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: P436854

Luminaire Tested: **TT-D4-830-U-DL-HSS**

Issue Date: 12/2/2020

Report Generated By 670347003

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

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P436854
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-4)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D4-830-U-DL-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3000K, 80 CRI LEDS AND DRIVE LANE DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4957.1 lumens
Efficiency:	N/A
Efficacy:	82.9 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G3

Input Watts (W):	59.8
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:	28.75 FT

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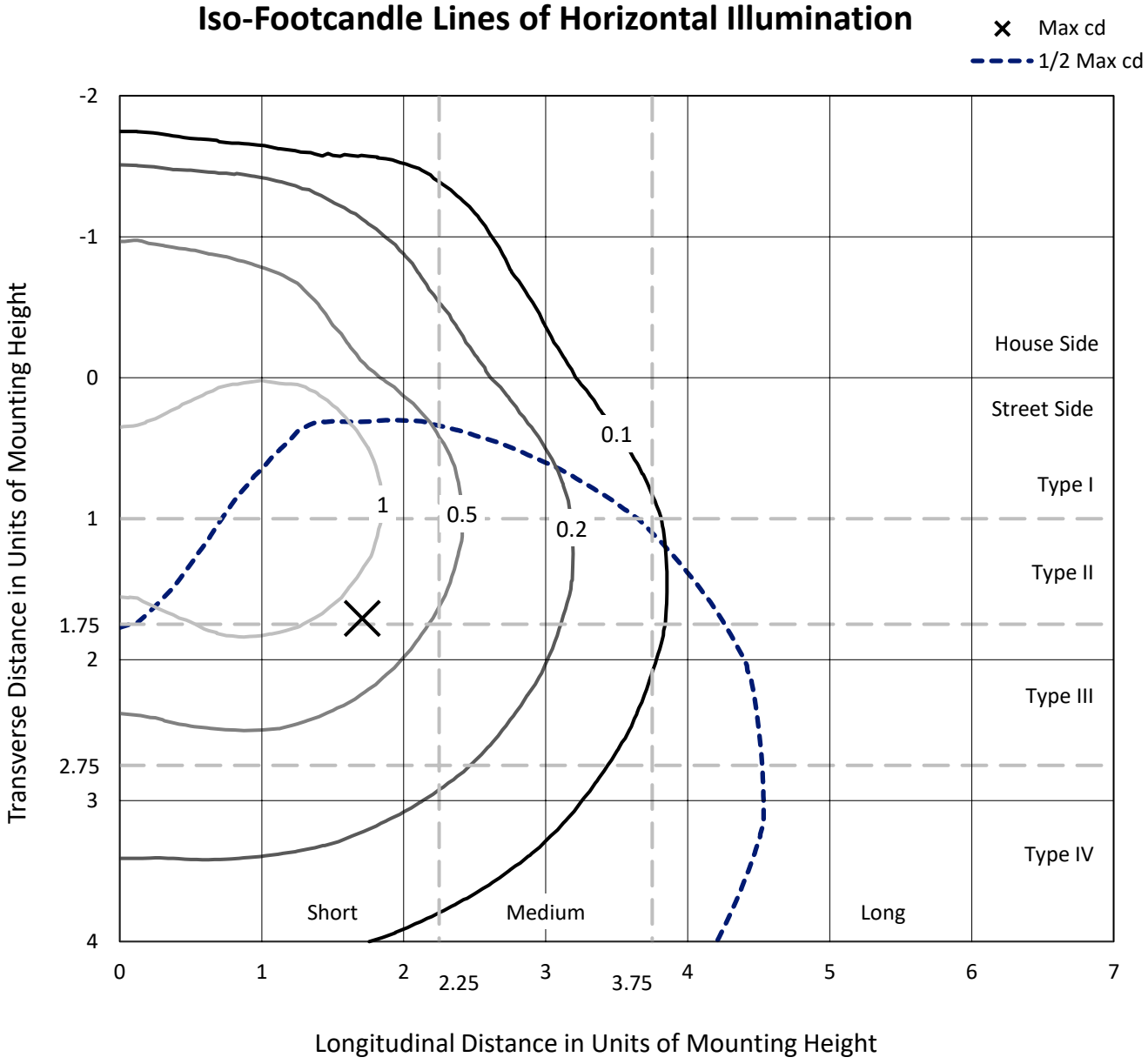
Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 1.9 fc
Type IV - Short - N/A

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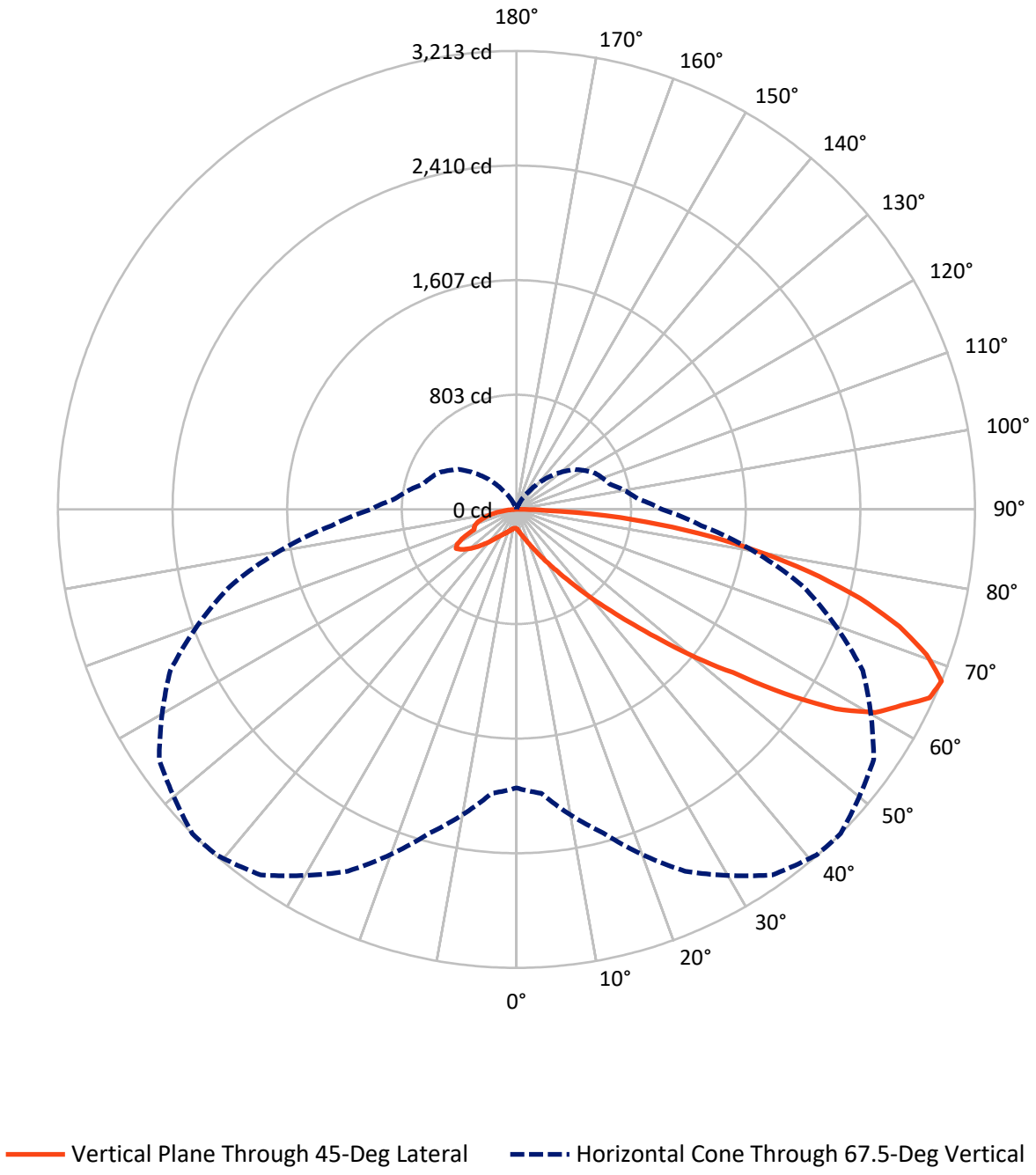
Luminous Intensity Polar Plot



