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: P821399

Luminaire Tested: **TT-D5-750-24VDC-DL-UPL**

Issue Date: 5/10/2022

Report Generated By 670245763

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Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821399
	REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-3) AND
Test Lab:	INNOVATION CENTER
Issue Date:	5/10/2022
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D5-750-24VDC-DL-UPL
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	5000K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	8842.4 lumens
Efficiency:	N/A
Efficacy:	121.1 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification:	Type IV - Short
BUG Rating:	B2 - U4 - G3

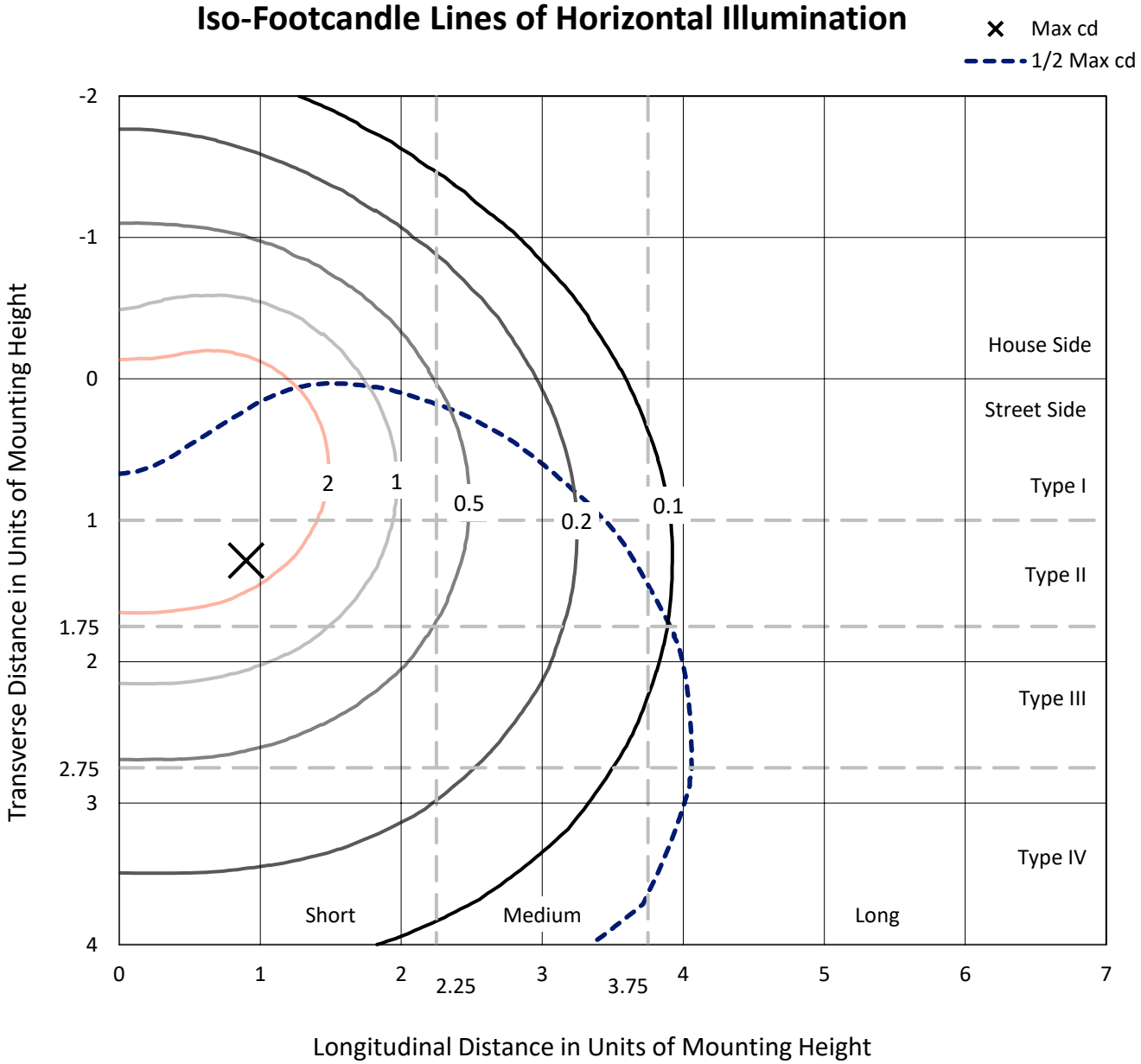
Input Watts (W):	73
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



