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: P821520

Luminaire Tested: **TT-D1-740-12VDC-MQ-HSS**

Issue Date: 12/2/2020

Report Generated By 670245763

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821520
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-1)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D1-740-12VDC-MQ-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	4000K, 70 CRI LEDS AND MEDIUM DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3448 lumens
Efficiency:	N/A
Efficacy:	123.1 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G2

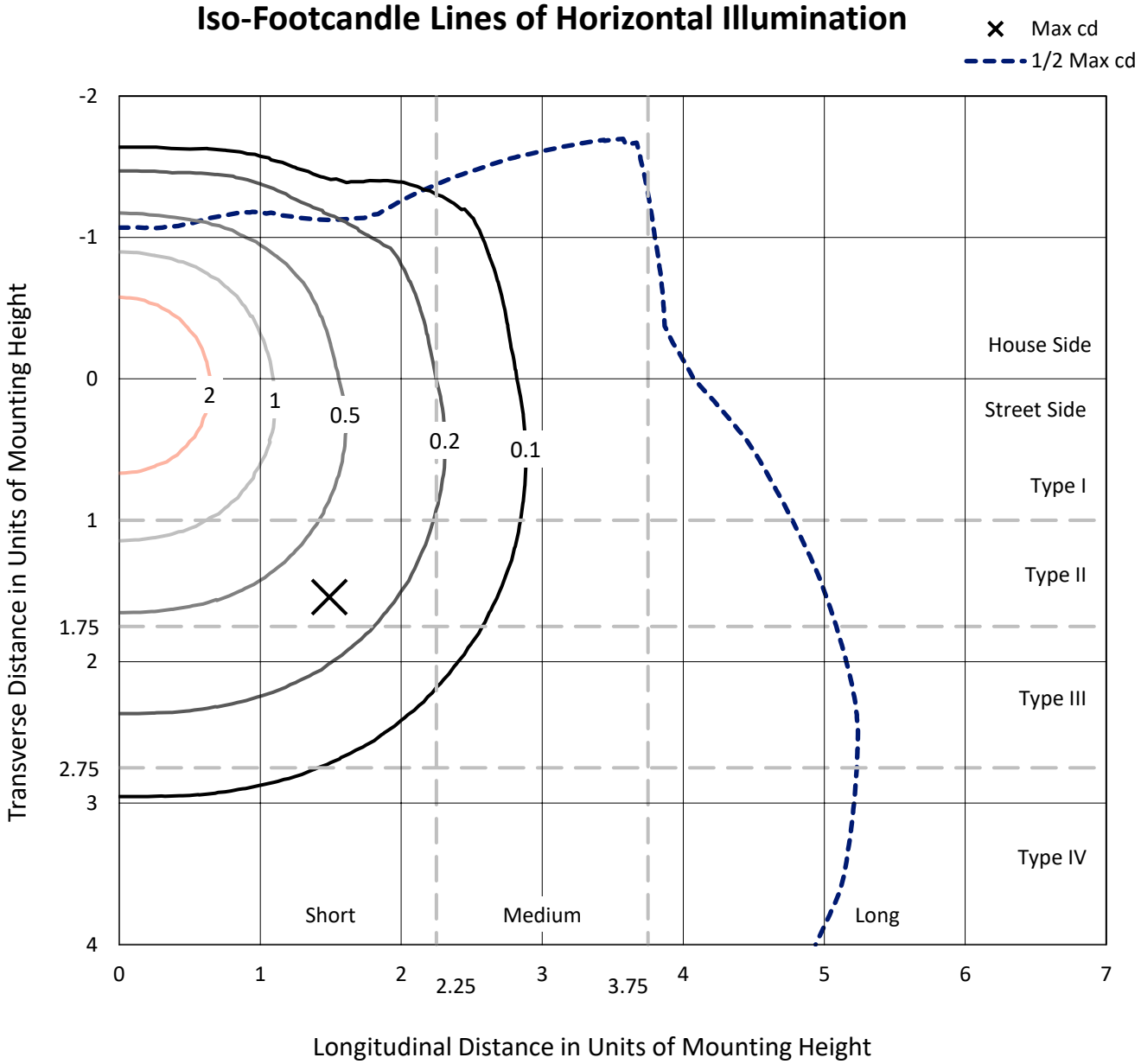
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



