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: P1459758

Luminaire Tested: ABB-CX-835-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:	P1459758
	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-835-X-U-S-GM-CBP
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:	263.8 lumens
Efficiency:	N/A
Efficacy:	45.5 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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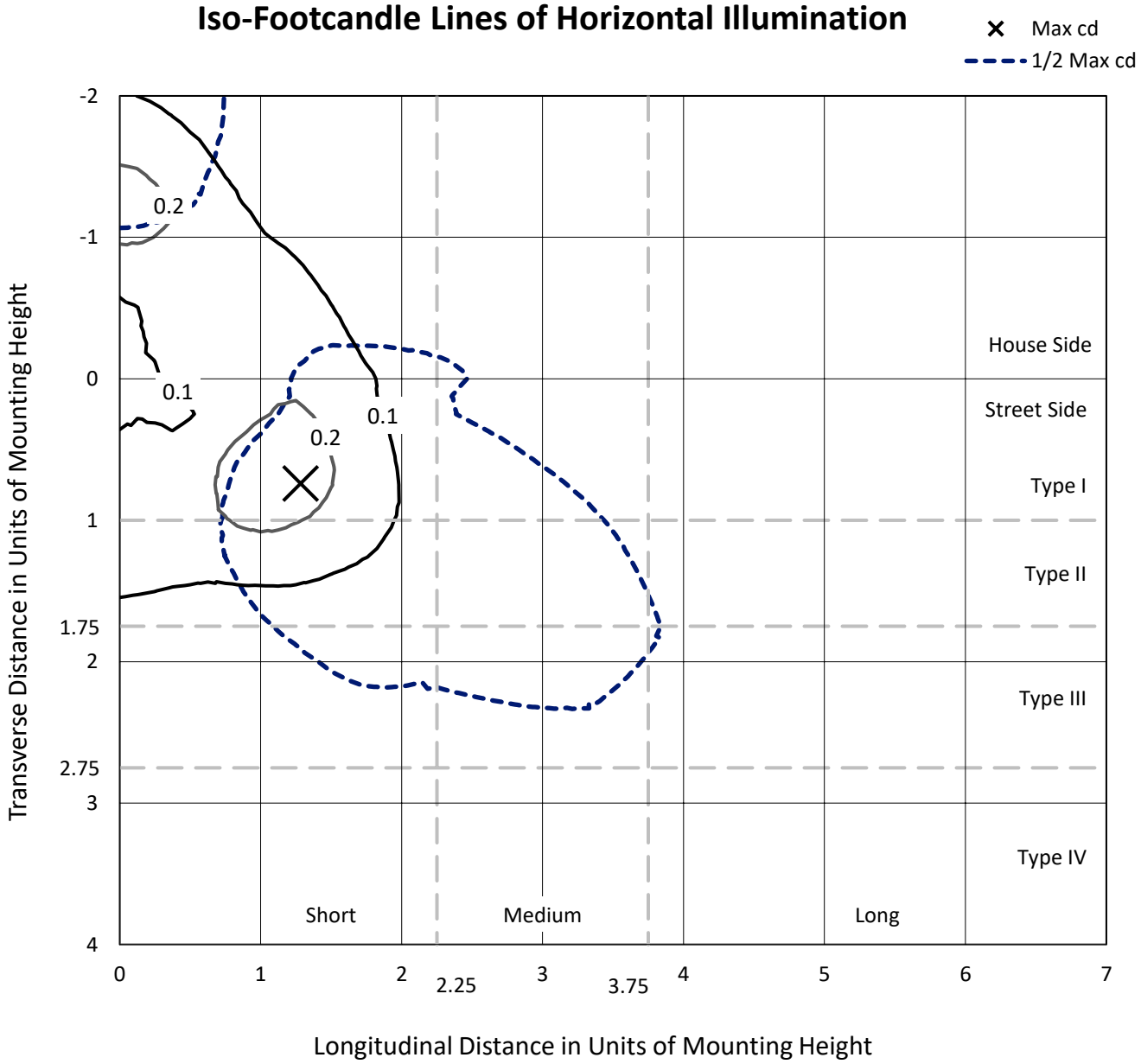
REPORT NUMBER: P1459758
CATALOG NUMBER: ABB-CX-835-X-U-S-GM-CBP

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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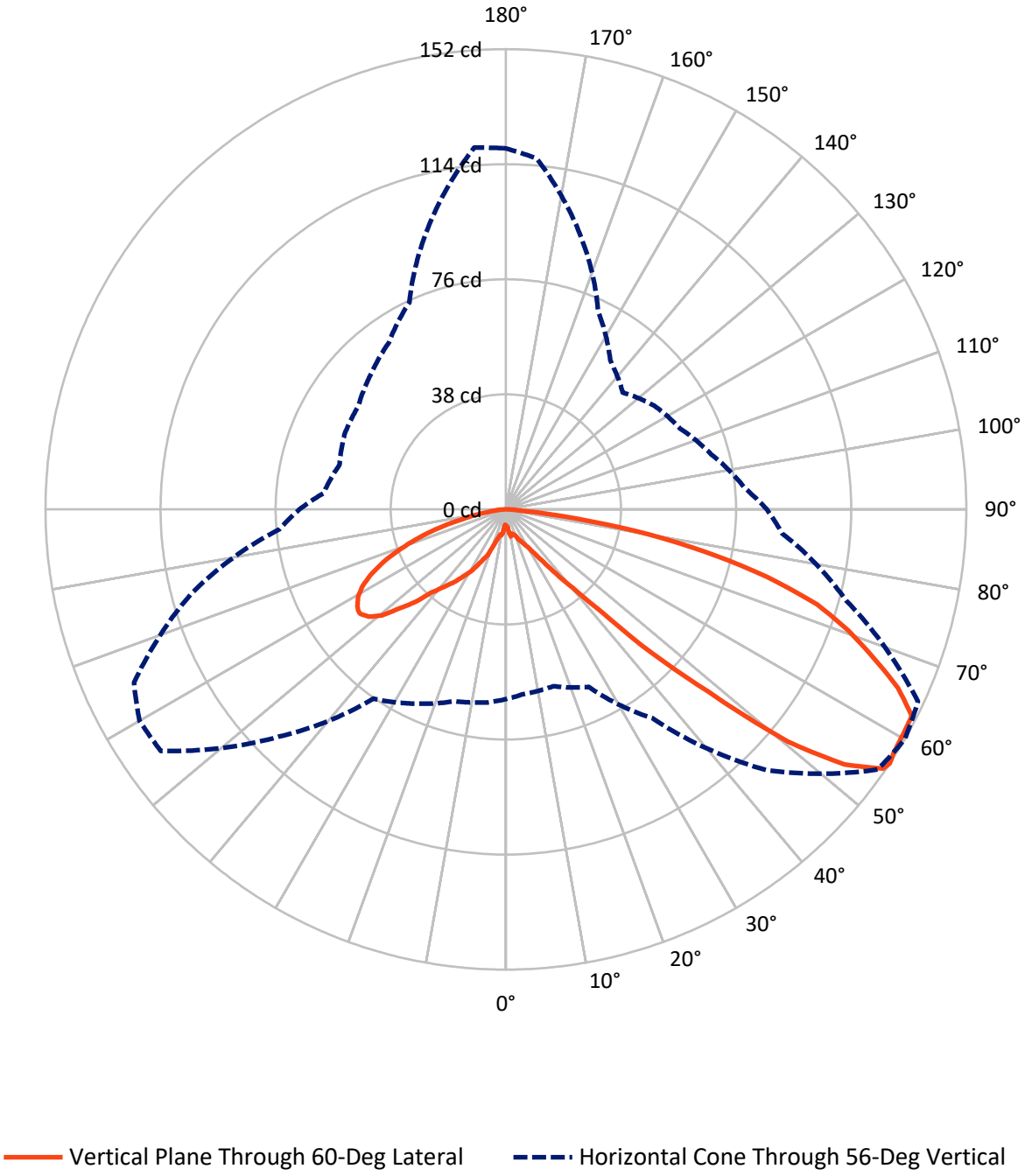
Luminous Intensity Polar Plot



