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: P1442048

Luminaire Tested: ABB-C3-830-X-U-S-GM

Issue Date: 4/23/2026

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Scaled Data Report

Test Information

Test Method:	LM-79-2024
Report Number:	P1442048
	TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-539-29)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	4/24/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	INVUE
Catalog Number:	ABB-C3-830-X-U-S-GM
Description:	ARBOR OUTDOOR ARCHITECTURAL BOLLARD LUMINAIRE
	SYMMETRIC OPTIC, GRAPHITE METALLIC PAINTED FINISH
Light Source:	3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	1359.6 lumens
Efficiency:	N/A
Efficacy:	39.9 lumens/watt
Luminous Opening:	Circular (Dia: 0.4' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B1 - U0 - G1

Input Watts (W):	34.1
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9934
Total Harmonic Distortion (THDi):	0.0961153
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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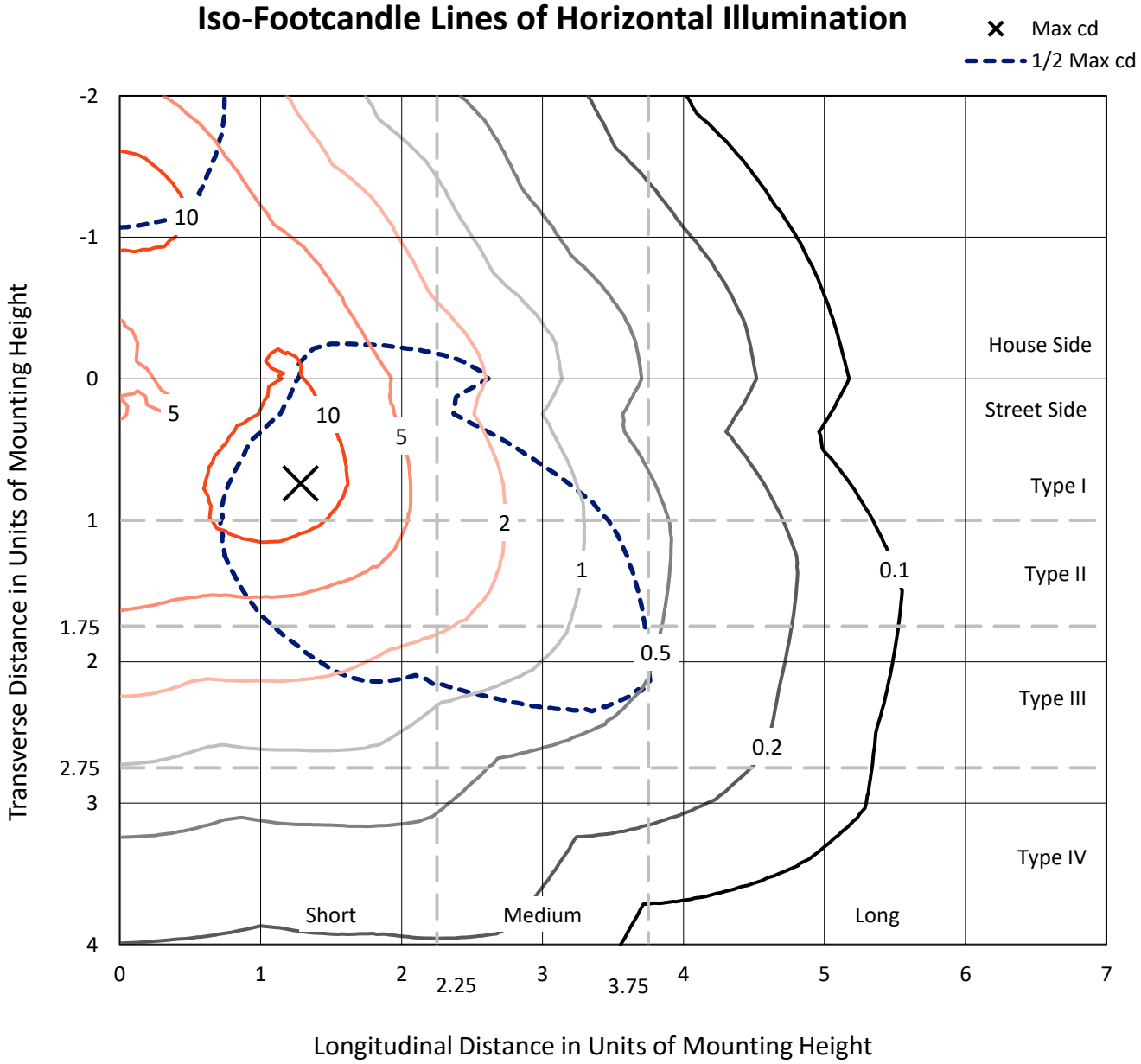
Iso-Footcandle Lines of Horizontal Illumination



Based on 3 foot mounting height. Maximum calculated value = 18.2 fc
Type III - Short - N/A

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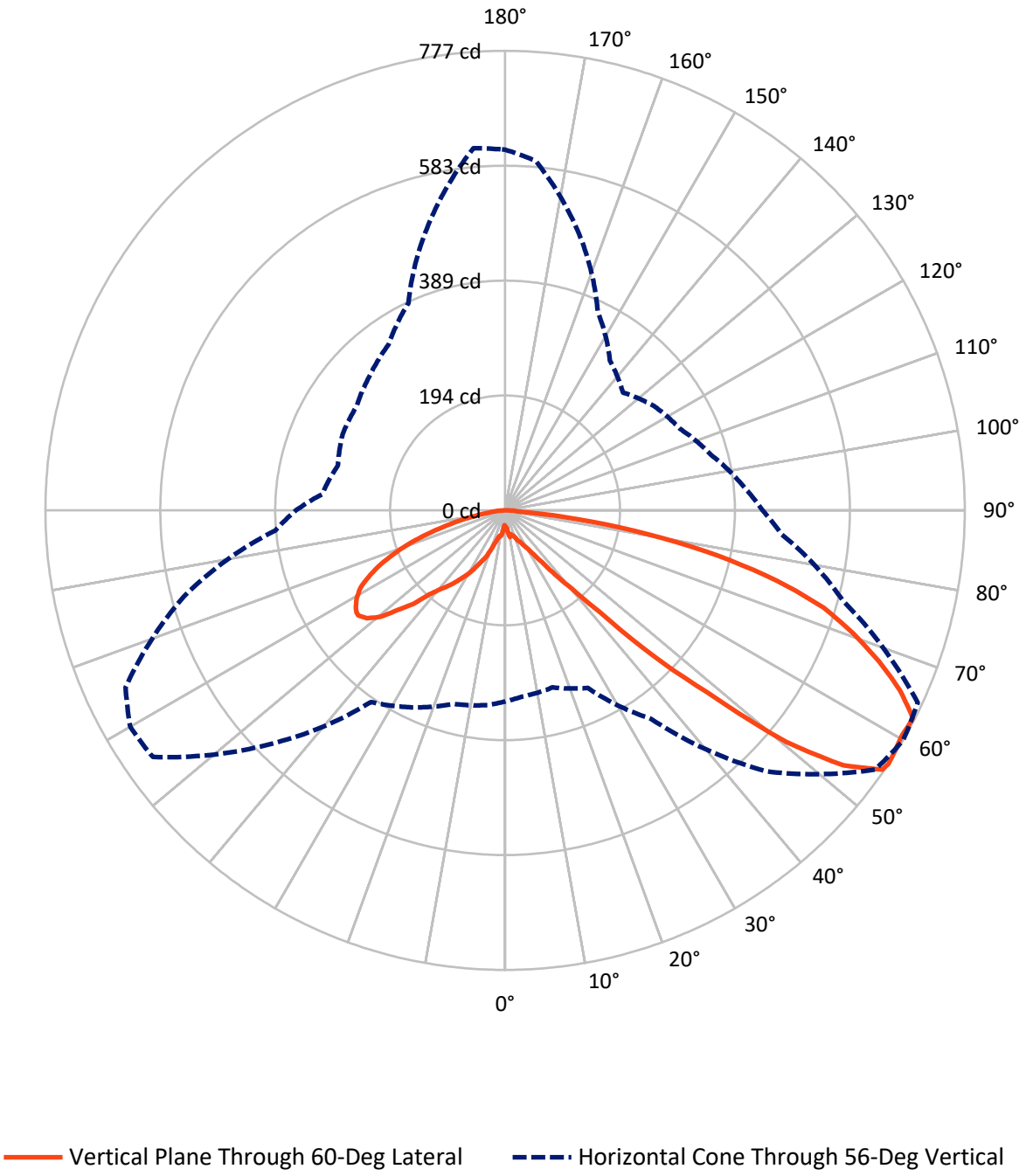
Luminous Intensity Polar Plot



