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: P821558

Luminaire Tested: **TT-D1-750-12VDC-CQ-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:	P821558
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-3)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D1-750-12VDC-CQ-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	5000K, 70 CRI LEDS AND CONCENTRATED DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3239.9 lumens
Efficiency:	N/A
Efficacy:	115.7 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G1

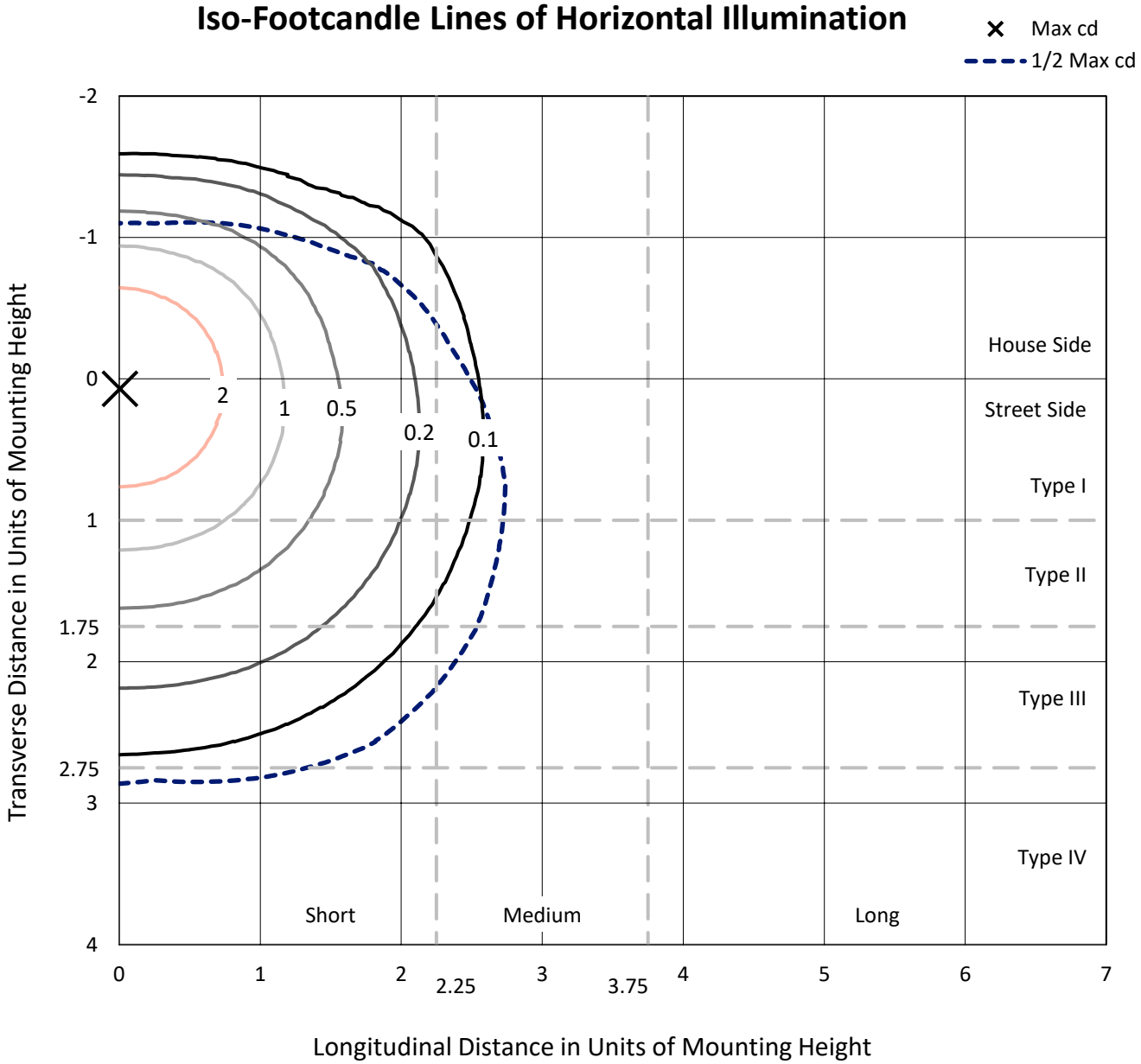
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



