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: P979166

Luminaire Tested: **WPLLED38S-140W-5000K**

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:	P979166
Test Lab:	Cooper Lighting Solutions
Issue Date:	03/31/2025
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	LUMARK
Catalog Number:	WPLLED38S-140W-5000K
Description:	LUMARK WALL PACK LED LARGE 80CRI CCT AND LUMEN SELECTIVE FIXTURE OPERATING @140W-5000K
Light Source:	5000K CCT, 80 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	19748.1 lumens
Efficiency:	N/A
Efficacy:	145.4 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):	135.8
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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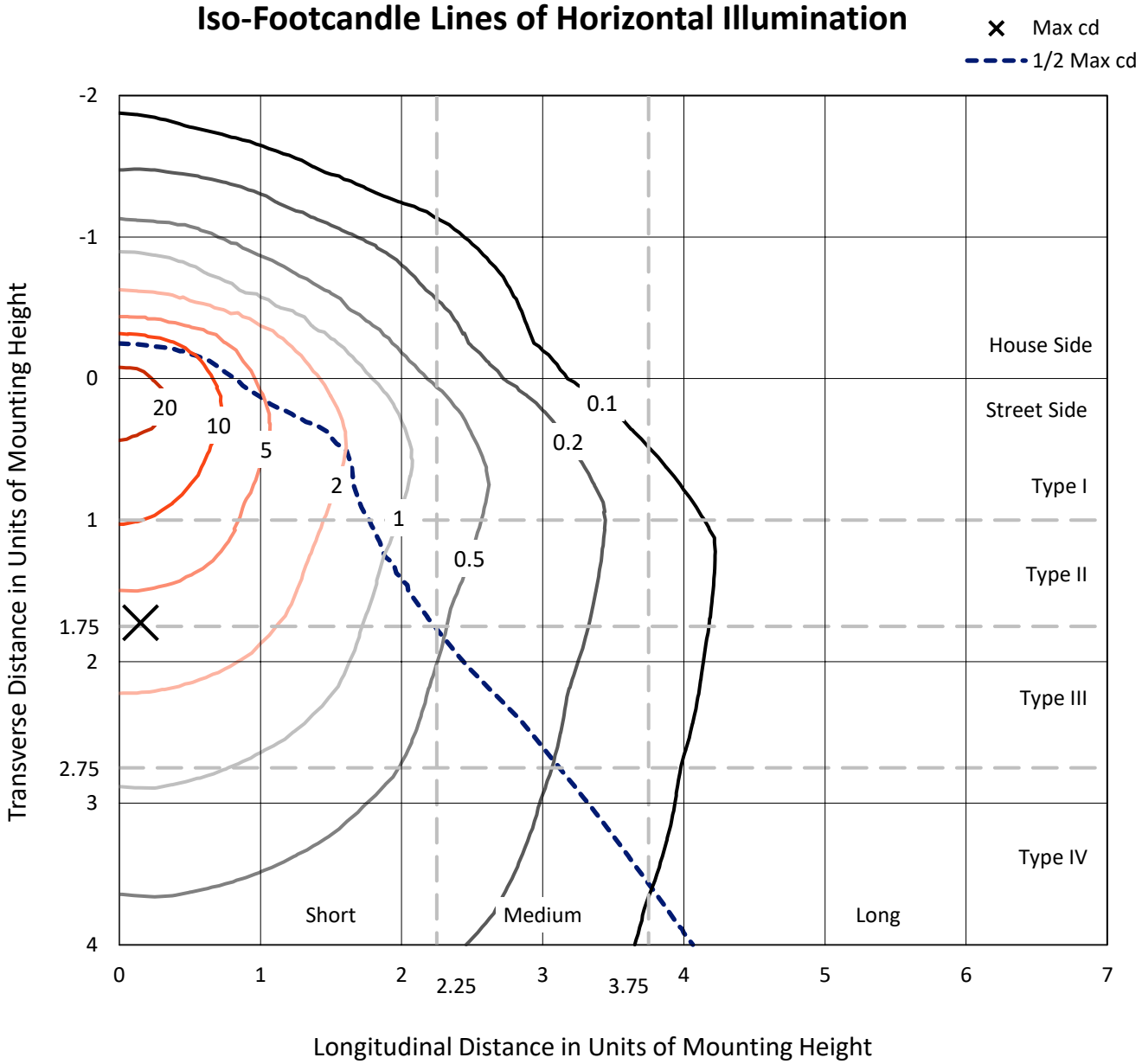
Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 24.5 fc
Type IV - Short - N/A

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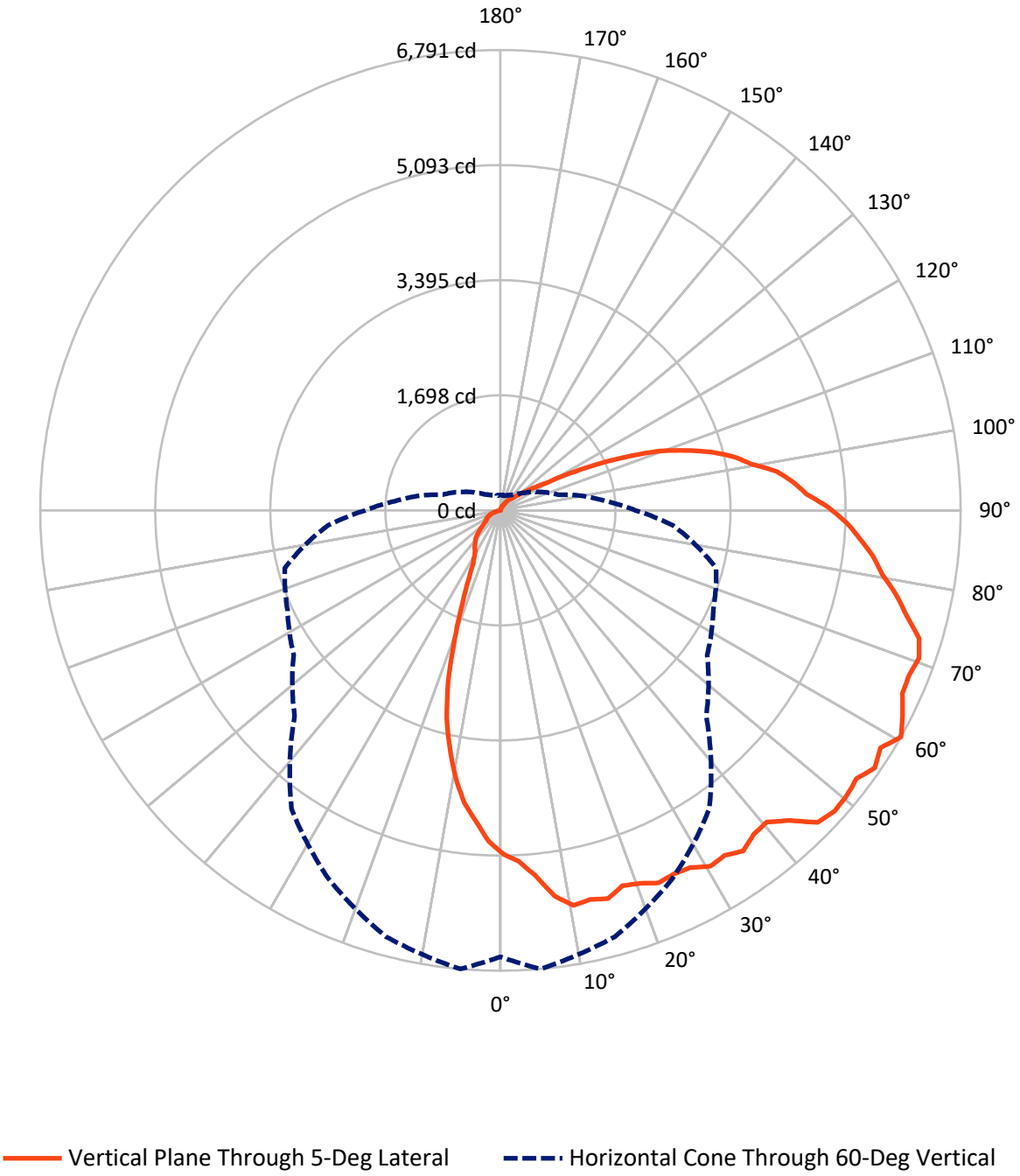
Luminous Intensity Polar Plot



