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: P436819

Luminaire Tested: **TT-D3-830-U-DL-HSS**

Issue Date: 12/2/2020

Report Generated By 670347003

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P436819
	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-D3-830-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:	4198 lumens
Efficiency:	N/A
Efficacy:	86.0 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G3

Input Watts (W):	48.8
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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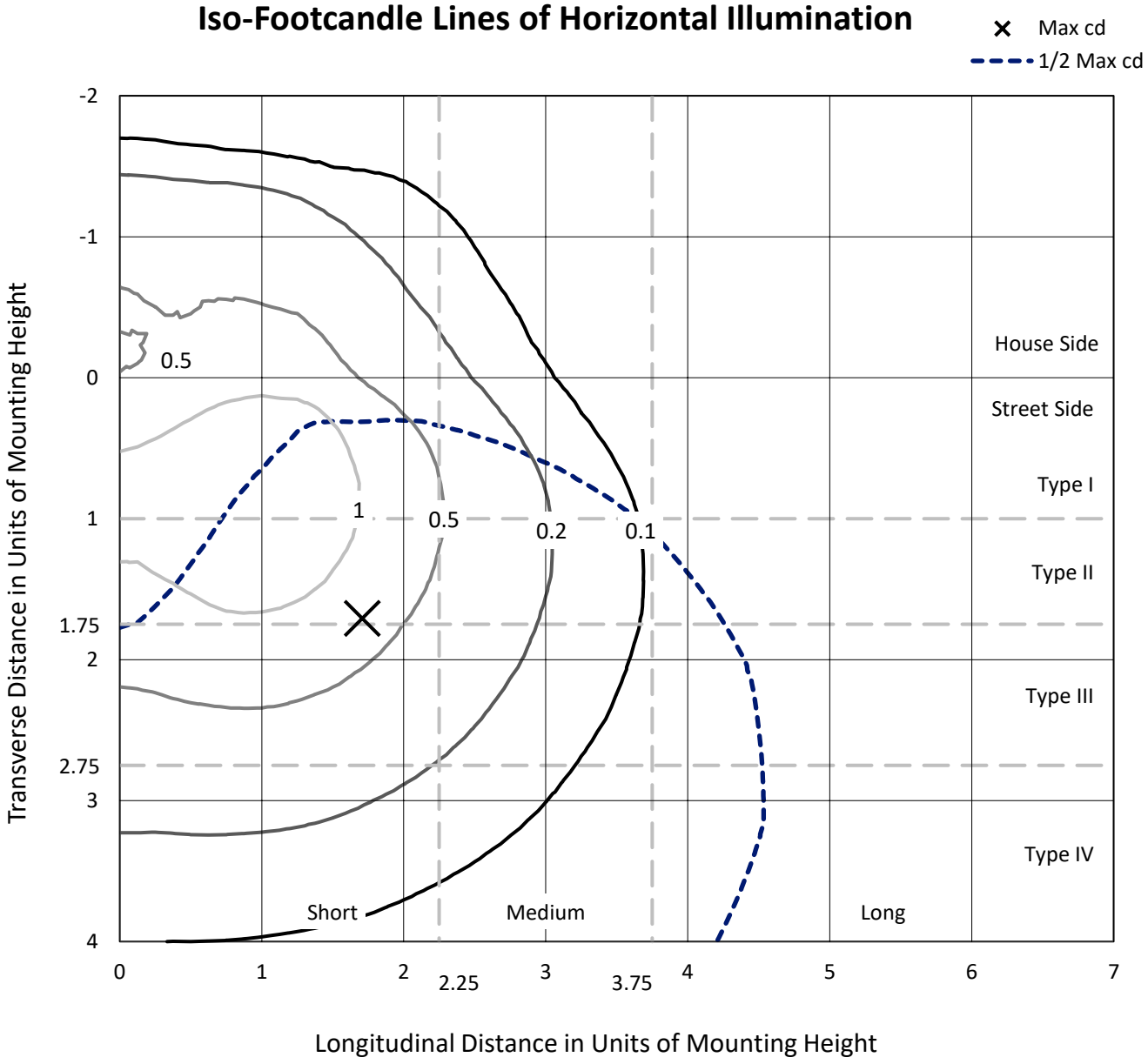
Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 1.6 fc
Type IV - Short - N/A

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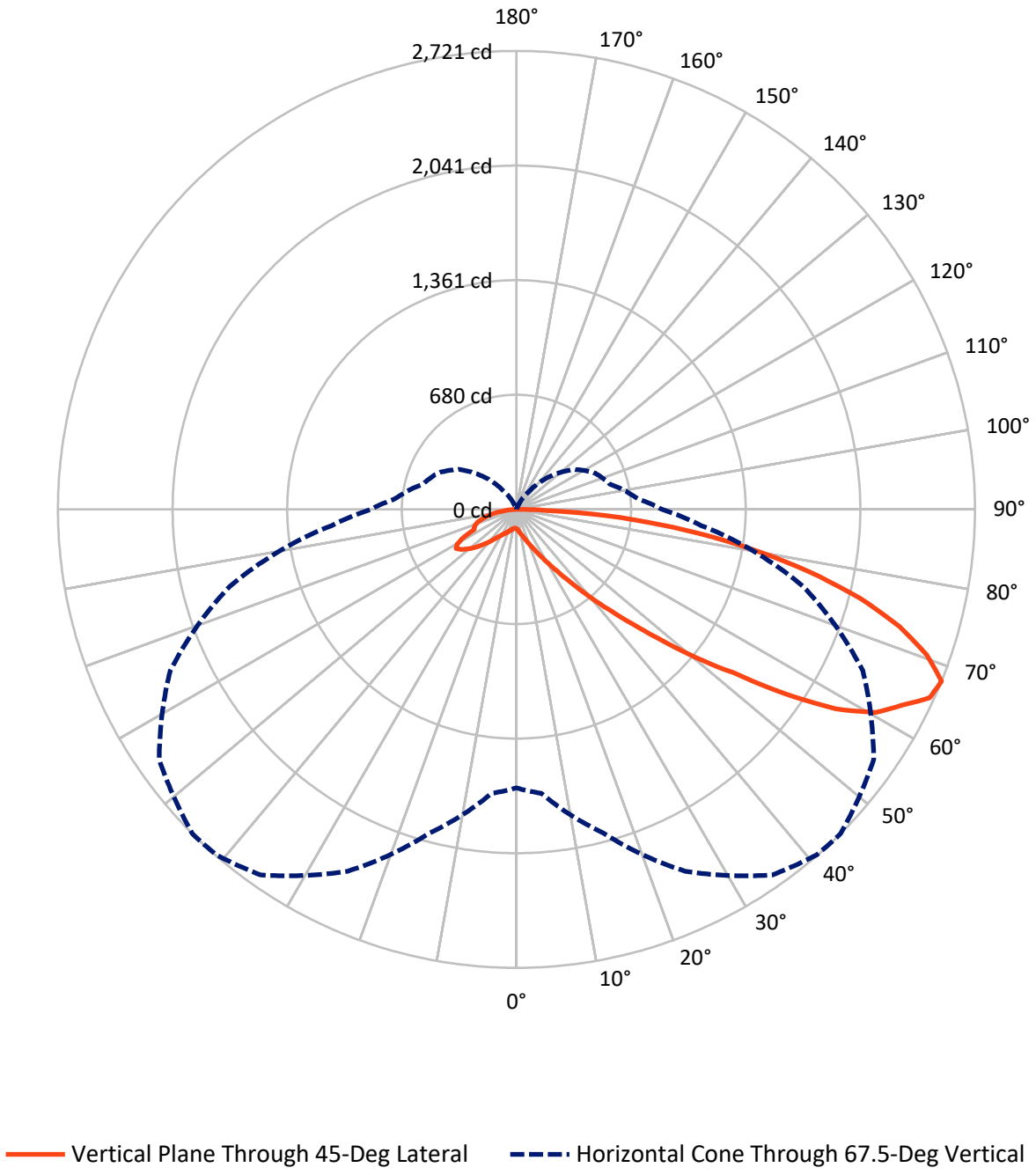
Luminous Intensity Polar Plot



