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: P1442050

Luminaire Tested: ABB-C3-835-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:	P1442050
	TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-539-29)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	4/24/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	INVUE
Catalog Number:	ABB-C3-835-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:	1407.4 lumens
Efficiency:	N/A
Efficacy:	41.3 lumens/watt
Luminous Opening:	Circular (Dia: 0.4' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B1 - U0 - G1

Input Watts (W):	34.1
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9934
Total Harmonic Distortion (THDi):	0.0961153
Frequency (hertz):	60
Stabilization Time:	0.5 HR
Operation Time:	3 HR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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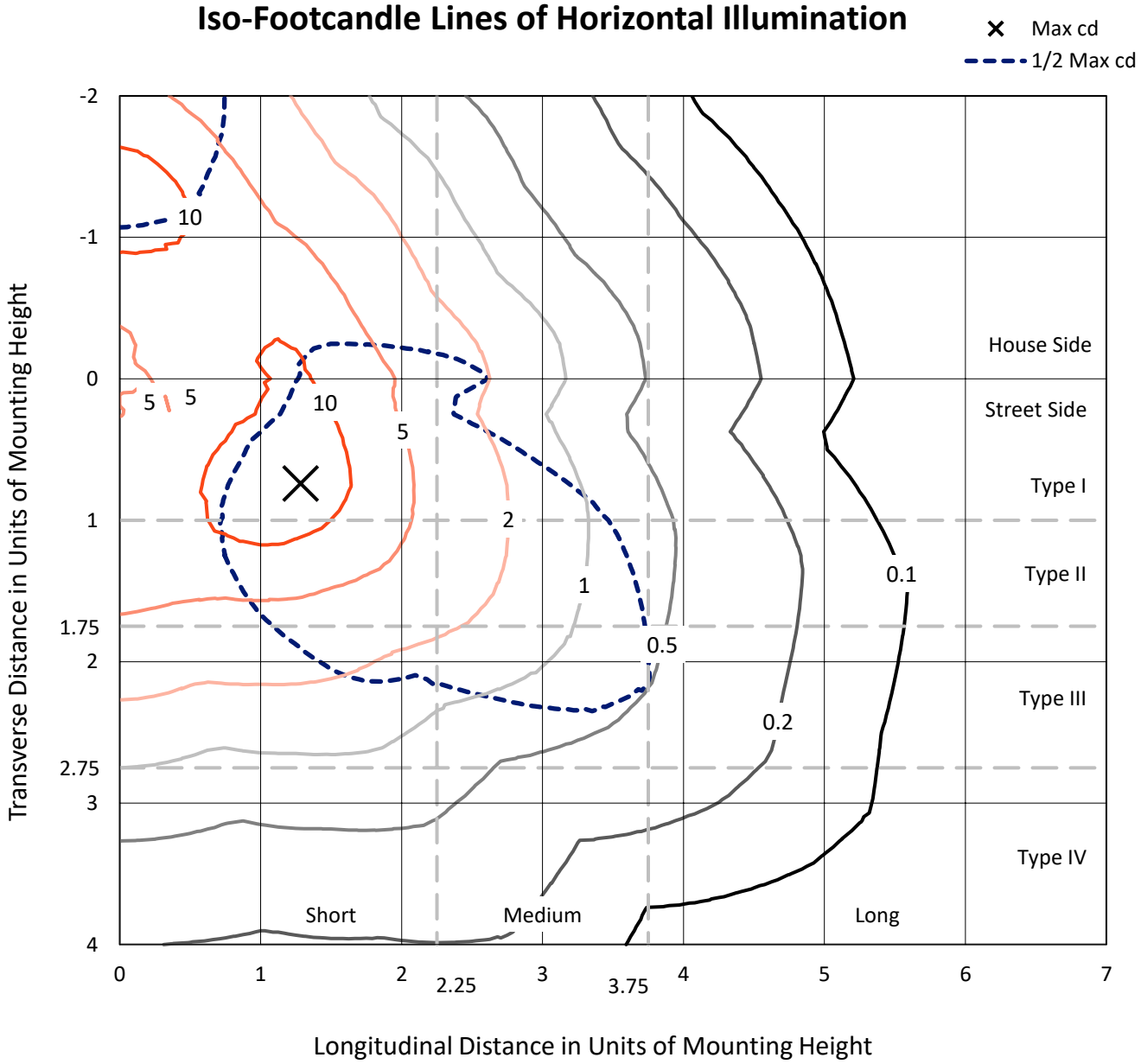
REPORT NUMBER: P1442050
CATALOG NUMBER: ABB-C3-835-X-U-S-GM

Iso-Footcandle Lines of Horizontal Illumination



Based on 3 foot mounting height. Maximum calculated value = 18.8 fc
Type III - Short - N/A

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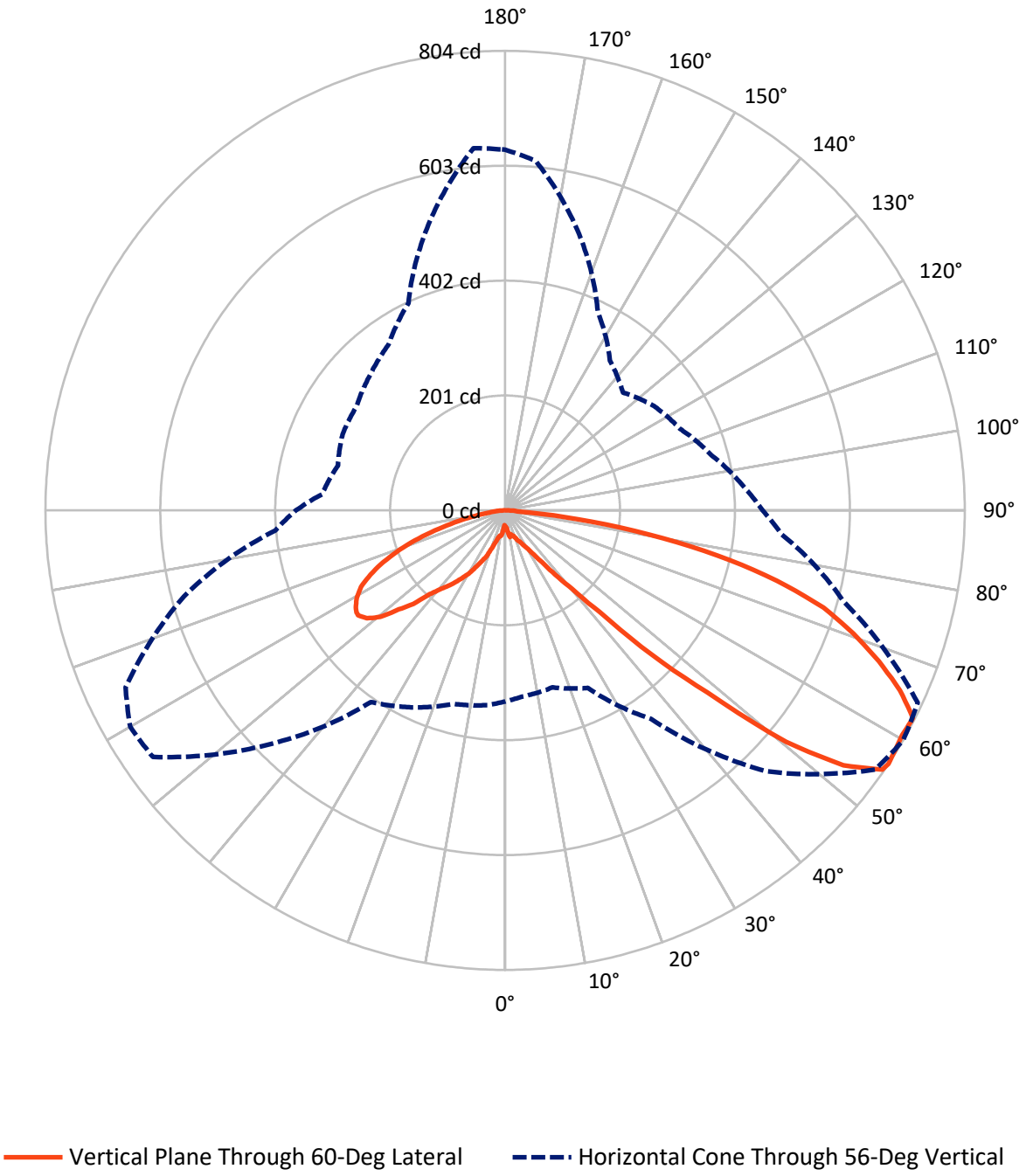
Luminous Intensity Polar Plot



