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: P821115

Luminaire Tested: **TT-D1-830-24VDC-CQ-UPL**

Issue Date: 7/23/2020

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:	P821115
	REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND
Test Lab:	INNOVATION CENTER
Issue Date:	7/23/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D1-830-24VDC-CQ-UPL
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	3000K, 80 CRI LEDS AND CONCENTRATED DISTRIBUTION
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4244.7 lumens
Efficiency:	N/A
Efficacy:	151.6 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification:	Type V - Short
BUG Rating:	B1 - U4 - G1

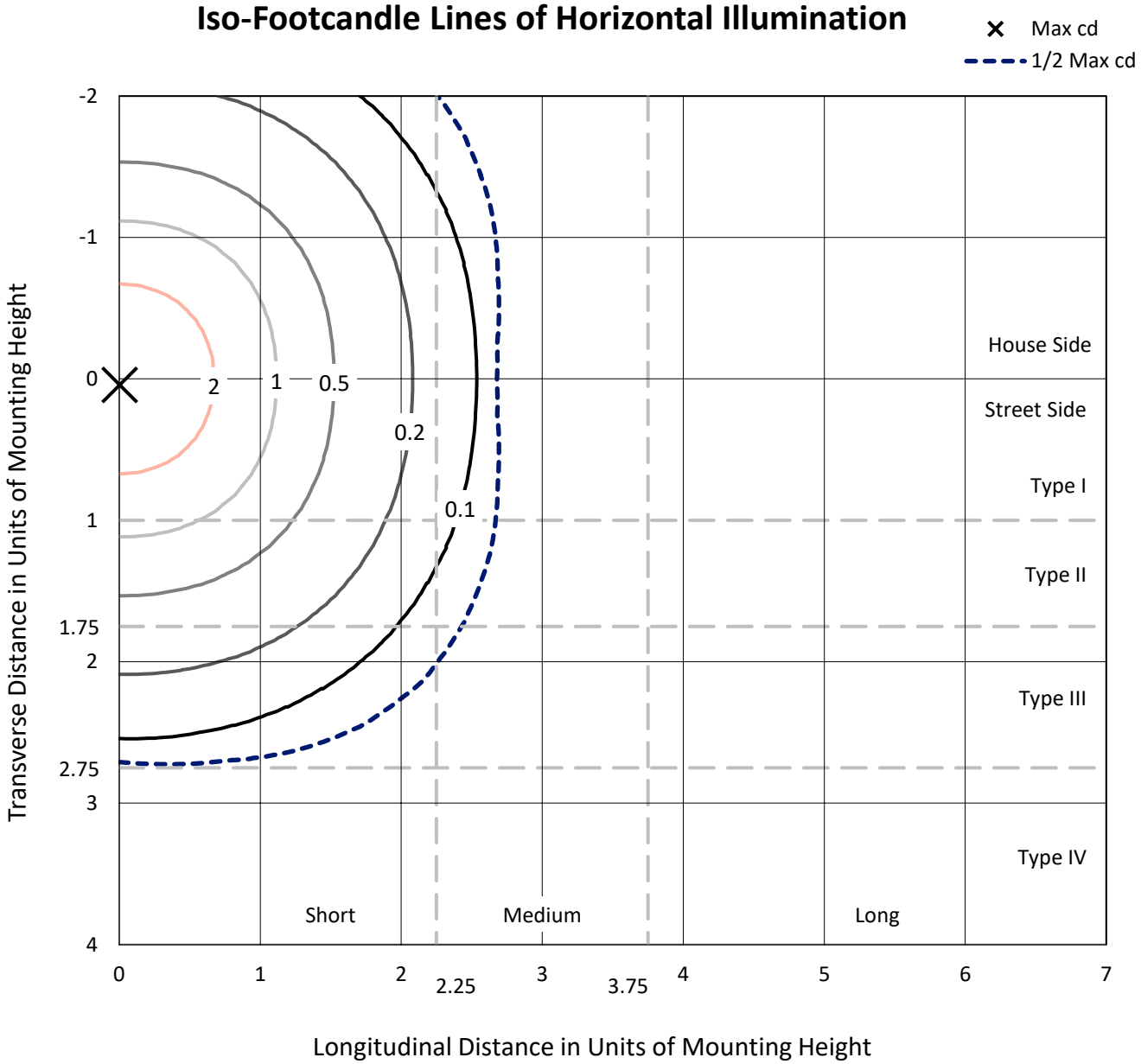
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Scaled Data Report

REPORT NUMBER: P821115
CATALOG NUMBER: TT-D1-830-24VDC-CQ-UPL

Iso-Footcandle Lines of Horizontal Illumination



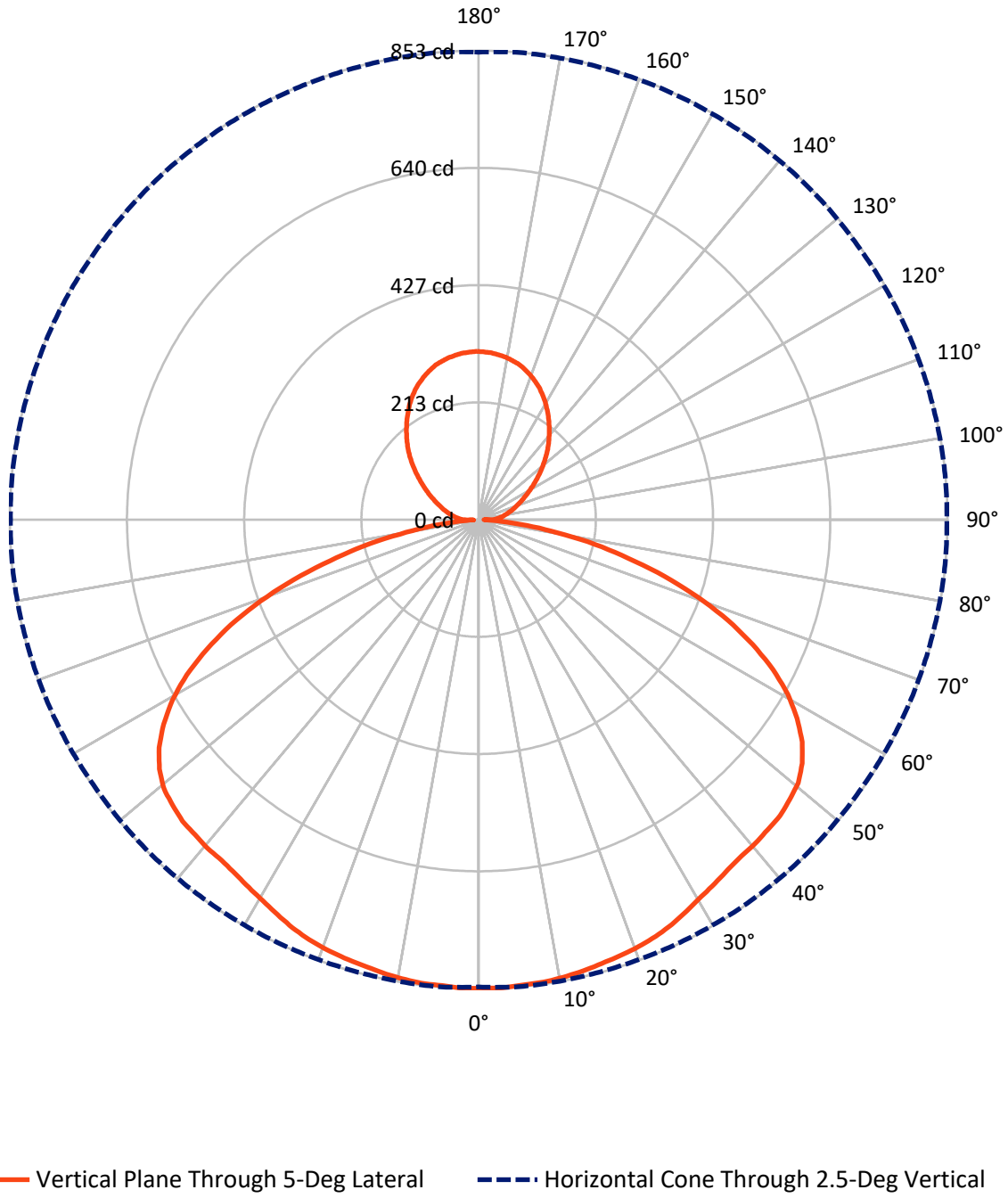
Based on 15 foot mounting height. Maximum calculated value = 3.8 fc
Type V - Short - N/A