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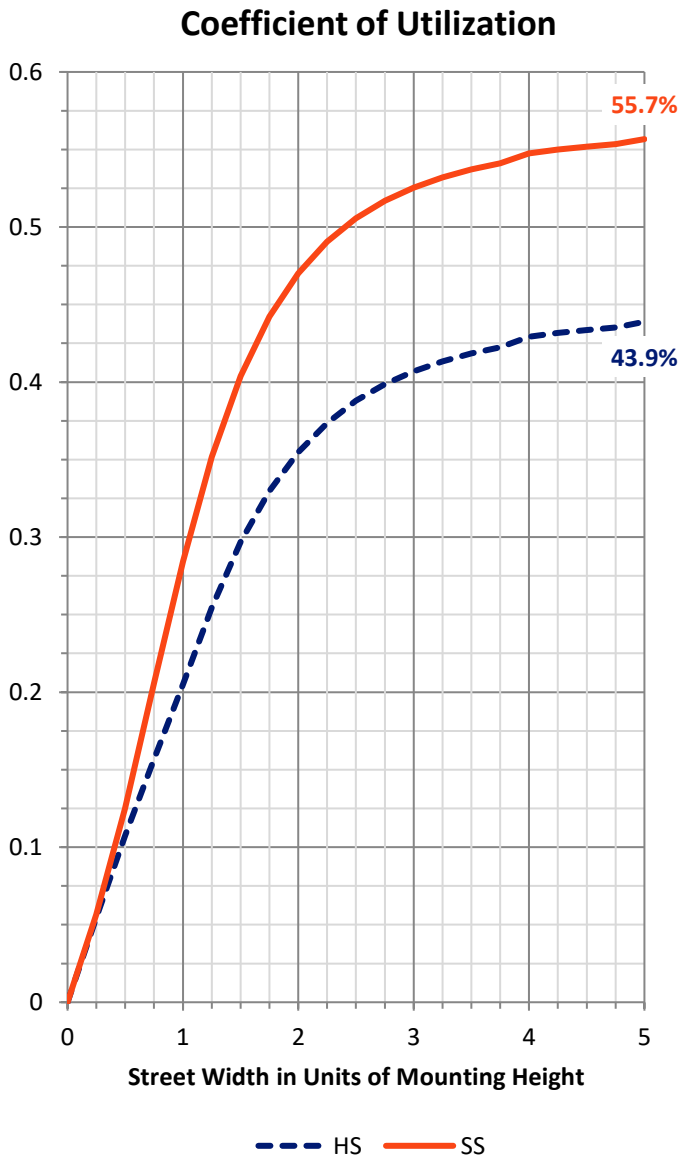
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	116.1	0.0	116.1
	% Fixture	44.0	0.0	44.0
Street Side	Lumens	147.7	0.0	147.7
	% Fixture	56.0	0.0	56.0
Total	Lumens	263.8	0.0	263.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.7	0.3
10°-20°	2.8	1.1
20°-30°	7.0	2.7
30°-40°	15.4	5.8
40°-50°	38.2	14.5
50°-60°	73.5	27.9
60°-70°	74.7	28.3
70°-80°	44.8	17.0
80°-90°	6.6	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°	263.8	100.0
0°-180°	263.8	100.0