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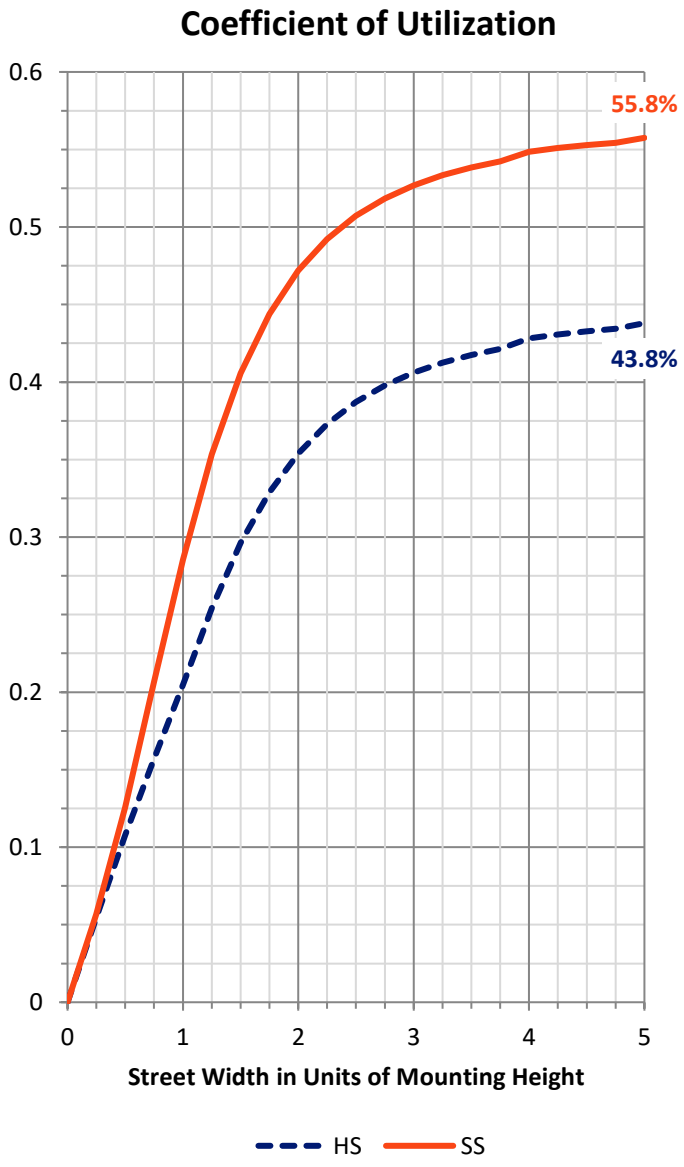
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	618.1	0.0	618.1
	% Fixture	43.9	0.0	43.9
Street Side	Lumens	789.3	0.0	789.3
	% Fixture	56.1	0.0	56.1
Total	Lumens	1407.4	0.0	1407.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.5	0.2
10°-20°	15.1	1.1
20°-30°	37.3	2.6
30°-40°	82.1	5.8
40°-50°	203.9	14.5
50°-60°	393.1	27.9
60°-70°	399.1	28.4
70°-80°	238.2	16.9
80°-90°	35.2	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°	1407.4	100.0
0°-180°	1407.4	100.0