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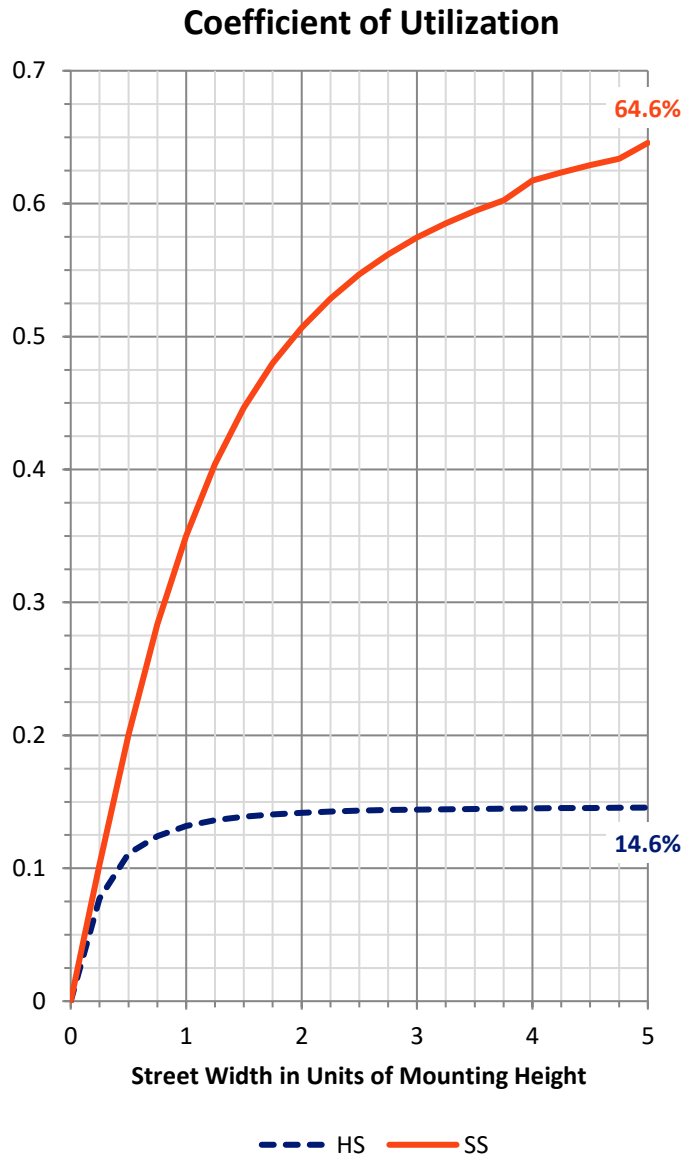
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2916.8	112.4	3029.2
	% Fixture	14.8	0.6	15.3
Street Side	Lumens	13994.8	2724.1	16718.9
	% Fixture	70.9	13.8	84.7
Total	Lumens	16911.7	2836.5	19748.1
	% Fixture	85.6	14.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	479.2	2.4
10°-20°	1333.1	6.8
20°-30°	1834.3	9.3
30°-40°	2130.4	10.8
40°-50°	2315.8	11.7
50°-60°	2455.5	12.4
60°-70°	2426.8	12.3
70°-80°	2178.3	11.0
80°-90°	1758.3	8.9
90°-100°	1306.0	6.6
100°-110°	842.1	4.3
110°-120°	386.8	2.0
120°-130°	156.3	0.8
130°-140°	81.0	0.4
140°-150°	41.2	0.2
150°-160°	15.9	0.1
160°-170°	5.6	0.0
170°-180°	1.7	0.0
0°-90°	16911.7	85.6
0°-180°	19748.1	100.0