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Luminous Intensity Polar Plot



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Scaled Data Report

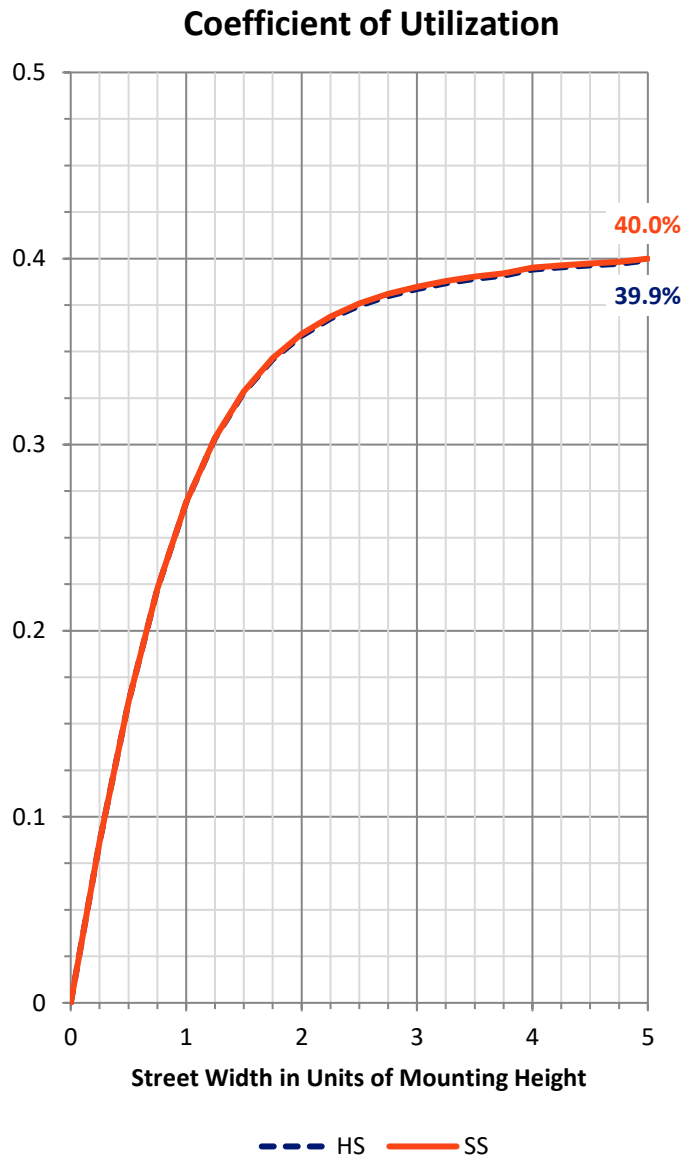
REPORT NUMBER: P821115
CATALOG NUMBER: TT-D1-830-24VDC-CQ-UPL

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1706.5	415.9	2122.4
	% Fixture	40.2	9.8	50.0
Street Side	Lumens	1706.5	415.9	2122.4
	% Fixture	40.2	9.8	50.0
Total	Lumens	3413.0	831.7	4244.7
	% Fixture	80.4	19.6	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.1	1.9
10°-20°	237.5	5.6
20°-30°	377.8	8.9
30°-40°	497.0	11.7
40°-50°	608.2	14.3
50°-60°	658.8	15.5
60°-70°	566.8	13.4
70°-80°	318.6	7.5
80°-90°	67.2	1.6
90°-100°	42.6	1.0
100°-110°	66.0	1.6
110°-120°	91.9	2.2
120°-130°	119.0	2.8
130°-140°	138.7	3.3
140°-150°	140.5	3.3
150°-160°	121.9	2.9
160°-170°	82.2	1.9
170°-180°	28.9	0.7
0°-90°	3413.0	80.4
0°-180°	4244.7	100.0