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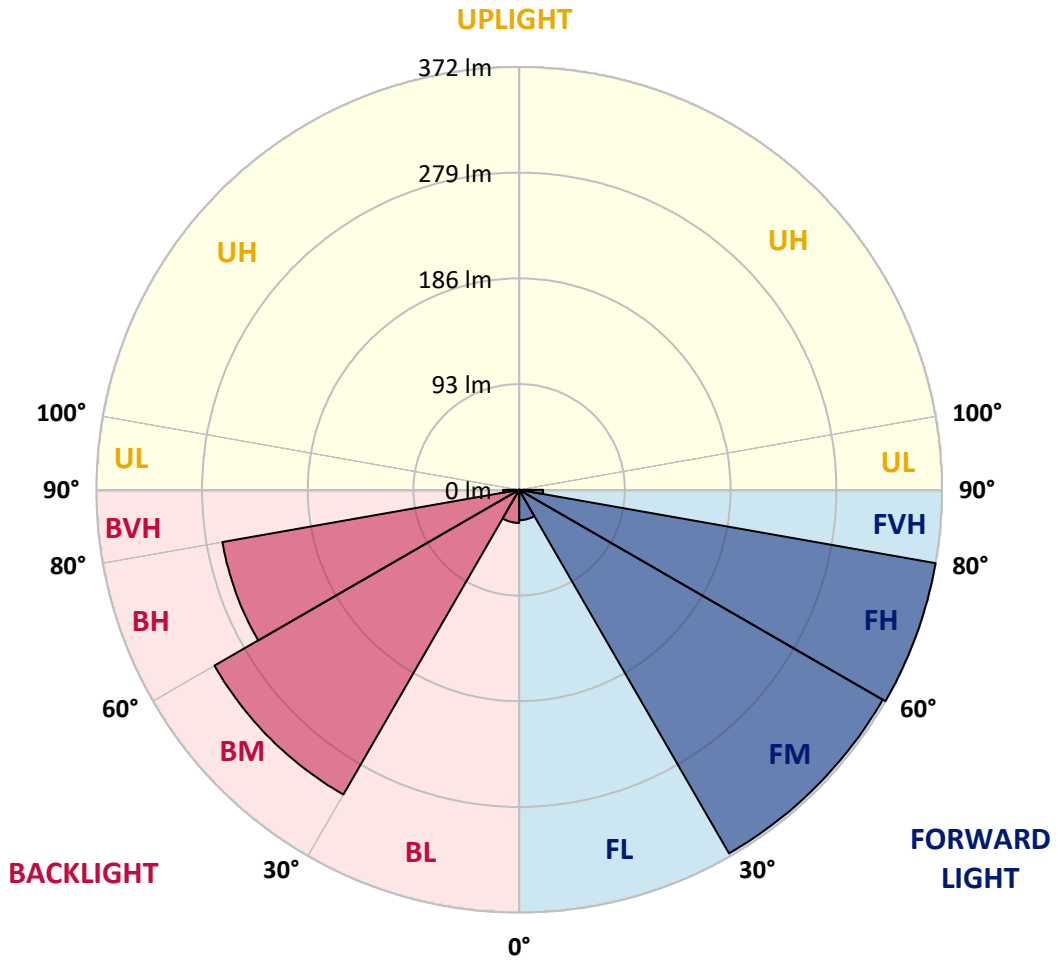
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	26.7	1.9			
FM	(30°-60°)	369.4	26.2			
FH	(60°-80°)	372.1	26.4			G0/660
FVH	(80°-90°)	21.0	1.5			G1/100
BL	(0°-30°)	29.1	2.1	B0/110		
BM	(30°-60°)	309.6	22.0	B1/1000		
BH	(60°-80°)	265.2	18.8	B1/500		G1/500
BVH	(80°-90°)	14.2	1.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1
Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	28.1	28.1	28.1	28.1	28.1	28.1	28.1	*28.1*	28.1	28.1	28.1
2.5°	33.3	34.1	37.5	38.4	35.8	34.1	32.4	*32.4*	31.6	29.9	28.1
5°	48.6	44.4	39.2	39.2	38.4	35.0	30.7	*30.7*	31.6	28.1	26.4
7.5°	47.8	51.2	52.9	52.0	49.5	50.3	44.4	*40.9*	36.7	35.8	39.2
10°	49.5	49.5	47.8	57.2	52.0	52.9	49.5	*47.8*	44.4	44.4	45.2
12.5°	46.9	45.2	47.8	52.0	46.9	51.2	46.1	*42.6*	42.6	46.1	48.6
15°	47.8	50.3	51.2	57.2	57.2	52.0	46.1	*46.1*	46.9	52.9	53.7
17.5°	54.6	59.7	58.9	60.6	62.3	54.6	45.2	*46.9*	49.5	52.9	59.7
20°	64.8	64.0	64.0	64.8	65.7	58.9	49.5	*51.2*	53.7	56.3	64.0
22.5°	75.1	77.6	80.2	74.2	73.4	63.1	58.0	*57.2*	61.4	59.7	68.2
25°	93.0	101.5	92.1	80.2	80.2	66.5	61.4	*61.4*	64.8	71.7	74.2
27.5°	110.9	115.2	98.9	85.3	88.7	75.9	69.1	*69.1*	72.5	81.0	87.0
30°	121.1	123.7	109.2	94.7	98.9	86.2	78.5	*77.6*	81.0	90.4	101.5
32.5°	133.1	138.2	122.0	106.6	110.0	105.8	94.7	*91.3*	92.1	100.7	110.0
35°	150.1	150.1	132.2	116.9	122.8	126.2	118.6	*111.7*	113.4	110.9	126.2
37.5°	163.8	163.8	150.1	131.4	136.5	147.6	148.4	*142.5*	141.6	126.2	141.6
40°	177.4	181.7	164.6	146.7	158.7	183.4	189.4	*180.8*	180.0	151.8	158.7
42.5°	194.5	201.3	186.8	172.3	194.5	240.5	255.9	*243.1*	243.1	191.9	189.4
45°	232.9	241.4	228.6	213.2	244.0	323.3	360.8	*360.8*	355.7	259.3	244.0
47.5°	259.3	267.8	253.3	243.1	290.0	406.9	466.6	*476.0*	504.1	330.1	305.4
50°	298.6	299.4	290.9	292.6	361.7	535.7	619.3	*637.2*	661.9	447.0	390.7
52.5°	319.9	316.5	312.2	324.1	412.9	598.8	718.2	*741.3*	761.7	534.8	447.0
55°	332.7	327.6	321.6	341.2	439.3	639.8	782.2	*801.0*	793.3	598.8	478.5
56°	*334.4*	*327.6*	*320.7*	*342.9*	*445.3*	*645.7*	*790.7*	*804.4*	*796.7*	*612.5*	*486.2*
57.5°	333.5	325.8	317.3	345.5	448.7	647.4	792.4	*801.8*	798.4	627.8	496.4
60°	325.0	318.2	305.4	345.5	450.4	632.1	782.2	*798.4*	803.5	632.1	494.7
62.5°	312.2	307.9	290.0	339.5	445.3	602.2	777.9	*801.0*	787.3	620.1	470.9
65°	289.2	286.6	264.4	328.4	423.1	556.2	740.4	*759.2*	734.4	589.4	425.6
67.5°	258.5	256.8	237.1	307.1	400.9	501.6	684.1	*705.4*	680.7	551.0	377.9
70°	226.0	222.6	208.1	279.8	375.3	438.4	622.7	*646.6*	629.5	506.7	331.0
72.5°	187.7	186.8	177.4	244.8	342.9	368.5	547.6	*582.6*	557.0	447.0	273.8
75°	145.0	144.2	143.3	202.2	290.0	288.3	456.4	*491.3*	460.6	377.0	213.2
77.5°	104.1	101.5	109.2	151.8	237.1	197.9	348.9	*380.4*	347.2	290.9	146.7
80°	68.2	63.1	71.7	94.7	159.5	116.9	226.0	*255.9*	221.8	190.2	81.9
82.5°	40.1	35.8	40.1	43.5	68.2	49.5	106.6	*128.0*	97.2	88.7	34.1
85°	19.6	17.1	17.9	17.1	17.9	19.6	20.5	*21.3*	17.9	15.4	14.5
87.5°	14.5	11.9	11.9	12.8	12.8	15.4	14.5	*15.4*	14.5	10.2	11.1
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: P1442050
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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
2.5°	26.4	24.7	24.7	24.7	23.0	26.4	29.0	28.1	27.3	28.1	27.3
5°	27.3	29.9	31.6	34.1	36.7	34.1	32.4	29.0	25.6	23.9	23.9
7.5°	40.9	43.5	38.4	40.9	40.9	38.4	39.2	38.4	34.1	32.4	31.6
10°	46.1	46.1	53.7	52.0	49.5	49.5	46.9	46.1	41.8	39.2	38.4
12.5°	51.2	52.9	53.7	49.5	54.6	52.9	51.2	46.9	44.4	40.9	40.9
15°	52.0	58.0	58.0	58.9	56.3	58.0	53.7	49.5	48.6	40.9	40.1
17.5°	64.0	64.0	66.5	65.7	60.6	64.0	60.6	57.2	52.0	45.2	44.4
20°	64.8	72.5	74.2	74.2	71.7	71.7	73.4	68.2	60.6	56.3	54.6
22.5°	72.5	78.5	83.6	90.4	81.9	82.7	80.2	69.1	58.9	60.6	56.3
25°	79.3	86.2	89.6	101.5	94.7	86.2	87.0	77.6	67.4	66.5	64.0
27.5°	90.4	98.1	105.8	120.3	104.1	98.1	94.7	86.2	74.2	72.5	72.5
30°	109.2	110.0	120.3	129.7	126.2	103.2	103.2	93.0	84.4	80.2	81.9
32.5°	125.4	124.5	136.5	141.6	139.9	113.4	112.6	105.8	102.4	95.5	93.0
35°	139.0	147.6	149.3	154.4	151.8	133.9	122.8	116.9	116.0	114.3	112.6
37.5°	153.5	163.8	163.8	168.9	164.6	148.4	138.2	131.4	135.6	141.6	135.6