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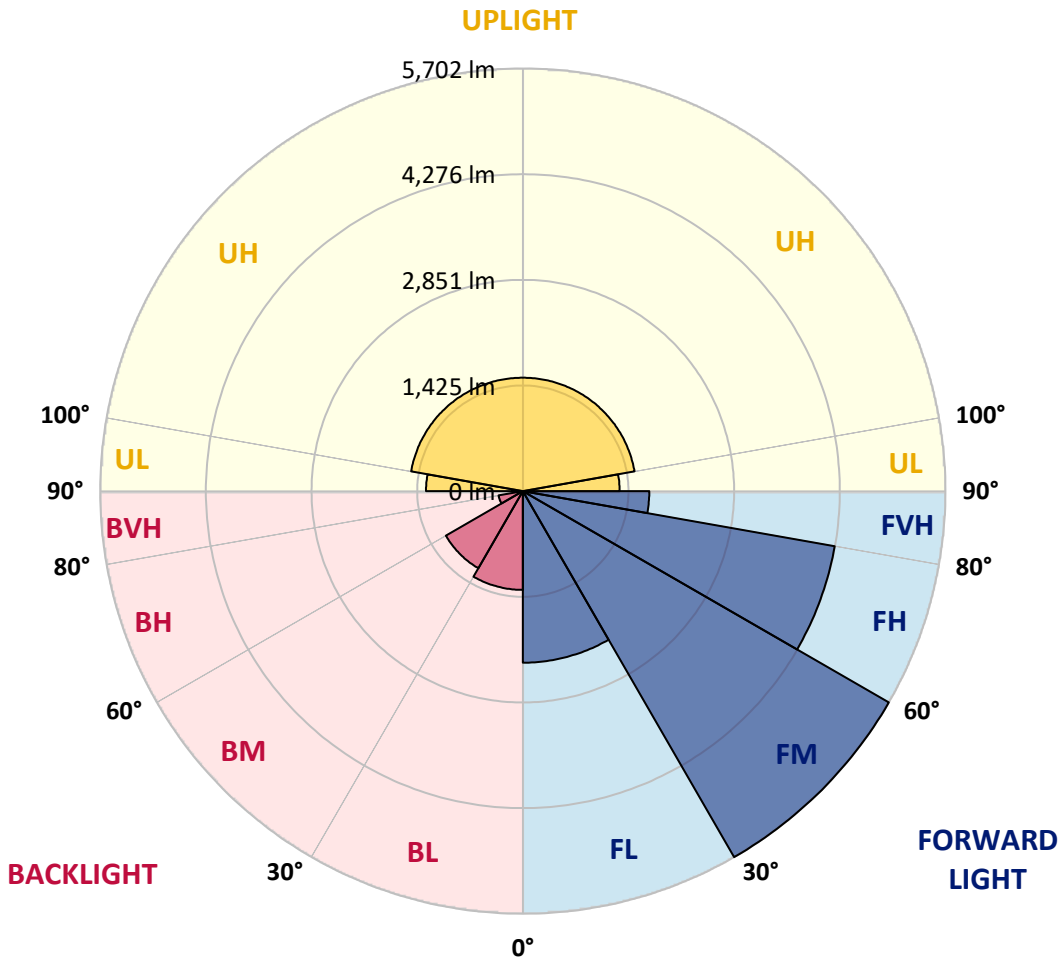
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	2314.3	11.7			
FM	(30°-60°)	5701.8	28.9			
FH	(60°-80°)	4272.8	21.6			G2/5000
FVH	(80°-90°)	1705.9	8.6			G5
BL	(0°-30°)	1332.2	6.7	B3/2500		
BM	(30°-60°)	1199.9	6.1	B2/2500		
BH	(60°-80°)	332.4	1.7	B1/500		G1/500
BVH	(80°-90°)	52.4	0.3			G1/100
UL	(90°-100°)	1306.0	6.6		U5	
UH	(100°-180°)	1530.5	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°	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8
2.5°	5234.6	5185.6	5210.1	5162.0	5115.6	5225.3	5192.4	5156.1	5171.3	5094.5	5116.4
5°	5296.2	5411.9	5379.8	5313.1	5364.6	5196.6	5428.8	5079.3	5235.5	5159.5	5151.9
7.5°	5716.7	5743.7	5651.7	5636.5	5546.2	5362.1	5408.5	5243.9	5255.7	5025.2	5092.8
10°	5997.9	5926.9	5980.1	5938.8	5789.3	5604.4	5424.6	5305.5	5175.5	5086.0	5044.6
12.5°	5713.3	5890.6	5878.0	5968.3	5920.2	5878.0	5753.9	5392.5	5319.0	5015.9	4910.4
15°	5783.4	5943.8	5874.6	5940.4	5879.7	5890.6	5827.3	5494.7	5133.3	4951.8	4787.1
17.5°	5720.1	5823.1	5852.6	5953.1	5756.4	5828.2	5869.5	5658.4	5119.8	4922.2	4703.6
20°	5840.0	5873.7	5732.7	5818.9	5636.5	5698.1	5607.8	5656.8	5066.6	4887.6	4690.9
22.5°	5787.6	5970.0	5753.9	5594.3	5677.9	5650.0	5571.5	5515.8	5121.5	4804.9	4619.1
25°	5856.9	5942.1	5895.7	5662.7	5770.7	5467.6	5440.6	5567.3	5101.2	4601.4	4445.2
27.5°	5901.6	5968.3	5833.2	5800.3	5580.8	5351.1	5277.7	5102.9	5010.0	4492.5	4235.0
30°	6055.3	6095.8	5890.6	5757.2	5592.6	5352.0	5149.3	5100.4	4842.9	4305.9	4126.9
32.5°	6118.6	6072.2	5984.3	5821.4	5545.3	5289.5	4940.0	4861.4	4811.6	4266.2	3955.5
35°	6143.9	6169.2	6095.8	5913.4	5608.6	5243.9	4883.4	4667.2	4690.9	3984.2	3699.7
37.5°	6152.4	6067.9	6129.6	5899.9	5581.6	5075.0	4775.3	4576.1	4520.3	3776.5	3523.2
40°	6062.9	6047.7	6045.1	5747.1	5653.4	5025.2	4684.1	4348.1	4213.9	3541.8	3303.7
42.5°	6203.0	6253.7	6084.0	5898.2	5400.1	4885.9	4520.3	4247.6	4009.5	3353.5	3068.2
45°	6642.9	6565.2	6362.6	5915.1	5384.9	4808.2	4380.2	4135.3	3828.9	3248.0	2868.1
47.5°	6526.4	6632.8	6534.0	6029.1	5451.6	4692.6	4338.8	4055.1	3747.0	3035.2	2696.7
50°	6588.0	6620.1	6645.4	6098.3	5429.6	4643.6	4206.3	3914.1	3681.1	2901.0	2621.5
52.5°	6699.5	6577.9	6572.0	6186.1	5508.2	4580.3	4110.0	3963.1	3562.1	2870.6	2448.4
55°	6414.9	6702.8	6585.5	6290.8	5533.5	4533.9	3966.5	3766.4	3513.1	2731.3	2359.8
57.5°	6662.3	6610.0	6410.7	6121.1	5448.2	4399.6	3847.4	3627.9	3378.9	2620.7	2183.3
60°	6585.5	6790.6	6512.9	5999.5	5373.1	4294.1	3723.3	3467.5	3294.4	2553.1	1990.8
62.5°	6407.3	6660.6	6386.2	5991.1	5319.0	4226.5	3599.2	3281.8	3145.0	2376.7	1820.3
65°	6550.0	6517.9	6342.3	6049.4	5281.9	4159.0	3452.3	3202.4	3027.6	2231.5	1575.4
67.5°	6427.6	6500.2	6462.2	6118.6	5337.6	4146.3	3344.2	3058.9	2895.1	1980.7	1334.8
70°	6465.6	6550.0	6282.4	5956.5	5227.9	3967.3	3154.3	2884.9	2722.0	1736.7	1071.4
72.5°	6244.4	6458.0	6206.4	5617.1	5147.7	3841.5	2988.0	2672.2	2497.4	1404.9	825.7
75°	6029.9	6187.8	5981.0	5683.8	4918.8	3770.6	2906.9	2550.6	2218.0	1101.8	613.8
77.5°	5886.4	5964.9	5840.0	5467.6	4758.4	3610.2	2760.0	2319.3	1993.4	817.3	466.9
80°	5829.8	5712.5	5772.4	5257.4	4628.4	3405.0	2635.9	2160.5	1661.6	593.5	380.8
82.5°	5565.6	5536.9	5586.7	5196.6	4425.8	3253.1	2496.6	1968.9	1369.4	431.4	307.3
85°	5341.0	5319.0	5118.9	4728.9	4164.9	3061.4	2409.6	1784.0	1106.0	330.1	255.8
87.5°	5021.9	5107.1	4868.2	4556.6	3941.2	2813.2	2207.8	1621.0	875.5	267.6	218.7
90°	4899.4	4840.3	4660.5	4348.1	3682.8	2610.6	2017.0	1377.9	697.4	225.4	192.5
92.5°	4542.3	4524.6	4492.5	4070.3	3414.3	2421.4	1861.7	1226.8	564.8	213.6	174.8
95°	4389.5	4340.5	4145.5	3808.6	3186.4	2218.0	1621.0	1056.2	455.9	189.1	164.6
97.5°	4215.6	4117.6	3843.2	3521.5	2821.6	2033.1	1420.1	848.5	379.9	171.4	152.0
100°	3882.9	3758.8	3597.5	3281.8	2566.6	1833.8	1236.9	705.8	325.1	166.3	152.8
102.5°	3567.1	3524.9	3313.0	3070.7	2270.3	1572.9	1005.6	573.3	280.3	162.9	148.6
105°	3340.9	3218.4	3025.1	2602.1	1968.9	1374.5	841.8	467.7	250.8	162.9	146.9
107.5°	2988.0	2858.8	2631.7	2241.6	1648.9	1099.3	670.4	380.8	229.6	165.5	141.0
110°	2470.4	2494.9	2233.2	1860.0	1348.3	892.4	543.7	323.4	208.5	156.2	135.9

