

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: P821308

Luminaire Tested: **TT-D5-750-24VDC-RW-PM**

Issue Date: 10/15/2020

Test Information

Test Method: LM-79-08
Report Number: P821308
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-D5-750-24VDC-RW-PM
Description: TOPTIER LED SITE LUMINAIRE
5000K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

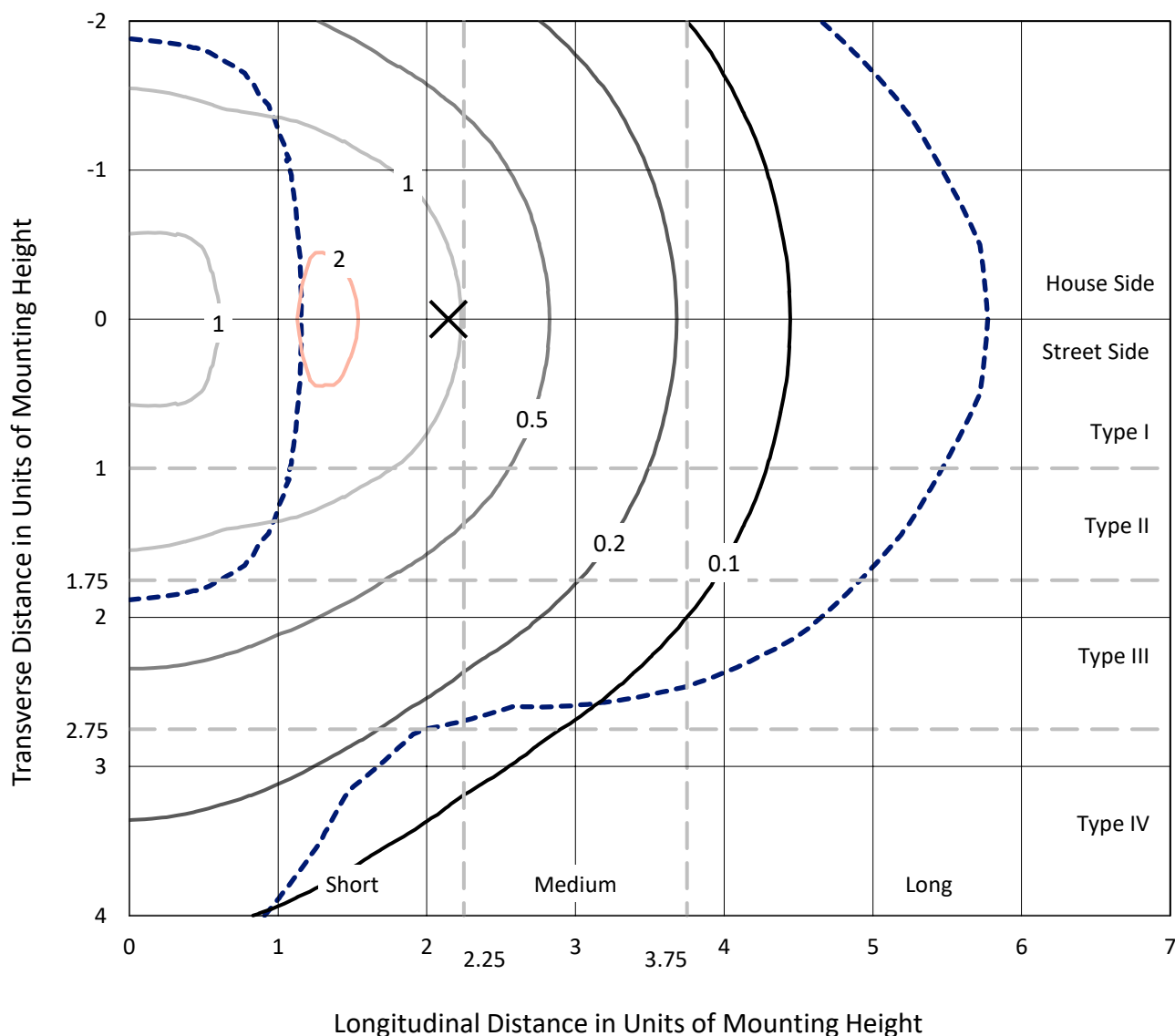
Lumens per Lamp: N/A
Luminaire Lumens: 7615 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G3

