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: P821132

Luminaire Tested: **TT-D2-830-24VDC-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:	P821132
	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-D2-830-24VDC-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:	3512.9 lumens
Efficiency:	N/A
Efficacy:	92.4 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G3

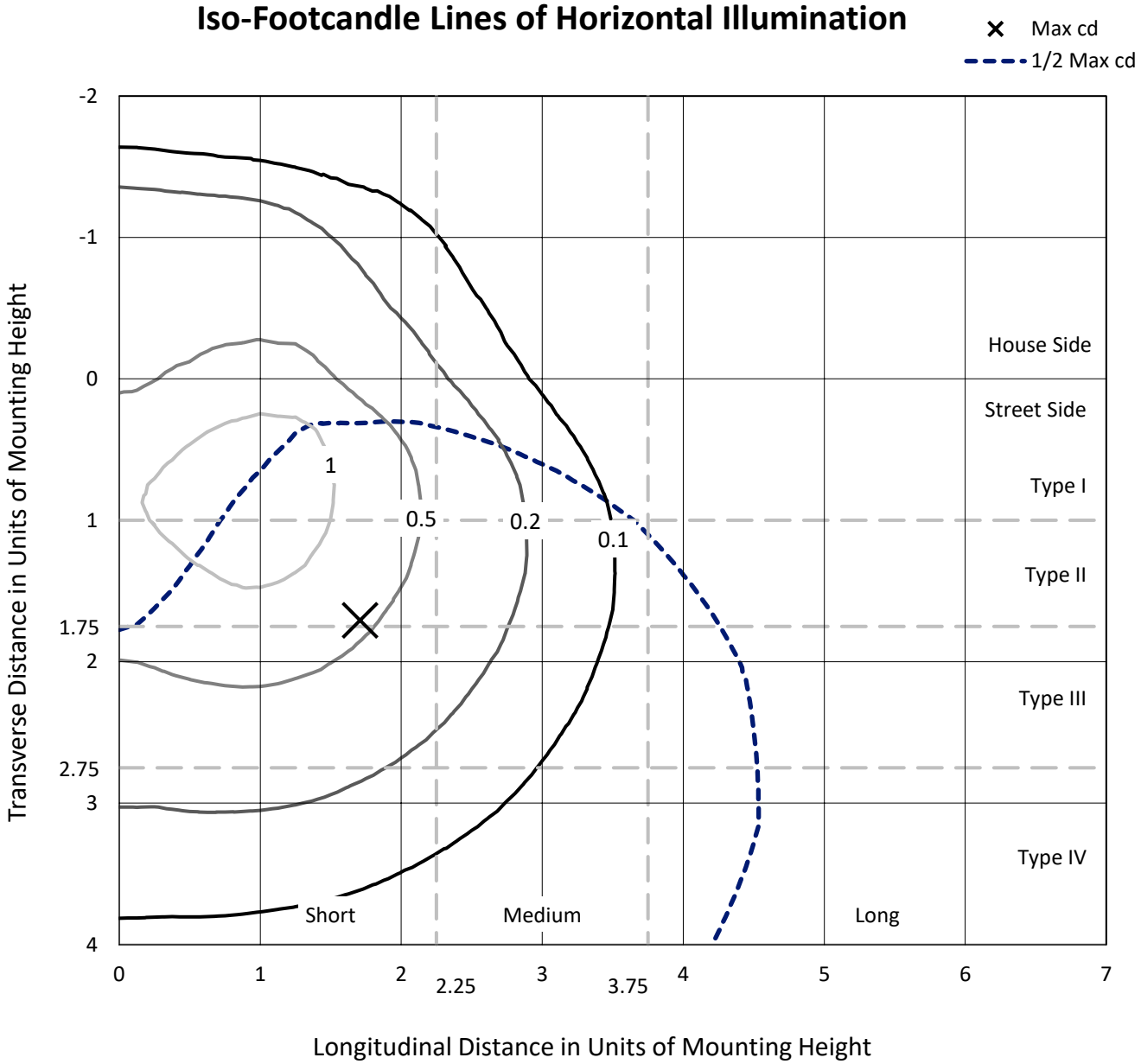
Input Watts (W):	38
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



