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: P821528

Luminaire Tested: **TT-D1-740-12VDC-WQ**

Issue Date: 2/12/2020

Report Generated By 670245763

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

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821528
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-473-14)
Test Lab:	INNOVATIONS CENTER
Issue Date:	2/12/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D1-740-12VDC-WQ
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	4000K, 70 CRI LEDS AND WIDE DISTRIBUTION
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3874 lumens
Efficiency:	N/A
Efficacy:	138.4 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B2 - U0 - G1

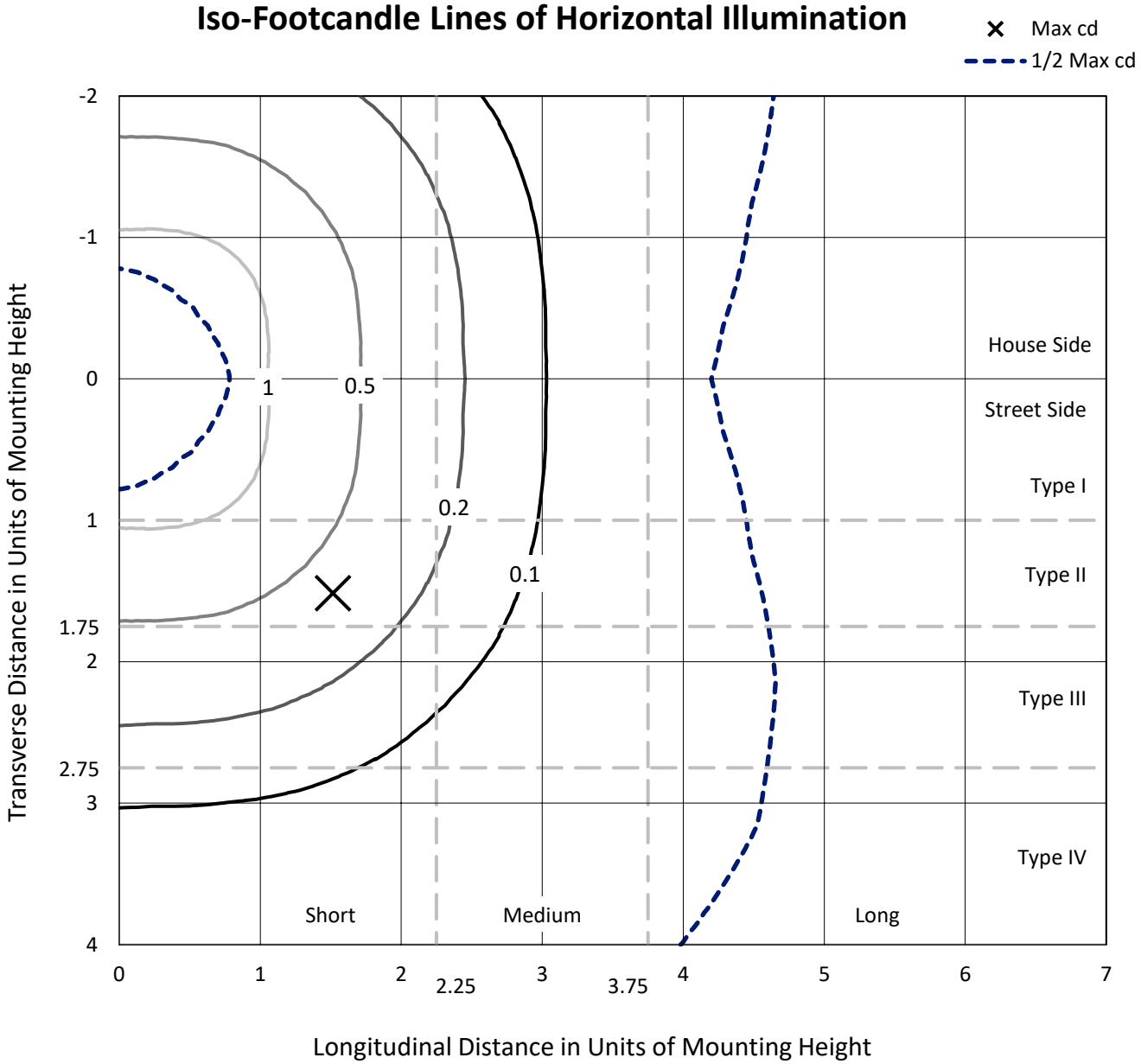
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Scaled Data Report

