

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: STREETWORKS

Report Number: P879805

Luminaire Tested: **MEM2-HTN-VA-110-740-U-RW**

Issue Date: 10/01/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P879805  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 10/01/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: MEM2-HTN-VA-110-740-U-RW  
Description: EPIC MODERN TALL HOUSING 100W 70CRI 4000K VISUAL COMFORT FIXTURE w/  
RECTANGULAR WIDE DISTRIBUTION OPTIC  
Light Source: (1) 4000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

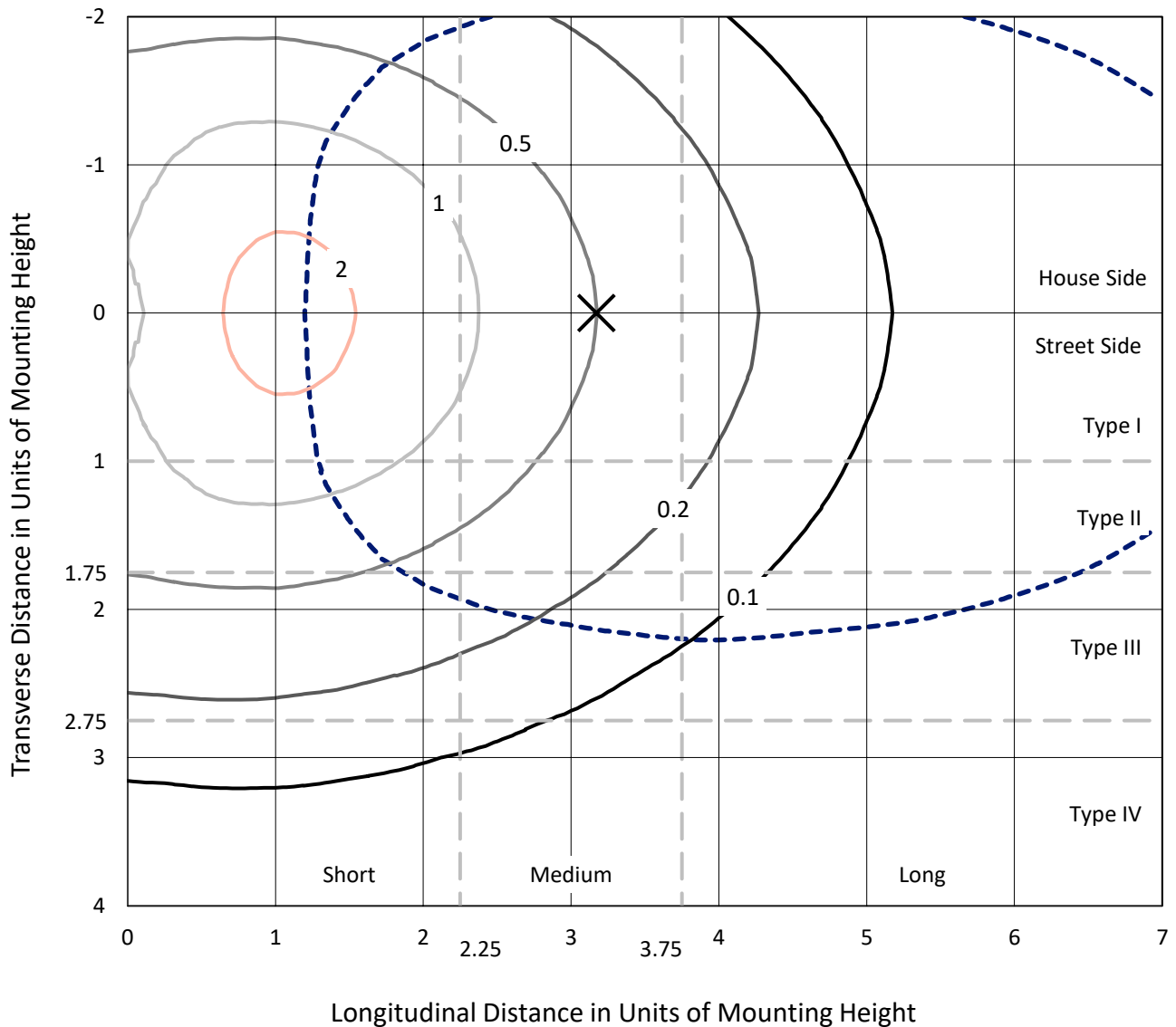
Lumens per Lamp: N/A  
Luminaire Lumens: 7805.9 lumens  
Efficiency: N/A  
Efficacy: 73.6 lumens/watt  
Luminous Opening: Circular (Dia: 1.12' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

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

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 CATALOG NUMBER: MEM2-HTN-VA-110-740-U-RW

