

Signify Classified - Internal  
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: P979171

Luminaire Tested: **WPLLED38S-130W-5000K**

Issue Date: 03/31/2025



**Test Information**

Test Method: LM-79-08  
Report Number: P979171  
Test Lab: Cooper Lighting Solutions  
Issue Date: 03/31/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: WPLLED38S-130W-5000K  
Description: LUMARK WALL PACK LED LARGE 80CRI CCT AND LUMEN SELECTIVE FIXTURE  
OPERATING @130W-5000K  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

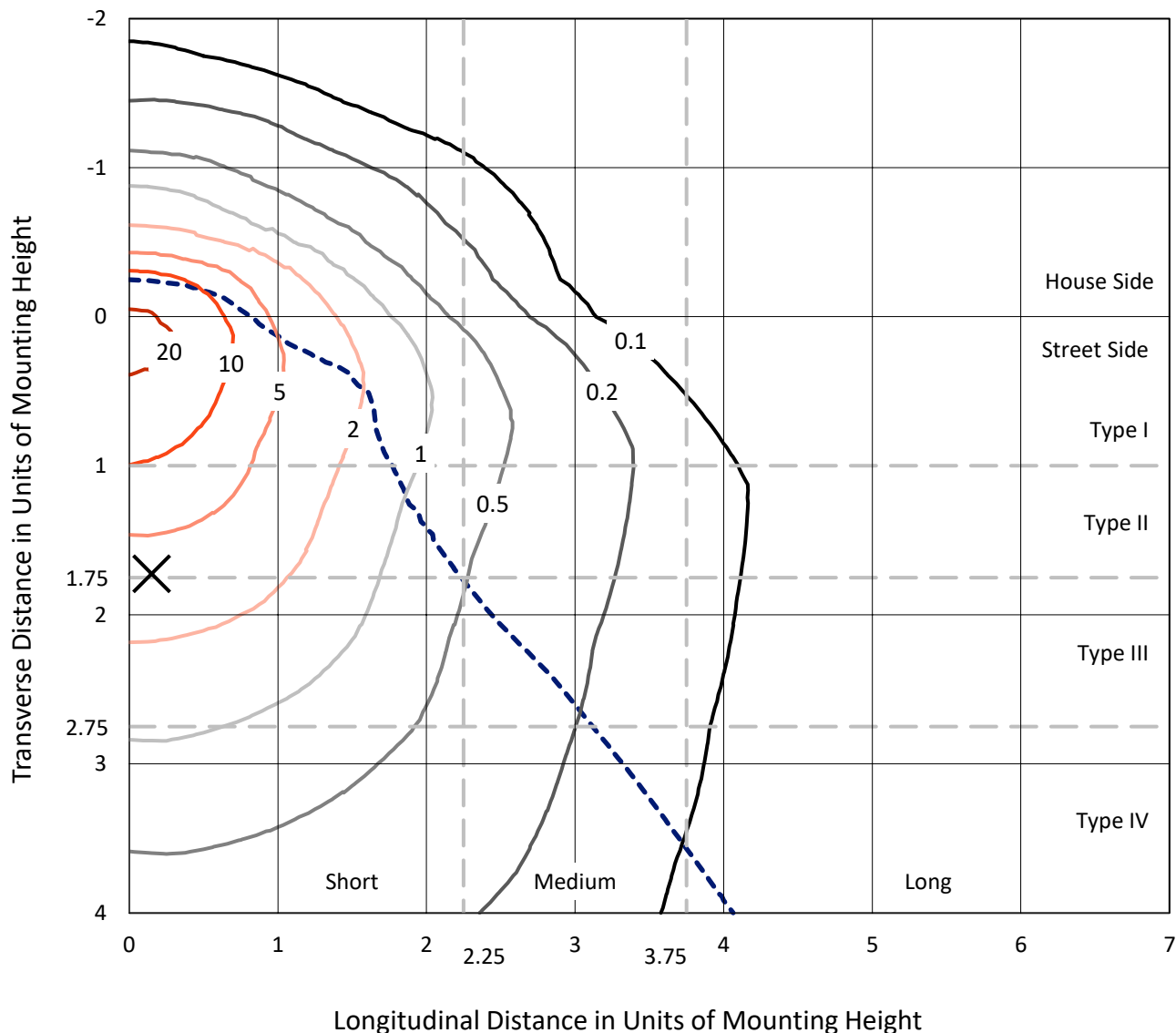
Lumens per Lamp: N/A  
Luminaire Lumens: 18836.1 lumens  
Efficiency: N/A  
Efficacy: 147.0 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 1.25' x L: 0.33' x H: 0.58')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U5 - G5

