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: P821474

Luminaire Tested: **TT-D1-735-12VDC-DL-UPL**

Issue Date: 7/23/2020

Report Generated By 670245763

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821474
	REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND
Test Lab:	INNOVATION CENTER
Issue Date:	7/23/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D1-735-12VDC-DL-UPL
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	3500K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3976.7 lumens
Efficiency:	N/A
Efficacy:	142.0 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U4 - G2

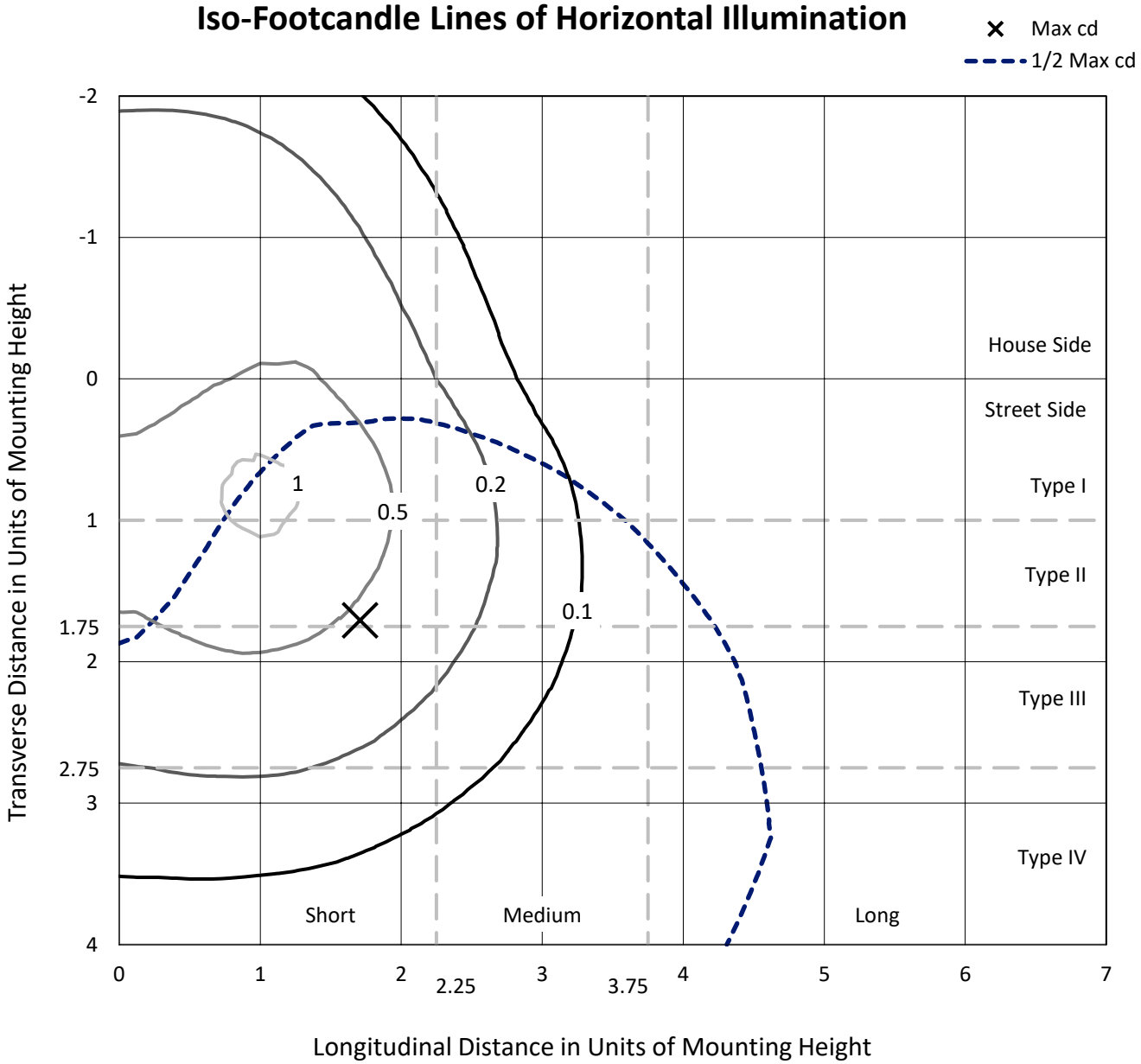
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