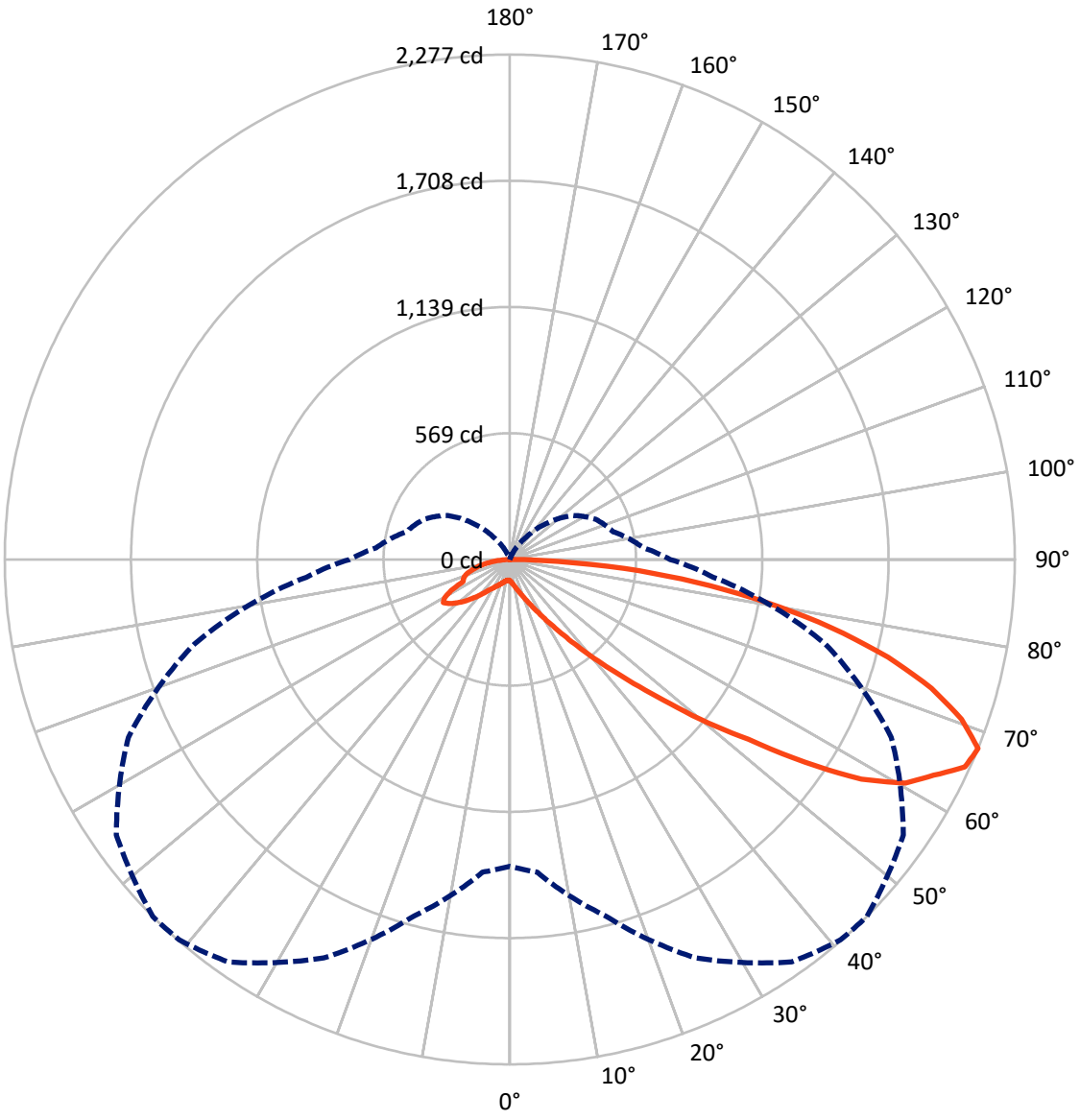
Based on 15 foot mounting height. Maximum calculated value = 1.4 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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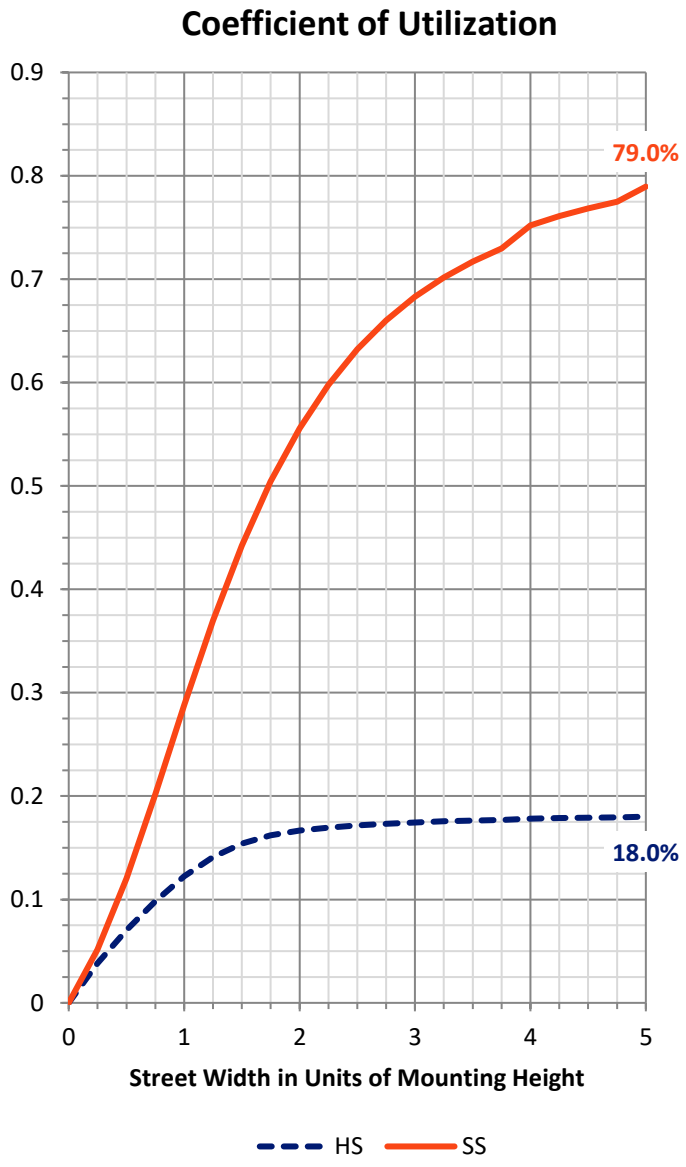
REPORT NUMBER: P821132
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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	638.3	0.7	639.0
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	2866.2	7.8	2873.9
	% Fixture	81.6	0.2	81.8
Total	Lumens	3504.4	8.5	3512.9
	% Fixture	99.8	0.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.9	0.3
10°-20°	36.9	1.1
20°-30°	85.2	2.4
30°-40°	181.8	5.2
40°-50°	380.4	10.8
50°-60°	721.7	20.5
60°-70°	982.2	28.0
70°-80°	844.4	24.0
80°-90°	261.8	7.5
90°-100°	5.5	0.2
100°-110°	1.6	0.0
110°-120°	0.4	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°	3504.4	99.8
0°-180°	3512.9	100.0



