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: P1442026

Luminaire Tested: ABB-C1-835-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:	P1442026
	TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-539-31)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	4/24/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	INVUE
Catalog Number:	ABB-C1-835-X-U-S-GM
Description:	ARBOR OUTDOOR ARCHITECTURAL BOLLARD LUMINAIRE
	SYMMETRIC OPTIC, GRAPHITE METALLIC PAINTED FINISH
Light Source:	3500K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	694.6 lumens
Efficiency:	N/A
Efficacy:	44.8 lumens/watt
Luminous Opening:	Circular (Dia: 0.4' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B1 - U0 - G1

Input Watts (W):	15.5
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9882
Total Harmonic Distortion (THDi):	0.0895776
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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REPORT NUMBER: P1442026
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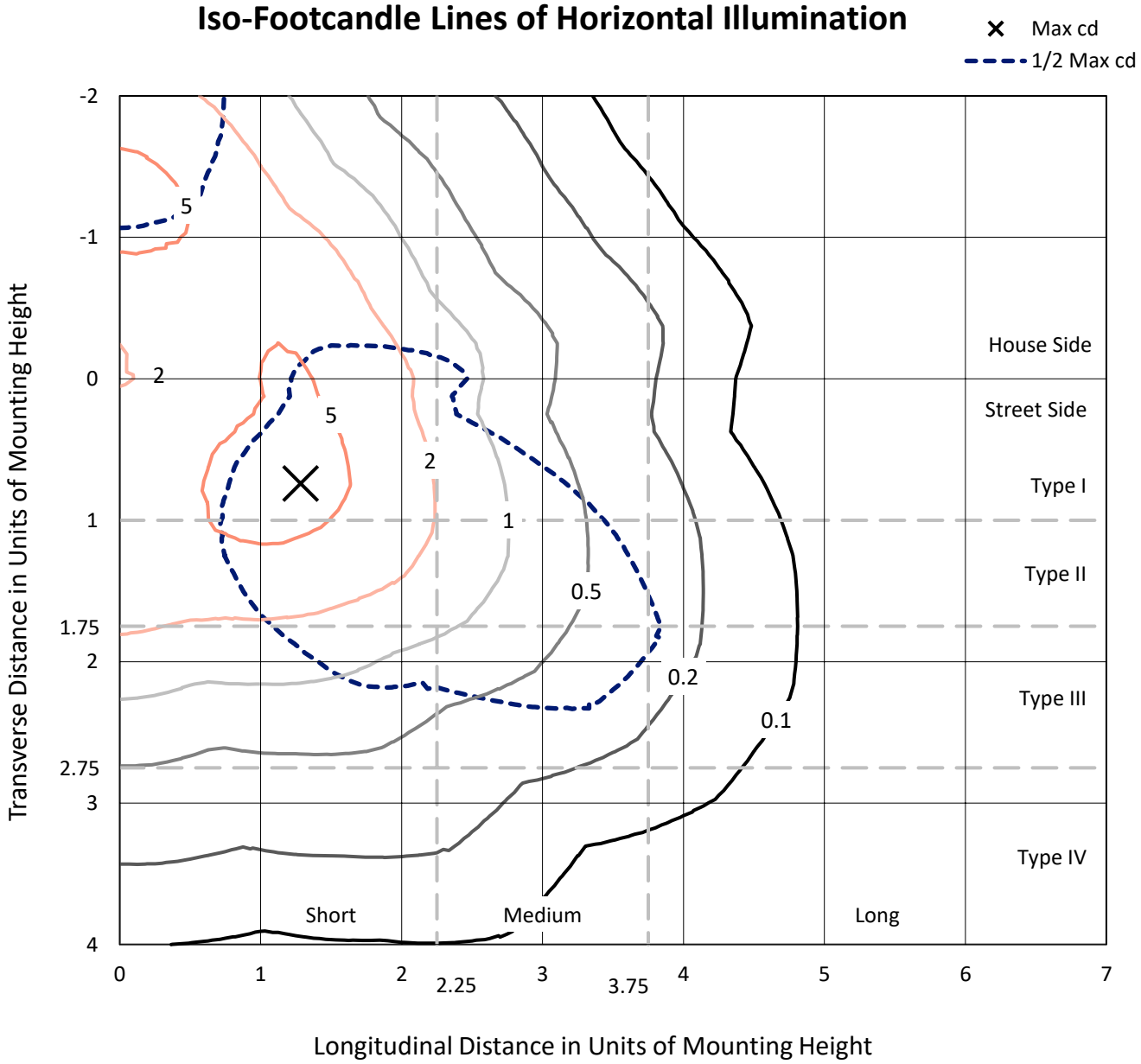
Iso-Footcandle Lines of Horizontal Illumination



Based on 3 foot mounting height. Maximum calculated value = 9.3 fc
Type III - Short - N/A

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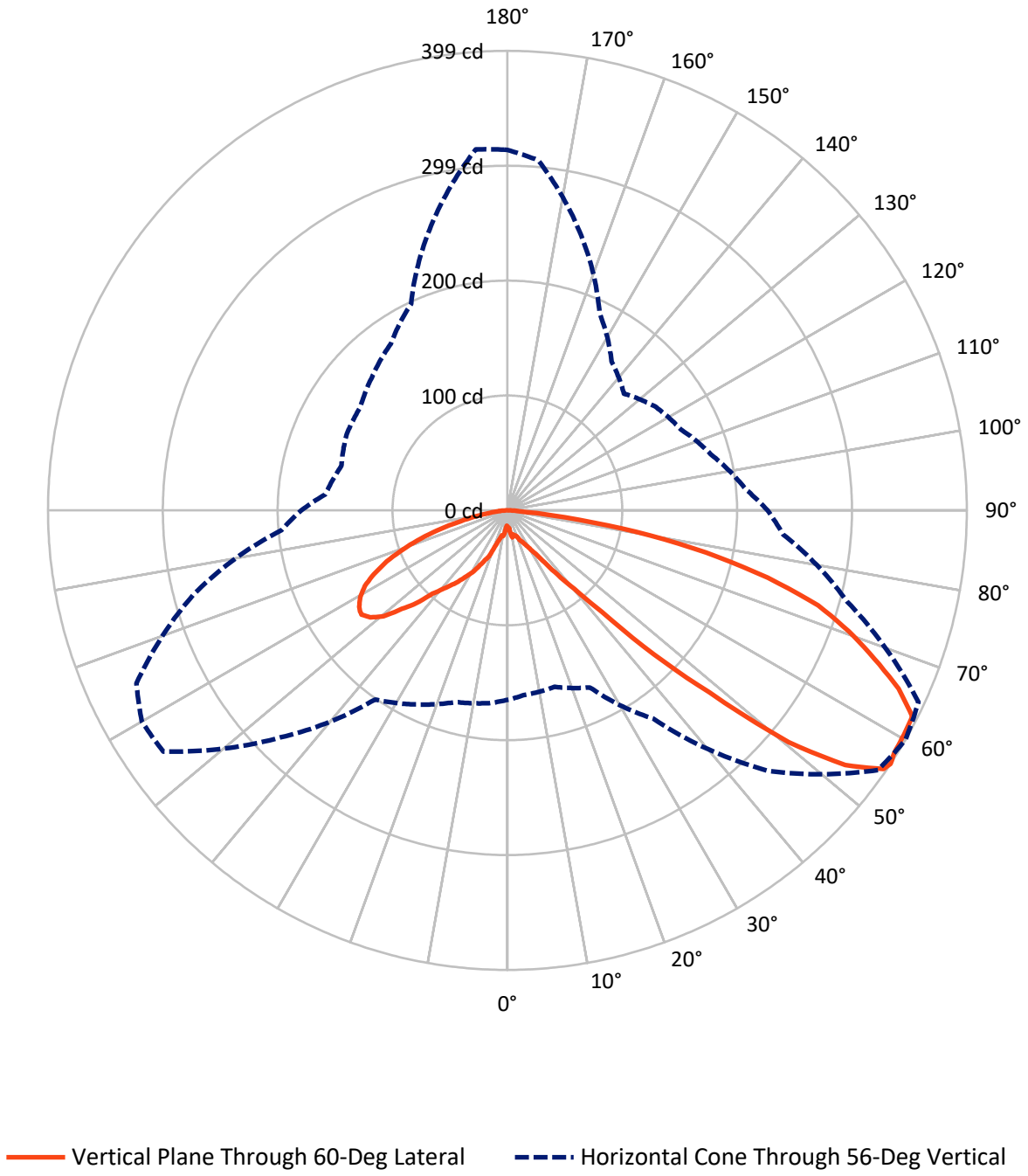
Luminous Intensity Polar Plot



