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: P821488

Luminaire Tested: **TT-D2-735-12VDC-DL-HSS**

Issue Date: 12/2/2020

Report Generated By 670245763

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Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821488
	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-D2-735-12VDC-DL-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3500K, 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:	3729 lumens
Efficiency:	N/A
Efficacy:	98.1 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G3

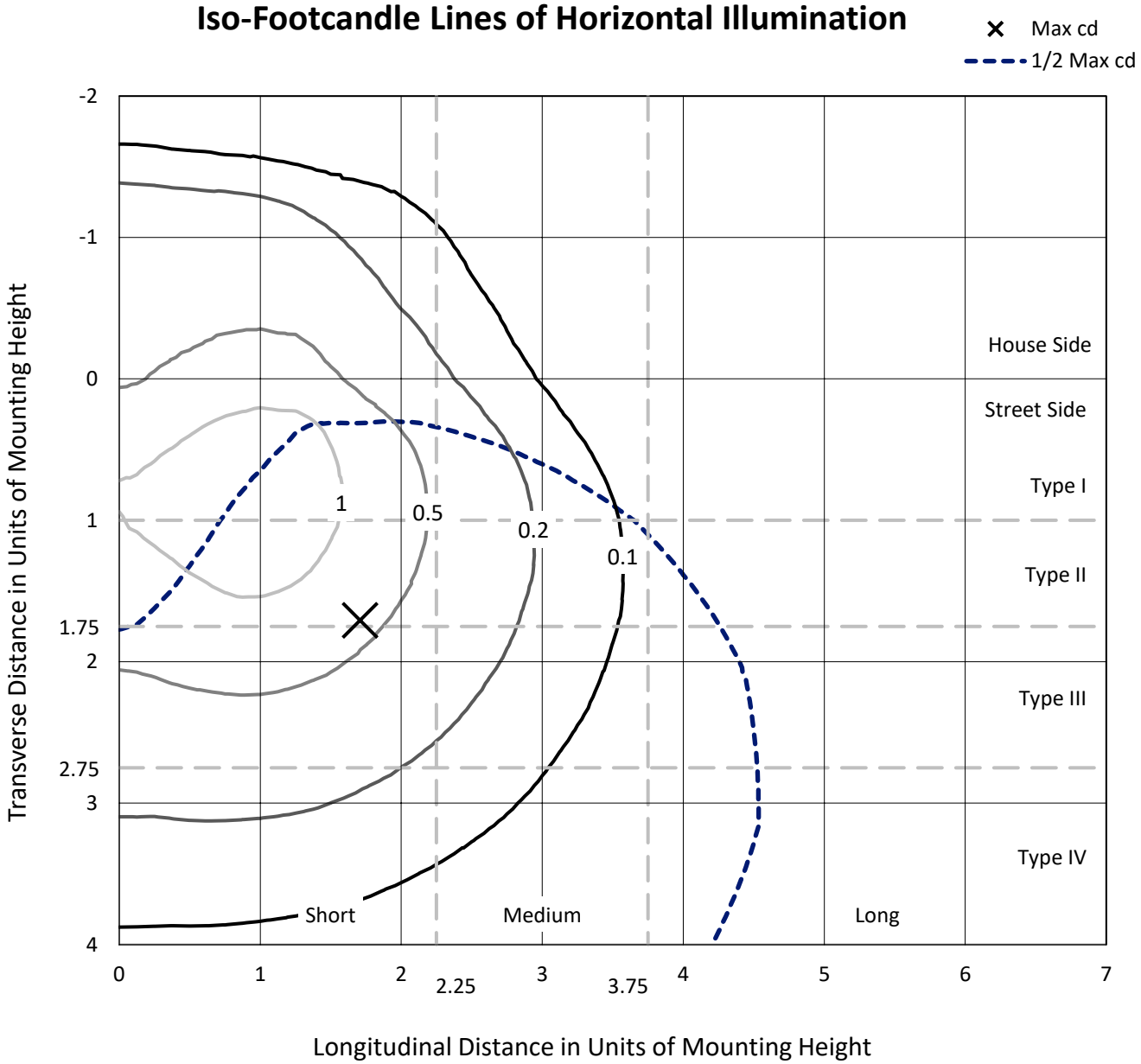
Input Watts (W):	38
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



