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: P436836

Luminaire Tested: **TT-D4-735-U-RW-HSS**

Issue Date: 12/2/2020

Report Generated By 670347003

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P436836
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-5)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D4-735-U-RW-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3500K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4515 lumens
Efficiency:	N/A
Efficacy:	78.4 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B2 - U2 - G3

Input Watts (W):	57.6
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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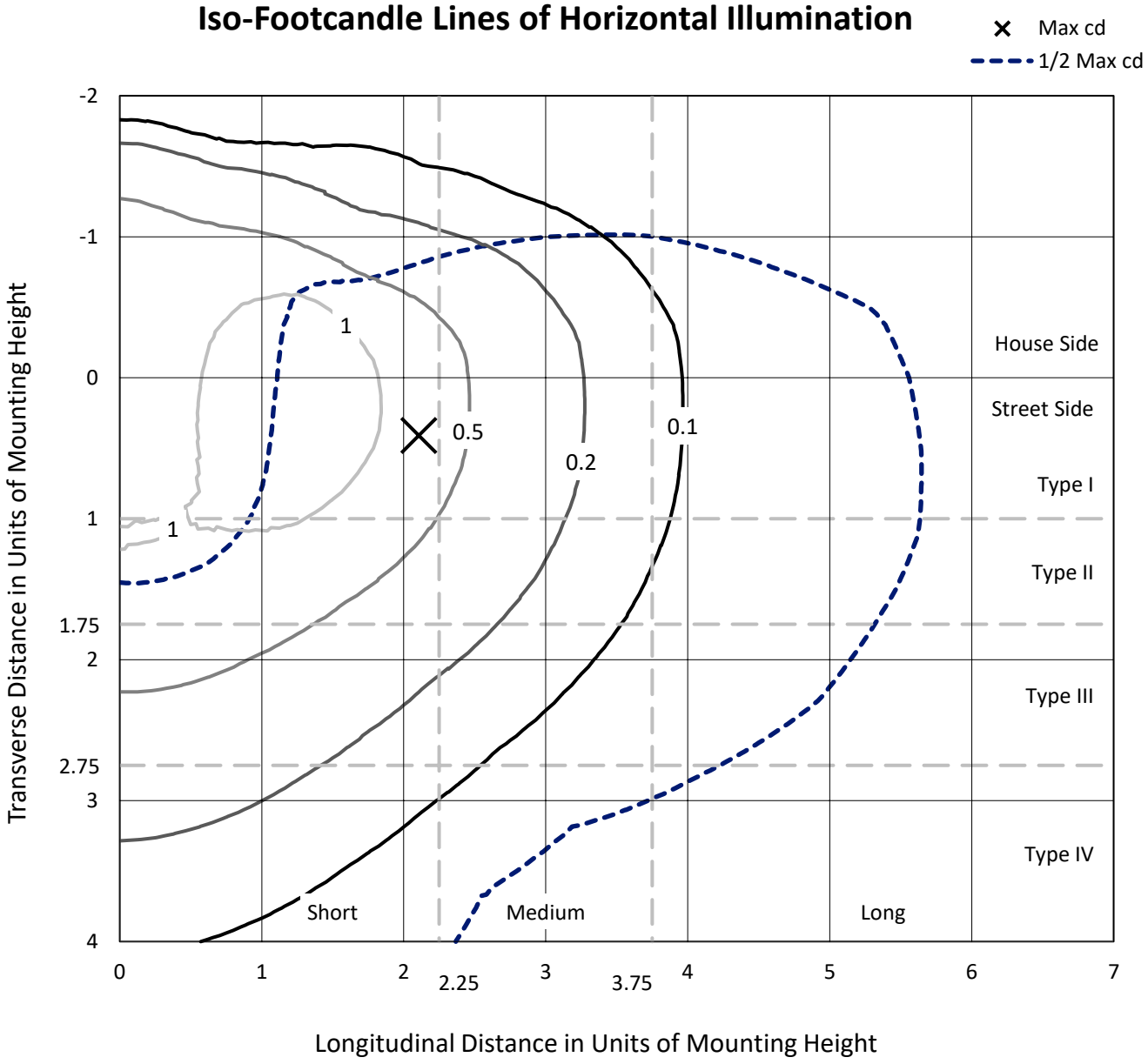
Iso-Footcandle Lines of Horizontal Illumination



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

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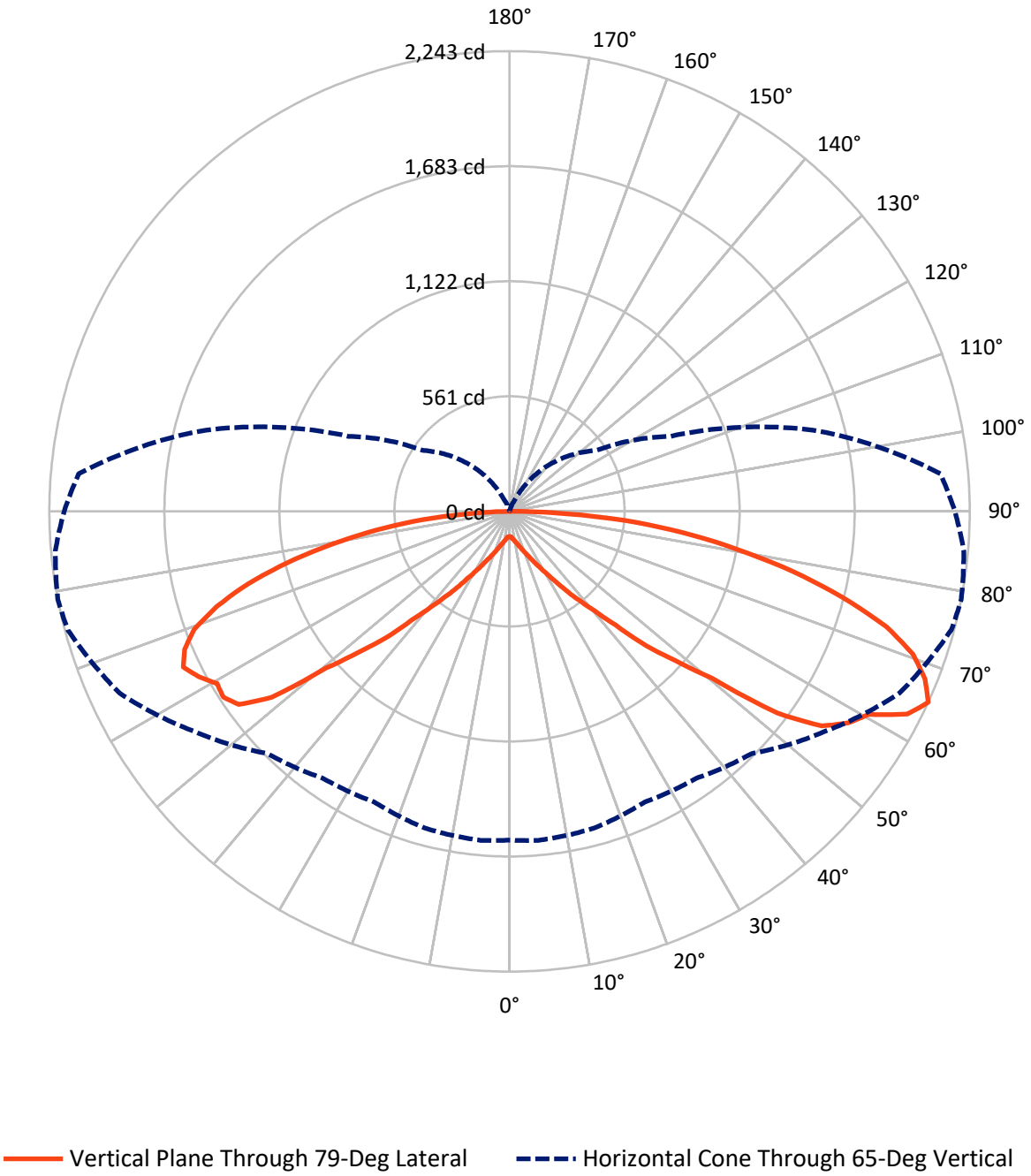
Luminous Intensity Polar Plot



