16	NR	900	0	NR
385	0	NR	515	363	NR	645	578	NR	775	14	NR	905	0	NR
390	0	NR	520	432	NR	650	520	NR	780	12	NR	910	0	NR
395	1	NR	525	492	NR	655	463	NR	785	10	NR	915	0	NR
400	2	NR	530	539	NR	660	409	NR	790	9	NR	920	0	NR
405	4	NR	535	579	NR	665	359	NR	795	8	NR	925	0	NR
410	9	NR	540	613	NR	670	315	NR	800	6	NR	930	0	NR
415	18	NR	545	648	NR	675	274	NR	805	6	NR	935	0	NR
420	39	NR	550	680	NR	680	239	NR	810	5	NR	940	0	NR
425	81	NR	555	717	NR	685	207	NR	815	4	NR	945	0	NR
430	151	NR	560	759	NR	690	180	NR	820	4	NR	950	0	NR
435	263	NR	565	803	NR	695	155	NR	825	3	NR	955	0	NR
440	375	NR	570	848	NR	700	133	NR	830	3	NR	960	0	NR
445	474	NR	575	892	NR	705	114	NR	835	3	NR	965	0	NR
450	571	NR	580	933	NR	710	97	NR	840	2	NR	970	0	NR
455	421	NR	585	966	NR	715	81	NR	845	2	NR	975	0	NR
460	214	NR	590	991	NR	720	67	NR	850	2	NR	980	0	NR
465	146	NR	595	998	NR	725	55	NR	855	1	NR	985	0	NR
470	101	NR	600	995	NR	730	47	NR	860	1	NR	990	0	NR
475	64	NR	605	977	NR	735	40	NR	865	1	NR	995	0	NR
480	52	NR	610	949	NR	740	35	NR	870	1	NR	1000	0	NR
485	53	NR	615	908	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-3