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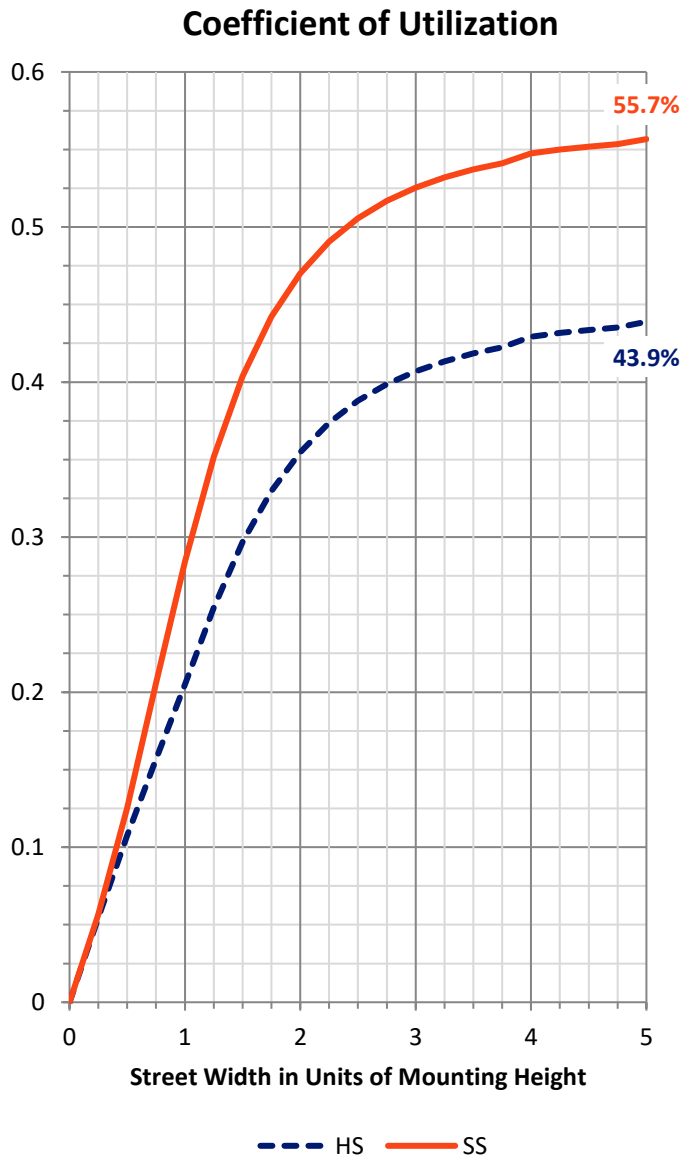
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	305.6	0.0	305.6
	% Fixture	44.0	0.0	44.0
Street Side	Lumens	388.9	0.0	388.9
	% Fixture	56.0	0.0	56.0
Total	Lumens	694.6	0.0	694.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1.8	0.3
10°-20°	7.5	1.1
20°-30°	18.5	2.7
30°-40°	40.6	5.8
40°-50°	100.5	14.5
50°-60°	193.6	27.9
60°-70°	196.7	28.3
70°-80°	118.0	17.0
80°-90°	17.4	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°	694.6	100.0
0°-180°	694.6	100.0