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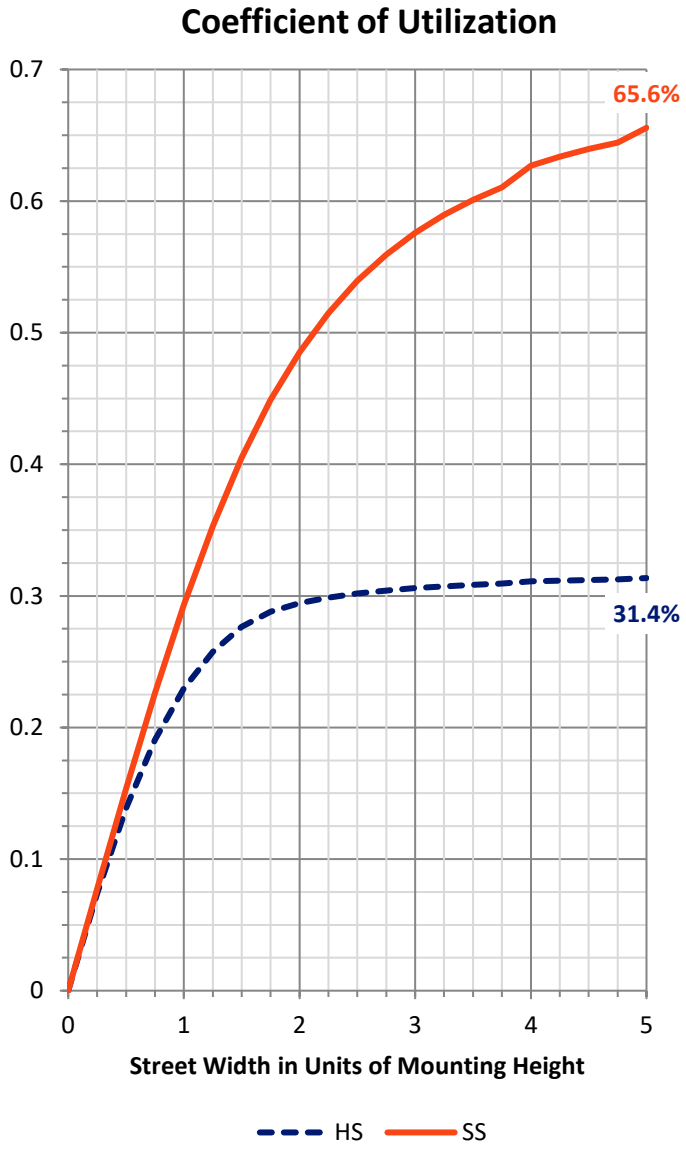
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1425.8	1.8	1427.5
	% Fixture	31.6	0.0	31.6
Street Side	Lumens	3067.5	19.9	3087.4
	% Fixture	67.9	0.4	68.4
Total	Lumens	4493.3	21.7	4515.0
	% Fixture	99.5	0.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.9	0.3
10°-20°	48.6	1.1
20°-30°	112.2	2.5
30°-40°	240.3	5.3
40°-50°	514.8	11.4
50°-60°	972.2	21.5
60°-70°	1208.2	26.8
70°-80°	1034.3	22.9
80°-90°	349.9	7.7
90°-100°	15.1	0.3
100°-110°	4.4	0.1
110°-120°	0.9	0.0
120°-130°	0.5	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°	4493.3	99.5
0°-180°	4515.0	100.0



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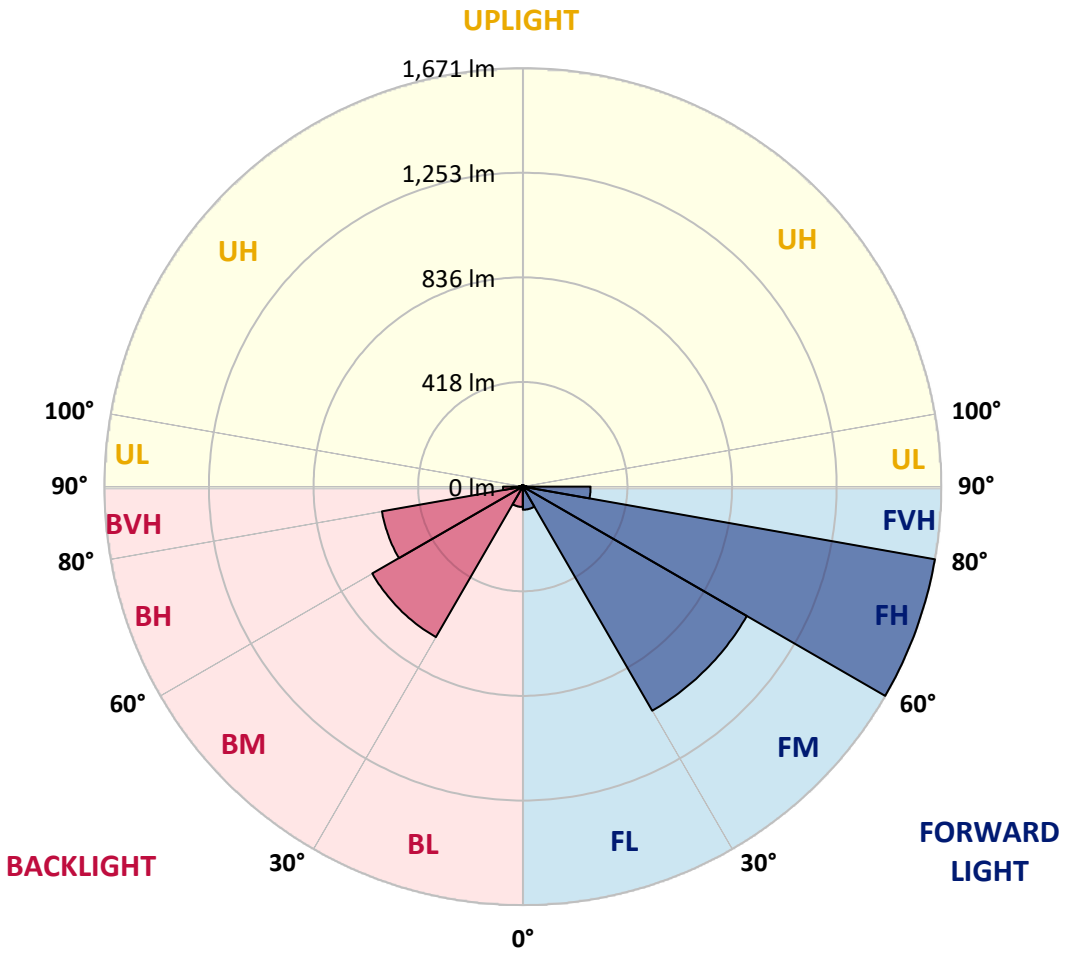
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	92.3	2.0			
FM	(30°-60°)	1033.3	22.9			
FH	(60°-80°)	1671.3	37.0			G1/1800
FVH	(80°-90°)	270.7	6.0			G3/500
BL	(0°-30°)	81.3	1.8	B0/110		
BM	(30°-60°)	694.0	15.4	B1/1000		
BH	(60°-80°)	571.2	12.7	B2/1000		G2/1000
BVH	(80°-90°)	79.2	1.8			G1/100
UL	(90°-100°)	15.1	0.3		U2/50	
UH	(100°-180°)	6.6	0.1		U1/10	