Input Watts (W): 128.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

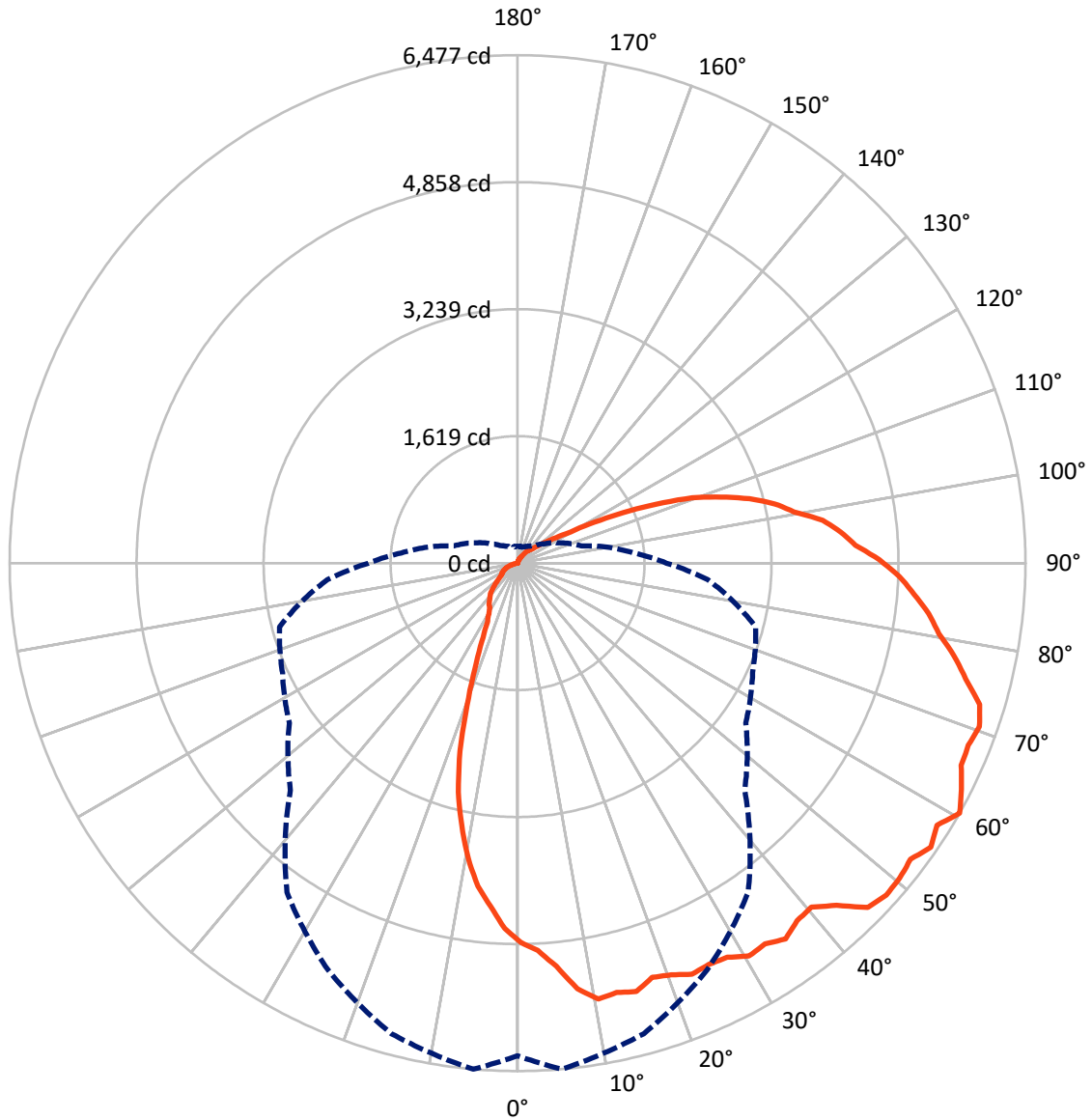
× Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 23.4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 60-Deg Vertical

