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: P1442022

Luminaire Tested: ABB-C1-827-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:	P1442022
	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-C1-827-X-U-S-GM
Description:	ARBOR OUTDOOR ARCHITECTURAL BOLLARD LUMINAIRE
	SYMMETRIC OPTIC, GRAPHITE METALLIC PAINTED FINISH
Light Source:	2700K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	646.5 lumens
Efficiency:	N/A
Efficacy:	41.7 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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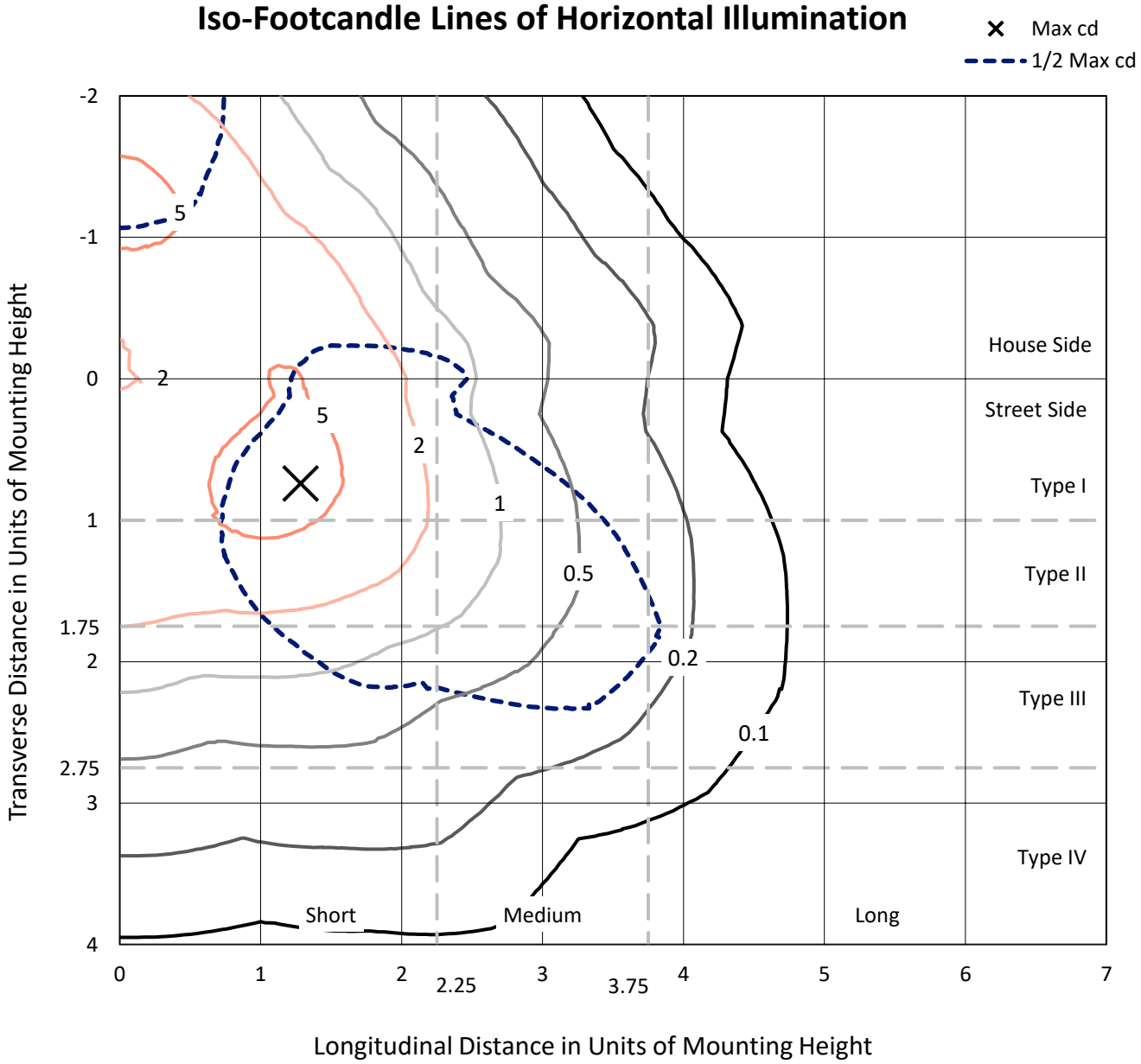
Iso-Footcandle Lines of Horizontal Illumination



Based on 3 foot mounting height. Maximum calculated value = 8.6 fc
Type III - Short - N/A

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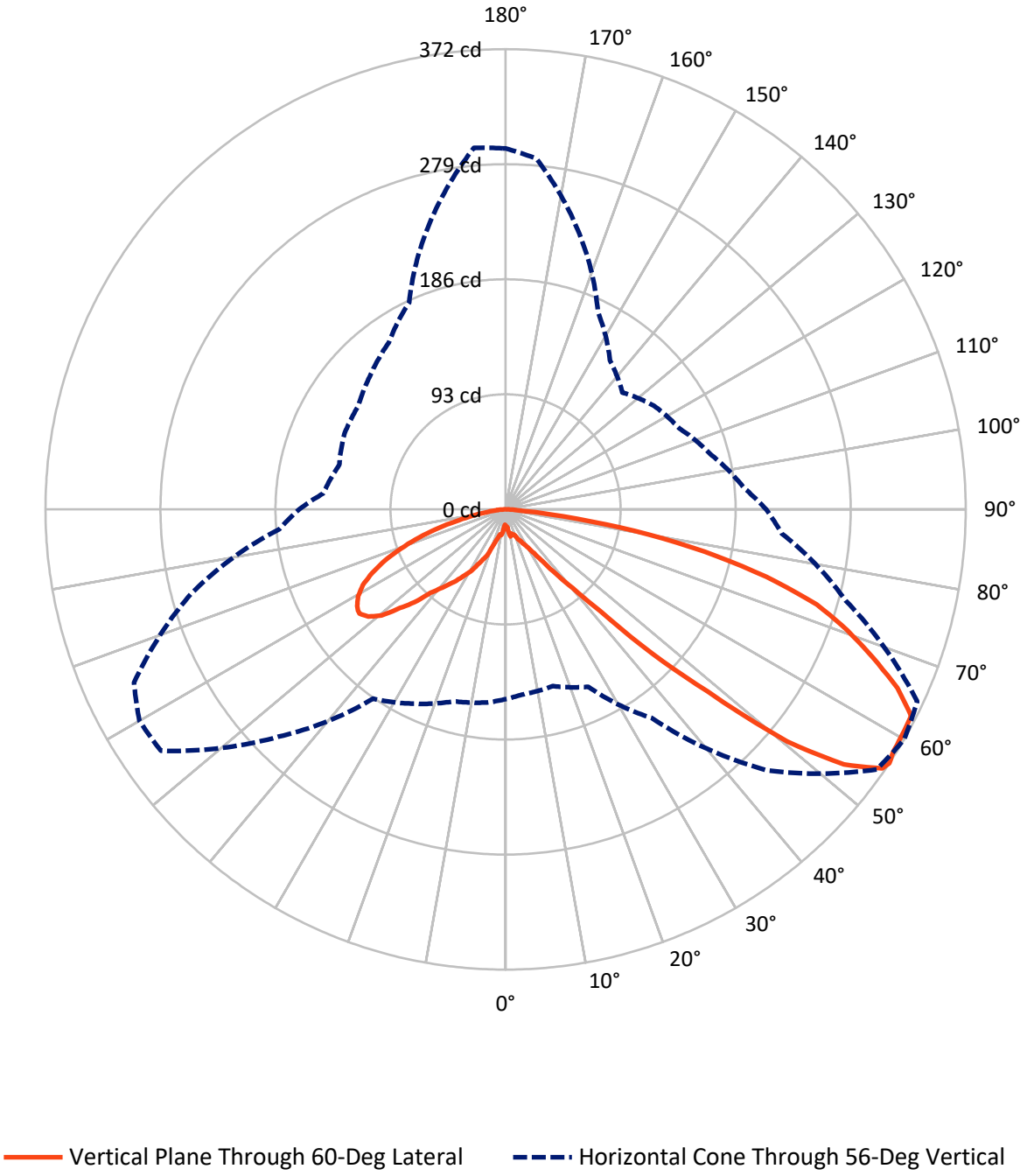
Luminous Intensity Polar Plot



