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: P821194

Luminaire Tested: **TT-D1-735-24VDC-MQ-HSS**

Issue Date: 12/2/2020

Report Generated By 670245763

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821194
	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-D1-735-24VDC-MQ-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3500K, 70 CRI LEDS AND MEDIUM DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3259.1 lumens
Efficiency:	N/A
Efficacy:	116.4 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G2

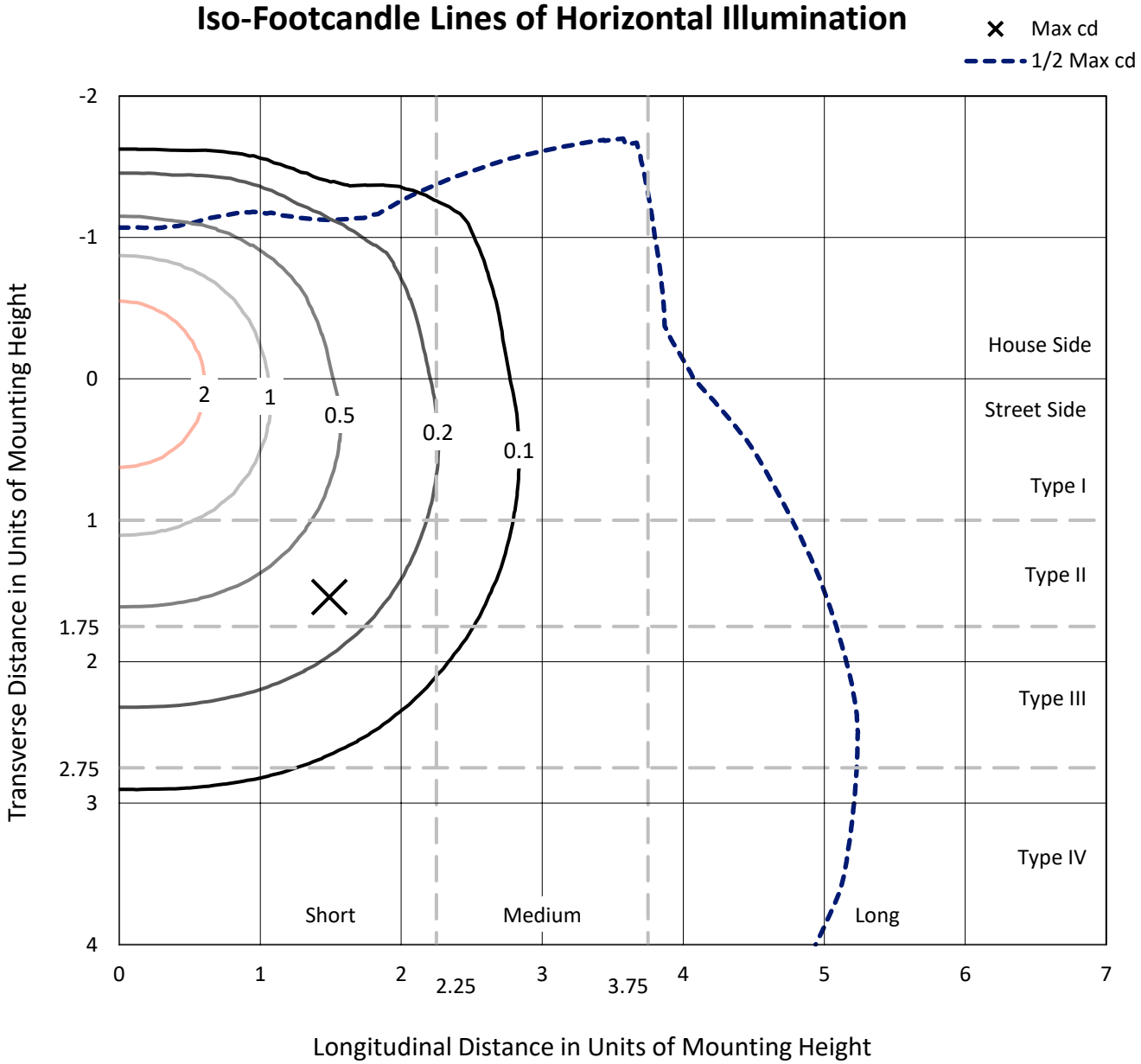
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



