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: P821429

Luminaire Tested: **TT-D1-830-12VDC-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:	P821429
	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-D1-830-12VDC-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:	2609.1 lumens
Efficiency:	N/A
Efficacy:	93.2 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G2

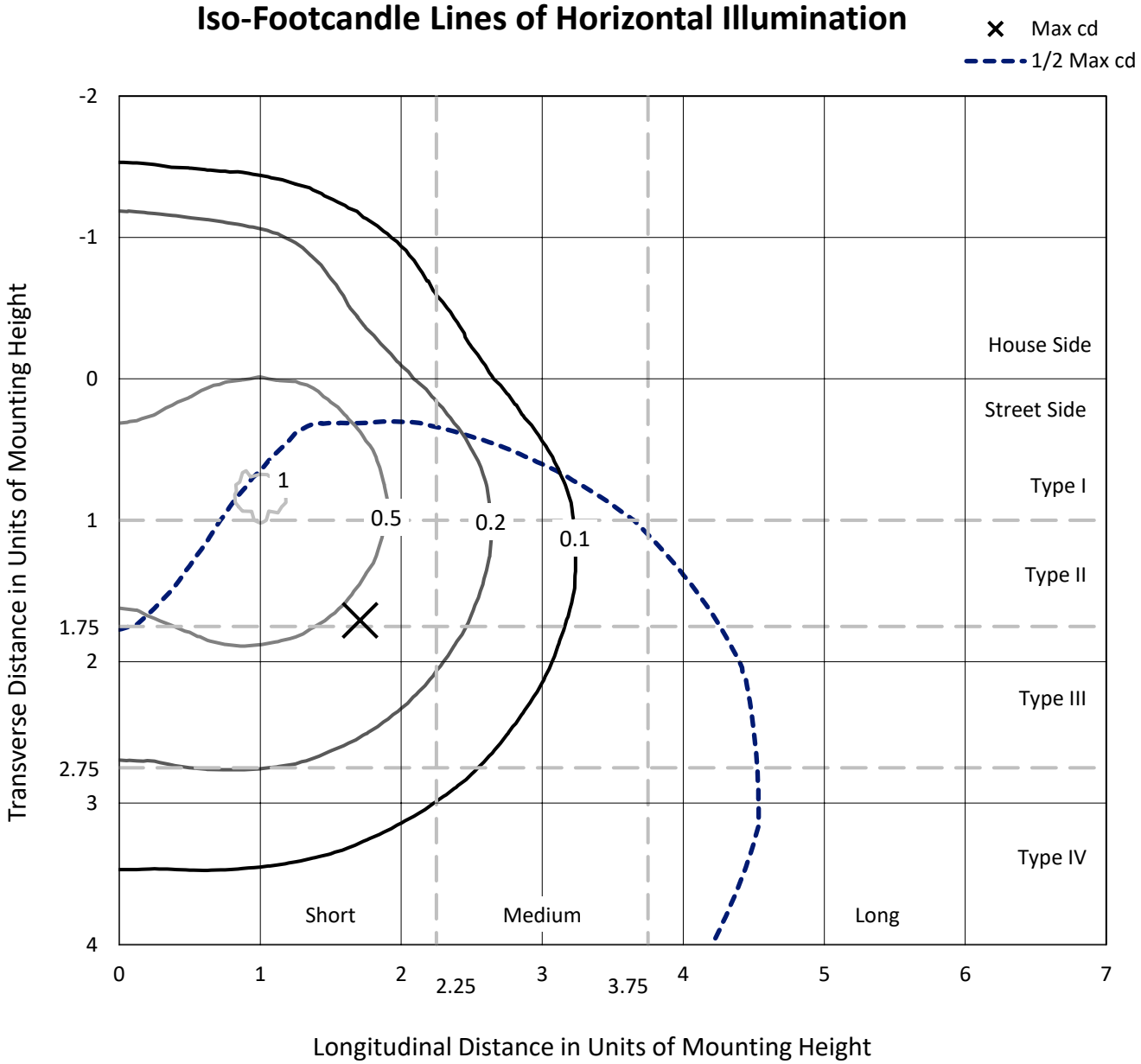
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