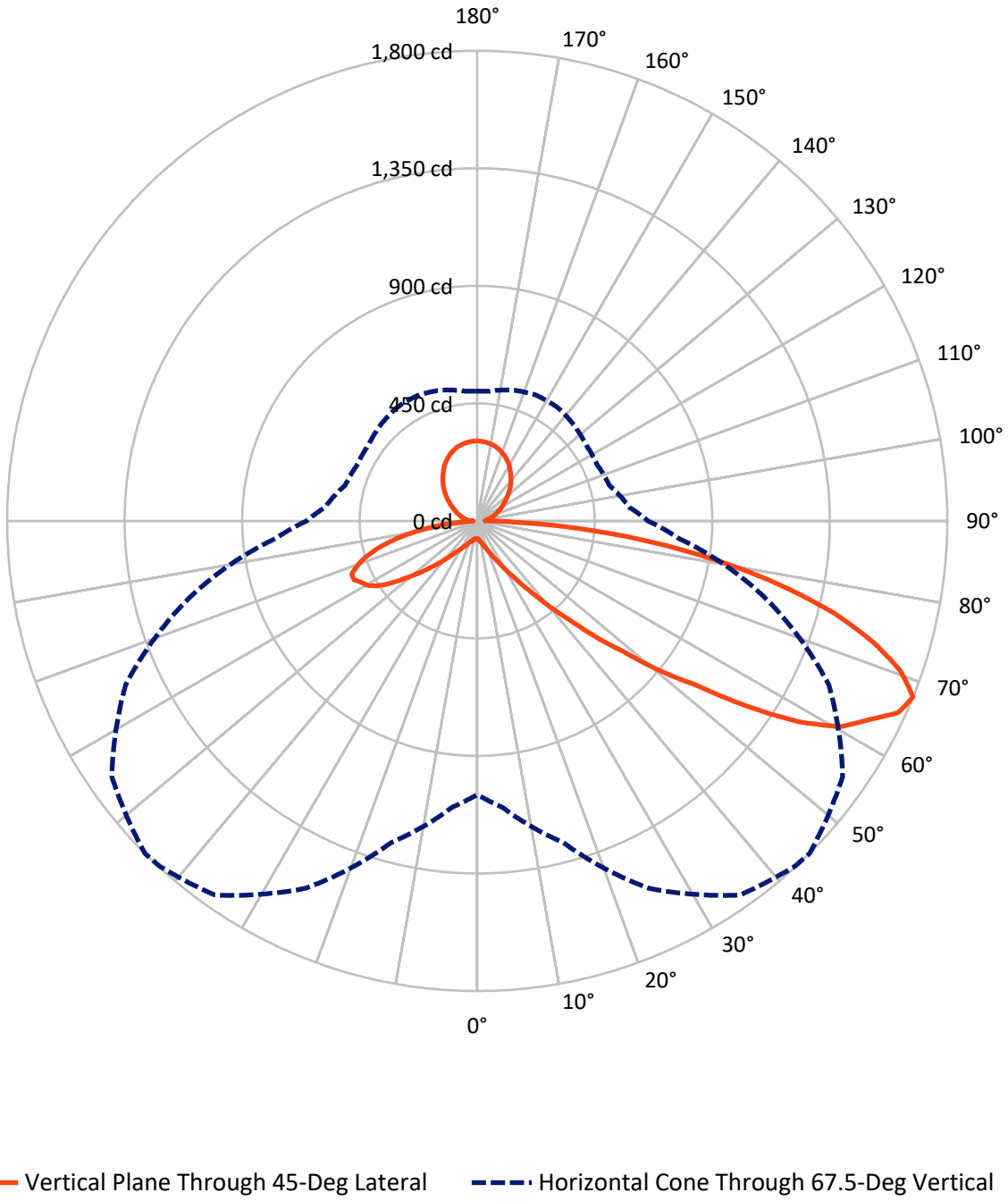
Based on 15 foot mounting height. Maximum calculated value = 1.1 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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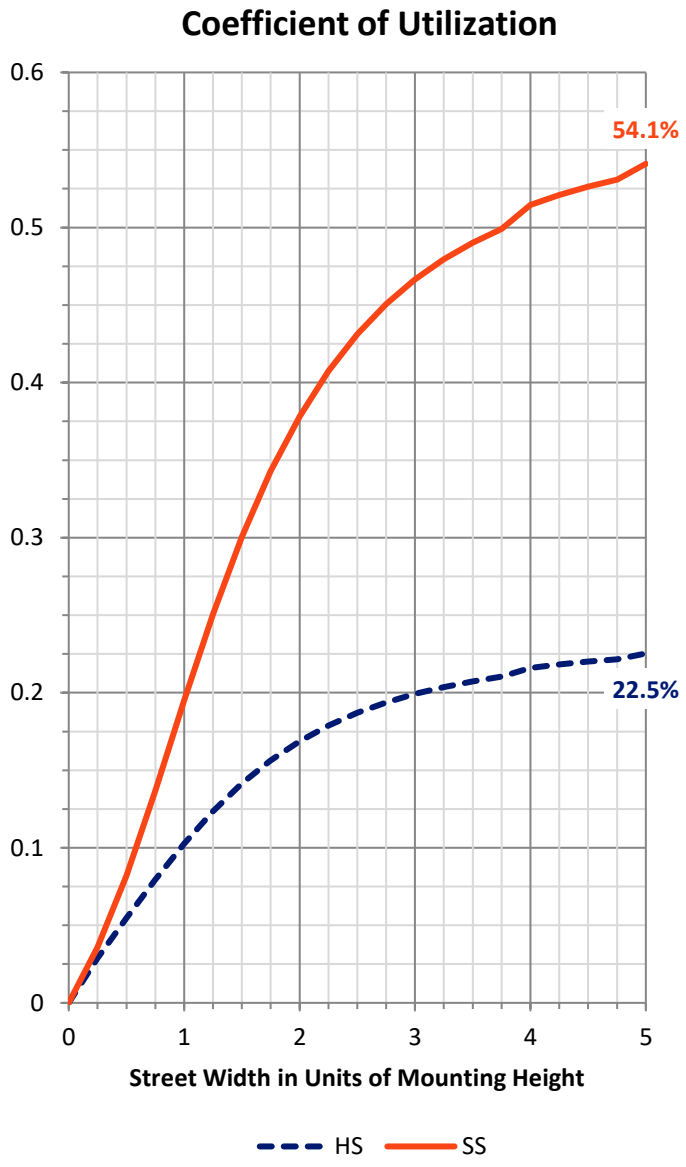
REPORT NUMBER: P821474
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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	917.3	415.9	1333.2
	% Fixture	23.1	10.5	33.5
Street Side	Lumens	2227.7	415.9	2643.6
	% Fixture	56.0	10.5	66.5
Total	Lumens	3145.0	831.7	3976.7
	% Fixture	79.1	20.9	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.0	0.2
10°-20°	26.0	0.7
20°-30°	61.6	1.5
30°-40°	139.5	3.5
40°-50°	310.9	7.8
50°-60°	625.0	15.7
60°-70°	918.0	23.1
70°-80°	807.2	20.3
80°-90°	249.7	6.3
90°-100°	42.6	1.1
100°-110°	66.0	1.7
110°-120°	91.9	2.3
120°-130°	119.0	3.0
130°-140°	138.7	3.5
140°-150°	140.5	3.5
150°-160°	121.9	3.1
160°-170°	82.2	2.1
170°-180°	28.9	0.7
0°-90°	3145.0	79.1
0°-180°	3976.7	100.0



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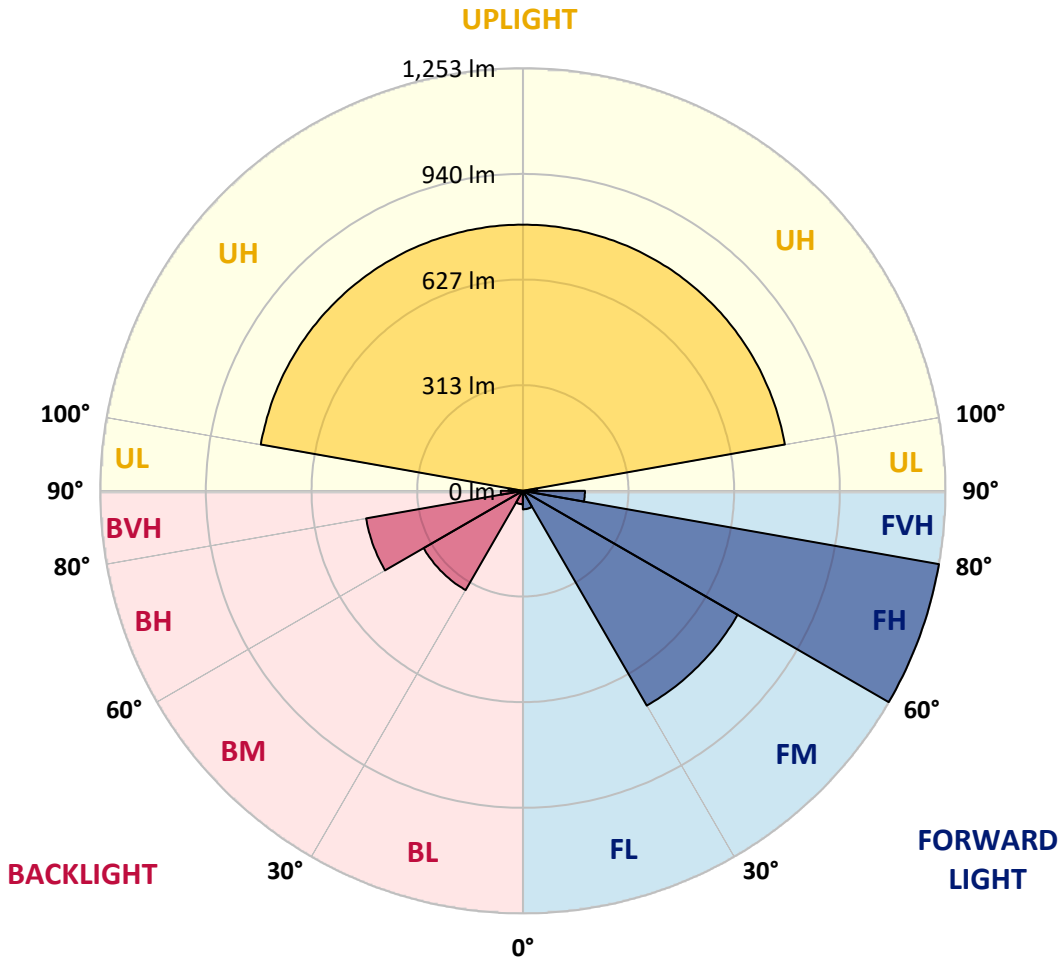
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	54.9	1.4			
FM	(30°-60°)	735.6	18.5			
FH	(60°-80°)	1253.2	31.5			G1/1800
FVH	(80°-90°)	184.1	4.6			G2/225
BL	(0°-30°)	39.8	1.0	B0/110		
BM	(30°-60°)	339.8	8.5	B1/1000		
BH	(60°-80°)	472.0	11.9	B1/500		G1/500
BVH	(80°-90°)	65.6	1.7			G1/100
UL	(90°-100°)	42.6	1.1		U2/50	
UH	(100°-180°)	789.1	19.8		U4/1000	