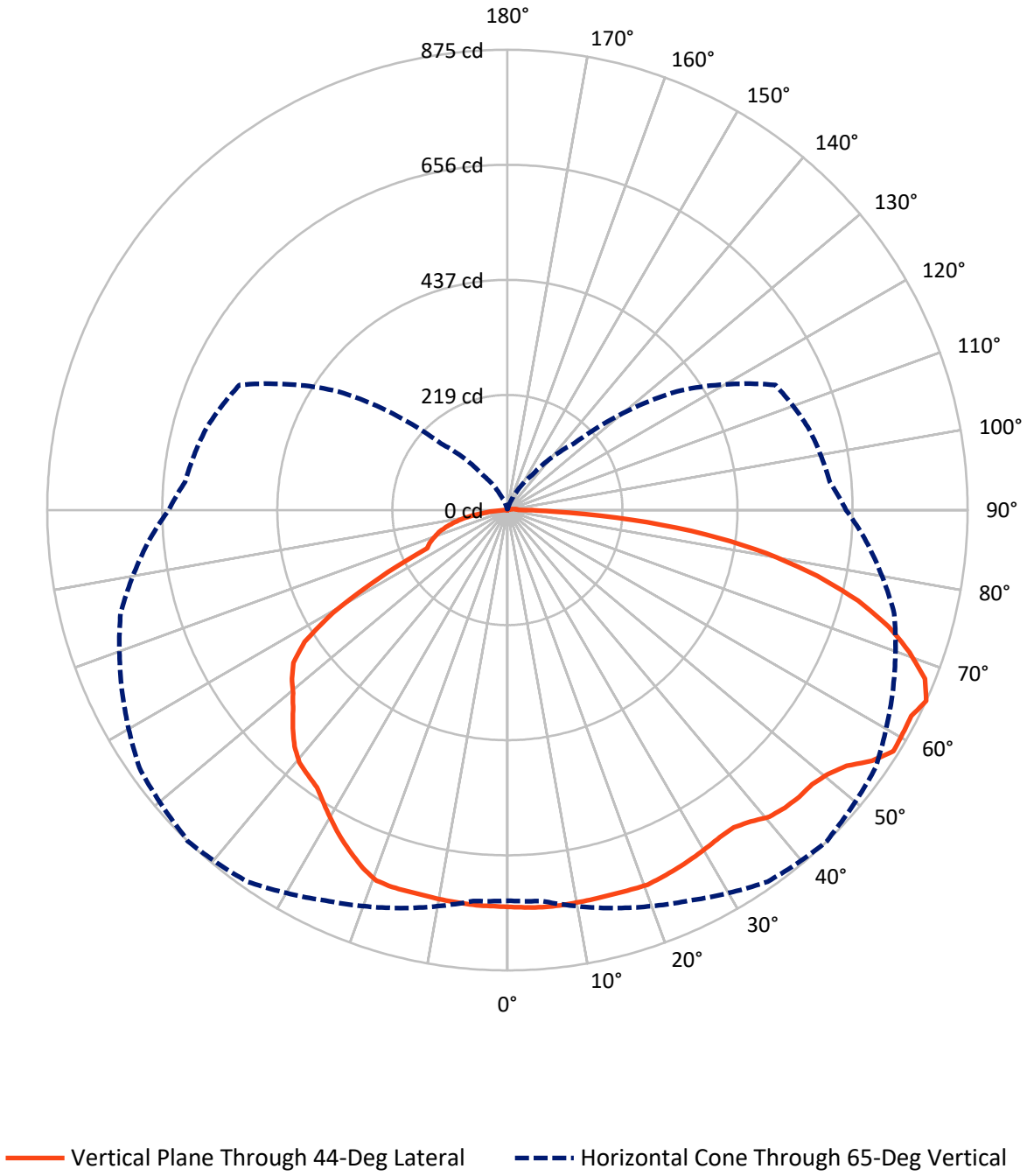
Based on 15 foot mounting height. Maximum calculated value = 3.4 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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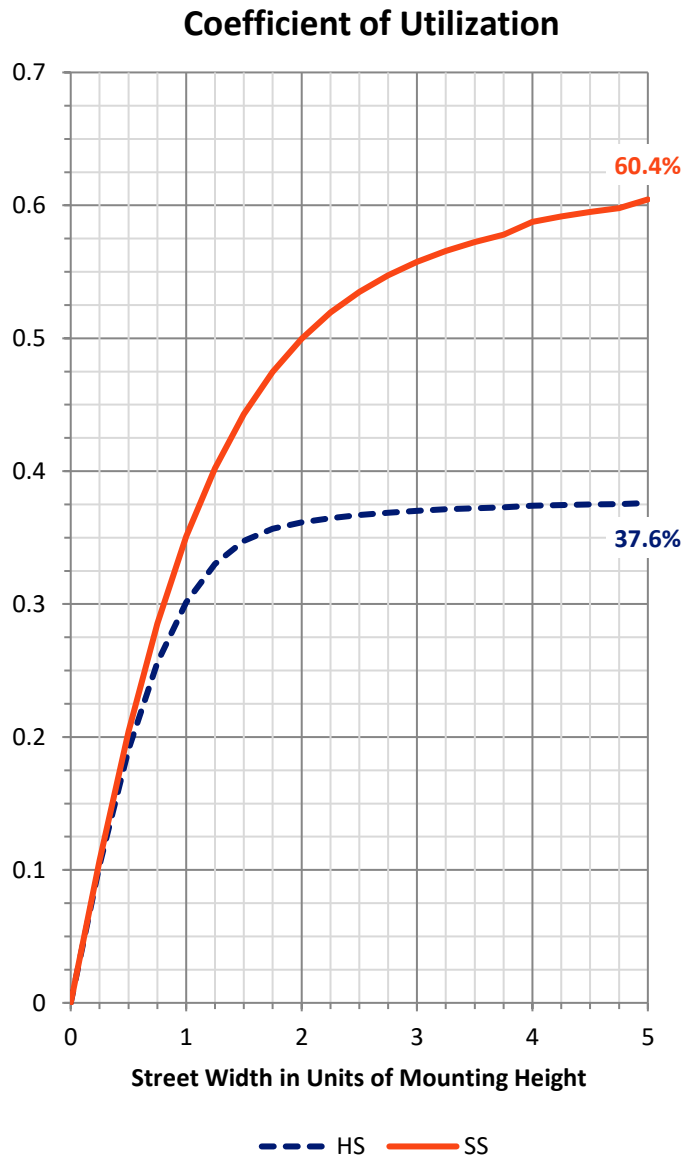
REPORT NUMBER: P821194
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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1234.0	0.9	1234.9
	% Fixture	37.9	0.0	37.9
Street Side	Lumens	2013.1	11.1	2024.2
	% Fixture	61.8	0.3	62.1
Total	Lumens	3247.1	12.0	3259.1
	% Fixture	99.6	0.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.0	2.2
10°-20°	213.3	6.5
20°-30°	339.4	10.4
30°-40°	434.8	13.3
40°-50°	515.1	15.8
50°-60°	564.2	17.3
60°-70°	536.3	16.5
70°-80°	427.0	13.1
80°-90°	145.0	4.5
90°-100°	7.6	0.2
100°-110°	2.5	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°	3247.1	99.6
0°-180°	3259.1	100.0