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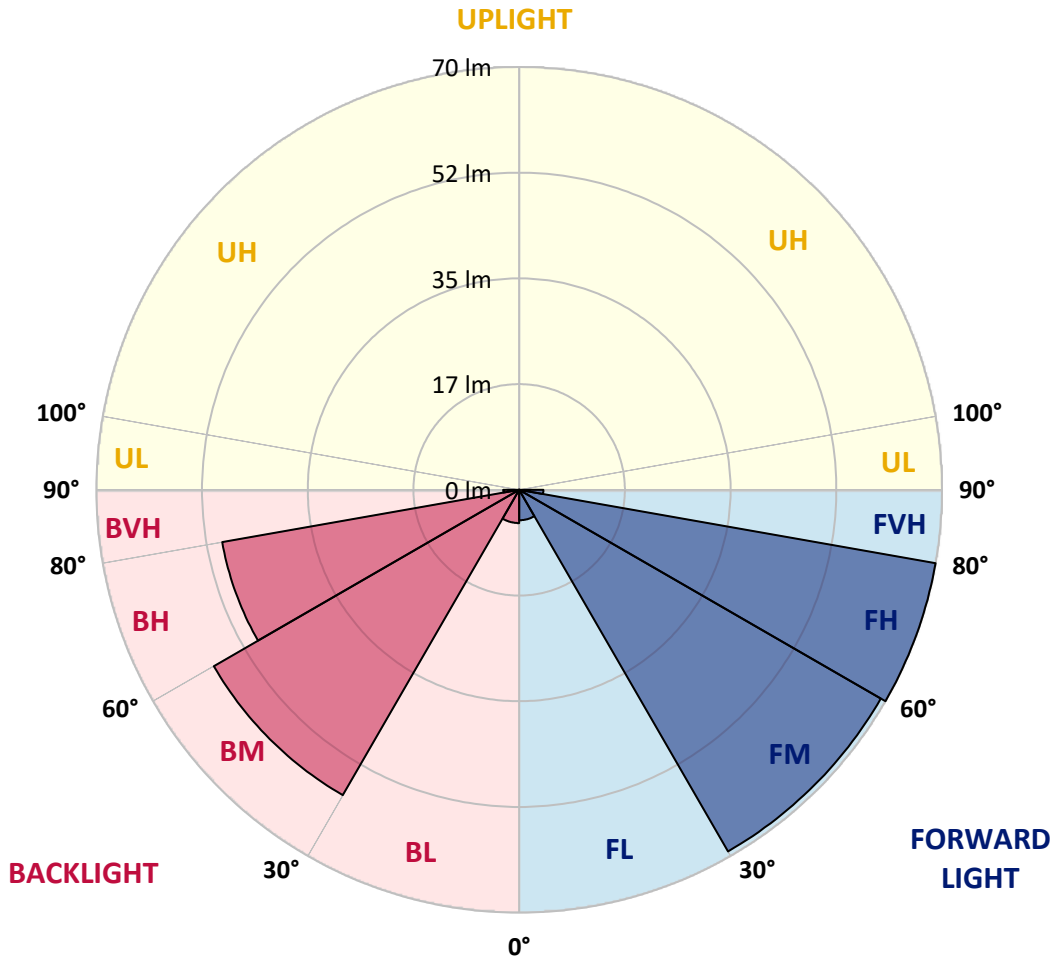
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	5.0	1.9			
FM	(30°-60°)	68.9	26.1			
FH	(60°-80°)	69.8	26.5			G0/660
FVH	(80°-90°)	4.0	1.5			G0/10
BL	(0°-30°)	5.5	2.1	B0/110		
BM	(30°-60°)	58.2	22.1	B0/220		
BH	(60°-80°)	49.8	18.9	B0/110		G0/110
BVH	(80°-90°)	2.6	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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REPORT NUMBER: P1459758
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
2.5°	6.5	6.5	7.1	7.5	7.1	6.5	6.2	6.2	6.2	5.8	5.2
5°	9.1	8.4	7.5	7.5	7.1	6.8	5.8	5.8	5.8	5.2	4.9
7.5°	8.7	9.7	9.7	9.7	9.4	9.4	8.4	7.8	7.8	6.8	7.1
10°	9.4	9.4	9.1	10.7	10.0	10.0	9.1	9.1	9.1	8.7	8.7
12.5°	8.7	8.4	9.1	9.7	8.7	9.4	8.7	8.1	8.1	8.7	9.1
15°	9.1	9.4	9.7	10.7	10.4	9.7	8.7	8.7	8.7	10.0	10.0
17.5°	10.4	11.0	11.0	11.3	11.3	10.4	8.7	8.7	9.1	10.0	11.3
20°	12.0	12.0	12.0	12.0	12.0	11.0	9.4	9.4	10.0	10.7	12.0
22.5°	14.3	14.3	15.2	13.9	13.6	11.7	11.0	10.7	11.7	11.3	13.0
25°	17.5	18.5	17.5	14.9	14.6	12.6	11.7	11.7	12.0	13.6	13.9
27.5°	20.7	21.4	18.5	16.2	16.5	14.3	13.3	13.0	13.6	15.2	16.2
30°	22.7	23.0	20.4	17.8	18.5	16.2	15.2	14.6	15.2	17.2	19.1
32.5°	24.9	25.6	23.0	20.1	20.4	20.1	18.5	17.2	17.2	19.1	20.7
35°	28.2	27.9	24.9	22.0	22.7	24.0	23.3	21.1	20.7	20.7	23.7
37.5°	30.8	30.1	28.2	24.6	25.3	27.9	29.2	26.9	25.9	24.3	26.6
40°	33.4	33.4	31.1	27.2	30.1	34.0	37.3	34.0	32.4	29.5	29.8
42.5°	36.6	36.9	35.3	31.8	36.6	44.7	50.5	45.7	43.1	37.3	35.3
45°	43.1	44.4	42.8	39.5	46.0	59.9	70.6	67.7	63.5	50.2	45.7
47.5°	48.3	49.2	47.6	45.0	54.8	75.2	94.3	89.7	88.1	65.1	57.0
50°	55.4	55.4	54.8	54.4	68.0	100.1	119.2	120.2	120.5	86.2	73.2
52.5°	59.6	59.0	58.3	60.6	78.1	111.8	137.7	139.6	141.3	102.7	83.9
55°	62.2	61.2	60.3	64.2	82.9	120.2	147.7	150.7	149.0	113.4	89.4
56°	62.5	61.2	60.3	64.5	83.9	121.5	149.4	151.6	149.7	116.0	91.4
57.5°	62.2	60.9	59.6	64.8	84.2	121.5	148.7	150.7	150.3	117.9	92.7
60°	60.9	59.6	57.7	64.8	84.9	119.2	146.8	150.3	151.0	118.6	93.0
62.5°	58.6	58.0	54.8	63.8	83.9	114.4	146.1	150.0	149.4	115.7	89.1
65°	54.4	54.1	50.2	61.9	79.7	105.9	137.7	141.9	140.0	109.5	81.0
67.5°	48.9	48.3	44.7	58.3	75.5	95.9	128.0	130.6	129.9	102.4	71.9
70°	42.1	42.1	39.5	53.1	71.3	84.2	116.6	119.6	120.5	94.0	63.5
72.5°	35.0	35.3	34.0	46.7	64.8	71.6	102.4	107.2	108.2	82.9	52.8
75°	27.2	27.5	27.5	38.9	55.7	56.7	85.2	88.8	90.1	69.3	41.5
77.5°	19.4	19.4	20.4	29.5	44.7	39.9	64.5	67.1	69.3	52.5	27.9
80°	12.6	12.0	13.3	18.8	29.8	24.0	41.1	43.1	45.4	33.0	15.6
82.5°	7.5	6.8	7.5	8.7	12.6	11.0	18.8	19.1	24.3	14.6	6.5
85°	3.6	3.6	3.2	3.6	3.2	3.9	3.6	3.6	4.2	2.6	2.9
87.5°	2.6	2.3	2.3	2.3	2.3	2.9	2.6	2.6	2.9	1.9	2.3
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°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
2.5°	5.2	4.9	4.5	4.5	4.2	4.9	5.5	5.5	5.2	5.2	5.2
5°	5.2	5.5	5.8	6.5	7.1	6.5	6.2	5.5	4.9	4.5	4.5
7.5°	7.8	7.8	7.1	7.5	7.8	7.1	7.5	7.1	6.5	6.2	5.8
10°	8.7	9.1	10.4	9.7	9.4	9.4	9.1	8.7	8.1	7.5	7.1
12.5°	9.7	10.0	10.4	9.4	10.4	10.0	9.7	8.7	8.4	7.8	7.8
15°	10.4	11.0	10.7	11.0	10.7	10.7	10.4	9.4	9.1	7.8	7.5
17.5°	12.0	12.0	12.6	12.3	11.3	12.0	11.3	10.7	9.7	8.4	8.4
20°	12.6	13.6	13.9	13.9	13.3	13.6	13.9	13.0	11.3	10.4	10.4
22.5°	14.3	14.9	15.9	17.2	15.6	15.6	15.2	13.0	11.0	11.3	10.7
25°	16.2	15.6	16.8	19.1	17.8	16.2	16.5	14.6	13.0	12.6	12.0
27.5°	17.8	17.8	19.8	22.7	19.4	18.5	17.8	16.2	14.3	13.6	13.6
30°	22.0	20.4	22.7	24.3	23.7	19.4	19.4	17.5	16.2	15.2	15.6
32.5°	24.6	23.3	25.6	26.6	26.2	21.4	21.4	20.1	19.1	18.5	17.5
35°	27.2	27.5	27.9	29.2	28.5	25.3	23.0	22.0	22.0	22.0	21.4