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	2028.0	*2011.1*	1814.4	1463.2	1081.5	706.7	444.9	277.8	192.5	151.1	130.0
115°	1605.0	*1569.5*	1406.6	1122.9	819.0	556.4	373.2	240.6	181.5	143.5	126.6
117.5°	1165.1	*1162.6*	1044.4	825.7	634.9	478.7	310.7	219.5	173.1	133.4	114.8
120°	847.7	*821.5*	770.0	651.8	538.7	406.1	270.2	200.1	161.3	120.7	108.1
122.5°	631.5	*645.9*	585.9	545.4	462.7	344.5	245.7	183.2	155.3	110.6	97.1
125°	520.9	*521.8*	492.2	454.2	402.7	301.4	221.2	171.4	135.1	97.9	84.4
127.5°	428.9	*430.6*	404.4	374.9	347.8	267.6	200.1	162.1	120.7	86.1	74.3
130°	358.0	*350.4*	337.7	325.9	297.2	239.8	195.0	150.3	107.2	76.0	65.9
132.5°	295.5	*295.5*	290.4	279.5	262.6	222.9	182.4	141.8	94.6	66.7	59.9
135°	259.2	*256.7*	254.1	238.1	234.7	206.0	175.6	135.1	84.4	59.9	53.2
137.5°	229.6	*237.2*	224.6	212.8	211.1	194.2	165.5	115.7	74.3	55.7	49.8
140°	212.8	*217.0*	201.8	193.3	189.1	175.6	144.4	99.6	63.3	50.7	46.4
142.5°	189.1	*184.9*	183.2	174.8	162.9	155.3	129.2	85.3	55.7	47.3	44.7
145°	146.1	*142.7*	145.2	144.4	135.9	130.9	105.5	71.8	50.7	43.9	40.5
147.5°	116.5	*117.4*	114.8	114.0	110.6	107.2	87.8	59.1	47.3	40.5	39.7
150°	98.8	*93.7*	92.9	88.7	91.2	82.7	70.1	49.0	39.7	37.1	35.5
152.5°	76.0	*76.0*	77.7	76.8	72.6	65.9	56.6	40.5	36.3	35.5	32.9
155°	62.5	*62.5*	62.5	60.8	57.4	52.3	44.7	34.6	32.9	32.9	33.8
157.5°	49.0	*48.1*	49.0	47.3	43.1	38.8	35.5	31.2	30.4	31.2	30.4
160°	33.8	*37.1*	37.1	36.3	32.9	28.7	28.7	27.0	29.6	32.9	29.6
162.5°	23.6	*26.2*	28.7	26.2	23.6	22.0	22.8	25.3	28.7	28.7	27.9
165°	15.2	*15.2*	16.9	17.7	16.9	17.7	20.3	24.5	27.0	28.7	29.6
167.5°	7.6	*7.6*	9.3	11.0	12.7	16.0	21.1	24.5	25.3	27.9	28.7
170°	3.4	*3.4*	5.9	10.1	12.7	16.9	22.8	26.2	28.7	30.4	27.9
172.5°	3.4	*4.2*	6.8	10.1	12.7	16.9	23.6	27.9	27.9	29.6	30.4
175°	6.8	*5.9*	9.3	12.7	15.2	19.4	25.3	27.0	30.4	31.2	32.9
177.5°	5.9	*3.4*	6.8	10.1	15.2	16.0	23.6	27.0	28.7	29.6	29.6
180°	17.7	*17.7*	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8	5070.8
2.5°	5029.5	5043.0	4976.3	4912.9	4902.0	4858.1	4916.3	4902.0	4886.8	5032.0
5°	5010.0	4955.2	4929.0	4857.2	4789.7	4657.1	4640.2	4633.5	4600.5	4737.3
7.5°	4992.3	4874.1	4744.9	4644.5	4479.0	4511.1	4415.6	4367.5	4352.3	4204.6
10°	4959.4	4699.3	4544.8	4450.3	4320.2	4211.3	4185.2	4020.5	4001.1	4002.8
12.5°	4771.9	4692.6	4434.2	4292.4	4130.3	3947.1	3763.0	3723.3	3584.0	3585.7
15°	4745.8	4677.4	4263.7	4110.0	3766.4	3534.2	3379.7	3183.8	3161.9	3213.4
17.5°	4652.9	4392.9	4099.9	3818.7	3458.2	3184.7	2983.7	2696.7	2627.4	2684.8
20°	4636.9	4235.0	3916.7	3551.9	3116.3	2766.7	2407.9	2148.7	2018.7	2027.1
22.5°	4381.9	4189.4	3704.8	3279.2	2754.1	2241.6	1849.0	1640.5	1513.0	1511.3
25°	4304.2	3871.9	3329.9	2921.3	2283.8	1757.0	1447.1	1198.1	1144.9	1134.7
27.5°	4128.6	3644.0	3145.0	2511.8	1858.3	1367.8	1102.6	941.4	889.0	883.1
30°	3907.4	3487.8	2863.0	2120.9	1496.1	1082.4	884.8	812.2	778.4	775.9
32.5°	3687.9	3248.0	2597.0	1828.7	1205.6	901.7	796.2	752.3	699.9	736.2
35°	3511.4	2988.8	2267.8	1496.9	972.6	793.6	725.2	681.3	673.7	664.5
37.5°	3228.6	2696.7	1958.8	1236.9	846.0	724.4	688.1	650.9	623.9	655.2
40°	2950.0	2430.7	1719.8	1026.7	749.7	657.7	624.8	593.5	578.3	583.4
42.5°	2780.3	2226.4	1436.1	862.9	676.3	613.8	578.3	545.4	537.8	530.2
45°	2561.6	1995.1	1200.6	771.7	604.5	553.9	525.1	483.8	470.3	473.6
47.5°	2375.8	1782.3	1012.3	672.9	580.0	512.5	455.9	426.4	402.7	410.3
50°	2320.1	1574.6	885.7	632.4	518.4	452.5	419.6	360.5	339.4	347.0
52.5°	2092.2	1359.3	781.0	600.3	471.1	402.7	360.5	316.6	287.1	280.3
55°	1910.6	1154.1	719.3	549.6	422.1	364.7	313.2	278.6	256.7	253.3
57.5°	1726.6	1016.5	693.2	498.1	382.5	329.3	274.4	248.2	255.0	247.4
60°	*1561.1*	*884.0*	*637.4*	*452.5*	*331.0*	*276.1*	*243.2*	*221.2*	*228.0*	*227.1*
62.5°	1326.4	790.3	590.2	408.6	293.8	244.0	208.5	196.7	208.5	212.8
65°	1123.8	716.8	553.0	356.3	252.4	208.5	178.1	180.7	184.9	193.3
67.5°	925.3	668.7	499.8	304.8	218.7	173.9	161.3	157.9	161.3	159.6
70°	737.9	605.4	443.3	273.6	183.2	148.6	136.8	132.6	139.3	135.9
72.5°	603.7	535.3	381.6	228.8	155.3	119.9	112.3	111.4	104.7	107.2
75°	511.6	470.3	328.4	197.6	123.3	98.8	86.1	81.1	76.8	79.4
77.5°	445.8	404.4	276.1	157.9	102.2	76.8	57.4	50.7	46.4	44.7
80°	383.3	341.9	233.0	129.2	73.5	48.1	27.9	17.7	11.0	11.8
82.5°	324.2	283.7	192.5	104.7	54.9	25.3	5.1	0.8	0.0	0.0
85°	266.0	234.7	163.8	87.0	46.4	22.8	6.8	1.7	0.8	0.8
87.5°	222.9	199.3	141.0	73.5	39.7	20.3	7.6	3.4	0.8	0.0
90°	193.3	170.5	119.9	66.7	35.5	18.6	5.9	2.5	0.8	0.0
92.5°	173.9	152.8	113.1	63.3	34.6	19.4	6.8	5.1	3.4	4.2
95°	162.9	141.8	106.4	58.3	32.9	19.4	9.3	5.9	5.1	4.2
97.5°	152.0	133.4	96.2	54.9	32.1	19.4	10.1	7.6	5.9	5.1
100°	138.5	127.5	89.5	52.3	32.1	19.4	9.3	8.4	5.9	5.9
102.5°	131.7	118.2	80.2	46.4	27.9	18.6	8.4	5.9	4.2	3.4
105°	128.3	112.3	74.3	44.7	29.6	18.6	10.1	6.8	5.9	5.9
107.5°	124.1	109.8	70.9	43.9	28.7	19.4	11.0	8.4	6.8	6.8
110°	119.9	102.2	65.0	42.2	25.3	16.9	11.0	7.6	5.9	5.9