BUG Rating: B1-U4-G2
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	42.5°	45°	55°	65°	75°	85°
0°	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
2.5°	71.1	70.5	70.5	70.5	69.9	69.9	69.9	69.9	69.3	69.3	69.3
5°	75.2	74.6	75.2	74.0	73.4	73.4	72.8	72.8	72.2	71.7	71.1
7.5°	81.1	80.5	80.5	79.3	78.7	78.1	78.1	76.9	76.4	75.2	74.0
10°	87.5	87.5	86.9	86.3	85.2	84.0	84.0	82.2	81.6	79.9	78.1
12.5°	95.1	95.1	95.1	94.0	92.8	92.2	91.0	89.9	88.1	85.2	83.4
15°	104.5	104.5	104.5	103.4	102.2	101.0	100.4	98.1	95.1	92.2	88.7
17.5°	116.3	115.1	115.1	113.9	112.8	112.2	111.0	108.7	104.5	101.0	96.3
20°	129.2	128.6	128.0	128.0	126.9	125.7	125.1	121.6	116.9	110.4	104.5
22.5°	143.9	143.3	143.3	144.5	143.9	142.1	142.1	136.8	130.4	122.8	113.9
25°	162.1	161.5	162.7	165.0	165.0	163.9	162.1	156.8	147.4	136.8	126.3
27.5°	182.1	181.5	183.8	187.9	189.1	187.4	186.2	180.3	169.7	155.6	140.4
30°	206.2	206.7	213.2	217.9	220.8	219.7	219.1	212.6	195.6	179.1	159.2
32.5°	235.5	233.8	242.0	249.6	254.9	257.8	256.1	248.4	233.8	207.9	182.7
35°	266.7	267.2	277.2	288.4	300.7	301.9	305.4	297.8	277.8	247.3	212.0
37.5°	307.2	302.5	315.4	336.5	351.2	364.1	361.8	357.1	333.6	293.1	244.9
40°	343.6	342.4	360.6	390.0	417.0	435.8	438.2	432.3	401.2	343.6	280.2
42.5°	385.3	388.8	414.1	454.6	495.7	522.7	516.3	513.3	476.9	403.5	328.3
45°	427.6	439.3	471.6	530.4	578.5	617.3	628.5	618.5	573.8	498.1	389.4
47.5°	478.7	494.5	534.5	613.8	692.5	737.7	740.0	770.0	702.5	589.1	452.8
50°	546.2	553.3	609.1	706.0	814.1	877.5	895.7	896.3	828.7	680.7	524.5
52.5°	612.6	617.9	691.3	816.4	963.2	1035.5	1039.6	1062.5	970.3	828.7	627.3
55°	692.5	690.1	791.1	941.5	1114.8	1219.9	1250.4	1281.6	1164.1	945.6	686.0
57.5°	770.0	766.5	888.1	1085.4	1322.1	1426.6	1451.9	1429.6	1255.1	994.4	714.8
60°	841.7	854.0	1002.0	1244.6	1482.4	1582.3	1599.3	1538.8	1313.9	1032.0	733.0
62.5°	916.2	940.9	1120.1	1377.3	1605.2	1676.8	1678.0	1607.0	1412.0	1104.8	792.3
65°	986.1	1025.5	1211.7	1490.7	1690.9	1762.6	1770.8	1706.8	1508.3	1168.2	802.3
67.5°	1047.8	1100.1	1275.1	1551.7	1749.1	1795.5	1799.6	1707.4	1485.4	1142.4	774.7
70°	1097.7	1140.0	1314.5	1552.9	1708.6	1721.5	1718.6	1620.5	1421.9	1091.3	728.3
72.5°	1117.1	1151.8	1295.7	1480.1	1589.3	1586.4	1584.1	1493.6	1317.4	1006.1	661.3
75°	1089.5	1099.5	1192.9	1324.4	1393.8	1410.2	1412.5	1330.9	1155.9	879.8	567.4
77.5°	975.6	970.3	1041.9	1128.9	1181.1	1192.9	1190.5	1122.4	969.1	731.2	475.7
80°	773.5	784.7	829.3	886.9	939.2	952.1	943.9	892.2	754.1	570.3	365.3
82.5°	540.9	554.4	592.0	635.5	674.9	674.9	682.5	632.6	534.5	409.4	255.5
85°	291.9	284.3	325.4	374.7	402.9	408.2	411.1	394.7	330.7	247.3	151.5
87.5°	48.2	51.7	64.0	98.1	111.6	129.2	137.4	107.5	65.2	41.7	30.5
90°	30.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
92.5°	34.8	34.2	34.2	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
95°	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5
97.5°	44.6	44.6	44.6	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	56.4	55.9	55.9
105°	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.9	62.0	62.0
107.5°	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.0	69.5	69.0	69.0
110°	75.1	75.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	42.5°	45°	55°	65°	75°	85°
112.5°	83.1	83.1	84.0	84.0	84.0	84.0	*84.0*	84.6	84.6	84.0	84.0
115°	91.1	91.1	92.0	92.0	92.0	92.0	*92.0*	93.0	93.0	92.0	92.0
117.5°	100.5	100.5	101.0	101.4	101.4	101.4	*101.4*	102.4	102.4	101.4	101.4
120°	109.9	109.9	109.9	110.8	110.8	110.8	*110.8*	111.8	111.8	110.8	110.8
122.5°	120.7	120.7	121.2	121.6	121.6	121.6	*121.6*	122.6	122.6	122.1	122.1
125°	131.5	131.5	132.4	132.4	132.4	132.4	*132.4*	133.4	133.4	133.4	133.4
127.5°	143.2	143.2	144.2	144.2	144.2	144.2	*144.2*	145.1	145.1	145.1	145.1
130°	155.0	155.0	155.9	155.9	155.9	155.9	*155.9*	156.8	156.8	156.8	156.8
132.5°	167.2	167.2	167.6	167.6	167.6	168.0	*168.1*	168.6	168.6	168.6	168.6
135°	179.4	179.4	179.4	179.4	179.4	180.1	*180.3*	180.3	180.3	180.3	180.3
137.5°	191.2	190.6	191.2	190.6	191.2	191.5	*191.6*	191.6	191.6	191.6	191.6
140°	202.9	201.9	202.9	201.9	202.9	202.9	*202.9*	202.9	202.9	202.9	202.9
142.5°	213.7	213.2	213.7	212.7	213.7	213.7	*213.7*	213.7	213.7	213.7	213.7
145°	224.5	224.5	224.5	223.5	224.5	224.5	*224.5*	224.5	224.5	224.5	224.5
147.5°	235.8	235.3	235.8	234.8	235.8	235.8	*235.8*	235.8	235.8	235.8	235.8
150°	247.0	246.1	247.0	246.1	247.0	247.0	*247.0*	247.0	247.0	247.0	247.0
152.5°	256.0	255.5	256.4	255.5	256.0	256.0	*256.0*	256.4	256.0	256.0	256.0
155°	264.9	264.9	265.8	264.9	264.9	264.9	*264.9*	265.8	264.9	264.9	264.9
157.5°	272.4	272.4	273.3	272.4	272.4	272.4	*272.4*	273.3	272.4	272.4	272.4
160°	279.9	279.9	280.8	279.9	279.9	279.9	*279.9*	280.8	279.9	279.9	279.9
162.5°	286.0	286.0	286.9	286.0	286.0	286.0	*286.0*	286.9	286.0	286.0	286.0
165°	292.1	292.1	293.0	292.1	292.1	292.1	*292.1*	293.0	292.1	292.1	292.1
167.5°	295.8	295.8	296.8	295.8	295.8	295.8	*295.8*	296.8	295.8	295.8	295.8
170°	299.6	299.6	300.5	299.6	299.6	299.6	*299.6*	300.5	299.6	299.6	299.6
172.5°	302.0	302.0	302.8	302.0	302.4	302.1	*302.0*	302.8	302.0	302.0	302.0
175°	304.3	304.3	305.2	304.3	305.2	304.6	*304.3*	305.2	304.3	304.3	304.3
177.5°	305.2	305.2	305.7	305.2	305.7	305.4	*305.2*	305.7	305.2	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	*306.2*	306.2	306.2	306.2	306.2

