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: P821280

Luminaire Tested: **TT-D2-740-24VDC-DL-HSS**

Issue Date: 12/2/2020

Report Generated By 670245763

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821280
	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-D2-740-24VDC-DL-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	4000K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3944.9 lumens
Efficiency:	N/A
Efficacy:	103.8 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G3

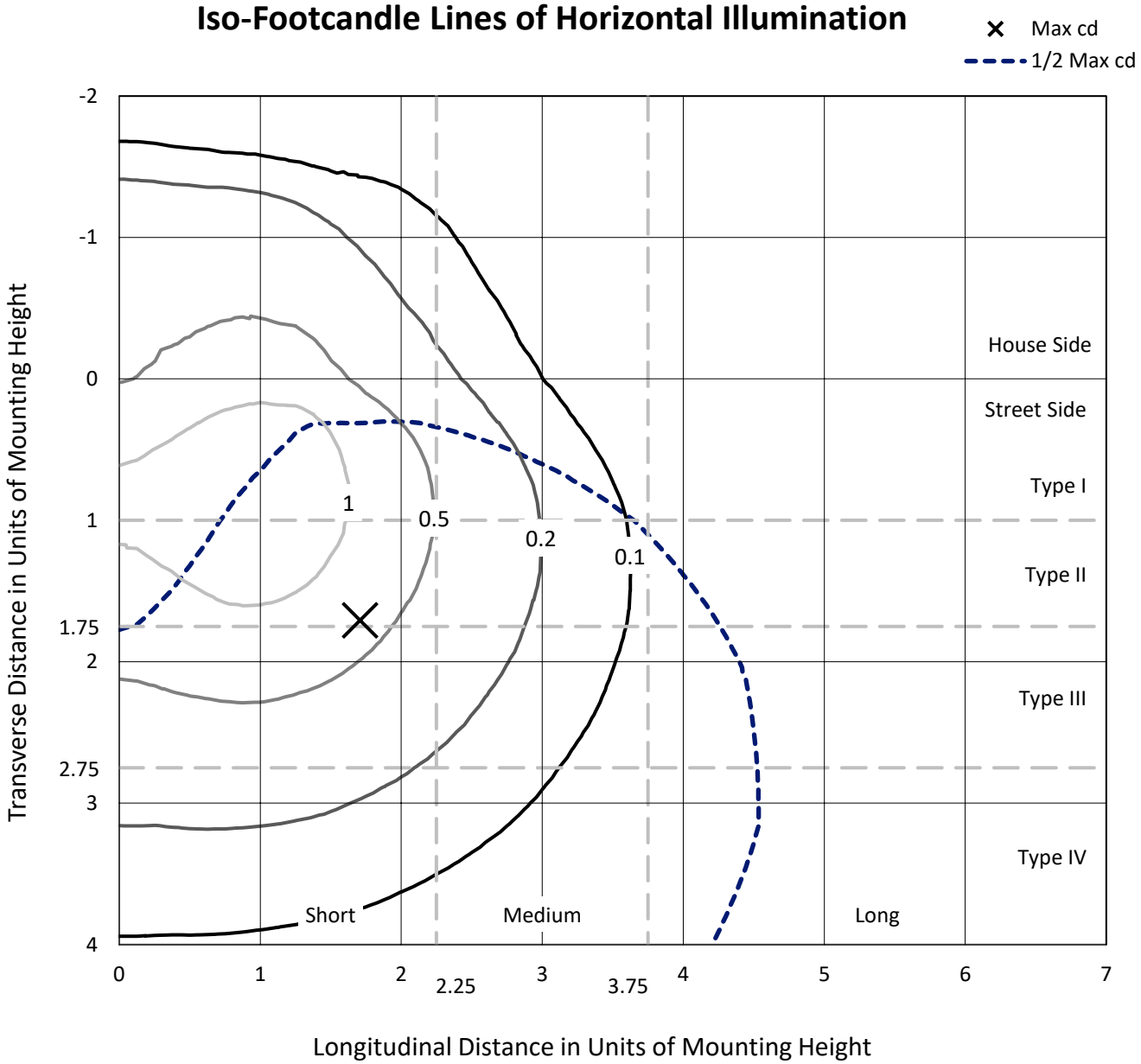
Input Watts (W):	38
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



