

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: P821239

Luminaire Tested: **TT-D3-740-24VDC-RW-PM**

Issue Date: 10/15/2020

Test Information

Test Method: LM-79-08
Report Number: P821239
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-981-1)
Test Lab: INNOVATION CENTER
Issue Date: 10/15/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D3-740-24VDC-RW-PM
Description: TOPTIER LED SITE LUMINAIRE
4000K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

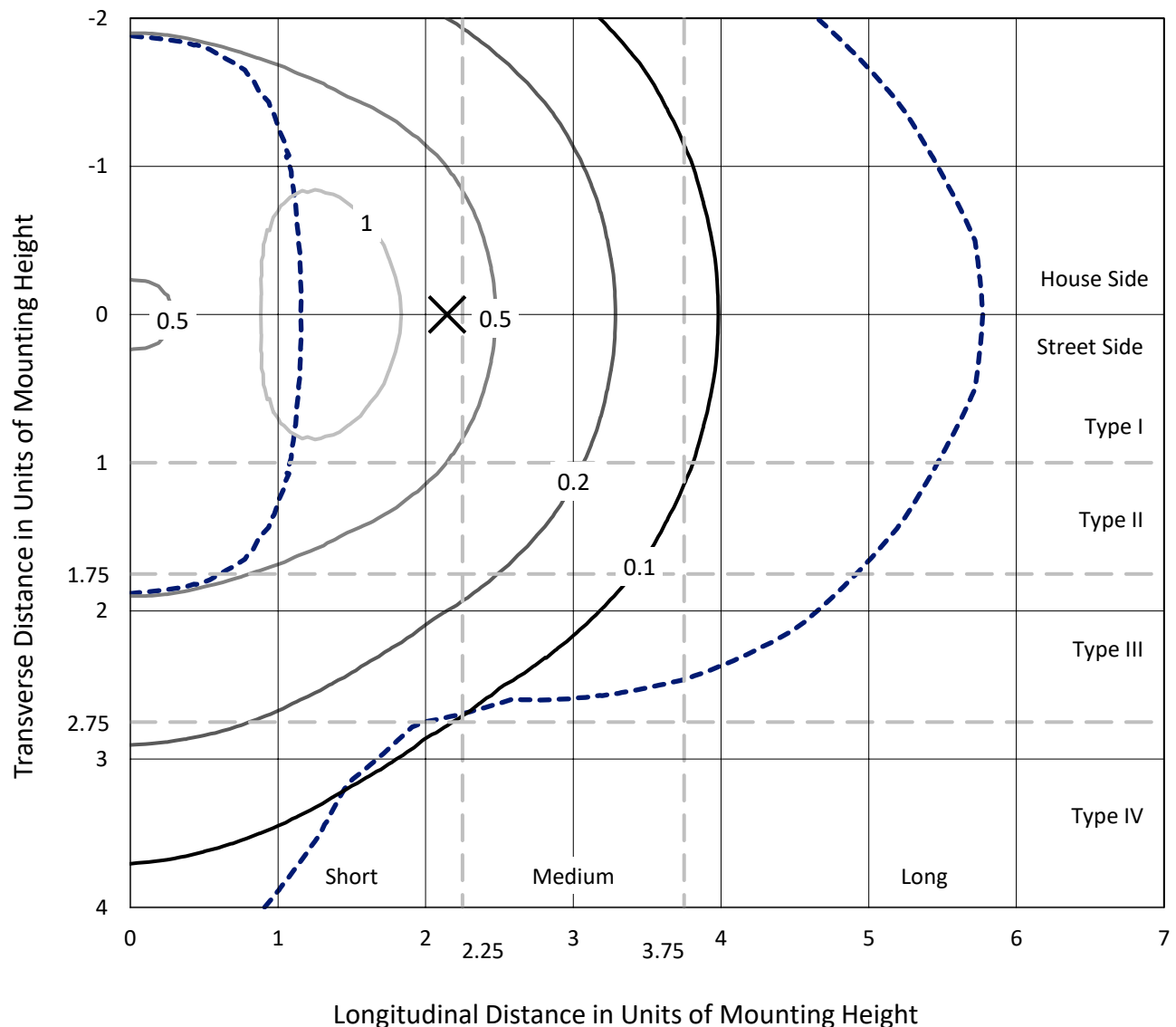
Lumens per Lamp: N/A
Luminaire Lumens: 5083 lumens
Efficiency: N/A
Efficacy: 110.5 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G3

Input Watts (W): 46
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: 25 FT

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 CATALOG NUMBER: TT-D3-740-24VDC-RW-PM

