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: P510545

Luminaire Tested: **CTN-CA10-630-740-U-T1**

Issue Date: 4/6/2021

Report Generated By 670246102

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Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P510545
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-151-9)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	4/6/2021
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	CTN-CA10-630-740-U-T1
Description:	CELESTEON HIGH MAST LUMINAIRE
Light Source:	(10) 4000K CCT, 70 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	95877 lumens
Efficiency:	N/A
Efficacy:	151.8 lumens/watt
Luminous Opening:	Circular (Dia: 2.08' x H: 0')
IES Classification:	Type I - Short
BUG Rating:	B5 - U0 - G5

Input Watts (W):	631.4
Input Voltage (V):	120
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:	28.75 FT

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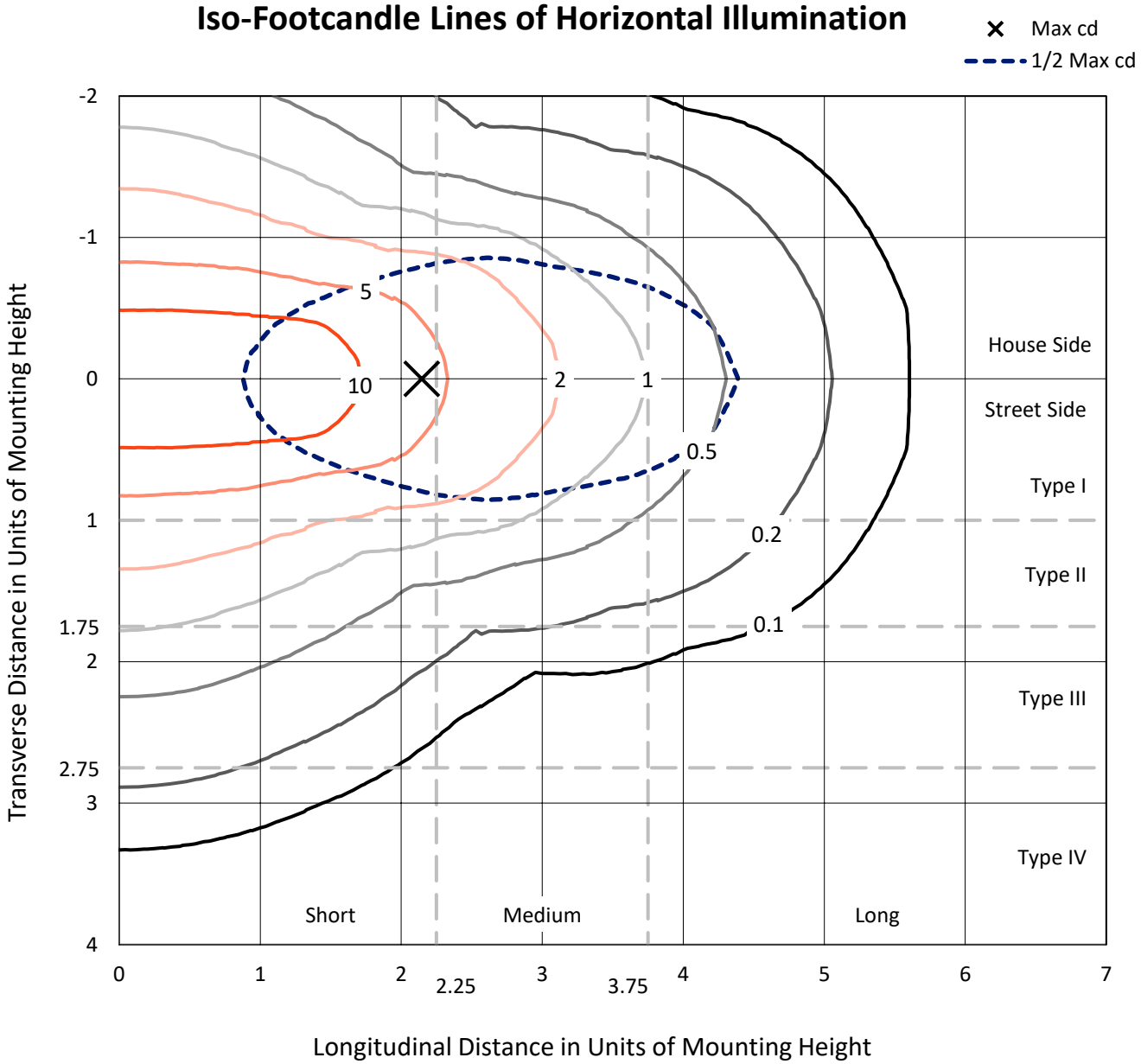
Iso-Footcandle Lines of Horizontal Illumination



Based on 30 foot mounting height. Maximum calculated value = 17.8 fc
Type I - Short - N/A

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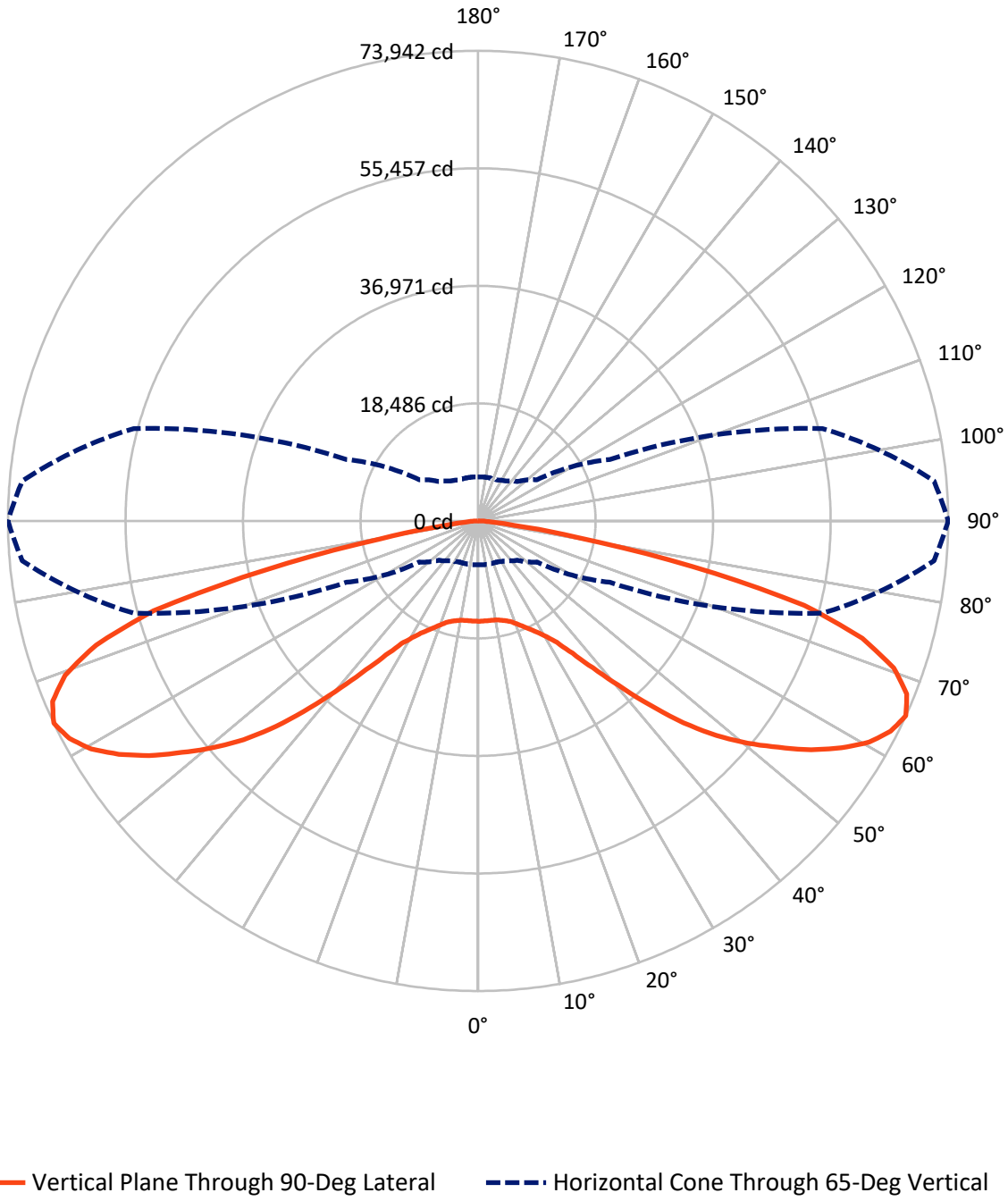
Luminous Intensity Polar Plot