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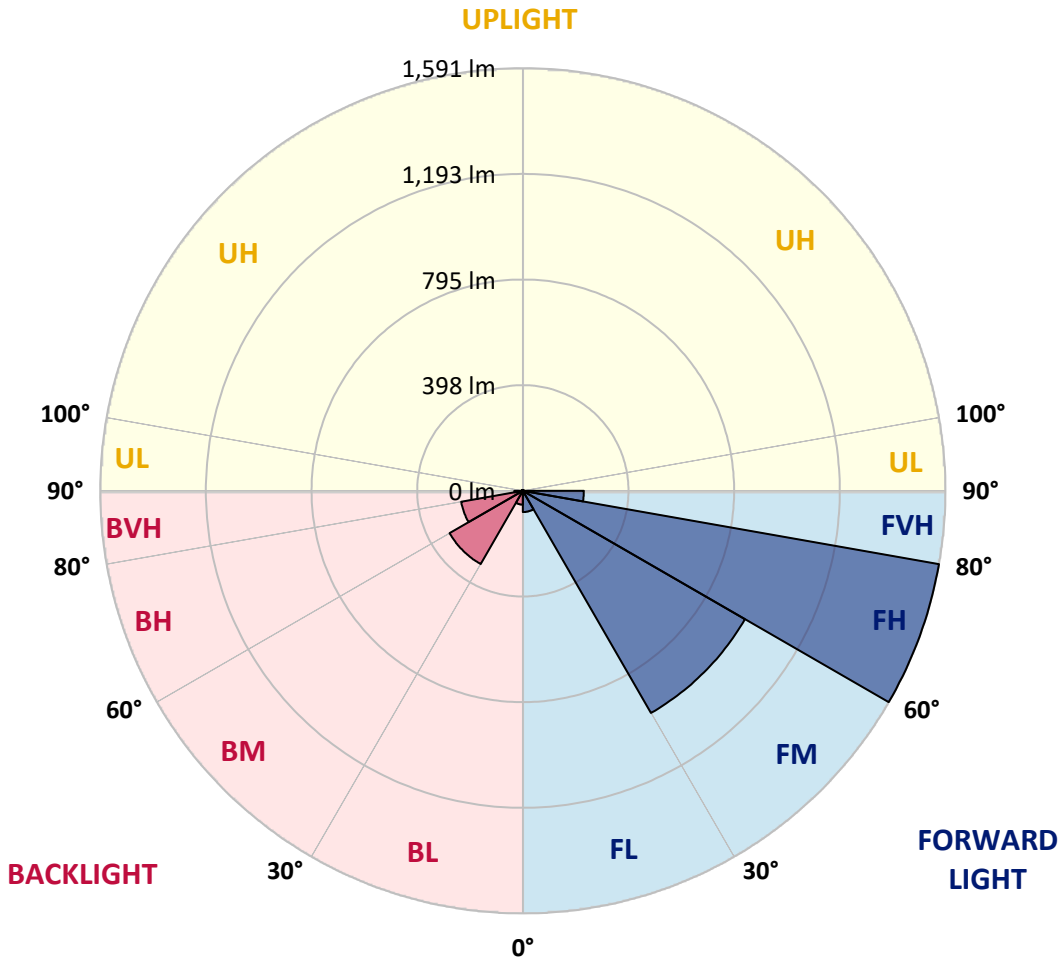
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	80.1	2.3			
FM	(30°-60°)	965.5	27.5			
FH	(60°-80°)	1590.9	45.3			G1/1800
FVH	(80°-90°)	229.8	6.5			G3/500
BL	(0°-30°)	52.0	1.5	B0/110		
BM	(30°-60°)	318.4	9.1	B1/1000		
BH	(60°-80°)	235.8	6.7	B1/500		G1/500
BVH	(80°-90°)	32.1	0.9			G1/100
UL	(90°-100°)	5.5	0.2		U1/10	
UH	(100°-180°)	2.9	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°	96.1	96.1	96.1	96.1	96.1	96.1	*96.1*	96.1	96.1	96.1	96.1
2.5°	104.3	103.6	103.6	102.8	102.8	101.3	*101.3*	100.6	99.8	99.1	97.6
5°	111.8	111.0	111.0	110.3	109.5	108.0	*107.3*	105.8	104.3	102.8	101.3
7.5°	120.7	120.0	120.0	119.2	117.7	115.5	*114.8*	112.5	110.3	108.0	105.8
10°	131.9	131.1	131.1	129.7	128.2	125.9	*124.4*	121.5	119.2	115.5	111.8
12.5°	143.8	143.1	143.1	141.6	138.6	137.1	*135.6*	131.9	128.2	123.7	119.2
15°	157.2	157.2	157.2	156.5	153.5	150.5	*149.0*	144.6	140.1	133.4	127.4
17.5°	174.4	173.6	173.6	172.1	168.4	166.9	*164.7*	159.5	152.8	145.3	137.9
20°	195.2	194.5	193.0	192.2	188.5	187.0	*184.1*	178.1	169.1	159.5	149.0
22.5°	216.1	216.1	215.3	216.1	213.1	211.6	*207.9*	199.7	189.3	175.1	162.4
25°	239.9	240.7	242.2	244.4	240.7	239.2	*236.2*	225.8	213.1	195.2	177.3
27.5°	269.7	269.7	273.5	277.2	274.2	273.5	*269.0*	257.8	239.9	218.3	197.5
30°	301.8	302.5	308.5	315.2	313.7	313.7	*310.0*	297.3	275.7	250.4	221.3
32.5°	339.0	342.0	348.0	355.4	360.6	360.6	*359.2*	345.7	320.4	286.1	250.4
35°	388.2	383.0	394.2	405.4	416.5	418.8	*419.5*	406.8	377.8	334.6	286.1
37.5°	430.7	429.9	447.1	466.5	485.1	492.5	*494.8*	482.9	445.6	389.0	324.9
40°	479.9	484.3	507.4	536.5	567.8	580.5	*586.4*	573.0	526.8	453.8	369.6
42.5°	531.3	544.7	573.8	617.7	665.4	684.0	*690.7*	678.1	623.7	535.0	426.2
45°	591.6	610.3	649.0	711.6	774.2	801.8	*816.7*	812.2	756.3	646.0	499.2
47.5°	666.2	679.6	732.5	816.7	905.3	950.8	*971.7*	984.3	904.6	760.8	563.3
50°	750.4	752.6	825.6	932.2	1061.8	1122.2	*1158.7*	1152.7	1058.1	892.7	644.5
52.5°	835.3	833.1	928.4	1073.0	1242.9	1321.9	*1346.5*	1371.1	1277.9	1093.9	774.9
55°	932.2	927.7	1047.7	1231.0	1441.9	1546.2	*1615.5*	1649.7	1503.0	1226.5	831.6
57.5°	1012.6	1026.8	1177.3	1397.9	1692.2	1823.4	*1868.8*	1850.2	1626.6	1293.6	859.1
60°	1114.7	1135.6	1307.0	1616.2	1909.1	2006.7	*2048.4*	1963.5	1705.6	1344.2	878.5
62.5°	1210.9	1237.7	1449.3	1793.6	2044.7	2134.1	*2144.5*	2052.1	1816.7	1444.1	935.2
65°	1301.0	1331.6	1590.9	1898.6	2163.1	2237.7	*2255.5*	2182.5	1934.4	1503.0	957.5
67.5°	*1383.7*	*1415.8*	*1663.9*	*1982.8*	*2216.1*	*2273.4*	*2277.2*	*2166.1*	*1897.9*	*1472.4*	*921.7*
70°	1447.1	1461.2	1698.9	1980.6	2153.5	2175.8	*2160.9*	2049.1	1812.2	1409.8	870.3
72.5°	1459.7	1470.2	1650.5	1870.3	1979.8	2000.7	*1988.8*	1890.4	1677.3	1298.0	786.9
75°	1395.7	1397.9	1520.1	1672.1	1751.8	1777.2	*1761.5*	1670.6	1474.6	1140.1	677.3
77.5°	1228.0	1232.5	1306.2	1408.3	1475.4	1497.0	*1485.1*	1401.6	1235.4	957.5	560.3
80°	973.2	982.1	1035.0	1105.8	1166.9	1189.2	*1175.1*	1108.0	972.4	752.6	437.4
82.5°	663.2	674.4	722.8	781.7	835.3	856.9	*845.0*	802.5	701.2	542.5	312.2
85°	335.3	347.2	397.2	452.3	499.2	522.3	*518.6*	500.7	431.4	334.6	188.5
87.5°	52.9	58.1	79.0	105.1	134.1	155.7	*142.3*	140.8	111.8	89.4	45.5
90°	21.6	21.6	20.9	20.1	17.9	16.4	*15.6*	12.7	9.7	6.0	2.2
92.5°	19.4	19.4	18.6	17.1	15.6	14.9	*13.4*	11.2	8.2	5.2	2.2
95°	15.6	15.6	14.9	14.2	12.7	11.9	*10.4*	8.9	6.7	4.5	2.2
97.5°	11.9	11.9	11.2	10.4	9.7	8.2	*8.2*	6.7	4.5	3.0	1.5
100°	8.9	8.9	8.2	7.5	6.7	6.0	*6.0*	4.5	3.0	2.2	1.5
102.5°	6.0	6.0	6.0	5.2	4.5	4.5	*3.7*	3.0	2.2	1.5	1.5
105°	3.7	3.7	3.7	3.7	3.0	2.2	*2.2*	1.5	1.5	1.5	1.5
107.5°	2.2	2.2	2.2	2.2	1.5	1.5	*1.5*	1.5	1.5	1.5	1.5
110°	1.5	1.5	1.5	0.7	0.7	0.7	*0.7*	0.7	0.7	1.5	0.7