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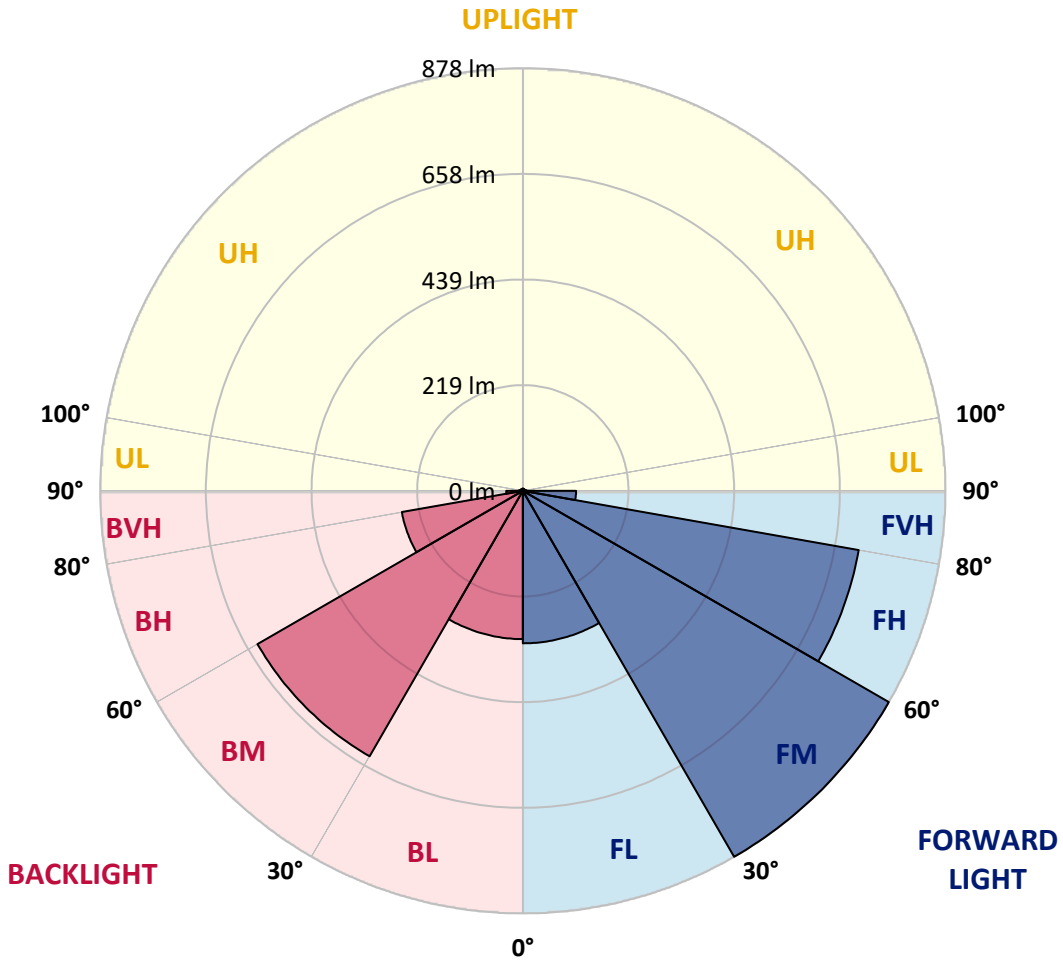
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	316.8	9.7			
FM	(30°-60°)	877.6	26.9			
FH	(60°-80°)	708.2	21.7			G1/1800
FVH	(80°-90°)	110.5	3.4			G2/225
BL	(0°-30°)	307.9	9.4	B1/500		
BM	(30°-60°)	636.5	19.5	B1/1000		
BH	(60°-80°)	255.0	7.8	B1/500		G1/500
BVH	(80°-90°)	34.6	1.1			G1/100
UL	(90°-100°)	7.6	0.2		U1/10	
UH	(100°-180°)	4.4	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°	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4
2.5°	757.3	756.7	756.7	756.7	756.7	756.2	756.7	755.6	756.2	754.4	754.4
5°	759.0	757.9	758.5	758.5	758.5	757.9	758.5	756.7	757.3	755.0	754.4
7.5°	759.6	759.0	759.0	759.0	759.0	757.9	758.5	757.3	756.7	755.0	753.9
10°	759.6	759.0	759.0	759.0	758.5	757.3	757.9	756.2	756.2	753.9	752.7
12.5°	759.6	759.0	759.6	758.5	758.5	757.3	757.3	755.6	755.6	752.7	751.6
15°	759.0	758.5	758.5	759.0	758.5	757.3	757.3	755.6	755.0	751.6	750.4
17.5°	758.5	757.9	758.5	759.0	759.6	758.5	759.0	756.2	755.0	751.6	749.8
20°	759.0	758.5	759.0	760.2	760.2	760.2	760.2	757.3	755.0	751.6	748.7
22.5°	757.3	757.3	757.3	757.3	758.5	756.7	756.7	755.0	752.1	749.3	746.4
25°	753.3	753.3	753.9	754.4	754.4	753.3	752.7	751.0	748.7	745.2	741.8
27.5°	748.7	748.7	749.3	749.3	750.4	749.3	748.7	746.4	744.1	740.0	736.0
30°	743.5	743.5	743.5	744.6	745.2	745.2	744.6	741.8	738.9	734.3	729.1
32.5°	737.7	737.7	739.5	740.6	741.2	741.2	741.2	737.7	734.3	728.5	721.0
35°	733.1	733.1	735.4	739.5	741.8	740.6	740.0	737.7	732.6	726.2	714.1
37.5°	736.0	736.0	741.2	746.9	752.1	751.0	751.0	746.9	740.0	729.7	714.7
40°	742.9	743.5	751.6	759.0	765.4	766.5	766.5	761.9	751.6	738.3	717.6
42.5°	744.6	745.8	753.9	764.8	770.6	773.4	773.4	767.1	756.2	740.6	716.4
45°	744.6	745.2	754.4	766.0	775.2	777.5	777.5	770.6	756.7	741.8	712.4
47.5°	744.6	744.1	752.1	768.3	777.5	779.2	779.2	771.7	758.5	739.5	706.6
50°	742.9	745.8	757.9	770.6	786.7	789.0	788.4	780.4	761.9	742.3	702.0
52.5°	746.9	746.4	762.5	787.8	802.2	807.4	808.0	797.6	778.6	750.4	699.1
55°	763.7	764.2	779.8	809.1	831.0	840.8	839.7	826.4	799.4	766.5	707.2
57.5°	769.4	775.2	797.6	823.0	856.4	865.0	865.0	848.9	816.1	779.2	713.0
60°	757.9	760.2	787.8	831.0	861.6	863.3	863.9	852.3	817.8	772.3	701.5
62.5°	755.0	759.6	780.9	829.3	848.9	861.6	861.0	845.4	816.1	767.1	697.4
65°	742.3	745.8	783.2	818.9	862.1	874.8	871.9	854.1	808.6	761.3	684.8
67.5°	716.4	719.9	754.4	804.5	843.7	855.8	858.7	837.9	790.7	734.3	657.7
70°	673.2	678.4	713.5	762.5	804.0	810.9	809.7	797.1	749.8	689.4	617.9
72.5°	612.8	620.8	665.2	711.8	747.5	757.9	753.3	738.9	700.3	635.2	563.8
75°	548.8	556.3	591.5	643.9	681.3	688.2	684.8	667.5	628.3	564.4	499.9
77.5°	479.2	485.5	515.4	569.0	596.6	602.4	604.1	581.1	544.2	486.6	429.0
80°	385.3	388.2	428.5	463.6	487.8	499.3	498.2	480.9	444.0	396.2	338.6
82.5°	284.5	286.8	317.9	347.8	369.7	380.1	374.3	357.1	327.7	286.8	243.0
85°	174.5	170.5	195.8	218.3	231.5	238.4	232.7	222.9	197.0	164.7	134.2
87.5°	62.8	59.3	70.8	74.3	89.3	87.0	92.1	74.3	59.9	42.6	29.9
90°	27.6	27.6	27.1	25.9	23.6	21.3	20.7	17.3	12.7	8.1	2.9
92.5°	25.3	25.3	24.8	23.6	21.3	19.0	19.0	15.5	11.5	7.5	2.9
95°	21.3	21.3	20.7	19.6	17.9	16.1	16.1	12.7	9.8	6.3	2.3
97.5°	16.7	16.7	16.1	15.5	13.8	12.7	12.7	10.4	7.5	4.6	1.7
100°	12.7	12.7	12.1	11.5	10.9	9.8	9.2	7.5	5.8	3.5	1.2
102.5°	9.2	9.2	9.2	8.6	7.5	6.9	6.9	5.8	4.0	2.9	1.2
105°	6.3	6.3	6.3	5.8	5.2	4.6	4.6	4.0	2.9	1.7	0.6
107.5°	4.0	4.0	4.0	4.0	3.5	2.9	2.9	2.3	1.7	1.2	0.6
110°	2.3	1.7	2.3	2.3	2.3	1.7	1.7	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°	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4	754.4
2.5°	754.4	753.9	753.3	753.9	753.3	753.3	752.7	752.7	752.1	752.1	751.6
5°	754.4	753.9	753.3	753.9	752.7	753.3	753.3	752.7	752.1	751.6	751.0
7.5°	753.9	753.9	752.7	753.3	752.1	752.1	751.6	751.6	751.0	751.0	750.4
10°	752.7	752.1	752.1	752.1	751.0	751.0	750.4	749.8	749.8	749.3	748.7
12.5°	751.6	751.0	750.4	750.4	749.8	749.3	748.7	748.7	748.1	747.5	746.9
15°	749.8	749.3	749.3	749.3	748.7	748.7	748.1	747.5	746.4	745.8	745.2
17.5°	749.3	748.7	749.3	749.3	748.7	749.3	748.1	746.9	745.8	745.2	744.6
20°	748.7	748.7	748.7	748.1	747.5	746.9	746.4	745.8	745.2	744.6	744.1
22.5°	745.8	745.2	744.1	740.6	736.6	733.7	733.1	734.3	734.3	734.3	732.6
25°	740.6	738.9	734.3	727.9	721.0	716.4	713.5	713.5	713.0	711.8	711.2
27.5°	734.3	730.8	722.8	714.7	704.9	699.1	692.2	688.2	686.5	685.9	684.8
30°	725.6	720.5	710.1	699.7	687.6	679.6	668.6	661.7	657.7	656.0	654.8
32.5°	715.3	710.1	698.0	685.3	670.9	659.4	645.6	634.6	627.2	623.7	622.0
35°	708.4	700.9	687.1	672.1	657.7	641.0	624.3	609.3	597.8	593.8	591.5
37.5°	705.5	698.6	683.6	668.6	652.5	632.3	612.8	591.5	575.9	569.0	566.7
40°	707.2	698.6	681.9	665.7	646.7	624.3	598.4	571.9	551.7	541.9	539.6
42.5°	703.2	693.4	673.8	656.5	632.9	607.6	575.9	545.4	518.3	510.3	506.8
45°	696.3	684.2	662.9	641.0	616.2	585.1	552.3	513.1	480.9	471.1	468.2
47.5°	689.4	672.7	647.3	627.2	597.2	560.9	522.3	478.6	438.3	428.5	426.7
50°	679.0	663.4	636.4	612.8	582.2	540.2	496.4	441.7	396.2	379.5	374.9
52.5°	674.4	654.2	628.3	609.9	573.0	525.2	469.9	411.2	345.5	324.8	320.2
55°	679.0	653.7	626.0	608.2	565.5	506.2	438.3	363.4	287.4	265.5	259.2
57.5°	670.9	649.0	621.4	601.2	546.0	467.1	392.2	296.0	217.1	188.9	186.6
60°	660.6	629.5	603.5	585.1	505.1	393.3	305.2	210.8	130.7	106.5	101.9
62.5°	656.5	624.3	594.3	571.9	450.4	289.1	186.0	106.5	54.1	38.0	34.6
65°	*643.9*	*615.1*	*593.8*	*562.1*	*393.3*	*178.5*	*80.1*	*31.7*	*2.3*	*1.7*	*1.7*
67.5°	619.7	590.3	575.9	557.5	387.6	170.5	72.6	28.8	1.2	0.0	0.0
70°	578.2	555.2	545.4	535.6	370.9	157.8	66.2	25.9	0.6	0.0	0.0
72.5°	523.5	507.9	506.2	505.1	346.7	145.7	59.3	23.0	0.6	0.0	0.0
75°	468.8	449.8	452.7	459.6	316.7	129.0	51.3	20.2	0.6	0.0	0.0
77.5°	399.7	385.9	392.8	404.3	277.6	109.4	42.0	16.1	0.6	0.0	0.0
80°	314.4	305.2	320.8	331.1	226.9	87.0	31.7	11.5	0.0	0.0	0.0
82.5°	223.5	218.3	232.7	245.9	168.7	61.6	21.9	7.5	0.0	0.0	0.0
85°	120.4	117.5	131.3	145.7	101.4	35.1	10.9	3.5	0.0	0.0	0.0
87.5°	29.9	27.6	28.2	34.0	24.8	7.5	1.7	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: P821194
CATALOG NUMBER: TT-D1-735-24VDC-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: SP1-2407-176-4