Scotopic Flux vs. Wavelength



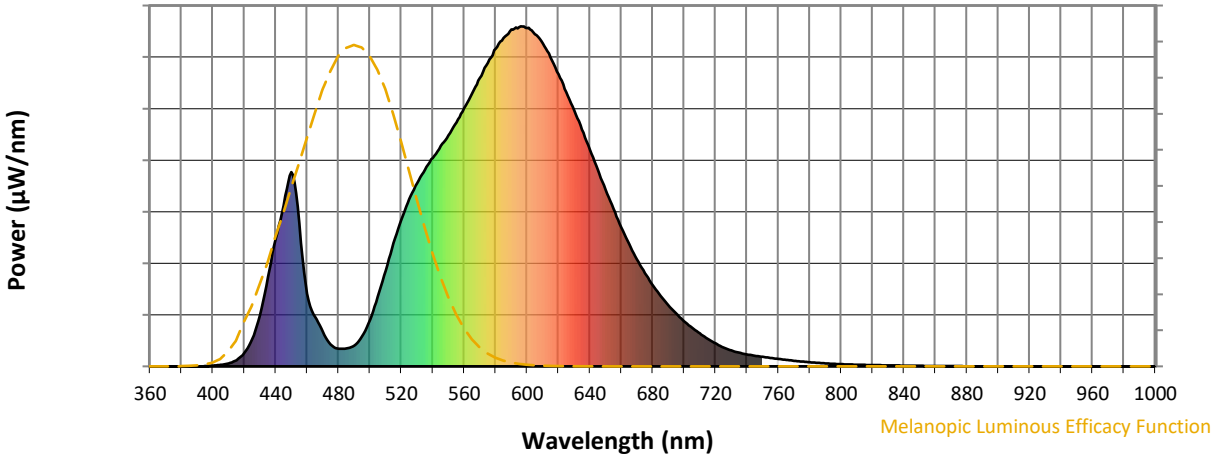
Scotopic Lumens: NR

S/P: 1.15

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	61	NR	620	859	NR	750	28	NR	880	0	NR
365	0	NR	495	88	NR	625	807	NR	755	25	NR	885	0	NR
370	0	NR	500	137	NR	630	753	NR	760	22	NR	890	0	NR
375	0	NR	505	205	NR	635	697	NR	765	19	NR	895	0	NR
380	0	NR	510	281	NR	640	637	NR	770	16	NR	900	0	NR
385	0	NR	515	363	NR	645	578	NR	775	14	NR	905	0	NR
390	0	NR	520	432	NR	650	520	NR	780	12	NR	910	0	NR
395	1	NR	525	492	NR	655	463	NR	785	10	NR	915	0	NR
400	2	NR	530	539	NR	660	409	NR	790	9	NR	920	0	NR
405	4	NR	535	579	NR	665	359	NR	795	8	NR	925	0	NR
410	9	NR	540	613	NR	670	315	NR	800	6	NR	930	0	NR
415	18	NR	545	648	NR	675	274	NR	805	6	NR	935	0	NR
420	39	NR	550	680	NR	680	239	NR	810	5	NR	940	0	NR
425	81	NR	555	717	NR	685	207	NR	815	4	NR	945	0	NR
430	151	NR	560	759	NR	690	180	NR	820	4	NR	950	0	NR
435	263	NR	565	803	NR	695	155	NR	825	3	NR	955	0	NR
440	375	NR	570	848	NR	700	133	NR	830	3	NR	960	0	NR
445	474	NR	575	892	NR	705	114	NR	835	3	NR	965	0	NR
450	571	NR	580	933	NR	710	97	NR	840	2	NR	970	0	NR
455	421	NR	585	966	NR	715	81	NR	845	2	NR	975	0	NR
460	214	NR	590	991	NR	720	67	NR	850	2	NR	980	0	NR
465	146	NR	595	998	NR	725	55	NR	855	1	NR	985	0	NR
470	101	NR	600	995	NR	730	47	NR	860	1	NR	990	0	NR
475	64	NR	605	977	NR	735	40	NR	865	1	NR	995	0	NR
480	52	NR	610	949	NR	740	35	NR	870	1	NR	1000	0	NR
485	53	NR	615	908	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-3