37.5°	30.5	30.8	31.1	31.8	30.8	27.9	25.6	24.6	25.6	27.2	25.9
40°	33.7	35.0	34.0	34.3	33.7	31.1	29.5	28.8	31.1	34.7	32.7
42.5°	40.2	40.2	38.9	37.9	36.9	34.7	34.0	35.3	39.9	46.0	43.7
45°	48.6	48.3	46.0	44.4	43.1	40.5	40.5	44.4	53.5	62.9	63.2
47.5°	63.2	57.0	53.1	50.5	48.3	45.4	45.7	52.8	65.4	80.0	80.4
50°	74.8	70.0	63.2	57.3	54.4	51.2	52.8	63.5	81.0	94.3	97.5
52.5°	82.0	76.5	67.7	61.6	58.0	54.4	57.3	70.3	90.1	106.9	110.5
55°	84.6	78.4	70.3	63.5	59.6	55.1	59.9	72.3	93.6	114.7	118.3
56°	*85.9*	*79.1*	*70.0*	*63.2*	*59.6*	*54.4*	*59.9*	*71.9*	*94.0*	*116.0*	*118.9*
57.5°	87.2	78.7	69.3	62.9	59.3	53.8	59.9	71.3	93.6	116.0	119.2
60°	89.7	78.7	66.4	61.2	57.0	51.8	59.3	71.3	92.3	114.0	119.6
62.5°	87.8	78.1	62.5	57.7	55.1	49.6	57.0	70.3	89.1	112.4	119.6
65°	82.9	75.8	56.7	52.5	50.5	45.4	53.5	67.7	83.3	106.9	113.1
67.5°	76.8	72.6	50.5	46.3	44.7	40.8	48.9	62.9	75.2	96.2	102.4
70°	68.4	68.4	44.1	39.5	38.6	35.0	43.7	57.7	64.2	84.6	90.4
72.5°	56.4	58.6	38.6	32.1	31.4	29.5	37.3	50.5	52.5	72.3	78.4
75°	43.1	47.3	31.1	24.6	24.0	23.3	29.5	41.5	40.5	57.0	63.2
77.5°	28.5	33.4	22.7	17.5	16.5	16.8	21.1	31.8	28.2	40.5	45.7
80°	13.9	18.1	13.9	11.7	10.4	11.0	13.0	20.1	15.9	23.7	28.5
82.5°	4.5	5.8	6.8	6.5	5.8	5.8	6.2	8.1	7.1	8.7	12.0
85°	2.3	2.6	3.2	3.2	2.9	2.9	2.9	3.2	3.6	3.2	3.2
87.5°	1.6	1.6	2.6	2.6	2.3	2.3	2.3	2.3	2.9	2.6	2.6
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°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
2.5°	5.5	5.5	5.5	5.5	4.9	5.2	4.9	5.2	5.2	5.2	5.2
5°	4.9	5.2	5.5	5.2	5.8	5.8	5.8	5.5	4.5	4.5	4.5
7.5°	6.5	6.8	6.8	6.2	6.8	7.8	7.5	7.1	6.2	5.8	5.5
10°	7.8	9.1	8.1	9.1	9.4	9.1	8.1	7.5	8.7	8.4	8.1
12.5°	7.8	8.4	9.1	10.4	11.3	8.7	8.1	9.1	8.7	8.7	8.1
15°	7.8	9.4	10.0	11.0	12.0	10.4	8.4	9.7	10.4	10.0	9.4
17.5°	8.7	9.7	10.4	12.0	13.0	12.0	10.0	10.7	11.3	12.3	11.7
20°	10.0	10.7	11.0	13.0	13.3	14.3	12.0	12.0	12.0	12.6	12.3
22.5°	11.3	12.6	12.6	14.3	14.6	16.8	15.9	12.6	12.0	13.6	13.3
25°	12.0	13.3	14.3	15.6	16.2	18.5	17.8	15.2	13.9	14.3	14.3
27.5°	13.9	14.9	15.9	16.8	19.1	20.1	21.4	17.2	15.9	15.9	15.9
30°	14.9	16.5	17.8	19.8	21.7	22.7	24.3	18.8	17.2	17.5	17.5
32.5°	17.5	18.1	20.1	22.4	23.7	25.6	25.9	21.1	19.1	19.1	18.8
35°	20.4	20.4	22.0	25.3	26.2	28.8	27.9	24.0	21.4	21.4	21.1
37.5°	24.9	24.0	24.9	28.2	29.5	31.4	30.5	26.9	24.0	24.3	24.0
40°	30.8	28.5	28.2	31.8	32.4	34.3	33.0	30.1	27.5	27.9	27.5
42.5°	40.2	34.7	34.0	35.6	36.3	37.6	36.3	34.0	32.4	33.4	34.0
45°	59.0	47.6	43.4	44.4	43.7	43.7	42.1	40.8	39.2	40.5	42.4
47.5°	76.8	60.9	54.4	50.2	48.9	48.3	47.0	46.0	43.7	47.0	51.5
50°	94.0	76.1	65.8	60.9	58.3	54.1	53.5	52.5	52.5	57.3	62.5
52.5°	109.2	88.8	73.2	66.4	62.2	58.0	56.7	55.7	57.3	64.8	70.3
55°	119.2	96.2	75.2	67.4	63.2	59.6	58.6	57.0	59.9	67.7	74.5
56°	*119.6*	*97.2*	*75.2*	*67.1*	*62.9*	*59.3*	*58.6*	*56.7*	*60.3*	*68.0*	*74.8*
57.5°	119.2	98.2	74.5	66.7	61.9	58.6	58.0	55.7	60.3	68.4	75.5
60°	116.6	97.5	72.6	66.4	59.3	56.4	56.4	53.1	59.3	69.0	76.1
62.5°	117.3	95.3	69.3	64.5	55.1	52.8	53.8	49.9	57.0	69.0	75.8
65°	112.8	91.7	63.5	60.9	50.2	47.6	49.9	44.7	53.8	65.8	72.3
67.5°	102.4	84.6	57.3	57.0	44.7	42.1	44.4	39.9	49.2	61.9	68.4
70°	90.7	74.5	49.6	51.2	39.2	35.6	37.9	34.0	44.1	56.7	63.8
72.5°	78.7	62.9	40.2	43.4	33.0	29.2	30.8	28.5	37.9	49.6	56.1
75°	63.8	49.6	30.1	34.3	26.2	22.4	23.0	22.4	30.8	40.8	46.7
77.5°	46.7	35.6	19.8	24.3	18.8	15.6	15.9	16.2	22.7	30.1	35.3
80°	28.5	22.7	11.0	14.3	11.7	10.4	9.7	10.4	14.3	18.5	21.7
82.5°	11.3	9.1	4.5	5.5	5.8	5.8	5.5	5.5	6.8	7.1	6.8
85°	3.2	2.3	2.6	2.3	2.9	2.9	2.6	2.3	2.6	2.6	2.6
87.5°	2.6	1.6	1.9	1.6	2.3	2.6	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: P1459758
CATALOG NUMBER: ABB-CX-835-X-U-S-GM-CBP