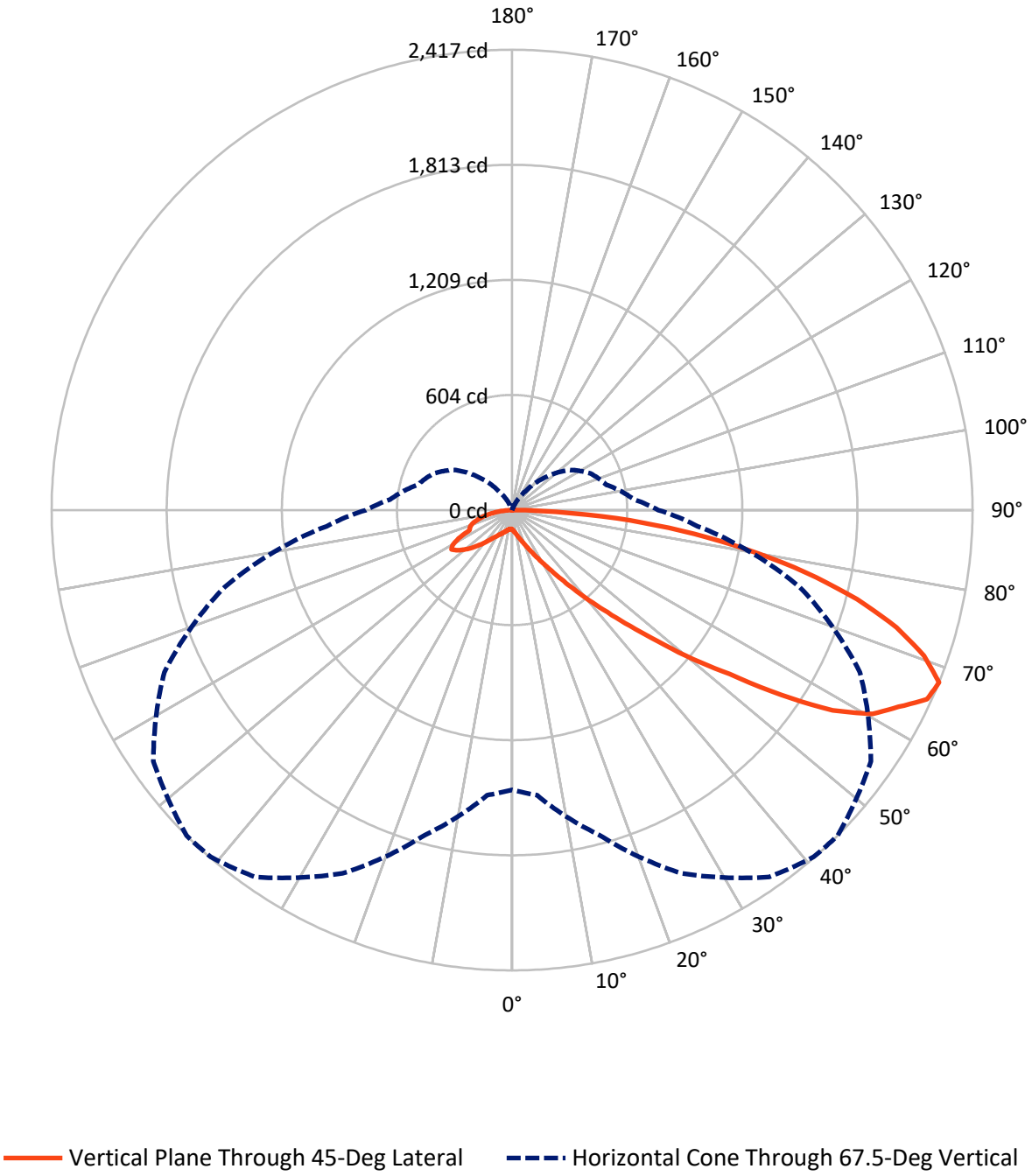
Based on 15 foot mounting height. Maximum calculated value = 1.5 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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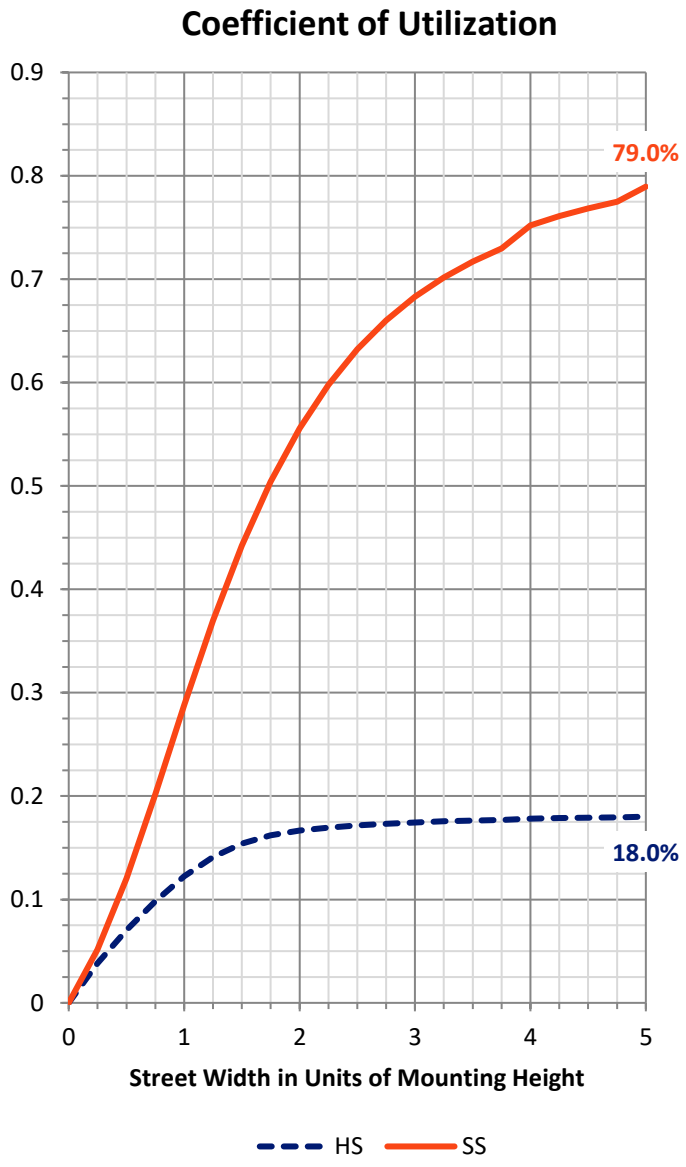
REPORT NUMBER: P821488
CATALOG NUMBER: TT-D2-735-12VDC-DL-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	677.5	0.8	678.3
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	3042.4	8.3	3050.7
	% Fixture	81.6	0.2	81.8
Total	Lumens	3719.9	9.1	3729.0
	% Fixture	99.8	0.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	10.5	0.3
10°-20°	39.2	1.1
20°-30°	90.5	2.4
30°-40°	192.9	5.2
40°-50°	403.8	10.8
50°-60°	766.0	20.5
60°-70°	1042.6	28.0
70°-80°	896.4	24.0
80°-90°	277.9	7.5
90°-100°	5.9	0.2
100°-110°	1.7	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°	3719.9	99.8
0°-180°	3729.0	100.0