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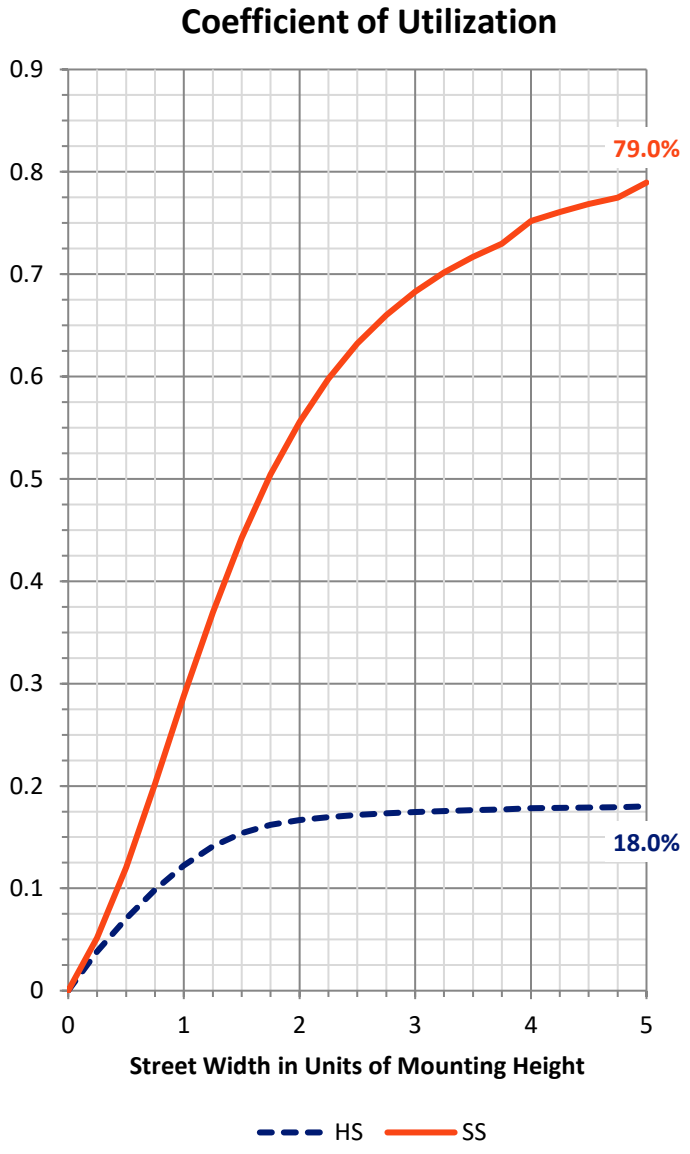
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	900.6	1.1	901.7
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	4044.3	11.1	4055.4
	% Fixture	81.6	0.2	81.8
Total	Lumens	4944.9	12.2	4957.1
	% Fixture	99.8	0.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.0	0.3
10°-20°	52.1	1.1
20°-30°	120.3	2.4
30°-40°	256.5	5.2
40°-50°	536.8	10.8
50°-60°	1018.3	20.5
60°-70°	1385.9	28.0
70°-80°	1191.5	24.0
80°-90°	369.5	7.5
90°-100°	7.8	0.2
100°-110°	2.3	0.0
110°-120°	0.6	0.0
120°-130°	0.5	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°	4944.9	99.8
0°-180°	4957.1	100.0



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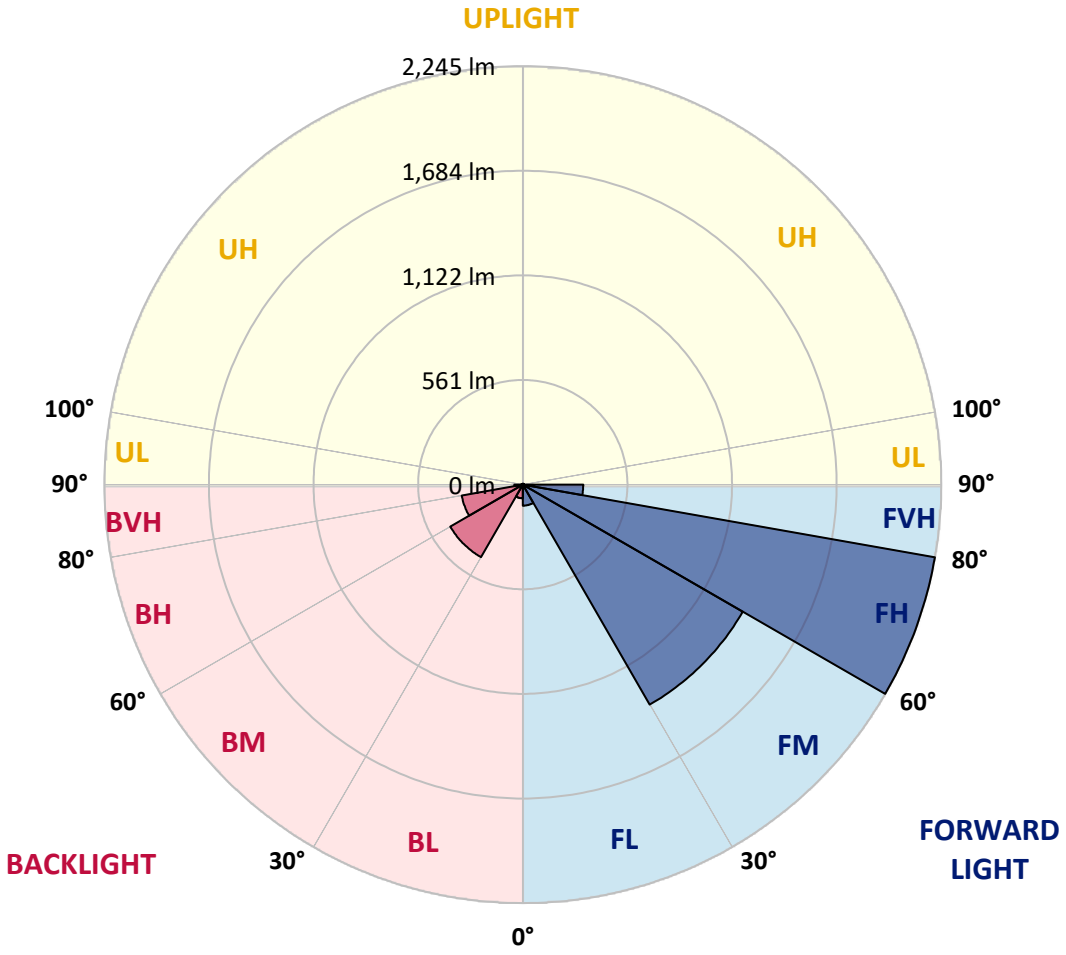
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	113.0	2.3			
FM	(30°-60°)	1362.3	27.5			
FH	(60°-80°)	2244.8	45.3			G2/5000
FVH	(80°-90°)	324.2	6.5			G3/500
BL	(0°-30°)	73.4	1.5	B0/110		
BM	(30°-60°)	449.3	9.1	B1/1000		
BH	(60°-80°)	332.7	6.7	B1/500		G1/500
BVH	(80°-90°)	45.3	0.9			G1/100
UL	(90°-100°)	7.8	0.2		U1/10	
UH	(100°-180°)	4.4	0.1		U1/10	

