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: P1459756

Luminaire Tested: ABB-CX-830-X-U-S-GM-CBP

Issue Date: 5/26/2026

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-2024
Report Number:	P1459756
	TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-539-31)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	5/27/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	INVUE
Catalog Number:	ABB-CX-830-X-U-S-GM-CBP
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:	254.8 lumens
Efficiency:	N/A
Efficacy:	43.9 lumens/watt
Luminous Opening:	Circular (Dia: 0.4' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B0 - U0 - G0

Input Watts (W):	5.8
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	N/R
Total Harmonic Distortion (THDi):	N/R
Frequency (hertz):	60
Stabilization Time:	HR
Operation Time:	3 HR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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REPORT NUMBER: P1459756
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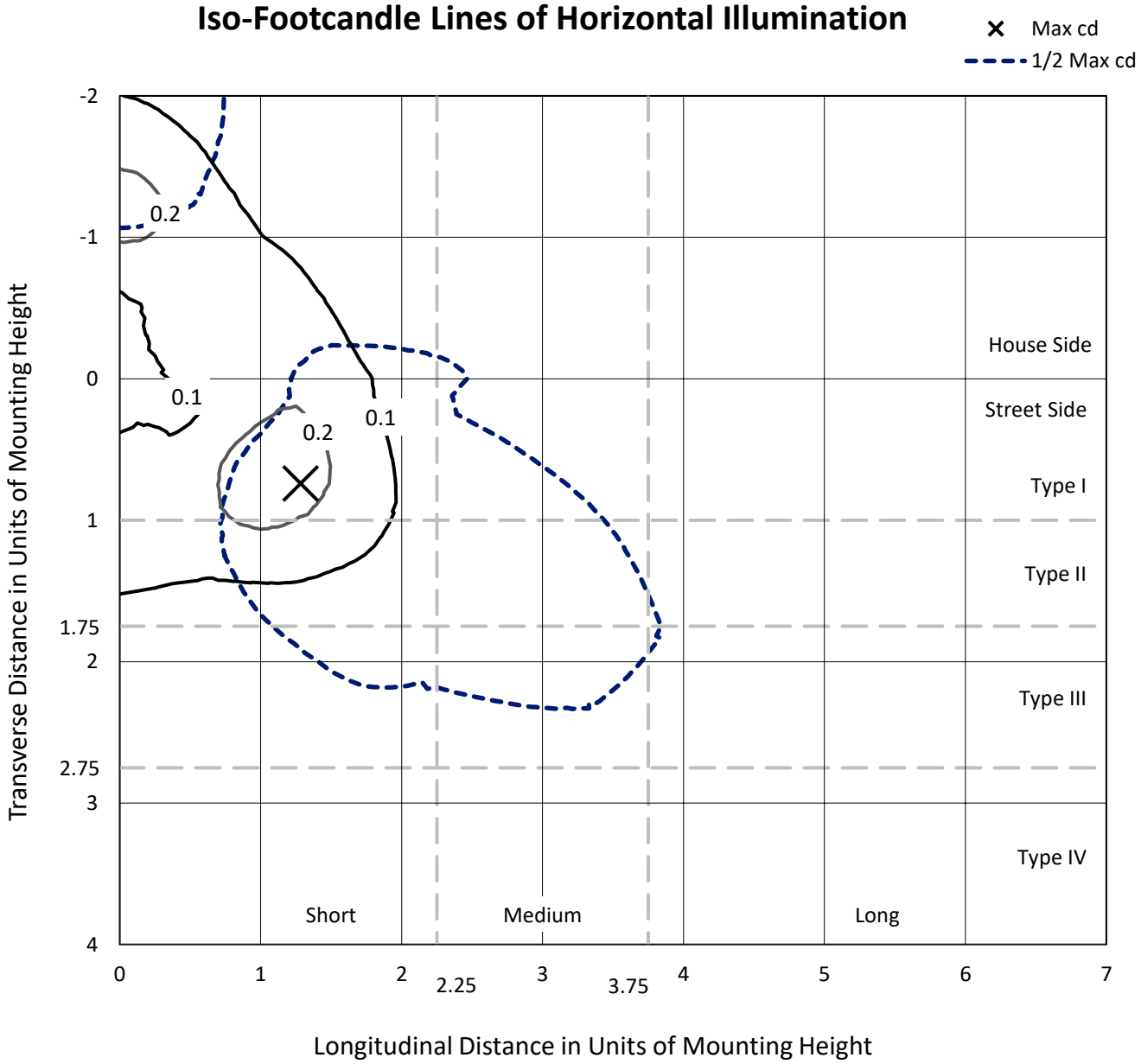
Iso-Footcandle Lines of Horizontal Illumination



Based on 10 foot mounting height. Maximum calculated value = 0.3 fc
Type III - Short - N/A

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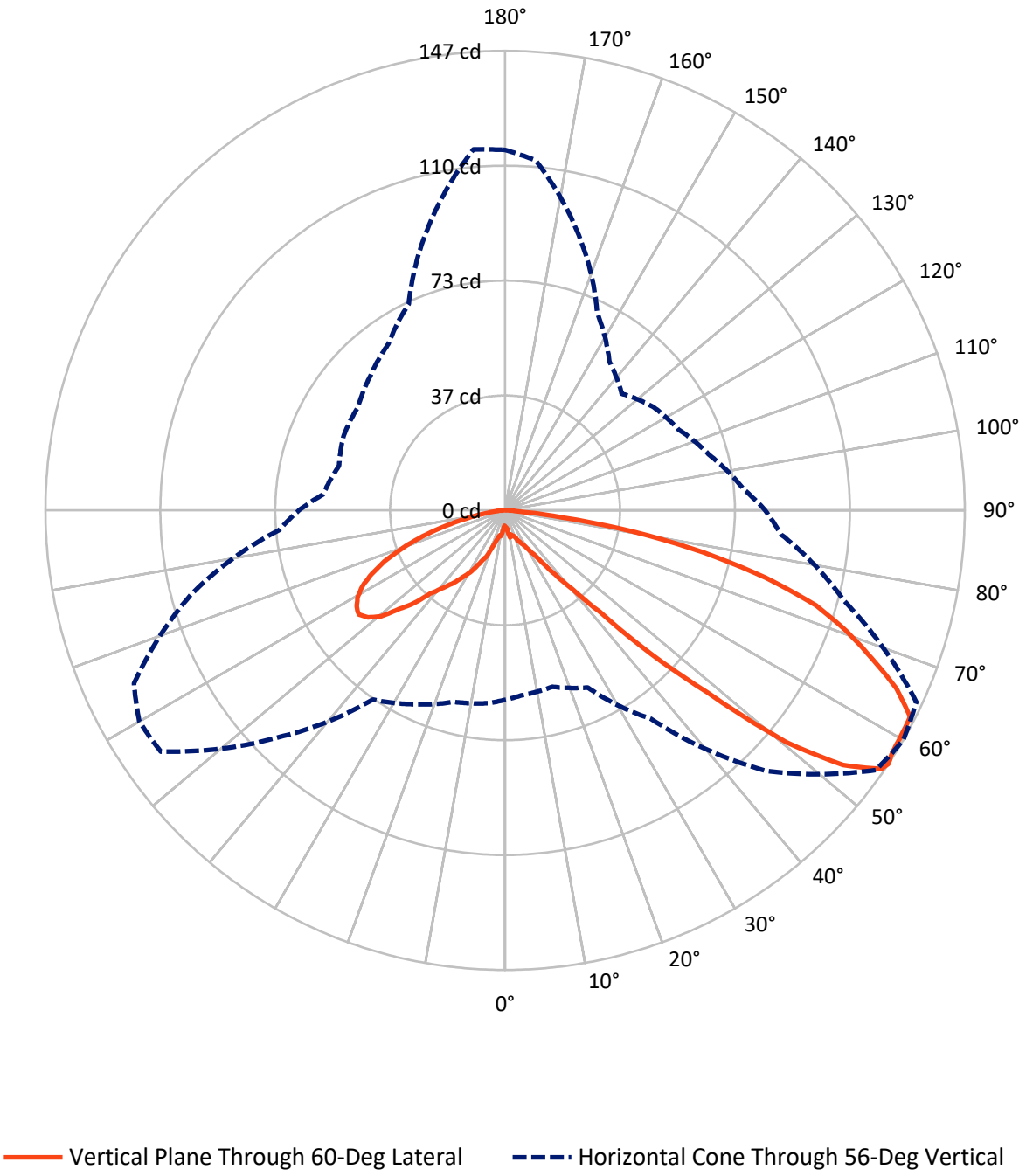
Luminous Intensity Polar Plot