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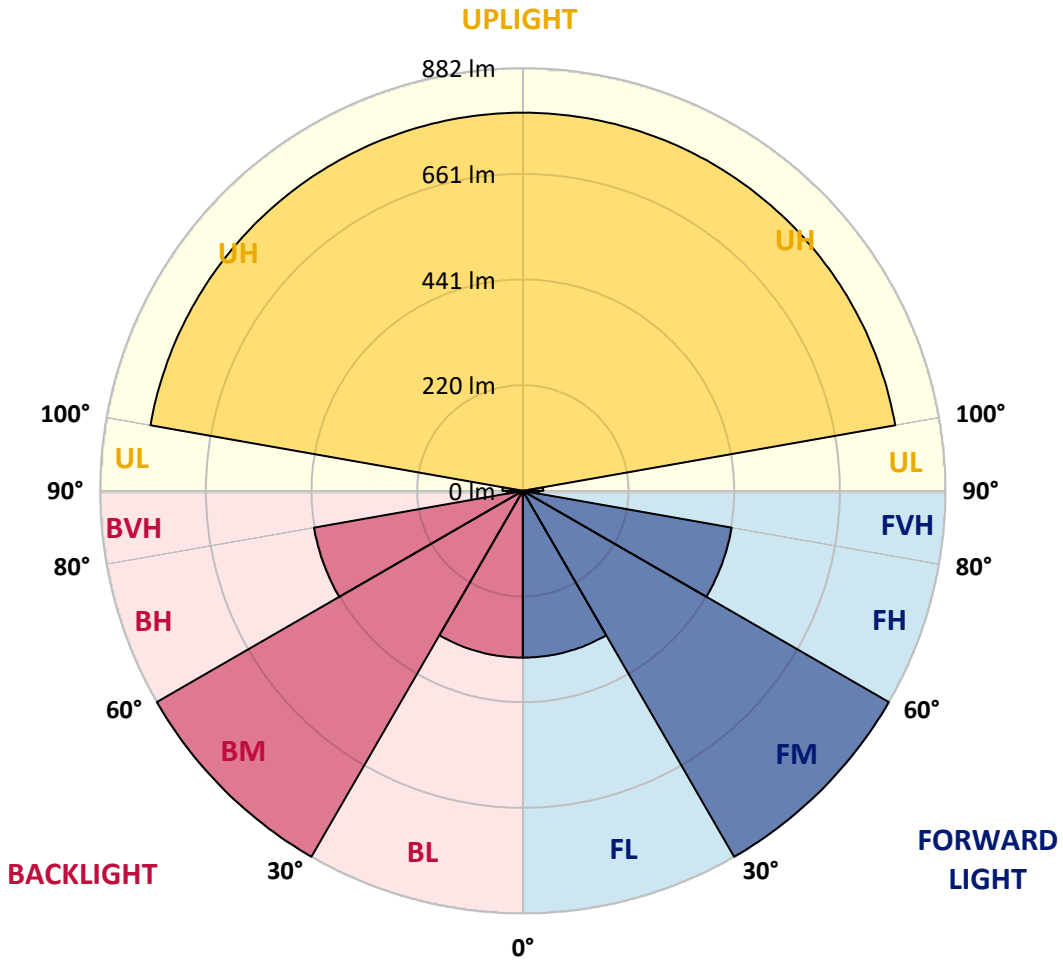
Scaled Data Report

REPORT NUMBER: P821115
CATALOG NUMBER: TT-D1-830-24VDC-CQ-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	348.2	8.2			
FM	(30°-60°)	882.0	20.8			
FH	(60°-80°)	442.7	10.4			G0/660
FVH	(80°-90°)	33.6	0.8			G1/100
BL	(0°-30°)	348.2	8.2	B1/500		
BM	(30°-60°)	882.0	20.8	B1/1000		
BH	(60°-80°)	442.7	10.4	B1/500		G0/660
BVH	(80°-90°)	33.6	0.8			G1/100
UL	(90°-100°)	42.6	1.0		U2/50	
UH	(100°-180°)	789.1	18.6		U4/1000	

BUG Rating: B1-U4-G1
Type V Short



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REPORT NUMBER: P821115
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8
2.5°	850.7	853.4	852.3	852.3	852.3	852.3	851.2	852.3	852.3	852.8	852.3
5°	851.2	850.7	850.7	851.2	851.2	851.7	850.7	851.2	851.7	851.7	852.3
7.5°	849.6	850.1	849.0	850.1	849.0	849.6	849.6	850.1	849.6	850.1	851.2
10°	846.3	846.9	846.3	846.3	846.3	847.4	845.2	846.9	846.3	846.9	846.3
12.5°	840.4	843.1	842.0	843.1	843.1	843.1	841.4	842.5	843.1	843.1	843.1
15°	837.6	838.2	836.6	838.7	839.3	839.8	837.6	838.7	838.7	839.3	839.8
17.5°	831.7	834.4	833.8	835.5	834.9	836.6	836.0	835.5	834.9	836.0	834.9
20°	827.3	830.0	829.5	831.1	831.7	833.3	831.7	831.7	830.0	830.6	832.2
22.5°	823.0	824.1	824.1	825.7	825.7	827.3	825.7	825.2	825.2	824.6	826.2
25°	815.9	816.5	815.9	817.6	818.7	819.7	819.2	818.1	817.6	817.6	817.0
27.5°	804.5	806.7	807.8	810.0	810.5	812.1	810.0	810.0	808.9	807.8	808.3
30°	795.9	797.0	797.0	801.8	801.8	804.5	801.8	801.3	800.8	800.2	799.1
32.5°	787.7	789.4	791.0	794.8	797.5	798.6	797.0	795.9	793.2	791.5	791.0
35°	781.2	781.8	785.0	790.4	793.7	796.4	794.2	791.5	787.7	785.0	787.2
37.5°	776.3	776.9	781.8	788.8	794.8	797.0	793.7	789.4	783.4	780.1	779.1
40°	772.0	775.3	780.7	790.4	797.0	800.2	797.5	791.5	782.8	776.3	775.8
42.5°	769.8	771.5	779.6	791.0	800.2	804.5	800.8	792.6	781.8	774.2	773.6
45°	764.4	769.3	776.9	791.5	801.8	807.3	801.8	791.5	778.5	769.8	768.2
47.5°	760.1	761.7	773.6	790.4	802.9	807.3	801.8	788.8	772.5	761.1	760.1
50°	749.8	753.6	765.5	783.4	798.0	802.4	795.9	778.5	760.1	747.6	745.4
52.5°	734.0	737.3	751.4	773.6	787.7	792.6	782.8	764.4	742.7	727.5	727.5
55°	709.6	714.5	729.1	751.9	769.8	774.2	762.8	743.2	718.8	703.6	703.1
57.5°	680.3	683.6	699.3	724.3	741.6	748.1	736.7	715.0	690.6	672.7	671.1
60°	642.3	646.7	663.5	687.4	705.3	710.7	700.9	679.2	654.3	635.3	635.3
62.5°	596.8	601.6	618.5	642.9	661.3	669.5	655.9	635.3	609.2	590.8	589.2
65°	543.6	547.9	563.1	588.6	607.6	613.6	603.3	581.6	556.6	539.3	537.6
67.5°	483.9	489.9	505.1	526.8	543.1	550.7	544.1	524.6	498.6	480.7	479.0
70°	419.4	423.7	435.6	455.7	474.2	479.6	469.8	456.8	432.4	416.1	413.9
72.5°	350.5	354.3	364.0	383.0	396.0	403.1	397.7	380.8	361.3	347.8	349.9
75°	281.0	280.5	291.3	304.9	316.8	321.7	317.9	307.1	289.2	277.8	277.2
77.5°	211.6	217.0	220.8	232.2	242.0	245.8	240.3	231.7	218.1	208.9	210.5
80°	148.6	145.4	152.4	159.5	166.0	169.8	166.6	161.7	152.4	145.4	144.3
82.5°	91.1	88.4	91.7	98.2	102.5	103.6	104.2	98.2	94.4	89.0	90.1
85°	40.1	40.7	43.4	47.7	48.3	48.8	48.8	47.7	43.4	42.9	41.8
87.5°	9.8	9.8	10.3	11.9	11.9	12.5	12.5	10.9	10.3	9.2	9.8
90°	30.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
92.5°	34.8	34.2	34.2	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
95°	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5
97.5°	44.6	44.6	44.6	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	55.9	55.9	55.9	55.9	56.4	55.9	55.9	55.9
105°	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.9	62.0	62.0	62.0
107.5°	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.5	69.0	69.0	69.0
110°	75.1	75.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1

