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: P979161

Luminaire Tested: **WPLLED38S-150W-5000K**

Issue Date: 03/31/2025

Report Generated By 670245763

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P979161
Test Lab:	Cooper Lighting Solutions
Issue Date:	03/31/2025
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	LUMARK
Catalog Number:	WPLLED38S-150W-5000K
Description:	LUMARK WALL PACK LED LARGE 80CRI CCT AND LUMEN SELECTIVE FIXTURE OPERATING @150W-5000K
Light Source:	5000K CCT, 80 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	21003.2 lumens
Efficiency:	N/A
Efficacy:	141.9 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):	148
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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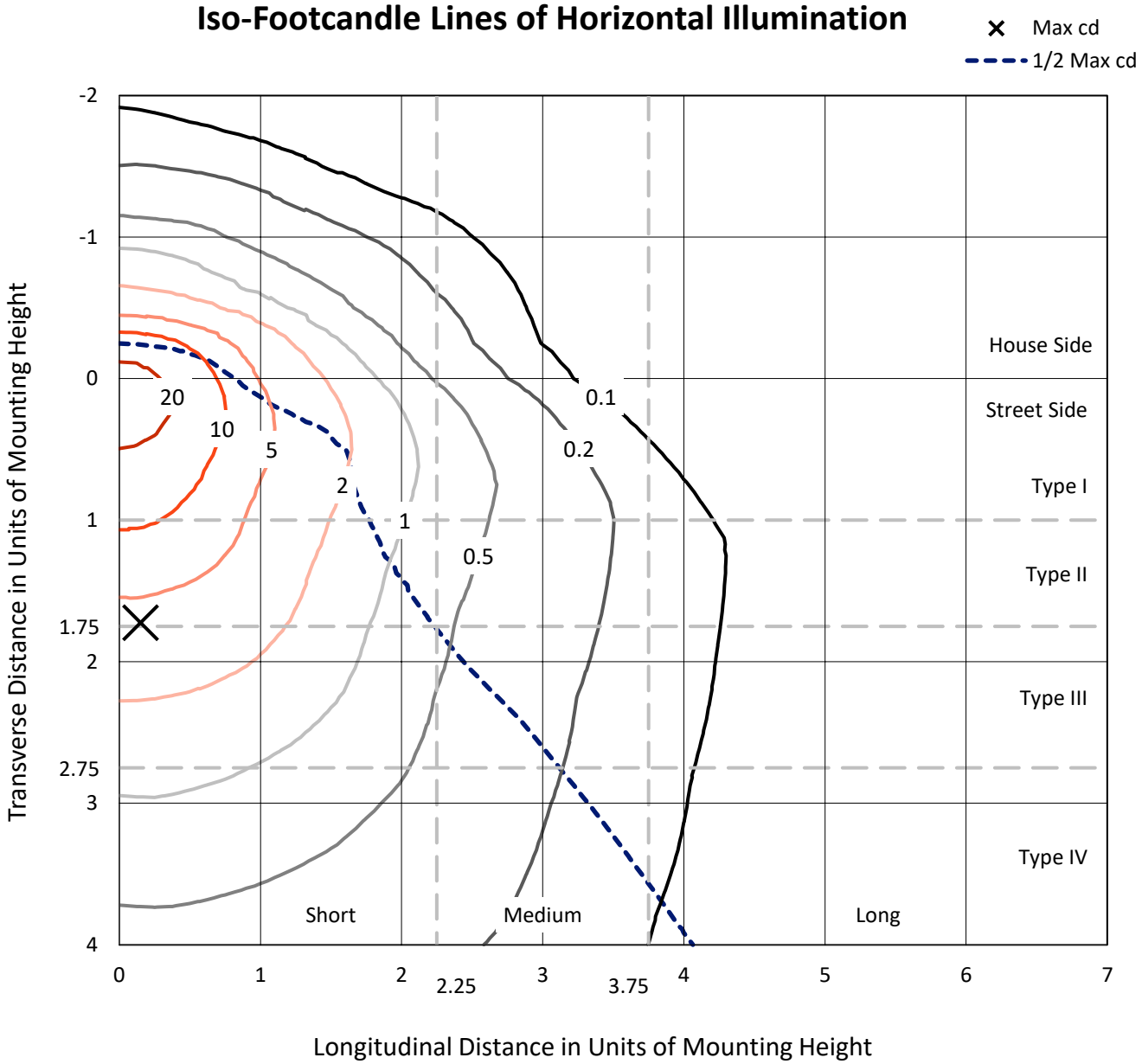
Iso-Footcandle Lines of Horizontal Illumination



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

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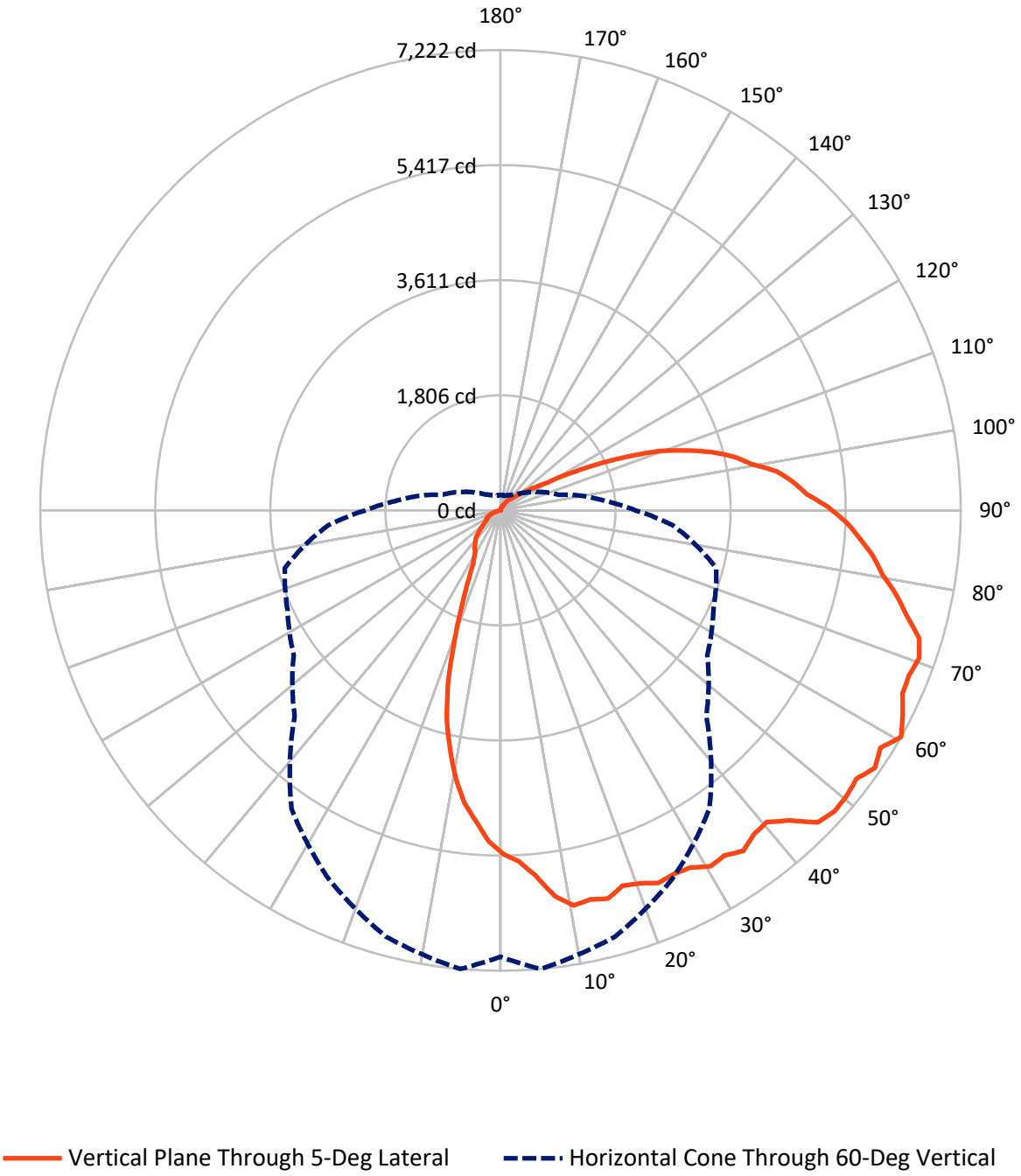
Luminous Intensity Polar Plot



