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

Scaled data based on original data using

LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: INVUE

Report Number: P1442040

Luminaire Tested: ABB-C2-840-X-U-S-GM

Issue Date: 4/23/2026

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-2024
Report Number:	P1442040
	TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-539-30)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	4/24/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	INVUE
Catalog Number:	ABB-C2-840-X-U-S-GM
Description:	ARBOR OUTDOOR ARCHITECTURAL BOLLARD LUMINAIRE
	SYMMETRIC OPTIC, GRAPHITE METALLIC PAINTED FINISH
Light Source:	4000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	1256.7 lumens
Efficiency:	N/A
Efficacy:	45.9 lumens/watt
Luminous Opening:	Circular (Dia: 0.4' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B1 - U0 - G1

Input Watts (W):	27.4
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9937
Total Harmonic Distortion (THDi):	0.0861672
Frequency (hertz):	60
Stabilization Time:	0.5 HR
Operation Time:	3 HR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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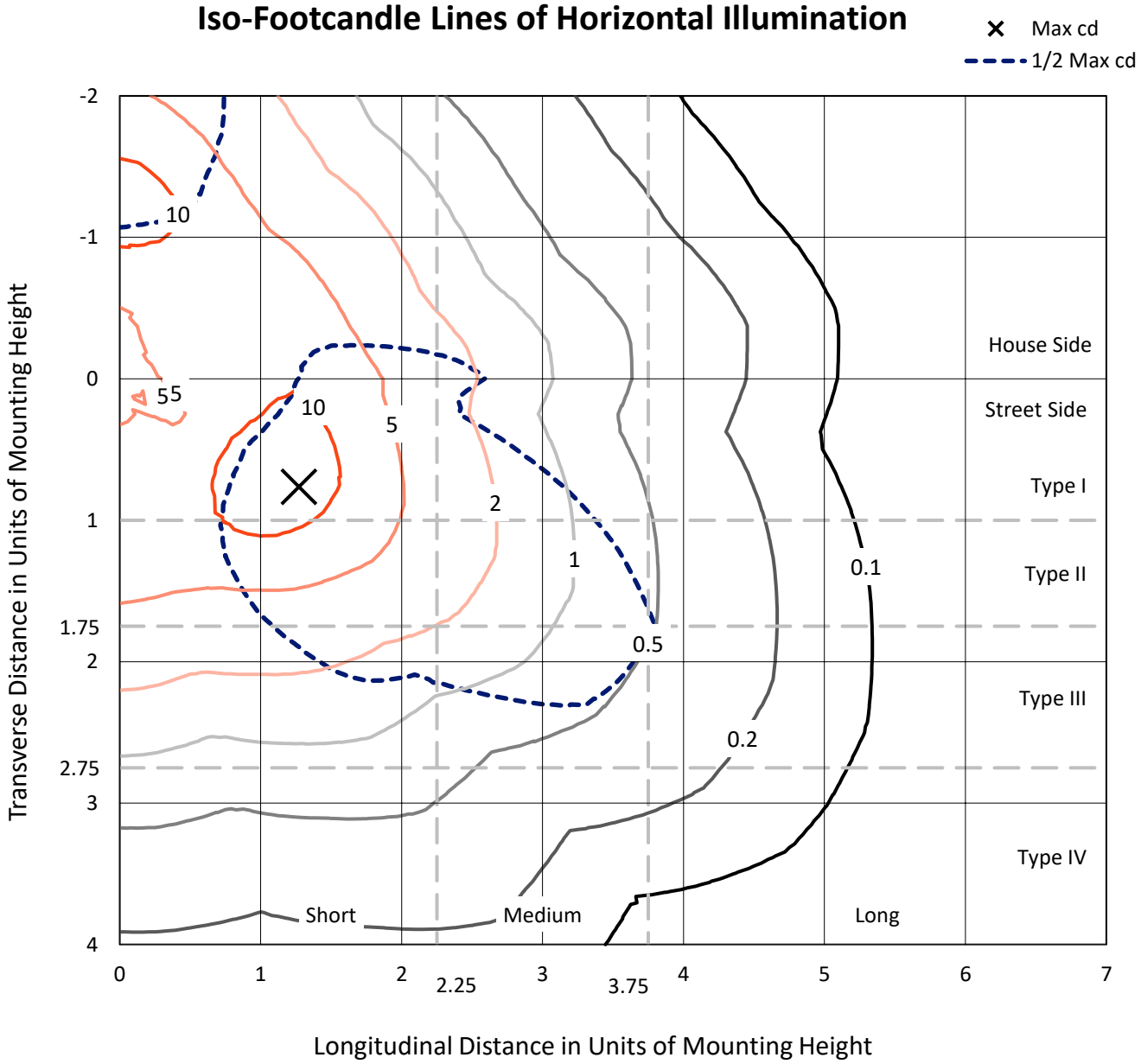
Iso-Footcandle Lines of Horizontal Illumination



Based on 3 foot mounting height. Maximum calculated value = 17.1 fc
Type III - Short - N/A

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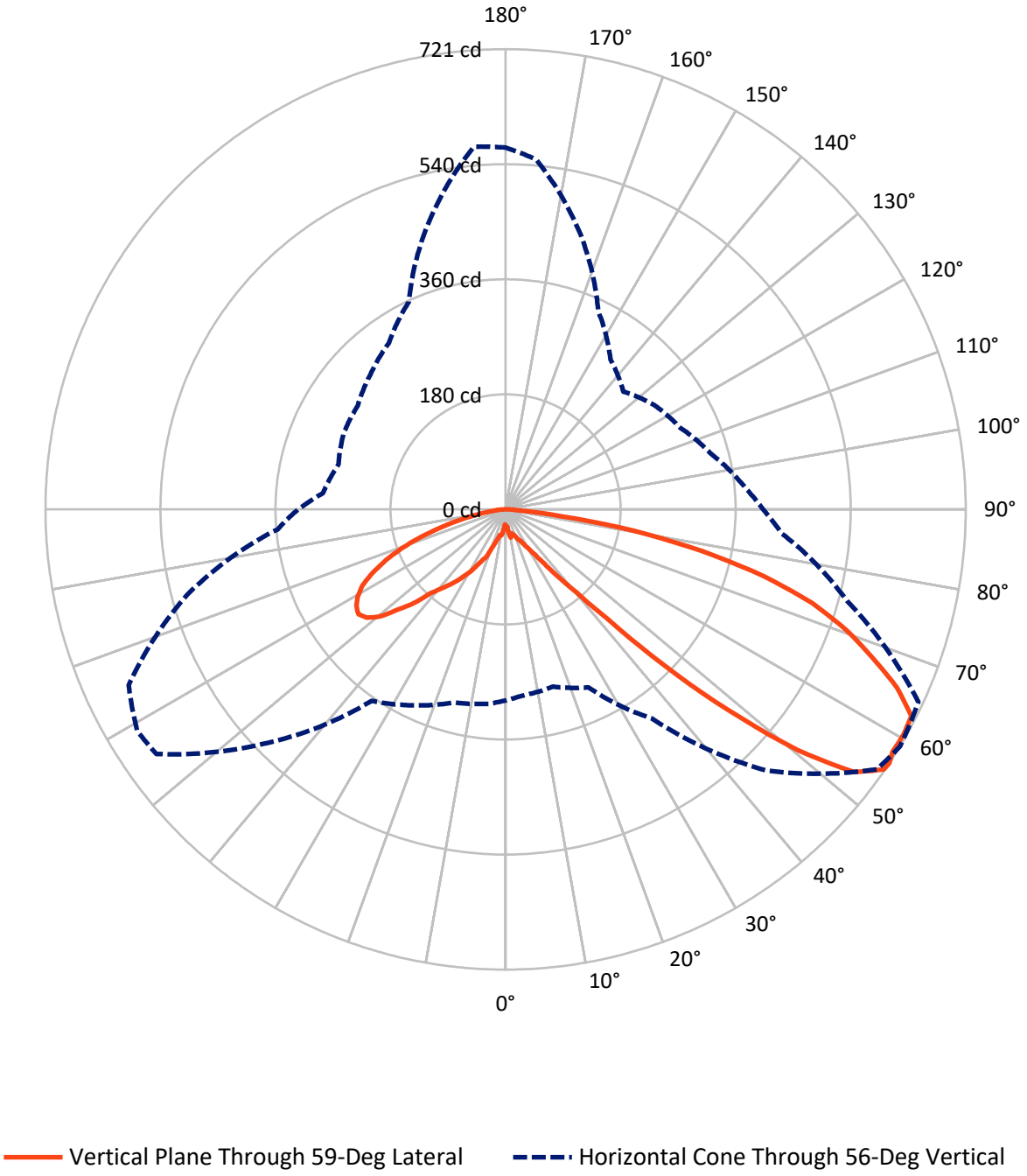
Luminous Intensity Polar Plot