40°	174.0	186.8	180.0	183.4	179.1	166.3	157.8	153.5	164.6	180.8	173.2
42.5°	198.7	216.7	205.6	202.2	197.0	185.1	182.5	188.5	213.2	237.1	229.5
45°	246.5	261.0	245.7	238.0	231.2	217.5	218.4	237.1	286.6	326.7	333.5
47.5°	288.3	313.1	280.6	269.5	259.3	238.8	247.4	273.0	349.7	412.9	421.4
50°	365.1	377.9	335.2	306.2	290.9	273.0	284.0	338.6	431.6	495.6	516.1
52.5°	422.2	409.4	360.8	329.3	309.6	289.2	305.4	372.8	478.5	563.0	583.5
55°	446.1	422.2	374.5	338.6	318.2	293.4	318.2	383.8	499.0	608.2	629.5
56°	*450.4*	*423.1*	*373.6*	*337.8*	*318.2*	*291.7*	*319.9*	*383.8*	*500.7*	*614.2*	*631.2*
57.5°	458.9	422.2	370.2	335.2	315.6	287.5	319.0	379.6	499.0	615.9	634.6
60°	473.4	421.4	355.7	326.7	305.4	278.1	314.8	379.6	491.3	607.3	636.3
62.5°	478.5	416.3	334.4	307.1	293.4	264.4	303.7	376.2	473.4	598.8	633.8
65°	458.1	404.3	302.8	279.8	269.5	244.0	282.3	362.5	442.7	570.7	597.1
67.5°	427.4	385.6	270.4	243.1	238.0	216.7	261.0	338.6	397.5	515.2	538.2
70°	384.7	360.0	236.3	206.4	205.6	186.8	232.9	309.6	338.6	453.8	476.0
72.5°	328.4	313.9	205.6	166.3	170.6	156.1	198.7	273.8	275.5	388.1	412.0
75°	259.3	246.5	168.0	127.1	127.1	123.7	153.5	225.2	212.4	308.8	327.6
77.5°	185.1	172.3	123.7	89.6	92.1	89.6	109.2	168.0	148.4	221.8	245.7
80°	106.6	91.3	76.8	58.0	58.0	58.0	65.7	104.9	87.9	141.6	153.5
82.5°	37.5	29.0	37.5	32.4	33.3	31.6	29.0	40.9	37.5	58.0	66.5
85°	14.5	12.8	17.9	17.1	16.2	15.4	15.4	16.2	18.8	18.8	17.9
87.5°	11.1	9.4	14.5	14.5	11.9	11.9	11.9	11.9	15.4	15.4	14.5
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°	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
2.5°	28.1	29.0	29.9	29.0	27.3	26.4	25.6	27.3	28.1	28.1	28.1
5°	24.7	26.4	28.1	28.1	30.7	32.4	31.6	29.9	23.9	23.9	24.7
7.5°	31.6	35.8	34.1	32.4	35.0	41.8	40.1	38.4	33.3	30.7	30.7
10°	40.9	46.9	42.6	46.9	50.3	47.8	43.5	39.2	46.9	44.4	40.9
12.5°	41.8	45.2	46.1	55.4	59.7	46.9	44.4	47.8	47.8	46.1	43.5
15°	41.8	49.5	52.9	58.0	63.1	55.4	45.2	51.2	53.7	52.0	50.3
17.5°	45.2	52.0	55.4	64.0	69.1	64.0	54.6	55.4	59.7	64.8	62.3
20°	52.9	56.3	58.9	69.1	71.7	75.9	65.7	64.0	62.3	66.5	65.7
22.5°	59.7	65.7	66.5	75.9	75.9	89.6	83.6	67.4	63.1	69.9	71.7
25°	64.0	70.8	75.1	81.9	85.3	98.9	95.5	81.0	73.4	75.9	76.8
27.5°	73.4	78.5	84.4	91.3	99.8	106.6	113.4	90.4	83.6	83.6	84.4
30°	80.2	87.0	94.7	107.5	114.3	121.1	129.7	100.7	90.4	92.1	93.0
32.5°	94.7	95.5	104.9	121.1	124.5	136.5	139.0	115.2	102.4	101.5	101.5
35°	110.0	107.5	116.0	139.0	139.0	154.4	149.3	129.7	113.4	112.6	113.4
37.5°	133.9	126.2	130.5	152.7	156.1	168.9	162.1	145.9	128.0	128.0	131.4
40°	161.2	149.3	146.7	172.3	171.5	182.5	175.7	162.9	146.7	146.7	151.8
42.5°	209.0	181.7	174.9	196.2	191.1	201.3	193.6	186.0	171.5	179.1	187.7
45°	307.9	250.8	227.8	239.7	232.0	233.7	225.2	222.6	209.0	218.4	235.4
47.5°	400.1	317.3	279.8	283.2	263.6	257.6	250.8	251.6	232.9	256.8	273.8
50°	494.7	402.6	344.6	327.6	310.5	288.3	285.8	283.2	281.5	310.5	334.4
52.5°	577.5	470.0	387.3	353.1	331.8	309.6	303.7	299.4	306.2	348.0	377.0
55°	633.8	512.7	398.4	356.6	336.1	318.2	313.9	304.5	320.7	363.4	400.1
56°	*636.3*	*517.8*	*400.1*	*354.8*	*334.4*	*317.3*	*313.9*	*302.8*	*321.6*	*365.9*	*403.5*
57.5°	634.6	523.7	397.5	354.0	329.3	312.2	310.5	296.0	321.6	367.6	406.0
60°	621.8	520.3	387.3	352.3	314.8	301.1	301.1	282.3	317.3	371.9	412.0
62.5°	624.4	509.2	370.2	340.3	292.6	283.2	288.3	262.7	306.2	371.9	408.6
65°	601.4	490.5	342.1	321.6	267.0	256.8	265.3	236.3	288.3	354.8	389.8
67.5°	545.9	452.1	308.8	299.4	237.1	226.0	236.3	209.0	262.7	332.7	369.3
70°	484.5	397.5	267.8	265.3	207.3	191.9	202.2	178.3	234.6	304.5	345.5
72.5°	420.5	336.1	218.4	226.0	174.9	154.4	163.8	150.1	203.0	265.3	306.2
75°	341.2	265.3	164.6	178.3	139.0	117.7	122.0	116.9	164.6	215.8	256.8
77.5°	250.8	191.9	110.0	125.4	98.9	81.9	84.4	84.4	121.1	159.5	197.0
80°	155.2	115.2	61.4	71.7	61.4	53.7	52.0	53.7	75.9	95.5	126.2
82.5°	64.0	43.5	27.3	27.3	30.7	30.7	29.9	28.1	35.8	40.1	46.1
85°	17.9	11.9	13.6	11.9	15.4	16.2	14.5	12.8	14.5	13.6	14.5
87.5°	14.5	9.4	11.1	8.5	11.9	12.8	11.1	10.2	11.1	10.2	11.1
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: P1442050
CATALOG NUMBER: ABB-C3-835-X-U-S-GM