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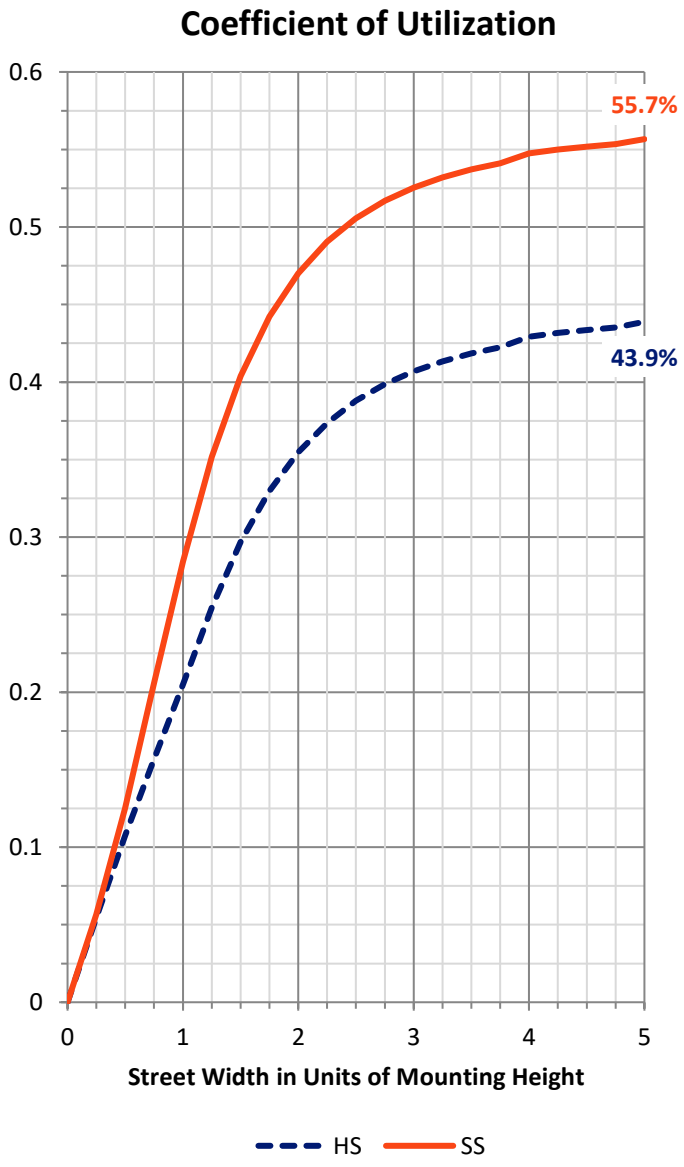
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	284.5	0.0	284.5
	% Fixture	44.0	0.0	44.0
Street Side	Lumens	362.0	0.0	362.0
	% Fixture	56.0	0.0	56.0
Total	Lumens	646.5	0.0	646.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1.6	0.3
10°-20°	7.0	1.1
20°-30°	17.2	2.7
30°-40°	37.8	5.8
40°-50°	93.5	14.5
50°-60°	180.2	27.9
60°-70°	183.1	28.3
70°-80°	109.9	17.0
80°-90°	16.2	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°	646.5	100.0
0°-180°	646.5	100.0



