Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled data based on original data using

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: LUMARK

Report Number: P979159

Luminaire Tested: **WPLLED38S-150W-3500K**

Issue Date: 03/31/2025

Report Generated By 670245763

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P979159
Test Lab:	Cooper Lighting Solutions
Issue Date:	03/31/2025
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	LUMARK
Catalog Number:	WPLLED38S-150W-3500K
Description:	LUMARK WALL PACK LED LARGE 80CRI CCT AND LUMEN SELECTIVE FIXTURE OPERATING @150W-3500K
Light Source:	3500K CCT, 80 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	20675.6 lumens
Efficiency:	N/A
Efficacy:	140.4 lumens/watt
Luminous Opening:	Rectangular w/ Sides (W: 1.25' x L: 0.33' x H: 0.58')
IES Classification:	Type IV - Short
BUG Rating:	B3 - U5 - G5

Input Watts (W):	147.3
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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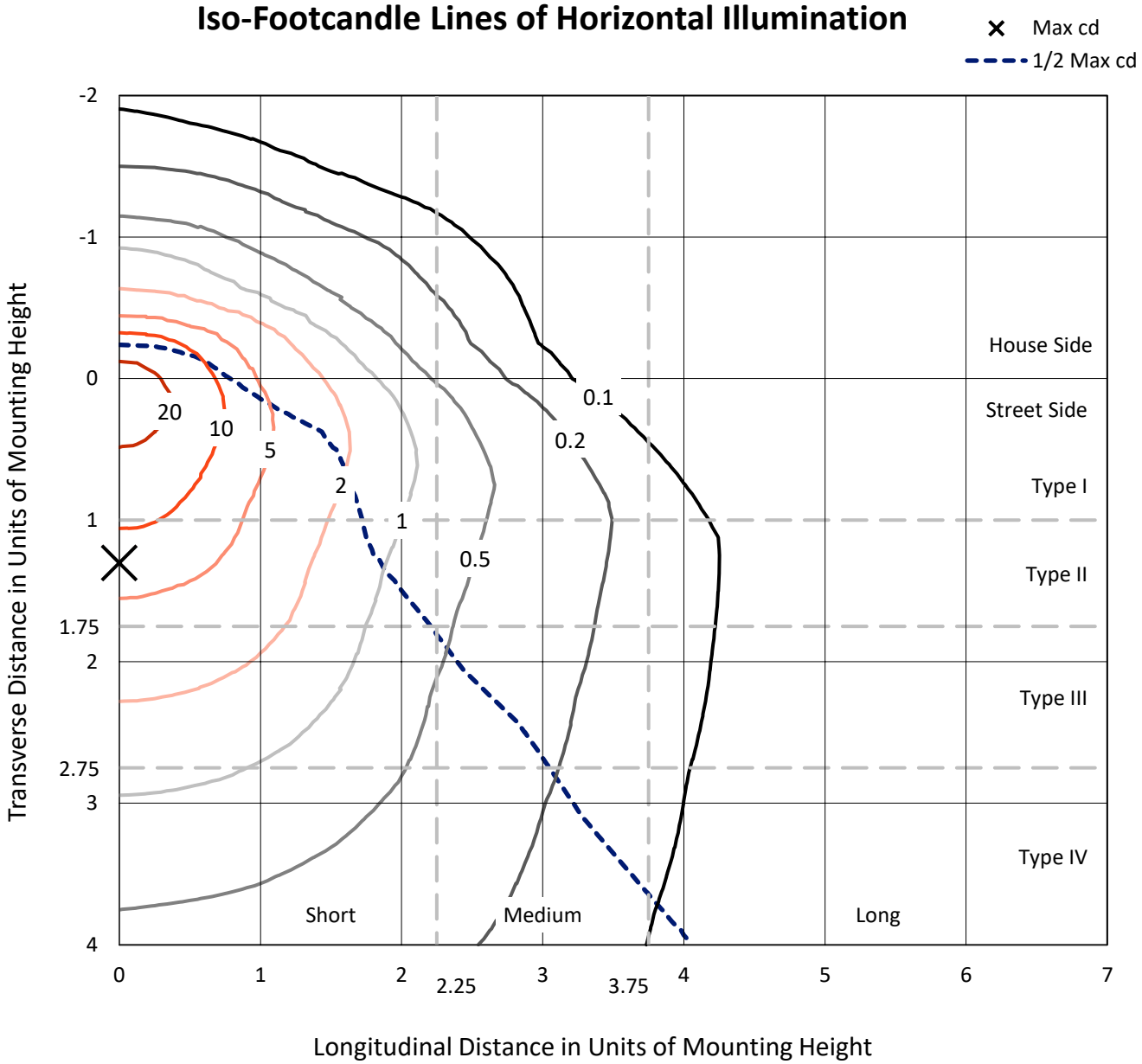
Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 26.1 fc
Type IV - Short - N/A

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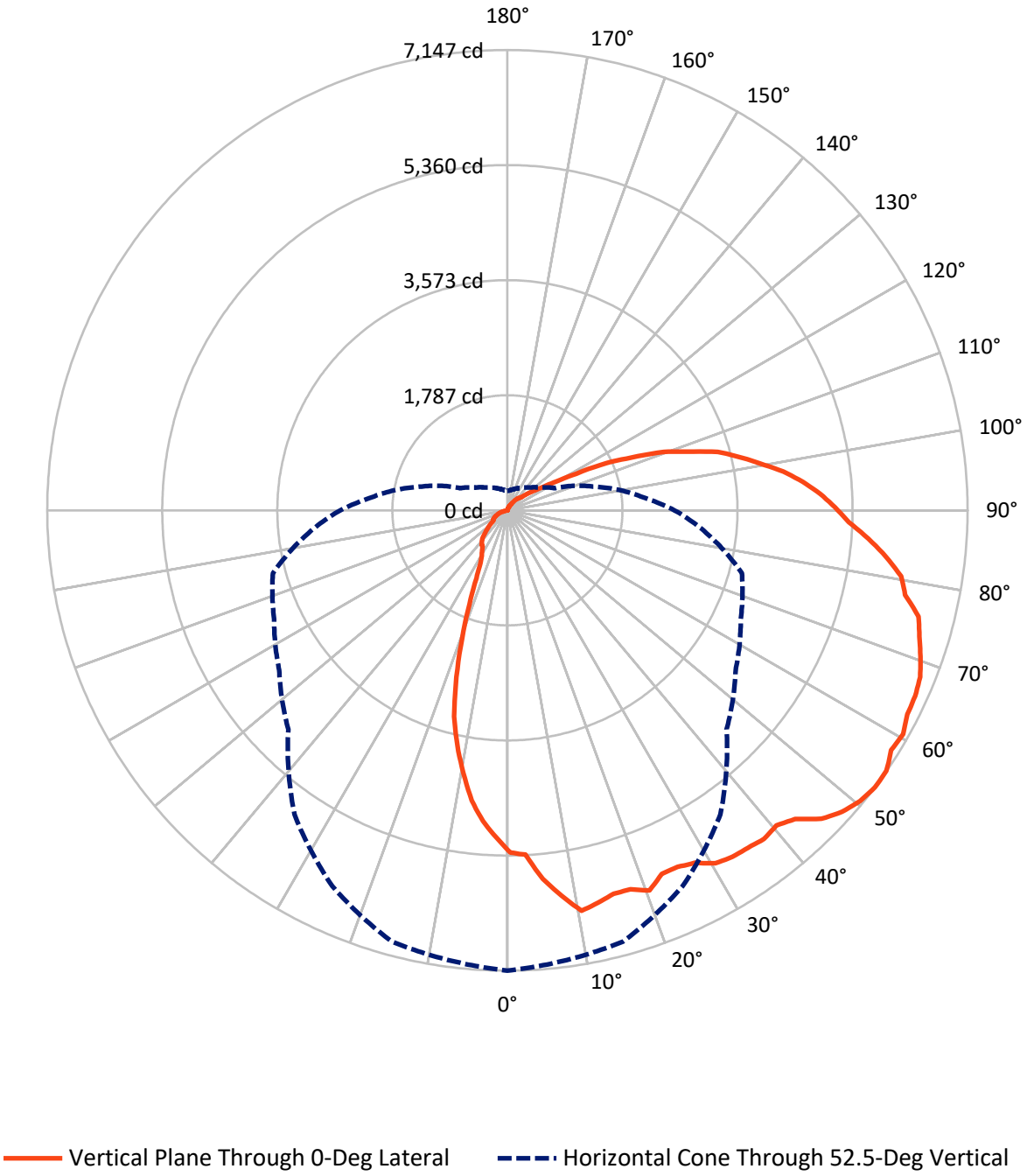
Luminous Intensity Polar Plot