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-735-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-735-U-WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

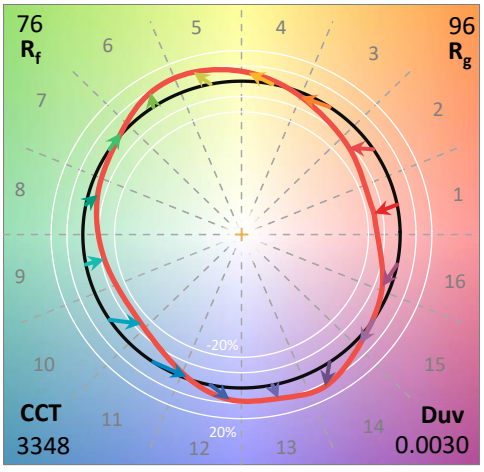
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-4
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-30-735-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	3348	CRI (Ra):	73.4		
CIE u':	0.2384	R1:	70.8	R9:	-19.2
CIE v':	0.5184	R2:	79.9	R10:	52.5
Duv:	0.0030	R3:	87.6	R11:	68.0
CIE x:	0.4177	R4:	72.6	R12:	42.6
CIE y:	0.4036	R5:	69.3	R13:	72.0
CIE z:	0.1787	R6:	71.3	R14:	92.6
Peak Wavelength (nm):	593	R7:	82.1	R15:	63.8
Dominant Wavelength (nm):	580	R8:	53.3		
Purity:	46.5223				

Rf:	75.8
Rg:	95.8



Test Conditions

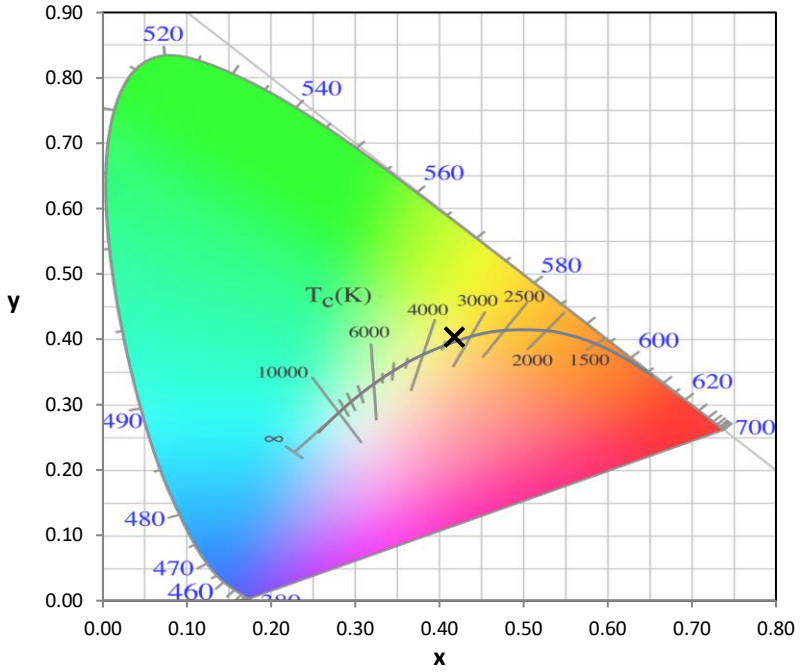
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-4

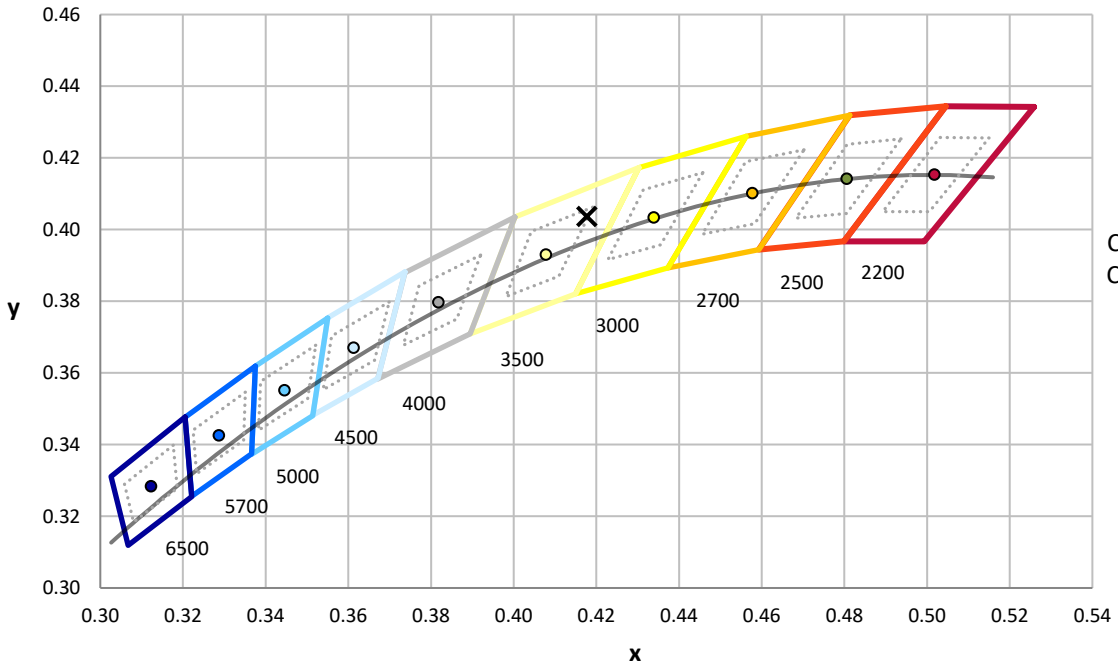
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-4