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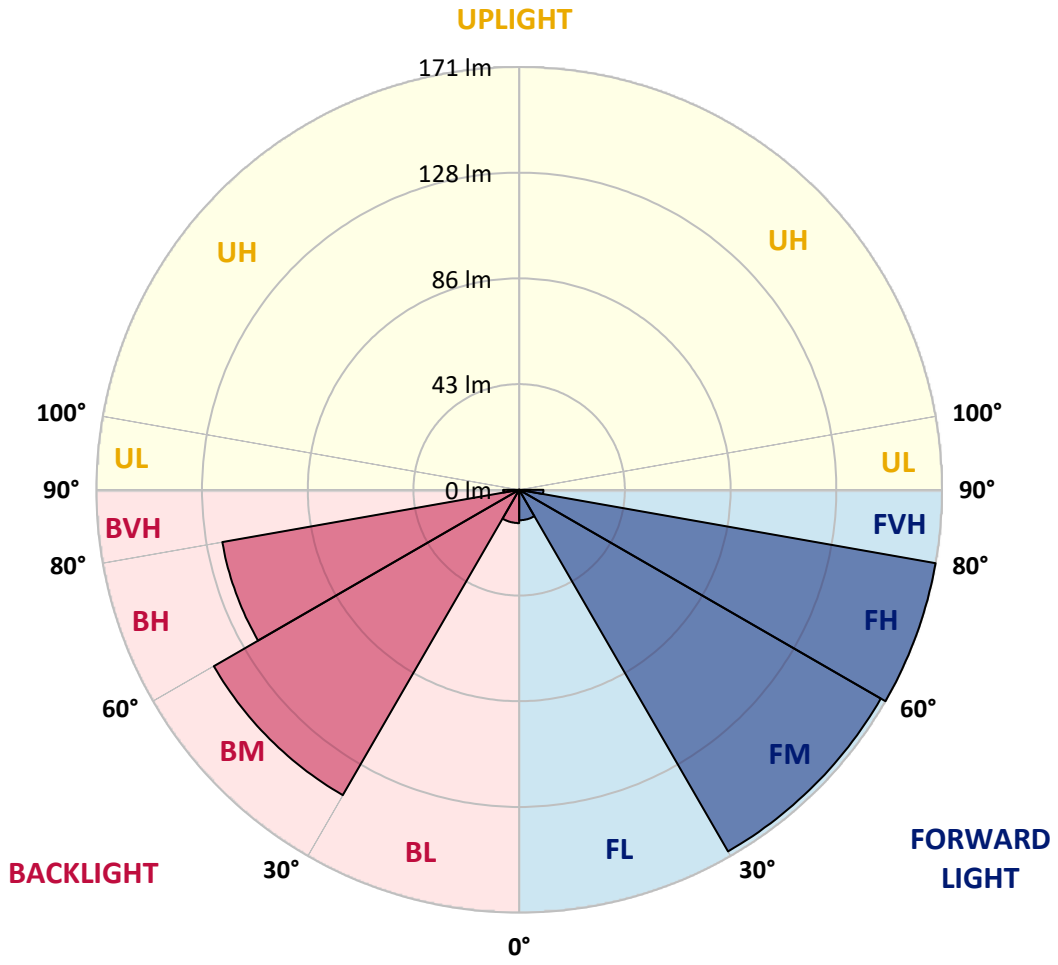
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	12.3	1.9			
FM	(30°-60°)	168.9	26.1			
FH	(60°-80°)	171.0	26.5			G0/660
FVH	(80°-90°)	9.8	1.5			G0/10
BL	(0°-30°)	13.5	2.1	B0/110		
BM	(30°-60°)	142.6	22.1	B0/220		
BH	(60°-80°)	121.9	18.9	B1/500		G1/500
BVH	(80°-90°)	6.5	1.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
2.5°	15.9	15.9	17.5	18.3	17.5	15.9	15.1	15.1	15.1	14.3	12.7
5°	22.2	20.6	18.3	18.3	17.5	16.7	14.3	14.3	14.3	12.7	11.9
7.5°	21.4	23.8	23.8	23.8	23.0	23.0	20.6	19.1	19.1	16.7	17.5
10°	23.0	23.0	22.2	26.2	24.6	24.6	22.2	22.2	22.2	21.4	21.4
12.5°	21.4	20.6	22.2	23.8	21.4	23.0	21.4	19.8	19.8	21.4	22.2
15°	22.2	23.0	23.8	26.2	25.4	23.8	21.4	21.4	21.4	24.6	24.6
17.5°	25.4	27.0	27.0	27.8	27.8	25.4	21.4	21.4	22.2	24.6	27.8
20°	29.4	29.4	29.4	29.4	29.4	27.0	23.0	23.0	24.6	26.2	29.4
22.5°	34.9	34.9	37.3	34.1	33.3	28.6	27.0	26.2	28.6	27.8	31.8
25°	42.9	45.3	42.9	36.5	35.7	31.0	28.6	28.6	29.4	33.3	34.1
27.5°	50.8	52.4	45.3	39.7	40.5	34.9	32.6	31.8	33.3	37.3	39.7
30°	55.6	56.4	50.0	43.7	45.3	39.7	37.3	35.7	37.3	42.1	46.8
32.5°	61.1	62.7	56.4	49.2	50.0	49.2	45.3	42.1	42.1	46.8	50.8
35°	69.1	68.3	61.1	54.0	55.6	58.8	57.2	51.6	50.8	50.8	58.0
37.5°	75.4	73.8	69.1	60.3	61.9	68.3	71.5	65.9	63.5	59.6	65.1
40°	81.8	81.8	76.2	66.7	73.8	83.4	91.3	83.4	79.4	72.3	73.0
42.5°	89.7	90.5	86.5	77.8	89.7	109.6	123.9	112.0	105.6	91.3	86.5
45°	105.6	108.8	104.8	96.9	112.7	146.9	173.1	165.9	155.6	123.1	112.0
47.5°	118.3	120.7	116.7	110.4	134.2	184.2	231.1	219.9	216.0	159.6	139.7
50°	135.8	135.8	134.2	133.4	166.7	245.3	292.2	294.6	295.4	211.2	179.4
52.5°	146.1	144.5	142.9	148.5	191.4	273.9	337.4	342.2	346.2	251.7	205.6
55°	152.4	150.1	147.7	157.2	203.3	294.6	362.1	369.2	365.2	277.9	219.1
56°	153.2	150.1	147.7	158.0	205.6	297.8	366.0	371.6	366.8	284.3	223.9
57.5°	152.4	149.3	146.1	158.8	206.4	297.8	364.4	369.2	368.4	289.0	227.1
60°	149.3	146.1	141.3	158.8	208.0	292.2	359.7	368.4	370.0	290.6	227.9
62.5°	143.7	142.1	134.2	156.4	205.6	280.3	358.1	367.6	366.0	283.5	218.4
65°	133.4	132.6	123.1	151.7	195.3	259.6	337.4	347.8	343.0	268.4	198.5
67.5°	119.9	118.3	109.6	142.9	185.0	235.0	313.6	320.0	318.4	250.9	176.3
70°	103.2	103.2	96.9	130.2	174.7	206.4	285.8	293.0	295.4	230.3	155.6
72.5°	85.8	86.5	83.4	114.3	158.8	175.5	250.9	262.8	265.2	203.3	129.4
75°	66.7	67.5	67.5	95.3	136.6	139.0	208.8	217.6	220.7	169.9	101.6
77.5°	47.6	47.6	50.0	72.3	109.6	97.7	158.0	164.4	169.9	128.6	68.3
80°	31.0	29.4	32.6	46.1	73.0	58.8	100.8	105.6	111.2	81.0	38.1
82.5°	18.3	16.7	18.3	21.4	31.0	27.0	46.1	46.8	59.6	35.7	15.9
85°	8.7	8.7	7.9	8.7	7.9	9.5	8.7	8.7	10.3	6.4	7.1
87.5°	6.4	5.6	5.6	5.6	5.6	7.1	6.4	6.4	7.1	4.8	5.6
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
2.5°	12.7	11.9	11.1	11.1	10.3	11.9	13.5	13.5	12.7	12.7	12.7
5°	12.7	13.5	14.3	15.9	17.5	15.9	15.1	13.5	11.9	11.1	11.1
7.5°	19.1	19.1	17.5	18.3	19.1	17.5	18.3	17.5	15.9	15.1	14.3
10°	21.4	22.2	25.4	23.8	23.0	23.0	22.2	21.4	19.8	18.3	17.5
12.5°	23.8	24.6	25.4	23.0	25.4	24.6	23.8	21.4	20.6	19.1	19.1
15°	25.4	27.0	26.2	27.0	26.2	26.2	25.4	23.0	22.2	19.1	18.3
17.5°	29.4	29.4	31.0	30.2	27.8	29.4	27.8	26.2	23.8	20.6	20.6
20°	31.0	33.3	34.1	34.1	32.6	33.3	34.1	31.8	27.8	25.4	25.4
22.5°	34.9	36.5	38.9	42.1	38.1	38.1	37.3	31.8	27.0	27.8	26.2
25°	39.7	38.1	41.3	46.8	43.7	39.7	40.5	35.7	31.8	31.0	29.4
27.5°	43.7	43.7	48.4	55.6	47.6	45.3	43.7	39.7	34.9	33.3	33.3
30°	54.0	50.0	55.6	59.6	58.0	47.6	47.6	42.9	39.7	37.3	38.1
32.5°	60.3	57.2	62.7	65.1	64.3	52.4	52.4	49.2	46.8	45.3	42.9
35°	66.7	67.5	68.3	71.5	69.9	61.9	56.4	54.0	54.0	54.0	52.4
37.5°	74.6	75.4	76.2	77.8	75.4	68.3	62.7	60.3	62.7	66.7	63.5
40°	82.6	85.8	83.4	84.2	82.6	76.2	72.3	70.7	76.2	85.0	80.2
42.5°	98.5	98.5	95.3	92.9	90.5	85.0	83.4	86.5	97.7	112.7	107.2
45°	119.1	118.3	112.7	108.8	105.6	99.2	99.2	108.8	131.0	154.0	154.8
47.5°	154.8	139.7	130.2	123.9	118.3	111.2	112.0	129.4	160.4	196.1	196.9
50°	183.4	171.5	154.8	140.5	133.4	125.5	129.4	155.6	198.5	231.1	239.0
52.5°	200.9	187.4	165.9	150.9	142.1	133.4	140.5	172.3	220.7	262.0	270.8
55°	207.2	192.1	172.3	155.6	146.1	135.0	146.9	177.1	229.5	281.1	289.8
56°	*210.4*	*193.7*	*171.5*	*154.8*	*146.1*	*133.4*	*146.9*	*176.3*	*230.3*	*284.3*	*291.4*
57.5°	213.6	192.9	169.9	154.0	145.3	131.8	146.9	174.7	229.5	284.3	292.2
60°	219.9	192.9	162.8	150.1	139.7	127.0	145.3	174.7	226.3	279.5	293.0
62.5°	215.2	191.4	153.2	141.3	135.0	121.5	139.7	172.3	218.4	275.5	293.0
65°	203.3	185.8	139.0	128.6	123.9	111.2	131.0	165.9	204.1	262.0	277.1
67.5°	188.2	177.9	123.9	113.5	109.6	100.0	119.9	154.0	184.2	235.8	250.9
70°	167.5	167.5	108.0	96.9	94.5	85.8	107.2	141.3	157.2	207.2	221.5
72.5°	138.2	143.7	94.5	78.6	77.0	72.3	91.3	123.9	128.6	177.1	192.1
75°	105.6	115.9	76.2	60.3	58.8	57.2	72.3	101.6	99.2	139.7	154.8
77.5°	69.9	81.8	55.6	42.9	40.5	41.3	51.6	77.8	69.1	99.2	112.0
80°	34.1	44.5	34.1	28.6	25.4	27.0	31.8	49.2	38.9	58.0	69.9
82.5°	11.1	14.3	16.7	15.9	14.3	14.3	15.1	19.8	17.5	21.4	29.4
85°	5.6	6.4	7.9	7.9	7.1	7.1	7.1	7.9	8.7	7.9	7.9
87.5°	4.0	4.0	6.4	6.4	5.6	5.6	5.6	5.6	7.1	6.4	6.4
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°	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
2.5°	13.5	13.5	13.5	13.5	11.9	12.7	11.9	12.7	12.7	12.7	12.7
5°	11.9	12.7	13.5	12.7	14.3	14.3	14.3	13.5	11.1	11.1	11.1
7.5°	15.9	16.7	16.7	15.1	16.7	19.1	18.3	17.5	15.1	14.3	13.5
10°	19.1	22.2	19.8	22.2	23.0	22.2	19.8	18.3	21.4	20.6	19.8
12.5°	19.1	20.6	22.2	25.4	27.8	21.4	19.8	22.2	21.4	21.4	19.8
15°	19.1	23.0	24.6	27.0	29.4	25.4	20.6	23.8	25.4	24.6	23.0
17.5°	21.4	23.8	25.4	29.4	31.8	29.4	24.6	26.2	27.8	30.2	28.6
20°	24.6	26.2	27.0	31.8	32.6	34.9	29.4	29.4	29.4	31.0	30.2
22.5°	27.8	31.0	31.0	34.9	35.7	41.3	38.9	31.0	29.4	33.3	32.6
25°	29.4	32.6	34.9	38.1	39.7	45.3	43.7	37.3	34.1	34.9	34.9
27.5°	34.1	36.5	38.9	41.3	46.8	49.2	52.4	42.1	38.9	38.9	38.9
30°	36.5	40.5	43.7	48.4	53.2	55.6	59.6	46.1	42.1	42.9	42.9
32.5°	42.9	44.5	49.2	54.8	58.0	62.7	63.5	51.6	46.8	46.8	46.1
35°	50.0	50.0	54.0	61.9	64.3	70.7	68.3	58.8	52.4	52.4	51.6
37.5°	61.1	58.8	61.1	69.1	72.3	77.0	74.6	65.9	58.8	59.6	58.8
40°	75.4	69.9	69.1	77.8	79.4	84.2	81.0	73.8	67.5	68.3	67.5
42.5°	98.5	85.0	83.4	87.3	88.9	92.1	88.9	83.4	79.4	81.8	83.4
45°	144.5	116.7	106.4	108.8	107.2	107.2	103.2	100.0	96.1	99.2	104.0
47.5°	188.2	149.3	133.4	123.1	119.9	118.3	115.1	112.7	107.2	115.1	126.2
50°	230.3	186.6	161.2	149.3	142.9	132.6	131.0	128.6	128.6	140.5	153.2
52.5°	267.6	217.6	179.4	162.8	152.4	142.1	139.0	136.6	140.5	158.8	172.3
55°	292.2	235.8	184.2	165.2	154.8	146.1	143.7	139.7	146.9	165.9	182.6
56°	*293.0*	*238.2*	*184.2*	*164.4*	*154.0*	*145.3*	*143.7*	*139.0*	*147.7*	*166.7*	*183.4*
57.5°	292.2	240.6	182.6	163.6	151.7	143.7	142.1	136.6	147.7	167.5	185.0
60°	285.8	239.0	177.9	162.8	145.3	138.2	138.2	130.2	145.3	169.1	186.6
62.5°	287.4	233.4	169.9	158.0	135.0	129.4	131.8	122.3	139.7	169.1	185.8
65°	276.3	224.7	155.6	149.3	123.1	116.7	122.3	109.6	131.8	161.2	177.1
67.5°	250.9	207.2	140.5	139.7	109.6	103.2	108.8	97.7	120.7	151.7	167.5
70°	222.3	182.6	121.5	125.5	96.1	87.3	92.9	83.4	108.0	139.0	156.4
72.5°	192.9	154.0	98.5	106.4	81.0	71.5	75.4	69.9	92.9	121.5	137.4
75°	156.4	121.5	73.8	84.2	64.3	54.8	56.4	54.8	75.4	100.0	114.3
77.5°	114.3	87.3	48.4	59.6	46.1	38.1	38.9	39.7	55.6	73.8	86.5
80°	69.9	55.6	27.0	34.9	28.6	25.4	23.8	25.4	34.9	45.3	53.2
82.5°	27.8	22.2	11.1	13.5	14.3	14.3	13.5	13.5	16.7	17.5	16.7
85°	7.9	5.6	6.4	5.6	7.1	7.1	6.4	5.6	6.4	6.4	6.4
87.5°	6.4	4.0	4.8	4.0	5.6	6.4	4.8	4.8	4.8	4.8	4.8
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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Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P1442022
CATALOG NUMBER: ABB-C1-827-X-U-S-GM