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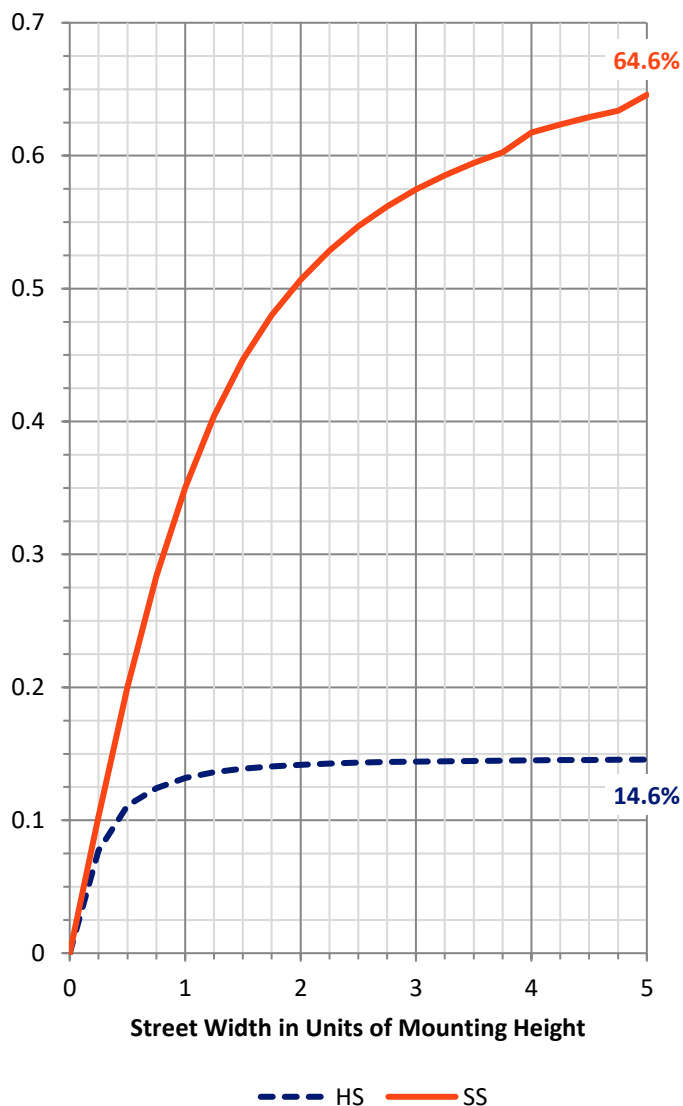
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2782.1	107.2	2889.3
	% Fixture	14.8	0.6	15.3
<b>Street Side</b>	Lumens	13348.5	2598.3	15946.8
	% Fixture	70.9	13.8	84.7
<b>Total</b>	Lumens	16130.7	2705.5	18836.1
	% Fixture	85.6	14.4	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	457.0	2.4
10°-20°	1271.5	6.8
20°-30°	1749.6	9.3
30°-40°	2032.0	10.8
40°-50°	2208.8	11.7
50°-60°	2342.1	12.4
60°-70°	2314.7	12.3
70°-80°	2077.7	11.0
80°-90°	1677.1	8.9
90°-100°	1245.7	6.6
100°-110°	803.2	4.3
110°-120°	368.9	2.0
120°-130°	149.1	0.8
130°-140°	77.2	0.4
140°-150°	39.3	0.2
150°-160°	15.2	0.1
160°-170°	5.3	0.0
170°-180°	1.6	0.0
0°-90°	16130.7	85.6
0°-180°	18836.1	100.0