CANDELA DISTRIBUTION (continued):

	285°	295°	300°	305°	315°	325°	335°	345°	355°	360°
0°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
2.5°	5.2	5.5	5.5	5.8	6.2	6.5	6.5	6.5	6.5	6.5
5°	4.9	4.5	4.5	4.2	4.5	5.2	5.8	6.5	8.1	9.1
7.5°	5.8	5.8	5.8	5.8	5.5	5.8	6.8	7.8	8.7	8.7
10°	8.1	7.8	7.5	7.8	7.8	7.1	8.1	9.4	10.0	9.4
12.5°	7.8	7.5	7.1	7.1	7.5	7.8	9.4	10.4	8.7	8.7
15°	8.7	8.1	7.8	7.8	7.8	9.1	10.4	11.0	9.1	9.1
17.5°	9.7	8.4	7.8	8.1	8.7	9.7	11.3	11.3	10.4	10.4
20°	10.4	9.1	8.7	9.4	9.4	11.3	11.7	12.3	12.0	12.0
22.5°	11.3	9.7	9.4	9.7	10.7	12.3	13.3	14.9	13.3	14.3
25°	12.6	11.0	11.0	10.7	11.7	13.3	14.9	15.9	15.9	17.5
27.5°	13.9	13.0	13.0	12.6	12.6	14.6	17.2	17.8	19.8	20.7
30°	15.9	15.6	14.9	14.6	14.6	15.6	18.8	21.4	23.7	22.7
32.5°	18.5	18.5	17.8	18.1	16.8	17.8	21.4	24.0	25.3	24.9
35°	21.4	22.0	21.4	21.1	19.8	20.4	23.7	27.2	28.2	28.2
37.5°	26.2	26.6	25.9	24.9	23.3	23.0	26.9	29.5	30.8	30.8
40°	32.4	34.3	32.7	30.8	27.2	26.6	30.5	32.4	33.7	33.4
42.5°	40.8	43.7	43.4	40.5	32.4	30.5	34.7	36.3	36.9	36.6
45°	55.1	62.9	64.5	60.9	45.0	39.2	44.1	45.0	44.4	43.1
47.5°	67.4	79.4	85.2	80.4	55.7	46.7	50.9	51.5	49.6	48.3
50°	88.1	105.9	108.9	105.9	77.4	59.6	60.9	59.9	57.0	55.4
52.5°	99.5	122.5	126.7	124.1	93.6	69.7	67.4	63.8	61.2	59.6
55°	105.6	133.5	139.0	137.1	103.4	75.5	70.3	65.8	63.8	62.2
56°	*107.2*	*135.1*	*139.3*	*138.7*	*105.9*	*76.1*	*70.6*	*65.4*	*63.8*	*62.5*
57.5°	107.9	135.1	138.3	138.0	108.2	76.1	70.3	64.5	63.5	62.2
60°	105.3	133.2	135.4	134.8	109.2	75.8	70.0	61.9	61.6	60.9
62.5°	98.5	131.5	136.4	135.4	108.2	73.2	70.0	57.7	58.3	58.6
65°	91.7	124.4	130.2	130.2	104.0	68.0	68.4	52.8	52.8	54.4
67.5°	82.6	113.7	119.9	120.2	96.9	60.6	65.1	48.0	47.0	48.9
70°	70.6	100.8	107.6	107.6	87.8	52.8	60.6	42.4	40.2	42.1
72.5°	59.0	86.8	94.6	94.9	76.1	44.7	53.8	36.9	33.0	35.0
75°	46.3	70.3	78.1	80.0	63.8	35.3	44.7	31.1	25.9	27.2
77.5°	33.0	52.5	59.0	59.6	48.9	25.3	33.7	23.3	18.5	19.4
80°	20.1	33.4	38.6	41.5	32.4	15.6	21.1	15.2	12.3	12.6
82.5°	8.7	14.6	17.8	20.4	15.2	7.5	6.8	7.8	7.1	7.5
85°	3.2	3.2	3.6	3.9	2.9	2.9	2.6	3.6	3.6	3.6
87.5°	2.6	2.6	2.6	2.6	1.9	2.3	1.6	2.6	2.6	2.6
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

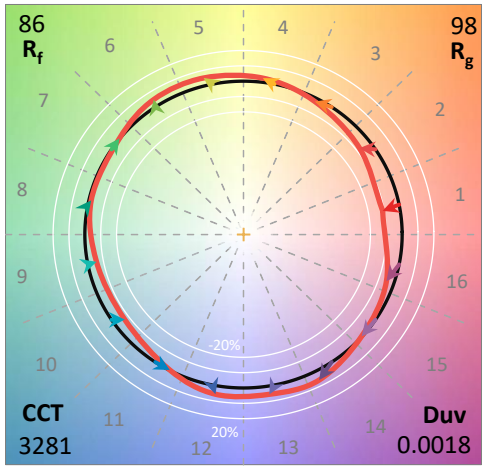
Test Information

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

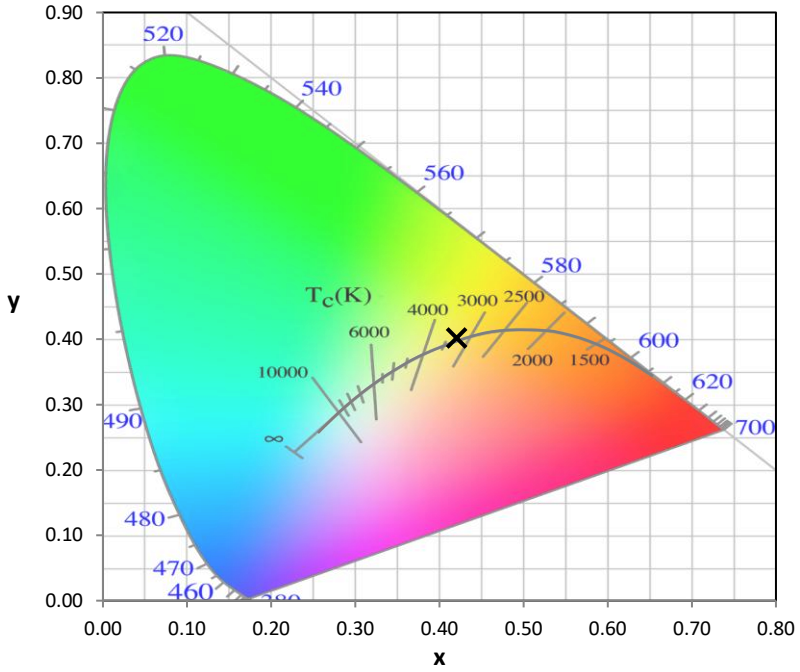
Stabilization Time:	31M
Operation Time:	1H 31M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2509-539-7

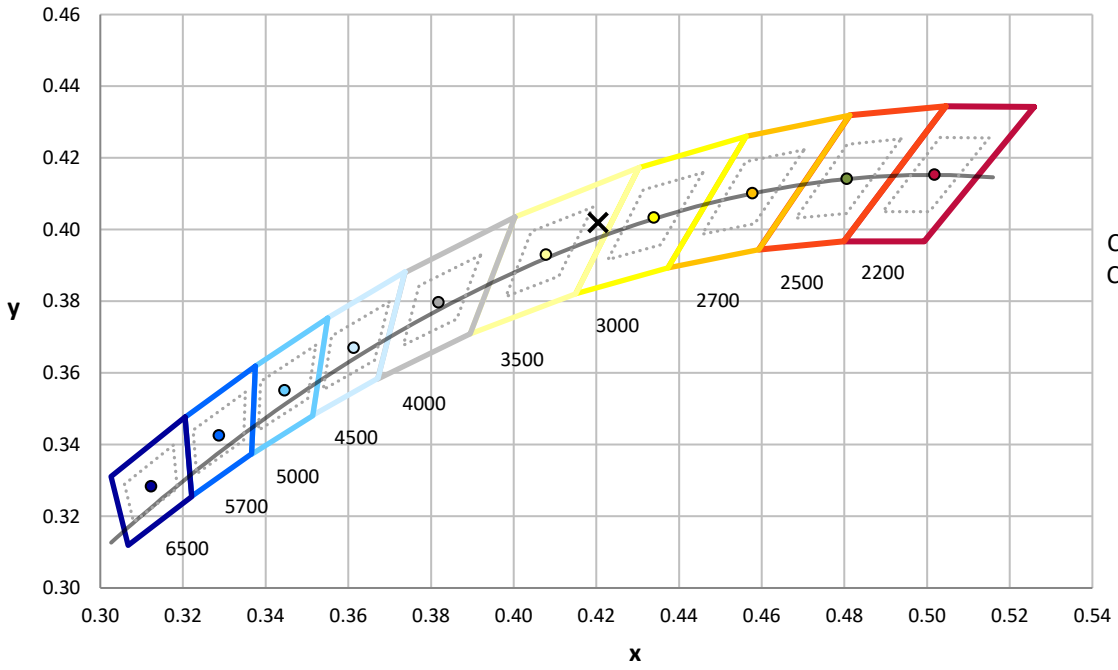
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