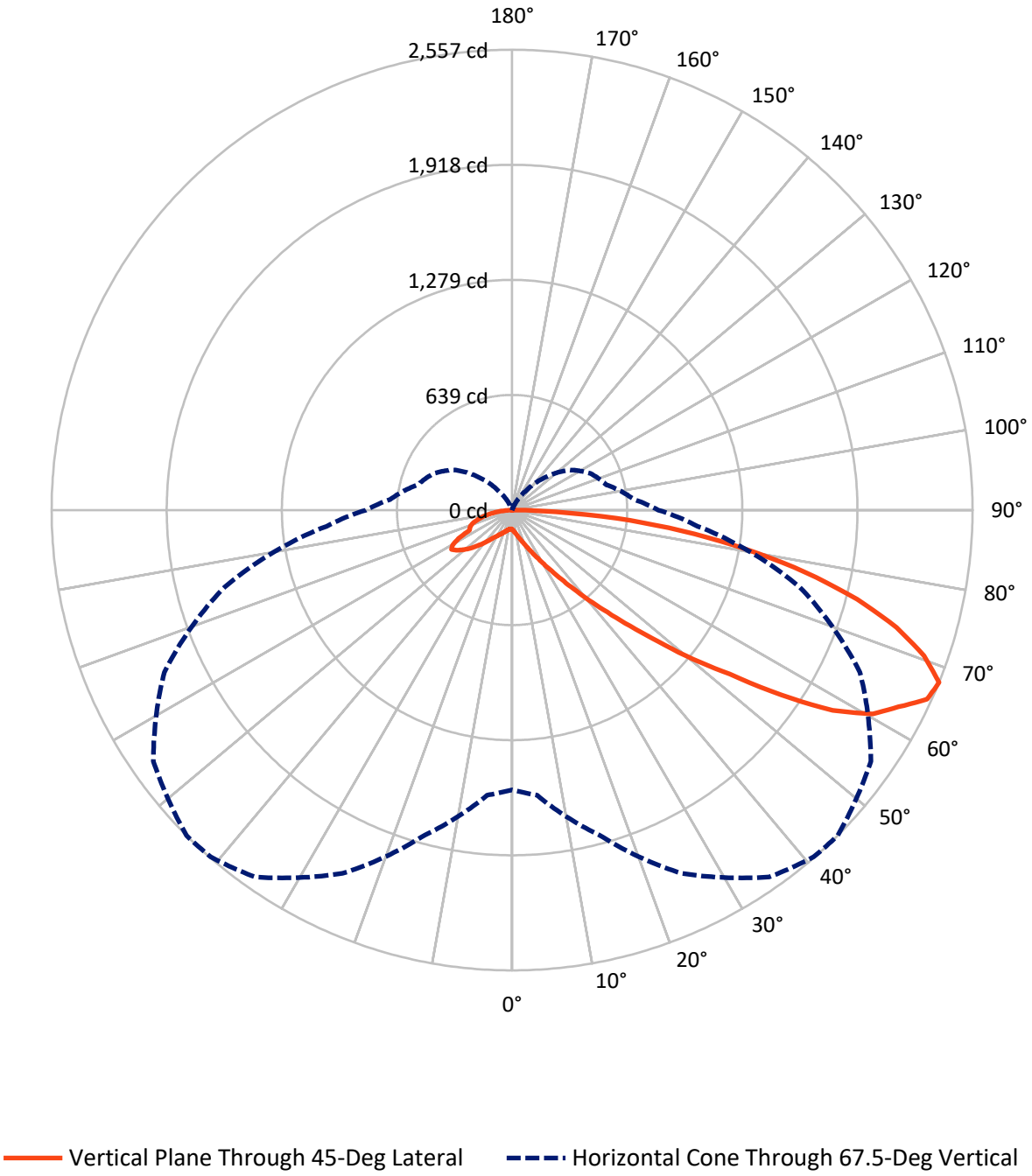
Based on 15 foot mounting height. Maximum calculated value = 1.5 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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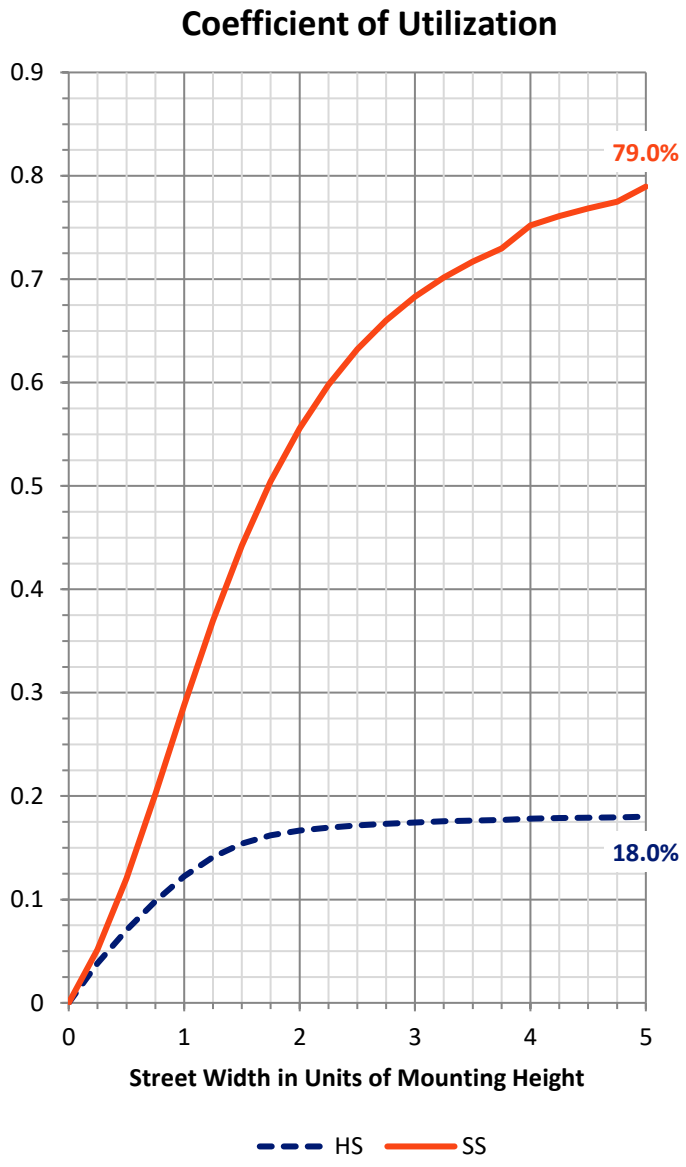
REPORT NUMBER: P821280
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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	716.7	0.8	717.5
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	3218.6	8.7	3227.4
	% Fixture	81.6	0.2	81.8
Total	Lumens	3935.4	9.5	3944.9
	% Fixture	99.8	0.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.2	0.3
10°-20°	41.5	1.1
20°-30°	95.7	2.4
30°-40°	204.1	5.2
40°-50°	427.2	10.8
50°-60°	810.4	20.5
60°-70°	1103.0	28.0
70°-80°	948.3	24.0
80°-90°	294.0	7.5
90°-100°	6.2	0.2
100°-110°	1.8	0.0
110°-120°	0.5	0.0
120°-130°	0.3	0.0
130°-140°	0.2	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°	3935.4	99.8
0°-180°	3944.9	100.0