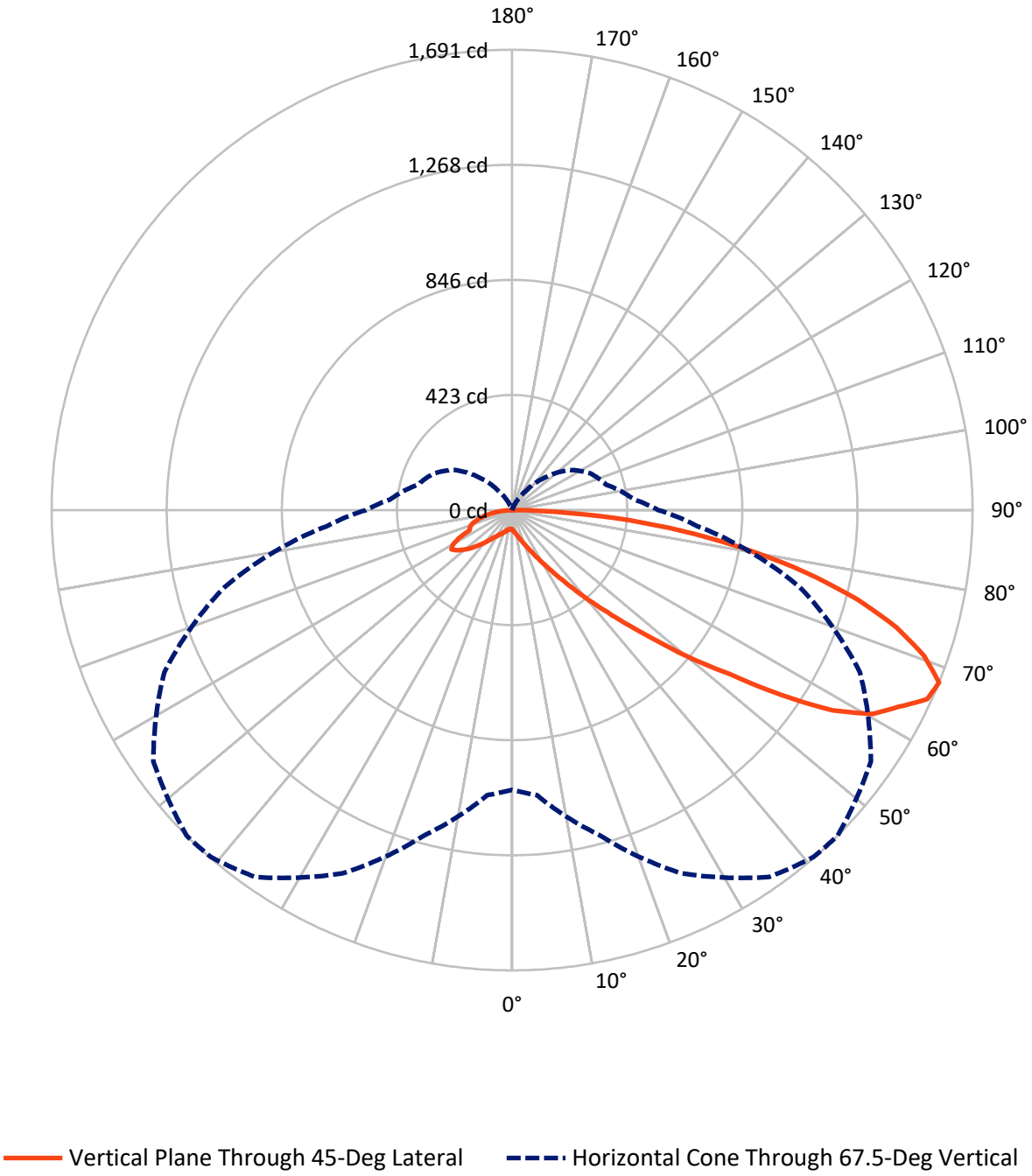
Based on 15 foot mounting height. Maximum calculated value = 1 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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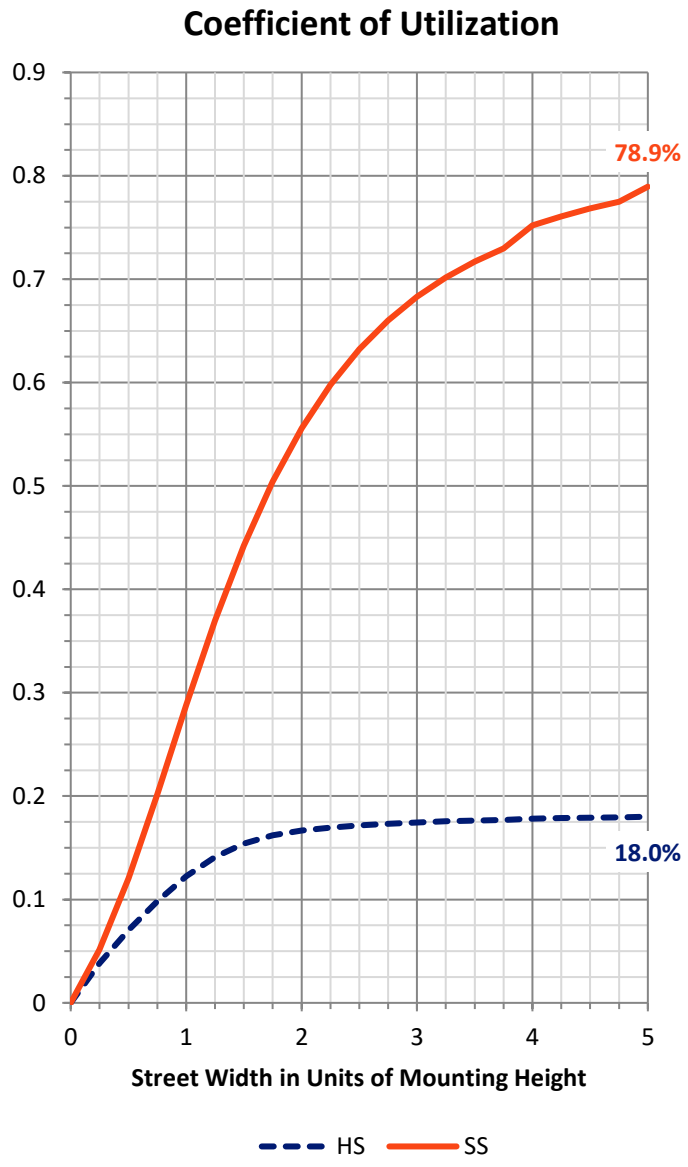
REPORT NUMBER: P821429
CATALOG NUMBER: TT-D1-830-12VDC-DL-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	474.0	0.6	474.6
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	2128.6	5.9	2134.5
	% Fixture	81.6	0.2	81.8
Total	Lumens	2602.6	6.5	2609.1
	% Fixture	99.8	0.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.4	0.3
10°-20°	27.4	1.1
20°-30°	63.3	2.4
30°-40°	135.0	5.2
40°-50°	282.5	10.8
50°-60°	536.0	20.5
60°-70°	729.4	28.0
70°-80°	627.1	24.0
80°-90°	194.5	7.5
90°-100°	4.1	0.2
100°-110°	1.2	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°	2602.6	99.8
0°-180°	2609.1	100.0