CANDELA DISTRIBUTION (continued):

	285°	295°	300°	305°	315°	325°	335°	345°	355°	360°
0°	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
2.5°	12.7	13.5	13.5	14.3	15.1	15.9	15.9	15.9	15.9	15.9
5°	11.9	11.1	11.1	10.3	11.1	12.7	14.3	15.9	19.8	22.2
7.5°	14.3	14.3	14.3	14.3	13.5	14.3	16.7	19.1	21.4	21.4
10°	19.8	19.1	18.3	19.1	19.1	17.5	19.8	23.0	24.6	23.0
12.5°	19.1	18.3	17.5	17.5	18.3	19.1	23.0	25.4	21.4	21.4
15°	21.4	19.8	19.1	19.1	19.1	22.2	25.4	27.0	22.2	22.2
17.5°	23.8	20.6	19.1	19.8	21.4	23.8	27.8	27.8	25.4	25.4
20°	25.4	22.2	21.4	23.0	23.0	27.8	28.6	30.2	29.4	29.4
22.5°	27.8	23.8	23.0	23.8	26.2	30.2	32.6	36.5	32.6	34.9
25°	31.0	27.0	27.0	26.2	28.6	32.6	36.5	38.9	38.9	42.9
27.5°	34.1	31.8	31.8	31.0	31.0	35.7	42.1	43.7	48.4	50.8
30°	38.9	38.1	36.5	35.7	35.7	38.1	46.1	52.4	58.0	55.6
32.5°	45.3	45.3	43.7	44.5	41.3	43.7	52.4	58.8	61.9	61.1
35°	52.4	54.0	52.4	51.6	48.4	50.0	58.0	66.7	69.1	69.1
37.5°	64.3	65.1	63.5	61.1	57.2	56.4	65.9	72.3	75.4	75.4
40°	79.4	84.2	80.2	75.4	66.7	65.1	74.6	79.4	82.6	81.8
42.5°	100.0	107.2	106.4	99.2	79.4	74.6	85.0	88.9	90.5	89.7
45°	135.0	154.0	158.0	149.3	110.4	96.1	108.0	110.4	108.8	105.6
47.5°	165.2	194.5	208.8	196.9	136.6	114.3	124.7	126.2	121.5	118.3
50°	216.0	259.6	266.8	259.6	189.8	146.1	149.3	146.9	139.7	135.8
52.5°	243.8	300.1	310.5	304.1	229.5	170.7	165.2	156.4	150.1	146.1
55°	258.8	327.1	340.6	335.9	253.3	185.0	172.3	161.2	156.4	152.4
56°	*262.8*	*331.1*	*341.4*	*339.8*	*259.6*	*186.6*	*173.1*	*160.4*	*156.4*	*153.2*
57.5°	264.4	331.1	339.0	338.2	265.2	186.6	172.3	158.0	155.6	152.4
60°	258.0	326.3	331.9	330.3	267.6	185.8	171.5	151.7	150.9	149.3
62.5°	241.4	322.4	334.3	331.9	265.2	179.4	171.5	141.3	142.9	143.7
65°	224.7	304.9	319.2	319.2	254.9	166.7	167.5	129.4	129.4	133.4
67.5°	202.5	278.7	293.8	294.6	237.4	148.5	159.6	117.5	115.1	119.9
70°	173.1	246.9	263.6	263.6	215.2	129.4	148.5	104.0	98.5	103.2
72.5°	144.5	212.8	231.8	232.6	186.6	109.6	131.8	90.5	81.0	85.8
75°	113.5	172.3	191.4	196.1	156.4	86.5	109.6	76.2	63.5	66.7
77.5°	81.0	128.6	144.5	146.1	119.9	61.9	82.6	57.2	45.3	47.6
80°	49.2	81.8	94.5	101.6	79.4	38.1	51.6	37.3	30.2	31.0
82.5°	21.4	35.7	43.7	50.0	37.3	18.3	16.7	19.1	17.5	18.3
85°	7.9	7.9	8.7	9.5	7.1	7.1	6.4	8.7	8.7	8.7
87.5°	6.4	6.4	6.4	6.4	4.8	5.6	4.0	6.4	6.4	6.4
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: SP1-2509-539-6

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

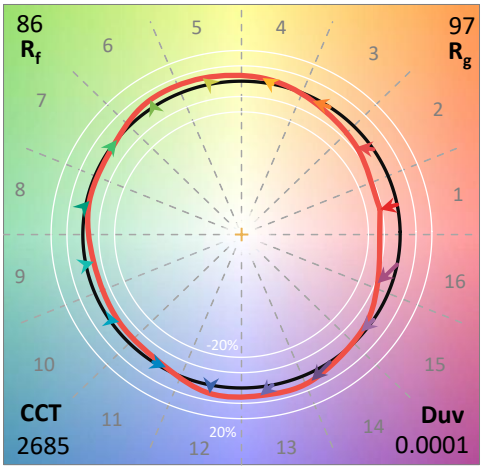
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2509-539-6
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-C1-827-LED-XX-Dx-S-GM-SPECULAR REFLECTOR

Spectral Parameters

CCT (K):	2685
CIE u':	0.2631
CIE v':	0.5278
Duv:	0.0001
CIE x:	0.4613
CIE y:	0.4112
CIE z:	0.1276
Peak Wavelength (nm):	607
Dominant Wavelength (nm):	584
Purity:	61.87869
Rf:	85.8
Rg:	97.1

CRI (Ra):	83.3				
R1:	82.0	R9:	7.2		
R2:	92.1	R10:	83.2		
R3:	95.4	R11:	84.1		
R4:	82.6	R12:	80.9		
R5:	82.9	R13:	84.4		
R6:	92.4	R14:	98.1		
R7:	81.6	R15:	73.2		
R8:	57.2				