Input Watts (W): 73
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

REPORT NUMBER: P821308
 CATALOG NUMBER: TT-D5-750-24VDC-RW-PM

Iso-Footcandle Lines of Horizontal Illumination

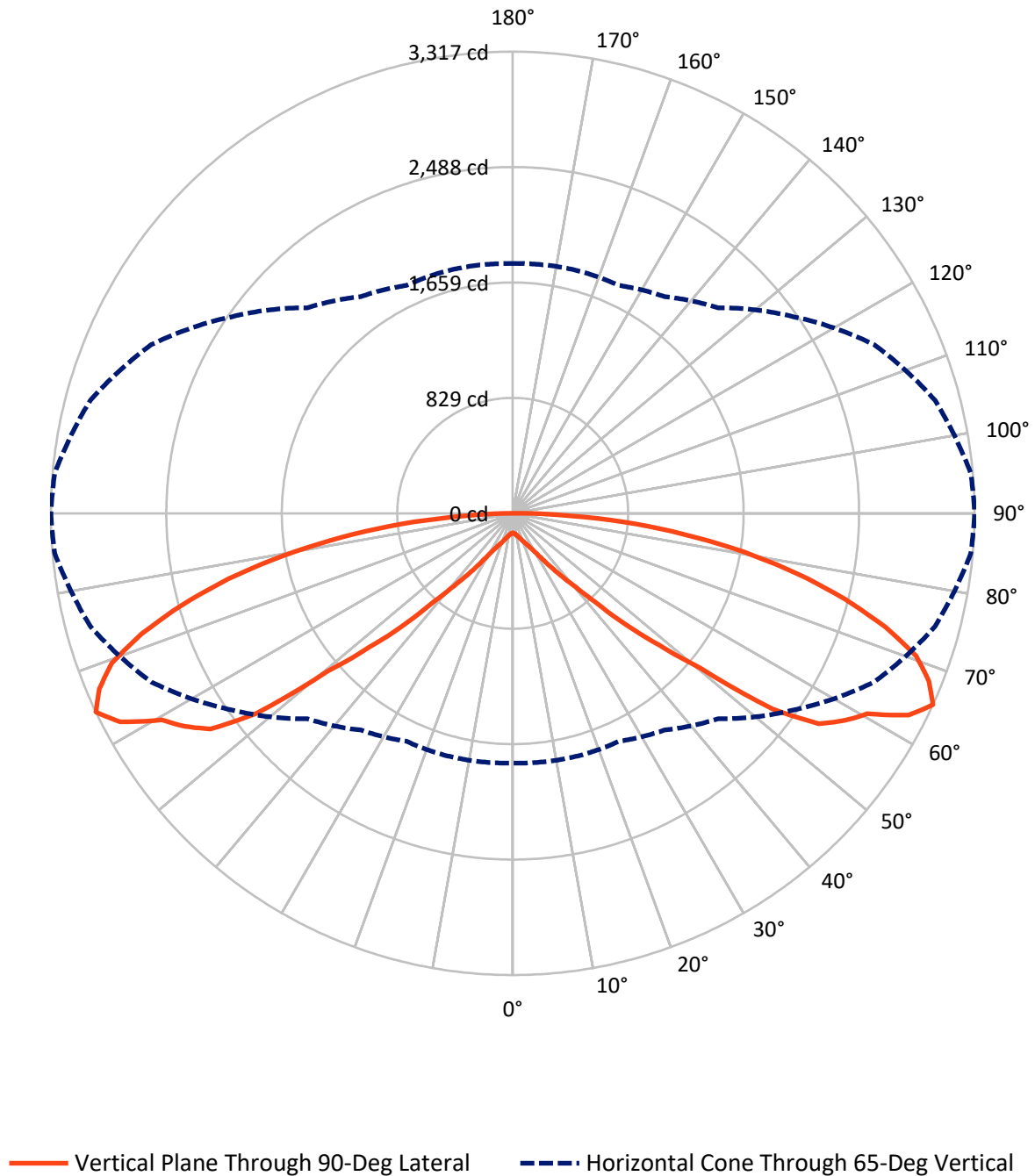
× Max cd
 --- 1/2 Max cd



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

REPORT NUMBER: P821308
CATALOG NUMBER: TT-D5-750-24VDC-RW-PM

Luminous Intensity Polar Plot



REPORT NUMBER: P821308

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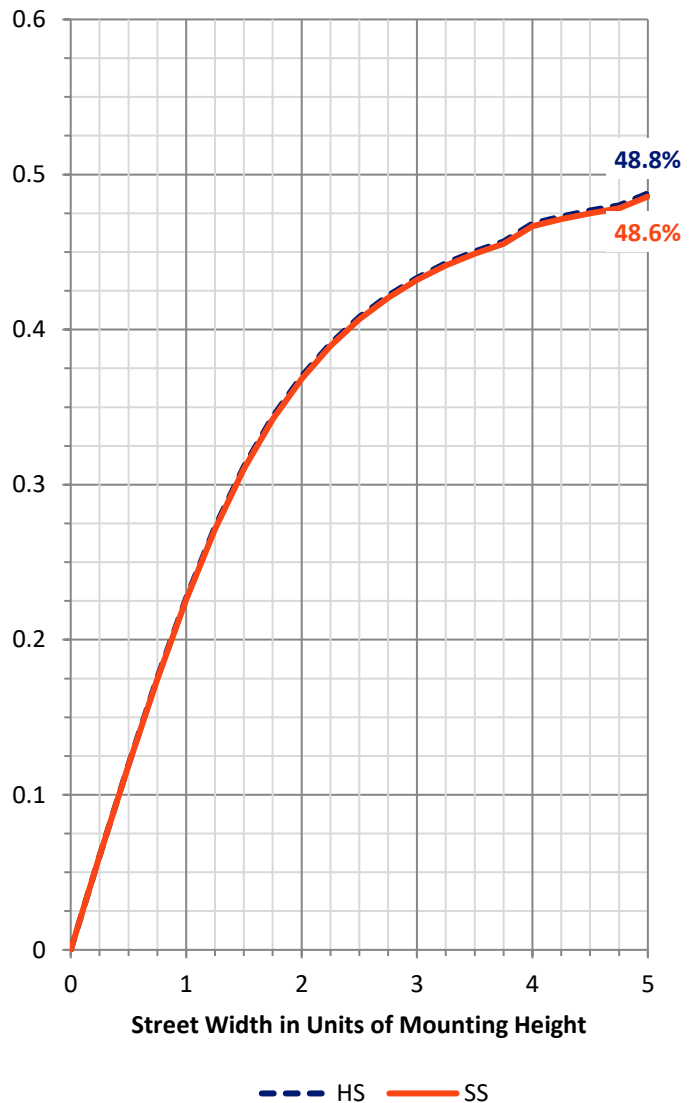
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3807.5	0.0	3807.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	3807.5	0.0	3807.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	7615.0	0.0	7615.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.5	0.2
10°-20°	54.3	0.7
20°-30°	125.5	1.6
30°-40°	283.7	3.7
40°-50°	691.1	9.1
50°-60°	1554.2	20.4
60°-70°	2271.4	29.8
70°-80°	1979.2	26.0
80°-90°	641.1	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°	7615.0	100.0
0°-180°	7615.0	100.0