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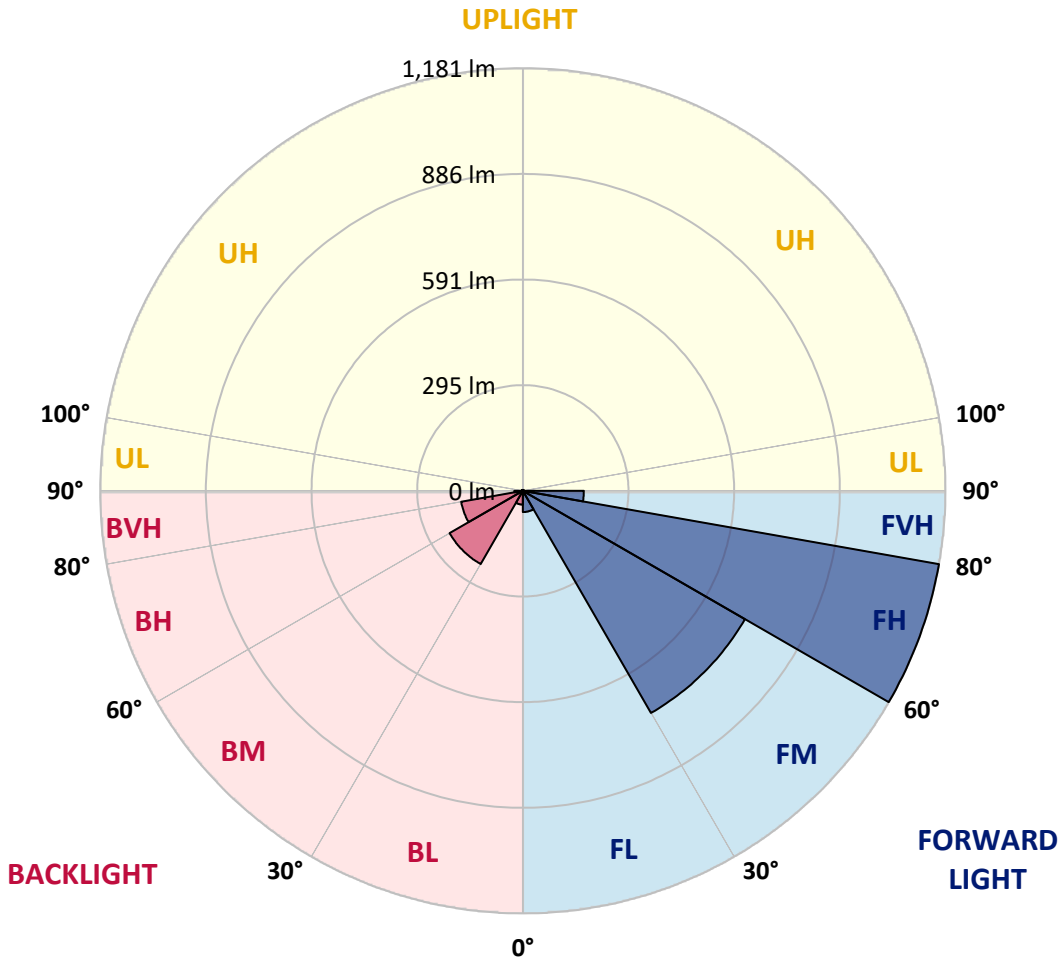
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	59.5	2.3			
FM	(30°-60°)	717.0	27.5			
FH	(60°-80°)	1181.5	45.3			G1/1800
FVH	(80°-90°)	170.6	6.5			G2/225
BL	(0°-30°)	38.6	1.5	B0/110		
BM	(30°-60°)	236.5	9.1	B1/1000		
BH	(60°-80°)	175.1	6.7	B1/500		G1/500
BVH	(80°-90°)	23.8	0.9			G1/100
UL	(90°-100°)	4.1	0.2		U1/10	
UH	(100°-180°)	2.3	0.1		U1/10	

BUG Rating: B1-U1-G2
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
0°	71.4	71.4	71.4	71.4	71.4	71.4	*71.4*	71.4	71.4	71.4	71.4
2.5°	77.5	76.9	76.9	76.4	76.4	75.3	*75.3*	74.7	74.2	73.6	72.5
5°	83.0	82.5	82.5	81.9	81.3	80.2	*79.7*	78.6	77.5	76.4	75.3
7.5°	89.6	89.1	89.1	88.5	87.4	85.8	*85.2*	83.6	81.9	80.2	78.6
10°	98.0	97.4	97.4	96.3	95.2	93.5	*92.4*	90.2	88.5	85.8	83.0
12.5°	106.8	106.3	106.3	105.1	102.9	101.8	*100.7*	98.0	95.2	91.9	88.5
15°	116.8	116.8	116.8	116.2	114.0	111.8	*110.7*	107.4	104.0	99.1	94.6
17.5°	129.5	128.9	128.9	127.8	125.1	124.0	*122.3*	118.4	113.4	107.9	102.4
20°	145.0	144.4	143.3	142.8	140.0	138.9	*136.7*	132.3	125.6	118.4	110.7
22.5°	160.5	160.5	159.9	160.5	158.3	157.2	*154.4*	148.3	140.6	130.0	120.6
25°	178.2	178.7	179.9	181.5	178.7	177.6	*175.4*	167.7	158.3	145.0	131.7
27.5°	200.3	200.3	203.1	205.9	203.6	203.1	*199.8*	191.5	178.2	162.1	146.6
30°	224.1	224.7	229.1	234.1	233.0	233.0	*230.2*	220.8	204.8	185.9	164.4
32.5°	251.8	254.0	258.4	264.0	267.8	267.8	*266.7*	256.8	238.0	212.5	185.9
35°	288.3	284.4	292.7	301.0	309.3	311.0	*311.6*	302.2	280.6	248.5	212.5
37.5°	319.9	319.3	332.0	346.4	360.3	365.8	*367.5*	358.6	330.9	288.9	241.3
40°	356.4	359.7	376.9	398.4	421.7	431.1	*435.5*	425.6	391.3	337.0	274.5
42.5°	394.6	404.5	426.1	458.8	494.2	508.0	*513.0*	503.6	463.2	397.3	316.5
45°	439.4	453.2	482.0	528.5	575.0	595.5	*606.5*	603.2	561.7	479.8	370.8
47.5°	494.7	504.7	544.0	606.5	672.4	706.1	*721.6*	731.0	671.8	565.0	418.4
50°	557.3	558.9	613.2	692.3	788.6	833.4	*860.5*	856.1	785.8	663.0	478.7
52.5°	620.4	618.7	689.5	796.9	923.1	981.7	*1000.0*	1018.2	949.1	812.4	575.5
55°	692.3	689.0	778.1	914.2	1070.8	1148.3	*1199.8*	1225.2	1116.2	910.9	617.6
57.5°	752.1	762.6	874.4	1038.2	1256.8	1354.2	*1387.9*	1374.1	1208.1	960.7	638.1
60°	827.9	843.4	970.7	1200.3	1417.8	1490.3	*1521.3*	1458.2	1266.7	998.3	652.5
62.5°	899.3	919.2	1076.4	1332.0	1518.5	1584.9	*1592.7*	1524.0	1349.2	1072.5	694.5
65°	966.2	988.9	1181.5	1410.1	1606.5	1661.8	*1675.1*	1620.9	1436.6	1116.2	711.1
67.5°	*1027.7*	*1051.5*	*1235.7*	*1472.6*	*1645.8*	*1688.4*	*1691.2*	*1608.7*	*1409.5*	*1093.5*	*684.5*
70°	1074.7	1085.2	1261.7	1470.9	1599.3	1615.9	*1604.8*	1521.8	1345.9	1047.0	646.4
72.5°	1084.1	1091.8	1225.8	1389.0	1470.4	1485.9	*1477.0*	1404.0	1245.7	964.0	584.4
75°	1036.5	1038.2	1128.9	1241.8	1301.0	1319.8	*1308.2*	1240.7	1095.2	846.7	503.0
77.5°	912.0	915.3	970.1	1045.9	1095.7	1111.8	*1102.9*	1040.9	917.5	711.1	416.2
80°	722.7	729.4	768.7	821.2	866.6	883.2	*872.7*	822.9	722.2	558.9	324.8
82.5°	492.5	500.8	536.8	580.5	620.4	636.4	*627.5*	596.0	520.7	402.9	231.9
85°	249.0	257.9	295.0	335.9	370.8	387.9	*385.2*	371.9	320.4	248.5	140.0
87.5°	39.3	43.2	58.7	78.0	99.6	115.7	*105.7*	104.6	83.0	66.4	33.8
90°	16.0	16.0	15.5	14.9	13.3	12.2	*11.6*	9.4	7.2	4.4	1.7
92.5°	14.4	14.4	13.8	12.7	11.6	11.1	*10.0*	8.3	6.1	3.9	1.7
95°	11.6	11.6	11.1	10.5	9.4	8.9	*7.7*	6.6	5.0	3.3	1.7
97.5°	8.9	8.9	8.3	7.7	7.2	6.1	*6.1*	5.0	3.3	2.2	1.1
100°	6.6	6.6	6.1	5.5	5.0	4.4	*4.4*	3.3	2.2	1.7	1.1
102.5°	4.4	4.4	4.4	3.9	3.3	3.3	*2.8*	2.2	1.7	1.1	1.1
105°	2.8	2.8	2.8	2.8	2.2	1.7	*1.7*	1.1	1.1	1.1	1.1
107.5°	1.7	1.7	1.7	1.7	1.1	1.1	*1.1*	1.1	1.1	1.1	1.1
110°	1.1	1.1	1.1	0.6	0.6	0.6	*0.6*	0.6	0.6	1.1	0.6