BUG Rating: B1-U1-G3
Type IV Short



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REPORT NUMBER: P436854
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
0°	135.6	135.6	135.6	135.6	135.6	135.6	*135.6*	135.6	135.6	135.6	135.6
2.5°	147.2	146.1	146.1	145.1	145.1	143.0	*143.0*	141.9	140.9	139.8	137.7
5°	157.7	156.7	156.7	155.6	154.6	152.5	*151.4*	149.3	147.2	145.1	143.0
7.5°	170.3	169.3	169.3	168.2	166.1	163.0	*161.9*	158.8	155.6	152.5	149.3
10°	186.1	185.1	185.1	182.9	180.8	177.7	*175.6*	171.4	168.2	163.0	157.7
12.5°	202.9	201.9	201.9	199.8	195.6	193.5	*191.4*	186.1	180.8	174.5	168.2
15°	221.9	221.9	221.9	220.8	216.6	212.4	*210.3*	204.0	197.7	188.2	179.8
17.5°	246.0	245.0	245.0	242.9	237.6	235.5	*232.4*	225.0	215.5	205.0	194.5
20°	275.5	274.4	272.3	271.3	266.0	263.9	*259.7*	251.3	238.7	225.0	210.3
22.5°	304.9	304.9	303.9	304.9	300.7	298.6	*293.3*	281.8	267.1	247.1	229.2
25°	338.6	339.6	341.7	344.9	339.6	337.5	*333.3*	318.6	300.7	275.5	250.2
27.5°	380.6	380.6	385.9	391.1	386.9	385.9	*379.6*	363.8	338.6	308.1	278.6
30°	425.8	426.9	435.3	444.8	442.7	442.7	*437.4*	419.5	389.0	353.3	312.3
32.5°	478.4	482.6	491.0	501.5	508.9	508.9	*506.8*	487.9	452.1	403.7	353.3
35°	547.8	540.4	556.2	572.0	587.7	590.9	*592.0*	574.1	533.1	472.1	403.7
37.5°	607.7	606.7	630.9	658.2	684.5	695.0	*698.1*	681.3	628.8	548.8	458.4
40°	677.1	683.4	716.0	757.0	801.2	819.1	*827.5*	808.5	743.4	640.3	521.5
42.5°	749.7	768.6	809.6	871.6	938.9	965.2	*974.7*	956.8	880.0	754.9	601.4
45°	834.8	861.1	915.8	1004.1	1092.4	1131.3	*1152.4*	1146.1	1067.2	911.6	704.5
47.5°	940.0	958.9	1033.6	1152.4	1277.5	1341.6	*1371.1*	1388.9	1276.4	1073.5	794.9
50°	1058.8	1061.9	1165.0	1315.3	1498.3	1583.5	*1635.0*	1626.6	1493.0	1259.6	909.5
52.5°	1178.7	1175.5	1310.1	1514.1	1753.8	1865.2	*1899.9*	1934.6	1803.2	1543.5	1093.5
55°	1315.3	1309.0	1478.3	1737.0	2034.5	2181.7	*2279.5*	2327.9	2120.7	1730.7	1173.4
57.5°	1428.9	1448.9	1661.3	1972.5	2387.8	2572.8	*2637.0*	2610.7	2295.3	1825.3	1212.3
60°	1572.9	1602.4	1844.2	2280.5	2693.8	2831.5	*2890.4*	2770.5	2406.7	1896.8	1239.6
62.5°	1708.6	1746.4	2045.0	2530.8	2885.1	3011.3	*3026.0*	2895.6	2563.4	2037.7	1319.5
65°	1835.8	1878.9	2244.8	2679.0	3052.3	3157.4	*3182.7*	3079.6	2729.5	2120.7	1351.1
67.5°	*1952.5*	*1997.7*	*2347.8*	*2797.9*	*3127.0*	*3207.9*	*3213.2*	*3056.5*	*2678.0*	*2077.6*	*1300.6*
70°	2041.9	2061.9	2397.3	2794.7	3038.6	3070.2	*3049.1*	2891.4	2557.1	1989.3	1228.1
72.5°	2059.7	2074.5	2328.9	2639.1	2793.6	2823.1	*2806.3*	2667.5	2366.8	1831.6	1110.3
75°	1969.3	1972.5	2144.9	2359.4	2471.9	2507.7	*2485.6*	2357.3	2080.8	1608.7	955.7
77.5°	1732.8	1739.1	1843.2	1987.2	2081.8	2112.3	*2095.5*	1977.7	1743.3	1351.1	790.7
80°	1373.2	1385.8	1460.4	1560.3	1646.5	1678.1	*1658.1*	1563.5	1372.1	1061.9	617.2
82.5°	935.8	951.5	1019.9	1102.9	1178.7	1209.1	*1192.3*	1132.4	989.4	765.4	440.5
85°	473.1	490.0	560.4	638.2	704.5	737.1	*731.8*	706.6	608.8	472.1	266.0
87.5°	74.7	82.0	111.5	148.3	189.3	219.7	*200.8*	198.7	157.7	126.2	64.1
90°	30.5	30.5	29.4	28.4	25.2	23.1	*22.1*	17.9	13.7	8.4	3.2
92.5°	27.3	27.3	26.3	24.2	22.1	21.0	*18.9*	15.8	11.6	7.4	3.2
95°	22.1	22.1	21.0	20.0	17.9	16.8	*14.7*	12.6	9.5	6.3	3.2
97.5°	16.8	16.8	15.8	14.7	13.7	11.6	*11.6*	9.5	6.3	4.2	2.1
100°	12.6	12.6	11.6	10.5	9.5	8.4	*8.4*	6.3	4.2	3.2	2.1
102.5°	8.4	8.4	8.4	7.4	6.3	6.3	*5.3*	4.2	3.2	2.1	2.1
105°	5.3	5.3	5.3	5.3	4.2	3.2	*3.2*	2.1	2.1	2.1	2.1
107.5°	3.2	3.2	3.2	3.2	2.1	2.1	*2.1*	2.1	2.1	2.1	2.1
110°	2.1	2.1	2.1	1.1	1.1	1.1	*1.1*	1.1	1.1	2.1	1.1