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
2.5°	69.3	68.7	68.1	67.5	67.5	67.0	67.0	67.0	67.5	67.5	67.5
5°	71.1	70.5	69.9	69.3	68.1	68.1	68.1	68.1	68.1	68.1	68.1
7.5°	74.0	72.8	72.2	71.1	69.9	69.9	69.3	69.3	69.3	69.9	69.3
10°	77.5	76.4	75.2	73.4	72.8	72.2	71.7	71.7	72.2	72.2	71.7
12.5°	81.6	81.1	78.7	76.9	75.8	75.2	74.6	75.2	74.6	75.2	75.2
15°	87.5	85.8	82.8	81.1	79.3	78.7	78.1	78.7	78.7	79.3	78.7
17.5°	94.0	91.6	88.7	85.8	83.4	82.8	82.8	82.8	83.4	84.0	83.4
20°	101.6	98.7	94.6	91.0	88.7	88.1	88.1	88.7	89.3	89.9	89.9
22.5°	109.2	106.9	101.0	96.3	95.1	94.6	94.0	95.1	96.3	96.9	97.5
25°	121.0	116.3	109.2	104.0	101.6	101.6	102.2	103.4	104.0	105.1	104.5
27.5°	133.3	128.0	119.2	112.2	110.4	109.8	111.0	112.2	114.5	114.5	113.9
30°	150.4	141.5	130.4	123.9	119.2	119.8	121.6	123.3	125.7	126.9	126.9
32.5°	169.7	160.3	145.1	135.1	132.7	133.3	133.9	136.8	139.2	141.5	139.8
35°	195.0	183.2	164.5	153.3	147.4	146.8	149.2	152.7	155.1	156.2	156.2
37.5°	222.6	207.3	183.8	174.4	167.4	166.8	167.4	170.3	173.3	174.4	176.8
40°	256.1	237.3	209.7	194.4	189.1	187.9	190.3	194.4	194.4	196.2	196.8
42.5°	297.2	273.1	242.6	222.6	216.1	216.1	215.6	219.1	219.1	219.1	217.9
45°	349.5	322.4	282.5	262.0	250.8	244.9	246.7	244.3	243.7	245.5	240.2
47.5°	400.0	365.9	318.9	296.6	285.4	281.9	275.5	273.7	270.8	270.8	263.1
50°	458.7	416.4	371.2	339.5	328.9	318.9	313.6	305.4	296.6	294.8	291.9
52.5°	556.8	503.9	432.9	398.8	371.8	361.8	349.5	338.9	328.3	320.1	324.8
55°	596.7	542.7	475.2	442.3	423.5	414.1	391.2	377.1	361.2	349.5	355.9
57.5°	616.7	558.0	495.1	470.5	465.2	456.4	439.3	415.2	397.0	382.4	383.5
60°	627.9	566.2	505.7	483.4	480.4	486.3	477.5	461.1	432.9	418.2	416.4
62.5°	670.7	606.1	535.7	503.9	497.5	501.6	503.9	494.0	470.5	451.1	445.8
65°	679.5	610.8	541.5	521.0	521.6	522.7	524.5	513.9	502.2	478.1	473.4
67.5°	*653.1*	*585.6*	*523.9*	*506.9*	*508.0*	*521.6*	*532.1*	*531.5*	*518.6*	*498.1*	*496.3*
70°	613.2	547.4	490.4	475.2	478.1	490.4	513.3	525.1	522.7	509.2	512.2
72.5°	550.9	492.2	442.3	430.5	437.6	449.3	471.0	492.2	504.5	507.5	513.9
75°	478.1	431.1	384.1	377.1	382.4	395.9	415.8	440.5	467.5	482.2	486.3
77.5°	394.7	351.8	317.2	312.5	320.1	332.4	352.4	371.8	402.3	428.2	434.0
80°	308.9	271.9	247.3	243.2	247.9	258.4	273.7	289.6	318.9	338.9	341.8
82.5°	214.4	192.1	176.2	173.9	176.8	180.9	193.2	207.9	224.4	240.2	242.0
85°	124.5	110.4	106.3	102.8	109.2	109.2	112.2	120.4	128.6	129.8	133.3
87.5°	22.9	21.7	22.3	16.4	20.6	14.7	14.7	18.8	14.1	16.4	13.5
90°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	30.1
92.5°	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	34.2	34.2	34.8
95°	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	39.4	39.4	39.4
97.5°	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.6	44.6	44.6
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	56.4	55.9	55.9	55.9	55.9	55.9	55.9	55.9
105°	62.0	62.0	62.0	62.9	62.0	62.0	62.0	62.0	62.0	62.0	62.0
107.5°	69.0	69.0	69.0	69.5	69.0	69.0	69.0	69.0	69.0	68.6	68.6
110°	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	75.1	75.1