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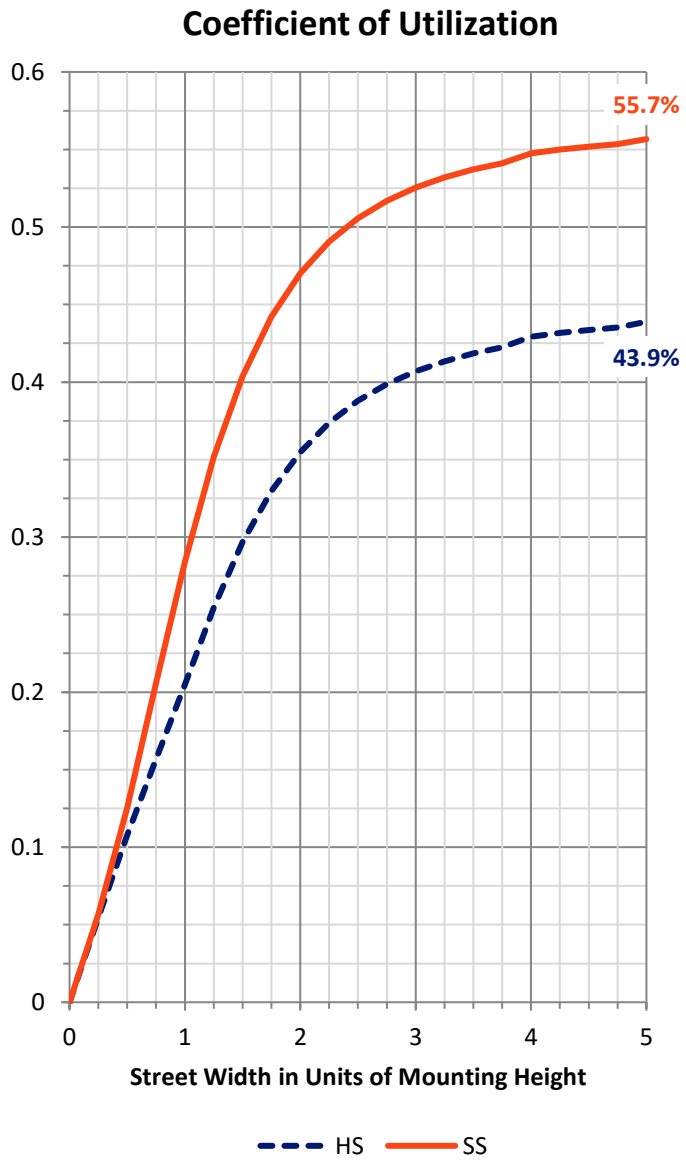
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	112.1	0.0	112.1
	% Fixture	44.0	0.0	44.0
Street Side	Lumens	142.7	0.0	142.7
	% Fixture	56.0	0.0	56.0
Total	Lumens	254.8	0.0	254.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.6	0.3
10°-20°	2.7	1.1
20°-30°	6.8	2.7
30°-40°	14.9	5.8
40°-50°	36.9	14.5
50°-60°	71.0	27.9
60°-70°	72.2	28.3
70°-80°	43.3	17.0
80°-90°	6.4	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°	254.8	100.0
0°-180°	254.8	100.0