CANDELA DISTRIBUTION (continued):

	285°	295°	300°	305°	315°	325°	335°	345°	355°	360°
0°	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
2.5°	27.3	27.3	28.1	30.7	33.3	33.3	33.3	34.1	33.3	33.3
5°	25.6	23.9	23.0	22.2	24.7	27.3	31.6	35.0	42.6	48.6
7.5°	30.7	30.7	29.9	29.9	29.9	31.6	35.0	40.9	46.9	47.8
10°	40.9	40.1	39.2	40.9	40.9	36.7	42.6	49.5	53.7	49.5
12.5°	42.6	40.9	37.5	37.5	40.1	41.8	50.3	56.3	46.1	46.9
15°	46.1	43.5	41.8	41.8	40.9	48.6	54.6	58.9	47.8	47.8
17.5°	51.2	44.4	41.8	43.5	46.1	52.0	59.7	59.7	53.7	54.6
20°	55.4	49.5	46.9	49.5	50.3	60.6	61.4	64.8	64.0	64.8
22.5°	60.6	52.0	50.3	51.2	56.3	65.7	69.1	78.5	69.1	75.1
25°	67.4	58.0	58.0	56.3	61.4	70.8	78.5	84.4	87.0	93.0
27.5°	75.9	68.2	69.1	66.5	68.2	76.8	91.3	95.5	104.9	110.9
30°	88.7	83.6	82.7	76.8	77.6	83.6	100.7	114.3	125.4	121.1
32.5°	98.9	100.7	97.2	96.4	89.6	93.8	112.6	128.8	133.9	133.1
35°	116.0	119.4	118.6	111.7	105.8	109.2	126.2	145.0	150.1	150.1
37.5°	143.3	145.0	147.6	133.1	122.8	122.8	143.3	157.8	164.6	163.8
40°	175.7	186.8	185.1	163.8	145.0	141.6	162.1	172.3	179.1	177.4
42.5°	221.8	238.8	250.8	217.5	172.3	161.2	184.2	195.3	196.2	194.5
45°	300.3	347.2	374.5	331.0	241.4	209.8	235.4	243.1	239.7	232.9
47.5°	370.2	423.1	484.5	434.2	307.1	249.1	270.4	277.2	267.8	259.3
50°	480.2	570.7	601.4	575.8	426.5	319.0	325.8	325.0	306.2	298.6
52.5°	538.2	661.9	699.5	674.7	510.1	373.6	362.5	345.5	329.3	319.9
55°	574.9	725.0	755.8	746.4	564.7	406.9	379.6	353.1	340.3	332.7
56°	*581.7*	*732.7*	*757.5*	*752.3*	*577.5*	*409.4*	*380.4*	*350.6*	*342.1*	*334.4*
57.5°	583.5	734.4	748.9	748.9	589.4	411.1	379.6	346.3	339.5	333.5
60°	566.4	723.3	736.1	730.2	593.7	409.4	377.0	331.0	329.3	325.0
62.5°	528.9	714.8	740.4	736.1	587.7	394.9	377.0	309.6	313.1	312.2
65°	489.6	678.1	706.3	707.1	563.8	367.6	368.5	280.6	281.5	289.2
67.5°	437.6	619.3	643.2	650.0	522.9	326.7	350.6	253.3	245.7	258.5
70°	371.9	550.2	576.6	583.5	471.7	284.9	325.8	222.6	208.1	226.0
72.5°	302.0	473.4	504.1	513.5	410.3	239.7	287.5	197.0	169.7	187.7
75°	230.3	383.0	410.3	423.9	342.1	190.2	232.0	164.6	131.4	145.0
77.5°	158.7	284.9	307.1	321.6	259.3	136.5	171.5	123.7	93.0	104.1
80°	92.1	183.4	197.9	212.4	170.6	84.4	103.2	79.3	60.6	68.2
82.5°	35.0	82.7	86.2	101.5	76.8	40.9	39.2	40.1	34.1	40.1
85°	16.2	17.9	17.1	20.5	14.5	16.2	13.6	18.8	17.9	19.6
87.5°	12.8	13.6	12.8	14.5	10.2	11.1	10.2	13.6	14.5	14.5
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: SP1-2509-539-7

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

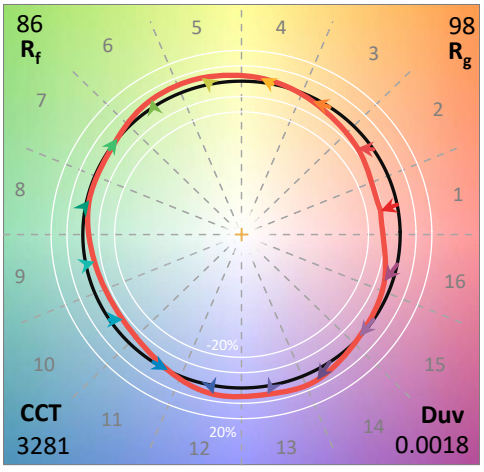
Test Information

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

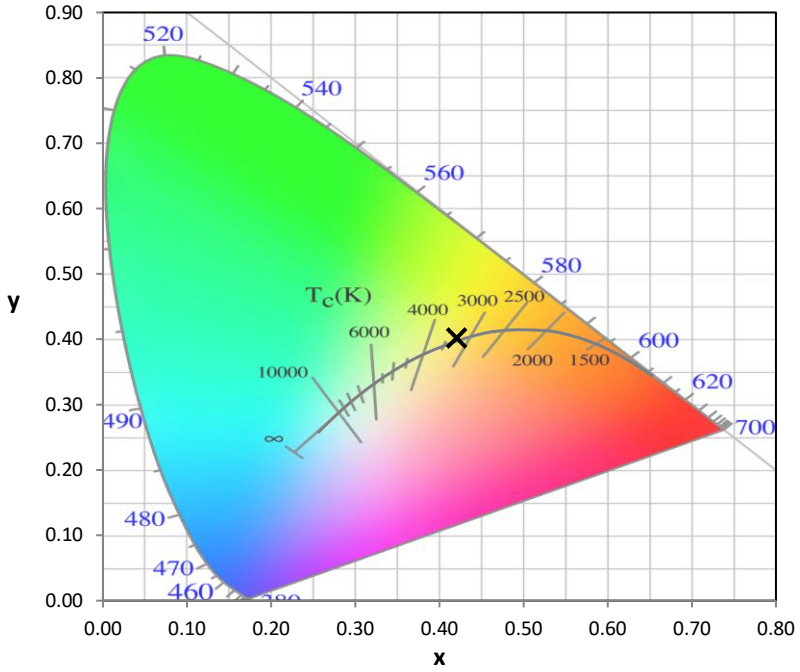
Stabilization Time:	31M
Operation Time:	1H 31M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2509-539-7

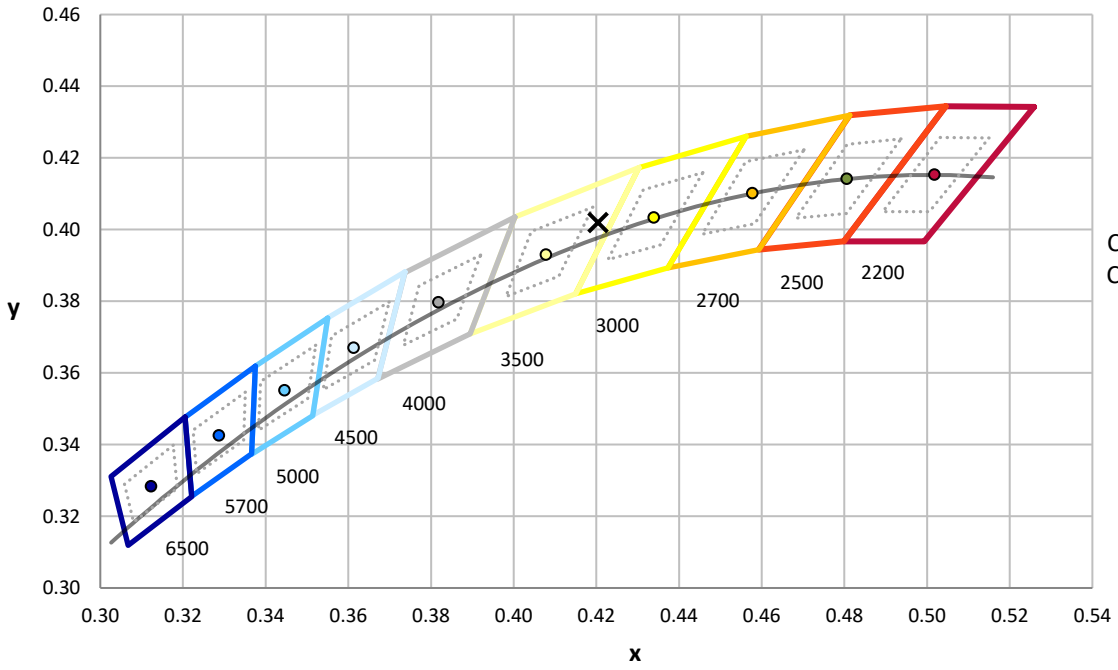
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