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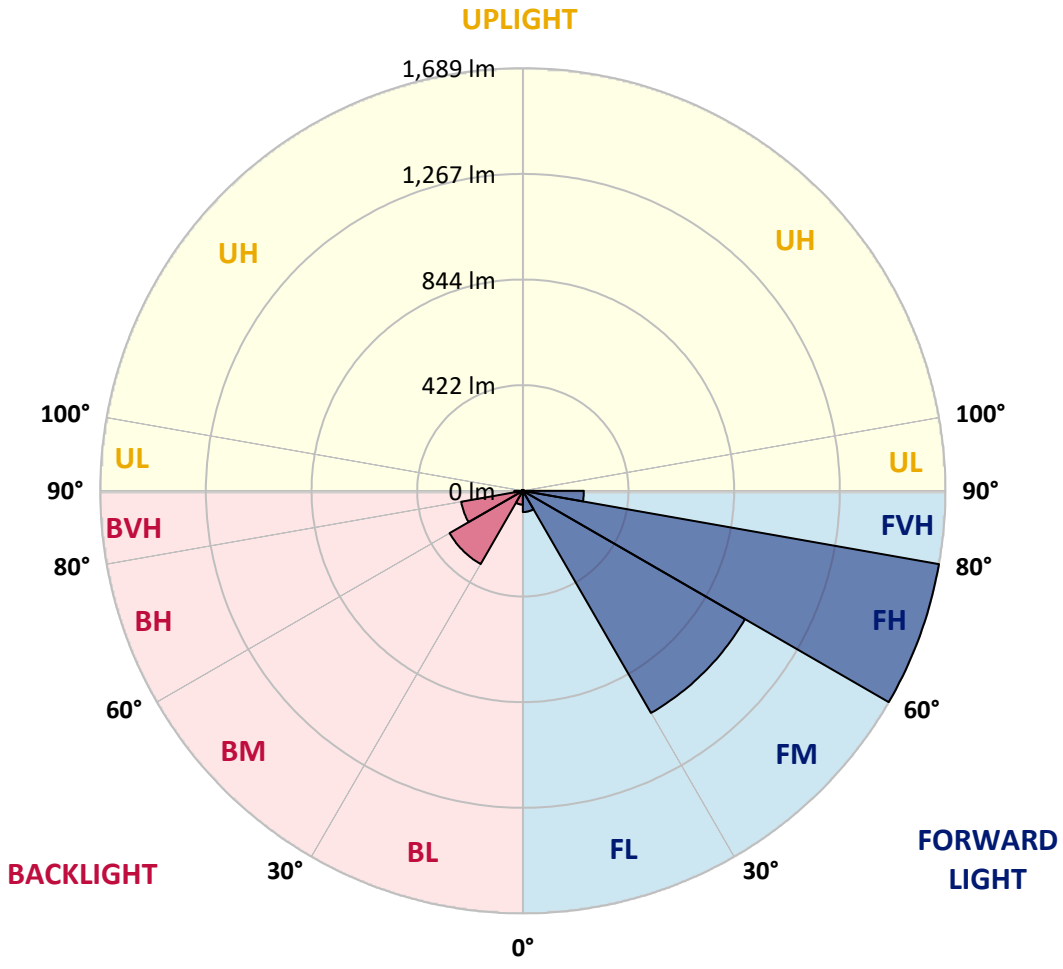
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	85.0	2.3			
FM	(30°-60°)	1024.8	27.5			
FH	(60°-80°)	1688.7	45.3			G1/1800
FVH	(80°-90°)	243.9	6.5			G3/500
BL	(0°-30°)	55.2	1.5	B0/110		
BM	(30°-60°)	338.0	9.1	B1/1000		
BH	(60°-80°)	250.3	6.7	B1/500		G1/500
BVH	(80°-90°)	34.1	0.9			G1/100
UL	(90°-100°)	5.9	0.2		U1/10	
UH	(100°-180°)	3.2	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°	102.0	102.0	102.0	102.0	102.0	102.0	*102.0*	102.0	102.0	102.0	102.0
2.5°	110.7	109.9	109.9	109.2	109.2	107.6	*107.6*	106.8	106.0	105.2	103.6
5°	118.6	117.9	117.9	117.1	116.3	114.7	*113.9*	112.3	110.7	109.2	107.6
7.5°	128.1	127.3	127.3	126.6	125.0	122.6	*121.8*	119.4	117.1	114.7	112.3
10°	140.0	139.2	139.2	137.6	136.0	133.7	*132.1*	128.9	126.6	122.6	118.6
12.5°	152.7	151.9	151.9	150.3	147.1	145.5	*144.0*	140.0	136.0	131.3	126.6
15°	166.9	166.9	166.9	166.1	162.9	159.8	*158.2*	153.4	148.7	141.6	135.3
17.5°	185.1	184.3	184.3	182.7	178.8	177.2	*174.8*	169.3	162.1	154.2	146.3
20°	207.2	206.4	204.9	204.1	200.1	198.5	*195.4*	189.0	179.5	169.3	158.2
22.5°	229.4	229.4	228.6	229.4	226.2	224.6	*220.7*	212.0	200.9	185.9	172.4
25°	254.7	255.5	257.1	259.4	255.5	253.9	*250.7*	239.7	226.2	207.2	188.2
27.5°	286.3	286.3	290.3	294.2	291.1	290.3	*285.5*	273.7	254.7	231.8	209.6
30°	320.3	321.1	327.5	334.6	333.0	333.0	*329.0*	315.6	292.7	265.8	234.9
32.5°	359.9	363.0	369.4	377.3	382.8	382.8	*381.2*	367.0	340.1	303.7	265.8
35°	412.1	406.6	418.4	430.3	442.1	444.5	*445.3*	431.9	401.0	355.1	303.7
37.5°	457.2	456.4	474.6	495.1	514.9	522.8	*525.2*	512.5	473.0	412.9	344.9
40°	509.4	514.1	538.6	569.5	602.7	616.2	*622.5*	608.2	559.2	481.7	392.3
42.5°	564.0	578.2	609.0	655.7	706.3	726.1	*733.2*	719.8	662.0	567.9	452.4
45°	628.0	647.8	688.9	755.4	821.8	851.1	*866.9*	862.1	802.8	685.8	529.9
47.5°	707.1	721.4	777.5	866.9	961.0	1009.3	*1031.4*	1044.9	960.2	807.6	598.0
50°	796.5	798.9	876.4	989.5	1127.1	1191.2	*1229.9*	1223.6	1123.2	947.6	684.2
52.5°	886.7	884.3	985.5	1139.0	1319.3	1403.2	*1429.3*	1455.4	1356.5	1161.1	822.6
55°	989.5	984.7	1112.1	1306.7	1530.5	1641.2	*1714.8*	1751.2	1595.4	1301.9	882.7
57.5°	1074.9	1089.9	1249.7	1483.8	1796.3	1935.5	*1983.7*	1963.9	1726.7	1373.1	912.0
60°	1183.3	1205.4	1387.3	1715.6	2026.4	2130.1	*2174.3*	2084.2	1810.5	1426.9	932.5
62.5°	1285.3	1313.8	1538.4	1903.8	2170.4	2265.3	*2276.4*	2178.3	1928.4	1532.9	992.7
65°	1381.0	1413.4	1688.7	2015.4	2296.2	2375.2	*2394.2*	2316.7	2053.3	1595.4	1016.4
67.5°	*1468.8*	*1502.8*	*1766.2*	*2104.7*	*2352.3*	*2413.2*	*2417.2*	*2299.3*	*2014.6*	*1562.9*	*978.4*
70°	1536.0	1551.1	1803.4	2102.4	2285.9	2309.6	*2293.8*	2175.1	1923.6	1496.5	923.8
72.5°	1549.5	1560.6	1752.0	1985.3	2101.6	2123.7	*2111.1*	2006.7	1780.4	1377.8	835.3
75°	1481.5	1483.8	1613.6	1774.9	1859.5	1886.4	*1869.8*	1773.3	1565.3	1210.2	719.0
77.5°	1303.5	1308.2	1386.5	1494.9	1566.1	1589.0	*1576.4*	1487.8	1311.4	1016.4	594.8
80°	1033.0	1042.5	1098.6	1173.8	1238.6	1262.4	*1247.3*	1176.2	1032.2	798.9	464.3
82.5°	704.0	715.8	767.2	829.7	886.7	909.6	*896.9*	851.9	744.3	575.8	331.4
85°	355.9	368.6	421.6	480.1	529.9	554.5	*550.5*	531.5	458.0	355.1	200.1