REPORT NUMBER: P821528
CATALOG NUMBER: TT-D1-740-12VDC-WQ

Iso-Footcandle Lines of Horizontal Illumination



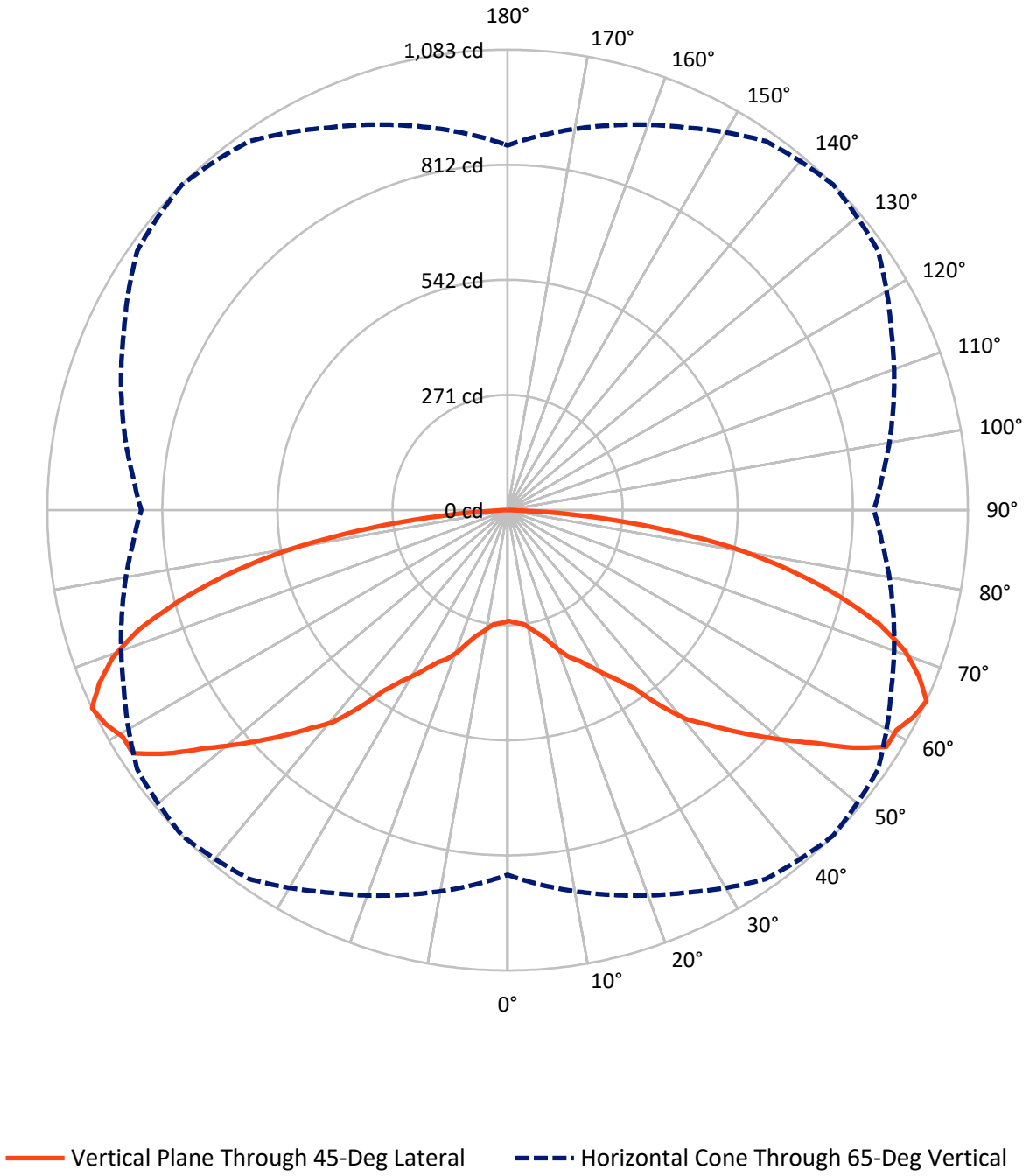
Based on 15 foot mounting height. Maximum calculated value = 1.3 fc
Type V - Short - N/A

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REPORT NUMBER: P821528
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Luminous Intensity Polar Plot



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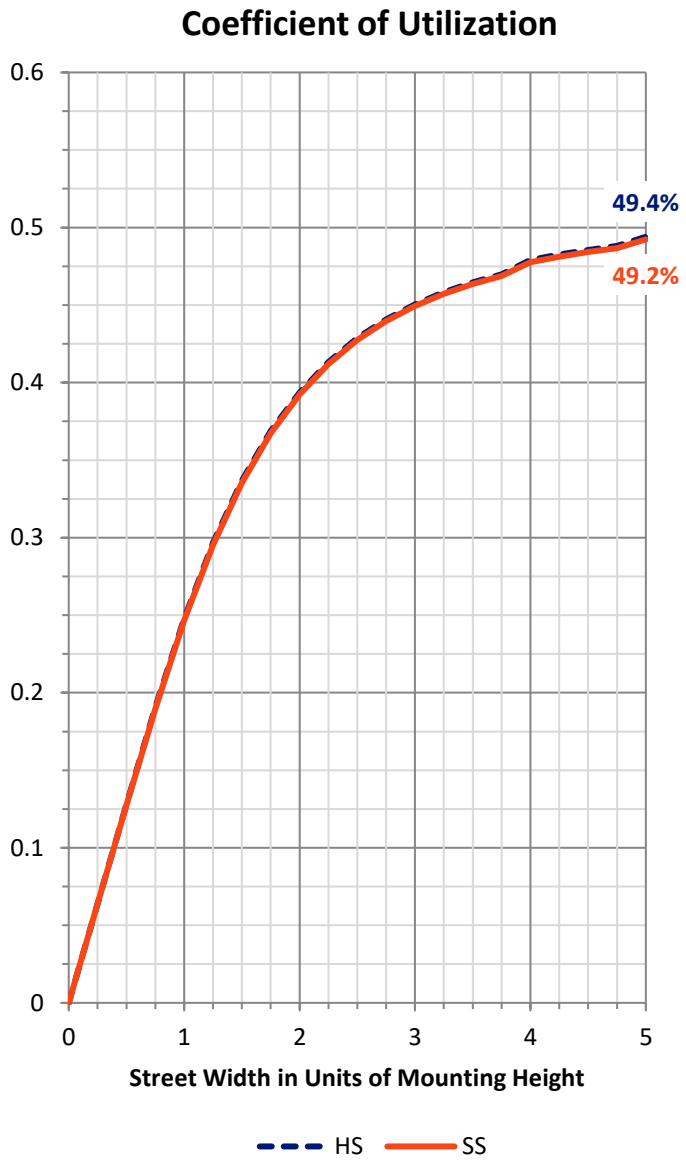
REPORT NUMBER: P821528
CATALOG NUMBER: TT-D1-740-12VDC-WQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1937.0	0.0	1937.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	1937.0	0.0	1937.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	3874.0	0.0	3874.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.0	0.7
10°-20°	89.4	2.3
20°-30°	183.6	4.7
30°-40°	326.2	8.4
40°-50°	549.9	14.2
50°-60°	811.2	20.9
60°-70°	952.0	24.6
70°-80°	741.7	19.1
80°-90°	193.9	5.0
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°	3874.0	100.0
0°-180°	3874.0	100.0