Test Conditions

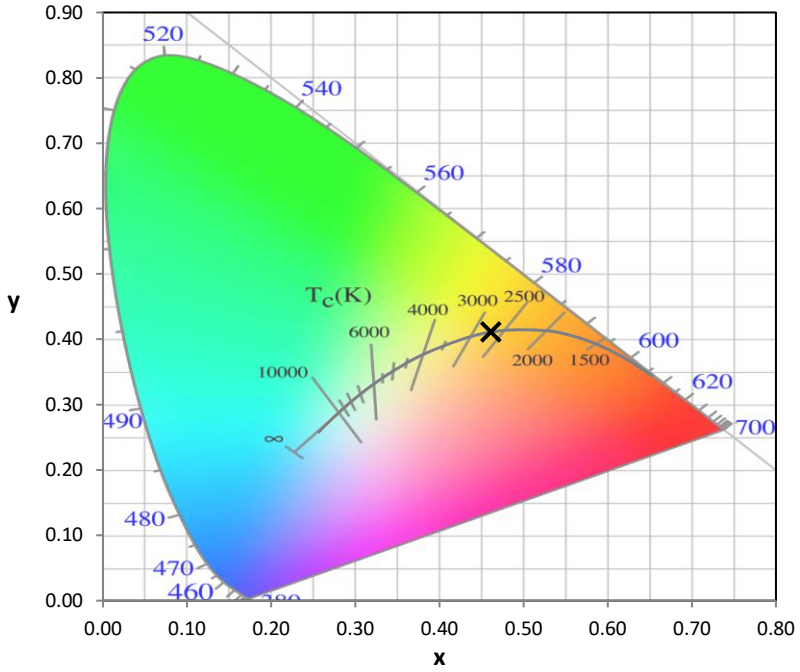
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2509-539-6

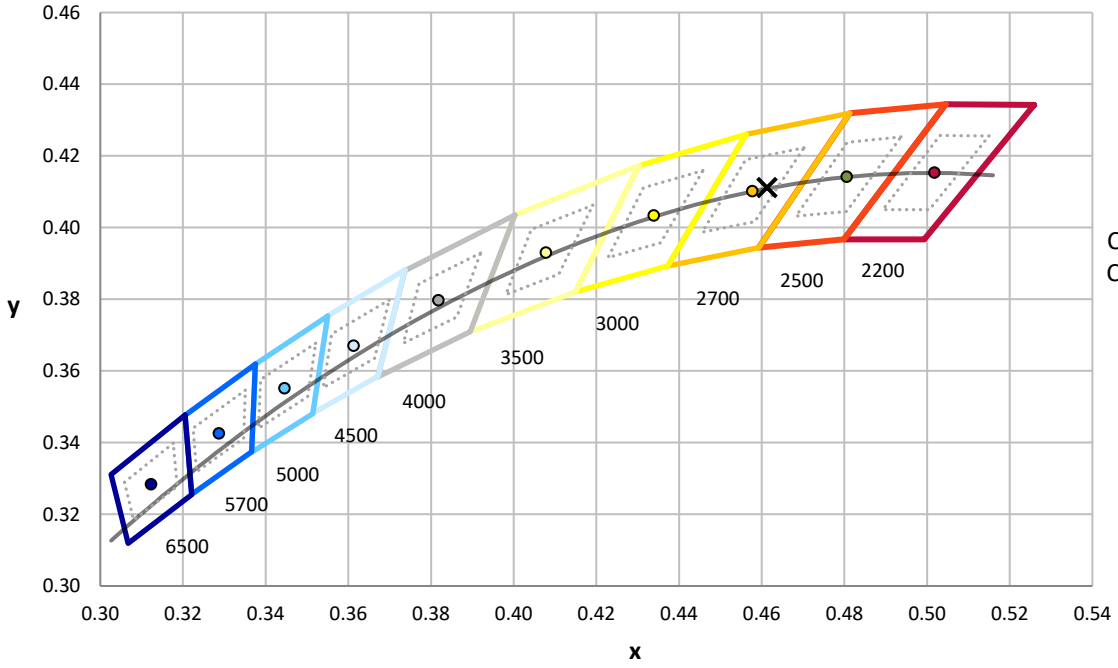
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

CIE 1931 Chromaticity Diagram



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



CCT = 2685K
CIE x = 0.4613
CIE y = 0.4112
Duv = 0.0001

Point lies inside the ANSI 2700K 4-step quadrangle

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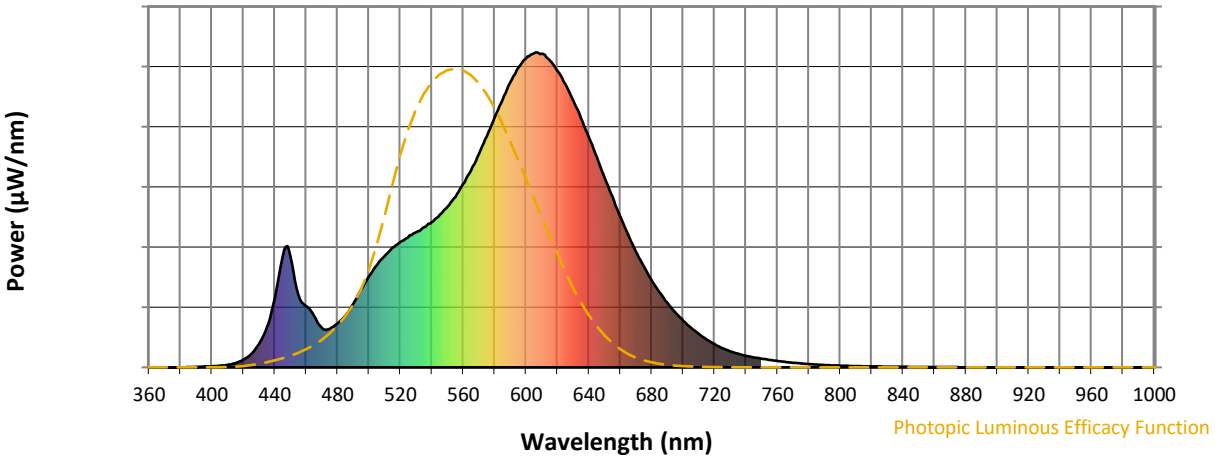
Photopic Flux vs. Wavelength



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	202	NR	620	941	NR	750	28	NR	880	0	NR
365	0	NR	495	247	NR	625	900	NR	755	24	NR	885	0	NR
370	0	NR	500	290	NR	630	847	NR	760	20	NR	890	0	NR
375	0	NR	505	324	NR	635	791	NR	765	17	NR	895	0	NR
380	0	NR	510	354	NR	640	730	NR	770	15	NR	900	0	NR
385	1	NR	515	380	NR	645	668	NR	775	13	NR	905	0	NR
390	2	NR	520	398	NR	650	602	NR	780	11	NR	910	0	NR
395	3	NR	525	413	NR	655	541	NR	785	9	NR	915	0	NR
400	3	NR	530	428	NR	660	478	NR	790	8	NR	920	0	NR
405	5	NR	535	445	NR	665	421	NR	795	6	NR	925	0	NR
410	8	NR	540	461	NR	670	367	NR	800	5	NR	930	0	NR
415	14	NR	545	485	NR	675	320	NR	805	5	NR	935	0	NR
420	24	NR	550	510	NR	680	277	NR	810	4	NR	940	0	NR
425	43	NR	555	541	NR	685	238	NR	815	3	NR	945	0	NR
430	74	NR	560	582	NR	690	205	NR	820	3	NR	950	0	NR
435	128	NR	565	626	NR	695	175	NR	825	3	NR	955	0	NR
440	218	NR	570	677	NR	700	148	NR	830	2	NR	960	0	NR
445	352	NR	575	734	NR	705	126	NR	835	2	NR	965	0	NR
450	354	NR	580	793	NR	710	106	NR	840	2	NR	970	0	NR
455	230	NR	585	849	NR	715	89	NR	845	1	NR	975	0	NR
460	195	NR	590	907	NR	720	74	NR	850	1	NR	980	0	NR
465	164	NR	595	951	NR	725	61	NR	855	1	NR	985	0	NR
470	125	NR	600	981	NR	730	51	NR	860	1	NR	990	0	NR
475	122	NR	605	997	NR	735	43	NR	865	1	NR	995	0	NR
480	140	NR	610	996	NR	740	37	NR	870	1	NR	1000	0	NR
485	164	NR	615	976	NR	745	32	NR	875	1	NR			