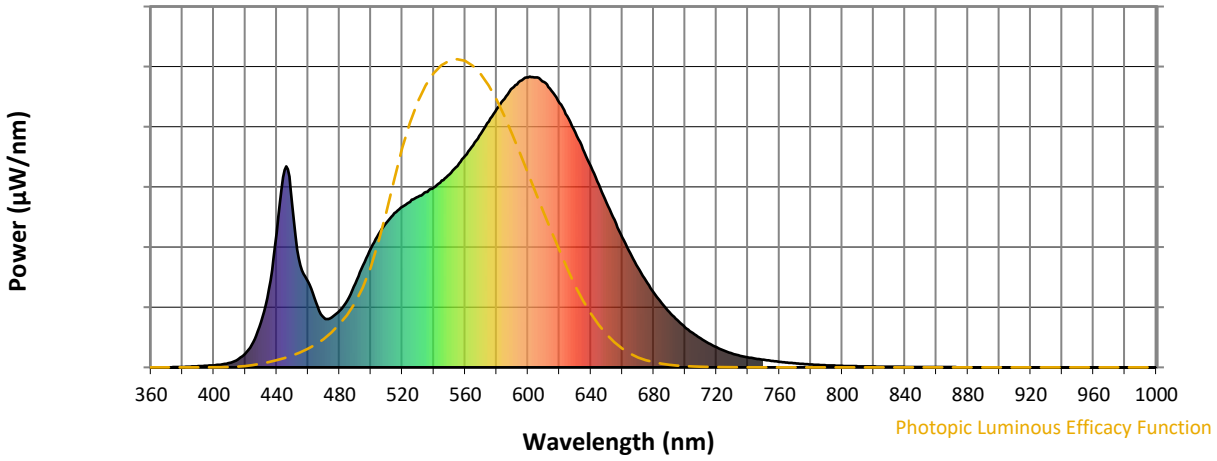


CCT = 3281K
CIE x = 0.4204
CIE y = 0.4020
Duv = 0.0018

Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2509-539-7

Photopic Flux vs. Wavelength

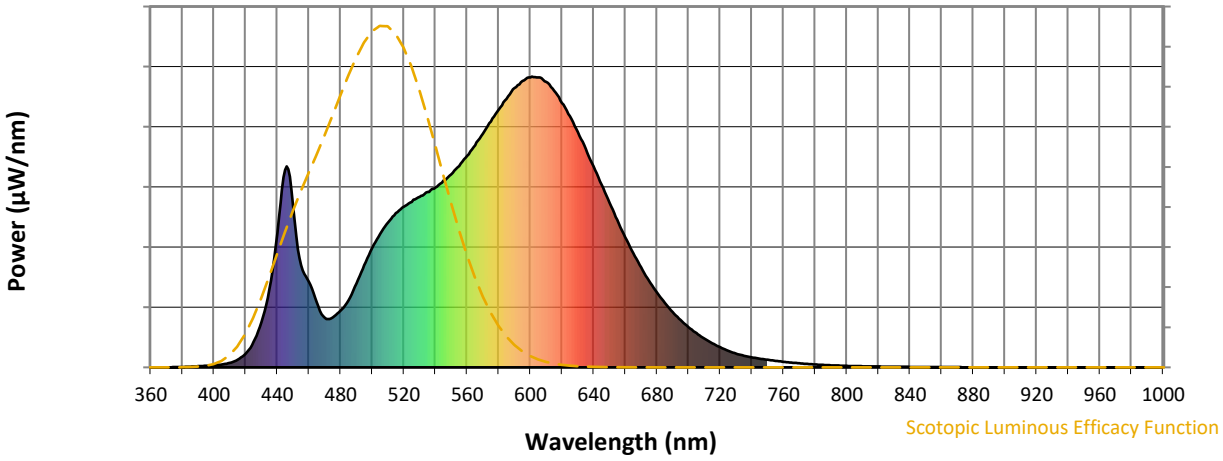


Photopic Lumens: NR

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

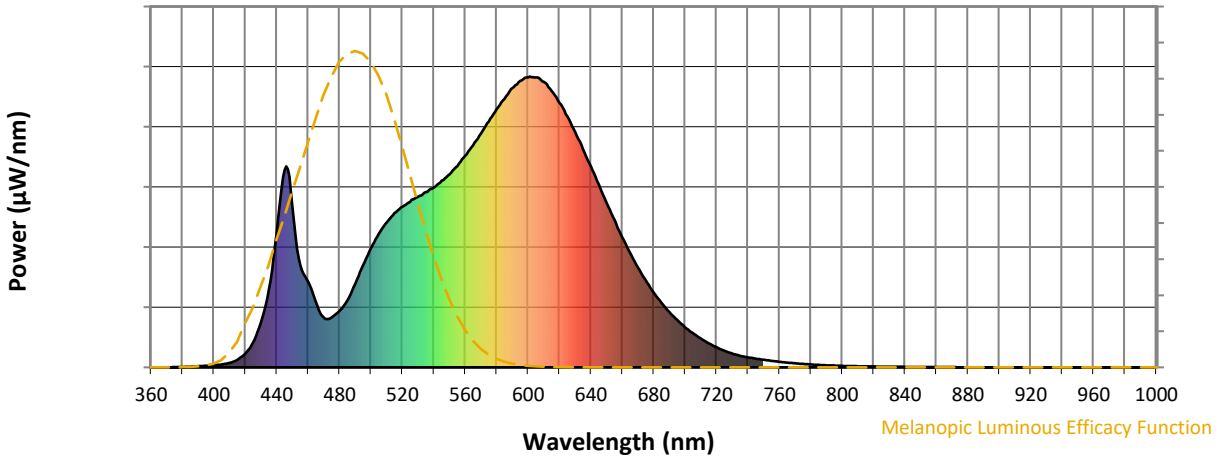


Scotopic Lumens: NR **S/P: 1.44**

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			

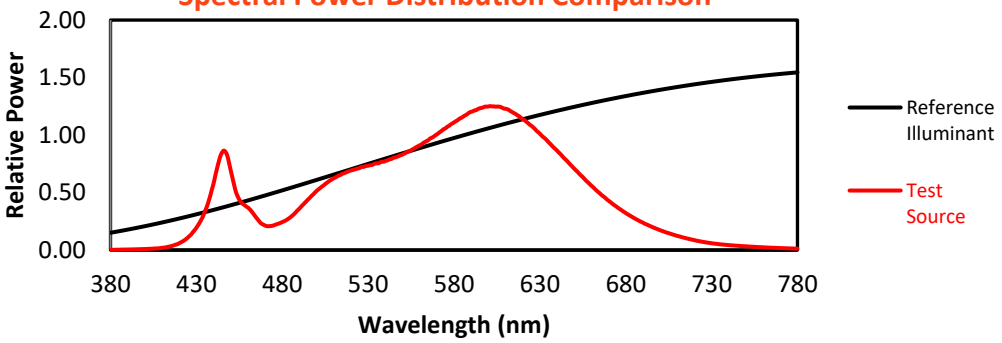
REPORT NUMBER: SP1-2509-539-7

TM-30-18

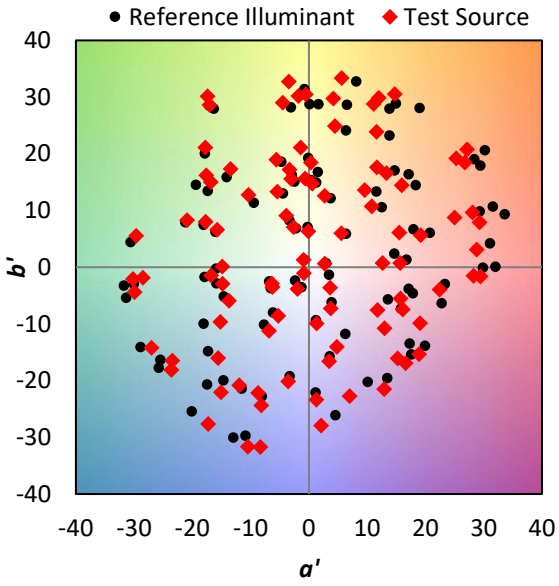
Summary

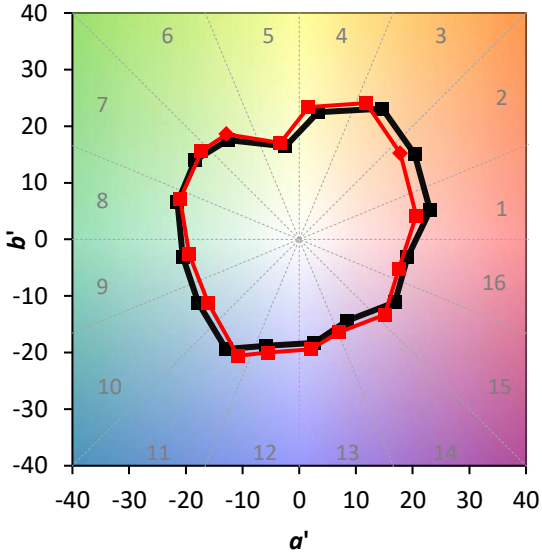
R_f = 85.8
R_g = 97.6
CIE R_a = 83.9
R_9 = 9.4