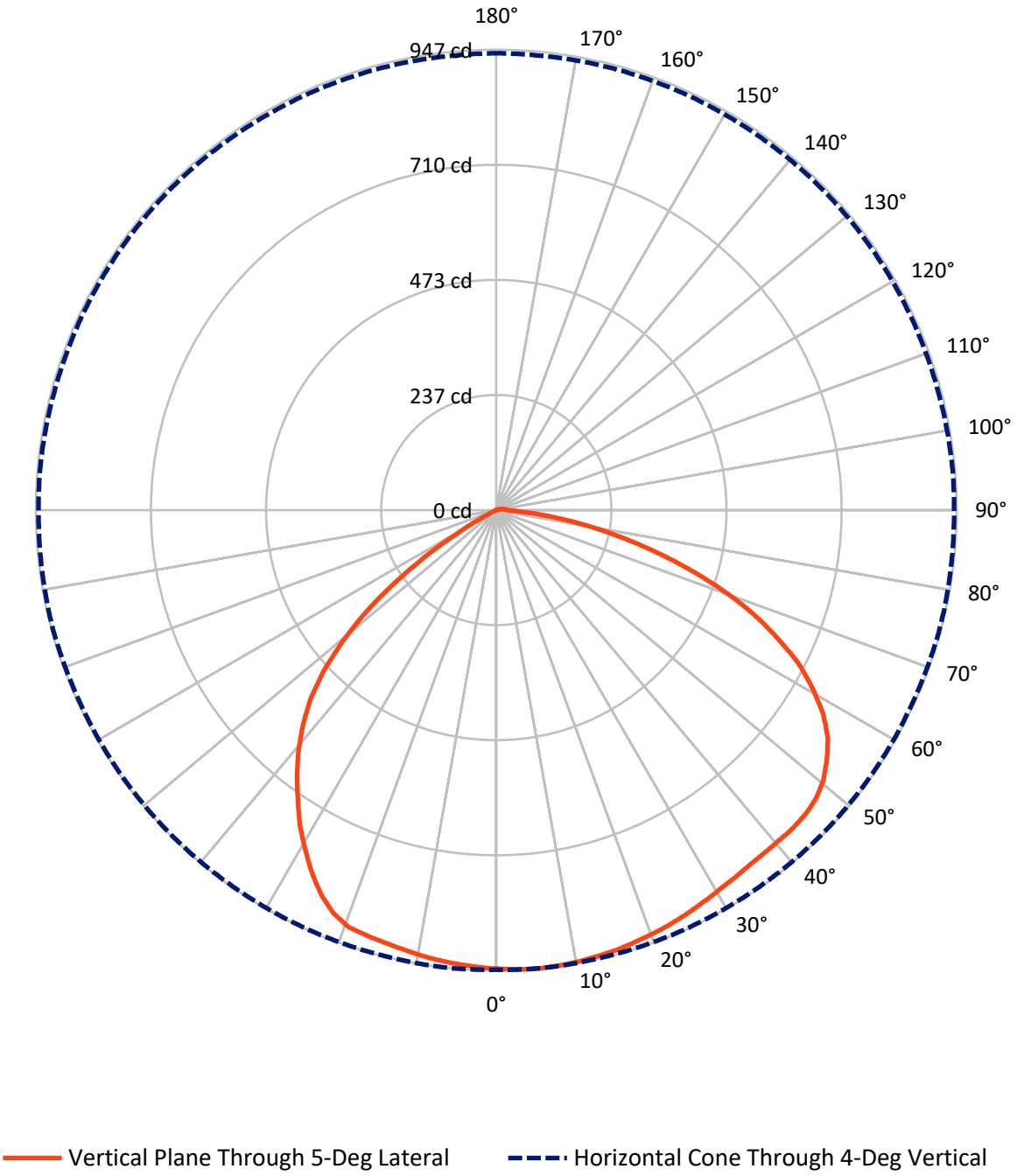
Based on 15 foot mounting height. Maximum calculated value = 4.2 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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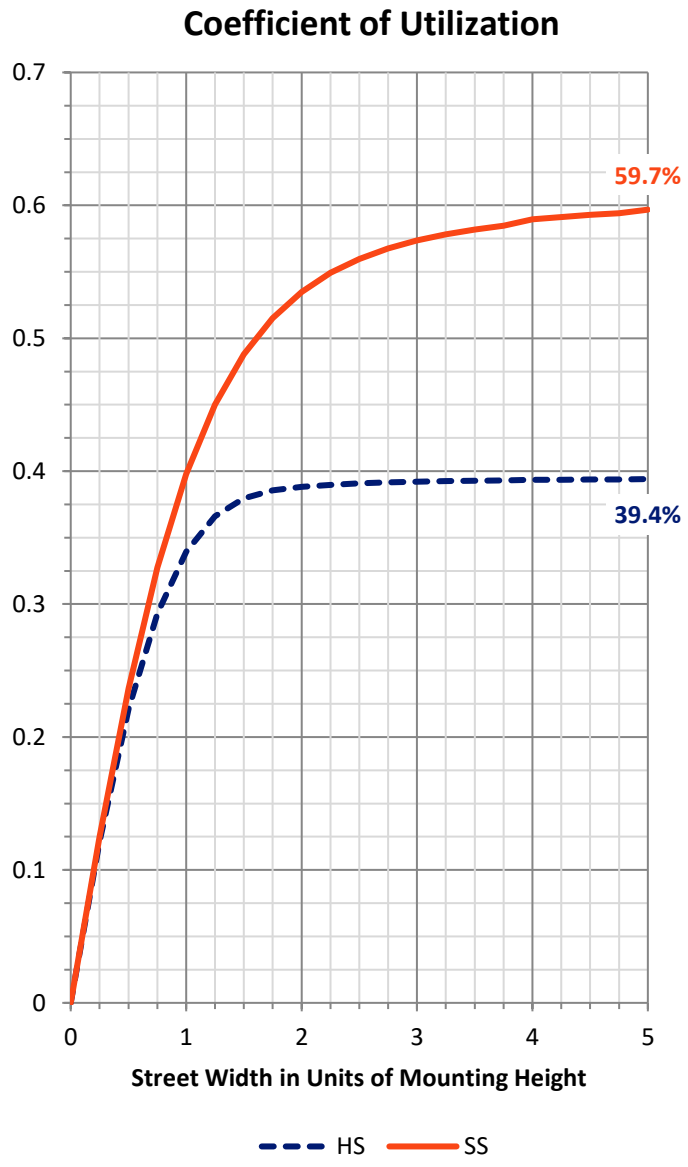
REPORT NUMBER: P821558
CATALOG NUMBER: TT-D1-750-12VDC-CQ-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1284.0	1.6	1285.6
	% Fixture	39.6	0.1	39.7
Street Side	Lumens	1945.3	9.0	1954.3
	% Fixture	60.0	0.3	60.3
Total	Lumens	3229.3	10.6	3239.9
	% Fixture	99.7	0.3	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.7	2.8
10°-20°	262.6	8.1
20°-30°	413.8	12.8
30°-40°	526.7	16.3
40°-50°	608.3	18.8
50°-60°	595.6	18.4
60°-70°	443.6	13.7
70°-80°	240.3	7.4
80°-90°	48.7	1.5
90°-100°	6.2	0.2
100°-110°	2.4	0.1
110°-120°	0.7	0.0
120°-130°	0.5	0.0
130°-140°	0.4	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°	3229.3	99.7
0°-180°	3239.9	100.0



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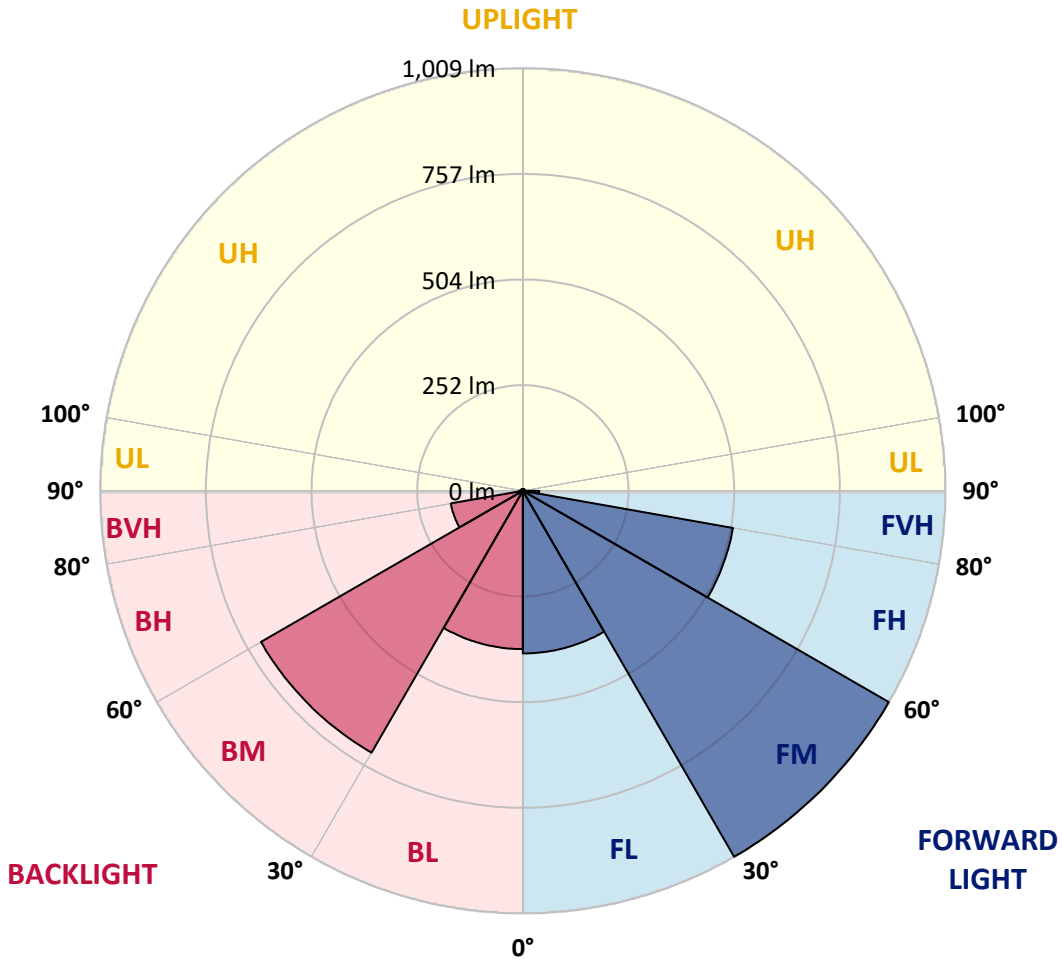
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	388.2	12.0			
FM	(30°-60°)	1008.8	31.1			
FH	(60°-80°)	509.4	15.7			G0/660
FVH	(80°-90°)	38.9	1.2			G1/100
BL	(0°-30°)	377.9	11.7	B1/500		
BM	(30°-60°)	721.8	22.3	B1/1000		
BH	(60°-80°)	174.5	5.4	B1/500		G1/500
BVH	(80°-90°)	9.8	0.3			G0/10
UL	(90°-100°)	6.2	0.2		U1/10	
UH	(100°-180°)	4.5	0.1		U1/10	