BUG Rating: B2-U2-G3
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6	*122.6*	122.6
2.5°	129.4	129.4	129.4	128.3	128.3	128.3	127.1	126.0	124.9	*124.9*	124.9
5°	136.1	136.1	136.1	136.1	135.0	133.9	132.8	131.6	130.5	*130.5*	129.4
7.5°	145.1	144.0	145.1	144.0	144.0	142.9	141.8	140.6	138.4	*138.4*	137.3
10°	154.1	154.1	154.1	154.1	154.1	153.0	151.9	150.8	149.6	*148.5*	147.4
12.5°	165.4	165.4	165.4	164.3	165.4	164.3	163.1	163.1	162.0	*159.8*	159.8
15°	176.6	176.6	176.6	176.6	177.8	177.8	177.8	176.6	176.6	*175.5*	174.4
17.5°	190.1	189.0	190.1	190.1	191.3	192.4	193.5	194.6	194.6	*193.5*	193.5
20°	204.8	203.6	204.8	204.8	207.0	209.3	212.6	214.9	216.0	*213.8*	213.8
22.5°	220.5	219.4	221.6	221.6	225.0	228.4	234.0	236.3	239.6	*238.5*	238.5
25°	239.6	238.5	239.6	240.8	245.3	250.9	257.6	263.3	266.6	*266.6*	267.8
27.5°	261.0	261.0	262.1	263.3	267.8	276.8	286.9	297.0	304.9	*303.8*	304.9
30°	290.3	290.3	292.5	293.6	299.3	309.4	322.9	336.4	347.6	*347.6*	349.9
32.5°	322.9	321.8	325.1	326.3	331.9	345.4	364.5	385.9	400.5	*400.5*	402.8
35°	362.3	361.1	364.5	364.5	371.3	390.4	415.1	444.4	469.1	*470.3*	473.6
37.5°	411.8	409.5	409.5	412.9	420.8	445.5	479.3	519.8	545.7	*547.9*	553.5
40°	470.3	469.1	471.4	470.3	480.4	510.8	553.5	600.8	631.2	*636.8*	643.5
42.5°	542.3	544.5	541.2	541.2	553.5	588.4	639.0	694.2	749.3	*756.0*	759.4
45°	630.0	634.5	630.0	628.9	640.2	680.7	750.4	847.2	911.3	*933.8*	940.5
47.5°	735.8	738.0	732.4	730.2	742.5	794.3	884.3	992.3	1067.7	*1084.6*	1102.6
50°	853.9	850.5	846.0	842.7	866.3	930.4	1035.0	1146.4	1275.8	*1278.1*	1284.8
52.5°	975.4	965.3	966.4	965.3	997.9	1067.7	1207.2	1396.2	1593.1	*1633.6*	1638.1
55°	1096.9	1084.6	1083.4	1094.7	1140.8	1240.9	1416.4	1661.7	1821.5	*1846.2*	1842.8
57.5°	1218.4	1212.8	1210.6	1220.7	1288.2	1407.4	1605.5	1812.5	1948.6	*1946.3*	1922.7
60°	1344.4	1348.9	1341.1	1360.2	1429.9	1549.2	1693.2	1894.6	2020.6	*2010.5*	1986.8
62.5°	1473.8	1485.1	1477.2	1479.4	1524.4	1612.2	1754.0	1988.0	2162.4	*2177.0*	2150.0
65°	*1602.1*	*1610.0*	*1597.6*	*1562.7*	*1587.5*	*1669.6*	*1872.1*	*2097.1*	*2229.9*	*2243.4*	*2223.1*
67.5°	1710.1	1718.0	1675.2	1620.1	1623.5	1683.1	1860.8	2075.7	2193.9	*2184.9*	2152.2
70°	1802.3	1787.7	1718.0	1623.5	1584.1	1612.2	1779.8	1970.0	2090.4	*2085.9*	2047.6
72.5°	1832.7	1813.6	1695.5	1549.2	1471.6	1481.7	1644.8	1814.7	1912.6	*1920.5*	1874.3
75°	1784.3	1751.7	1589.7	1406.3	1306.2	1312.9	1452.4	1608.8	1687.6	*1678.6*	1642.6
77.5°	1610.0	1577.3	1401.8	1206.1	1108.2	1118.3	1228.6	1351.2	1416.4	*1413.1*	1388.3
80°	1336.6	1307.3	1153.2	970.9	882.0	887.7	972.0	1068.8	1119.4	*1130.7*	1117.2
82.5°	987.8	967.5	858.4	711.0	639.0	637.9	702.0	776.3	825.8	*849.4*	840.4
85°	610.9	600.8	540.0	444.4	393.8	392.6	430.9	486.0	531.0	*562.5*	542.3
87.5°	243.0	239.6	221.6	178.9	156.4	148.5	139.5	174.4	177.8	*210.4*	209.3
90°	59.6	58.5	57.4	54.0	48.4	41.6	33.8	24.8	15.8	*12.4*	6.8
92.5°	52.9	52.9	51.8	48.4	43.9	37.1	30.4	22.5	14.6	*11.3*	5.6
95°	42.8	42.8	41.6	39.4	34.9	30.4	23.6	18.0	11.3	*9.0*	4.5
97.5°	32.6	31.5	31.5	29.3	27.0	22.5	18.0	13.5	9.0	*6.8*	3.4
100°	23.6	23.6	22.5	21.4	19.1	16.9	13.5	10.1	5.6	*4.5*	2.3
102.5°	16.9	15.8	15.8	15.8	13.5	11.3	9.0	6.8	4.5	*3.4*	1.1
105°	11.3	10.1	10.1	10.1	9.0	7.9	5.6	4.5	2.3	*2.3*	1.1
107.5°	6.8	6.8	6.8	6.8	5.6	4.5	3.4	2.3	1.1	*1.1*	1.1
110°	3.4	3.4	3.4	4.5	3.4	3.4	2.3	1.1	1.1	*1.1*	1.1