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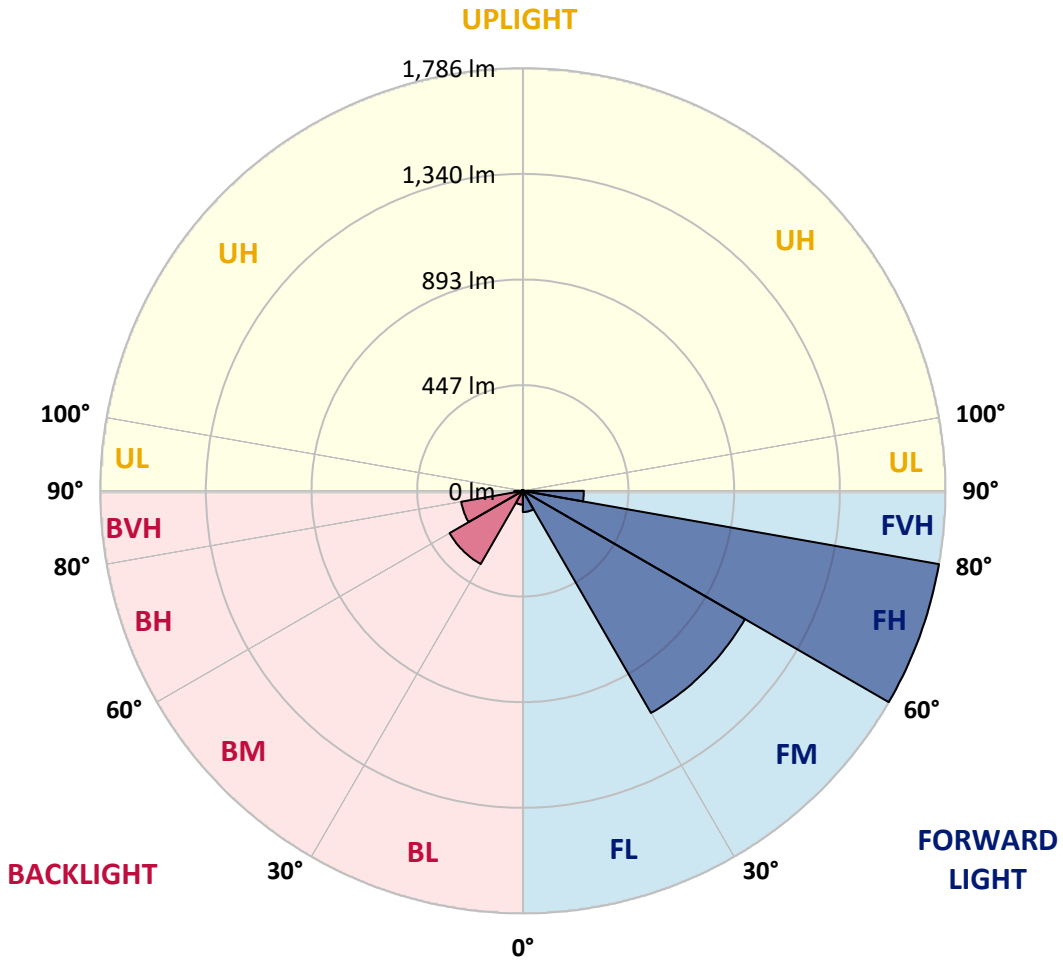
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	89.9	2.3			
FM	(30°-60°)	1084.2	27.5			
FH	(60°-80°)	1786.5	45.3			G1/1800
FVH	(80°-90°)	258.0	6.5			G3/500
BL	(0°-30°)	58.4	1.5	B0/110		
BM	(30°-60°)	357.5	9.1	B1/1000		
BH	(60°-80°)	264.7	6.7	B1/500		G1/500
BVH	(80°-90°)	36.0	0.9			G1/100
UL	(90°-100°)	6.2	0.2		U1/10	
UH	(100°-180°)	3.3	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°	107.9	107.9	107.9	107.9	107.9	107.9	*107.9*	107.9	107.9	107.9	107.9
2.5°	117.1	116.3	116.3	115.5	115.5	113.8	*113.8*	113.0	112.1	111.3	109.6
5°	125.5	124.7	124.7	123.8	123.0	121.3	*120.5*	118.8	117.1	115.5	113.8
7.5°	135.6	134.7	134.7	133.9	132.2	129.7	*128.9*	126.4	123.8	121.3	118.8
10°	148.1	147.3	147.3	145.6	143.9	141.4	*139.7*	136.4	133.9	129.7	125.5
12.5°	161.5	160.7	160.7	159.0	155.6	154.0	*152.3*	148.1	143.9	138.9	133.9
15°	176.6	176.6	176.6	175.7	172.4	169.0	*167.4*	162.3	157.3	149.8	143.1
17.5°	195.8	195.0	195.0	193.3	189.1	187.4	*184.9*	179.1	171.5	163.2	154.8
20°	219.2	218.4	216.7	215.9	211.7	210.0	*206.7*	200.0	189.9	179.1	167.4
22.5°	242.7	242.7	241.8	242.7	239.3	237.6	*233.5*	224.3	212.5	196.6	182.4
25°	269.4	270.3	272.0	274.5	270.3	268.6	*265.3*	253.5	239.3	219.2	199.2
27.5°	302.9	302.9	307.1	311.3	307.9	307.1	*302.1*	289.5	269.4	245.2	221.7
30°	338.9	339.7	346.4	354.0	352.3	352.3	*348.1*	333.9	309.6	281.2	248.5
32.5°	380.7	384.1	390.8	399.1	405.0	405.0	*403.3*	388.3	359.8	321.3	281.2
35°	436.0	430.1	442.7	455.2	467.8	470.3	*471.1*	456.9	424.2	375.7	321.3
37.5°	483.7	482.8	502.1	523.8	544.7	553.1	*555.6*	542.2	500.4	436.8	364.8
40°	538.9	543.9	569.8	602.5	637.6	651.8	*658.5*	643.5	591.6	509.6	415.0
42.5°	596.6	611.7	644.3	693.7	747.2	768.2	*775.7*	761.5	700.4	600.8	478.6
45°	664.4	685.3	728.8	799.1	869.4	900.4	*917.1*	912.1	849.3	725.5	560.6
47.5°	748.1	763.1	822.5	917.1	1016.7	1067.7	*1091.2*	1105.4	1015.8	854.3	632.6
50°	842.6	845.1	927.1	1046.8	1192.4	1260.2	*1301.2*	1294.5	1188.2	1002.5	723.8
52.5°	938.0	935.5	1042.6	1205.0	1395.7	1484.4	*1512.1*	1539.7	1435.1	1228.4	870.2
55°	1046.8	1041.8	1176.5	1382.4	1619.2	1736.3	*1814.1*	1852.6	1687.8	1377.3	933.8
57.5°	1137.2	1153.1	1322.1	1569.8	1900.3	2047.6	*2098.6*	2077.7	1826.7	1452.6	964.8
60°	1251.8	1275.2	1467.7	1815.0	2143.8	2253.4	*2300.3*	2204.9	1915.4	1509.5	986.6
62.5°	1359.8	1389.9	1627.5	2014.1	2296.1	2396.5	*2408.2*	2304.5	2040.1	1621.7	1050.2
65°	1461.0	1495.3	1786.5	2132.1	2429.2	2512.8	*2532.9*	2450.9	2172.3	1687.8	1075.3
67.5°	*1553.9*	*1589.9*	*1868.5*	*2226.7*	*2488.6*	*2553.0*	*2557.2*	*2432.5*	*2131.3*	*1653.5*	*1035.1*
70°	1625.0	1640.9	1907.8	2224.1	2418.3	2443.4	*2426.6*	2301.1	2035.0	1583.2	977.4
72.5°	1639.2	1651.0	1853.5	2100.3	2223.3	2246.7	*2233.3*	2122.9	1883.6	1457.7	883.6
75°	1567.3	1569.8	1707.0	1877.7	1967.3	1995.7	*1978.1*	1876.0	1656.0	1280.3	760.6
77.5°	1379.0	1384.0	1466.9	1581.5	1656.8	1681.1	*1667.7*	1574.0	1387.4	1075.3	629.3
80°	1092.8	1102.9	1162.3	1241.8	1310.4	1335.5	*1319.6*	1244.3	1092.0	845.1	491.2
82.5°	744.7	757.3	811.7	877.8	938.0	962.3	*948.9*	901.2	787.4	609.2	350.6
85°	376.5	389.9	446.0	507.9	560.6	586.6	*582.4*	562.3	484.5	375.7	211.7
87.5°	59.4	65.3	88.7	118.0	150.6	174.9	*159.8*	158.2	125.5	100.4	51.0
90°	24.3	24.3	23.4	22.6	20.1	18.4	*17.6*	14.2	10.9	6.7	2.5
92.5°	21.8	21.8	20.9	19.2	17.6	16.7	*15.1*	12.6	9.2	5.9	2.5
95°	17.6	17.6	16.7	15.9	14.2	13.4	*11.7*	10.0	7.5	5.0	2.5
97.5°	13.4	13.4	12.6	11.7	10.9	9.2	*9.2*	7.5	5.0	3.3	1.7
100°	10.0	10.0	9.2	8.4	7.5	6.7	*6.7*	5.0	3.3	2.5	1.7
102.5°	6.7	6.7	6.7	5.9	5.0	5.0	*4.2*	3.3	2.5	1.7	1.7
105°	4.2	4.2	4.2	4.2	3.3	2.5	*2.5*	1.7	1.7	1.7	1.7
107.5°	2.5	2.5	2.5	2.5	1.7	1.7	*1.7*	1.7	1.7	1.7	1.7
110°	1.7	1.7	1.7	0.8	0.8	0.8	*0.8*	0.8	0.8	1.7	0.8