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Scaled Data Report

REPORT NUMBER: P436854
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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
112.5°	1.1	1.1	1.1	1.1	1.1	1.1	*1.1*	1.1	1.1	1.1	1.1
115°	0.0	0.0	1.1	1.1	1.1	1.1	*1.1*	1.1	1.1	1.1	1.1
117.5°	0.0	0.0	0.0	0.0	0.0	1.1	*1.1*	1.1	1.1	1.1	1.1
120°	0.0	0.0	0.0	0.0	0.0	1.1	*1.1*	1.1	1.1	1.1	1.1
122.5°	0.0	0.0	0.0	0.0	0.0	1.1	*1.1*	1.1	1.1	1.1	1.1
125°	0.0	0.0	0.0	1.1	0.0	1.1	*1.1*	1.1	1.1	1.1	1.1
127.5°	0.0	0.0	0.0	1.1	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
130°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
135°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
140°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	1.1	1.1	1.1	1.1
142.5°	1.1	1.1	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
145°	1.1	1.1	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
147.5°	1.1	1.1	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
150°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	1.1	1.1	1.1	1.1
155°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
160°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	1.1	1.1	1.1	1.1
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
165°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
170°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
175°	0.0	0.0	0.0	0.0	0.0	1.1	*1.1*	1.1	1.1	1.1	1.1
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	*1.1*	1.1	1.1	1.1	1.1
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	135.6	135.6	135.6	135.6	135.6	135.6	135.6	135.6	135.6	135.6	135.6
2.5°	137.7	136.7	134.6	133.5	131.4	131.4	130.4	129.3	129.3	129.3	129.3
5°	140.9	139.8	137.7	135.6	133.5	131.4	130.4	129.3	129.3	129.3	128.3
7.5°	147.2	145.1	141.9	138.8	135.6	133.5	132.5	131.4	130.4	130.4	130.4
10°	154.6	152.5	147.2	144.0	139.8	136.7	135.6	134.6	133.5	133.5	133.5
12.5°	164.0	160.9	154.6	149.3	145.1	141.9	139.8	138.8	138.8	137.7	138.8
15°	175.6	171.4	163.0	156.7	151.4	148.3	146.1	145.1	145.1	145.1	144.0
17.5°	188.2	182.9	172.4	165.1	158.8	155.6	153.5	152.5	152.5	152.5	152.5
20°	202.9	195.6	184.0	174.5	168.2	164.0	161.9	161.9	160.9	161.9	161.9
22.5°	218.7	210.3	195.6	185.1	176.6	172.4	170.3	170.3	170.3	171.4	172.4
25°	237.6	227.1	209.2	195.6	186.1	181.9	179.8	180.8	180.8	181.9	181.9
27.5°	262.9	247.1	225.0	208.2	197.7	192.4	190.3	191.4	192.4	192.4	192.4
30°	291.2	272.3	241.8	224.0	211.3	205.0	202.9	204.0	205.0	207.1	206.1
32.5°	325.9	302.8	267.1	241.8	228.2	220.8	218.7	217.6	219.7	221.9	221.9
35°	368.0	338.6	296.5	267.1	247.1	237.6	235.5	234.5	235.5	237.6	239.7
37.5°	413.2	377.5	325.9	295.5	273.4	262.9	257.6	253.4	254.4	255.5	258.7
40°	464.7	420.6	359.6	322.8	302.8	290.2	282.8	276.5	278.6	278.6	279.7
42.5°	529.9	474.2	401.6	355.4	334.4	320.7	309.1	301.8	297.6	298.6	294.4
45°	615.1	545.7	454.2	401.6	372.2	351.2	337.5	322.8	312.3	314.4	308.1
47.5°	685.5	602.5	503.6	445.8	414.3	388.0	359.6	338.6	323.8	321.7	317.5
50°	771.7	671.9	560.4	494.2	460.5	420.6	386.9	351.2	327.0	320.7	321.7
52.5°	916.8	793.8	641.4	559.4	500.5	453.2	401.6	352.2	319.6	310.2	313.3
55°	969.4	834.8	683.4	613.0	555.2	481.6	408.0	340.7	298.6	290.2	291.2
57.5°	981.0	834.8	686.6	629.8	581.4	504.7	404.8	314.4	258.7	251.3	250.2
60°	987.3	829.6	675.0	617.2	564.6	482.6	363.8	253.4	198.7	193.5	190.3
62.5°	1046.2	873.7	686.6	607.7	533.1	423.7	276.5	161.9	110.4	109.3	107.2
65°	1064.0	889.5	701.3	614.0	498.4	329.1	164.0	54.7	11.6	12.6	10.5
67.5°	*1019.9*	*853.8*	*680.3*	*604.6*	*487.9*	*320.7*	*157.7*	*46.3*	*0.0*	*0.0*	*0.0*
70°	958.9	802.2	643.5	572.0	465.8	308.1	154.6	46.3	0.0	0.0	0.0
72.5°	862.2	728.6	584.6	527.8	427.9	282.8	144.0	44.2	0.0	0.0	0.0
75°	748.6	634.0	512.0	467.9	379.6	248.1	129.3	40.0	0.0	0.0	0.0
77.5°	626.7	528.9	427.9	394.3	320.7	211.3	109.3	33.6	0.0	0.0	0.0
80°	492.1	418.5	337.5	314.4	253.4	168.2	87.3	26.3	0.0	0.0	0.0
82.5°	354.3	303.9	249.2	230.3	186.1	122.0	63.1	17.9	0.0	0.0	0.0
85°	218.7	190.3	160.9	149.3	117.8	75.7	37.9	9.5	0.0	0.0	0.0
87.5°	65.2	63.1	56.8	55.7	40.0	23.1	8.4	1.1	0.0	0.0	0.0
90°	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	1.1	1.1	1.1	1.1	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: P436854
CATALOG NUMBER: TT-D4-830-U-DL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	1.1	1.1	1.1	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