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

Scaled Data Report

REPORT NUMBER: P979166
CATALOG NUMBER: WPLLED38S-140W-5000K

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	113.1	88.7	59.1	37.1	25.3	16.0	9.3	5.9	5.1	4.2
115°	108.1	79.4	53.2	35.5	24.5	15.2	9.3	5.9	4.2	4.2
117.5°	97.9	72.6	49.8	33.8	21.1	13.5	8.4	5.1	3.4	4.2
120°	91.2	61.6	49.0	32.1	21.1	12.7	8.4	5.1	3.4	3.4
122.5°	81.9	58.3	42.2	31.2	21.1	12.7	9.3	5.9	4.2	4.2
125°	70.9	51.5	41.4	30.4	21.1	12.7	8.4	5.9	2.5	3.4
127.5°	61.6	49.8	38.0	27.9	19.4	11.8	8.4	5.1	2.5	3.4
130°	56.6	46.4	36.3	27.9	18.6	11.8	9.3	5.1	2.5	3.4
132.5°	52.3	43.1	38.0	27.0	18.6	12.7	9.3	5.9	3.4	4.2
135°	49.0	40.5	34.6	26.2	18.6	12.7	9.3	5.1	2.5	3.4
137.5°	45.6	38.8	32.9	27.0	19.4	12.7	9.3	5.9	4.2	4.2
140°	43.1	38.0	32.1	27.0	18.6	13.5	9.3	5.9	3.4	5.1
142.5°	41.4	35.5	31.2	25.3	17.7	11.8	10.1	5.9	5.1	4.2
145°	38.8	35.5	31.2	25.3	17.7	12.7	10.1	6.8	4.2	5.1
147.5°	38.0	34.6	30.4	25.3	17.7	14.4	10.1	5.9	5.1	5.1
150°	35.5	32.9	27.9	23.6	16.9	13.5	9.3	5.1	4.2	5.1
152.5°	32.9	31.2	27.9	21.1	17.7	12.7	11.0	5.9	4.2	4.2
155°	32.1	29.6	26.2	22.0	16.9	12.7	10.1	5.1	5.1	4.2
157.5°	30.4	28.7	25.3	21.1	16.9	11.8	8.4	5.1	3.4	3.4
160°	30.4	27.0	26.2	22.0	16.9	11.8	9.3	5.1	3.4	3.4
162.5°	28.7	27.0	25.3	20.3	16.0	11.8	8.4	4.2	2.5	2.5
165°	28.7	28.7	25.3	22.0	16.0	11.0	8.4	4.2	3.4	2.5
167.5°	27.9	27.9	26.2	22.0	14.4	11.8	8.4	5.1	2.5	2.5
170°	30.4	27.9	26.2	22.0	16.0	13.5	9.3	5.1	2.5	2.5
172.5°	30.4	27.9	26.2	22.0	16.9	11.8	9.3	5.1	4.2	2.5
175°	31.2	30.4	27.9	24.5	17.7	14.4	11.0	6.8	5.1	4.2
177.5°	29.6	27.0	26.2	22.0	15.2	12.7	8.4	4.2	2.5	2.5
180°	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7

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

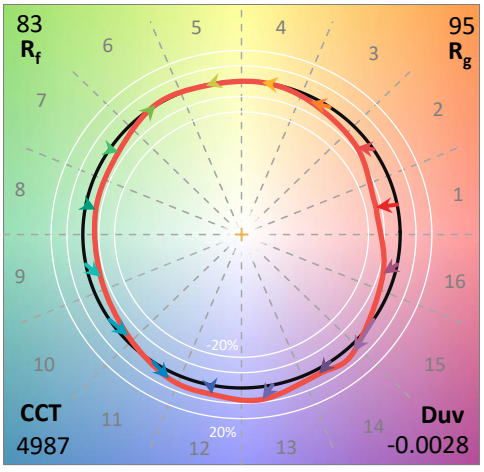
Test Information

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	CRI (Ra):	83.4		
CIE u':	0.2135	R1:	82.5	R9:	6.6
CIE v':	0.4819	R2:	92.4	R10:	80.3
Duv:	-0.0028	R3:	94.5	R11:	78.9
CIE x:	0.3449	R4:	79.9	R12:	59.3
CIE y:	0.3461	R5:	82.3	R13:	85.9
CIE z:	0.3090	R6:	86.3	R14:	97.8
Peak Wavelength (nm):	453	R7:	84.5	R15:	77.3
Dominant Wavelength (nm):	576	R8:	64.7		
Purity:	7.317109				

Rf:	82.9
Rg:	94.6



Test Conditions

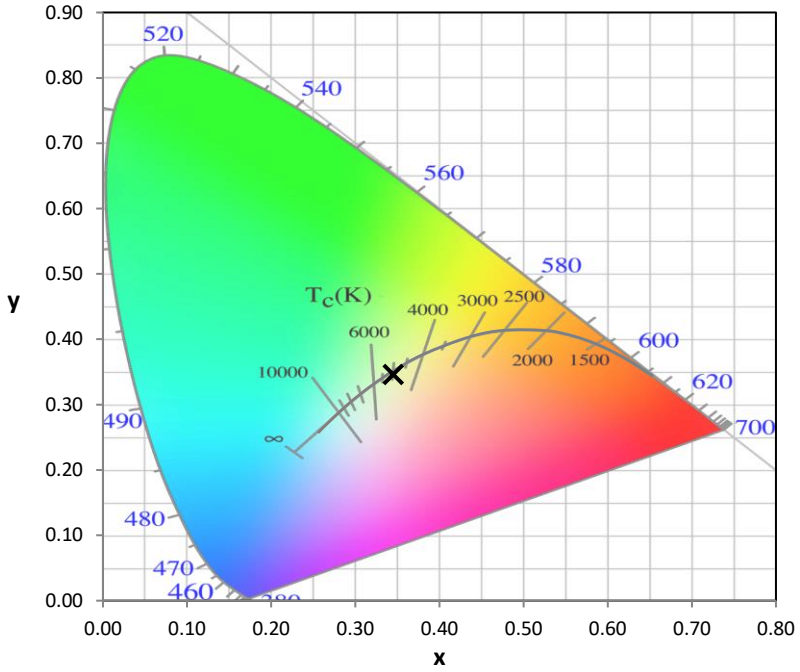
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2407-168-4

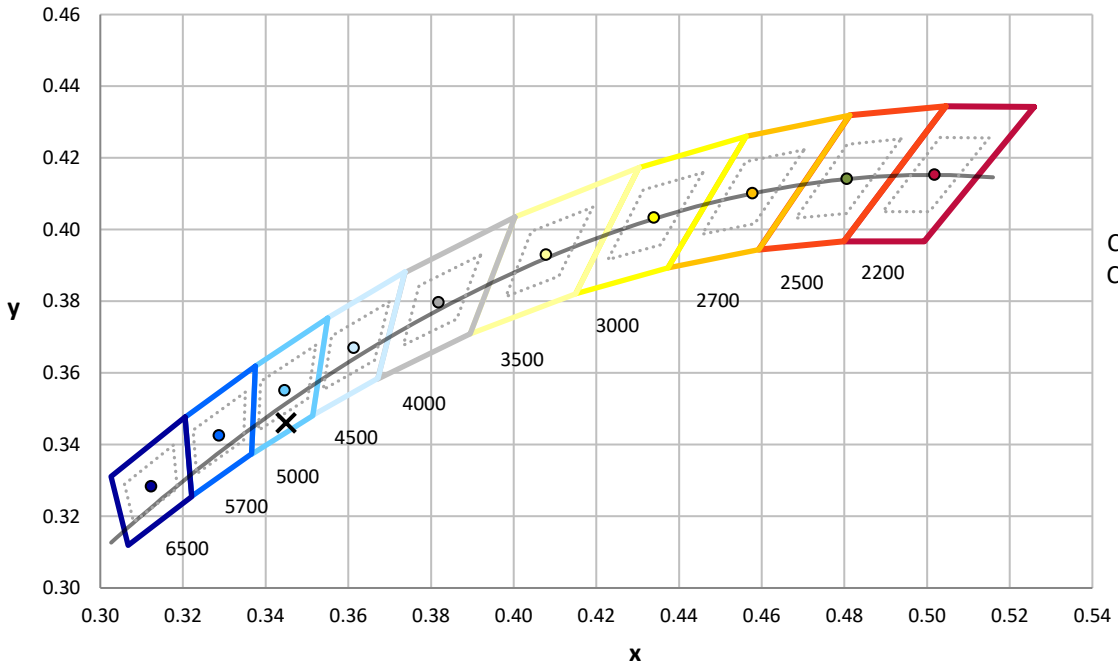
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