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
112.5°	0.7	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7
115°	0.0	0.0	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7
117.5°	0.0	0.0	0.0	0.0	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7
120°	0.0	0.0	0.0	0.0	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7
122.5°	0.0	0.0	0.0	0.0	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7
125°	0.0	0.0	0.0	0.7	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7
127.5°	0.0	0.0	0.0	0.7	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
130°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
135°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
140°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.7	0.7	0.7	0.7
142.5°	0.7	0.7	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
145°	0.7	0.7	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
147.5°	0.7	0.7	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
150°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.7	0.7	0.7	0.7
155°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
160°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.7	0.7	0.7	0.7
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
165°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
170°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
175°	0.0	0.0	0.0	0.0	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7
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°	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1
2.5°	97.6	96.9	95.4	94.6	93.1	93.1	92.4	91.7	91.7	91.7	91.7
5°	99.8	99.1	97.6	96.1	94.6	93.1	92.4	91.7	91.7	91.7	90.9
7.5°	104.3	102.8	100.6	98.4	96.1	94.6	93.9	93.1	92.4	92.4	92.4
10°	109.5	108.0	104.3	102.1	99.1	96.9	96.1	95.4	94.6	94.6	94.6
12.5°	116.2	114.0	109.5	105.8	102.8	100.6	99.1	98.4	98.4	97.6	98.4
15°	124.4	121.5	115.5	111.0	107.3	105.1	103.6	102.8	102.8	102.8	102.1
17.5°	133.4	129.7	122.2	117.0	112.5	110.3	108.8	108.0	108.0	108.0	108.0
20°	143.8	138.6	130.4	123.7	119.2	116.2	114.8	114.8	114.0	114.8	114.8
22.5°	155.0	149.0	138.6	131.1	125.2	122.2	120.7	120.7	120.7	121.5	122.2
25°	168.4	161.0	148.3	138.6	131.9	128.9	127.4	128.2	128.2	128.9	128.9
27.5°	186.3	175.1	159.5	147.5	140.1	136.4	134.9	135.6	136.4	136.4	136.4
30°	206.4	193.0	171.4	158.7	149.8	145.3	143.8	144.6	145.3	146.8	146.0
32.5°	231.0	214.6	189.3	171.4	161.7	156.5	155.0	154.2	155.7	157.2	157.2
35°	260.8	239.9	210.1	189.3	175.1	168.4	166.9	166.2	166.9	168.4	169.9
37.5°	292.8	267.5	231.0	209.4	193.7	186.3	182.6	179.6	180.3	181.1	183.3
40°	329.4	298.1	254.8	228.8	214.6	205.7	200.4	196.0	197.5	197.5	198.2
42.5°	375.6	336.1	284.6	251.9	237.0	227.3	219.1	213.9	210.9	211.6	208.6
45°	435.9	386.7	321.9	284.6	263.8	248.9	239.2	228.8	221.3	222.8	218.3
47.5°	485.8	427.0	356.9	315.9	293.6	275.0	254.8	239.9	229.5	228.0	225.0
50°	546.9	476.1	397.2	350.2	326.4	298.1	274.2	248.9	231.7	227.3	228.0
52.5°	649.8	562.6	454.5	396.4	354.7	321.2	284.6	249.6	226.5	219.8	222.1
55°	687.0	591.6	484.3	434.4	393.4	341.3	289.1	241.4	211.6	205.7	206.4
57.5°	695.2	591.6	486.6	446.3	412.1	357.7	286.9	222.8	183.3	178.1	177.3
60°	699.7	587.9	478.4	437.4	400.1	342.0	257.8	179.6	140.8	137.1	134.9
62.5°	741.4	619.2	486.6	430.7	377.8	300.3	196.0	114.8	78.2	77.5	76.0
65°	754.1	630.4	497.0	435.2	353.2	233.2	116.2	38.7	8.2	8.9	7.5
67.5°	*722.8*	*605.1*	*482.1*	*428.5*	*345.7*	*227.3*	*111.8*	*32.8*	*0.0*	*0.0*	*0.0*
70°	679.6	568.5	456.0	405.4	330.1	218.3	109.5	32.8	0.0	0.0	0.0
72.5°	611.0	516.4	414.3	374.1	303.3	200.4	102.1	31.3	0.0	0.0	0.0
75°	530.5	449.3	362.9	331.6	269.0	175.9	91.7	28.3	0.0	0.0	0.0
77.5°	444.1	374.8	303.3	279.4	227.3	149.8	77.5	23.8	0.0	0.0	0.0
80°	348.7	296.6	239.2	222.8	179.6	119.2	61.8	18.6	0.0	0.0	0.0
82.5°	251.1	215.3	176.6	163.2	131.9	86.4	44.7	12.7	0.0	0.0	0.0
85°	155.0	134.9	114.0	105.8	83.5	53.7	26.8	6.7	0.0	0.0	0.0
87.5°	46.2	44.7	40.2	39.5	28.3	16.4	6.0	0.7	0.0	0.0	0.0
90°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.7	0.7	0.7	0.7	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: P821132
CATALOG NUMBER: TT-D2-830-24VDC-DL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.7	0.7	0.7	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