Iso-Footcandle Lines of Horizontal Illumination

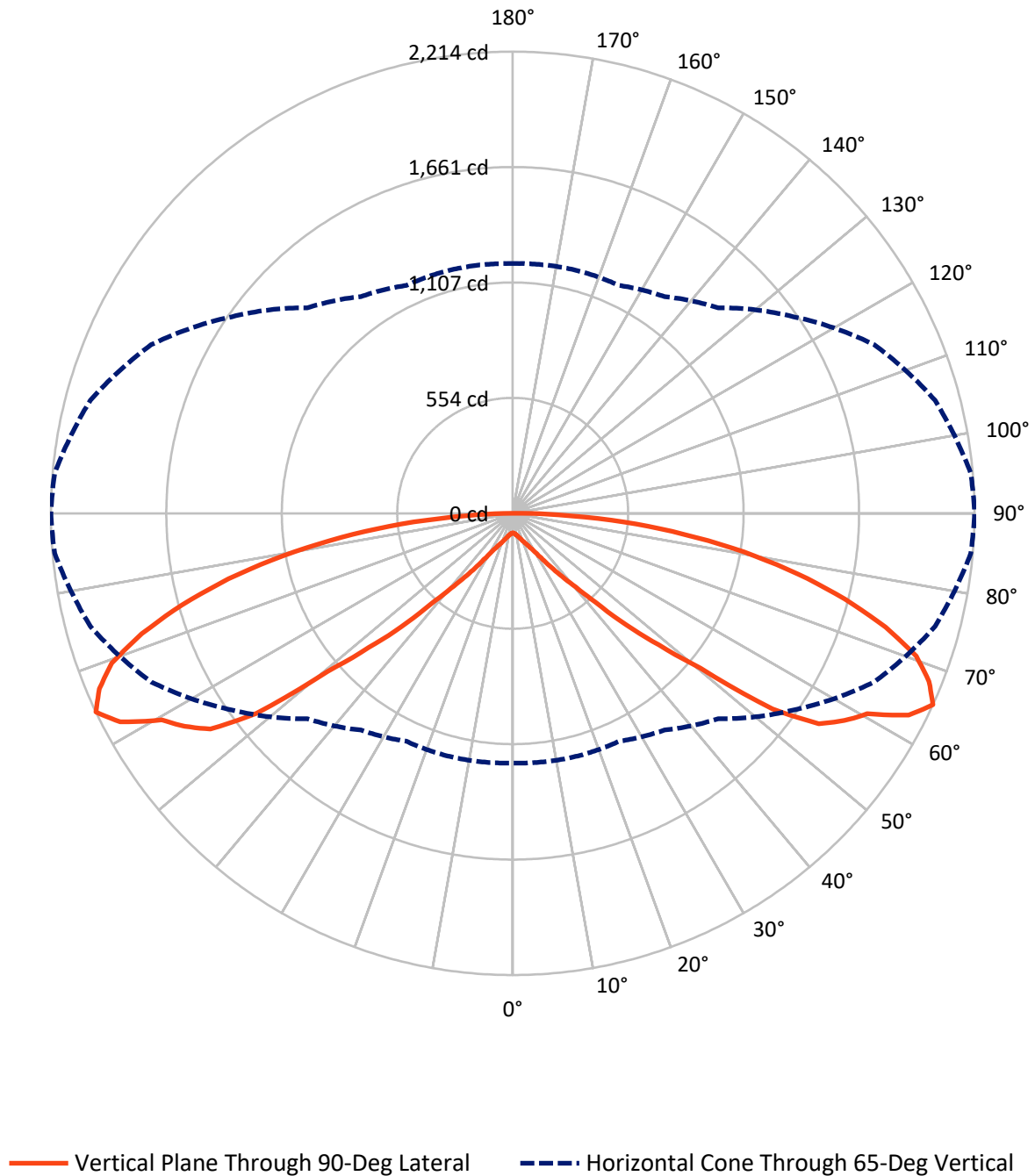
× Max cd
 --- 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.5 fc
 Type IV - Short - N/A

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CATALOG NUMBER: TT-D3-740-24VDC-RW-PM

Luminous Intensity Polar Plot



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CATALOG NUMBER: TT-D3-740-24VDC-RW-PM

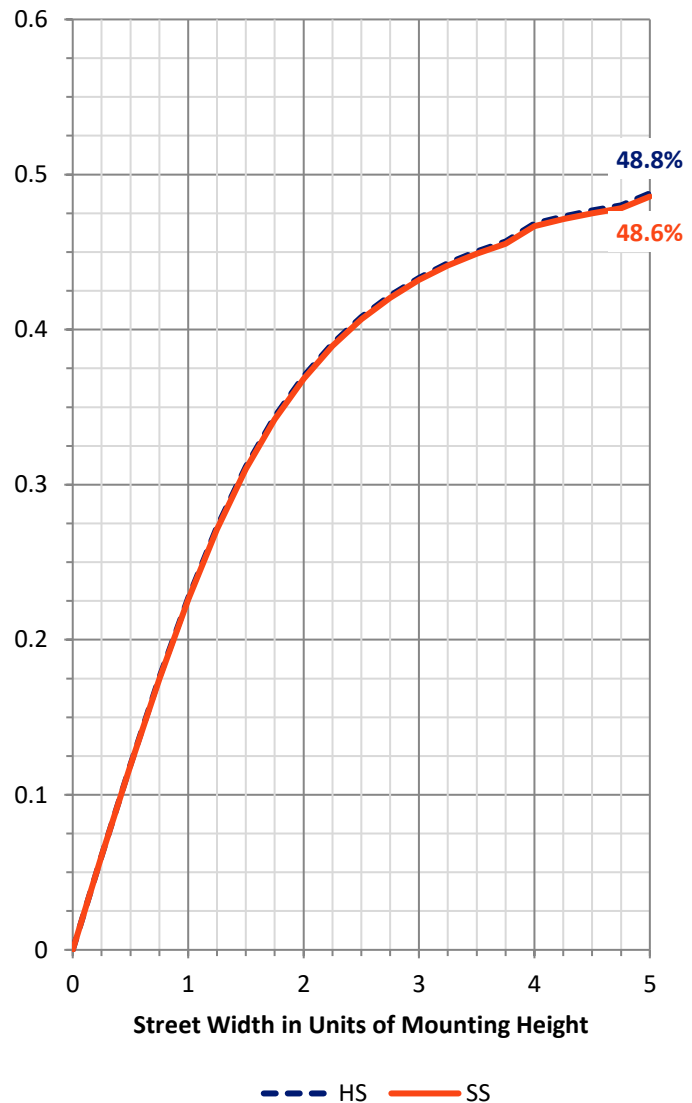
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2541.5	0.0	2541.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	2541.5	0.0	2541.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	5083.0	0.0	5083.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.7	0.2
10°-20°	36.3	0.7
20°-30°	83.8	1.6
30°-40°	189.4	3.7
40°-50°	461.3	9.1
50°-60°	1037.4	20.4
60°-70°	1516.1	29.8
70°-80°	1321.1	26.0
80°-90°	427.9	8.4
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°	5083.0	100.0
0°-180°	5083.0	100.0