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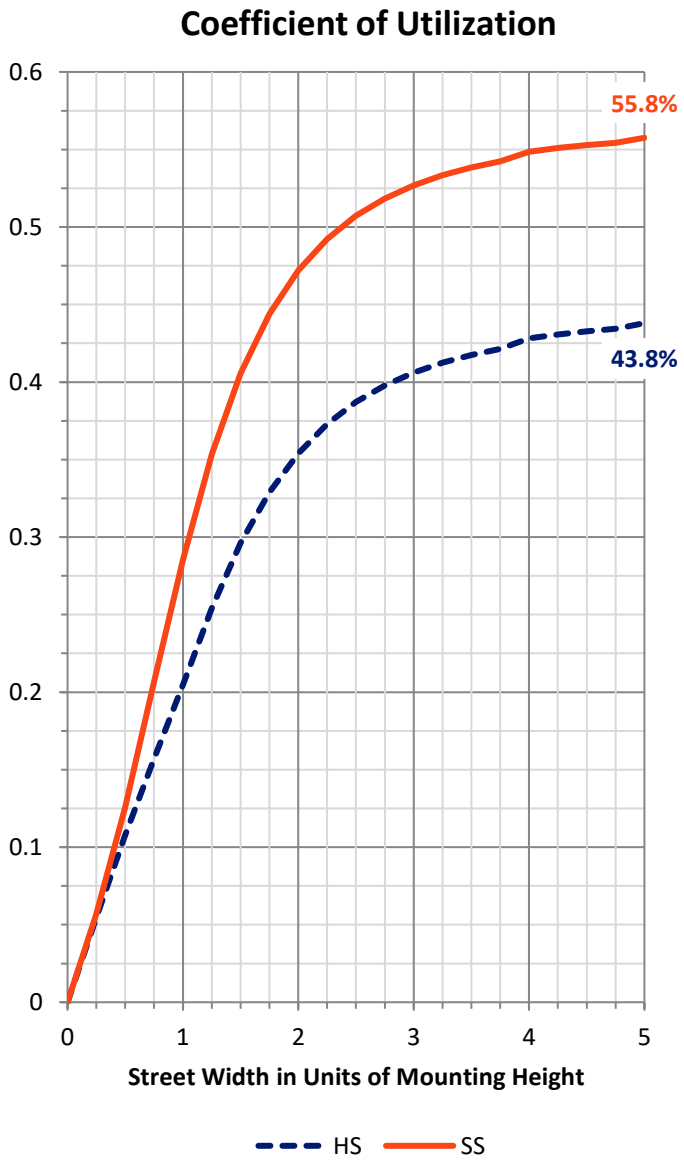
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	597.1	0.0	597.1
	% Fixture	43.9	0.0	43.9
Street Side	Lumens	762.4	0.0	762.4
	% Fixture	56.1	0.0	56.1
Total	Lumens	1359.6	0.0	1359.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.4	0.2
10°-20°	14.6	1.1
20°-30°	36.0	2.6
30°-40°	79.3	5.8
40°-50°	196.9	14.5
50°-60°	379.7	27.9
60°-70°	385.5	28.4
70°-80°	230.1	16.9
80°-90°	34.0	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°	1359.6	100.0
0°-180°	1359.6	100.0