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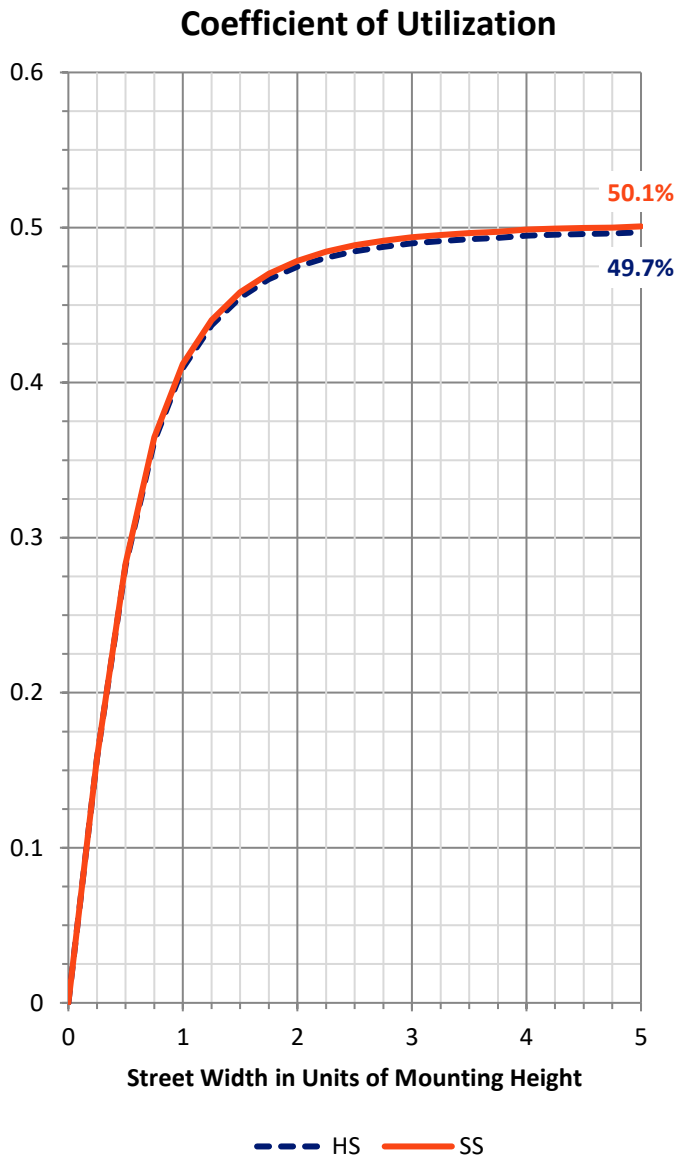
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	47938.5	0.0	47938.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	47938.5	0.0	47938.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	95877.0	0.0	95877.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1499.0	1.6
10°-20°	4423.4	4.6
20°-30°	7286.4	7.6
30°-40°	10675.5	11.1
40°-50°	15784.8	16.5
50°-60°	20705.7	21.6
60°-70°	21601.9	22.5
70°-80°	12419.9	13.0
80°-90°	1480.6	1.5
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°	95877.0	100.0
0°-180°	95877.0	100.0