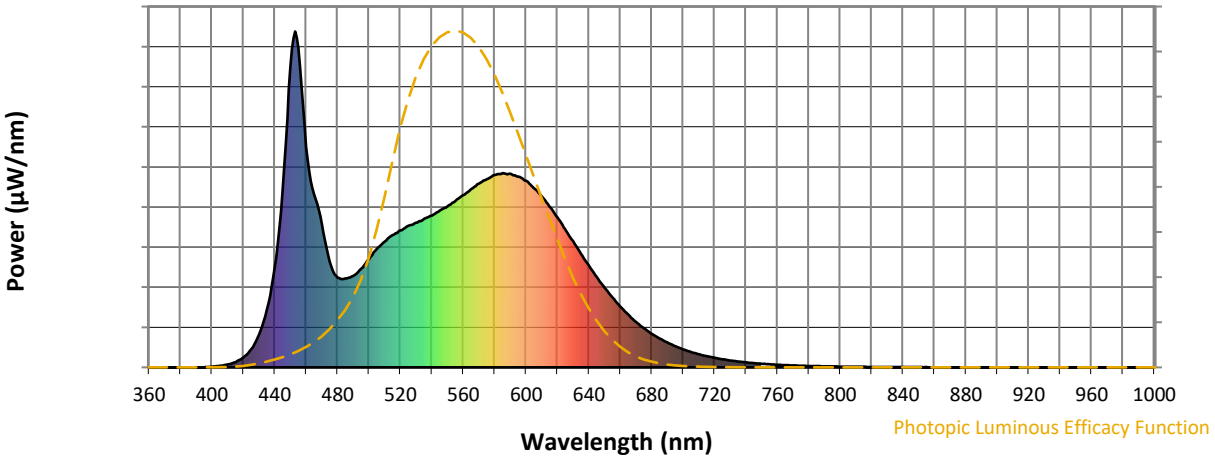


CCT = 4987K
CIE x = 0.3449
CIE y = 0.3461
Duv = -0.0028

Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2407-168-4

Photopic Flux vs. Wavelength

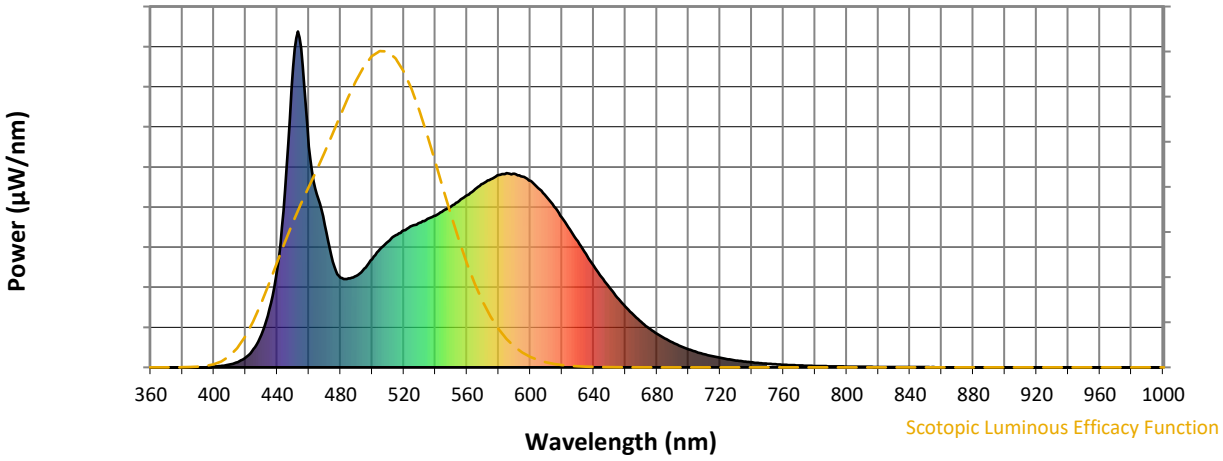


Photopic Lumens: NR

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

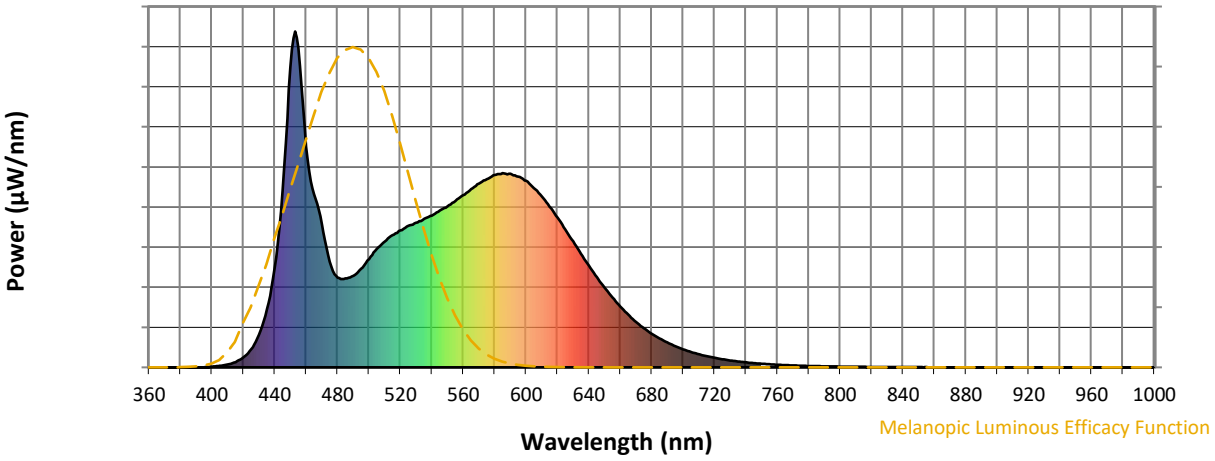


Scotopic Lumens: NR **S/P: 2**

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			

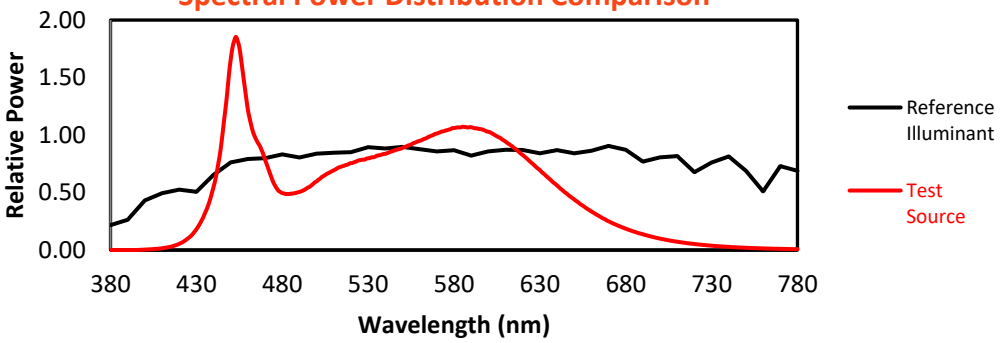
REPORT NUMBER: SP1-2407-168-4

TM-30-18

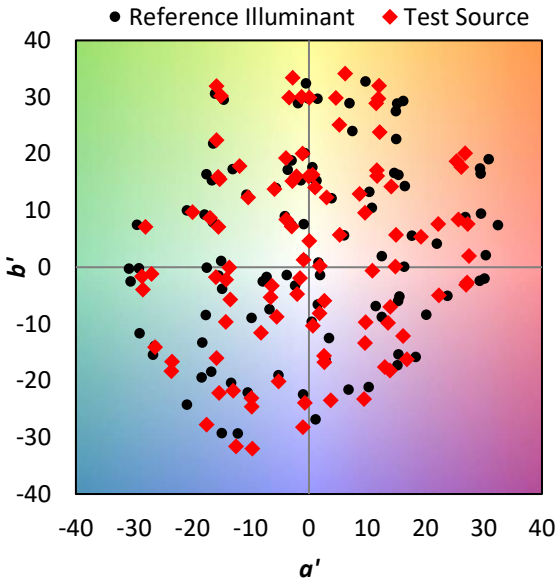
Summary

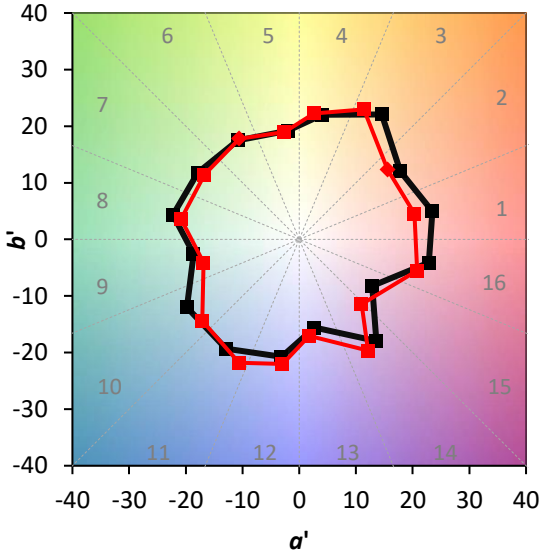
R_f = 82.9
R_g = 94.6
CIE R_a = 83.4
R_9 = 6.6