REPORT NUMBER: P821308

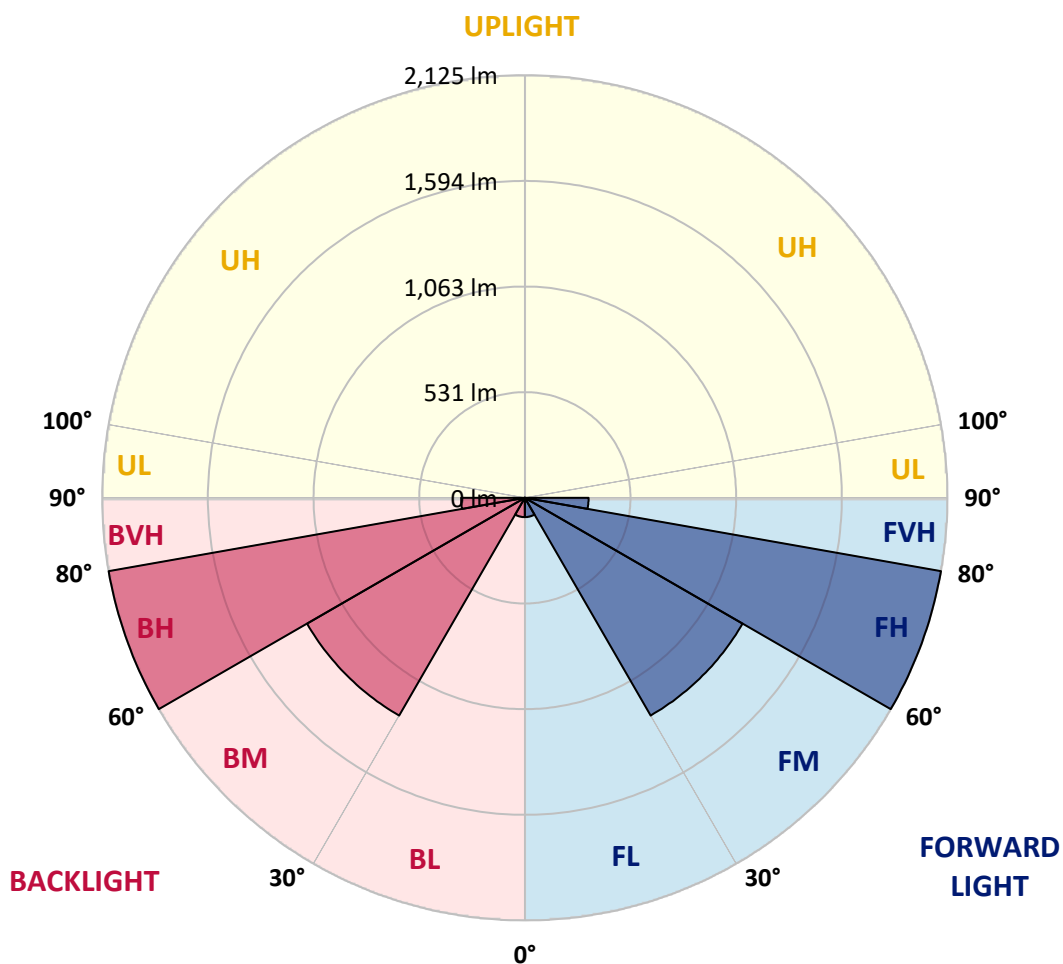
CATALOG NUMBER: TT-D5-750-24VDC-RW-PM

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	97.2	1.3			
FM	(30°-60°)	1264.5	16.6			
FH	(60°-80°)	2125.3	27.9			G2/5000
FVH	(80°-90°)	320.6	4.2			G3/500
BL	(0°-30°)	97.2	1.3	B0/110		
BM	(30°-60°)	1264.5	16.6	B2/2500		
BH	(60°-80°)	2125.3	27.9	B3/2500		G3/2500
BVH	(80°-90°)	320.6	4.2			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 IV Short



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CATALOG NUMBER: TT-D5-750-24VDC-RW-PM

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	139.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1
2.5°	140.9	140.9	142.7	142.7	142.7	142.7	142.7	142.7	142.7	142.7	142.7
5°	146.4	146.4	146.4	146.4	148.2	148.2	146.4	146.4	146.4	146.4	146.4
7.5°	155.4	153.6	155.4	155.4	155.4	153.6	153.6	153.6	151.8	151.8	151.8
10°	164.4	164.4	166.2	164.4	164.4	162.6	162.6	162.6	160.8	160.8	160.8
12.5°	177.1	177.1	177.1	177.1	175.3	175.3	173.5	171.7	169.8	169.8	169.8
15°	193.3	191.5	191.5	189.7	187.9	186.1	184.3	184.3	182.5	182.5	182.5
17.5°	209.6	209.6	207.8	206.0	202.4	200.6	200.6	198.8	196.9	196.9	196.9
20°	229.5	229.5	227.7	224.0	220.4	218.6	216.8	216.8	215.0	215.0	215.0
22.5°	253.0	251.2	247.5	243.9	240.3	238.5	236.7	234.9	234.9	234.9	234.9
25°	278.3	276.4	274.6	269.2	263.8	262.0	258.4	258.4	256.6	258.4	258.4
27.5°	309.0	307.2	303.6	298.1	290.9	287.3	285.5	285.5	287.3	287.3	289.1
30°	346.9	343.3	339.7	332.5	325.2	319.8	319.8	321.6	327.0	330.7	330.7
32.5°	392.1	390.3	384.9	377.6	365.0	361.4	365.0	375.8	383.1	388.5	392.1
35°	444.5	442.7	435.4	422.8	413.8	412.0	422.8	440.9	464.4	471.6	475.2
37.5°	502.3	504.1	495.1	480.6	471.6	475.2	496.9	531.2	554.7	571.0	574.6
40°	574.6	578.2	567.3	551.1	542.1	556.5	590.8	630.6	672.1	692.0	697.4
42.5°	659.5	664.9	650.5	634.2	628.8	652.3	701.1	766.1	840.2	863.7	872.7
45°	764.3	767.9	749.8	735.4	731.8	773.3	856.4	964.9	1082.3	1136.5	1145.5
47.5°	889.0	887.2	870.9	852.8	856.4	916.1	1040.7	1187.1	1311.8	1394.9	1413.0
50°	1031.7	1022.7	1010.0	988.3	1011.8	1098.6	1255.8	1432.8	1642.4	1716.5	1749.0
52.5°	1174.4	1158.2	1147.3	1132.9	1174.4	1286.5	1506.9	1815.9	2132.1	2301.9	2336.3
55°	1302.7	1290.1	1284.7	1286.5	1351.5	1512.3	1801.4	2197.1	2502.5	2643.4	2668.7
57.5°	1429.2	1422.0	1416.6	1427.4	1530.4	1740.0	2065.2	2435.6	2686.8	2791.6	2809.6
60°	1548.5	1555.7	1552.1	1584.6	1709.3	1920.7	2202.5	2567.5	2809.6	2905.4	2925.3
62.5°	1680.4	1685.8	1685.8	1721.9	1823.1	2009.2	2296.5	2722.9	3030.1	3171.0	3192.7
65°	1794.2	1797.8	1805.0	1806.8	1900.8	2086.9	2462.7	2865.7	3140.3	3302.9	3317.4
67.5°	1879.1	1882.7	1873.7	1864.7	1936.9	2105.0	2450.1	2847.6	3091.5	3214.4	3225.2
70°	1947.8	1931.5	1906.2	1861.1	1884.5	2011.0	2345.3	2703.0	2948.8	3059.0	3075.3
72.5°	1956.8	1942.4	1862.9	1761.7	1732.8	1843.0	2161.0	2482.6	2694.0	2798.8	2800.6
75°	1902.6	1864.7	1732.8	1581.0	1526.8	1631.6	1904.4	2197.1	2367.0	2455.5	2464.5
77.5°	1720.1	1684.0	1517.8	1344.3	1282.9	1373.2	1604.5	1841.2	2003.8	2090.5	2095.9
80°	1396.7	1384.0	1232.3	1073.3	999.2	1051.6	1254.0	1440.1	1572.0	1674.9	1684.0
82.5°	1029.9	1019.1	903.4	764.3	704.7	748.0	892.6	1029.9	1152.8	1235.9	1241.3
85°	643.2	621.6	549.3	451.7	412.0	440.9	536.6	628.8	739.0	804.0	807.7
87.5°	215.0	206.0	177.1	146.4	122.9	128.3	157.2	191.5	280.1	309.0	327.0
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: SP1-2407-176-6