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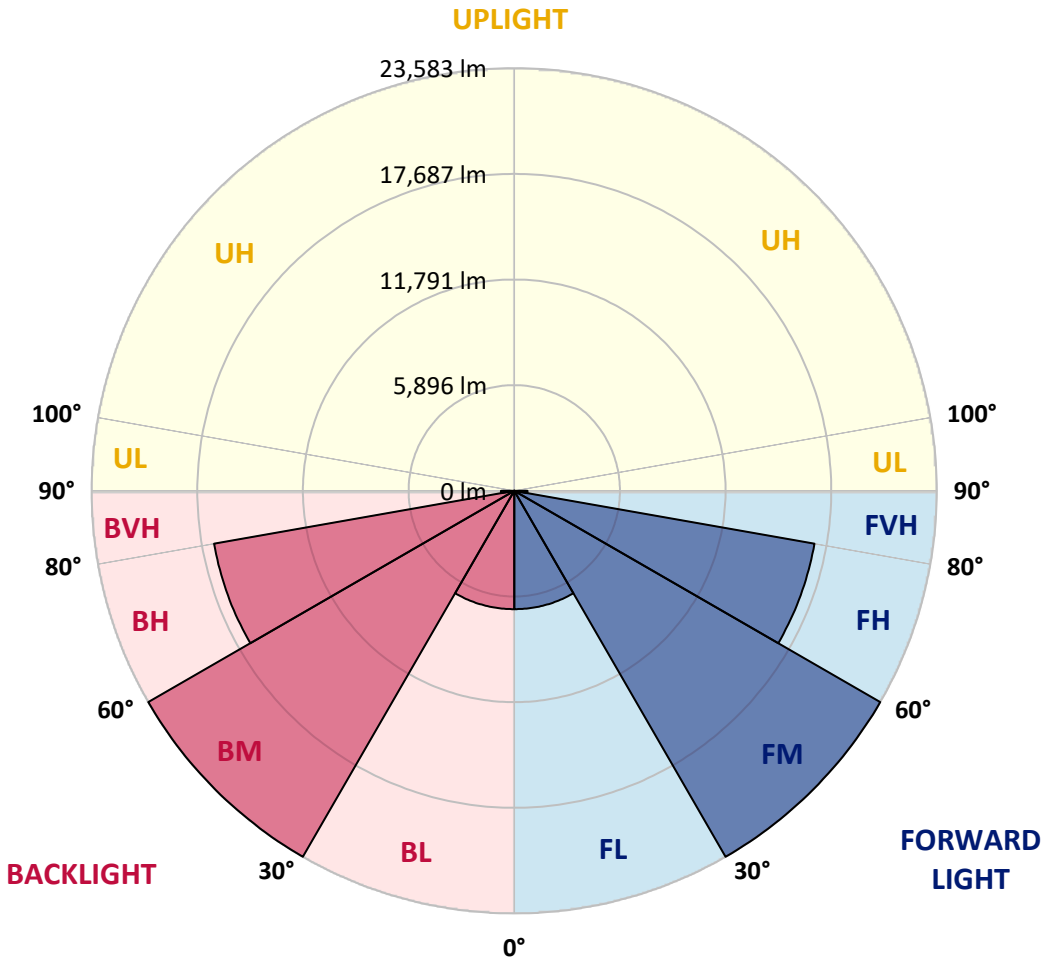
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	6604.4	6.9			
FM	(30°-60°)	23583.0	24.6			
FH	(60°-80°)	17010.9	17.7			G5
FVH	(80°-90°)	740.3	0.8			G4/750
BL	(0°-30°)	6604.4	6.9	B5		
BM	(30°-60°)	23583.0	24.6	B5		
BH	(60°-80°)	17010.9	17.7	B5		G5
BVH	(80°-90°)	740.3	0.8			G4/750
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G5
Type I Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5
2.5°	15791.7	15780.5	15776.7	15771.1	15780.5	15788.0	15806.7	15823.6	15819.8	15816.1	15819.8
5°	15703.6	15709.2	15711.1	15713.0	15720.5	15726.1	15752.4	15778.6	15774.8	15771.1	15789.8
7.5°	15579.9	15579.9	15576.2	15572.5	15587.4	15600.6	15626.8	15653.0	15673.6	15692.4	15722.4
10°	15400.0	15392.6	15390.7	15388.8	15405.7	15420.7	15469.4	15518.1	15559.3	15598.7	15649.3
12.5°	15180.8	15178.9	15182.7	15186.4	15222.0	15257.6	15340.1	15422.5	15505.0	15587.4	15660.5
15°	14920.3	14897.8	14916.6	14933.4	14991.5	15047.7	15207.0	15366.3	15491.9	15615.6	15758.0
17.5°	14523.0	14500.6	14528.7	14554.9	14671.1	14787.3	15012.1	15235.1	15471.3	15707.4	15911.6
20°	13921.5	13921.5	13992.7	14063.9	14260.7	14457.5	14766.7	15074.0	15392.6	15711.1	16007.2
22.5°	13280.6	13261.9	13413.7	13565.5	13801.6	14035.8	14425.6	14815.4	15237.0	15656.8	16063.4
25°	12557.3	12589.1	12780.3	12969.5	13301.2	13631.0	14110.8	14588.6	15119.0	15649.3	16213.3
27.5°	11946.4	11952.0	12182.5	12413.0	12829.0	13243.1	13825.9	14408.7	15055.2	15701.8	16412.0
30°	11314.9	11417.9	11661.5	11903.3	12368.0	12832.7	13537.4	14240.1	15006.5	15773.0	16638.7
32.5°	10829.5	10853.9	11129.3	11402.9	11888.3	12373.6	13192.5	14011.5	14931.6	15851.7	16904.8
35°	10372.3	10411.6	10668.3	10925.1	11431.0	11935.1	12832.7	13728.5	14828.5	15926.6	17193.4
37.5°	9965.6	10014.3	10258.0	10501.6	10988.8	11476.0	12428.0	13379.9	14669.2	15958.5	17510.1
40°	9667.7	9708.9	9915.0	10121.2	10561.5	11000.0	11997.0	12992.0	14446.2	15900.4	17759.3
42.5°	9452.2	9470.9	9637.7	9804.5	10198.0	10591.5	11579.1	12564.8	14155.8	15746.7	17952.4
45°	9159.8	9201.1	9366.0	9529.0	9883.2	10235.5	11138.7	12041.9	13724.7	15405.7	17954.2
47.5°	8942.4	8968.7	9124.2	9277.9	9607.7	9937.5	10748.9	11560.3	13237.5	14912.8	17751.8
50°	8783.2	8770.0	8914.3	9056.8	9336.0	9613.3	10336.7	11058.1	12634.1	14210.1	17245.9
52.5°	8556.4	8571.4	8687.6	8803.8	9045.5	9285.4	9933.8	10580.3	11965.1	13348.1	16425.1
55°	8252.8	8322.2	8419.6	8515.2	8726.9	8938.7	9521.5	10104.3	11296.1	12486.1	15368.2
57.5°	7954.9	8005.5	8087.9	8170.4	8337.2	8502.1	9051.1	9600.2	10591.5	11582.8	14033.9
60°	7711.3	7724.4	7776.9	7827.5	7954.9	8082.3	8535.8	8989.3	9855.1	10718.9	12703.4
62.5°	7396.4	7400.2	7435.8	7471.4	7550.1	7626.9	7983.0	8337.2	9075.5	9813.8	11380.4
65°	*6903.6*	*6933.6*	*6967.3*	*6999.2*	*7051.6*	*7102.2*	*7374.0*	*7645.7*	*8198.5*	*8751.3*	*10014.3*
67.5°	6405.1	6378.9	6418.2	6457.6	6465.1	6472.6	6678.7	6884.9	7338.4	7791.8	8807.5
70°	5593.7	5614.3	5610.6	5605.0	5573.1	5539.4	5683.7	5828.0	6067.8	6305.8	7040.4
72.5°	4289.5	4261.3	4190.1	4117.0	4083.3	4049.6	4218.2	4385.0	4561.2	4737.3	5267.6
75°	2621.6	2702.2	2850.3	2996.4	3052.7	3108.9	3099.5	3088.3	3073.3	3058.3	3719.8
77.5°	1776.5	1819.6	1853.3	1885.2	1967.6	2048.2	2141.9	2235.6	2233.7	2231.9	2647.9
80°	1130.0	1096.3	1111.2	1126.2	1173.1	1219.9	1362.4	1502.9	1542.3	1579.7	1866.4
82.5°	708.3	714.0	732.7	749.6	697.1	644.6	755.2	863.9	957.6	1049.4	1182.5
85°	459.1	521.0	511.6	502.2	440.4	378.5	476.0	573.4	618.4	661.5	712.1
87.5°	148.0	172.4	178.0	181.8	181.8	179.9	200.5	221.1	228.6	234.2	253.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	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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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5	15795.5	*15795.5*
2.5°	15821.7	15802.9	15784.2	15778.6	15773.0	15769.2	15765.5	*15761.7*
5°	15806.7	15802.9	15799.2	15784.2	15769.2	15767.3	15765.5	*15771.1*
7.5°	15752.4	15752.4	15752.4	15769.2	15786.1	15778.6	15769.2	*15780.5*
10°	15698.0	15743.0	15788.0	15801.1	15814.2	15823.6	15832.9	*15842.3*
12.5°	15733.6	15810.4	15885.4	15928.5	15971.6	15994.1	16014.7	*16020.3*
15°	15900.4	15997.8	16095.3	16153.4	16209.6	16247.1	16284.5	*16293.9*
17.5°	16115.9	16265.8	16413.9	16498.2	16582.5	16625.6	16666.8	*16653.7*
20°	16301.4	16507.5	16713.7	16893.6	17073.5	17172.8	17270.2	*17281.5*
22.5°	16468.2	16814.9	17161.6	17393.9	17624.4	17800.6	17976.7	*17995.5*
25°	16775.5	17229.0	17682.5	18053.6	18424.6	18585.7	18745.0	*18838.7*
27.5°	17120.3	17727.5	18334.6	18831.2	19327.8	19573.3	19816.9	*19830.0*
30°	17502.6	18272.8	19041.1	19708.2	20373.5	20673.3	20971.3	*21128.7*
32.5°	17956.1	18934.3	19910.6	20787.6	21664.6	22120.0	22575.4	*22734.7*
35°	18458.3	19727.0	20993.8	22202.5	23409.3	24280.7	25152.0	*25571.8*
37.5°	19061.7	20677.1	22292.4	24108.3	25924.1	27410.1	28894.3	*29317.8*
40°	19618.3	21696.5	23772.8	26295.1	28817.5	31174.9	33530.4	*33989.5*
42.5°	20158.0	22672.8	25187.6	28628.2	32068.8	35224.5	38380.2	*39573.9*
45°	20500.9	23542.3	26581.9	31118.7	35655.5	39988.0	44318.7	*45321.3*
47.5°	20589.0	24162.6	27736.2	33356.2	38976.1	44075.1	49172.2	*50459.6*
50°	20281.7	24484.9	28688.2	36105.2	43520.4	48713.1	53903.9	*54960.8*
52.5°	19502.1	24381.8	29261.6	38235.9	47210.2	52706.5	58202.7	*59162.2*
55°	18250.3	23756.0	29261.6	39989.9	50716.3	56416.9	62115.5	*63573.5*
57.5°	16485.1	22560.4	28635.7	41161.1	53686.5	59878.0	66069.5	*67379.4*
60°	14688.0	21138.1	27586.3	41807.6	56029.0	62587.8	69146.6	*70675.7*
62.5°	12945.2	19206.0	25465.0	41129.3	56793.5	63717.8	70640.1	*72840.1*
65°	*11277.4*	*17060.4*	*22843.3*	*39474.6*	*56103.9*	*64038.2*	*71970.6*	*73942.0*
67.5°	9823.2	15267.0	20710.8	36701.1	52691.5	61472.8	70252.2	*72708.9*
70°	7775.0	12784.0	17793.1	31783.9	45774.8	56059.0	66343.1	*69375.2*
72.5°	5798.0	10046.2	14292.6	25002.1	35711.7	47538.1	59362.7	*63178.1*
75°	4379.4	8024.2	11669.0	19762.6	27856.1	37868.6	47881.1	*52987.6*
77.5°	3063.9	5798.0	8530.2	14568.0	20605.9	26149.0	31692.1	*34413.1*
80°	2151.3	3667.3	5181.4	8086.1	10988.8	13447.4	15904.1	*15709.2*
82.5°	1313.6	1950.8	2586.0	3508.0	4430.0	5024.0	5618.1	*5591.8*
85°	762.7	927.6	1090.6	1351.1	1611.6	1905.8	2200.0	*1956.4*
87.5°	269.8	269.8	269.8	309.2	348.6	479.7	610.9	*644.6*
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
110°	0.0	0.0	0.0	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: P510545
CATALOG NUMBER: CTN-CA10-630-740-U-T1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*