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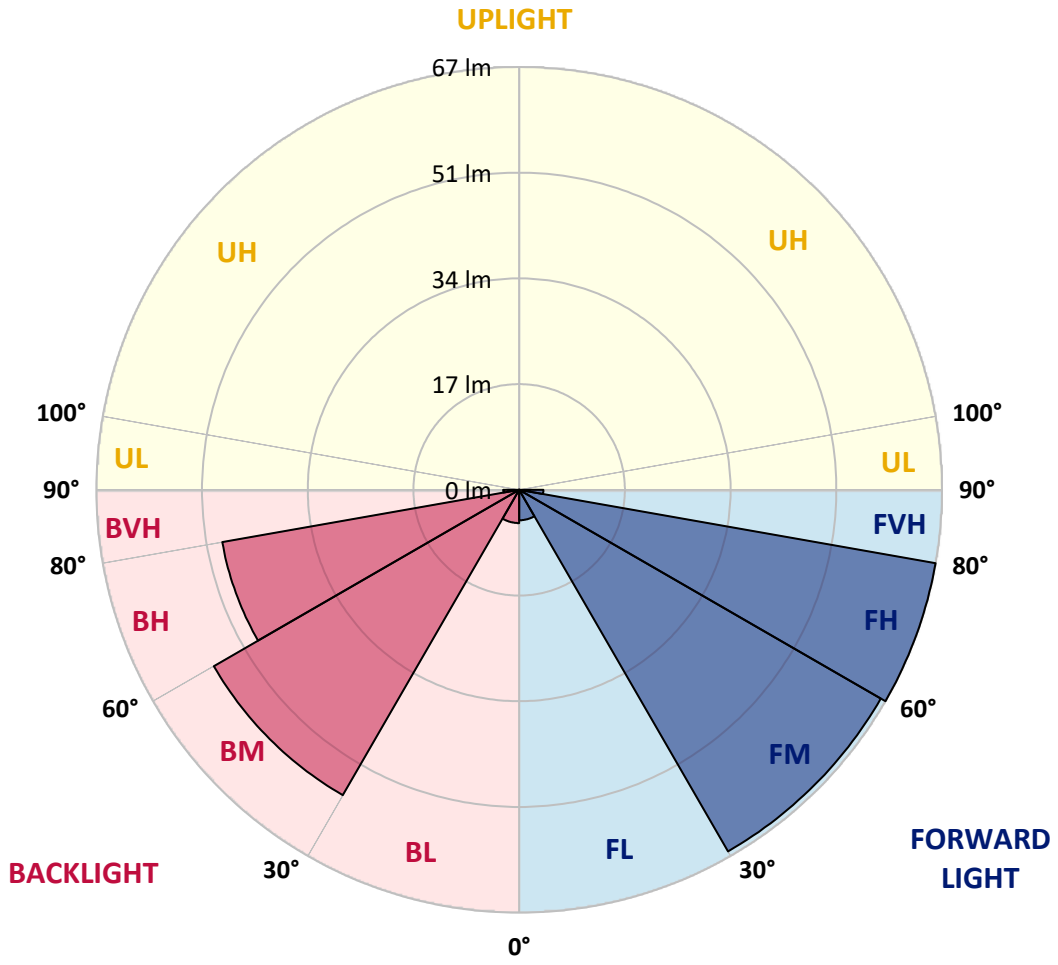
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	4.9	1.9			
FM	(30°-60°)	66.6	26.1			
FH	(60°-80°)	67.4	26.5			G0/660
FVH	(80°-90°)	3.9	1.5			G0/10
BL	(0°-30°)	5.3	2.1	B0/110		
BM	(30°-60°)	56.2	22.1	B0/220		
BH	(60°-80°)	48.1	18.9	B0/110		G0/110
BVH	(80°-90°)	2.5	1.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G0
Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	*5.3*	5.3	5.3	5.3
2.5°	6.3	6.3	6.9	7.2	6.9	6.3	5.9	*5.9*	5.9	5.6	5.0
5°	8.8	8.1	7.2	7.2	6.9	6.6	5.6	*5.6*	5.6	5.0	4.7
7.5°	8.5	9.4	9.4	9.4	9.1	9.1	8.1	*7.5*	7.5	6.6	6.9
10°	9.1	9.1	8.8	10.3	9.7	9.7	8.8	*8.8*	8.8	8.5	8.5
12.5°	8.5	8.1	8.8	9.4	8.5	9.1	8.5	*7.8*	7.8	8.5	8.8
15°	8.8	9.1	9.4	10.3	10.0	9.4	8.5	*8.5*	8.5	9.7	9.7
17.5°	10.0	10.6	10.6	11.0	11.0	10.0	8.5	*8.5*	8.8	9.7	11.0
20°	11.6	11.6	11.6	11.6	11.6	10.6	9.1	*9.1*	9.7	10.3	11.6
22.5°	13.8	13.8	14.7	13.5	13.1	11.3	10.6	*10.3*	11.3	11.0	12.5
25°	16.9	17.8	16.9	14.4	14.1	12.2	11.3	*11.3*	11.6	13.1	13.5
27.5°	20.0	20.7	17.8	15.6	16.0	13.8	12.8	*12.5*	13.1	14.7	15.6
30°	21.9	22.2	19.7	17.2	17.8	15.6	14.7	*14.1*	14.7	16.6	18.5
32.5°	24.1	24.7	22.2	19.4	19.7	19.4	17.8	*16.6*	16.6	18.5	20.0
35°	27.2	26.9	24.1	21.3	21.9	23.2	22.5	*20.3*	20.0	20.0	22.8
37.5°	29.7	29.1	27.2	23.8	24.4	26.9	28.2	*26.0*	25.0	23.5	25.7
40°	32.2	32.2	30.0	26.3	29.1	32.9	36.0	*32.9*	31.3	28.5	28.8
42.5°	35.4	35.7	34.1	30.7	35.4	43.2	48.8	*44.1*	41.6	36.0	34.1
45°	41.6	42.9	41.3	38.2	44.4	57.9	68.2	*65.4*	61.3	48.5	44.1
47.5°	46.6	47.6	46.0	43.5	52.9	72.6	91.1	*86.7*	85.1	62.9	55.1
50°	53.5	53.5	52.9	52.6	65.7	96.7	115.2	*116.1*	116.4	83.3	70.7
52.5°	57.6	57.0	56.3	58.5	75.4	108.0	133.0	*134.9*	136.5	99.2	81.1
55°	60.1	59.2	58.2	62.0	80.1	116.1	142.7	*145.5*	144.0	109.5	86.4
56°	*60.4*	*59.2*	*58.2*	*62.3*	*81.1*	*117.4*	*144.3*	*146.5*	*144.6*	*112.0*	*88.3*
57.5°	60.1	58.8	57.6	62.6	81.4	117.4	143.7	*145.5*	145.2	113.9	89.5
60°	58.8	57.6	55.7	62.6	82.0	115.2	141.8	*145.2*	145.9	114.6	89.8
62.5°	56.7	56.0	52.9	61.7	81.1	110.5	141.2	*144.9*	144.3	111.7	86.1
65°	52.6	52.3	48.5	59.8	77.0	102.3	133.0	*137.1*	135.2	105.8	78.2
67.5°	47.3	46.6	43.2	56.3	72.9	92.6	123.6	*126.1*	125.5	98.9	69.5
70°	40.7	40.7	38.2	51.3	68.9	81.4	112.7	*115.5*	116.4	90.8	61.3
72.5°	33.8	34.1	32.9	45.1	62.6	69.2	98.9	*103.6*	104.5	80.1	51.0
75°	26.3	26.6	26.6	37.6	53.8	54.8	82.3	*85.8*	87.0	67.0	40.1
77.5°	18.8	18.8	19.7	28.5	43.2	38.5	62.3	*64.8*	67.0	50.7	26.9
80°	12.2	11.6	12.8	18.2	28.8	23.2	39.7	*41.6*	43.8	31.9	15.0
82.5°	7.2	6.6	7.2	8.5	12.2	10.6	18.2	*18.5*	23.5	14.1	6.3
85°	3.4	3.4	3.1	3.4	3.1	3.8	3.4	*3.4*	4.1	2.5	2.8
87.5°	2.5	2.2	2.2	2.2	2.2	2.8	2.5	*2.5*	2.8	1.9	2.2
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: P1459756
CATALOG NUMBER: ABB-CX-830-X-U-S-GM-CBP