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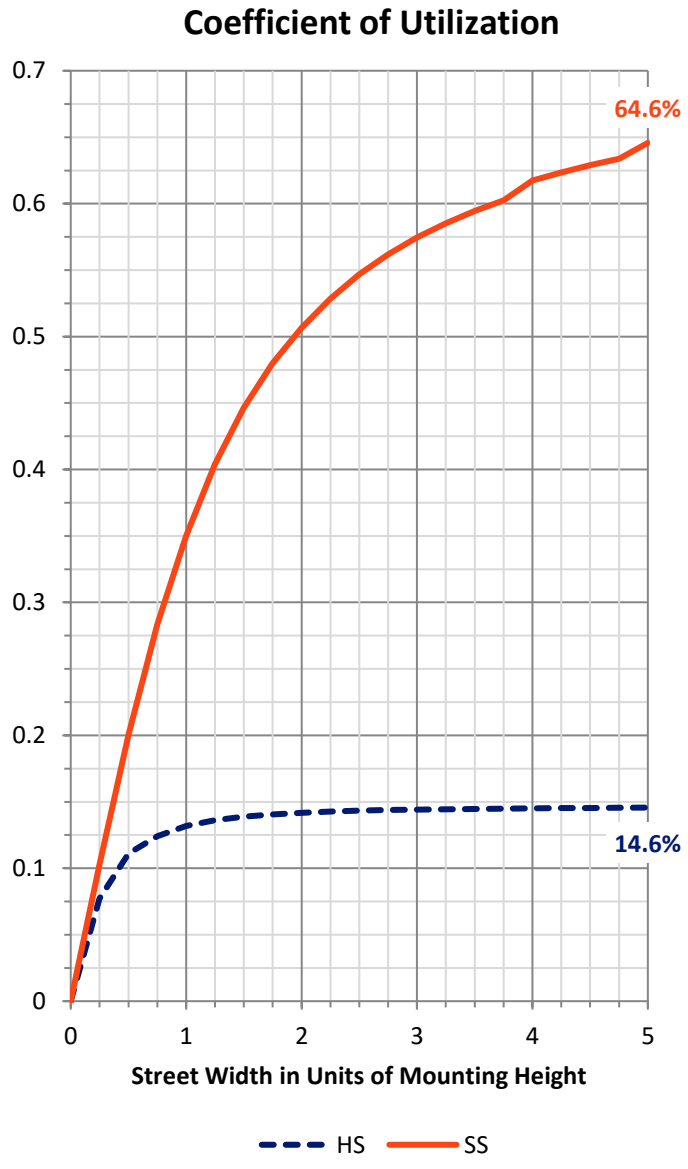
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3102.2	119.6	3221.8
	% Fixture	14.8	0.6	15.3
Street Side	Lumens	14884.2	2897.2	17781.4
	% Fixture	70.9	13.8	84.7
Total	Lumens	17986.4	3016.7	21003.2
	% Fixture	85.6	14.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	509.6	2.4
10°-20°	1417.8	6.8
20°-30°	1950.9	9.3
30°-40°	2265.8	10.8
40°-50°	2462.9	11.7
50°-60°	2611.6	12.4
60°-70°	2581.0	12.3
70°-80°	2316.8	11.0
80°-90°	1870.1	8.9
90°-100°	1389.0	6.6
100°-110°	895.6	4.3
110°-120°	411.3	2.0
120°-130°	166.2	0.8
130°-140°	86.1	0.4
140°-150°	43.8	0.2
150°-160°	17.0	0.1
160°-170°	5.9	0.0
170°-180°	1.8	0.0
0°-90°	17986.4	85.6
0°-180°	21003.2	100.0



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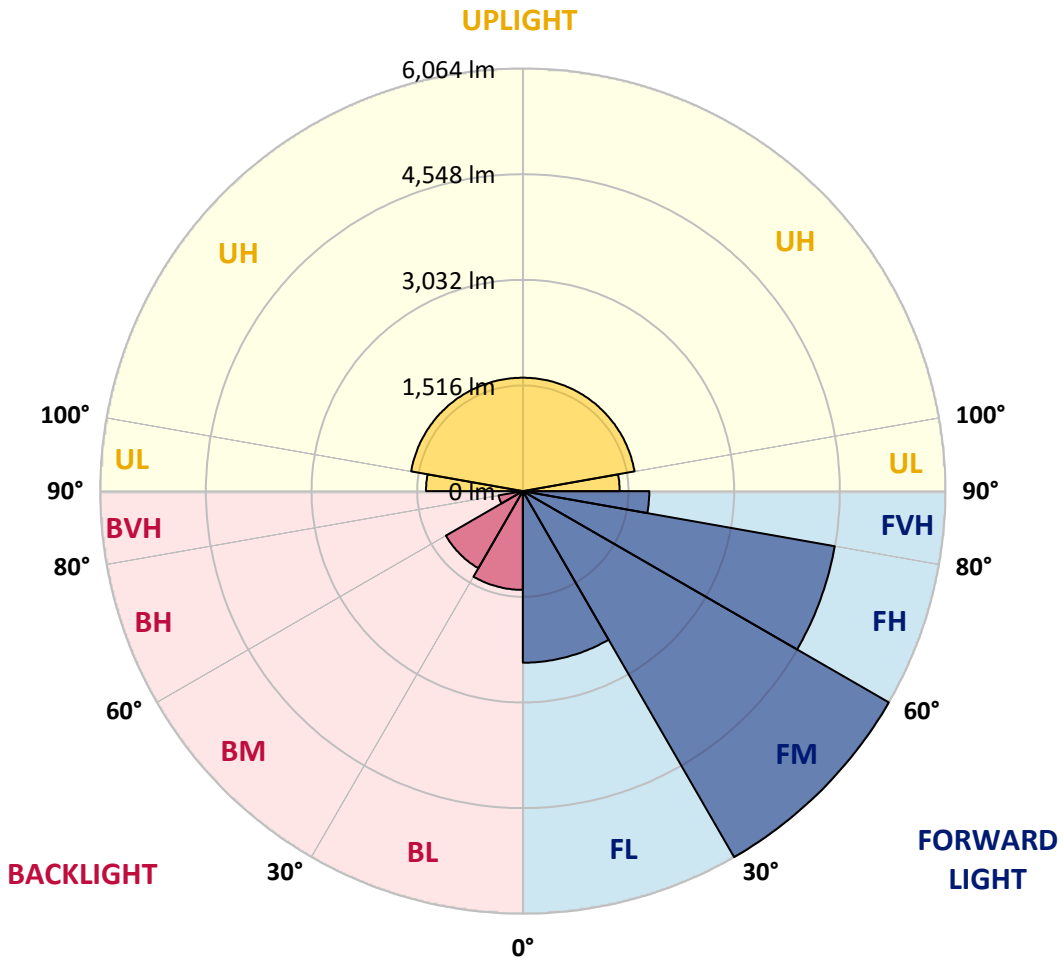
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	2461.4	11.7			
FM	(30°-60°)	6064.2	28.9			
FH	(60°-80°)	4544.3	21.6			G2/5000
FVH	(80°-90°)	1814.3	8.6			G5
BL	(0°-30°)	1416.9	6.7	B3/2500		
BM	(30°-60°)	1276.1	6.1	B2/2500		
BH	(60°-80°)	353.5	1.7	B1/500		G1/500
BVH	(80°-90°)	55.7	0.3			G1/100
UL	(90°-100°)	1389.0	6.6		U5	
UH	(100°-180°)	1627.8	7.8		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°	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1
2.5°	5567.3	5515.2	5541.2	5490.1	5440.7	5557.4	5522.4	5483.8	5499.9	5418.2	5441.6
5°	5632.8	5755.8	5721.7	5650.8	5705.6	5526.9	5773.8	5402.1	5568.2	5487.4	5479.3
7.5°	6080.0	6108.7	6010.9	5994.7	5898.6	5702.9	5752.3	5577.2	5589.7	5344.6	5416.4
10°	6379.0	6303.6	6360.2	6316.2	6157.2	5960.6	5769.3	5642.7	5504.4	5409.2	5365.2
12.5°	6076.4	6265.0	6251.5	6347.6	6296.4	6251.5	6119.5	5735.2	5657.1	5334.7	5222.5
15°	6150.9	6321.6	6247.9	6318.0	6253.3	6265.0	6197.6	5843.8	5459.5	5266.5	5091.4
17.5°	6083.6	6193.1	6224.6	6331.4	6122.2	6198.5	6242.5	6018.0	5445.2	5235.0	5002.5
20°	6211.1	6247.0	6097.1	6188.7	5994.7	6060.2	5964.2	6016.3	5388.6	5198.2	4989.0
22.5°	6155.4	6349.4	6119.5	5949.8	6038.7	6009.1	5925.6	5866.3	5447.0	5110.2	4912.7
25°	6229.1	6319.8	6270.4	6022.5	6137.5	5815.1	5786.4	5921.1	5425.4	4893.8	4727.7
27.5°	6276.7	6347.6	6203.9	6168.9	5935.4	5691.2	5613.1	5427.2	5328.4	4778.0	4504.1
30°	6440.1	6483.2	6265.0	6123.1	5948.0	5692.1	5476.6	5424.5	5150.6	4579.5	4389.2
32.5°	6507.4	6458.0	6364.7	6191.4	5897.7	5625.6	5253.9	5170.4	5117.4	4537.3	4206.9
35°	6534.4	6561.3	6483.2	6289.2	5965.1	5577.2	5193.7	4963.9	4989.0	4237.4	3934.8
37.5°	6543.3	6453.6	6519.1	6274.9	5936.3	5397.6	5078.8	4866.9	4807.6	4016.5	3747.1
40°	6448.2	6432.0	6429.3	6112.3	6012.7	5344.6	4981.8	4624.4	4481.7	3766.9	3513.7
42.5°	6597.2	6651.1	6470.6	6273.1	5743.3	5196.4	4807.6	4517.6	4264.4	3566.6	3263.1
45°	7065.1	6982.4	6766.9	6291.0	5727.1	5113.8	4658.6	4398.1	4072.2	3454.4	3050.3
47.5°	6941.1	7054.3	6949.2	6412.2	5798.0	4990.8	4614.6	4312.8	3985.1	3228.1	2868.0
50°	7006.7	7040.8	7067.7	6485.9	5774.7	4938.7	4473.6	4162.9	3915.1	3085.3	2788.1
52.5°	7125.2	6995.9	6989.6	6579.3	5858.2	4871.4	4371.2	4215.0	3788.4	3053.0	2604.0
55°	6822.6	7128.8	7004.0	6690.6	5885.2	4822.0	4218.6	4005.7	3736.4	2904.9	2509.8
57.5°	7085.7	7030.0	6818.1	6510.1	5794.5	4679.2	4091.9	3858.5	3593.6	2787.2	2322.1
60°	7004.0	7222.2	6926.8	6380.8	5714.5	4567.0	3959.9	3687.9	3503.8	2715.4	2117.4
62.5°	6814.5	7083.9	6792.1	6371.8	5657.1	4495.1	3828.0	3490.3	3344.9	2527.7	1936.0
65°	6966.3	6932.2	6745.4	6433.8	5617.6	4423.3	3671.7	3405.9	3220.0	2373.3	1675.6
67.5°	6836.1	6913.3	6872.9	6507.4	5676.8	4409.8	3556.8	3253.3	3079.1	2106.6	1419.7
70°	6876.5	6966.3	6681.6	6335.0	5560.1	4219.5	3354.7	3068.3	2895.0	1847.1	1139.5
72.5°	6641.2	6868.4	6600.8	5974.0	5474.8	4085.7	3177.8	2842.0	2656.1	1494.2	878.2
75°	6413.1	6581.1	6361.1	6045.0	5231.4	4010.2	3091.6	2712.7	2358.9	1171.8	652.8
77.5°	6260.5	6344.0	6211.1	5815.1	5060.8	3839.6	2935.4	2466.7	2120.1	869.2	496.6
80°	6200.3	6075.5	6139.3	5591.5	4922.6	3621.4	2803.4	2297.8	1767.2	631.3	405.0
82.5°	5919.3	5888.7	5941.7	5526.9	4707.0	3459.8	2655.2	2094.0	1456.5	458.9	326.9
85°	5680.4	5657.1	5444.3	5029.4	4429.6	3256.0	2562.7	1897.4	1176.3	351.1	272.1
87.5°	5341.0	5431.7	5177.6	4846.2	4191.6	2992.0	2348.1	1724.1	931.2	284.6	232.6
90°	5210.8	5147.9	4956.7	4624.4	3916.8	2776.5	2145.2	1465.5	741.7	239.8	204.7
92.5°	4831.0	4812.1	4778.0	4329.0	3631.3	2575.3	1980.0	1304.7	600.7	227.2	185.9
95°	4668.4	4616.3	4408.9	4050.6	3388.9	2358.9	1724.1	1123.3	484.9	201.1	175.1
97.5°	4483.5	4379.3	4087.5	3745.3	3000.9	2162.3	1510.3	902.4	404.1	182.3	161.6
100°	4129.7	3997.7	3826.2	3490.3	2729.8	1950.3	1315.5	750.7	345.7	176.9	162.5
102.5°	3793.8	3748.9	3523.5	3265.8	2414.6	1672.9	1069.5	609.7	298.1	173.3	158.0
105°	3553.2	3423.0	3217.3	2767.5	2094.0	1461.9	895.3	497.5	266.7	173.3	156.2
107.5°	3177.8	3040.5	2798.9	2384.1	1753.7	1169.1	713.0	405.0	244.2	176.0	150.0
110°	2627.4	2653.4	2375.1	1978.2	1434.0	949.1	578.3	343.9	221.8	166.1	144.6