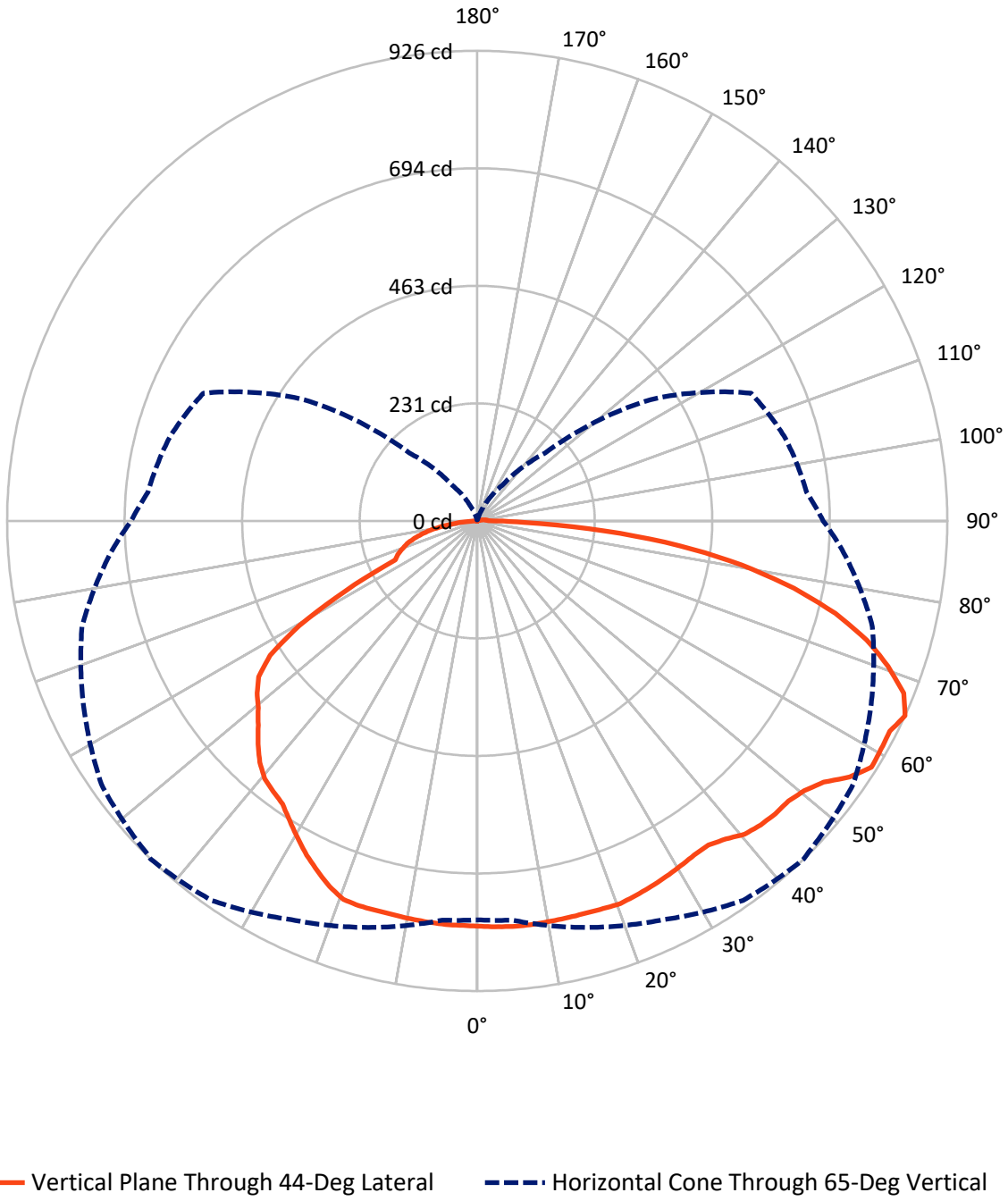
Based on 15 foot mounting height. Maximum calculated value = 3.5 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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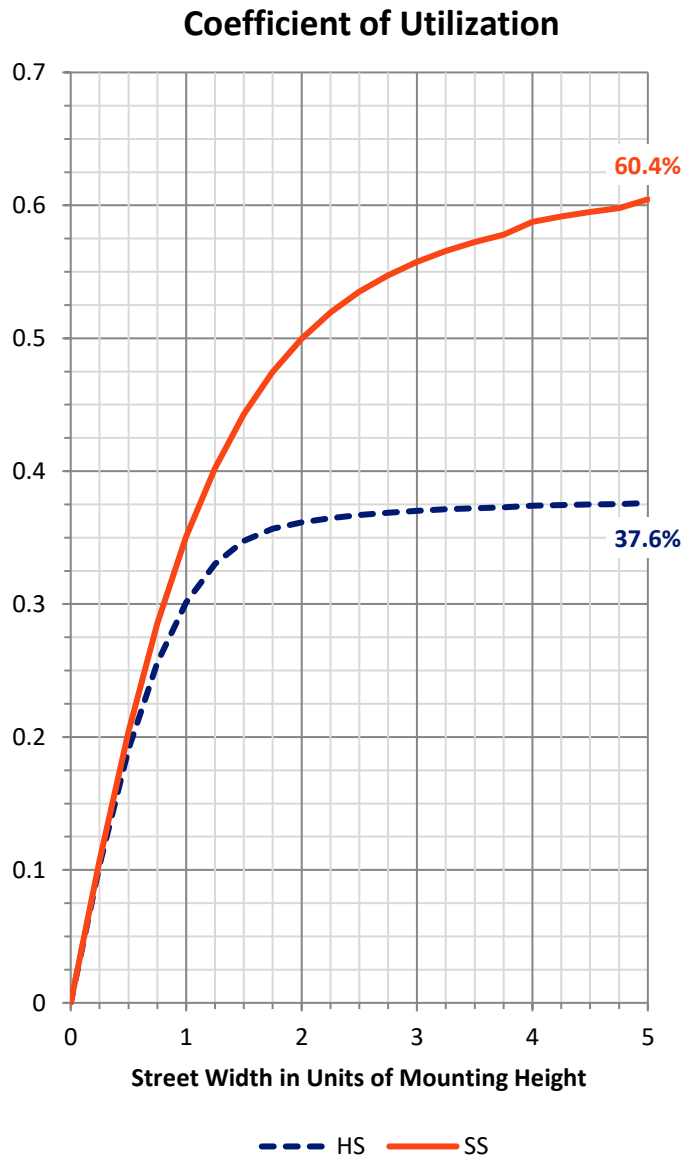
REPORT NUMBER: P821520
CATALOG NUMBER: TT-D1-740-12VDC-MQ-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1305.6	0.9	1306.5
	% Fixture	37.9	0.0	37.9
Street Side	Lumens	2129.8	11.7	2141.5
	% Fixture	61.8	0.3	62.1
Total	Lumens	3435.4	12.6	3448.0
	% Fixture	99.6	0.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.2	2.2
10°-20°	225.6	6.5
20°-30°	359.1	10.4
30°-40°	460.0	13.3
40°-50°	545.0	15.8
50°-60°	596.9	17.3
60°-70°	567.4	16.5
70°-80°	451.7	13.1
80°-90°	153.5	4.5
90°-100°	8.1	0.2
100°-110°	2.7	0.1
110°-120°	0.6	0.0
120°-130°	0.4	0.0
130°-140°	0.3	0.0
140°-150°	0.3	0.0
150°-160°	0.2	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-90°	3435.4	99.6
0°-180°	3448.0	100.0