BUG Rating: B1-U1-G1
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7
2.5°	944.9	946.1	945.5	945.5	944.3	944.9	944.3	944.3	943.7	943.1	943.1
4°	945.5	946.7	945.5	945.5	944.9	944.9	944.3	943.1	943.7	941.8	941.2
5°	946.1	946.7	946.1	946.1	944.9	944.3	943.1	943.1	942.5	941.2	941.2
7.5°	944.9	945.5	945.5	944.9	943.7	942.5	941.8	941.2	940.6	938.8	938.8
10°	942.5	943.7	942.5	942.5	941.8	940.6	938.8	938.2	936.4	935.1	934.5
12.5°	940.0	940.6	940.0	940.0	938.8	937.0	936.4	935.1	932.7	930.9	930.9
15°	936.4	937.6	937.0	936.4	935.8	933.9	932.1	930.3	928.4	926.6	926.6
17.5°	932.1	932.7	933.3	932.7	931.5	930.3	928.4	926.0	924.2	922.4	921.7
20°	927.2	928.4	928.4	928.4	927.2	926.0	923.6	921.1	919.9	917.5	916.9
22.5°	922.4	923.6	923.0	923.6	923.0	921.1	918.7	916.3	913.8	912.0	910.8
25°	917.5	917.5	917.5	917.5	917.5	915.0	912.6	909.6	907.1	904.1	904.1
27.5°	911.4	911.4	912.0	912.0	911.4	909.6	906.5	902.9	899.2	896.2	894.9
30°	905.9	905.3	906.5	907.7	907.1	905.3	901.6	897.4	891.9	887.6	884.0
32.5°	899.2	901.0	902.2	904.7	905.3	902.9	898.6	893.1	887.6	879.7	873.0
35°	896.8	896.8	899.8	903.5	904.7	903.5	897.4	891.3	883.4	871.8	863.9
37.5°	894.3	894.9	899.8	905.3	907.1	907.1	900.4	892.5	881.5	865.1	855.3
40°	893.1	894.3	900.4	908.3	913.2	912.6	904.7	894.9	881.5	860.2	848.0
42.5°	891.9	894.3	901.0	912.0	919.3	918.7	910.2	897.4	880.3	854.1	840.1
45°	890.1	891.9	901.0	915.0	924.8	926.6	916.9	900.4	880.3	848.6	830.4
47.5°	884.6	885.2	897.4	913.8	928.4	930.9	921.1	901.6	877.9	839.5	818.2
50°	870.0	871.8	885.8	907.7	924.8	928.4	919.9	898.6	871.8	824.3	798.7
52.5°	851.1	851.1	868.1	892.5	913.2	919.3	911.4	887.6	856.6	801.7	772.5
55°	823.0	827.3	845.0	870.6	893.1	901.6	890.7	867.5	831.6	773.1	740.8
57.5°	791.4	792.6	810.9	841.3	864.5	870.0	860.8	833.4	798.7	739.0	700.6
60°	745.7	748.1	771.3	798.1	823.0	830.4	818.8	791.4	754.8	695.1	656.1
62.5°	695.1	698.8	719.5	746.9	770.7	782.2	768.2	739.6	703.6	642.7	608.6
65°	634.2	635.4	658.0	689.0	712.8	717.0	704.9	676.8	640.9	582.4	551.9
67.5°	564.1	570.2	592.2	615.3	636.0	640.9	632.4	600.1	571.4	519.7	489.8
70°	496.5	493.5	511.7	534.9	553.8	558.0	548.3	518.4	491.6	442.9	419.7
72.5°	414.9	412.4	431.9	449.6	467.9	465.4	455.7	431.9	408.8	367.4	346.0
75°	332.6	330.2	345.4	360.7	369.8	371.0	364.3	346.6	321.7	289.4	272.9
77.5°	252.2	254.7	261.4	274.1	282.7	286.3	274.8	257.1	241.2	216.3	204.1
80°	179.7	180.3	182.8	191.9	198.0	198.0	192.5	178.5	160.8	143.2	137.1
82.5°	113.3	115.8	115.8	124.9	124.9	120.0	117.6	108.4	99.3	85.3	76.8
85°	62.1	60.9	64.6	65.2	64.6	60.9	57.3	51.8	45.7	35.9	32.3
87.5°	27.4	26.8	26.8	26.8	26.2	23.8	20.1	15.8	11.0	6.7	4.9
90°	21.3	21.3	20.7	19.5	17.7	15.8	12.8	9.7	6.1	2.4	1.2
92.5°	19.5	19.5	18.9	18.3	16.4	14.6	11.6	8.5	5.5	2.4	1.2
95°	17.1	16.4	16.4	15.2	14.0	12.2	10.4	7.3	4.9	1.8	1.2
97.5°	14.0	13.4	13.4	12.8	11.6	9.7	8.5	6.1	4.3	1.8	1.2
100°	10.4	11.0	10.4	9.7	9.1	7.9	6.7	4.9	3.0	1.2	1.2
102.5°	7.9	7.9	7.3	7.3	6.7	6.1	4.9	3.7	2.4	1.2	0.6
105°	5.5	5.5	5.5	4.9	4.9	4.3	3.7	2.4	1.8	1.2	0.6
107.5°	3.0	3.0	3.0	3.0	3.0	3.0	2.4	1.8	1.2	0.6	0.6