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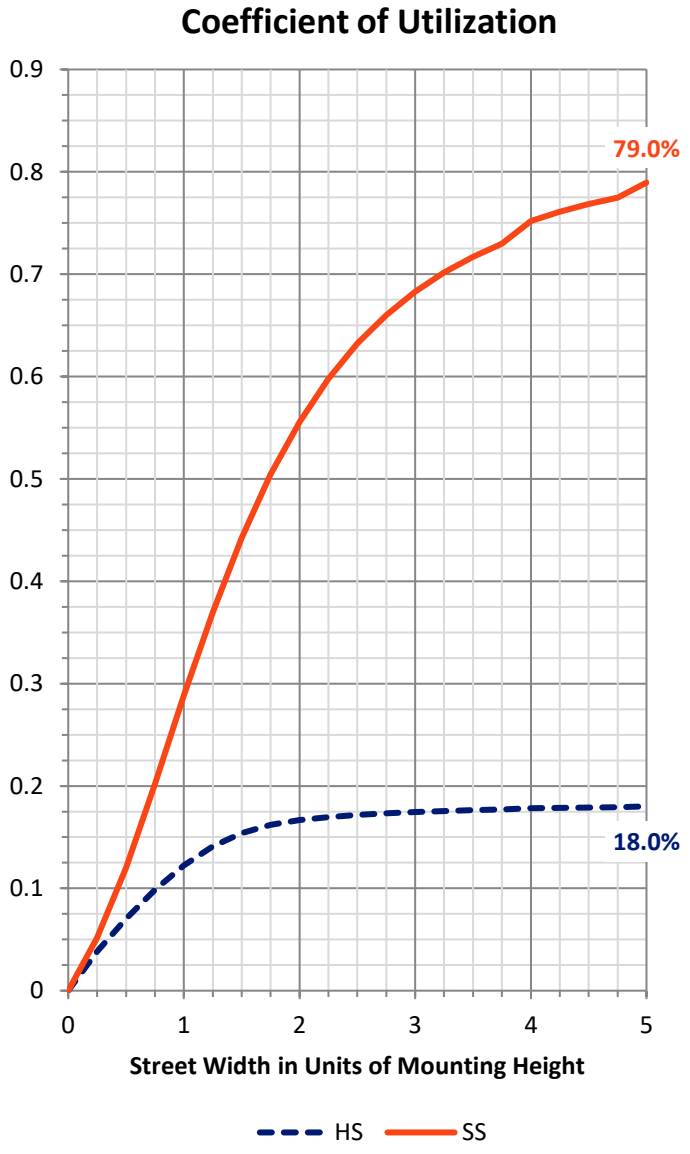
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	762.7	0.9	763.6
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	3425.1	9.4	3434.4
	% Fixture	81.6	0.2	81.8
Total	Lumens	4187.8	10.3	4198.0
	% Fixture	99.8	0.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.9	0.3
10°-20°	44.2	1.1
20°-30°	101.8	2.4
30°-40°	217.2	5.2
40°-50°	454.6	10.8
50°-60°	862.4	20.5
60°-70°	1173.7	28.0
70°-80°	1009.1	24.0
80°-90°	312.9	7.5
90°-100°	6.6	0.2
100°-110°	1.9	0.0
110°-120°	0.5	0.0
120°-130°	0.4	0.0
130°-140°	0.3	0.0
140°-150°	0.2	0.0
150°-160°	0.1	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-90°	4187.8	99.8
0°-180°	4198.0	100.0