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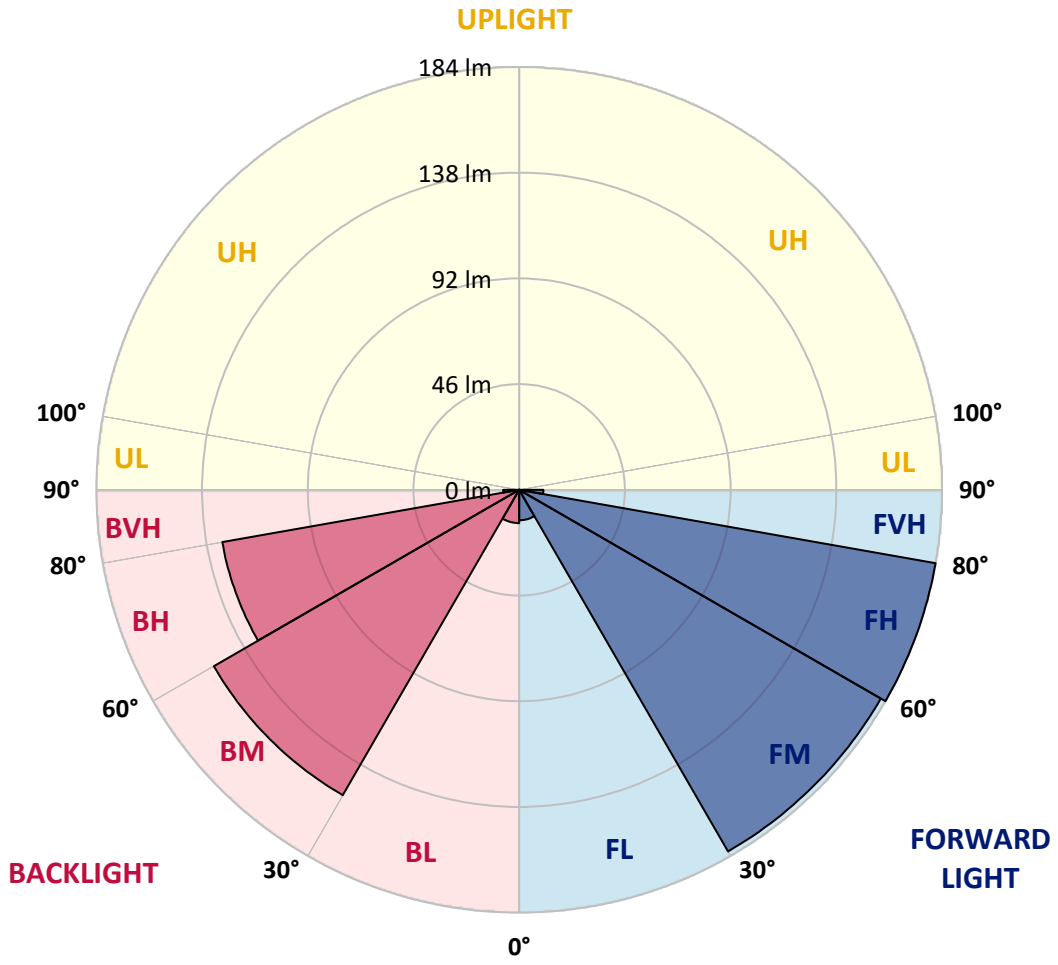
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	13.2	1.9			
FM	(30°-60°)	181.5	26.1			
FH	(60°-80°)	183.7	26.5			G0/660
FVH	(80°-90°)	10.5	1.5			G1/100
BL	(0°-30°)	14.5	2.1	B0/110		
BM	(30°-60°)	153.2	22.1	B0/220		
BH	(60°-80°)	131.0	18.9	B1/500		G1/500
BVH	(80°-90°)	6.9	1.0			G0/10
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°	14.5	14.5	14.5	14.5	14.5	14.5	14.5	*14.5*	14.5	14.5	14.5
2.5°	17.1	17.1	18.8	19.6	18.8	17.1	16.2	*16.2*	16.2	15.4	13.6
5°	23.9	22.2	19.6	19.6	18.8	17.9	15.4	*15.4*	15.4	13.6	12.8
7.5°	23.0	25.6	25.6	25.6	24.7	24.7	22.2	*20.5*	20.5	17.9	18.8
10°	24.7	24.7	23.9	28.1	26.4	26.4	23.9	*23.9*	23.9	23.0	23.0
12.5°	23.0	22.2	23.9	25.6	23.0	24.7	23.0	*21.3*	21.3	23.0	23.9
15°	23.9	24.7	25.6	28.1	27.3	25.6	23.0	*23.0*	23.0	26.4	26.4
17.5°	27.3	29.0	29.0	29.9	29.9	27.3	23.0	*23.0*	23.9	26.4	29.9
20°	31.6	31.6	31.6	31.6	31.6	29.0	24.7	*24.7*	26.4	28.1	31.6
22.5°	37.5	37.5	40.1	36.7	35.8	30.7	29.0	*28.1*	30.7	29.9	34.1
25°	46.1	48.6	46.1	39.2	38.4	33.3	30.7	*30.7*	31.6	35.8	36.7
27.5°	54.6	56.3	48.6	42.6	43.5	37.5	35.0	*34.1*	35.8	40.1	42.6
30°	59.7	60.6	53.7	46.9	48.6	42.6	40.1	*38.4*	40.1	45.2	50.3
32.5°	65.7	67.4	60.6	52.9	53.7	52.9	48.6	*45.2*	45.2	50.3	54.6
35°	74.2	73.4	65.7	58.0	59.7	63.1	61.4	*55.4*	54.6	54.6	62.3
37.5°	81.0	79.3	74.2	64.8	66.5	73.4	76.8	*70.8*	68.2	64.0	69.9
40°	87.9	87.9	81.9	71.7	79.3	89.6	98.1	*89.6*	85.3	77.6	78.5
42.5°	96.4	97.2	93.0	83.6	96.4	117.7	133.1	*120.3*	113.4	98.1	93.0
45°	113.4	116.9	112.6	104.1	121.1	157.8	186.0	*178.3*	167.2	132.2	120.3
47.5°	127.1	129.7	125.4	118.6	144.2	197.9	248.2	*236.3*	232.0	171.5	150.1
50°	145.9	145.9	144.2	143.3	179.1	263.6	313.9	*316.5*	317.3	226.9	192.8
52.5°	157.0	155.2	153.5	159.5	205.6	294.3	362.5	*367.6*	371.9	270.4	220.9
55°	163.8	161.2	158.7	168.9	218.4	316.5	389.0	*396.6*	392.4	298.6	235.4
56°	*164.6*	*161.2*	*158.7*	*169.7*	*220.9*	*319.9*	*393.2*	*399.2*	*394.1*	*305.4*	*240.5*
57.5°	163.8	160.4	157.0	170.6	221.8	319.9	391.5	*396.6*	395.8	310.5	244.0
60°	160.4	157.0	151.8	170.6	223.5	313.9	386.4	*395.8*	397.5	312.2	244.8
62.5°	154.4	152.7	144.2	168.0	220.9	301.1	384.7	*394.9*	393.2	304.5	234.6
65°	143.3	142.5	132.2	162.9	209.8	278.9	362.5	*373.6*	368.5	288.3	213.2
67.5°	128.8	127.1	117.7	153.5	198.7	252.5	336.9	*343.8*	342.1	269.5	189.4
70°	110.9	110.9	104.1	139.9	187.7	221.8	307.1	*314.8*	317.3	247.4	167.2
72.5°	92.1	93.0	89.6	122.8	170.6	188.5	269.5	*282.3*	284.9	218.4	139.0
75°	71.7	72.5	72.5	102.4	146.7	149.3	224.3	*233.7*	237.1	182.5	109.2
77.5°	51.2	51.2	53.7	77.6	117.7	104.9	169.7	*176.6*	182.5	138.2	73.4
80°	33.3	31.6	35.0	49.5	78.5	63.1	108.3	*113.4*	119.4	87.0	40.9
82.5°	19.6	17.9	19.6	23.0	33.3	29.0	49.5	*50.3*	64.0	38.4	17.1
85°	9.4	9.4	8.5	9.4	8.5	10.2	9.4	*9.4*	11.1	6.8	7.7
87.5°	6.8	6.0	6.0	6.0	6.0	7.7	6.8	*6.8*	7.7	5.1	6.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
2.5°	13.6	12.8	11.9	11.9	11.1	12.8	14.5	14.5	13.6	13.6	13.6
5°	13.6	14.5	15.4	17.1	18.8	17.1	16.2	14.5	12.8	11.9	11.9
7.5°	20.5	20.5	18.8	19.6	20.5	18.8	19.6	18.8	17.1	16.2	15.4
10°	23.0	23.9	27.3	25.6	24.7	24.7	23.9	23.0	21.3	19.6	18.8
12.5°	25.6	26.4	27.3	24.7	27.3	26.4	25.6	23.0	22.2	20.5	20.5
15°	27.3	29.0	28.1	29.0	28.1	28.1	27.3	24.7	23.9	20.5	19.6
17.5°	31.6	31.6	33.3	32.4	29.9	31.6	29.9	28.1	25.6	22.2	22.2
20°	33.3	35.8	36.7	36.7	35.0	35.8	36.7	34.1	29.9	27.3	27.3
22.5°	37.5	39.2	41.8	45.2	40.9	40.9	40.1	34.1	29.0	29.9	28.1
25°	42.6	40.9	44.4	50.3	46.9	42.6	43.5	38.4	34.1	33.3	31.6
27.5°	46.9	46.9	52.0	59.7	51.2	48.6	46.9	42.6	37.5	35.8	35.8
30°	58.0	53.7	59.7	64.0	62.3	51.2	51.2	46.1	42.6	40.1	40.9
32.5°	64.8	61.4	67.4	69.9	69.1	56.3	56.3	52.9	50.3	48.6	46.1
35°	71.7	72.5	73.4	76.8	75.1	66.5	60.6	58.0	58.0	58.0	56.3
37.5°	80.2	81.0	81.9	83.6	81.0	73.4	67.4	64.8	67.4	71.7	68.2
40°	88.7	92.1	89.6	90.4	88.7	81.9	77.6	75.9	81.9	91.3	86.2
42.5°	105.8	105.8	102.4	99.8	97.2	91.3	89.6	93.0	104.9	121.1	115.2
45°	128.0	127.1	121.1	116.9	113.4	106.6	106.6	116.9	140.7	165.5	166.3
47.5°	166.3	150.1	139.9	133.1	127.1	119.4	120.3	139.0	172.3	210.7	211.5
50°	197.0	184.2	166.3	151.0	143.3	134.8	139.0	167.2	213.2	248.2	256.8
52.5°	215.8	201.3	178.3	162.1	152.7	143.3	151.0	185.1	237.1	281.5	290.9
55°	222.6	206.4	185.1	167.2	157.0	145.0	157.8	190.2	246.5	302.0	311.3
56°	*226.0*	*208.1*	*184.2*	*166.3*	*157.0*	*143.3*	*157.8*	*189.4*	*247.4*	*305.4*	*313.1*
57.5°	229.5	207.3	182.5	165.5	156.1	141.6	157.8	187.7	246.5	305.4	313.9
60°	236.3	207.3	174.9	161.2	150.1	136.5	156.1	187.7	243.1	300.3	314.8
62.5°	231.2	205.6	164.6	151.8	145.0	130.5	150.1	185.1	234.6	296.0	314.8
65°	218.4	199.6	149.3	138.2	133.1	119.4	140.7	178.3	219.2	281.5	297.7
67.5°	202.2	191.1	133.1	122.0	117.7	107.5	128.8	165.5	197.9	253.3	269.5
70°	180.0	180.0	116.0	104.1	101.5	92.1	115.2	151.8	168.9	222.6	238.0
72.5°	148.4	154.4	101.5	84.4	82.7	77.6	98.1	133.1	138.2	190.2	206.4
75°	113.4	124.5	81.9	64.8	63.1	61.4	77.6	109.2	106.6	150.1	166.3
77.5°	75.1	87.9	59.7	46.1	43.5	44.4	55.4	83.6	74.2	106.6	120.3
80°	36.7	47.8	36.7	30.7	27.3	29.0	34.1	52.9	41.8	62.3	75.1
82.5°	11.9	15.4	17.9	17.1	15.4	15.4	16.2	21.3	18.8	23.0	31.6
85°	6.0	6.8	8.5	8.5	7.7	7.7	7.7	8.5	9.4	8.5	8.5
87.5°	4.3	4.3	6.8	6.8	6.0	6.0	6.0	6.0	7.7	6.8	6.8
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°	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
2.5°	14.5	14.5	14.5	14.5	12.8	13.6	12.8	13.6	13.6	13.6	13.6
5°	12.8	13.6	14.5	13.6	15.4	15.4	15.4	14.5	11.9	11.9	11.9
7.5°	17.1	17.9	17.9	16.2	17.9	20.5	19.6	18.8	16.2	15.4	14.5
10°	20.5	23.9	21.3	23.9	24.7	23.9	21.3	19.6	23.0	22.2	21.3
12.5°	20.5	22.2	23.9	27.3	29.9	23.0	21.3	23.9	23.0	23.0	21.3
15°	20.5	24.7	26.4	29.0	31.6	27.3	22.2	25.6	27.3	26.4	24.7
17.5°	23.0	25.6	27.3	31.6	34.1	31.6	26.4	28.1	29.9	32.4	30.7
20°	26.4	28.1	29.0	34.1	35.0	37.5	31.6	31.6	31.6	33.3	32.4
22.5°	29.9	33.3	33.3	37.5	38.4	44.4	41.8	33.3	31.6	35.8	35.0
25°	31.6	35.0	37.5	40.9	42.6	48.6	46.9	40.1	36.7	37.5	37.5
27.5°	36.7	39.2	41.8	44.4	50.3	52.9	56.3	45.2	41.8	41.8	41.8
30°	39.2	43.5	46.9	52.0	57.2	59.7	64.0	49.5	45.2	46.1	46.1
32.5°	46.1	47.8	52.9	58.9	62.3	67.4	68.2	55.4	50.3	50.3	49.5
35°	53.7	53.7	58.0	66.5	69.1	75.9	73.4	63.1	56.3	56.3	55.4
37.5°	65.7	63.1	65.7	74.2	77.6	82.7	80.2	70.8	63.1	64.0	63.1
40°	81.0	75.1	74.2	83.6	85.3	90.4	87.0	79.3	72.5	73.4	72.5
42.5°	105.8	91.3	89.6	93.8	95.5	98.9	95.5	89.6	85.3	87.9	89.6
45°	155.2	125.4	114.3	116.9	115.2	115.2	110.9	107.5	103.2	106.6	111.7
47.5°	202.2	160.4	143.3	132.2	128.8	127.1	123.7	121.1	115.2	123.7	135.6
50°	247.4	200.5	173.2	160.4	153.5	142.5	140.7	138.2	138.2	151.0	164.6
52.5°	287.5	233.7	192.8	174.9	163.8	152.7	149.3	146.7	151.0	170.6	185.1
55°	313.9	253.3	197.9	177.4	166.3	157.0	154.4	150.1	157.8	178.3	196.2
56°	*314.8*	*255.9*	*197.9*	*176.6*	*165.5*	*156.1*	*154.4*	*149.3*	*158.7*	*179.1*	*197.0*
57.5°	313.9	258.5	196.2	175.7	162.9	154.4	152.7	146.7	158.7	180.0	198.7
60°	307.1	256.8	191.1	174.9	156.1	148.4	148.4	139.9	156.1	181.7	200.5
62.5°	308.8	250.8	182.5	169.7	145.0	139.0	141.6	131.4	150.1	181.7	199.6
65°	296.8	241.4	167.2	160.4	132.2	125.4	131.4	117.7	141.6	173.2	190.2
67.5°	269.5	222.6	151.0	150.1	117.7	110.9	116.9	104.9	129.7	162.9	180.0
70°	238.8	196.2	130.5	134.8	103.2	93.8	99.8	89.6	116.0	149.3	168.0
72.5°	207.3	165.5	105.8	114.3	87.0	76.8	81.0	75.1	99.8	130.5	147.6
75°	168.0	130.5	79.3	90.4	69.1	58.9	60.6	58.9	81.0	107.5	122.8
77.5°	122.8	93.8	52.0	64.0	49.5	40.9	41.8	42.6	59.7	79.3	93.0
80°	75.1	59.7	29.0	37.5	30.7	27.3	25.6	27.3	37.5	48.6	57.2
82.5°	29.9	23.9	11.9	14.5	15.4	15.4	14.5	14.5	17.9	18.8	17.9
85°	8.5	6.0	6.8	6.0	7.7	7.7	6.8	6.0	6.8	6.8	6.8
87.5°	6.8	4.3	5.1	4.3	6.0	6.8	5.1	5.1	5.1	5.1	5.1
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: P1442026
CATALOG NUMBER: ABB-C1-835-X-U-S-GM