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

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

STREETWORKS

Report Number: SP1-2104-215-1

Luminaire Tested: CST-CA6-230-740-U-T4

Test Date: 04/20/2021

Report Generated By controller / USPTCWHP6086842

Test Information

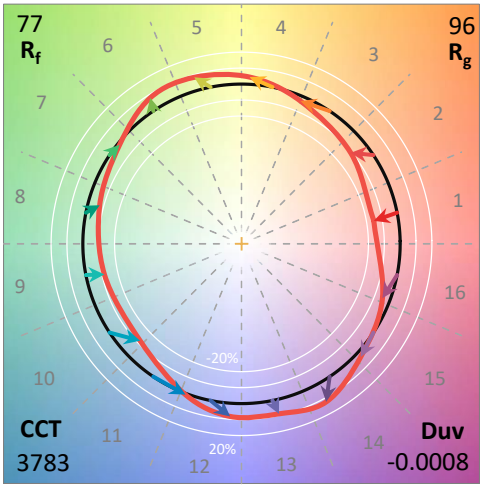
Test Method:	LM-79-08
Report Number:	SP1-2104-215-1
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1
Measurement Geometry:	4π
Issue Date:	04/20/2021
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	**CST-CA6-230-740-U-T4**
Description:	STREETWORKS HIGH MAST LUMINAIRE

230W

Spectral Parameters

CCT (K):	3783	CRI (Ra):	75.1		
CIE u':	0.2297	R1:	72.8	R9:	-19.0
CIE v':	0.5046	R2:	81.9	R10:	57.0
Duv:	-0.0008	R3:	89.0	R11:	70.7
CIE x:	0.3897	R4:	74.1	R12:	48.2
CIE y:	0.3804	R5:	72.3	R13:	74.4
CIE z:	0.2299	R6:	74.5	R14:	93.7
Peak Wavelength (nm):	450	R7:	81.7		
Dominant Wavelength (nm):	580	R8:	54.6		
Purity:	31.3				

Rf:	76.5
Rg:	95.6



Test Conditions

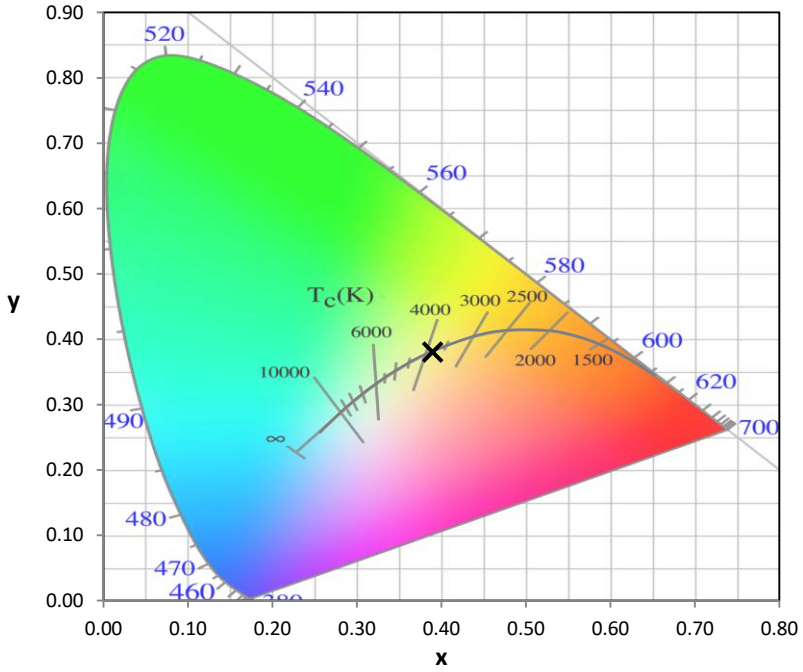
Stabilization Time:	47M
Operation Time:	12H
Room Temperature (°C) / RH%:	25.5/39%
Sphere Temperature (°C):	24.0

REPORT NUMBER: SP1-2104-215-1

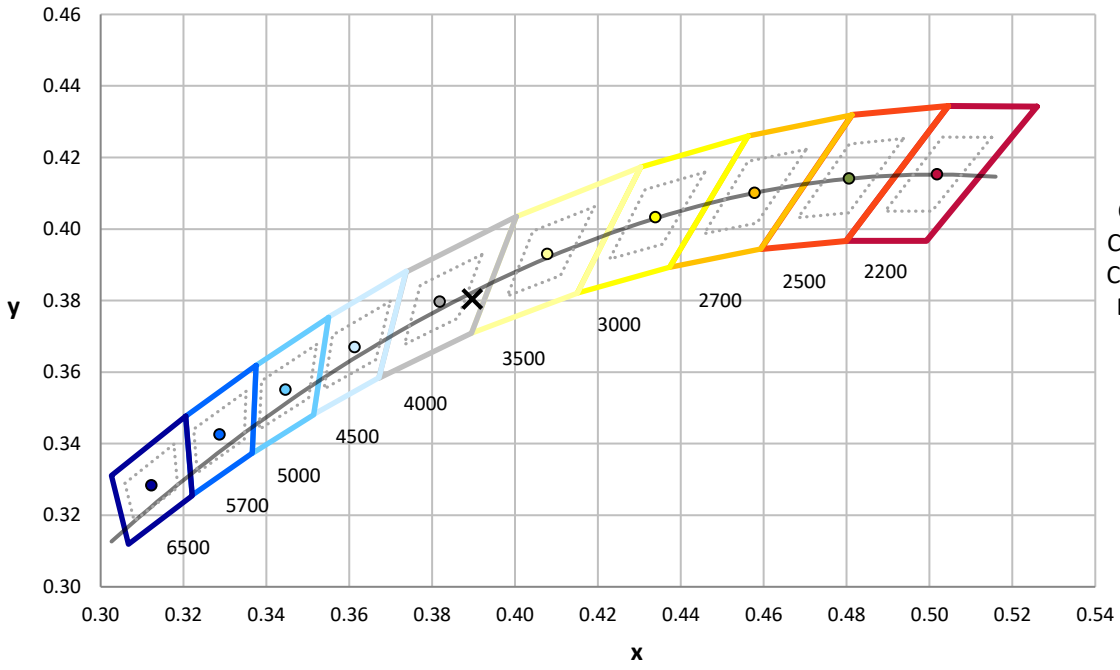
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	1/31/2021	7/31/2021
Power Meter	IN0071	12/1/2020	12/1/2021
AC Power Source	IN0063	12/1/2020	12/1/2021
DC Power Source	IN0208	12/1/2020	12/1/2021
Sphere Thermometer	IN0085	12/1/2020	12/1/2021
Room Thermometer	IN0046	12/1/2020	12/1/2021