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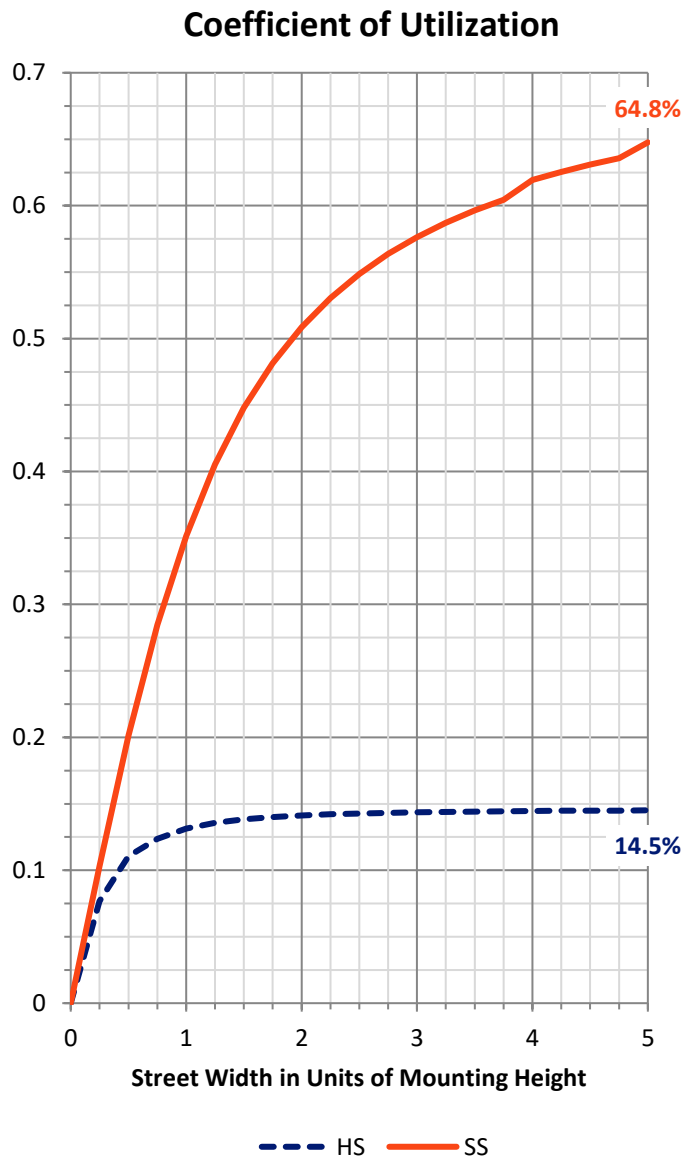
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3043.5	117.2	3160.7
	% Fixture	14.7	0.6	15.3
Street Side	Lumens	14683.8	2831.1	17514.9
	% Fixture	71.0	13.7	84.7
Total	Lumens	17727.3	2948.3	20675.6
	% Fixture	85.7	14.3	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	502.8	2.4
10°-20°	1398.6	6.8
20°-30°	1925.6	9.3
30°-40°	2230.7	10.8
40°-50°	2436.5	11.8
50°-60°	2575.5	12.5
60°-70°	2546.6	12.3
70°-80°	2279.6	11.0
80°-90°	1831.5	8.9
90°-100°	1360.3	6.6
100°-110°	874.2	4.2
110°-120°	399.6	1.9
120°-130°	161.9	0.8
130°-140°	84.8	0.4
140°-150°	42.9	0.2
150°-160°	16.9	0.1
160°-170°	6.0	0.0
170°-180°	1.7	0.0
0°-90°	17727.3	85.7
0°-180°	20675.6	100.0



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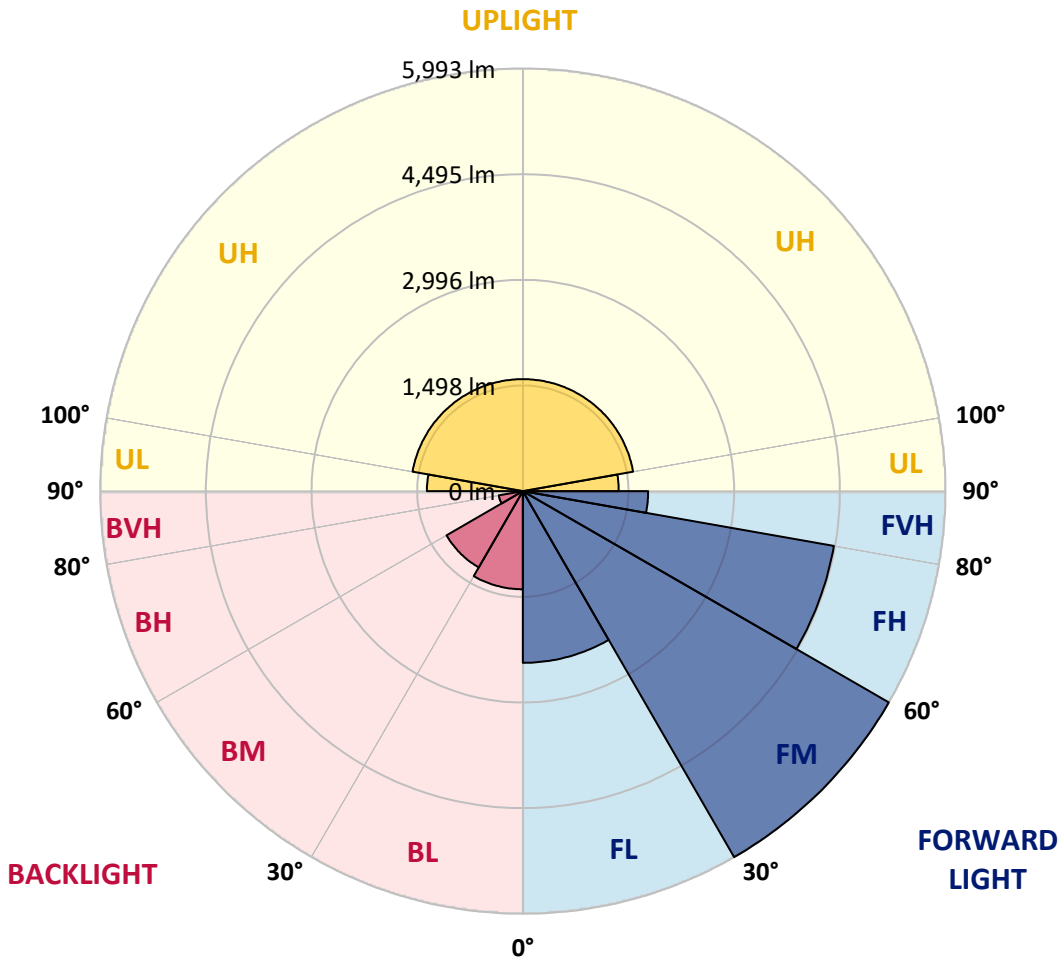
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	2435.0	11.8			
FM	(30°-60°)	5992.9	29.0			
FH	(60°-80°)	4479.3	21.7			G2/5000
FVH	(80°-90°)	1776.6	8.6			G5
BL	(0°-30°)	1391.9	6.7	B3/2500		
BM	(30°-60°)	1249.7	6.0	B2/2500		
BH	(60°-80°)	346.9	1.7	B1/500		G1/500
BVH	(80°-90°)	55.0	0.3			G1/100
UL	(90°-100°)	1360.3	6.6		U5	
UH	(100°-180°)	1588.0	7.7		U5	