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	1.8	*1.8*	1.8	1.8	1.8	1.8	1.2	1.2	0.6	0.6	0.6
112.5°	0.6	*0.6*	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	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
117.5°	0.0	*0.0*	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	0.0	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	*0.0*	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6
142.5°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
145°	0.6	*0.6*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
147.5°	0.6	*0.6*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
150°	0.6	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
152.5°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
155°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
157.5°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
160°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
162.5°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
165°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
167.5°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
170°	0.0	*0.0*	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
172.5°	0.0	*0.0*	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6
175°	0.0	*0.0*	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6
177.5°	0.0	*0.0*	0.0	0.0	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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7
2.5°	942.5	940.6	941.8	941.2	941.8	940.6	940.6	940.6	941.2	940.0
4°	*941.8*	*940.6*	*940.6*	*940.6*	*940.6*	*939.4*	*939.4*	*939.4*	*938.8*	*939.4*
5°	940.6	940.0	939.4	938.8	939.4	938.2	937.6	937.6	937.6	938.2
7.5°	938.2	936.4	936.4	934.5	935.1	934.5	933.9	934.5	933.9	933.9
10°	933.9	932.7	932.1	930.9	930.9	929.7	929.1	929.1	929.1	928.4
12.5°	929.7	928.4	927.8	926.6	926.0	924.8	924.2	924.8	923.6	923.6
15°	924.8	923.6	923.0	923.0	921.7	920.5	919.9	918.7	918.7	918.7
17.5°	920.5	919.3	919.9	918.7	918.1	916.9	916.9	914.4	914.4	913.8
20°	916.3	915.0	915.0	914.4	914.4	913.2	911.4	910.2	909.6	909.6
22.5°	910.8	908.9	905.9	901.6	899.2	897.4	896.8	894.9	894.3	893.1
25°	902.2	897.4	890.7	883.4	876.1	872.4	871.2	868.7	868.7	868.7
27.5°	891.9	882.8	873.6	862.6	851.7	844.4	839.5	837.1	835.8	835.8
30°	878.5	866.9	854.1	840.1	827.9	814.5	806.0	801.1	798.7	799.3
32.5°	866.3	851.7	837.1	819.4	802.9	787.1	772.5	765.2	762.1	760.9
35°	854.1	837.7	820.0	801.1	779.8	756.6	737.1	726.2	720.1	720.7
37.5°	845.0	825.5	806.0	782.8	758.5	730.4	705.5	687.8	680.5	681.7
40°	835.2	813.3	792.0	765.2	736.5	703.0	670.7	647.0	638.5	636.6
42.5°	826.1	800.5	776.1	747.5	711.6	673.8	634.2	606.2	593.4	591.5
45°	814.5	785.9	759.7	726.8	687.2	640.3	594.0	557.4	544.0	538.5
47.5°	799.3	767.6	738.4	700.6	657.3	604.3	546.5	501.4	484.3	480.1
50°	776.7	740.2	710.3	667.7	615.3	556.8	492.2	436.8	414.3	411.2
52.5°	746.9	709.7	676.2	627.5	563.5	494.7	421.6	364.3	338.1	336.3
55°	711.0	670.7	634.2	579.4	504.4	424.6	348.5	276.0	250.4	247.3
57.5°	668.9	627.5	587.9	520.3	433.8	344.8	256.5	187.0	162.7	156.6
60°	622.6	580.0	535.5	453.3	338.7	244.3	155.3	99.3	81.0	74.9
62.5°	577.5	531.2	484.3	373.4	232.1	139.5	70.7	28.6	18.3	17.7
65°	524.5	480.7	432.5	301.0	146.8	62.7	20.7	0.6	0.0	0.0
67.5°	463.0	425.8	383.2	269.3	129.8	54.8	17.7	0.6	0.0	0.0
70°	397.2	368.0	330.2	231.5	111.5	46.3	15.2	0.0	0.0	0.0
72.5°	327.8	302.8	274.8	192.5	92.6	38.4	12.2	0.0	0.0	0.0
75°	257.1	241.2	216.3	152.3	71.9	29.2	9.1	0.0	0.0	0.0
77.5°	190.7	177.9	159.6	112.1	54.2	21.3	6.7	0.0	0.0	0.0
80°	128.5	118.8	108.4	76.2	36.6	14.0	4.3	0.0	0.0	0.0
82.5°	74.9	67.6	60.9	43.3	20.1	7.9	1.8	0.0	0.0	0.0
85°	30.5	28.0	26.8	18.3	7.9	2.4	0.6	0.0	0.0	0.0
87.5°	3.7	3.0	3.0	1.8	0.6	0.0	0.0	0.0	0.0	0.0
90°	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	0.6	0.0	0.0	0.0	0.0	0.0
95°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
97.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
100°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
102.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
105°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
107.5°	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

Scaled Data Report

REPORT NUMBER: P821558
CATALOG NUMBER: TT-D1-750-12VDC-CQ-HSS

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
112.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
115°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
117.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
120°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
122.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
125°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
127.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
130°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
132.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
135°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
137.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
140°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
142.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	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
147.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.6
150°	0.6	0.6	0.6	0.6	0.6	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
155°	0.6	0.6	0.6	0.6	0.6	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
160°	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	0.0	0.0	0.0	0.0	0.0
165°	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	0.0	0.0	0.0	0.0	0.0
170°	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	0.0	0.0	0.0	0.0	0.0
175°	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	0.0	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

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: SP1-2407-176-6

Test Date: 09/26/2024

Luminaire Tested: MEM2-HTN-VA-30-750-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-750-U-WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

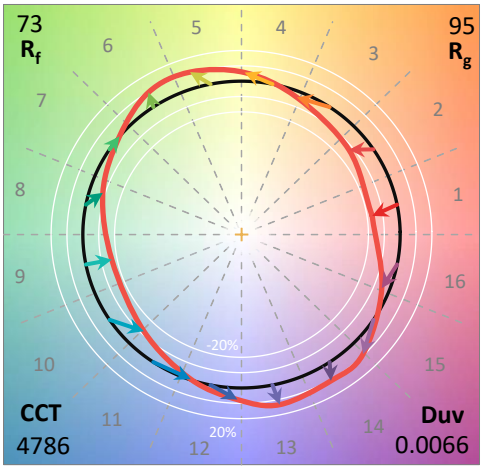
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-6
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-30-750-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	4786
CIE u':	0.2093
CIE v':	0.4953
Duv:	0.0066
CIE x:	0.3533
CIE y:	0.3716
CIE z:	0.2751
Peak Wavelength (nm):	449
Dominant Wavelength (nm):	570
Purity:	17.53512
Rf:	73
Rg:	94.6

CRI (Ra):	70.9				
R1:	67.8	R9:	-29.8		
R2:	75.1	R10:	40.9		
R3:	80.6	R11:	67.4		
R4:	71.6	R12:	35.3		
R5:	67.8	R13:	68.5		
R6:	65.4	R14:	89.0		
R7:	82.0	R15:	60.9		
R8:	57.0				