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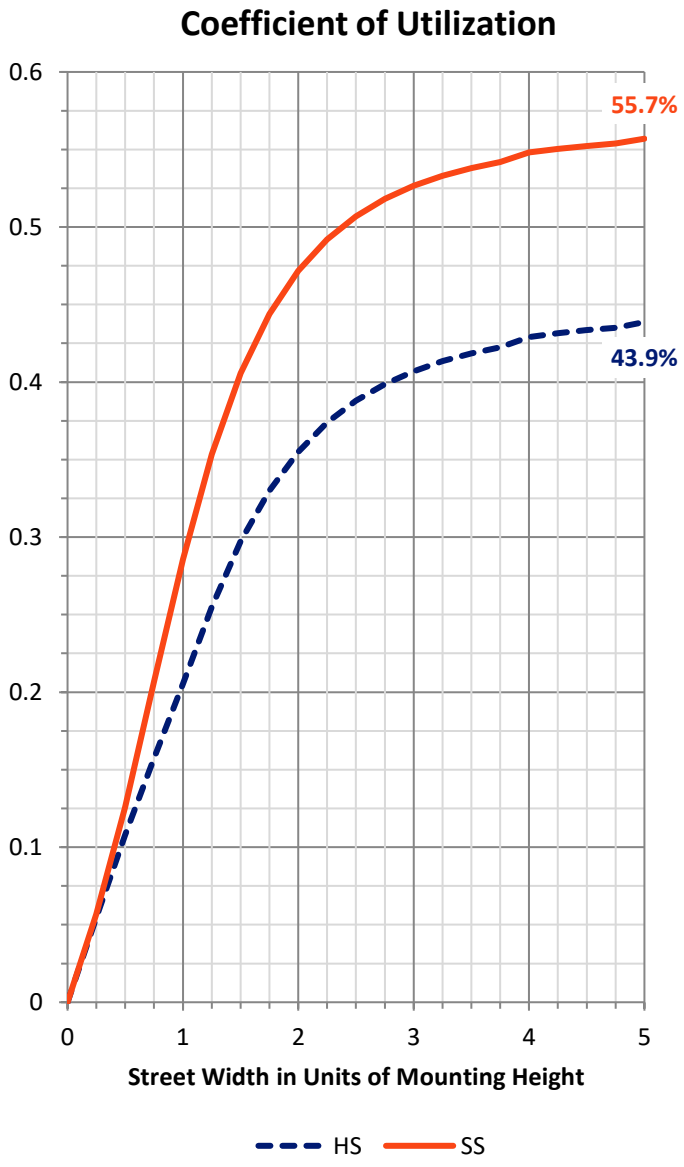
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	552.7	0.0	552.7
	% Fixture	44.0	0.0	44.0
Street Side	Lumens	704.1	0.0	704.1
	% Fixture	56.0	0.0	56.0
Total	Lumens	1256.7	0.0	1256.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.2	0.3
10°-20°	13.5	1.1
20°-30°	33.3	2.7
30°-40°	73.4	5.8
40°-50°	182.2	14.5
50°-60°	351.5	28.0
60°-70°	356.6	28.4
70°-80°	212.3	16.9
80°-90°	30.8	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	1256.7	100.0
0°-180°	1256.7	100.0