BUG Rating: B3-U5-G5
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4
2.5°	5353.6	5505.8	5578.4	5432.4	5527.3	5451.2	5388.6	5356.3	5364.4	5321.4	5394.8
5°	5748.5	5662.5	5665.2	5598.1	5593.6	5457.5	5494.2	5439.6	5410.0	5326.8	5328.6
7.5°	6043.9	6007.2	5995.5	5806.6	5782.5	5769.9	5572.1	5524.6	5450.3	5359.0	5328.6
10°	6323.2	6312.5	6289.2	6130.7	6243.5	6019.7	5746.7	5650.0	5437.8	5324.1	5305.3
12.5°	6252.5	6281.1	6194.3	6200.6	6239.1	6176.4	5876.5	5635.7	5484.4	5223.8	5201.5
15°	6177.3	6225.6	6093.1	6182.7	6256.1	6157.6	6059.1	5749.4	5419.9	5178.2	5214.9
17.5°	6184.4	6167.4	6127.2	6192.5	6099.4	6164.8	6098.5	5752.0	5444.1	5148.6	5000.9
20°	6300.8	6071.6	6147.7	6077.9	6032.3	6037.6	5966.0	5913.2	5369.8	5013.4	4916.8
22.5°	6132.5	6103.9	6150.4	6075.2	6016.1	5834.4	5975.0	5848.7	5447.6	4983.0	4787.8
25°	6133.4	6218.5	6192.5	6031.4	5896.2	5808.4	5711.8	5694.7	5286.5	4836.2	4665.2
27.5°	6197.9	6281.1	6138.8	6047.5	5839.8	5748.5	5607.9	5568.5	5246.2	4746.7	4467.3
30°	6361.7	6346.5	6269.5	6103.0	5836.2	5669.7	5509.4	5376.9	5145.1	4571.2	4334.8
32.5°	6414.5	6451.2	6436.9	6146.0	5910.5	5555.1	5288.3	5186.2	4997.3	4360.8	4106.6
35°	6434.2	6482.6	6511.2	6093.1	5876.5	5450.3	5081.5	4920.3	4865.7	4189.8	3837.1
37.5°	6474.5	6498.7	6432.4	6154.9	5845.1	5332.2	5010.8	4808.4	4675.9	3959.7	3620.4
40°	6432.4	6355.4	6355.4	6068.1	5757.4	5195.2	4907.8	4566.7	4428.8	3724.3	3425.3
42.5°	6550.6	6537.2	6475.4	6135.2	5673.3	5209.5	4757.4	4458.4	4239.9	3533.6	3186.2
45°	6834.4	6965.1	6658.0	6245.3	5628.5	5081.5	4724.3	4346.5	4074.3	3375.1	2976.7
47.5°	6994.7	7005.4	6956.2	6370.7	5670.6	5010.8	4505.8	4255.2	3929.3	3233.7	2829.9
50°	7095.8	7105.7	6899.8	6426.2	5711.8	4808.4	4446.8	4148.6	3815.6	3068.9	2655.3
52.5°	7146.9	7077.9	6933.8	6437.8	5763.7	4812.9	4325.9	3998.2	3769.9	2992.8	2595.4
55°	7142.4	7093.1	6999.1	6530.9	5720.7	4711.7	4086.9	3917.7	3641.9	2920.3	2447.6
57.5°	7026.9	7012.6	6718.9	6543.4	5728.8	4702.8	3988.4	3726.1	3546.1	2768.1	2275.7
60°	7058.2	7073.4	6732.3	6424.4	5602.5	4468.2	3904.2	3620.4	3454.8	2654.4	2111.9
62.5°	6971.4	7024.2	6752.0	6403.8	5665.2	4427.1	3741.3	3499.6	3290.1	2537.2	1922.1
65°	6957.1	6994.7	6822.8	6414.5	5580.1	4303.5	3589.1	3334.8	3189.8	2332.1	1650.9
67.5°	6913.2	6851.4	6665.2	6325.0	5507.6	4275.8	3461.1	3180.9	3029.6	2060.9	1421.7
70°	6804.9	6781.6	6614.2	6222.0	5394.8	4141.5	3318.7	2998.2	2852.3	1767.2	1103.0
72.5°	6690.3	6621.3	6551.5	6154.0	5347.4	3942.7	3181.7	2799.5	2586.4	1454.8	867.5
75°	6595.4	6450.3	6366.2	5971.4	5187.1	3939.1	3080.6	2621.3	2338.4	1141.5	632.9
77.5°	6315.2	6159.4	6086.0	5759.2	4917.7	3706.4	2897.1	2410.0	2034.9	846.0	484.3
80°	6197.9	5991.1	5861.3	5545.2	4885.4	3611.5	2735.0	2230.1	1699.2	599.8	393.9
82.5°	5923.9	5811.1	5678.6	5403.8	4601.6	3337.5	2598.9	2046.6	1410.0	455.7	324.1
85°	5624.9	5508.5	5389.5	5036.7	4351.9	3140.6	2411.8	1826.3	1146.8	342.9	274.8
87.5°	5305.3	5275.8	5163.9	4761.9	4123.6	3013.4	2237.3	1668.8	910.5	274.8	224.7
90°	5087.8	5071.6	4891.7	4522.0	3838.9	2752.9	2051.0	1449.4	712.6	243.5	197.9
92.5°	4865.7	4747.6	4560.4	4314.3	3552.4	2520.2	1858.6	1244.4	569.4	217.5	180.8
95°	4608.8	4529.1	4326.8	4014.3	3243.5	2297.2	1680.4	1063.6	457.5	195.2	171.9
97.5°	4326.8	4264.1	4051.9	3682.2	3002.7	2158.5	1496.0	915.8	393.0	182.6	162.0
100°	3987.5	3971.4	3785.2	3399.3	2687.6	1877.4	1284.7	743.1	326.8	176.4	157.6
102.5°	3689.4	3610.6	3491.5	3086.0	2389.4	1643.7	1068.0	590.9	285.6	170.1	155.8
105°	3391.2	3334.8	3155.8	2726.1	2056.4	1390.3	880.9	491.5	256.9	171.0	153.1
107.5°	2942.7	2953.5	2769.9	2339.3	1701.0	1154.9	692.9	404.7	238.1	168.3	147.7
110°	2591.8	2530.0	2326.8	1903.3	1402.0	940.0	565.8	334.8	214.9	164.7	141.5