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
112.5°	2.3	2.3	2.3	2.3	2.3	2.3	1.1	1.1	1.1	*1.1*	1.1
115°	1.1	1.1	1.1	2.3	2.3	1.1	1.1	0.0	0.0	*1.1*	1.1
117.5°	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
120°	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
122.5°	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
125°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
127.5°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
130°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
132.5°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
135°	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
137.5°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
140°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
142.5°	0.0	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	*0.0*	0.0
145°	0.0	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	*0.0*	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	*0.0*	0.0
150°	0.0	0.0	0.0	0.0	1.1	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	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
160°	0.0	0.0	0.0	0.0	1.1	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	1.1	0.0	1.1	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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6
2.5°	123.8	123.8	123.8	122.6	122.6	122.6	121.5	121.5	120.4	120.4	120.4
5°	128.3	128.3	127.1	127.1	126.0	124.9	124.9	123.8	123.8	122.6	122.6
7.5°	136.1	136.1	135.0	133.9	131.6	130.5	129.4	128.3	128.3	127.1	127.1
10°	146.3	146.3	144.0	141.8	139.5	137.3	136.1	133.9	132.8	132.8	132.8
12.5°	158.6	157.5	155.3	151.9	149.6	146.3	144.0	141.8	139.5	139.5	139.5
15°	173.3	173.3	168.8	165.4	160.9	156.4	153.0	149.6	147.4	146.3	146.3
17.5°	191.3	191.3	185.6	180.0	174.4	168.8	164.3	159.8	157.5	156.4	156.4
20°	211.5	211.5	205.9	199.1	191.3	183.4	176.6	171.0	167.6	166.5	166.5
22.5°	236.3	236.3	228.4	219.4	209.3	198.0	189.0	182.3	178.9	176.6	176.6
25°	264.4	262.1	254.3	243.0	228.4	214.9	202.5	195.8	191.3	187.9	189.0
27.5°	302.6	299.3	289.1	270.0	252.0	234.0	219.4	210.4	204.8	202.5	203.6
30°	346.5	343.1	328.5	307.1	280.1	256.5	238.5	228.4	222.8	219.4	220.5
32.5°	399.4	394.9	376.9	347.6	316.1	282.4	259.9	247.5	241.9	238.5	237.4
35°	469.1	463.5	441.0	400.5	356.6	316.1	284.6	268.9	263.3	259.9	261.0
37.5°	547.9	540.0	509.6	460.1	405.0	353.3	317.3	297.0	290.3	284.6	284.6
40°	637.9	628.9	589.5	524.3	457.9	393.8	347.6	325.1	317.3	317.3	317.3
42.5°	750.4	741.4	696.4	600.8	513.0	437.6	382.5	356.6	348.8	351.0	351.0
45°	924.8	912.4	840.4	714.4	585.0	482.6	418.5	389.3	383.6	389.3	389.3
47.5°	1084.6	1068.8	963.0	820.2	655.9	527.7	454.5	420.8	418.5	430.9	430.9
50°	1263.4	1243.2	1131.8	905.7	713.3	577.2	487.1	446.6	447.8	465.8	471.4
52.5°	1610.0	1588.6	1396.2	1060.9	775.2	595.2	500.6	452.3	452.3	472.5	480.4
55°	1815.8	1772.0	1521.1	1162.2	801.0	616.5	495.0	429.8	427.5	450.0	456.8
57.5°	1883.3	1838.3	1546.9	1132.9	784.2	589.5	462.4	369.0	364.5	393.8	391.5
60°	1938.5	1878.8	1505.3	1035.0	688.5	532.2	399.4	274.5	255.4	281.3	280.1
62.5°	2093.7	2029.6	1507.6	920.3	576.0	444.4	300.4	154.1	114.8	135.0	126.0
65°	*2171.4*	*2108.4*	*1531.2*	*866.3*	*518.6*	*367.9*	*214.9*	*63.0*	*4.5*	*4.5*	*2.3*
67.5°	2105.0	2048.7	1500.8	852.8	510.8	365.6	218.3	61.9	0.0	0.0	0.0
70°	2008.2	1954.2	1431.1	805.5	484.9	352.1	213.8	61.9	0.0	0.0	0.0
72.5°	1838.3	1783.2	1310.7	738.0	445.5	322.9	198.0	58.5	0.0	0.0	0.0
75°	1614.5	1572.8	1157.7	650.3	392.6	284.6	175.5	51.8	0.0	0.0	0.0
77.5°	1366.9	1317.4	970.9	541.2	328.5	236.3	148.5	42.8	0.0	0.0	0.0
80°	1096.9	1060.9	765.0	424.1	254.3	184.5	115.9	32.6	0.0	0.0	0.0
82.5°	815.7	785.3	565.9	303.8	181.1	128.3	79.9	21.4	0.0	0.0	0.0
85°	535.5	527.7	363.4	184.5	108.0	70.9	42.8	10.1	0.0	0.0	0.0
87.5°	193.5	200.3	132.8	52.9	29.3	12.4	5.6	1.1	0.0	0.0	0.0
90°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
92.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
95°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
97.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
100°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
102.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
105°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
107.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
110°	1.1	1.1	1.1	1.1	1.1	1.1	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: P436836
CATALOG NUMBER: TT-D4-735-U-RW-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	1.1	1.1	0.0	0.0	0.0	0.0	0.0
115°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
117.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
120°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
122.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
125°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
127.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
130°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
132.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
135°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
145°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
150°	0.0	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	1.1	1.1	1.1	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: SP1-2407-176-4

Test Date: 09/24/2024

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

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

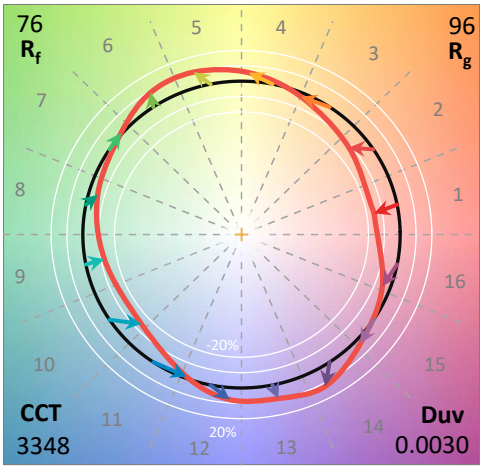
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-4
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	09/27/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Streetworks
Catalog Number:	**MEM2-HTN-VA-30-735-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

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

Rf:	75.8
Rg:	95.8



Test Conditions

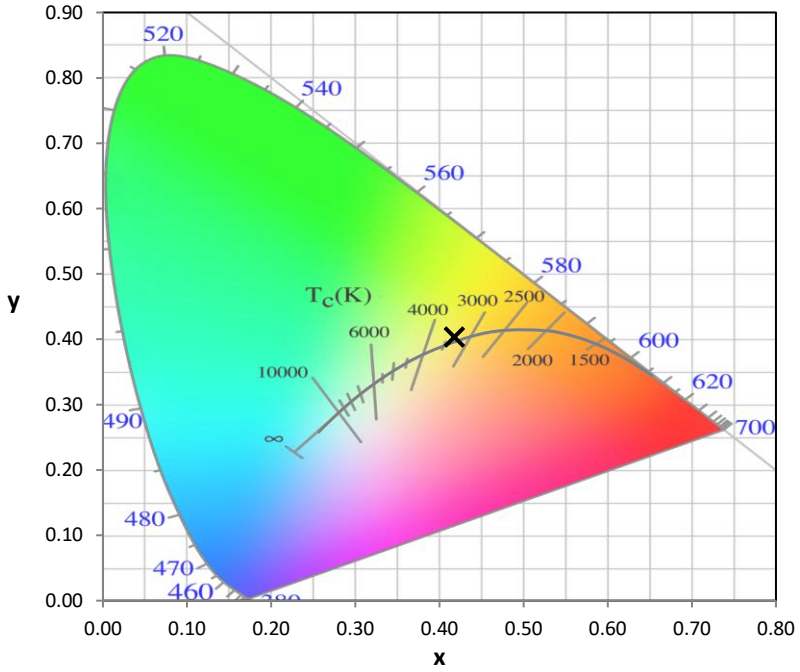
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-4