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	2156.9	*2138.9*	1929.7	1556.1	1150.3	751.6	473.2	295.4	204.7	160.7	138.3
115°	1707.0	*1669.3*	1496.0	1194.3	871.0	591.7	396.9	255.9	193.1	152.7	134.7
117.5°	1239.2	*1236.5*	1110.8	878.2	675.3	509.1	330.4	233.5	184.1	141.9	122.1
120°	901.5	*873.7*	818.9	693.2	572.9	431.9	287.3	212.8	171.5	128.4	114.9
122.5°	671.7	*686.9*	623.2	580.1	492.1	366.4	261.3	194.9	165.2	117.6	103.3
125°	554.0	*554.9*	523.5	483.1	428.3	320.6	235.3	182.3	143.7	104.2	89.8
127.5°	456.2	*458.0*	430.1	398.7	370.0	284.6	212.8	172.4	128.4	91.6	79.0
130°	380.7	*372.6*	359.2	346.6	316.1	255.0	207.4	159.8	114.0	80.8	70.0
132.5°	314.3	*314.3*	308.9	297.2	279.3	237.1	194.0	150.9	100.6	70.9	63.8
135°	275.7	*273.0*	270.3	253.2	249.6	219.1	186.8	143.7	89.8	63.8	56.6
137.5°	244.2	*252.3*	238.9	226.3	224.5	206.5	176.0	123.0	79.0	59.3	53.0
140°	226.3	*230.8*	214.6	205.6	201.1	186.8	153.5	106.0	67.3	53.9	49.4
142.5°	201.1	*196.7*	194.9	185.9	173.3	165.2	137.4	90.7	59.3	50.3	47.6
145°	155.3	*151.8*	154.4	153.5	144.6	139.2	112.2	76.3	53.9	46.7	43.1
147.5°	123.9	*124.8*	122.1	121.2	117.6	114.0	93.4	62.9	50.3	43.1	42.2
150°	105.1	*99.7*	98.8	94.3	97.0	88.0	74.5	52.1	42.2	39.5	37.7
152.5°	80.8	*80.8*	82.6	81.7	77.2	70.0	60.2	43.1	38.6	37.7	35.0
155°	66.4	*66.4*	66.4	64.7	61.1	55.7	47.6	36.8	35.0	35.0	35.9
157.5°	52.1	*51.2*	52.1	50.3	45.8	41.3	37.7	33.2	32.3	33.2	32.3
160°	35.9	*39.5*	39.5	38.6	35.0	30.5	30.5	28.7	31.4	35.0	31.4
162.5°	25.1	*27.8*	30.5	27.8	25.1	23.3	24.2	26.9	30.5	30.5	29.6
165°	16.2	*16.2*	18.0	18.9	18.0	18.9	21.6	26.0	28.7	30.5	31.4
167.5°	8.1	*8.1*	9.9	11.7	13.5	17.1	22.4	26.0	26.9	29.6	30.5
170°	3.6	*3.6*	6.3	10.8	13.5	18.0	24.2	27.8	30.5	32.3	29.6
172.5°	3.6	*4.5*	7.2	10.8	13.5	18.0	25.1	29.6	29.6	31.4	32.3
175°	7.2	*6.3*	9.9	13.5	16.2	20.7	26.9	28.7	32.3	33.2	35.0
177.5°	6.3	*3.6*	7.2	10.8	16.2	17.1	25.1	28.7	30.5	31.4	31.4
180°	18.9	*18.9*	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1	5393.1
2.5°	5349.1	5363.4	5292.5	5225.2	5213.5	5166.8	5228.8	5213.5	5197.3	5351.8
5°	5328.4	5270.1	5242.2	5165.9	5094.1	4953.1	4935.1	4927.9	4892.9	5038.4
7.5°	5309.6	5183.9	5046.5	4939.6	4763.6	4797.7	4696.3	4645.1	4628.9	4471.8
10°	5274.5	4998.0	4833.7	4733.1	4594.8	4479.0	4451.1	4276.0	4255.4	4257.2
12.5°	5075.2	4990.8	4716.0	4565.2	4392.8	4197.9	4002.2	3959.9	3811.8	3813.6
15°	5047.4	4974.6	4534.6	4371.2	4005.7	3758.8	3594.5	3386.2	3362.8	3417.6
17.5°	4948.6	4672.0	4360.4	4061.4	3678.0	3387.1	3173.3	2868.0	2794.4	2855.5
20°	4931.5	4504.1	4165.6	3777.7	3314.3	2942.6	2560.9	2285.3	2147.0	2156.0
22.5°	4660.3	4455.6	3940.2	3487.6	2929.1	2384.1	1966.5	1744.7	1609.1	1607.3
25°	4577.7	4118.0	3541.5	3106.9	2428.9	1868.6	1539.1	1274.2	1217.6	1206.8
27.5°	4391.0	3875.5	3344.9	2671.4	1976.4	1454.7	1172.7	1001.2	945.5	939.3
30°	4155.7	3709.4	3044.9	2255.6	1591.2	1151.2	941.0	863.8	827.9	825.2
32.5°	3922.2	3454.4	2762.1	1945.0	1282.3	959.0	846.8	800.1	744.4	783.0
35°	3734.6	3178.7	2411.9	1592.1	1034.4	844.1	771.3	724.6	716.6	706.7
37.5°	3433.8	2868.0	2083.2	1315.5	899.7	770.4	731.8	692.3	663.6	696.8
40°	3137.4	2585.2	1829.1	1091.9	797.4	699.5	664.5	631.3	615.1	620.5
42.5°	2956.9	2367.9	1527.4	917.7	719.3	652.8	615.1	580.1	572.0	563.9
45°	2724.4	2121.9	1276.9	820.7	642.9	589.1	558.5	514.5	500.2	503.7
47.5°	2526.8	1895.6	1076.6	715.7	616.9	545.1	484.9	453.5	428.3	436.4
50°	2467.6	1674.7	941.9	672.6	551.3	481.3	446.3	383.4	361.0	369.1
52.5°	2225.1	1445.7	830.6	638.4	501.1	428.3	383.4	336.7	305.3	298.1
55°	2032.1	1227.5	765.1	584.6	449.0	387.9	333.1	296.3	273.0	269.4
57.5°	1836.3	1081.1	737.2	529.8	406.8	350.2	291.8	264.0	271.2	263.1
60°	*1660.3*	*940.2*	*678.0*	*481.3*	*352.0*	*293.6*	*258.6*	*235.3*	*242.4*	*241.5*
62.5°	1410.7	840.5	627.7	434.6	312.5	259.5	221.8	209.2	221.8	226.3
65°	1195.2	762.4	588.2	378.9	268.5	221.8	189.5	192.2	196.7	205.6
67.5°	984.2	711.2	531.6	324.2	232.6	185.0	171.5	167.9	171.5	169.7
70°	784.8	643.8	471.4	290.9	194.9	158.0	145.5	141.0	148.2	144.6
72.5°	642.0	569.3	405.9	243.3	165.2	127.5	119.4	118.5	111.3	114.0
75°	544.2	500.2	349.3	210.1	131.1	105.1	91.6	86.2	81.7	84.4
77.5°	474.1	430.1	293.6	167.9	108.7	81.7	61.1	53.9	49.4	47.6
80°	407.7	363.7	247.8	137.4	78.1	51.2	29.6	18.9	11.7	12.6
82.5°	344.8	301.7	204.7	111.3	58.4	26.9	5.4	0.9	0.0	0.0
85°	282.9	249.6	174.2	92.5	49.4	24.2	7.2	1.8	0.9	0.9
87.5°	237.1	211.9	150.0	78.1	42.2	21.6	8.1	3.6	0.9	0.0
90°	205.6	181.4	127.5	70.9	37.7	19.8	6.3	2.7	0.9	0.0
92.5°	185.0	162.5	120.3	67.3	36.8	20.7	7.2	5.4	3.6	4.5
95°	173.3	150.9	113.1	62.0	35.0	20.7	9.9	6.3	5.4	4.5
97.5°	161.6	141.9	102.4	58.4	34.1	20.7	10.8	8.1	6.3	5.4
100°	147.3	135.6	95.2	55.7	34.1	20.7	9.9	9.0	6.3	6.3
102.5°	140.1	125.7	85.3	49.4	29.6	19.8	9.0	6.3	4.5	3.6
105°	136.5	119.4	79.0	47.6	31.4	19.8	10.8	7.2	6.3	6.3
107.5°	132.0	116.7	75.4	46.7	30.5	20.7	11.7	9.0	7.2	7.2
110°	127.5	108.7	69.1	44.9	26.9	18.0	11.7	8.1	6.3	6.3