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	*2096.7*	2085.1	1893.5	1505.8	1087.7	728.7	457.5	288.3	203.2	154.0	134.3
115°	*1702.8*	1630.3	1438.7	1146.8	837.1	581.0	376.9	254.3	193.4	151.3	126.2
117.5°	*1213.1*	1210.4	1051.0	876.5	668.8	479.0	322.3	223.8	181.7	139.7	120.9
120°	*878.2*	865.7	783.4	665.2	560.4	413.6	282.0	208.6	171.9	126.2	109.2
122.5°	*675.0*	667.0	618.6	542.5	484.3	358.1	248.0	189.8	160.3	113.7	97.6
125°	*540.7*	547.9	509.4	467.3	409.1	308.9	228.3	174.6	142.3	103.0	86.8
127.5°	*453.9*	450.3	422.6	392.1	350.9	280.2	212.2	168.3	127.1	90.4	78.8
130°	*378.7*	362.6	352.7	336.6	310.7	253.4	202.3	159.4	115.5	78.8	68.9
132.5°	*304.4*	306.2	301.7	289.2	277.5	236.3	195.2	146.8	100.3	70.7	61.8
135°	*271.3*	270.4	262.3	256.0	247.1	219.3	182.6	133.4	87.7	64.5	56.4
137.5°	*254.3*	248.0	236.3	223.8	221.1	206.8	166.5	120.0	76.1	58.2	52.8
140°	*231.0*	228.3	214.0	204.1	197.9	186.2	152.2	103.9	68.0	52.8	50.1
142.5°	*192.5*	192.5	187.1	176.4	172.8	162.9	131.6	89.5	58.2	50.1	45.7
145°	*154.9*	151.3	151.3	147.7	143.2	137.9	109.2	76.1	51.9	44.8	43.9
147.5°	*117.3*	117.3	118.2	118.2	113.7	111.9	91.3	60.9	45.7	41.2	39.4
150°	*98.5*	99.4	98.5	94.0	94.0	88.6	75.2	51.0	40.3	39.4	37.6
152.5°	*80.6*	79.7	80.6	79.7	75.2	68.9	58.2	42.1	37.6	37.6	36.7
155°	*65.4*	66.2	65.4	61.8	59.1	52.8	45.7	35.8	34.9	34.9	34.0
157.5°	*51.0*	52.8	51.0	51.0	48.3	42.1	35.8	32.2	33.1	33.1	33.1
160°	*39.4*	39.4	40.3	39.4	35.8	31.3	29.5	29.5	31.3	32.2	33.1
162.5°	*26.9*	28.6	28.6	27.8	26.0	23.3	24.2	27.8	30.4	30.4	32.2
165°	*16.1*	16.1	17.9	18.8	17.9	18.8	22.4	25.1	27.8	30.4	30.4
167.5°	*8.1*	9.0	10.7	12.5	14.3	16.1	22.4	26.0	28.6	30.4	30.4
170°	*3.6*	3.6	6.3	9.8	13.4	17.0	23.3	26.9	28.6	30.4	29.5
172.5°	*3.6*	3.6	6.3	10.7	13.4	17.0	24.2	25.1	29.5	31.3	30.4
175°	*2.7*	4.5	6.3	10.7	14.3	17.9	24.2	27.8	28.6	31.3	31.3
177.5°	*2.7*	4.5	7.2	10.7	14.3	17.9	23.3	27.8	29.5	30.4	32.2
180°	*18.8*	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4	5313.4
2.5°	5283.8	5300.8	5221.1	5186.2	5086.0	5036.7	5171.9	5224.7	5126.3	5079.7
5°	5173.7	5206.8	5137.0	5068.1	5001.8	4874.7	4957.0	4828.1	4829.9	4839.8
7.5°	5323.2	5109.2	4975.8	4768.1	4769.0	4676.8	4637.4	4522.0	4528.2	4541.6
10°	5193.4	4983.9	4848.7	4699.2	4618.6	4416.3	4291.9	4274.0	4201.4	4135.2
12.5°	5013.4	4922.1	4621.3	4525.5	4334.8	4061.8	3940.9	3895.3	3765.5	3735.9
15°	4982.1	4728.8	4529.1	4258.7	4019.7	3735.0	3505.8	3465.5	3321.4	3308.0
17.5°	4938.2	4616.8	4355.4	3956.1	3663.4	3333.0	3029.6	2858.6	2682.2	2706.4
20°	4746.7	4382.3	4088.6	3713.5	3317.8	2883.6	2527.3	2219.3	2127.1	2106.5
22.5°	4664.3	4234.6	3841.6	3360.8	2894.4	2330.4	1940.0	1703.7	1621.3	1571.2
25°	4464.7	3934.7	3565.8	3036.7	2353.6	1880.0	1470.0	1251.6	1182.6	1157.6
27.5°	4242.6	3829.9	3225.6	2653.5	1940.9	1429.7	1145.0	972.3	932.0	924.8
30°	4065.4	3581.0	2983.9	2205.0	1577.4	1117.3	932.9	845.1	810.2	809.3
32.5°	3837.1	3325.0	2666.1	1846.0	1241.7	940.0	817.4	768.1	724.3	742.2
35°	3592.7	3079.7	2374.2	1539.8	1015.2	821.8	754.7	703.7	699.2	680.4
37.5°	3295.4	2738.6	2069.8	1286.5	880.9	764.6	701.9	676.8	678.6	664.3
40°	3094.0	2548.8	1770.8	1080.6	773.5	703.7	660.7	623.1	615.0	623.1
42.5°	2855.9	2308.9	1514.8	920.3	709.0	646.4	598.9	578.3	564.0	574.8
45°	2718.9	2111.0	1274.0	796.8	650.0	582.8	545.2	513.9	497.8	499.6
47.5°	2507.6	1919.4	1074.3	723.4	591.8	537.2	487.9	438.7	426.1	426.1
50°	2335.7	1654.4	921.2	667.9	539.8	477.2	422.6	385.0	360.8	375.1
52.5°	*2154.0*	*1414.5*	*810.2*	*613.3*	*500.4*	*429.7*	*376.9*	*335.7*	*308.0*	*301.7*
55°	1988.4	1217.6	751.1	574.8	440.5	383.2	325.9	293.6	269.5	265.9
57.5°	1830.8	1064.5	696.5	528.2	396.6	334.8	289.2	260.5	257.8	262.3
60°	1590.0	917.6	653.5	470.0	352.7	290.1	251.6	231.9	237.2	242.6
62.5°	1398.4	830.8	622.2	423.5	305.3	250.7	222.9	206.8	215.8	221.1
65°	1150.4	750.2	581.0	378.7	265.0	214.9	189.8	188.0	196.1	201.4
67.5°	946.3	696.5	526.4	333.9	231.0	179.1	164.7	167.4	175.5	173.7
70°	761.0	625.8	458.4	282.9	190.7	146.8	141.5	139.7	142.3	145.0
72.5°	632.1	564.9	399.3	245.3	160.3	125.3	117.3	114.6	111.9	116.4
75°	522.8	510.3	346.5	205.9	129.8	102.1	89.5	85.0	77.9	80.6
77.5°	459.3	427.9	281.1	164.7	103.0	77.0	60.0	51.0	46.6	49.2
80°	398.4	354.5	237.2	130.7	78.8	49.2	28.6	17.0	13.4	13.4
82.5°	331.2	291.9	203.2	107.4	56.4	27.8	6.3	0.9	0.0	0.0
85°	282.9	248.0	172.8	90.4	47.4	23.3	9.0	1.8	0.9	0.0
87.5°	237.2	208.6	146.8	78.8	43.0	22.4	8.1	2.7	1.8	1.8
90°	204.1	181.7	134.3	70.7	38.5	21.5	9.0	3.6	2.7	2.7
92.5°	184.4	162.0	121.8	63.6	35.8	19.7	8.1	4.5	3.6	4.5
95°	171.0	147.7	110.1	60.9	34.0	20.6	9.0	6.3	4.5	5.4
97.5°	154.9	137.0	99.4	54.6	30.4	17.9	9.0	6.3	4.5	3.6
100°	145.9	128.0	90.4	52.8	31.3	19.7	9.8	7.2	6.3	5.4
102.5°	139.7	122.7	85.0	50.1	31.3	20.6	11.6	8.1	7.2	6.3
105°	134.3	116.4	78.8	47.4	28.6	18.8	10.7	8.1	6.3	6.3
107.5°	128.9	111.0	73.4	44.8	27.8	18.8	10.7	8.1	6.3	5.4
110°	123.5	103.9	67.1	42.1	26.9	17.0	10.7	8.1	5.4	7.2

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P979159
CATALOG NUMBER: WPLLED38S-150W-3500K

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	118.2	94.9	61.8	39.4	26.0	16.1	9.0	7.2	4.5	4.5
115°	110.1	83.3	57.3	36.7	24.2	15.2	9.0	6.3	4.5	4.5
117.5°	101.2	73.4	51.9	35.8	23.3	14.3	9.0	6.3	4.5	4.5
120°	94.9	66.2	48.3	33.1	21.5	13.4	9.8	5.4	4.5	3.6
122.5°	84.2	60.0	44.8	32.2	22.4	12.5	9.0	5.4	4.5	3.6
125°	73.4	52.8	42.1	31.3	21.5	12.5	8.1	5.4	3.6	3.6
127.5°	66.2	50.1	39.4	31.3	20.6	13.4	9.0	4.5	3.6	3.6
130°	60.0	46.6	38.5	29.5	19.7	13.4	9.0	5.4	3.6	3.6
132.5°	54.6	45.7	37.6	30.4	19.7	12.5	9.8	5.4	4.5	2.7
135°	51.9	42.1	34.9	28.6	18.8	12.5	9.8	6.3	4.5	3.6
137.5°	47.4	41.2	35.8	28.6	19.7	13.4	9.8	6.3	5.4	4.5
140°	45.7	39.4	34.0	27.8	18.8	13.4	10.7	6.3	4.5	4.5
142.5°	43.0	37.6	34.0	26.9	19.7	14.3	11.6	7.2	5.4	5.4
145°	41.2	37.6	33.1	26.0	17.9	14.3	10.7	7.2	5.4	5.4
147.5°	37.6	35.8	30.4	24.2	17.9	12.5	9.8	5.4	4.5	4.5
150°	38.5	33.1	29.5	24.2	17.9	14.3	11.6	6.3	4.5	4.5
152.5°	34.9	33.1	29.5	24.2	17.0	14.3	10.7	7.2	4.5	4.5
155°	33.1	31.3	29.5	24.2	17.0	13.4	10.7	6.3	4.5	4.5
157.5°	32.2	30.4	27.8	24.2	17.9	14.3	9.8	6.3	4.5	3.6
160°	32.2	30.4	27.8	24.2	17.0	14.3	10.7	7.2	4.5	4.5
162.5°	30.4	28.6	26.9	23.3	17.0	14.3	10.7	6.3	4.5	4.5
165°	30.4	28.6	26.0	21.5	16.1	12.5	9.0	5.4	3.6	2.7
167.5°	31.3	28.6	26.9	23.3	16.1	13.4	9.0	5.4	3.6	2.7
170°	31.3	28.6	27.8	23.3	17.0	13.4	9.0	4.5	2.7	2.7
172.5°	31.3	29.5	26.9	23.3	17.0	13.4	9.0	4.5	3.6	2.7
175°	32.2	29.5	26.9	23.3	17.0	12.5	9.0	4.5	2.7	2.7
177.5°	31.3	28.6	26.9	23.3	17.0	12.5	9.0	4.5	2.7	2.7
180°	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8

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

Lumark

Report Number: SP1-2407-168-2

Test Date: 08/08/2024

Luminaire Tested: LSDL-92S-100W 3500k

Data in this report applies to families of products including LSDL-92S-100W 3500k.