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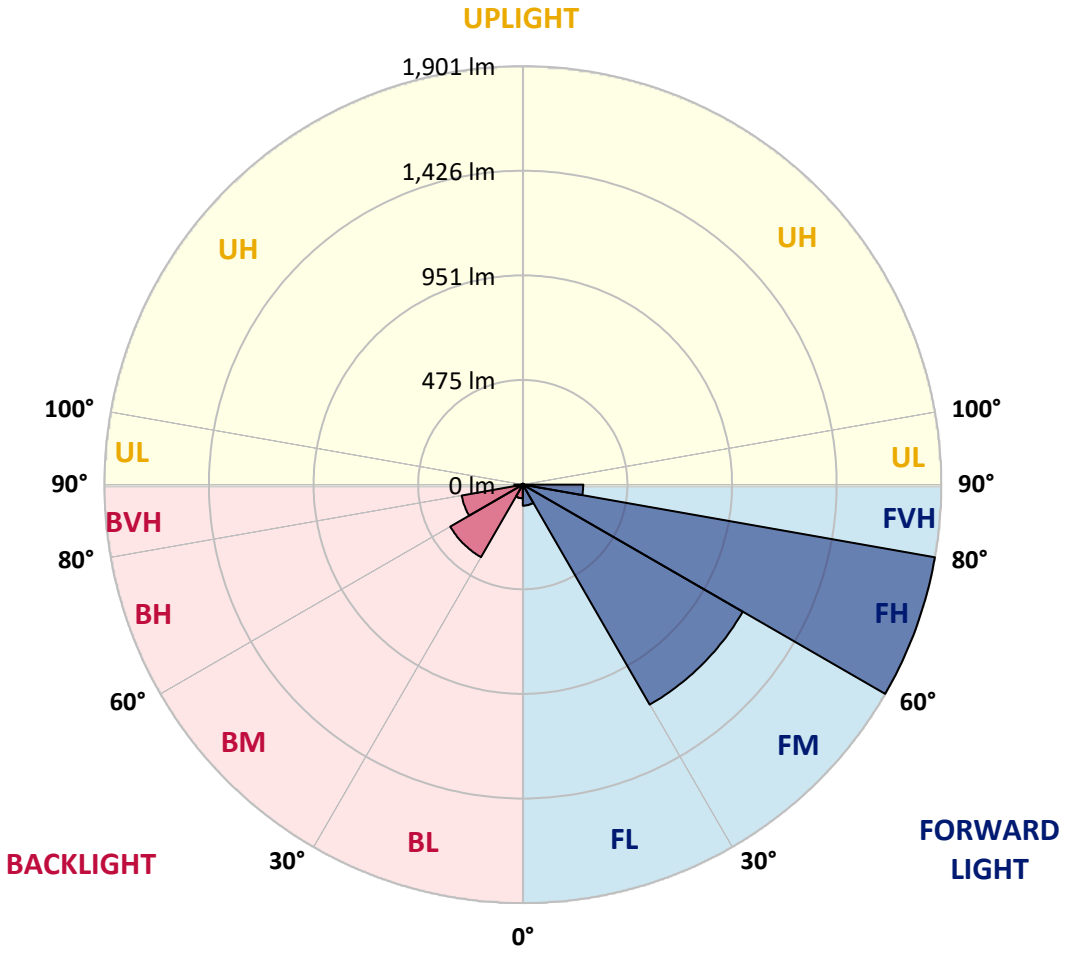
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	95.7	2.3			
FM	(30°-60°)	1153.7	27.5			
FH	(60°-80°)	1901.1	45.3			G2/5000
FVH	(80°-90°)	274.6	6.5			G3/500
BL	(0°-30°)	62.2	1.5	B0/110		
BM	(30°-60°)	380.5	9.1	B1/1000		
BH	(60°-80°)	281.7	6.7	B1/500		G1/500
BVH	(80°-90°)	38.3	0.9			G1/100
UL	(90°-100°)	6.6	0.2		U1/10	
UH	(100°-180°)	3.6	0.1		U1/10	

BUG Rating: B1-U1-G3
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
0°	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9
2.5°	124.7	123.8	123.8	122.9	122.9	121.1	121.1	120.2	119.3	118.4	116.6
5°	133.6	132.7	132.7	131.8	130.9	129.1	128.2	126.4	124.7	122.9	121.1
7.5°	144.3	143.4	143.4	142.5	140.7	138.0	137.1	134.5	131.8	129.1	126.4
10°	157.6	156.7	156.7	154.9	153.2	150.5	148.7	145.1	142.5	138.0	133.6
12.5°	171.9	171.0	171.0	169.2	165.6	163.8	162.1	157.6	153.2	147.8	142.5
15°	187.9	187.9	187.9	187.0	183.4	179.9	178.1	172.7	167.4	159.4	152.3
17.5°	208.4	207.5	207.5	205.7	201.2	199.5	196.8	190.6	182.5	173.6	164.7
20°	233.3	232.4	230.6	229.7	225.3	223.5	219.9	212.8	202.1	190.6	178.1
22.5°	258.2	258.2	257.3	258.2	254.7	252.9	248.4	238.6	226.2	209.3	194.1
25°	286.7	287.6	289.4	292.1	287.6	285.8	282.3	269.8	254.7	233.3	211.9
27.5°	322.3	322.3	326.8	331.2	327.7	326.8	321.4	308.1	286.7	260.9	236.0
30°	360.6	361.5	368.6	376.7	374.9	374.9	370.4	355.3	329.5	299.2	264.5
32.5°	405.1	408.7	415.8	424.7	431.0	431.0	429.2	413.2	382.9	341.9	299.2
35°	463.9	457.7	471.0	484.4	497.8	500.4	501.3	486.2	451.5	399.8	341.9
37.5°	514.7	513.8	534.3	557.4	579.7	588.6	591.3	577.0	532.5	464.8	388.2
40°	573.4	578.8	606.4	641.1	678.5	693.7	700.8	684.7	629.5	542.3	441.7
42.5°	634.9	650.9	685.6	738.2	795.2	817.4	825.4	810.3	745.3	639.3	509.3
45°	707.0	729.3	775.6	850.4	925.2	958.1	975.9	970.6	903.8	772.0	596.6
47.5°	796.1	812.1	875.3	975.9	1081.9	1136.2	1161.1	1176.3	1081.0	909.1	673.2
50°	896.7	899.3	986.6	1113.9	1268.9	1341.0	1384.6	1377.5	1264.4	1066.7	770.2
52.5°	998.2	995.5	1109.5	1282.2	1485.3	1579.6	1609.0	1638.4	1527.1	1307.2	926.1
55°	1113.9	1108.6	1252.0	1471.0	1723.0	1847.7	1930.5	1971.4	1796.0	1465.7	993.7
57.5°	1210.1	1227.0	1406.9	1670.5	2022.2	2178.9	2233.2	2211.0	1943.8	1545.8	1026.7
60°	1332.1	1357.0	1561.8	1931.4	2281.3	2397.9	2447.8	2346.3	2038.2	1606.3	1049.8
62.5°	1447.0	1479.0	1731.9	2143.3	2443.4	2550.2	2562.7	2452.3	2170.9	1725.7	1117.5
65°	1554.7	1591.2	1901.1	2268.8	2584.9	2674.0	2695.4	2608.1	2311.6	1796.0	1144.2
67.5°	1653.5	1691.8	1988.3	2369.5	2648.2	2716.7	2721.2	2588.5	2267.9	1759.5	1101.5
70°	1729.2	1746.1	2030.2	2366.8	2573.4	2600.1	2582.3	2448.7	2165.5	1684.7	1040.0
72.5°	1744.4	1756.8	1972.3	2235.0	2365.9	2390.8	2376.6	2259.0	2004.4	1551.1	940.3
75°	1667.8	1670.5	1816.5	1998.1	2093.4	2123.7	2105.0	1996.4	1762.2	1362.4	809.4
77.5°	1467.4	1472.8	1560.9	1682.9	1763.1	1788.9	1774.6	1674.9	1476.3	1144.2	669.6
80°	1162.9	1173.6	1236.8	1321.4	1394.4	1421.1	1404.2	1324.1	1162.0	899.3	522.7
82.5°	792.5	805.8	863.7	934.1	998.2	1024.0	1009.8	959.0	837.9	648.2	373.1
85°	400.7	414.9	474.6	540.5	596.6	624.2	619.7	598.4	515.6	399.8	225.3
87.5°	63.2	69.5	94.4	125.6	160.3	186.1	170.1	168.3	133.6	106.9	54.3
90°	25.8	25.8	24.9	24.0	21.4	19.6	18.7	15.1	11.6	7.1	2.7
92.5°	23.2	23.2	22.3	20.5	18.7	17.8	16.0	13.4	9.8	6.2	2.7
95°	18.7	18.7	17.8	16.9	15.1	14.2	12.5	10.7	8.0	5.3	2.7
97.5°	14.2	14.2	13.4	12.5	11.6	9.8	9.8	8.0	5.3	3.6	1.8
100°	10.7	10.7	9.8	8.9	8.0	7.1	7.1	5.3	3.6	2.7	1.8
102.5°	7.1	7.1	7.1	6.2	5.3	5.3	4.5	3.6	2.7	1.8	1.8
105°	4.5	4.5	4.5	4.5	3.6	2.7	2.7	1.8	1.8	1.8	1.8
107.5°	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
110°	1.8	1.8	1.8	0.9	0.9	0.9	0.9	0.9	0.9	1.8	0.9