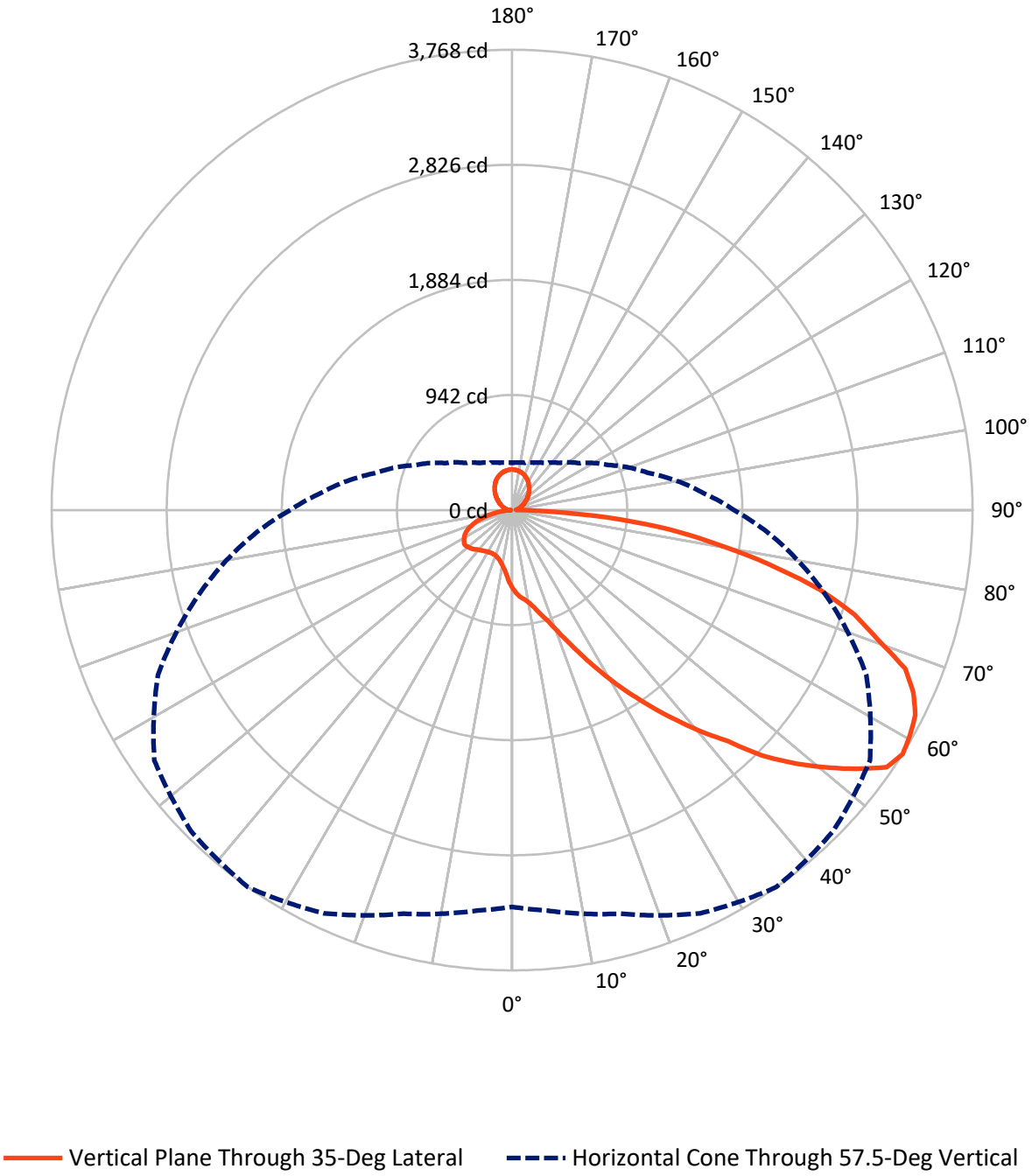
Based on 15 foot mounting height. Maximum calculated value = 4.9 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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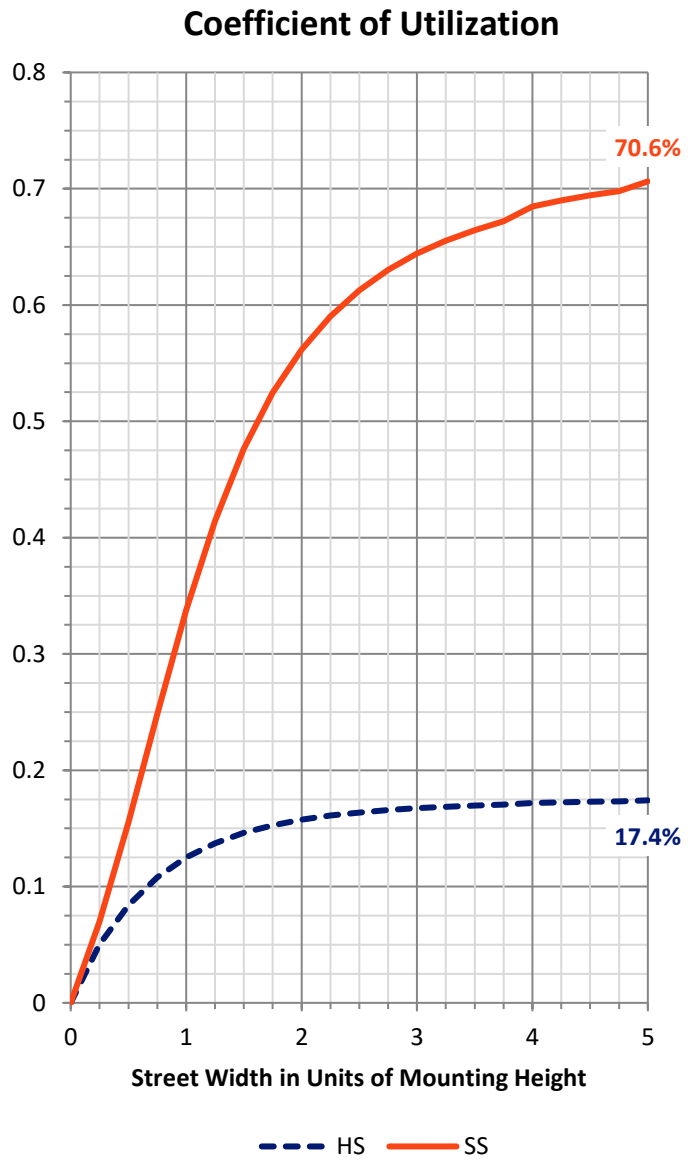
REPORT NUMBER: P821399
CATALOG NUMBER: TT-D5-750-24VDC-DL-UPL

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1556.6	450.0	2006.6
	% Fixture	17.6	5.1	22.7
Street Side	Lumens	6385.7	450.0	6835.7
	% Fixture	72.2	5.1	77.3
Total	Lumens	7942.3	900.0	8842.4
	% Fixture	89.8	10.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	0.7
10°-20°	187.3	2.1
20°-30°	396.0	4.5
30°-40°	742.0	8.4
40°-50°	1235.0	14.0
50°-60°	1743.0	19.7
60°-70°	1833.8	20.7
70°-80°	1343.4	15.2
80°-90°	402.4	4.6
90°-100°	46.1	0.5
100°-110°	71.4	0.8
110°-120°	99.4	1.1
120°-130°	128.8	1.5
130°-140°	150.0	1.7
140°-150°	152.1	1.7
150°-160°	131.9	1.5
160°-170°	89.0	1.0
170°-180°	31.3	0.4
0°-90°	7942.3	89.8
0°-180°	8842.4	100.0



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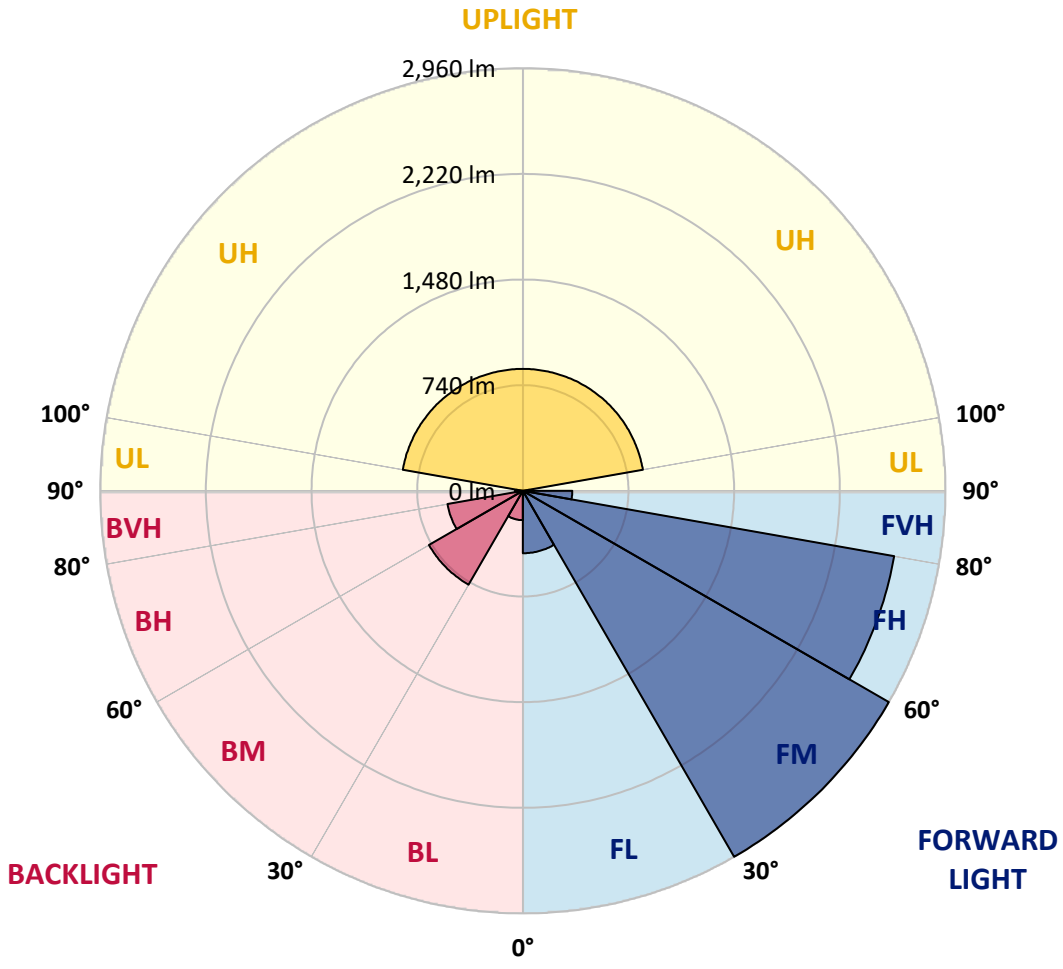
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	437.3	4.9			
FM	(30°-60°)	2960.4	33.5			
FH	(60°-80°)	2641.4	29.9			G2/5000
FVH	(80°-90°)	346.5	3.9			G3/500
BL	(0°-30°)	205.4	2.3	B1/500		
BM	(30°-60°)	759.6	8.6	B1/1000		
BH	(60°-80°)	535.8	6.1	B2/1000		G2/1000
BVH	(80°-90°)	55.9	0.6			G1/100
UL	(90°-100°)	46.1	0.5		U2/50	
UH	(100°-180°)	853.9	9.7		U4/1000	