Test Date: 09/26/2024

Luminaire Tested: MEM2-HTN-VA-30-750-U-WQ

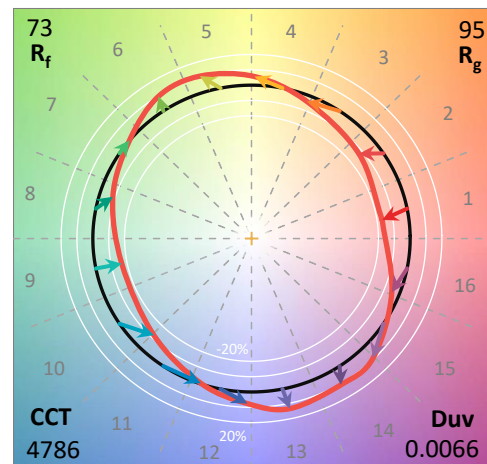
Data in this report applies to families of products including MEM2-HTN-VA-30-750-U-WQ

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-176-6
 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-30-750-U-WQ**
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	4786	CRI (Ra):	70.9		
CIE u':	0.2093	R1:	67.8	R9:	-29.8
CIE v':	0.4953	R2:	75.1	R10:	40.9
Duv:	0.0066	R3:	80.6	R11:	67.4
CIE x:	0.3533	R4:	71.6	R12:	35.3
CIE y:	0.3716	R5:	67.8	R13:	68.5
CIE z:	0.2751	R6:	65.4	R14:	89.0
Peak Wavelength (nm):	449	R7:	82.0	R15:	60.9
Dominant Wavelength (nm):	570	R8:	57.0		
Purity:	17.53512				
Rf:	73				
Rg:	94.6				



Test Conditions

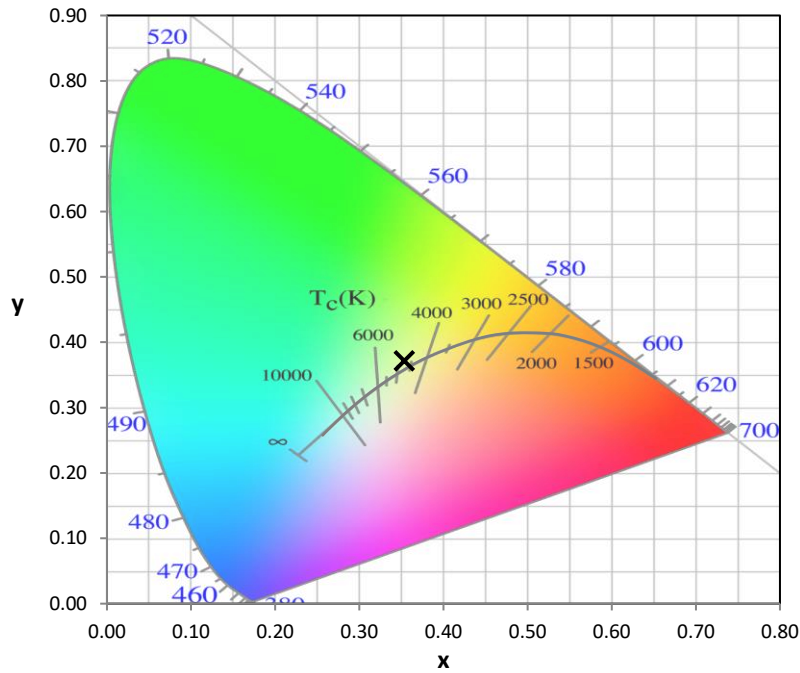
Stabilization Time: 45M
 Operation Time: 1H 45M
 Sphere Temperature (°C): 25.2

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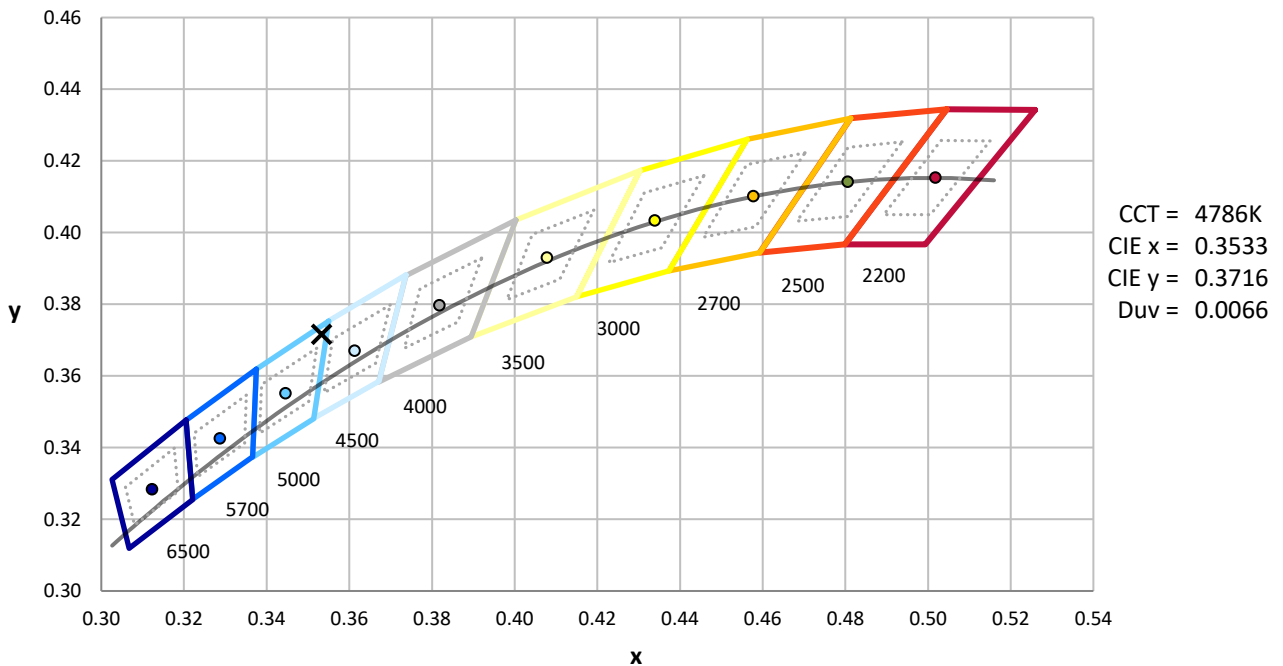
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