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

Scaled Data Report

REPORT NUMBER: P821474
CATALOG NUMBER: TT-D1-735-12VDC-DL-UPL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	84.0	84.0	84.0	84.6	84.6	84.0	84.0	84.0	84.0	83.1	83.1
115°	92.0	92.0	92.0	93.0	93.0	92.0	92.0	92.0	92.0	91.1	91.1
117.5°	101.4	101.4	101.4	102.4	102.4	101.4	101.4	101.4	101.0	100.5	100.5
120°	110.8	110.8	110.8	111.8	111.8	110.8	110.8	110.8	109.9	109.9	109.9
122.5°	121.6	122.1	122.1	122.6	122.6	121.6	121.6	121.6	121.2	120.7	120.7
125°	132.4	133.4	133.4	133.4	133.4	132.4	132.4	132.4	132.4	131.5	131.5
127.5°	144.2	145.1	145.1	145.1	145.1	144.2	144.2	144.2	144.2	143.2	143.2
130°	155.9	156.8	156.8	156.8	156.8	155.9	155.9	155.9	155.9	155.0	155.0
132.5°	168.1	168.6	168.6	168.6	168.6	168.1	167.6	167.6	167.6	167.2	167.2
135°	180.3	180.3	180.3	180.3	180.3	180.3	179.4	179.4	179.4	179.4	179.4
137.5°	191.6	191.6	191.6	191.6	191.6	191.6	191.2	190.6	191.2	190.6	191.2
140°	202.9	202.9	202.9	202.9	202.9	202.9	202.9	201.9	202.9	201.9	202.9
142.5°	213.7	213.7	213.7	213.7	213.7	213.7	213.7	212.7	213.7	213.2	213.7
145°	224.5	224.5	224.5	224.5	224.5	224.5	224.5	223.5	224.5	224.5	224.5
147.5°	235.8	235.8	235.8	235.8	235.8	235.8	235.8	234.8	235.8	235.3	235.8
150°	247.0	247.0	247.0	247.0	247.0	247.0	247.0	246.1	247.0	246.1	247.0
152.5°	256.0	256.0	256.0	256.0	256.4	256.0	256.0	255.5	256.4	255.5	256.0
155°	264.9	264.9	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9
157.5°	272.4	272.4	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4
160°	279.9	279.9	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9
162.5°	286.0	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0
165°	292.1	292.1	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1
167.5°	295.8	295.8	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8
170°	299.6	299.6	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6
172.5°	302.0	302.0	302.0	302.0	302.8	302.0	302.4	302.0	302.8	302.0	302.0
175°	304.3	304.3	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3
177.5°	305.2	305.2	305.2	305.2	305.7	305.2	305.7	305.2	305.7	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2

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

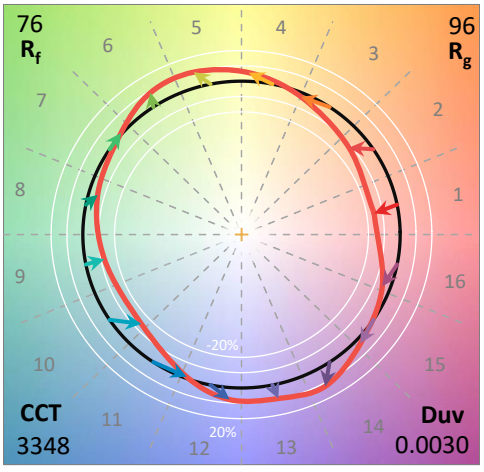
Test Information

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

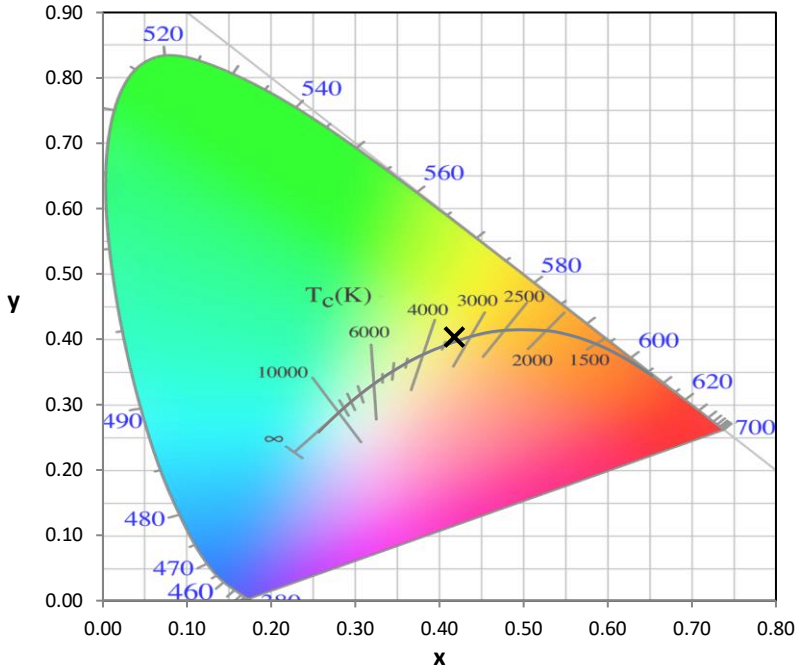
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-4

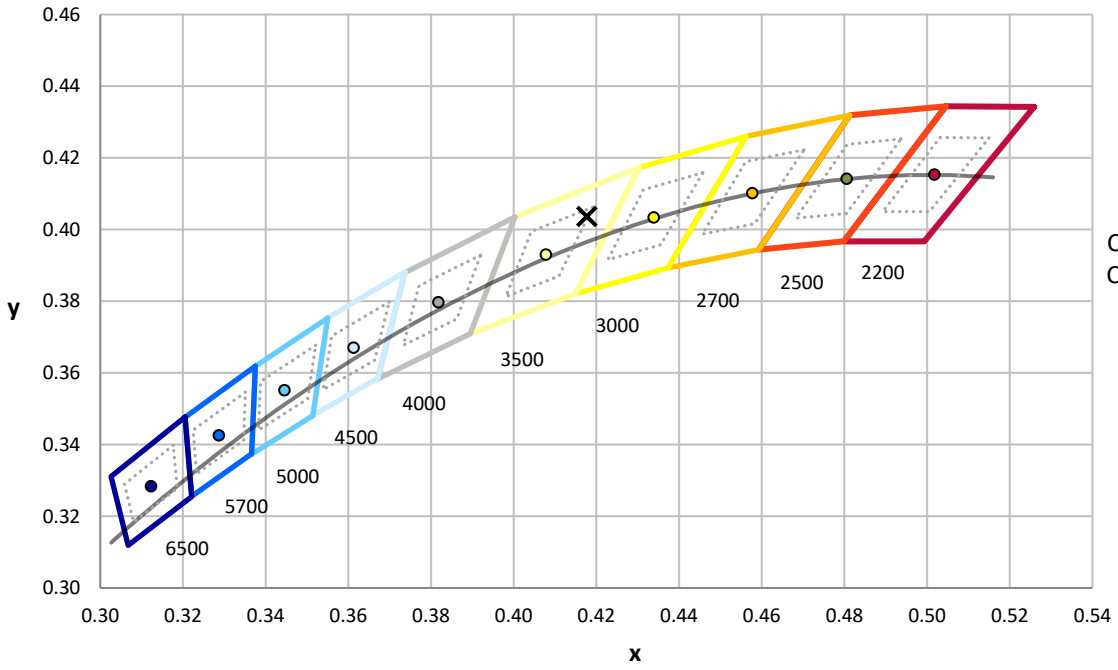
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