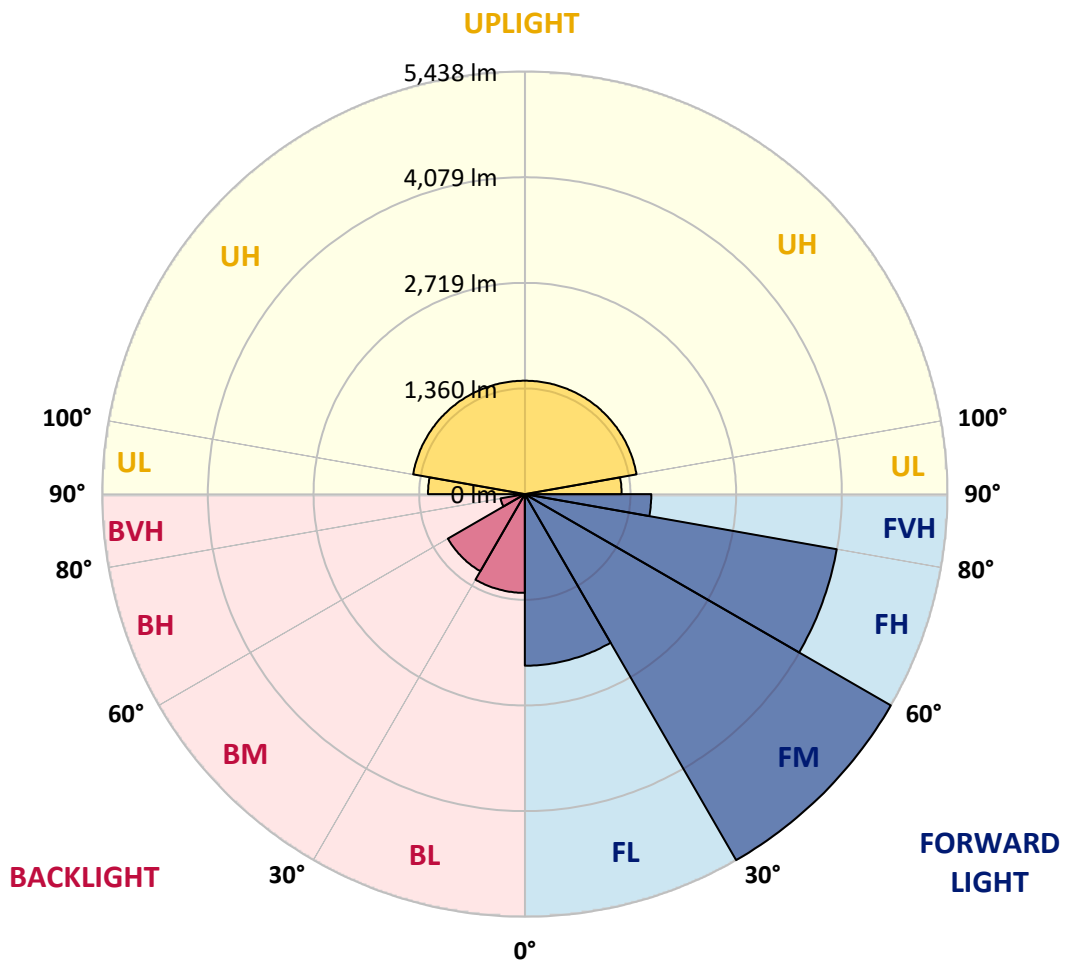
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2207.5	11.7			
FM (30°-60°)	5438.5	28.9			
FH (60°-80°)	4075.4	21.6			G2/5000
FVH (80°-90°)	1627.1	8.6			G5
BL (0°-30°)	1270.7	6.7	B3/2500		
BM (30°-60°)	1144.4	6.1	B2/2500		
BH (60°-80°)	317.0	1.7	B1/500		G1/500
BVH (80°-90°)	50.0	0.3			G1/100
UL (90°-100°)	1245.7	6.6		U5	
UH (100°-180°)	1459.8	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°	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6
2.5°	4992.9	4946.2	4969.5	4923.6	4879.3	4984.0	4952.6	4918.0	4932.5	4859.2	4880.1
5°	5051.7	5162.0	5131.4	5067.8	5116.9	4956.6	5178.1	4844.7	4993.7	4921.2	4913.9
7.5°	5452.7	5478.5	5390.7	5376.2	5290.0	5114.5	5158.8	5001.7	5013.0	4793.2	4857.6
10°	5720.9	5653.2	5703.9	5664.5	5522.0	5345.6	5174.1	5060.5	4936.5	4851.1	4811.7
12.5°	5449.5	5618.6	5606.5	5692.7	5646.8	5606.5	5488.1	5143.5	5073.4	4784.3	4683.6
15°	5516.3	5669.3	5603.3	5666.1	5608.1	5618.6	5558.2	5240.9	4896.2	4723.1	4566.1
17.5°	5455.9	5554.2	5582.3	5678.2	5490.5	5559.0	5598.5	5397.1	4883.3	4694.9	4486.3
20°	5570.3	5602.5	5468.0	5550.1	5376.2	5435.0	5348.8	5395.5	4832.6	4661.9	4474.3
22.5°	5520.3	5694.3	5488.1	5335.9	5415.7	5389.1	5314.2	5261.0	4885.0	4583.0	4405.8
25°	5586.4	5667.7	5623.4	5401.2	5504.2	5215.1	5189.4	5310.2	4865.6	4388.9	4239.9
27.5°	5629.1	5692.7	5563.8	5532.4	5323.0	5104.0	5033.9	4867.2	4778.7	4285.0	4039.4
30°	5775.6	5814.3	5618.6	5491.4	5334.3	5104.8	4911.5	4864.8	4619.2	4107.0	3936.3
32.5°	5836.0	5791.7	5708.0	5552.6	5289.2	5045.2	4711.8	4636.9	4589.4	4069.2	3772.8
35°	5860.2	5884.3	5814.3	5640.3	5349.6	5001.7	4657.9	4451.7	4474.3	3800.2	3528.8
37.5°	5868.2	5787.7	5846.5	5627.4	5323.8	4840.7	4554.8	4364.7	4311.6	3602.1	3360.5
40°	5782.9	5768.4	5766.0	5481.7	5392.3	4793.2	4467.8	4147.3	4019.3	3378.2	3151.1
42.5°	5916.5	5964.9	5803.0	5625.8	5150.7	4660.3	4311.6	4051.5	3824.4	3198.7	2926.5
45°	6336.1	6262.0	6068.8	5641.9	5136.2	4586.2	4177.9	3944.4	3652.0	3098.0	2735.6
47.5°	6225.0	6326.4	6232.2	5750.7	5199.8	4475.9	4138.4	3867.9	3573.9	2895.1	2572.1
50°	6283.8	6314.4	6338.5	5816.7	5178.9	4429.2	4012.0	3733.4	3511.1	2767.0	2500.5
52.5°	6390.1	6274.1	6268.5	5900.4	5253.8	4368.8	3920.2	3780.1	3397.6	2738.0	2335.4