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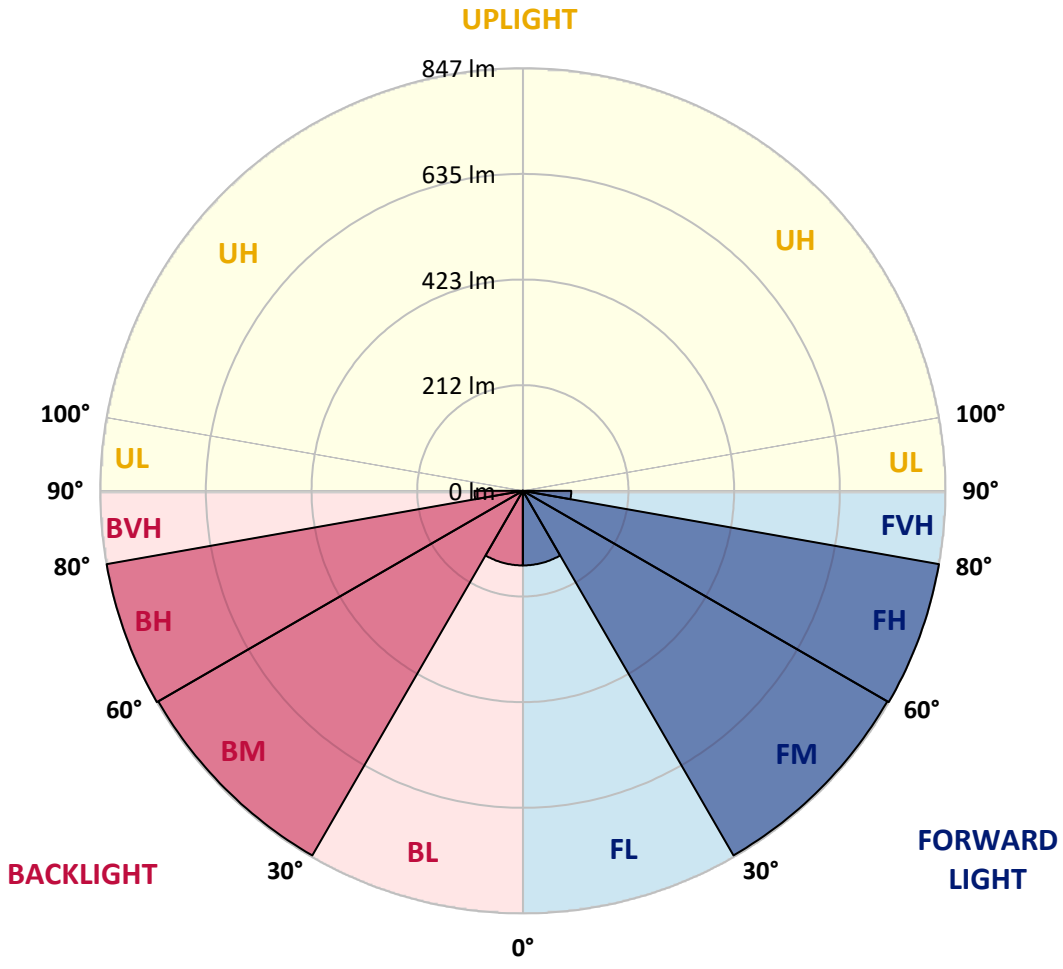
Scaled Data Report

REPORT NUMBER: P821528
CATALOG NUMBER: TT-D1-740-12VDC-WQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	149.5	3.9			
FM	(30°-60°)	843.7	21.8			
FH	(60°-80°)	846.9	21.9			G1/1800
FVH	(80°-90°)	96.9	2.5			G1/100
BL	(0°-30°)	149.5	3.9	B1/500		
BM	(30°-60°)	843.7	21.8	B1/1000		
BH	(60°-80°)	846.9	21.9	B2/1000		G1/1800
BVH	(80°-90°)	96.9	2.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1
Type V Short



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REPORT NUMBER: P821528
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	260.7	260.7	260.7	260.7	260.7	*260.7*	260.7	260.7	260.7	260.7	260.7
2.5°	265.0	265.0	265.0	264.4	264.4	*264.4*	264.4	265.0	265.0	265.0	265.0
5°	271.1	271.1	269.9	268.7	267.4	*267.4*	268.0	268.7	269.3	270.5	270.5
7.5°	274.7	274.7	274.1	272.9	271.1	*271.1*	271.7	272.9	273.5	273.5	272.9
10°	279.6	280.2	282.1	282.7	281.4	*281.4*	282.1	282.7	281.4	279.6	279.6
12.5°	291.2	291.8	294.2	296.1	296.1	*294.8*	295.5	296.7	293.6	290.6	291.2
15°	307.6	307.6	308.2	310.1	308.9	*307.6*	308.9	309.5	307.6	307.0	308.2
17.5°	329.6	329.6	325.9	329.0	329.6	*329.0*	330.2	327.1	325.3	327.7	329.0
20°	353.3	350.9	349.1	351.5	356.4	*354.5*	357.0	350.3	348.5	349.7	350.3
22.5°	368.6	370.4	371.6	372.8	379.5	*377.1*	379.5	372.2	371.0	368.6	366.7
25°	386.8	388.7	396.0	392.3	396.6	*392.9*	396.0	391.7	394.1	386.8	386.8
27.5°	407.5	411.2	415.5	413.6	419.1	*417.3*	419.1	413.0	413.6	410.6	409.4
30°	435.6	435.6	434.4	438.0	447.8	*446.5*	447.1	439.2	433.7	434.4	436.8
32.5°	463.6	459.9	461.8	472.7	478.8	*476.4*	477.6	473.9	461.8	459.3	461.2
35°	489.8	495.3	499.5	508.7	517.2	*516.0*	515.4	509.3	501.4	491.6	488.6
37.5°	530.6	536.7	548.3	564.7	579.9	*583.0*	575.1	567.2	548.9	534.9	527.6
40°	584.2	584.8	598.2	629.9	643.9	*646.3*	642.1	628.7	600.7	584.8	584.2
42.5°	631.1	626.9	648.8	675.6	688.4	*689.6*	686.6	675.6	648.8	626.2	630.5
45°	667.7	667.7	693.9	715.2	735.9	*740.8*	735.3	712.1	694.5	668.3	666.5
47.5°	701.2	710.3	732.2	758.4	787.7	*794.4*	787.7	760.3	730.4	710.9	700.6
50°	741.4	752.3	768.2	809.0	841.9	*851.0*	841.3	811.4	768.2	751.7	745.6
52.5°	788.3	797.4	822.4	873.6	897.9	*911.3*	903.4	874.8	823.6	798.6	793.8
55°	844.3	835.8	874.8	924.1	969.2	*986.9*	971.0	925.4	880.9	835.8	844.3
57.5°	873.0	863.2	918.0	965.0	1027.7	*1050.8*	1031.4	968.6	918.0	866.3	872.4
60°	875.4	879.7	921.1	997.8	1041.1	*1050.8*	1044.8	1003.3	922.9	883.3	871.7
62.5°	868.1	894.3	929.6	1008.8	1047.8	*1071.6*	1050.8	1010.0	933.3	898.6	868.7
65°	*858.3*	*884.5*	*936.9*	*993.0*	*1059.4*	*1083.1*	*1063.6*	*996.0*	*939.4*	*884.5*	*862.0*
67.5°	841.3	832.2	896.7	971.7	1029.5	*1043.5*	1031.4	972.9	896.1	830.9	843.1
70°	787.1	779.2	834.6	916.8	972.3	*991.8*	977.1	918.0	835.8	781.0	788.3
72.5°	706.7	709.1	762.7	841.3	901.0	*913.2*	905.3	840.7	765.7	712.1	702.4
75°	612.8	618.9	670.1	741.4	795.6	*802.9*	795.0	744.4	669.5	622.6	609.8
77.5°	503.8	512.9	554.4	625.6	661.6	*678.0*	665.2	627.5	557.4	515.4	502.6
80°	390.5	393.5	422.8	480.0	527.6	*538.5*	526.3	481.9	426.4	394.8	385.6
82.5°	255.9	260.7	286.9	330.8	361.9	*358.8*	361.9	327.1	290.0	259.5	244.3
85°	113.9	123.7	141.3	162.0	182.1	*187.6*	182.1	164.5	141.3	121.2	118.8
87.5°	7.9	9.1	11.0	11.6	12.8	*9.7*	9.7	9.7	8.5	9.7	7.9
90°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0	0.0	0.0