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
112.5°	0.9	0.9	0.9	0.9	0.9	0.9	*0.9*	0.9	0.9	0.9	0.9
115°	0.0	0.0	0.9	0.9	0.9	0.9	*0.9*	0.9	0.9	0.9	0.9
117.5°	0.0	0.0	0.0	0.0	0.0	0.9	*0.9*	0.9	0.9	0.9	0.9
120°	0.0	0.0	0.0	0.0	0.0	0.9	*0.9*	0.9	0.9	0.9	0.9
122.5°	0.0	0.0	0.0	0.0	0.0	0.9	*0.9*	0.9	0.9	0.9	0.9
125°	0.0	0.0	0.0	0.9	0.0	0.9	*0.9*	0.9	0.9	0.9	0.9
127.5°	0.0	0.0	0.0	0.9	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
130°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
135°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
140°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.9	0.9	0.9	0.9
142.5°	0.9	0.9	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
145°	0.9	0.9	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
147.5°	0.9	0.9	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
150°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.9	0.9	0.9	0.9
155°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
160°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.9	0.9	0.9	0.9
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
165°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
170°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
175°	0.0	0.0	0.0	0.0	0.0	0.9	*0.9*	0.9	0.9	0.9	0.9
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.9*	0.9	0.9	0.9	0.9
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°	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9
2.5°	116.6	115.8	114.0	113.1	111.3	111.3	110.4	109.5	109.5	109.5	109.5
5°	119.3	118.4	116.6	114.9	113.1	111.3	110.4	109.5	109.5	109.5	108.6
7.5°	124.7	122.9	120.2	117.5	114.9	113.1	112.2	111.3	110.4	110.4	110.4
10°	130.9	129.1	124.7	122.0	118.4	115.8	114.9	114.0	113.1	113.1	113.1
12.5°	138.9	136.2	130.9	126.4	122.9	120.2	118.4	117.5	117.5	116.6	117.5
15°	148.7	145.1	138.0	132.7	128.2	125.6	123.8	122.9	122.9	122.9	122.0
17.5°	159.4	154.9	146.0	139.8	134.5	131.8	130.0	129.1	129.1	129.1	129.1
20°	171.9	165.6	155.8	147.8	142.5	138.9	137.1	137.1	136.2	137.1	137.1
22.5°	185.2	178.1	165.6	156.7	149.6	146.0	144.3	144.3	144.3	145.1	146.0
25°	201.2	192.3	177.2	165.6	157.6	154.0	152.3	153.2	153.2	154.0	154.0
27.5°	222.6	209.3	190.6	176.3	167.4	163.0	161.2	162.1	163.0	163.0	163.0
30°	246.7	230.6	204.8	189.7	179.0	173.6	171.9	172.7	173.6	175.4	174.5
32.5°	276.0	256.4	226.2	204.8	193.2	187.0	185.2	184.3	186.1	187.9	187.9
35°	311.7	286.7	251.1	226.2	209.3	201.2	199.5	198.6	199.5	201.2	203.0
37.5°	349.9	319.7	276.0	250.2	231.5	222.6	218.2	214.6	215.5	216.4	219.0
40°	393.6	356.2	304.5	273.4	256.4	245.8	239.5	234.2	236.0	236.0	236.9
42.5°	448.8	401.6	340.1	301.0	283.2	271.6	261.8	255.6	252.0	252.9	249.3
45°	520.9	462.1	384.7	340.1	315.2	297.4	285.8	273.4	264.5	266.2	260.9
47.5°	580.6	510.2	426.5	377.5	350.8	328.6	304.5	286.7	274.3	272.5	268.9
50°	653.6	569.0	474.6	418.5	390.0	356.2	327.7	297.4	276.9	271.6	272.5
52.5°	776.5	672.3	543.2	473.7	423.8	383.8	340.1	298.3	270.7	262.7	265.4
55°	821.0	707.0	578.8	519.1	470.2	407.8	345.5	288.5	252.9	245.8	246.7
57.5°	830.8	707.0	581.5	533.4	492.4	427.4	342.8	266.2	219.0	212.8	211.9
60°	836.1	702.6	571.7	522.7	478.2	408.7	308.1	214.6	168.3	163.8	161.2
62.5°	886.0	740.0	581.5	514.7	451.5	358.8	234.2	137.1	93.5	92.6	90.8
65°	901.1	753.3	593.9	520.0	422.1	278.7	138.9	46.3	9.8	10.7	8.9
67.5°	*863.7*	*723.0*	*576.1*	*512.0*	*413.2*	*271.6*	*133.6*	*39.2*	*0.0*	*0.0*	*0.0*
70°	812.1	679.4	544.9	484.4	394.5	260.9	130.9	39.2	0.0	0.0	0.0
72.5°	730.2	617.1	495.1	447.0	362.4	239.5	122.0	37.4	0.0	0.0	0.0
75°	634.0	536.9	433.6	396.2	321.4	210.1	109.5	33.8	0.0	0.0	0.0
77.5°	530.7	447.9	362.4	333.9	271.6	179.0	92.6	28.5	0.0	0.0	0.0
80°	416.7	354.4	285.8	266.2	214.6	142.5	73.9	22.3	0.0	0.0	0.0
82.5°	300.1	257.3	211.0	195.0	157.6	103.3	53.4	15.1	0.0	0.0	0.0
85°	185.2	161.2	136.2	126.4	99.7	64.1	32.1	8.0	0.0	0.0	0.0
87.5°	55.2	53.4	48.1	47.2	33.8	19.6	7.1	0.9	0.0	0.0	0.0
90°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.9	0.9	0.9	0.9	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: P436819
CATALOG NUMBER: TT-D3-830-U-DL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.9	0.9	0.9	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