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

Scaled Data Report

REPORT NUMBER: P979161
CATALOG NUMBER: WPLLED38S-150W-5000K

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	120.3	94.3	62.9	39.5	26.9	17.1	9.9	6.3	5.4	4.5
115°	114.9	84.4	56.6	37.7	26.0	16.2	9.9	6.3	4.5	4.5
117.5°	104.2	77.2	53.0	35.9	22.4	14.4	9.0	5.4	3.6	4.5
120°	97.0	65.6	52.1	34.1	22.4	13.5	9.0	5.4	3.6	3.6
122.5°	87.1	62.0	44.9	33.2	22.4	13.5	9.9	6.3	4.5	4.5
125°	75.4	54.8	44.0	32.3	22.4	13.5	9.0	6.3	2.7	3.6
127.5°	65.6	53.0	40.4	29.6	20.7	12.6	9.0	5.4	2.7	3.6
130°	60.2	49.4	38.6	29.6	19.8	12.6	9.9	5.4	2.7	3.6
132.5°	55.7	45.8	40.4	28.7	19.8	13.5	9.9	6.3	3.6	4.5
135°	52.1	43.1	36.8	27.8	19.8	13.5	9.9	5.4	2.7	3.6
137.5°	48.5	41.3	35.0	28.7	20.7	13.5	9.9	6.3	4.5	4.5
140°	45.8	40.4	34.1	28.7	19.8	14.4	9.9	6.3	3.6	5.4
142.5°	44.0	37.7	33.2	26.9	18.9	12.6	10.8	6.3	5.4	4.5
145°	41.3	37.7	33.2	26.9	18.9	13.5	10.8	7.2	4.5	5.4
147.5°	40.4	36.8	32.3	26.9	18.9	15.3	10.8	6.3	5.4	5.4
150°	37.7	35.0	29.6	25.1	18.0	14.4	9.9	5.4	4.5	5.4
152.5°	35.0	33.2	29.6	22.4	18.9	13.5	11.7	6.3	4.5	4.5
155°	34.1	31.4	27.8	23.3	18.0	13.5	10.8	5.4	5.4	4.5
157.5°	32.3	30.5	26.9	22.4	18.0	12.6	9.0	5.4	3.6	3.6
160°	32.3	28.7	27.8	23.3	18.0	12.6	9.9	5.4	3.6	3.6
162.5°	30.5	28.7	26.9	21.6	17.1	12.6	9.0	4.5	2.7	2.7
165°	30.5	30.5	26.9	23.3	17.1	11.7	9.0	4.5	3.6	2.7
167.5°	29.6	29.6	27.8	23.3	15.3	12.6	9.0	5.4	2.7	2.7
170°	32.3	29.6	27.8	23.3	17.1	14.4	9.9	5.4	2.7	2.7
172.5°	32.3	29.6	27.8	23.3	18.0	12.6	9.9	5.4	4.5	2.7
175°	33.2	32.3	29.6	26.0	18.9	15.3	11.7	7.2	5.4	4.5
177.5°	31.4	28.7	27.8	23.3	16.2	13.5	9.0	4.5	2.7	2.7
180°	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9

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: SP1-2407-168-4

Test Date: 08/08/2024

Luminaire Tested: LSDL-92S-100W 5000k

Data in this report applies to families of products including LSDL-92S-100W 5000k.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

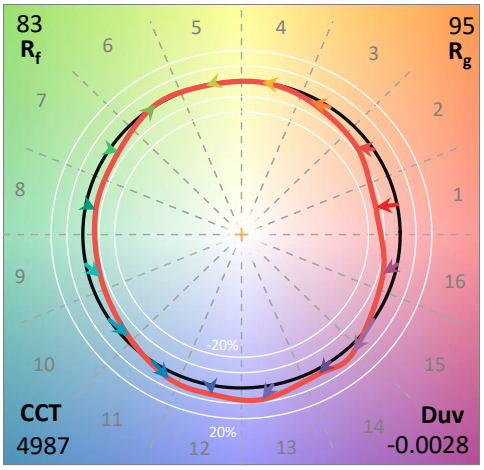
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-168-4
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 5000k**
Description:	Lumark Wallpack 100W

Spectral Parameters

CCT (K):	4987
CIE u':	0.2135
CIE v':	0.4819
Duv:	-0.0028
CIE x:	0.3449
CIE y:	0.3461
CIE z:	0.3090
Peak Wavelength (nm):	453
Dominant Wavelength (nm):	576
Purity:	7.317109
Rf:	82.9
Rg:	94.6