CANDELA DISTRIBUTION (continued):

	285°	295°	300°	305°	315°	325°	335°	345°	355°	360°
0°	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
2.5°	13.6	14.5	14.5	15.4	16.2	17.1	17.1	17.1	17.1	17.1
5°	12.8	11.9	11.9	11.1	11.9	13.6	15.4	17.1	21.3	23.9
7.5°	15.4	15.4	15.4	15.4	14.5	15.4	17.9	20.5	23.0	23.0
10°	21.3	20.5	19.6	20.5	20.5	18.8	21.3	24.7	26.4	24.7
12.5°	20.5	19.6	18.8	18.8	19.6	20.5	24.7	27.3	23.0	23.0
15°	23.0	21.3	20.5	20.5	20.5	23.9	27.3	29.0	23.9	23.9
17.5°	25.6	22.2	20.5	21.3	23.0	25.6	29.9	29.9	27.3	27.3
20°	27.3	23.9	23.0	24.7	24.7	29.9	30.7	32.4	31.6	31.6
22.5°	29.9	25.6	24.7	25.6	28.1	32.4	35.0	39.2	35.0	37.5
25°	33.3	29.0	29.0	28.1	30.7	35.0	39.2	41.8	41.8	46.1
27.5°	36.7	34.1	34.1	33.3	33.3	38.4	45.2	46.9	52.0	54.6
30°	41.8	40.9	39.2	38.4	38.4	40.9	49.5	56.3	62.3	59.7
32.5°	48.6	48.6	46.9	47.8	44.4	46.9	56.3	63.1	66.5	65.7
35°	56.3	58.0	56.3	55.4	52.0	53.7	62.3	71.7	74.2	74.2
37.5°	69.1	69.9	68.2	65.7	61.4	60.6	70.8	77.6	81.0	81.0
40°	85.3	90.4	86.2	81.0	71.7	69.9	80.2	85.3	88.7	87.9
42.5°	107.5	115.2	114.3	106.6	85.3	80.2	91.3	95.5	97.2	96.4
45°	145.0	165.5	169.7	160.4	118.6	103.2	116.0	118.6	116.9	113.4
47.5°	177.4	209.0	224.3	211.5	146.7	122.8	133.9	135.6	130.5	127.1
50°	232.0	278.9	286.6	278.9	203.9	157.0	160.4	157.8	150.1	145.9
52.5°	261.9	322.4	333.5	326.7	246.5	183.4	177.4	168.0	161.2	157.0
55°	278.1	351.4	365.9	360.8	272.1	198.7	185.1	173.2	168.0	163.8
56°	*282.3*	*355.7*	*366.8*	*365.1*	*278.9*	*200.5*	*186.0*	*172.3*	*168.0*	*164.6*
57.5°	284.0	355.7	364.2	363.4	284.9	200.5	185.1	169.7	167.2	163.8
60°	277.2	350.6	356.6	354.8	287.5	199.6	184.2	162.9	162.1	160.4
62.5°	259.3	346.3	359.1	356.6	284.9	192.8	184.2	151.8	153.5	154.4
65°	241.4	327.6	342.9	342.9	273.8	179.1	180.0	139.0	139.0	143.3
67.5°	217.5	299.4	315.6	316.5	255.0	159.5	171.5	126.2	123.7	128.8
70°	186.0	265.3	283.2	283.2	231.2	139.0	159.5	111.7	105.8	110.9
72.5°	155.2	228.6	249.1	249.9	200.5	117.7	141.6	97.2	87.0	92.1
75°	122.0	185.1	205.6	210.7	168.0	93.0	117.7	81.9	68.2	71.7
77.5°	87.0	138.2	155.2	157.0	128.8	66.5	88.7	61.4	48.6	51.2
80°	52.9	87.9	101.5	109.2	85.3	40.9	55.4	40.1	32.4	33.3
82.5°	23.0	38.4	46.9	53.7	40.1	19.6	17.9	20.5	18.8	19.6
85°	8.5	8.5	9.4	10.2	7.7	7.7	6.8	9.4	9.4	9.4
87.5°	6.8	6.8	6.8	6.8	5.1	6.0	4.3	6.8	6.8	6.8
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: SP1-2509-539-7

Test Date: 04/15/2026

Luminaire Tested: Luxscape Bollard

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

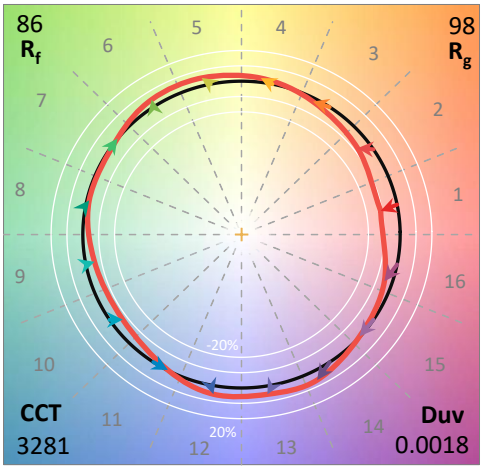
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2509-539-7
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-C1-835-LED-XX-Dx-S-GM-SPECULAR REFLECTOR

Spectral Parameters

CCT (K):	3281
CIE u':	0.2408
CIE v':	0.5181
Duv:	0.0018
CIE x:	0.4204
CIE y:	0.4020
CIE z:	0.1776
Peak Wavelength (nm):	601
Dominant Wavelength (nm):	581
Purity:	46.84629
Rf:	85.8
Rg:	97.6

CRI (Ra):	83.9				
R1:	82.0	R9:	9.4
R2:	89.5	R10:	76.7
R3:	96.9	R11:	85.1
R4:	84.3	R12:	73.1
R5:	82.6	R13:	83.6
R6:	87.7	R14:	98.3
R7:	85.4	R15:	74.0
R8:	62.6		