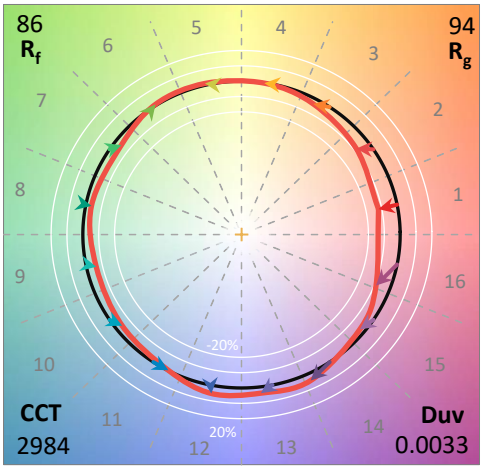
Test Information

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

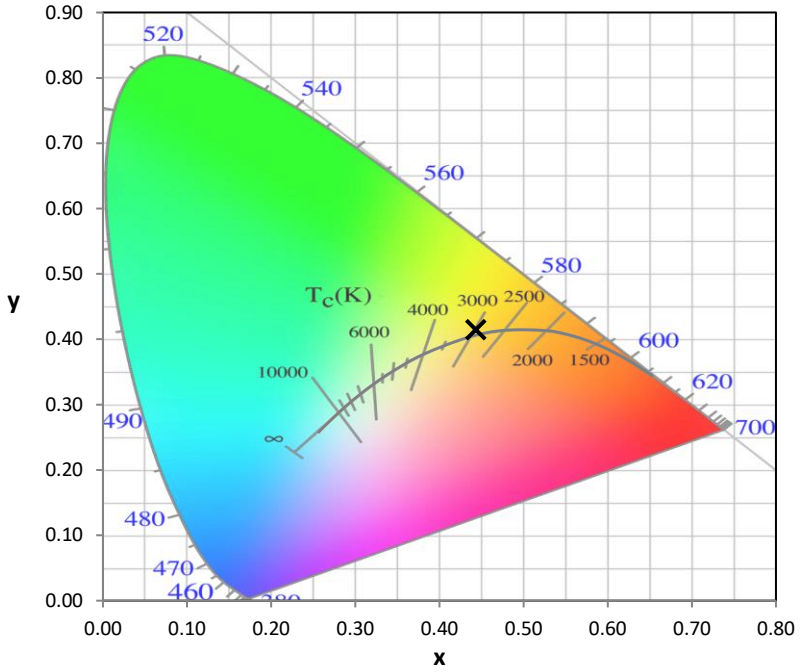
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

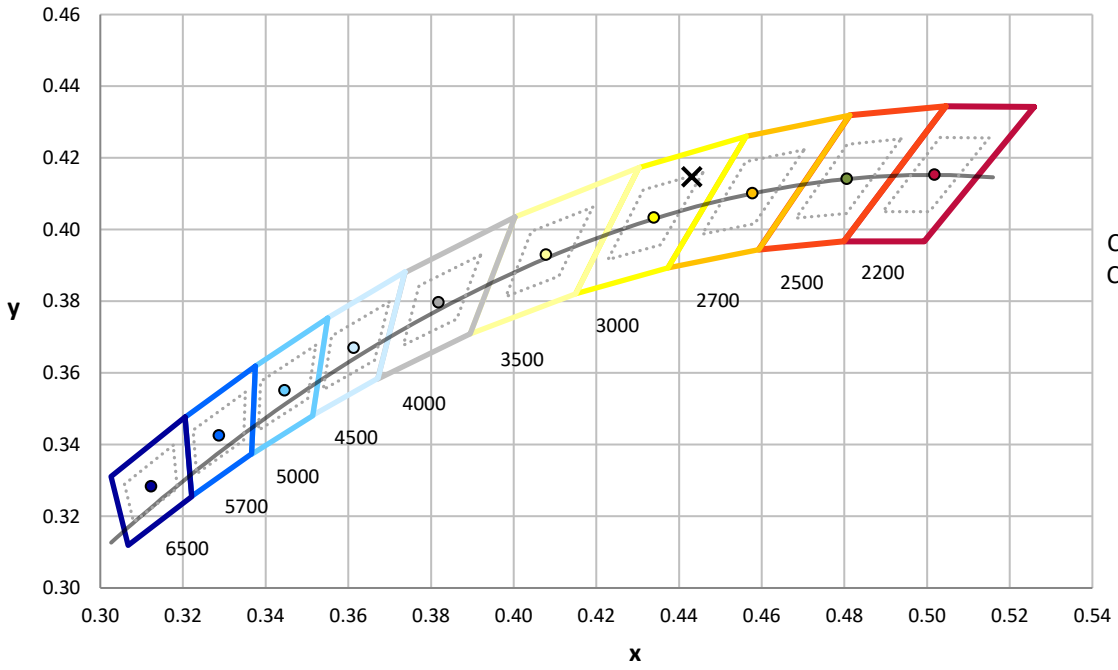
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