87.5°	56.2	61.7	83.8	111.5	142.4	165.3	*151.1*	149.5	118.6	94.9	48.2
90°	22.9	22.9	22.1	21.4	19.0	17.4	*16.6*	13.4	10.3	6.3	2.4
92.5°	20.6	20.6	19.8	18.2	16.6	15.8	*14.2*	11.9	8.7	5.5	2.4
95°	16.6	16.6	15.8	15.0	13.4	12.7	*11.1*	9.5	7.1	4.7	2.4
97.5°	12.7	12.7	11.9	11.1	10.3	8.7	*8.7*	7.1	4.7	3.2	1.6
100°	9.5	9.5	8.7	7.9	7.1	6.3	*6.3*	4.7	3.2	2.4	1.6
102.5°	6.3	6.3	6.3	5.5	4.7	4.7	*4.0*	3.2	2.4	1.6	1.6
105°	4.0	4.0	4.0	4.0	3.2	2.4	*2.4*	1.6	1.6	1.6	1.6
107.5°	2.4	2.4	2.4	2.4	1.6	1.6	*1.6*	1.6	1.6	1.6	1.6
110°	1.6	1.6	1.6	0.8	0.8	0.8	*0.8*	0.8	0.8	1.6	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°	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0
2.5°	103.6	102.8	101.2	100.5	98.9	98.9	98.1	97.3	97.3	97.3	97.3
5°	106.0	105.2	103.6	102.0	100.5	98.9	98.1	97.3	97.3	97.3	96.5
7.5°	110.7	109.2	106.8	104.4	102.0	100.5	99.7	98.9	98.1	98.1	98.1
10°	116.3	114.7	110.7	108.4	105.2	102.8	102.0	101.2	100.5	100.5	100.5
12.5°	123.4	121.0	116.3	112.3	109.2	106.8	105.2	104.4	104.4	103.6	104.4
15°	132.1	128.9	122.6	117.9	113.9	111.5	109.9	109.2	109.2	109.2	108.4
17.5°	141.6	137.6	129.7	124.2	119.4	117.1	115.5	114.7	114.7	114.7	114.7
20°	152.7	147.1	138.4	131.3	126.6	123.4	121.8	121.8	121.0	121.8	121.8
22.5°	164.5	158.2	147.1	139.2	132.9	129.7	128.1	128.1	128.1	128.9	129.7
25°	178.8	170.8	157.4	147.1	140.0	136.8	135.3	136.0	136.0	136.8	136.8
27.5°	197.7	185.9	169.3	156.6	148.7	144.7	143.2	144.0	144.7	144.7	144.7
30°	219.1	204.9	181.9	168.5	159.0	154.2	152.7	153.4	154.2	155.8	155.0
32.5°	245.2	227.8	200.9	181.9	171.6	166.1	164.5	163.7	165.3	166.9	166.9
35°	276.8	254.7	223.1	200.9	185.9	178.8	177.2	176.4	177.2	178.8	180.3
37.5°	310.8	284.0	245.2	222.3	205.6	197.7	193.8	190.6	191.4	192.2	194.6
40°	349.6	316.4	270.5	242.8	227.8	218.3	212.8	208.0	209.6	209.6	210.4
42.5°	398.6	356.7	302.1	267.3	251.5	241.2	232.5	227.0	223.8	224.6	221.5
45°	462.7	410.5	341.7	302.1	280.0	264.2	253.9	242.8	234.9	236.5	231.8
47.5°	515.7	453.2	378.9	335.4	311.6	291.9	270.5	254.7	243.6	242.0	238.9
50°	580.6	505.4	421.6	371.8	346.4	316.4	291.1	264.2	246.0	241.2	242.0
52.5°	689.7	597.2	482.5	420.8	376.5	340.9	302.1	265.0	240.5	233.3	235.7
55°	729.3	628.0	514.1	461.1	417.6	362.3	306.9	256.3	224.6	218.3	219.1
57.5°	738.0	628.0	516.5	473.8	437.4	379.7	304.5	236.5	194.6	189.0	188.2
60°	742.7	624.1	507.8	464.3	424.7	363.0	273.7	190.6	149.5	145.5	143.2
62.5°	787.0	657.3	516.5	457.2	401.0	318.8	208.0	121.8	83.1	82.3	80.7
65°	800.4	669.2	527.6	461.9	374.9	247.6	123.4	41.1	8.7	9.5	7.9
67.5°	*767.2*	*642.3*	*511.7*	*454.8*	*367.0*	*241.2*	*118.6*	*34.8*	*0.0*	*0.0*	*0.0*
70°	721.4	603.5	484.1	430.3	350.4	231.8	116.3	34.8	0.0	0.0	0.0
72.5°	648.6	548.1	439.8	397.1	321.9	212.8	108.4	33.2	0.0	0.0	0.0
75°	563.2	476.9	385.2	352.0	285.5	186.7	97.3	30.1	0.0	0.0	0.0
77.5°	471.4	397.9	321.9	296.6	241.2	159.0	82.3	25.3	0.0	0.0	0.0
80°	370.2	314.8	253.9	236.5	190.6	126.6	65.6	19.8	0.0	0.0	0.0
82.5°	266.6	228.6	187.5	173.2	140.0	91.8	47.5	13.4	0.0	0.0	0.0
85°	164.5	143.2	121.0	112.3	88.6	56.9	28.5	7.1	0.0	0.0	0.0
87.5°	49.0	47.5	42.7	41.9	30.1	17.4	6.3	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: P821488
CATALOG NUMBER: TT-D2-735-12VDC-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: SP1-2407-176-4