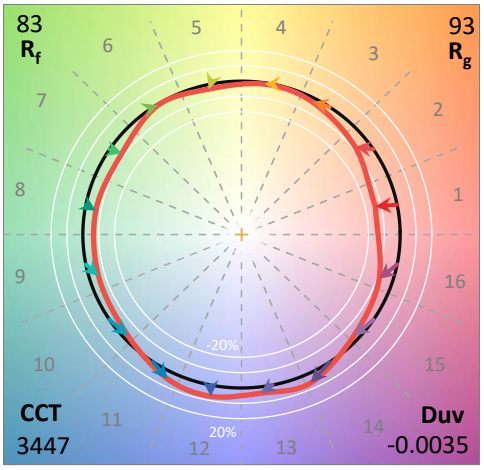
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-168-2
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	08/12/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Lumark
Catalog Number:	**LSDL-92S-100W 3500k**
Description:	Lumark Wallpack 100W

Spectral Parameters

CCT (K):	3447	CRI (Ra):	81.3		
CIE u':	0.2387	R1:	80.7	R9:	-0.6
CIE v':	0.5076	R2:	93.3	R10:	84.3
Duv:	-0.0035	R3:	92.2	R11:	76.0
CIE x:	0.4046	R4:	77.2	R12:	69.4
CIE y:	0.3824	R5:	81.3	R13:	84.3
CIE z:	0.2130	R6:	90.3	R14:	96.4
Peak Wavelength (nm):	597	R7:	79.5	R15:	73.7
Dominant Wavelength (nm):	582	R8:	55.9		
Purity:	36.18615				
Rf:	82.6				
Rg:	93				



Test Conditions

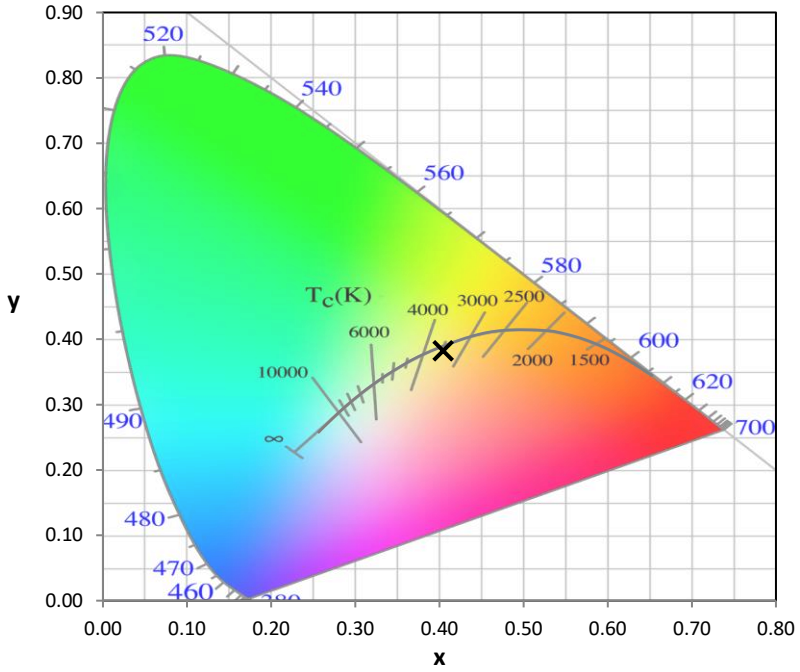
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2407-168-2

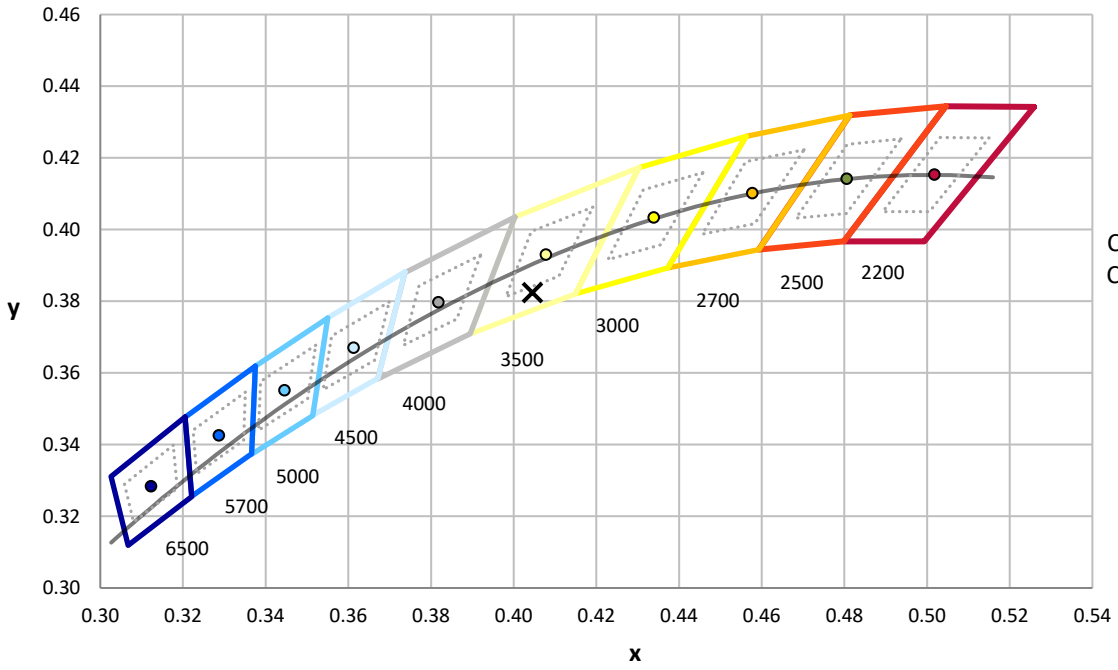
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