### Iso-Footcandle Lines of Horizontal Illumination

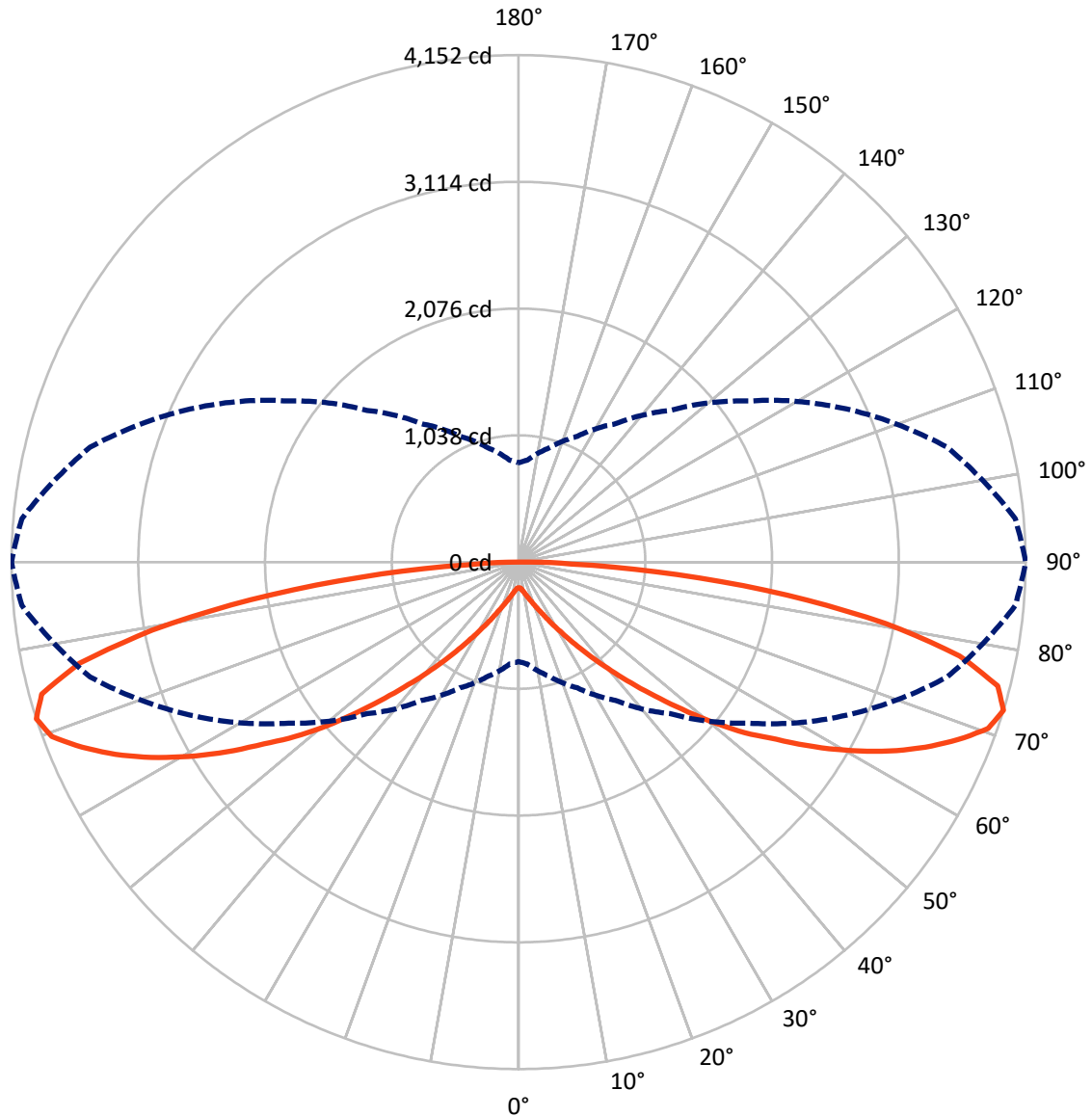
× Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 2.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



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

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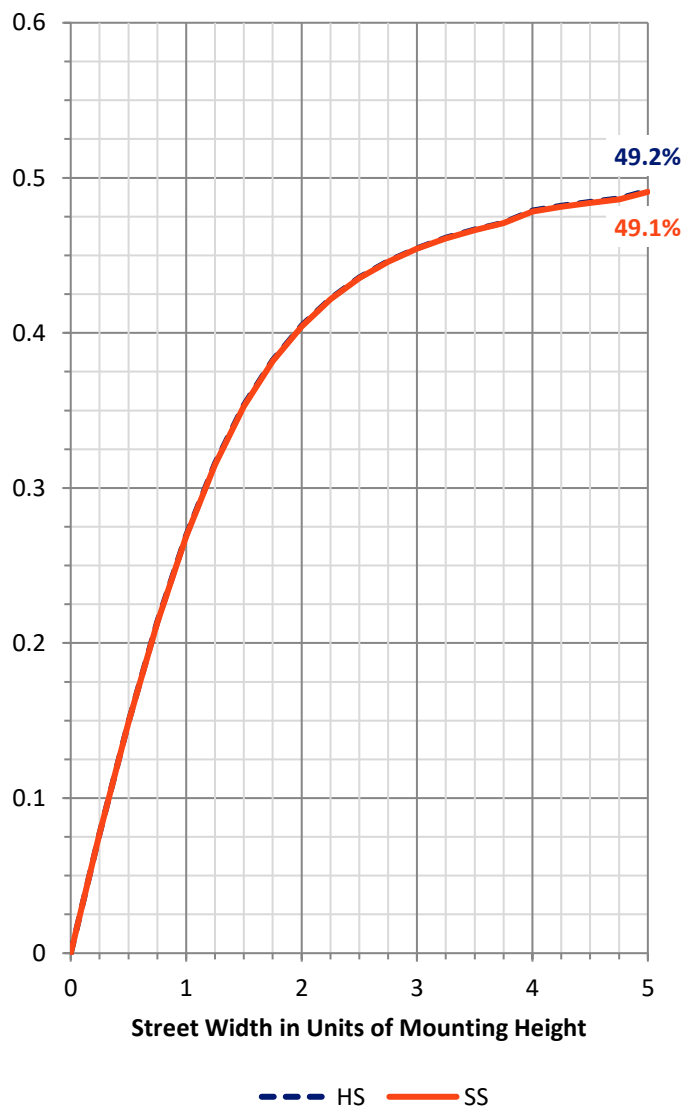
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3902.9	0.0	3902.9
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	3902.9	0.0	3902.9
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	7805.9	0.0	7805.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.5	0.3
10°-20°	79.9	1.0
20°-30°	184.6	2.4
30°-40°	395.5	5.1
40°-50°	816.8	10.5
50°-60°	1500.3	19.2
60°-70°	2139.1	27.4
70°-80°	1989.7	25.5
80°-90°	678.4	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°	7805.9	100.0
0°-180°	7805.9	100.0