Melanopic Flux vs. Wavelength



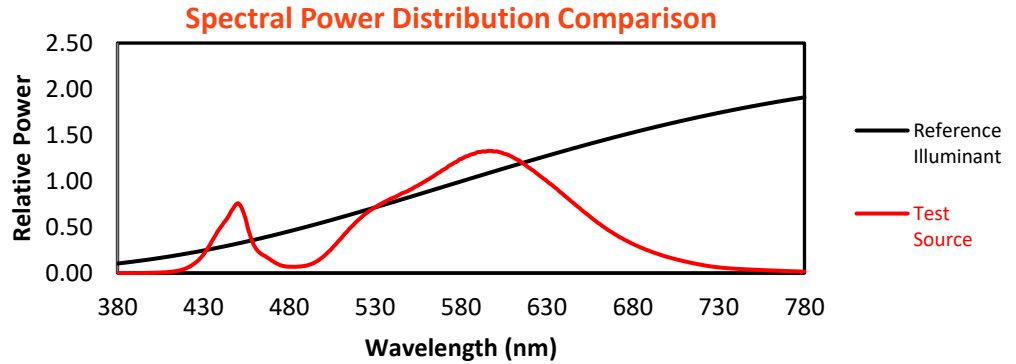
Melanopic Lumens: NR

M/P: 2.01

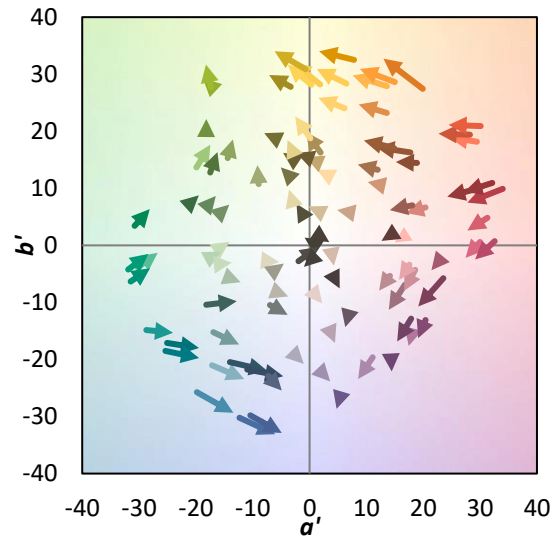
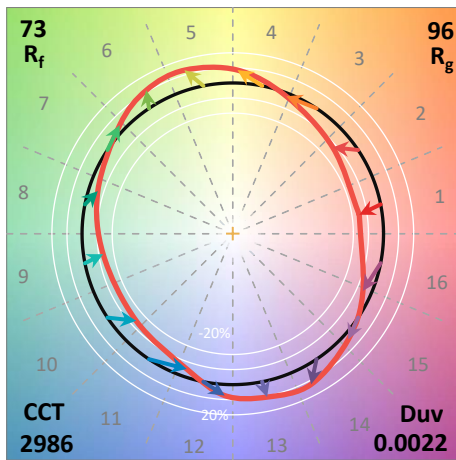
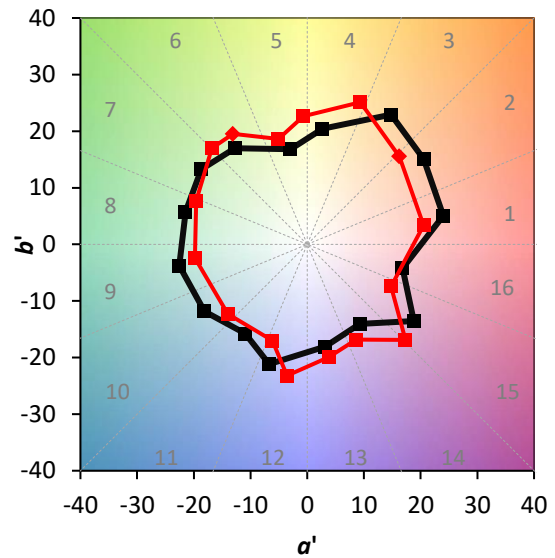
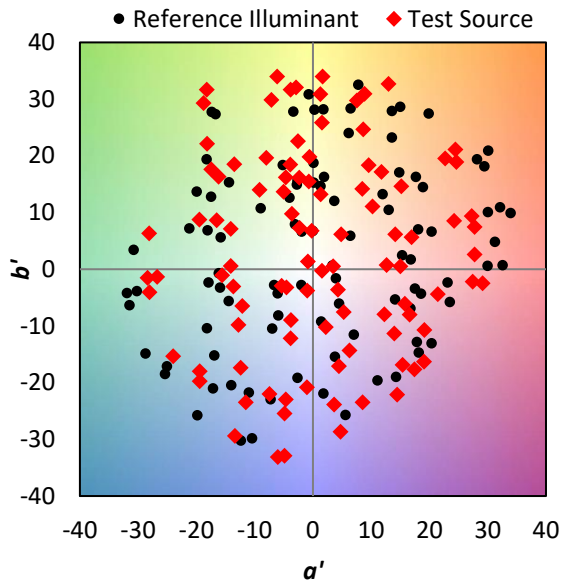
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	61	NR	620	859	NR	750	28	NR	880	0	NR
365	0	NR	495	88	NR	625	807	NR	755	25	NR	885	0	NR
370	0	NR	500	137	NR	630	753	NR	760	22	NR	890	0	NR
375	0	NR	505	205	NR	635	697	NR	765	19	NR	895	0	NR
380	0	NR	510	281	NR	640	637	NR	770	16	NR	900	0	NR
385	0	NR	515	363	NR	645	578	NR	775	14	NR	905	0	NR
390	0	NR	520	432	NR	650	520	NR	780	12	NR	910	0	NR
395	1	NR	525	492	NR	655	463	NR	785	10	NR	915	0	NR
400	2	NR	530	539	NR	660	409	NR	790	9	NR	920	0	NR
405	4	NR	535	579	NR	665	359	NR	795	8	NR	925	0	NR
410	9	NR	540	613	NR	670	315	NR	800	6	NR	930	0	NR
415	18	NR	545	648	NR	675	274	NR	805	6	NR	935	0	NR
420	39	NR	550	680	NR	680	239	NR	810	5	NR	940	0	NR
425	81	NR	555	717	NR	685	207	NR	815	4	NR	945	0	NR
430	151	NR	560	759	NR	690	180	NR	820	4	NR	950	0	NR
435	263	NR	565	803	NR	695	155	NR	825	3	NR	955	0	NR
440	375	NR	570	848	NR	700	133	NR	830	3	NR	960	0	NR
445	474	NR	575	892	NR	705	114	NR	835	3	NR	965	0	NR
450	571	NR	580	933	NR	710	97	NR	840	2	NR	970	0	NR
455	421	NR	585	966	NR	715	81	NR	845	2	NR	975	0	NR
460	214	NR	590	991	NR	720	67	NR	850	2	NR	980	0	NR
465	146	NR	595	998	NR	725	55	NR	855	1	NR	985	0	NR
470	101	NR	600	995	NR	730	47	NR	860	1	NR	990	0	NR
475	64	NR	605	977	NR	735	40	NR	865	1	NR	995	0	NR
480	52	NR	610	949	NR	740	35	NR	870	1	NR	1000	0	NR
485	53	NR	615	908	NR	745	31	NR	875	1	NR			