REPORT NUMBER: SP1-2407-168-2

CIE 1931 Chromaticity Diagram



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

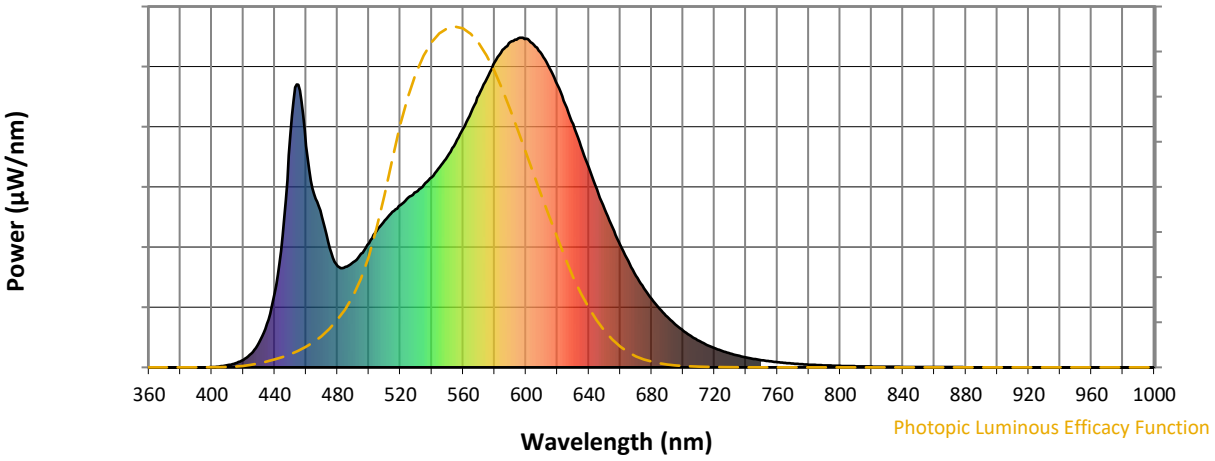


CCT = 3447K
CIE x = 0.4046
CIE y = 0.3824
Duv = -0.0035

Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2407-168-2

Photopic Flux vs. Wavelength

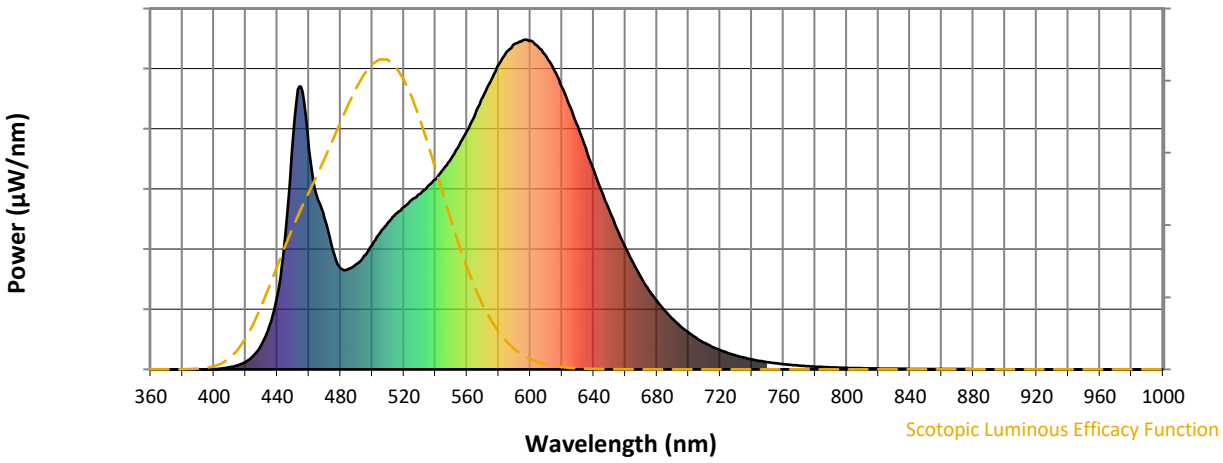


Photopic Lumens: NR

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	319	NR	620	856	NR	750	22	NR	880	1	NR
365	0	NR	495	344	NR	625	798	NR	755	18	NR	885	0	NR
370	0	NR	500	377	NR	630	738	NR	760	16	NR	890	0	NR
375	0	NR	505	415	NR	635	671	NR	765	13	NR	895	0	NR
380	0	NR	510	445	NR	640	606	NR	770	11	NR	900	0	NR
385	0	NR	515	472	NR	645	541	NR	775	10	NR	905	0	NR
390	0	NR	520	492	NR	650	481	NR	780	8	NR	910	0	NR
395	0	NR	525	514	NR	655	424	NR	785	7	NR	915	0	NR
400	1	NR	530	532	NR	660	371	NR	790	6	NR	920	0	NR
405	3	NR	535	554	NR	665	323	NR	795	5	NR	925	0	NR
410	6	NR	540	577	NR	670	278	NR	800	4	NR	930	0	NR
415	12	NR	545	608	NR	675	240	NR	805	4	NR	935	0	NR
420	23	NR	550	640	NR	680	207	NR	810	3	NR	940	0	NR
425	42	NR	555	680	NR	685	178	NR	815	3	NR	945	0	NR
430	75	NR	560	725	NR	690	154	NR	820	3	NR	950	0	NR
435	132	NR	565	774	NR	695	131	NR	825	2	NR	955	0	NR
440	225	NR	570	826	NR	700	111	NR	830	2	NR	960	0	NR
445	400	NR	575	875	NR	705	95	NR	835	2	NR	965	0	NR
450	706	NR	580	925	NR	710	80	NR	840	1	NR	970	0	NR
455	858	NR	585	963	NR	715	68	NR	845	1	NR	975	0	NR
460	672	NR	590	987	NR	720	58	NR	850	1	NR	980	0	NR
465	526	NR	595	998	NR	725	49	NR	855	1	NR	985	0	NR
470	456	NR	600	997	NR	730	42	NR	860	1	NR	990	0	NR
475	363	NR	605	978	NR	735	36	NR	865	1	NR	995	0	NR
480	307	NR	610	950	NR	740	30	NR	870	1	NR	1000	0	NR
485	305	NR	615	908	NR	745	26	NR	875	1	NR			

REPORT NUMBER: SP1-2407-168-2

Scotopic Flux vs. Wavelength

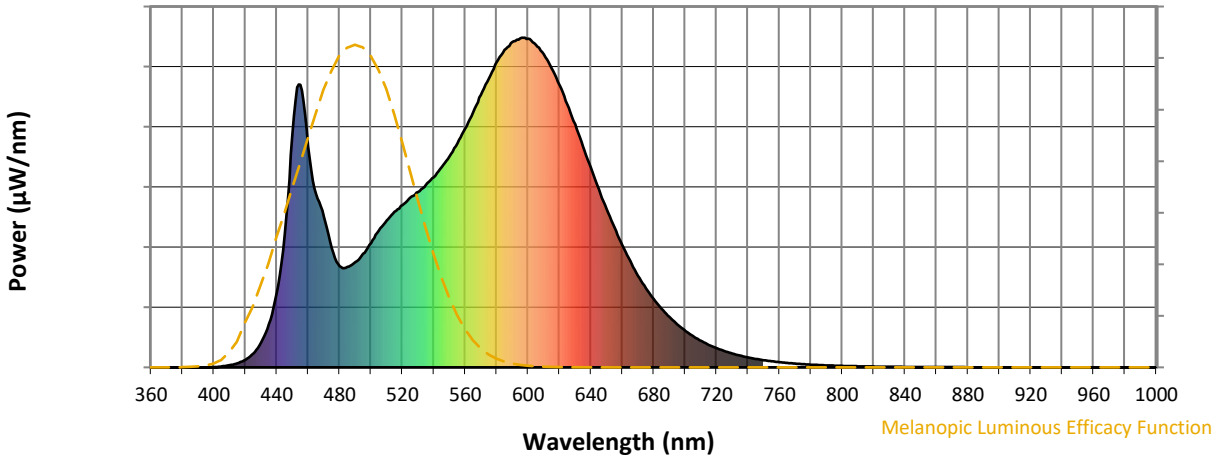


Scotopic Lumens: NR **S/P: 1.56**

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	319	NR	620	856	NR	750	22	NR	880	1	NR
365	0	NR	495	344	NR	625	798	NR	755	18	NR	885	0	NR
370	0	NR	500	377	NR	630	738	NR	760	16	NR	890	0	NR
375	0	NR	505	415	NR	635	671	NR	765	13	NR	895	0	NR
380	0	NR	510	445	NR	640	606	NR	770	11	NR	900	0	NR
385	0	NR	515	472	NR	645	541	NR	775	10	NR	905	0	NR
390	0	NR	520	492	NR	650	481	NR	780	8	NR	910	0	NR
395	0	NR	525	514	NR	655	424	NR	785	7	NR	915	0	NR
400	1	NR	530	532	NR	660	371	NR	790	6	NR	920	0	NR
405	3	NR	535	554	NR	665	323	NR	795	5	NR	925	0	NR
410	6	NR	540	577	NR	670	278	NR	800	4	NR	930	0	NR
415	12	NR	545	608	NR	675	240	NR	805	4	NR	935	0	NR
420	23	NR	550	640	NR	680	207	NR	810	3	NR	940	0	NR
425	42	NR	555	680	NR	685	178	NR	815	3	NR	945	0	NR
430	75	NR	560	725	NR	690	154	NR	820	3	NR	950	0	NR
435	132	NR	565	774	NR	695	131	NR	825	2	NR	955	0	NR
440	225	NR	570	826	NR	700	111	NR	830	2	NR	960	0	NR
445	400	NR	575	875	NR	705	95	NR	835	2	NR	965	0	NR
450	706	NR	580	925	NR	710	80	NR	840	1	NR	970	0	NR
455	858	NR	585	963	NR	715	68	NR	845	1	NR	975	0	NR
460	672	NR	590	987	NR	720	58	NR	850	1	NR	980	0	NR
465	526	NR	595	998	NR	725	49	NR	855	1	NR	985	0	NR
470	456	NR	600	997	NR	730	42	NR	860	1	NR	990	0	NR
475	363	NR	605	978	NR	735	36	NR	865	1	NR	995	0	NR
480	307	NR	610	950	NR	740	30	NR	870	1	NR	1000	0	NR
485	305	NR	615	908	NR	745	26	NR	875	1	NR			

REPORT NUMBER: SP1-2407-168-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 3.22**

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	319	NR	620	856	NR	750	22	NR	880	1	NR
365	0	NR	495	344	NR	625	798	NR	755	18	NR	885	0	NR
370	0	NR	500	377	NR	630	738	NR	760	16	NR	890	0	NR
375	0	NR	505	415	NR	635	671	NR	765	13	NR	895	0	NR
380	0	NR	510	445	NR	640	606	NR	770	11	NR	900	0	NR
385	0	NR	515	472	NR	645	541	NR	775	10	NR	905	0	NR
390	0	NR	520	492	NR	650	481	NR	780	8	NR	910	0	NR
395	0	NR	525	514	NR	655	424	NR	785	7	NR	915	0	NR
400	1	NR	530	532	NR	660	371	NR	790	6	NR	920	0	NR
405	3	NR	535	554	NR	665	323	NR	795	5	NR	925	0	NR
410	6	NR	540	577	NR	670	278	NR	800	4	NR	930	0	NR
415	12	NR	545	608	NR	675	240	NR	805	4	NR	935	0	NR
420	23	NR	550	640	NR	680	207	NR	810	3	NR	940	0	NR
425	42	NR	555	680	NR	685	178	NR	815	3	NR	945	0	NR
430	75	NR	560	725	NR	690	154	NR	820	3	NR	950	0	NR
435	132	NR	565	774	NR	695	131	NR	825	2	NR	955	0	NR
440	225	NR	570	826	NR	700	111	NR	830	2	NR	960	0	NR
445	400	NR	575	875	NR	705	95	NR	835	2	NR	965	0	NR
450	706	NR	580	925	NR	710	80	NR	840	1	NR	970	0	NR
455	858	NR	585	963	NR	715	68	NR	845	1	NR	975	0	NR
460	672	NR	590	987	NR	720	58	NR	850	1	NR	980	0	NR
465	526	NR	595	998	NR	725	49	NR	855	1	NR	985	0	NR
470	456	NR	600	997	NR	730	42	NR	860	1	NR	990	0	NR
475	363	NR	605	978	NR	735	36	NR	865	1	NR	995	0	NR
480	307	NR	610	950	NR	740	30	NR	870	1	NR	1000	0	NR
485	305	NR	615	908	NR	745	26	NR	875	1	NR			