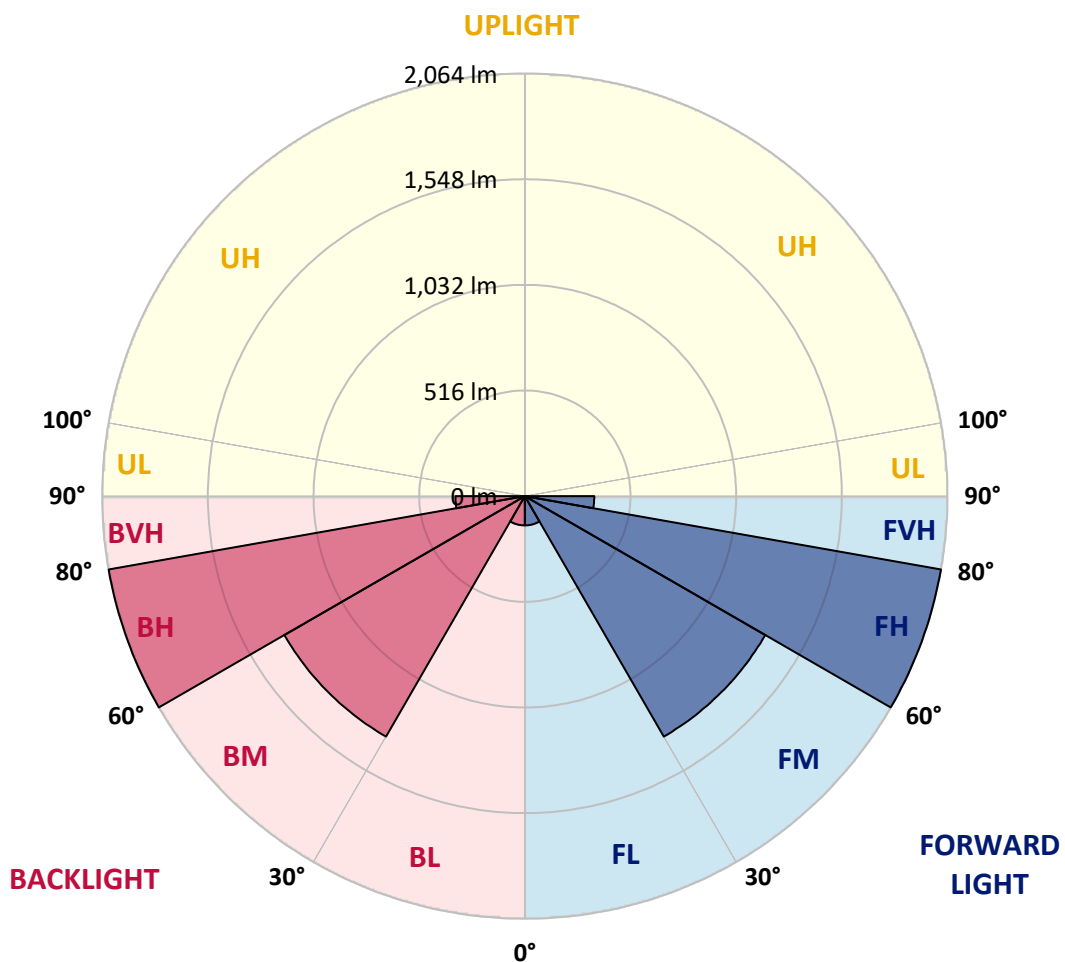
REPORT NUMBER: P879805  
 CATALOG NUMBER: MEM2-HTN-VA-110-740-U-RW

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	143.0	1.8			
FM (30°-60°)	1356.3	17.4			
FH (60°-80°)	2064.4	26.4			G2/5000
FVH (80°-90°)	339.2	4.3			G3/500
BL (0°-30°)	143.0	1.8	B1/500		
BM (30°-60°)	1356.3	17.4	B2/2500		
BH (60°-80°)	2064.4	26.4	B3/2500		G3/2500
BVH (80°-90°)	339.2	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°	210.1	210.1	210.1	210.1	210.1	210.1	210.1	210.1	210.1	210.1	210.1
2.5°	211.1	211.1	211.1	211.1	212.1	212.1	212.1	212.1	212.1	212.1	212.1
5°	214.1	214.1	214.1	215.0	217.0	218.0	219.0	219.0	220.0	220.0	220.0
7.5°	219.0	219.0	220.0	223.0	225.0	227.9	230.9	231.9	234.9	234.9	234.9
10°	225.9	225.9	227.9	230.9	235.9	241.8	246.8	250.7	252.7	253.7	254.7
12.5°	234.9	234.9	237.8	242.8	250.7	257.7	265.6	270.5	275.5	277.5	277.5
15°	245.8	245.8	249.7	256.7	265.6	275.5	286.4	295.3	302.3	305.2	306.2
17.5°	256.7	257.7	262.6	271.5	283.4	296.3	310.2	322.1	333.0	336.9	338.9
20°	270.5	270.5	276.5	288.4	303.2	321.1	339.9	355.8	369.6	377.6	378.6
22.5°	286.4	287.4	293.3	308.2	327.0	349.8	374.6	396.4	416.2	426.1	425.1
25°	302.3	303.2	312.2	330.0	353.8	385.5	417.2	445.9	472.7	484.6	484.6
27.5°	321.1	322.1	333.0	353.8	385.5	425.1	466.8	508.4	535.1	553.0	558.9
30°	343.9	344.9	357.7	384.5	421.2	470.7	526.2	579.7	615.4	641.2	642.2
32.5°	368.6	370.6	386.5	417.2	464.8	527.2	596.6	663.0	712.5	745.2	744.2
35°	402.3	404.3	426.1	460.8	518.3	592.6	676.8	767.0	824.5	862.2	866.1
37.5°	437.0	441.0	465.8	511.3	580.7	669.9	775.9	877.0	962.2	996.9	1006.8
40°	477.7	481.6	512.3	567.8	648.1	762.1	892.9	1016.8	1114.9	1162.4	1169.4
42.5°	524.2	531.2	566.8	631.3	732.3	864.1	1016.8	1169.4	1293.2	1355.7	1351.7
45°	590.6	596.6	642.2	714.5	828.5	980.1	1165.4	1356.7	1490.4	1562.8	1561.8
47.5°	654.1	662.0	716.5	807.7	939.5	1115.9	1333.9	1551.9	1705.5	1785.8	1799.6
50°	719.5	730.4	799.7	901.8	1058.4	1274.4	1519.2	1753.1	1939.4	2038.5	2062.2
52.5°	830.4	840.4	913.7	1020.7	1188.2	1427.0	1708.5	1971.1	2177.2	2282.2	2320.9
55°	905.8	921.6	1014.8	1148.6	1338.8	1591.5	1900.7	2204.0	2436.8	2539.9	2561.7
57.5°	930.5	947.4	1059.4	1224.9	1460.7	1764.9	2101.9	2426.9	2679.6	2819.4	2854.0
60°	931.5	952.3	1073.2	1252.6	1520.2	1886.8	2281.3	2666.7	2953.1	3106.7	3136.5
62.5°	963.2	987.0	1115.9	1283.3	1549.9	1943.3	2403.1	2869.9	3220.7	3376.3	3409.0
65°	998.9	1026.7	1163.4	1349.7	1617.3	2003.8	2480.4	3016.6	3461.5	3642.9	3658.7
67.5°	962.2	986.0	1129.7	1323.0	1601.4	2015.7	2534.9	3107.7	3606.2	3868.8	3881.7
70°	901.8	926.6	1063.3	1239.7	1513.2	1925.5	2472.5	3107.7	3691.4	4021.4	4080.9
72.5°	813.6	838.4	968.2	1136.7	1382.4	1756.0	2299.1	2965.0	3633.0	4082.9	4152.2
75°	705.6	728.4	848.3	1001.9	1216.9	1554.9	2047.4	2693.5	3405.0	3968.9	4052.1
77.5°	588.6	609.5	711.5	835.4	1017.7	1318.0	1740.2	2324.9	3006.7	3584.4	3692.4
80°	462.8	483.6	561.9	659.0	805.7	1035.6	1385.4	1870.0	2459.6	2943.2	3049.3
82.5°	346.8	356.8	412.3	482.6	576.8	747.2	1004.9	1382.4	1823.4	2170.3	2217.8
85°	218.0	226.9	264.6	313.2	369.6	458.8	619.4	846.3	1102.0	1297.2	1300.2
87.5°	67.4	78.3	90.2	118.9	135.8	163.5	196.2	276.5	363.7	458.8	431.1
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  
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LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-176-5