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	41°	45°	55°	65°	75°	85°
112.5°	0.6	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6
115°	0.0	0.0	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6
117.5°	0.0	0.0	0.0	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6
120°	0.0	0.0	0.0	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6
122.5°	0.0	0.0	0.0	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6
125°	0.0	0.0	0.0	0.6	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6
127.5°	0.0	0.0	0.0	0.6	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
130°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
135°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
140°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6
142.5°	0.6	0.6	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
145°	0.6	0.6	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
147.5°	0.6	0.6	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
150°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6
155°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
160°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
165°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
170°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
175°	0.0	0.0	0.0	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6
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°	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
2.5°	72.5	71.9	70.8	70.3	69.2	69.2	68.6	68.1	68.1	68.1	68.1
5°	74.2	73.6	72.5	71.4	70.3	69.2	68.6	68.1	68.1	68.1	67.5
7.5°	77.5	76.4	74.7	73.0	71.4	70.3	69.7	69.2	68.6	68.6	68.6
10°	81.3	80.2	77.5	75.8	73.6	71.9	71.4	70.8	70.3	70.3	70.3
12.5°	86.3	84.7	81.3	78.6	76.4	74.7	73.6	73.0	73.0	72.5	73.0
15°	92.4	90.2	85.8	82.5	79.7	78.0	76.9	76.4	76.4	76.4	75.8
17.5°	99.1	96.3	90.8	86.9	83.6	81.9	80.8	80.2	80.2	80.2	80.2
20°	106.8	102.9	96.8	91.9	88.5	86.3	85.2	85.2	84.7	85.2	85.2
22.5°	115.1	110.7	102.9	97.4	93.0	90.8	89.6	89.6	89.6	90.2	90.8
25°	125.1	119.5	110.1	102.9	98.0	95.7	94.6	95.2	95.2	95.7	95.7
27.5°	138.3	130.0	118.4	109.6	104.0	101.3	100.2	100.7	101.3	101.3	101.3
30°	153.3	143.3	127.3	117.9	111.2	107.9	106.8	107.4	107.9	109.0	108.5
32.5°	171.6	159.4	140.6	127.3	120.1	116.2	115.1	114.6	115.7	116.8	116.8
35°	193.7	178.2	156.1	140.6	130.0	125.1	124.0	123.4	124.0	125.1	126.2
37.5°	217.5	198.7	171.6	155.5	143.9	138.3	135.6	133.4	133.9	134.5	136.1
40°	244.6	221.4	189.3	169.9	159.4	152.7	148.9	145.5	146.6	146.6	147.2
42.5°	278.9	249.6	211.4	187.0	176.0	168.8	162.7	158.8	156.6	157.2	155.0
45°	323.7	287.2	239.1	211.4	195.9	184.8	177.6	169.9	164.4	165.5	162.1
47.5°	360.8	317.1	265.1	234.6	218.0	204.2	189.3	178.2	170.4	169.3	167.1
50°	406.2	353.6	295.0	260.1	242.4	221.4	203.6	184.8	172.1	168.8	169.3
52.5°	482.6	417.8	337.6	294.4	263.4	238.5	211.4	185.4	168.2	163.3	164.9
55°	510.2	439.4	359.7	322.6	292.2	253.5	214.7	179.3	157.2	152.7	153.3
57.5°	516.3	439.4	361.4	331.5	306.0	265.6	213.1	165.5	136.1	132.3	131.7
60°	519.6	436.6	355.3	324.8	297.2	254.0	191.5	133.4	104.6	101.8	100.2
62.5°	550.6	459.9	361.4	319.9	280.6	223.0	145.5	85.2	58.1	57.6	56.4
65°	560.0	468.2	369.1	323.2	262.3	173.2	86.3	28.8	6.1	6.6	5.5
67.5°	*536.8*	*449.4*	*358.0*	*318.2*	*256.8*	*168.8*	*83.0*	*24.3*	*0.0*	*0.0*	*0.0*
70°	504.7	422.2	338.7	301.0	245.2	162.1	81.3	24.3	0.0	0.0	0.0
72.5°	453.8	383.5	307.7	277.8	225.2	148.9	75.8	23.2	0.0	0.0	0.0
75°	394.0	333.7	269.5	246.3	199.8	130.6	68.1	21.0	0.0	0.0	0.0
77.5°	329.8	278.4	225.2	207.5	168.8	111.2	57.6	17.7	0.0	0.0	0.0
80°	259.0	220.3	177.6	165.5	133.4	88.5	45.9	13.8	0.0	0.0	0.0
82.5°	186.5	159.9	131.2	121.2	98.0	64.2	33.2	9.4	0.0	0.0	0.0
85°	115.1	100.2	84.7	78.6	62.0	39.8	19.9	5.0	0.0	0.0	0.0
87.5°	34.3	33.2	29.9	29.3	21.0	12.2	4.4	0.6	0.0	0.0	0.0
90°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.6	0.6	0.6	0.6	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: P821429
CATALOG NUMBER: TT-D1-830-12VDC-DL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.6	0.6	0.6	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