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: SP1-2407-176-7

Test Date: 09/27/2024

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

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

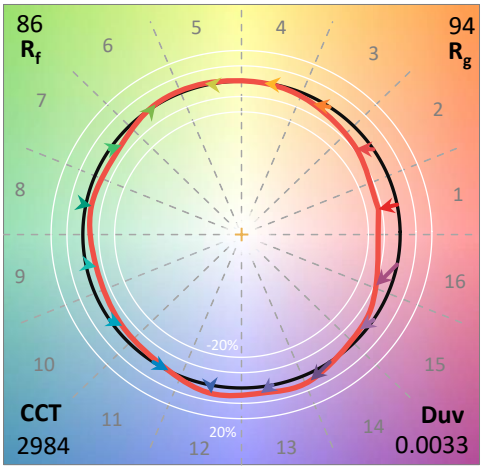
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-7
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	09/27/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Streetworks
Catalog Number:	**MEM2-HTN-VA-30-830-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

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

Rf:	85.8
Rg:	94.1



Test Conditions

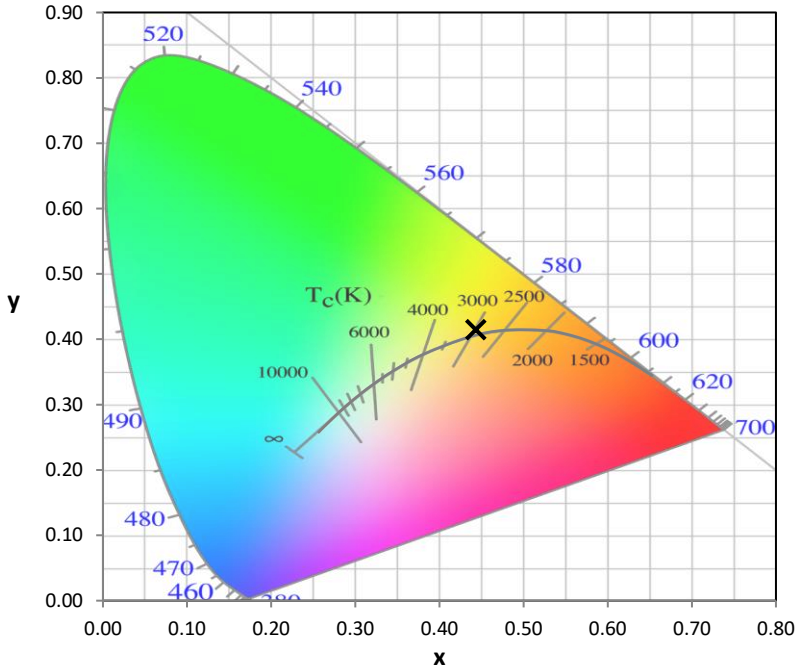
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

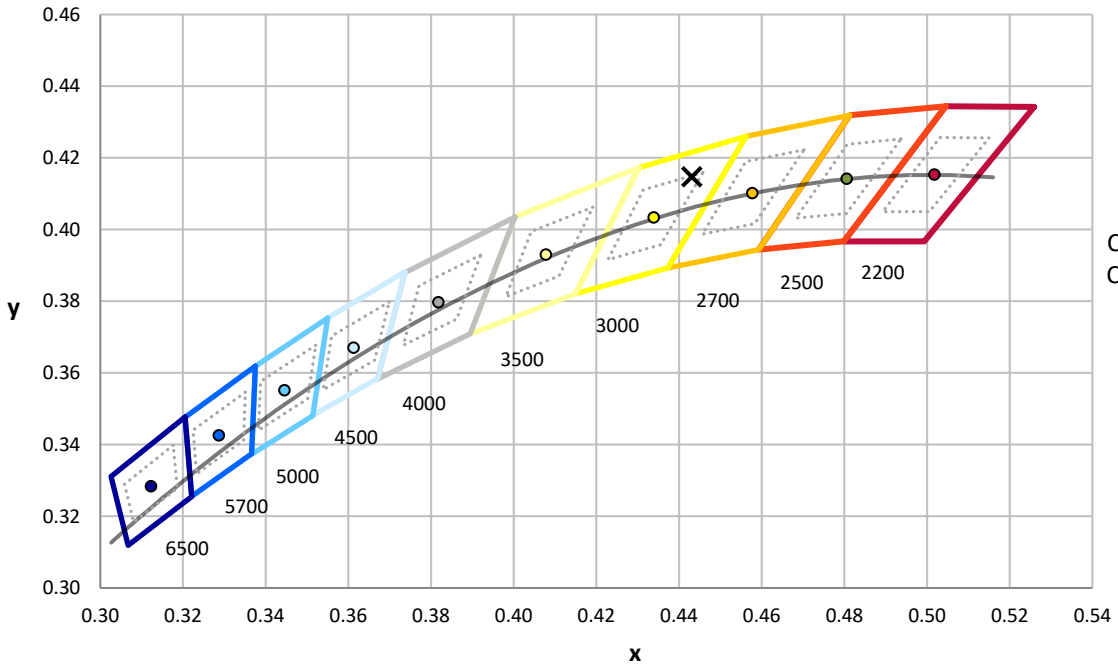
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-7