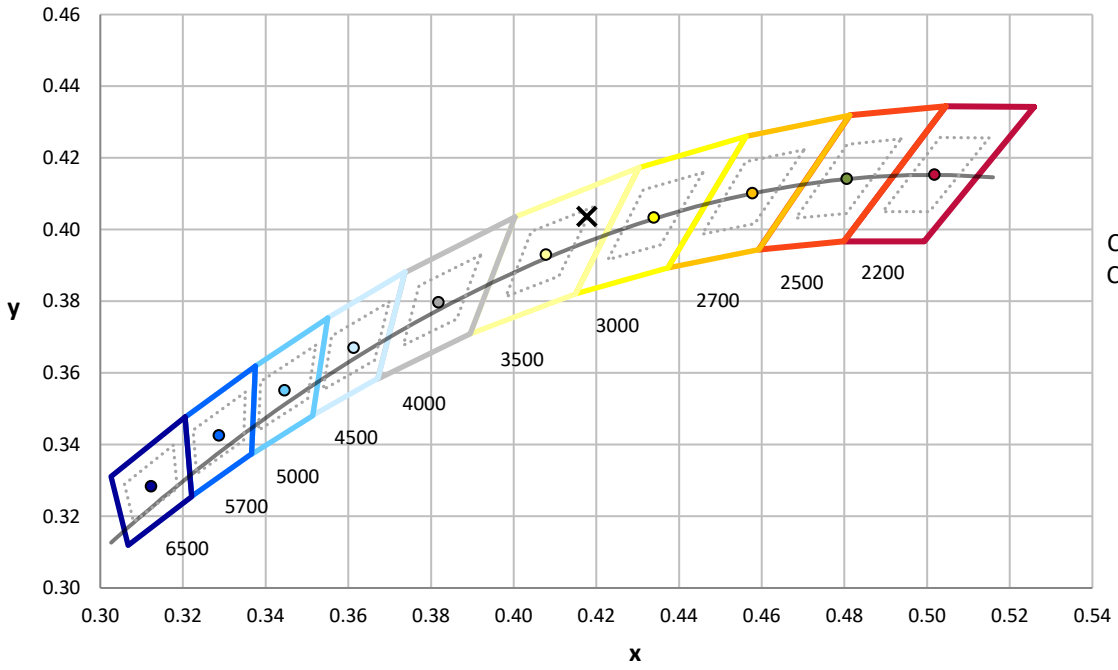
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-4

CIE 1931 Chromaticity Diagram



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

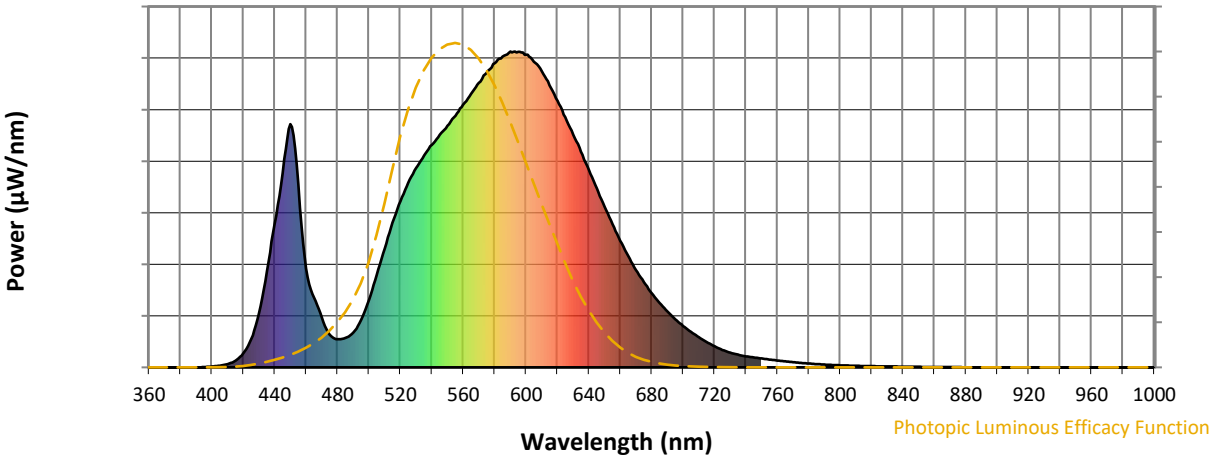


CCT = 3348K
CIE x = 0.4177
CIE y = 0.4036
Duv = 0.0030

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-4

Photopic Flux vs. Wavelength

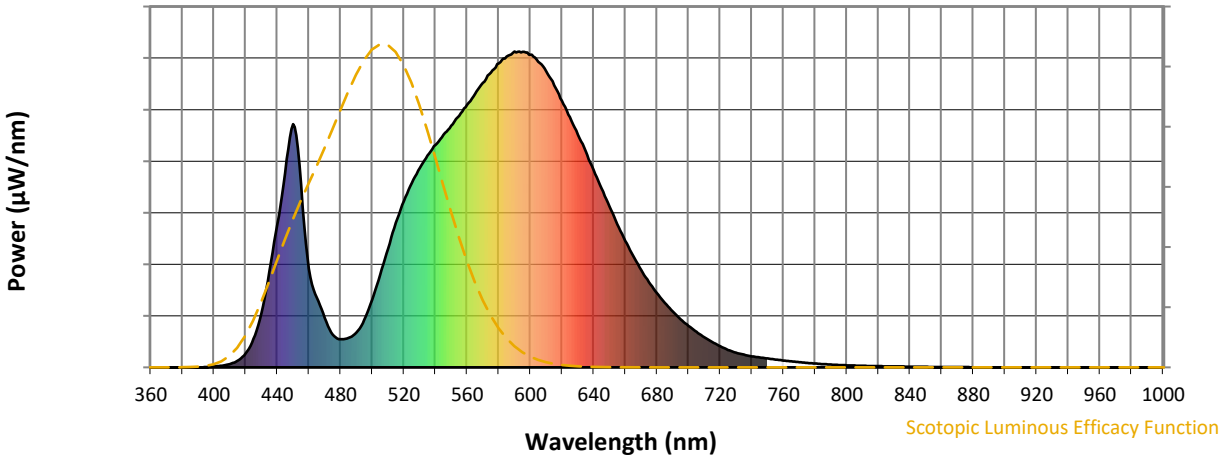


Photopic Lumens: NR

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	110	NR	620	844	NR	750	28	NR	880	0	NR
365	0	NR	495	150	NR	625	792	NR	755	25	NR	885	0	NR
370	0	NR	500	214	NR	630	737	NR	760	22	NR	890	0	NR
375	0	NR	505	293	NR	635	683	NR	765	19	NR	895	0	NR
380	0	NR	510	376	NR	640	625	NR	770	16	NR	900	0	NR
385	0	NR	515	458	NR	645	566	NR	775	14	NR	905	0	NR
390	0	NR	520	526	NR	650	509	NR	780	12	NR	910	0	NR
395	1	NR	525	584	NR	655	453	NR	785	10	NR	915	0	NR
400	3	NR	530	631	NR	660	401	NR	790	9	NR	920	0	NR
405	5	NR	535	671	NR	665	353	NR	795	8	NR	925	0	NR
410	10	NR	540	704	NR	670	308	NR	800	7	NR	930	0	NR
415	21	NR	545	737	NR	675	269	NR	805	6	NR	935	0	NR
420	44	NR	550	766	NR	680	235	NR	810	5	NR	940	0	NR
425	90	NR	555	797	NR	685	204	NR	815	4	NR	945	0	NR
430	171	NR	560	832	NR	690	177	NR	820	4	NR	950	0	NR
435	305	NR	565	866	NR	695	152	NR	825	3	NR	955	0	NR
440	455	NR	570	901	NR	700	131	NR	830	3	NR	960	0	NR
445	615	NR	575	933	NR	705	112	NR	835	3	NR	965	0	NR
450	771	NR	580	963	NR	710	96	NR	840	2	NR	970	0	NR
455	579	NR	585	984	NR	715	80	NR	845	2	NR	975	0	NR
460	313	NR	590	1000	NR	720	67	NR	850	2	NR	980	0	NR
465	221	NR	595	999	NR	725	55	NR	855	1	NR	985	0	NR
470	156	NR	600	990	NR	730	46	NR	860	1	NR	990	0	NR
475	103	NR	605	968	NR	735	40	NR	865	1	NR	995	0	NR
480	89	NR	610	937	NR	740	35	NR	870	1	NR	1000	0	NR
485	93	NR	615	893	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-4