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
112.5°	0.8	0.8	0.8	0.8	0.8	0.8	*0.8*	0.8	0.8	0.8	0.8
115°	0.0	0.0	0.8	0.8	0.8	0.8	*0.8*	0.8	0.8	0.8	0.8
117.5°	0.0	0.0	0.0	0.0	0.0	0.8	*0.8*	0.8	0.8	0.8	0.8
120°	0.0	0.0	0.0	0.0	0.0	0.8	*0.8*	0.8	0.8	0.8	0.8
122.5°	0.0	0.0	0.0	0.0	0.0	0.8	*0.8*	0.8	0.8	0.8	0.8
125°	0.0	0.0	0.0	0.8	0.0	0.8	*0.8*	0.8	0.8	0.8	0.8
127.5°	0.0	0.0	0.0	0.8	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
130°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
135°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
140°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.8	0.8	0.8	0.8
142.5°	0.8	0.8	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
145°	0.8	0.8	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
147.5°	0.8	0.8	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
150°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.8	0.8	0.8	0.8
155°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
160°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.8	0.8	0.8	0.8
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
165°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
170°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
175°	0.0	0.0	0.0	0.0	0.0	0.8	*0.8*	0.8	0.8	0.8	0.8
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.8*	0.8	0.8	0.8	0.8
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°	107.9	107.9	107.9	107.9	107.9	107.9	107.9	107.9	107.9	107.9	107.9
2.5°	109.6	108.8	107.1	106.3	104.6	104.6	103.8	102.9	102.9	102.9	102.9
5°	112.1	111.3	109.6	107.9	106.3	104.6	103.8	102.9	102.9	102.9	102.1
7.5°	117.1	115.5	113.0	110.5	107.9	106.3	105.4	104.6	103.8	103.8	103.8
10°	123.0	121.3	117.1	114.6	111.3	108.8	107.9	107.1	106.3	106.3	106.3
12.5°	130.5	128.0	123.0	118.8	115.5	113.0	111.3	110.5	110.5	109.6	110.5
15°	139.7	136.4	129.7	124.7	120.5	118.0	116.3	115.5	115.5	115.5	114.6
17.5°	149.8	145.6	137.2	131.4	126.4	123.8	122.2	121.3	121.3	121.3	121.3
20°	161.5	155.6	146.4	138.9	133.9	130.5	128.9	128.9	128.0	128.9	128.9
22.5°	174.0	167.4	155.6	147.3	140.6	137.2	135.6	135.6	135.6	136.4	137.2
25°	189.1	180.7	166.5	155.6	148.1	144.8	143.1	143.9	143.9	144.8	144.8
27.5°	209.2	196.6	179.1	165.7	157.3	153.1	151.5	152.3	153.1	153.1	153.1
30°	231.8	216.7	192.5	178.2	168.2	163.2	161.5	162.3	163.2	164.8	164.0
32.5°	259.4	241.0	212.5	192.5	181.6	175.7	174.0	173.2	174.9	176.6	176.6
35°	292.9	269.4	236.0	212.5	196.6	189.1	187.4	186.6	187.4	189.1	190.8
37.5°	328.9	300.4	259.4	235.1	217.6	209.2	205.0	201.7	202.5	203.3	205.8
40°	369.9	334.7	286.2	256.9	241.0	230.9	225.1	220.1	221.7	221.7	222.6
42.5°	421.7	377.4	319.6	282.8	266.1	255.2	246.0	240.2	236.8	237.6	234.3
45°	489.5	434.3	361.5	319.6	296.2	279.5	268.6	256.9	248.5	250.2	245.2
47.5°	545.6	479.5	400.8	354.8	329.7	308.8	286.2	269.4	257.7	256.1	252.7
50°	614.2	534.7	446.0	393.3	366.5	334.7	307.9	279.5	260.2	255.2	256.1
52.5°	729.7	631.8	510.4	445.2	398.3	360.6	319.6	280.3	254.4	246.8	249.4
55°	771.5	664.4	543.9	487.8	441.8	383.2	324.7	271.1	237.6	230.9	231.8
57.5°	780.7	664.4	546.4	501.2	462.7	401.7	322.2	250.2	205.8	200.0	199.2
60°	785.7	660.2	537.2	491.2	449.3	384.1	289.5	201.7	158.2	154.0	151.5
62.5°	832.6	695.4	546.4	483.7	424.2	337.2	220.1	128.9	87.9	87.0	85.4
65°	846.8	707.9	558.1	488.7	396.6	261.9	130.5	43.5	9.2	10.0	8.4
67.5°	*811.7*	*679.5*	*541.4*	*481.1*	*388.3*	*255.2*	*125.5*	*36.8*	*0.0*	*0.0*	*0.0*
70°	763.1	638.5	512.1	455.2	370.7	245.2	123.0	36.8	0.0	0.0	0.0
72.5°	686.2	579.9	465.2	420.1	340.6	225.1	114.6	35.1	0.0	0.0	0.0
75°	595.8	504.6	407.5	372.4	302.1	197.5	102.9	31.8	0.0	0.0	0.0
77.5°	498.7	420.9	340.6	313.8	255.2	168.2	87.0	26.8	0.0	0.0	0.0
80°	391.6	333.0	268.6	250.2	201.7	133.9	69.5	20.9	0.0	0.0	0.0
82.5°	282.0	241.8	198.3	183.3	148.1	97.1	50.2	14.2	0.0	0.0	0.0
85°	174.0	151.5	128.0	118.8	93.7	60.2	30.1	7.5	0.0	0.0	0.0
87.5°	51.9	50.2	45.2	44.3	31.8	18.4	6.7	0.8	0.0	0.0	0.0
90°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.8	0.8	0.8	0.8	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: P821280
CATALOG NUMBER: TT-D2-740-24VDC-DL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.8	0.8	0.8	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: SP1-2407-176-5

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-740-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-740-U-WQ

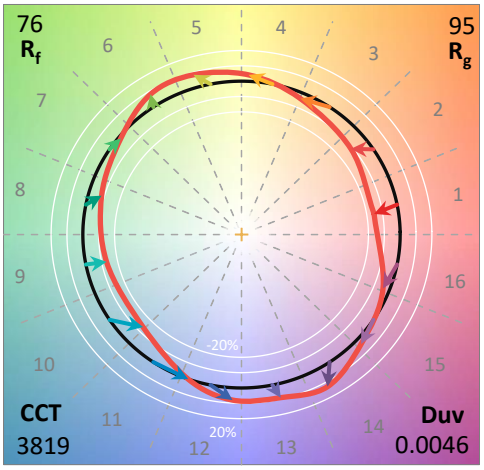
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-5
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-30-740-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	3819	CRI (Ra):	72.9		
CIE u':	0.2261	R1:	70.1	R9:	-21.5
CIE v':	0.5108	R2:	78.4	R10:	48.5
Duv:	0.0046	R3:	85.0	R11:	68.4
CIE x:	0.3926	R4:	72.9	R12:	39.0
CIE y:	0.3942	R5:	69.1	R13:	71.1
CIE z:	0.2132	R6:	69.2	R14:	91.3
Peak Wavelength (nm):	450	R7:	82.8	R15:	63.2
Dominant Wavelength (nm):	577	R8:	55.4		
Purity:	36.15483				
Rf:	75.6				
Rg:	94.8				