CIE 1931 Chromaticity Diagram



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

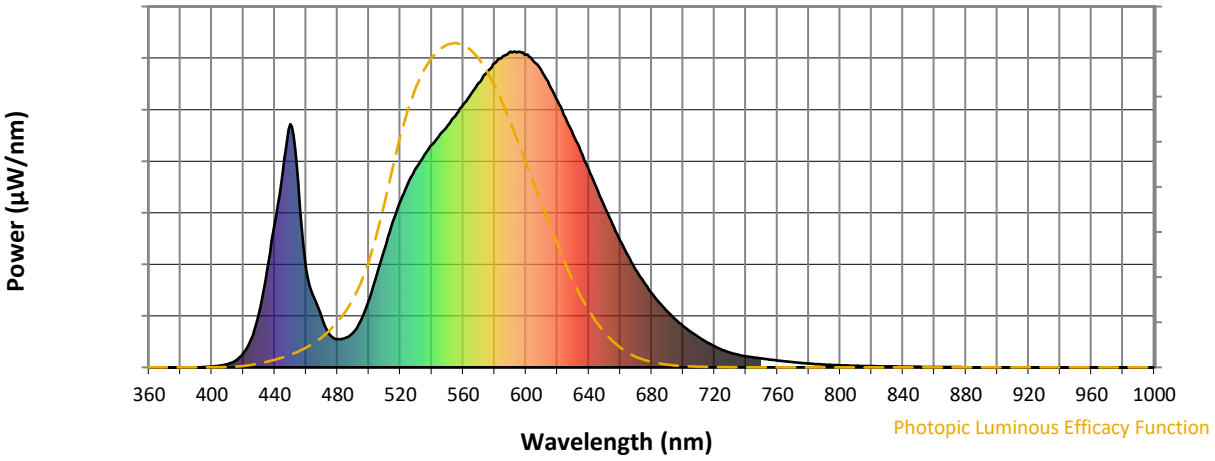


CCT = 3348K
CIE x = 0.4177
CIE y = 0.4036
Duv = 0.0030

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-4

Photopic Flux vs. Wavelength

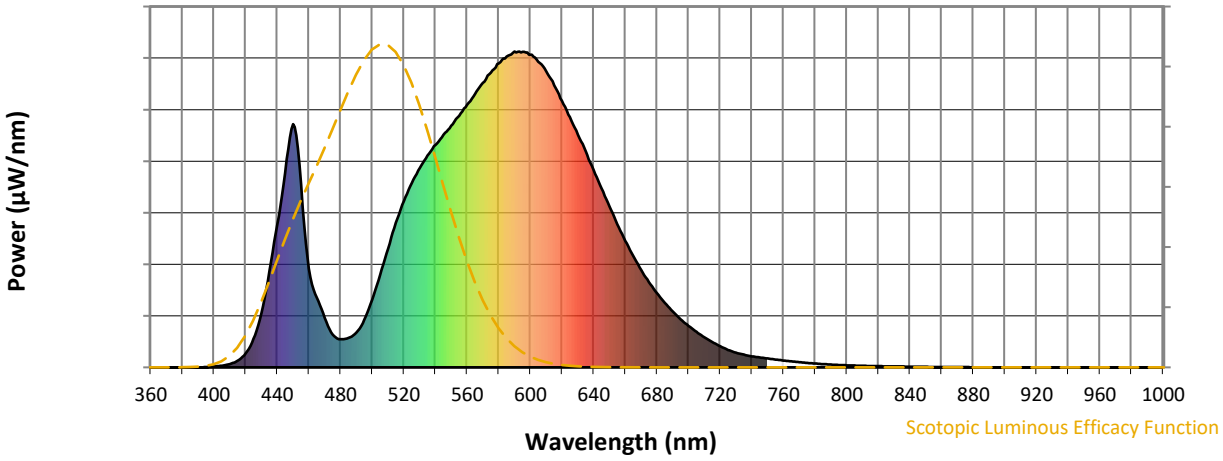


Photopic Lumens: NR

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	110	NR	620	844	NR	750	28	NR	880	0	NR
365	0	NR	495	150	NR	625	792	NR	755	25	NR	885	0	NR
370	0	NR	500	214	NR	630	737	NR	760	22	NR	890	0	NR
375	0	NR	505	293	NR	635	683	NR	765	19	NR	895	0	NR
380	0	NR	510	376	NR	640	625	NR	770	16	NR	900	0	NR
385	0	NR	515	458	NR	645	566	NR	775	14	NR	905	0	NR
390	0	NR	520	526	NR	650	509	NR	780	12	NR	910	0	NR
395	1	NR	525	584	NR	655	453	NR	785	10	NR	915	0	NR
400	3	NR	530	631	NR	660	401	NR	790	9	NR	920	0	NR
405	5	NR	535	671	NR	665	353	NR	795	8	NR	925	0	NR
410	10	NR	540	704	NR	670	308	NR	800	7	NR	930	0	NR
415	21	NR	545	737	NR	675	269	NR	805	6	NR	935	0	NR
420	44	NR	550	766	NR	680	235	NR	810	5	NR	940	0	NR
425	90	NR	555	797	NR	685	204	NR	815	4	NR	945	0	NR
430	171	NR	560	832	NR	690	177	NR	820	4	NR	950	0	NR
435	305	NR	565	866	NR	695	152	NR	825	3	NR	955	0	NR
440	455	NR	570	901	NR	700	131	NR	830	3	NR	960	0	NR
445	615	NR	575	933	NR	705	112	NR	835	3	NR	965	0	NR
450	771	NR	580	963	NR	710	96	NR	840	2	NR	970	0	NR
455	579	NR	585	984	NR	715	80	NR	845	2	NR	975	0	NR
460	313	NR	590	1000	NR	720	67	NR	850	2	NR	980	0	NR
465	221	NR	595	999	NR	725	55	NR	855	1	NR	985	0	NR
470	156	NR	600	990	NR	730	46	NR	860	1	NR	990	0	NR
475	103	NR	605	968	NR	735	40	NR	865	1	NR	995	0	NR
480	89	NR	610	937	NR	740	35	NR	870	1	NR	1000	0	NR
485	93	NR	615	893	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-4