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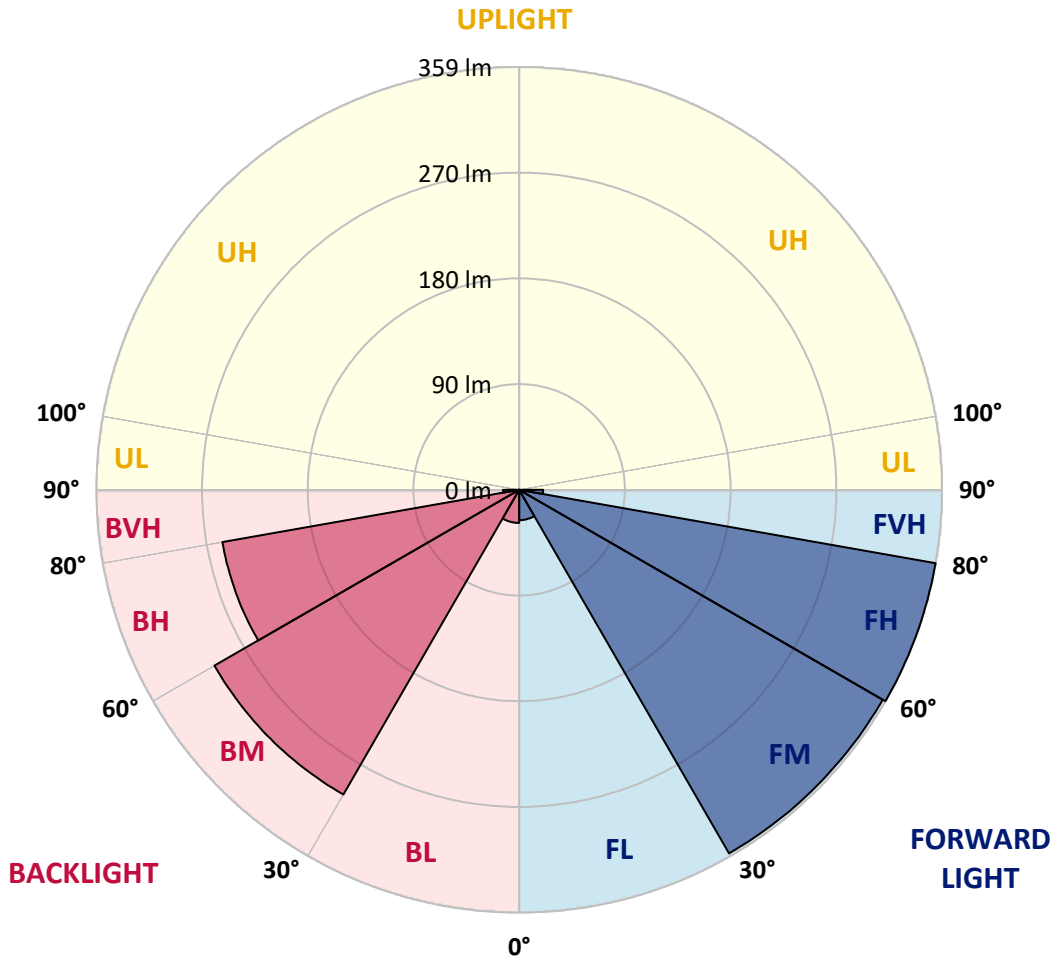
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	25.8	1.9			
FM	(30°-60°)	356.9	26.2			
FH	(60°-80°)	359.4	26.4			G0/660
FVH	(80°-90°)	20.3	1.5			G1/100
BL	(0°-30°)	28.1	2.1	B0/110		
BM	(30°-60°)	299.1	22.0	B1/1000		
BH	(60°-80°)	256.2	18.8	B1/500		G1/500
BVH	(80°-90°)	13.7	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°	60°	65°	75°	85°
0°	27.2	27.2	27.2	27.2	27.2	27.2	27.2	*27.2*	27.2	27.2	27.2
2.5°	32.1	33.0	36.3	37.1	34.6	33.0	31.3	*31.3*	30.5	28.8	27.2
5°	47.0	42.8	37.9	37.9	37.1	33.8	29.7	*29.7*	30.5	27.2	25.5
7.5°	46.1	49.4	51.1	50.3	47.8	48.6	42.8	*39.6*	35.4	34.6	37.9
10°	47.8	47.8	46.1	55.2	50.3	51.1	47.8	*46.1*	42.8	42.8	43.7
12.5°	45.3	43.7	46.1	50.3	45.3	49.4	44.5	*41.2*	41.2	44.5	47.0
15°	46.1	48.6	49.4	55.2	55.2	50.3	44.5	*44.5*	45.3	51.1	51.9
17.5°	52.7	57.7	56.9	58.5	60.2	52.7	43.7	*45.3*	47.8	51.1	57.7
20°	62.6	61.8	61.8	62.6	63.4	56.9	47.8	*49.4*	51.9	54.4	61.8
22.5°	72.5	75.0	77.5	71.7	70.9	61.0	56.0	*55.2*	59.3	57.7	65.9
25°	89.8	98.1	89.0	77.5	77.5	64.3	59.3	*59.3*	62.6	69.2	71.7
27.5°	107.1	111.2	95.6	82.4	85.7	73.3	66.7	*66.7*	70.0	78.3	84.0
30°	117.0	119.5	105.5	91.5	95.6	83.2	75.8	*75.0*	78.3	87.3	98.1
32.5°	128.5	133.5	117.8	103.0	106.3	102.2	91.5	*88.2*	89.0	97.2	106.3
35°	145.0	145.0	127.7	112.9	118.7	122.0	114.5	*107.9*	109.6	107.1	122.0
37.5°	158.2	158.2	145.0	126.9	131.8	142.6	143.4	*137.6*	136.8	122.0	136.8
40°	171.4	175.5	159.0	141.7	153.3	177.2	182.9	*174.7*	173.9	146.7	153.3
42.5°	187.9	194.5	180.5	166.4	187.9	232.4	247.2	*234.8*	234.8	185.4	182.9
45°	225.0	233.2	220.8	206.0	235.7	312.3	348.6	*348.6*	343.6	250.5	235.7
47.5°	250.5	258.7	244.7	234.8	280.2	393.0	450.7	*459.8*	487.0	318.9	295.0
50°	288.4	289.2	281.0	282.6	349.4	517.5	598.2	*615.5*	639.4	431.8	377.4
52.5°	309.0	305.7	301.6	313.1	398.8	578.4	693.8	*716.1*	735.8	516.6	431.8
55°	321.4	316.4	310.6	329.6	424.4	618.0	755.6	*773.7*	766.3	578.4	462.3
56°	*323.0*	*316.4*	*309.8*	*331.2*	*430.1*	*623.8*	*763.8*	*777.0*	*769.6*	*591.6*	*469.7*
57.5°	322.2	314.8	306.5	333.7	433.4	625.4	765.5	*774.6*	771.3	606.5	479.6
60°	313.9	307.4	295.0	333.7	435.1	610.6	755.6	*771.3*	776.2	610.6	477.9
62.5°	301.6	297.5	280.2	328.0	430.1	581.7	751.5	*773.7*	760.6	599.0	454.8
65°	279.3	276.9	255.4	317.2	408.7	537.2	715.2	*733.4*	709.5	569.4	411.2
67.5°	249.7	248.0	229.1	296.6	387.3	484.5	660.8	*681.4*	657.6	532.3	365.0
70°	218.4	215.1	201.1	270.3	362.6	423.5	601.5	*624.6*	608.1	489.5	319.7
72.5°	181.3	180.5	171.4	236.5	331.2	356.0	529.0	*562.8*	538.1	431.8	264.5
75°	140.1	139.3	138.4	195.3	280.2	278.5	440.8	*474.6*	445.0	364.2	206.0
77.5°	100.5	98.1	105.5	146.7	229.1	191.2	337.0	*367.5*	335.4	281.0	141.7
80°	65.9	61.0	69.2	91.5	154.1	112.9	218.4	*247.2*	214.2	183.8	79.1
82.5°	38.7	34.6	38.7	42.0	65.9	47.8	103.0	*123.6*	93.9	85.7	33.0
85°	19.0	16.5	17.3	16.5	17.3	19.0	19.8	*20.6*	17.3	14.8	14.0
87.5°	14.0	11.5	11.5	12.4	12.4	14.8	14.0	*14.8*	14.0	9.9	10.7
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2
2.5°	25.5	23.9	23.9	23.9	22.2	25.5	28.0	27.2	26.4	27.2	26.4
5°	26.4	28.8	30.5	33.0	35.4	33.0	31.3	28.0	24.7	23.1	23.1
7.5°	39.6	42.0	37.1	39.6	39.6	37.1	37.9	37.1	33.0	31.3	30.5
10°	44.5	44.5	51.9	50.3	47.8	47.8	45.3	44.5	40.4	37.9	37.1
12.5°	49.4	51.1	51.9	47.8	52.7	51.1	49.4	45.3	42.8	39.6	39.6
15°	50.3	56.0	56.0	56.9	54.4	56.0	51.9	47.8	47.0	39.6	38.7
17.5°	61.8	61.8	64.3	63.4	58.5	61.8	58.5	55.2	50.3	43.7	42.8
20°	62.6	70.0	71.7	71.7	69.2	69.2	70.9	65.9	58.5	54.4	52.7
22.5°	70.0	75.8	80.8	87.3	79.1	79.9	77.5	66.7	56.9	58.5	54.4
25°	76.6	83.2	86.5	98.1	91.5	83.2	84.0	75.0	65.1	64.3	61.8
27.5°	87.3	94.8	102.2	116.2	100.5	94.8	91.5	83.2	71.7	70.0	70.0
30°	105.5	106.3	116.2	125.2	122.0	99.7	99.7	89.8	81.6	77.5	79.1
32.5°	121.1	120.3	131.8	136.8	135.1	109.6	108.8	102.2	98.9	92.3	89.8
35°	134.3	142.6	144.2	149.1	146.7	129.4	118.7	112.9	112.1	110.4	108.8
37.5°	148.3	158.2	158.2	163.2	159.0	143.4	133.5	126.9	131.0	136.8	131.0
40°	168.1	180.5	173.9	177.2	173.0	160.7	152.4	148.3	159.0	174.7	167.3
42.5°	192.0	209.3	198.6	195.3	190.3	178.8	176.3	182.1	206.0	229.1	221.7
45°	238.1	252.1	237.3	229.9	223.3	210.1	210.9	229.1	276.9	315.6	322.2
47.5°	278.5	302.4	271.1	260.4	250.5	230.7	239.0	263.7	337.8	398.8	407.1
50°	352.7	365.0	323.8	295.8	281.0	263.7	274.4	327.1	416.9	478.7	498.5
52.5°	407.9	395.5	348.6	318.1	299.1	279.3	295.0	360.1	462.3	543.8	563.6
55°	431.0	407.9	361.7	327.1	307.4	283.5	307.4	370.8	482.0	587.5	608.1
56°	*435.1*	*408.7*	*360.9*	*326.3*	*307.4*	*281.8*	*309.0*	*370.8*	*483.7*	*593.3*	*609.8*
57.5°	443.3	407.9	357.6	323.8	304.9	277.7	308.2	366.7	482.0	594.9	613.1
60°	457.3	407.1	343.6	315.6	295.0	268.6	304.1	366.7	474.6	586.7	614.7
62.5°	462.3	402.1	323.0	296.6	283.5	255.4	293.3	363.4	457.3	578.4	612.2
65°	442.5	390.6	292.5	270.3	260.4	235.7	272.7	350.2	427.7	551.3	576.8
67.5°	412.8	372.4	261.2	234.8	229.9	209.3	252.1	327.1	384.0	497.7	519.9
70°	371.6	347.7	228.2	199.4	198.6	180.5	225.0	299.1	327.1	438.4	459.8
72.5°	317.2	303.2	198.6	160.7	164.8	150.8	192.0	264.5	266.2	374.9	398.0
75°	250.5	238.1	162.3	122.8	122.8	119.5	148.3	217.5	205.2	298.3	316.4
77.5°	178.8	166.4	119.5	86.5	89.0	86.5	105.5	162.3	143.4	214.2	237.3
80°	103.0	88.2	74.2	56.0	56.0	56.0	63.4	101.4	84.9	136.8	148.3
82.5°	36.3	28.0	36.3	31.3	32.1	30.5	28.0	39.6	36.3	56.0	64.3
85°	14.0	12.4	17.3	16.5	15.7	14.8	14.8	15.7	18.1	18.1	17.3
87.5°	10.7	9.1	14.0	14.0	11.5	11.5	11.5	11.5	14.8	14.8	14.0
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°	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2
2.5°	27.2	28.0	28.8	28.0	26.4	25.5	24.7	26.4	27.2	27.2	27.2
5°	23.9	25.5	27.2	27.2	29.7	31.3	30.5	28.8	23.1	23.1	23.9
7.5°	30.5	34.6	33.0	31.3	33.8	40.4	38.7	37.1	32.1	29.7	29.7
10°	39.6	45.3	41.2	45.3	48.6	46.1	42.0	37.9	45.3	42.8	39.6
12.5°	40.4	43.7	44.5	53.6	57.7	45.3	42.8	46.1	46.1	44.5	42.0
15°	40.4	47.8	51.1	56.0	61.0	53.6	43.7	49.4	51.9	50.3	48.6
17.5°	43.7	50.3	53.6	61.8	66.7	61.8	52.7	53.6	57.7	62.6	60.2
20°	51.1	54.4	56.9	66.7	69.2	73.3	63.4	61.8	60.2	64.3	63.4
22.5°	57.7	63.4	64.3	73.3	73.3	86.5	80.8	65.1	61.0	67.6	69.2
25°	61.8	68.4	72.5	79.1	82.4	95.6	92.3	78.3	70.9	73.3	74.2
27.5°	70.9	75.8	81.6	88.2	96.4	103.0	109.6	87.3	80.8	80.8	81.6
30°	77.5	84.0	91.5	103.8	110.4	117.0	125.2	97.2	87.3	89.0	89.8
32.5°	91.5	92.3	101.4	117.0	120.3	131.8	134.3	111.2	98.9	98.1	98.1
35°	106.3	103.8	112.1	134.3	134.3	149.1	144.2	125.2	109.6	108.8	109.6
37.5°	129.4	122.0	126.1	147.5	150.8	163.2	156.6	140.9	123.6	123.6	126.9
40°	155.7	144.2	141.7	166.4	165.6	176.3	169.7	157.4	141.7	141.7	146.7
42.5°	201.9	175.5	168.9	189.5	184.6	194.5	187.0	179.6	165.6	173.0	181.3
45°	297.5	242.3	220.0	231.5	224.1	225.8	217.5	215.1	201.9	210.9	227.4
47.5°	386.5	306.5	270.3	273.6	254.6	248.8	242.3	243.1	225.0	248.0	264.5
50°	477.9	388.9	332.9	316.4	299.9	278.5	276.0	273.6	271.9	299.9	323.0
52.5°	557.8	454.0	374.1	341.1	320.5	299.1	293.3	289.2	295.8	336.2	364.2
55°	612.2	495.2	384.8	344.4	324.7	307.4	303.2	294.2	309.8	351.0	386.5
56°	*614.7*	*500.2*	*386.5*	*342.8*	*323.0*	*306.5*	*303.2*	*292.5*	*310.6*	*353.5*	*389.8*
57.5°	613.1	505.9	384.0	342.0	318.1	301.6	299.9	285.9	310.6	355.1	392.2
60°	600.7	502.6	374.1	340.3	304.1	290.9	290.9	272.7	306.5	359.3	398.0
62.5°	603.2	491.9	357.6	328.8	282.6	273.6	278.5	253.8	295.8	359.3	394.7
65°	580.9	473.8	330.4	310.6	257.9	248.0	256.3	228.2	278.5	342.8	376.6
67.5°	527.4	436.7	298.3	289.2	229.1	218.4	228.2	201.9	253.8	321.4	356.8
70°	468.0	384.0	258.7	256.3	200.2	185.4	195.3	172.2	226.6	294.2	333.7
72.5°	406.2	324.7	210.9	218.4	168.9	149.1	158.2	145.0	196.1	256.3	295.8
75°	329.6	256.3	159.0	172.2	134.3	113.7	117.8	112.9	159.0	208.5	248.0
77.5°	242.3	185.4	106.3	121.1	95.6	79.1	81.6	81.6	117.0	154.1	190.3
80°	150.0	111.2	59.3	69.2	59.3	51.9	50.3	51.9	73.3	92.3	122.0
82.5°	61.8	42.0	26.4	26.4	29.7	29.7	28.8	27.2	34.6	38.7	44.5
85°	17.3	11.5	13.2	11.5	14.8	15.7	14.0	12.4	14.0	13.2	14.0
87.5°	14.0	9.1	10.7	8.2	11.5	12.4	10.7	9.9	10.7	9.9	10.7
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: P1442048
CATALOG NUMBER: ABB-C3-830-X-U-S-GM