Test Conditions

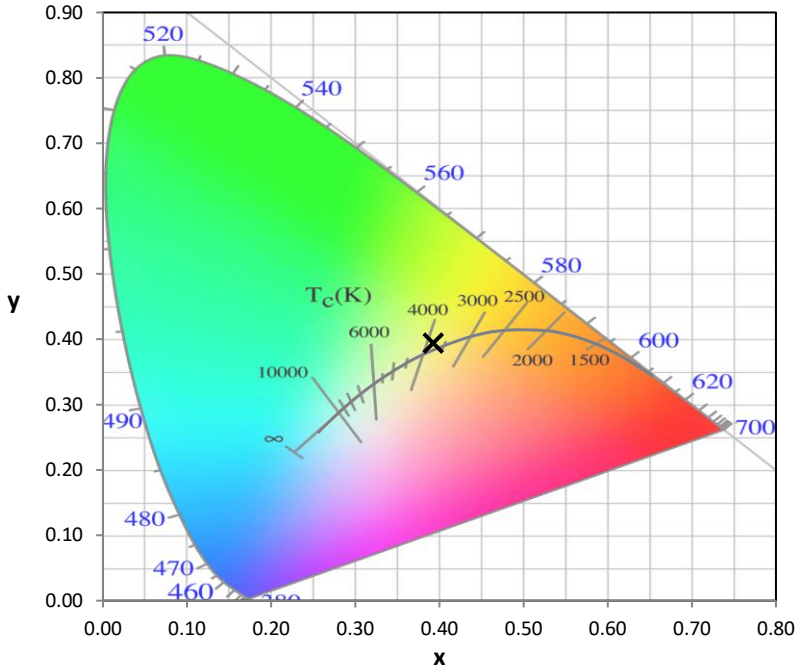
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-5

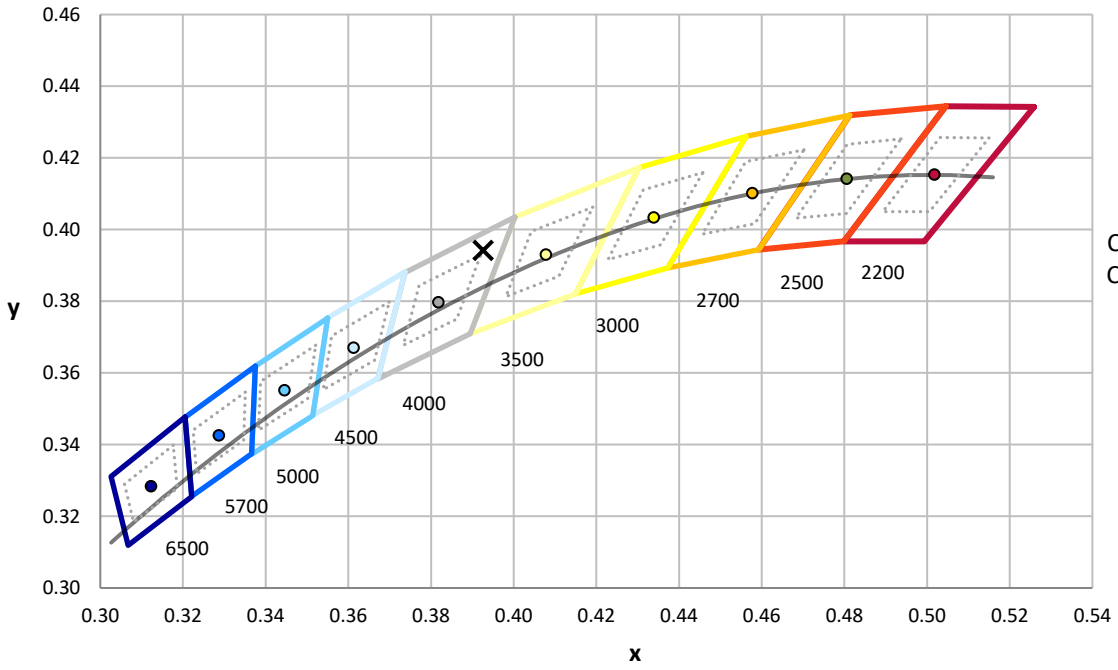
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-5