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CATALOG NUMBER: TT-D1-830-24VDC-CQ-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	83.1	*83.1*	84.0	84.0	84.0	84.0	84.6	84.6	84.0	84.0	84.0
115°	91.1	*91.1*	92.0	92.0	92.0	92.0	93.0	93.0	92.0	92.0	92.0
117.5°	100.5	*100.5*	101.0	101.4	101.4	101.4	102.4	102.4	101.4	101.4	101.4
120°	109.9	*109.9*	109.9	110.8	110.8	110.8	111.8	111.8	110.8	110.8	110.8
122.5°	120.7	*120.7*	121.2	121.6	121.6	121.6	122.6	122.6	122.1	122.1	121.6
125°	131.5	*131.5*	132.4	132.4	132.4	132.4	133.4	133.4	133.4	133.4	132.4
127.5°	143.2	*143.2*	144.2	144.2	144.2	144.2	145.1	145.1	145.1	145.1	144.2
130°	155.0	*155.0*	155.9	155.9	155.9	155.9	156.8	156.8	156.8	156.8	155.9
132.5°	167.2	*167.2*	167.6	167.6	167.6	168.1	168.6	168.6	168.6	168.6	168.1
135°	179.4	*179.4*	179.4	179.4	179.4	180.3	180.3	180.3	180.3	180.3	180.3
137.5°	191.2	*190.6*	191.2	190.6	191.2	191.6	191.6	191.6	191.6	191.6	191.6
140°	202.9	*201.9*	202.9	201.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9
142.5°	213.7	*213.2*	213.7	212.7	213.7	213.7	213.7	213.7	213.7	213.7	213.7
145°	224.5	*224.5*	224.5	223.5	224.5	224.5	224.5	224.5	224.5	224.5	224.5
147.5°	235.8	*235.3*	235.8	234.8	235.8	235.8	235.8	235.8	235.8	235.8	235.8
150°	247.0	*246.1*	247.0	246.1	247.0	247.0	247.0	247.0	247.0	247.0	247.0
152.5°	256.0	*255.5*	256.4	255.5	256.0	256.0	256.4	256.0	256.0	256.0	256.0
155°	264.9	*264.9*	265.8	264.9	264.9	264.9	265.8	264.9	264.9	264.9	264.9
157.5°	272.4	*272.4*	273.3	272.4	272.4	272.4	273.3	272.4	272.4	272.4	272.4
160°	279.9	*279.9*	280.8	279.9	279.9	279.9	280.8	279.9	279.9	279.9	279.9
162.5°	286.0	*286.0*	286.9	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.0
165°	292.1	*292.1*	293.0	292.1	292.1	292.1	293.0	292.1	292.1	292.1	292.1
167.5°	295.8	*295.8*	296.8	295.8	295.8	295.8	296.8	295.8	295.8	295.8	295.8
170°	299.6	*299.6*	300.5	299.6	299.6	299.6	300.5	299.6	299.6	299.6	299.6
172.5°	302.0	*302.0*	302.8	302.0	302.4	302.0	302.8	302.0	302.0	302.0	302.0
175°	304.3	*304.3*	305.2	304.3	305.2	304.3	305.2	304.3	304.3	304.3	304.3
177.5°	305.2	*305.2*	305.7	305.2	305.7	305.2	305.7	305.2	305.2	305.2	305.2
180°	306.2	*306.2*	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2

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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: SP1-2407-176-7

Test Date: 09/27/2024

Luminaire Tested: MEM2-HTN-VA-30-830-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-830-U-WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

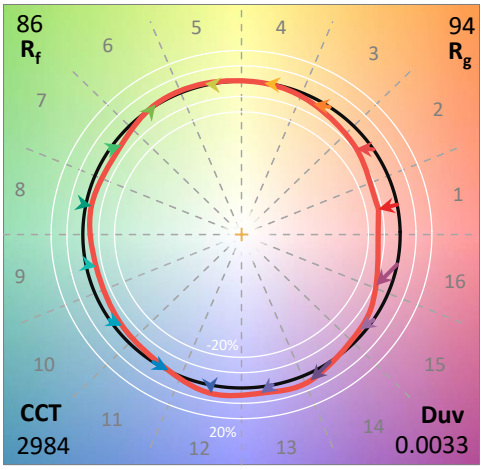
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-7
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-30-830-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	2984	CRI (Ra):	81.8		
CIE u':	0.2500	R1:	79.4	R9:	-1.1
CIE v':	0.5264	R2:	89.9	R10:	78.4
Duv:	0.0033	R3:	96.6	R11:	80.8
CIE x:	0.4431	R4:	80.6	R12:	72.8
CIE y:	0.4147	R5:	80.1	R13:	81.7
CIE z:	0.1422	R6:	88.9	R14:	98.5
Peak Wavelength (nm):	601	R7:	82.6	R15:	70.2
Dominant Wavelength (nm):	581	R8:	56.0		
Purity:	57.4798				