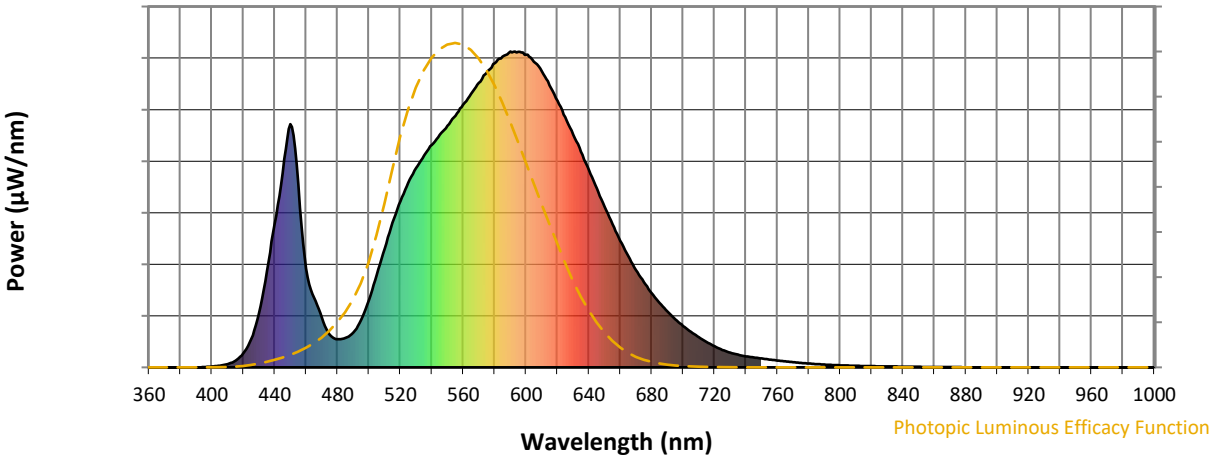


CCT = 3348K
CIE x = 0.4177
CIE y = 0.4036
Duv = 0.0030

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-4

Photopic Flux vs. Wavelength

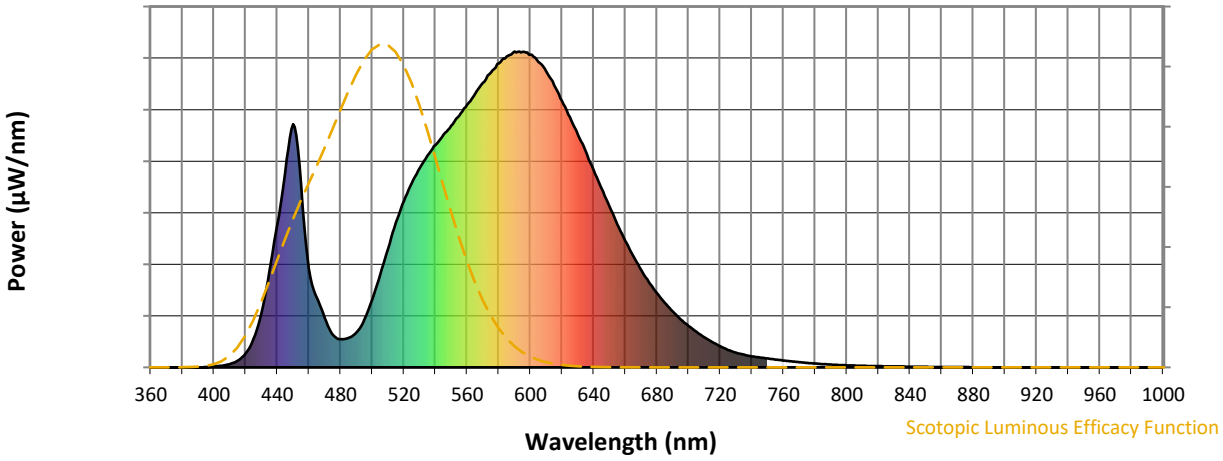


Photopic Lumens: NR

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

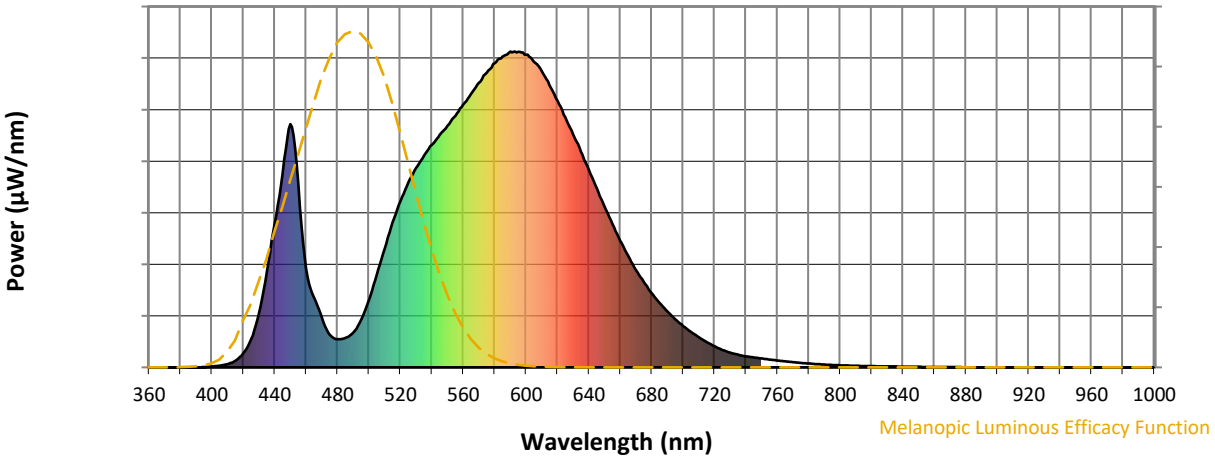


Scotopic Lumens: NR **S/P: 1.31**

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			

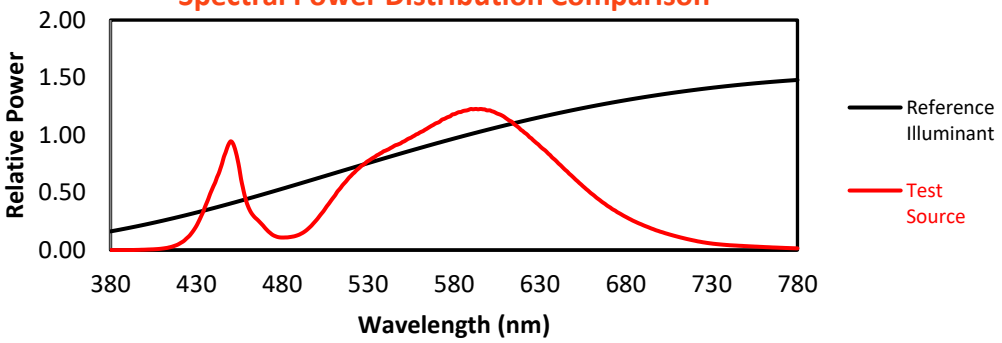
REPORT NUMBER: SP1-2407-176-4

TM-30-18

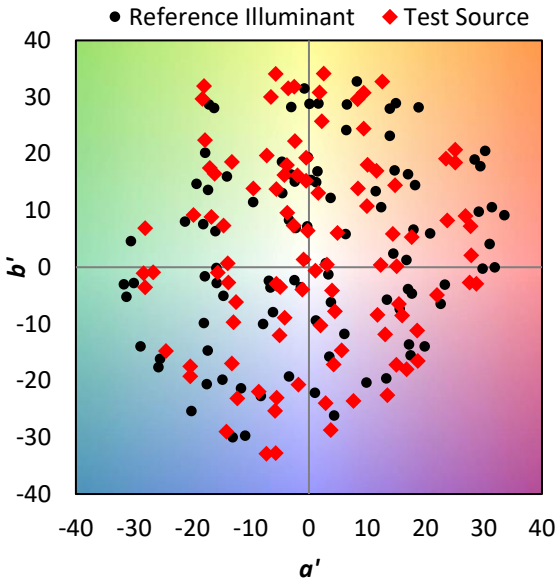
Summary

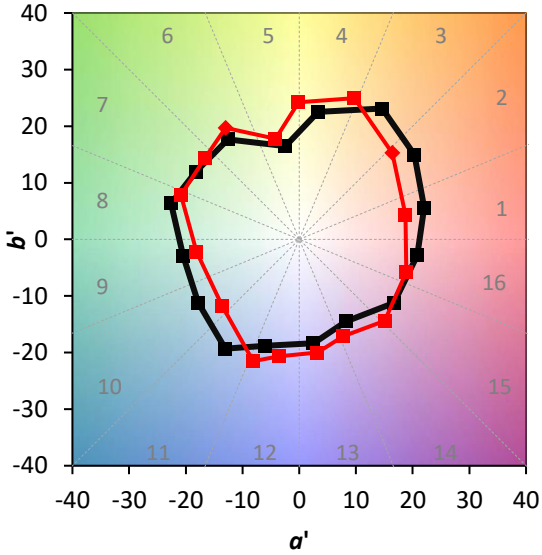
R_f = 75.8
R_g = 95.8
CIE R_a = 73.4
R_9 = -19.2