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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: SP1-2407-176-5

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

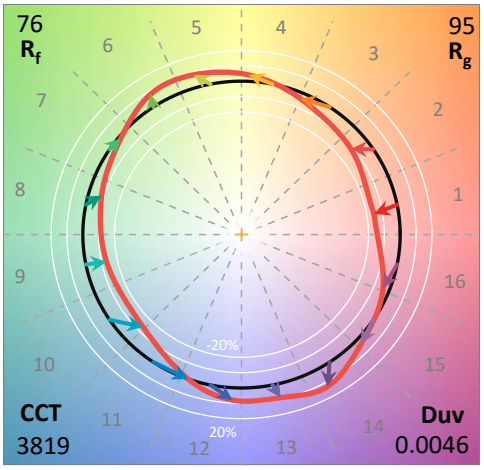
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

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	CRI (Ra):	72.9		
CIE u':	0.2261	R1:	70.1	R9:	-21.5
CIE v':	0.5108	R2:	78.4	R10:	48.5
Duv:	0.0046	R3:	85.0	R11:	68.4
CIE x:	0.3926	R4:	72.9	R12:	39.0
CIE y:	0.3942	R5:	69.1	R13:	71.1
CIE z:	0.2132	R6:	69.2	R14:	91.3
Peak Wavelength (nm):	450	R7:	82.8	R15:	63.2
Dominant Wavelength (nm):	577	R8:	55.4		
Purity:	36.15483				
Rf:	75.6				
Rg:	94.8				



Test Conditions

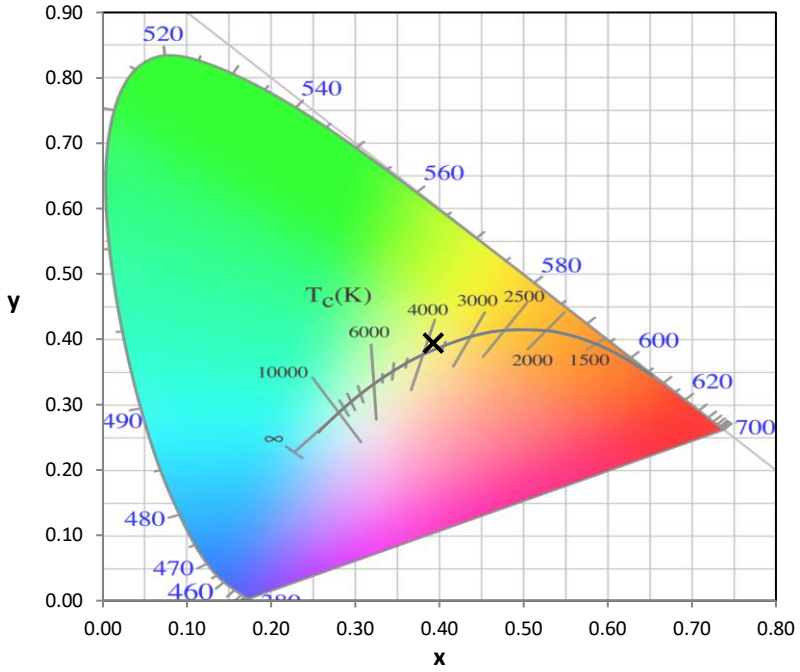
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