Rf:	85.8
Rg:	94.1



Test Conditions

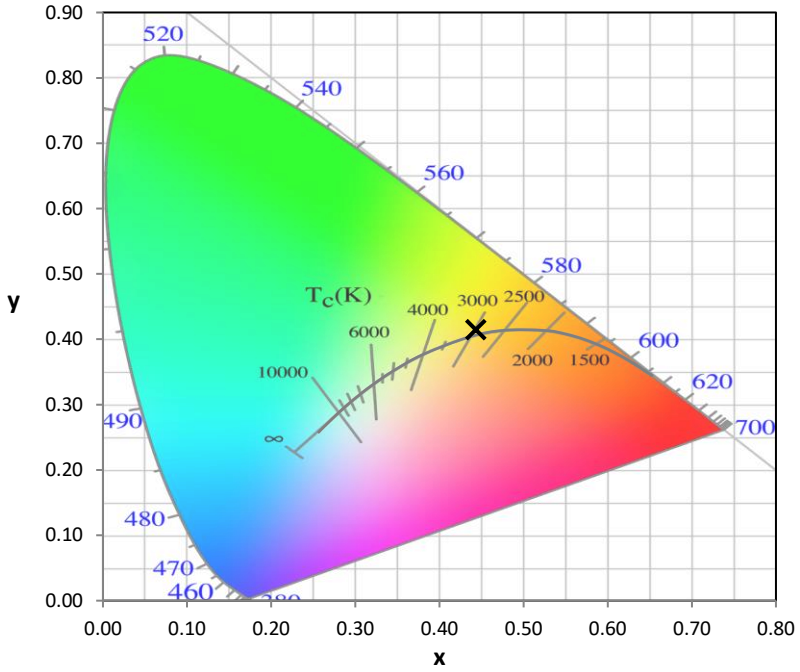
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

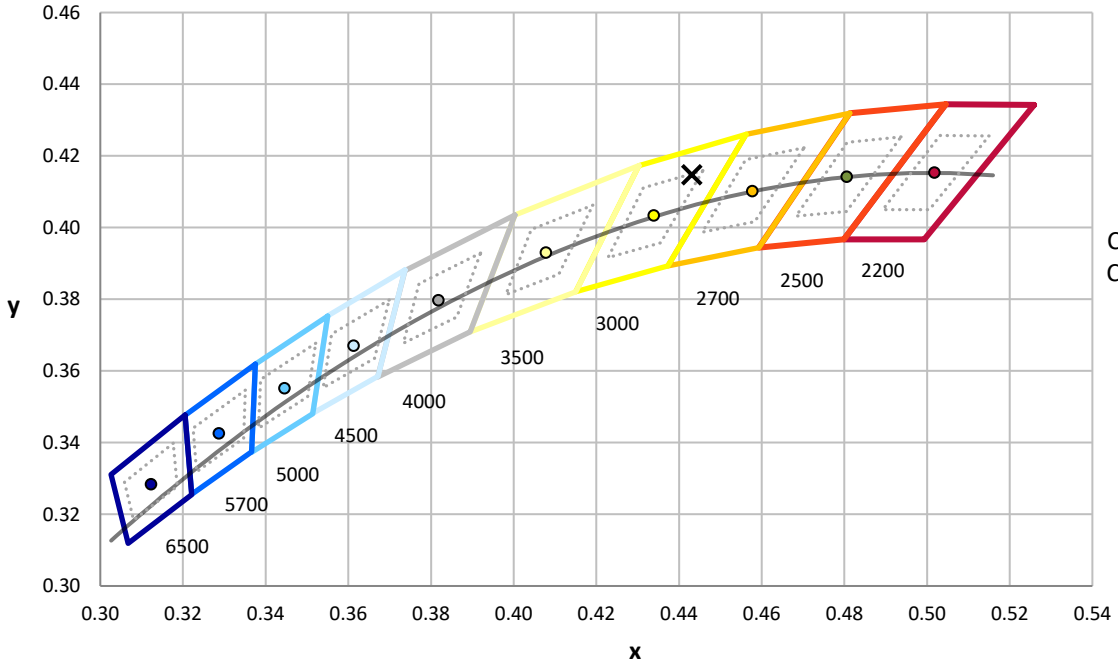
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-7

CIE 1931 Chromaticity Diagram



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

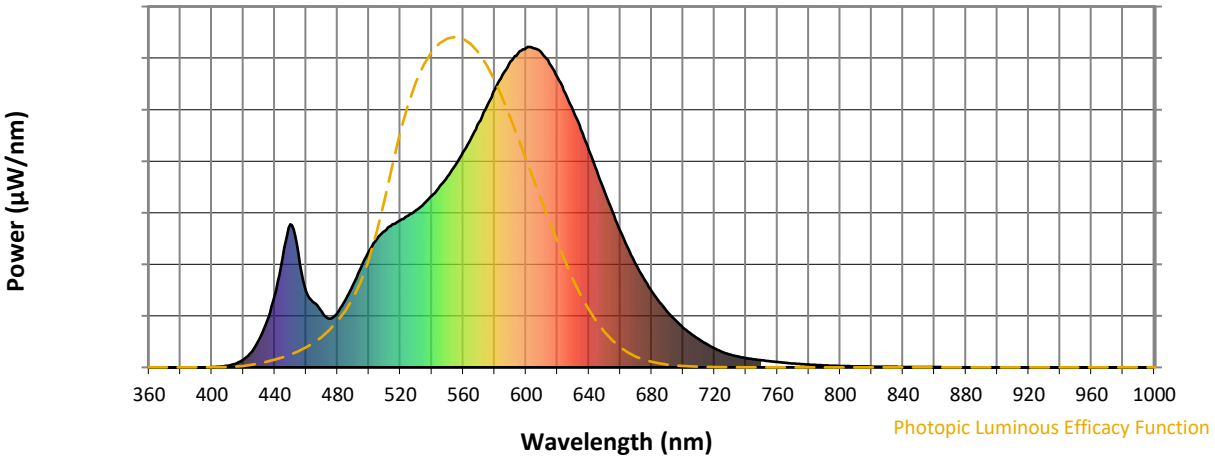


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

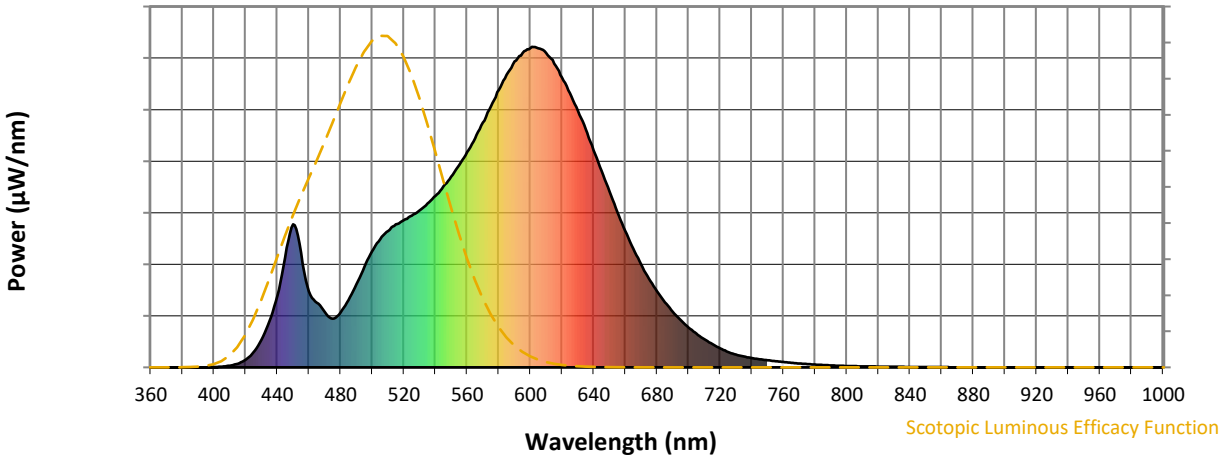


Photopic Lumens: NR

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

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Scotopic Flux vs. Wavelength