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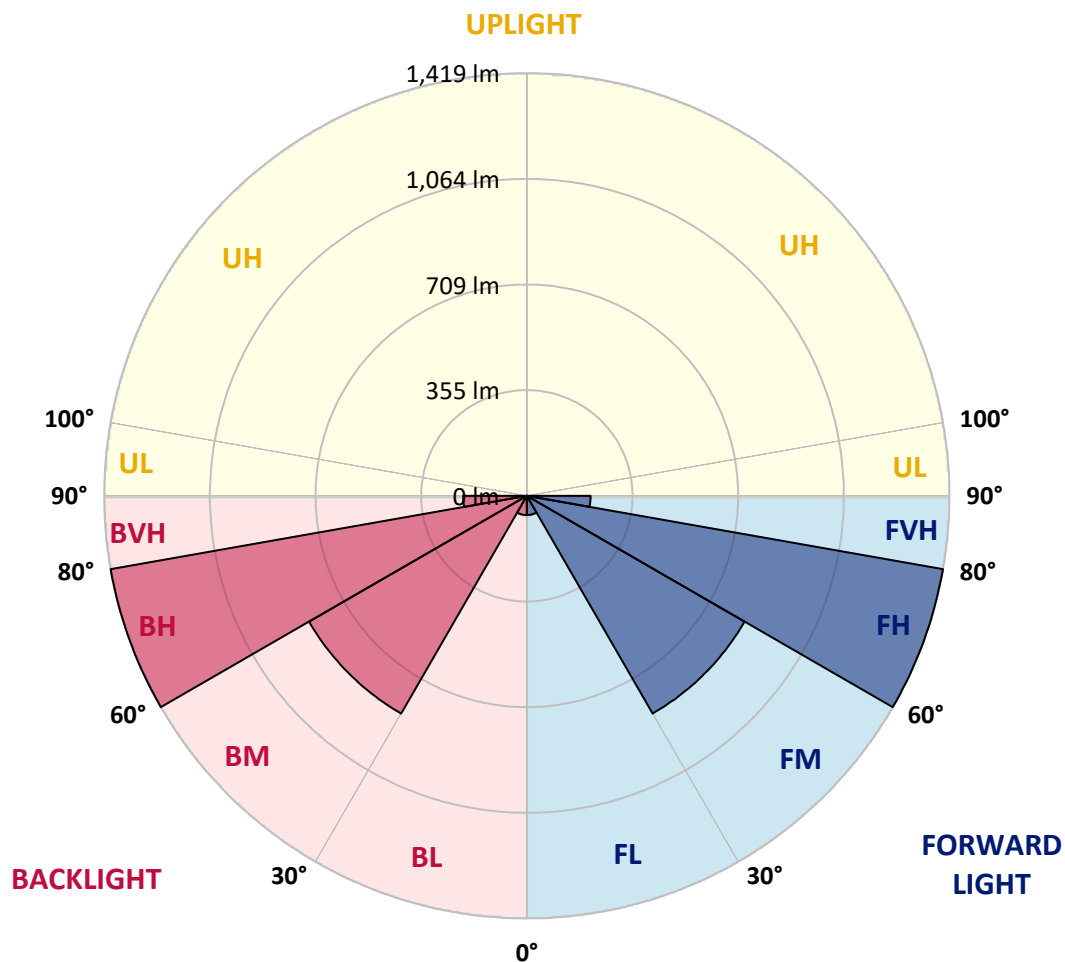
CATALOG NUMBER: TT-D3-740-24VDC-RW-PM

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	64.9	1.3			
FM	(30°-60°)	844.1	16.6			
FH	(60°-80°)	1418.6	27.9			G1/1800
FVH	(80°-90°)	214.0	4.2			G2/225
BL	(0°-30°)	64.9	1.3	B0/110		
BM	(30°-60°)	844.1	16.6	B1/1000		
BH	(60°-80°)	1418.6	27.9	B3/2500		G3/2500
BVH	(80°-90°)	214.0	4.2			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type IV Short



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CATALOG NUMBER: TT-D3-740-24VDC-RW-PM

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9
2.5°	94.1	94.1	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3
5°	97.7	97.7	97.7	97.7	98.9	98.9	97.7	97.7	97.7	97.7	97.7
7.5°	103.7	102.5	103.7	103.7	103.7	102.5	102.5	102.5	101.3	101.3	101.3
10°	109.8	109.8	111.0	109.8	109.8	108.5	108.5	108.5	107.3	107.3	107.3
12.5°	118.2	118.2	118.2	118.2	117.0	117.0	115.8	114.6	113.4	113.4	113.4
15°	129.0	127.8	127.8	126.6	125.4	124.2	123.0	123.0	121.8	121.8	121.8
17.5°	139.9	139.9	138.7	137.5	135.1	133.9	133.9	132.7	131.5	131.5	131.5
20°	153.2	153.2	152.0	149.6	147.1	145.9	144.7	144.7	143.5	143.5	143.5
22.5°	168.8	167.6	165.2	162.8	160.4	159.2	158.0	156.8	156.8	156.8	156.8
25°	185.7	184.5	183.3	179.7	176.1	174.9	172.5	172.5	171.3	172.5	172.5
27.5°	206.2	205.0	202.6	199.0	194.2	191.8	190.6	190.6	191.8	191.8	193.0
30°	231.6	229.2	226.7	221.9	217.1	213.5	213.5	214.7	218.3	220.7	220.7
32.5°	261.7	260.5	256.9	252.1	243.6	241.2	243.6	250.9	255.7	259.3	261.7
35°	296.7	295.5	290.7	282.2	276.2	275.0	282.2	294.3	310.0	314.8	317.2
37.5°	335.3	336.5	330.5	320.8	314.8	317.2	331.7	354.6	370.3	381.1	383.5
40°	383.5	385.9	378.7	367.9	361.8	371.5	394.4	420.9	448.7	461.9	465.5
42.5°	440.2	443.8	434.2	423.3	419.7	435.4	468.0	511.4	560.8	576.5	582.5
45°	510.2	512.6	500.5	490.9	488.5	516.2	571.7	644.0	722.4	758.6	764.6
47.5°	593.4	592.2	581.3	569.3	571.7	611.5	694.7	792.4	875.6	931.1	943.1
50°	688.7	682.6	674.2	659.7	675.4	733.3	838.2	956.4	1096.3	1145.8	1167.5
52.5°	783.9	773.1	765.9	756.2	783.9	858.7	1005.9	1212.1	1423.2	1536.5	1559.4
55°	869.6	861.1	857.5	858.7	902.1	1009.5	1202.4	1466.6	1670.4	1764.5	1781.4
57.5°	954.0	949.2	945.6	952.8	1021.5	1161.4	1378.5	1625.8	1793.4	1863.4	1875.4
60°	1033.6	1038.4	1036.0	1057.7	1140.9	1282.0	1470.2	1713.8	1875.4	1939.4	1952.6
62.5°	1121.6	1125.3	1125.3	1149.4	1216.9	1341.1	1532.9	1817.5	2022.6	2116.6	2131.1
65°	1197.6	1200.0	1204.9	1206.1	1268.8	1393.0	1643.9	1912.8	2096.1	2204.7	2214.3
67.5°	1254.3	1256.7	1250.7	1244.7	1292.9	1405.1	1635.4	1900.8	2063.6	2145.6	2152.8
70°	1300.1	1289.3	1272.4	1242.2	1257.9	1342.4	1565.5	1804.3	1968.3	2041.9	2052.7
72.5°	1306.2	1296.5	1243.5	1175.9	1156.6	1230.2	1442.5	1657.1	1798.2	1868.2	1869.4
75°	1270.0	1244.7	1156.6	1055.3	1019.1	1089.1	1271.2	1466.6	1579.9	1639.0	1645.1
77.5°	1148.2	1124.1	1013.1	897.3	856.3	916.6	1071.0	1229.0	1337.5	1395.4	1399.0
80°	932.3	923.8	822.5	716.4	667.0	701.9	837.0	961.2	1049.3	1118.0	1124.1
82.5°	687.5	680.2	603.0	510.2	470.4	499.3	595.8	687.5	769.5	824.9	828.6
85°	429.4	414.9	366.6	301.5	275.0	294.3	358.2	419.7	493.3	536.7	539.1
87.5°	143.5	137.5	118.2	97.7	82.0	85.6	104.9	127.8	186.9	206.2	218.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