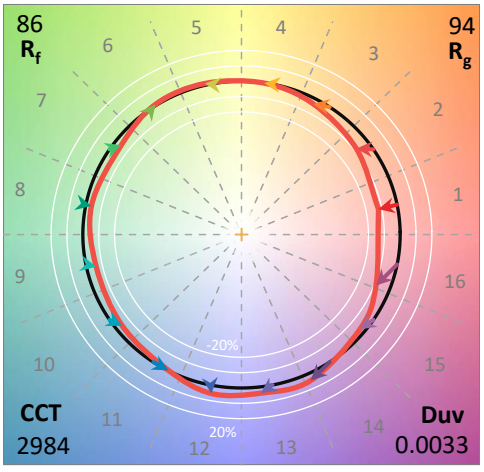
Test Information

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

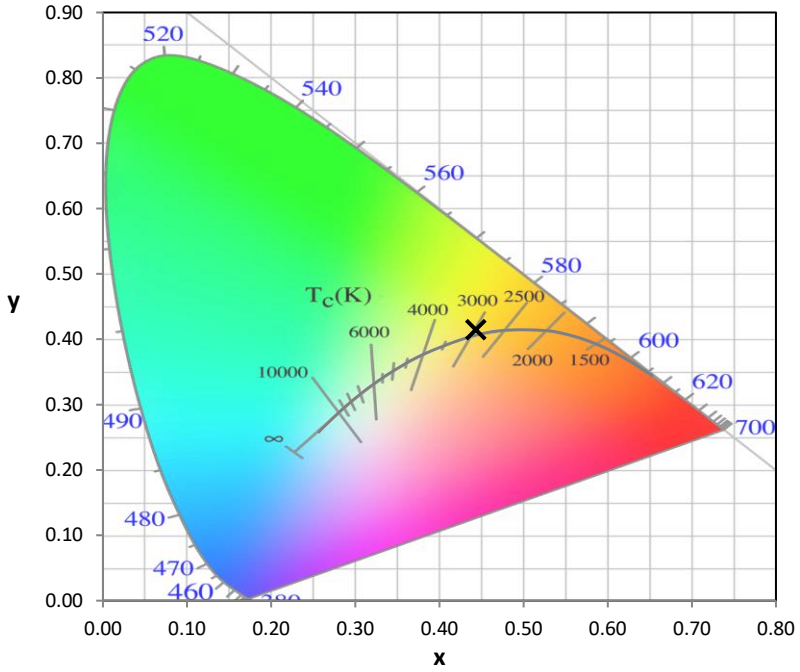
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

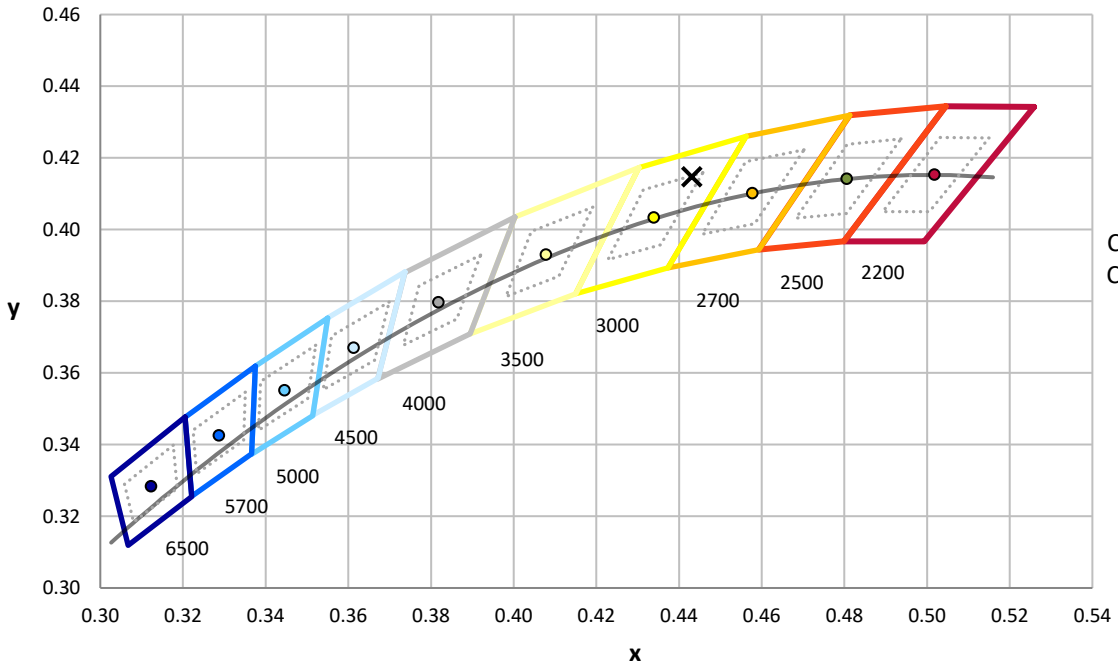
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