55°	6118.7	6393.3	6281.4	6000.3	5277.9	4324.5	3783.3	3592.4	3350.9	2605.2	2250.8
57.5°	6354.6	6304.7	6114.7	5838.4	5196.6	4196.4	3669.8	3460.4	3222.8	2499.7	2082.5
60°	6281.4	6477.0	6212.1	5722.5	5124.9	4095.8	3551.4	3307.4	3142.3	2435.2	1898.9
62.5°	6111.4	6353.0	6091.3	5714.4	5073.4	4031.3	3433.0	3130.2	2999.7	2266.9	1736.2
65°	6247.5	6216.9	6049.4	5770.0	5038.0	3966.9	3292.9	3054.5	2887.8	2128.4	1502.7
67.5°	6130.8	6200.0	6163.8	5836.0	5091.1	3954.8	3189.8	2917.6	2761.4	1889.2	1273.2
70°	6167.0	6247.5	5992.2	5681.4	4986.4	3784.1	3008.6	2751.7	2596.3	1656.5	1021.9
72.5°	5956.0	6159.8	5919.8	5357.7	4909.9	3664.1	2850.0	2548.8	2382.1	1340.0	787.6
75°	5751.5	5902.1	5704.8	5421.3	4691.7	3596.5	2772.7	2432.8	2115.5	1050.9	585.5
77.5°	5614.6	5689.5	5570.3	5215.1	4538.7	3443.5	2632.5	2212.2	1901.3	779.5	445.3
80°	5560.6	5448.7	5505.8	5014.6	4414.7	3247.8	2514.2	2060.8	1584.8	566.1	363.2
82.5°	5308.5	5281.2	5328.7	4956.6	4221.4	3102.8	2381.3	1878.0	1306.2	411.5	293.1
85°	5094.3	5073.4	4882.5	4510.5	3972.6	2920.0	2298.3	1701.6	1054.9	314.9	244.0
87.5°	4789.9	4871.3	4643.4	4346.2	3759.1	2683.3	2105.9	1546.2	835.1	255.3	208.6
90°	4673.2	4616.8	4445.3	4147.3	3512.7	2490.0	1923.9	1314.3	665.2	215.0	183.6
92.5°	4332.5	4315.6	4285.0	3882.4	3256.6	2309.6	1775.7	1170.1	538.7	203.7	166.7
95°	4186.8	4140.1	3954.0	3632.7	3039.2	2115.5	1546.2	1007.4	434.9	180.4	157.0
97.5°	4020.9	3927.5	3665.7	3358.9	2691.3	1939.2	1354.5	809.3	362.4	163.5	145.0
100°	3703.6	3585.2	3431.4	3130.2	2448.1	1749.1	1179.8	673.2	310.0	158.6	145.8
102.5°	3402.4	3362.1	3160.0	2928.9	2165.5	1500.3	959.1	546.8	267.4	155.4	141.7
105°	3186.6	3069.8	2885.4	2481.9	1878.0	1311.0	802.9	446.1	239.2	155.4	140.1
107.5°	2850.0	2726.8	2510.1	2138.1	1572.8	1048.5	639.4	363.2	219.0	157.8	134.5
110°	2356.3	2379.7	2130.0	1774.1	1286.1	851.2	518.6	308.4	198.9	149.0	129.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	1934.3	1918.2	1730.6	1395.6	1031.6	674.0	424.4	264.9	183.6	144.1	124.0
115°	1530.9	1497.1	1341.6	1071.1	781.1	530.7	355.9	229.5	173.1	136.9	120.8
117.5°	1111.3	1108.9	996.2	787.6	605.6	456.6	296.4	209.4	165.1	127.2	109.5
120°	808.5	783.6	734.4	621.7	513.8	387.3	257.7	190.9	153.8	115.2	103.1