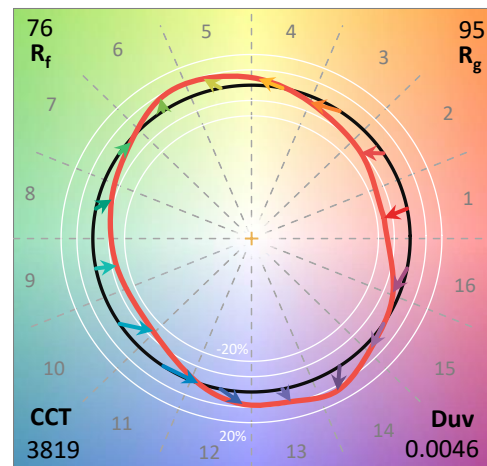
Test Information

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
 R_f: 75.6
 R_g: 94.8

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



Test Conditions

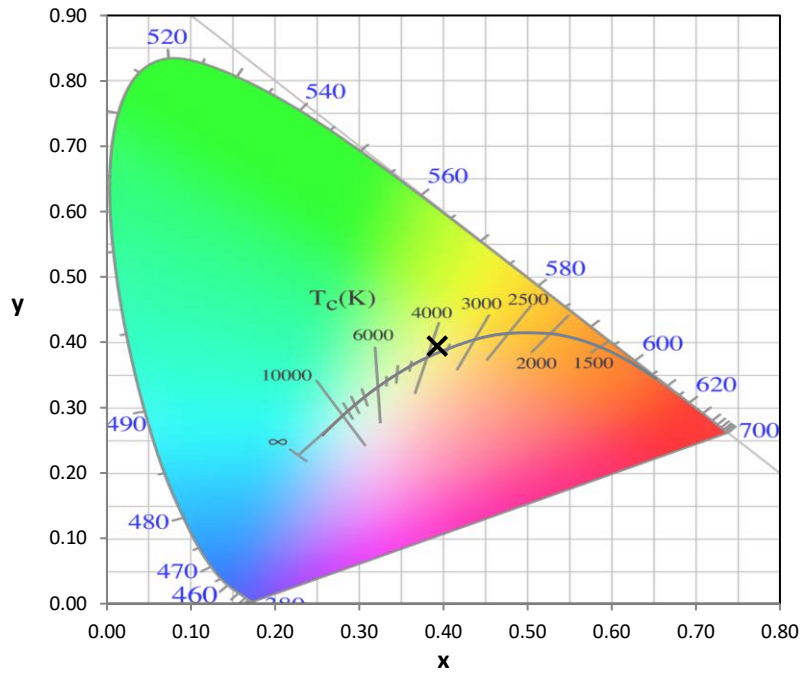
Stabilization Time: 30M
 Operation Time: 1H 30M
 Sphere Temperature (°C): 25.2