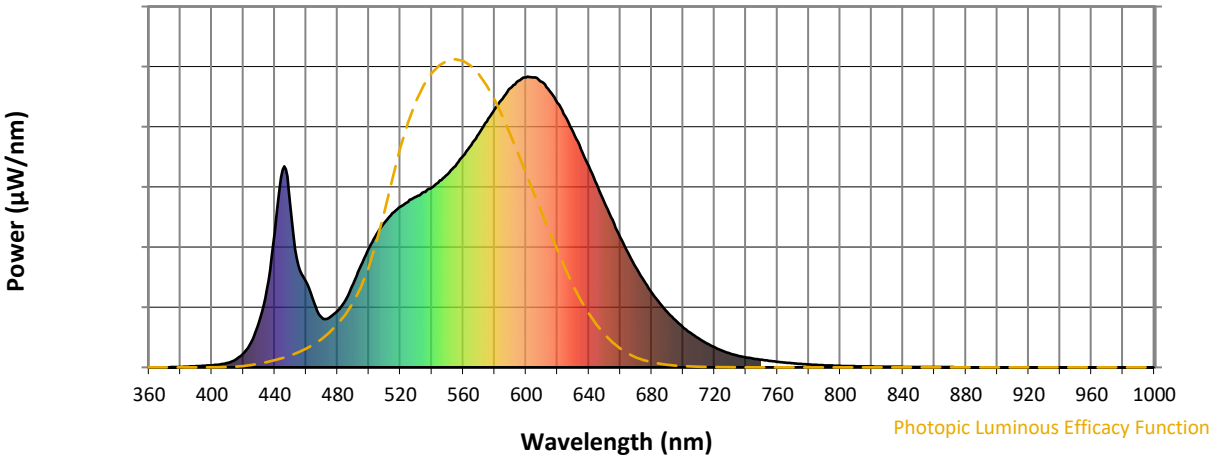


CCT = 3281K
CIE x = 0.4204
CIE y = 0.4020
Duv = 0.0018

Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2509-539-7

Photopic Flux vs. Wavelength

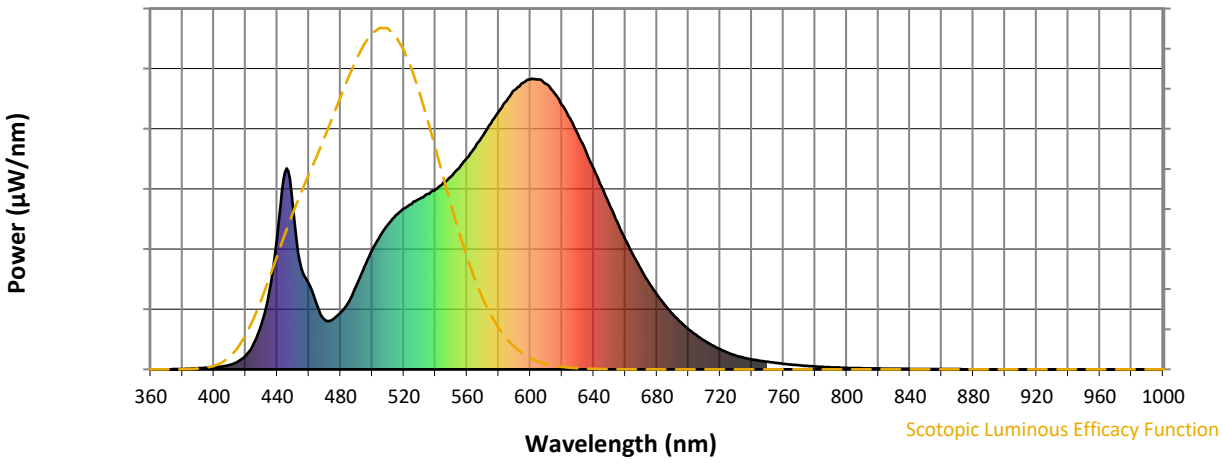


Photopic Lumens: NR

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

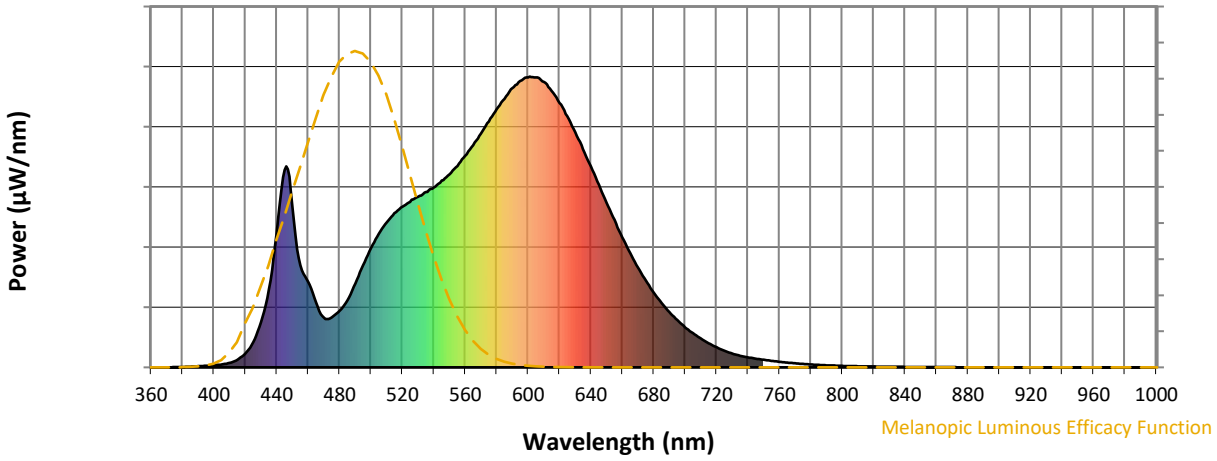


Scotopic Lumens: NR **S/P: 1.44**

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			

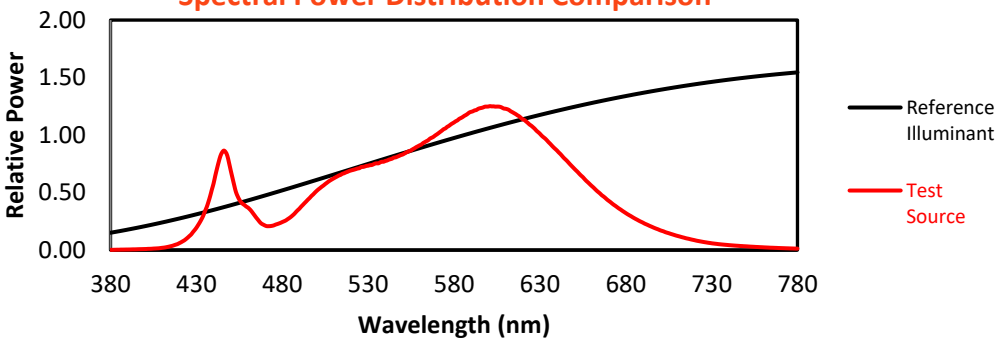
REPORT NUMBER: SP1-2509-539-7

TM-30-18

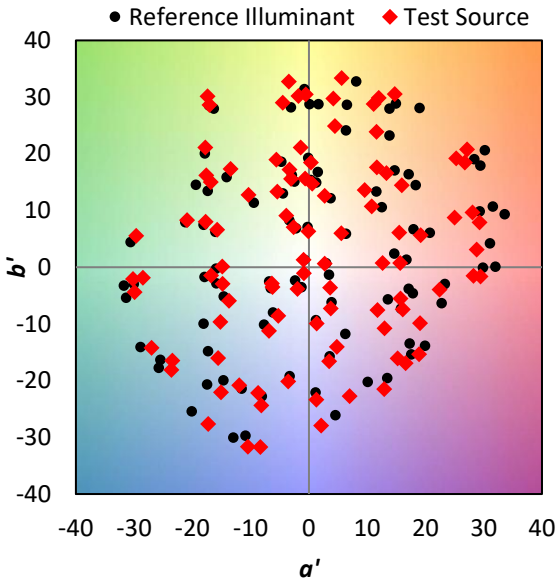
Summary

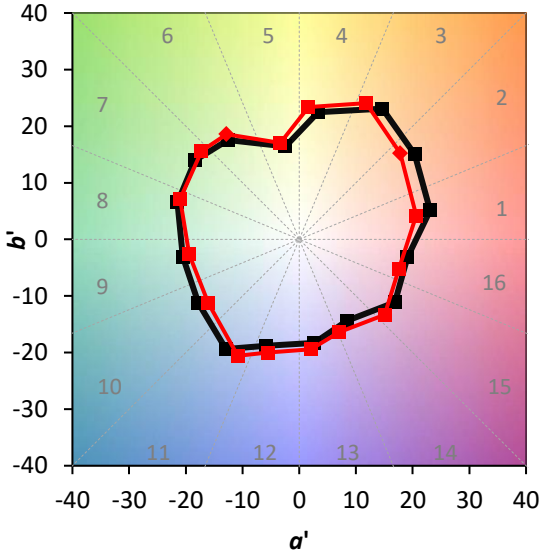
R_f = 85.8
R_g = 97.6
CIE R_a = 83.9
R_9 = 9.4