REPORT NUMBER: SP1-2104-215-1

CIE 1931 Chromaticity Diagram



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

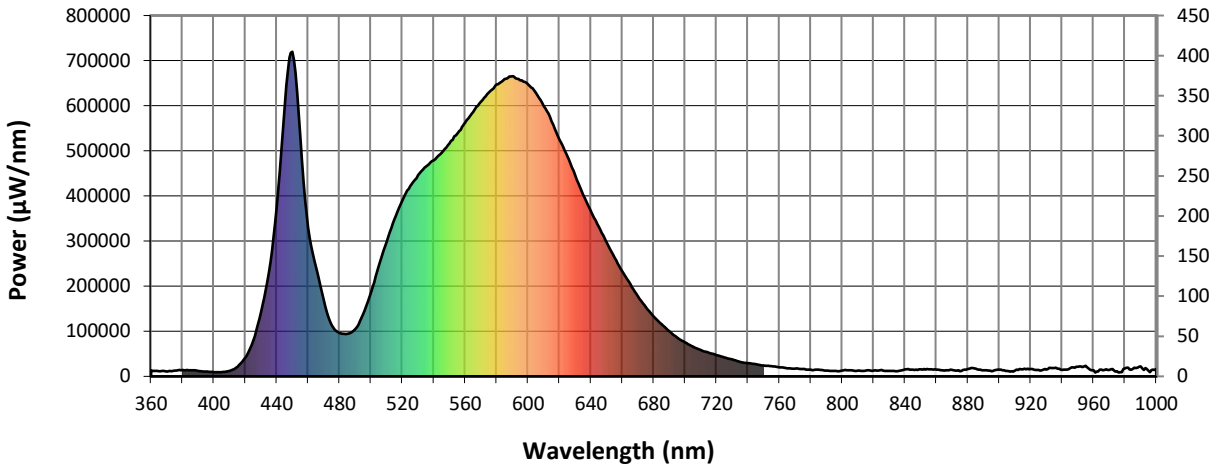


CCT = 3783K
CIE x = 0.3897
CIE y = 0.3804
Duv = -0.0008

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2104-215-1

Photopic Flux vs. Wavelength



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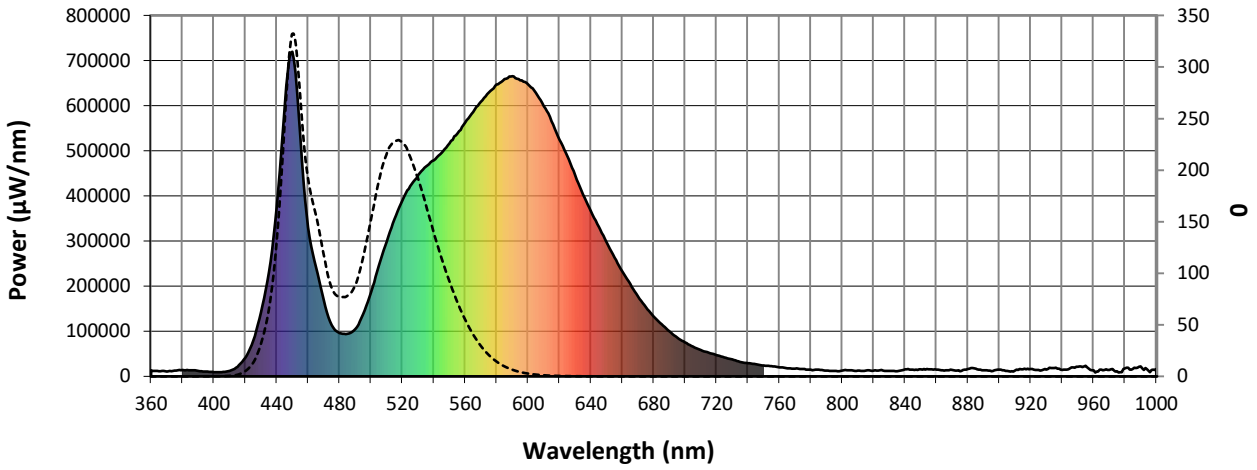
λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	13329	0.0	490	105235	15.0	620	524343	136.4	750	24224	0.0	880	16135	0.0
365	11697	0.0	495	137678	25.0	625	488932	107.9	755	22376	0.0	885	16876	0.0
370	10917	0.0	500	186689	41.2	630	445400	80.6	760	20109	0.0	890	13554	0.0
375	12548	0.0	505	244611	68.4	635	403534	60.6	765	18097	0.0	895	11525	0.0
380	13932	0.0	510	298987	102.7	640	366414	43.8	770	17366	0.0	900	14656	0.0
385	13265	0.0	515	348170	144.2	645	331272	31.9	775	16226	0.0	905	11999	0.0
390	11808	0.0	520	390427	189.3	650	297360	21.7	780	14803	0.0	910	12965	0.0
395	10395	0.0	525	421211	226.1	655	263291	15.1	785	15199	0.0	915	15939	0.0
400	9348	0.0	530	446063	262.6	660	232931	9.7	790	12989	0.0	920	16238	0.0
405	9479	0.0	535	465110	288.4	665	204719	6.5	795	12106	0.0	925	14419	0.0
410	12414	0.0	540	479189	312.2	670	177096	3.9	800	12942	0.0	930	14788	0.0
415	21574	0.0	545	495864	330.0	675	153254	2.6	805	13253	0.0	935	18619	0.0
420	41448	0.1	550	516625	351.1	680	132874	1.5	810	12808	0.0	940	13995	0.0
425	79385	0.4	555	538555	367.8	685	115378	1.0	815	12903	0.0	945	18047	0.0
430	141845	1.1	560	562412	382.2	690	100157	0.6	820	12621	0.0	950	21418	0.0
435	231290	2.7	565	585835	389.5	695	85561	0.4	825	13903	0.0	955	23138	0.0
440	374482	5.9	570	608681	395.8	700	75396	0.2	830	11870	0.0	960	13665	0.0
445	596715	12.4	575	629563	391.7	705	65658	0.1	835	11069	0.0	965	14793	0.0
450	719656	18.7	580	646820	384.3	710	58172	0.1	840	15291	0.0	970	14396	0.0
455	530438	17.8	585	659231	366.3	715	52563	0.1	845	15125	0.0	975	11155	0.0
460	330446	13.5	590	665630	344.2	720	47085	0.0	850	15336	0.0	980	17987	0.0
465	241999	12.5	595	656228	311.1	725	41741	0.0	855	15791	0.0	985	16185	0.0
470	167096	10.4	600	646946	278.8	730	37415	0.0	860	14660	0.0	990	22120	0.0
475	113791	8.9	605	628643	243.4	735	32125	0.0	865	12528	0.0	995	11943	0.0
480	96126	9.1	610	599057	205.8	740	29322	0.0	870	14089	0.0	1000	16020	0.0
485	94467	11.2	615	565669	170.8	745	26862	0.0	875	11732	0.0			