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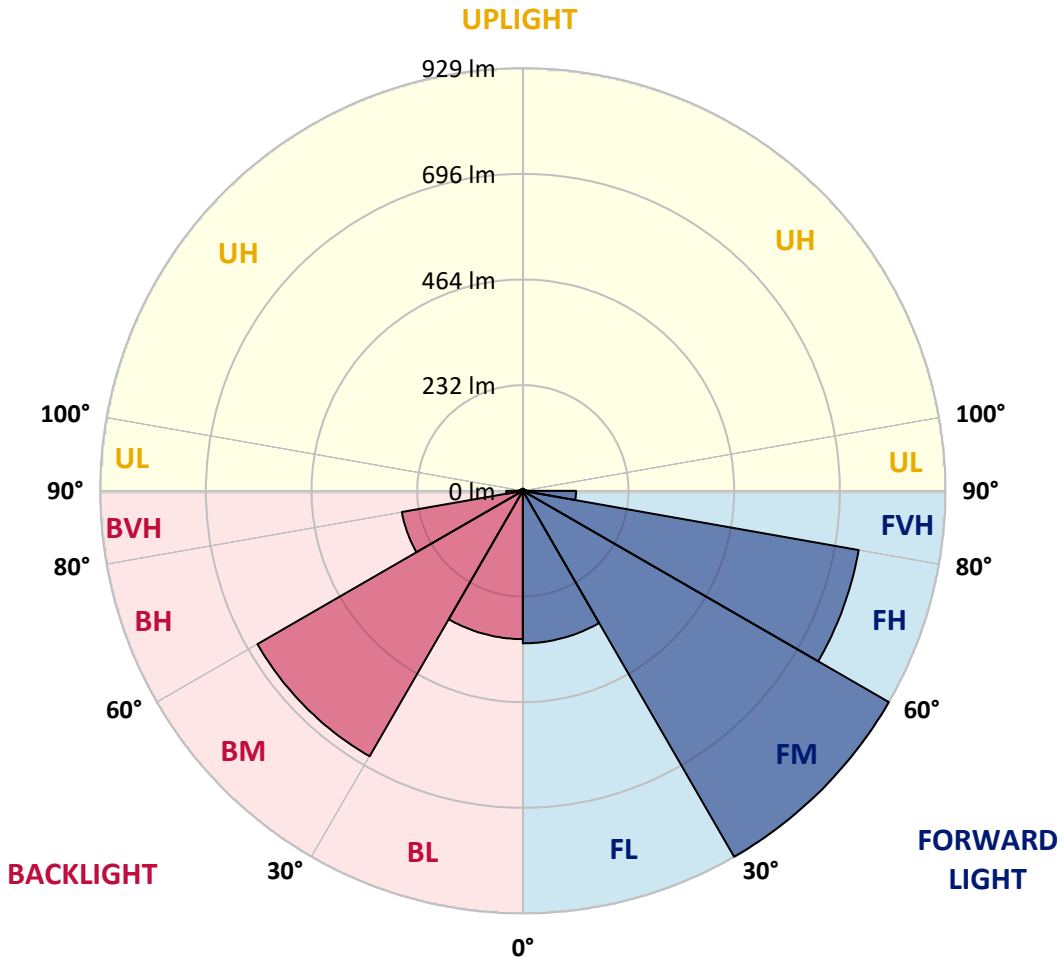
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	335.1	9.7			
FM	(30°-60°)	928.5	26.9			
FH	(60°-80°)	749.3	21.7			G1/1800
FVH	(80°-90°)	116.9	3.4			G2/225
BL	(0°-30°)	325.8	9.4	B1/500		
BM	(30°-60°)	673.4	19.5	B1/1000		
BH	(60°-80°)	269.8	7.8	B1/500		G1/500
BVH	(80°-90°)	36.6	1.1			G1/100
UL	(90°-100°)	8.1	0.2		U1/10	
UH	(100°-180°)	4.5	0.1		U1/10	

BUG Rating: B1-U1-G2
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2
2.5°	801.2	800.6	800.6	800.6	800.6	800.0	800.6	799.4	800.0	798.2	798.2
5°	803.1	801.8	802.5	802.5	802.5	801.8	802.5	800.6	801.2	798.8	798.2
7.5°	803.7	803.1	803.1	803.1	803.1	801.8	802.5	801.2	800.6	798.8	797.6
10°	803.7	803.1	803.1	803.1	802.5	801.2	801.8	800.0	800.0	797.6	796.4
12.5°	803.7	803.1	803.7	802.5	802.5	801.2	801.2	799.4	799.4	796.4	795.1
15°	803.1	802.5	802.5	803.1	802.5	801.2	801.2	799.4	798.8	795.1	793.9
17.5°	802.5	801.8	802.5	803.1	803.7	802.5	803.1	800.0	798.8	795.1	793.3
20°	803.1	802.5	803.1	804.3	804.3	804.3	804.3	801.2	798.8	795.1	792.1
22.5°	801.2	801.2	801.2	801.2	802.5	800.6	800.6	798.8	795.8	792.7	789.7
25°	797.0	797.0	797.6	798.2	798.2	797.0	796.4	794.5	792.1	788.4	784.8
27.5°	792.1	792.1	792.7	792.7	793.9	792.7	792.1	789.7	787.2	783.0	778.7
30°	786.6	786.6	786.6	787.8	788.4	788.4	787.8	784.8	781.7	776.9	771.4
32.5°	780.5	780.5	782.3	783.6	784.2	784.2	784.2	780.5	776.9	770.8	762.8
35°	775.6	775.6	778.1	782.3	784.8	783.6	783.0	780.5	775.0	768.3	755.5
37.5°	778.7	778.7	784.2	790.3	795.8	794.5	794.5	790.3	783.0	772.0	756.1
40°	786.0	786.6	795.1	803.1	809.8	811.0	811.0	806.1	795.1	781.1	759.2
42.5°	787.8	789.0	797.6	809.2	815.2	818.3	818.3	811.6	800.0	783.6	758.0
45°	787.8	788.4	798.2	810.4	820.1	822.6	822.6	815.2	800.6	784.8	753.7
47.5°	787.8	787.2	795.8	812.8	822.6	824.4	824.4	816.5	802.5	782.3	747.6
50°	786.0	789.0	801.8	815.2	832.3	834.7	834.1	825.6	806.1	785.4	742.7
52.5°	790.3	789.7	806.7	833.5	848.8	854.2	854.9	843.9	823.8	793.9	739.7
55°	807.9	808.5	825.0	856.1	879.2	889.6	888.4	874.4	845.7	811.0	748.2
57.5°	814.0	820.1	843.9	870.7	906.0	915.2	915.2	898.1	863.4	824.4	754.3
60°	801.8	804.3	833.5	879.2	911.5	913.3	914.0	901.8	865.2	817.1	742.1
62.5°	798.8	803.7	826.2	877.4	898.1	911.5	910.9	894.5	863.4	811.6	737.9
65°	785.4	789.0	828.7	866.4	912.1	925.5	922.5	903.6	855.5	805.5	724.5
67.5°	758.0	761.6	798.2	851.2	892.6	905.4	908.5	886.5	836.6	776.9	695.8
70°	712.3	717.8	754.9	806.7	850.6	857.9	856.7	843.3	793.3	729.3	653.8
72.5°	648.3	656.8	703.7	753.1	790.9	801.8	797.0	781.7	740.9	672.1	596.5
75°	580.7	588.6	625.8	681.2	720.8	728.1	724.5	706.2	664.8	597.1	528.9
77.5°	506.9	513.6	545.3	602.0	631.2	637.3	639.2	614.8	575.8	514.9	453.9
80°	407.6	410.7	453.3	490.5	516.1	528.3	527.0	508.8	469.8	419.2	358.3
82.5°	301.0	303.4	336.3	368.0	391.2	402.1	396.0	377.8	346.7	303.4	257.1
85°	184.6	180.4	207.2	230.9	244.9	252.3	246.2	235.8	208.4	174.3	142.0
87.5°	66.4	62.8	74.9	78.6	94.4	92.0	97.5	78.6	63.4	45.1	31.7
90°	29.2	29.2	28.6	27.4	25.0	22.5	21.9	18.3	13.4	8.5	3.0
92.5°	26.8	26.8	26.2	25.0	22.5	20.1	20.1	16.5	12.2	7.9	3.0
95°	22.5	22.5	21.9	20.7	18.9	17.1	17.1	13.4	10.4	6.7	2.4
97.5°	17.7	17.7	17.1	16.5	14.6	13.4	13.4	11.0	7.9	4.9	1.8
100°	13.4	13.4	12.8	12.2	11.6	10.4	9.7	7.9	6.1	3.7	1.2
102.5°	9.7	9.7	9.7	9.1	7.9	7.3	7.3	6.1	4.3	3.0	1.2
105°	6.7	6.7	6.7	6.1	5.5	4.9	4.9	4.3	3.0	1.8	0.6
107.5°	4.3	4.3	4.3	4.3	3.7	3.0	3.0	2.4	1.8	1.2	0.6
110°	2.4	1.8	2.4	2.4	2.4	1.8	1.8	1.2	1.2	0.6	0.6