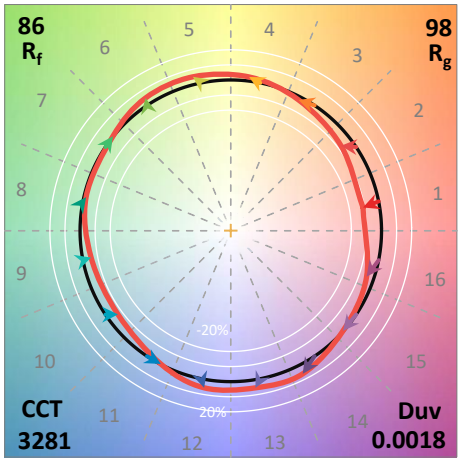
Spectral Power Distribution Comparison

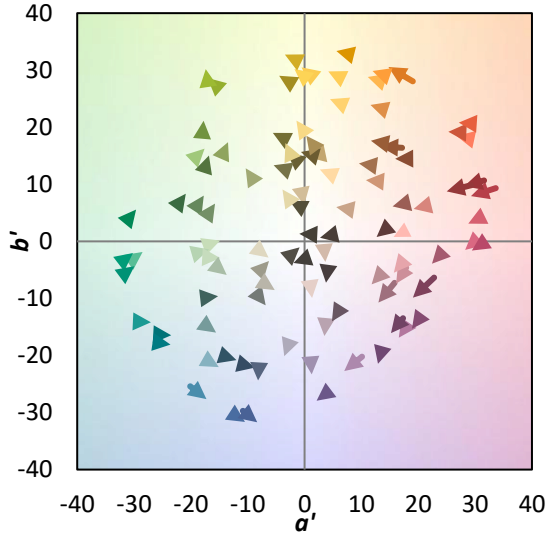


Color Vector Graphics







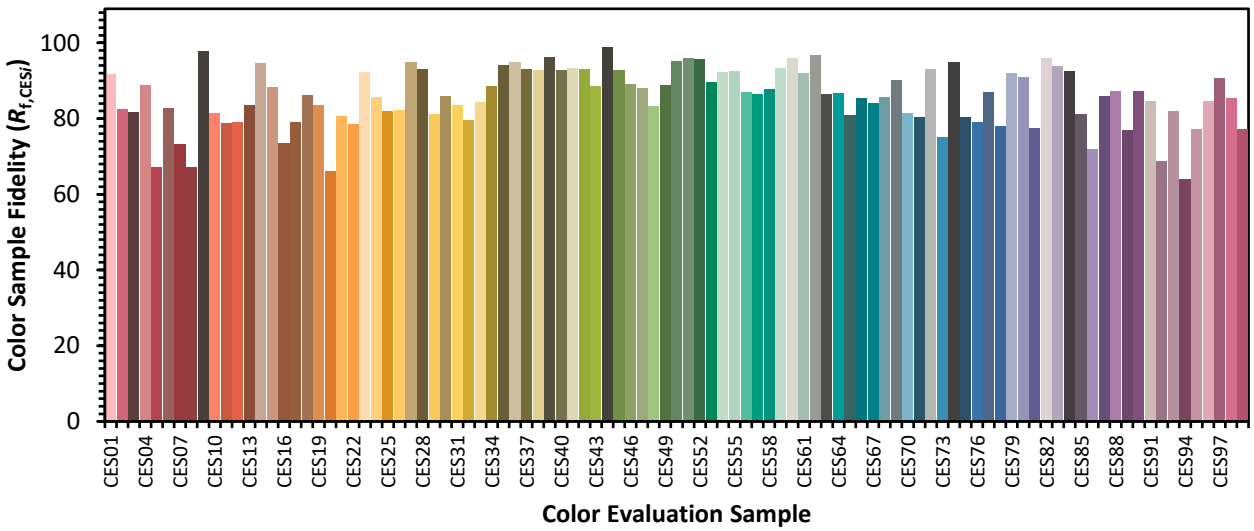


REPORT NUMBER: SP1-2509-539-7

TM-30-18

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

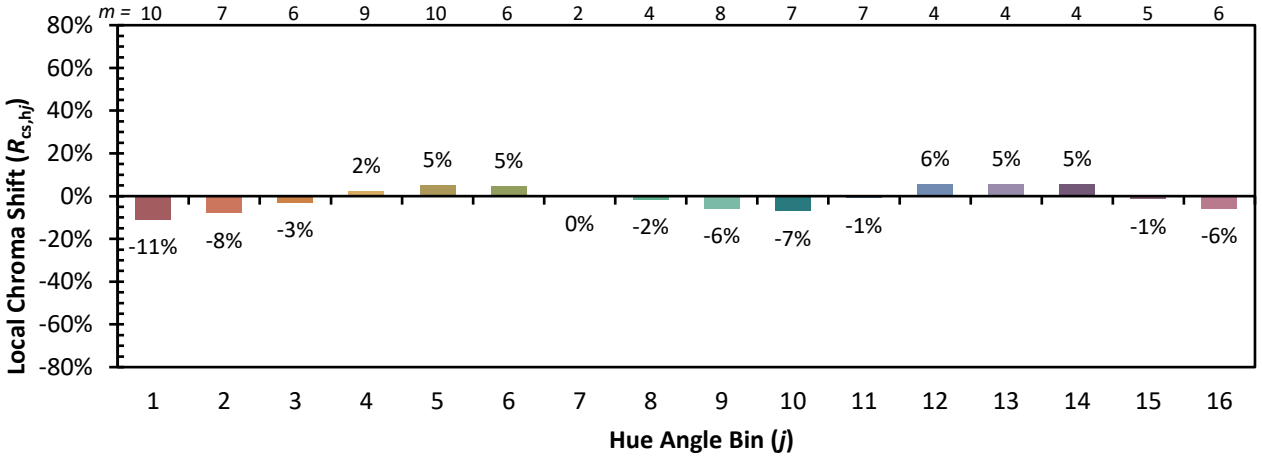
CES01 = 86	CES26 = 82	CES51 = 96	CES76 = 79
CES02 = 62	CES27 = 95	CES52 = 96	CES77 = 87
CES03 = 31	CES28 = 93	CES53 = 90	CES78 = 78
CES04 = 70	CES29 = 81	CES54 = 92	CES79 = 92
CES05 = 49	CES30 = 86	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 84	CES56 = 87	CES81 = 77
CES07 = 42	CES32 = 80	CES57 = 86	CES82 = 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	