Test Date: 09/24/2024

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

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

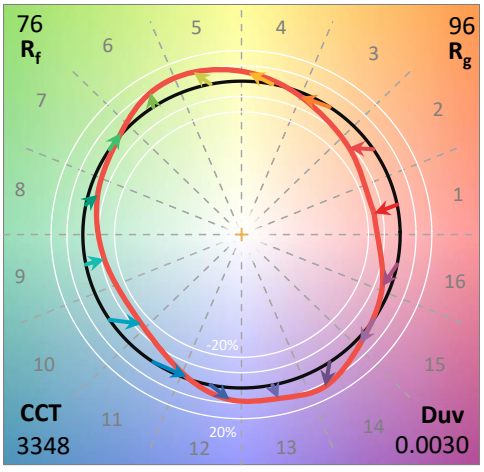
Test Information

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

Spectral Parameters

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

Rf:	75.8
Rg:	95.8



Test Conditions

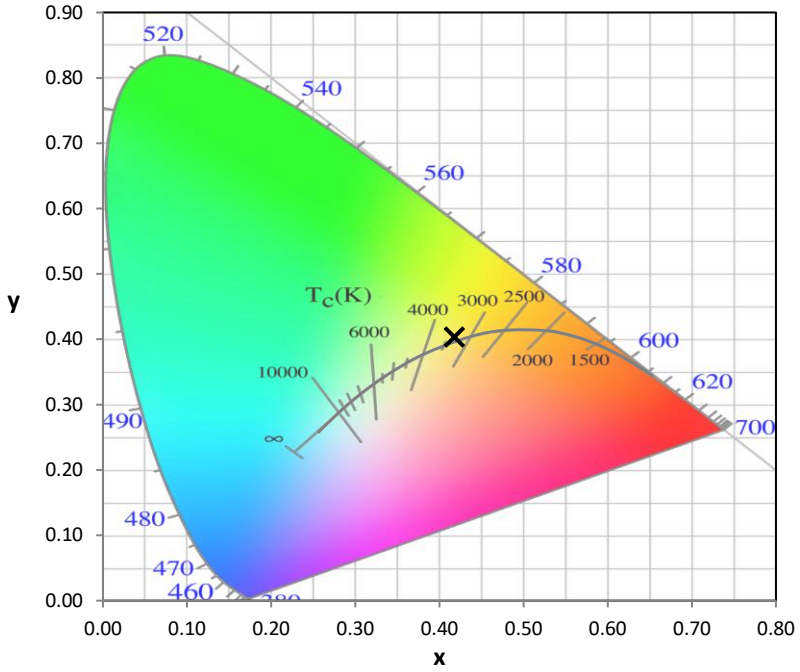
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-4

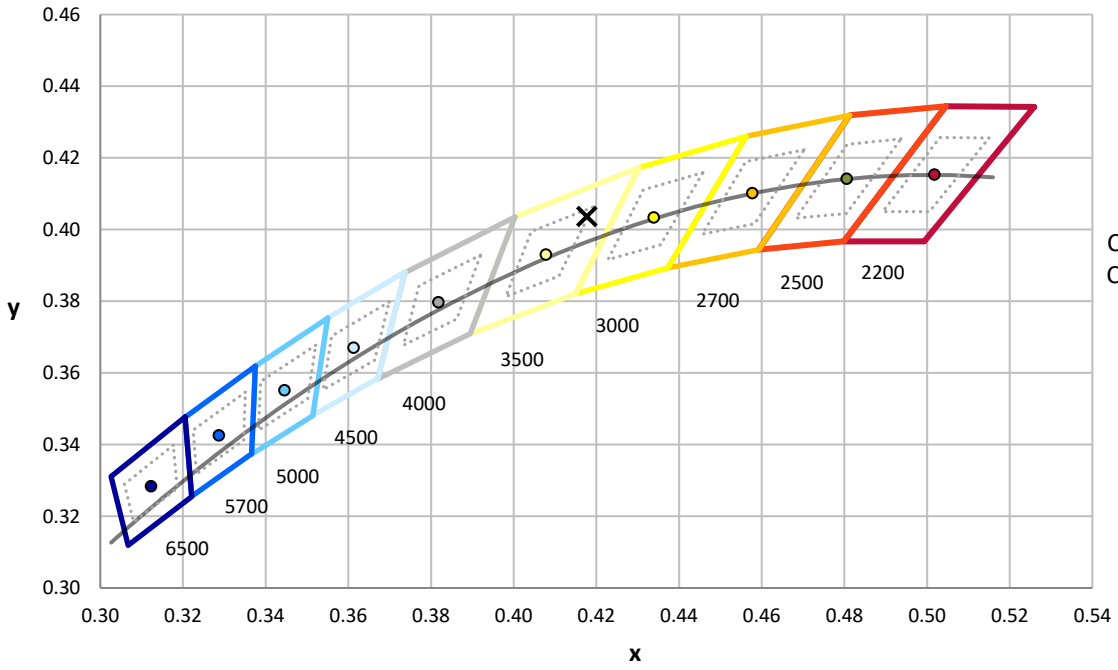
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-4