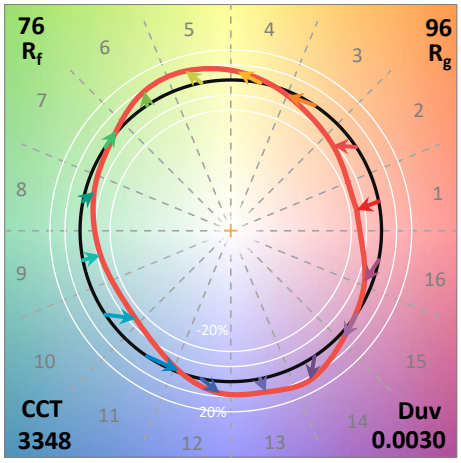
Spectral Power Distribution Comparison

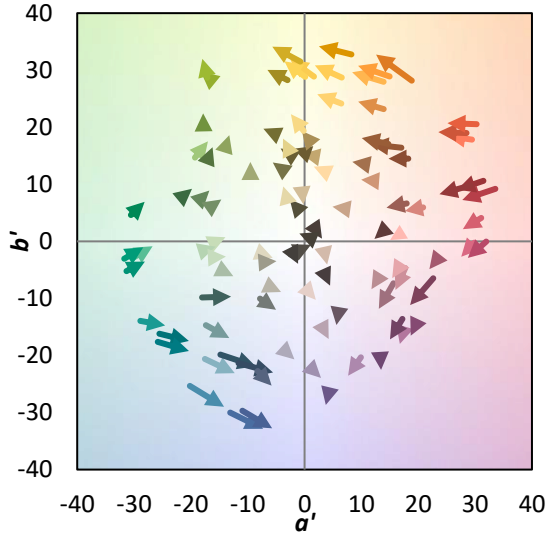


Color Vector Graphics







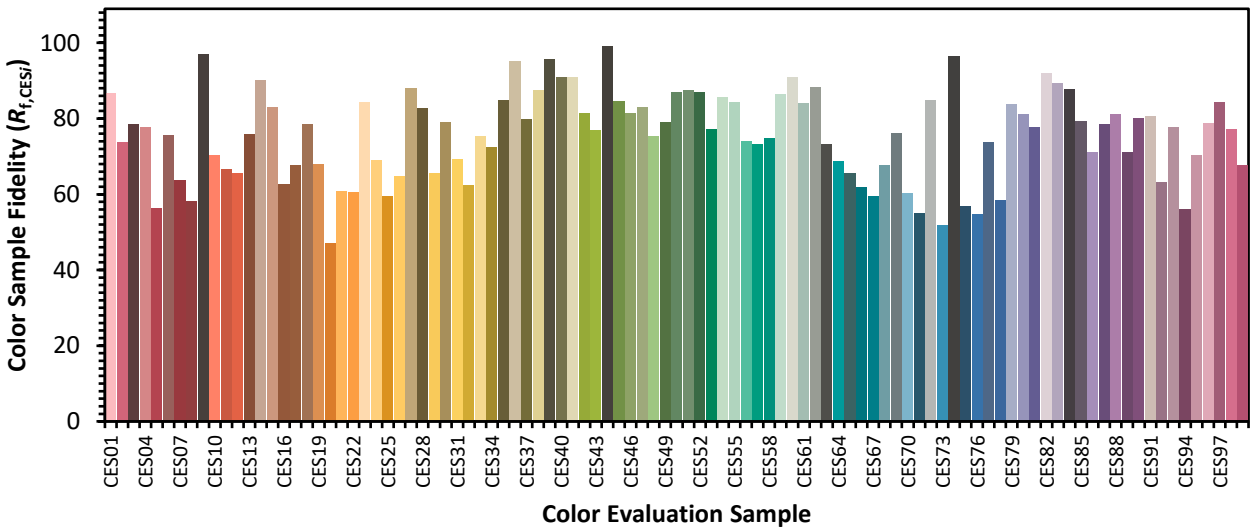


REPORT NUMBER: SP1-2407-176-4

TM-30-18

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

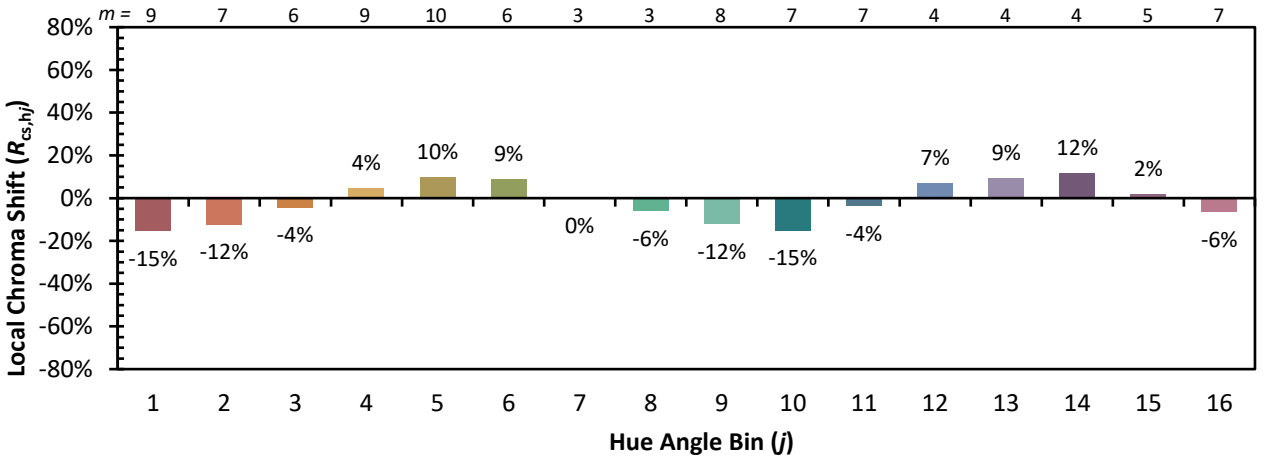
CES01 = 86	CES26 = 65	CES51 = 88	CES76 = 55
CES02 = 62	CES27 = 88	CES52 = 87	CES77 = 74
CES03 = 31	CES28 = 83	CES53 = 77	CES78 = 58
CES04 = 70	CES29 = 66	CES54 = 86	CES79 = 84
CES05 = 48	CES30 = 79	CES55 = 84	CES80 = 81
CES06 = 51	CES31 = 69	CES56 = 74	CES81 = 78
CES07 = 41	CES32 = 62	CES57 = 73	CES82 = 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	