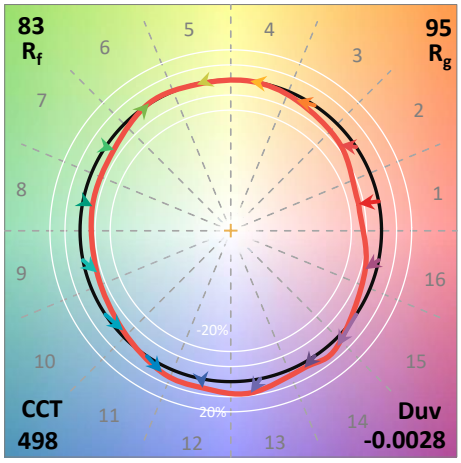
Spectral Power Distribution Comparison

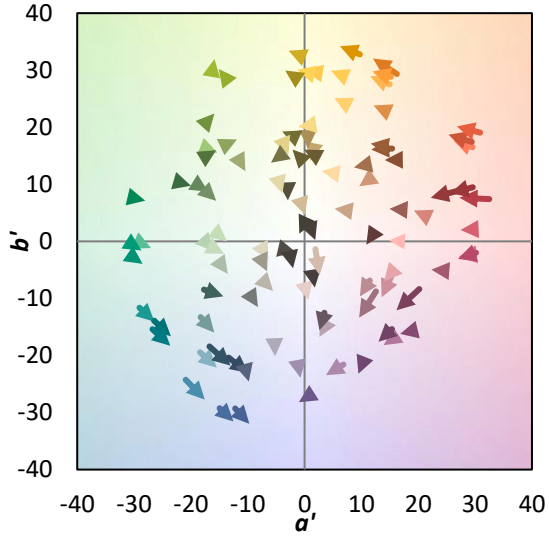


Color Vector Graphics







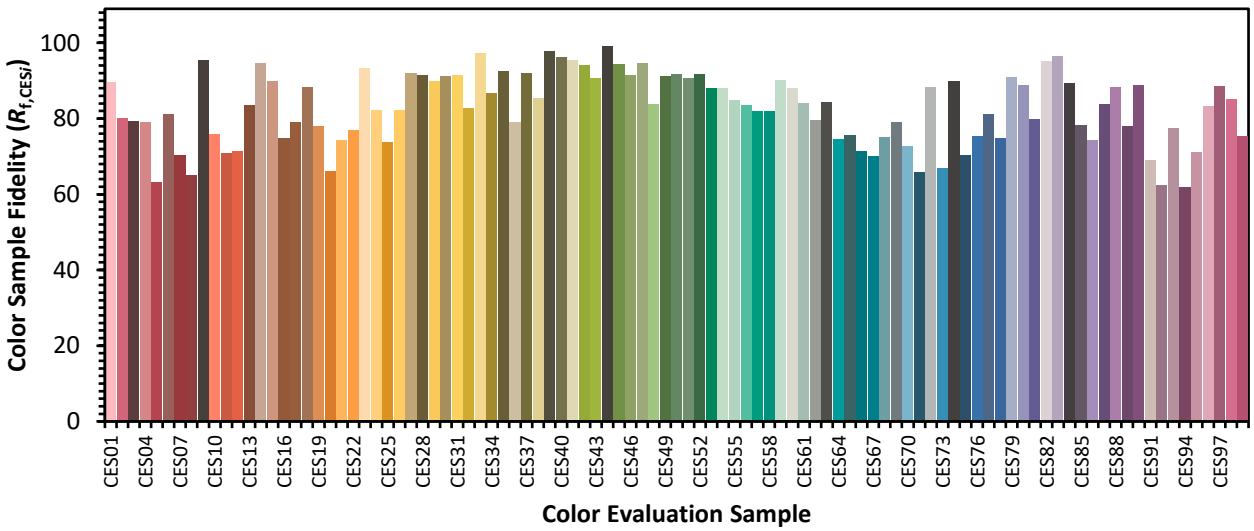


REPORT NUMBER: SP1-2407-168-4

TM-30-18

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

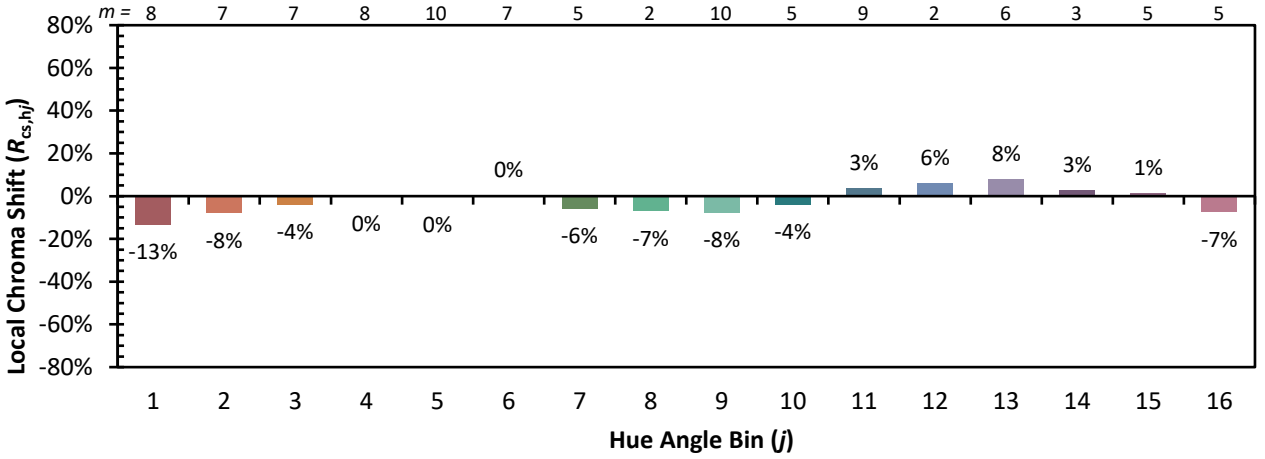
CES01 = 85	CES26 = 82	CES51 = 91	CES76 = 75
CES02 = 60	CES27 = 92	CES52 = 92	CES77 = 81
CES03 = 30	CES28 = 92	CES53 = 88	CES78 = 75
CES04 = 69	CES29 = 90	CES54 = 88	CES79 = 91
CES05 = 47	CES30 = 91	CES55 = 85	CES80 = 89
CES06 = 50	CES31 = 91	CES56 = 84	CES81 = 80
CES07 = 40	CES32 = 83	CES57 = 82	CES82 = 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	