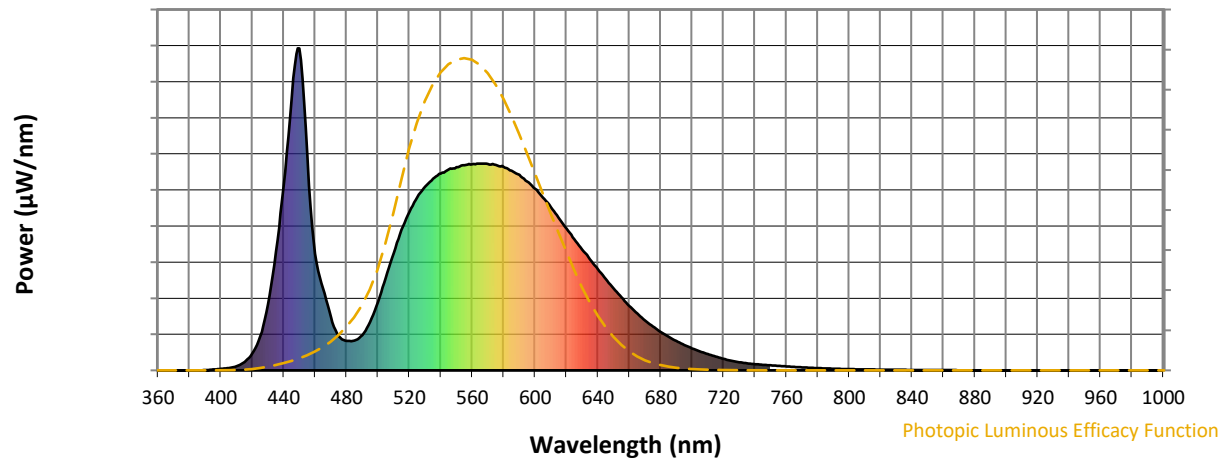
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 7-step quadrangle

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Photopic Flux vs. Wavelength

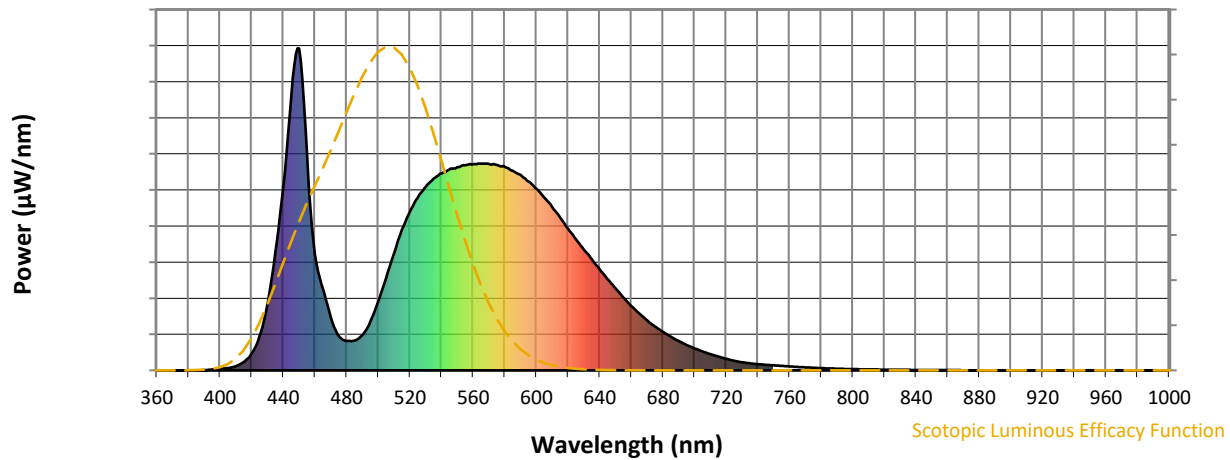


Photopic Lumens: NR

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	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



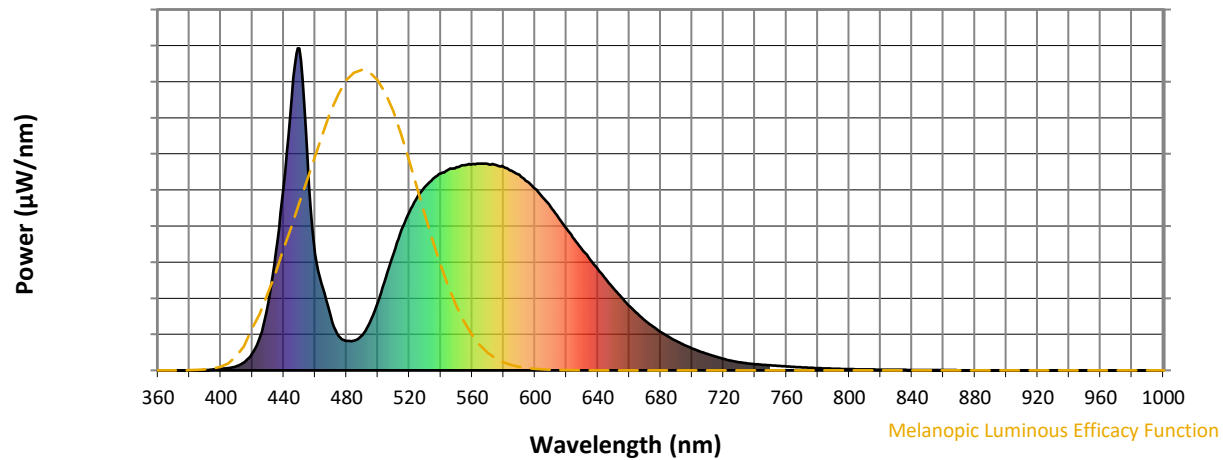
Scotopic Lumens: NR

S/P: 1.69

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	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.36