Scotopic Flux vs. Wavelength

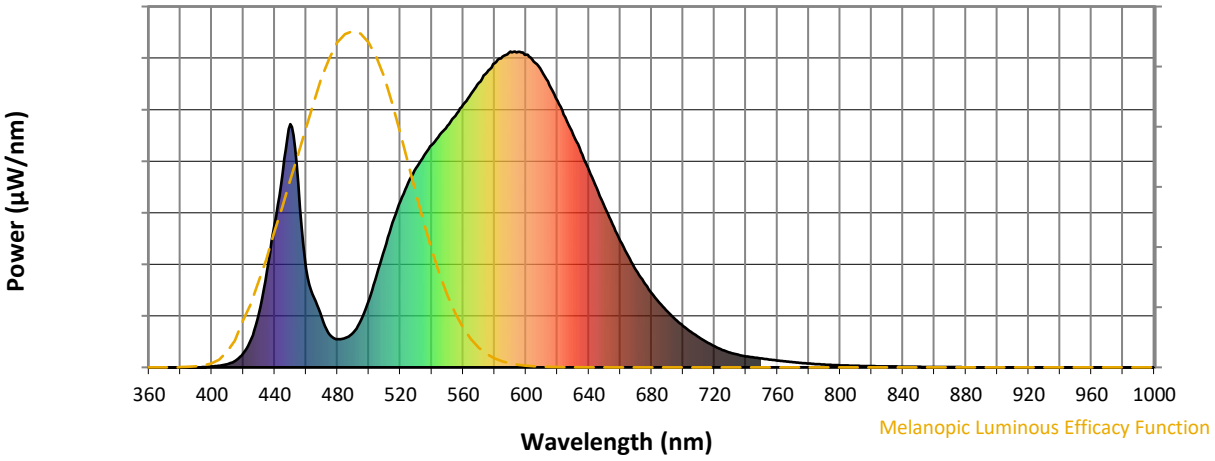


Scotopic Lumens: NR **S/P: 1.31**

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	844	NR	750	28	NR	880	0	NR
365	0	NR	495	150	NR	625	792	NR	755	25	NR	885	0	NR
370	0	NR	500	214	NR	630	737	NR	760	22	NR	890	0	NR
375	0	NR	505	293	NR	635	683	NR	765	19	NR	895	0	NR
380	0	NR	510	376	NR	640	625	NR	770	16	NR	900	0	NR
385	0	NR	515	458	NR	645	566	NR	775	14	NR	905	0	NR
390	0	NR	520	526	NR	650	509	NR	780	12	NR	910	0	NR
395	1	NR	525	584	NR	655	453	NR	785	10	NR	915	0	NR
400	3	NR	530	631	NR	660	401	NR	790	9	NR	920	0	NR
405	5	NR	535	671	NR	665	353	NR	795	8	NR	925	0	NR
410	10	NR	540	704	NR	670	308	NR	800	7	NR	930	0	NR
415	21	NR	545	737	NR	675	269	NR	805	6	NR	935	0	NR
420	44	NR	550	766	NR	680	235	NR	810	5	NR	940	0	NR
425	90	NR	555	797	NR	685	204	NR	815	4	NR	945	0	NR
430	171	NR	560	832	NR	690	177	NR	820	4	NR	950	0	NR
435	305	NR	565	866	NR	695	152	NR	825	3	NR	955	0	NR
440	455	NR	570	901	NR	700	131	NR	830	3	NR	960	0	NR
445	615	NR	575	933	NR	705	112	NR	835	3	NR	965	0	NR
450	771	NR	580	963	NR	710	96	NR	840	2	NR	970	0	NR
455	579	NR	585	984	NR	715	80	NR	845	2	NR	975	0	NR
460	313	NR	590	1000	NR	720	67	NR	850	2	NR	980	0	NR
465	221	NR	595	999	NR	725	55	NR	855	1	NR	985	0	NR
470	156	NR	600	990	NR	730	46	NR	860	1	NR	990	0	NR
475	103	NR	605	968	NR	735	40	NR	865	1	NR	995	0	NR
480	89	NR	610	937	NR	740	35	NR	870	1	NR	1000	0	NR
485	93	NR	615	893	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-4

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.4**

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	844	NR	750	28	NR	880	0	NR
365	0	NR	495	150	NR	625	792	NR	755	25	NR	885	0	NR
370	0	NR	500	214	NR	630	737	NR	760	22	NR	890	0	NR
375	0	NR	505	293	NR	635	683	NR	765	19	NR	895	0	NR
380	0	NR	510	376	NR	640	625	NR	770	16	NR	900	0	NR
385	0	NR	515	458	NR	645	566	NR	775	14	NR	905	0	NR
390	0	NR	520	526	NR	650	509	NR	780	12	NR	910	0	NR
395	1	NR	525	584	NR	655	453	NR	785	10	NR	915	0	NR
400	3	NR	530	631	NR	660	401	NR	790	9	NR	920	0	NR
405	5	NR	535	671	NR	665	353	NR	795	8	NR	925	0	NR
410	10	NR	540	704	NR	670	308	NR	800	7	NR	930	0	NR
415	21	NR	545	737	NR	675	269	NR	805	6	NR	935	0	NR
420	44	NR	550	766	NR	680	235	NR	810	5	NR	940	0	NR
425	90	NR	555	797	NR	685	204	NR	815	4	NR	945	0	NR
430	171	NR	560	832	NR	690	177	NR	820	4	NR	950	0	NR
435	305	NR	565	866	NR	695	152	NR	825	3	NR	955	0	NR
440	455	NR	570	901	NR	700	131	NR	830	3	NR	960	0	NR
445	615	NR	575	933	NR	705	112	NR	835	3	NR	965	0	NR
450	771	NR	580	963	NR	710	96	NR	840	2	NR	970	0	NR
455	579	NR	585	984	NR	715	80	NR	845	2	NR	975	0	NR
460	313	NR	590	1000	NR	720	67	NR	850	2	NR	980	0	NR
465	221	NR	595	999	NR	725	55	NR	855	1	NR	985	0	NR
470	156	NR	600	990	NR	730	46	NR	860	1	NR	990	0	NR
475	103	NR	605	968	NR	735	40	NR	865	1	NR	995	0	NR
480	89	NR	610	937	NR	740	35	NR	870	1	NR	1000	0	NR
485	93	NR	615	893	NR	745	31	NR	875	1	NR			

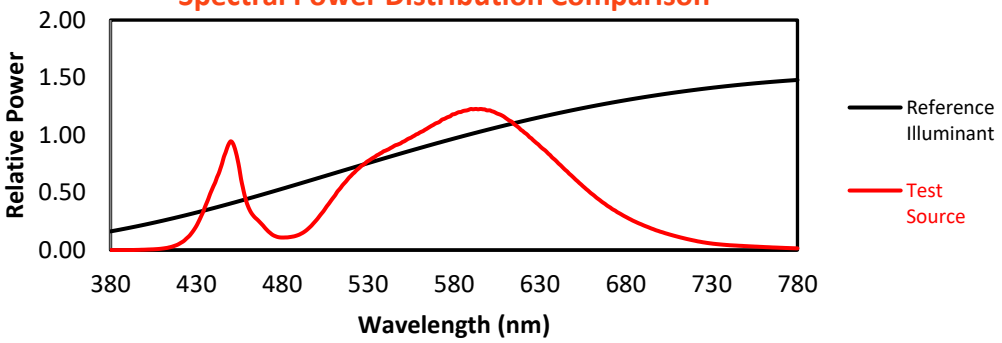
REPORT NUMBER: SP1-2407-176-4

TM-30-18

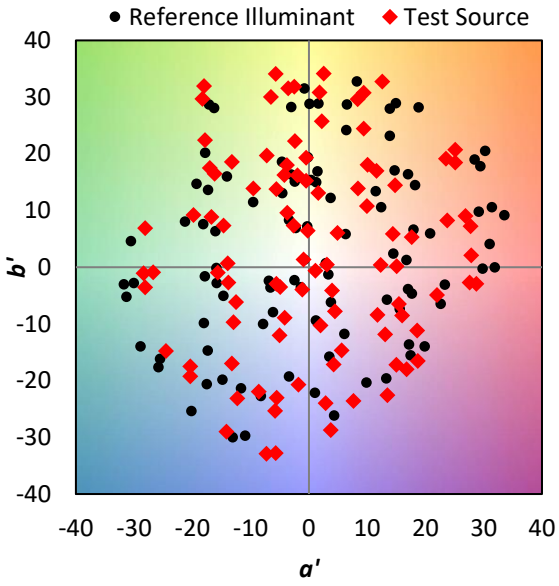
Summary

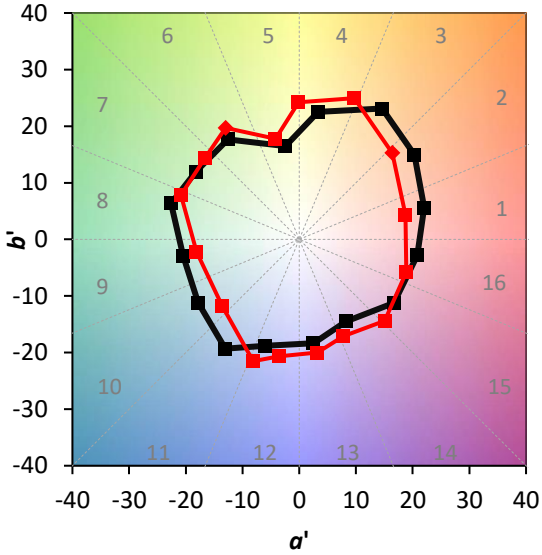
R_f = 75.8
R_g = 95.8
CIE R_a = 73.4
R_9 = -19.2