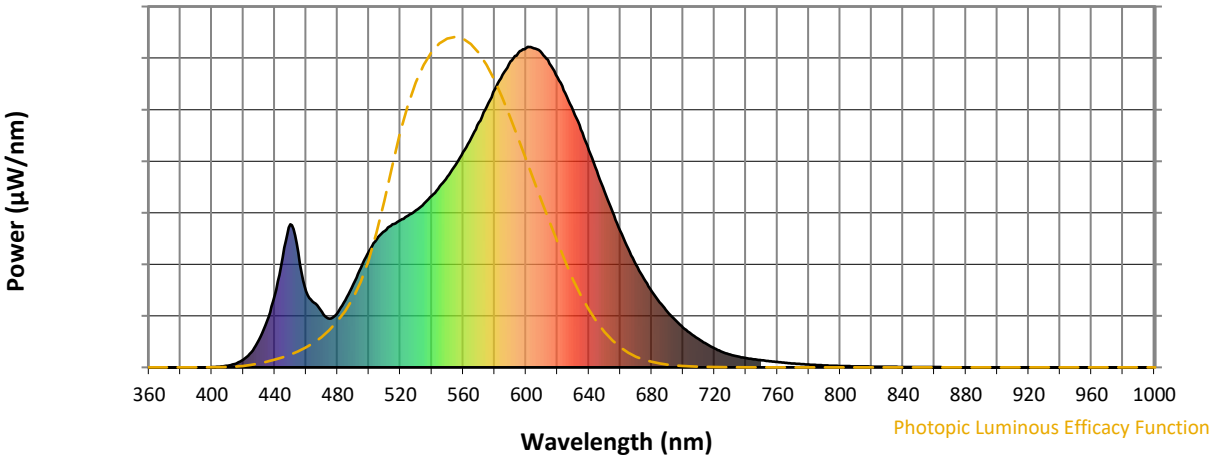


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

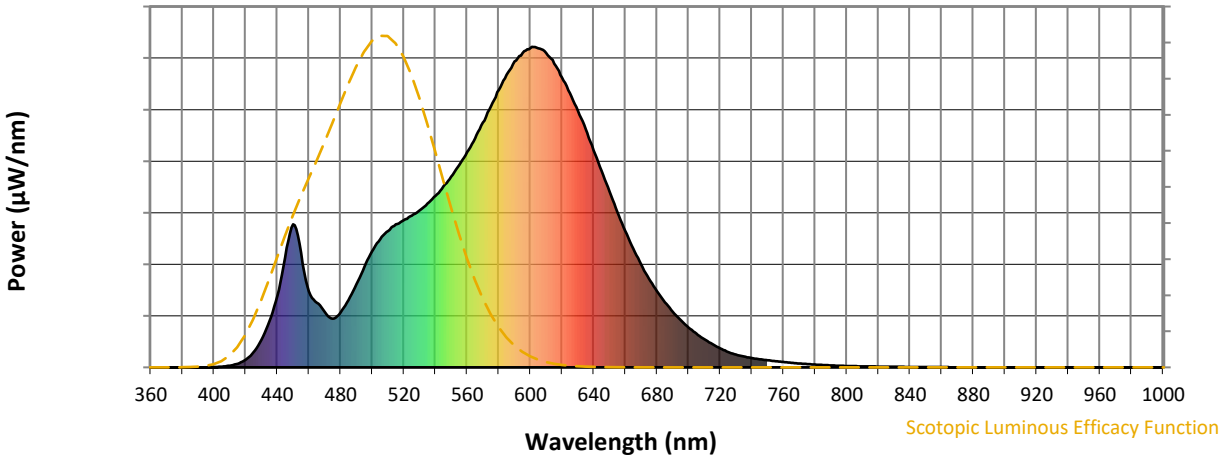


Photopic Lumens: NR

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

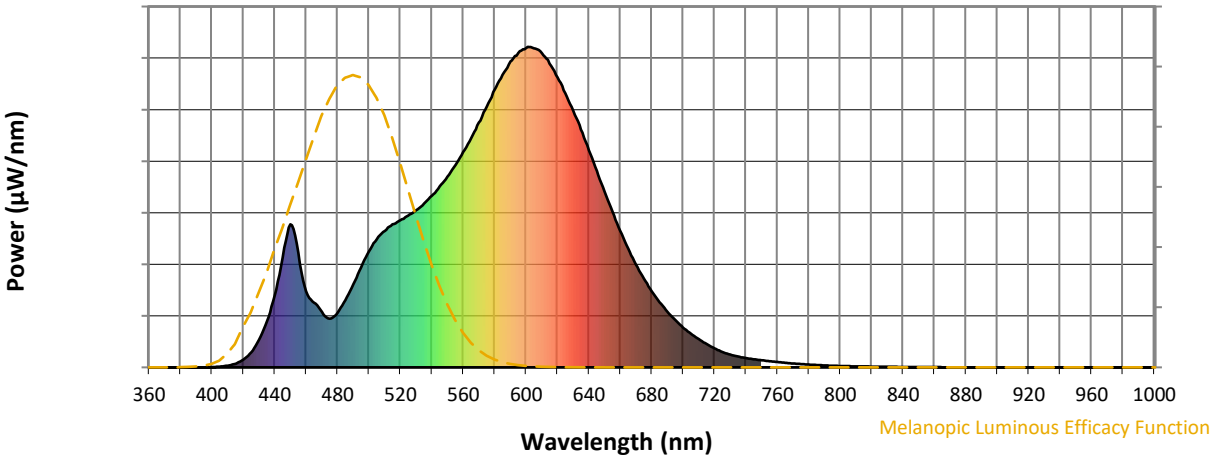


Scotopic Lumens: NR **S/P: 1.32**

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			

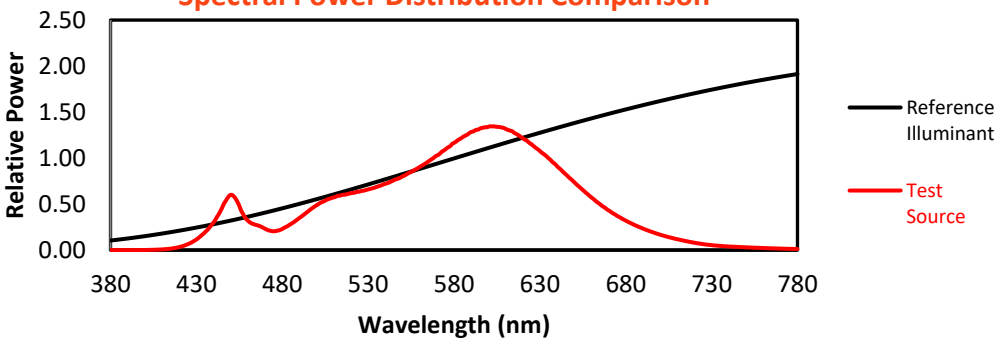
REPORT NUMBER: SP1-2407-176-7

TM-30-18

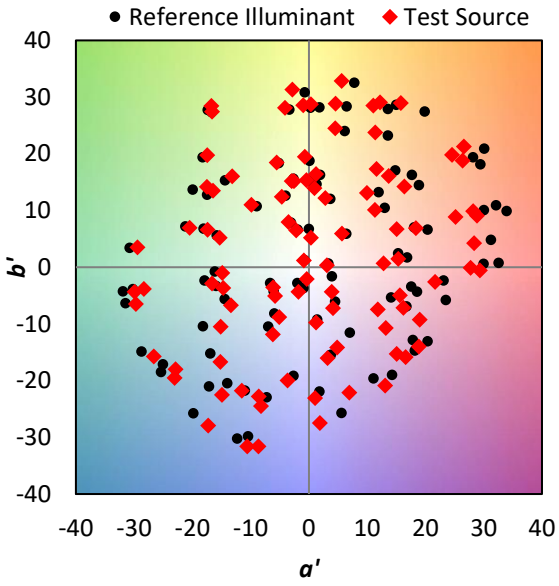
Summary

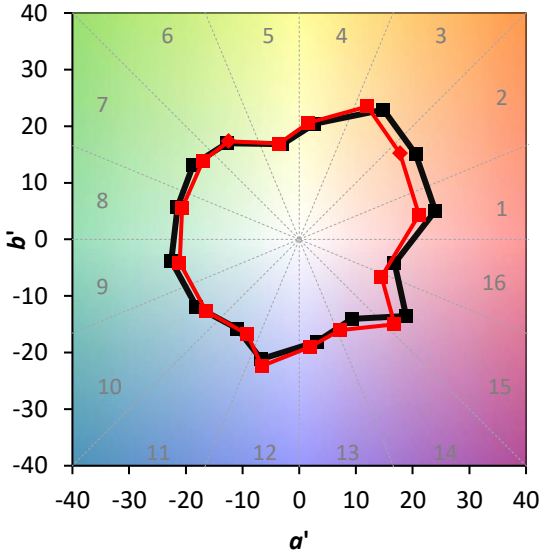
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R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