CIE 1931 Chromaticity Diagram



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

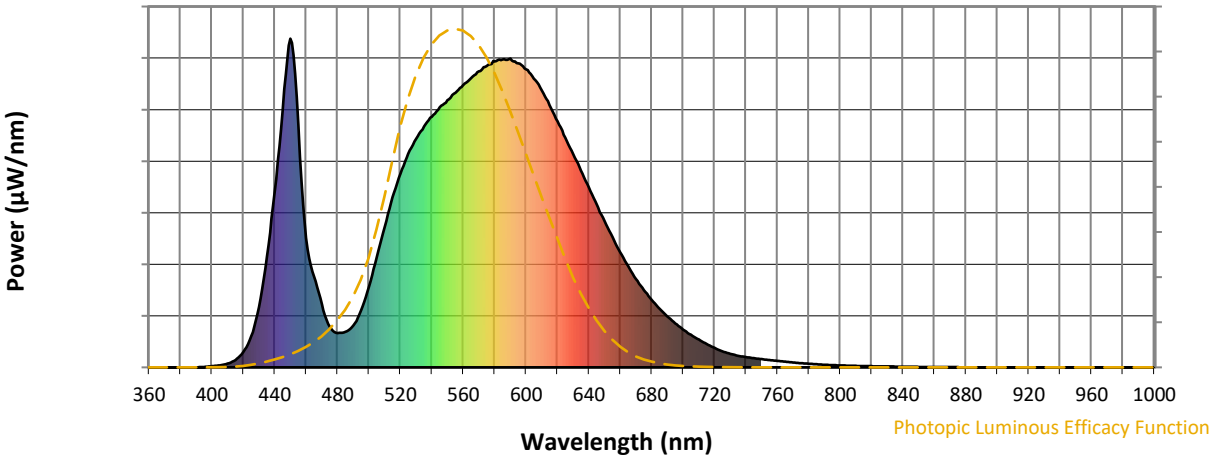


CCT = 3819K
CIE x = 0.3926
CIE y = 0.3942
Duv = 0.0046

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-5

Photopic Flux vs. Wavelength

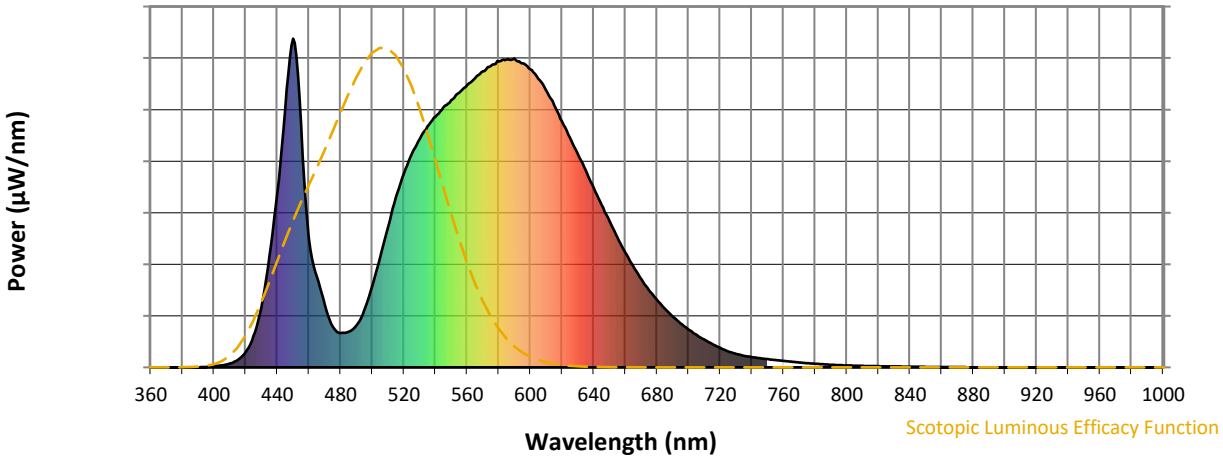


Photopic Lumens: NR

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

Scotopic Flux vs. Wavelength

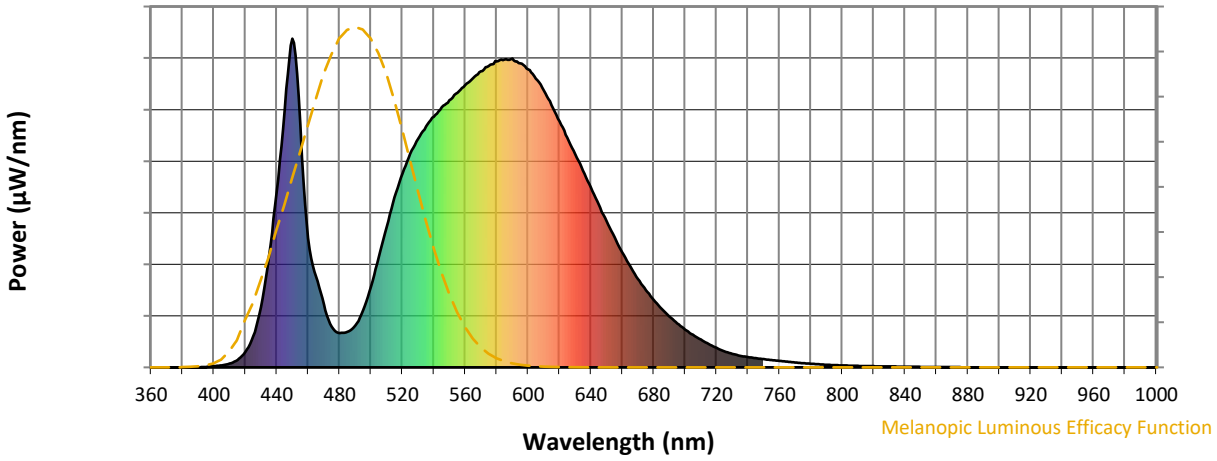


Scotopic Lumens: NR **S/P: 1.45**

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.76**

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

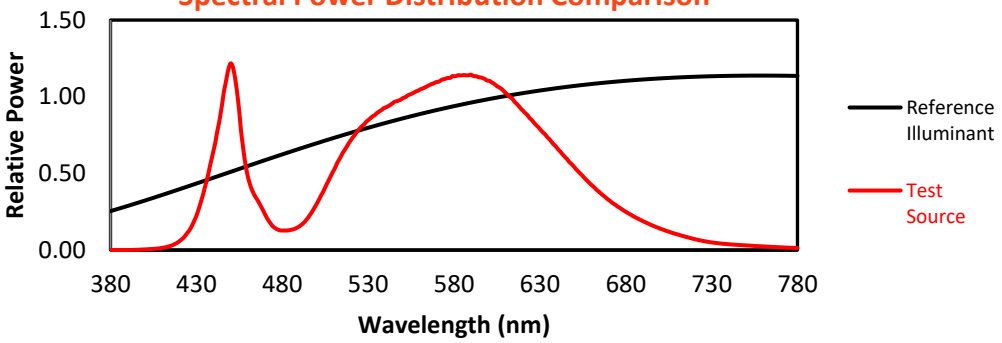
REPORT NUMBER: SP1-2407-176-5

TM-30-18

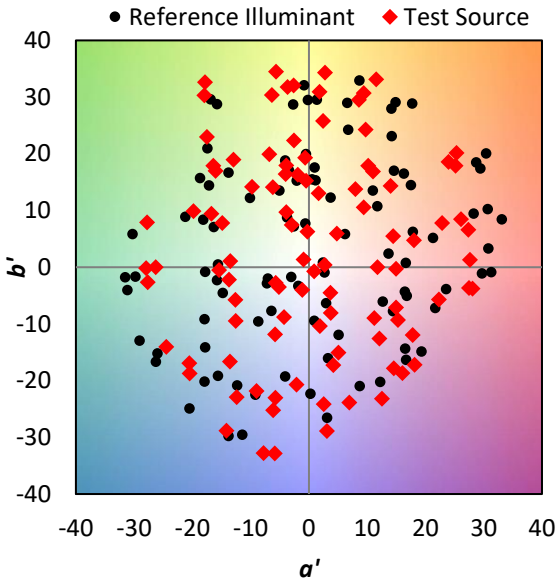
Summary

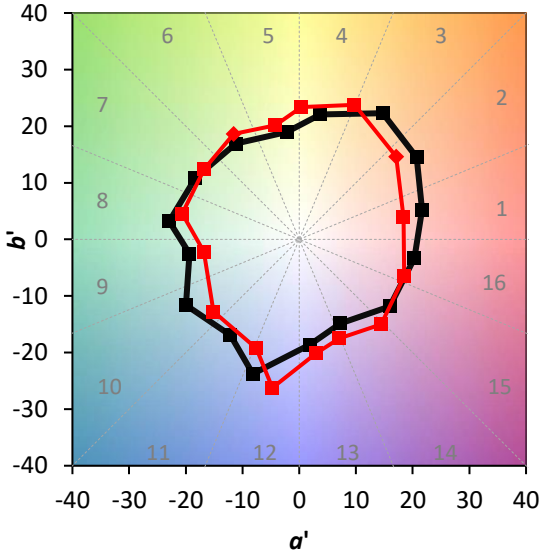
R_f = 75.6
R_g = 94.8
CIE R_a = 72.9
R_9 = -21.5