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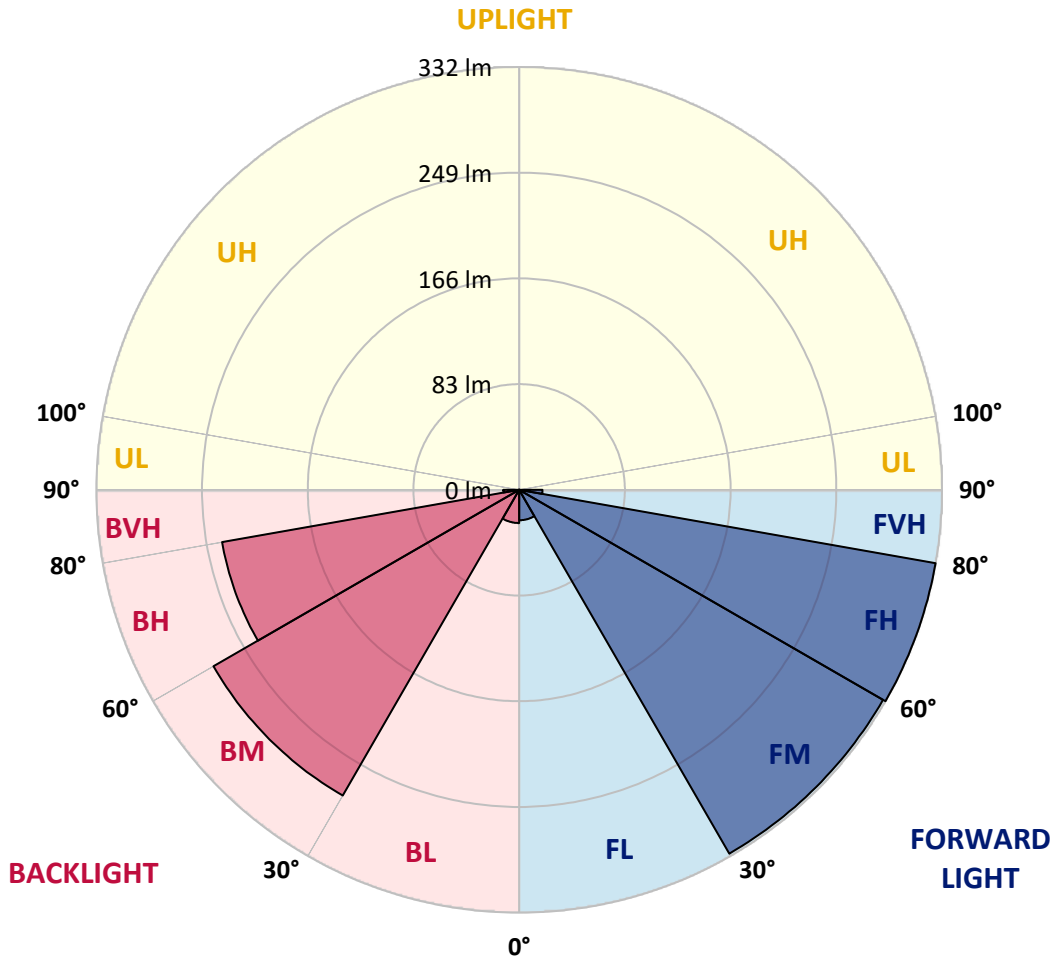
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	23.9	1.9			
FM	(30°-60°)	329.9	26.3			
FH	(60°-80°)	332.0	26.4			G0/660
FVH	(80°-90°)	18.3	1.5			G1/100
BL	(0°-30°)	26.1	2.1	B0/110		
BM	(30°-60°)	277.2	22.1	B1/1000		
BH	(60°-80°)	236.9	18.8	B1/500		G1/500
BVH	(80°-90°)	12.5	1.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1
Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	25.5	25.5	25.5	25.5	25.5	25.5	25.5	*25.5*	25.5	25.5	25.5
2.5°	30.1	31.0	33.7	33.7	32.8	31.0	29.2	*29.2*	28.3	26.4	24.6
5°	43.8	40.1	34.7	34.7	34.7	31.9	28.3	*27.4*	27.4	24.6	23.7
7.5°	42.9	45.6	47.4	45.6	44.7	44.7	40.1	*39.2*	34.7	31.9	34.7
10°	43.8	43.8	42.9	51.1	47.4	48.3	44.7	*44.7*	42.0	41.0	41.0
12.5°	42.0	40.1	42.9	46.5	42.0	45.6	41.0	*38.3*	38.3	41.0	43.8
15°	42.9	44.7	45.6	51.1	49.2	46.5	41.0	*41.0*	42.0	47.4	47.4
17.5°	49.2	52.9	52.9	53.8	53.8	49.2	41.0	*42.0*	44.7	48.3	53.8
20°	57.5	57.5	58.4	57.5	57.5	52.9	43.8	*45.6*	48.3	51.1	56.5
22.5°	66.6	68.4	72.0	66.6	64.8	55.6	52.0	*51.1*	55.6	53.8	61.1
25°	83.0	88.5	83.0	71.1	70.2	60.2	54.7	*54.7*	58.4	64.8	65.7
27.5°	99.4	102.1	88.5	76.6	78.4	67.5	62.9	*62.9*	65.7	73.0	76.6
30°	107.6	110.4	98.5	84.8	86.6	76.6	70.2	*71.1*	73.0	82.1	91.2
32.5°	118.6	123.1	109.4	95.8	96.7	94.8	84.8	*84.8*	82.1	91.2	98.5
35°	134.1	133.2	119.5	104.9	107.6	113.1	105.8	*104.0*	99.4	101.2	112.2
37.5°	145.9	145.9	135.0	117.6	119.5	132.2	133.2	*133.2*	124.0	116.7	125.9
40°	157.8	162.3	148.7	130.4	141.4	160.5	168.7	*170.5*	156.0	137.7	140.4
42.5°	172.4	180.6	169.6	152.3	173.3	209.8	228.9	*233.5*	208.8	184.2	166.9
45°	207.0	216.1	207.0	188.8	217.1	281.8	321.9	*348.4*	306.4	240.8	213.4
47.5°	230.7	237.1	228.9	214.3	257.2	349.3	417.7	*469.7*	427.7	313.7	263.6
50°	265.4	265.4	261.7	259.0	322.8	472.4	563.6	*592.8*	579.1	413.1	342.9
52.5°	284.5	282.7	280.9	289.1	369.4	529.9	652.1	*683.1*	674.9	491.6	396.7
55°	296.4	292.8	287.3	304.6	394.0	571.8	703.2	*718.7*	710.4	540.8	425.9
56°	*299.1*	*292.8*	*287.3*	*307.3*	*399.5*	*578.2*	*709.5*	*720.5*	*713.2*	*553.6*	*434.1*
57.5°	298.2	290.9	283.6	310.1	401.3	579.1	709.5	*715.0*	715.9	563.6	441.4
60°	290.9	284.5	272.7	310.1	404.0	566.4	701.3	*715.9*	720.5	564.5	444.1
62.5°	280.0	276.3	258.1	305.5	400.4	539.9	695.9	*713.2*	710.4	551.8	428.6
65°	259.9	256.3	235.3	295.5	380.3	498.0	659.4	*674.0*	664.8	521.7	389.4
67.5°	232.6	228.9	209.8	277.2	360.2	448.7	608.3	*619.2*	616.5	487.9	347.5
70°	200.6	198.8	184.2	253.5	337.4	392.2	553.6	*566.4*	570.9	441.4	305.5
72.5°	166.0	167.8	156.9	222.5	304.6	330.1	485.2	*502.5*	509.8	386.7	256.3
75°	127.7	129.5	125.9	185.1	261.7	259.0	402.2	*417.7*	425.0	320.1	201.6
77.5°	91.2	91.2	91.2	140.4	208.8	177.8	303.7	*314.6*	324.7	238.0	143.2
80°	59.3	56.5	58.4	89.4	137.7	104.0	192.4	*202.5*	200.6	145.9	83.9
82.5°	34.7	31.9	31.9	42.0	55.6	44.7	85.7	*87.6*	89.4	58.4	36.5
85°	17.3	15.5	14.6	16.4	15.5	17.3	17.3	*16.4*	16.4	11.9	14.6
87.5°	12.8	10.9	10.0	11.9	10.9	13.7	12.8	*12.8*	12.8	8.2	10.9
90°	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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REPORT NUMBER: P1442040
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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
2.5°	23.7	23.7	21.9	21.0	20.1	22.8	25.5	25.5	24.6	24.6	24.6
5°	24.6	25.5	28.3	32.8	33.7	31.0	29.2	26.4	23.7	21.9	21.0
7.5°	35.6	36.5	35.6	37.4	37.4	34.7	35.6	34.7	30.1	29.2	28.3
10°	42.0	42.9	48.3	46.5	44.7	42.9	42.9	41.0	37.4	35.6	33.7
12.5°	45.6	46.5	48.3	44.7	49.2	47.4	46.5	42.0	40.1	36.5	36.5
15°	47.4	52.0	52.9	52.9	50.2	52.0	48.3	44.7	43.8	37.4	36.5
17.5°	56.5	56.5	59.3	58.4	53.8	57.5	54.7	51.1	46.5	40.1	40.1
20°	58.4	64.8	65.7	66.6	63.8	63.8	65.7	61.1	53.8	50.2	49.2
22.5°	64.8	71.1	74.8	80.3	73.0	73.9	72.0	62.0	52.9	53.8	51.1
25°	70.2	74.8	79.3	91.2	84.8	77.5	77.5	69.3	60.2	59.3	57.5
27.5°	80.3	84.8	93.9	107.6	93.0	87.6	83.9	77.5	67.5	65.7	65.7
30°	96.7	96.7	107.6	115.8	113.1	92.1	93.0	83.9	76.6	72.0	73.9
32.5°	112.2	110.4	122.2	126.8	125.9	101.2	100.3	94.8	92.1	84.8	83.9
35°	123.1	131.3	133.2	138.6	135.9	118.6	108.5	104.9	104.9	101.2	101.2
37.5°	136.8	145.0	147.7	151.4	147.7	132.2	122.2	117.6	122.2	125.9	122.2
40°	154.1	166.0	162.3	164.2	160.5	147.7	140.4	137.7	149.6	160.5	155.0
42.5°	176.0	190.6	185.1	180.6	177.8	164.2	162.3	168.7	192.4	209.8	206.1
45°	217.1	229.8	219.8	212.5	208.8	192.4	194.3	212.5	257.2	288.2	298.2
47.5°	259.0	261.7	252.6	239.9	236.2	213.4	218.0	251.7	318.3	363.9	377.6
50°	327.4	328.3	300.0	272.7	261.7	244.4	252.6	302.8	387.6	441.4	463.3
52.5°	378.5	363.0	323.8	294.6	279.1	259.9	272.7	335.6	430.5	502.5	524.4
55°	398.5	373.9	334.7	302.8	284.5	262.7	284.5	343.8	446.9	543.6	564.5
56°	*403.1*	*377.6*	*333.8*	*301.9*	*284.5*	*260.8*	*286.4*	*342.9*	*448.7*	*549.9*	*566.4*
57.5°	410.4	376.7	330.1	300.0	280.9	256.3	285.5	340.2	446.9	552.7	569.1
60°	425.0	376.7	317.4	292.8	272.7	248.1	282.7	340.2	440.5	545.4	570.0
62.5°	426.8	373.0	298.2	275.4	261.7	236.2	271.8	337.4	424.1	538.1	567.3
65°	406.8	363.0	270.9	251.7	238.9	217.1	253.5	324.7	395.8	514.4	529.9
67.5°	378.5	346.6	240.8	222.5	210.7	192.4	232.6	302.8	355.7	465.1	477.0
70°	344.7	325.6	209.8	189.7	180.6	166.0	207.9	277.2	302.8	410.4	426.8
72.5°	292.8	286.4	183.3	154.1	145.9	138.6	176.9	245.3	246.2	352.0	369.4
75°	231.6	232.6	148.7	117.6	110.4	109.4	140.4	201.6	188.8	280.9	294.6
77.5°	165.1	169.6	109.4	84.8	75.7	79.3	100.3	151.4	132.2	203.4	212.5
80°	93.9	96.7	67.5	55.6	46.5	51.1	61.1	93.9	77.5	123.1	128.6
82.5°	32.8	33.7	32.8	31.9	28.3	27.4	30.1	37.4	32.8	48.3	52.0
85°	12.8	11.9	16.4	16.4	13.7	13.7	14.6	14.6	17.3	16.4	15.5
87.5°	10.0	8.2	12.8	12.8	10.9	10.9	10.9	10.9	13.7	12.8	12.8
90°	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
2.5°	25.5	26.4	26.4	25.5	23.7	23.7	23.7	23.7	24.6	25.5	25.5
5°	21.9	23.7	25.5	25.5	28.3	29.2	28.3	26.4	21.9	21.0	21.9
7.5°	29.2	32.8	29.2	29.2	31.9	38.3	35.6	34.7	31.0	27.4	25.5
10°	35.6	42.9	38.3	42.0	44.7	42.9	39.2	35.6	42.0	40.1	39.2
12.5°	36.5	40.1	42.0	49.2	53.8	42.0	39.2	42.9	43.8	41.0	38.3
15°	37.4	44.7	47.4	52.0	56.5	50.2	41.0	45.6	49.2	46.5	44.7
17.5°	41.0	47.4	50.2	57.5	62.0	58.4	47.4	50.2	53.8	57.5	53.8
20°	46.5	50.2	52.9	61.1	63.8	68.4	57.5	57.5	55.6	60.2	58.4
22.5°	53.8	60.2	59.3	67.5	68.4	82.1	74.8	61.1	57.5	62.0	62.9
25°	56.5	62.9	66.6	73.0	76.6	89.4	84.8	73.0	66.6	67.5	67.5
27.5°	65.7	71.1	75.7	80.3	90.3	95.8	102.1	81.2	75.7	74.8	74.8
30°	71.1	78.4	83.9	93.9	103.1	108.5	116.7	89.4	82.1	81.2	82.1
32.5°	83.9	85.7	93.9	107.6	112.2	123.1	124.9	101.2	92.1	90.3	90.3
35°	96.7	97.6	103.1	122.2	124.9	138.6	133.2	114.9	102.1	99.4	100.3
37.5°	120.4	113.1	116.7	135.0	140.4	151.4	145.0	128.6	115.8	113.1	114.9
40°	148.7	135.9	130.4	154.1	154.1	164.2	157.8	145.0	133.2	128.6	133.2
42.5°	197.0	161.4	155.0	175.1	175.1	180.6	173.3	164.2	156.0	156.0	163.2
45°	290.0	221.6	202.5	214.3	210.7	209.8	201.6	197.0	188.8	190.6	204.3
47.5°	378.5	280.0	238.0	252.6	245.3	231.6	225.3	219.8	211.6	219.8	241.7
50°	452.4	358.4	307.3	292.8	280.9	259.0	256.3	250.8	252.6	270.9	296.4
52.5°	528.0	425.0	343.8	316.5	299.1	277.2	272.7	267.2	275.4	307.3	334.7
55°	569.1	460.6	356.6	320.1	301.0	284.5	280.0	271.8	287.3	322.8	356.6
56°	*570.0*	*465.1*	*358.4*	*318.3*	*299.1*	*282.7*	*280.0*	*270.9*	*287.3*	*324.7*	*358.4*
57.5°	566.4	468.8	356.6	316.5	293.7	279.1	277.2	266.3	287.3	327.4	362.1
60°	556.3	465.1	349.3	315.6	280.9	268.1	269.0	253.5	282.7	331.1	366.6
62.5°	560.0	453.3	334.7	305.5	259.9	251.7	257.2	239.9	270.9	332.0	363.0
65°	533.5	435.0	310.1	288.2	235.3	226.2	236.2	216.1	255.4	318.3	346.6
67.5°	483.4	397.6	280.0	268.1	207.9	198.8	209.8	189.7	233.5	298.2	327.4
70°	426.8	348.4	246.2	238.0	181.5	167.8	179.7	161.4	207.9	275.4	305.5
72.5°	369.4	291.8	201.6	199.7	155.0	134.1	145.9	137.7	179.7	241.7	270.9
75°	295.5	228.0	154.1	155.0	122.2	101.2	108.5	104.9	145.0	198.8	225.3
77.5°	214.3	160.5	105.8	107.6	87.6	70.2	74.8	79.3	106.7	150.5	173.3
80°	127.7	92.1	61.1	64.8	52.9	45.6	45.6	48.3	65.7	93.9	108.5
82.5°	47.4	30.1	27.4	24.6	25.5	24.6	26.4	27.4	30.1	38.3	37.4
85°	15.5	10.0	12.8	10.9	13.7	13.7	12.8	11.9	12.8	12.8	12.8
87.5°	12.8	8.2	10.0	8.2	10.9	11.9	10.0	9.1	10.0	10.0	9.1
90°	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