CANDELA DISTRIBUTION (continued):

	285°	295°	300°	305°	315°	325°	335°	345°	355°	360°
0°	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2
2.5°	26.4	26.4	27.2	29.7	32.1	32.1	32.1	33.0	32.1	32.1
5°	24.7	23.1	22.2	21.4	23.9	26.4	30.5	33.8	41.2	47.0
7.5°	29.7	29.7	28.8	28.8	28.8	30.5	33.8	39.6	45.3	46.1
10°	39.6	38.7	37.9	39.6	39.6	35.4	41.2	47.8	51.9	47.8
12.5°	41.2	39.6	36.3	36.3	38.7	40.4	48.6	54.4	44.5	45.3
15°	44.5	42.0	40.4	40.4	39.6	47.0	52.7	56.9	46.1	46.1
17.5°	49.4	42.8	40.4	42.0	44.5	50.3	57.7	57.7	51.9	52.7
20°	53.6	47.8	45.3	47.8	48.6	58.5	59.3	62.6	61.8	62.6
22.5°	58.5	50.3	48.6	49.4	54.4	63.4	66.7	75.8	66.7	72.5
25°	65.1	56.0	56.0	54.4	59.3	68.4	75.8	81.6	84.0	89.8
27.5°	73.3	65.9	66.7	64.3	65.9	74.2	88.2	92.3	101.4	107.1
30°	85.7	80.8	79.9	74.2	75.0	80.8	97.2	110.4	121.1	117.0
32.5°	95.6	97.2	93.9	93.1	86.5	90.6	108.8	124.4	129.4	128.5
35°	112.1	115.4	114.5	107.9	102.2	105.5	122.0	140.1	145.0	145.0
37.5°	138.4	140.1	142.6	128.5	118.7	118.7	138.4	152.4	159.0	158.2
40°	169.7	180.5	178.8	158.2	140.1	136.8	156.6	166.4	173.0	171.4
42.5°	214.2	230.7	242.3	210.1	166.4	155.7	178.0	188.7	189.5	187.9
45°	290.0	335.4	361.7	319.7	233.2	202.7	227.4	234.8	231.5	225.0
47.5°	357.6	408.7	468.0	419.4	296.6	240.6	261.2	267.8	258.7	250.5
50°	463.9	551.3	580.9	556.2	412.0	308.2	314.8	313.9	295.8	288.4
52.5°	519.9	639.4	675.7	651.8	492.8	360.9	350.2	333.7	318.1	309.0
55°	555.4	700.4	730.1	721.0	545.5	393.0	366.7	341.1	328.8	321.4
56°	*562.0*	*707.8*	*731.7*	*726.8*	*557.8*	*395.5*	*367.5*	*338.7*	*330.4*	*323.0*
57.5°	563.6	709.5	723.5	723.5	569.4	397.2	366.7	334.5	328.0	322.2
60°	547.1	698.8	711.1	705.3	573.5	395.5	364.2	319.7	318.1	313.9
62.5°	510.9	690.5	715.2	711.1	567.7	381.5	364.2	299.1	302.4	301.6
65°	473.0	655.1	682.3	683.1	544.7	355.1	356.0	271.1	271.9	279.3
67.5°	422.7	598.2	621.3	627.9	505.1	315.6	338.7	244.7	237.3	249.7
70°	359.3	531.5	557.0	563.6	455.7	275.2	314.8	215.1	201.1	218.4
72.5°	291.7	457.3	487.0	496.0	396.3	231.5	277.7	190.3	164.0	181.3
75°	222.5	370.0	396.3	409.5	330.4	183.8	224.1	159.0	126.9	140.1
77.5°	153.3	275.2	296.6	310.6	250.5	131.8	165.6	119.5	89.8	100.5
80°	89.0	177.2	191.2	205.2	164.8	81.6	99.7	76.6	58.5	65.9
82.5°	33.8	79.9	83.2	98.1	74.2	39.6	37.9	38.7	33.0	38.7
85°	15.7	17.3	16.5	19.8	14.0	15.7	13.2	18.1	17.3	19.0
87.5°	12.4	13.2	12.4	14.0	9.9	10.7	9.9	13.2	14.0	14.0
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: SP1-2509-539-5

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

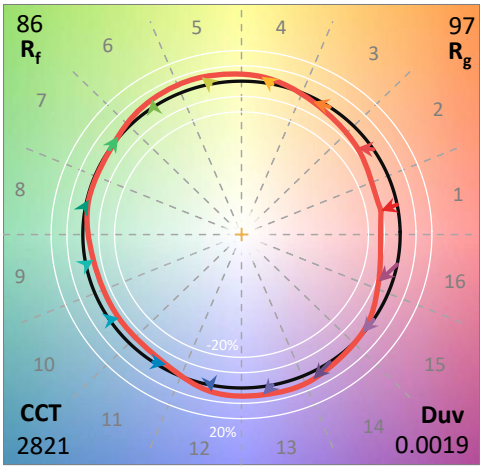
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2509-539-5
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-C1-830-LED-XX-Dx-S-GM-SPECULAR REFLECTOR

Spectral Parameters

CCT (K):	2821
CIE u':	0.2567
CIE v':	0.5277
Duv:	0.0019
CIE x:	0.4533
CIE y:	0.4141
CIE z:	0.1326
Peak Wavelength (nm):	607
Dominant Wavelength (nm):	583
Purity:	60.36315
Rf:	86.1
Rg:	97.2

CRI (Ra):	83.8				
R1:	82.0	R9:	8.2		
R2:	90.6	R10:	79.9		
R3:	97.7	R11:	85.5		
R4:	84.0	R12:	78.4		
R5:	82.7	R13:	83.9		
R6:	90.4	R14:	99.2		
R7:	83.6	R15:	73.1		
R8:	59.4				