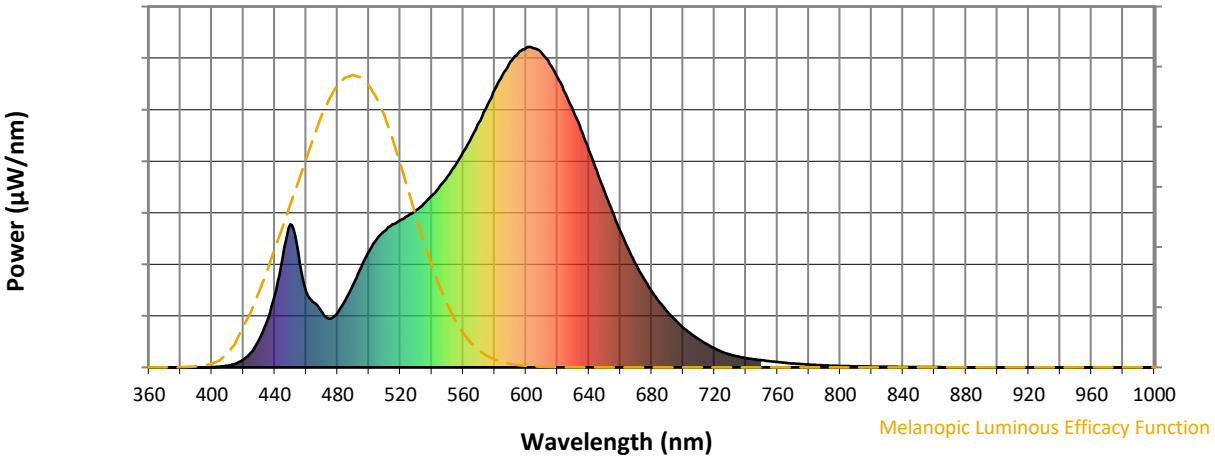


Scotopic Lumens: NR **S/P: 1.32**

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.51**

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

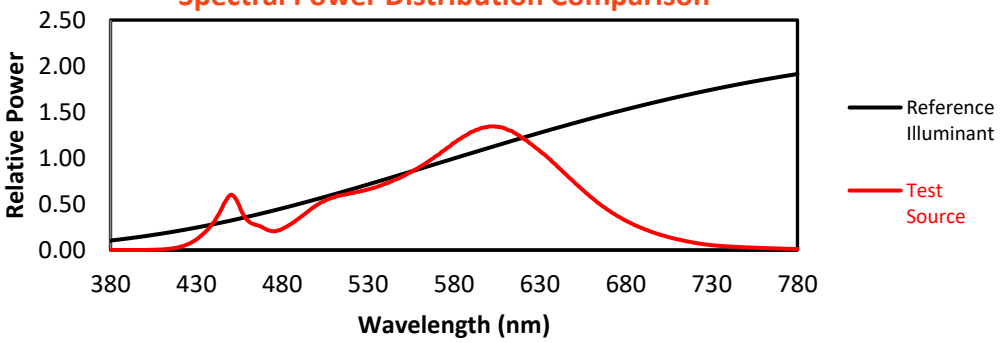
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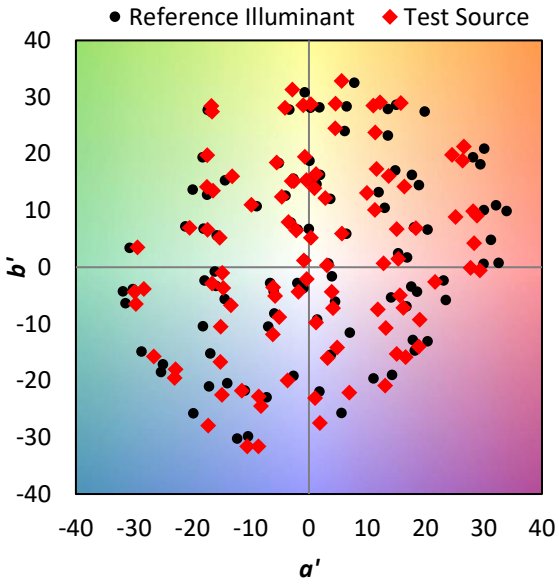
Summary

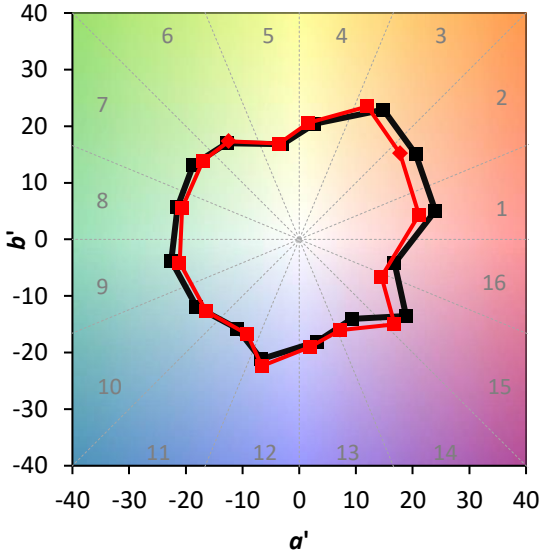
R_f = 85.8
R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