BUG Rating: B2-U4-G3
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6
2.5°	697.5	694.1	691.1	686.2	682.8	681.8	675.4	667.6	656.8	647.5	642.6
5°	734.3	733.8	732.3	726.4	715.6	700.4	686.2	670.0	652.4	634.8	626.4
7.5°	769.1	765.6	763.7	755.3	739.6	723.0	701.4	677.4	651.9	626.9	614.2
10°	812.7	807.8	804.4	788.2	772.0	748.5	720.0	689.2	658.8	627.4	612.2
12.5°	868.6	864.6	850.4	842.6	822.0	795.0	759.3	722.0	682.8	642.6	623.0
15°	928.4	929.3	923.9	903.9	887.2	854.8	816.6	770.0	717.1	668.6	644.1
17.5°	1008.3	1006.8	996.5	983.3	957.8	924.9	877.9	828.4	766.6	702.9	674.9
20°	1102.4	1097.5	1088.2	1070.0	1054.8	1016.1	962.7	900.9	827.4	751.9	714.2
22.5°	1222.0	1211.2	1205.3	1189.1	1170.5	1134.2	1077.4	995.5	909.2	815.6	767.1
25°	1339.1	1345.0	1342.1	1332.7	1309.2	1264.6	1204.3	1114.1	996.0	886.7	831.8
27.5°	1486.2	1488.6	1489.6	1485.7	1462.6	1422.0	1360.7	1241.6	1109.7	973.9	901.4
30°	1639.1	1633.7	1640.6	1642.5	1631.2	1584.2	1509.2	1378.8	1221.0	1058.7	977.4
32.5°	1791.0	1796.9	1811.1	1802.3	1804.3	1750.8	1669.0	1515.6	1339.6	1148.4	1062.7
35°	1954.8	1962.6	1972.4	1989.1	1988.1	1945.4	1827.3	1673.4	1468.0	1251.9	1140.6
37.5°	2122.4	2120.4	2135.1	2173.4	2180.7	2140.0	2016.5	1839.1	1602.8	1356.3	1232.3
40°	2281.2	2299.3	2327.8	2353.7	2385.1	2327.3	2207.2	2006.2	1749.4	1464.6	1318.5
42.5°	2466.5	2473.8	2516.0	2574.3	2582.6	2538.0	2407.2	2198.9	1895.0	1567.5	1412.6
45°	2663.0	2672.8	2712.5	2796.8	2865.0	2836.1	2658.6	2411.1	2075.3	1707.7	1516.6
47.5°	2832.6	2861.5	2925.3	3022.8	3095.4	3080.2	2910.1	2619.4	2247.9	1825.4	1617.0
50°	2983.6	3018.4	3105.2	3245.8	3310.5	3290.4	3124.8	2825.3	2373.8	1927.3	1690.1
52.5°	3136.5	3185.1	3264.5	3418.4	3519.3	3527.2	3342.4	2982.6	2519.9	2034.2	1770.0
55°	3219.4	3254.7	3387.5	3574.2	3716.9	3720.8	3512.0	3130.2	2620.9	2081.2	1807.7
57.5°	3248.3	3290.9	3420.3	3641.4	3767.9	3715.4	3573.3	3196.8	2649.3	2098.4	1815.5
60°	3208.1	3250.7	3398.3	3634.0	3740.9	3766.4	3546.3	3196.3	2635.1	2076.3	1791.5
62.5°	3150.7	3205.1	3348.3	3578.2	3701.7	3715.9	3511.5	3160.1	2614.0	2038.6	1756.2
65°	3005.2	3038.0	3247.3	3418.9	3609.5	3592.4	3431.6	3033.6	2539.5	1941.0	1670.0
67.5°	2860.1	2894.4	3048.3	3283.6	3468.4	3449.7	3291.4	2911.1	2396.4	1850.4	1579.8
70°	2615.5	2637.5	2849.8	3032.6	3170.8	3239.5	3035.1	2706.7	2246.4	1698.4	1442.5
72.5°	2356.7	2391.5	2543.4	2772.8	2929.2	2907.1	2804.7	2455.2	2001.8	1521.9	1300.4
75°	2025.8	2059.2	2227.3	2448.8	2600.8	2583.1	2466.5	2156.2	1779.3	1317.1	1125.9
77.5°	1713.1	1702.8	1851.3	2019.5	2157.7	2198.4	2067.0	1823.4	1467.5	1082.3	916.6
80°	1316.1	1355.3	1448.4	1604.8	1709.2	1732.2	1630.8	1443.0	1172.5	847.0	702.9
82.5°	926.9	947.5	1061.2	1159.7	1290.6	1282.3	1212.2	1048.0	851.4	594.6	484.3
85°	505.8	510.3	613.2	682.3	783.3	795.5	746.0	633.8	487.2	338.2	249.5
87.5°	88.7	87.2	126.5	185.3	235.3	252.9	210.3	164.7	66.7	39.7	20.6
90°	32.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
92.5°	37.6	37.1	37.1	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6
95°	42.7	42.7	42.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7
97.5°	48.3	48.3	48.3	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8
100°	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
102.5°	60.5	60.5	60.5	60.5	60.5	60.5	60.5	61.0	60.5	60.5	60.5
105°	67.1	67.1	67.1	67.1	67.1	67.1	67.1	68.1	67.1	67.1	67.1
107.5°	74.2	74.2	74.7	74.7	74.7	74.7	74.7	75.2	74.7	74.7	74.7
110°	81.3	81.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	89.9	89.9	90.9	90.9	*90.9*	90.9	91.4	91.4	90.9	90.9	90.9
115°	98.6	98.6	99.6	99.6	*99.6*	99.6	100.6	100.6	99.6	99.6	99.6
117.5°	108.8	108.8	109.2	109.8	*109.8*	109.8	110.8	110.8	109.8	109.8	109.8
120°	118.9	118.9	118.9	119.9	*119.9*	119.9	121.0	121.0	119.9	119.9	119.9
122.5°	130.6	130.6	131.1	131.6	*131.6*	131.6	132.6	132.6	132.1	132.1	131.6
125°	142.3	142.3	143.3	143.3	*143.3*	143.3	144.3	144.3	144.3	144.3	143.3
127.5°	155.0	155.0	156.0	156.0	*156.0*	156.0	157.0	157.0	157.0	157.0	156.0
130°	167.7	167.7	168.7	168.7	*168.7*	168.7	169.7	169.7	169.7	169.7	168.7
132.5°	180.9	180.9	181.4	181.4	*181.4*	181.9	182.4	182.4	182.4	182.4	181.9
135°	194.1	194.1	194.1	194.1	*194.1*	195.1	195.1	195.1	195.1	195.1	195.1
137.5°	206.8	206.3	206.8	206.3	*206.8*	207.3	207.3	207.3	207.3	207.3	207.3
140°	219.5	218.5	219.5	218.5	*219.5*	219.5	219.5	219.5	219.5	219.5	219.5
142.5°	231.2	230.7	231.2	230.2	*231.2*	231.2	231.2	231.2	231.2	231.2	231.2
145°	242.9	242.9	242.9	241.9	*242.9*	242.9	242.9	242.9	242.9	242.9	242.9
147.5°	255.1	254.6	255.1	254.1	*255.1*	255.1	255.1	255.1	255.1	255.1	255.1
150°	267.3	266.3	267.3	266.3	*267.3*	267.3	267.3	267.3	267.3	267.3	267.3
152.5°	277.0	276.5	277.5	276.5	*277.0*	277.0	277.5	277.0	277.0	277.0	277.0
155°	286.6	286.6	287.6	286.6	*286.6*	286.6	287.6	286.6	286.6	286.6	286.6
157.5°	294.8	294.8	295.8	294.8	*294.8*	294.8	295.8	294.8	294.8	294.8	294.8
160°	302.9	302.9	303.9	302.9	*302.9*	302.9	303.9	302.9	302.9	302.9	302.9
162.5°	309.5	309.5	310.5	309.5	*309.5*	309.5	310.5	309.5	309.5	309.5	309.5
165°	316.1	316.1	317.1	316.1	*316.1*	316.1	317.1	316.1	316.1	316.1	316.1
167.5°	320.2	320.2	321.2	320.2	*320.2*	320.2	321.2	320.2	320.2	320.2	320.2
170°	324.2	324.2	325.2	324.2	*324.2*	324.2	325.2	324.2	324.2	324.2	324.2
172.5°	326.8	326.8	327.8	326.8	*327.2*	326.8	327.8	326.8	326.8	326.8	326.8
175°	329.3	329.3	330.3	329.3	*330.3*	329.3	330.3	329.3	329.3	329.3	329.3
177.5°	330.3	330.3	330.8	330.3	*330.8*	330.3	330.8	330.3	330.3	330.3	330.3
180°	331.3	331.3	331.3	331.3	*331.3*	331.3	331.3	331.3	331.3	331.3	331.3