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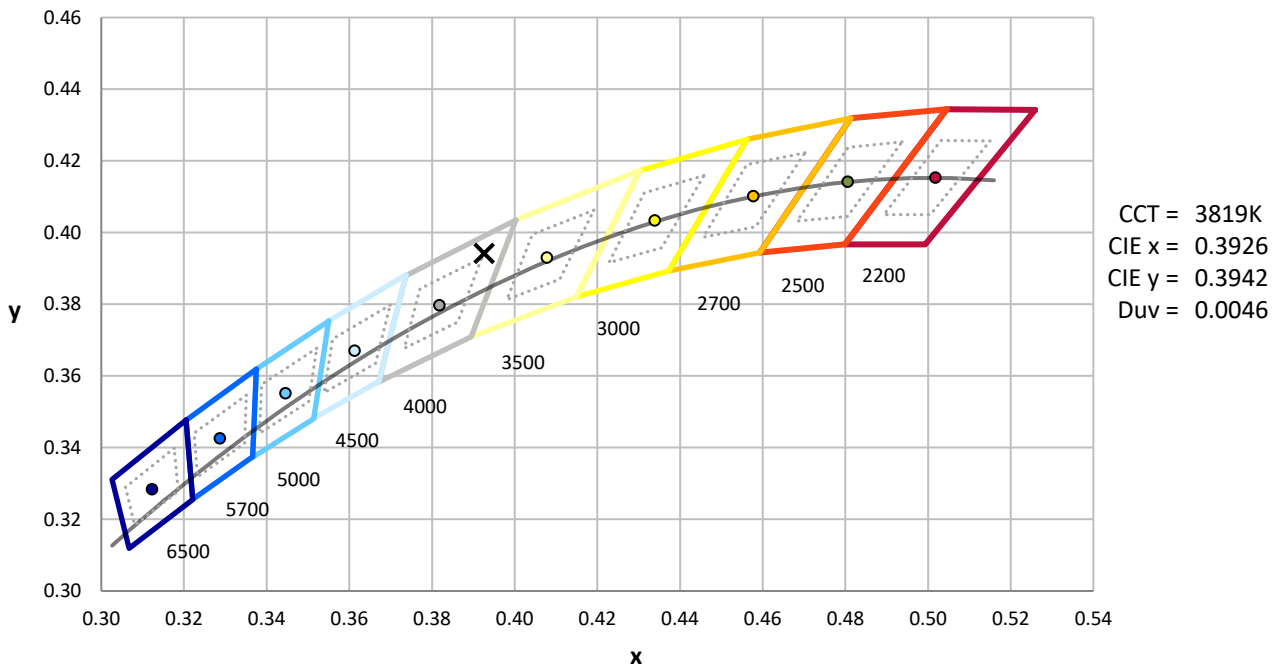
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



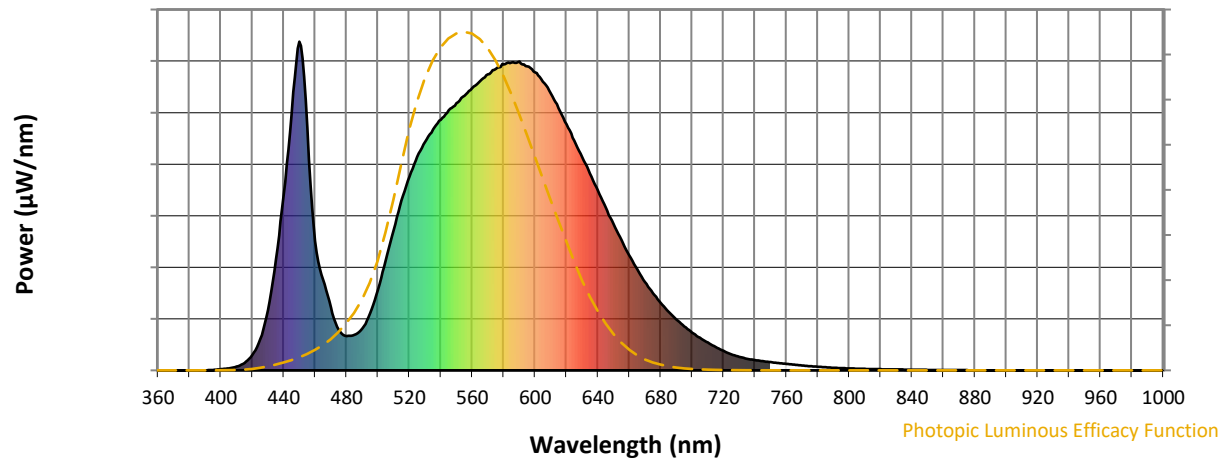
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

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Photopic Flux vs. Wavelength

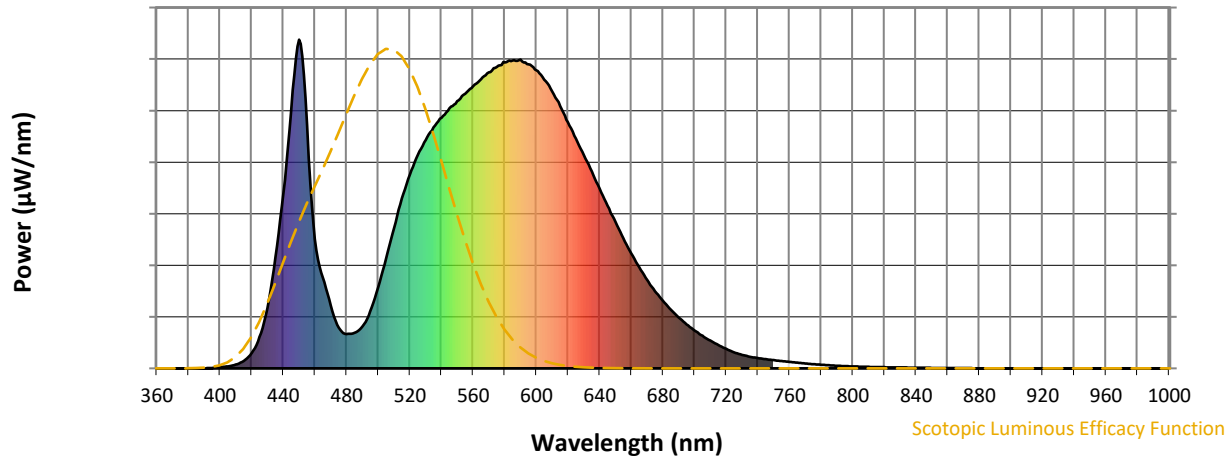


Photopic Lumens: NR

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	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