CIE 1931 Chromaticity Diagram



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

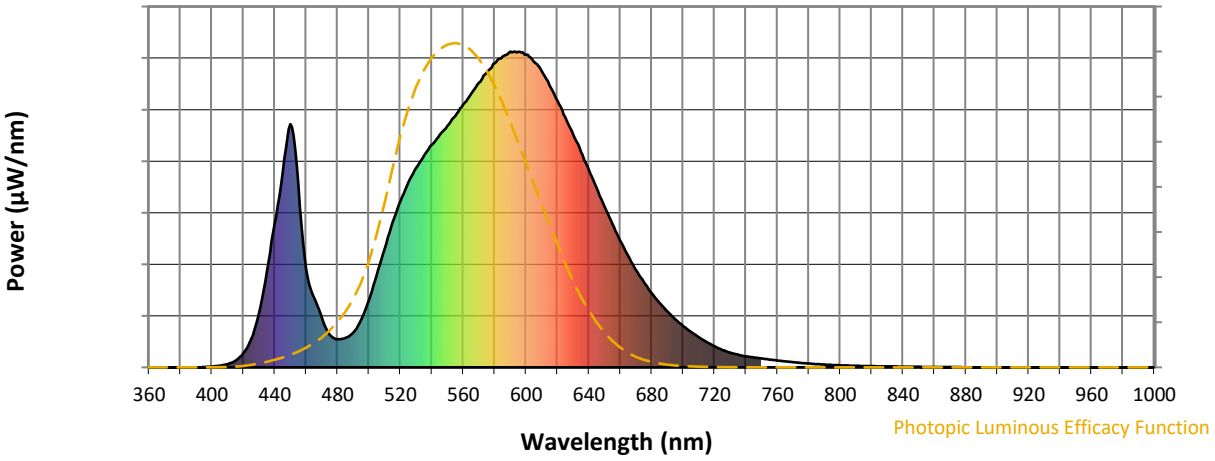


CCT = 3348K
CIE x = 0.4177
CIE y = 0.4036
Duv = 0.0030

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-4

Photopic Flux vs. Wavelength

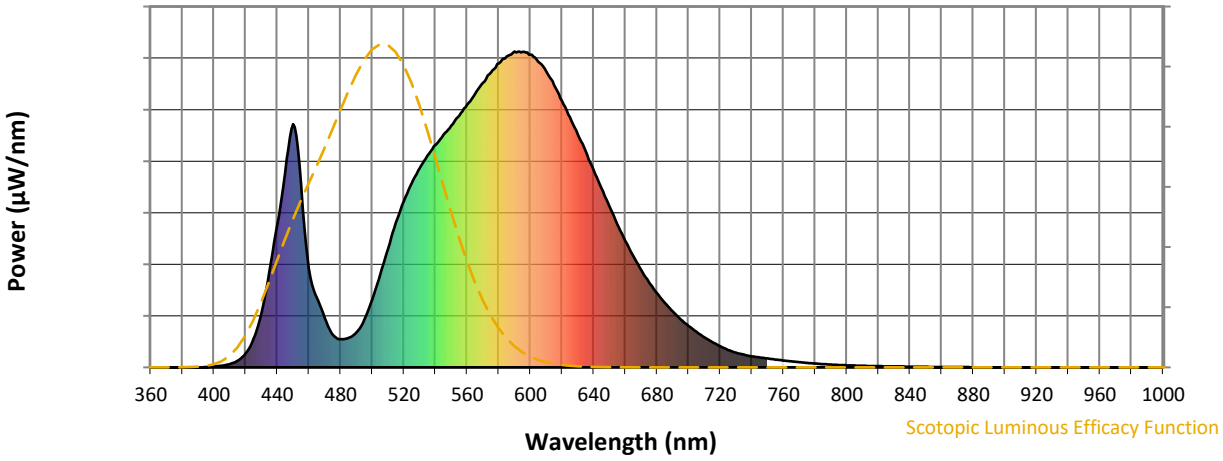


Photopic Lumens: NR

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

REPORT NUMBER: SP1-2407-176-4

Scotopic Flux vs. Wavelength

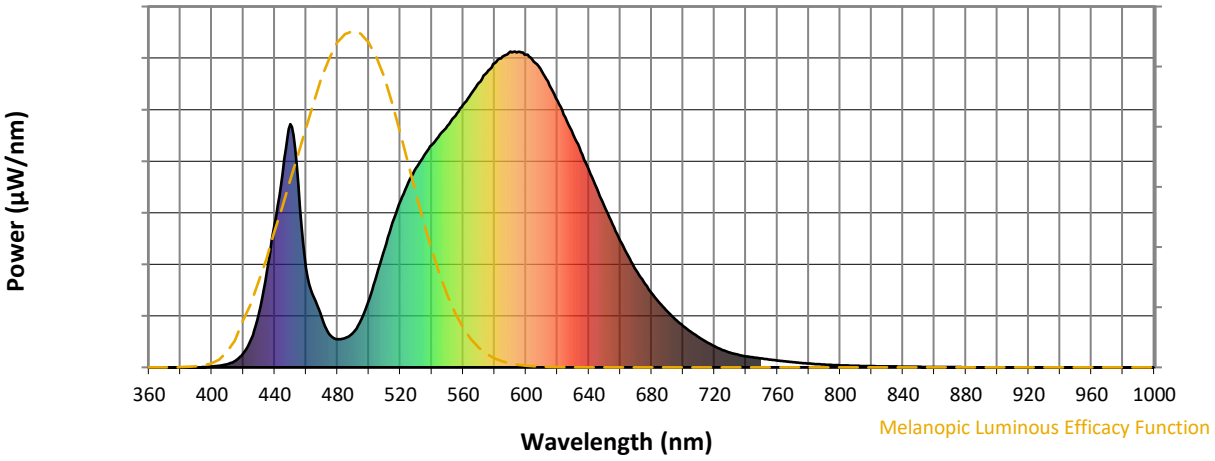


Scotopic Lumens: NR **S/P: 1.31**

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

REPORT NUMBER: SP1-2407-176-4

Melanopic Flux vs. Wavelength



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

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

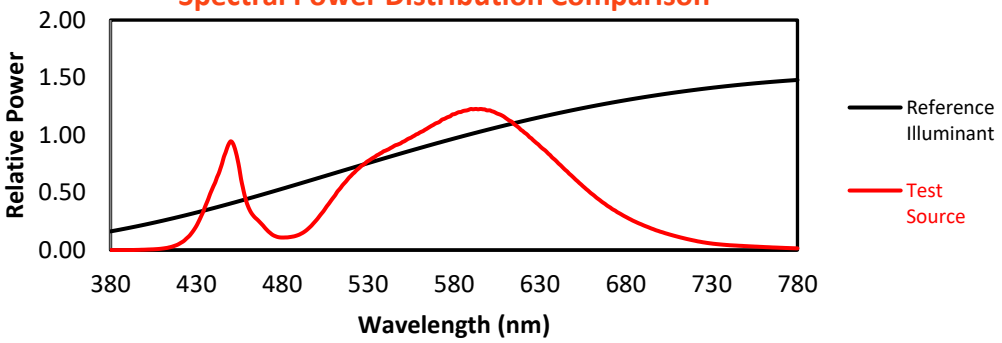
REPORT NUMBER: SP1-2407-176-4

TM-30-18

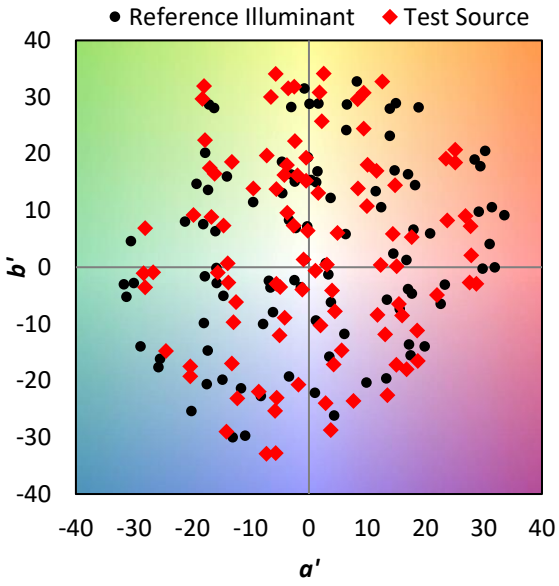
Summary

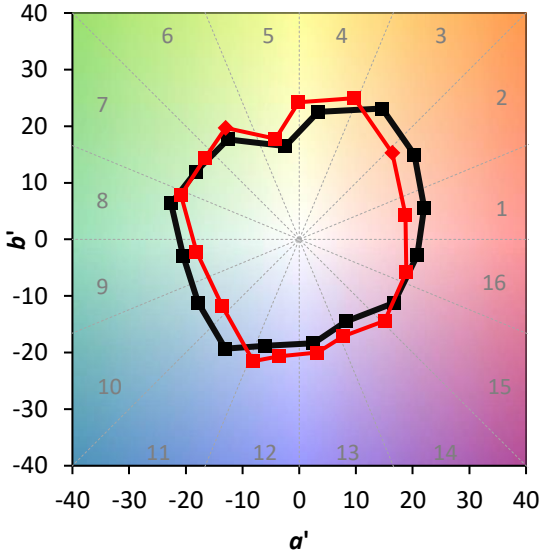
R_f = 75.8
R_g = 95.8
CIE R_a = 73.4
R_9 = -19.2