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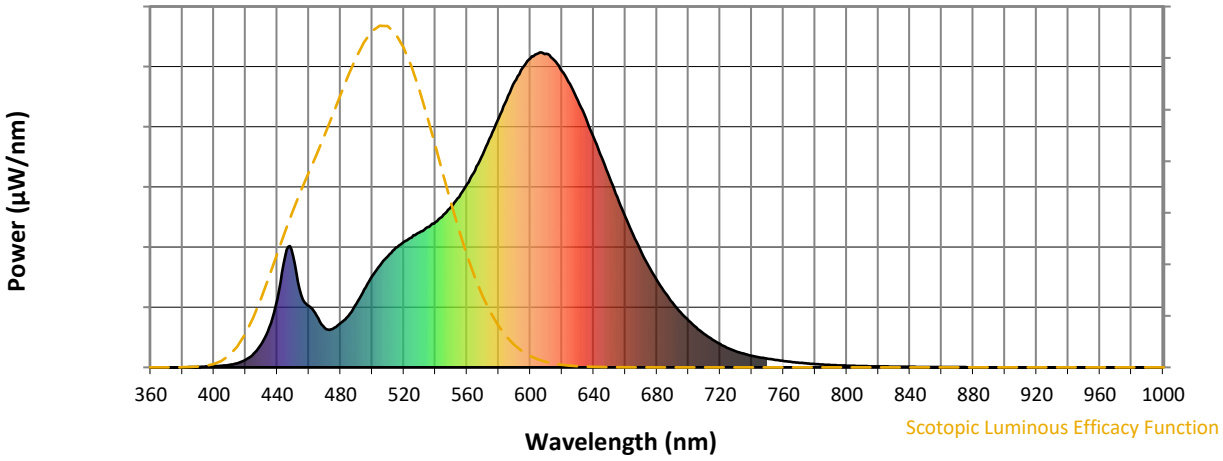
Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 1.22**

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	202	NR	620	941	NR	750	28	NR	880	0	NR
365	0	NR	495	247	NR	625	900	NR	755	24	NR	885	0	NR
370	0	NR	500	290	NR	630	847	NR	760	20	NR	890	0	NR
375	0	NR	505	324	NR	635	791	NR	765	17	NR	895	0	NR
380	0	NR	510	354	NR	640	730	NR	770	15	NR	900	0	NR
385	1	NR	515	380	NR	645	668	NR	775	13	NR	905	0	NR
390	2	NR	520	398	NR	650	602	NR	780	11	NR	910	0	NR
395	3	NR	525	413	NR	655	541	NR	785	9	NR	915	0	NR
400	3	NR	530	428	NR	660	478	NR	790	8	NR	920	0	NR
405	5	NR	535	445	NR	665	421	NR	795	6	NR	925	0	NR
410	8	NR	540	461	NR	670	367	NR	800	5	NR	930	0	NR
415	14	NR	545	485	NR	675	320	NR	805	5	NR	935	0	NR
420	24	NR	550	510	NR	680	277	NR	810	4	NR	940	0	NR
425	43	NR	555	541	NR	685	238	NR	815	3	NR	945	0	NR
430	74	NR	560	582	NR	690	205	NR	820	3	NR	950	0	NR
435	128	NR	565	626	NR	695	175	NR	825	3	NR	955	0	NR
440	218	NR	570	677	NR	700	148	NR	830	2	NR	960	0	NR
445	352	NR	575	734	NR	705	126	NR	835	2	NR	965	0	NR
450	354	NR	580	793	NR	710	106	NR	840	2	NR	970	0	NR
455	230	NR	585	849	NR	715	89	NR	845	1	NR	975	0	NR
460	195	NR	590	907	NR	720	74	NR	850	1	NR	980	0	NR
465	164	NR	595	951	NR	725	61	NR	855	1	NR	985	0	NR
470	125	NR	600	981	NR	730	51	NR	860	1	NR	990	0	NR
475	122	NR	605	997	NR	735	43	NR	865	1	NR	995	0	NR
480	140	NR	610	996	NR	740	37	NR	870	1	NR	1000	0	NR
485	164	NR	615	976	NR	745	32	NR	875	1	NR			

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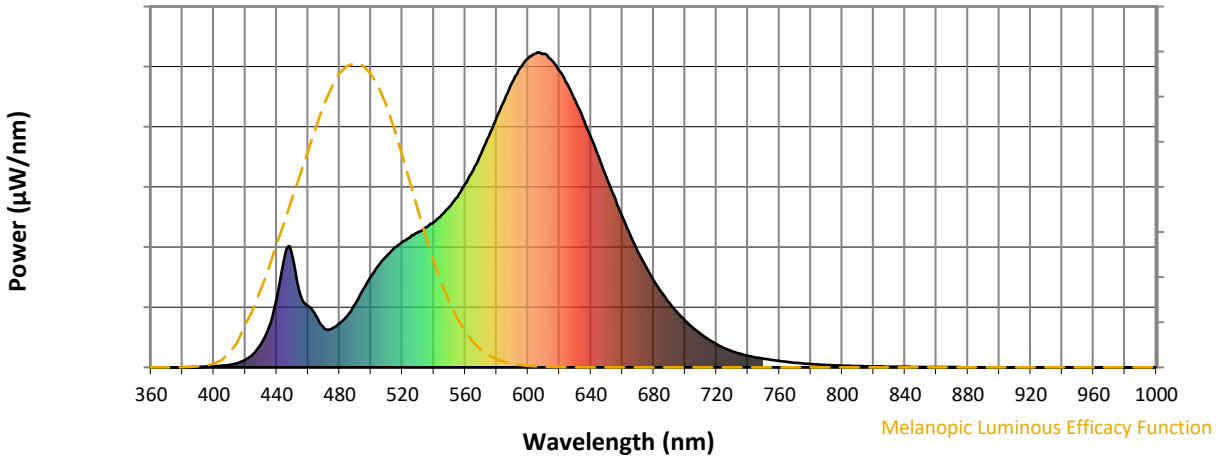
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.26**

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	202	NR	620	941	NR	750	28	NR	880	0	NR
365	0	NR	495	247	NR	625	900	NR	755	24	NR	885	0	NR
370	0	NR	500	290	NR	630	847	NR	760	20	NR	890	0	NR
375	0	NR	505	324	NR	635	791	NR	765	17	NR	895	0	NR
380	0	NR	510	354	NR	640	730	NR	770	15	NR	900	0	NR
385	1	NR	515	380	NR	645	668	NR	775	13	NR	905	0	NR
390	2	NR	520	398	NR	650	602	NR	780	11	NR	910	0	NR
395	3	NR	525	413	NR	655	541	NR	785	9	NR	915	0	NR
400	3	NR	530	428	NR	660	478	NR	790	8	NR	920	0	NR
405	5	NR	535	445	NR	665	421	NR	795	6	NR	925	0	NR
410	8	NR	540	461	NR	670	367	NR	800	5	NR	930	0	NR
415	14	NR	545	485	NR	675	320	NR	805	5	NR	935	0	NR
420	24	NR	550	510	NR	680	277	NR	810	4	NR	940	0	NR
425	43	NR	555	541	NR	685	238	NR	815	3	NR	945	0	NR
430	74	NR	560	582	NR	690	205	NR	820	3	NR	950	0	NR
435	128	NR	565	626	NR	695	175	NR	825	3	NR	955	0	NR
440	218	NR	570	677	NR	700	148	NR	830	2	NR	960	0	NR
445	352	NR	575	734	NR	705	126	NR	835	2	NR	965	0	NR
450	354	NR	580	793	NR	710	106	NR	840	2	NR	970	0	NR
455	230	NR	585	849	NR	715	89	NR	845	1	NR	975	0	NR
460	195	NR	590	907	NR	720	74	NR	850	1	NR	980	0	NR
465	164	NR	595	951	NR	725	61	NR	855	1	NR	985	0	NR
470	125	NR	600	981	NR	730	51	NR	860	1	NR	990	0	NR
475	122	NR	605	997	NR	735	43	NR	865	1	NR	995	0	NR
480	140	NR	610	996	NR	740	37	NR	870	1	NR	1000	0	NR
485	164	NR	615	976	NR	745	32	NR	875	1	NR			

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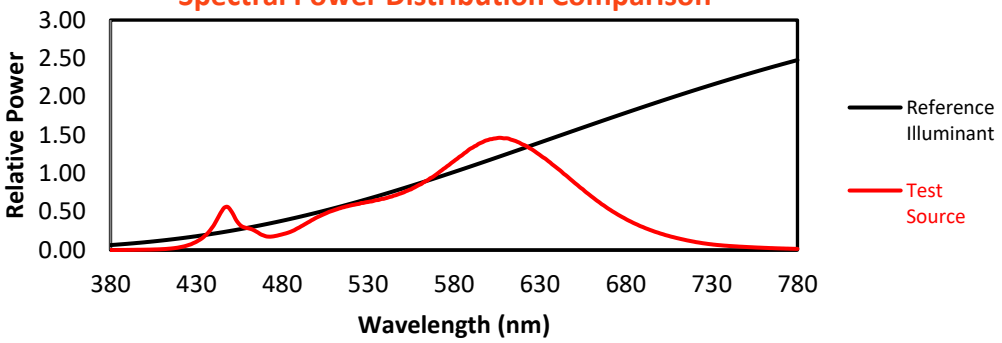
TM-30-18