Scaled Data Report

REPORT NUMBER: P1442040
CATALOG NUMBER: ABB-C2-840-X-U-S-GM

CANDELA DISTRIBUTION (continued):

	285°	295°	301°	305°	315°	325°	335°	345°	355°	360°
0°	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
2.5°	24.6	25.5	25.5	26.4	29.2	30.1	30.1	30.1	30.1	30.1
5°	22.8	21.0	21.0	20.1	21.9	24.6	28.3	31.9	38.3	43.8
7.5°	27.4	27.4	27.4	26.4	26.4	28.3	31.9	36.5	42.0	42.9
10°	37.4	36.5	34.7	36.5	36.5	32.8	38.3	44.7	48.3	43.8
12.5°	38.3	35.6	32.8	33.7	35.6	36.5	44.7	50.2	41.0	42.0
15°	41.0	39.2	37.4	36.5	36.5	42.9	48.3	52.9	42.9	42.9
17.5°	45.6	40.1	38.3	39.2	42.0	46.5	52.9	53.8	48.3	49.2
20°	49.2	43.8	42.9	43.8	45.6	53.8	54.7	58.4	57.5	57.5
22.5°	53.8	46.5	45.6	45.6	51.1	58.4	62.0	70.2	62.0	66.6
25°	58.4	52.0	52.0	51.1	55.6	62.9	70.2	75.7	77.5	83.0
27.5°	66.6	61.1	60.2	60.2	61.1	69.3	81.2	84.8	95.8	99.4
30°	75.7	74.8	70.2	69.3	70.2	74.8	89.4	102.1	113.1	107.6
32.5°	88.5	89.4	83.9	86.6	80.3	84.8	100.3	114.9	120.4	118.6
35°	104.0	105.8	101.2	101.2	94.8	97.6	112.2	129.5	135.9	134.1
37.5°	128.6	128.6	123.1	121.3	110.4	110.4	127.7	141.4	148.7	145.9
40°	156.9	165.1	156.0	147.7	130.4	126.8	145.0	154.1	162.3	157.8
42.5°	198.8	210.7	208.8	198.8	155.0	145.0	165.1	174.2	177.8	172.4
45°	267.2	304.6	311.9	299.1	216.1	188.8	208.8	215.2	213.4	207.0
47.5°	330.1	384.9	396.7	394.0	286.4	224.4	240.8	246.2	239.9	230.7
50°	426.8	511.6	517.1	516.2	389.4	286.4	290.0	286.4	273.6	265.4
52.5°	479.7	592.8	608.3	603.7	456.0	334.7	322.8	306.4	295.5	284.5
55°	508.9	644.8	670.3	663.0	502.5	363.0	337.4	314.6	303.7	296.4
56°	*516.2*	*651.2*	*673.1*	*667.6*	*513.5*	*365.7*	*338.4*	*312.8*	*305.5*	*299.1*
57.5°	518.9	652.1	666.7	663.9	523.5	366.6	338.4	309.2	302.8	298.2
60°	505.2	643.0	655.7	649.3	527.1	364.8	336.5	296.4	294.6	290.9
62.5°	473.3	635.7	662.1	653.0	520.8	352.0	335.6	277.2	280.0	280.0
65°	438.7	603.7	632.0	625.6	498.9	326.5	328.3	253.5	253.5	259.9
67.5°	394.0	551.8	574.6	574.6	462.4	290.0	311.9	228.9	222.5	232.6
70°	335.6	490.7	517.1	514.4	415.9	252.6	290.9	202.5	189.7	200.6
72.5°	274.5	422.3	456.0	452.4	361.2	212.5	257.2	176.9	155.0	166.0
75°	211.6	342.9	373.9	371.2	300.0	168.7	212.5	148.7	120.4	127.7
77.5°	141.4	257.2	281.8	280.0	227.1	120.4	159.6	112.2	86.6	91.2
80°	81.2	166.0	183.3	182.4	145.9	73.9	99.4	72.0	59.3	59.3
82.5°	31.0	75.7	83.0	83.0	63.8	34.7	41.0	36.5	34.7	34.7
85°	14.6	16.4	16.4	16.4	12.8	13.7	13.7	17.3	17.3	17.3
87.5°	11.9	11.9	11.9	12.8	9.1	10.0	9.1	12.8	13.7	12.8
90°	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

Invue

Report Number: SP1-2509-539-8

Test Date: 04/14/2026

Luminaire Tested: Luxscape Bollard

Data in this report applies to families of products including ;Luxscape

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

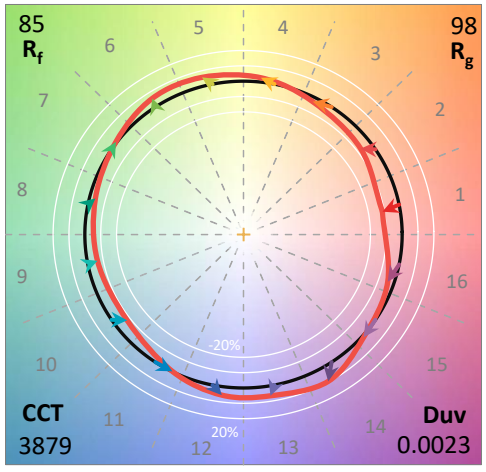
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2509-539-8
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	04/15/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Invue
Catalog Number:	**Luxscape Bollard**
Description:	ARB-C1-840-LED-XX-Dx-S-GM-SPECULAR REFLECTOR

Spectral Parameters

CCT (K):	3879
CIE u':	0.2261
CIE v':	0.5068
Duv:	0.0023
CIE x:	0.3878
CIE y:	0.3863
CIE z:	0.2260
Peak Wavelength (nm):	445
Dominant Wavelength (nm):	578
Purity:	32.30035
Rf:	84.8
Rg:	97.9

CRI (Ra):	83.0				
R1:	81.2	R9:	8.2
R2:	87.4	R10:	71.6
R3:	93.9	R11:	84.7
R4:	84.2	R12:	68.5
R5:	81.9	R13:	82.3
R6:	84.2	R14:	96.6
R7:	86.4	R15:	73.7
R8:	65.2		