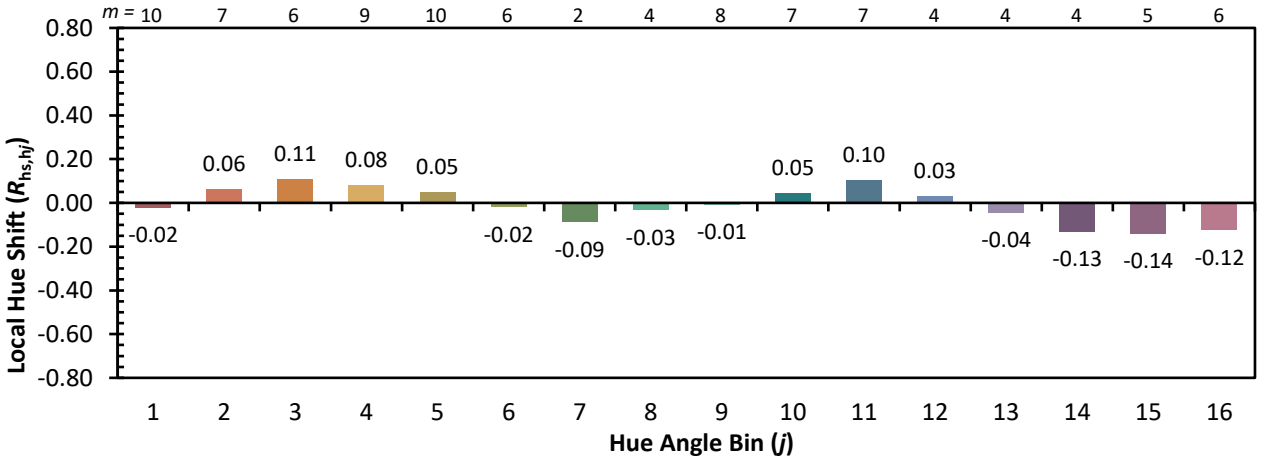


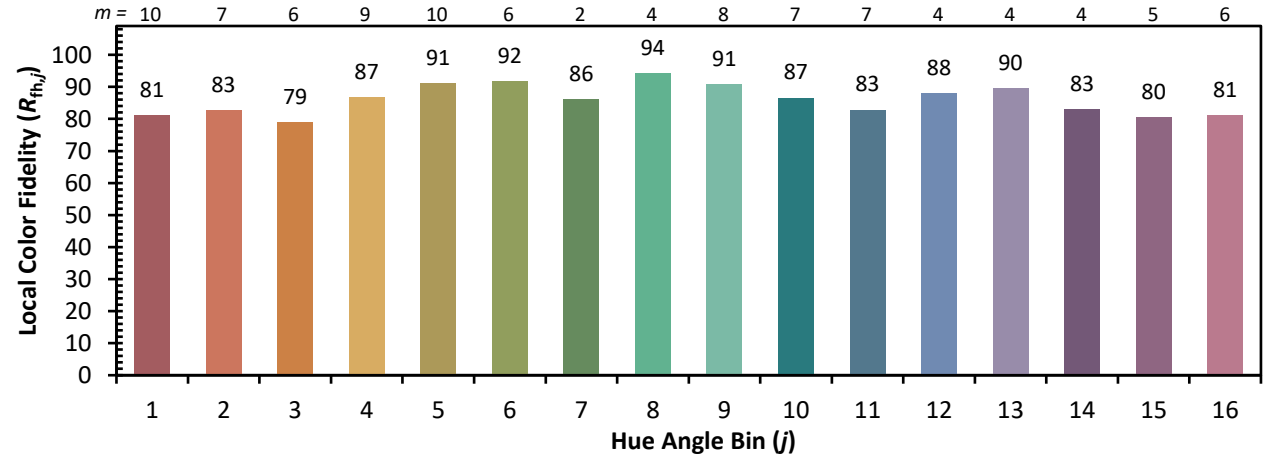
REPORT NUMBER: SP1-2509-539-7

TM-30-18

Color Rendition by Hue-Angle Bin



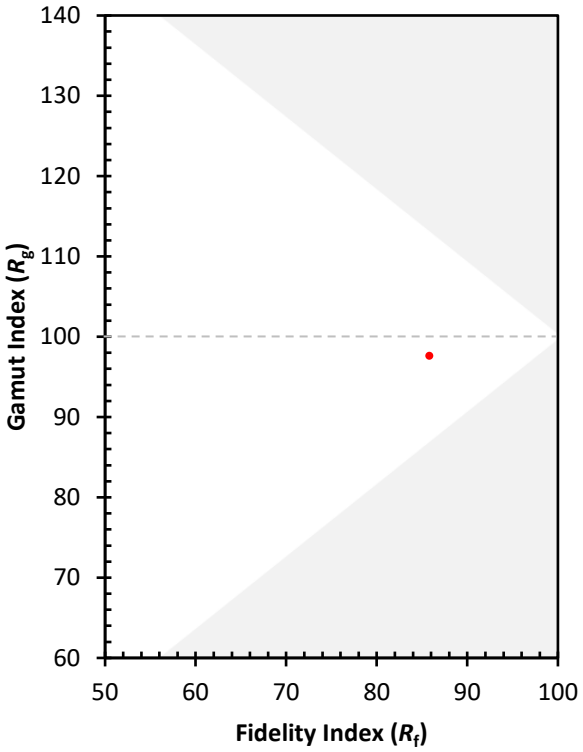


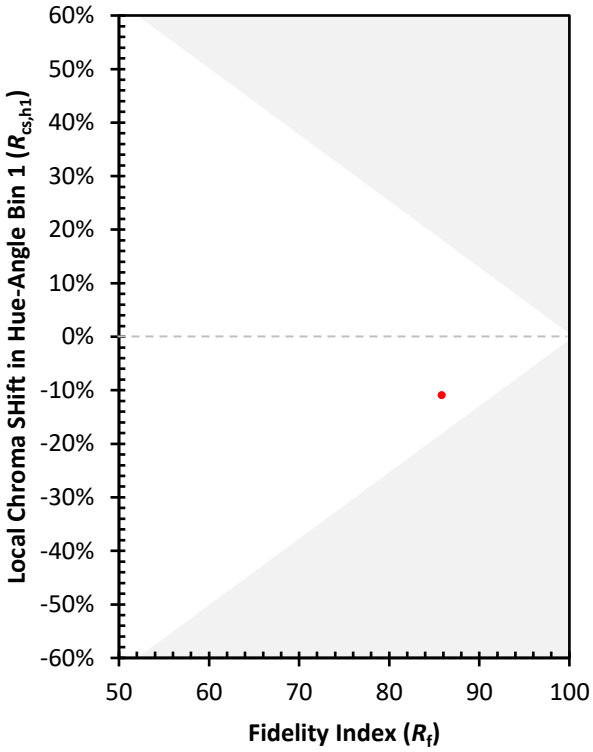


REPORT NUMBER: SP1-2509-539-7

TM-30-18

Measure Comparisons





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