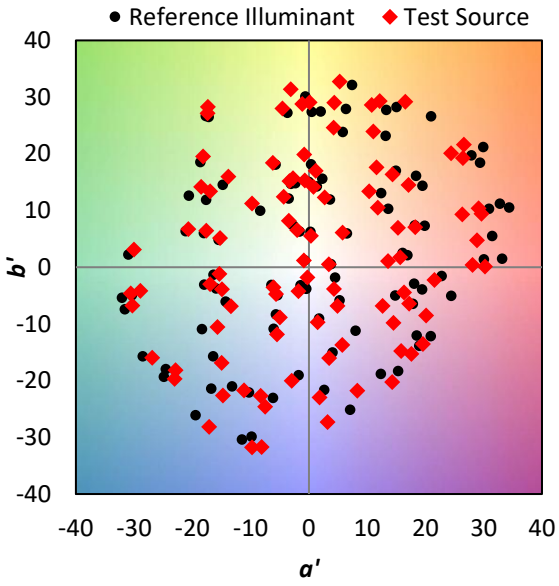
Summary

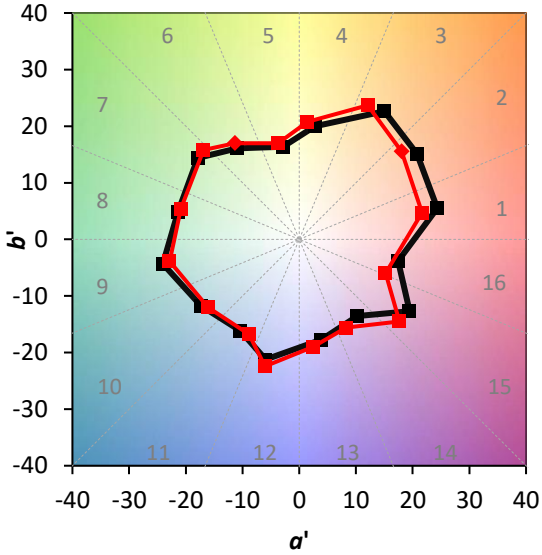
R_f = 85.8
R_g = 97.1
CIE R_a = 83.3
R_9 = 7.2

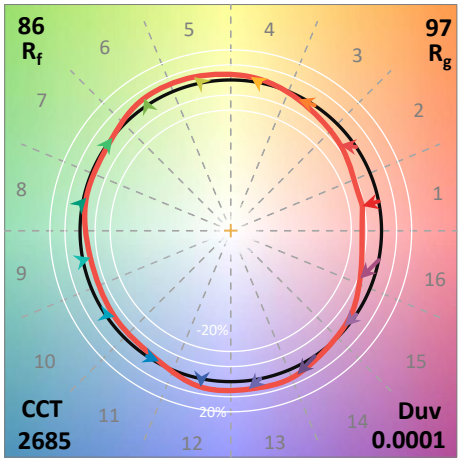
Spectral Power Distribution Comparison

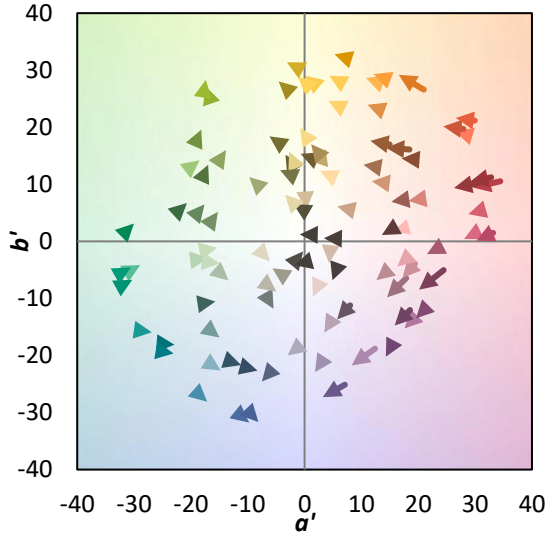


Color Vector Graphics









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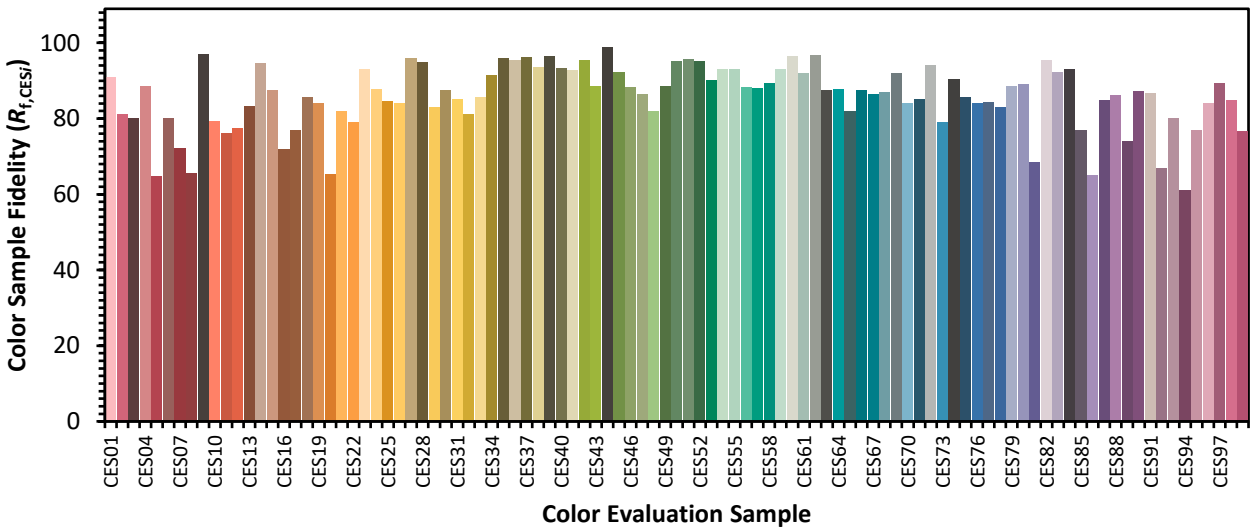
TM-30-18

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

CES01 = 86	CES26 = 84	CES51 = 96	CES76 = 84
CES02 = 64	CES27 = 96	CES52 = 95	CES77 = 84
CES03 = 32	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 71	CES29 = 83	CES54 = 93	CES79 = 89
CES05 = 51	CES30 = 87	CES55 = 93	CES80 = 89
CES06 = 52	CES31 = 85	CES56 = 88	CES81 = 69
CES07 = 43	CES32 = 81	CES57 = 88	CES82 = 95
CES08 = 42	CES33 = 86	CES58 = 89	CES83 = 92
CES09 = 29	CES34 = 91	CES59 = 93	CES84 = 93
CES10 = 77	CES35 = 96	CES60 = 97	CES85 = 77
CES11 = 60	CES36 = 95	CES61 = 92	CES86 = 65
CES12 = 66	CES37 = 96	CES62 = 97	CES87 = 85
CES13 = 44	CES38 = 94	CES63 = 87	CES88 = 86
CES14 = 74	CES39 = 96	CES64 = 88	CES89 = 74
CES15 = 72	CES40 = 93	CES65 = 82	CES90 = 87
CES16 = 48	CES41 = 93	CES66 = 87	CES91 = 87
CES17 = 50	CES42 = 95	CES67 = 86	CES92 = 67
CES18 = 57	CES43 = 89	CES68 = 87	CES93 = 80
CES19 = 73	CES44 = 99	CES69 = 92	CES94 = 61
CES20 = 67	CES45 = 92	CES70 = 84	CES95 = 77
CES21 = 87	CES46 = 88	CES71 = 85	CES96 = 84
CES22 = 79	CES47 = 86	CES72 = 94	CES97 = 89
CES23 = 92	CES48 = 82	CES73 = 79	CES98 = 85
CES24 = 91	CES49 = 89	CES74 = 90	CES99 = 77
CES25 = 72	CES50 = 95	CES75 = 86	