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6
2.5°	637.2	627.4	618.1	609.3	600.9	594.1	591.1	588.7	588.2	583.8
5°	616.1	600.4	583.3	567.6	553.4	538.2	525.9	522.0	521.5	524.0
7.5°	602.4	578.4	554.9	536.2	515.2	495.1	476.9	465.7	462.7	461.7
10°	597.5	568.1	539.7	511.2	487.7	463.2	441.1	427.4	419.6	417.6
12.5°	603.9	566.6	531.3	498.0	466.1	439.2	414.2	397.0	388.2	385.3
15°	621.0	573.0	528.4	488.2	453.4	419.6	395.1	373.0	362.7	361.2
17.5°	643.6	587.2	530.4	483.3	442.1	406.3	377.9	354.9	342.1	340.2
20°	675.9	605.3	539.7	483.8	437.2	397.0	365.2	340.7	326.9	325.5
22.5°	721.5	634.3	554.9	490.2	437.2	391.6	357.3	331.8	317.6	316.2
25°	773.5	667.6	575.4	499.0	438.7	390.7	352.9	326.0	311.7	310.3
27.5°	833.3	708.3	597.5	510.3	444.1	391.6	351.4	324.5	310.8	308.8
30°	900.4	748.5	621.5	522.5	450.9	393.6	351.9	324.0	310.8	308.8
32.5°	967.6	792.6	648.5	538.7	458.8	399.0	354.9	327.4	313.7	312.2
35°	1038.2	841.1	678.4	555.4	470.1	406.3	359.8	331.3	317.6	316.2
37.5°	1111.2	890.1	709.3	575.9	481.8	413.7	366.6	338.2	325.0	323.5
40°	1187.2	940.6	742.1	597.0	493.1	423.5	375.0	347.0	333.3	331.8
42.5°	1252.8	986.2	772.5	615.1	507.8	432.8	385.8	356.3	343.6	342.1
45°	1345.5	1038.2	803.9	637.7	525.5	449.5	398.5	371.1	359.3	356.3
47.5°	1422.9	1091.1	835.7	659.3	540.2	460.7	410.8	382.8	370.6	368.6
50°	1486.2	1124.4	860.7	670.5	548.0	468.1	420.6	392.1	381.3	377.9
52.5°	1552.8	1162.2	874.0	683.8	560.7	478.4	427.4	402.9	391.1	387.7
55°	1574.4	1164.1	883.8	686.2	558.8	480.8	431.8	403.4	394.1	390.7
57.5°	*1575.9*	*1163.6*	*870.5*	*669.6*	*545.1*	*470.1*	*427.4*	*400.5*	*389.7*	*386.7*
60°	1548.4	1134.7	844.1	649.5	530.4	454.9	415.2	389.2	380.9	377.9
62.5°	1514.1	1108.2	811.2	622.0	509.3	439.7	401.0	380.9	369.6	366.1
65°	1427.3	1038.6	761.2	584.8	478.9	416.6	378.4	358.8	350.0	347.5
67.5°	1350.4	964.1	711.2	546.0	444.6	388.2	353.4	336.2	329.4	327.9
70°	1225.4	883.3	633.8	485.7	400.5	346.1	320.1	307.3	299.0	296.1
72.5°	1098.4	775.4	558.8	427.9	347.0	311.3	285.3	271.5	267.1	264.7
75°	932.8	651.9	471.0	362.7	298.0	260.3	242.1	231.8	226.5	226.0
77.5°	763.2	522.0	379.4	287.2	235.8	209.8	197.0	187.2	186.3	188.2
80°	584.8	394.1	281.8	215.2	174.5	158.3	151.5	145.1	144.1	142.6
82.5°	388.7	261.3	178.4	136.3	117.1	107.8	105.9	101.5	100.5	99.5
85°	189.7	125.5	86.3	67.6	62.3	57.8	57.3	59.3	58.8	57.3
87.5°	19.6	16.2	15.7	12.3	11.3	10.3	10.3	9.3	11.3	8.3
90°	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	32.5
92.5°	36.6	36.6	36.6	36.6	36.6	36.6	36.6	37.1	37.1	37.6
95°	41.7	41.7	41.7	41.7	41.7	41.7	41.7	42.7	42.7	42.7
97.5°	47.8	47.8	47.8	47.8	47.8	47.8	47.8	48.3	48.3	48.3
100°	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
102.5°	60.5	60.5	61.0	60.5	60.5	60.5	60.5	60.5	60.5	60.5
105°	67.1	67.1	68.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1
107.5°	74.7	74.7	75.2	74.7	74.7	74.7	74.7	74.7	74.2	74.2
110°	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	81.3	81.3