CRI (Ra):	83.4
R1:	82.5
R2:	92.4
R3:	94.5
R4:	79.9
R5:	82.3
R6:	86.3
R7:	84.5
R8:	64.7
R9:	6.6
R10:	80.3
R11:	78.9
R12:	59.3
R13:	85.9
R14:	97.8
R15:	77.3



Test Conditions

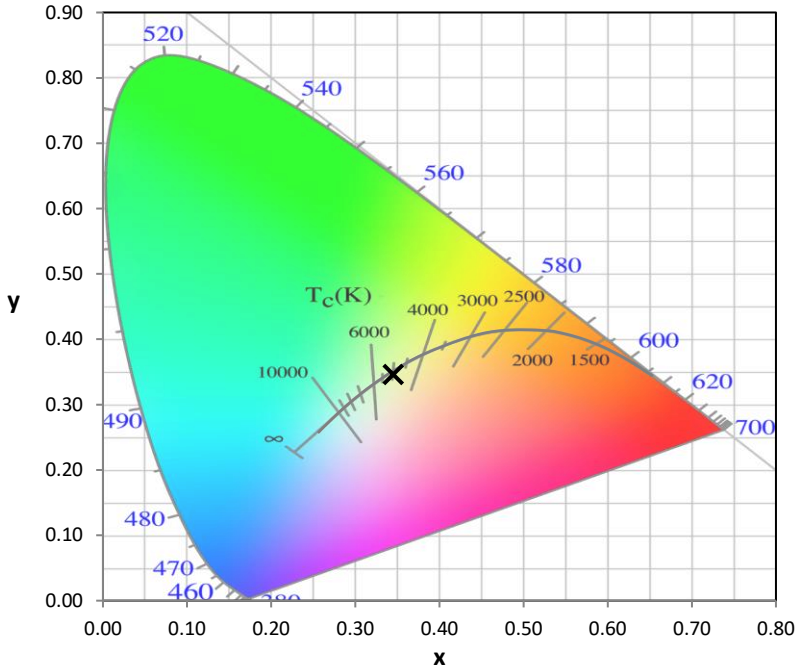
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2407-168-4

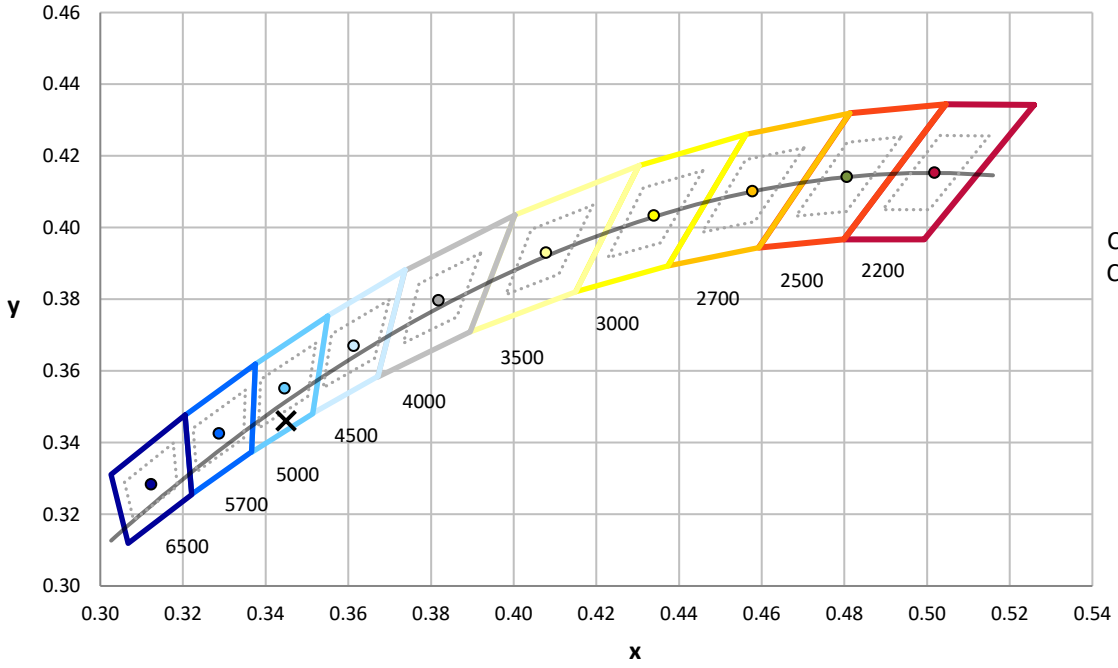
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-168-4