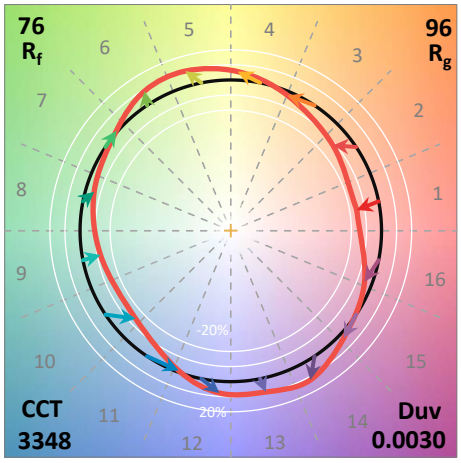
Spectral Power Distribution Comparison

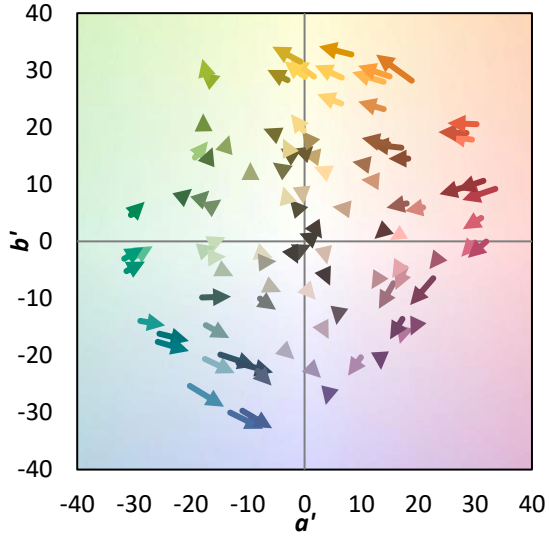


Color Vector Graphics







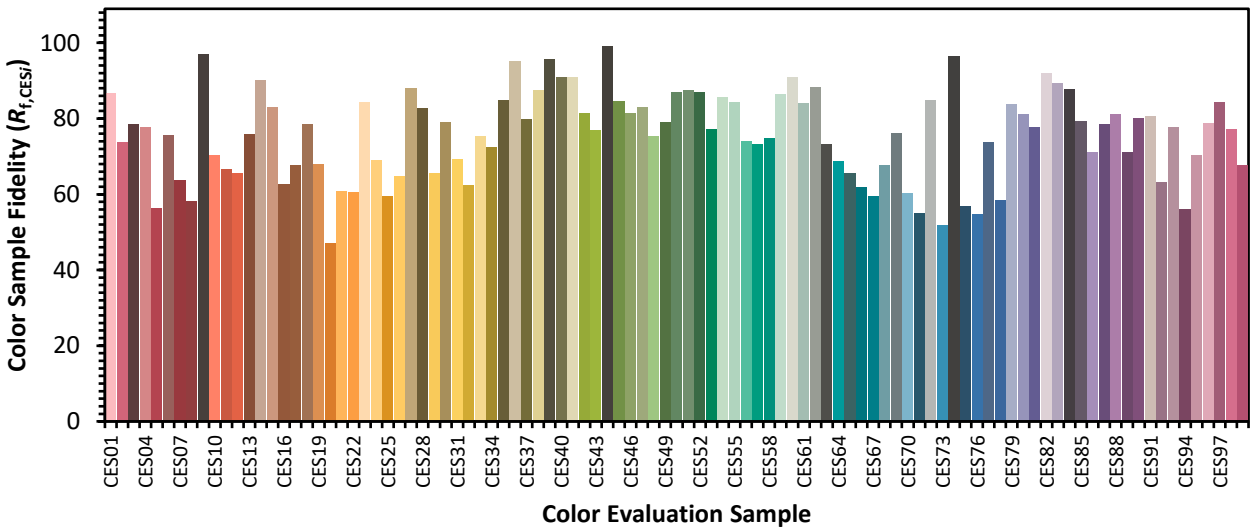


REPORT NUMBER: SP1-2407-176-4

TM-30-18

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

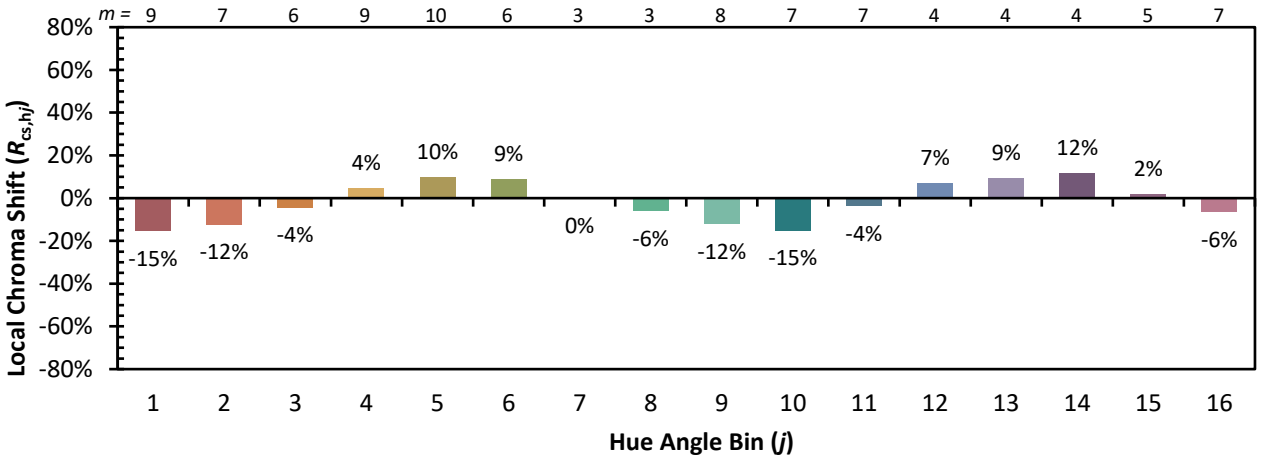
CES01 = 86	CES26 = 65	CES51 = 88	CES76 = 55
CES02 = 62	CES27 = 88	CES52 = 87	CES77 = 74
CES03 = 31	CES28 = 83	CES53 = 77	CES78 = 58
CES04 = 70	CES29 = 66	CES54 = 86	CES79 = 84
CES05 = 48	CES30 = 79	CES55 = 84	CES80 = 81
CES06 = 51	CES31 = 69	CES56 = 74	CES81 = 78
CES07 = 41	CES32 = 62	CES57 = 73	CES82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