Test Conditions

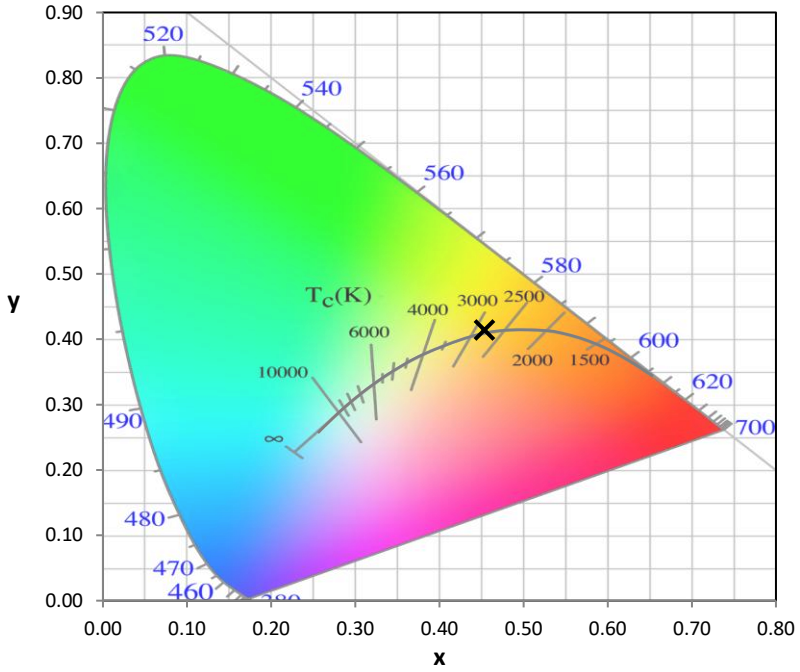
Stabilization Time:	28M
Operation Time:	1H 28M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2509-539-5

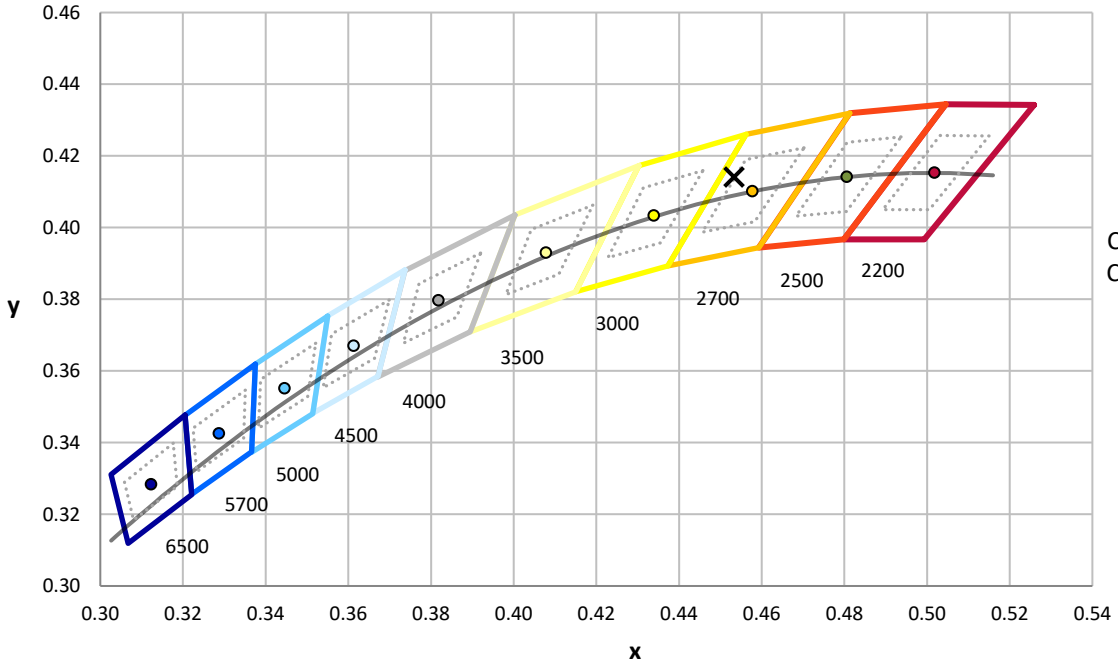
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	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: SP1-2509-539-5