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
112.5°	1.2	1.2	1.2	1.2	1.2	*1.2*	1.2	0.6	0.6	0.6	0.6
115°	0.6	0.6	0.6	1.2	1.2	*0.6*	0.6	0.6	0.6	0.6	0.6
117.5°	0.0	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
120°	0.0	0.0	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
122.5°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
125°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
127.5°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
130°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
132.5°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
135°	0.0	0.0	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
137.5°	0.0	0.0	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
140°	0.0	0.6	0.6	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6	0.6
142.5°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
145°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
147.5°	0.6	0.6	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
150°	0.6	0.6	0.6	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6	0.6
152.5°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
155°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
157.5°	0.6	0.6	0.6	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
160°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
162.5°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
165°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
167.5°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
170°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
172.5°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
175°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
177.5°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
180°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2	798.2
2.5°	798.2	797.6	797.0	797.6	797.0	797.0	796.4	796.4	795.8	795.8	795.1
5°	798.2	797.6	797.0	797.6	796.4	797.0	797.0	796.4	795.8	795.1	794.5
7.5°	797.6	797.6	796.4	797.0	795.8	795.8	795.1	795.1	794.5	794.5	793.9
10°	796.4	795.8	795.8	795.8	794.5	794.5	793.9	793.3	793.3	792.7	792.1
12.5°	795.1	794.5	793.9	793.9	793.3	792.7	792.1	792.1	791.5	790.9	790.3
15°	793.3	792.7	792.7	792.7	792.1	792.1	791.5	790.9	789.7	789.0	788.4
17.5°	792.7	792.1	792.7	792.7	792.1	792.7	791.5	790.3	789.0	788.4	787.8
20°	792.1	792.1	792.1	791.5	790.9	790.3	789.7	789.0	788.4	787.8	787.2
22.5°	789.0	788.4	787.2	783.6	779.3	776.3	775.6	776.9	776.9	776.9	775.0
25°	783.6	781.7	776.9	770.2	762.8	758.0	754.9	754.9	754.3	753.1	752.5
27.5°	776.9	773.2	764.7	756.1	745.8	739.7	732.4	728.1	726.3	725.7	724.5
30°	767.7	762.2	751.3	740.3	727.5	719.0	707.4	700.1	695.8	694.0	692.8
32.5°	756.8	751.3	738.5	725.1	709.8	697.7	683.0	671.5	663.5	659.9	658.0
35°	749.4	741.5	726.9	711.1	695.8	678.2	660.5	644.6	632.5	628.2	625.8
37.5°	746.4	739.1	723.2	707.4	690.3	669.0	648.3	625.8	609.3	602.0	599.6
40°	748.2	739.1	721.4	704.4	684.2	660.5	633.1	605.0	583.7	573.4	570.9
42.5°	744.0	733.6	712.9	694.6	669.6	642.8	609.3	577.0	548.4	539.8	536.2
45°	736.6	723.9	701.3	678.2	652.0	619.1	584.3	542.9	508.8	498.4	495.4
47.5°	729.3	711.7	684.9	663.5	631.8	593.5	552.6	506.3	463.7	453.3	451.5
50°	718.4	701.9	673.3	648.3	616.0	571.5	525.2	467.3	419.2	401.5	396.7
52.5°	713.5	692.2	664.8	645.3	606.3	555.7	497.2	435.0	365.6	343.6	338.8
55°	718.4	691.6	662.3	643.4	598.3	535.6	463.7	384.5	304.0	280.9	274.2
57.5°	709.8	686.7	657.4	636.1	577.6	494.1	414.9	313.2	229.7	199.9	197.4
60°	698.9	666.0	638.6	619.1	534.4	416.2	322.9	223.0	138.3	112.7	107.8
62.5°	694.6	660.5	628.8	605.0	476.5	305.9	196.8	112.7	57.3	40.2	36.6
65°	*681.2*	*650.7*	*628.2*	*594.7*	*416.2*	*188.9*	*84.7*	*33.5*	*2.4*	*1.8*	*1.8*
67.5°	655.6	624.5	609.3	589.8	410.1	180.4	76.8	30.5	1.2	0.0	0.0
70°	611.7	587.4	577.0	566.7	392.4	166.9	70.1	27.4	0.6	0.0	0.0
72.5°	553.9	537.4	535.6	534.4	366.8	154.2	62.8	24.4	0.6	0.0	0.0
75°	496.0	475.9	478.9	486.2	335.1	136.5	54.2	21.3	0.6	0.0	0.0
77.5°	422.9	408.2	415.5	427.7	293.7	115.8	44.5	17.1	0.6	0.0	0.0
80°	332.7	322.9	339.4	350.3	240.1	92.0	33.5	12.2	0.0	0.0	0.0
82.5°	236.4	230.9	246.2	260.2	178.5	65.2	23.2	7.9	0.0	0.0	0.0
85°	127.3	124.3	138.9	154.2	107.2	37.2	11.6	3.7	0.0	0.0	0.0
87.5°	31.7	29.2	29.9	35.9	26.2	7.9	1.8	0.6	0.0	0.0	0.0
90°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
102.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
110°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0

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

Scaled Data Report

REPORT NUMBER: P821520
CATALOG NUMBER: TT-D1-740-12VDC-MQ-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
115°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
117.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
122.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
125°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
127.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
130°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
135°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
147.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
162.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
165°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
167.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
170°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
172.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
175°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
177.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
180°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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

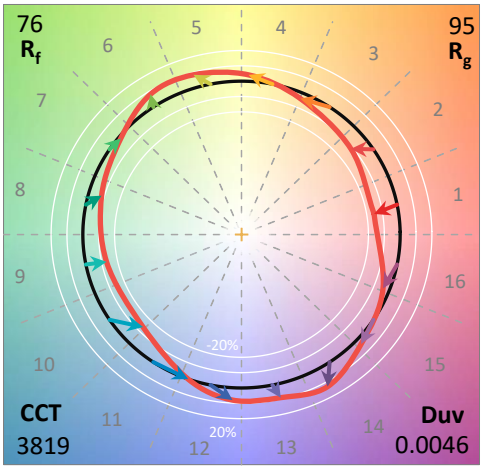
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