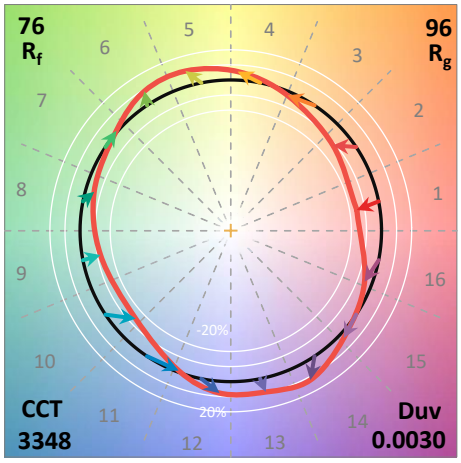
Spectral Power Distribution Comparison

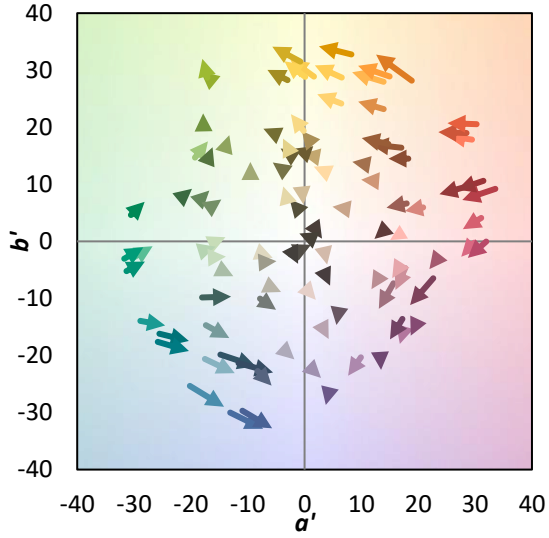


Color Vector Graphics







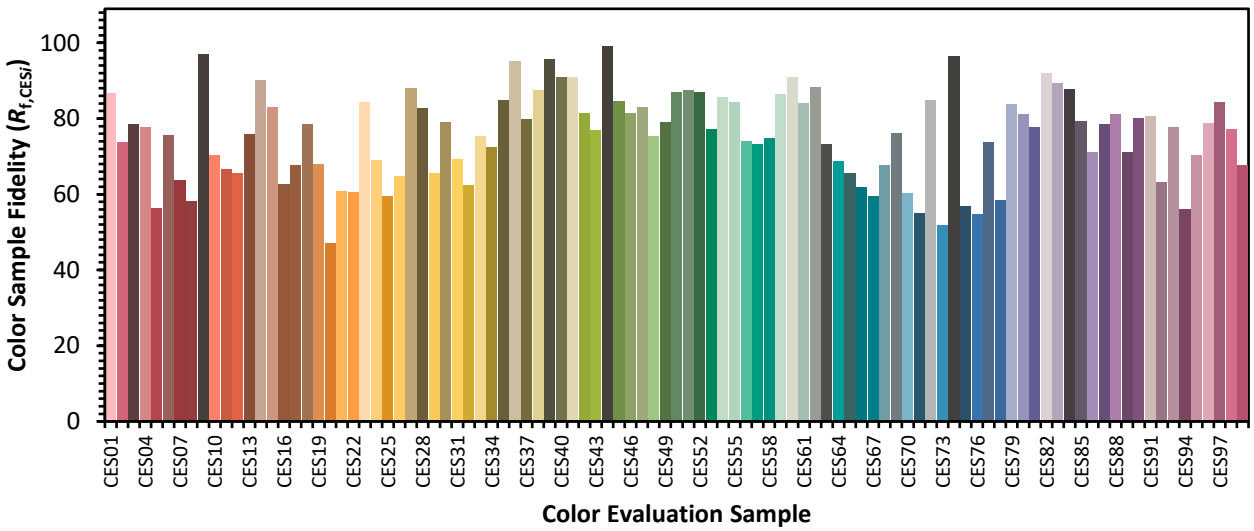


REPORT NUMBER: SP1-2407-176-4

TM-30-18

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

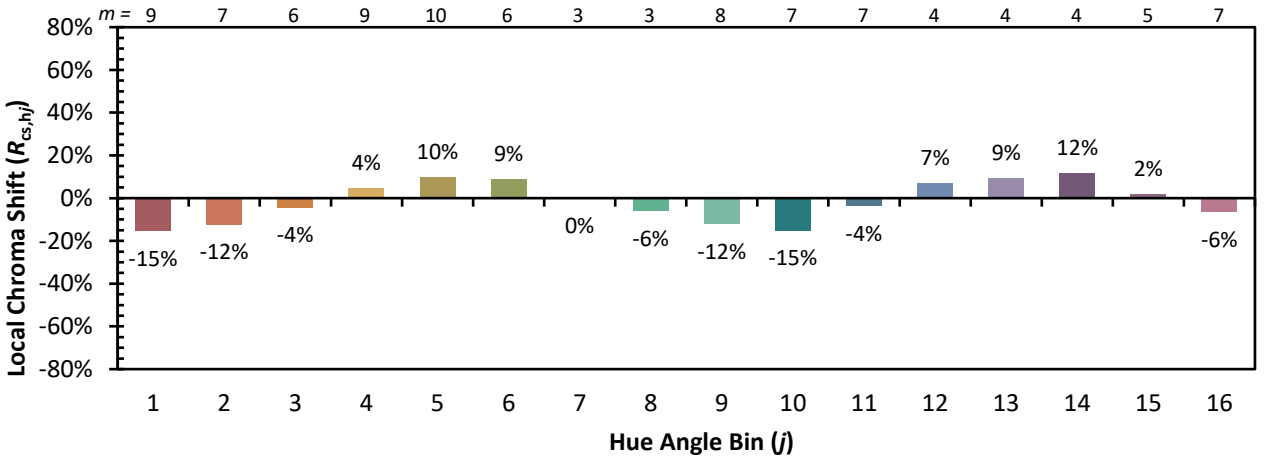
CES01 = 86	CES26 = 65	CES51 = 88	CES76 = 55
CES02 = 62	CES27 = 88	CES52 = 87	CES77 = 74
CES03 = 31	CES28 = 83	CES53 = 77	CES78 = 58
CES04 = 70	CES29 = 66	CES54 = 86	CES79 = 84
CES05 = 48	CES30 = 79	CES55 = 84	CES80 = 81
CES06 = 51	CES31 = 69	CES56 = 74	CES81 = 78
CES07 = 41	CES32 = 62	CES57 = 73	CES82 = 92
CES08 = 40	CES33 = 75	CES58 = 75	CES83 = 89
CES09 = 29	CES34 = 73	CES59 = 87	CES84 = 88
CES10 = 75	CES35 = 85	CES60 = 91	CES85 = 79
CES11 = 58	CES36 = 95	CES61 = 84	CES86 = 71
CES12 = 64	CES37 = 80	CES62 = 88	CES87 = 79
CES13 = 43	CES38 = 88	CES63 = 73	CES88 = 81
CES14 = 74	CES39 = 96	CES64 = 69	CES89 = 71
CES15 = 71	CES40 = 91	CES65 = 66	CES90 = 80
CES16 = 47	CES41 = 91	CES66 = 62	CES91 = 81
CES17 = 50	CES42 = 81	CES67 = 60	CES92 = 63
CES18 = 56	CES43 = 77	CES68 = 68	CES93 = 78
CES19 = 72	CES44 = 99	CES69 = 76	CES94 = 56
CES20 = 65	CES45 = 85	CES70 = 60	CES95 = 70
CES21 = 87	CES46 = 82	CES71 = 55	CES96 = 79
CES22 = 79	CES47 = 83	CES72 = 85	CES97 = 84
CES23 = 92	CES48 = 75	CES73 = 52	CES98 = 77
CES24 = 91	CES49 = 79	CES74 = 96	CES99 = 68
CES25 = 72	CES50 = 87	CES75 = 57	