Summary

$R_f = 73.2$
 $R_g = 95.9$
 $CIE R_a = 71.3$
 $R_9 = -25.2$

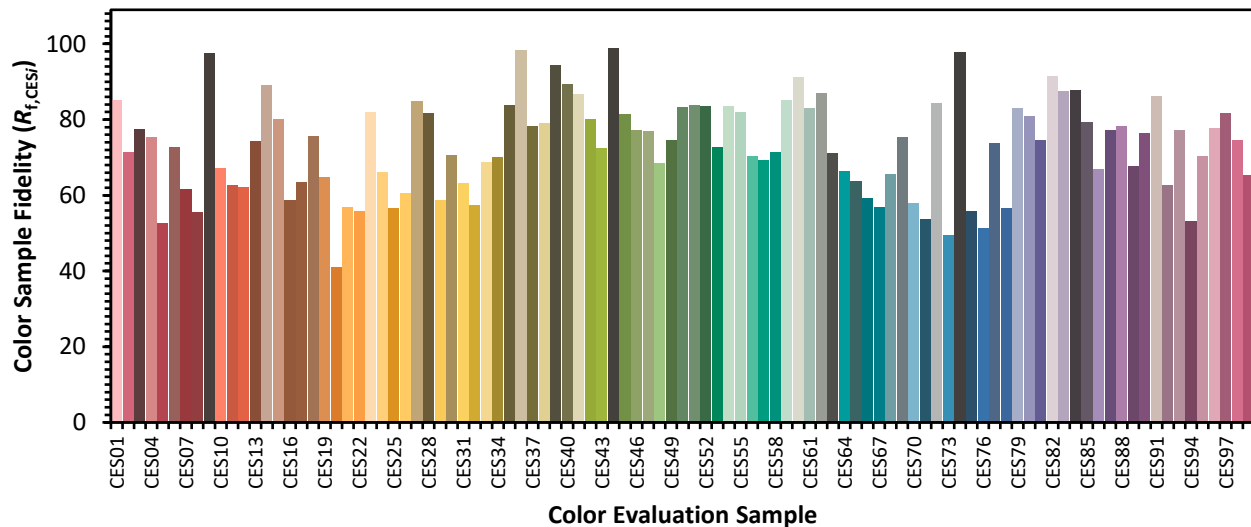


Color Vector Graphics