CIE 1931 Chromaticity Diagram



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

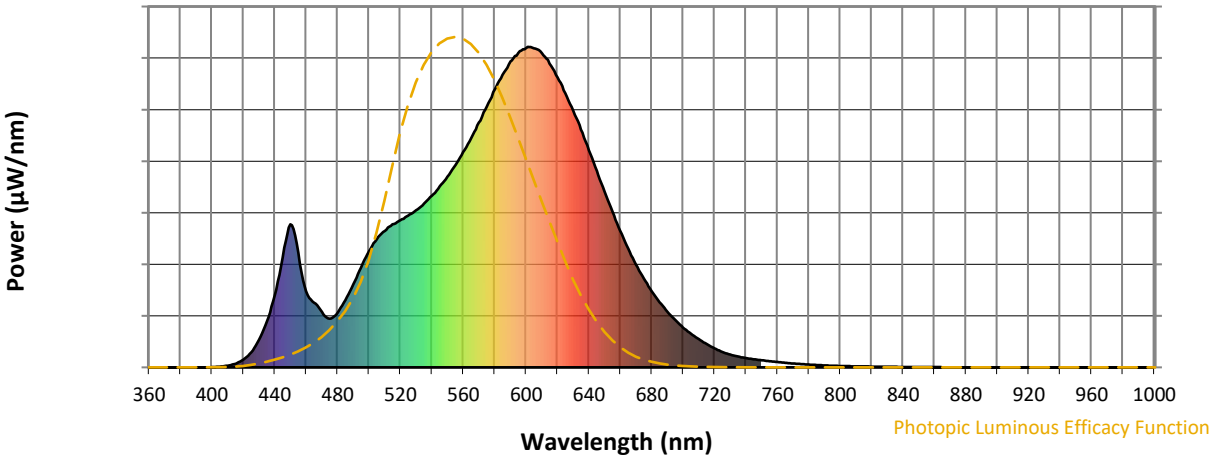


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

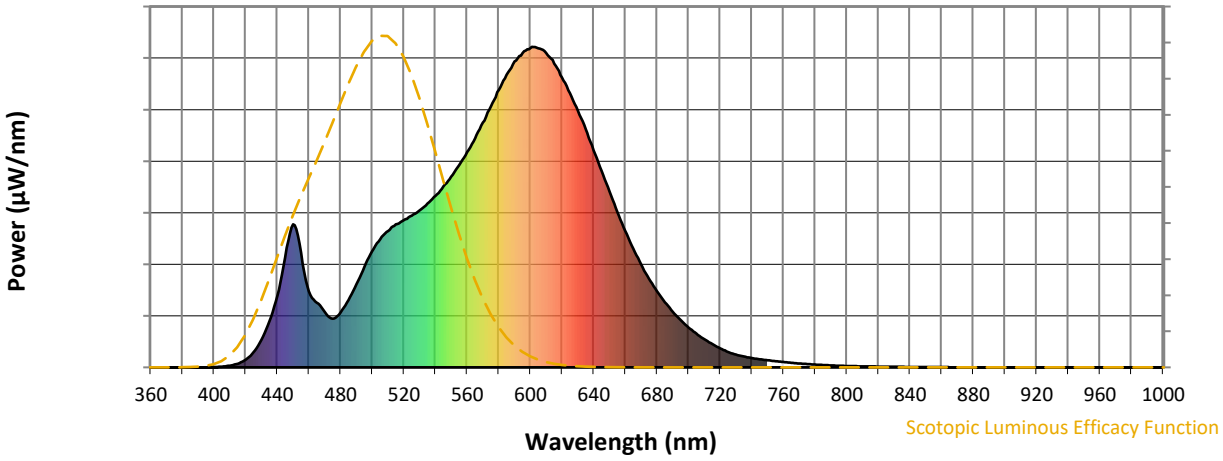


Photopic Lumens: NR

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-7

Scotopic Flux vs. Wavelength

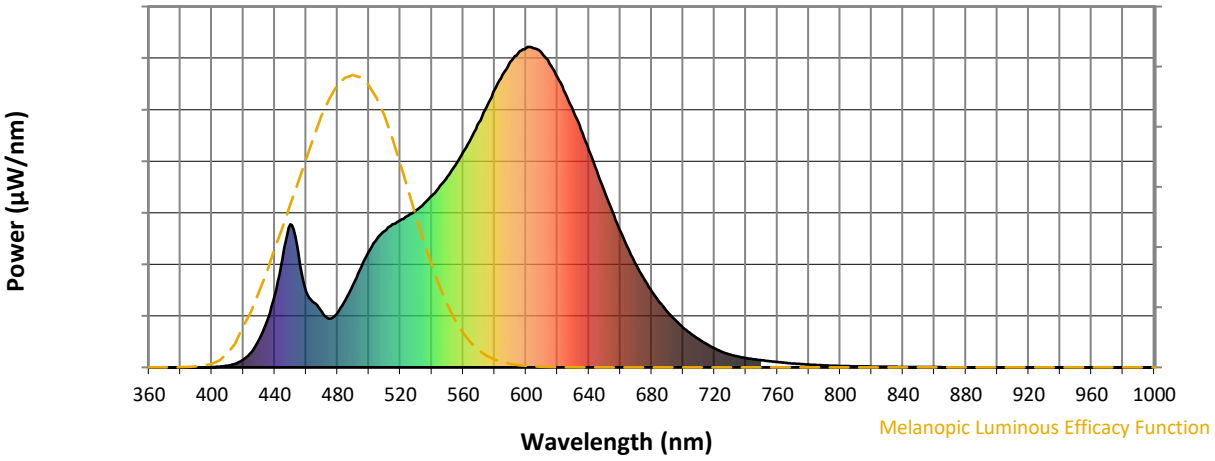


Scotopic Lumens: NR **S/P: 1.32**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-7

Melanopic Flux vs. Wavelength



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

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

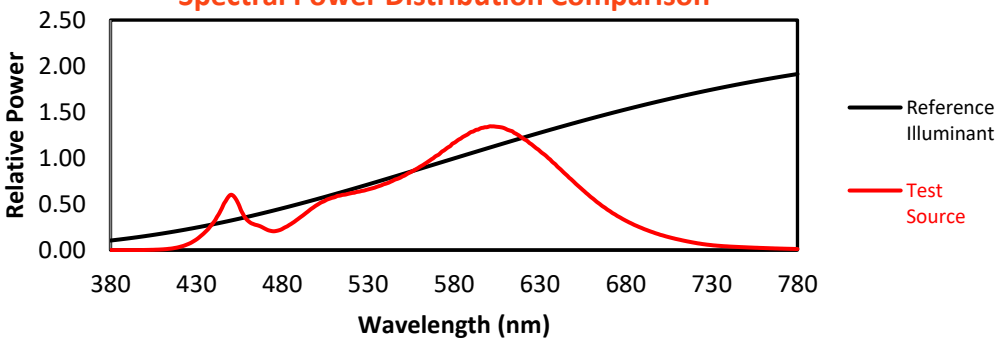
REPORT NUMBER: SP1-2407-176-7

TM-30-18

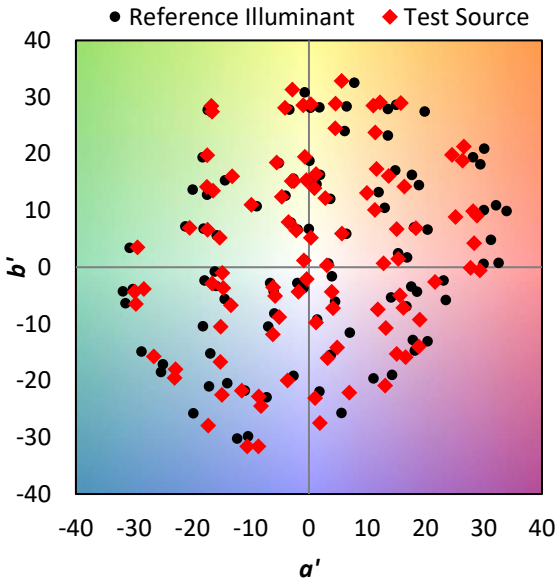
Summary

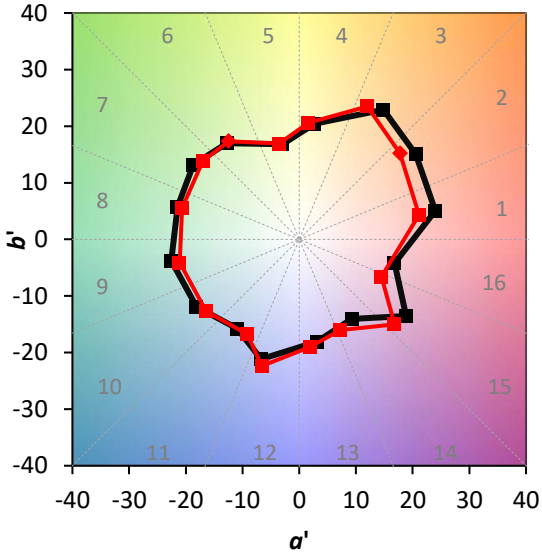
R_f = 85.8
R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