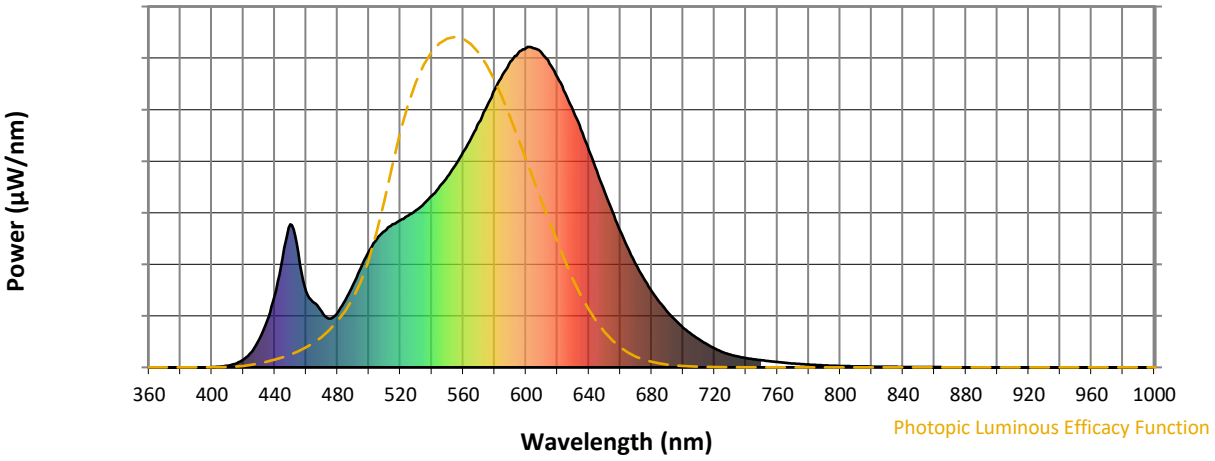


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

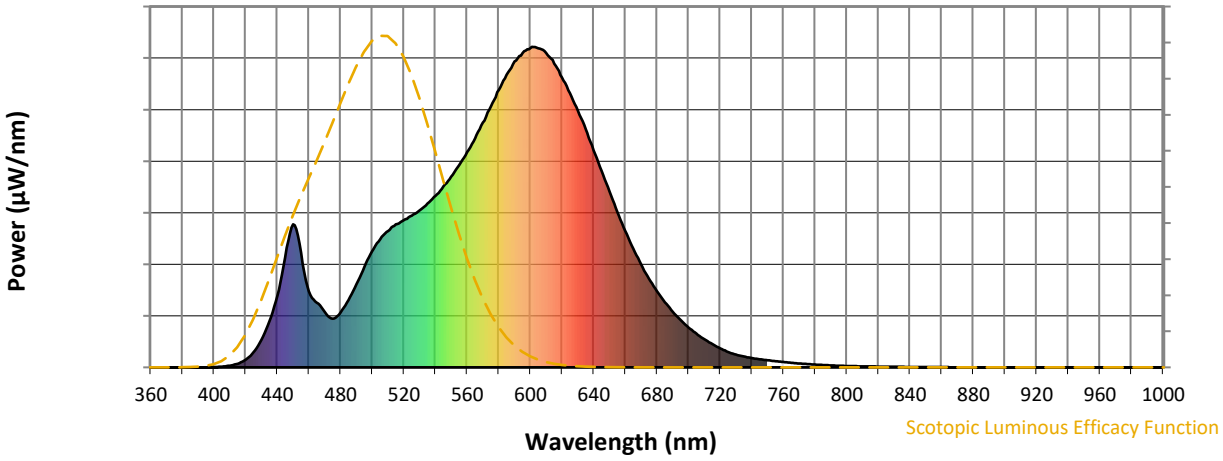


Photopic Lumens: NR

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

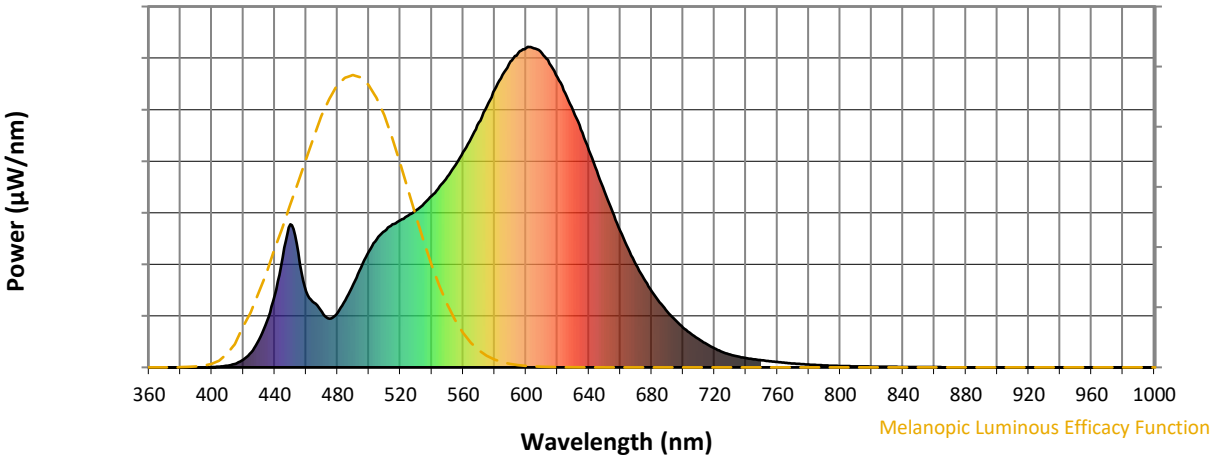


Scotopic Lumens: NR **S/P: 1.32**

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			

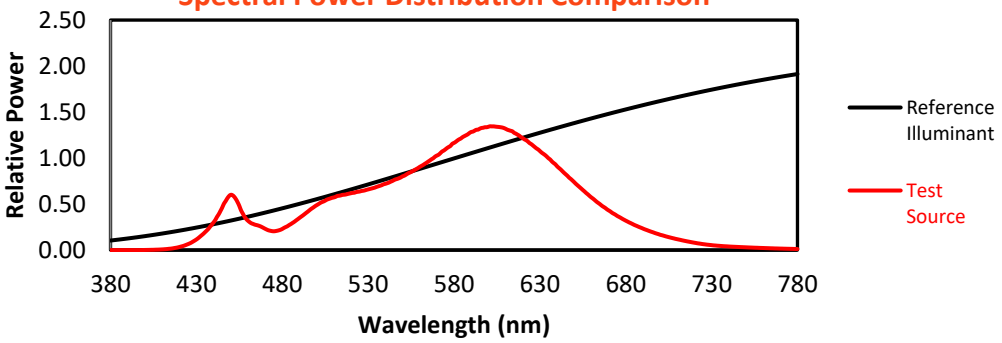
REPORT NUMBER: SP1-2407-176-7

TM-30-18

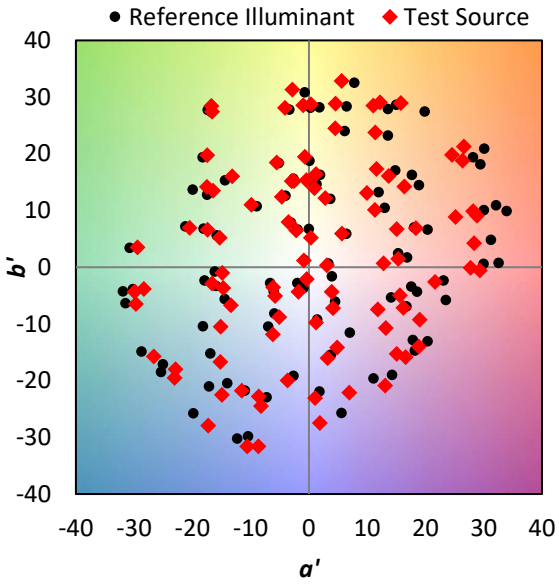
Summary

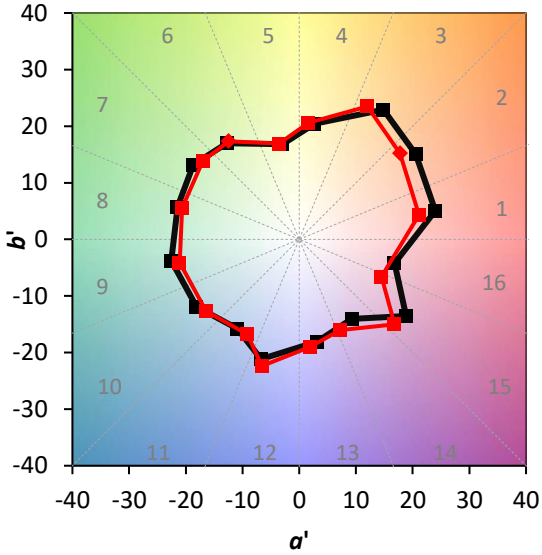
R_f = 85.8
R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