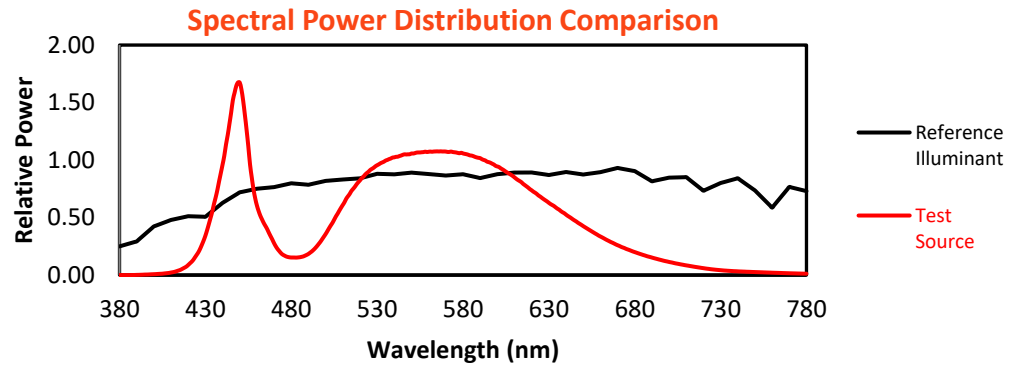
λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

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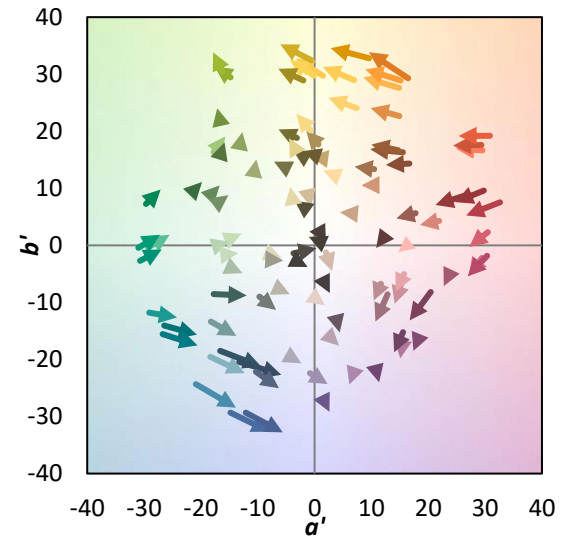
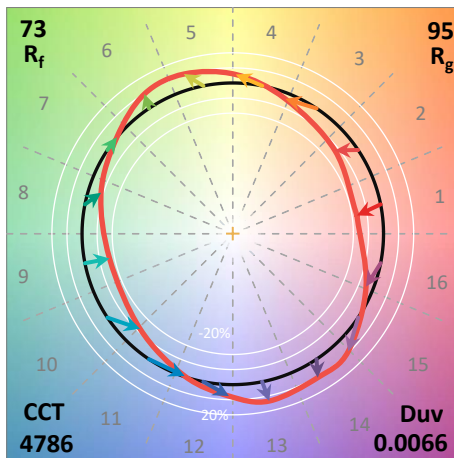
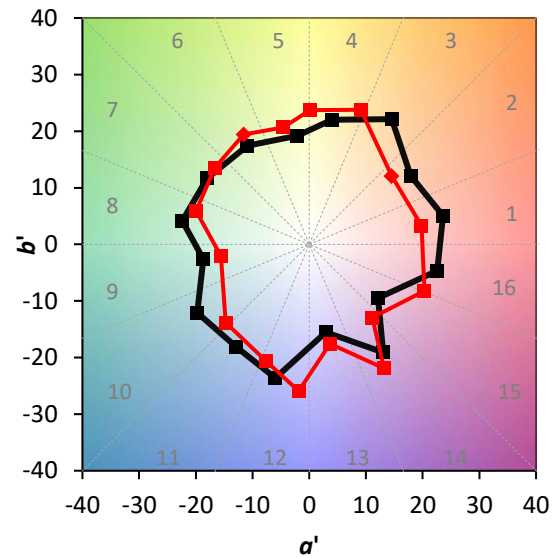
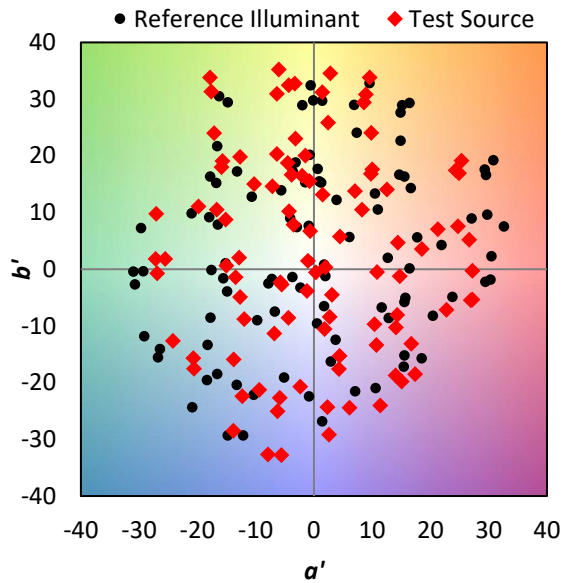
TM-30-18