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-740-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-740-U-WQ



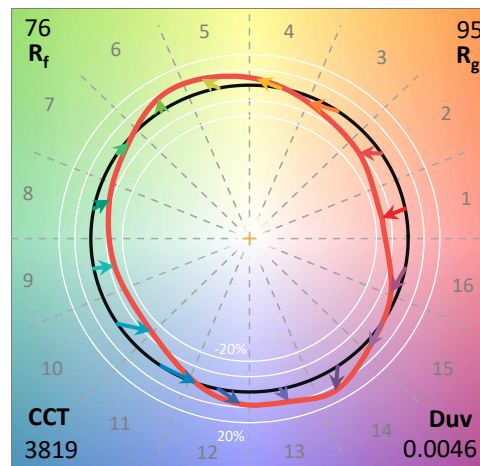
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-176-5  
 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-30-740-U-WQ**  
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

**Spectral Parameters**

CCT (K): 3819  
 CIE u': 0.2261  
 CIE v': 0.5108  
 Duv: 0.0046  
 CIE x: 0.3926  
 CIE y: 0.3942  
 CIE z: 0.2132  
 Peak Wavelength (nm): 450  
 Dominant Wavelength (nm): 577  
 Purity: 36.15483  
 Rf: 75.6  
 Rg: 94.8

CRI (Ra):	72.9		
R1:	70.1	R9:	-21.5
R2:	78.4	R10:	48.5
R3:	85.0	R11:	68.4
R4:	72.9	R12:	39.0
R5:	69.1	R13:	71.1
R6:	69.2	R14:	91.3
R7:	82.8	R15:	63.2
R8:	55.4		



**Test Conditions**

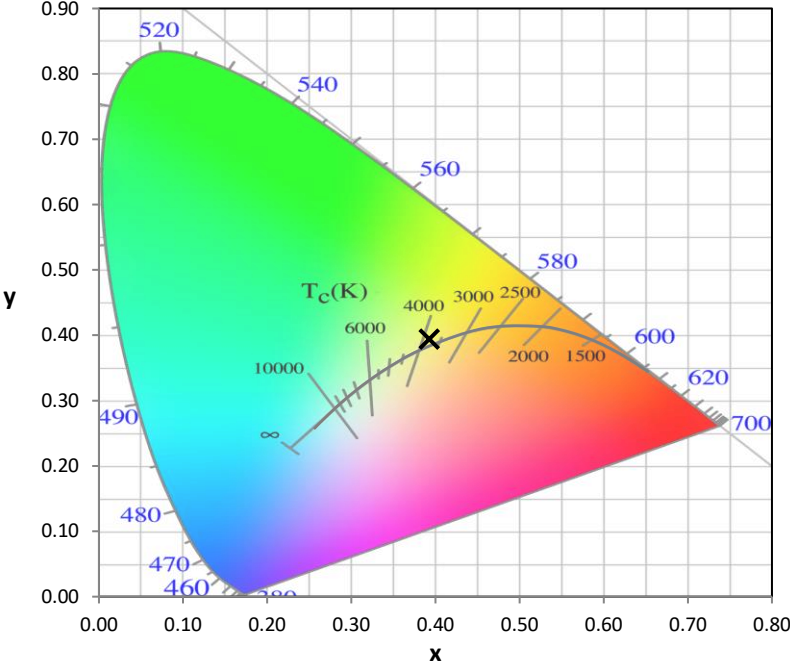
Stabilization Time: 30M  
 Operation Time: 1H 30M  
 Sphere Temperature (°C): 25.2