Test Conditions

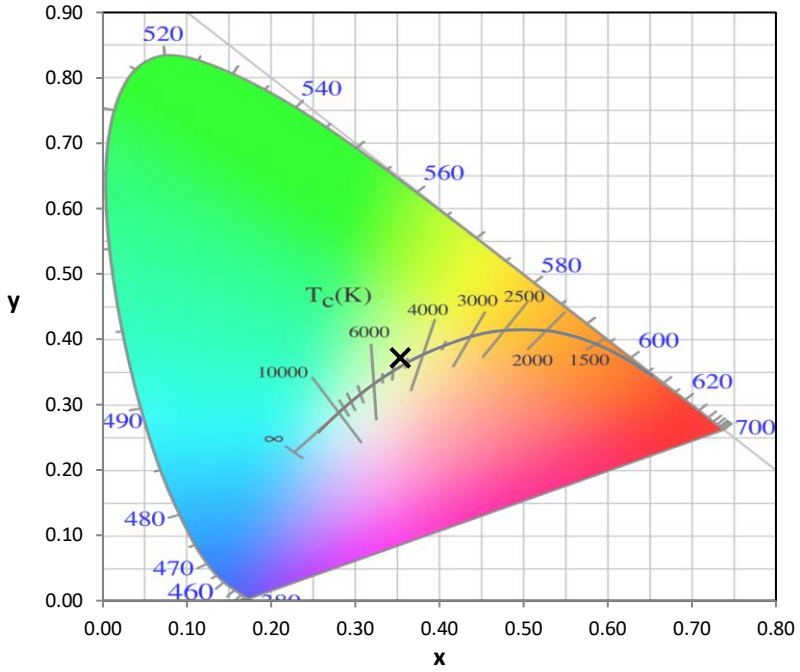
Stabilization Time:	45M
Operation Time:	1H 45M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-6

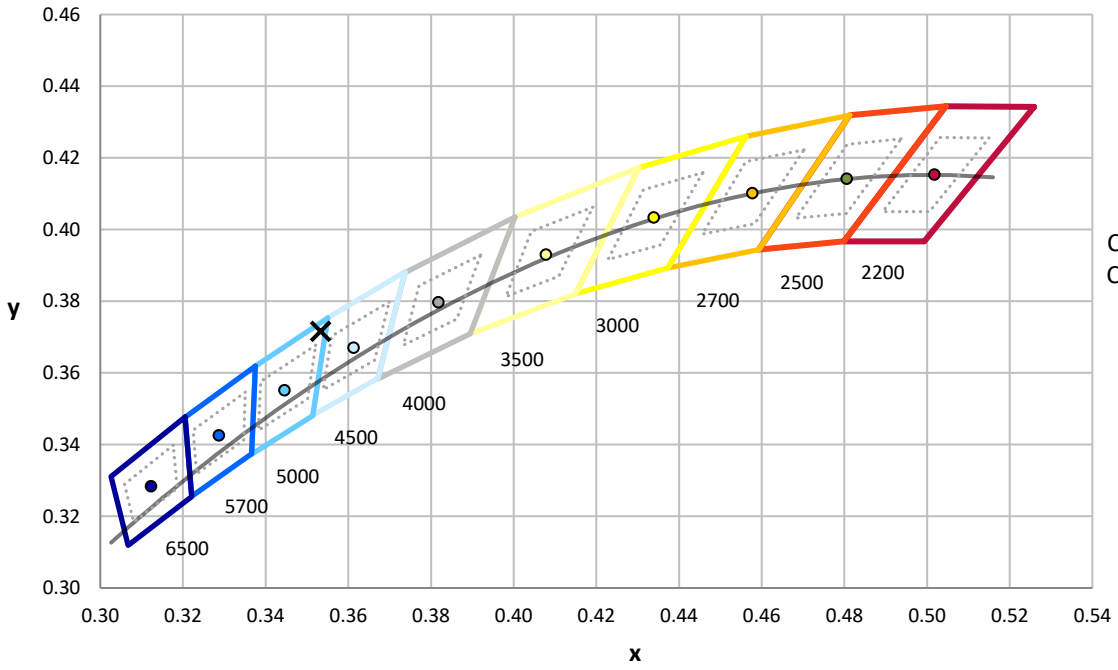
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-6

CIE 1931 Chromaticity Diagram



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

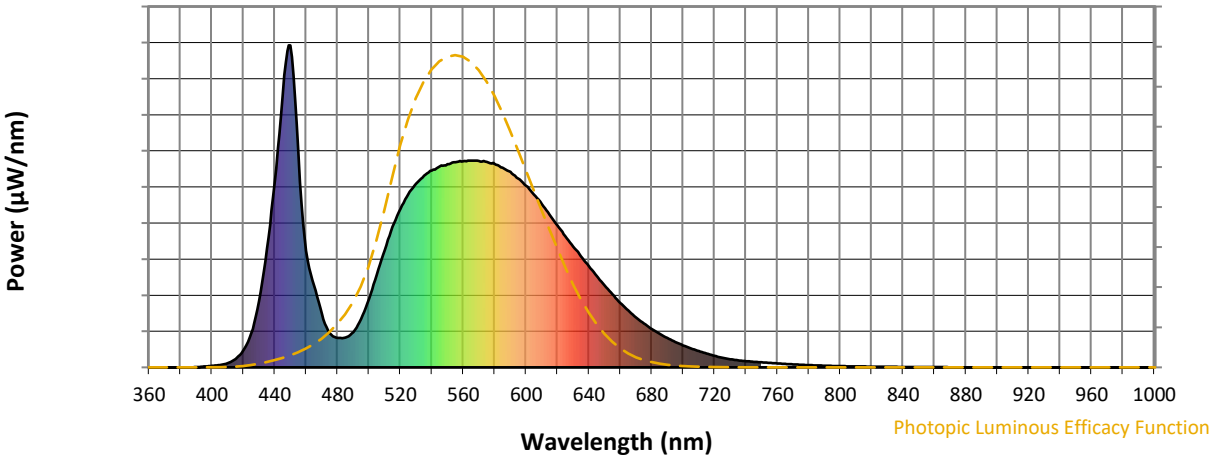


CCT = 4786K
CIE x = 0.3533
CIE y = 0.3716
Duv = 0.0066

Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-6

Photopic Flux vs. Wavelength

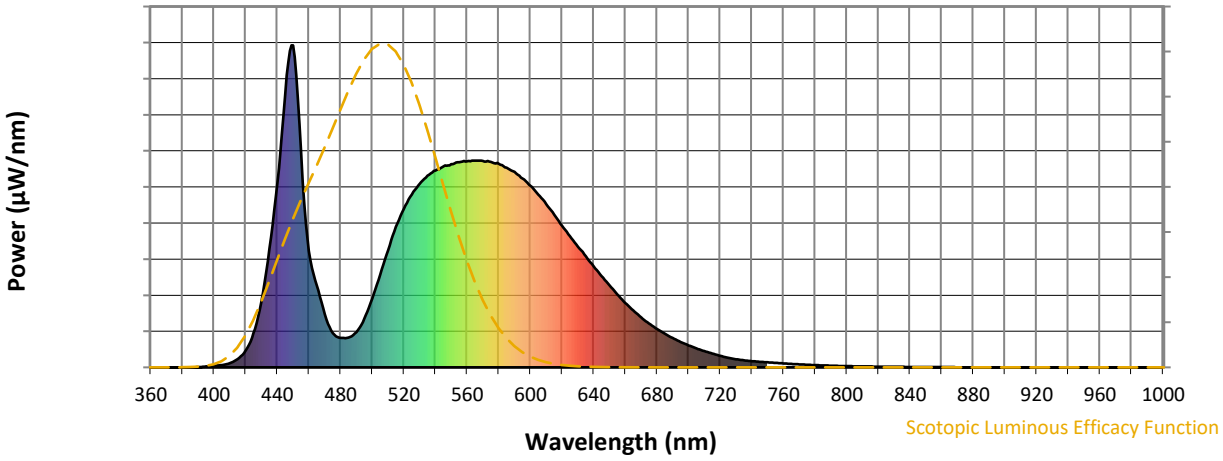


Photopic Lumens: NR

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	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-6