Scotopic Flux vs. Wavelength

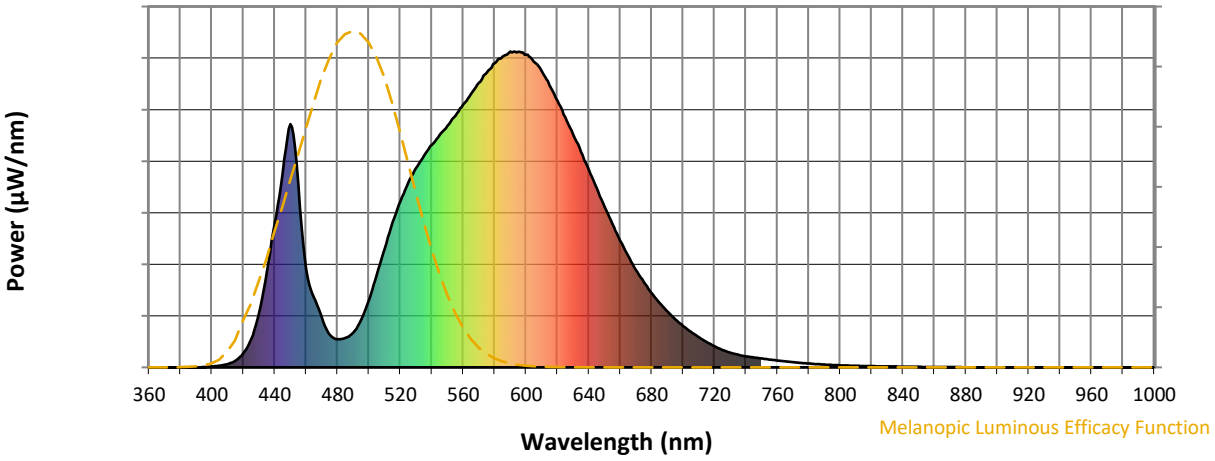


Scotopic Lumens: NR **S/P: 1.31**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	110	NR	620	844	NR	750	28	NR	880	0	NR
365	0	NR	495	150	NR	625	792	NR	755	25	NR	885	0	NR
370	0	NR	500	214	NR	630	737	NR	760	22	NR	890	0	NR
375	0	NR	505	293	NR	635	683	NR	765	19	NR	895	0	NR
380	0	NR	510	376	NR	640	625	NR	770	16	NR	900	0	NR
385	0	NR	515	458	NR	645	566	NR	775	14	NR	905	0	NR
390	0	NR	520	526	NR	650	509	NR	780	12	NR	910	0	NR
395	1	NR	525	584	NR	655	453	NR	785	10	NR	915	0	NR
400	3	NR	530	631	NR	660	401	NR	790	9	NR	920	0	NR
405	5	NR	535	671	NR	665	353	NR	795	8	NR	925	0	NR
410	10	NR	540	704	NR	670	308	NR	800	7	NR	930	0	NR
415	21	NR	545	737	NR	675	269	NR	805	6	NR	935	0	NR
420	44	NR	550	766	NR	680	235	NR	810	5	NR	940	0	NR
425	90	NR	555	797	NR	685	204	NR	815	4	NR	945	0	NR
430	171	NR	560	832	NR	690	177	NR	820	4	NR	950	0	NR
435	305	NR	565	866	NR	695	152	NR	825	3	NR	955	0	NR
440	455	NR	570	901	NR	700	131	NR	830	3	NR	960	0	NR
445	615	NR	575	933	NR	705	112	NR	835	3	NR	965	0	NR
450	771	NR	580	963	NR	710	96	NR	840	2	NR	970	0	NR
455	579	NR	585	984	NR	715	80	NR	845	2	NR	975	0	NR
460	313	NR	590	1000	NR	720	67	NR	850	2	NR	980	0	NR
465	221	NR	595	999	NR	725	55	NR	855	1	NR	985	0	NR
470	156	NR	600	990	NR	730	46	NR	860	1	NR	990	0	NR
475	103	NR	605	968	NR	735	40	NR	865	1	NR	995	0	NR
480	89	NR	610	937	NR	740	35	NR	870	1	NR	1000	0	NR
485	93	NR	615	893	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-4

Melanopic Flux vs. Wavelength



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

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	110	NR	620	844	NR	750	28	NR	880	0	NR
365	0	NR	495	150	NR	625	792	NR	755	25	NR	885	0	NR
370	0	NR	500	214	NR	630	737	NR	760	22	NR	890	0	NR
375	0	NR	505	293	NR	635	683	NR	765	19	NR	895	0	NR
380	0	NR	510	376	NR	640	625	NR	770	16	NR	900	0	NR
385	0	NR	515	458	NR	645	566	NR	775	14	NR	905	0	NR
390	0	NR	520	526	NR	650	509	NR	780	12	NR	910	0	NR
395	1	NR	525	584	NR	655	453	NR	785	10	NR	915	0	NR
400	3	NR	530	631	NR	660	401	NR	790	9	NR	920	0	NR
405	5	NR	535	671	NR	665	353	NR	795	8	NR	925	0	NR
410	10	NR	540	704	NR	670	308	NR	800	7	NR	930	0	NR
415	21	NR	545	737	NR	675	269	NR	805	6	NR	935	0	NR
420	44	NR	550	766	NR	680	235	NR	810	5	NR	940	0	NR
425	90	NR	555	797	NR	685	204	NR	815	4	NR	945	0	NR
430	171	NR	560	832	NR	690	177	NR	820	4	NR	950	0	NR
435	305	NR	565	866	NR	695	152	NR	825	3	NR	955	0	NR
440	455	NR	570	901	NR	700	131	NR	830	3	NR	960	0	NR
445	615	NR	575	933	NR	705	112	NR	835	3	NR	965	0	NR
450	771	NR	580	963	NR	710	96	NR	840	2	NR	970	0	NR
455	579	NR	585	984	NR	715	80	NR	845	2	NR	975	0	NR
460	313	NR	590	1000	NR	720	67	NR	850	2	NR	980	0	NR
465	221	NR	595	999	NR	725	55	NR	855	1	NR	985	0	NR
470	156	NR	600	990	NR	730	46	NR	860	1	NR	990	0	NR
475	103	NR	605	968	NR	735	40	NR	865	1	NR	995	0	NR
480	89	NR	610	937	NR	740	35	NR	870	1	NR	1000	0	NR
485	93	NR	615	893	NR	745	31	NR	875	1	NR			