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

Scaled Data Report

REPORT NUMBER: P821399
CATALOG NUMBER: TT-D5-750-24VDC-DL-UPL

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	90.9	90.9	91.4	91.4	90.9	90.9	90.9	90.9	89.9	89.9
115°	99.6	99.6	100.6	100.6	99.6	99.6	99.6	99.6	98.6	98.6
117.5°	109.8	109.8	110.8	110.8	109.8	109.8	109.8	109.2	108.8	108.8
120°	119.9	119.9	121.0	121.0	119.9	119.9	119.9	118.9	118.9	118.9
122.5°	132.1	132.1	132.6	132.6	131.6	131.6	131.6	131.1	130.6	130.6
125°	144.3	144.3	144.3	144.3	143.3	143.3	143.3	143.3	142.3	142.3
127.5°	157.0	157.0	157.0	157.0	156.0	156.0	156.0	156.0	155.0	155.0
130°	169.7	169.7	169.7	169.7	168.7	168.7	168.7	168.7	167.7	167.7
132.5°	182.4	182.4	182.4	182.4	181.9	181.4	181.4	181.4	180.9	180.9
135°	195.1	195.1	195.1	195.1	195.1	194.1	194.1	194.1	194.1	194.1
137.5°	207.3	207.3	207.3	207.3	207.3	206.8	206.3	206.8	206.3	206.8
140°	219.5	219.5	219.5	219.5	219.5	219.5	218.5	219.5	218.5	219.5
142.5°	231.2	231.2	231.2	231.2	231.2	231.2	230.2	231.2	230.7	231.2
145°	242.9	242.9	242.9	242.9	242.9	242.9	241.9	242.9	242.9	242.9
147.5°	255.1	255.1	255.1	255.1	255.1	255.1	254.1	255.1	254.6	255.1
150°	267.3	267.3	267.3	267.3	267.3	267.3	266.3	267.3	266.3	267.3
152.5°	277.0	277.0	277.0	277.5	277.0	277.0	276.5	277.5	276.5	277.0
155°	286.6	286.6	286.6	287.6	286.6	286.6	286.6	287.6	286.6	286.6
157.5°	294.8	294.8	294.8	295.8	294.8	294.8	294.8	295.8	294.8	294.8
160°	302.9	302.9	302.9	303.9	302.9	302.9	302.9	303.9	302.9	302.9
162.5°	309.5	309.5	309.5	310.5	309.5	309.5	309.5	310.5	309.5	309.5
165°	316.1	316.1	316.1	317.1	316.1	316.1	316.1	317.1	316.1	316.1
167.5°	320.2	320.2	320.2	321.2	320.2	320.2	320.2	321.2	320.2	320.2
170°	324.2	324.2	324.2	325.2	324.2	324.2	324.2	325.2	324.2	324.2
172.5°	326.8	326.8	326.8	327.8	326.8	327.2	326.8	327.8	326.8	326.8
175°	329.3	329.3	329.3	330.3	329.3	330.3	329.3	330.3	329.3	329.3
177.5°	330.3	330.3	330.3	330.8	330.3	330.8	330.3	330.8	330.3	330.3
180°	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3

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

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-176-6

Test Date: 09/26/2024

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

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

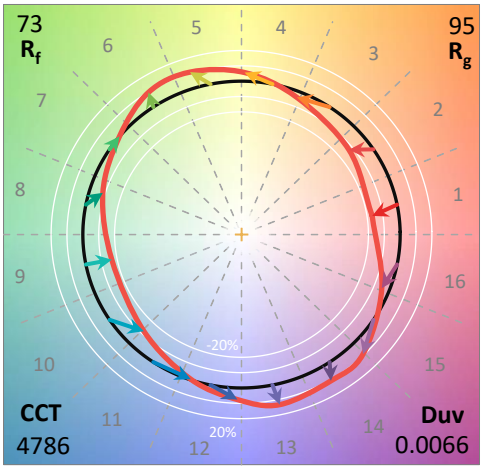
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-6
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	09/27/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Streetworks
Catalog Number:	**MEM2-HTN-VA-30-750-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

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

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



Test Conditions

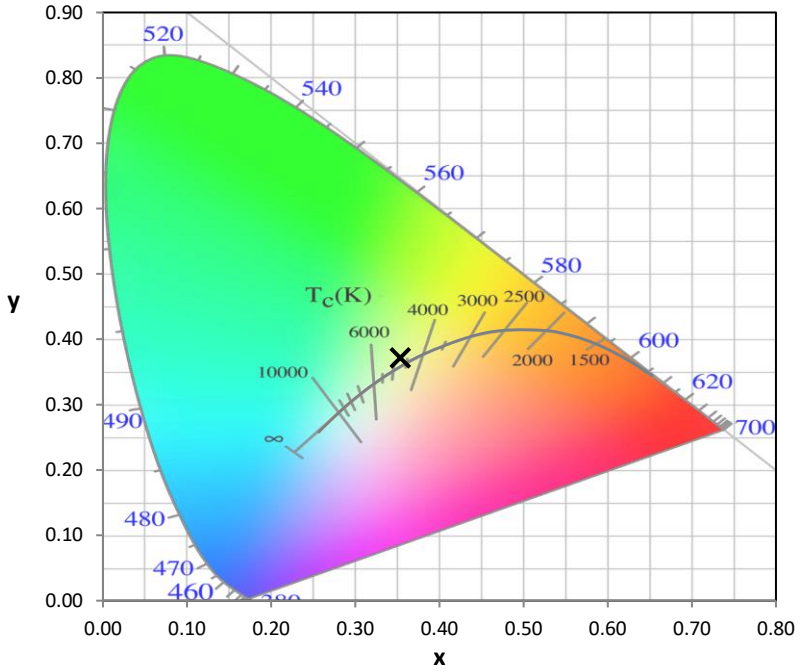
Stabilization Time:	45M
Operation Time:	1H 45M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-6

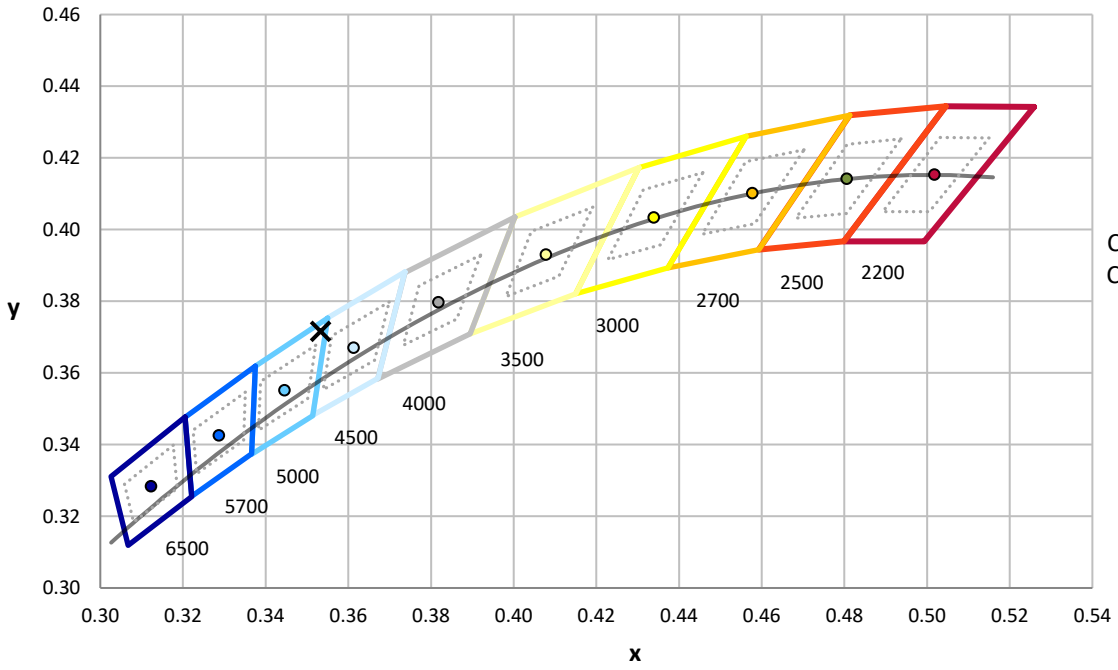
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-6