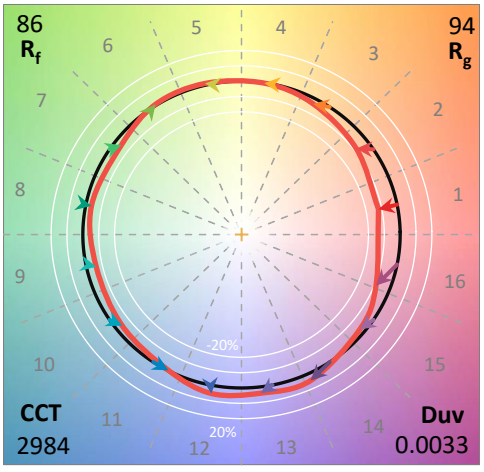
Test Information

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

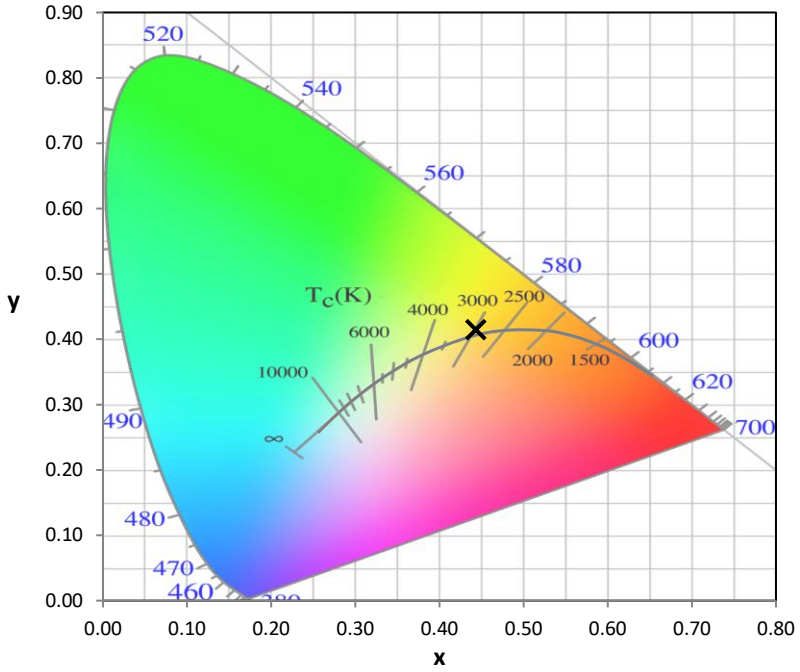
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

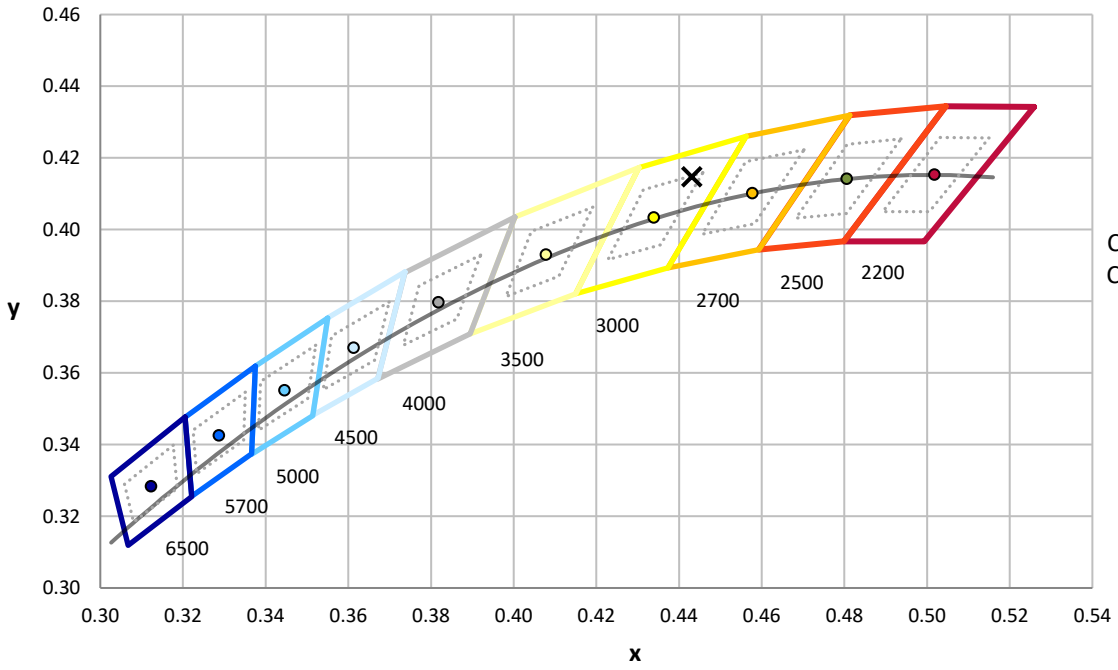
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