Test Conditions

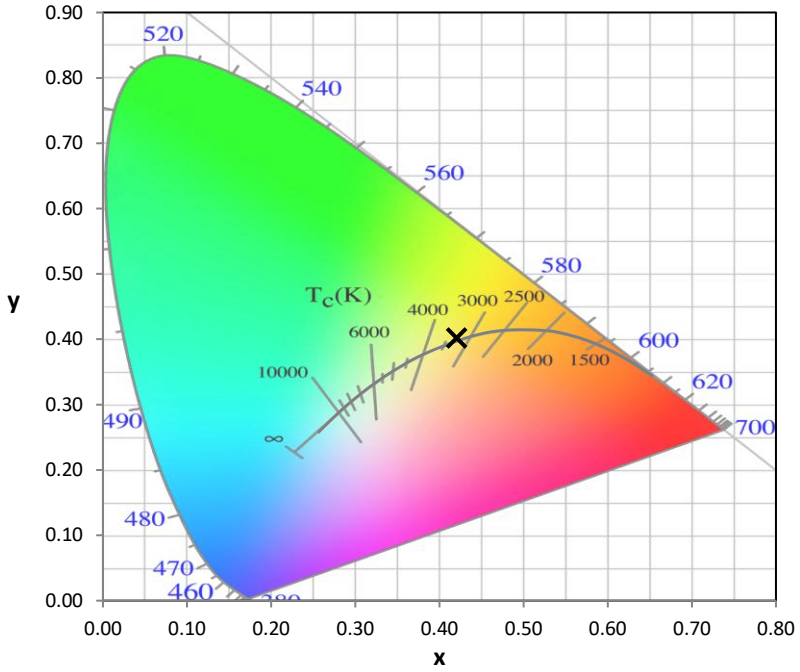
Stabilization Time:	31M
Operation Time:	1H 31M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2509-539-7

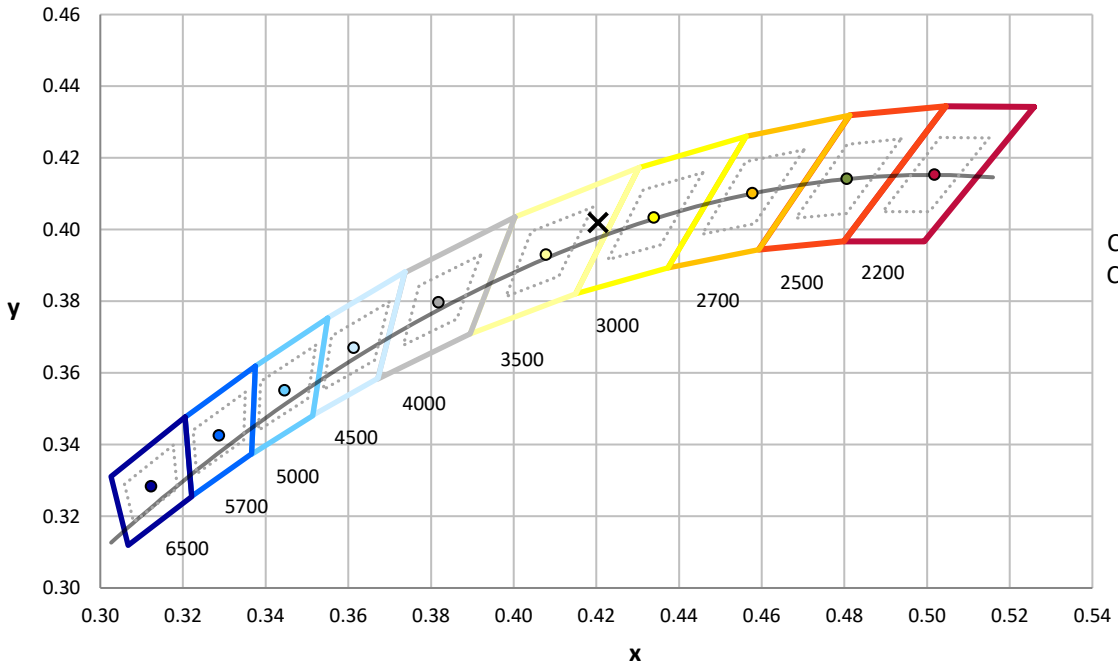
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	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: SP1-2509-539-7