122.5°	602.4	616.1	558.9	520.2	441.3	328.6	234.3	174.8	148.2	105.5	92.6
125°	496.9	497.7	469.5	433.3	384.1	287.5	211.0	163.5	128.8	93.4	80.5
127.5°	409.1	410.7	385.7	357.6	331.8	255.3	190.9	154.6	115.2	82.1	70.9
130°	341.4	334.2	322.1	310.8	283.5	228.7	186.0	143.3	102.3	72.5	62.8
132.5°	281.9	281.9	277.0	266.6	250.4	212.6	173.9	135.3	90.2	63.6	57.2
135°	247.2	244.8	242.4	227.1	223.9	196.5	167.5	128.8	80.5	57.2	50.7
137.5°	219.0	226.3	214.2	202.9	201.3	185.2	157.8	110.3	70.9	53.1	47.5
140°	202.9	207.0	192.5	184.4	180.4	167.5	137.7	95.0	60.4	48.3	44.3
142.5°	180.4	176.4	174.8	166.7	155.4	148.2	123.2	81.3	53.1	45.1	42.7
145°	139.3	136.1	138.5	137.7	129.7	124.8	100.7	68.5	48.3	41.9	38.7
147.5°	111.1	111.9	109.5	108.7	105.5	102.3	83.8	56.4	45.1	38.7	37.8
150°	94.2	89.4	88.6	84.6	87.0	78.9	66.8	46.7	37.8	35.4	33.8
152.5°	72.5	72.5	74.1	73.3	69.3	62.8	54.0	38.7	34.6	33.8	31.4
155°	59.6	59.6	59.6	58.0	54.8	49.9	42.7	33.0	31.4	31.4	32.2
157.5°	46.7	45.9	46.7	45.1	41.1	37.0	33.8	29.8	29.0	29.8	29.0
160°	32.2	35.4	35.4	34.6	31.4	27.4	27.4	25.8	28.2	31.4	28.2
162.5°	22.5	25.0	27.4	25.0	22.5	20.9	21.7	24.2	27.4	27.4	26.6
165°	14.5	14.5	16.1	16.9	16.1	16.9	19.3	23.4	25.8	27.4	28.2
167.5°	7.2	7.2	8.9	10.5	12.1	15.3	20.1	23.4	24.2	26.6	27.4
170°	3.2	3.2	5.6	9.7	12.1	16.1	21.7	25.0	27.4	29.0	26.6
172.5°	3.2	4.0	6.4	9.7	12.1	16.1	22.5	26.6	26.6	28.2	29.0
175°	6.4	5.6	8.9	12.1	14.5	18.5	24.2	25.8	29.0	29.8	31.4
177.5°	5.6	3.2	6.4	9.7	14.5	15.3	22.5	25.8	27.4	28.2	28.2
180°	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6	4836.6
2.5°	4797.2	4810.1	4746.4	4686.0	4675.6	4633.7	4689.3	4675.6	4661.1	4799.6
5°	4778.7	4726.3	4701.3	4632.9	4568.5	4442.0	4425.9	4419.5	4388.1	4518.5
7.5°	4761.7	4649.0	4525.8	4430.0	4272.1	4302.7	4211.7	4165.8	4151.3	4010.4
10°	4730.3	4482.3	4334.9	4244.7	4120.7	4016.8	3991.9	3834.8	3816.3	3817.9
12.5°	4551.6	4475.9	4229.4	4094.2	3939.5	3764.8	3589.2	3551.4	3418.5	3420.1
15°	4526.6	4461.4	4066.8	3920.2	3592.4	3371.0	3223.6	3036.8	3015.9	3065.0
17.5°	4438.0	4190.0	3910.5	3642.4	3298.5	3037.6	2845.9	2572.1	2506.1	2560.9
20°	4422.7	4039.4	3735.8	3387.9	2972.4	2639.0	2296.7	2049.5	1925.5	1933.5
22.5°	4179.5	3995.9	3533.7	3127.8	2626.9	2138.1	1763.6	1564.7	1443.1	1441.5