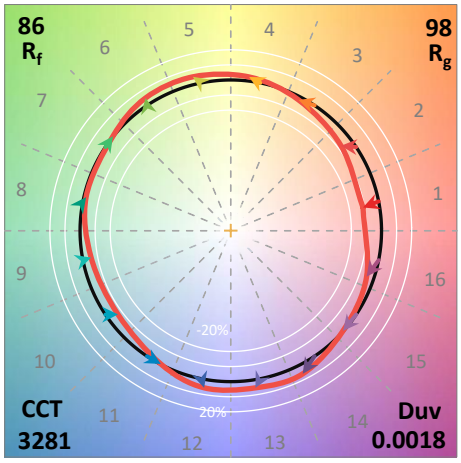
Spectral Power Distribution Comparison

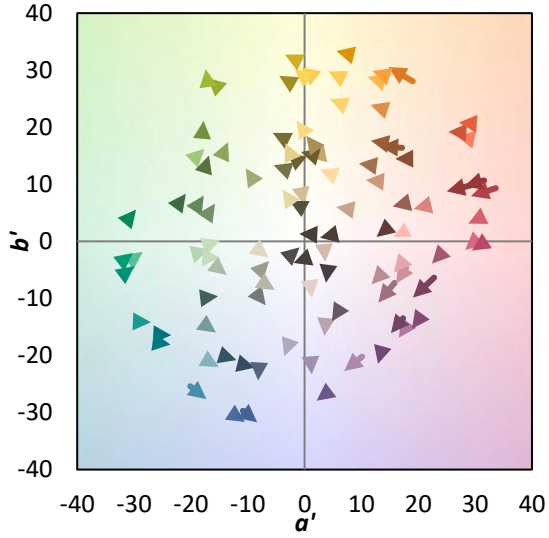


Color Vector Graphics







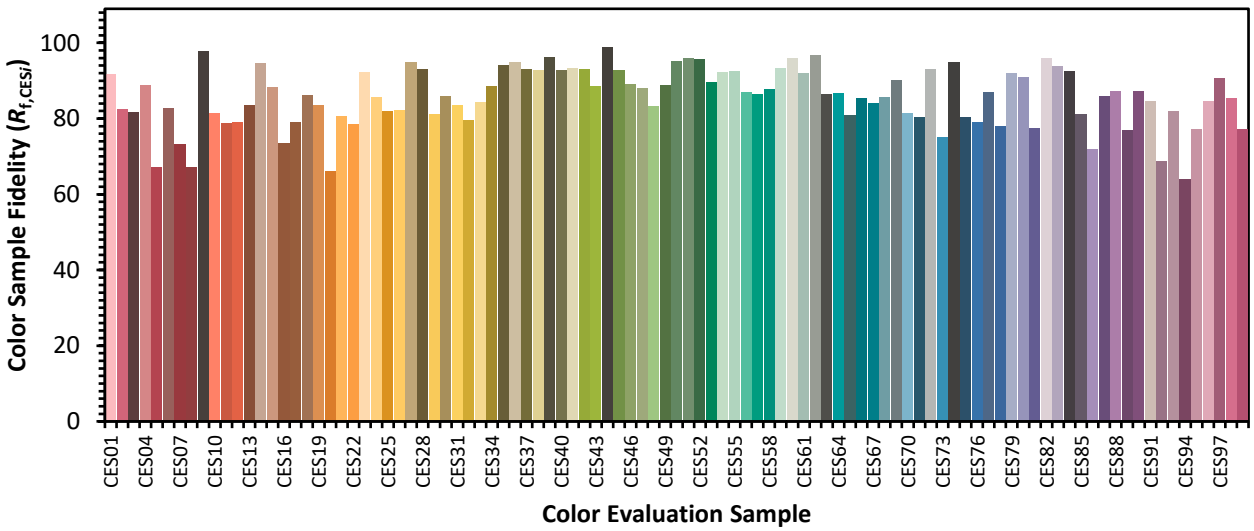


REPORT NUMBER: SP1-2509-539-7

TM-30-18

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

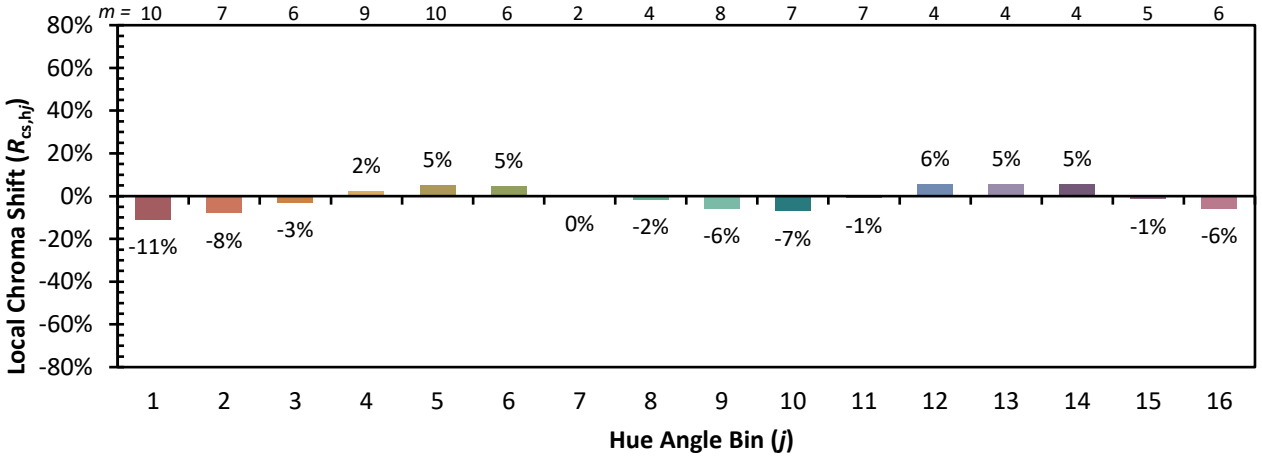
CES01 = 86	CES26 = 82	CES51 = 96	CES76 = 79
CES02 = 62	CES27 = 95	CES52 = 96	CES77 = 87
CES03 = 31	CES28 = 93	CES53 = 90	CES78 = 78
CES04 = 70	CES29 = 81	CES54 = 92	CES79 = 92
CES05 = 49	CES30 = 86	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 84	CES56 = 87	CES81 = 77
CES07 = 42	CES32 = 80	CES57 = 86	CES82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