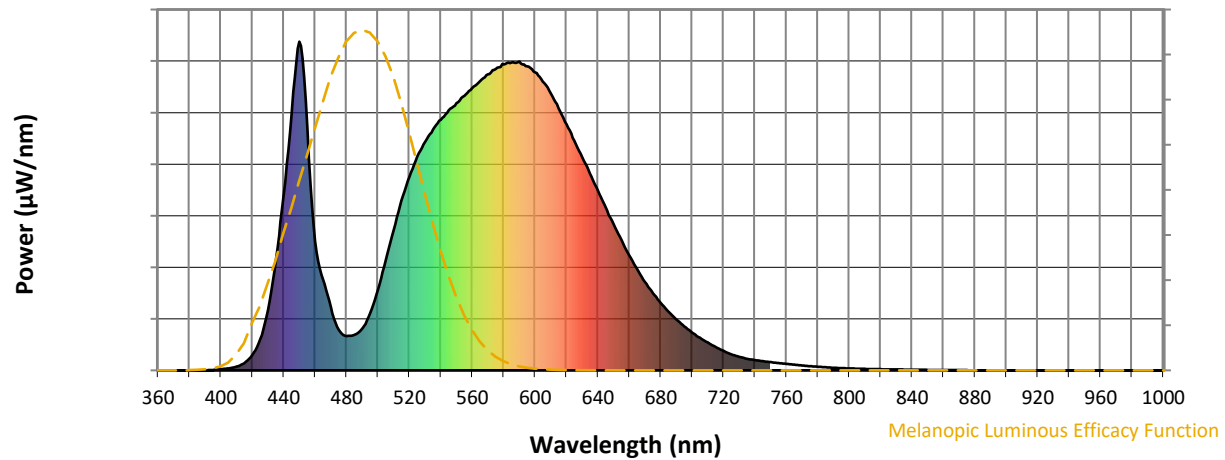
Scotopic Lumens: NR

S/P: 1.45

λ (nm)	Power W [^] /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	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

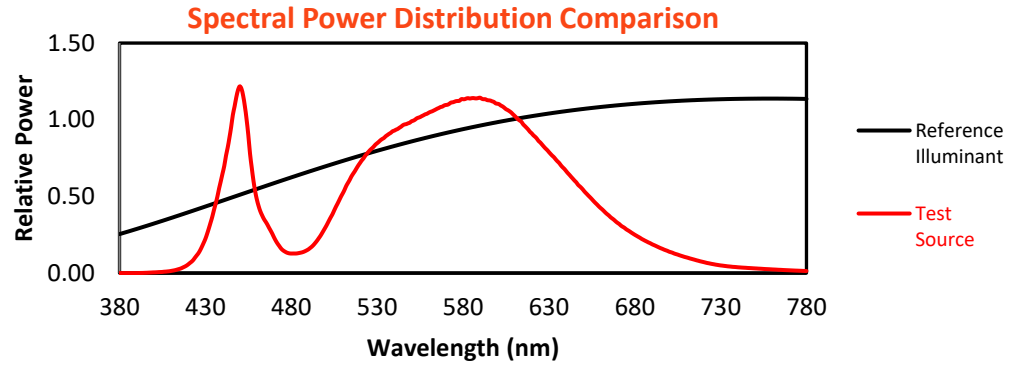
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	127	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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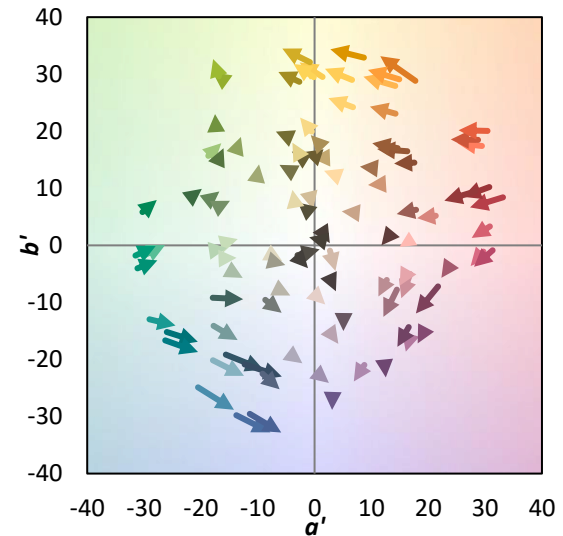
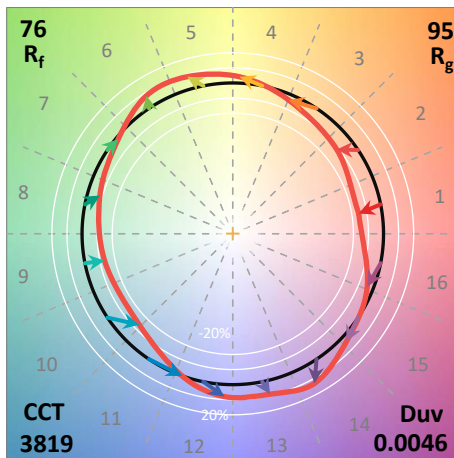
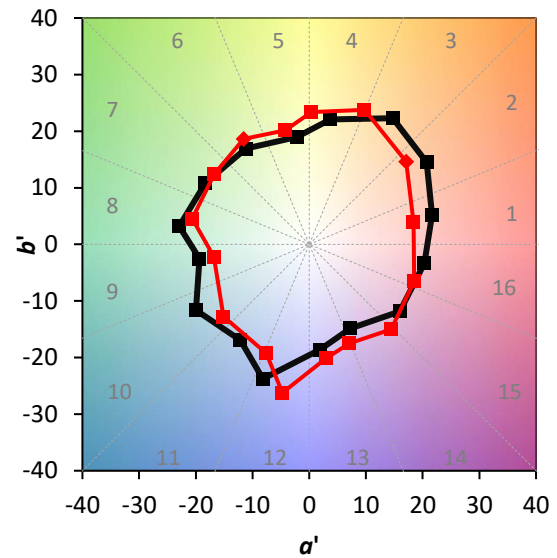
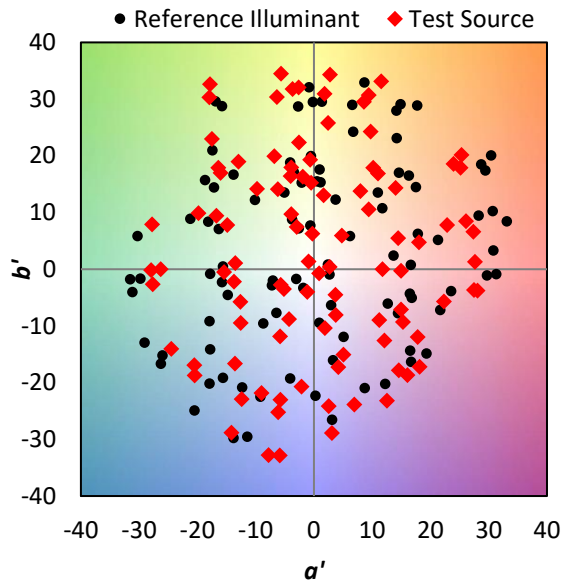
TM-30-18