25°	4105.4	3693.1	3176.1	2786.3	2178.3	1675.8	1380.3	1142.7	1092.0	1082.3
27.5°	3937.9	3475.7	2999.7	2395.8	1772.5	1304.6	1051.7	897.9	848.0	842.3
30°	3726.9	3326.7	2730.8	2022.9	1427.0	1032.4	844.0	774.7	742.5	740.1
32.5°	3517.6	3098.0	2477.1	1744.3	1150.0	860.1	759.4	717.5	667.6	702.2
35°	3349.2	2850.8	2163.0	1427.8	927.7	757.0	691.8	649.9	642.6	633.8
37.5°	3079.5	2572.1	1868.3	1179.8	806.9	690.9	656.3	620.9	595.1	624.9
40°	2813.7	2318.5	1640.4	979.2	715.1	627.3	595.9	566.1	551.6	556.5
42.5°	2651.9	2123.6	1369.8	823.0	645.0	585.5	551.6	520.2	513.0	505.7
45°	2443.3	1902.9	1145.1	736.0	576.6	528.3	500.9	461.4	448.6	451.8
47.5°	2266.1	1700.0	965.6	641.8	553.2	488.8	434.9	406.7	384.1	391.4
50°	2213.0	1501.9	844.8	603.2	494.5	431.6	400.2	343.9	323.7	331.0
52.5°	1995.5	1296.5	744.9	572.6	449.4	384.1	343.9	302.0	273.8	267.4
55°	1822.4	1100.8	686.1	524.3	402.7	347.9	298.8	265.7	244.8	241.6
57.5°	1646.8	969.6	661.2	475.1	364.8	314.1	261.7	236.8	243.2	236.0
60°	1489.0	843.2	608.0	431.6	315.7	263.3	231.9	211.0	217.4	216.6
62.5°	1265.1	753.8	562.9	389.8	280.2	232.7	198.9	187.6	198.9	202.9
65°	1071.9	683.7	527.5	339.8	240.8	198.9	169.9	172.3	176.4	184.4
67.5°	882.6	637.8	476.7	290.7	208.6	165.9	153.8	150.6	153.8	152.2
70°	703.8	577.4	422.8	260.9	174.8	141.7	130.5	126.4	132.9	129.7
72.5°	575.8	510.6	364.0	218.2	148.2	114.4	107.1	106.3	99.9	102.3
75°	488.0	448.6	313.3	188.4	117.6	94.2	82.1	77.3	73.3	75.7
77.5°	425.2	385.7	263.3	150.6	97.4	73.3	54.8	48.3	44.3	42.7
80°	365.6	326.1	222.3	123.2	70.1	45.9	26.6	16.9	10.5	11.3
82.5°	309.2	270.6	183.6	99.9	52.3	24.2	4.8	0.8	0.0	0.0
85°	253.7	223.9	156.2	82.9	44.3	21.7	6.4	1.6	0.8	0.8
87.5°	212.6	190.1	134.5	70.1	37.8	19.3	7.2	3.2	0.8	0.0
90°	184.4	162.7	114.4	63.6	33.8	17.7	5.6	2.4	0.8	0.0
92.5°	165.9	145.8	107.9	60.4	33.0	18.5	6.4	4.8	3.2	4.0
95°	155.4	135.3	101.5	55.6	31.4	18.5	8.9	5.6	4.8	4.0
97.5°	145.0	127.2	91.8	52.3	30.6	18.5	9.7	7.2	5.6	4.8
100°	132.1	121.6	85.4	49.9	30.6	18.5	8.9	8.1	5.6	5.6
102.5°	125.6	112.7	76.5	44.3	26.6	17.7	8.1	5.6	4.0	3.2
105°	122.4	107.1	70.9	42.7	28.2	17.7	9.7	6.4	5.6	5.6
107.5°	118.4	104.7	67.6	41.9	27.4	18.5	10.5	8.1	6.4	6.4
110°	114.4	97.4	62.0	40.3	24.2	16.1	10.5	7.2	5.6	5.6