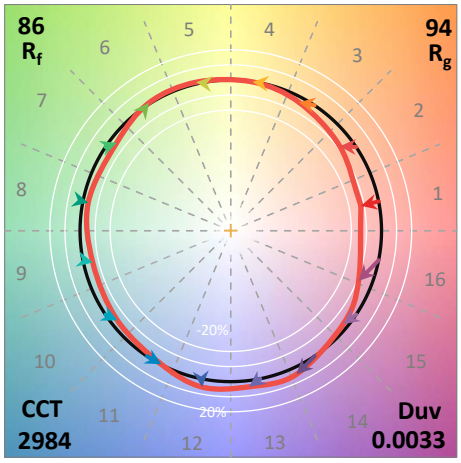
Spectral Power Distribution Comparison

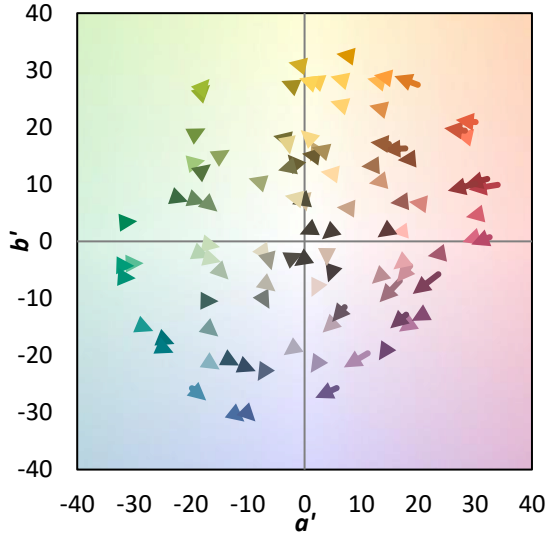


Color Vector Graphics







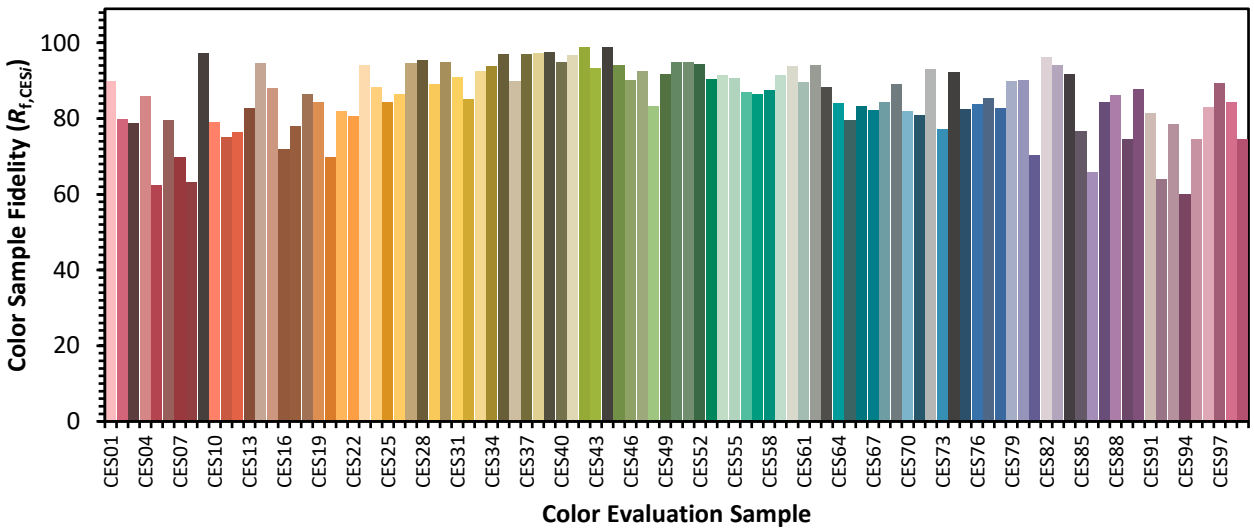


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

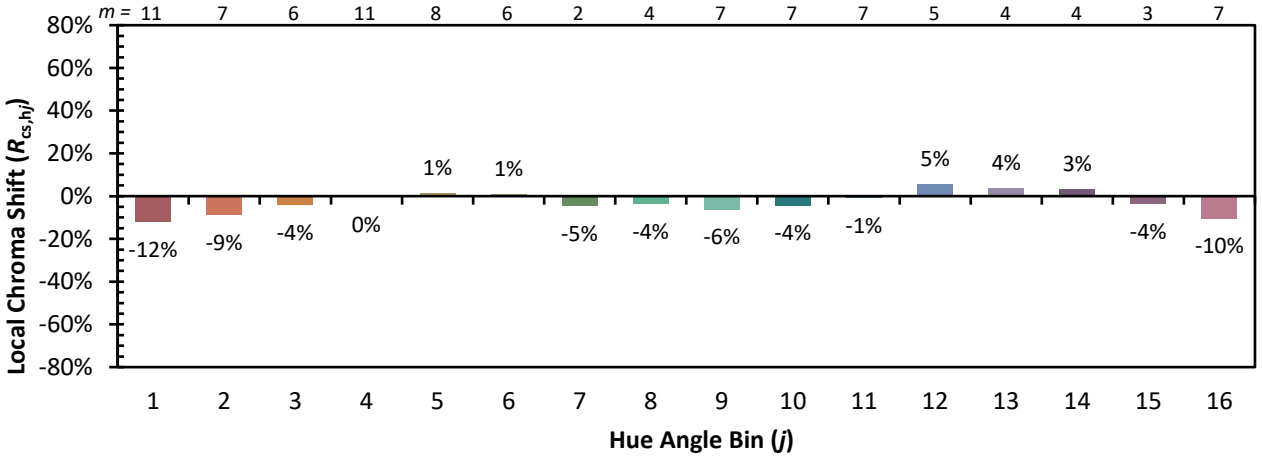
CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 84
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57 = 86	CES82 = 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	