CIE 1931 Chromaticity Diagram



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

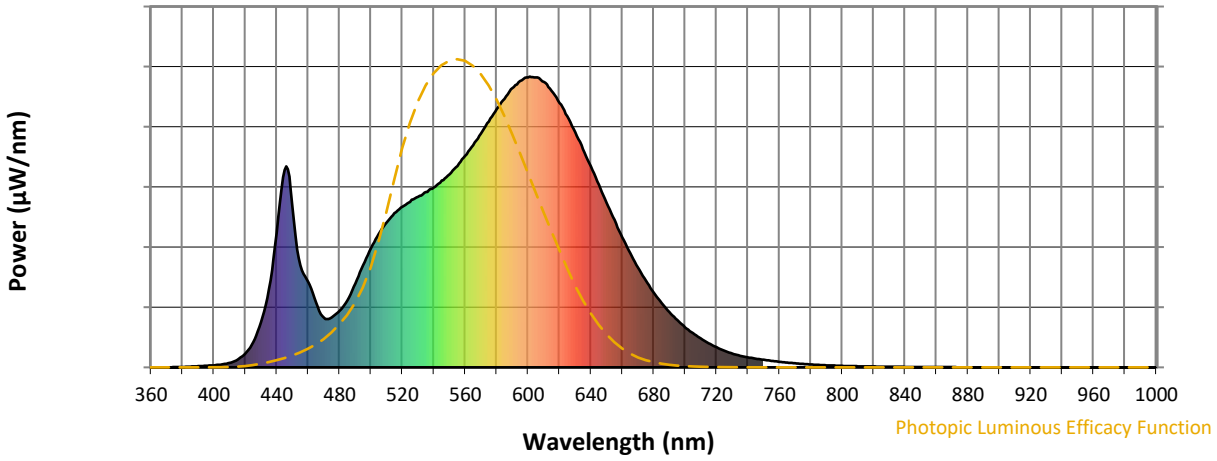


CCT = 3281K
CIE x = 0.4204
CIE y = 0.4020
Duv = 0.0018

Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2509-539-7

Photopic Flux vs. Wavelength

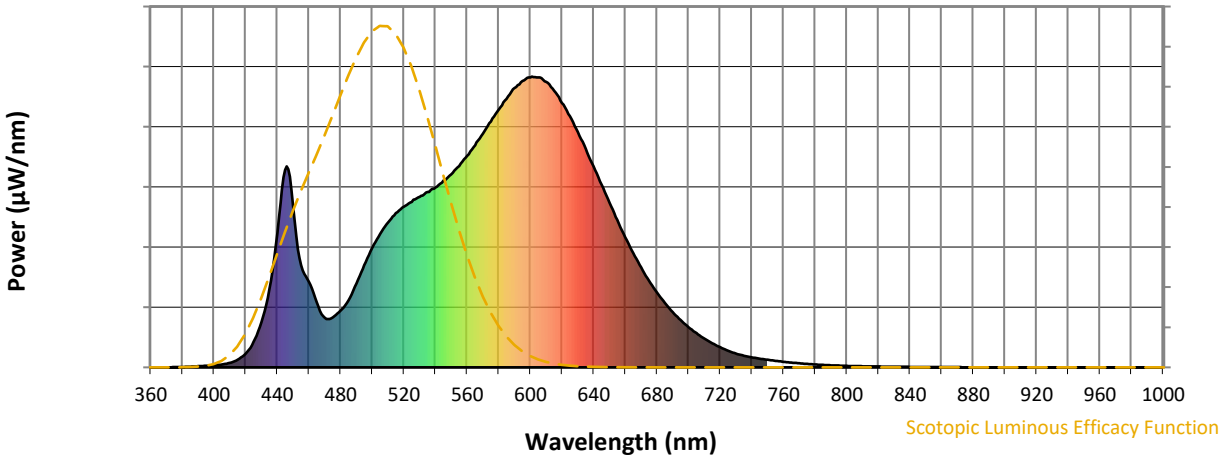


Photopic Lumens: NR

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	288	NR	620	909	NR	750	26	NR	880	0	NR
365	0	NR	495	351	NR	625	864	NR	755	22	NR	885	0	NR
370	0	NR	500	411	NR	630	809	NR	760	19	NR	890	0	NR
375	1	NR	505	459	NR	635	750	NR	765	16	NR	895	0	NR
380	2	NR	510	498	NR	640	691	NR	770	14	NR	900	0	NR
385	3	NR	515	530	NR	645	629	NR	775	12	NR	905	0	NR
390	4	NR	520	553	NR	650	566	NR	780	10	NR	910	0	NR
395	5	NR	525	569	NR	655	507	NR	785	8	NR	915	0	NR
400	7	NR	530	586	NR	660	447	NR	790	7	NR	920	0	NR
405	10	NR	535	603	NR	665	393	NR	795	6	NR	925	0	NR
410	16	NR	540	619	NR	670	343	NR	800	5	NR	930	0	NR
415	27	NR	545	642	NR	675	298	NR	805	4	NR	935	0	NR
420	48	NR	550	663	NR	680	257	NR	810	4	NR	940	0	NR
425	87	NR	555	692	NR	685	221	NR	815	3	NR	945	0	NR
430	155	NR	560	728	NR	690	190	NR	820	3	NR	950	0	NR
435	270	NR	565	763	NR	695	163	NR	825	2	NR	955	0	NR
440	462	NR	570	804	NR	700	138	NR	830	2	NR	960	0	NR
445	679	NR	575	845	NR	705	117	NR	835	2	NR	965	0	NR
450	553	NR	580	886	NR	710	99	NR	840	2	NR	970	0	NR
455	351	NR	585	924	NR	715	82	NR	845	1	NR	975	0	NR
460	295	NR	590	960	NR	720	69	NR	850	1	NR	980	0	NR
465	223	NR	595	985	NR	725	57	NR	855	1	NR	985	0	NR
470	170	NR	600	997	NR	730	47	NR	860	1	NR	990	0	NR
475	171	NR	605	997	NR	735	40	NR	865	1	NR	995	0	NR
480	195	NR	610	982	NR	740	34	NR	870	1	NR	1000	0	NR
485	230	NR	615	951	NR	745	30	NR	875	1	NR			

REPORT NUMBER: SP1-2509-539-7

Scotopic Flux vs. Wavelength

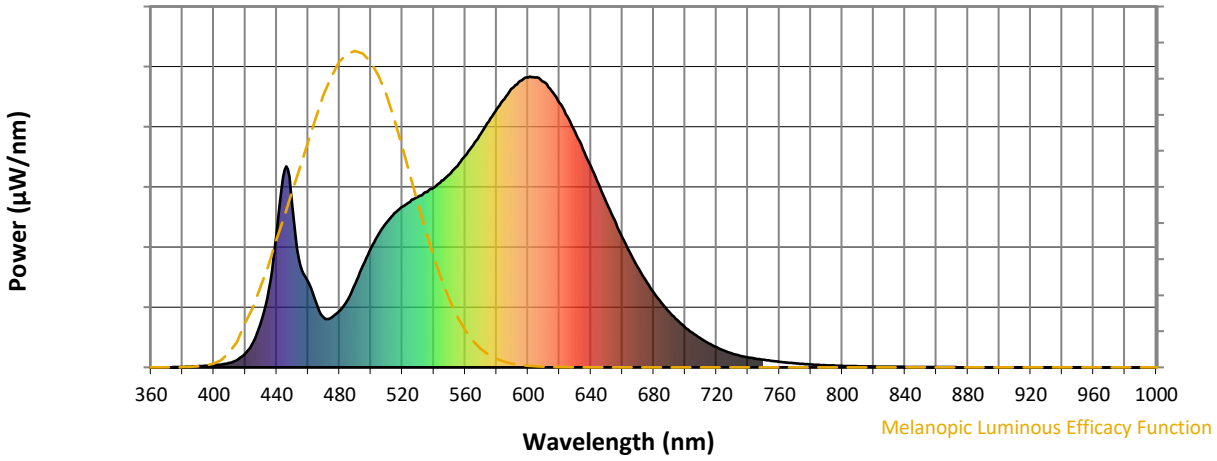


Scotopic Lumens: NR **S/P: 1.44**

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	288	NR	620	909	NR	750	26	NR	880	0	NR
365	0	NR	495	351	NR	625	864	NR	755	22	NR	885	0	NR
370	0	NR	500	411	NR	630	809	NR	760	19	NR	890	0	NR
375	1	NR	505	459	NR	635	750	NR	765	16	NR	895	0	NR
380	2	NR	510	498	NR	640	691	NR	770	14	NR	900	0	NR
385	3	NR	515	530	NR	645	629	NR	775	12	NR	905	0	NR
390	4	NR	520	553	NR	650	566	NR	780	10	NR	910	0	NR
395	5	NR	525	569	NR	655	507	NR	785	8	NR	915	0	NR
400	7	NR	530	586	NR	660	447	NR	790	7	NR	920	0	NR
405	10	NR	535	603	NR	665	393	NR	795	6	NR	925	0	NR
410	16	NR	540	619	NR	670	343	NR	800	5	NR	930	0	NR
415	27	NR	545	642	NR	675	298	NR	805	4	NR	935	0	NR
420	48	NR	550	663	NR	680	257	NR	810	4	NR	940	0	NR
425	87	NR	555	692	NR	685	221	NR	815	3	NR	945	0	NR
430	155	NR	560	728	NR	690	190	NR	820	3	NR	950	0	NR
435	270	NR	565	763	NR	695	163	NR	825	2	NR	955	0	NR
440	462	NR	570	804	NR	700	138	NR	830	2	NR	960	0	NR
445	679	NR	575	845	NR	705	117	NR	835	2	NR	965	0	NR
450	553	NR	580	886	NR	710	99	NR	840	2	NR	970	0	NR
455	351	NR	585	924	NR	715	82	NR	845	1	NR	975	0	NR
460	295	NR	590	960	NR	720	69	NR	850	1	NR	980	0	NR
465	223	NR	595	985	NR	725	57	NR	855	1	NR	985	0	NR
470	170	NR	600	997	NR	730	47	NR	860	1	NR	990	0	NR
475	171	NR	605	997	NR	735	40	NR	865	1	NR	995	0	NR
480	195	NR	610	982	NR	740	34	NR	870	1	NR	1000	0	NR
485	230	NR	615	951	NR	745	30	NR	875	1	NR			

REPORT NUMBER: SP1-2509-539-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.79**

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	288	NR	620	909	NR	750	26	NR	880	0	NR
365	0	NR	495	351	NR	625	864	NR	755	22	NR	885	0	NR
370	0	NR	500	411	NR	630	809	NR	760	19	NR	890	0	NR
375	1	NR	505	459	NR	635	750	NR	765	16	NR	895	0	NR
380	2	NR	510	498	NR	640	691	NR	770	14	NR	900	0	NR
385	3	NR	515	530	NR	645	629	NR	775	12	NR	905	0	NR
390	4	NR	520	553	NR	650	566	NR	780	10	NR	910	0	NR
395	5	NR	525	569	NR	655	507	NR	785	8	NR	915	0	NR
400	7	NR	530	586	NR	660	447	NR	790	7	NR	920	0	NR
405	10	NR	535	603	NR	665	393	NR	795	6	NR	925	0	NR
410	16	NR	540	619	NR	670	343	NR	800	5	NR	930	0	NR
415	27	NR	545	642	NR	675	298	NR	805	4	NR	935	0	NR
420	48	NR	550	663	NR	680	257	NR	810	4	NR	940	0	NR
425	87	NR	555	692	NR	685	221	NR	815	3	NR	945	0	NR
430	155	NR	560	728	NR	690	190	NR	820	3	NR	950	0	NR
435	270	NR	565	763	NR	695	163	NR	825	2	NR	955	0	NR
440	462	NR	570	804	NR	700	138	NR	830	2	NR	960	0	NR
445	679	NR	575	845	NR	705	117	NR	835	2	NR	965	0	NR
450	553	NR	580	886	NR	710	99	NR	840	2	NR	970	0	NR
455	351	NR	585	924	NR	715	82	NR	845	1	NR	975	0	NR
460	295	NR	590	960	NR	720	69	NR	850	1	NR	980	0	NR
465	223	NR	595	985	NR	725	57	NR	855	1	NR	985	0	NR
470	170	NR	600	997	NR	730	47	NR	860	1	NR	990	0	NR
475	171	NR	605	997	NR	735	40	NR	865	1	NR	995	0	NR
480	195	NR	610	982	NR	740	34	NR	870	1	NR	1000	0	NR
485	230	NR	615	951	NR	745	30	NR	875	1	NR			