Summary

$R_f = 73$
 $R_g = 94.6$
 $CIE R_a = 70.9$
 $R_g = -29.8$

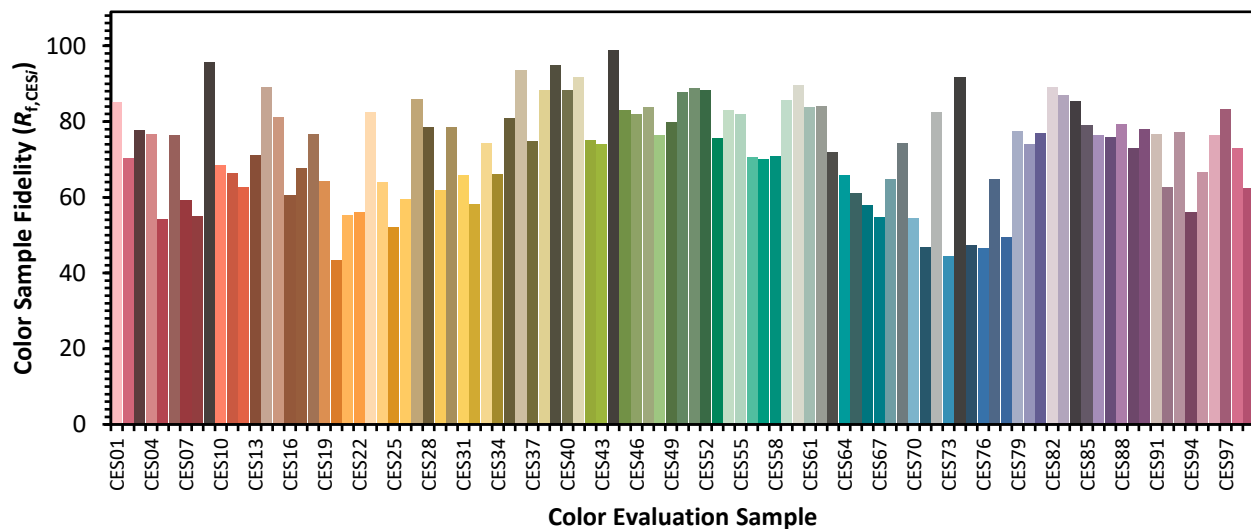


Color Vector Graphics

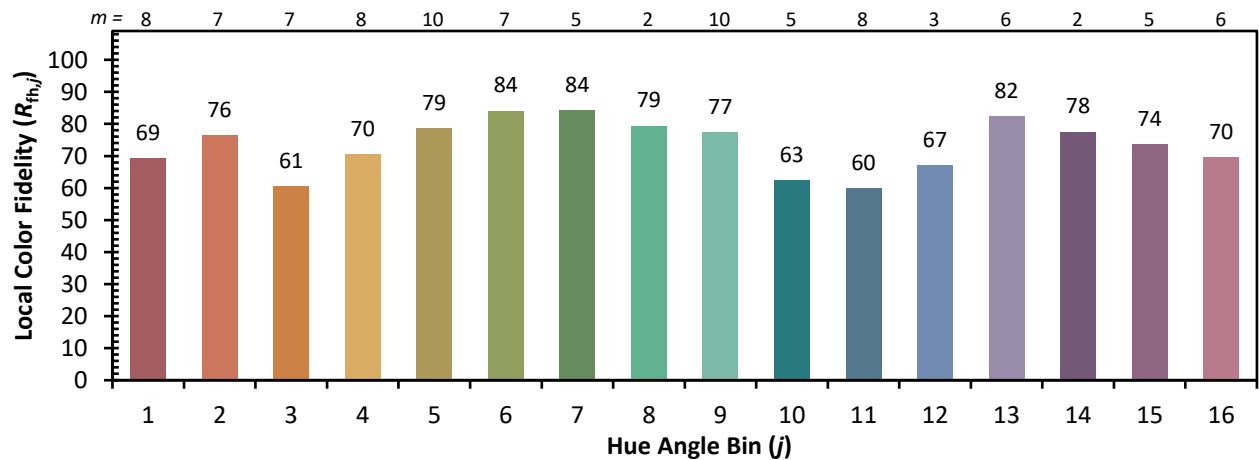
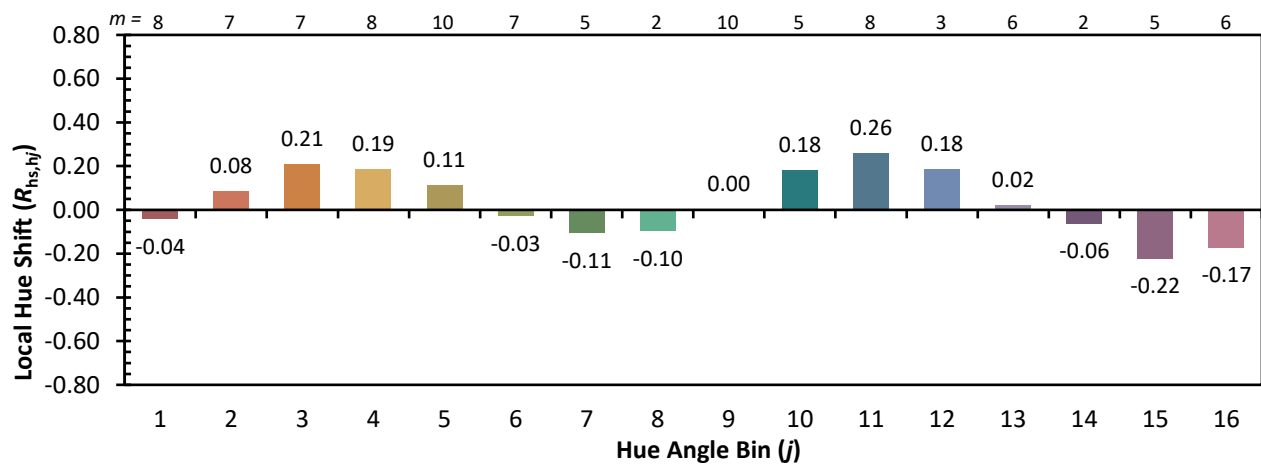
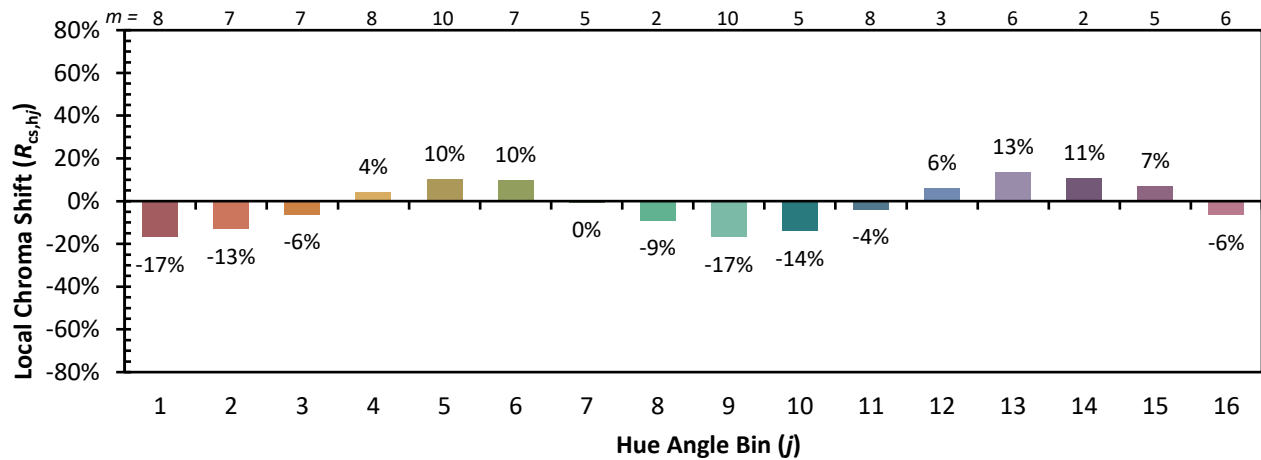