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

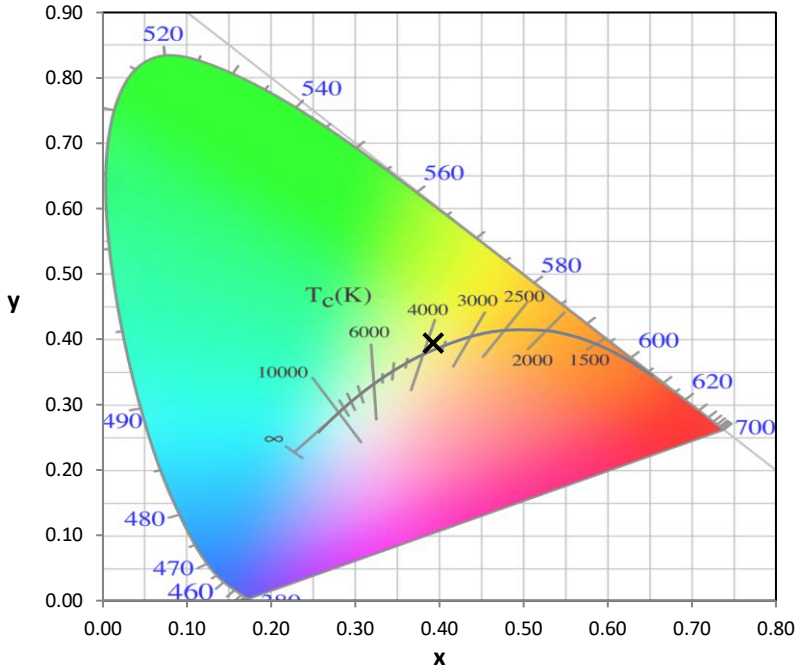
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-5

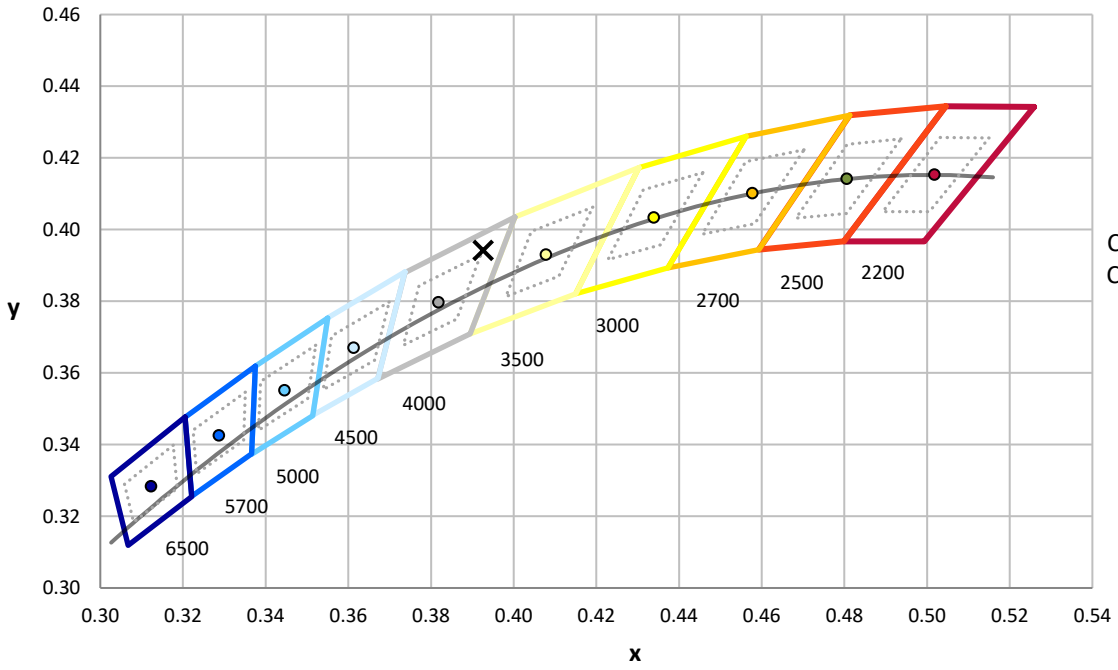
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-5