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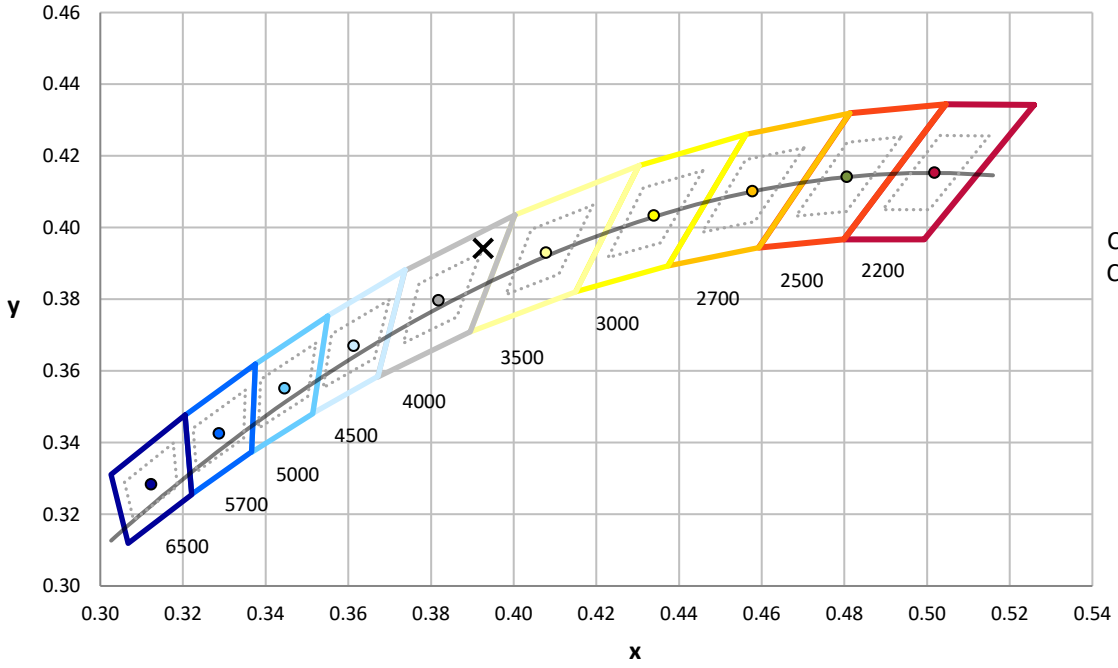
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

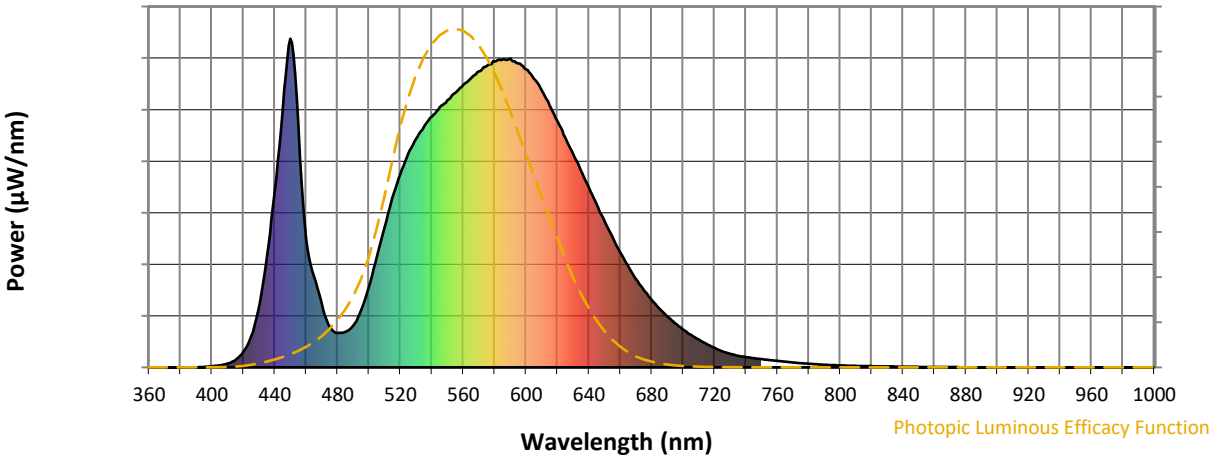


CCT = 3819K
CIE x = 0.3926
CIE y = 0.3942
Duv = 0.0046

Point lies inside the ANSI 4000K 7-step quadrangle

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Photopic Flux vs. Wavelength