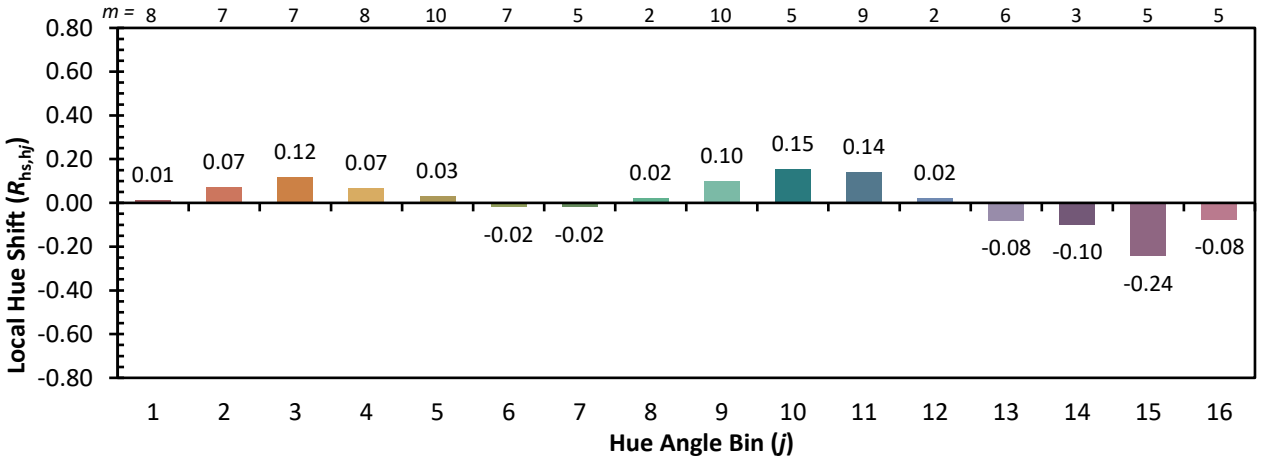


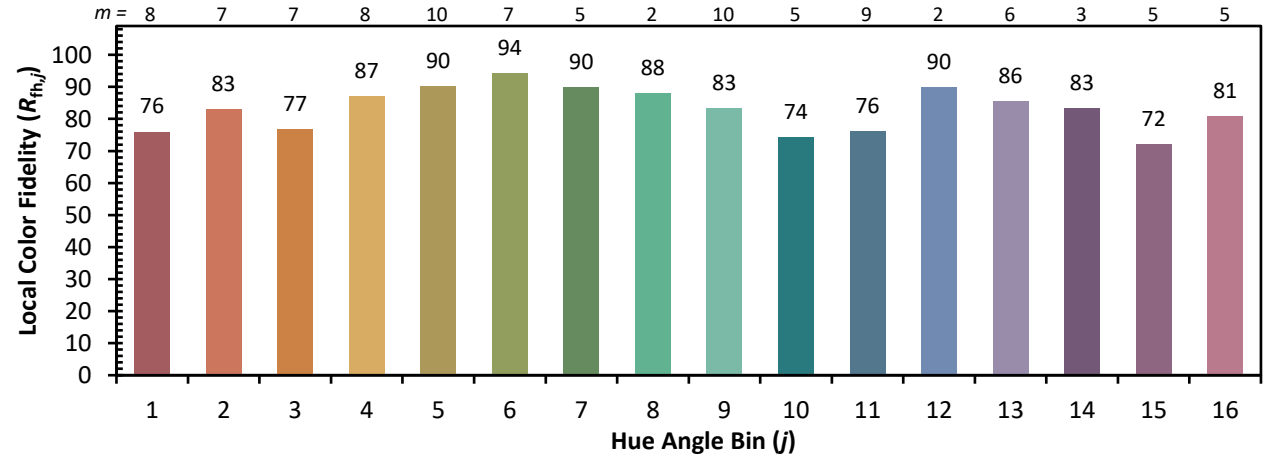
REPORT NUMBER: SP1-2407-168-4

TM-30-18

Color Rendition by Hue-Angle Bin







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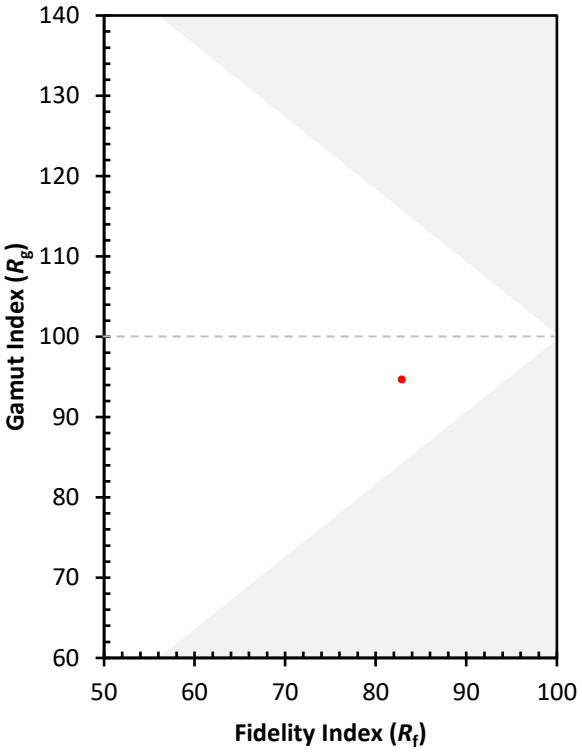
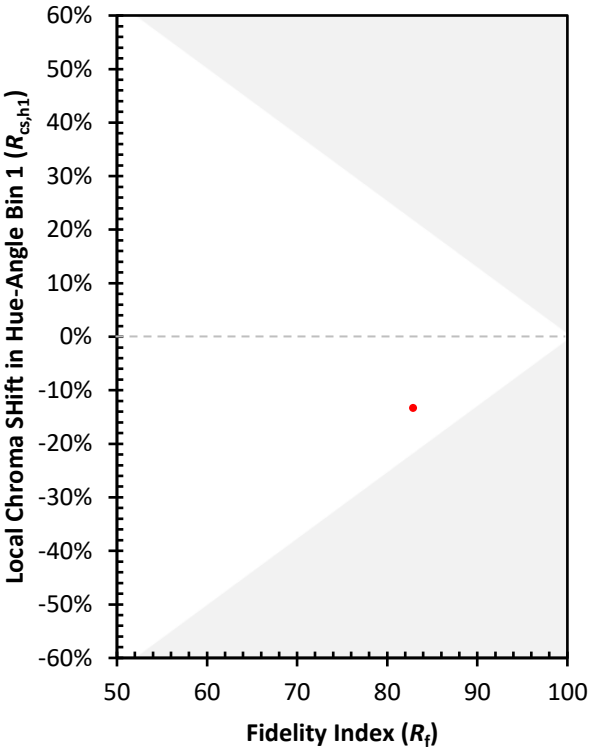
Measure Comparisons





(END OF REPORT)