CIE 1931 Chromaticity Diagram



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

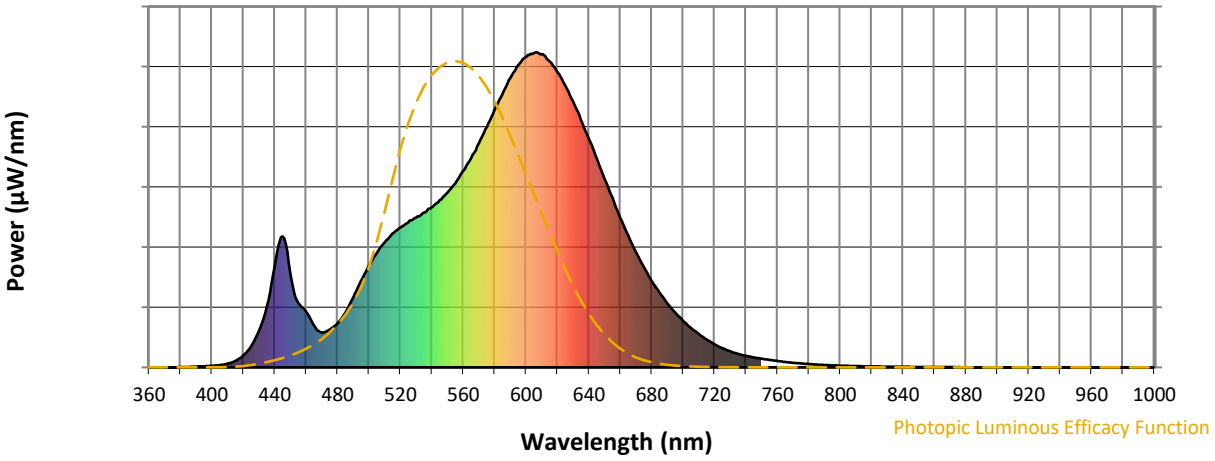


CCT = 2821K
CIE x = 0.4533
CIE y = 0.4141
Duv = 0.0019

Point lies inside the ANSI 2700K 7-step quadrangle

REPORT NUMBER: SP1-2509-539-5

Photopic Flux vs. Wavelength

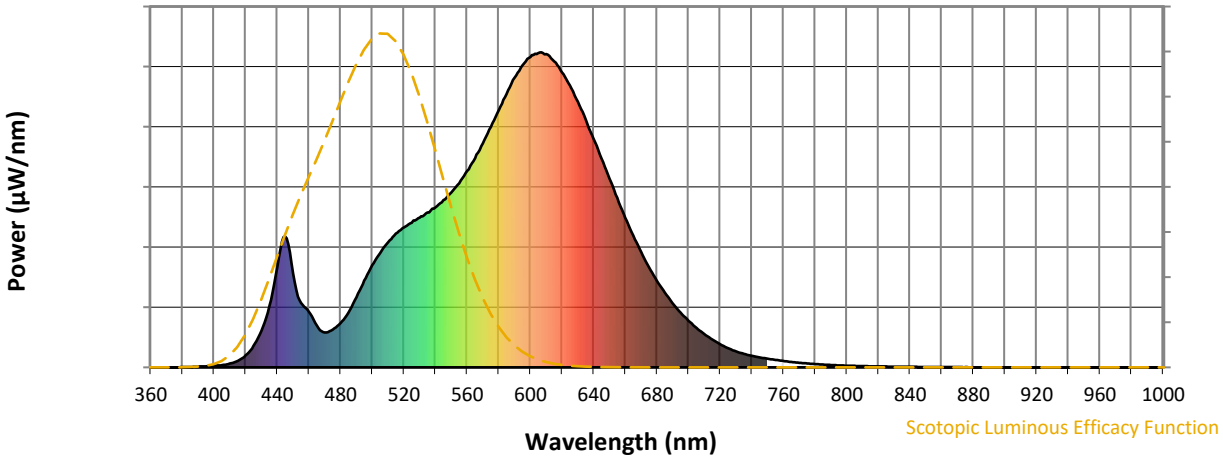


Photopic Lumens: NR

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	223	NR	620	936	NR	750	28	NR	880	0	NR
365	0	NR	495	275	NR	625	895	NR	755	24	NR	885	0	NR
370	0	NR	500	324	NR	630	843	NR	760	20	NR	890	0	NR
375	0	NR	505	363	NR	635	786	NR	765	17	NR	895	0	NR
380	1	NR	510	397	NR	640	725	NR	770	15	NR	900	0	NR
385	1	NR	515	425	NR	645	663	NR	775	12	NR	905	0	NR
390	2	NR	520	444	NR	650	599	NR	780	11	NR	910	0	NR
395	3	NR	525	459	NR	655	538	NR	785	9	NR	915	0	NR
400	5	NR	530	476	NR	660	475	NR	790	8	NR	920	0	NR
405	7	NR	535	492	NR	665	419	NR	795	6	NR	925	0	NR
410	12	NR	540	508	NR	670	365	NR	800	5	NR	930	0	NR
415	20	NR	545	531	NR	675	318	NR	805	5	NR	935	0	NR
420	38	NR	550	554	NR	680	274	NR	810	4	NR	940	0	NR
425	68	NR	555	584	NR	685	237	NR	815	3	NR	945	0	NR
430	116	NR	560	623	NR	690	204	NR	820	3	NR	950	0	NR
435	195	NR	565	664	NR	695	174	NR	825	3	NR	955	0	NR
440	320	NR	570	711	NR	700	148	NR	830	2	NR	960	0	NR
445	416	NR	575	762	NR	705	125	NR	835	2	NR	965	0	NR
450	297	NR	580	817	NR	710	106	NR	840	2	NR	970	0	NR
455	204	NR	585	867	NR	715	88	NR	845	1	NR	975	0	NR
460	177	NR	590	920	NR	720	73	NR	850	1	NR	980	0	NR
465	133	NR	595	959	NR	725	61	NR	855	1	NR	985	0	NR
470	111	NR	600	986	NR	730	51	NR	860	1	NR	990	0	NR
475	120	NR	605	997	NR	735	43	NR	865	1	NR	995	0	NR
480	140	NR	610	994	NR	740	37	NR	870	1	NR	1000	0	NR
485	174	NR	615	972	NR	745	32	NR	875	1	NR			

REPORT NUMBER: SP1-2509-539-5

Scotopic Flux vs. Wavelength

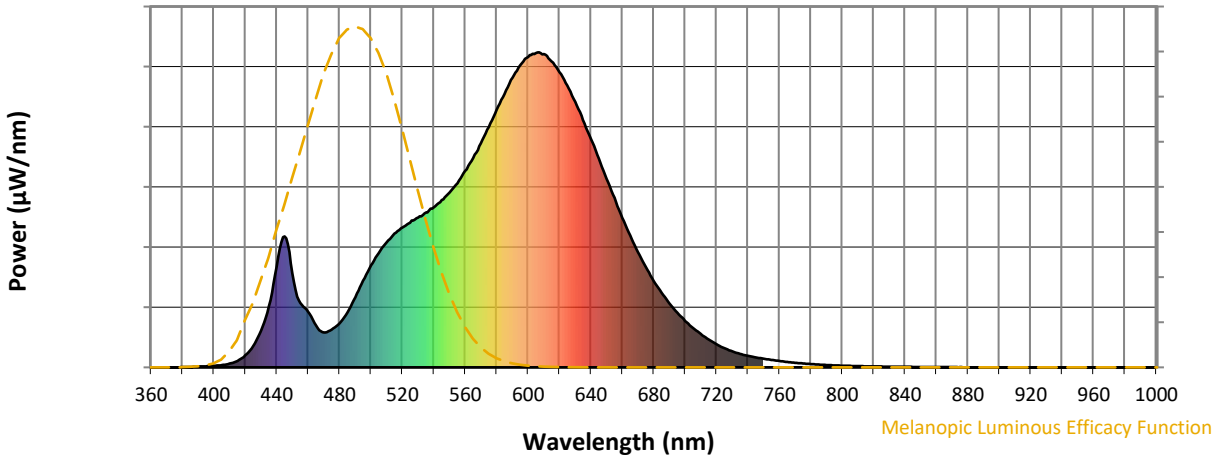


Scotopic Lumens: NR **S/P: 1.26**

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	223	NR	620	936	NR	750	28	NR	880	0	NR
365	0	NR	495	275	NR	625	895	NR	755	24	NR	885	0	NR
370	0	NR	500	324	NR	630	843	NR	760	20	NR	890	0	NR
375	0	NR	505	363	NR	635	786	NR	765	17	NR	895	0	NR
380	1	NR	510	397	NR	640	725	NR	770	15	NR	900	0	NR
385	1	NR	515	425	NR	645	663	NR	775	12	NR	905	0	NR
390	2	NR	520	444	NR	650	599	NR	780	11	NR	910	0	NR
395	3	NR	525	459	NR	655	538	NR	785	9	NR	915	0	NR
400	5	NR	530	476	NR	660	475	NR	790	8	NR	920	0	NR
405	7	NR	535	492	NR	665	419	NR	795	6	NR	925	0	NR
410	12	NR	540	508	NR	670	365	NR	800	5	NR	930	0	NR
415	20	NR	545	531	NR	675	318	NR	805	5	NR	935	0	NR
420	38	NR	550	554	NR	680	274	NR	810	4	NR	940	0	NR
425	68	NR	555	584	NR	685	237	NR	815	3	NR	945	0	NR
430	116	NR	560	623	NR	690	204	NR	820	3	NR	950	0	NR
435	195	NR	565	664	NR	695	174	NR	825	3	NR	955	0	NR
440	320	NR	570	711	NR	700	148	NR	830	2	NR	960	0	NR
445	416	NR	575	762	NR	705	125	NR	835	2	NR	965	0	NR
450	297	NR	580	817	NR	710	106	NR	840	2	NR	970	0	NR
455	204	NR	585	867	NR	715	88	NR	845	1	NR	975	0	NR
460	177	NR	590	920	NR	720	73	NR	850	1	NR	980	0	NR
465	133	NR	595	959	NR	725	61	NR	855	1	NR	985	0	NR
470	111	NR	600	986	NR	730	51	NR	860	1	NR	990	0	NR
475	120	NR	605	997	NR	735	43	NR	865	1	NR	995	0	NR
480	140	NR	610	994	NR	740	37	NR	870	1	NR	1000	0	NR
485	174	NR	615	972	NR	745	32	NR	875	1	NR			

REPORT NUMBER: SP1-2509-539-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.34**

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	223	NR	620	936	NR	750	28	NR	880	0	NR
365	0	NR	495	275	NR	625	895	NR	755	24	NR	885	0	NR
370	0	NR	500	324	NR	630	843	NR	760	20	NR	890	0	NR
375	0	NR	505	363	NR	635	786	NR	765	17	NR	895	0	NR
380	1	NR	510	397	NR	640	725	NR	770	15	NR	900	0	NR
385	1	NR	515	425	NR	645	663	NR	775	12	NR	905	0	NR
390	2	NR	520	444	NR	650	599	NR	780	11	NR	910	0	NR
395	3	NR	525	459	NR	655	538	NR	785	9	NR	915	0	NR
400	5	NR	530	476	NR	660	475	NR	790	8	NR	920	0	NR
405	7	NR	535	492	NR	665	419	NR	795	6	NR	925	0	NR
410	12	NR	540	508	NR	670	365	NR	800	5	NR	930	0	NR
415	20	NR	545	531	NR	675	318	NR	805	5	NR	935	0	NR
420	38	NR	550	554	NR	680	274	NR	810	4	NR	940	0	NR
425	68	NR	555	584	NR	685	237	NR	815	3	NR	945	0	NR
430	116	NR	560	623	NR	690	204	NR	820	3	NR	950	0	NR
435	195	NR	565	664	NR	695	174	NR	825	3	NR	955	0	NR
440	320	NR	570	711	NR	700	148	NR	830	2	NR	960	0	NR
445	416	NR	575	762	NR	705	125	NR	835	2	NR	965	0	NR
450	297	NR	580	817	NR	710	106	NR	840	2	NR	970	0	NR
455	204	NR	585	867	NR	715	88	NR	845	1	NR	975	0	NR
460	177	NR	590	920	NR	720	73	NR	850	1	NR	980	0	NR
465	133	NR	595	959	NR	725	61	NR	855	1	NR	985	0	NR
470	111	NR	600	986	NR	730	51	NR	860	1	NR	990	0	NR
475	120	NR	605	997	NR	735	43	NR	865	1	NR	995	0	NR
480	140	NR	610	994	NR	740	37	NR	870	1	NR	1000	0	NR
485	174	NR	615	972	NR	745	32	NR	875	1	NR			