CIE 1931 Chromaticity Diagram



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

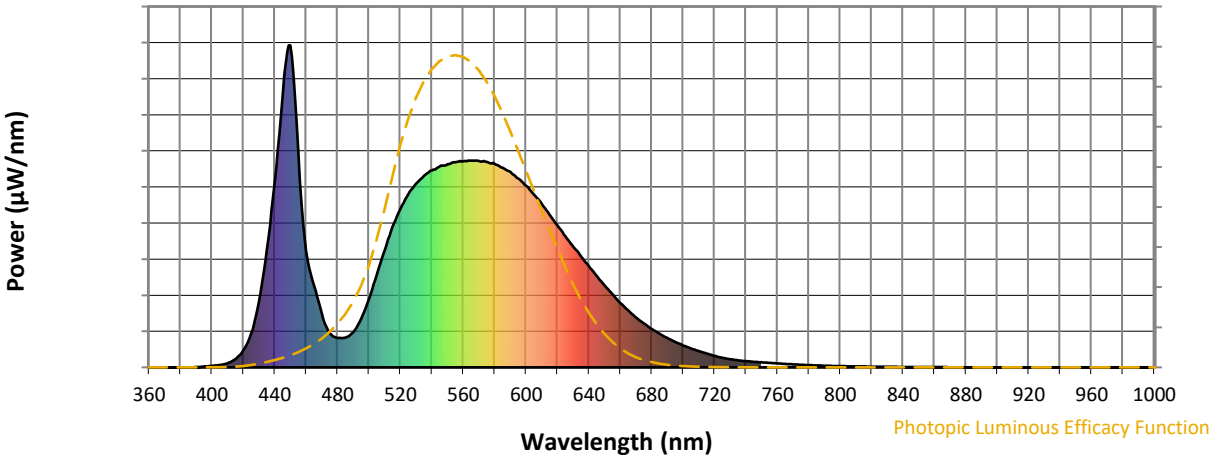


CCT = 4786K
CIE x = 0.3533
CIE y = 0.3716
Duv = 0.0066

Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-6

Photopic Flux vs. Wavelength

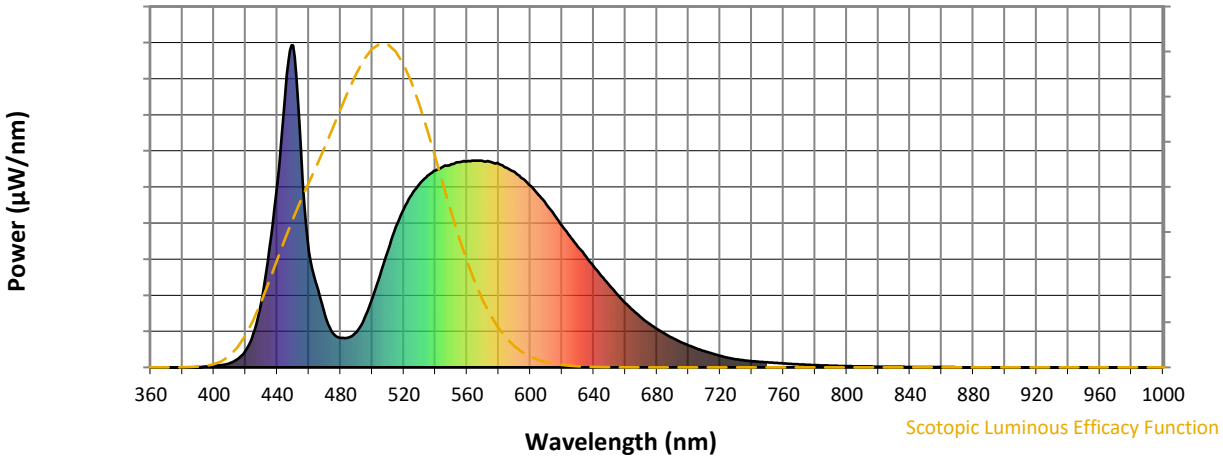


Photopic Lumens: NR

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-6

Scotopic Flux vs. Wavelength

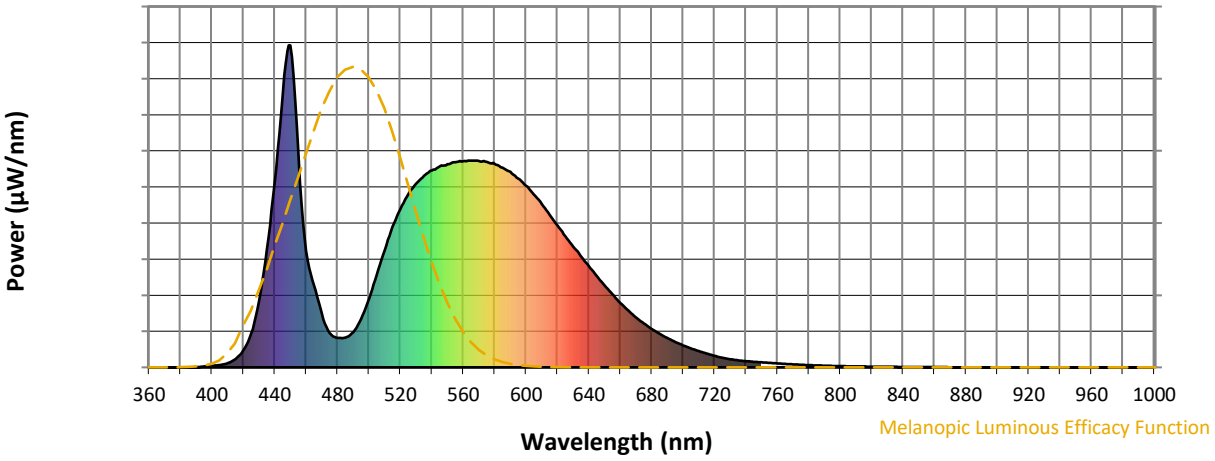


Scotopic Lumens: NR **S/P: 1.69**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-6