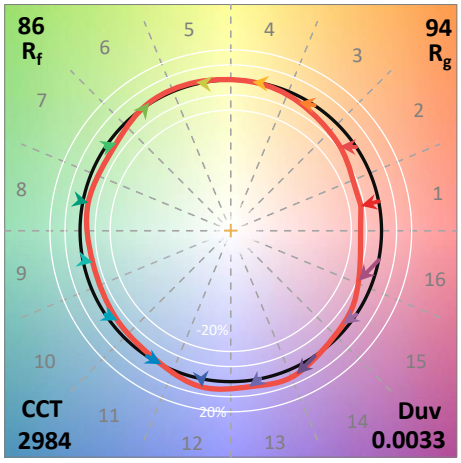
Spectral Power Distribution Comparison

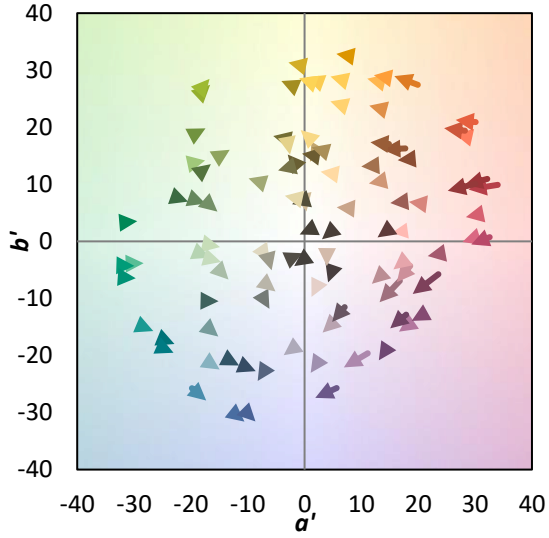


Color Vector Graphics







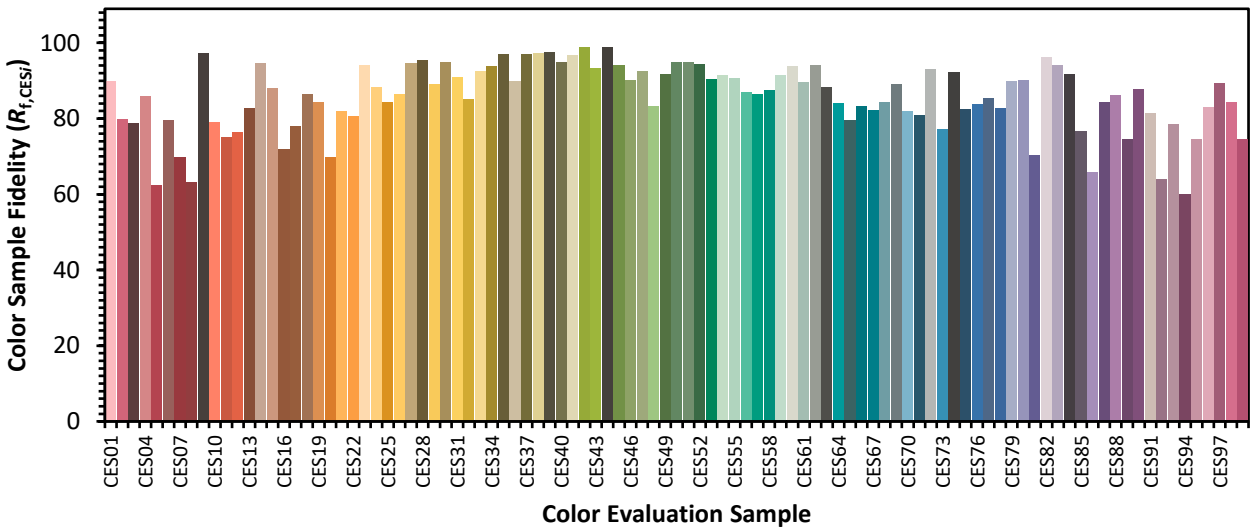


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

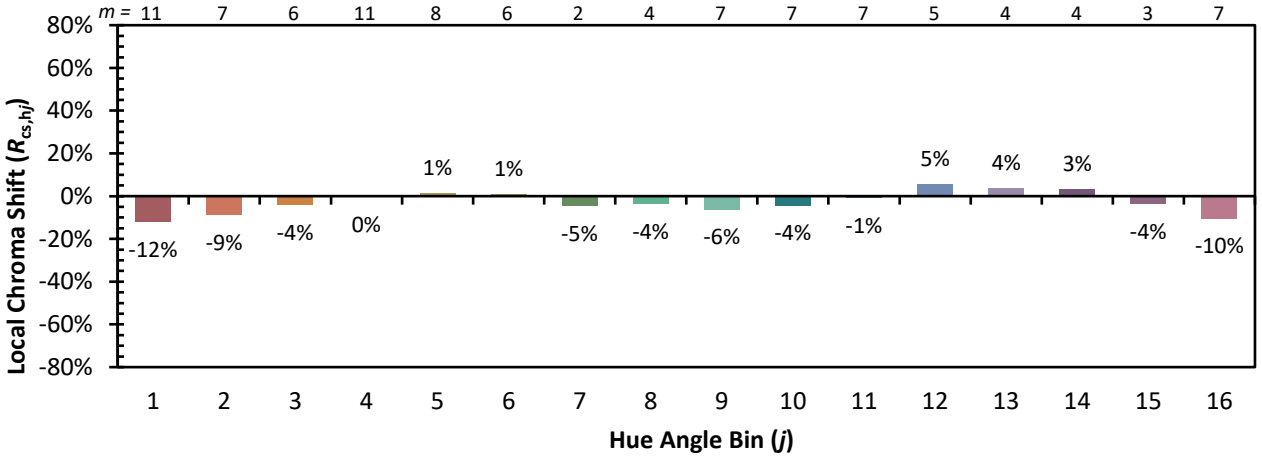
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CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57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