CIE 1931 Chromaticity Diagram



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

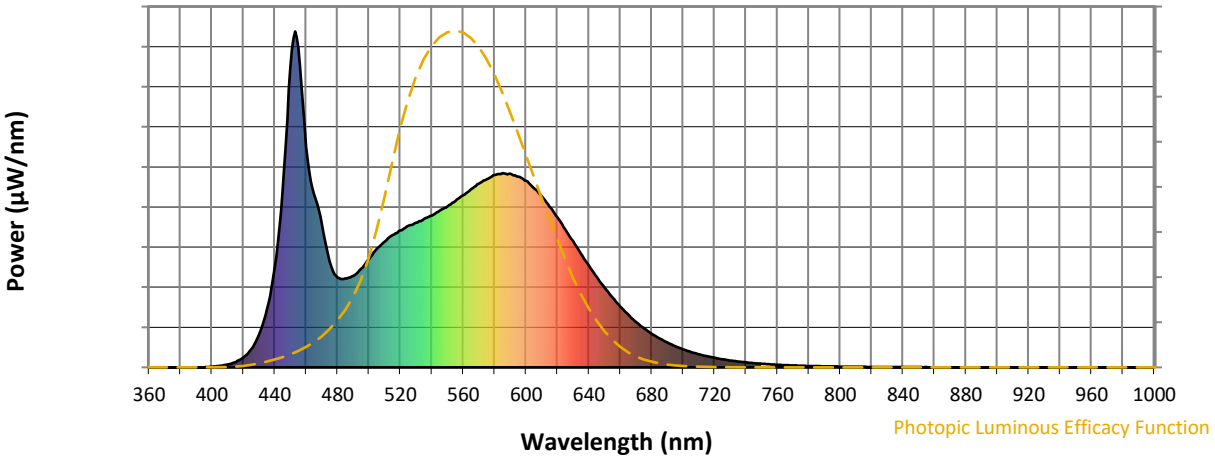


CCT = 4987K
CIE x = 0.3449
CIE y = 0.3461
Duv = -0.0028

Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2407-168-4

Photopic Flux vs. Wavelength

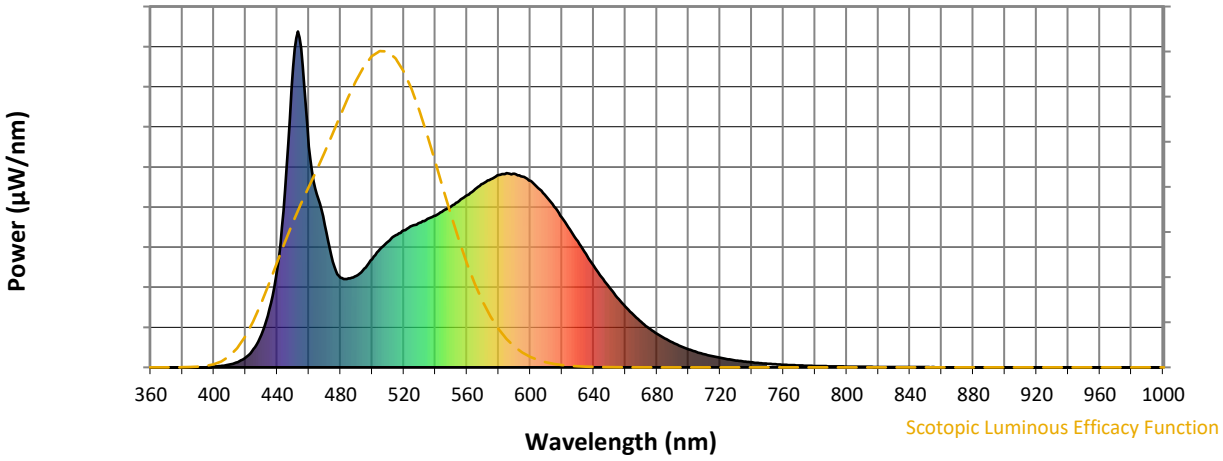


Photopic Lumens: NR

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	273	NR	620	446	NR	750	11	NR	880	0	NR
365	0	NR	495	294	NR	625	410	NR	755	9	NR	885	0	NR
370	0	NR	500	322	NR	630	376	NR	760	8	NR	890	0	NR
375	0	NR	505	352	NR	635	338	NR	765	7	NR	895	0	NR
380	0	NR	510	374	NR	640	303	NR	770	6	NR	900	0	NR
385	0	NR	515	393	NR	645	269	NR	775	5	NR	905	0	NR
390	0	NR	520	408	NR	650	237	NR	780	4	NR	910	0	NR
395	0	NR	525	421	NR	655	208	NR	785	4	NR	915	0	NR
400	2	NR	530	430	NR	660	181	NR	790	3	NR	920	0	NR
405	5	NR	535	442	NR	665	157	NR	795	3	NR	925	0	NR
410	9	NR	540	451	NR	670	135	NR	800	2	NR	930	0	NR
415	16	NR	545	467	NR	675	116	NR	805	2	NR	935	0	NR
420	29	NR	550	480	NR	680	100	NR	810	2	NR	940	0	NR
425	54	NR	555	495	NR	685	86	NR	815	2	NR	945	0	NR
430	98	NR	560	513	NR	690	74	NR	820	1	NR	950	0	NR
435	174	NR	565	530	NR	695	63	NR	825	1	NR	955	0	NR
440	296	NR	570	546	NR	700	54	NR	830	1	NR	960	0	NR
445	529	NR	575	561	NR	705	46	NR	835	1	NR	965	0	NR
450	894	NR	580	572	NR	710	39	NR	840	1	NR	970	0	NR
455	952	NR	585	578	NR	715	33	NR	845	1	NR	975	0	NR
460	658	NR	590	576	NR	720	28	NR	850	1	NR	980	0	NR
465	516	NR	595	568	NR	725	24	NR	855	1	NR	985	0	NR
470	424	NR	600	555	NR	730	21	NR	860	0	NR	990	0	NR
475	314	NR	605	534	NR	735	17	NR	865	0	NR	995	0	NR
480	267	NR	610	509	NR	740	15	NR	870	0	NR	1000	0	NR
485	265	NR	615	479	NR	745	13	NR	875	0	NR			

REPORT NUMBER: SP1-2407-168-4

Scotopic Flux vs. Wavelength

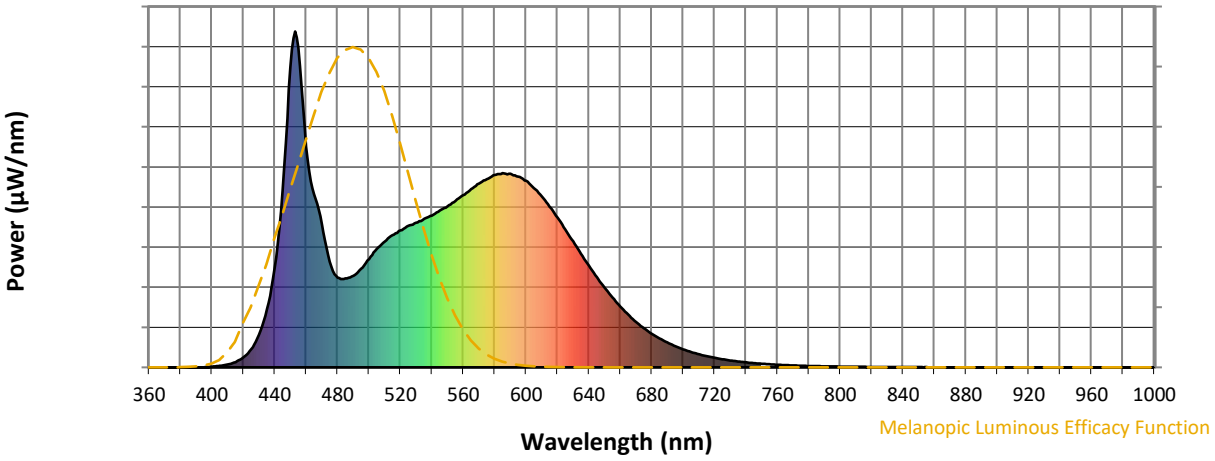


Scotopic Lumens: NR **S/P: 2**

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	273	NR	620	446	NR	750	11	NR	880	0	NR
365	0	NR	495	294	NR	625	410	NR	755	9	NR	885	0	NR
370	0	NR	500	322	NR	630	376	NR	760	8	NR	890	0	NR
375	0	NR	505	352	NR	635	338	NR	765	7	NR	895	0	NR
380	0	NR	510	374	NR	640	303	NR	770	6	NR	900	0	NR
385	0	NR	515	393	NR	645	269	NR	775	5	NR	905	0	NR
390	0	NR	520	408	NR	650	237	NR	780	4	NR	910	0	NR
395	0	NR	525	421	NR	655	208	NR	785	4	NR	915	0	NR
400	2	NR	530	430	NR	660	181	NR	790	3	NR	920	0	NR
405	5	NR	535	442	NR	665	157	NR	795	3	NR	925	0	NR
410	9	NR	540	451	NR	670	135	NR	800	2	NR	930	0	NR
415	16	NR	545	467	NR	675	116	NR	805	2	NR	935	0	NR
420	29	NR	550	480	NR	680	100	NR	810	2	NR	940	0	NR
425	54	NR	555	495	NR	685	86	NR	815	2	NR	945	0	NR
430	98	NR	560	513	NR	690	74	NR	820	1	NR	950	0	NR
435	174	NR	565	530	NR	695	63	NR	825	1	NR	955	0	NR
440	296	NR	570	546	NR	700	54	NR	830	1	NR	960	0	NR
445	529	NR	575	561	NR	705	46	NR	835	1	NR	965	0	NR
450	894	NR	580	572	NR	710	39	NR	840	1	NR	970	0	NR
455	952	NR	585	578	NR	715	33	NR	845	1	NR	975	0	NR
460	658	NR	590	576	NR	720	28	NR	850	1	NR	980	0	NR
465	516	NR	595	568	NR	725	24	NR	855	1	NR	985	0	NR
470	424	NR	600	555	NR	730	21	NR	860	0	NR	990	0	NR
475	314	NR	605	534	NR	735	17	NR	865	0	NR	995	0	NR
480	267	NR	610	509	NR	740	15	NR	870	0	NR	1000	0	NR
485	265	NR	615	479	NR	745	13	NR	875	0	NR			

REPORT NUMBER: SP1-2407-168-4

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 4.35**

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	273	NR	620	446	NR	750	11	NR	880	0	NR
365	0	NR	495	294	NR	625	410	NR	755	9	NR	885	0	NR
370	0	NR	500	322	NR	630	376	NR	760	8	NR	890	0	NR
375	0	NR	505	352	NR	635	338	NR	765	7	NR	895	0	NR
380	0	NR	510	374	NR	640	303	NR	770	6	NR	900	0	NR
385	0	NR	515	393	NR	645	269	NR	775	5	NR	905	0	NR
390	0	NR	520	408	NR	650	237	NR	780	4	NR	910	0	NR
395	0	NR	525	421	NR	655	208	NR	785	4	NR	915	0	NR
400	2	NR	530	430	NR	660	181	NR	790	3	NR	920	0	NR
405	5	NR	535	442	NR	665	157	NR	795	3	NR	925	0	NR
410	9	NR	540	451	NR	670	135	NR	800	2	NR	930	0	NR
415	16	NR	545	467	NR	675	116	NR	805	2	NR	935	0	NR
420	29	NR	550	480	NR	680	100	NR	810	2	NR	940	0	NR
425	54	NR	555	495	NR	685	86	NR	815	2	NR	945	0	NR
430	98	NR	560	513	NR	690	74	NR	820	1	NR	950	0	NR
435	174	NR	565	530	NR	695	63	NR	825	1	NR	955	0	NR
440	296	NR	570	546	NR	700	54	NR	830	1	NR	960	0	NR
445	529	NR	575	561	NR	705	46	NR	835	1	NR	965	0	NR
450	894	NR	580	572	NR	710	39	NR	840	1	NR	970	0	NR
455	952	NR	585	578	NR	715	33	NR	845	1	NR	975	0	NR
460	658	NR	590	576	NR	720	28	NR	850	1	NR	980	0	NR
465	516	NR	595	568	NR	725	24	NR	855	1	NR	985	0	NR
470	424	NR	600	555	NR	730	21	NR	860	0	NR	990	0	NR
475	314	NR	605	534	NR	735	17	NR	865	0	NR	995	0	NR
480	267	NR	610	509	NR	740	15	NR	870	0	NR	1000	0	NR
485	265	NR	615	479	NR	745	13	NR	875	0	NR			