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
2.5°	5.0	4.7	4.4	4.4	4.1	4.7	5.3	5.3	5.0	5.0	5.0
5°	5.0	5.3	5.6	6.3	6.9	6.3	5.9	5.3	4.7	4.4	4.4
7.5°	7.5	7.5	6.9	7.2	7.5	6.9	7.2	6.9	6.3	5.9	5.6
10°	8.5	8.8	10.0	9.4	9.1	9.1	8.8	8.5	7.8	7.2	6.9
12.5°	9.4	9.7	10.0	9.1	10.0	9.7	9.4	8.5	8.1	7.5	7.5
15°	10.0	10.6	10.3	10.6	10.3	10.3	10.0	9.1	8.8	7.5	7.2
17.5°	11.6	11.6	12.2	11.9	11.0	11.6	11.0	10.3	9.4	8.1	8.1
20°	12.2	13.1	13.5	13.5	12.8	13.1	13.5	12.5	11.0	10.0	10.0
22.5°	13.8	14.4	15.3	16.6	15.0	15.0	14.7	12.5	10.6	11.0	10.3
25°	15.6	15.0	16.3	18.5	17.2	15.6	16.0	14.1	12.5	12.2	11.6
27.5°	17.2	17.2	19.1	21.9	18.8	17.8	17.2	15.6	13.8	13.1	13.1
30°	21.3	19.7	21.9	23.5	22.8	18.8	18.8	16.9	15.6	14.7	15.0
32.5°	23.8	22.5	24.7	25.7	25.4	20.7	20.7	19.4	18.5	17.8	16.9
35°	26.3	26.6	26.9	28.2	27.5	24.4	22.2	21.3	21.3	21.3	20.7
37.5°	29.4	29.7	30.0	30.7	29.7	26.9	24.7	23.8	24.7	26.3	25.0
40°	32.6	33.8	32.9	33.2	32.6	30.0	28.5	27.9	30.0	33.5	31.6
42.5°	38.8	38.8	37.6	36.6	35.7	33.5	32.9	34.1	38.5	44.4	42.3
45°	46.9	46.6	44.4	42.9	41.6	39.1	39.1	42.9	51.6	60.7	61.0
47.5°	61.0	55.1	51.3	48.8	46.6	43.8	44.1	51.0	63.2	77.3	77.6
50°	72.3	67.6	61.0	55.4	52.6	49.5	51.0	61.3	78.2	91.1	94.2
52.5°	79.2	73.9	65.4	59.5	56.0	52.6	55.4	67.9	87.0	103.3	106.7
55°	81.7	75.7	67.9	61.3	57.6	53.2	57.9	69.8	90.5	110.8	114.2
56°	*82.9*	*76.4*	*67.6*	*61.0*	*57.6*	*52.6*	*57.9*	*69.5*	*90.8*	*112.0*	*114.9*
57.5°	84.2	76.1	67.0	60.7	57.3	52.0	57.9	68.9	90.5	112.0	115.2
60°	86.7	76.1	64.2	59.2	55.1	50.1	57.3	68.9	89.2	110.2	115.5
62.5°	84.8	75.4	60.4	55.7	53.2	47.9	55.1	67.9	86.1	108.6	115.5
65°	80.1	73.2	54.8	50.7	48.8	43.8	51.6	65.4	80.4	103.3	109.2
67.5°	74.2	70.1	48.8	44.8	43.2	39.4	47.3	60.7	72.6	93.0	98.9
70°	66.0	66.0	42.6	38.2	37.2	33.8	42.3	55.7	62.0	81.7	87.3
72.5°	54.5	56.7	37.2	31.0	30.4	28.5	36.0	48.8	50.7	69.8	75.7
75°	41.6	45.7	30.0	23.8	23.2	22.5	28.5	40.1	39.1	55.1	61.0
77.5°	27.5	32.2	21.9	16.9	16.0	16.3	20.3	30.7	27.2	39.1	44.1
80°	13.5	17.5	13.5	11.3	10.0	10.6	12.5	19.4	15.3	22.8	27.5
82.5°	4.4	5.6	6.6	6.3	5.6	5.6	5.9	7.8	6.9	8.5	11.6
85°	2.2	2.5	3.1	3.1	2.8	2.8	2.8	3.1	3.4	3.1	3.1
87.5°	1.6	1.6	2.5	2.5	2.2	2.2	2.2	2.2	2.8	2.5	2.5
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°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
2.5°	5.3	5.3	5.3	5.3	4.7	5.0	4.7	5.0	5.0	5.0	5.0
5°	4.7	5.0	5.3	5.0	5.6	5.6	5.6	5.3	4.4	4.4	4.4
7.5°	6.3	6.6	6.6	5.9	6.6	7.5	7.2	6.9	5.9	5.6	5.3
10°	7.5	8.8	7.8	8.8	9.1	8.8	7.8	7.2	8.5	8.1	7.8
12.5°	7.5	8.1	8.8	10.0	11.0	8.5	7.8	8.8	8.5	8.5	7.8
15°	7.5	9.1	9.7	10.6	11.6	10.0	8.1	9.4	10.0	9.7	9.1
17.5°	8.5	9.4	10.0	11.6	12.5	11.6	9.7	10.3	11.0	11.9	11.3
20°	9.7	10.3	10.6	12.5	12.8	13.8	11.6	11.6	11.6	12.2	11.9
22.5°	11.0	12.2	12.2	13.8	14.1	16.3	15.3	12.2	11.6	13.1	12.8
25°	11.6	12.8	13.8	15.0	15.6	17.8	17.2	14.7	13.5	13.8	13.8
27.5°	13.5	14.4	15.3	16.3	18.5	19.4	20.7	16.6	15.3	15.3	15.3
30°	14.4	16.0	17.2	19.1	21.0	21.9	23.5	18.2	16.6	16.9	16.9
32.5°	16.9	17.5	19.4	21.6	22.8	24.7	25.0	20.3	18.5	18.5	18.2
35°	19.7	19.7	21.3	24.4	25.4	27.9	26.9	23.2	20.7	20.7	20.3
37.5°	24.1	23.2	24.1	27.2	28.5	30.4	29.4	26.0	23.2	23.5	23.2
40°	29.7	27.5	27.2	30.7	31.3	33.2	31.9	29.1	26.6	26.9	26.6
42.5°	38.8	33.5	32.9	34.4	35.1	36.3	35.1	32.9	31.3	32.2	32.9
45°	57.0	46.0	41.9	42.9	42.3	42.3	40.7	39.4	37.9	39.1	41.0
47.5°	74.2	58.8	52.6	48.5	47.3	46.6	45.4	44.4	42.3	45.4	49.8
50°	90.8	73.6	63.5	58.8	56.3	52.3	51.6	50.7	50.7	55.4	60.4
52.5°	105.5	85.8	70.7	64.2	60.1	56.0	54.8	53.8	55.4	62.6	67.9
55°	115.2	93.0	72.6	65.1	61.0	57.6	56.7	55.1	57.9	65.4	72.0
56°	*115.5*	*93.9*	*72.6*	*64.8*	*60.7*	*57.3*	*56.7*	*54.8*	*58.2*	*65.7*	*72.3*
57.5°	115.2	94.8	72.0	64.5	59.8	56.7	56.0	53.8	58.2	66.0	72.9
60°	112.7	94.2	70.1	64.2	57.3	54.5	54.5	51.3	57.3	66.7	73.6
62.5°	113.3	92.0	67.0	62.3	53.2	51.0	52.0	48.2	55.1	66.7	73.2
65°	108.9	88.6	61.3	58.8	48.5	46.0	48.2	43.2	52.0	63.5	69.8
67.5°	98.9	81.7	55.4	55.1	43.2	40.7	42.9	38.5	47.6	59.8	66.0
70°	87.6	72.0	47.9	49.5	37.9	34.4	36.6	32.9	42.6	54.8	61.7
72.5°	76.1	60.7	38.8	41.9	31.9	28.2	29.7	27.5	36.6	47.9	54.1
75°	61.7	47.9	29.1	33.2	25.4	21.6	22.2	21.6	29.7	39.4	45.1
77.5°	45.1	34.4	19.1	23.5	18.2	15.0	15.3	15.6	21.9	29.1	34.1
80°	27.5	21.9	10.6	13.8	11.3	10.0	9.4	10.0	13.8	17.8	21.0
82.5°	11.0	8.8	4.4	5.3	5.6	5.6	5.3	5.3	6.6	6.9	6.6
85°	3.1	2.2	2.5	2.2	2.8	2.8	2.5	2.2	2.5	2.5	2.5
87.5°	2.5	1.6	1.9	1.6	2.2	2.5	1.9	1.9	1.9	1.9	1.9
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: P1459756
CATALOG NUMBER: ABB-CX-830-X-U-S-GM-CBP

CANDELA DISTRIBUTION (continued):