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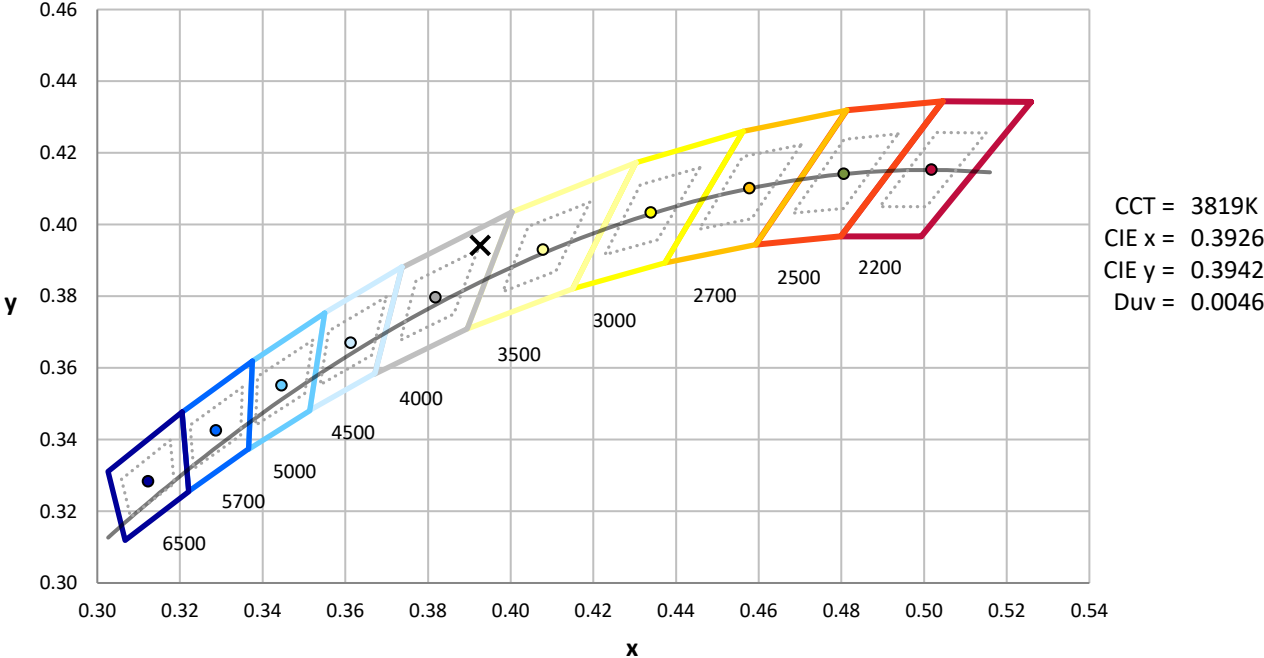
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



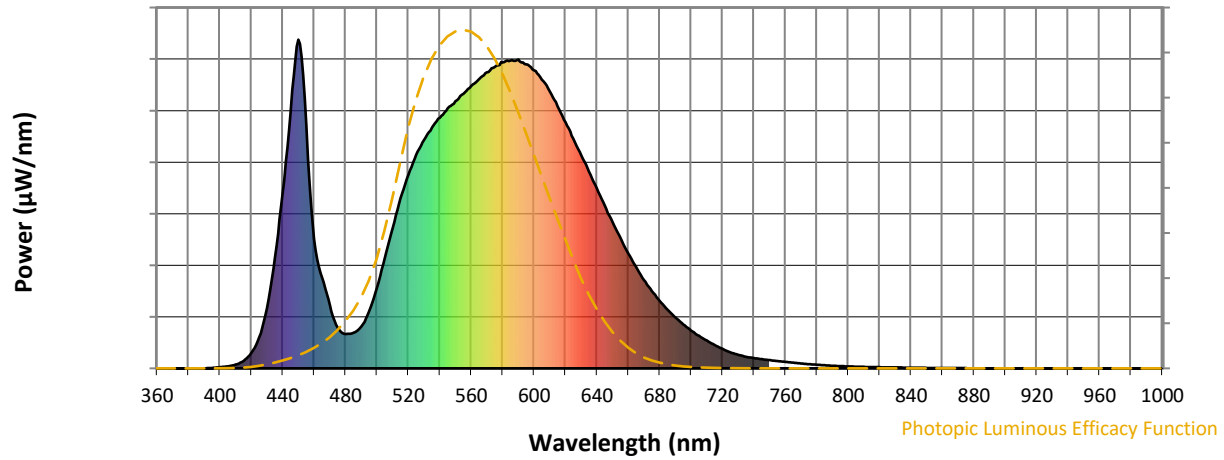
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

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**Photopic Flux vs. Wavelength**

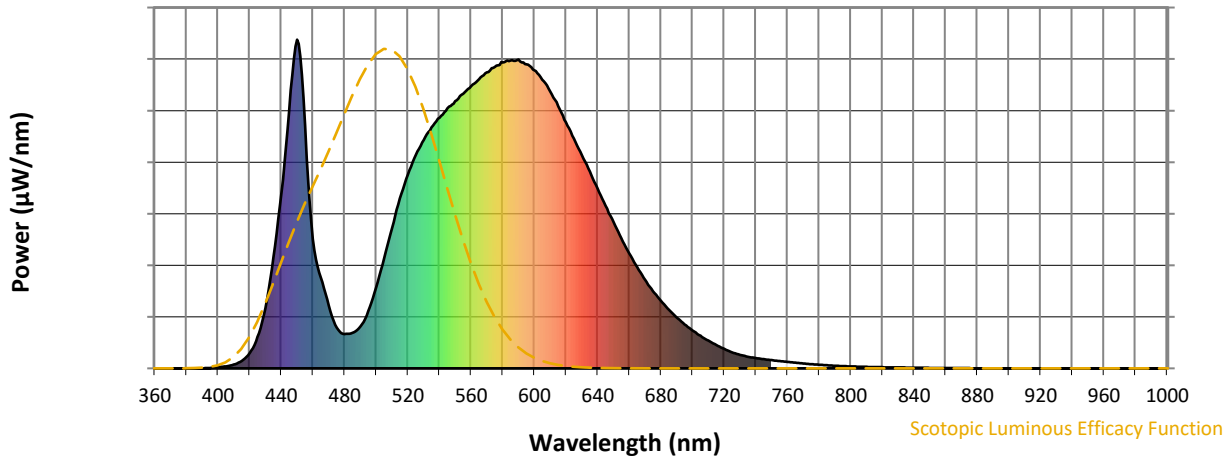


**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

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**Scotopic Flux vs. Wavelength**