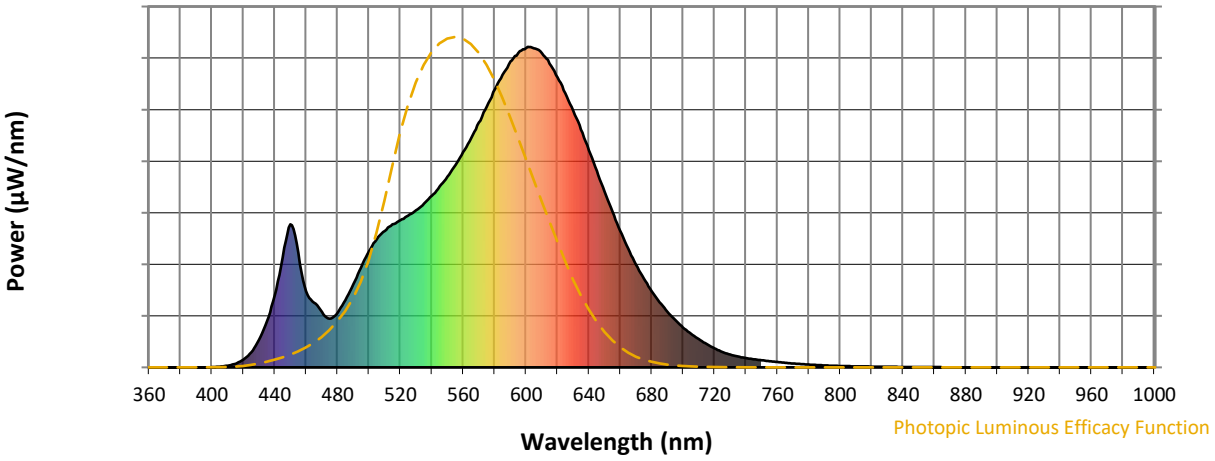


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

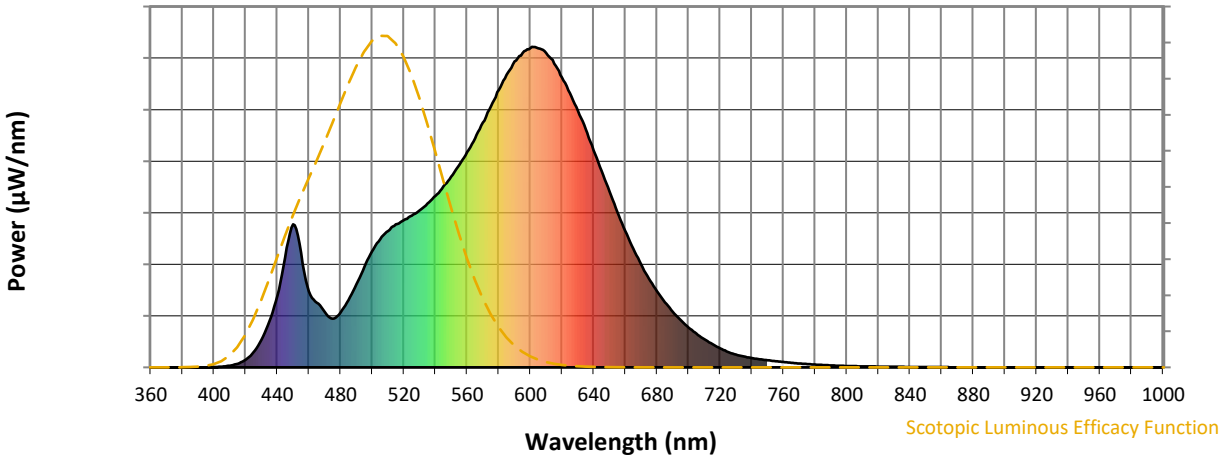


Photopic Lumens: NR

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

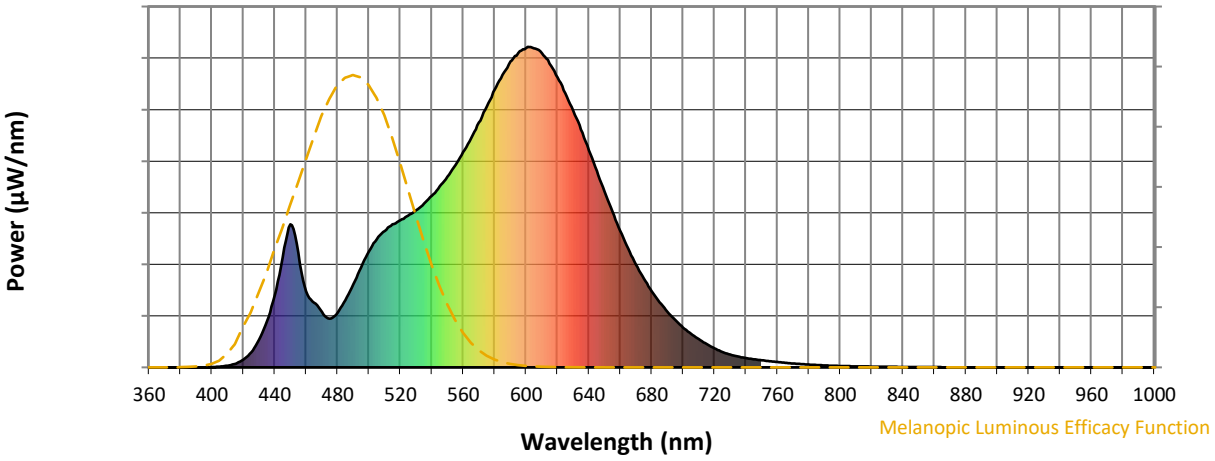


Scotopic Lumens: NR **S/P: 1.32**

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			

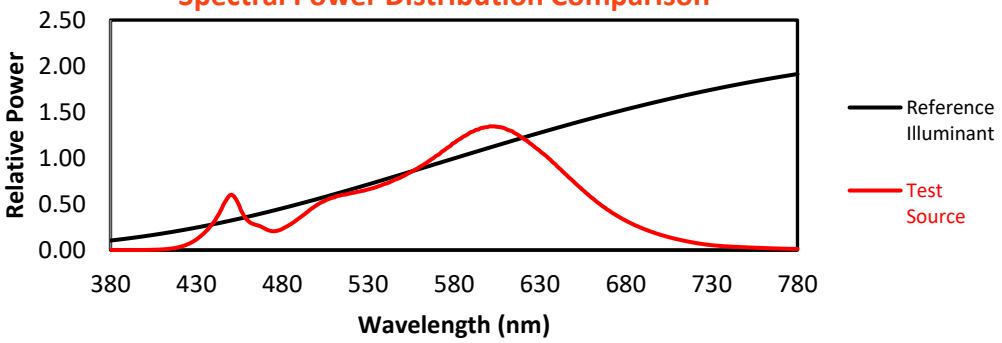
REPORT NUMBER: SP1-2407-176-7

TM-30-18

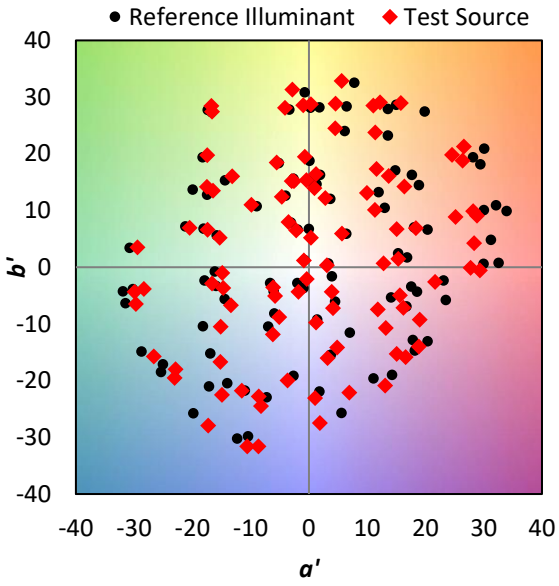
Summary

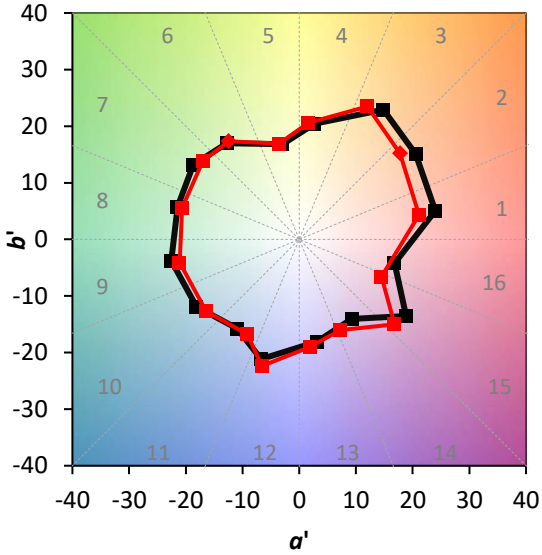
R_f = 85.8
R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