Test Conditions

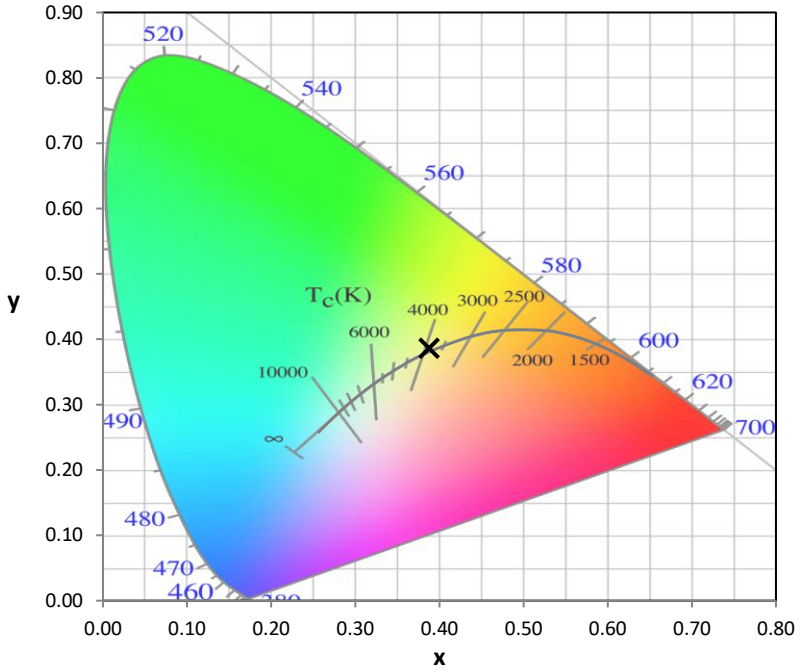
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2509-539-8

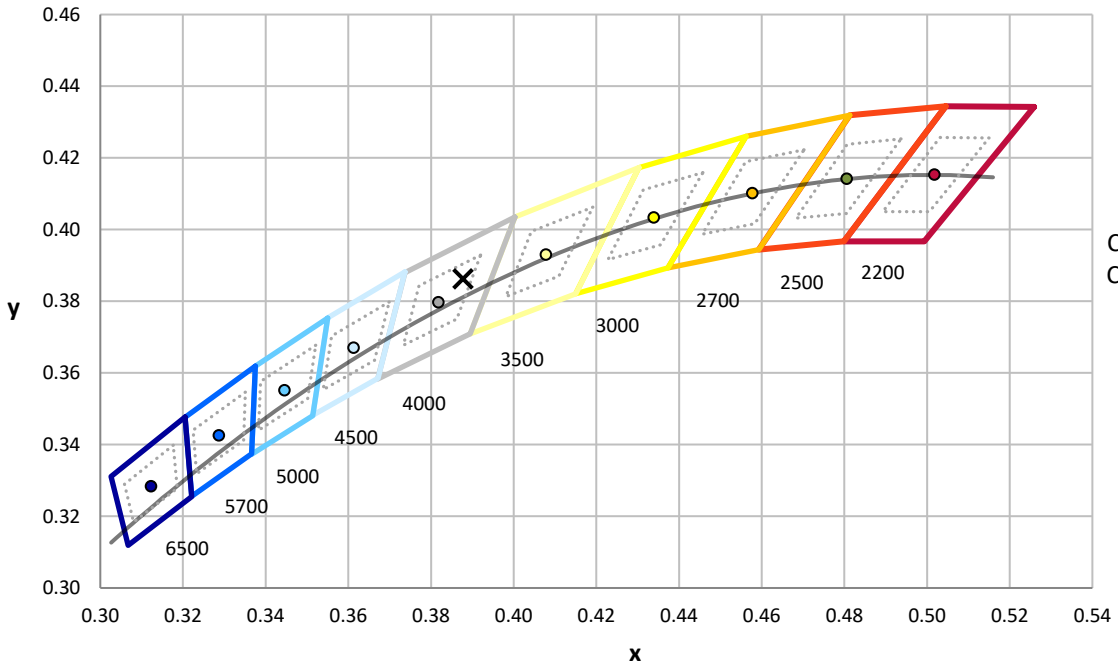
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	10/21/2025	10/21/2026
Sphere Thermometer	ONSET IN0085	10/21/2025	10/21/2026
Room Thermometer	ONSET IN0046	10/21/2025	10/21/2026