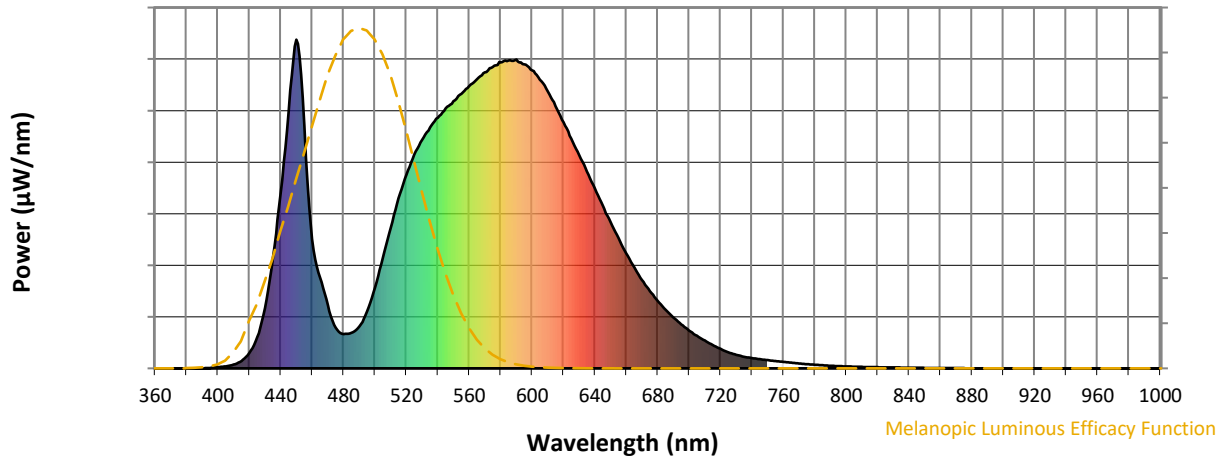
**Scotopic Lumens: NR**

**S/P: 1.45**

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



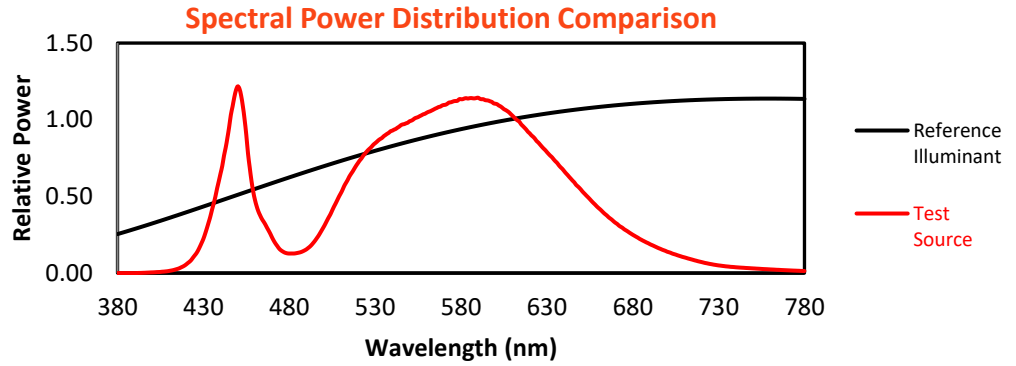
Melanopic Lumens: NR

M/P: 2.76

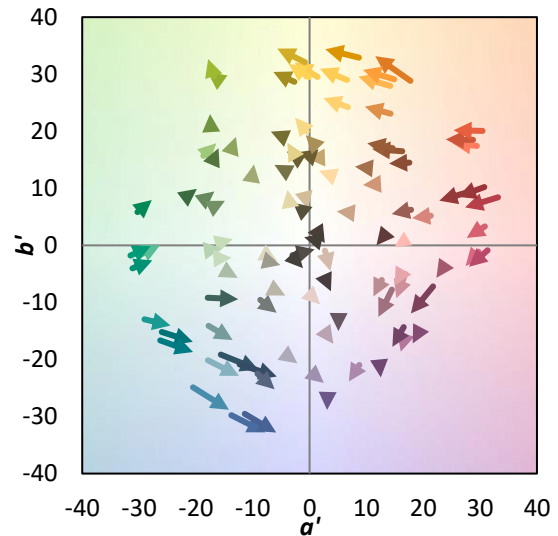
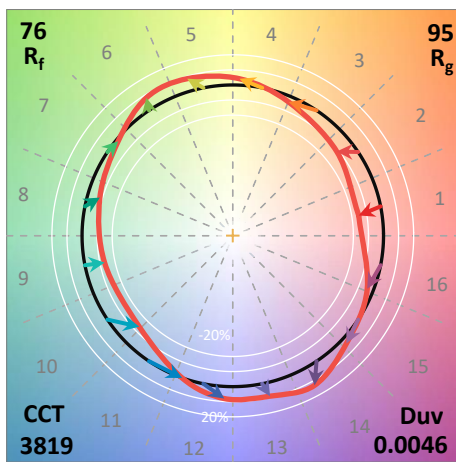
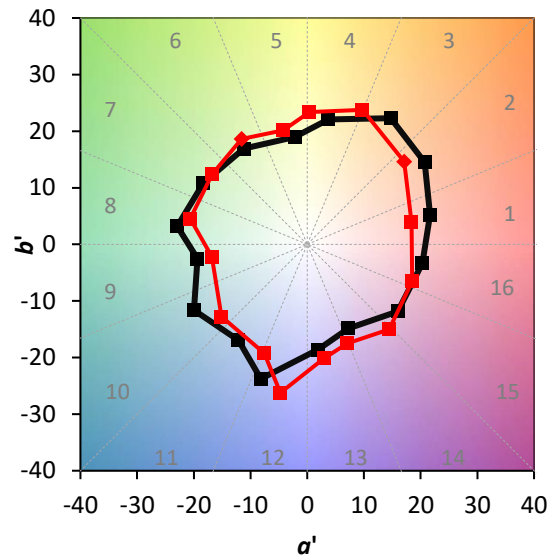
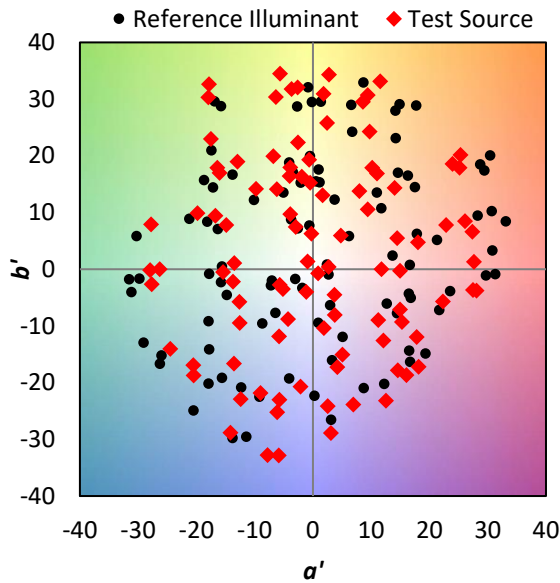
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