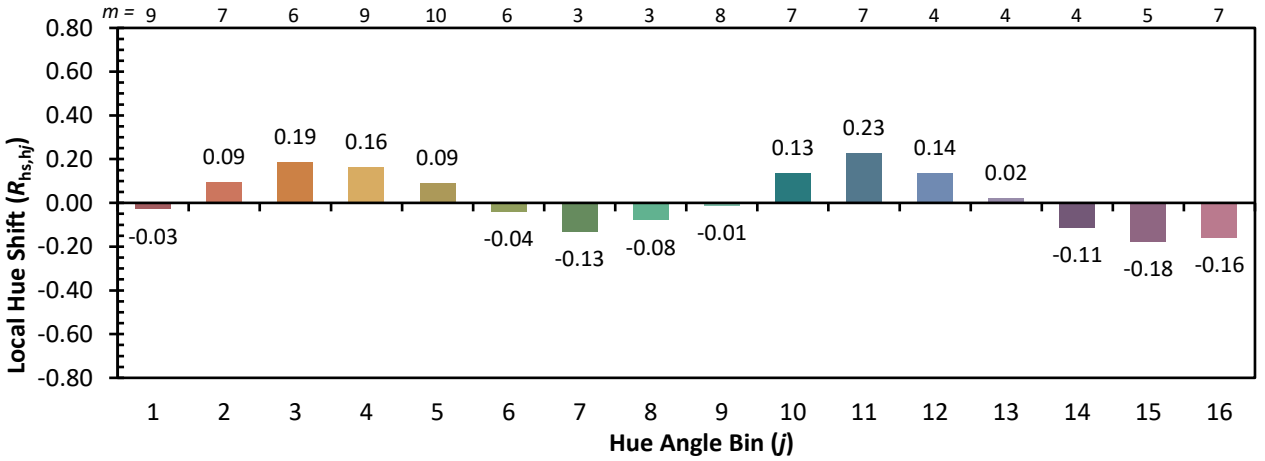


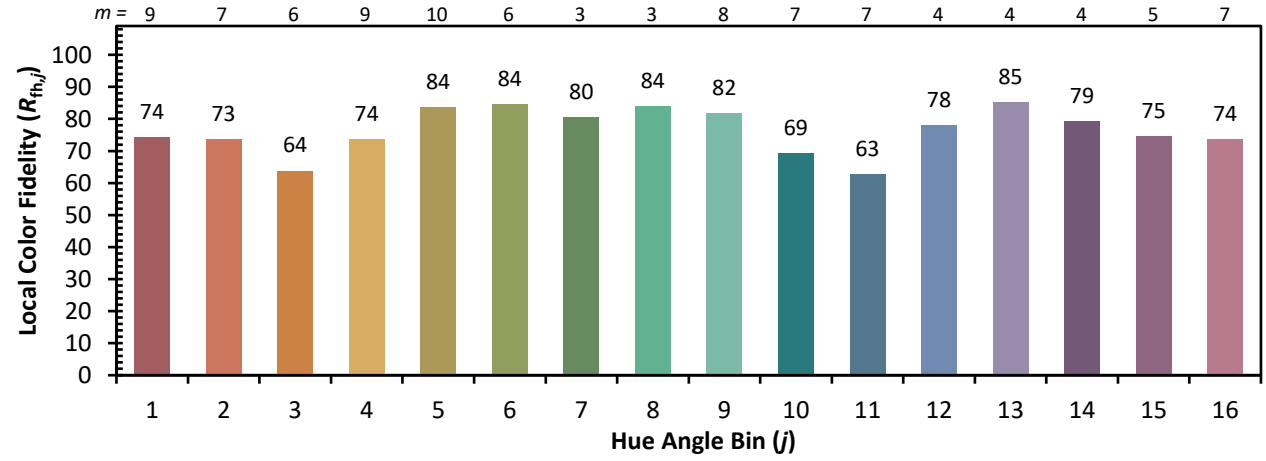
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Color Rendition by Hue-Angle Bin



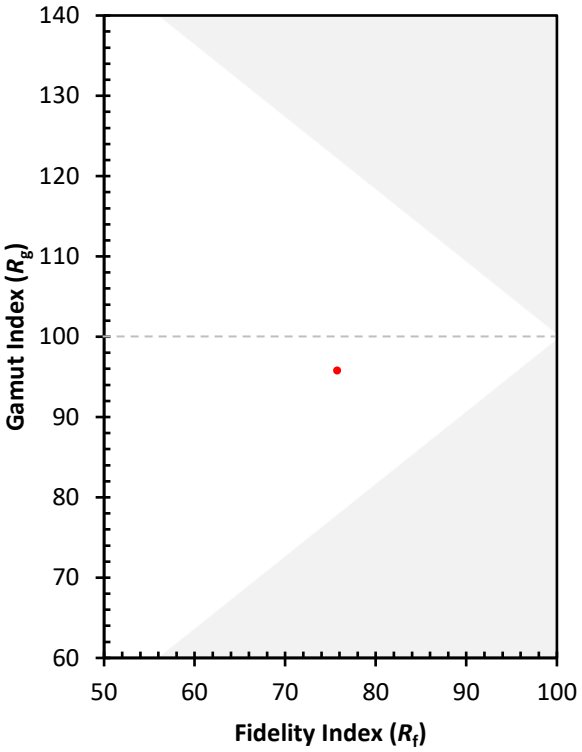


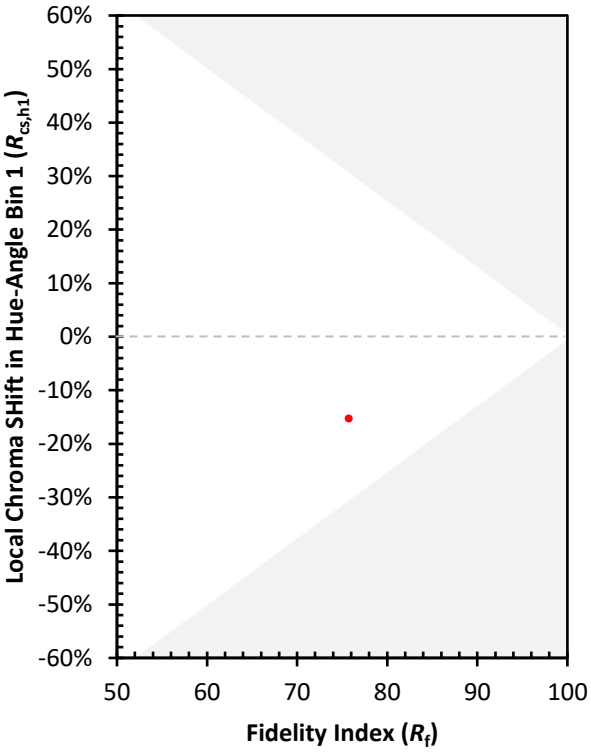


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Measure Comparisons





(END OF REPORT)