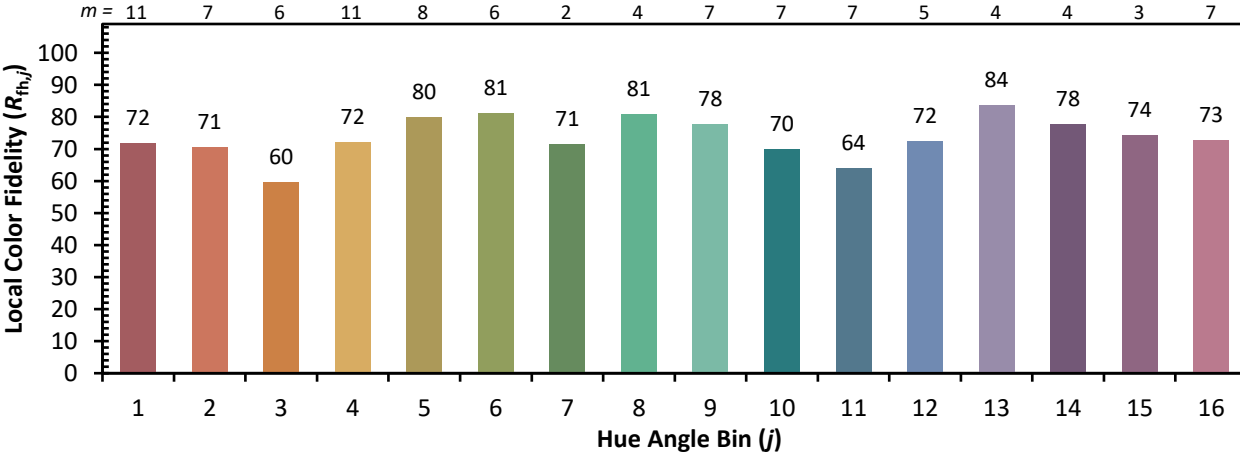
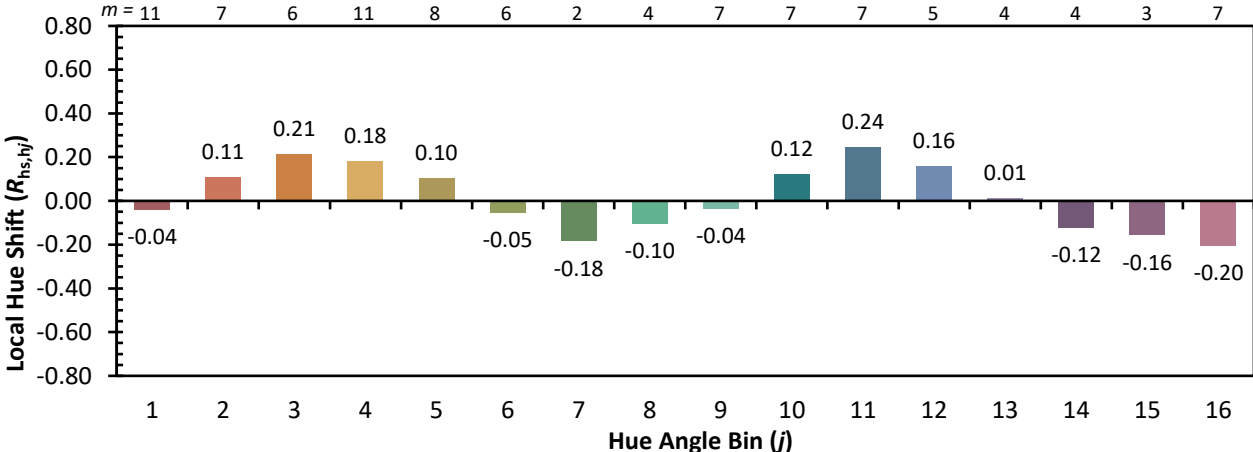
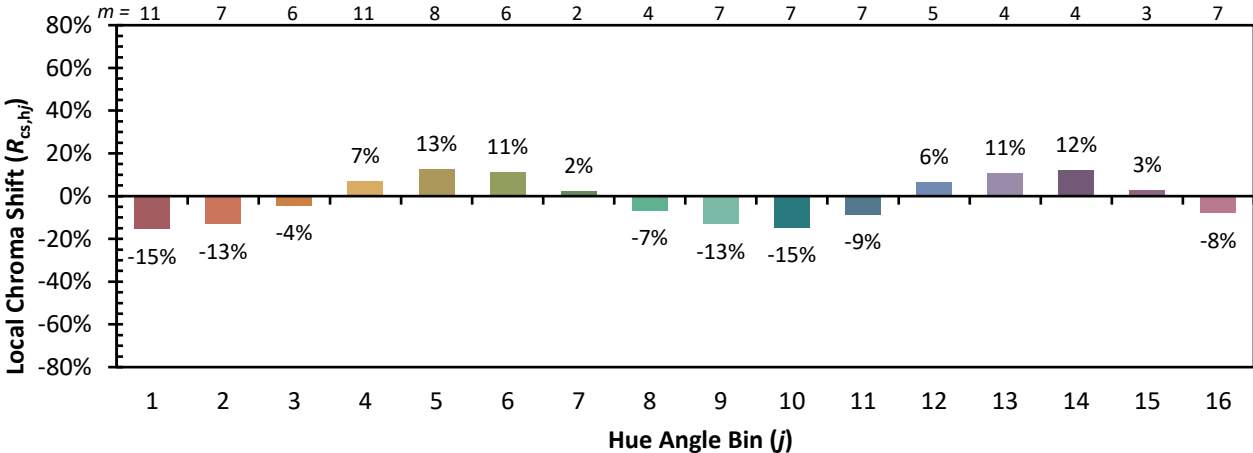


Individual Sample Fidelity Index ($R_{f,i}$)