CIE 1931 Chromaticity Diagram



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

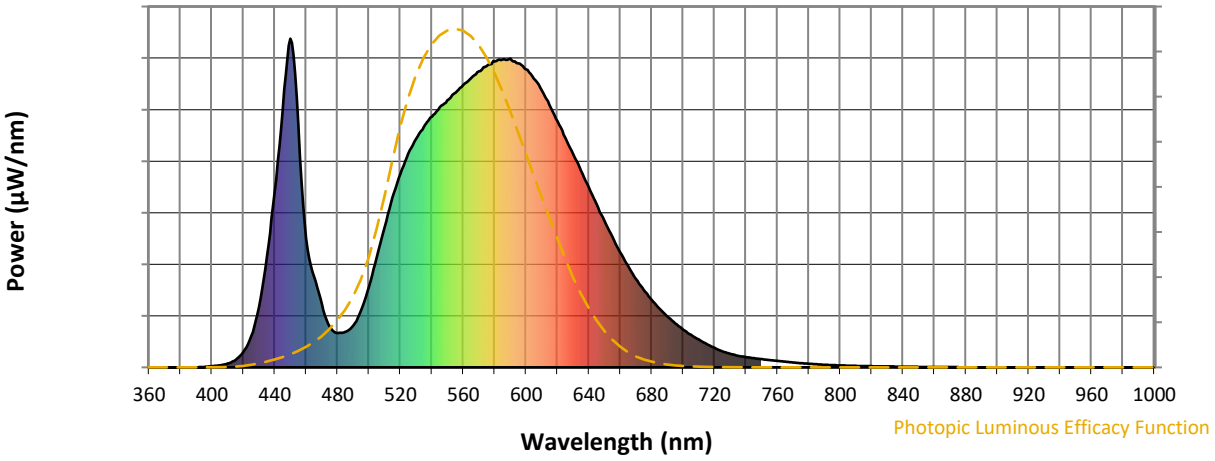


CCT = 3819K
CIE x = 0.3926
CIE y = 0.3942
Duv = 0.0046

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-5

Photopic Flux vs. Wavelength

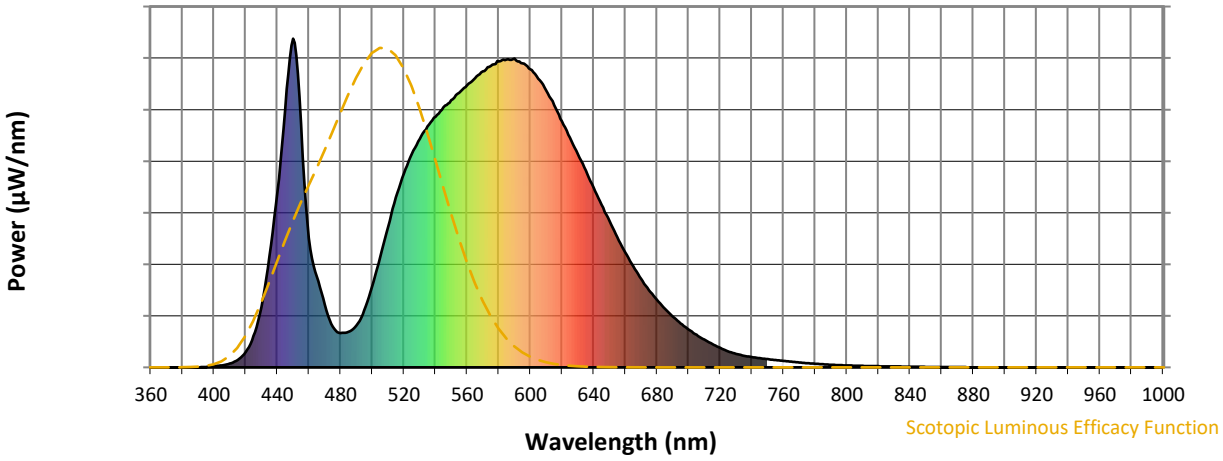


Photopic Lumens: NR

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			

REPORT NUMBER: SP1-2407-176-5

Scotopic Flux vs. Wavelength

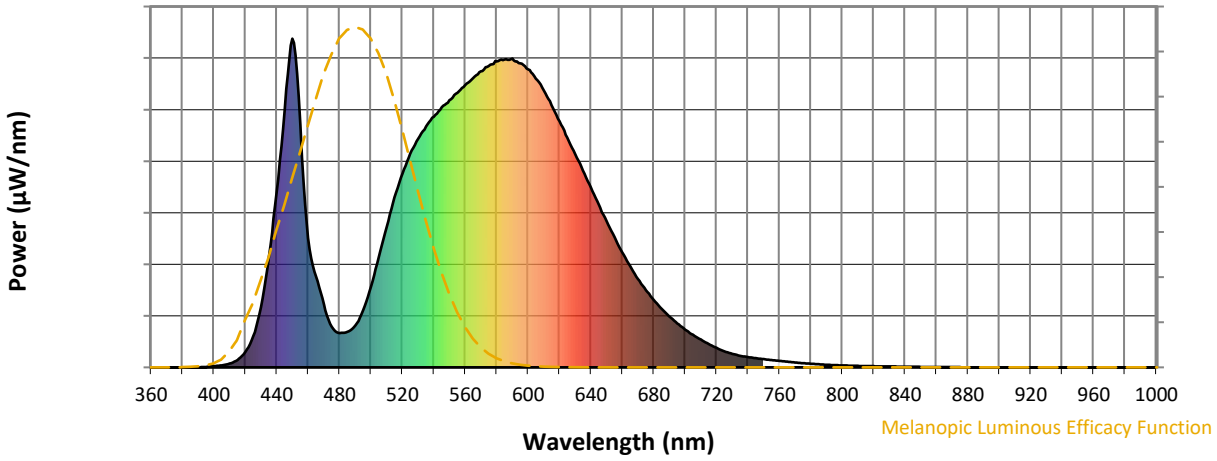


Scotopic Lumens: NR **S/P: 1.45**

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			

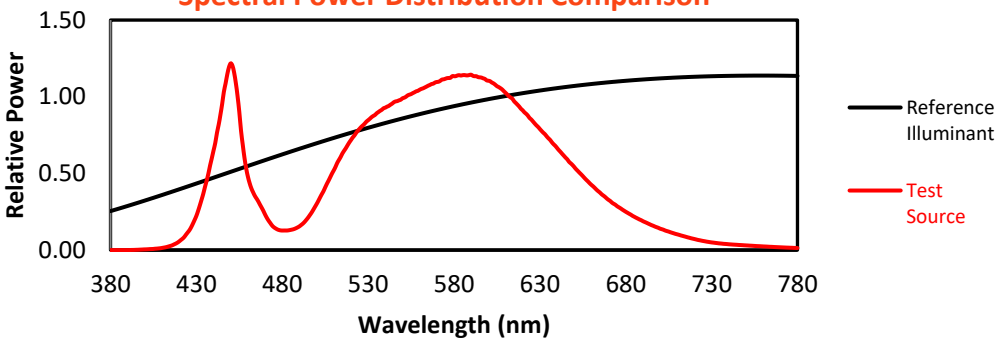
REPORT NUMBER: SP1-2407-176-5

TM-30-18

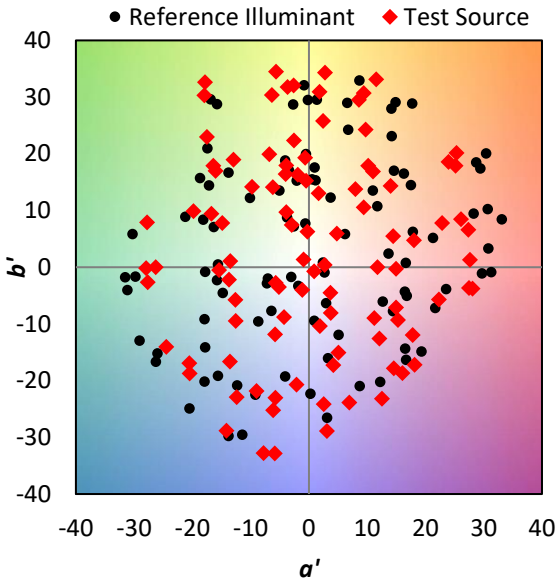
Summary

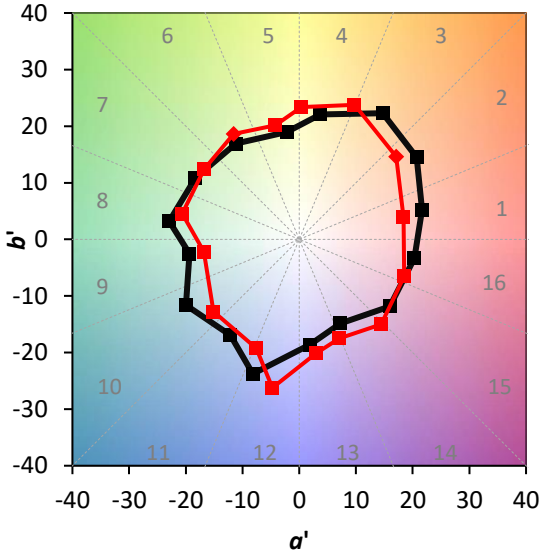
R_f = 75.6
R_g = 94.8
CIE R_a = 72.9
R_9 = -21.5