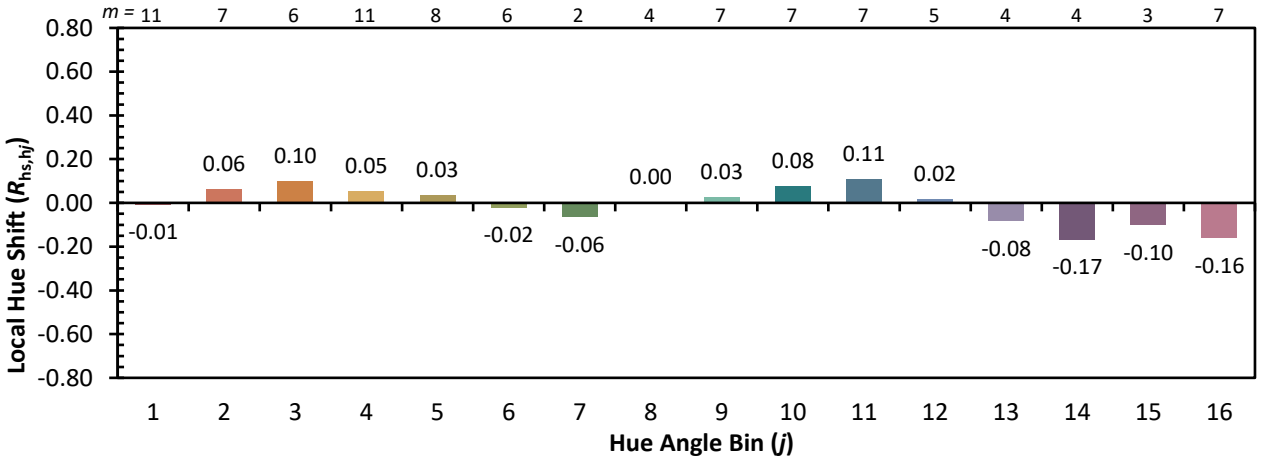


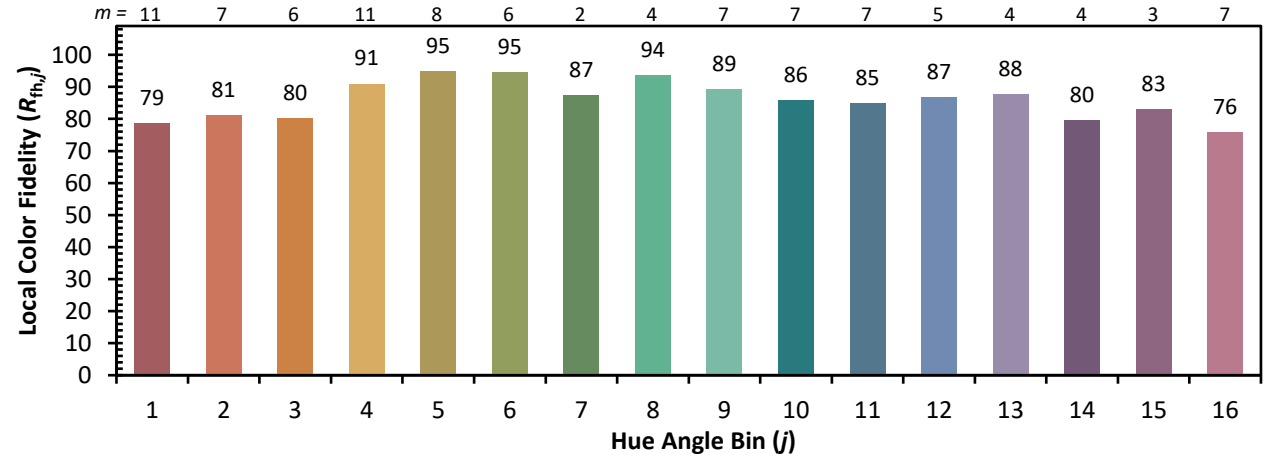
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Color Rendition by Hue-Angle Bin



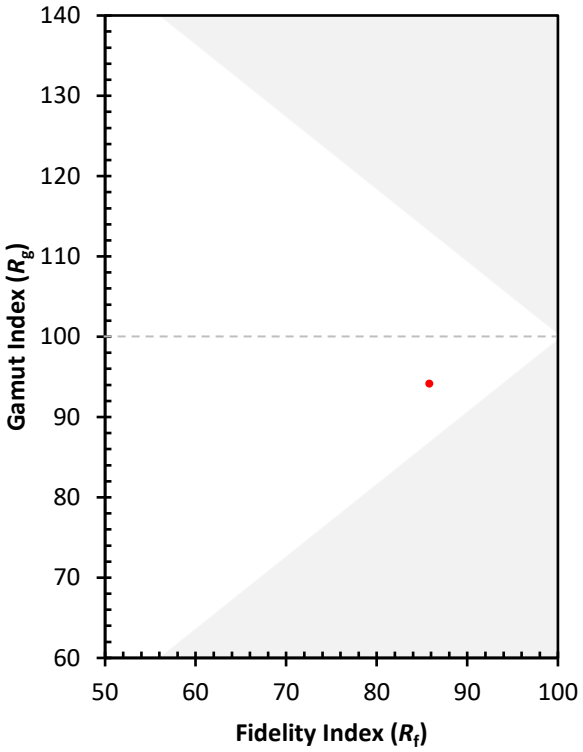


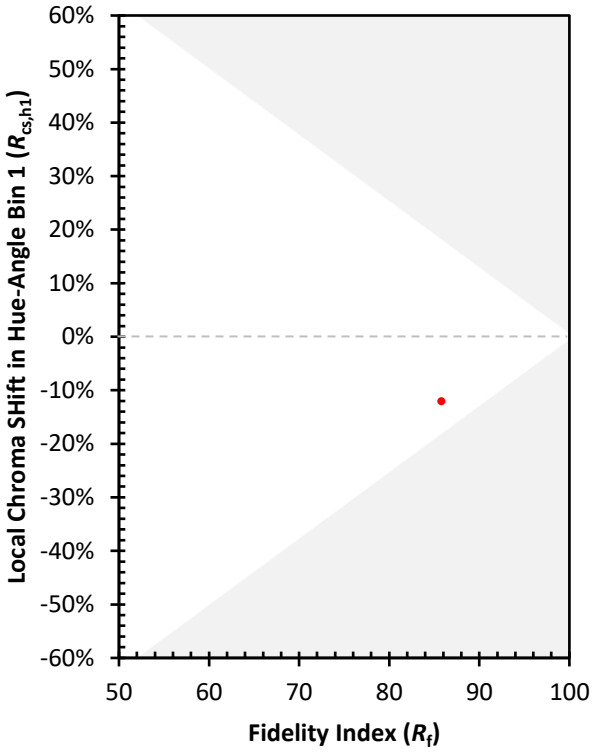


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Measure Comparisons





(END OF REPORT)