REPORT NUMBER: SP1-2509-539-8

CIE 1931 Chromaticity Diagram



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

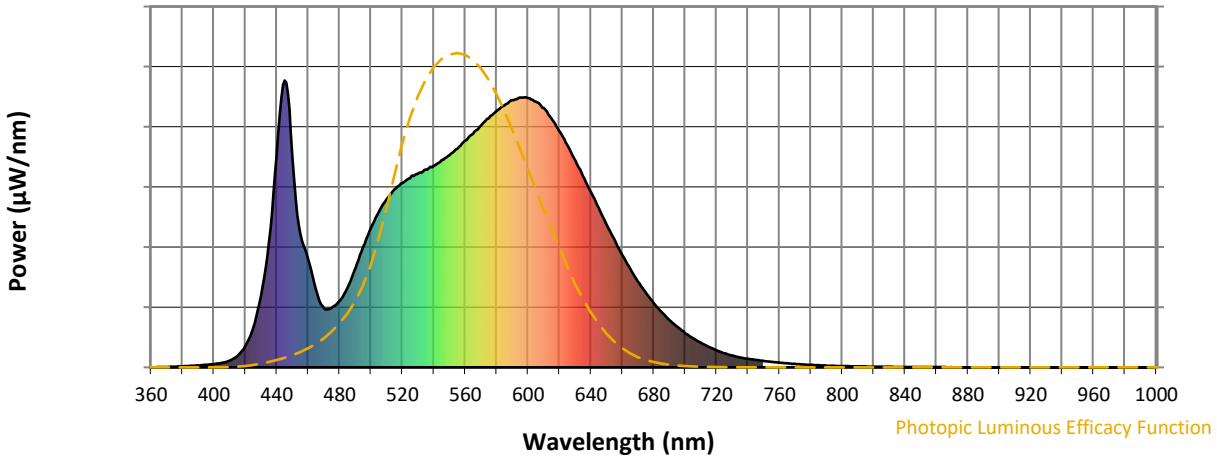


CCT = 3879K
CIE x = 0.3878
CIE y = 0.3863
Duv = 0.0023

Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2509-539-8

Photopic Flux vs. Wavelength

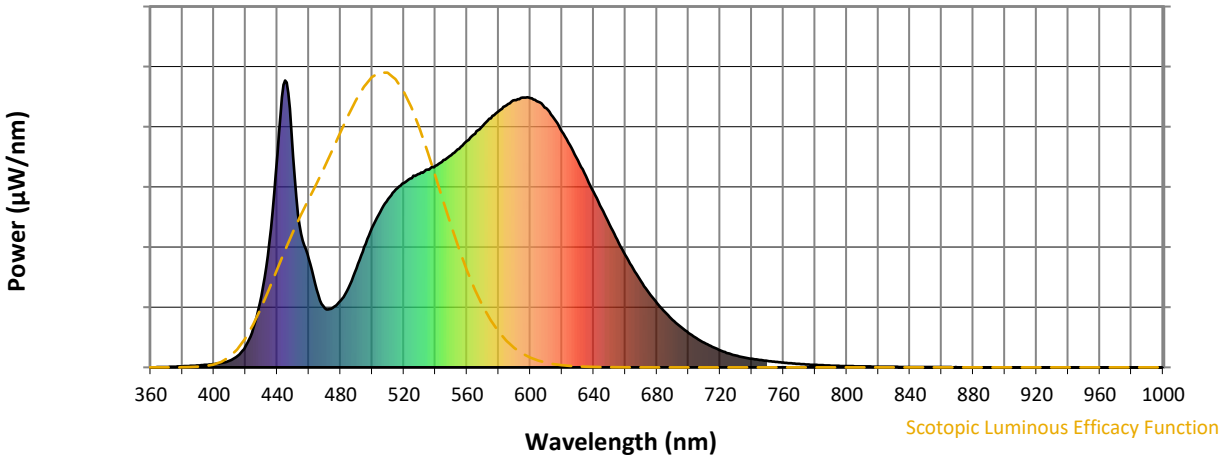


Photopic Lumens: NR

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	345	NR	620	822	NR	750	23	NR	880	0	NR
365	1	NR	495	419	NR	625	776	NR	755	19	NR	885	0	NR
370	1	NR	500	487	NR	630	722	NR	760	16	NR	890	0	NR
375	3	NR	505	541	NR	635	667	NR	765	14	NR	895	0	NR
380	4	NR	510	586	NR	640	611	NR	770	12	NR	900	0	NR
385	5	NR	515	620	NR	645	555	NR	775	10	NR	905	0	NR
390	7	NR	520	643	NR	650	498	NR	780	9	NR	910	0	NR
395	9	NR	525	660	NR	655	445	NR	785	7	NR	915	0	NR
400	11	NR	530	675	NR	660	391	NR	790	6	NR	920	0	NR
405	15	NR	535	690	NR	665	344	NR	795	5	NR	925	0	NR
410	24	NR	540	702	NR	670	300	NR	800	4	NR	930	0	NR
415	40	NR	545	723	NR	675	260	NR	805	4	NR	935	0	NR
420	75	NR	550	740	NR	680	224	NR	810	3	NR	940	0	NR
425	139	NR	555	762	NR	685	193	NR	815	3	NR	945	0	NR
430	249	NR	560	790	NR	690	166	NR	820	3	NR	950	0	NR
435	437	NR	565	814	NR	695	141	NR	825	2	NR	955	0	NR
440	741	NR	570	843	NR	700	120	NR	830	2	NR	960	0	NR
445	1000	NR	575	868	NR	705	102	NR	835	2	NR	965	0	NR
450	734	NR	580	894	NR	710	86	NR	840	1	NR	970	0	NR
455	466	NR	585	914	NR	715	72	NR	845	1	NR	975	0	NR
460	378	NR	590	932	NR	720	60	NR	850	1	NR	980	0	NR
465	270	NR	595	940	NR	725	49	NR	855	1	NR	985	0	NR
470	207	NR	600	938	NR	730	41	NR	860	1	NR	990	0	NR
475	207	NR	605	926	NR	735	35	NR	865	1	NR	995	0	NR
480	232	NR	610	903	NR	740	30	NR	870	1	NR	1000	0	NR
485	276	NR	615	867	NR	745	26	NR	875	0	NR			

REPORT NUMBER: SP1-2509-539-8

Scotopic Flux vs. Wavelength

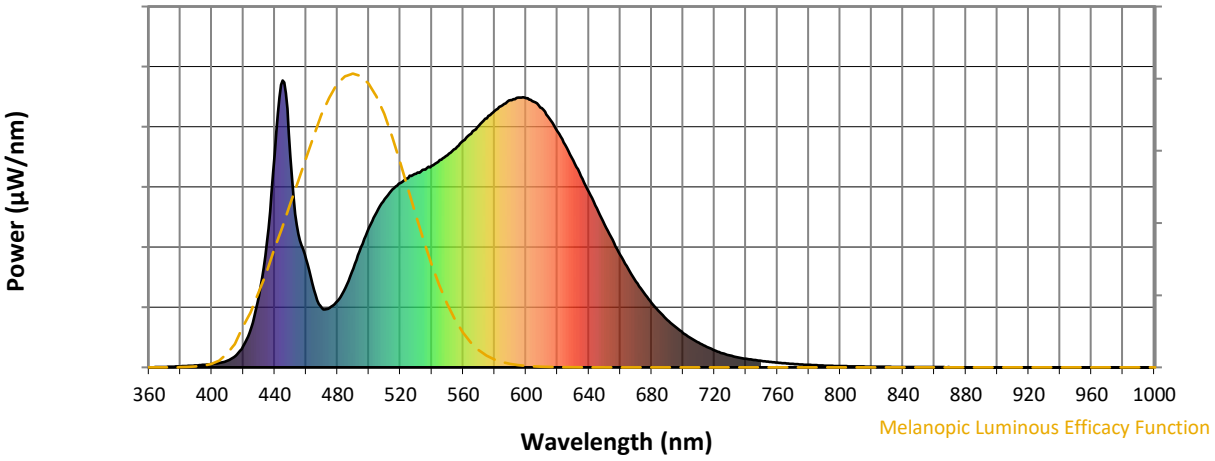


Scotopic Lumens: NR **S/P: 1.63**

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	345	NR	620	822	NR	750	23	NR	880	0	NR
365	1	NR	495	419	NR	625	776	NR	755	19	NR	885	0	NR
370	1	NR	500	487	NR	630	722	NR	760	16	NR	890	0	NR
375	3	NR	505	541	NR	635	667	NR	765	14	NR	895	0	NR
380	4	NR	510	586	NR	640	611	NR	770	12	NR	900	0	NR
385	5	NR	515	620	NR	645	555	NR	775	10	NR	905	0	NR
390	7	NR	520	643	NR	650	498	NR	780	9	NR	910	0	NR
395	9	NR	525	660	NR	655	445	NR	785	7	NR	915	0	NR
400	11	NR	530	675	NR	660	391	NR	790	6	NR	920	0	NR
405	15	NR	535	690	NR	665	344	NR	795	5	NR	925	0	NR
410	24	NR	540	702	NR	670	300	NR	800	4	NR	930	0	NR
415	40	NR	545	723	NR	675	260	NR	805	4	NR	935	0	NR
420	75	NR	550	740	NR	680	224	NR	810	3	NR	940	0	NR
425	139	NR	555	762	NR	685	193	NR	815	3	NR	945	0	NR
430	249	NR	560	790	NR	690	166	NR	820	3	NR	950	0	NR
435	437	NR	565	814	NR	695	141	NR	825	2	NR	955	0	NR
440	741	NR	570	843	NR	700	120	NR	830	2	NR	960	0	NR
445	1000	NR	575	868	NR	705	102	NR	835	2	NR	965	0	NR
450	734	NR	580	894	NR	710	86	NR	840	1	NR	970	0	NR
455	466	NR	585	914	NR	715	72	NR	845	1	NR	975	0	NR
460	378	NR	590	932	NR	720	60	NR	850	1	NR	980	0	NR
465	270	NR	595	940	NR	725	49	NR	855	1	NR	985	0	NR
470	207	NR	600	938	NR	730	41	NR	860	1	NR	990	0	NR
475	207	NR	605	926	NR	735	35	NR	865	1	NR	995	0	NR
480	232	NR	610	903	NR	740	30	NR	870	1	NR	1000	0	NR
485	276	NR	615	867	NR	745	26	NR	875	0	NR			

REPORT NUMBER: SP1-2509-539-8

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 3.25**

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	345	NR	620	822	NR	750	23	NR	880	0	NR
365	1	NR	495	419	NR	625	776	NR	755	19	NR	885	0	NR
370	1	NR	500	487	NR	630	722	NR	760	16	NR	890	0	NR
375	3	NR	505	541	NR	635	667	NR	765	14	NR	895	0	NR
380	4	NR	510	586	NR	640	611	NR	770	12	NR	900	0	NR
385	5	NR	515	620	NR	645	555	NR	775	10	NR	905	0	NR
390	7	NR	520	643	NR	650	498	NR	780	9	NR	910	0	NR
395	9	NR	525	660	NR	655	445	NR	785	7	NR	915	0	NR
400	11	NR	530	675	NR	660	391	NR	790	6	NR	920	0	NR
405	15	NR	535	690	NR	665	344	NR	795	5	NR	925	0	NR
410	24	NR	540	702	NR	670	300	NR	800	4	NR	930	0	NR
415	40	NR	545	723	NR	675	260	NR	805	4	NR	935	0	NR
420	75	NR	550	740	NR	680	224	NR	810	3	NR	940	0	NR
425	139	NR	555	762	NR	685	193	NR	815	3	NR	945	0	NR
430	249	NR	560	790	NR	690	166	NR	820	3	NR	950	0	NR
435	437	NR	565	814	NR	695	141	NR	825	2	NR	955	0	NR
440	741	NR	570	843	NR	700	120	NR	830	2	NR	960	0	NR
445	1000	NR	575	868	NR	705	102	NR	835	2	NR	965	0	NR
450	734	NR	580	894	NR	710	86	NR	840	1	NR	970	0	NR
455	466	NR	585	914	NR	715	72	NR	845	1	NR	975	0	NR
460	378	NR	590	932	NR	720	60	NR	850	1	NR	980	0	NR
465	270	NR	595	940	NR	725	49	NR	855	1	NR	985	0	NR
470	207	NR	600	938	NR	730	41	NR	860	1	NR	990	0	NR
475	207	NR	605	926	NR	735	35	NR	865	1	NR	995	0	NR
480	232	NR	610	903	NR	740	30	NR	870	1	NR	1000	0	NR
485	276	NR	615	867	NR	745	26	NR	875	0	NR			