	285°	295°	300°	305°	315°	325°	335°	345°	355°	360°
0°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
2.5°	5.0	5.3	5.3	5.6	5.9	6.3	6.3	6.3	6.3	6.3
5°	4.7	4.4	4.4	4.1	4.4	5.0	5.6	6.3	7.8	8.8
7.5°	5.6	5.6	5.6	5.6	5.3	5.6	6.6	7.5	8.5	8.5
10°	7.8	7.5	7.2	7.5	7.5	6.9	7.8	9.1	9.7	9.1
12.5°	7.5	7.2	6.9	6.9	7.2	7.5	9.1	10.0	8.5	8.5
15°	8.5	7.8	7.5	7.5	7.5	8.8	10.0	10.6	8.8	8.8
17.5°	9.4	8.1	7.5	7.8	8.5	9.4	11.0	11.0	10.0	10.0
20°	10.0	8.8	8.5	9.1	9.1	11.0	11.3	11.9	11.6	11.6
22.5°	11.0	9.4	9.1	9.4	10.3	11.9	12.8	14.4	12.8	13.8
25°	12.2	10.6	10.6	10.3	11.3	12.8	14.4	15.3	15.3	16.9
27.5°	13.5	12.5	12.5	12.2	12.2	14.1	16.6	17.2	19.1	20.0
30°	15.3	15.0	14.4	14.1	14.1	15.0	18.2	20.7	22.8	21.9
32.5°	17.8	17.8	17.2	17.5	16.3	17.2	20.7	23.2	24.4	24.1
35°	20.7	21.3	20.7	20.3	19.1	19.7	22.8	26.3	27.2	27.2
37.5°	25.4	25.7	25.0	24.1	22.5	22.2	26.0	28.5	29.7	29.7
40°	31.3	33.2	31.6	29.7	26.3	25.7	29.4	31.3	32.6	32.2
42.5°	39.4	42.3	41.9	39.1	31.3	29.4	33.5	35.1	35.7	35.4
45°	53.2	60.7	62.3	58.8	43.5	37.9	42.6	43.5	42.9	41.6
47.5°	65.1	76.7	82.3	77.6	53.8	45.1	49.1	49.8	47.9	46.6
50°	85.1	102.3	105.2	102.3	74.8	57.6	58.8	57.9	55.1	53.5
52.5°	96.1	118.3	122.4	119.9	90.5	67.3	65.1	61.7	59.2	57.6
55°	102.0	128.9	134.3	132.4	99.8	72.9	67.9	63.5	61.7	60.1
56°	*103.6*	*130.5*	*134.6*	*134.0*	*102.3*	*73.6*	*68.2*	*63.2*	*61.7*	*60.4*
57.5°	104.2	130.5	133.6	133.3	104.5	73.6	67.9	62.3	61.3	60.1
60°	101.7	128.6	130.8	130.2	105.5	73.2	67.6	59.8	59.5	58.8
62.5°	95.1	127.1	131.8	130.8	104.5	70.7	67.6	55.7	56.3	56.7
65°	88.6	120.2	125.8	125.8	100.5	65.7	66.0	51.0	51.0	52.6
67.5°	79.8	109.9	115.8	116.1	93.6	58.5	62.9	46.3	45.4	47.3
70°	68.2	97.3	103.9	103.9	84.8	51.0	58.5	41.0	38.8	40.7
72.5°	57.0	83.9	91.4	91.7	73.6	43.2	52.0	35.7	31.9	33.8
75°	44.8	67.9	75.4	77.3	61.7	34.1	43.2	30.0	25.0	26.3
77.5°	31.9	50.7	57.0	57.6	47.3	24.4	32.6	22.5	17.8	18.8
80°	19.4	32.2	37.2	40.1	31.3	15.0	20.3	14.7	11.9	12.2
82.5°	8.5	14.1	17.2	19.7	14.7	7.2	6.6	7.5	6.9	7.2
85°	3.1	3.1	3.4	3.8	2.8	2.8	2.5	3.4	3.4	3.4
87.5°	2.5	2.5	2.5	2.5	1.9	2.2	1.6	2.5	2.5	2.5
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

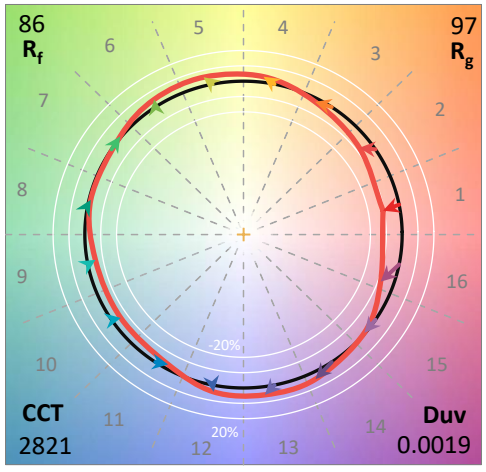
Test Information

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

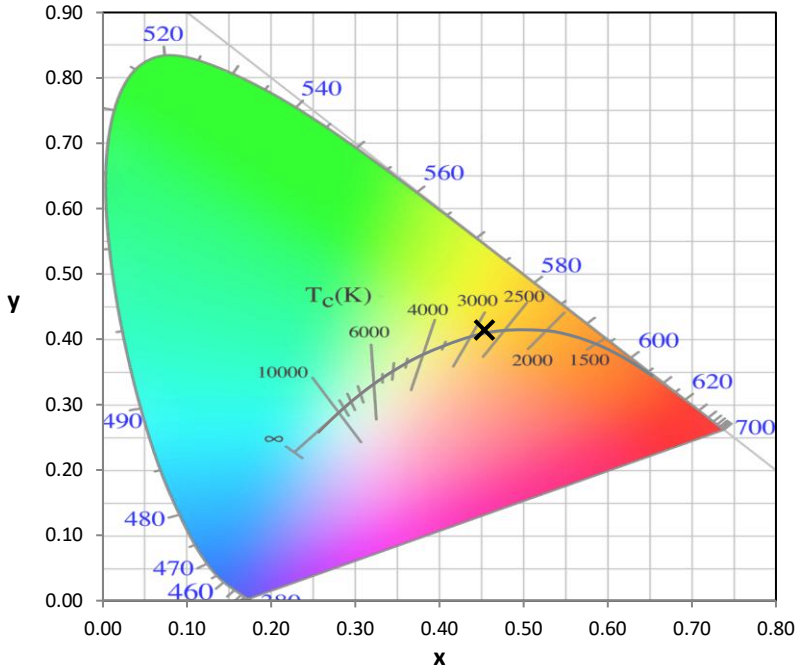
Stabilization Time:	28M
Operation Time:	1H 28M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2509-539-5

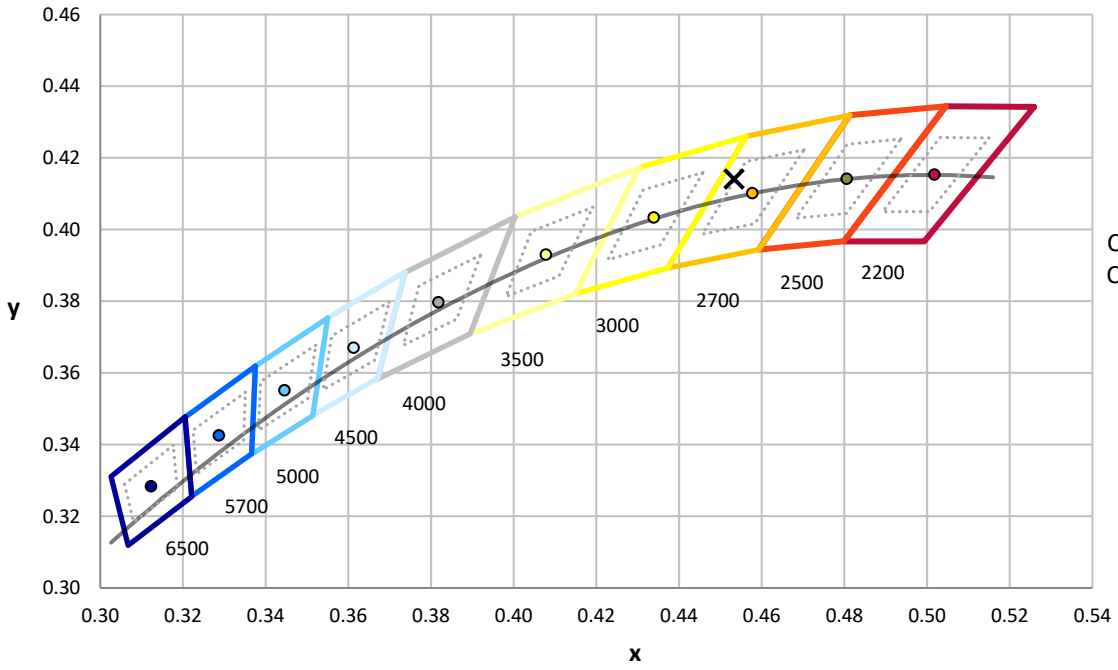
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