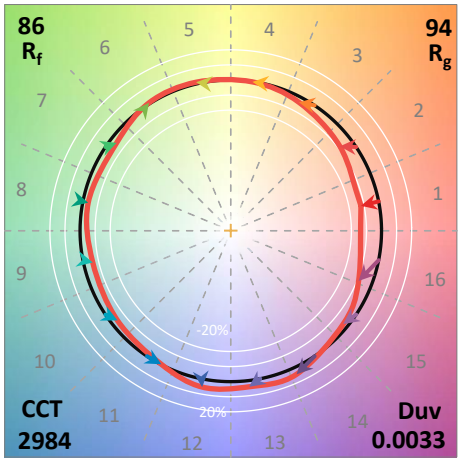
Spectral Power Distribution Comparison

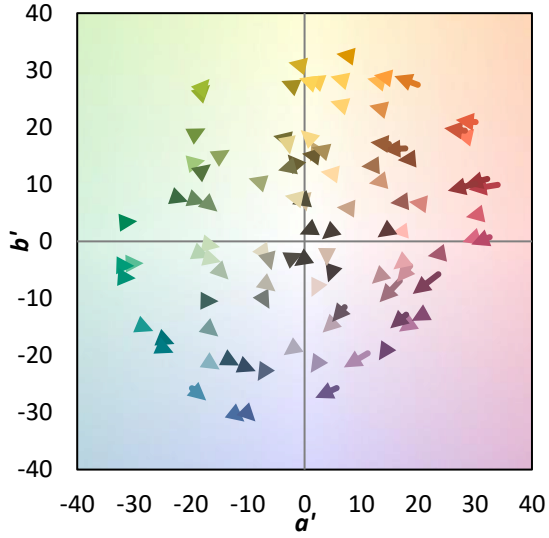


Color Vector Graphics







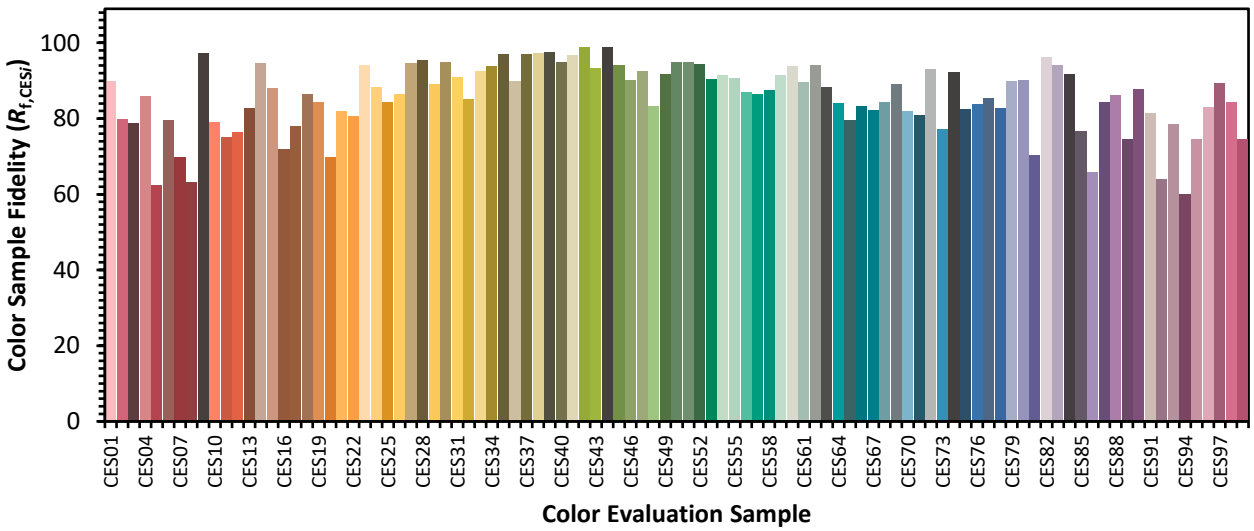


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

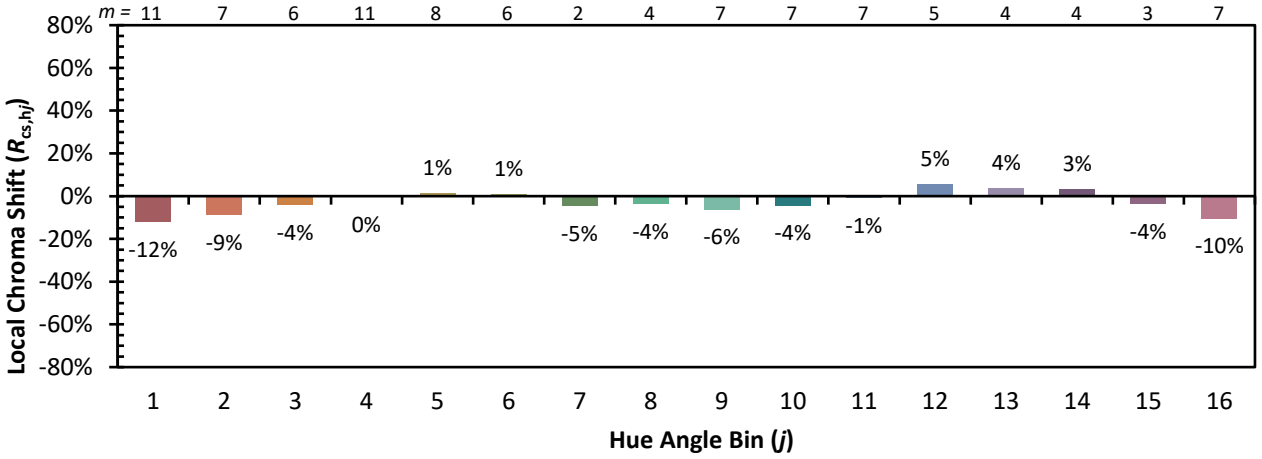
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CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57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