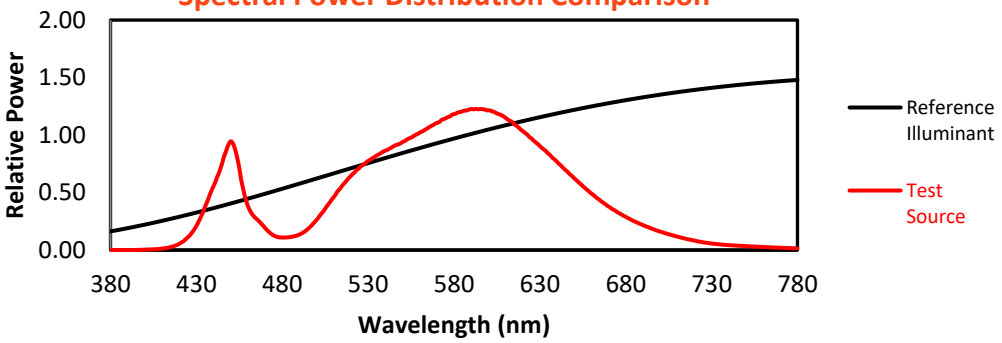
REPORT NUMBER: SP1-2407-176-4

TM-30-18

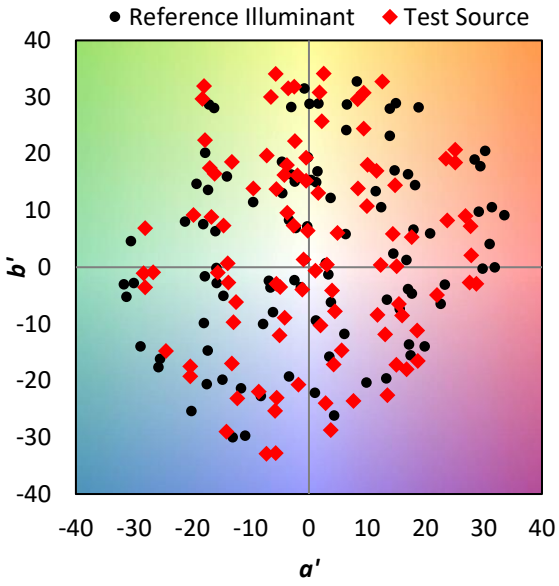
Summary

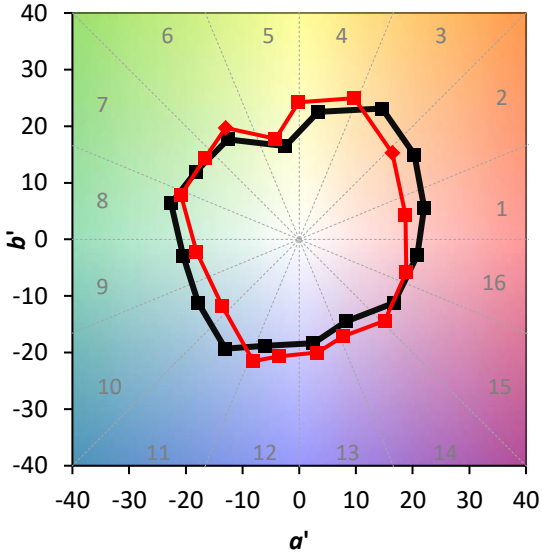
R_f = 75.8
R_g = 95.8
CIE R_a = 73.4
R_9 = -19.2

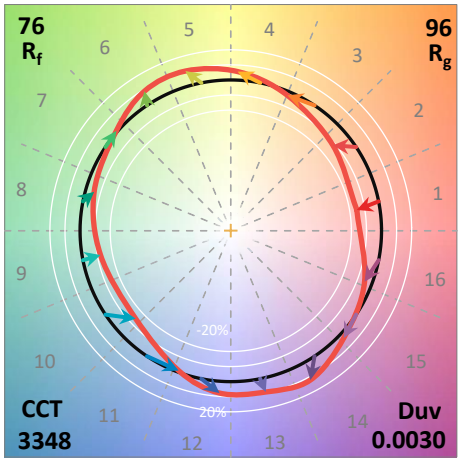
Spectral Power Distribution Comparison

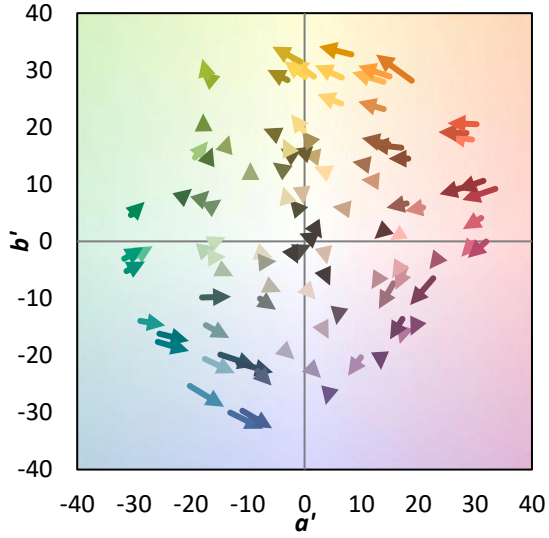


Color Vector Graphics







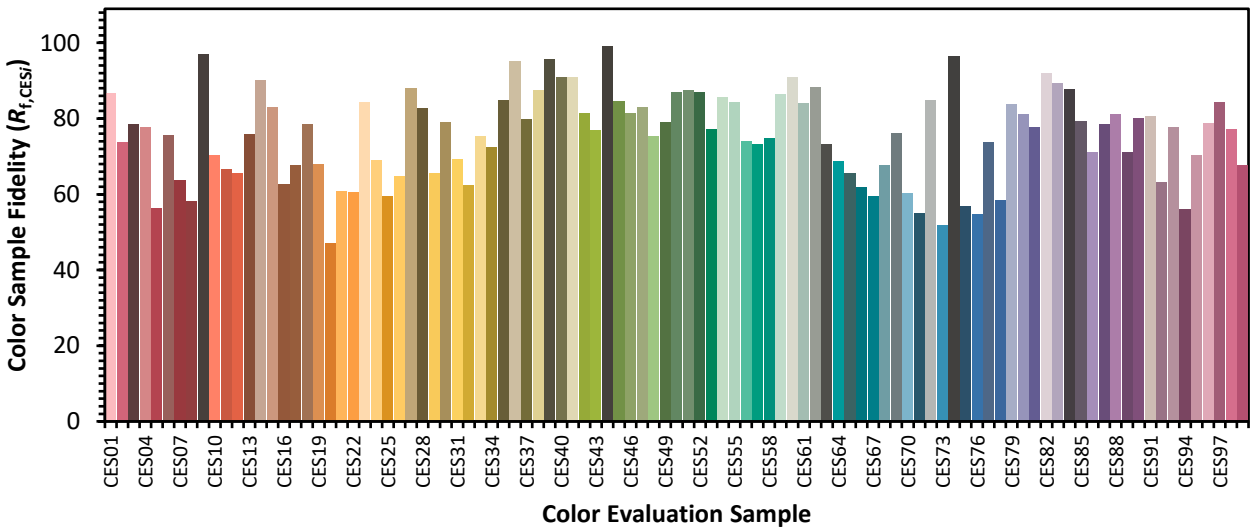


REPORT NUMBER: SP1-2407-176-4

TM-30-18

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

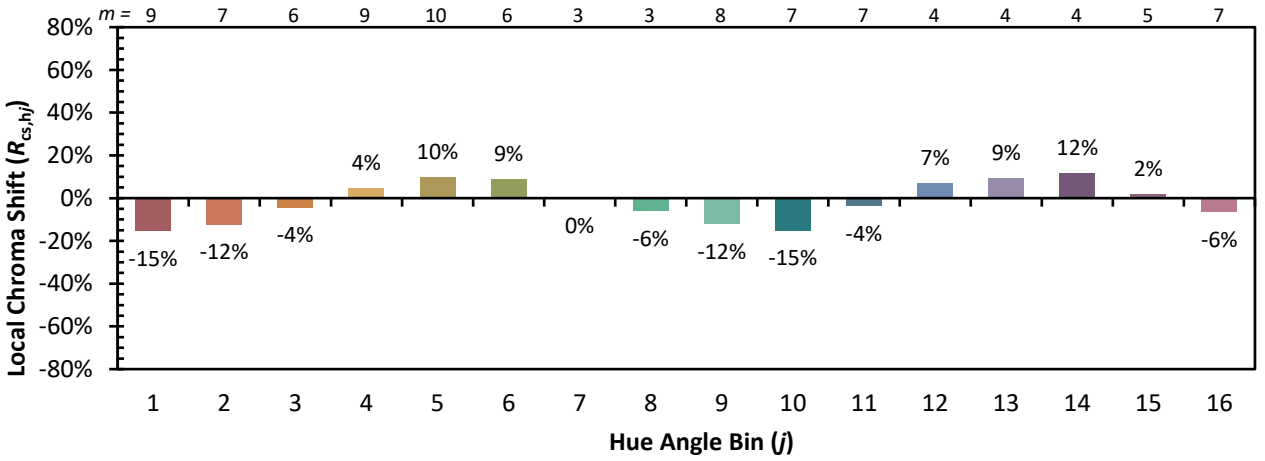
CES01 = 86	CES26 = 65	CES51 = 88	CES76 = 55
CES02 = 62	CES27 = 88	CES52 = 87	CES77 = 74
CES03 = 31	CES28 = 83	CES53 = 77	CES78 = 58
CES04 = 70	CES29 = 66	CES54 = 86	CES79 = 84
CES05 = 48	CES30 = 79	CES55 = 84	CES80 = 81
CES06 = 51	CES31 = 69	CES56 = 74	CES81 = 78
CES07 = 41	CES32 = 62	CES57 = 73	CES82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