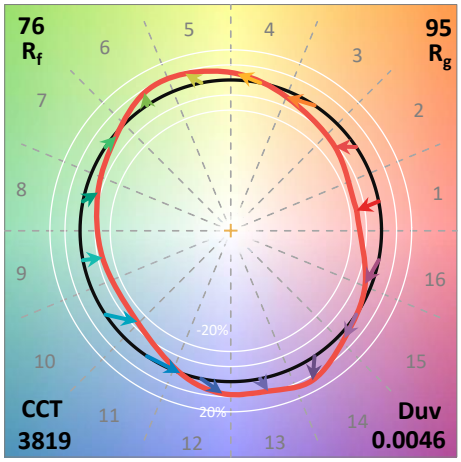
Spectral Power Distribution Comparison

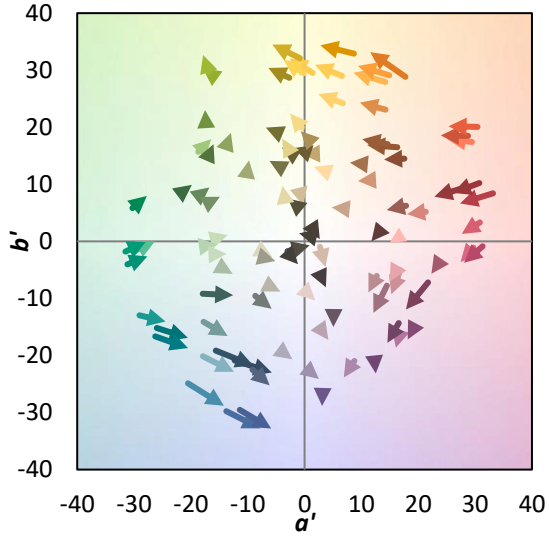


Color Vector Graphics







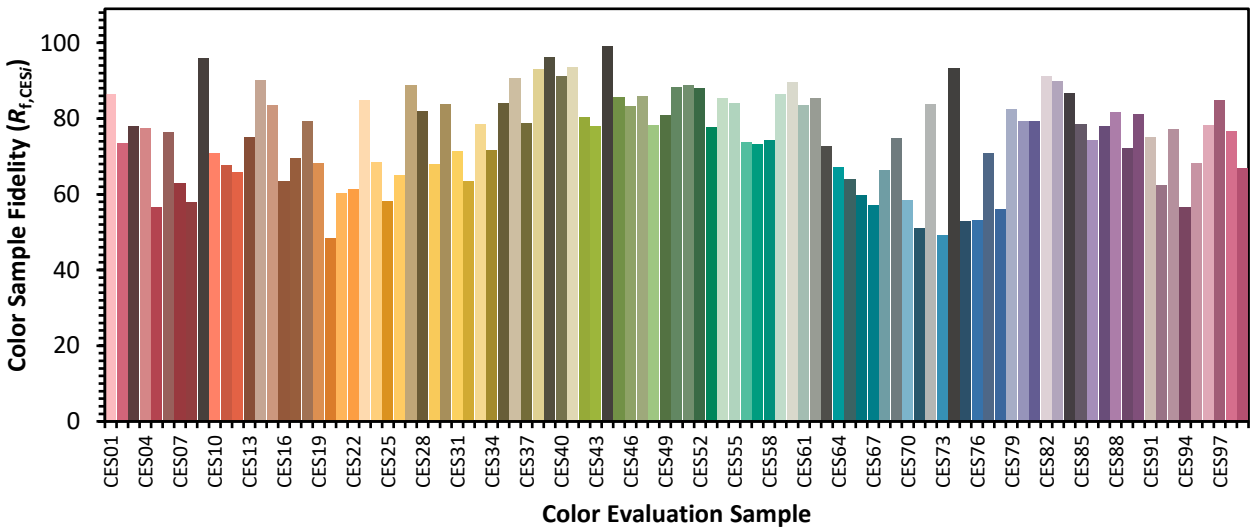


REPORT NUMBER: SP1-2407-176-5

TM-30-18

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

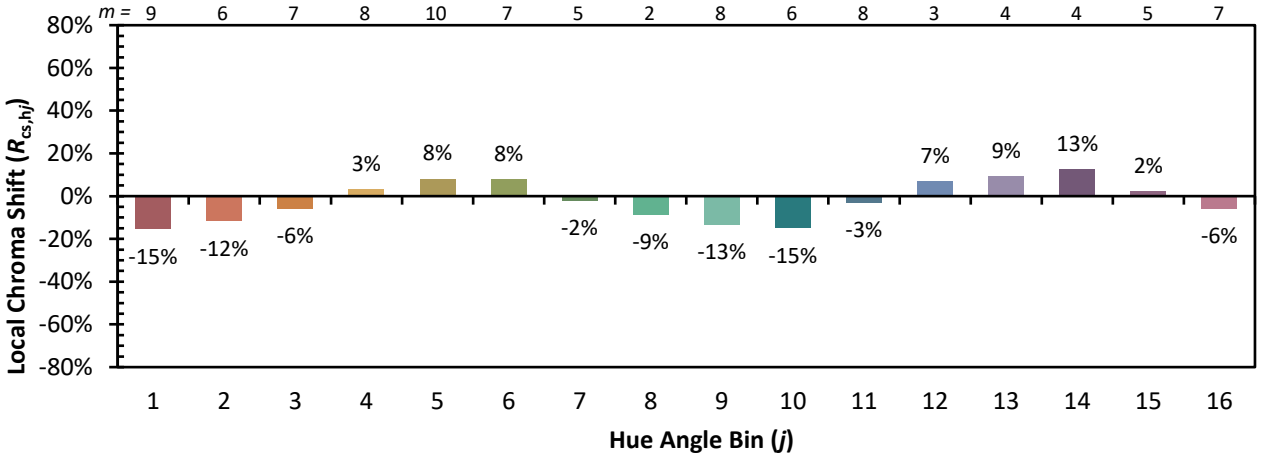
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CES02 = 61	CES27 = 89	CES52 = 88	CES77 = 71
CES03 = 30	CES28 = 82	CES53 = 78	CES78 = 56
CES04 = 70	CES29 = 68	CES54 = 85	CES79 = 83
CES05 = 48	CES30 = 84	CES55 = 84	CES80 = 79
CES06 = 50	CES31 = 71	CES56 = 74	CES81 = 79
CES07 = 40	CES32 = 63	CES57 = 73	CES82 = 91
CES08 = 39	CES33 = 79	CES58 = 74	CES83 = 90
CES09 = 29	CES34 = 72	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 84	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 91	CES61 = 84	CES86 = 74
CES12 = 63	CES37 = 79	CES62 = 85	CES87 = 78
CES13 = 42	CES38 = 93	CES63 = 73	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 67	CES89 = 72
CES15 = 71	CES40 = 91	CES65 = 64	CES90 = 81
CES16 = 47	CES41 = 93	CES66 = 60	CES91 = 75
CES17 = 49	CES42 = 80	CES67 = 57	CES92 = 62
CES18 = 56	CES43 = 78	CES68 = 66	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 75	CES94 = 57
CES20 = 65	CES45 = 86	CES70 = 58	CES95 = 68
CES21 = 86	CES46 = 83	CES71 = 51	CES96 = 78
CES22 = 78	CES47 = 86	CES72 = 84	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 49	CES98 = 77
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 67
CES25 = 72	CES50 = 88	CES75 = 53	