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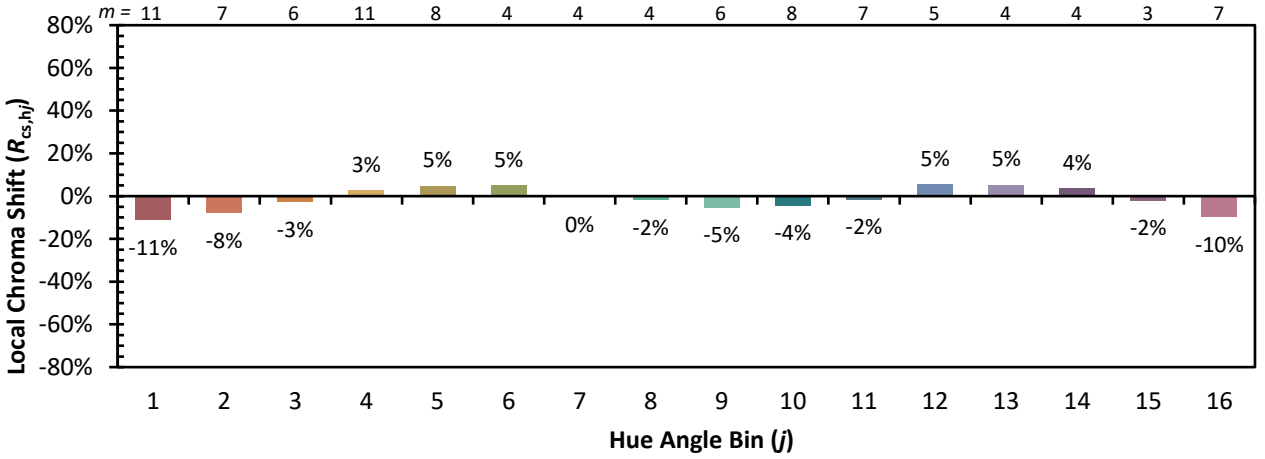
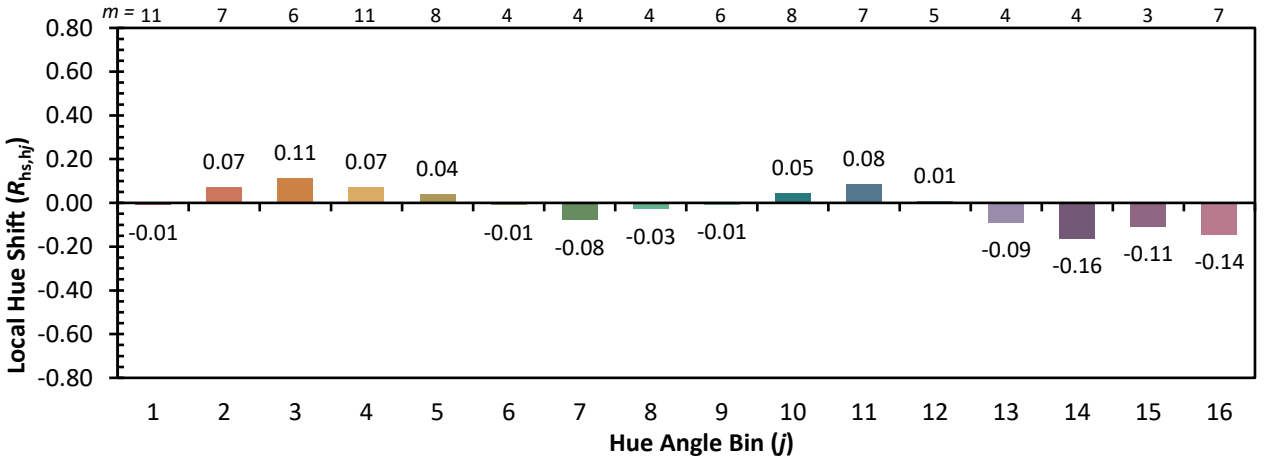
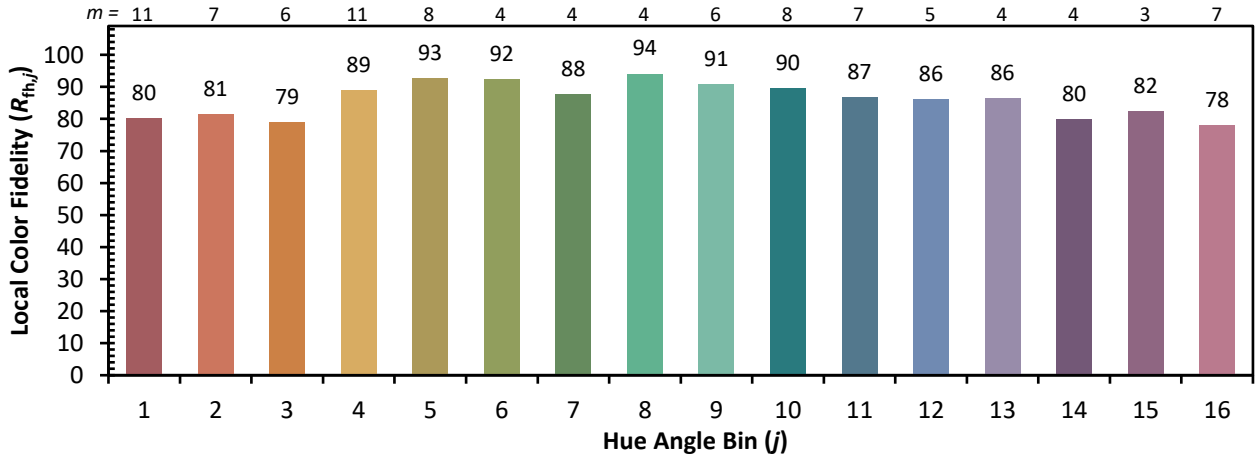
TM-30-18

Color Rendition by Hue-Angle Bin







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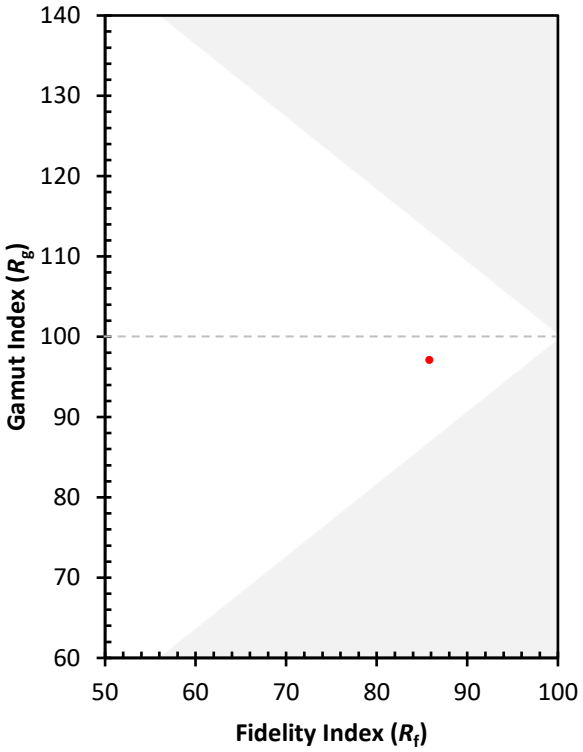
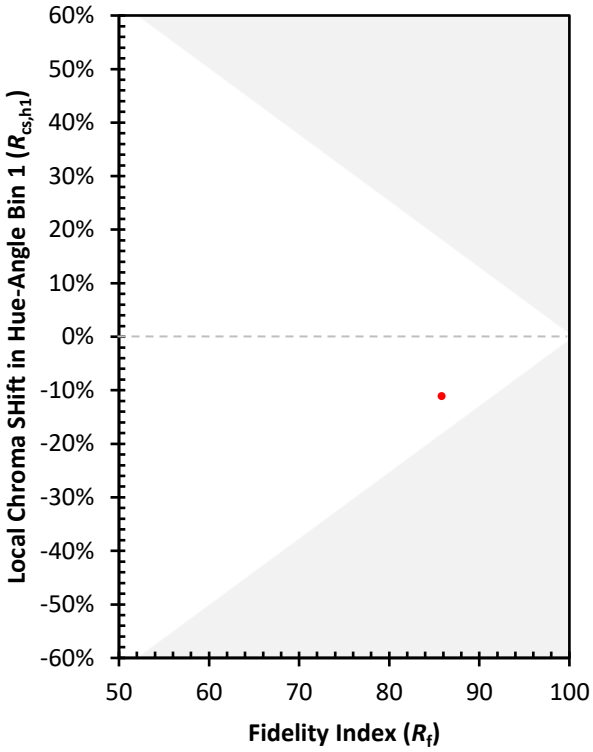
Measure Comparisons





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