REPORT NUMBER: SP1-2104-215-1

Scotopic Flux vs. Wavelength

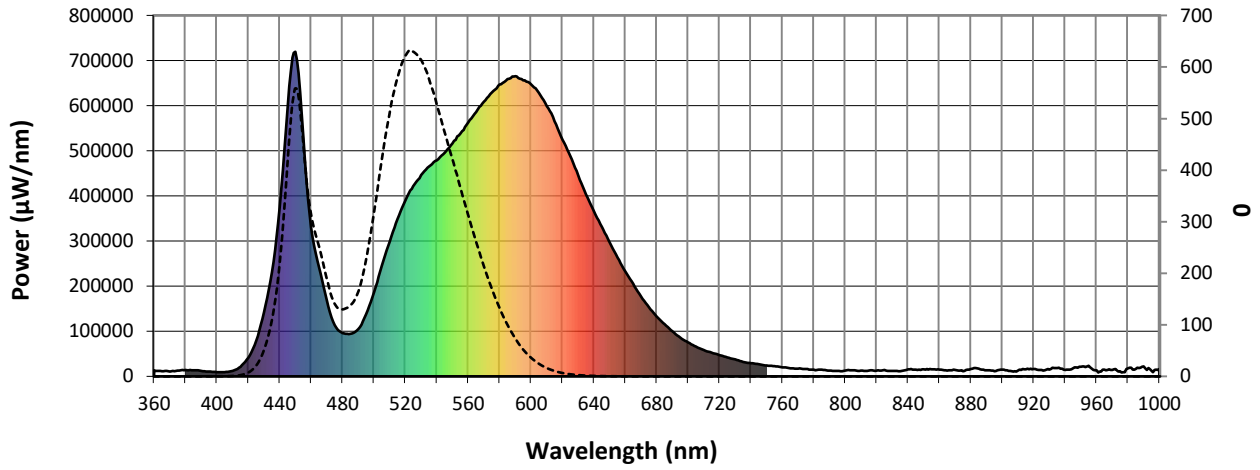


Scotopic Lumens: 54268.8 **S/P: 1.5**

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	13329	0.0	490	105235	162.0	620	524343	6.6	750	24224	0.0	880	16135	0.0
365	11697	0.0	495	137678	222.6	625	488932	4.1	755	22376	0.0	885	16876	0.0
370	10917	0.0	500	186689	312.3	630	445400	2.5	760	20109	0.0	890	13554	0.0
375	12548	0.0	505	244611	415.8	635	403534	1.5	765	18097	0.0	895	11525	0.0
380	13932	0.0	510	298987	506.8	640	366414	0.9	770	17366	0.0	900	14656	0.0
385	13265	0.0	515	348170	577.1	645	331272	0.6	775	16226	0.0	905	11999	0.0
390	11808	0.0	520	390427	620.6	650	297360	0.3	780	14803	0.0	910	12965	0.0
395	10395	0.1	525	421211	630.1	655	263291	0.2	785	15199	0.0	915	15939	0.0
400	9348	0.1	530	446063	615.0	660	232931	0.1	790	12989	0.0	920	16238	0.0
405	9479	0.3	535	465110	579.6	665	204719	0.1	795	12106	0.0	925	14419	0.0
410	12414	0.7	540	479189	529.5	670	177096	0.0	800	12942	0.0	930	14788	0.0
415	21574	2.2	545	495864	475.4	675	153254	0.0	805	13253	0.0	935	18619	0.0
420	41448	6.8	550	516625	422.4	680	132874	0.0	810	12808	0.0	940	13995	0.0
425	79385	19.4	555	538555	368.0	685	115378	0.0	815	12903	0.0	945	18047	0.0
430	141845	48.3	560	562412	314.4	690	100157	0.0	820	12621	0.0	950	21418	0.0
435	231290	103.4	565	585835	262.8	695	85561	0.0	825	13903	0.0	955	23138	0.0
440	374482	209.3	570	608681	214.8	700	75396	0.0	830	11870	0.0	960	13665	0.0
445	596715	399.6	575	629563	171.5	705	65658	0.0	835	11069	0.0	965	14793	0.0
450	719656	557.8	580	646820	133.3	710	58172	0.0	840	15291	0.0	970	14396	0.0
455	530438	463.5	585	659231	100.8	715	52563	0.0	845	15125	0.0	975	11155	0.0
460	330446	319.2	590	665630	74.1	720	47085	0.0	850	15336	0.0	980	17987	0.0
465	241999	255.6	595	656228	52.3	725	41741	0.0	855	15791	0.0	985	16185	0.0
470	167096	192.4	600	646946	36.5	730	37415	0.0	860	14660	0.0	990	22120	0.0
475	113791	142.3	605	628643	24.7	735	32125	0.0	865	12528	0.0	995	11943	0.0
480	96126	129.8	610	599057	16.2	740	29322	0.0	870	14089	0.0	1000	16020	0.0
485	94467	136.9	615	565669	10.5	745	26862	0.0	875	11732	0.0			

REPORT NUMBER: SP1-2104-215-1

Melanopic Flux vs. Wavelength



Melanopic Lumens: 20938.3 **M/P: 0.58**

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	13329	0.0	490	105235	87.6	620	524343	0.4	750	24224	0.0	880	16135	0.0
365	11697	0.0	495	137678	113.7	625	488932	0.3	755	22376	0.0	885	16876	0.0
370	10917	0.0	500	186689	150.1	630	445400	0.2	760	20109	0.0	890	13554	0.0
375	12548	0.0	505	244611	187.7	635	403534	0.1	765	18097	0.0	895	11525	0.0
380	13932	0.0	510	298987	214.7	640	366414	0.1	770	17366	0.0	900	14656	0.0
385	13265	0.0	515	348170	227.5	645	331272	0.0	775	16226	0.0	905	11999	0.0
390	11808	0.0	520	390427	227.3	650	297360	0.0	780	14803	0.0	910	12965	0.0
395	10395	0.1	525	421211	213.6	655	263291	0.0	785	15199	0.0	915	15939	0.0
400	9348	0.1	530	446063	192.8	660	232931	0.0	790	12989	0.0	920	16238	0.0
405	9479	0.2	535	465110	167.4	665	204719	0.0	795	12106	0.0	925	14419	0.0
410	12414	0.5	540	479189	140.2	670	177096	0.0	800	12942	0.0	930	14788	0.0
415	21574	1.4	545	495864	115.2	675	153254	0.0	805	13253	0.0	935	18619	0.0
420	41448	4.7	550	516625	92.7	680	132874	0.0	810	12808	0.0	940	13995	0.0
425	79385	12.4	555	538555	72.6	685	115378	0.0	815	12903	0.0	945	18047	0.0
430	141845	30.0	560	562412	55.5	690	100157	0.0	820	12621	0.0	950	21418	0.0
435	231290	61.7	565	585835	41.1	695	85561	0.0	825	13903	0.0	955	23138	0.0
440	374482	125.1	570	608681	29.7	700	75396	0.0	830	11870	0.0	960	13665	0.0
445	596715	235.4	575	629563	21.0	705	65658	0.0	835	11069	0.0	965	14793	0.0
450	719656	331.6	580	646820	14.5	710	58172	0.0	840	15291	0.0	970	14396	0.0
455	530438	277.9	585	659231	9.8	715	52563	0.0	845	15125	0.0	975	11155	0.0
460	330446	194.7	590	665630	6.5	720	47085	0.0	850	15336	0.0	980	17987	0.0
465	241999	158.1	595	656228	4.2	725	41741	0.0	855	15791	0.0	985	16185	0.0
470	167096	119.6	600	646946	2.7	730	37415	0.0	860	14660	0.0	990	22120	0.0
475	113791	86.9	605	628643	1.7	735	32125	0.0	865	12528	0.0	995	11943	0.0
480	96126	77.2	610	599057	1.1	740	29322	0.0	870	14089	0.0	1000	16020	0.0
485	94467	77.9	615	565669	0.7	745	26862	0.0	875	11732	0.0			