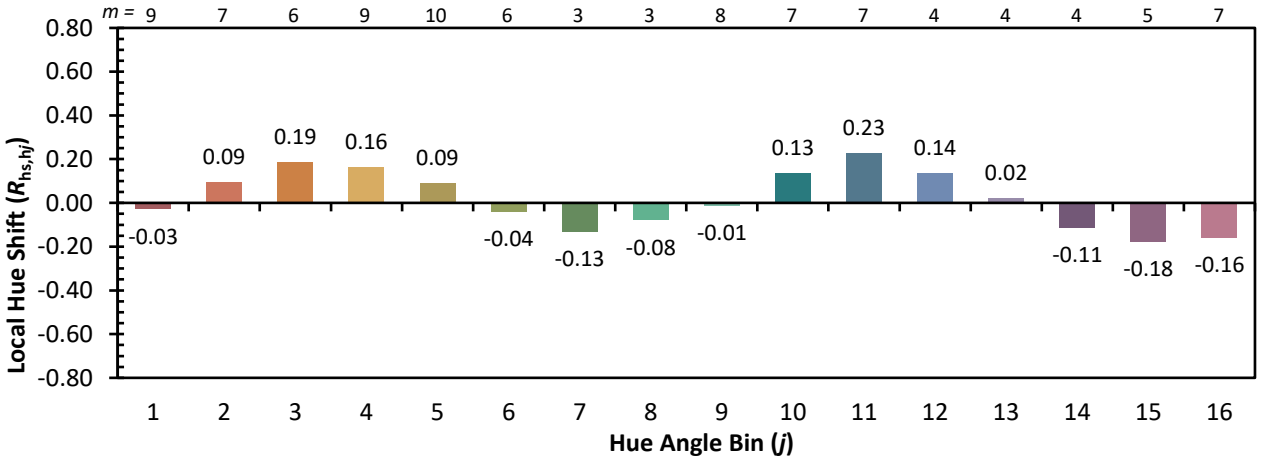


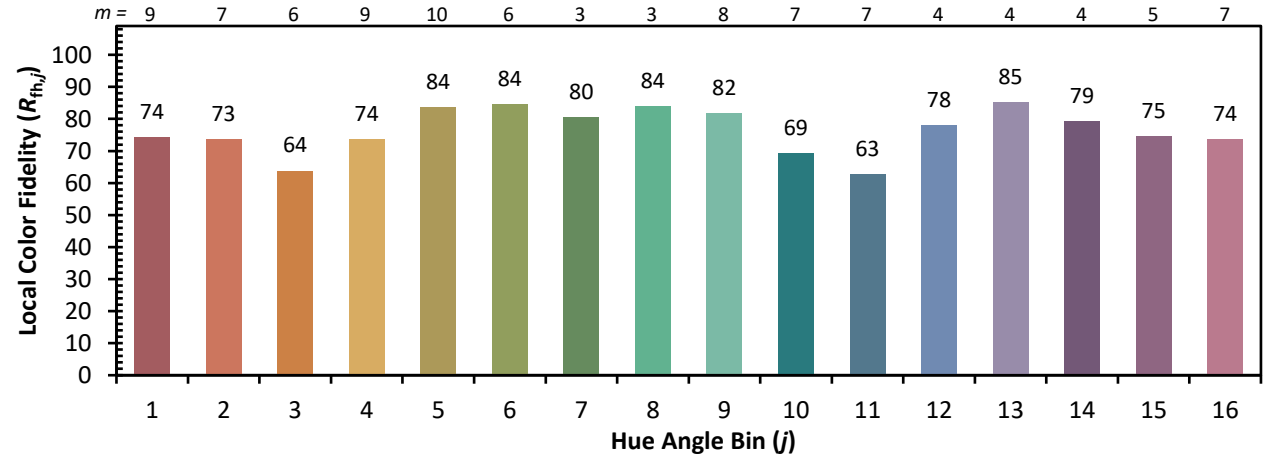
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Color Rendition by Hue-Angle Bin



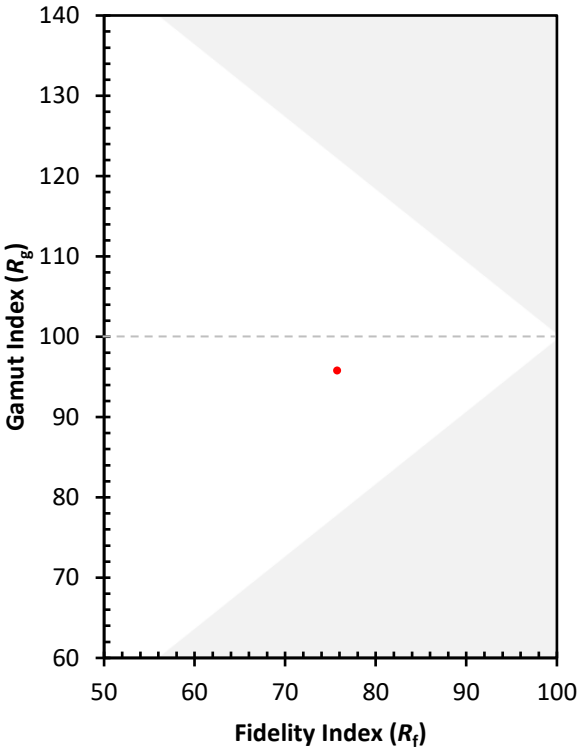


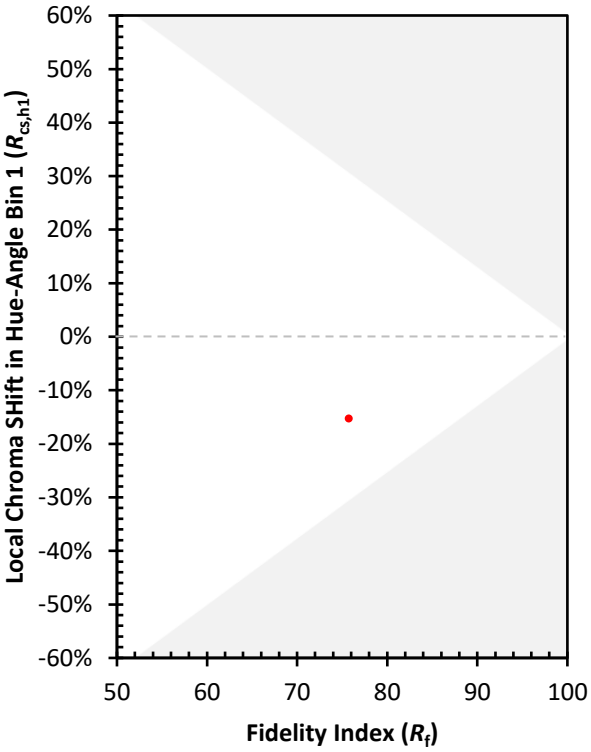


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Measure Comparisons





(END OF REPORT)