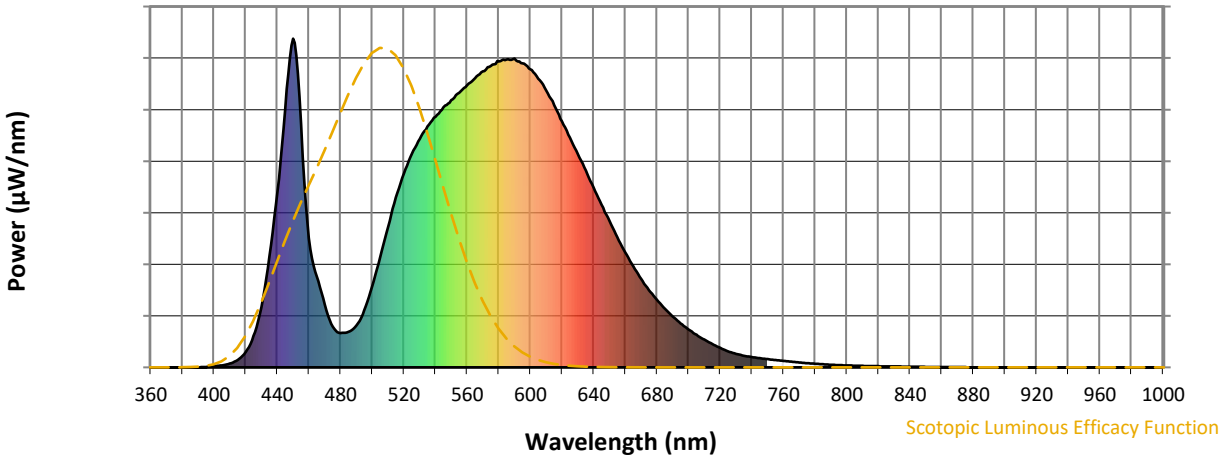


Photopic Lumens: NR

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

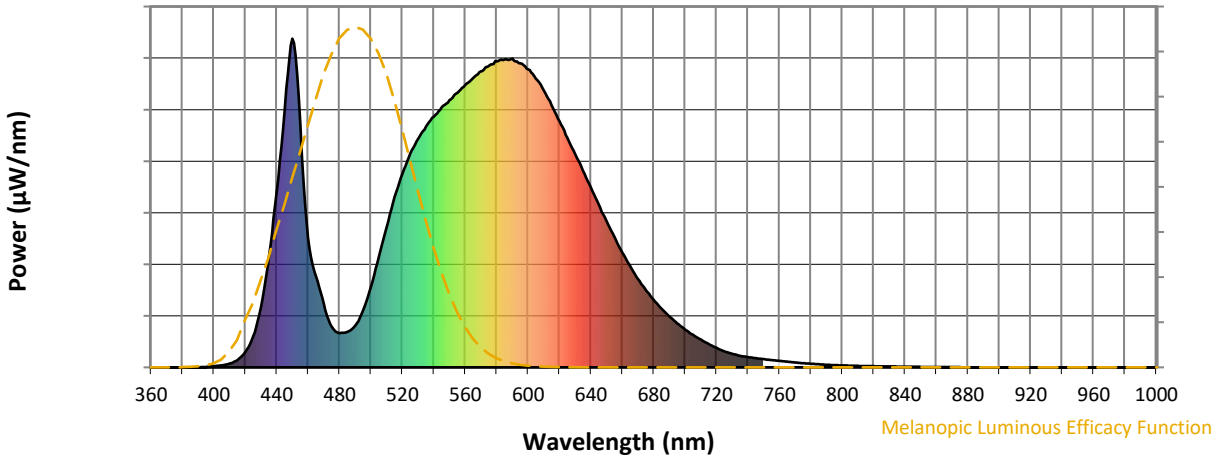


Scotopic Lumens: NR **S/P: 1.45**

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			

REPORT NUMBER: SP1-2407-176-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.76**

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			

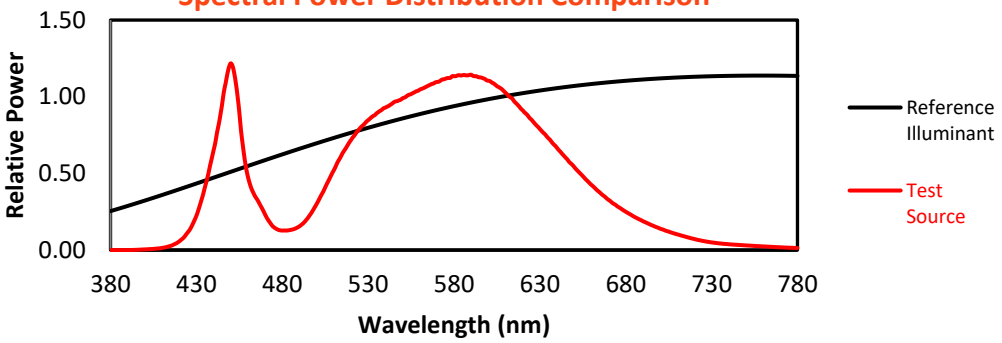
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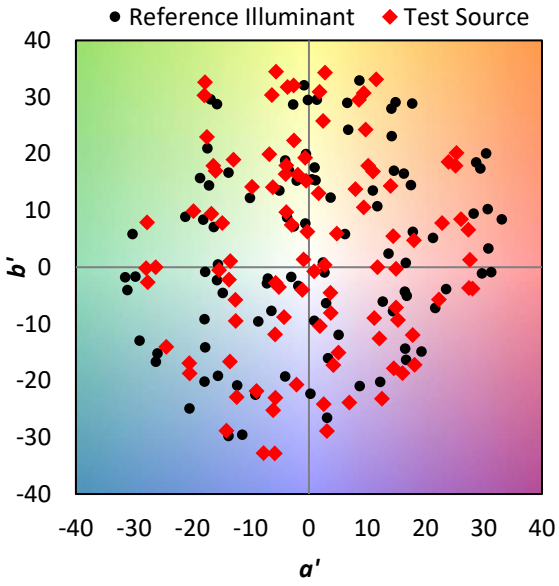
Summary

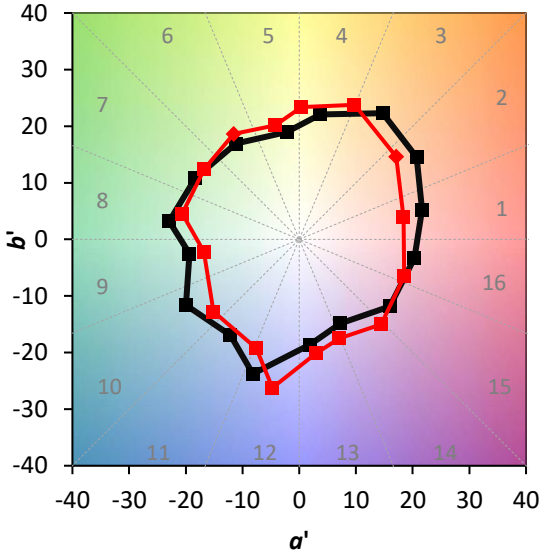
R_f = 75.6
R_g = 94.8
CIE R_a = 72.9
R_9 = -21.5