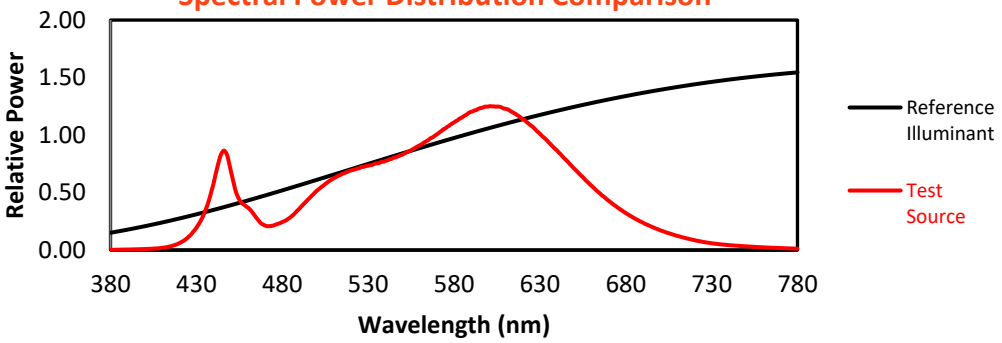
REPORT NUMBER: SP1-2509-539-7

TM-30-18

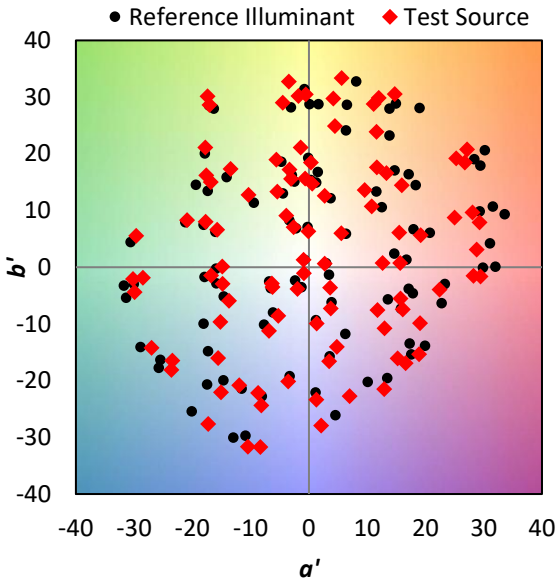
Summary

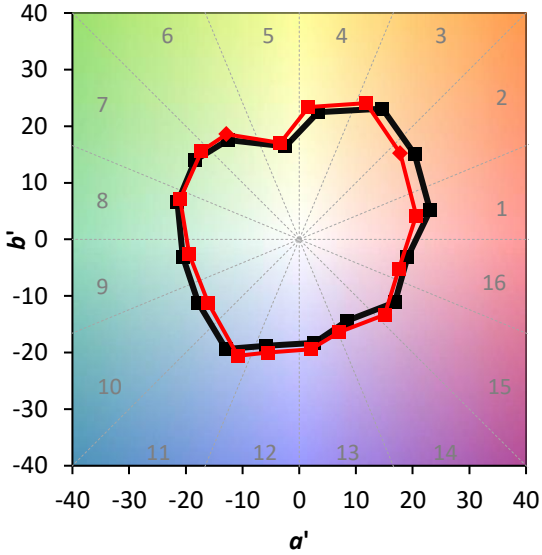
R_f = 85.8
R_g = 97.6
CIE R_a = 83.9
R_9 = 9.4

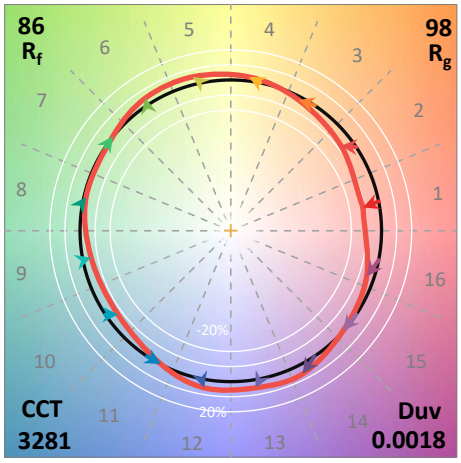
Spectral Power Distribution Comparison

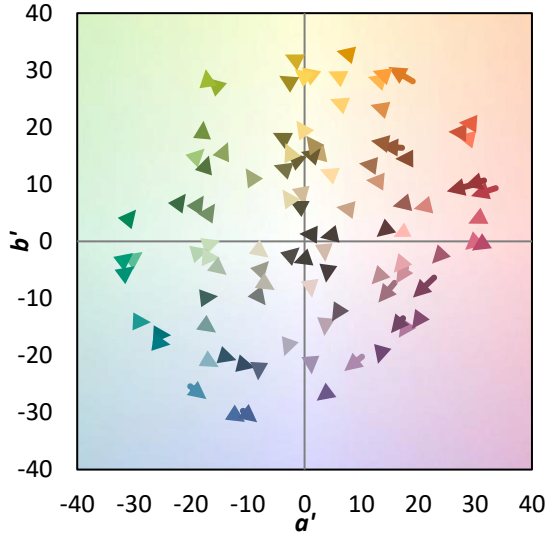


Color Vector Graphics







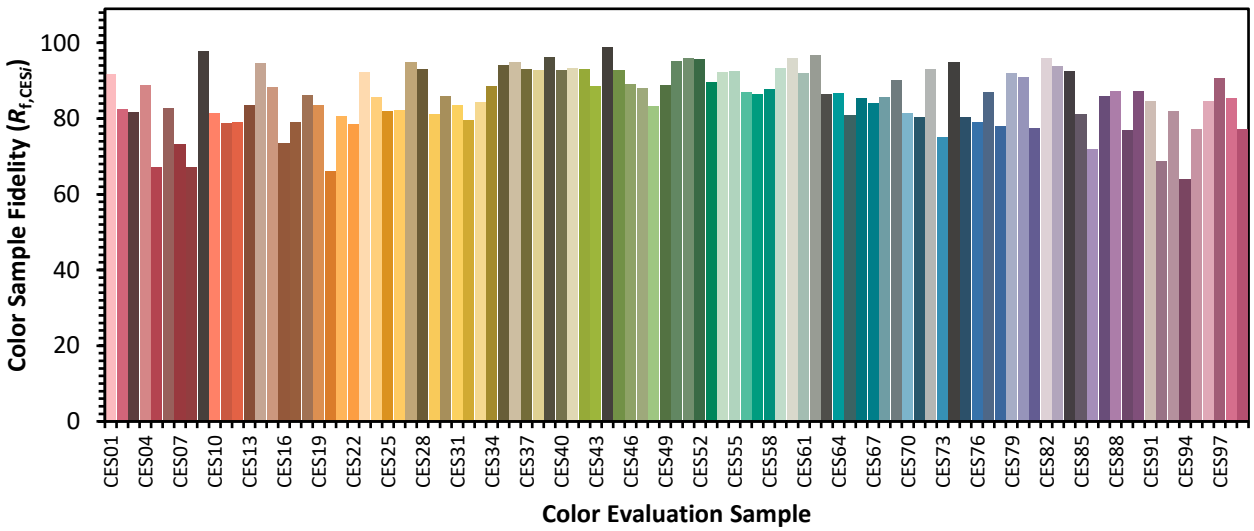


REPORT NUMBER: SP1-2509-539-7

TM-30-18

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

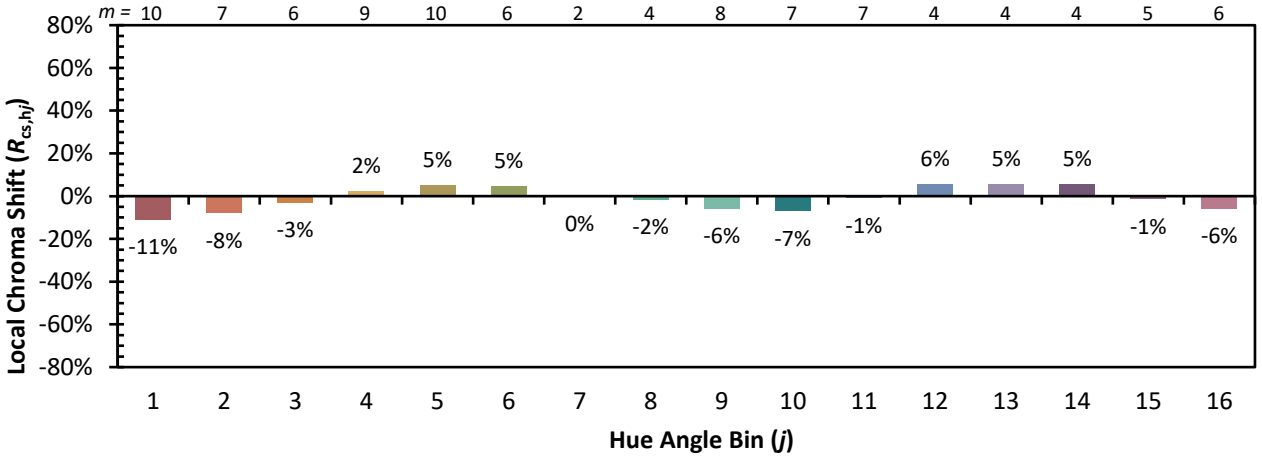
CES01 = 86	CES26 = 82	CES51 = 96	CES76 = 79
CES02 = 62	CES27 = 95	CES52 = 96	CES77 = 87
CES03 = 31	CES28 = 93	CES53 = 90	CES78 = 78
CES04 = 70	CES29 = 81	CES54 = 92	CES79 = 92
CES05 = 49	CES30 = 86	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 84	CES56 = 87	CES81 = 77
CES07 = 42	CES32 = 80	CES57 = 86	CES82 = 96
CES08 = 40	CES33 = 84	CES58 = 88	CES83 = 94
CES09 = 29	CES34 = 89	CES59 = 93	CES84 = 93
CES10 = 75	CES35 = 94	CES60 = 96	CES85 = 81
CES11 = 58	CES36 = 95	CES61 = 92	CES86 = 72
CES12 = 64	CES37 = 93	CES62 = 97	CES87 = 86
CES13 = 43	CES38 = 93	CES63 = 87	CES88 = 87
CES14 = 74	CES39 = 96	CES64 = 87	CES89 = 77
CES15 = 71	CES40 = 93	CES65 = 81	CES90 = 87
CES16 = 47	CES41 = 93	CES66 = 85	CES91 = 85
CES17 = 50	CES42 = 93	CES67 = 84	CES92 = 69
CES18 = 56	CES43 = 89	CES68 = 86	CES93 = 82
CES19 = 72	CES44 = 99	CES69 = 90	CES94 = 64
CES20 = 66	CES45 = 93	CES70 = 81	CES95 = 77
CES21 = 86	CES46 = 89	CES71 = 80	CES96 = 85
CES22 = 79	CES47 = 88	CES72 = 93	CES97 = 91
CES23 = 92	CES48 = 83	CES73 = 75	CES98 = 85
CES24 = 91	CES49 = 89	CES74 = 95	CES99 = 77
CES25 = 72	CES50 = 95	CES75 = 80	