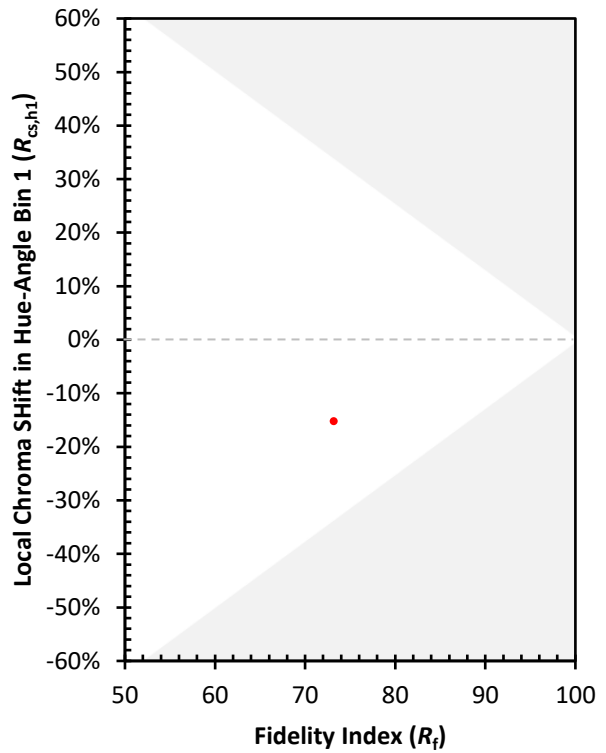
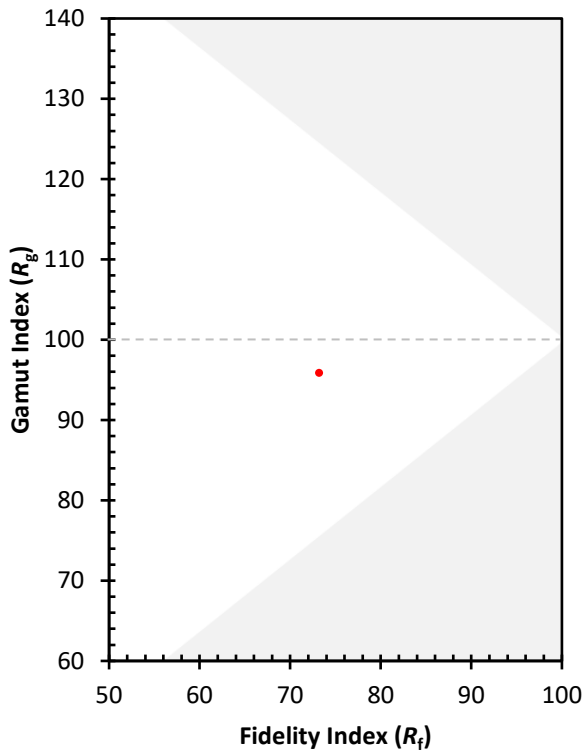
CES01 = 86	CES26 = 61	CES51 = 84	CES76 = 51
CES02 = 62	CES27 = 85	CES52 = 84	CES77 = 74
CES03 = 31	CES28 = 82	CES53 = 73	CES78 = 56
CES04 = 71	CES29 = 59	CES54 = 84	CES79 = 83
CES05 = 49	CES30 = 71	CES55 = 82	CES80 = 81
CES06 = 51	CES31 = 63	CES56 = 70	CES81 = 75
CES07 = 41	CES32 = 57	CES57 = 69	CES82 = 92
CES08 = 40	CES33 = 69	CES58 = 71	CES83 = 88
CES09 = 29	CES34 = 70	CES59 = 85	CES84 = 88
CES10 = 76	CES35 = 84	CES60 = 91	CES85 = 79
CES11 = 59	CES36 = 98	CES61 = 83	CES86 = 67
CES12 = 65	CES37 = 78	CES62 = 87	CES87 = 77
CES13 = 43	CES38 = 79	CES63 = 71	CES88 = 78
CES14 = 74	CES39 = 94	CES64 = 66	CES89 = 68
CES15 = 71	CES40 = 89	CES65 = 64	CES90 = 76
CES16 = 47	CES41 = 87	CES66 = 59	CES91 = 86
CES17 = 50	CES42 = 80	CES67 = 57	CES92 = 63
CES18 = 56	CES43 = 73	CES68 = 66	CES93 = 77
CES19 = 73	CES44 = 99	CES69 = 75	CES94 = 53
CES20 = 66	CES45 = 81	CES70 = 58	CES95 = 70
CES21 = 87	CES46 = 77	CES71 = 54	CES96 = 78
CES22 = 79	CES47 = 77	CES72 = 84	CES97 = 82
CES23 = 92	CES48 = 68	CES73 = 49	CES98 = 75
CES24 = 91	CES49 = 74	CES74 = 98	CES99 = 65
CES25 = 73	CES50 = 83	CES75 = 56	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)