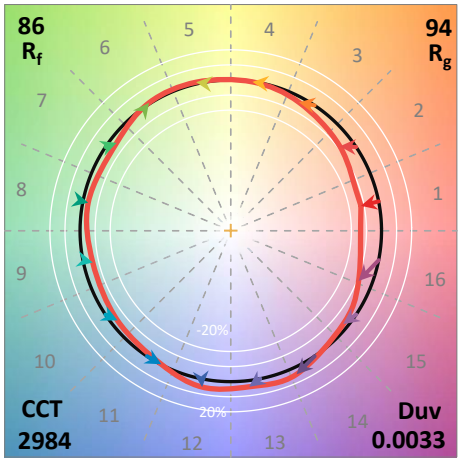
Spectral Power Distribution Comparison

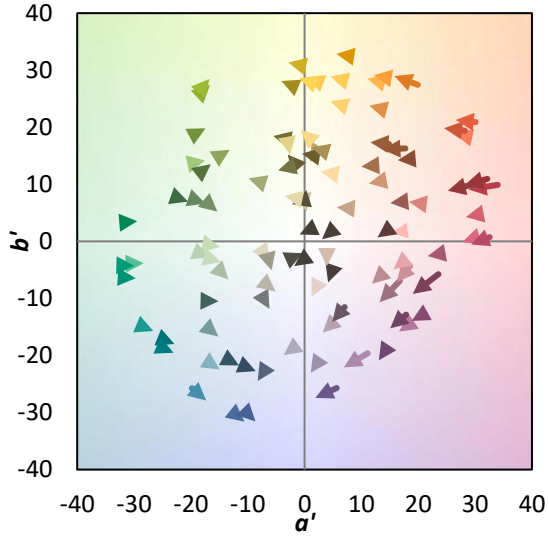


Color Vector Graphics







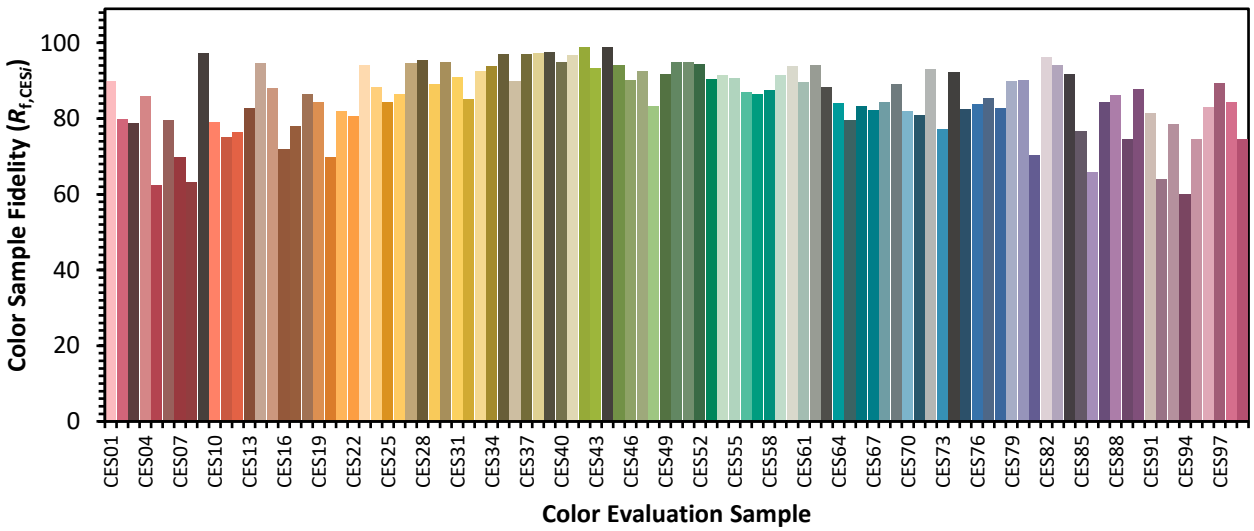


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

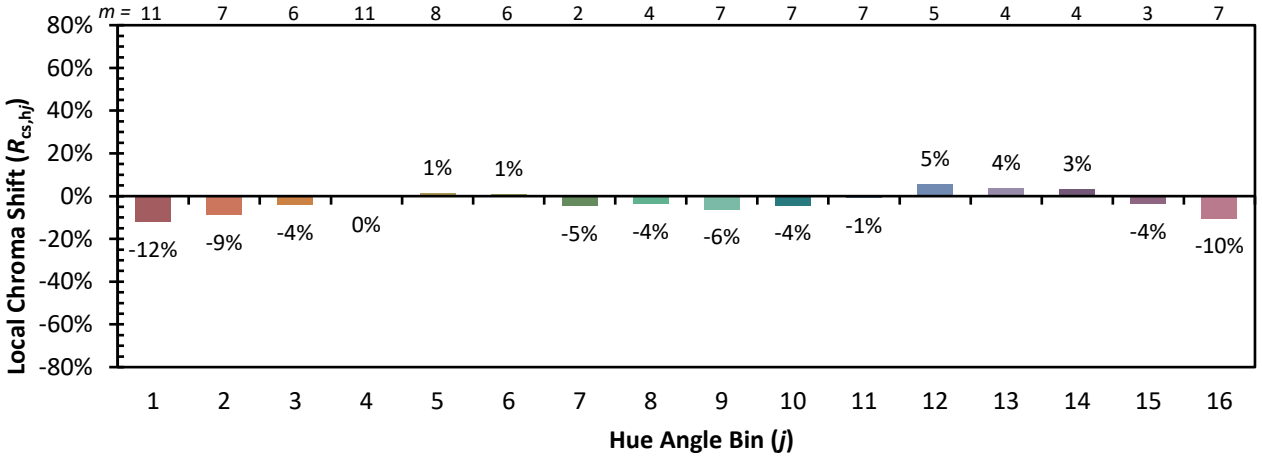
CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 84
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57 = 86	CES82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