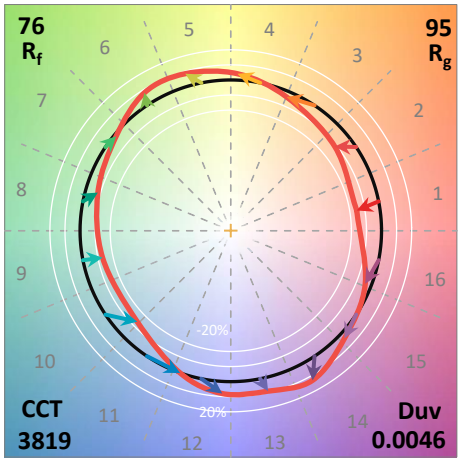
Spectral Power Distribution Comparison

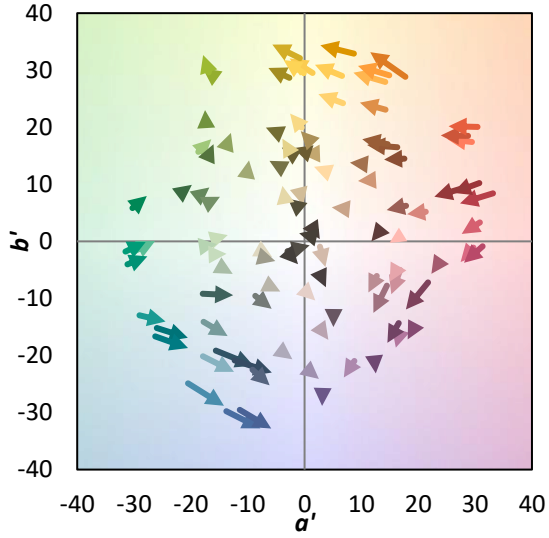


Color Vector Graphics







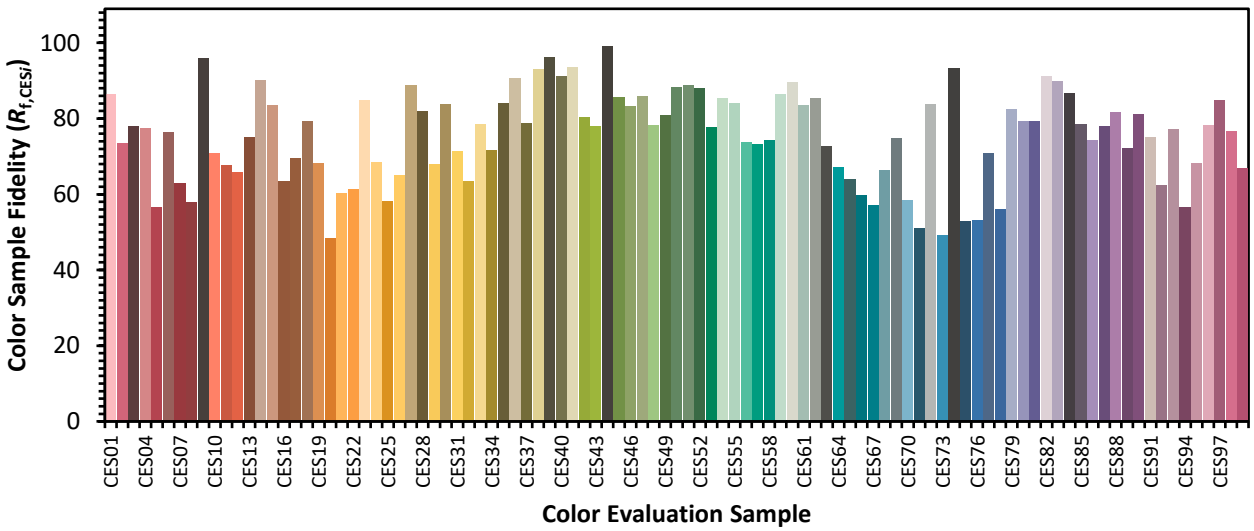


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Individual Sample Fidelity Index ($R_{f,i}$)

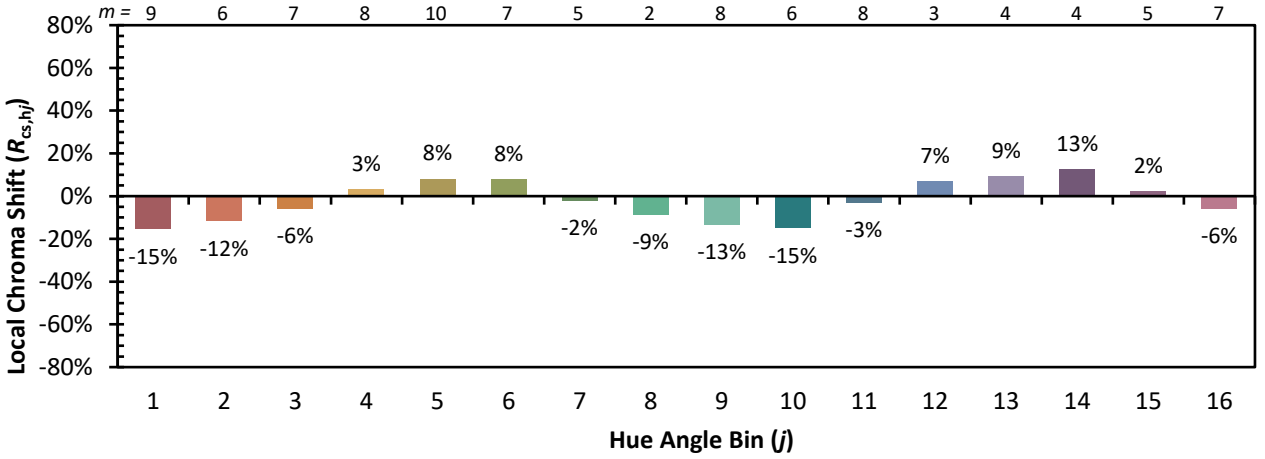
CES01 = 85	CES26 = 65	CES51 = 89	CES76 = 53
CES02 = 61	CES27 = 89	CES52 = 88	CES77 = 71
CES03 = 30	CES28 = 82	CES53 = 78	CES78 = 56
CES04 = 70	CES29 = 68	CES54 = 85	CES79 = 83
CES05 = 48	CES30 = 84	CES55 = 84	CES80 = 79
CES06 = 50	CES31 = 71	CES56 = 74	CES81 = 79
CES07 = 40	CES32 = 63	CES57 = 73	CES82 = 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	