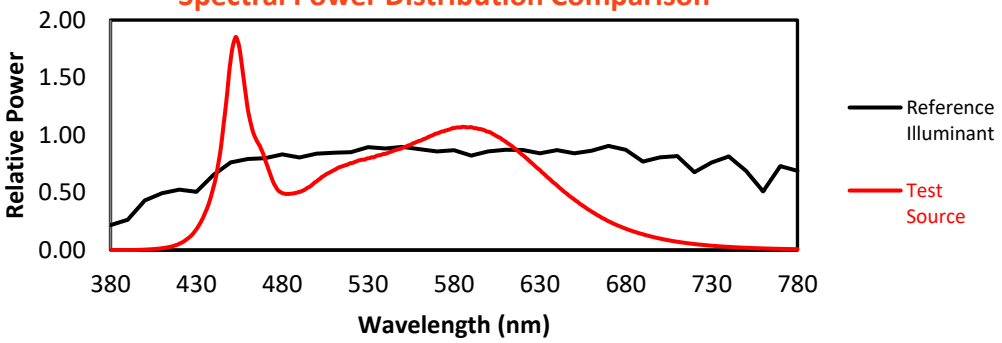
REPORT NUMBER: SP1-2407-168-4

TM-30-18

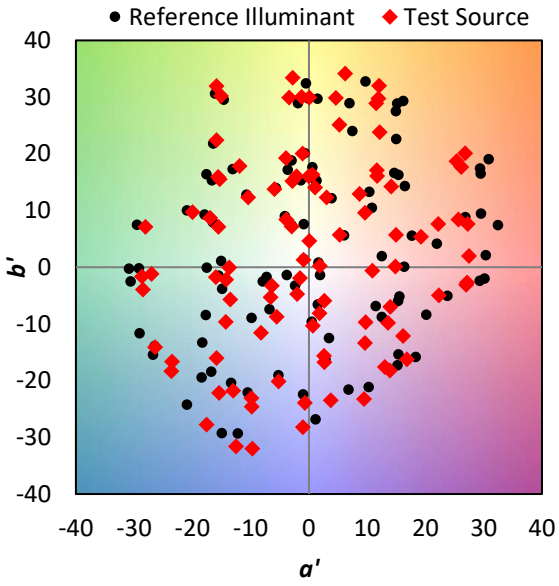
Summary

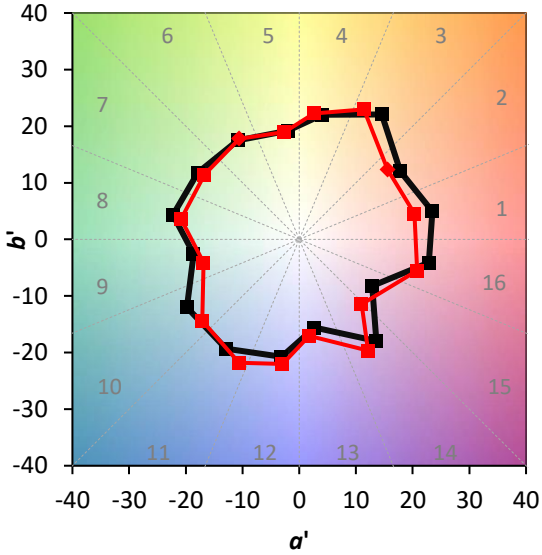
R_f = 82.9
R_g = 94.6
CIE R_a = 83.4
R_9 = 6.6

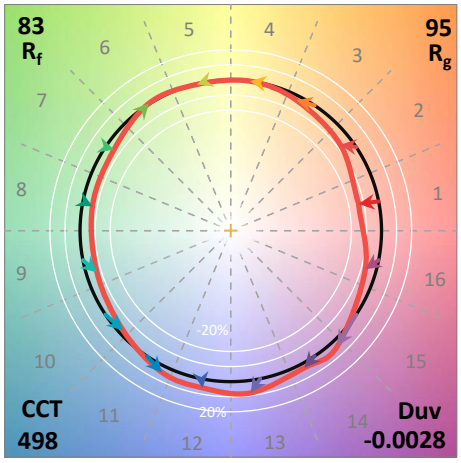
Spectral Power Distribution Comparison

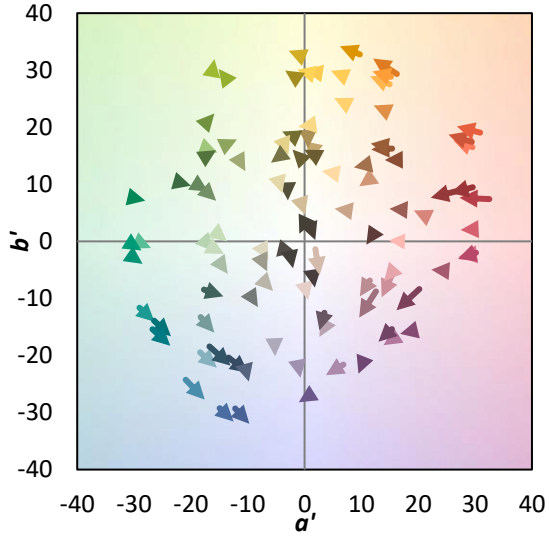


Color Vector Graphics







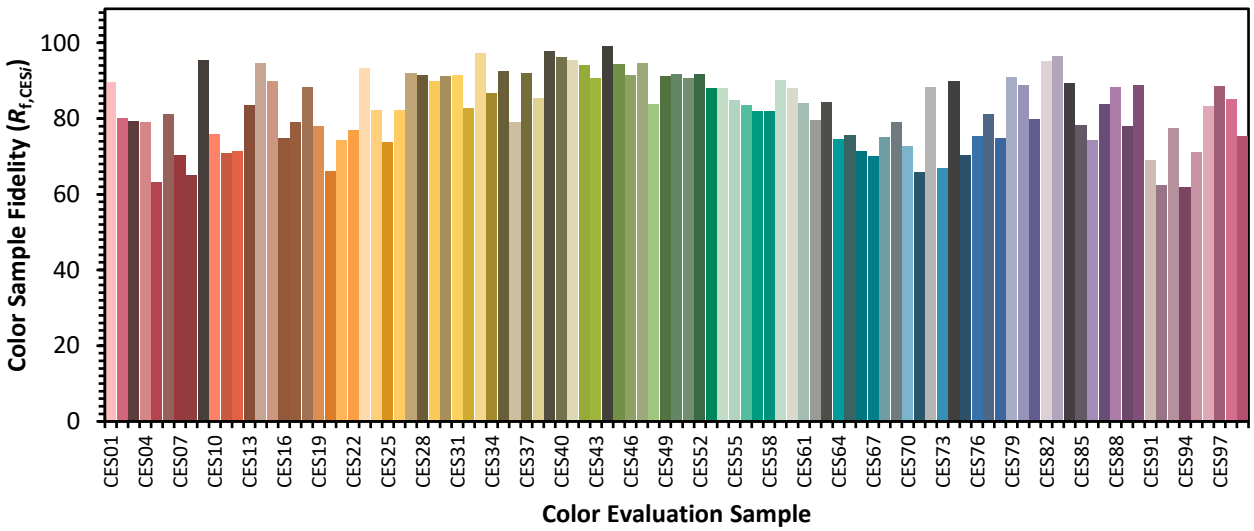


REPORT NUMBER: SP1-2407-168-4

TM-30-18

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

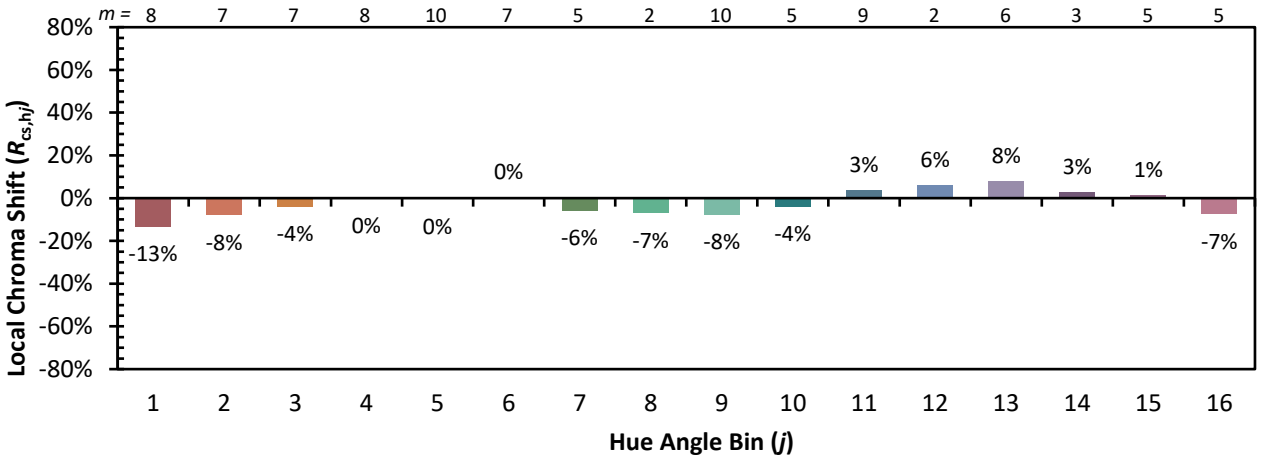
CES01 = 85	CES26 = 82	CES51 = 91	CES76 = 75
CES02 = 60	CES27 = 92	CES52 = 92	CES77 = 81
CES03 = 30	CES28 = 92	CES53 = 88	CES78 = 75
CES04 = 69	CES29 = 90	CES54 = 88	CES79 = 91
CES05 = 47	CES30 = 91	CES55 = 85	CES80 = 89
CES06 = 50	CES31 = 91	CES56 = 84	CES81 = 80
CES07 = 40	CES32 = 83	CES57 = 82	CES82 = 95
CES08 = 39	CES33 = 97	CES58 = 82	CES83 = 96
CES09 = 29	CES34 = 87	CES59 = 90	CES84 = 89
CES10 = 73	CES35 = 92	CES60 = 88	CES85 = 78
CES11 = 56	CES36 = 79	CES61 = 84	CES86 = 74
CES12 = 62	CES37 = 92	CES62 = 80	CES87 = 84
CES13 = 42	CES38 = 85	CES63 = 84	CES88 = 88
CES14 = 74	CES39 = 98	CES64 = 75	CES89 = 78
CES15 = 71	CES40 = 96	CES65 = 76	CES90 = 89
CES16 = 46	CES41 = 96	CES66 = 72	CES91 = 69
CES17 = 49	CES42 = 94	CES67 = 70	CES92 = 62
CES18 = 56	CES43 = 91	CES68 = 75	CES93 = 77
CES19 = 71	CES44 = 99	CES69 = 79	CES94 = 62
CES20 = 64	CES45 = 94	CES70 = 73	CES95 = 71
CES21 = 85	CES46 = 91	CES71 = 66	CES96 = 83
CES22 = 77	CES47 = 95	CES72 = 88	CES97 = 89
CES23 = 91	CES48 = 84	CES73 = 67	CES98 = 85
CES24 = 90	CES49 = 91	CES74 = 90	CES99 = 75
CES25 = 71	CES50 = 92	CES75 = 70	