Summary

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

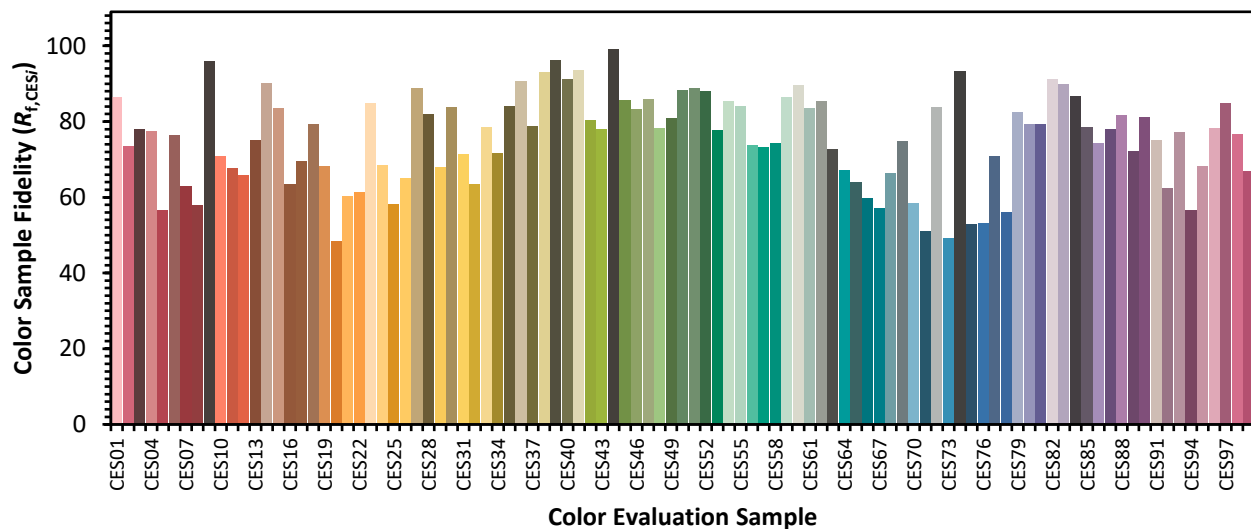


Color Vector Graphics

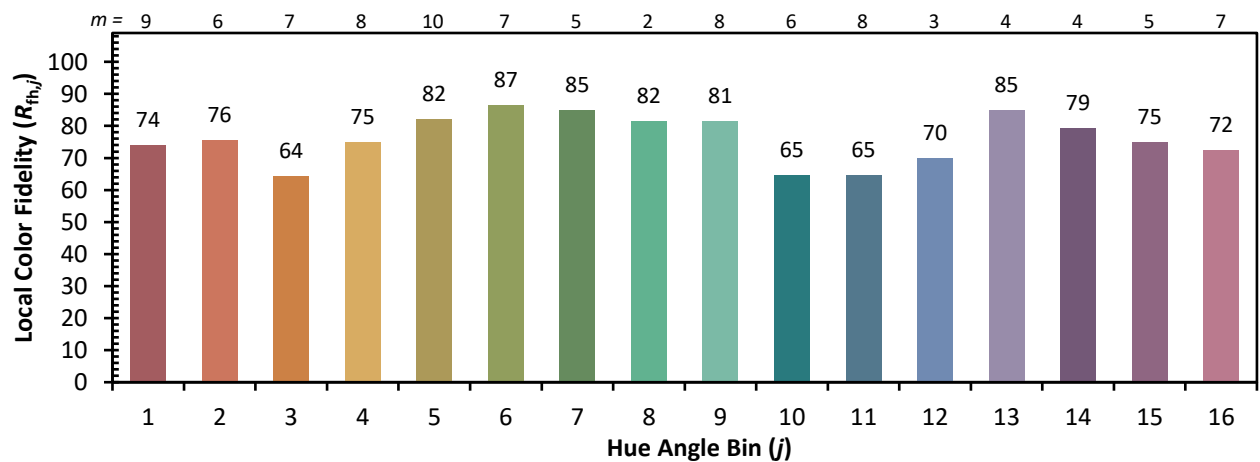
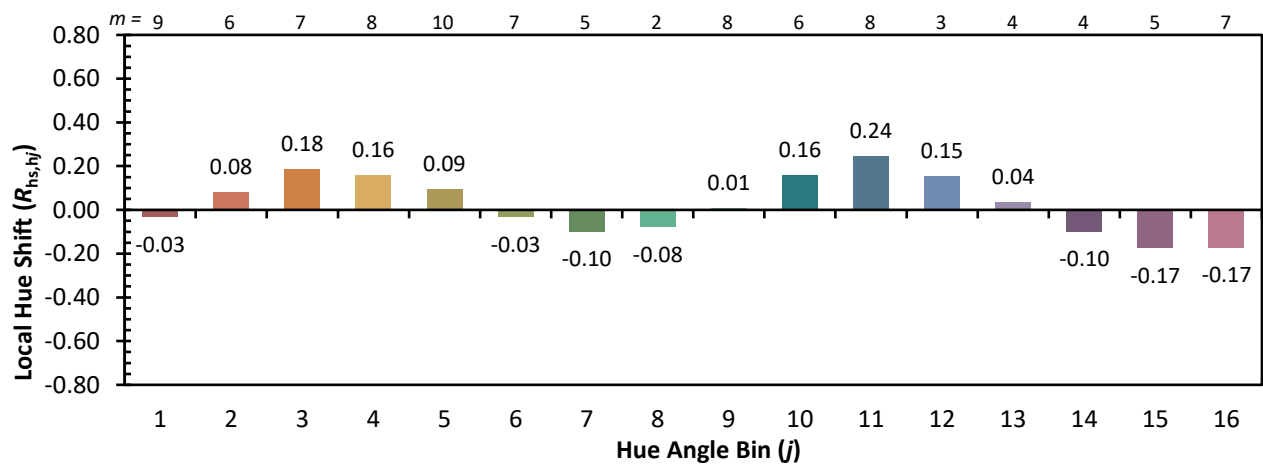
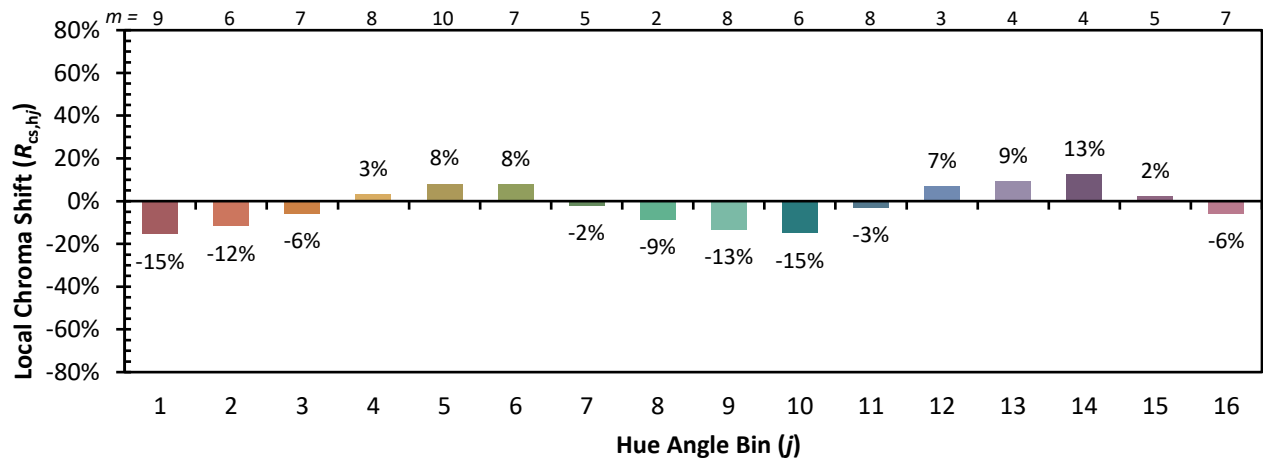