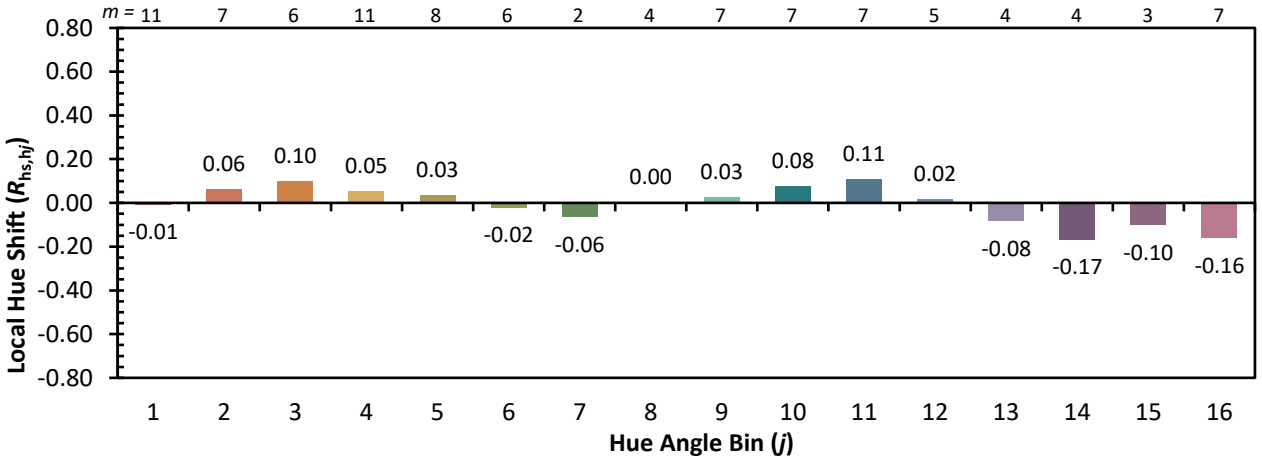


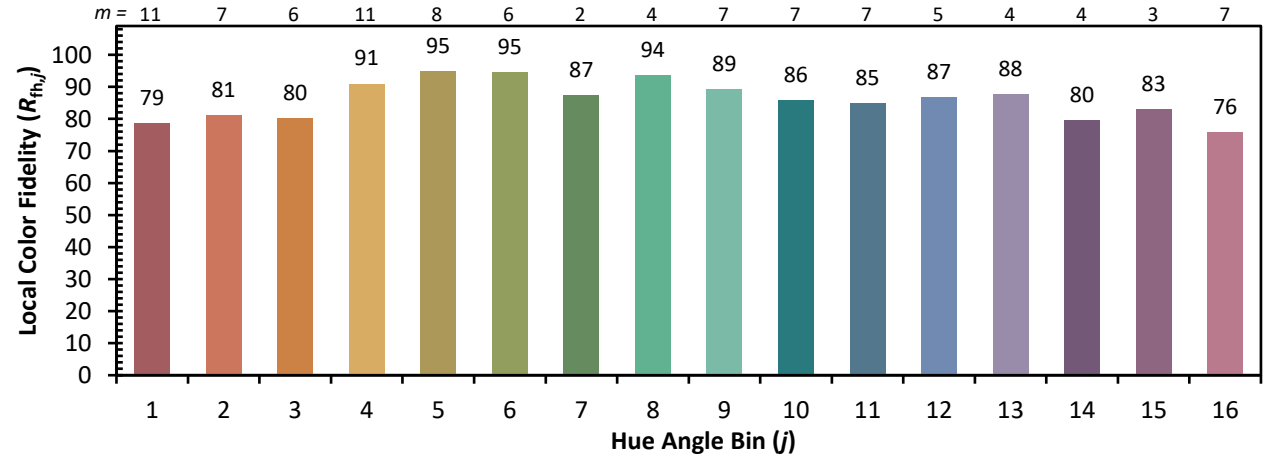
REPORT NUMBER: SP1-2407-176-7

TM-30-18

Color Rendition by Hue-Angle Bin



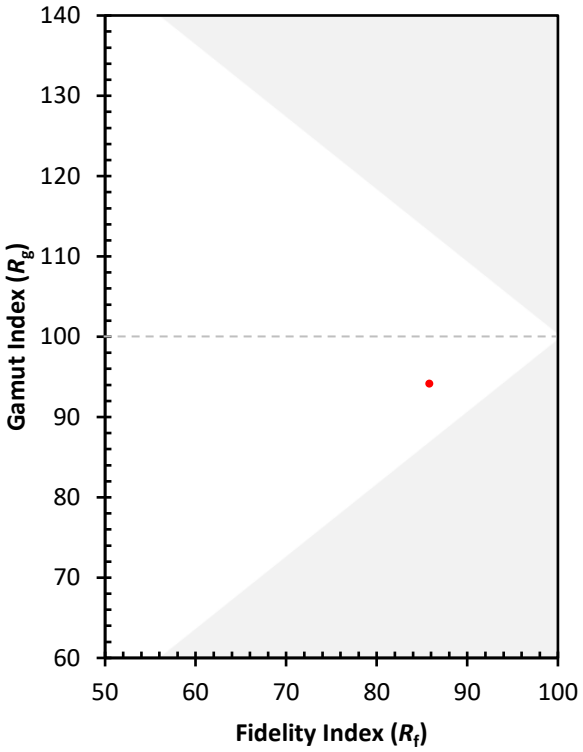


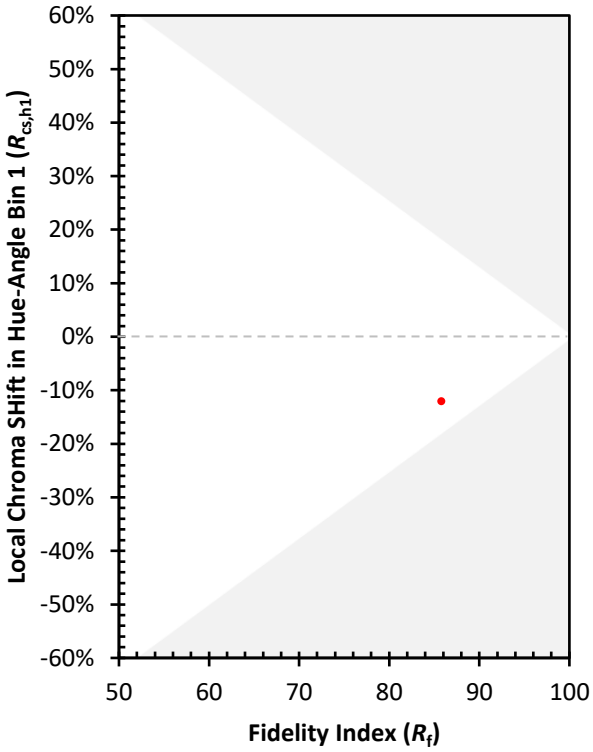


REPORT NUMBER: SP1-2407-176-7

TM-30-18

Measure Comparisons





(END OF REPORT)