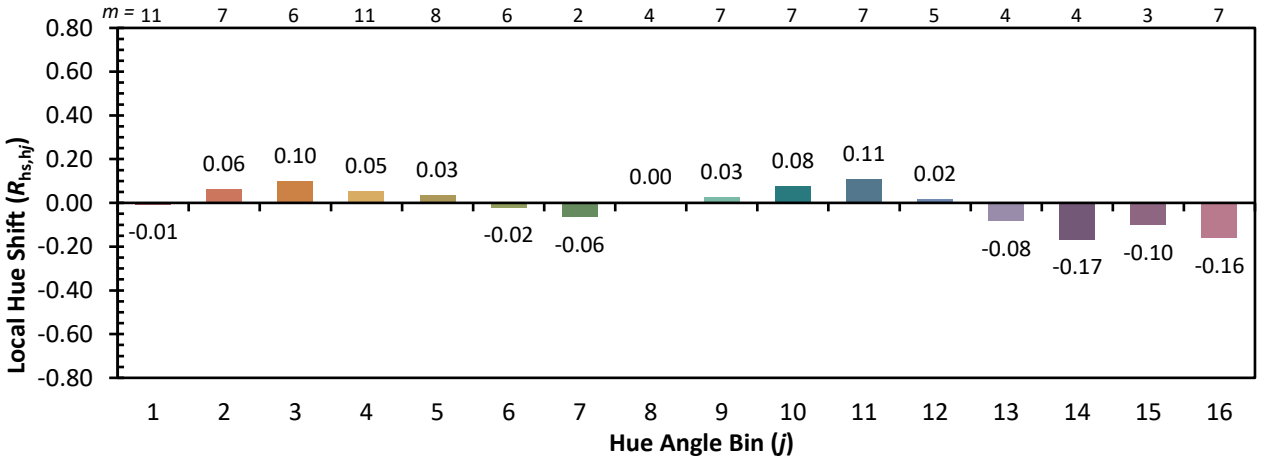


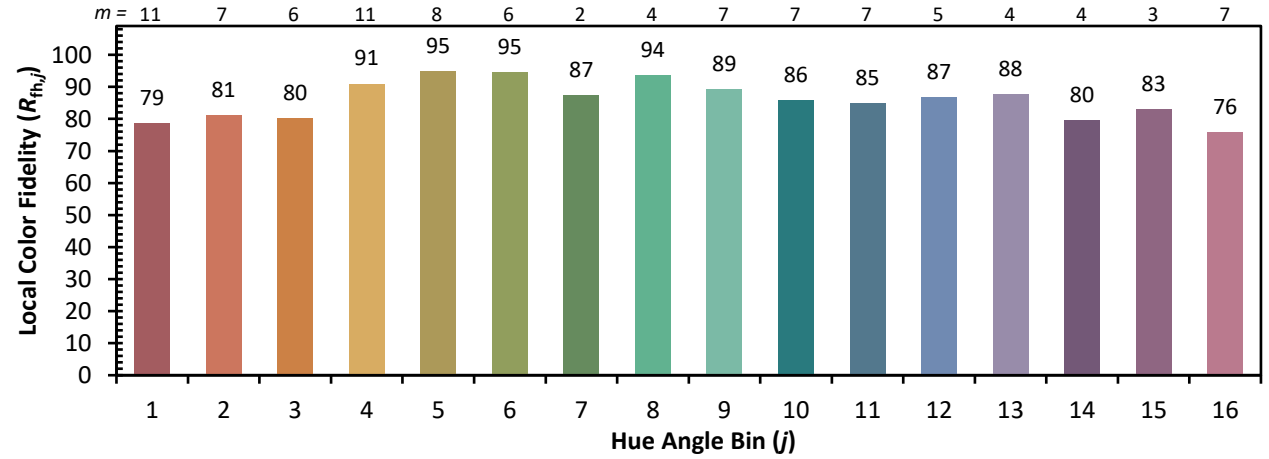
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Color Rendition by Hue-Angle Bin



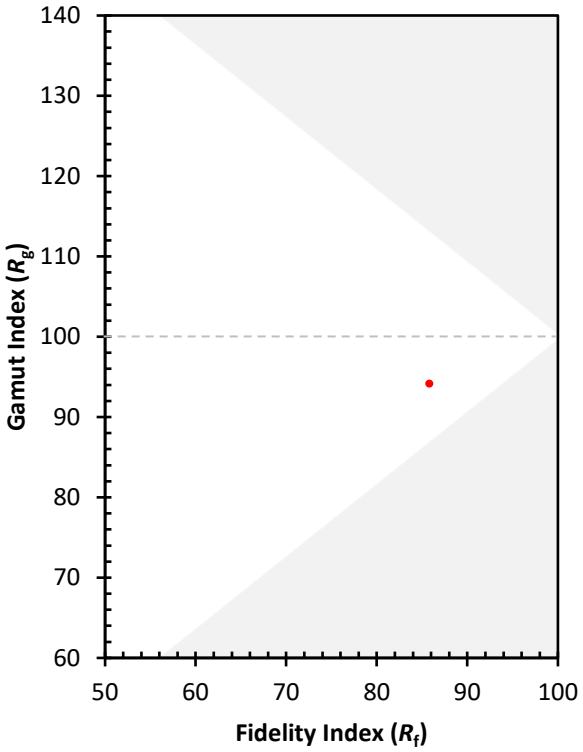


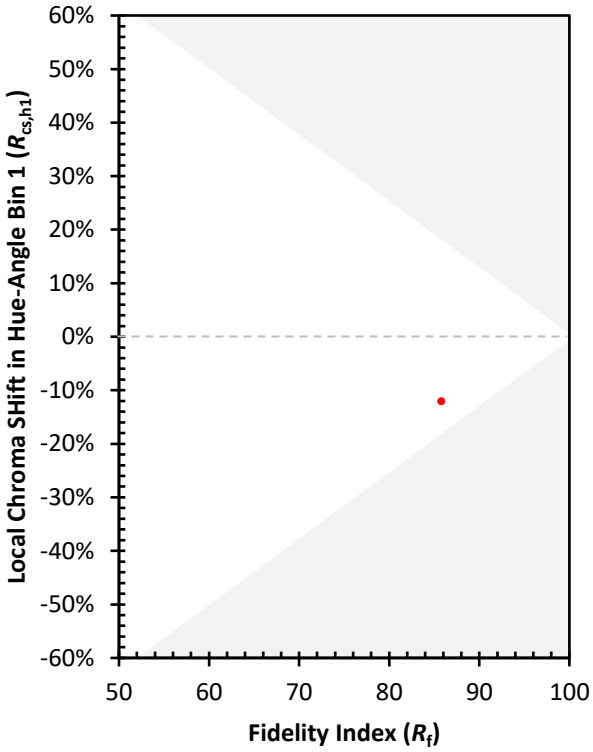


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Measure Comparisons





(END OF REPORT)