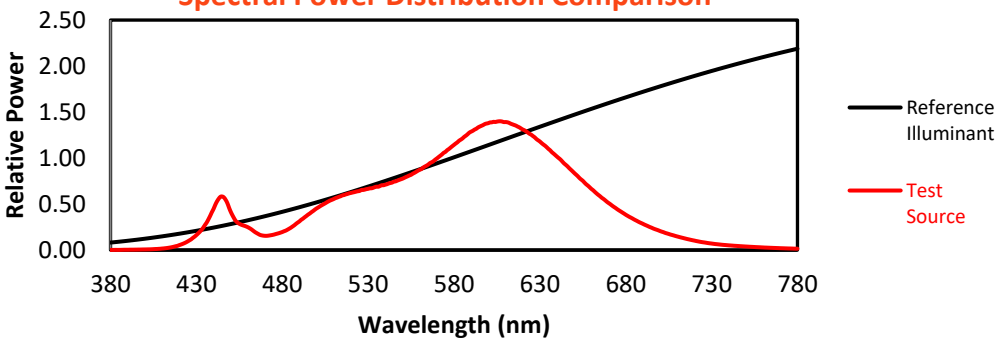
REPORT NUMBER: SP1-2509-539-5

TM-30-18

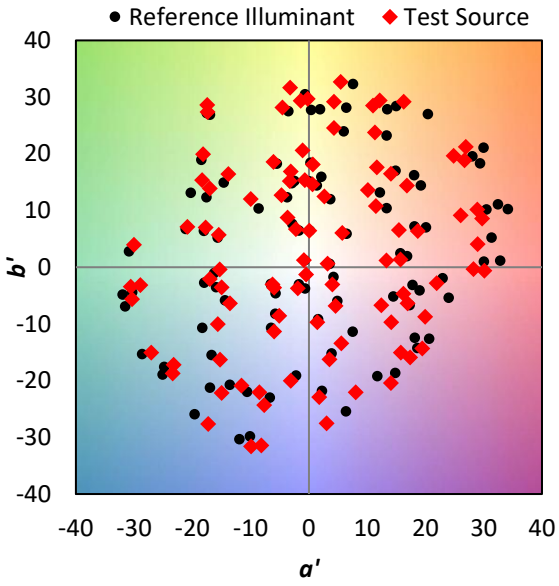
Summary

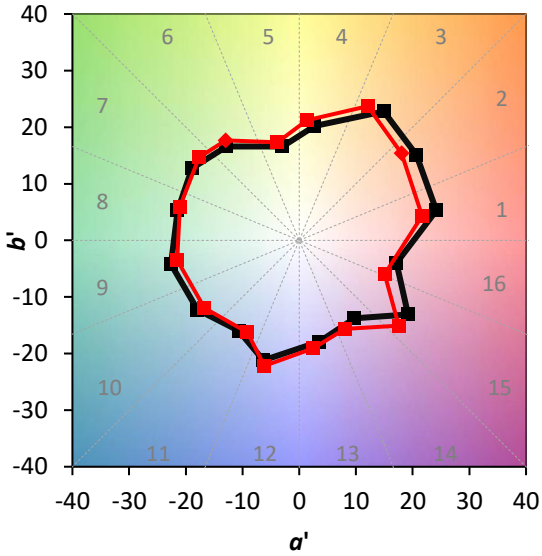
R_f = 86.1
R_g = 97.2
CIE R_a = 83.8
R_9 = 8.2

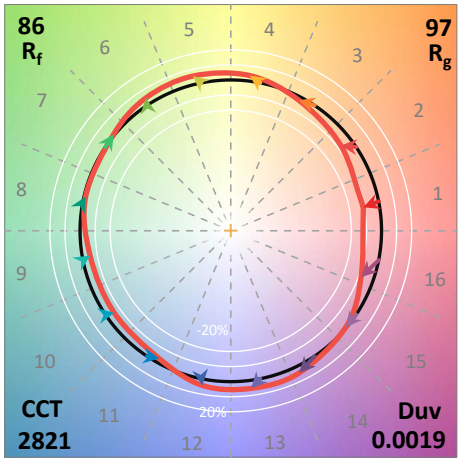
Spectral Power Distribution Comparison

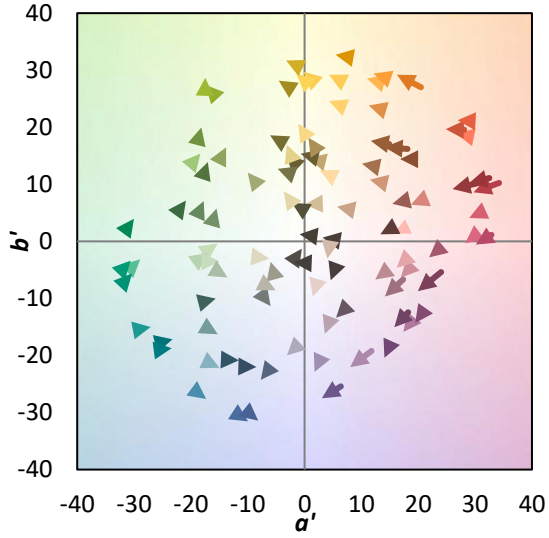


Color Vector Graphics







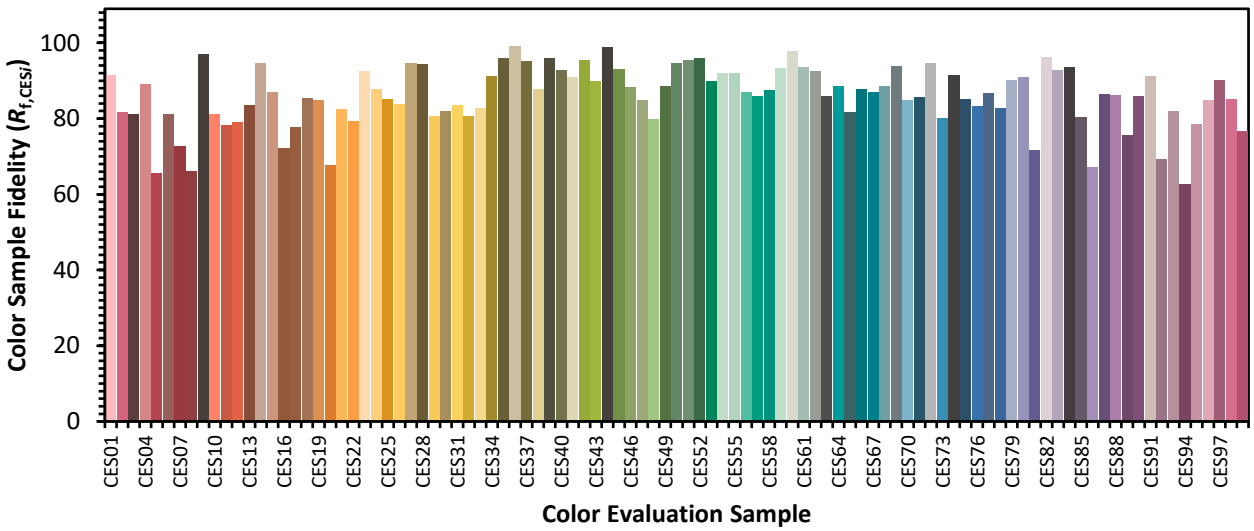


REPORT NUMBER: SP1-2509-539-5

TM-30-18

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

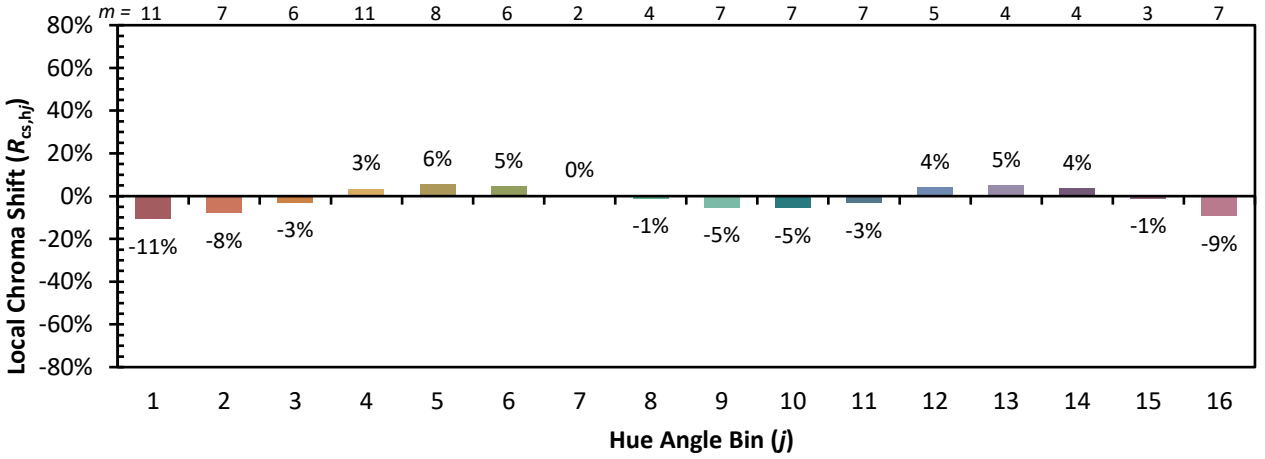
CES01 = 86	CES26 = 84	CES51 = 95	CES76 = 83
CES02 = 63	CES27 = 95	CES52 = 96	CES77 = 87
CES03 = 31	CES28 = 94	CES53 = 90	CES78 = 83
CES04 = 71	CES29 = 81	CES54 = 92	CES79 = 90
CES05 = 50	CES30 = 82	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 84	CES56 = 87	CES81 = 72
CES07 = 43	CES32 = 81	CES57 = 86	CES82 = 96
CES08 = 41	CES33 = 83	CES58 = 88	CES83 = 93
CES09 = 29	CES34 = 91	CES59 = 93	CES84 = 94
CES10 = 76	CES35 = 96	CES60 = 98	CES85 = 80
CES11 = 59	CES36 = 99	CES61 = 94	CES86 = 67
CES12 = 65	CES37 = 95	CES62 = 92	CES87 = 87
CES13 = 44	CES38 = 88	CES63 = 86	CES88 = 86
CES14 = 74	CES39 = 96	CES64 = 88	CES89 = 76
CES15 = 72	CES40 = 93	CES65 = 82	CES90 = 86
CES16 = 48	CES41 = 91	CES66 = 88	CES91 = 91
CES17 = 50	CES42 = 95	CES67 = 87	CES92 = 69
CES18 = 57	CES43 = 90	CES68 = 89	CES93 = 82
CES19 = 72	CES44 = 99	CES69 = 94	CES94 = 63
CES20 = 67	CES45 = 93	CES70 = 85	CES95 = 79
CES21 = 87	CES46 = 88	CES71 = 86	CES96 = 85
CES22 = 79	CES47 = 85	CES72 = 95	CES97 = 90
CES23 = 92	CES48 = 80	CES73 = 80	CES98 = 85
CES24 = 91	CES49 = 89	CES74 = 91	CES99 = 77
CES25 = 72	CES50 = 95	CES75 = 85	