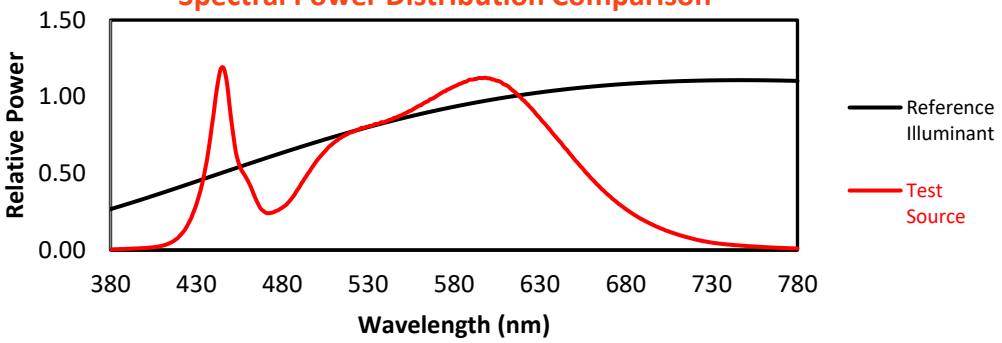
REPORT NUMBER: SP1-2509-539-8

TM-30-18

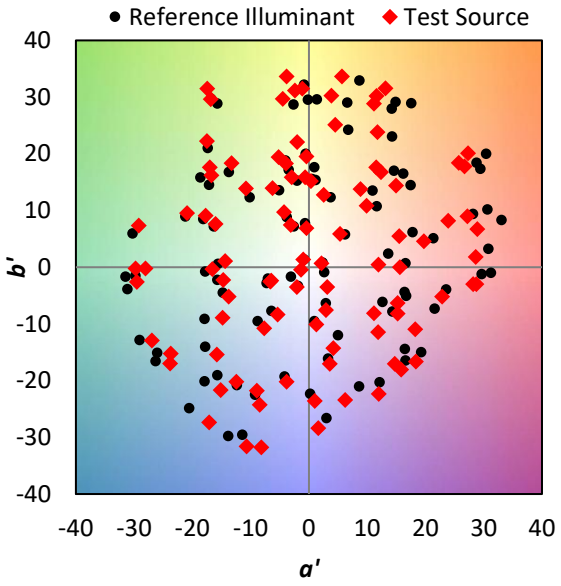
Summary

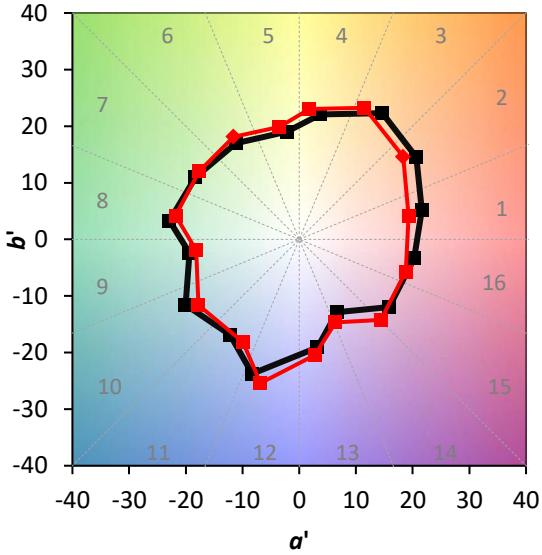
R_f = 84.8
R_g = 97.9
CIE R_a = 83.0
R_9 = 8.2

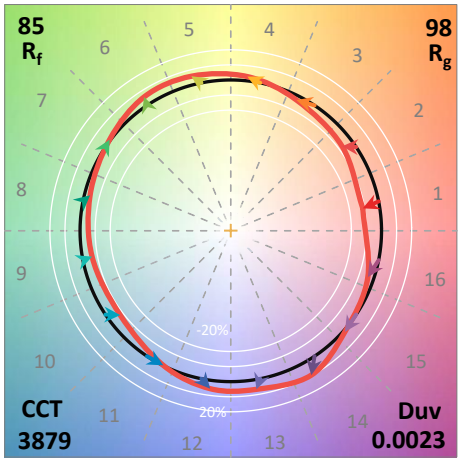
Spectral Power Distribution Comparison

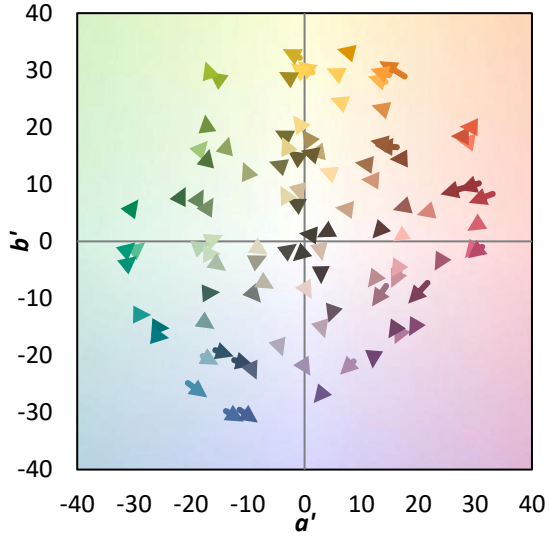


Color Vector Graphics







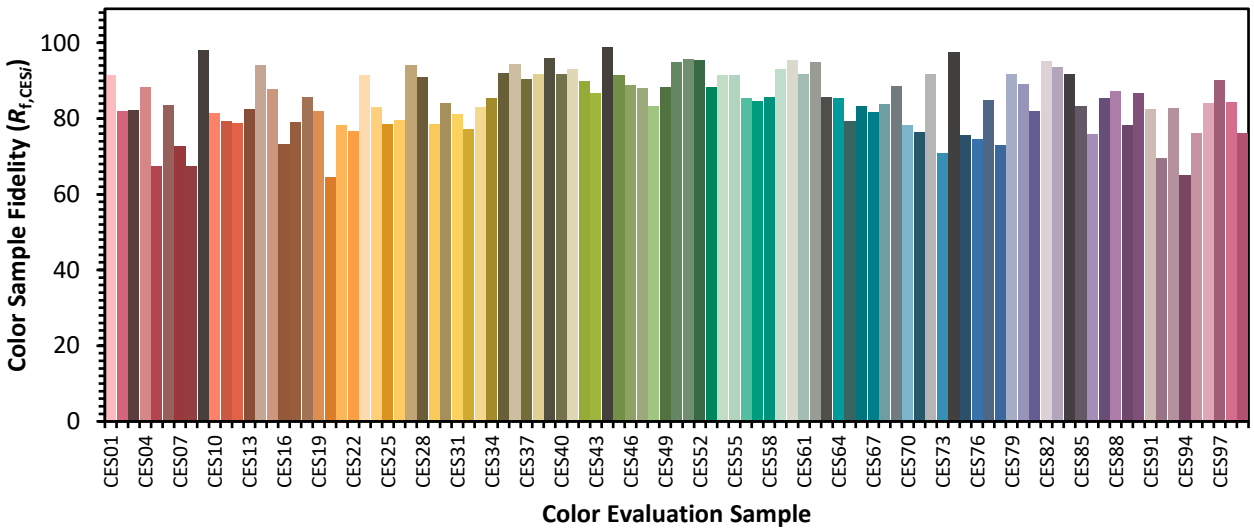


REPORT NUMBER: SP1-2509-539-8

TM-30-18

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

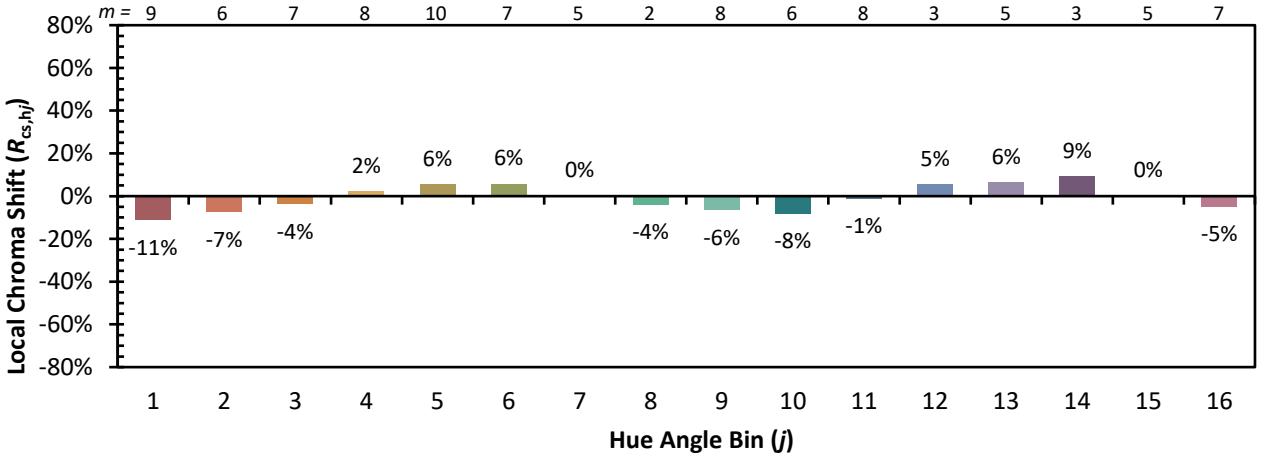
CES01 = 86	CES26 = 80	CES51 = 96	CES76 = 74
CES02 = 61	CES27 = 94	CES52 = 95	CES77 = 85
CES03 = 31	CES28 = 91	CES53 = 88	CES78 = 73
CES04 = 69	CES29 = 79	CES54 = 91	CES79 = 92
CES05 = 48	CES30 = 84	CES55 = 91	CES80 = 89
CES06 = 50	CES31 = 81	CES56 = 85	CES81 = 82
CES07 = 41	CES32 = 77	CES57 = 85	CES82 = 95
CES08 = 40	CES33 = 83	CES58 = 86	CES83 = 94
CES09 = 29	CES34 = 85	CES59 = 93	CES84 = 92
CES10 = 74	CES35 = 92	CES60 = 95	CES85 = 83
CES11 = 57	CES36 = 94	CES61 = 92	CES86 = 76
CES12 = 63	CES37 = 90	CES62 = 95	CES87 = 85
CES13 = 43	CES38 = 92	CES63 = 86	CES88 = 87
CES14 = 74	CES39 = 96	CES64 = 85	CES89 = 78
CES15 = 71	CES40 = 92	CES65 = 79	CES90 = 87
CES16 = 47	CES41 = 93	CES66 = 83	CES91 = 82
CES17 = 49	CES42 = 90	CES67 = 82	CES92 = 69
CES18 = 56	CES43 = 87	CES68 = 84	CES93 = 83
CES19 = 71	CES44 = 99	CES69 = 89	CES94 = 65
CES20 = 65	CES45 = 92	CES70 = 78	CES95 = 76
CES21 = 86	CES46 = 89	CES71 = 76	CES96 = 84
CES22 = 78	CES47 = 88	CES72 = 92	CES97 = 90
CES23 = 91	CES48 = 83	CES73 = 71	CES98 = 84
CES24 = 90	CES49 = 88	CES74 = 97	CES99 = 76
CES25 = 71	CES50 = 95	CES75 = 76	