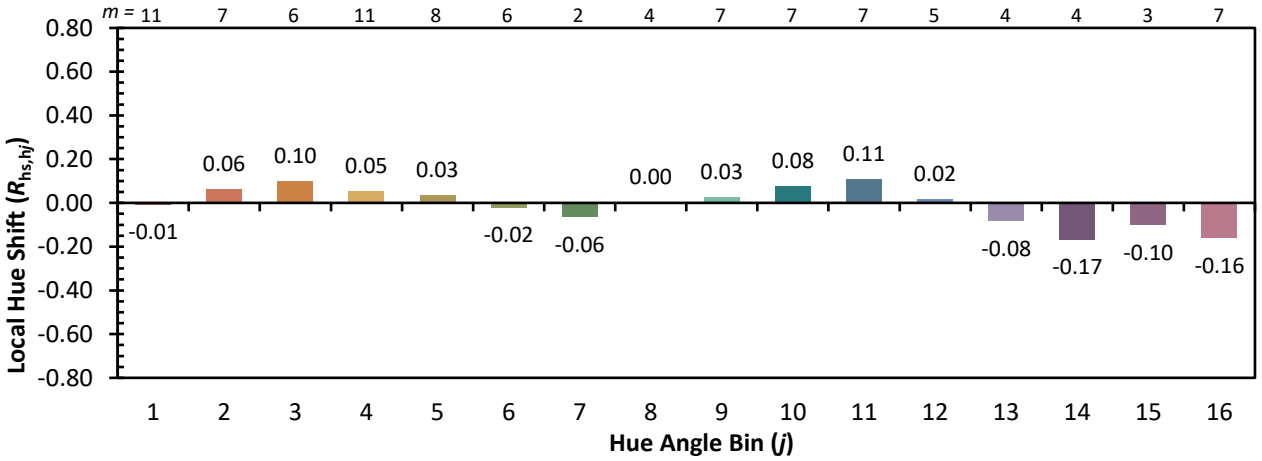


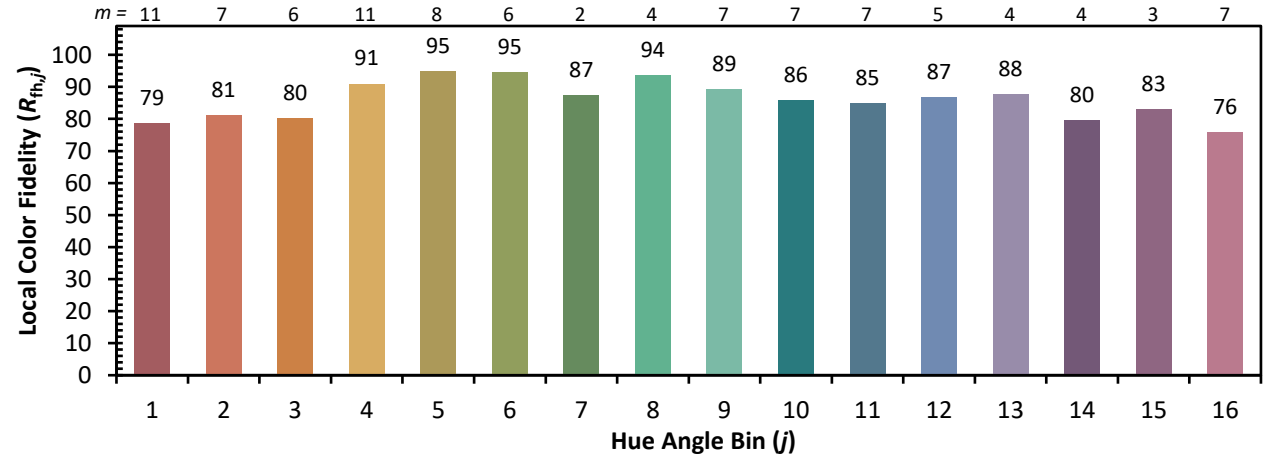
REPORT NUMBER: SP1-2407-176-7

TM-30-18

Color Rendition by Hue-Angle Bin







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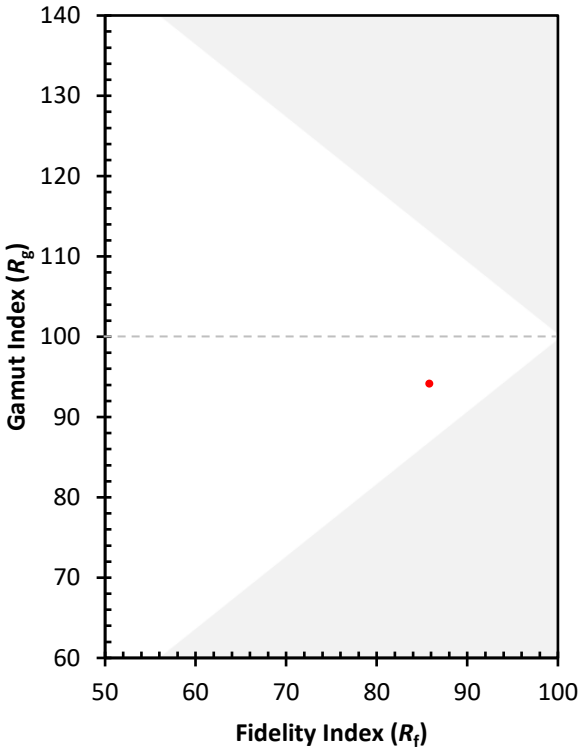
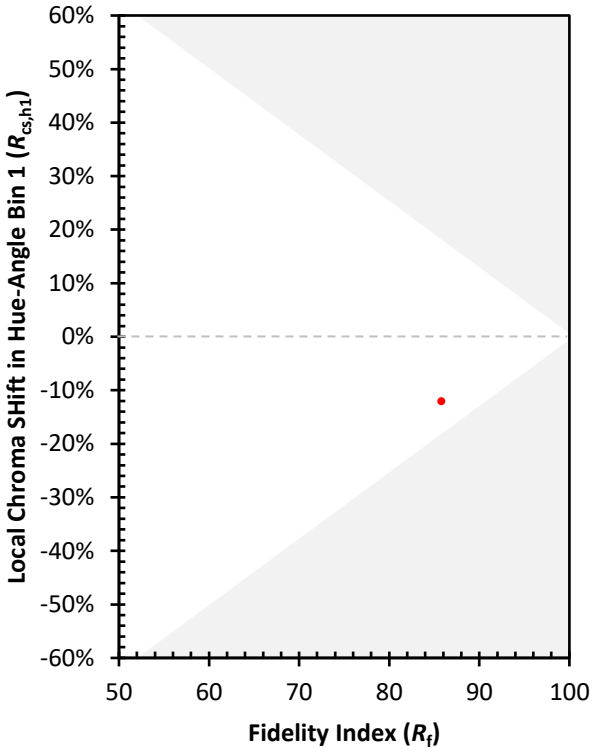
Measure Comparisons





(END OF REPORT)