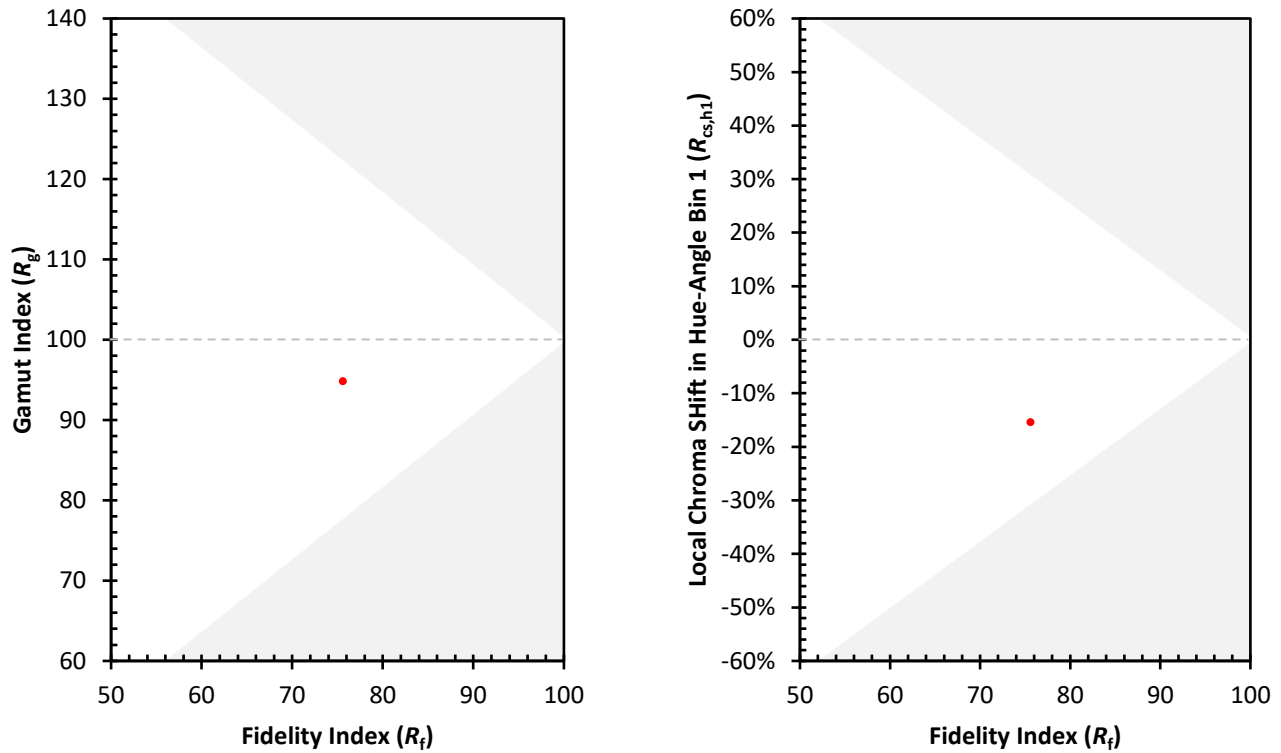
Individual Sample Fidelity Index ($R_{f,i}$)

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)