**Summary**

$R_f = 75.6$   
 $R_g = 94.8$   
 $CIE R_a = 72.9$   
 $R_g = -21.5$

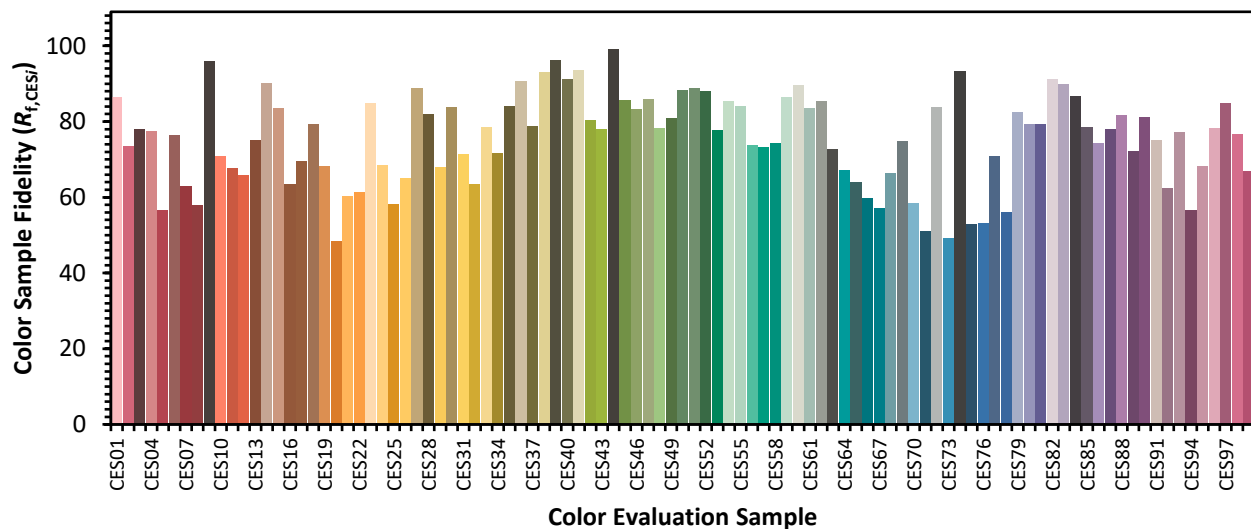


**Color Vector Graphics**



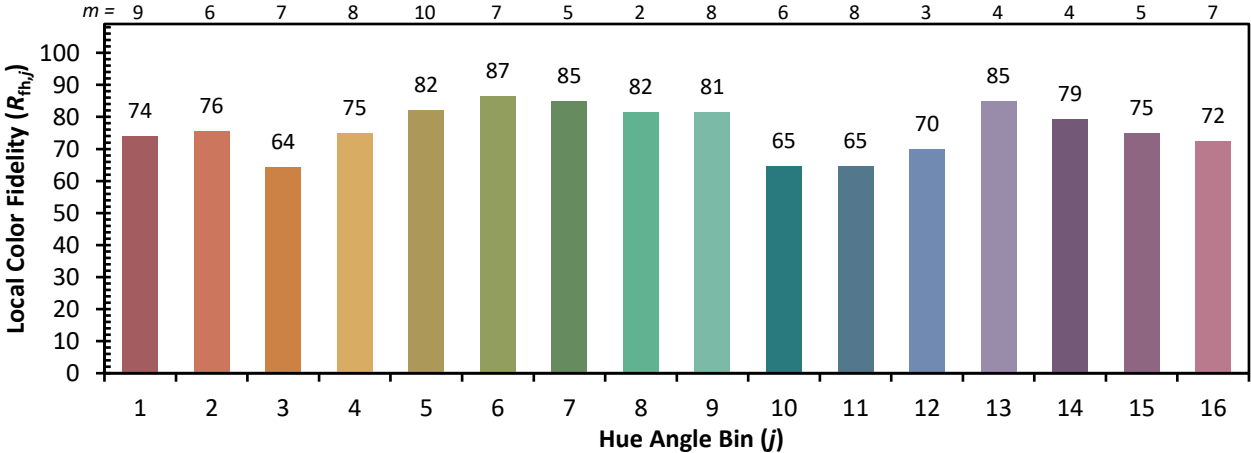
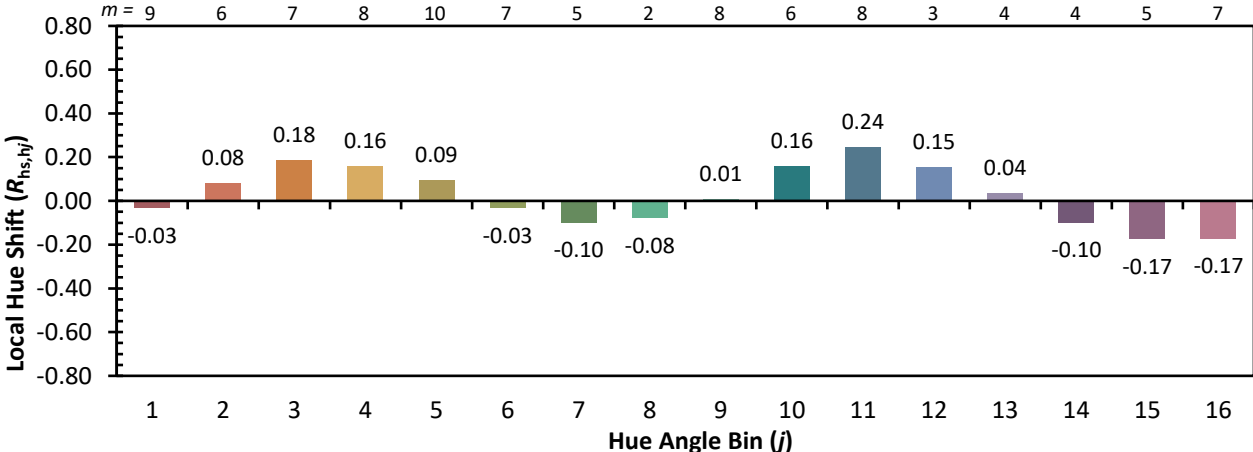
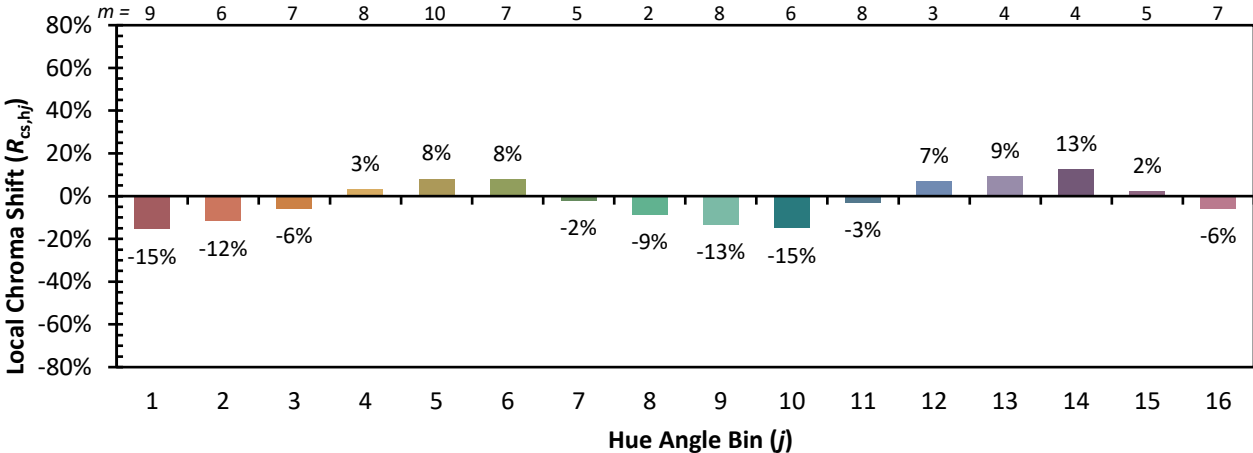
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 85	CES26 = 65	CES51 = 89	CES76 = 53
CES02 = 61	CES27 = 89	CES52 = 88	CES77 = 71
CES03 = 30	CES28 = 82	CES53 = 78	CES78 = 56
CES04 = 70	CES29 = 68	CES54 = 85	CES79 = 83
CES05 = 48	CES30 = 84	CES55 = 84	CES80 = 79
CES06 = 50	CES31 = 71	CES56 = 74	CES81 = 79
CES07 = 40	CES32 = 63	CES57 = 73	CES82 = 91
CES08 = 39	CES33 = 79	CES58 = 74	CES83 = 90
CES09 = 29	CES34 = 72	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 84	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 91	CES61 = 84	CES86 = 74
CES12 = 63	CES37 = 79	CES62 = 85	CES87 = 78
CES13 = 42	CES38 = 93	CES63 = 73	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 67	CES89 = 72
CES15 = 71	CES40 = 91	CES65 = 64	CES90 = 81
CES16 = 47	CES41 = 93	CES66 = 60	CES91 = 75
CES17 = 49	CES42 = 80	CES67 = 57	CES92 = 62
CES18 = 56	CES43 = 78	CES68 = 66	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 75	CES94 = 57
CES20 = 65	CES45 = 86	CES70 = 58	CES95 = 68
CES21 = 86	CES46 = 83	CES71 = 51	CES96 = 78
CES22 = 78	CES47 = 86	CES72 = 84	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 49	CES98 = 77
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 67
CES25 = 72	CES50 = 88	CES75 = 53	