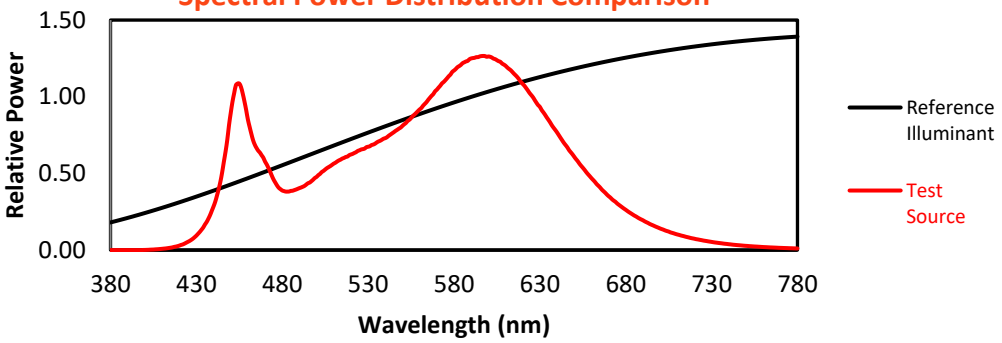
REPORT NUMBER: SP1-2407-168-2

TM-30-18

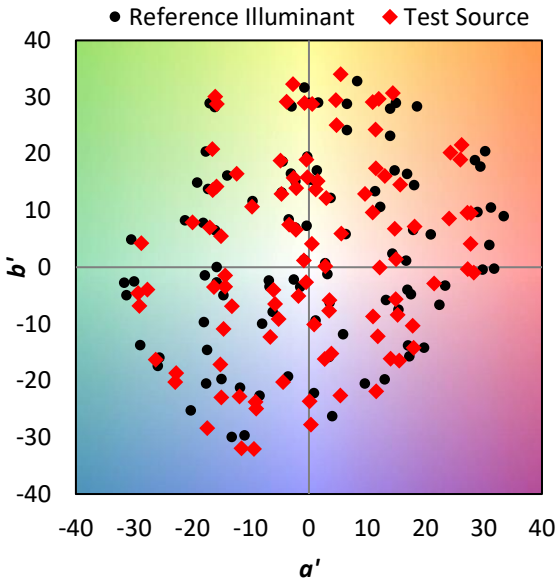
Summary

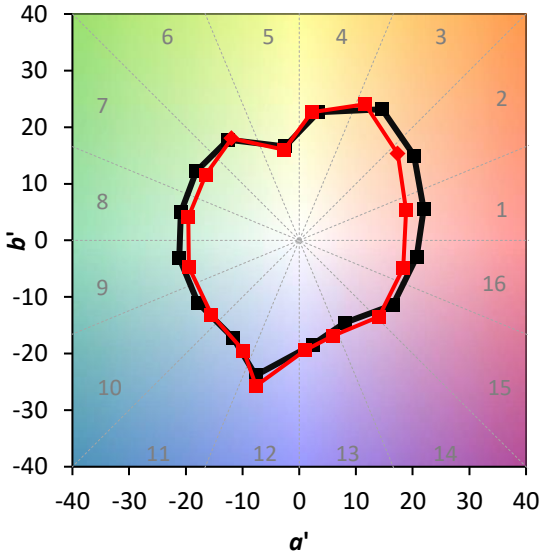
R_f = 82.6
R_g = 93
CIE R_a = 81.3
R_9 = -0.6

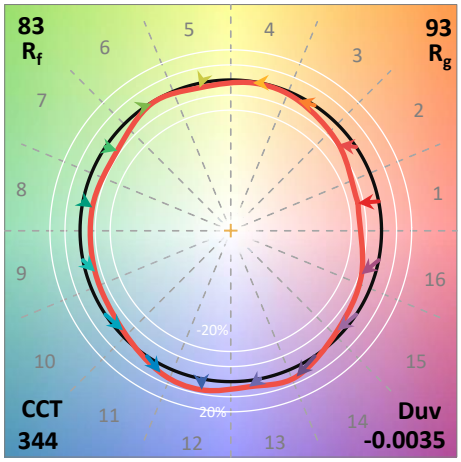
Spectral Power Distribution Comparison

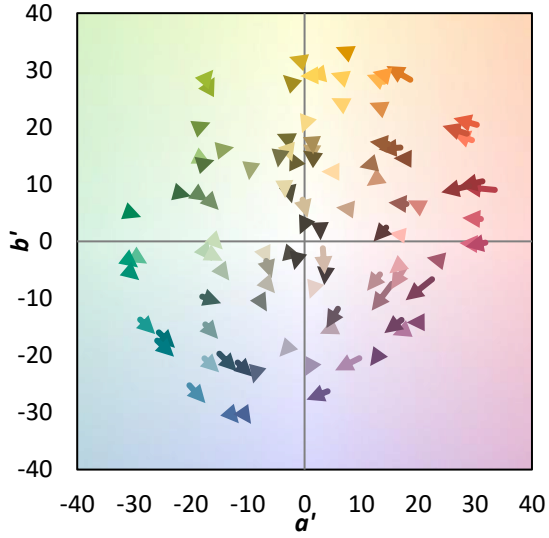


Color Vector Graphics







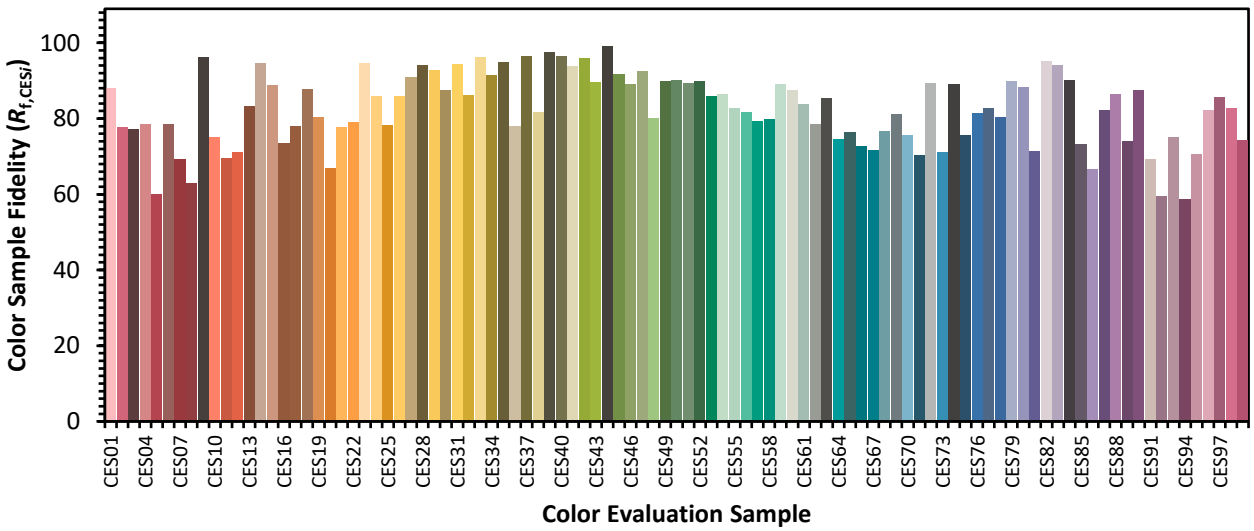


REPORT NUMBER: SP1-2407-168-2

TM-30-18

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

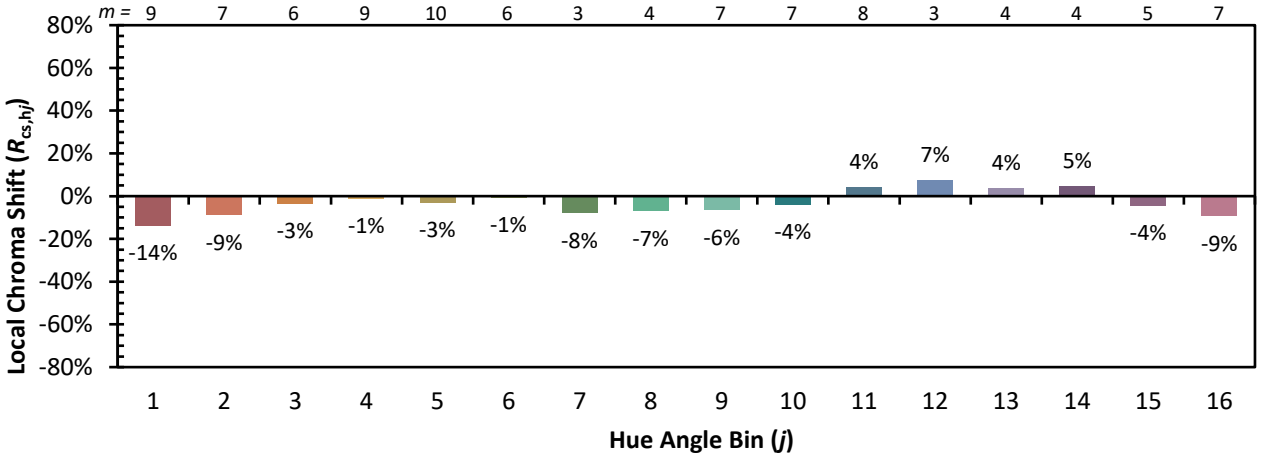
CES01 = 86	CES26 = 86	CES51 = 89	CES76 = 81
CES02 = 62	CES27 = 91	CES52 = 90	CES77 = 83
CES03 = 31	CES28 = 94	CES53 = 86	CES78 = 80
CES04 = 70	CES29 = 93	CES54 = 86	CES79 = 90
CES05 = 49	CES30 = 87	CES55 = 83	CES80 = 88
CES06 = 51	CES31 = 94	CES56 = 82	CES81 = 71
CES07 = 41	CES32 = 86	CES57 = 79	CES82 = 95
CES08 = 40	CES33 = 96	CES58 = 80	CES83 = 94
CES09 = 29	CES34 = 91	CES59 = 89	CES84 = 90
CES10 = 75	CES35 = 95	CES60 = 88	CES85 = 73
CES11 = 58	CES36 = 78	CES61 = 84	CES86 = 67
CES12 = 64	CES37 = 96	CES62 = 79	CES87 = 82
CES13 = 43	CES38 = 82	CES63 = 86	CES88 = 86
CES14 = 74	CES39 = 97	CES64 = 74	CES89 = 74
CES15 = 71	CES40 = 96	CES65 = 76	CES90 = 88
CES16 = 47	CES41 = 94	CES66 = 73	CES91 = 69
CES17 = 50	CES42 = 96	CES67 = 72	CES92 = 59
CES18 = 56	CES43 = 90	CES68 = 77	CES93 = 75
CES19 = 72	CES44 = 99	CES69 = 81	CES94 = 59
CES20 = 66	CES45 = 92	CES70 = 76	CES95 = 71
CES21 = 86	CES46 = 89	CES71 = 70	CES96 = 82
CES22 = 79	CES47 = 92	CES72 = 89	CES97 = 86
CES23 = 92	CES48 = 80	CES73 = 71	CES98 = 83
CES24 = 91	CES49 = 90	CES74 = 89	CES99 = 74
CES25 = 72	CES50 = 90	CES75 = 76	