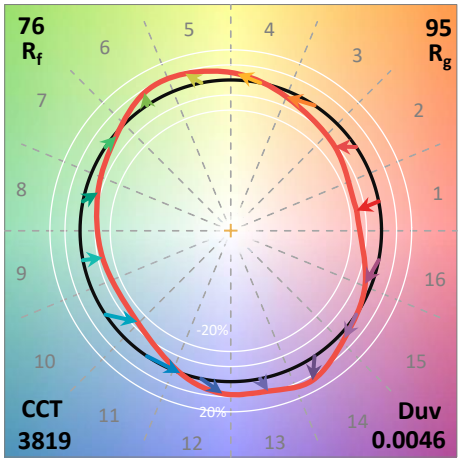
Spectral Power Distribution Comparison

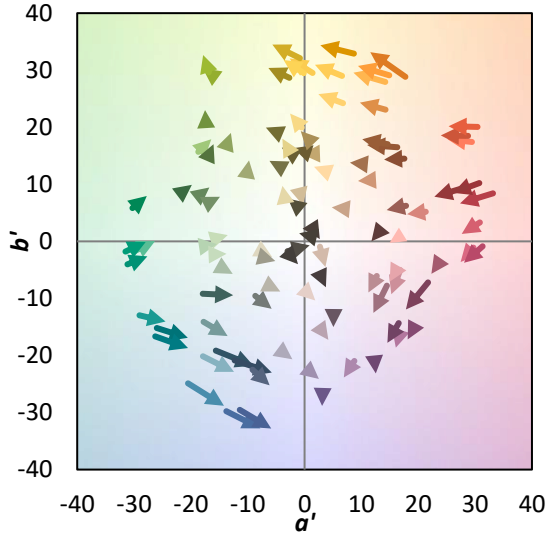


Color Vector Graphics







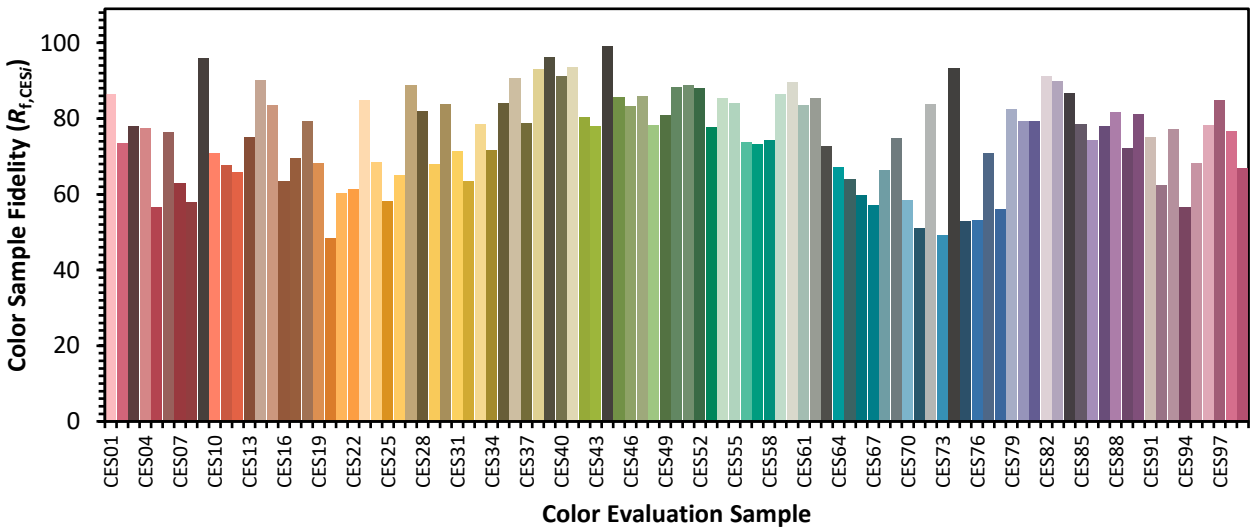


REPORT NUMBER: SP1-2407-176-5

TM-30-18

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

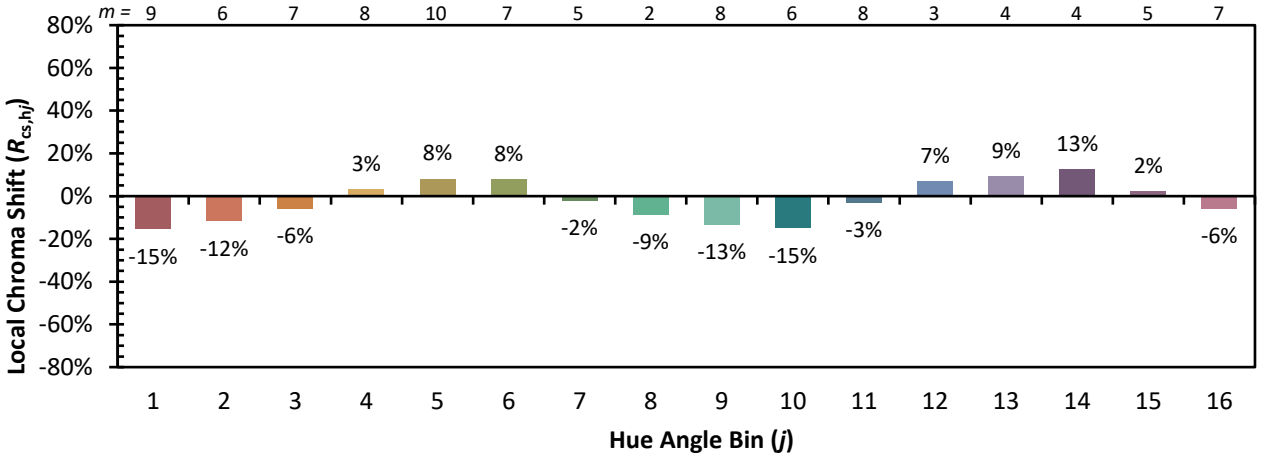
CES01 = 85	CES26 = 65	CES51 = 89	CES76 = 53
CES02 = 61	CES27 = 89	CES52 = 88	CES77 = 71
CES03 = 30	CES28 = 82	CES53 = 78	CES78 = 56
CES04 = 70	CES29 = 68	CES54 = 85	CES79 = 83
CES05 = 48	CES30 = 84	CES55 = 84	CES80 = 79
CES06 = 50	CES31 = 71	CES56 = 74	CES81 = 79
CES07 = 40	CES32 = 63	CES57 = 73	CES82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