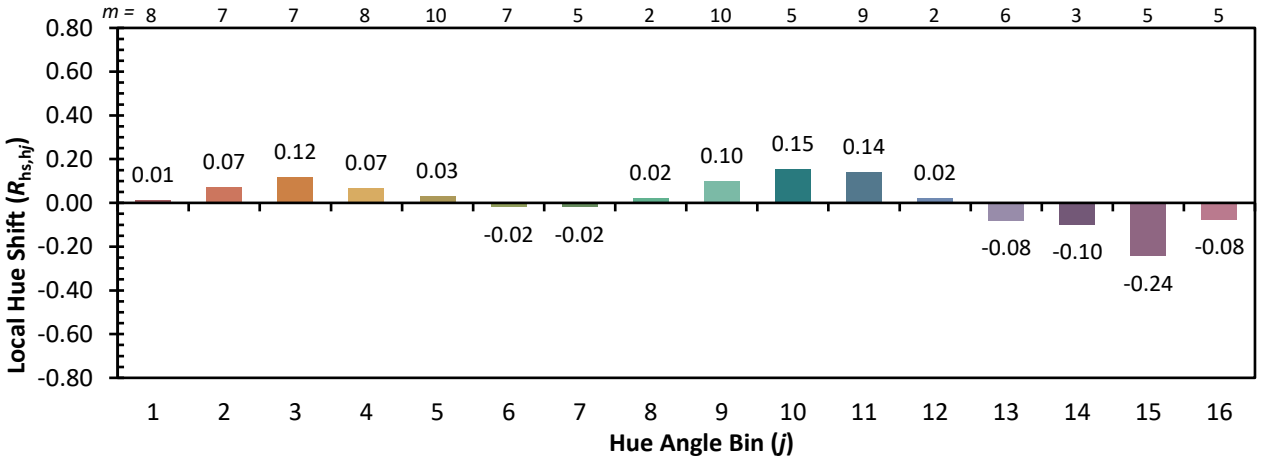


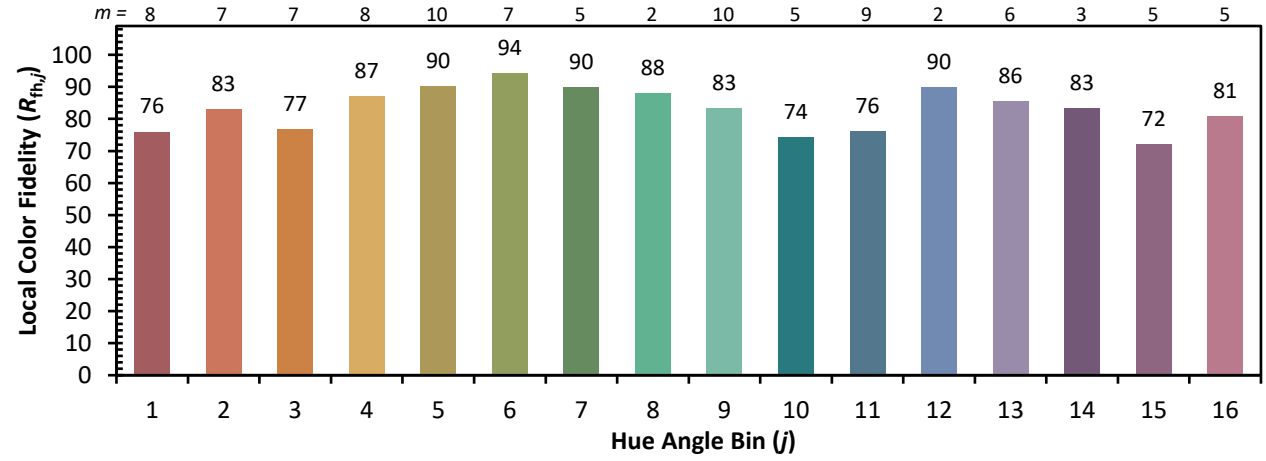
REPORT NUMBER: SP1-2407-168-4

TM-30-18

Color Rendition by Hue-Angle Bin







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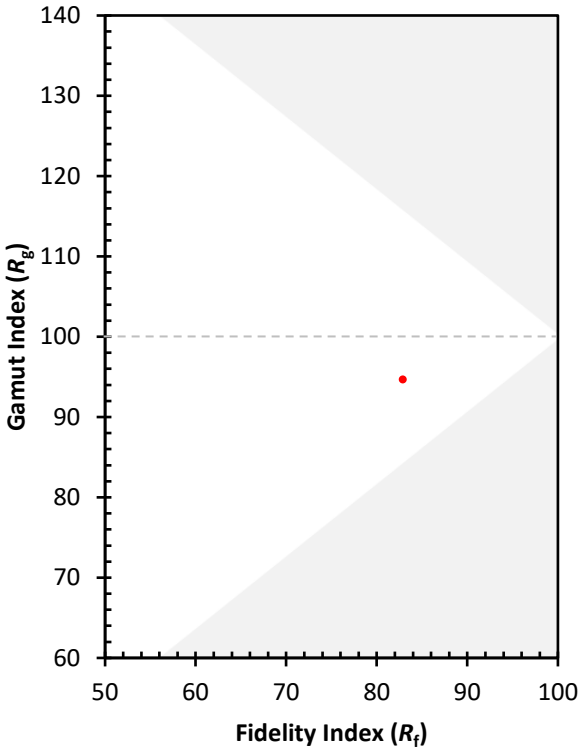
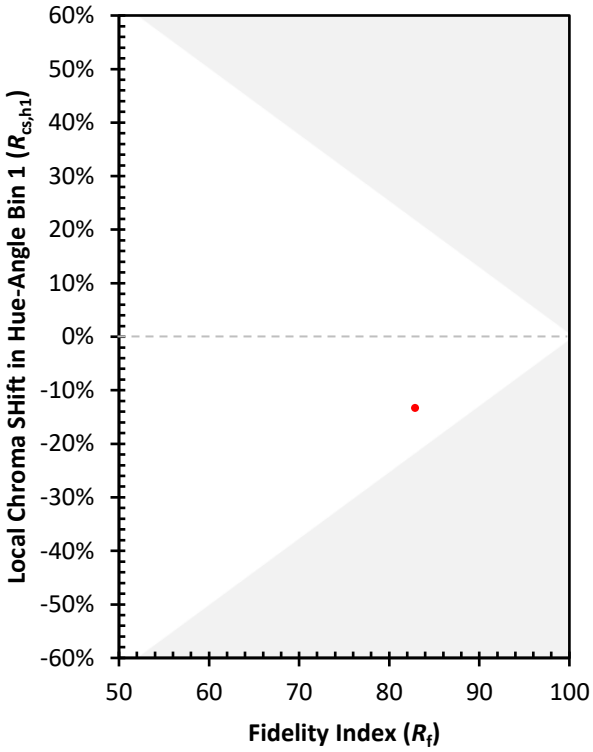
Measure Comparisons





(END OF REPORT)