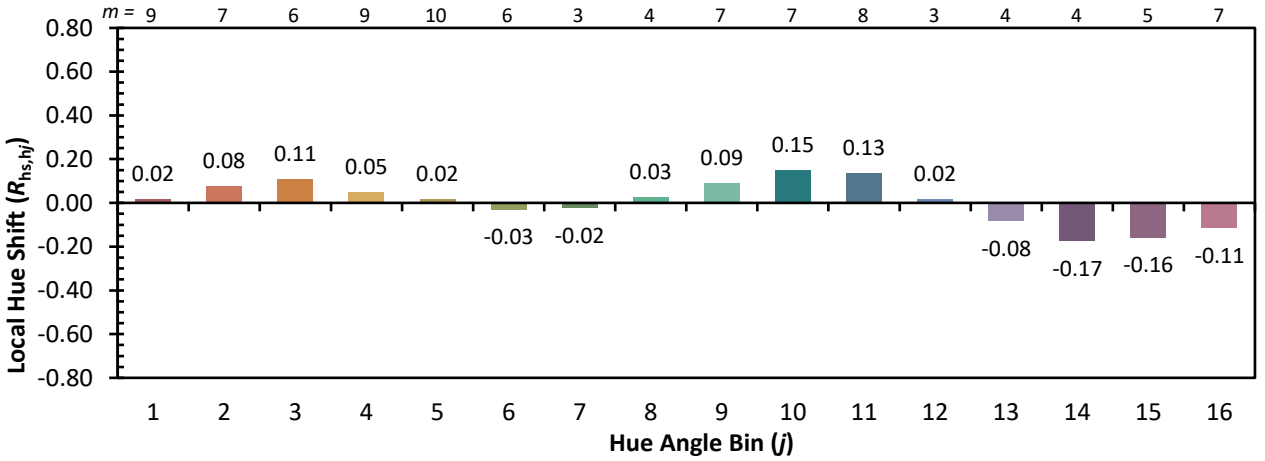


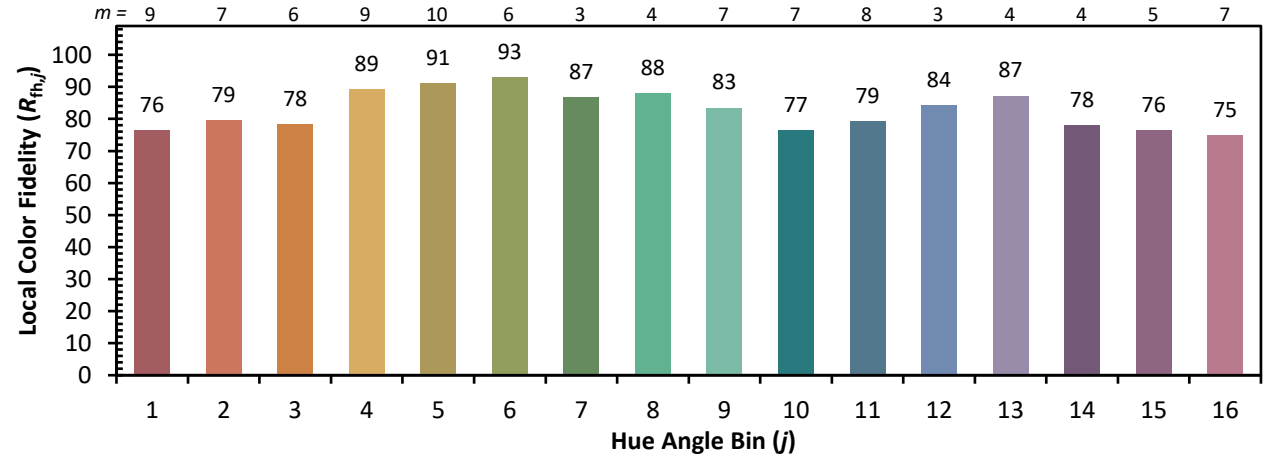
REPORT NUMBER: SP1-2407-168-2

TM-30-18

Color Rendition by Hue-Angle Bin



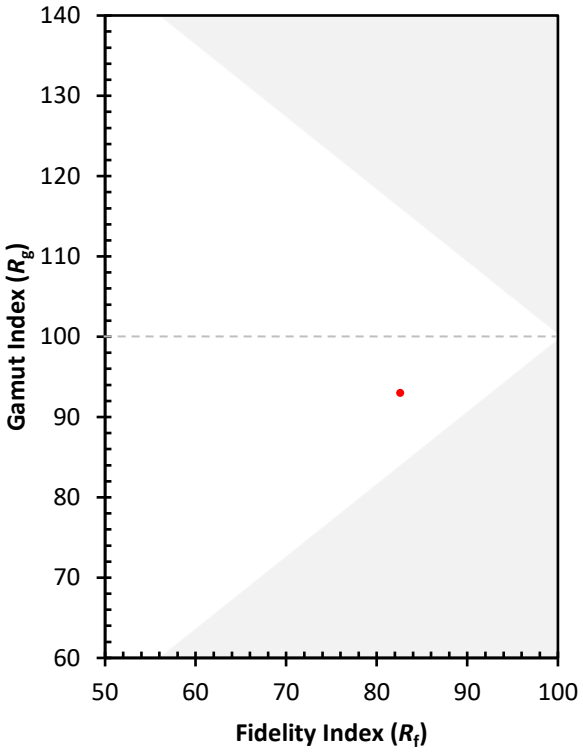


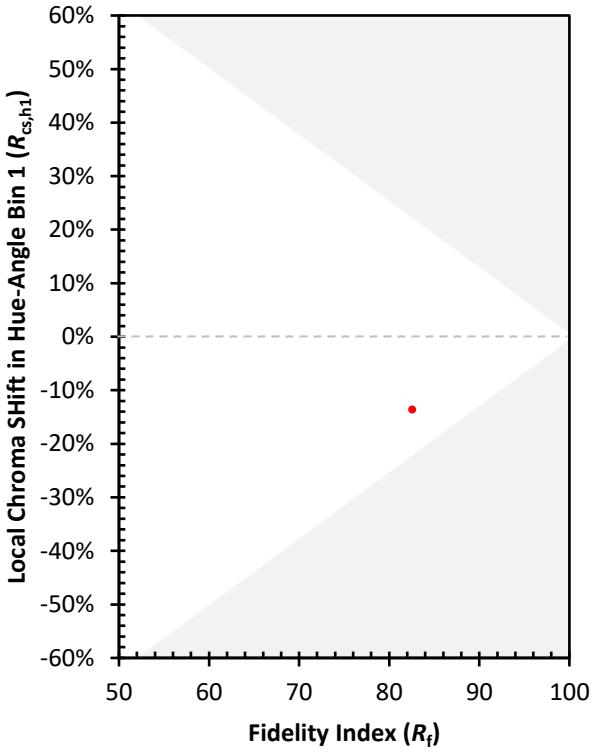


REPORT NUMBER: SP1-2407-168-2

TM-30-18

Measure Comparisons





(END OF REPORT)