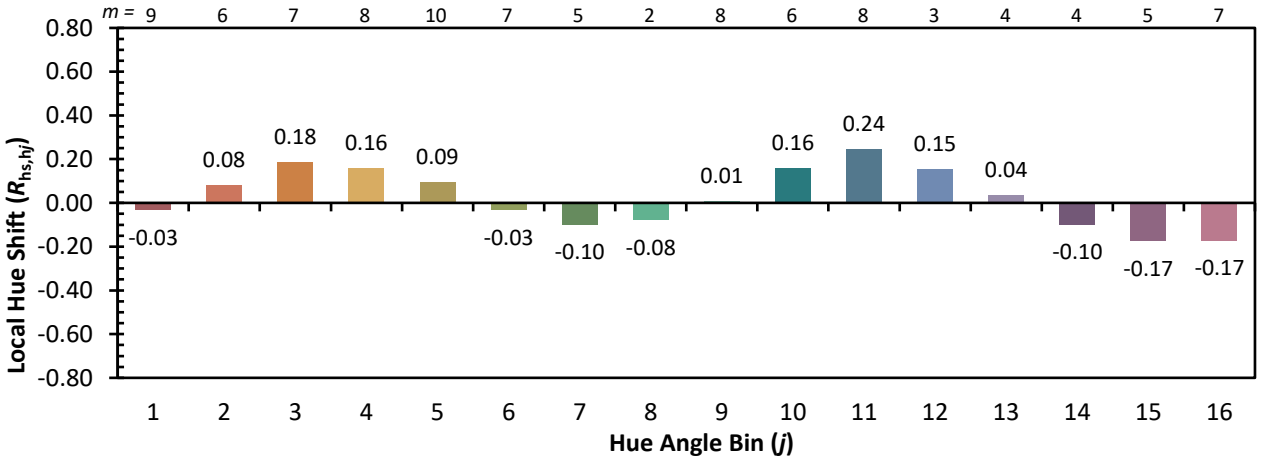


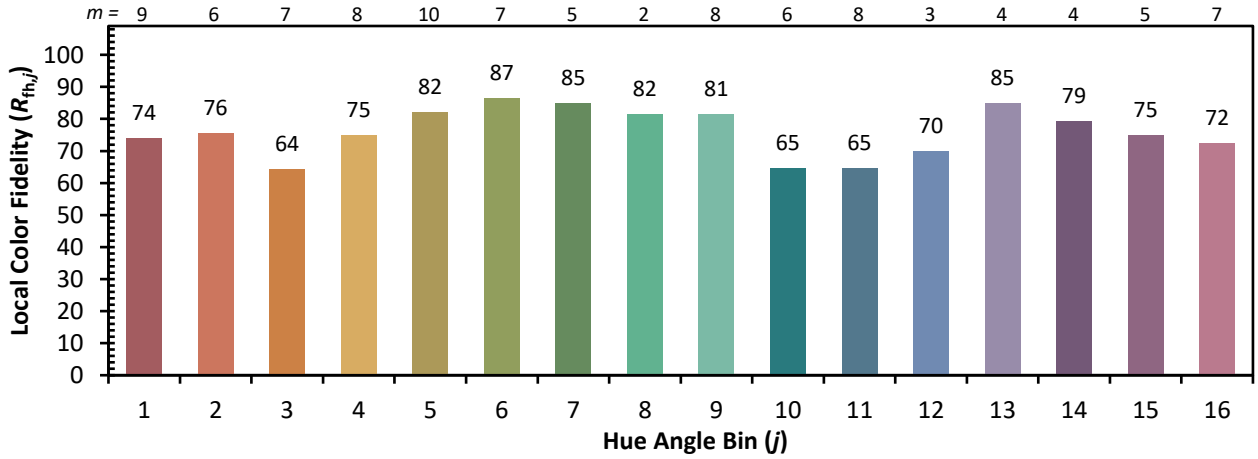
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Color Rendition by Hue-Angle Bin



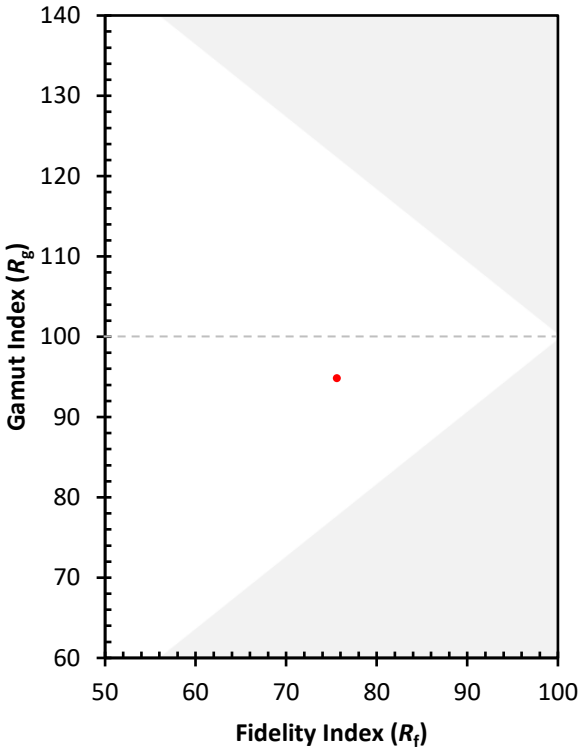


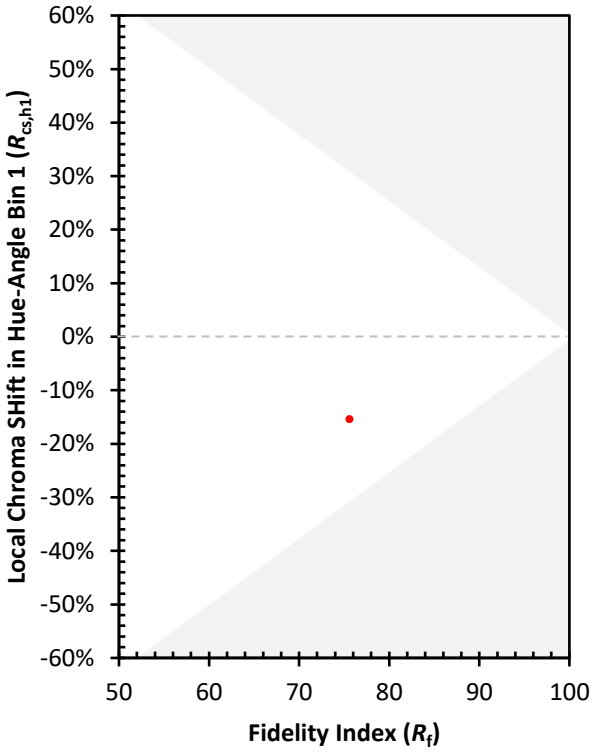


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Measure Comparisons





(END OF REPORT)