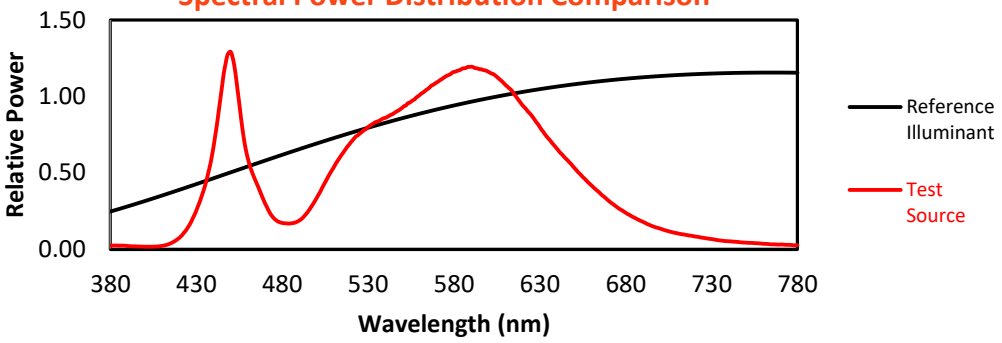
REPORT NUMBER: SP1-2104-215-1

TM-30-18

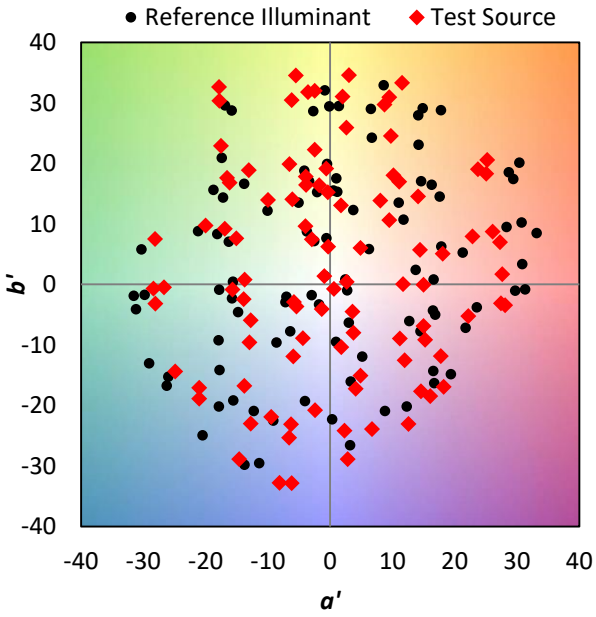
Summary

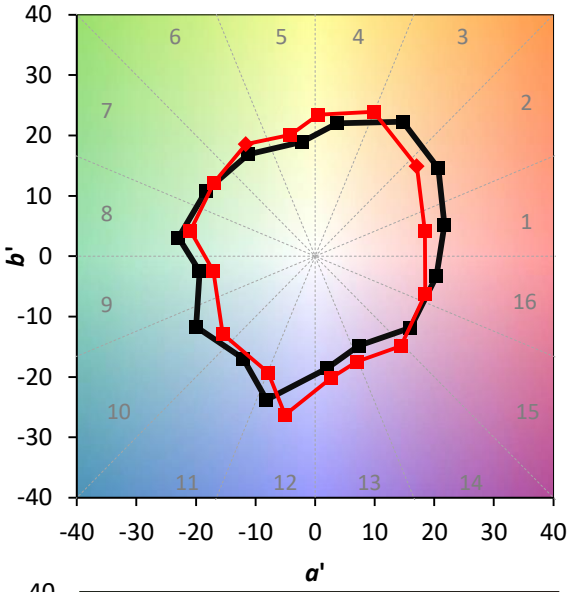
R_f = 76.5
R_g = 95.6
CIE R_a = 75.1
R_9 = -19.0

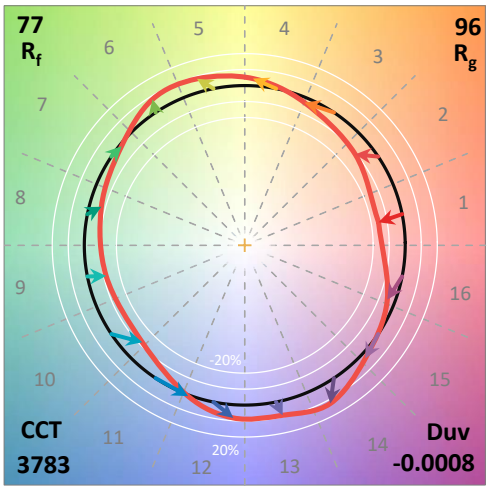
Spectral Power Distribution Comparison

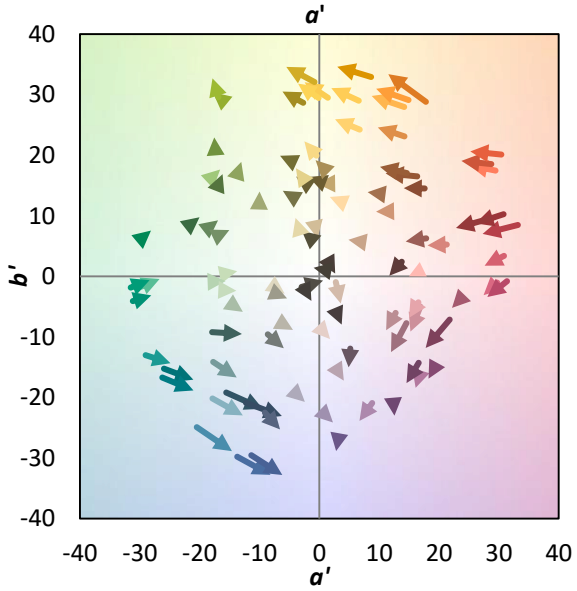


Color Vector Graphics









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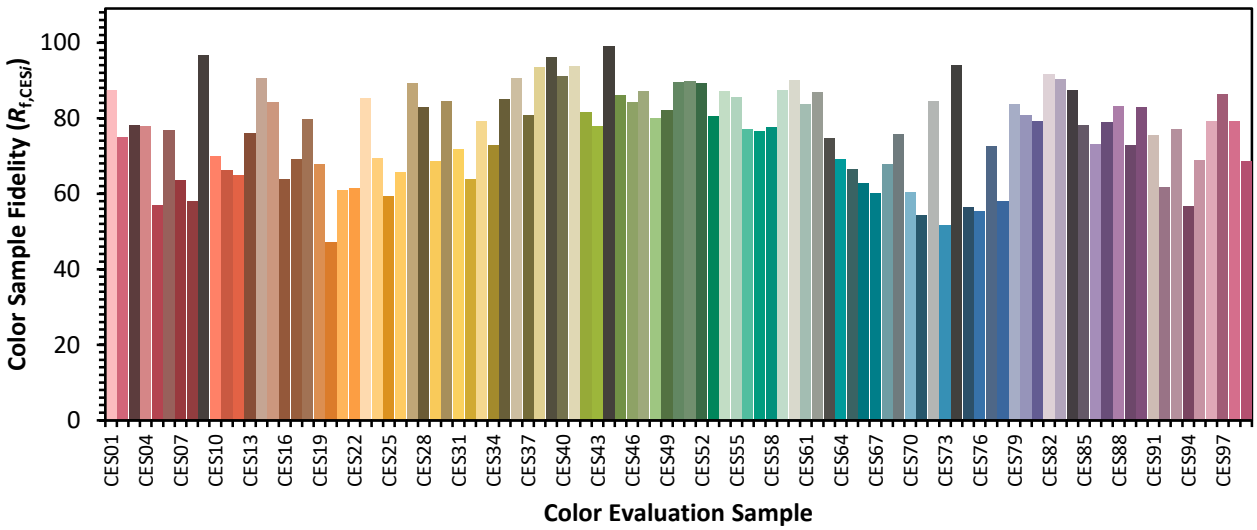
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 66	CES51 = 90	CES76 = 56
CES02 = 61	CES27 = 89	CES52 = 89	CES77 = 73
CES03 = 31	CES28 = 83	CES53 = 81	CES78 = 58
CES04 = 70	CES29 = 69	CES54 = 87	CES79 = 84
CES05 = 48	CES30 = 84	CES55 = 86	CES80 = 81
CES06 = 51	CES31 = 72	CES56 = 77	CES81 = 79
CES07 = 40	CES32 = 64	CES57 = 77	CES82 = 92
CES08 = 39	CES33 = 79	CES58 = 77	CES83 = 90
CES09 = 29	CES34 = 73	CES59 = 87	CES84 = 87
CES10 = 74	CES35 = 85	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 91	CES61 = 84	CES86 = 73
CES12 = 63	CES37 = 81	CES62 = 87	CES87 = 79
CES13 = 42	CES38 = 94	CES63 = 75	CES88 = 83
CES14 = 74	CES39 = 96	CES64 = 69	CES89 = 73
CES15 = 71	CES40 = 91	CES65 = 66	CES90 = 83
CES16 = 47	CES41 = 94	CES66 = 63	CES91 = 76
CES17 = 49	CES42 = 82	CES67 = 60	CES92 = 62
CES18 = 56	CES43 = 78	CES68 = 68	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 76	CES94 = 57
CES20 = 65	CES45 = 86	CES70 = 60	CES95 = 69
CES21 = 86	CES46 = 84	CES71 = 54	CES96 = 79
CES22 = 78	CES47 = 87	CES72 = 85	CES97 = 86
CES23 = 92	CES48 = 80	CES73 = 52	CES98 = 79
CES24 = 91	CES49 = 82	CES74 = 94	CES99 = 69
CES25 = 72	CES50 = 90	CES75 = 56	