Melanopic Flux vs. Wavelength



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

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

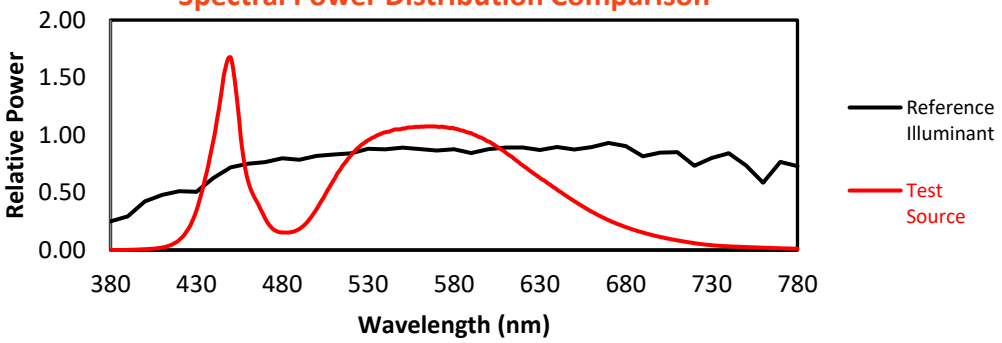
REPORT NUMBER: SP1-2407-176-6

TM-30-18

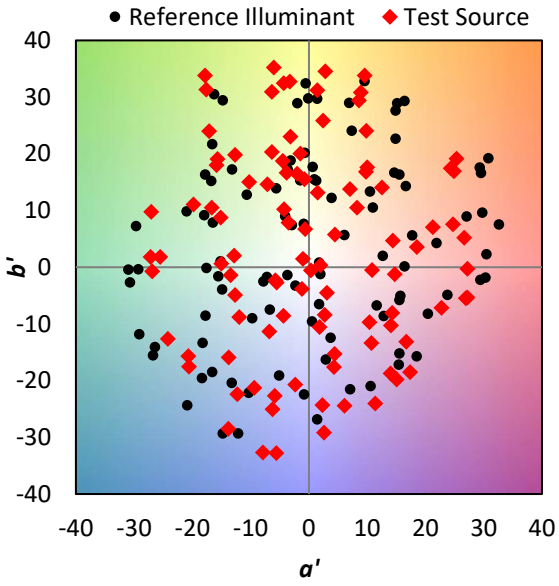
Summary

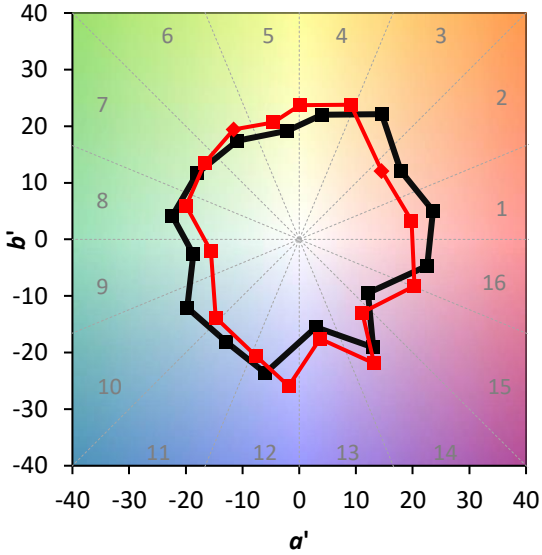
R_f = 73
R_g = 94.6
CIE R_a = 70.9
R_9 = -29.8

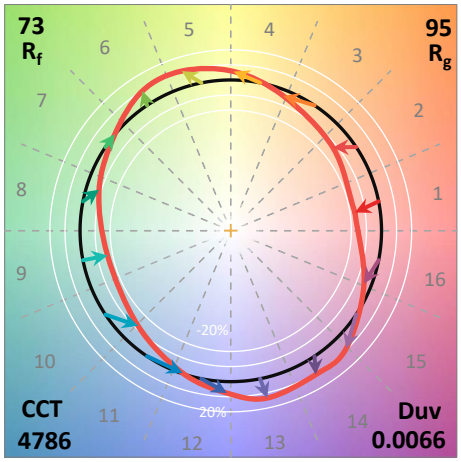
Spectral Power Distribution Comparison

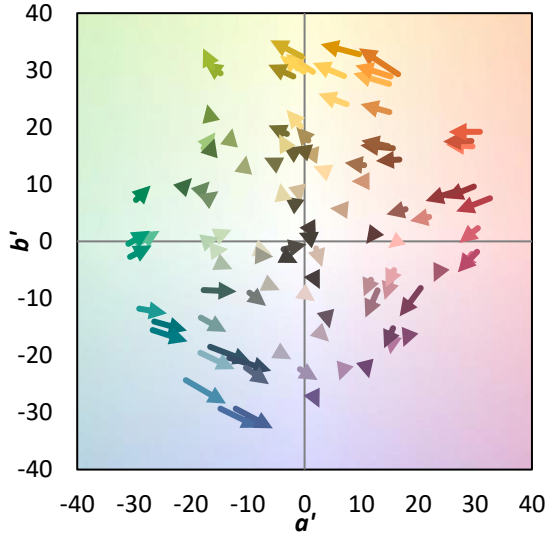


Color Vector Graphics







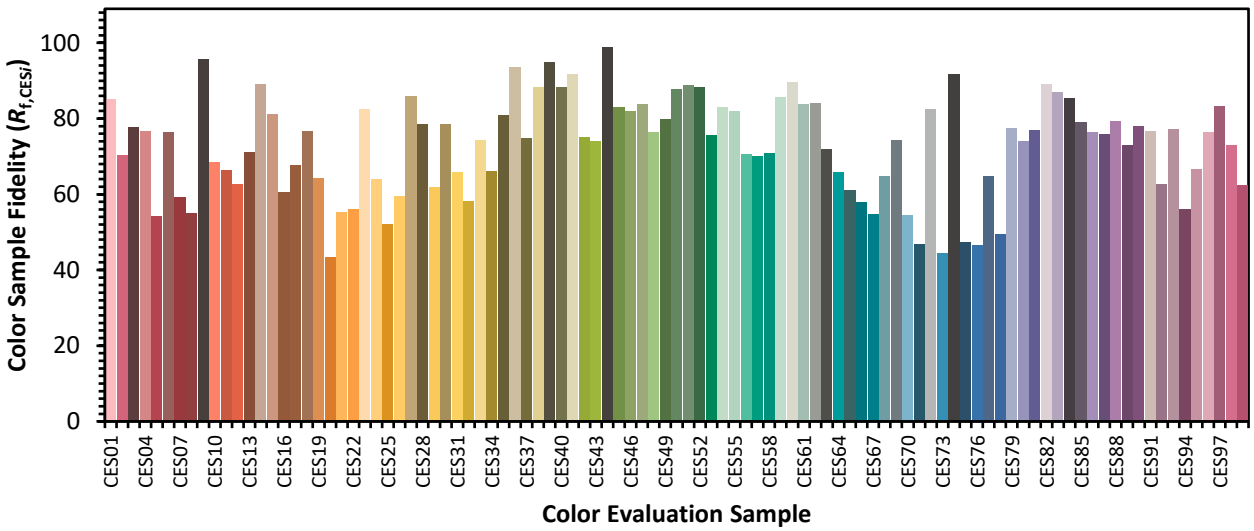


REPORT NUMBER: SP1-2407-176-6

TM-30-18

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

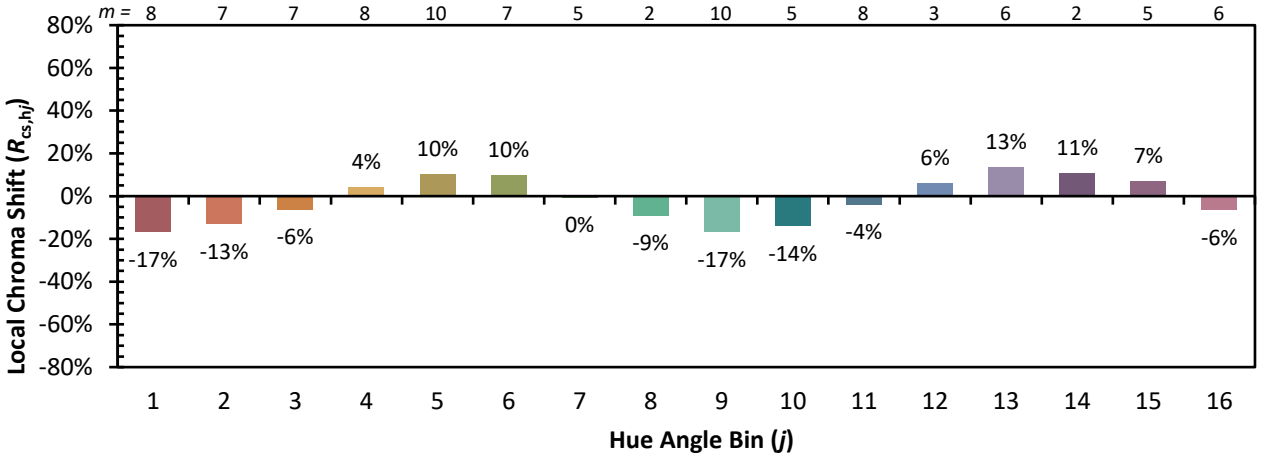
CES01 = 85	CES26 = 60	CES51 = 89	CES76 = 46
CES02 = 59	CES27 = 86	CES52 = 88	CES77 = 65
CES03 = 30	CES28 = 78	CES53 = 76	CES78 = 49
CES04 = 69	CES29 = 62	CES54 = 83	CES79 = 78
CES05 = 46	CES30 = 79	CES55 = 82	CES80 = 74
CES06 = 50	CES31 = 66	CES56 = 71	CES81 = 77
CES07 = 39	CES32 = 58	CES57 = 70	CES82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