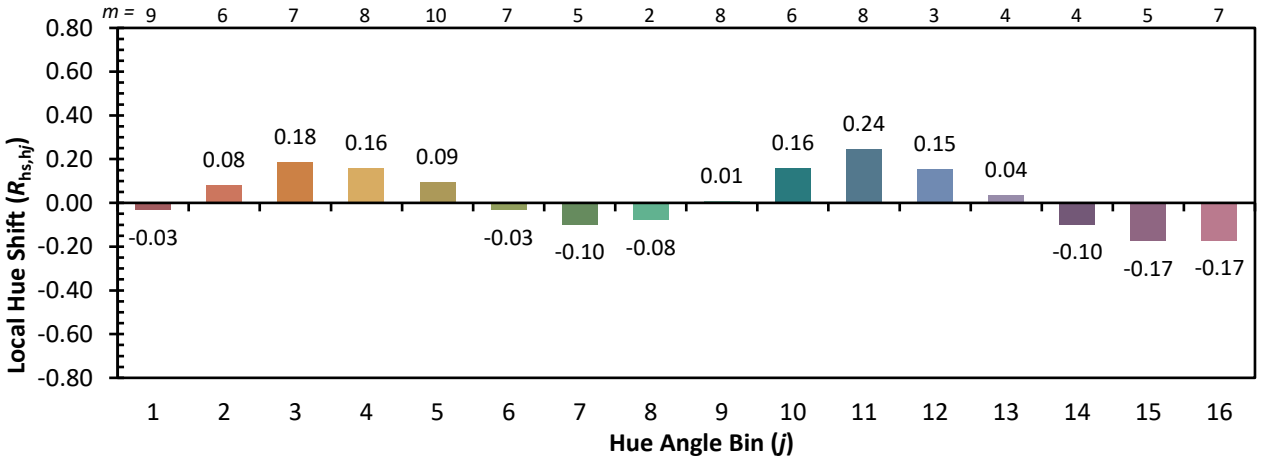


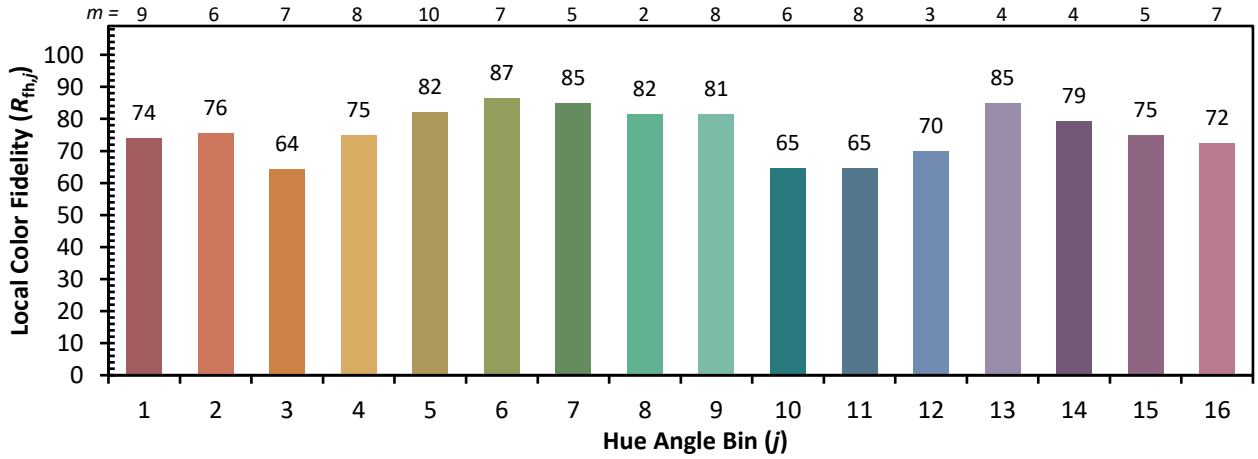
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Color Rendition by Hue-Angle Bin



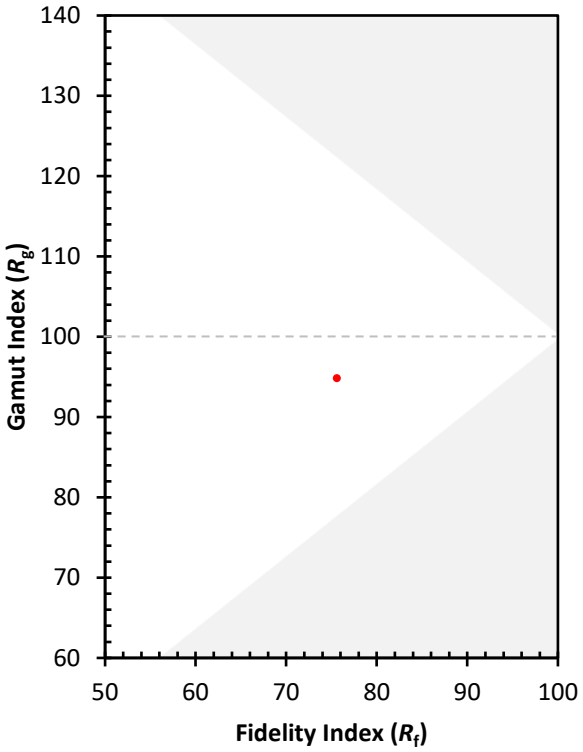


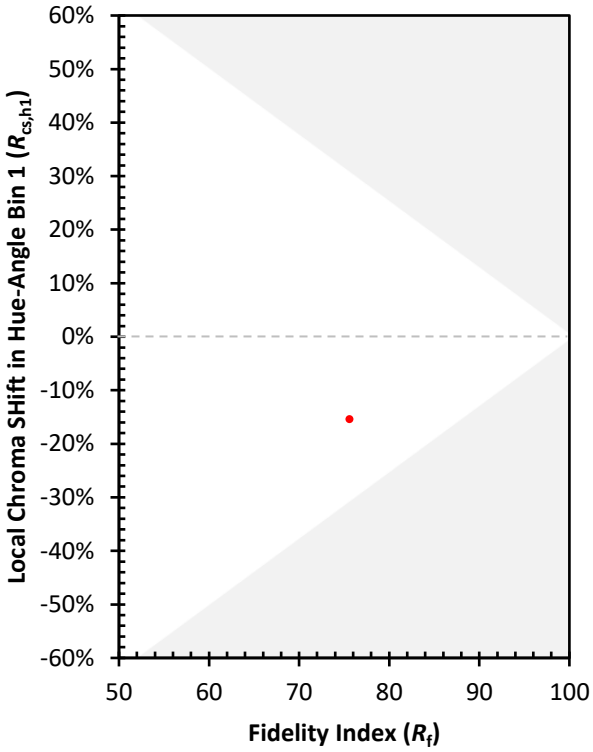


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Measure Comparisons





(END OF REPORT)