Scotopic Flux vs. Wavelength

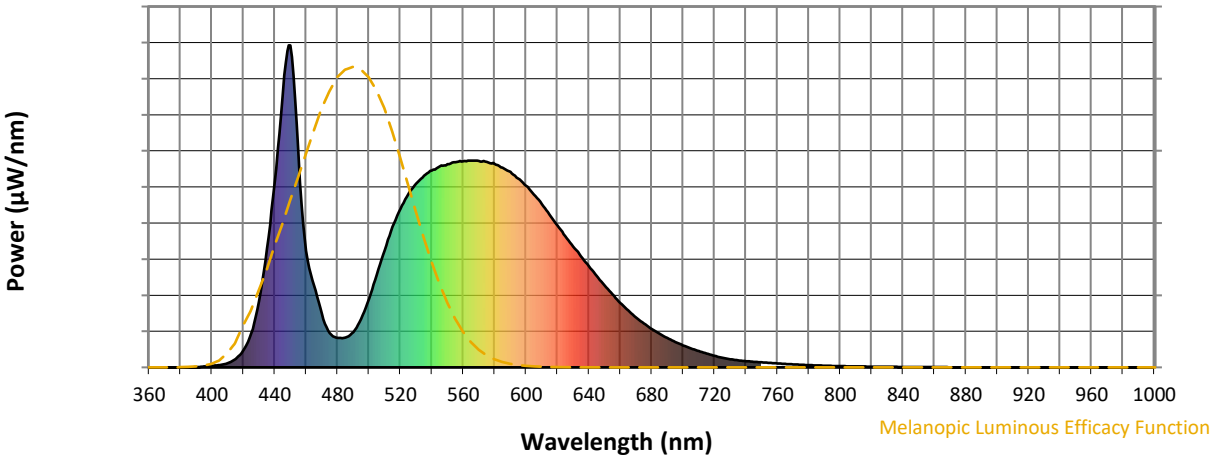


Scotopic Lumens: NR **S/P: 1.69**

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	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-6

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 3.36**

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	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

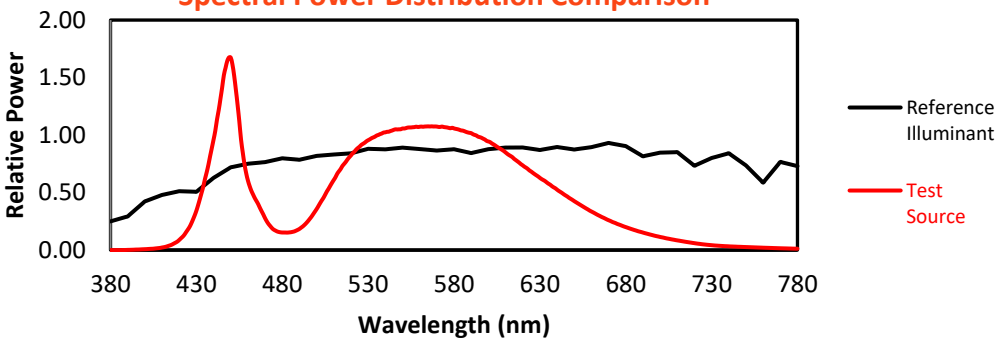
REPORT NUMBER: SP1-2407-176-6

TM-30-18

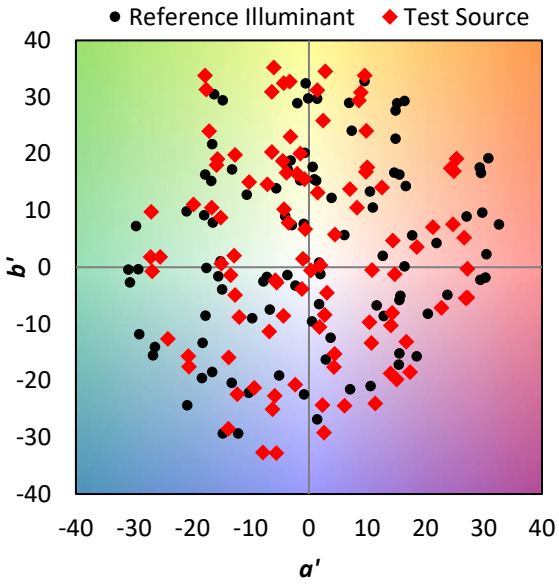
Summary

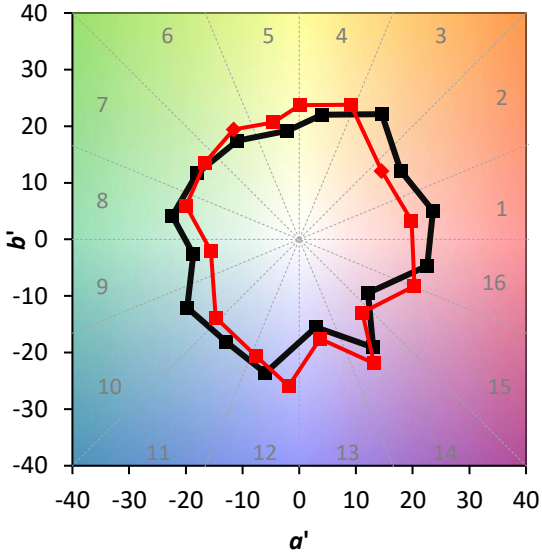
R_f = 73
R_g = 94.6
CIE R_a = 70.9
R_9 = -29.8