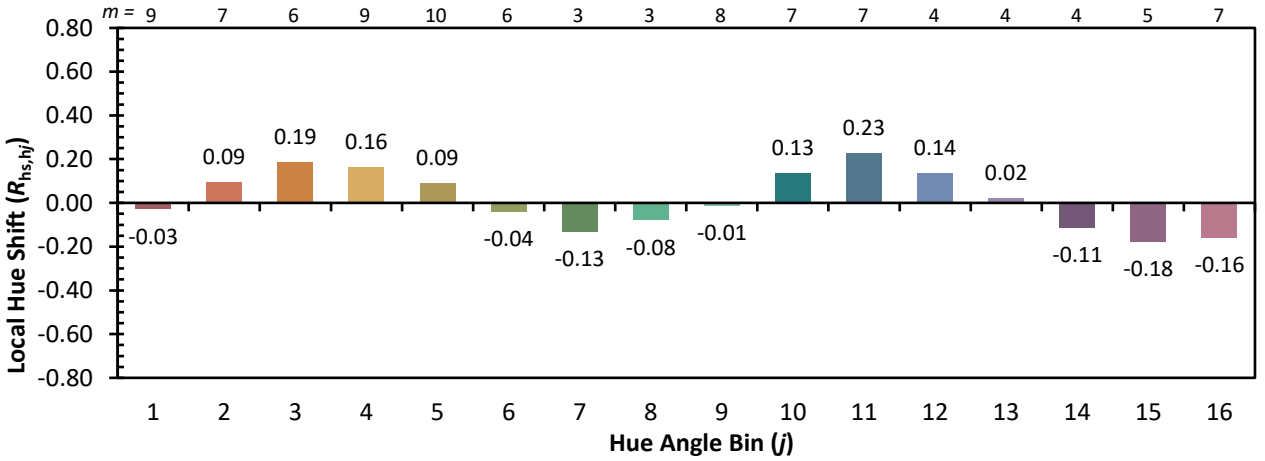


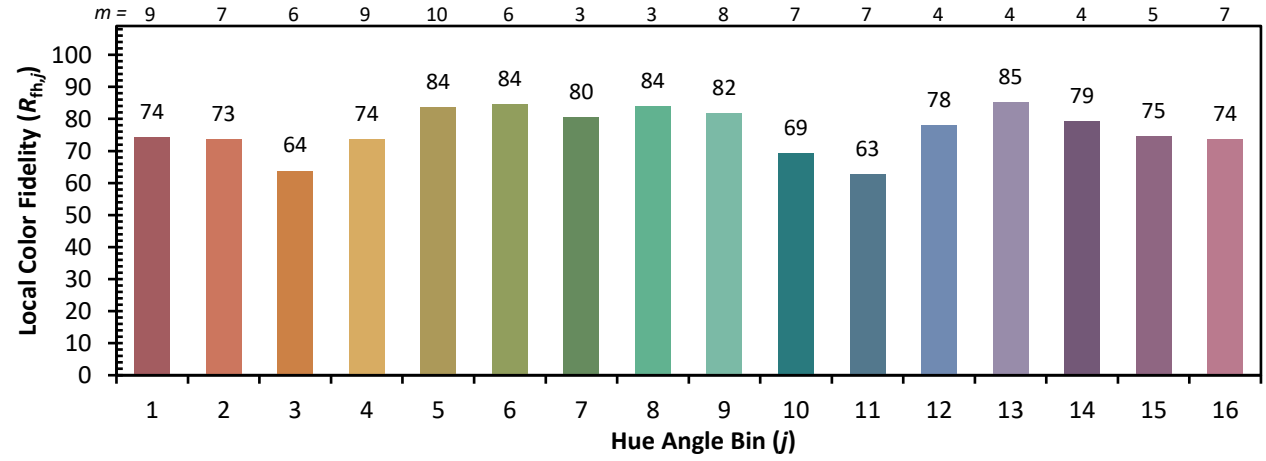
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Color Rendition by Hue-Angle Bin



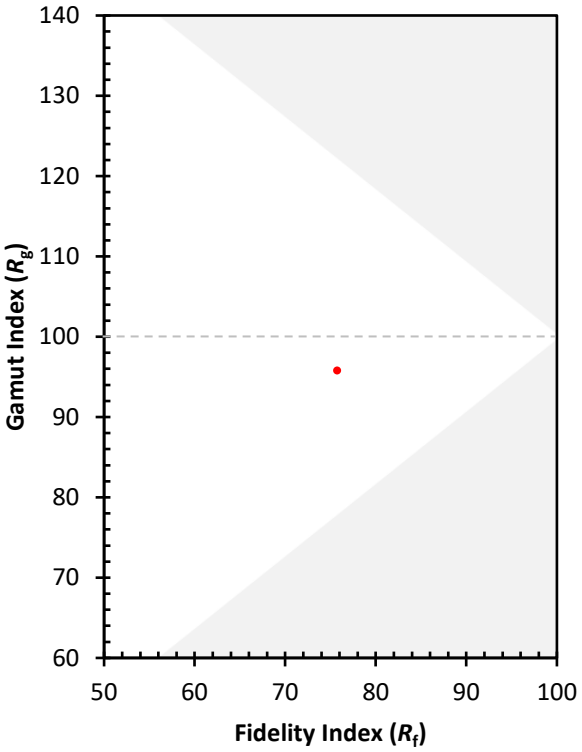


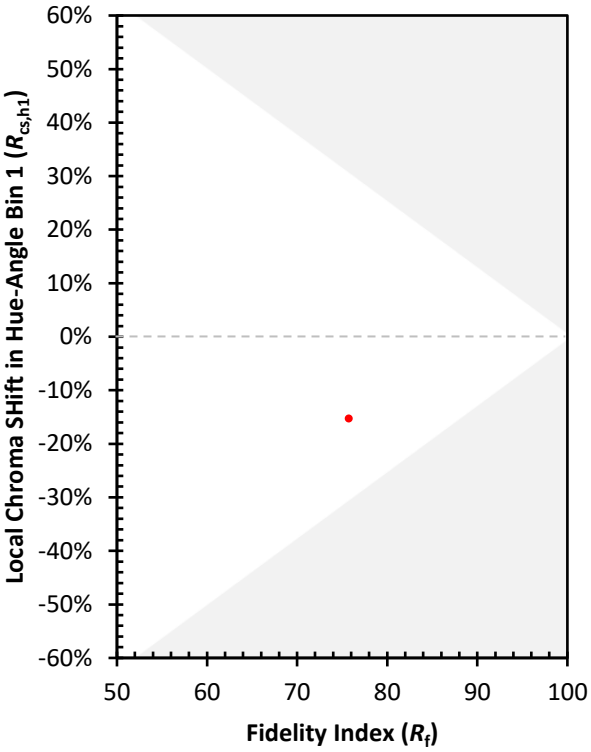


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Measure Comparisons





(END OF REPORT)