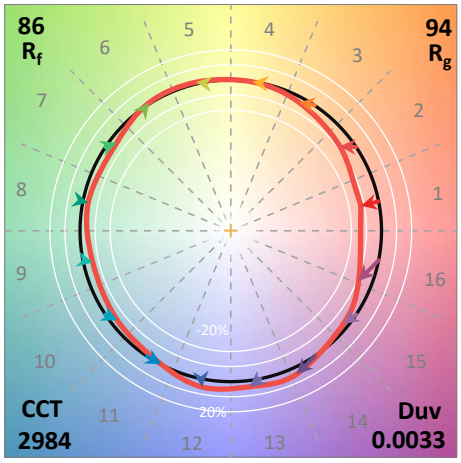
Spectral Power Distribution Comparison

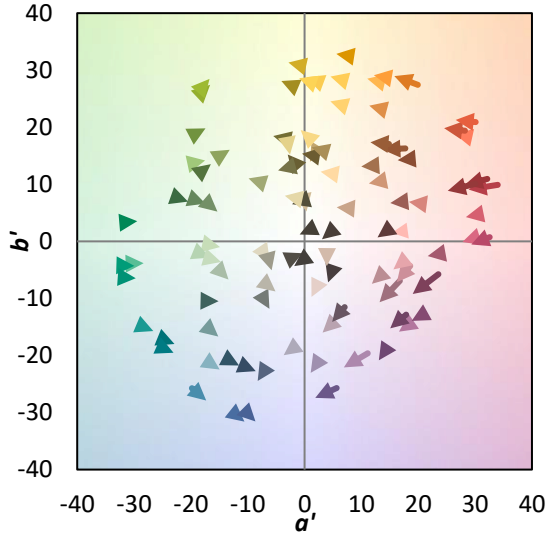


Color Vector Graphics







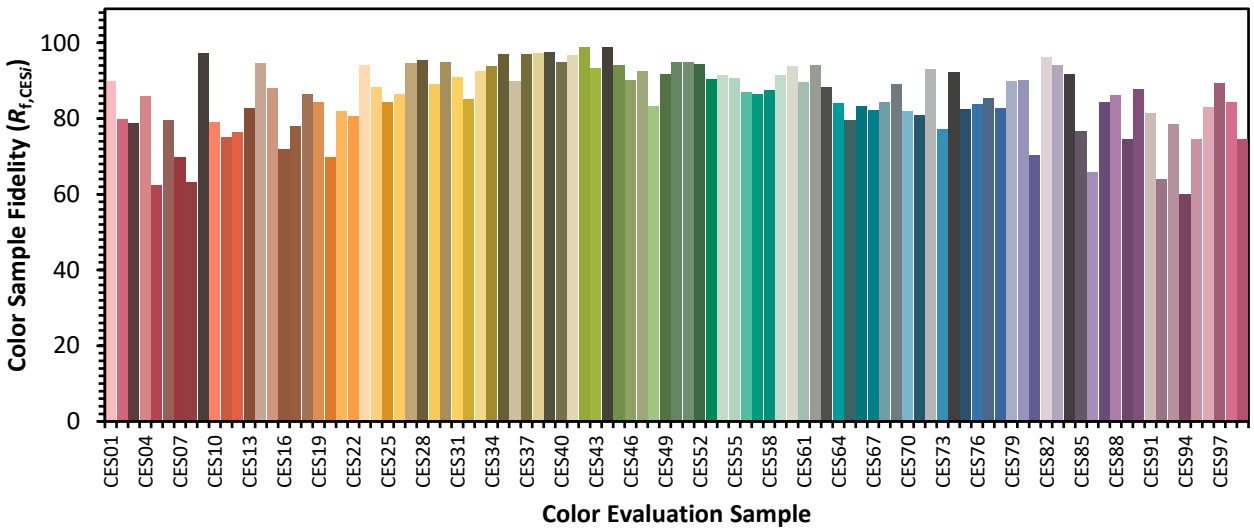


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Individual Sample Fidelity Index ($R_{f,i}$)

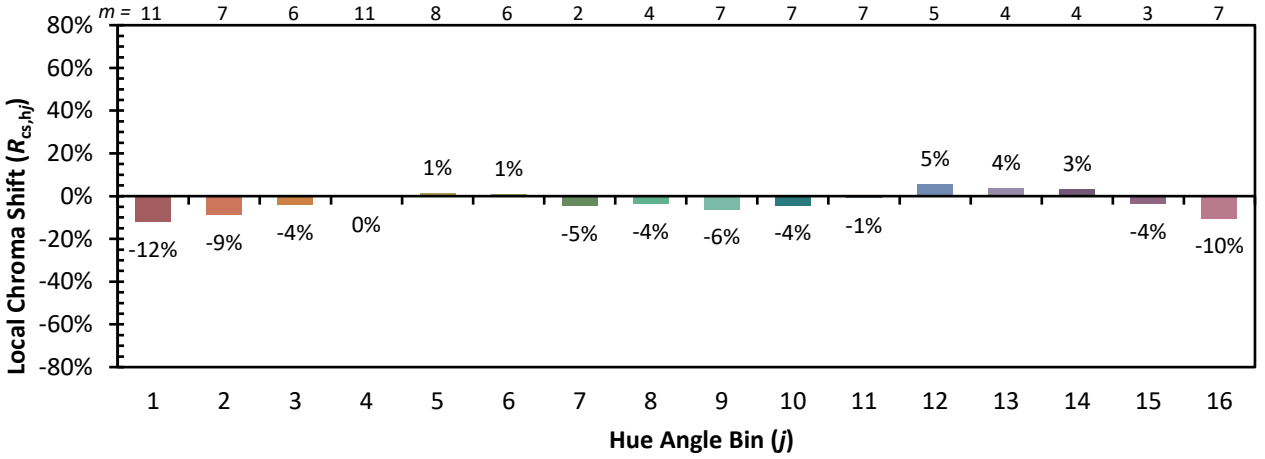
CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 84
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57 = 86	CES82 = 96
CES08 = 41	CES33 = 93	CES58 = 87	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 92	CES84 = 92
CES10 = 76	CES35 = 97	CES60 = 94	CES85 = 77
CES11 = 59	CES36 = 90	CES61 = 90	CES86 = 66
CES12 = 65	CES37 = 97	CES62 = 94	CES87 = 84
CES13 = 43	CES38 = 97	CES63 = 88	CES88 = 86
CES14 = 74	CES39 = 98	CES64 = 84	CES89 = 75
CES15 = 72	CES40 = 95	CES65 = 80	CES90 = 88
CES16 = 47	CES41 = 97	CES66 = 83	CES91 = 81
CES17 = 50	CES42 = 99	CES67 = 82	CES92 = 64
CES18 = 56	CES43 = 93	CES68 = 84	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 60
CES20 = 67	CES45 = 94	CES70 = 82	CES95 = 74
CES21 = 87	CES46 = 90	CES71 = 81	CES96 = 83
CES22 = 79	CES47 = 93	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 83	CES73 = 77	CES98 = 84
CES24 = 91	CES49 = 92	CES74 = 92	CES99 = 75
CES25 = 72	CES50 = 95	CES75 = 83	