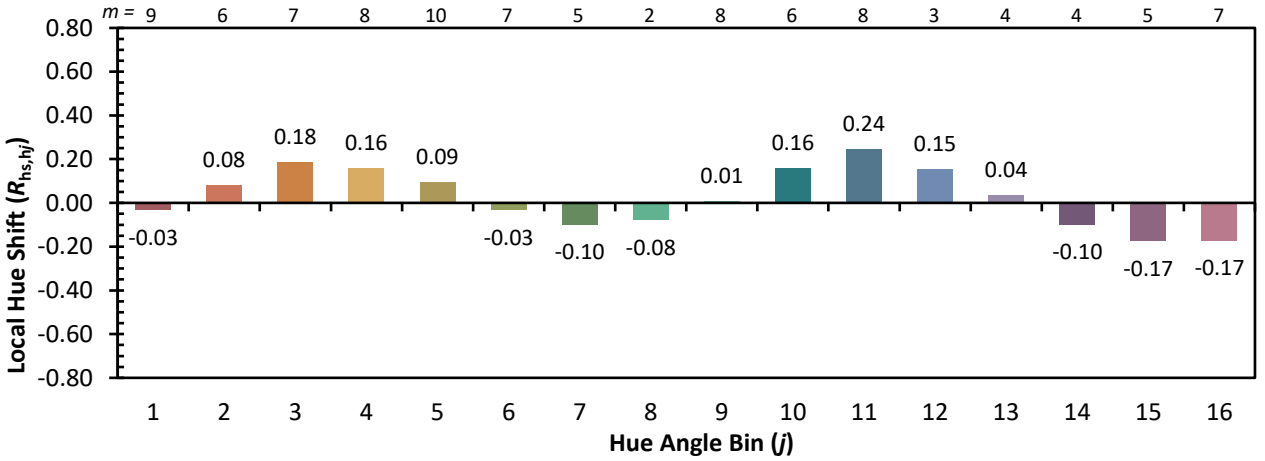


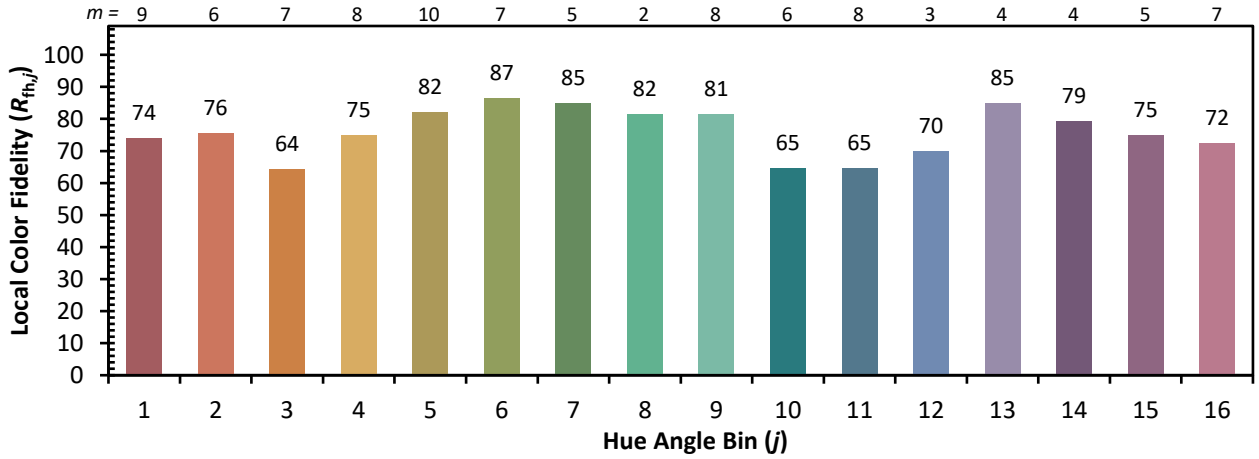
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Color Rendition by Hue-Angle Bin



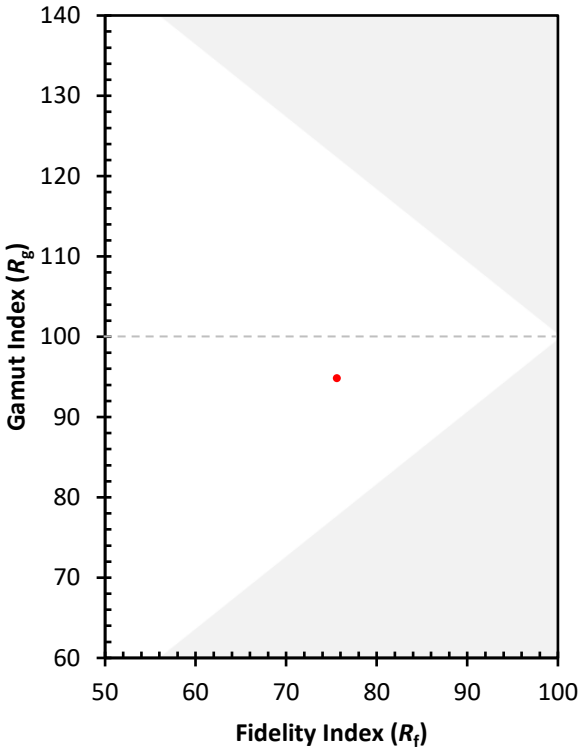


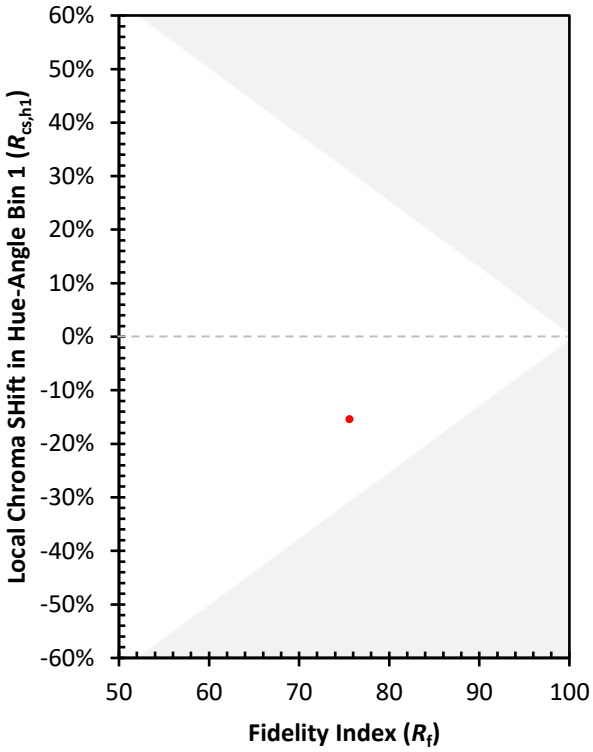


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Measure Comparisons





(END OF REPORT)