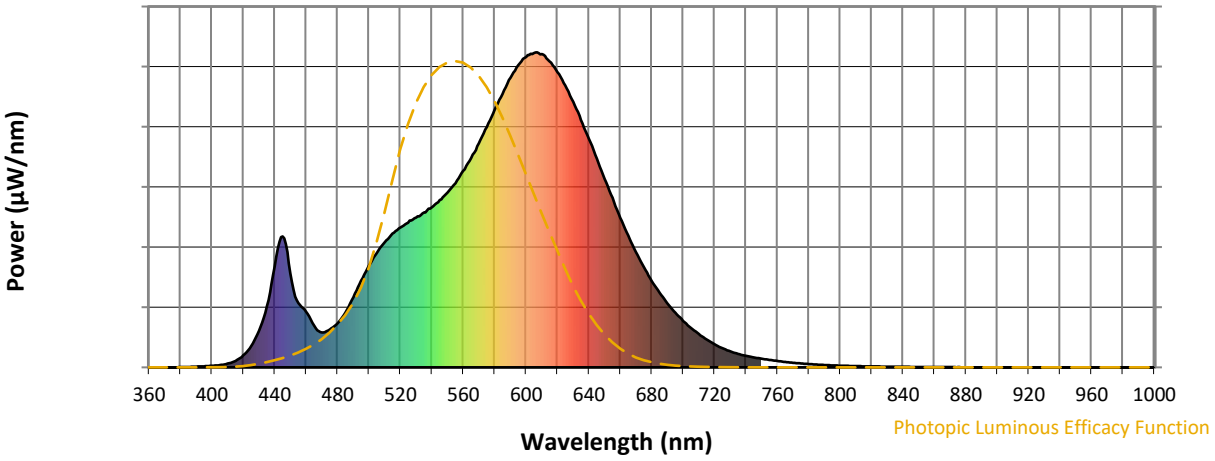


CCT = 2821K
CIE x = 0.4533
CIE y = 0.4141
Duv = 0.0019

Point lies inside the ANSI 2700K 7-step quadrangle

REPORT NUMBER: SP1-2509-539-5

Photopic Flux vs. Wavelength

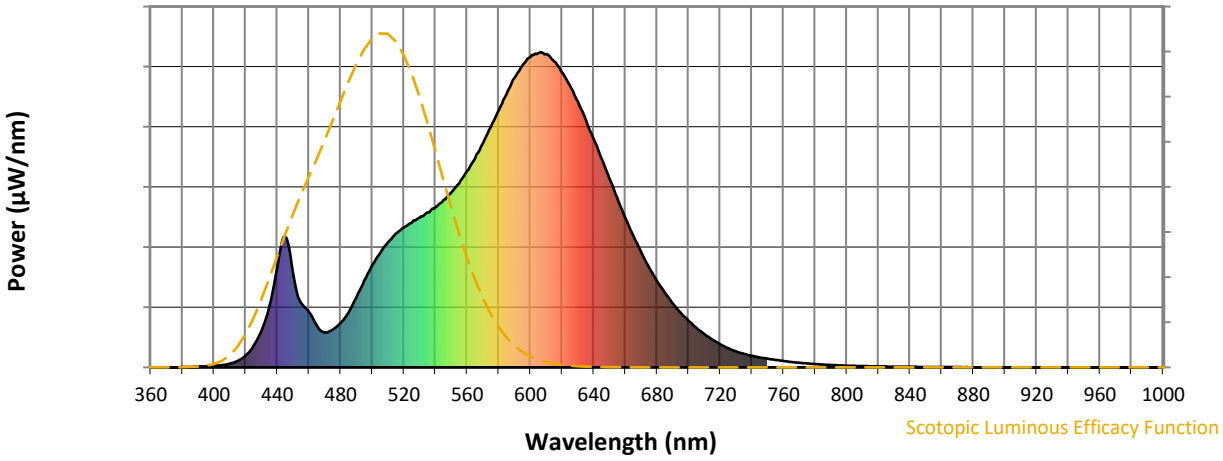


Photopic Lumens: NR

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

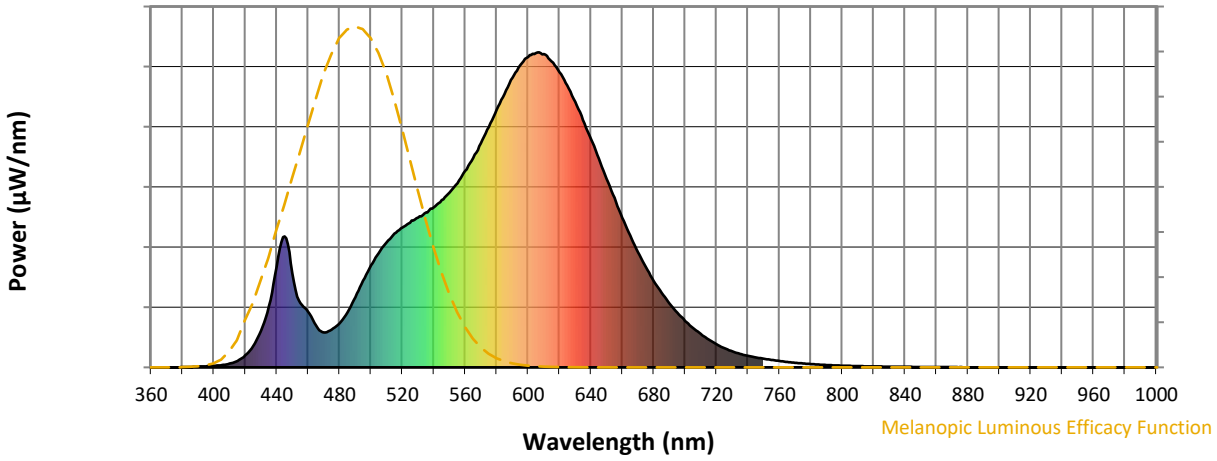


Scotopic Lumens: NR **S/P: 1.26**

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			

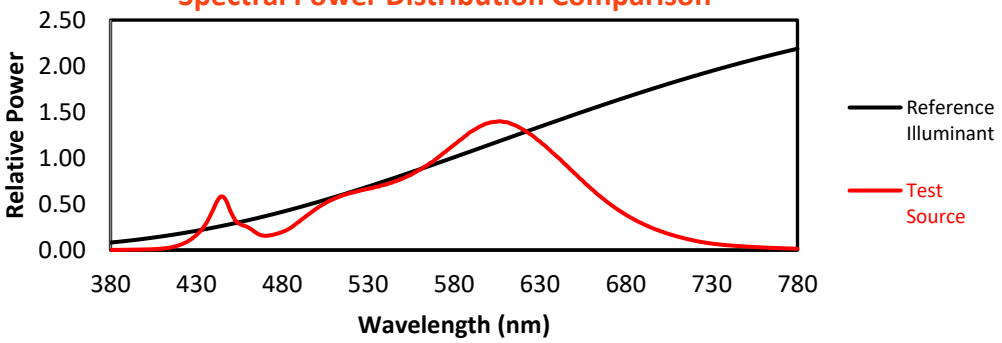
REPORT NUMBER: SP1-2509-539-5

TM-30-18

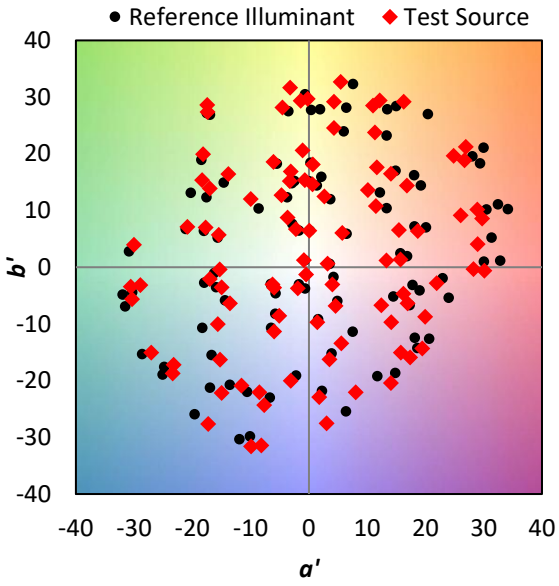
Summary

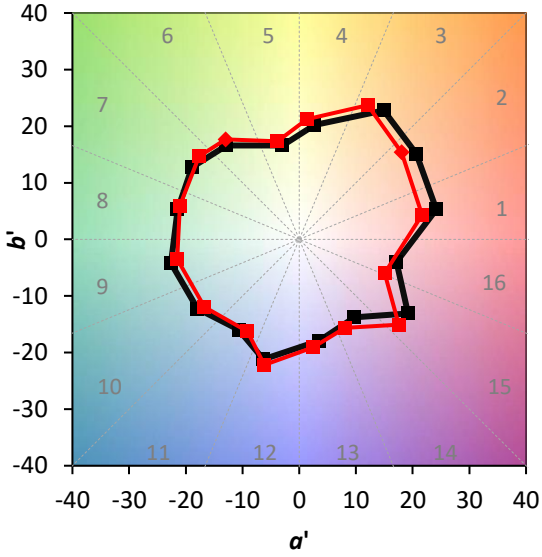
R_f = 86.1
R_g = 97.2
CIE R_a = 83.8
R_9 = 8.2