Individual Sample Fidelity Index ($R_{f,i}$)

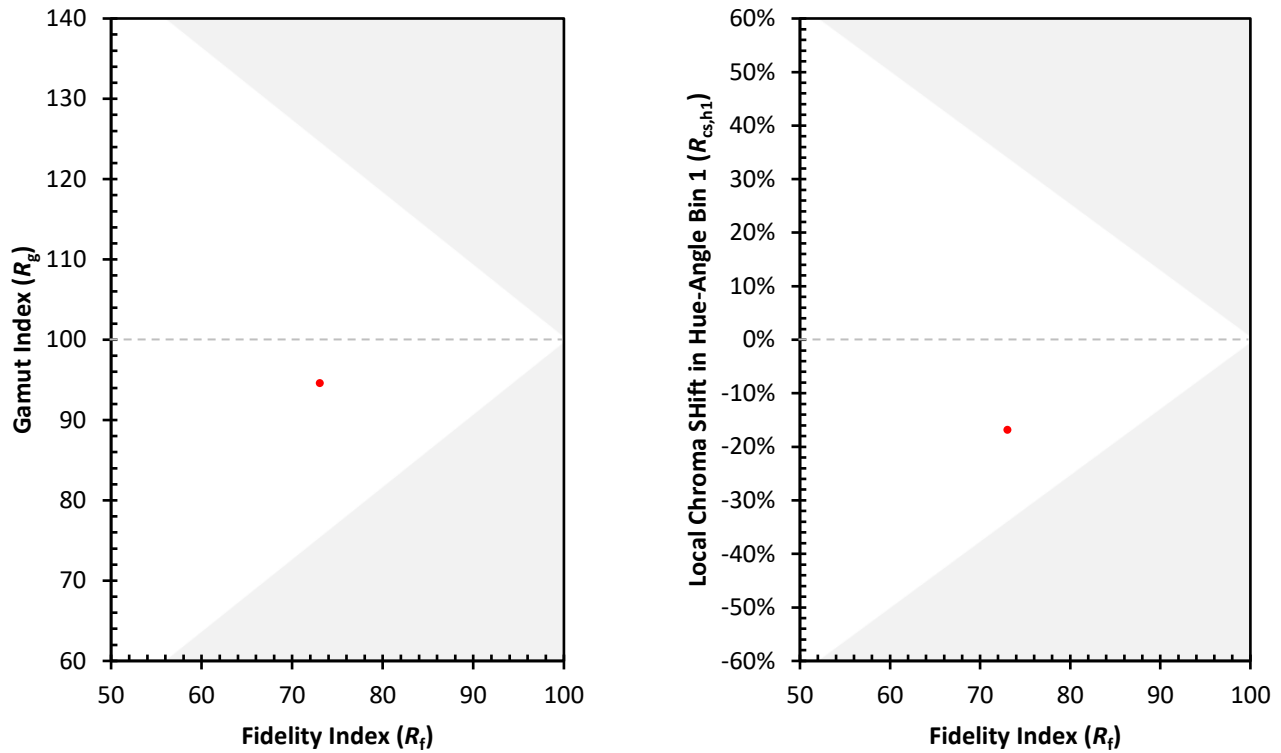
CES01 = 85	CES26 = 60	CES51 = 89	CES76 = 46
CES02 = 59	CES27 = 86	CES52 = 88	CES77 = 65
CES03 = 30	CES28 = 78	CES53 = 76	CES78 = 49
CES04 = 69	CES29 = 62	CES54 = 83	CES79 = 78
CES05 = 46	CES30 = 79	CES55 = 82	CES80 = 74
CES06 = 50	CES31 = 66	CES56 = 71	CES81 = 77
CES07 = 39	CES32 = 58	CES57 = 70	CES82 = 89
CES08 = 38	CES33 = 74	CES58 = 71	CES83 = 87
CES09 = 29	CES34 = 66	CES59 = 86	CES84 = 86
CES10 = 72	CES35 = 81	CES60 = 90	CES85 = 79
CES11 = 56	CES36 = 94	CES61 = 84	CES86 = 76
CES12 = 61	CES37 = 75	CES62 = 84	CES87 = 76
CES13 = 41	CES38 = 88	CES63 = 72	CES88 = 79
CES14 = 74	CES39 = 95	CES64 = 66	CES89 = 73
CES15 = 70	CES40 = 88	CES65 = 61	CES90 = 78
CES16 = 46	CES41 = 92	CES66 = 58	CES91 = 77
CES17 = 49	CES42 = 75	CES67 = 55	CES92 = 63
CES18 = 55	CES43 = 74	CES68 = 65	CES93 = 77
CES19 = 71	CES44 = 99	CES69 = 74	CES94 = 56
CES20 = 64	CES45 = 83	CES70 = 55	CES95 = 67
CES21 = 85	CES46 = 82	CES71 = 47	CES96 = 76
CES22 = 77	CES47 = 84	CES72 = 82	CES97 = 83
CES23 = 91	CES48 = 76	CES73 = 44	CES98 = 73
CES24 = 90	CES49 = 80	CES74 = 92	CES99 = 62
CES25 = 71	CES50 = 88	CES75 = 47	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)