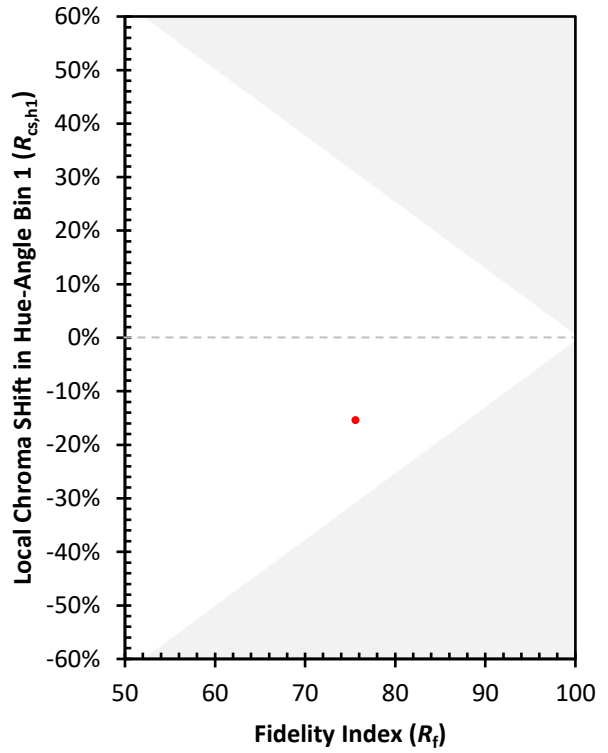
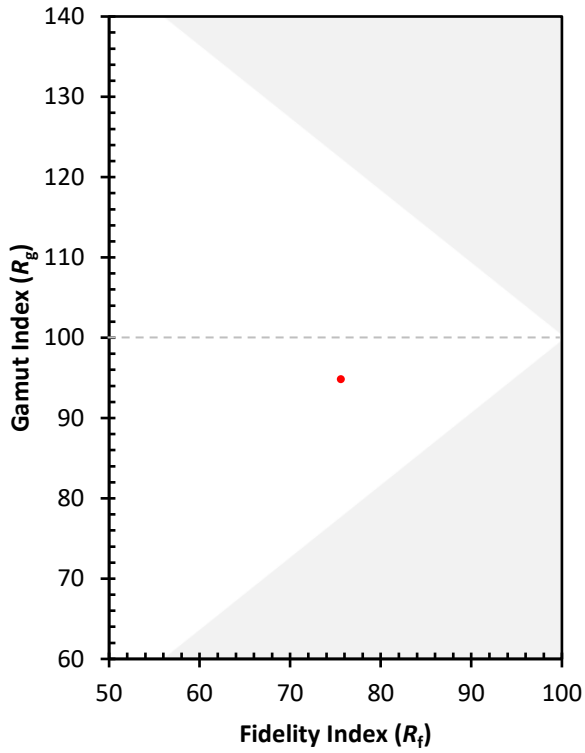




Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)