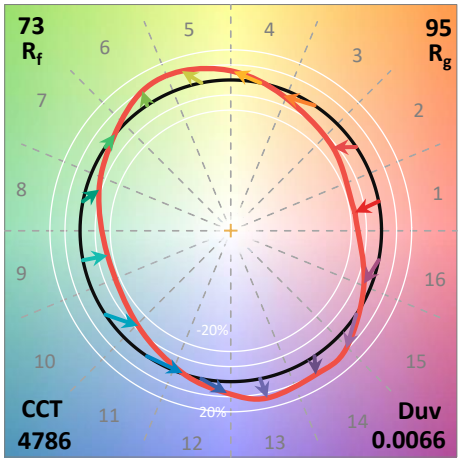
Spectral Power Distribution Comparison

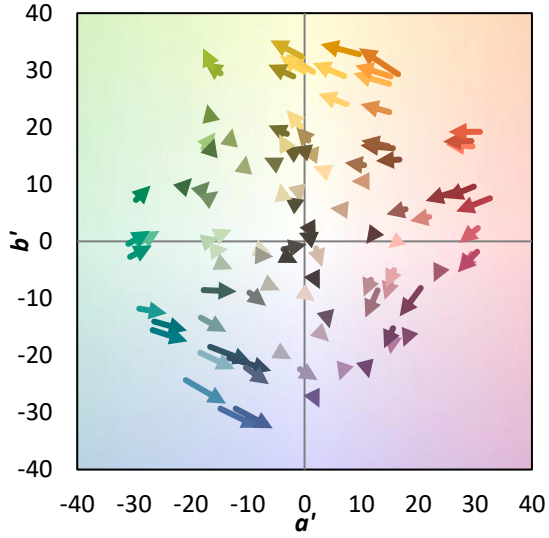


Color Vector Graphics







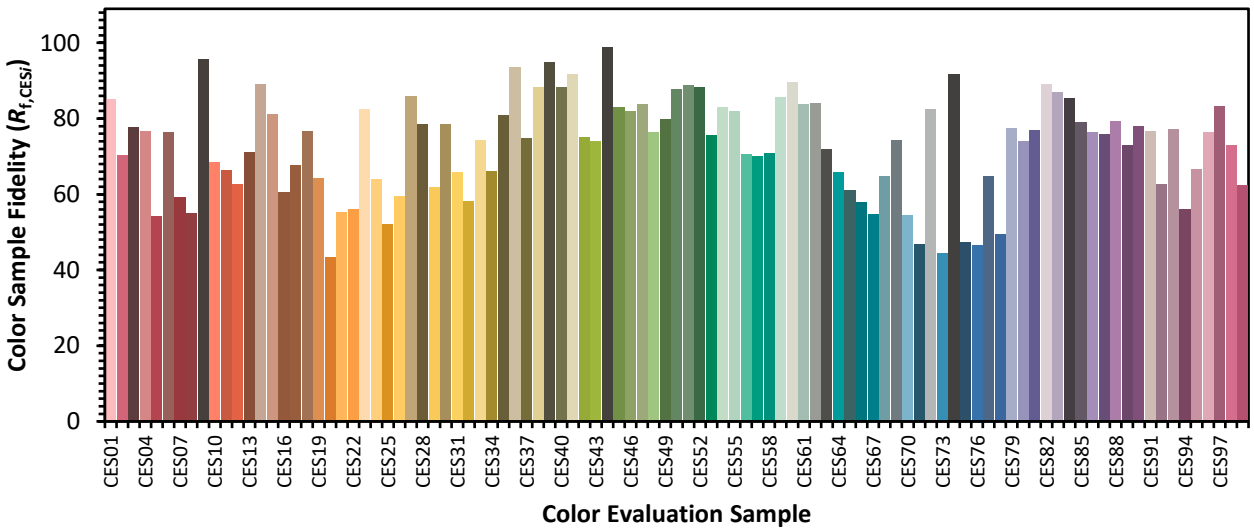


REPORT NUMBER: SP1-2407-176-6

TM-30-18

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

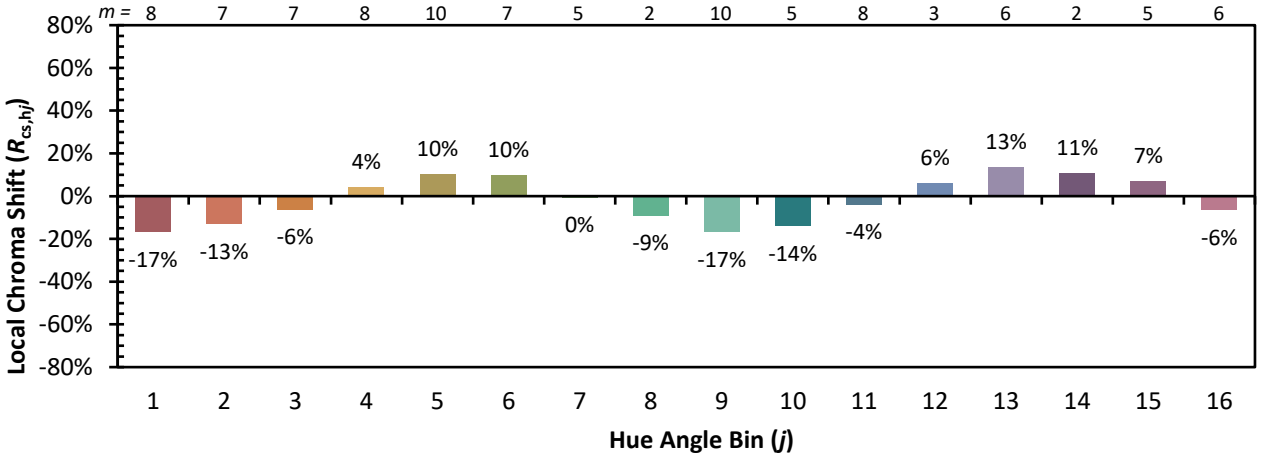
CES01 = 85	CES26 = 60	CES51 = 89	CES76 = 46
CES02 = 59	CES27 = 86	CES52 = 88	CES77 = 65
CES03 = 30	CES28 = 78	CES53 = 76	CES78 = 49
CES04 = 69	CES29 = 62	CES54 = 83	CES79 = 78
CES05 = 46	CES30 = 79	CES55 = 82	CES80 = 74
CES06 = 50	CES31 = 66	CES56 = 71	CES81 = 77
CES07 = 39	CES32 = 58	CES57 = 70	CES82 = 89
CES08 = 38	CES33 = 74	CES58 = 71	CES83 = 87
CES09 = 29	CES34 = 66	CES59 = 86	CES84 = 86
CES10 = 72	CES35 = 81	CES60 = 90	CES85 = 79
CES11 = 56	CES36 = 94	CES61 = 84	CES86 = 76
CES12 = 61	CES37 = 75	CES62 = 84	CES87 = 76
CES13 = 41	CES38 = 88	CES63 = 72	CES88 = 79
CES14 = 74	CES39 = 95	CES64 = 66	CES89 = 73
CES15 = 70	CES40 = 88	CES65 = 61	CES90 = 78
CES16 = 46	CES41 = 92	CES66 = 58	CES91 = 77
CES17 = 49	CES42 = 75	CES67 = 55	CES92 = 63
CES18 = 55	CES43 = 74	CES68 = 65	CES93 = 77
CES19 = 71	CES44 = 99	CES69 = 74	CES94 = 56
CES20 = 64	CES45 = 83	CES70 = 55	CES95 = 67
CES21 = 85	CES46 = 82	CES71 = 47	CES96 = 76
CES22 = 77	CES47 = 84	CES72 = 82	CES97 = 83
CES23 = 91	CES48 = 76	CES73 = 44	CES98 = 73
CES24 = 90	CES49 = 80	CES74 = 92	CES99 = 62
CES25 = 71	CES50 = 88	CES75 = 47	