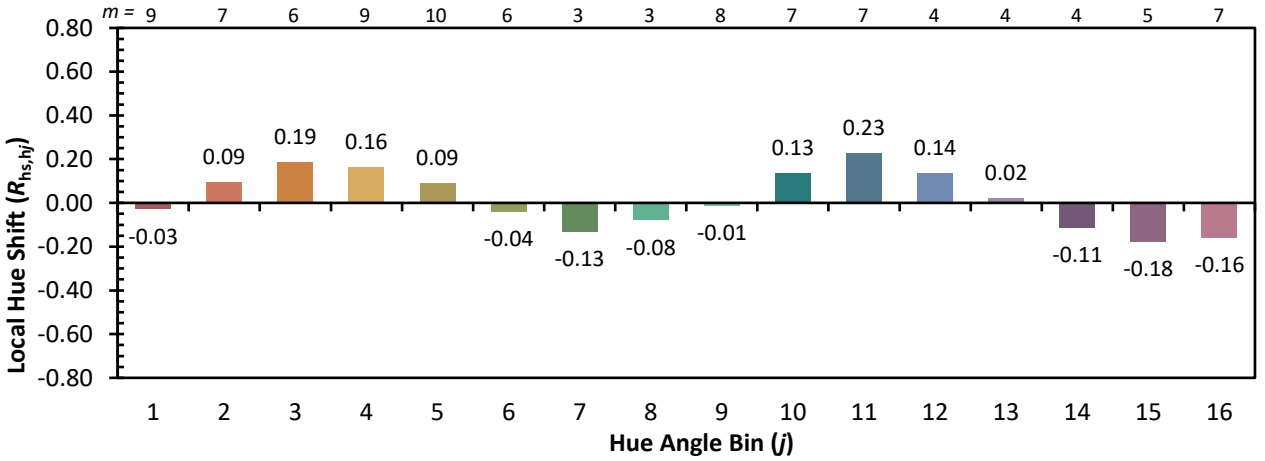


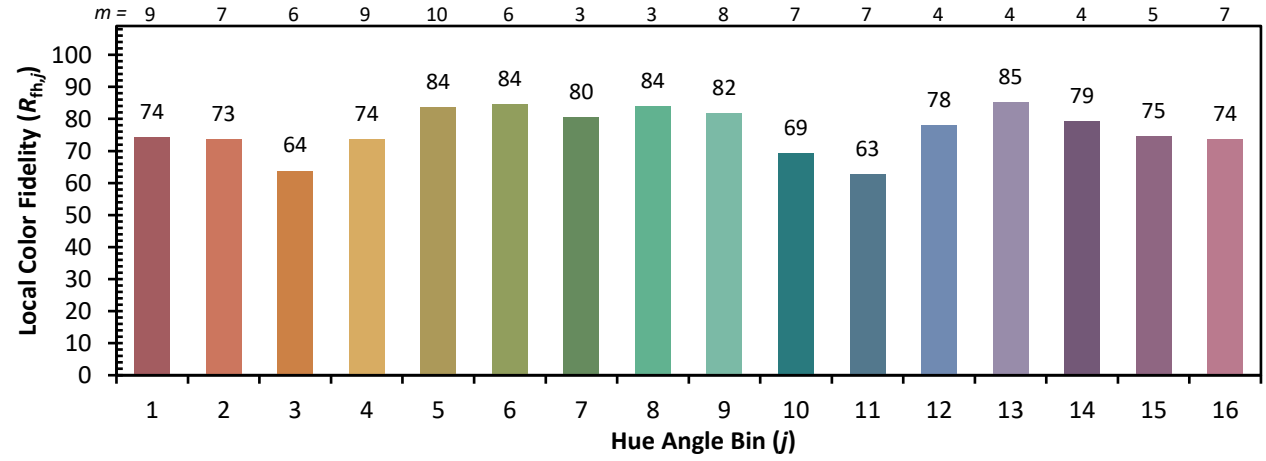
REPORT NUMBER: SP1-2407-176-4

TM-30-18

Color Rendition by Hue-Angle Bin







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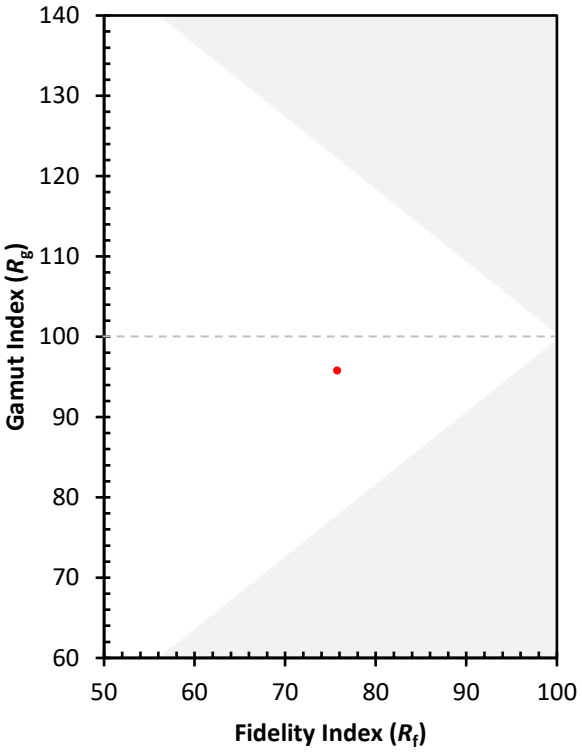
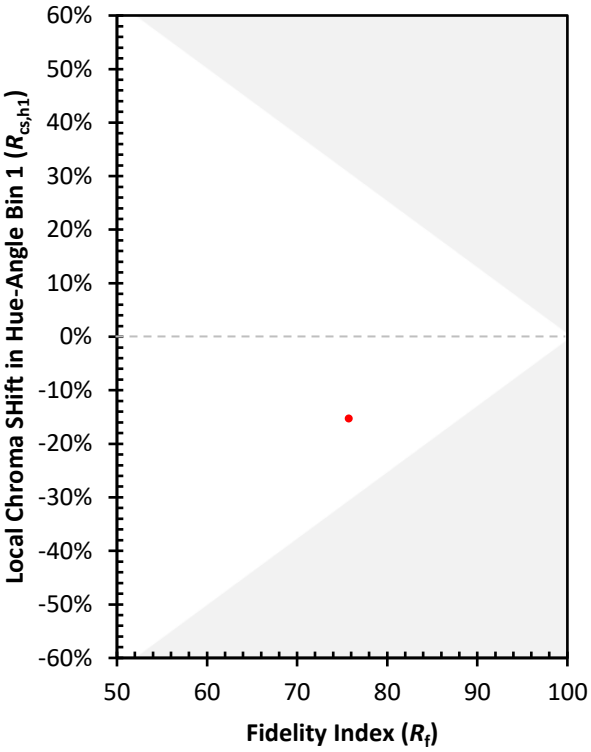
Measure Comparisons





(END OF REPORT)