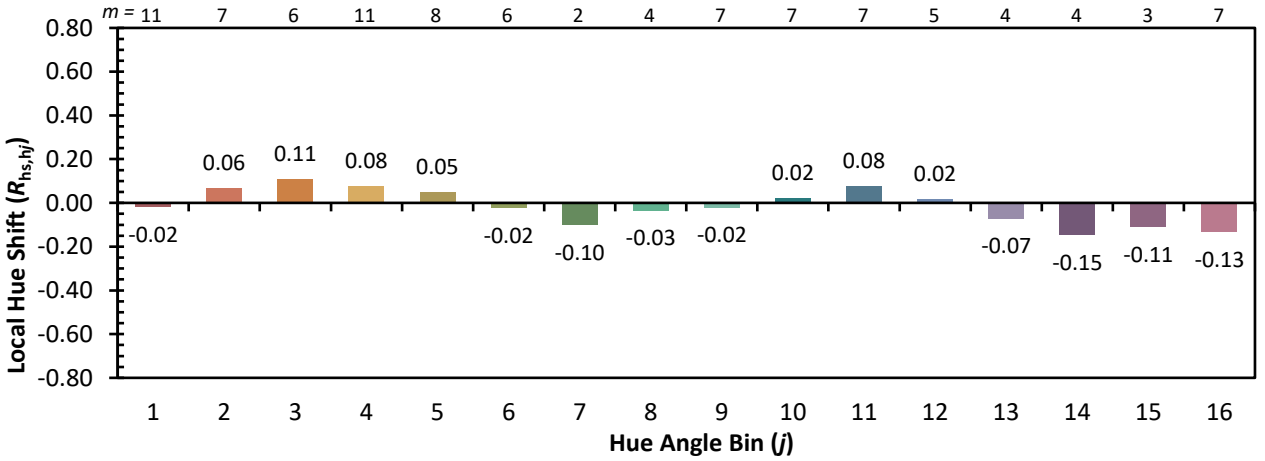


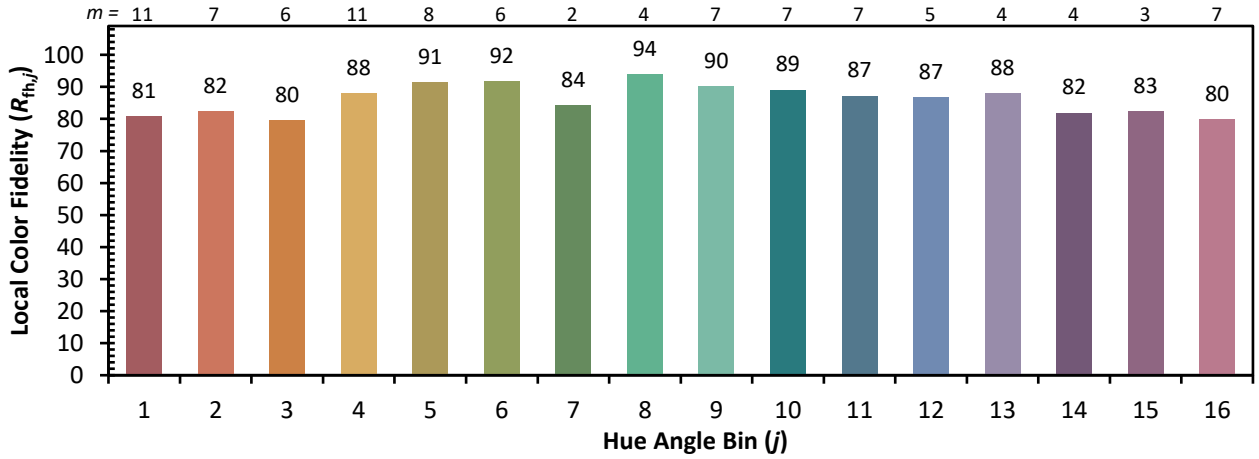
REPORT NUMBER: SP1-2509-539-5

TM-30-18

Color Rendition by Hue-Angle Bin



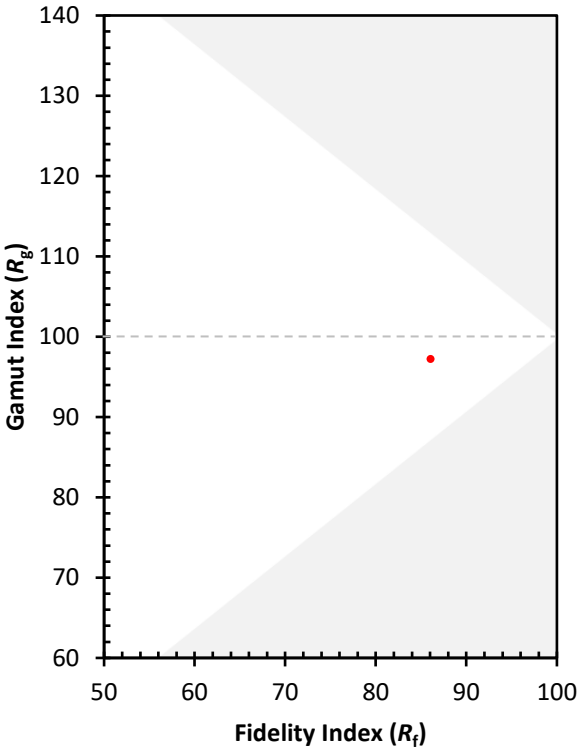


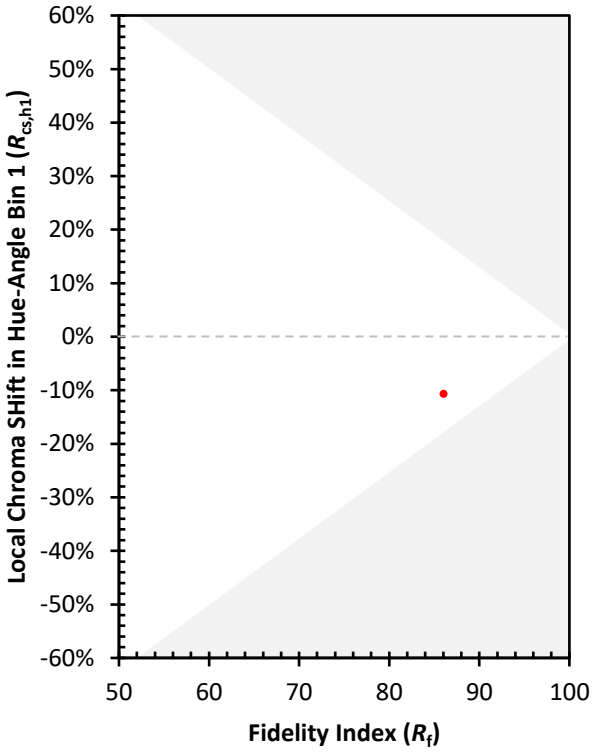


REPORT NUMBER: SP1-2509-539-5

TM-30-18

Measure Comparisons





(END OF REPORT)