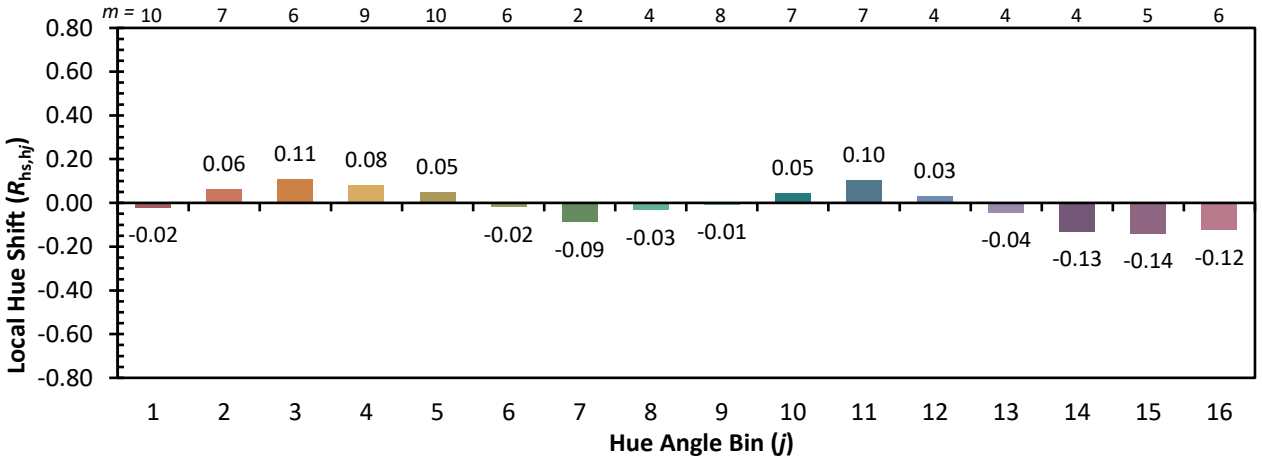


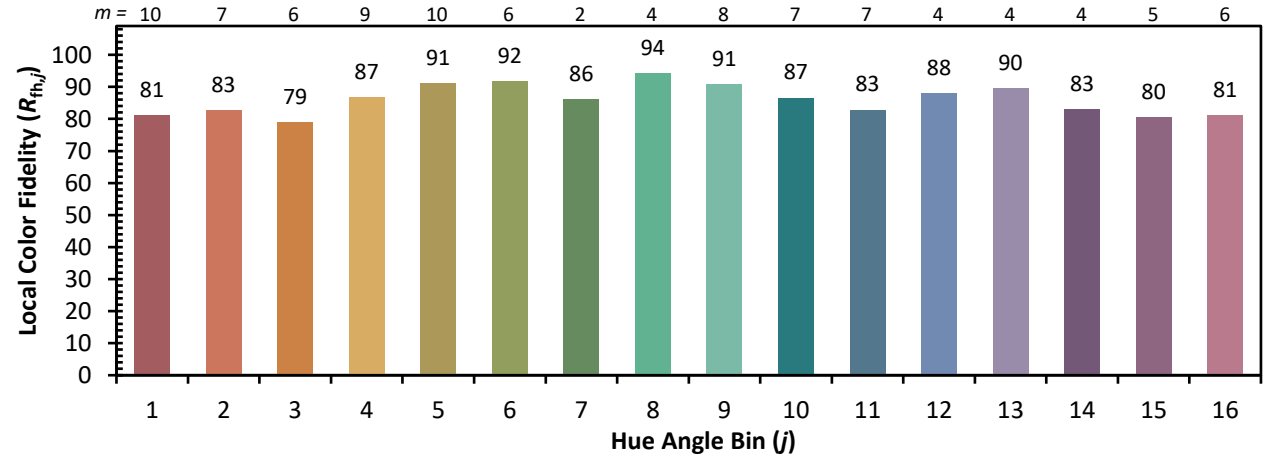
REPORT NUMBER: SP1-2509-539-7

TM-30-18

Color Rendition by Hue-Angle Bin







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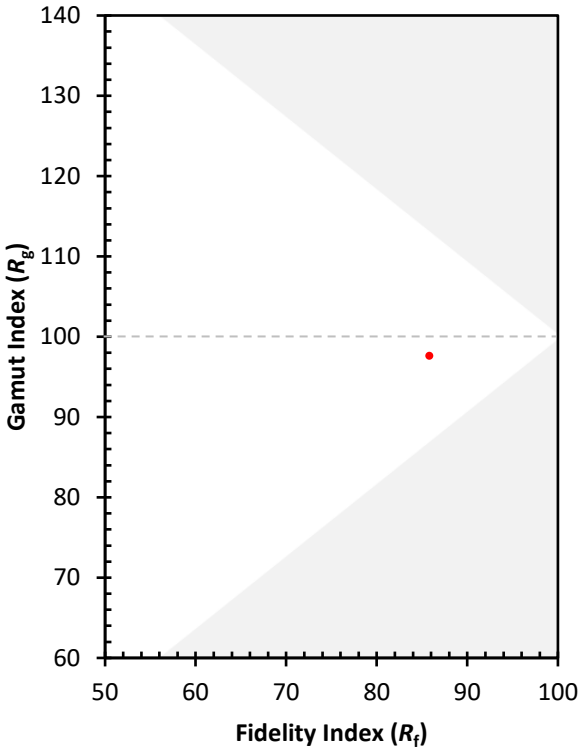
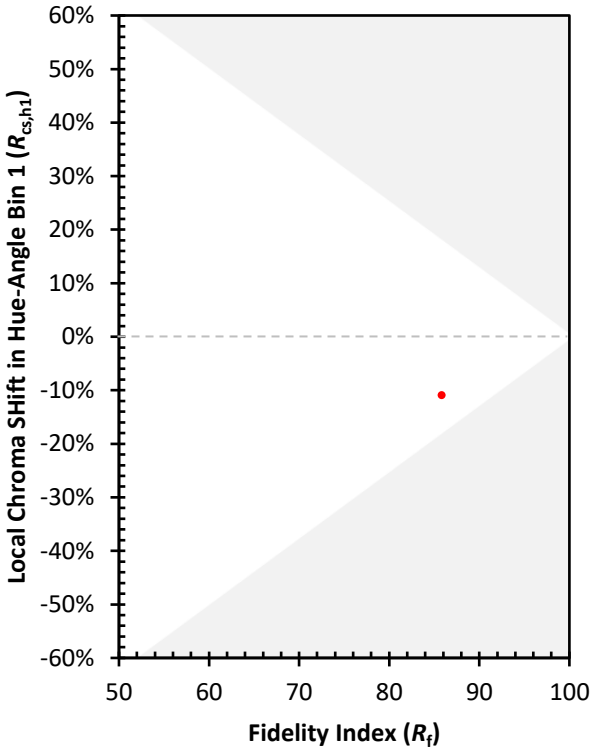
Measure Comparisons





(END OF REPORT)