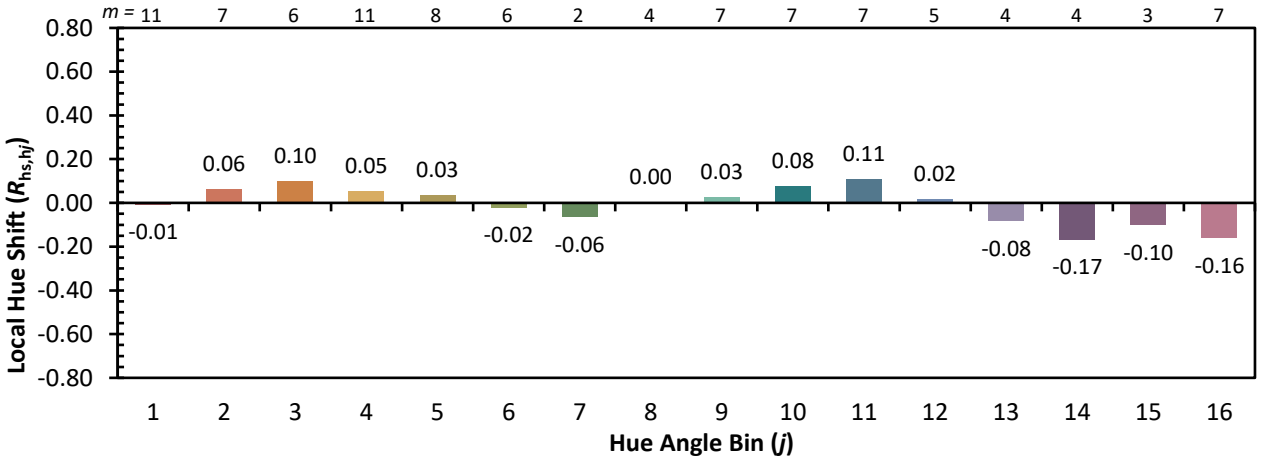


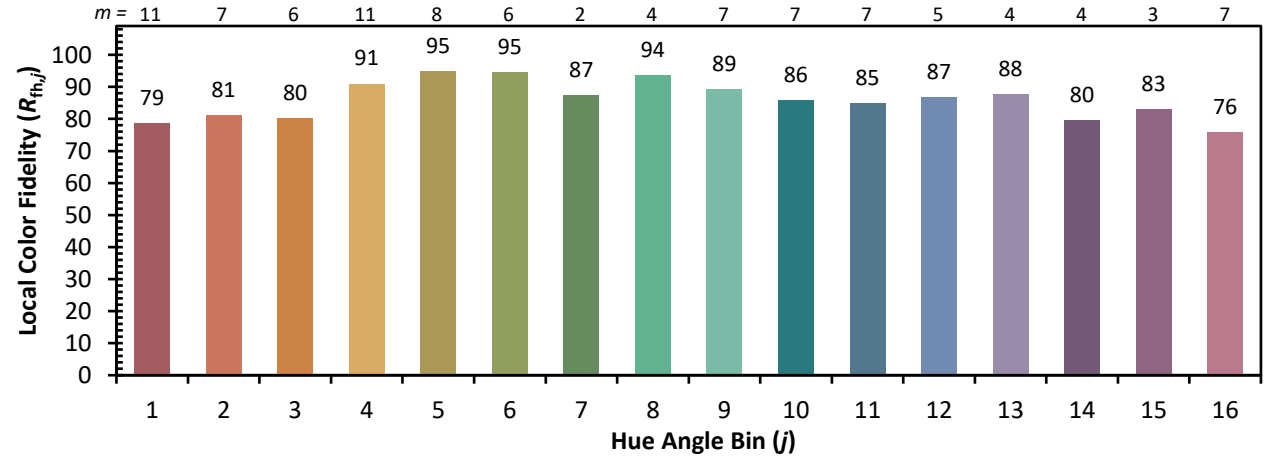
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Color Rendition by Hue-Angle Bin



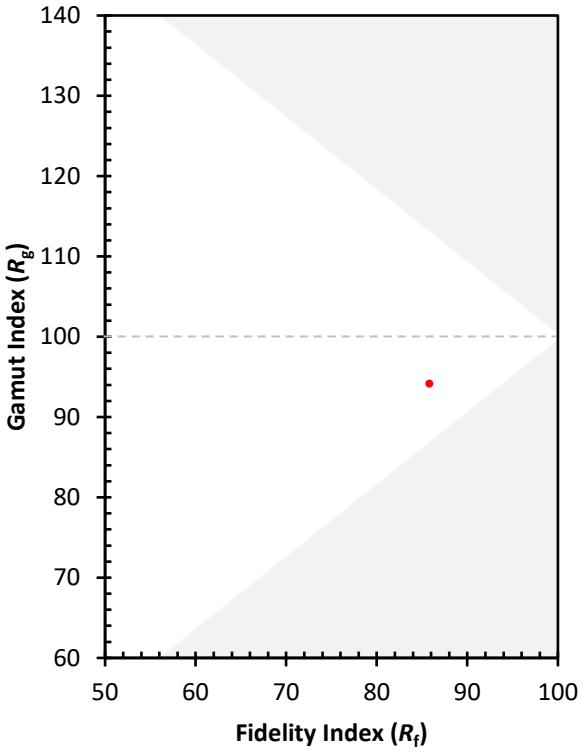


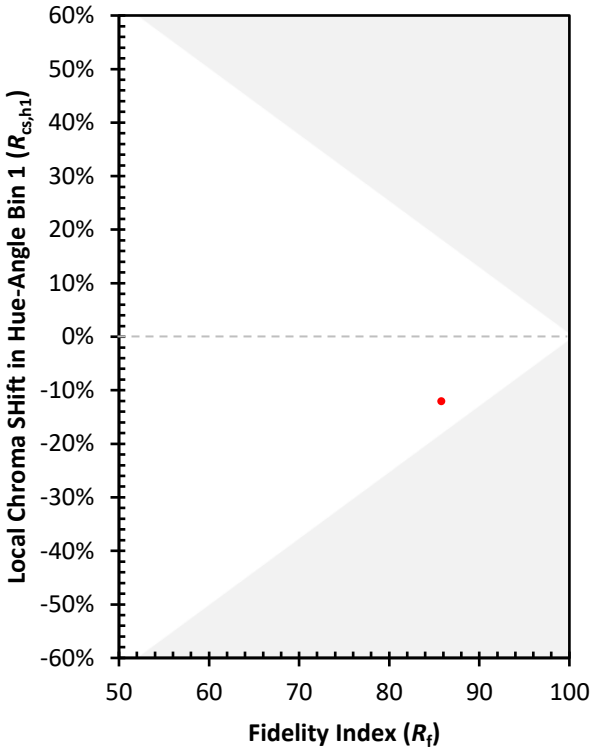


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Measure Comparisons





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