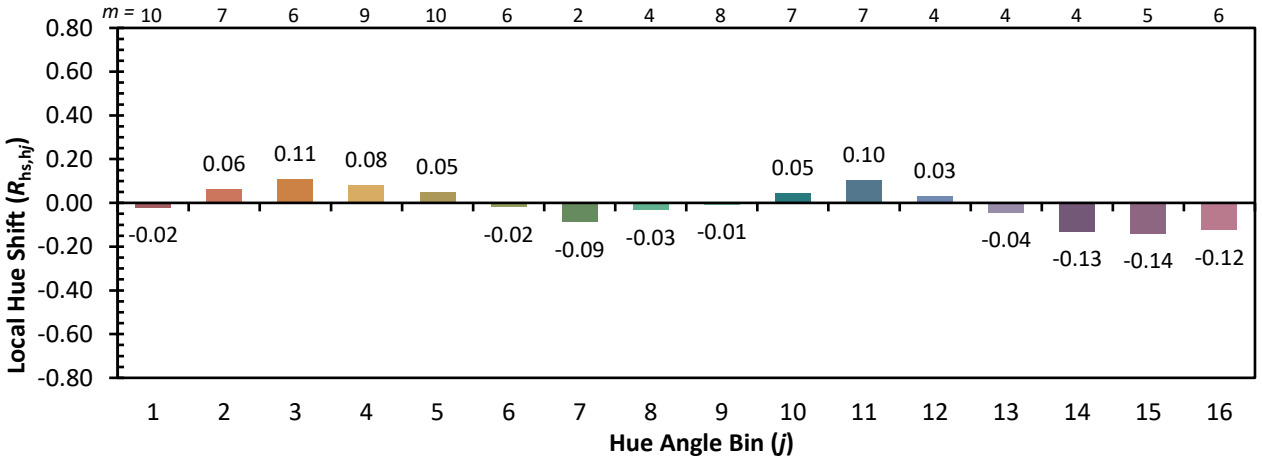


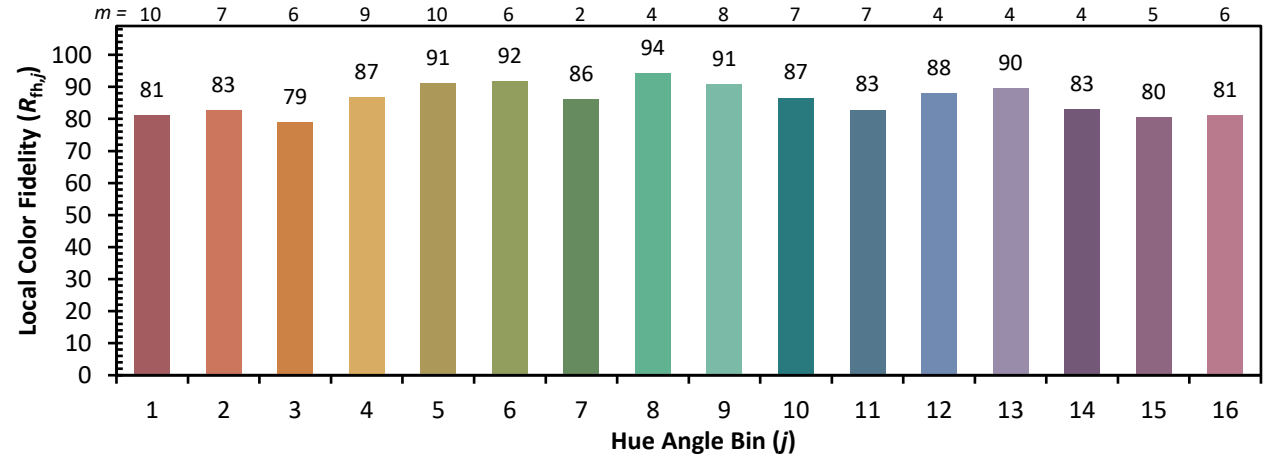
REPORT NUMBER: SP1-2509-539-7

TM-30-18

Color Rendition by Hue-Angle Bin







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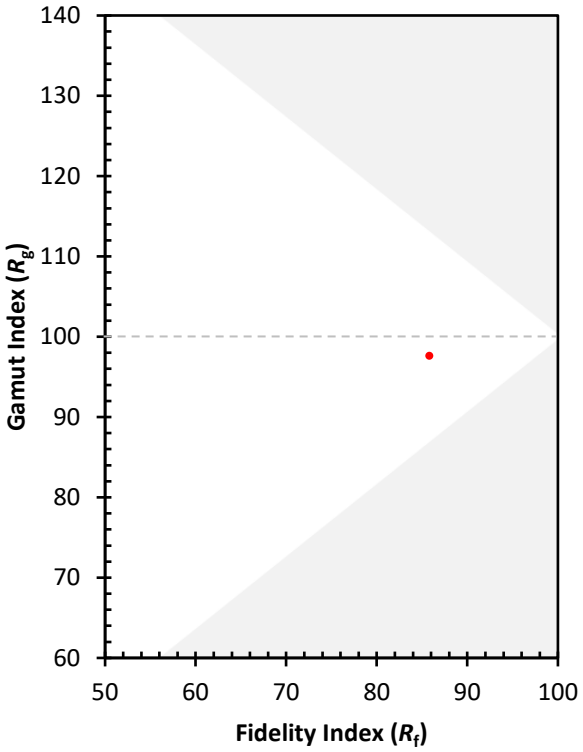
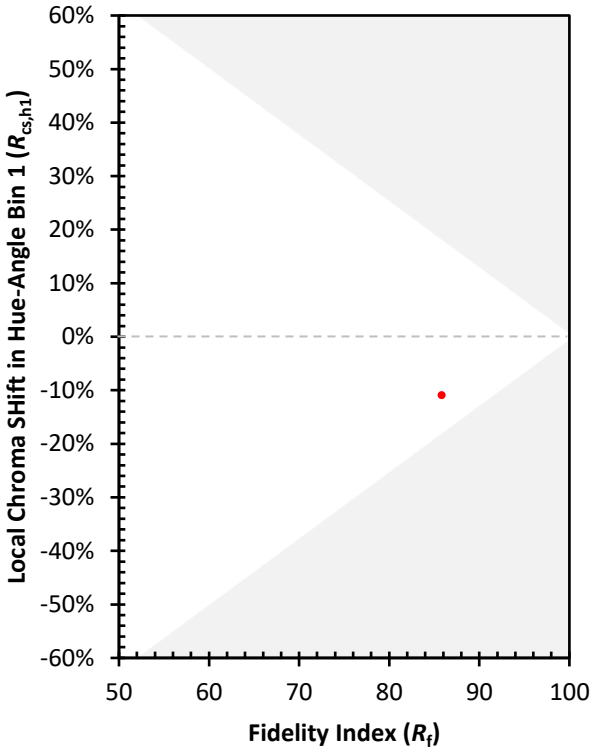
Measure Comparisons





(END OF REPORT)