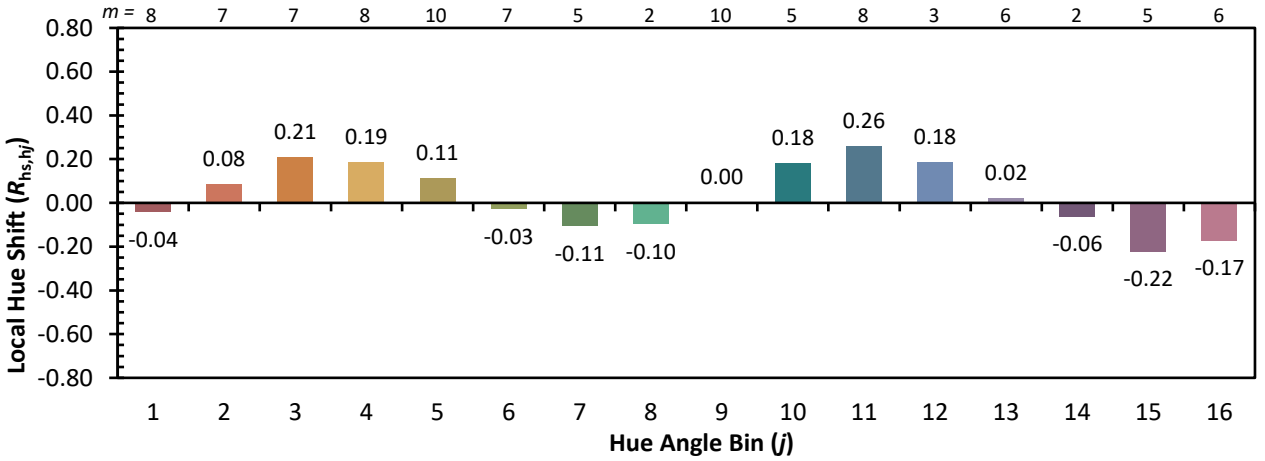


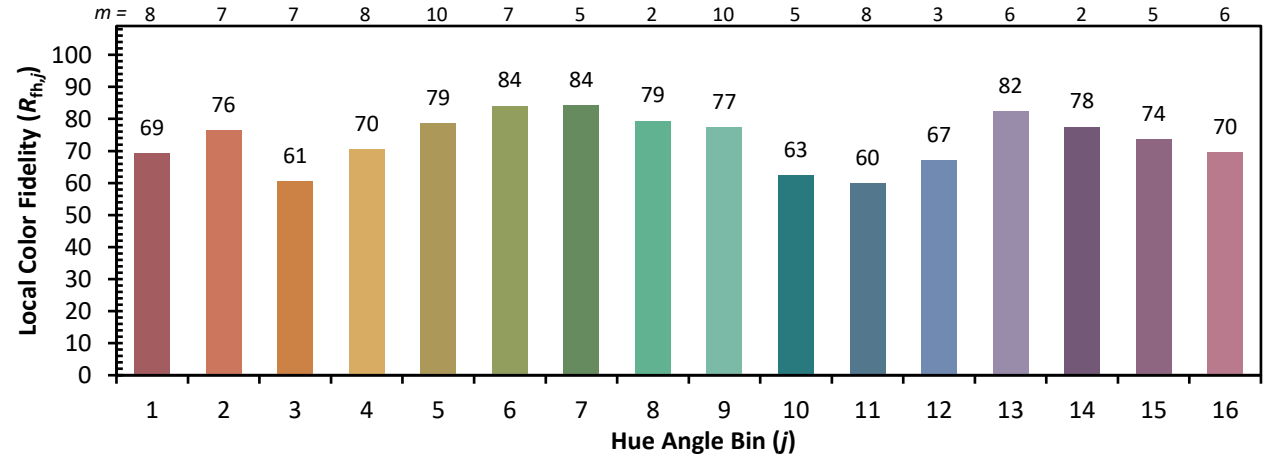
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Color Rendition by Hue-Angle Bin



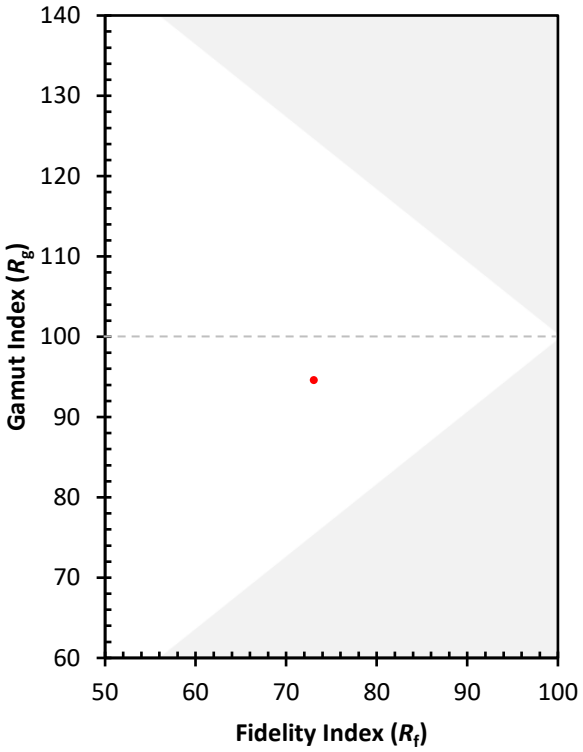


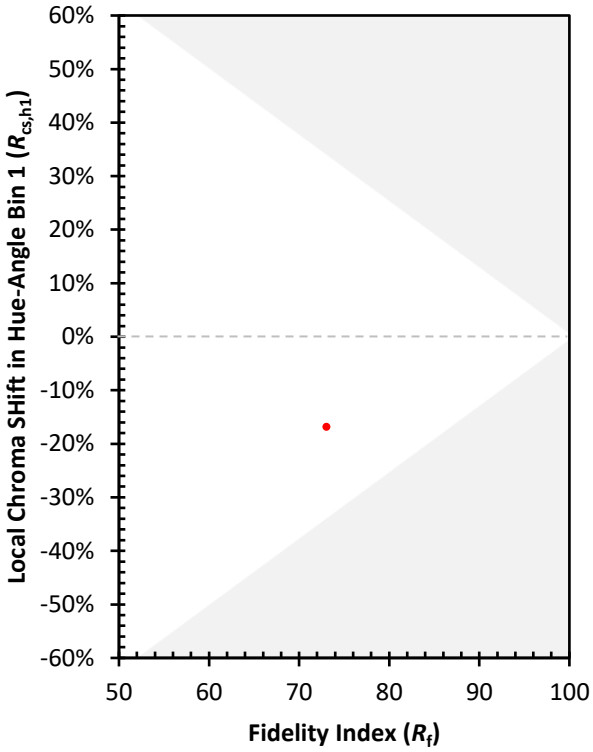


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Measure Comparisons





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