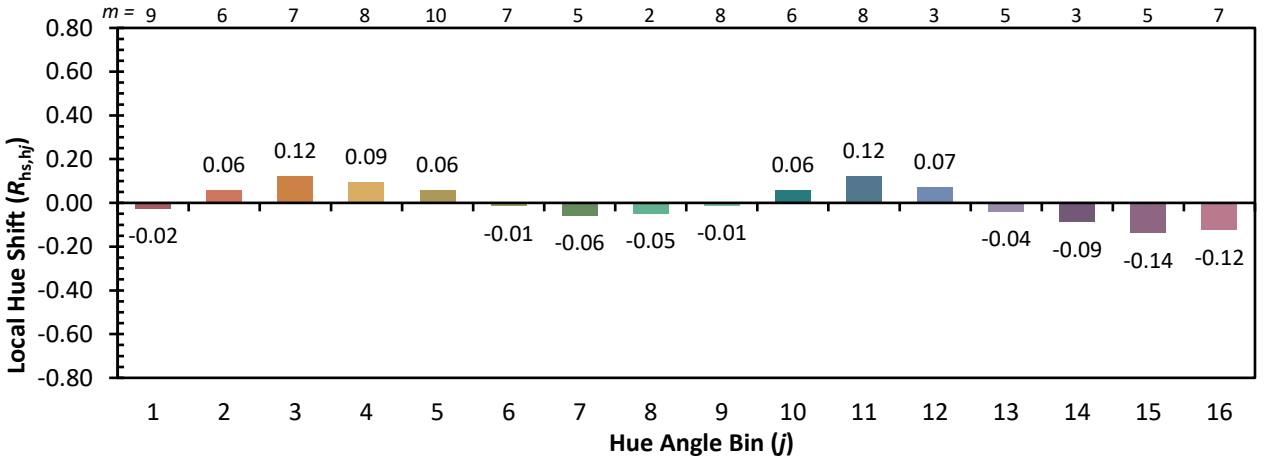


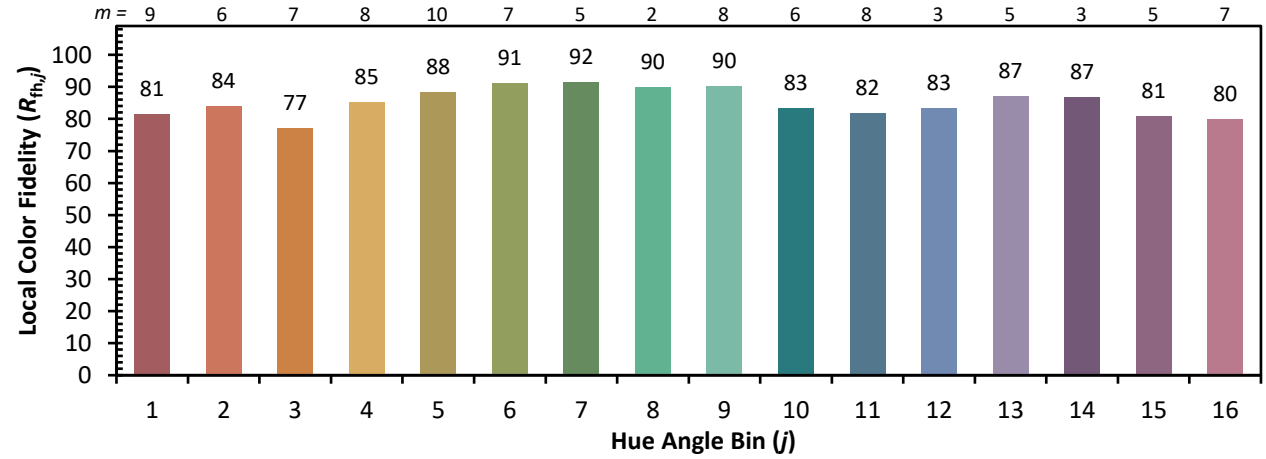
REPORT NUMBER: SP1-2509-539-8

TM-30-18

Color Rendition by Hue-Angle Bin



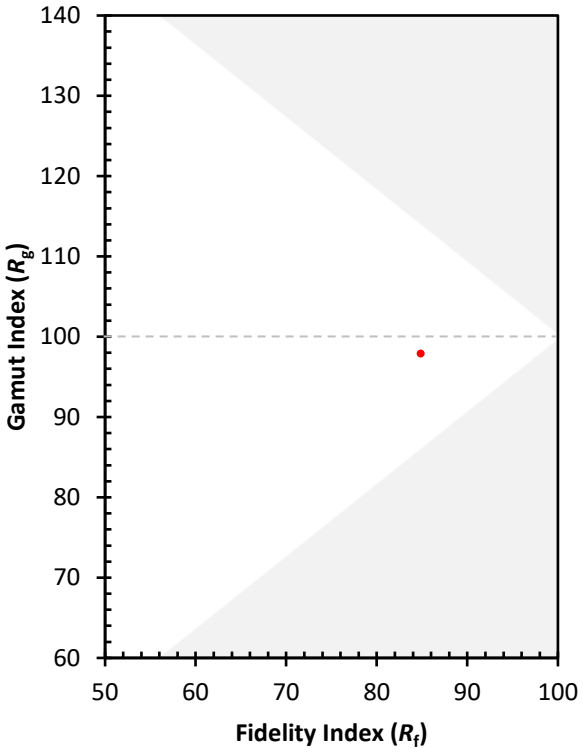


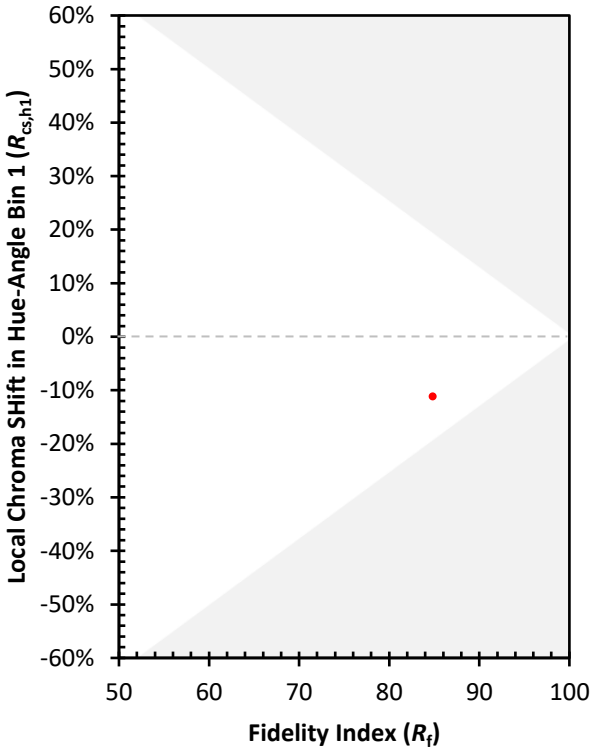


REPORT NUMBER: SP1-2509-539-8

TM-30-18

Measure Comparisons





(END OF REPORT)