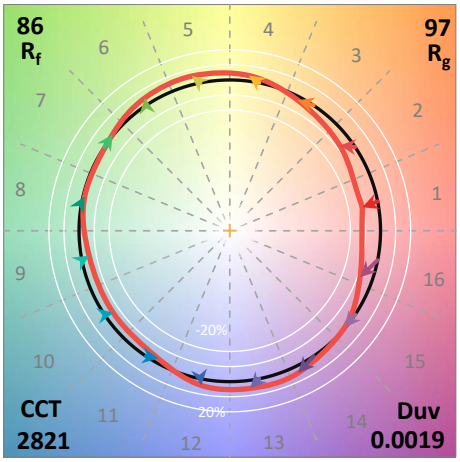
Spectral Power Distribution Comparison

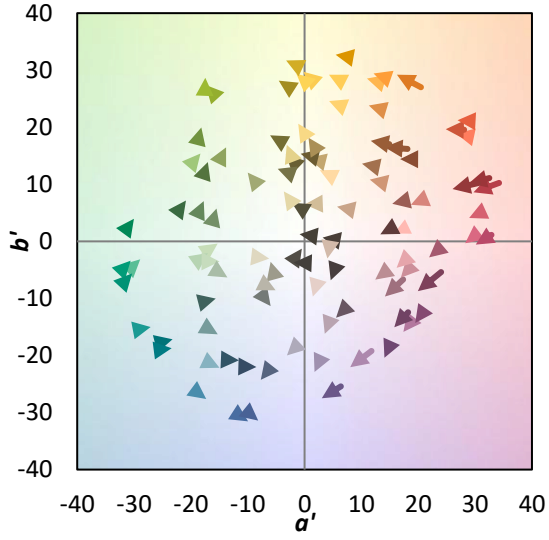


Color Vector Graphics







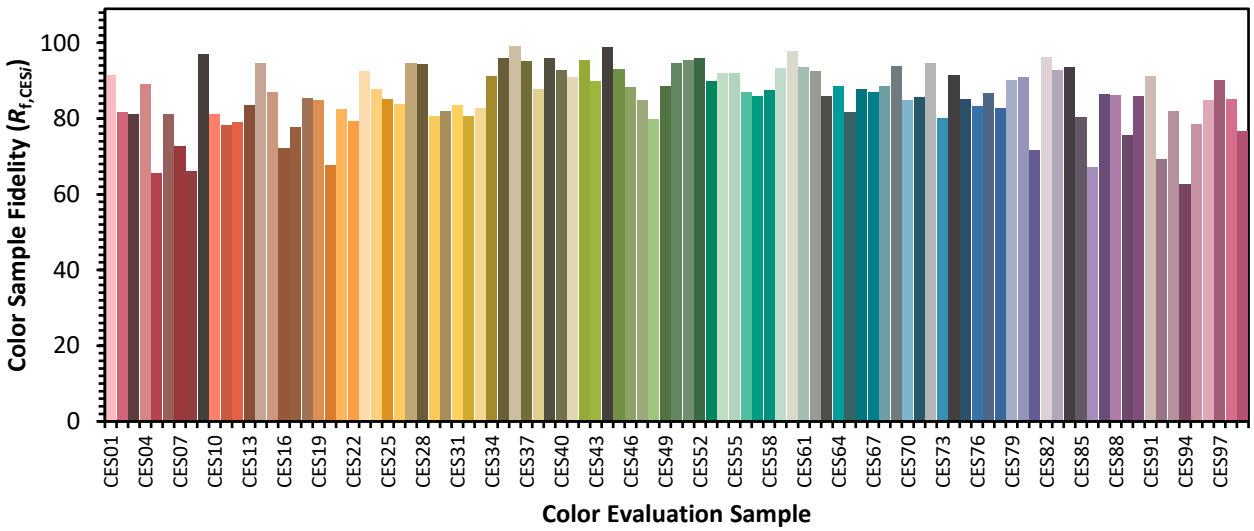


REPORT NUMBER: SP1-2509-539-5

TM-30-18

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

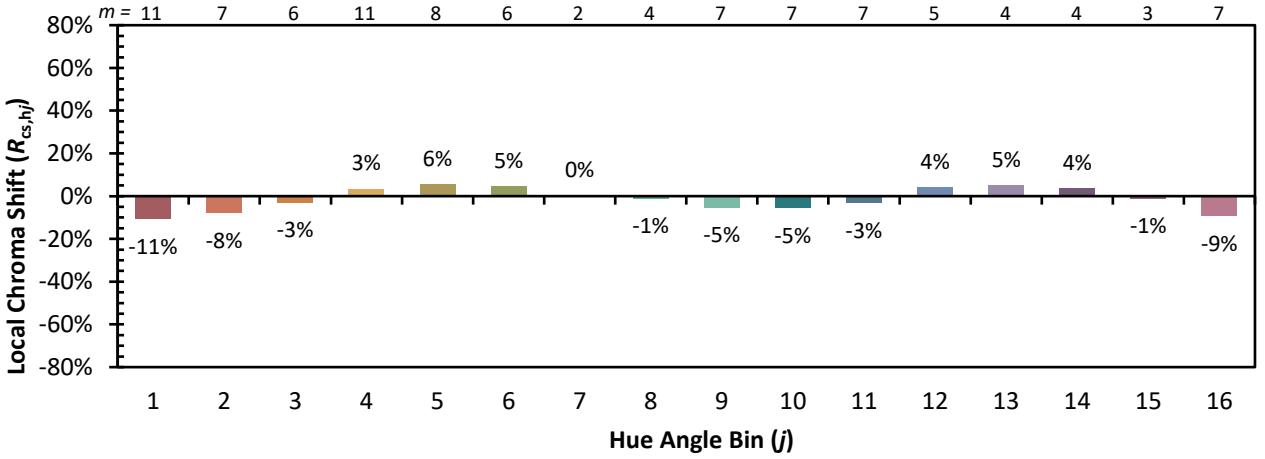
CES01 = 86	CES26 = 84	CES51 = 95	CES76 = 83
CES02 = 63	CES27 = 95	CES52 = 96	CES77 = 87
CES03 = 31	CES28 = 94	CES53 = 90	CES78 = 83
CES04 = 71	CES29 = 81	CES54 = 92	CES79 = 90
CES05 = 50	CES30 = 82	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 84	CES56 = 87	CES81 = 72
CES07 = 43	CES32 = 81	CES57 = 86	CES82 = 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	