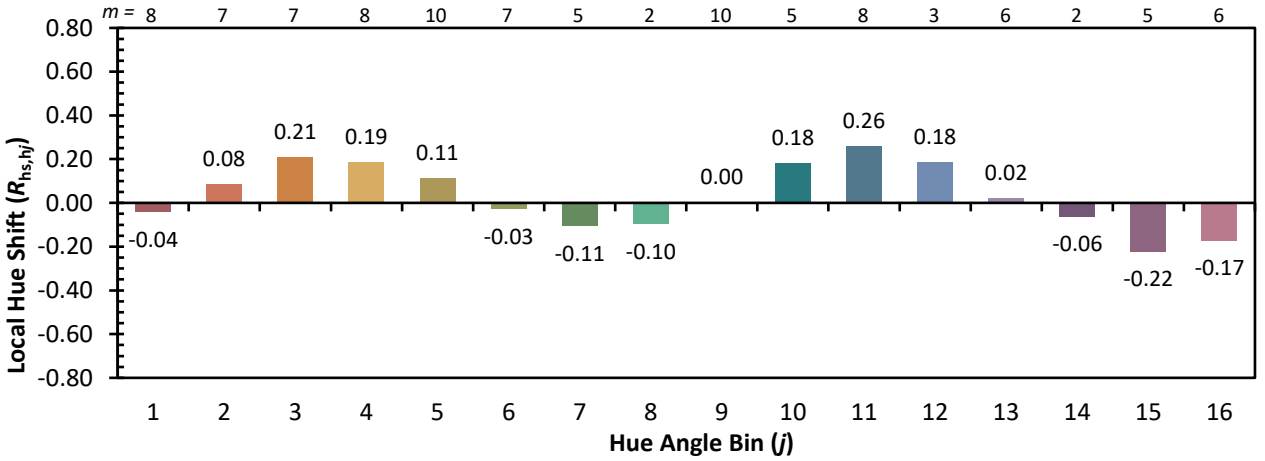


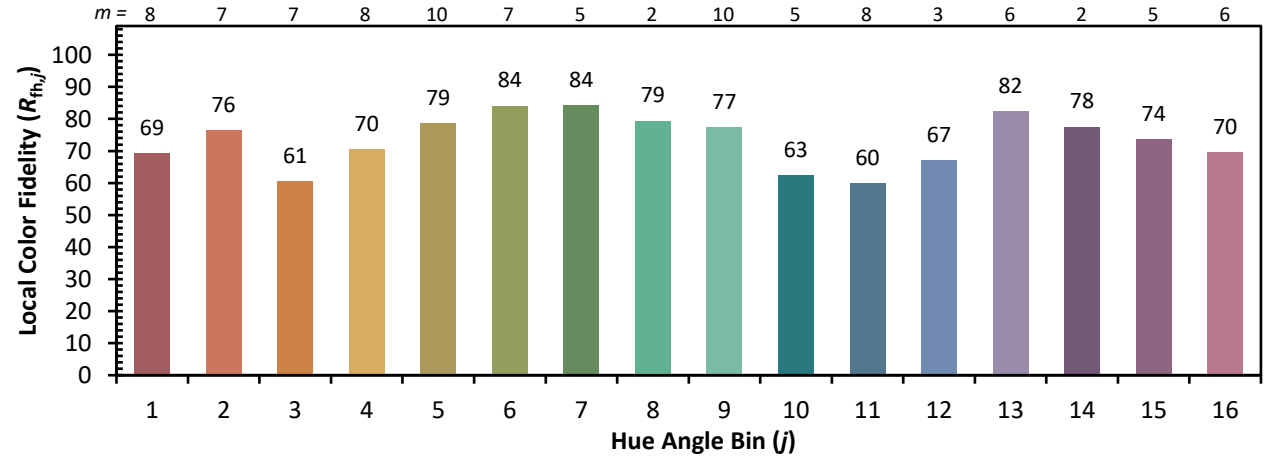
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Color Rendition by Hue-Angle Bin



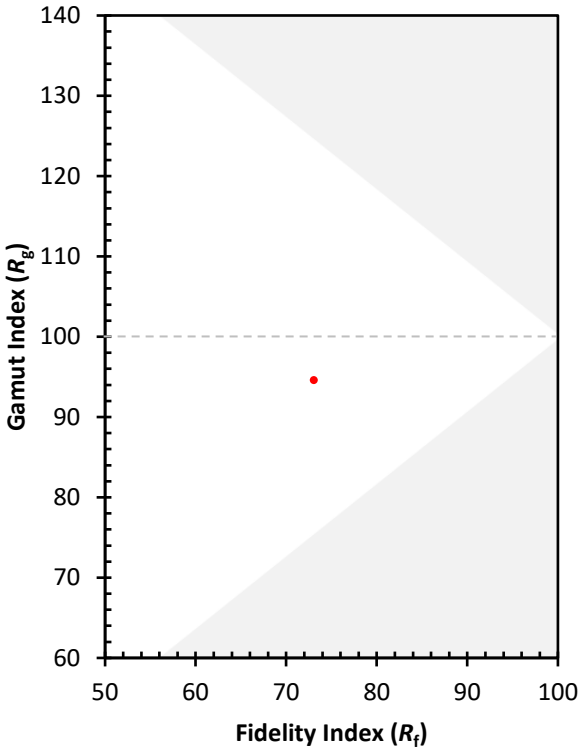


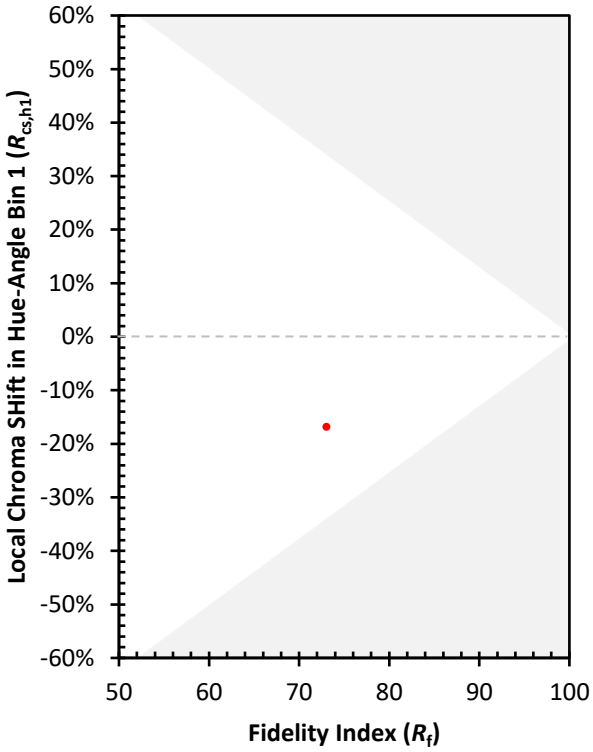


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Measure Comparisons





(END OF REPORT)