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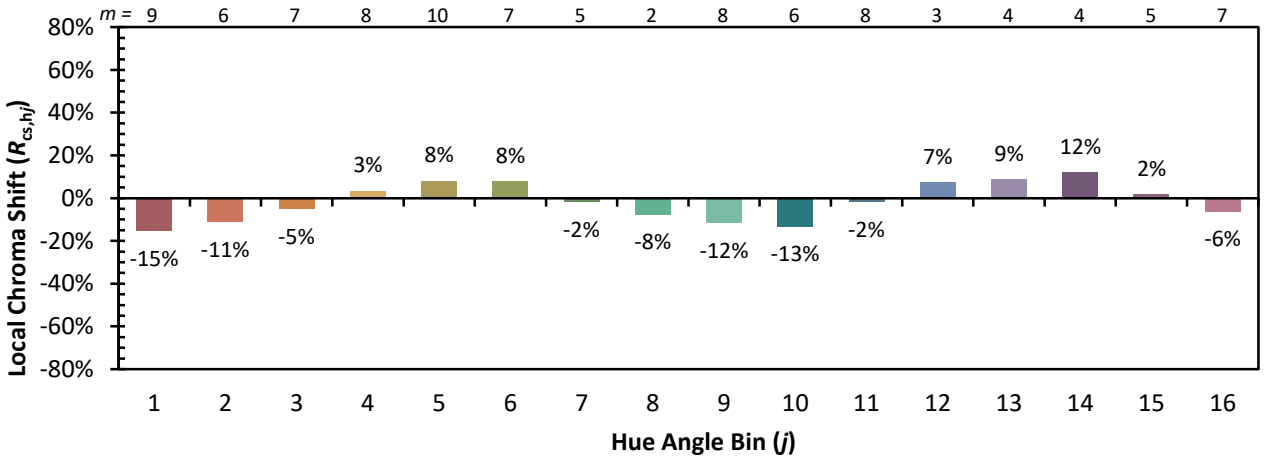
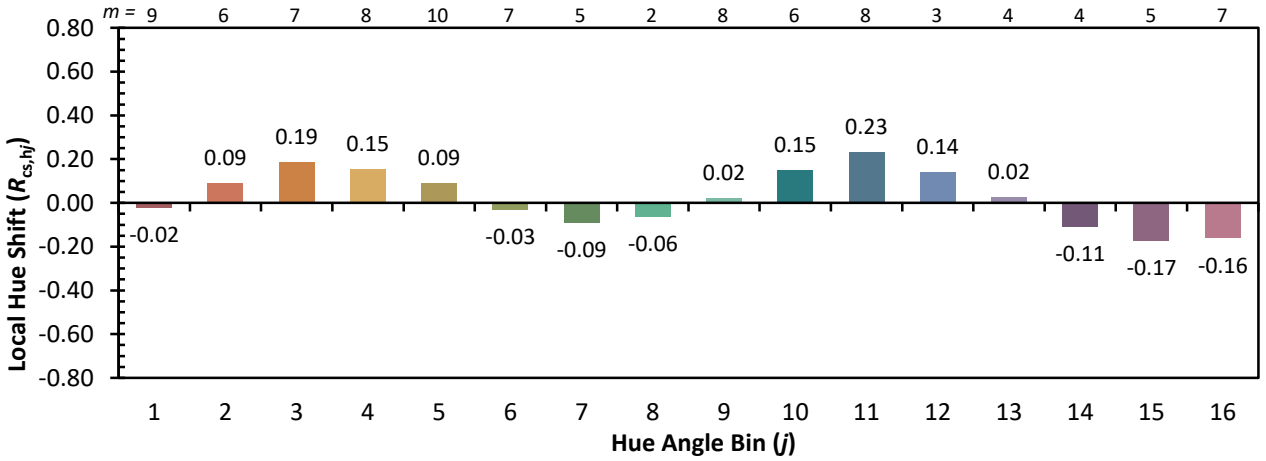
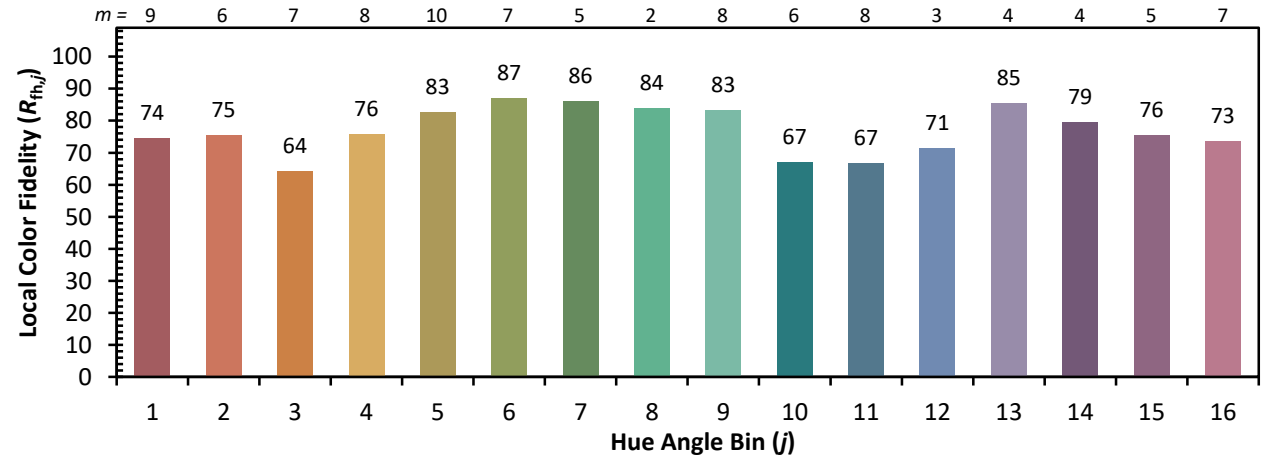
Color Rendition by Hue-Angle Bin







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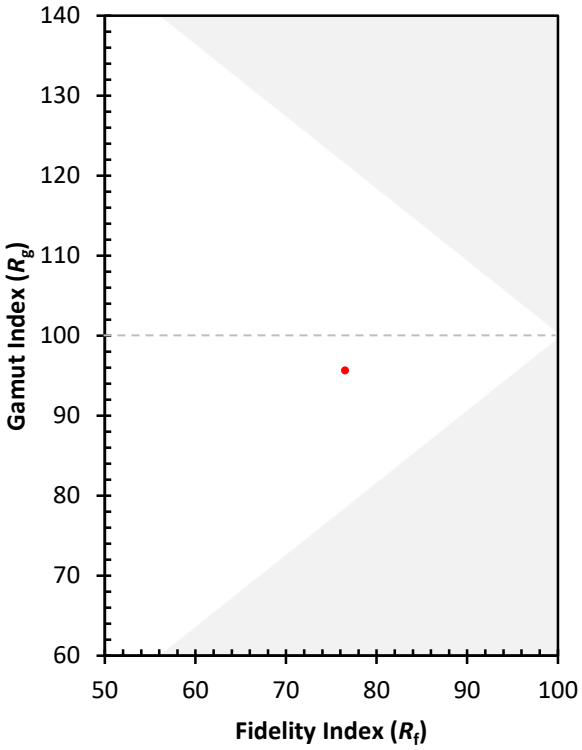
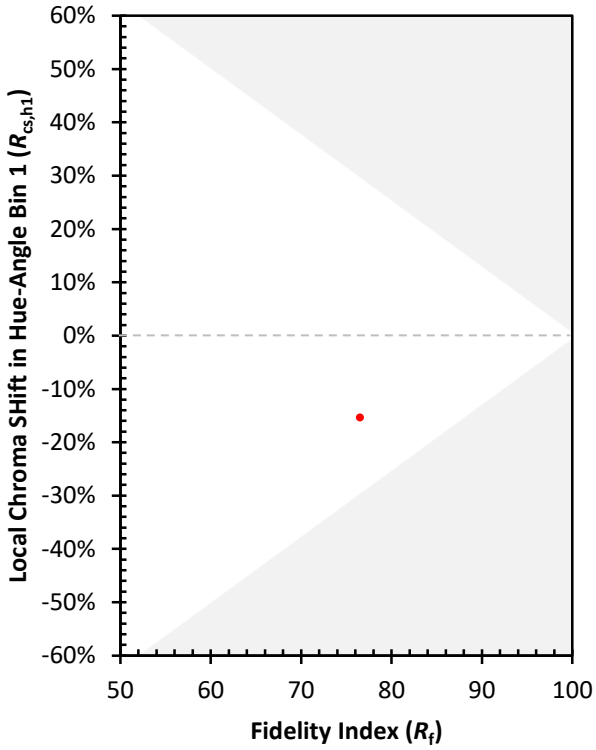
Measure Comparisons





(END OF REPORT)