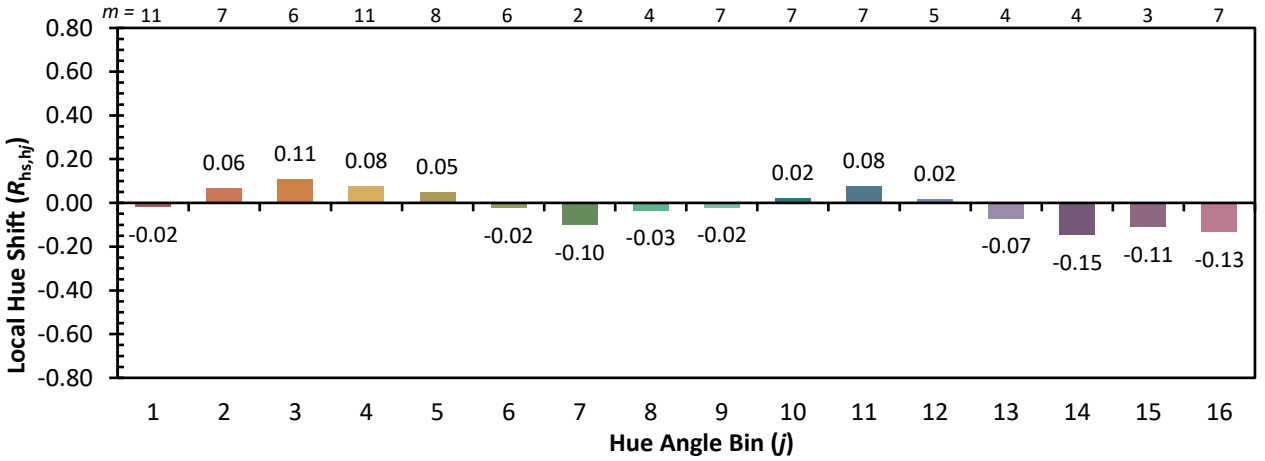


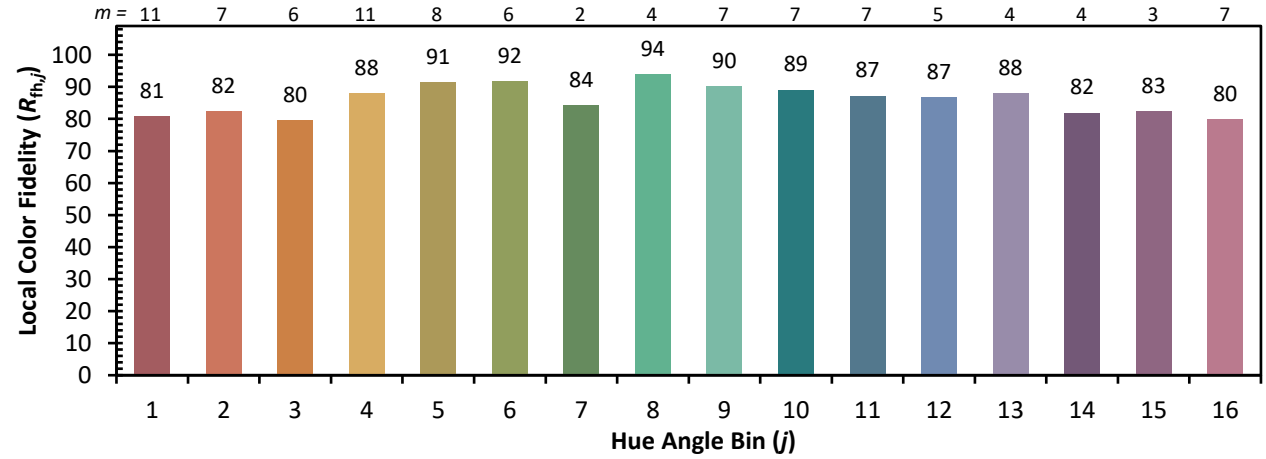
REPORT NUMBER: SP1-2509-539-5

TM-30-18

Color Rendition by Hue-Angle Bin







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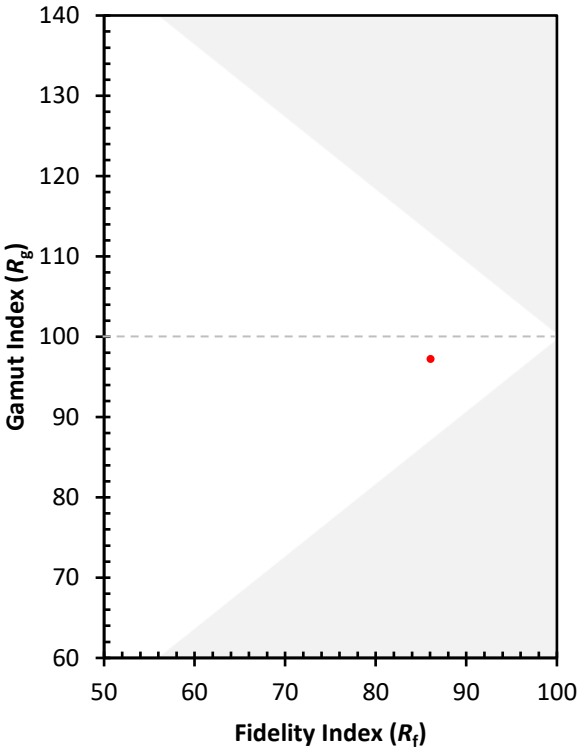
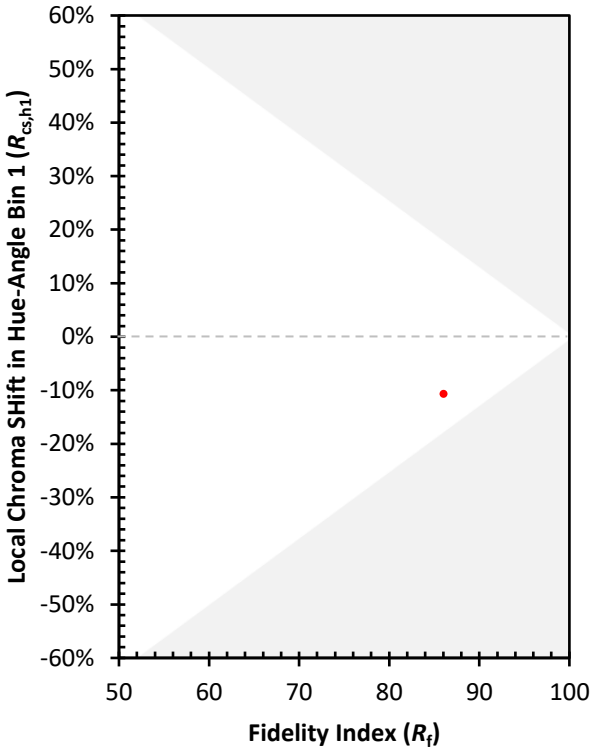
Measure Comparisons





(END OF REPORT)