REPORT NUMBER: P979171  
 CATALOG NUMBER: WPLLED38S-130W-5000K

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	107.9	84.6	56.4	35.4	24.2	15.3	8.9	5.6	4.8	4.0
115°	103.1	75.7	50.7	33.8	23.4	14.5	8.9	5.6	4.0	4.0
117.5°	93.4	69.3	47.5	32.2	20.1	12.9	8.1	4.8	3.2	4.0
120°	87.0	58.8	46.7	30.6	20.1	12.1	8.1	4.8	3.2	3.2
122.5°	78.1	55.6	40.3	29.8	20.1	12.1	8.9	5.6	4.0	4.0
125°	67.6	49.1	39.5	29.0	20.1	12.1	8.1	5.6	2.4	3.2
127.5°	58.8	47.5	36.2	26.6	18.5	11.3	8.1	4.8	2.4	3.2
130°	54.0	44.3	34.6	26.6	17.7	11.3	8.9	4.8	2.4	3.2
132.5°	49.9	41.1	36.2	25.8	17.7	12.1	8.9	5.6	3.2	4.0
135°	46.7	38.7	33.0	25.0	17.7	12.1	8.9	4.8	2.4	3.2
137.5°	43.5	37.0	31.4	25.8	18.5	12.1	8.9	5.6	4.0	4.0
140°	41.1	36.2	30.6	25.8	17.7	12.9	8.9	5.6	3.2	4.8
142.5°	39.5	33.8	29.8	24.2	16.9	11.3	9.7	5.6	4.8	4.0
145°	37.0	33.8	29.8	24.2	16.9	12.1	9.7	6.4	4.0	4.8
147.5°	36.2	33.0	29.0	24.2	16.9	13.7	9.7	5.6	4.8	4.8
150°	33.8	31.4	26.6	22.5	16.1	12.9	8.9	4.8	4.0	4.8
152.5°	31.4	29.8	26.6	20.1	16.9	12.1	10.5	5.6	4.0	4.0
155°	30.6	28.2	25.0	20.9	16.1	12.1	9.7	4.8	4.8	4.0
157.5°	29.0	27.4	24.2	20.1	16.1	11.3	8.1	4.8	3.2	3.2
160°	29.0	25.8	25.0	20.9	16.1	11.3	8.9	4.8	3.2	3.2
162.5°	27.4	25.8	24.2	19.3	15.3	11.3	8.1	4.0	2.4	2.4
165°	27.4	27.4	24.2	20.9	15.3	10.5	8.1	4.0	3.2	2.4
167.5°	26.6	26.6	25.0	20.9	13.7	11.3	8.1	4.8	2.4	2.4
170°	29.0	26.6	25.0	20.9	15.3	12.9	8.9	4.8	2.4	2.4
172.5°	29.0	26.6	25.0	20.9	16.1	11.3	8.9	4.8	4.0	2.4
175°	29.8	29.0	26.6	23.4	16.9	13.7	10.5	6.4	4.8	4.0
177.5°	28.2	25.8	25.0	20.9	14.5	12.1	8.1	4.0	2.4	2.4
180°	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9

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.

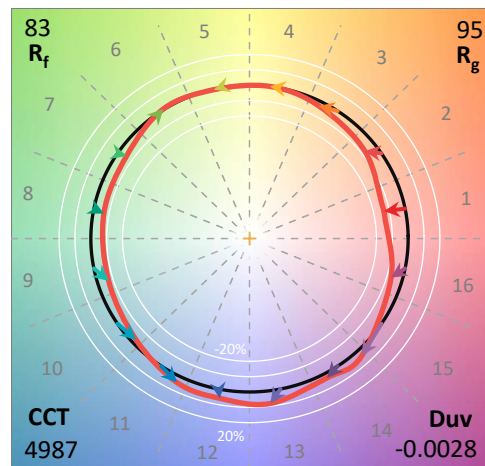
**Test Information**

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



**Test Conditions**

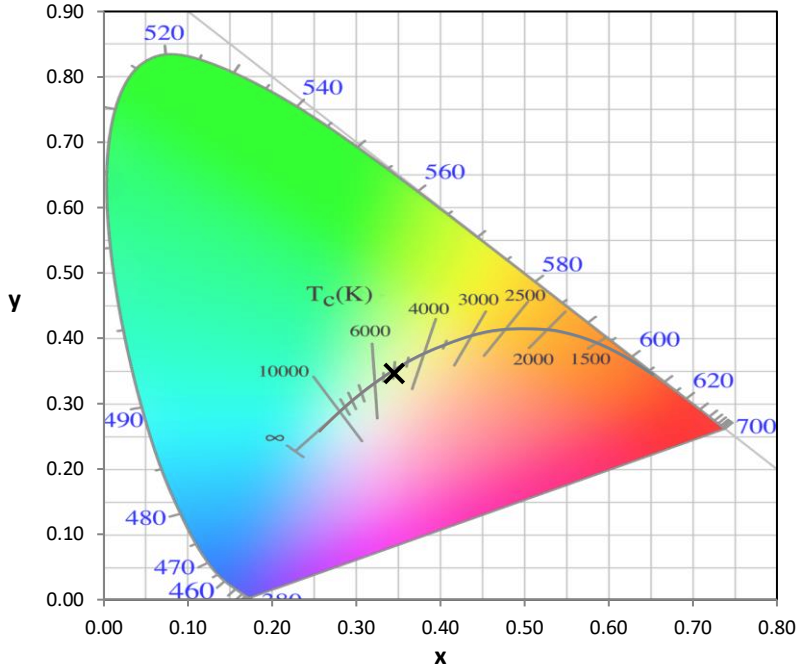
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-168-4

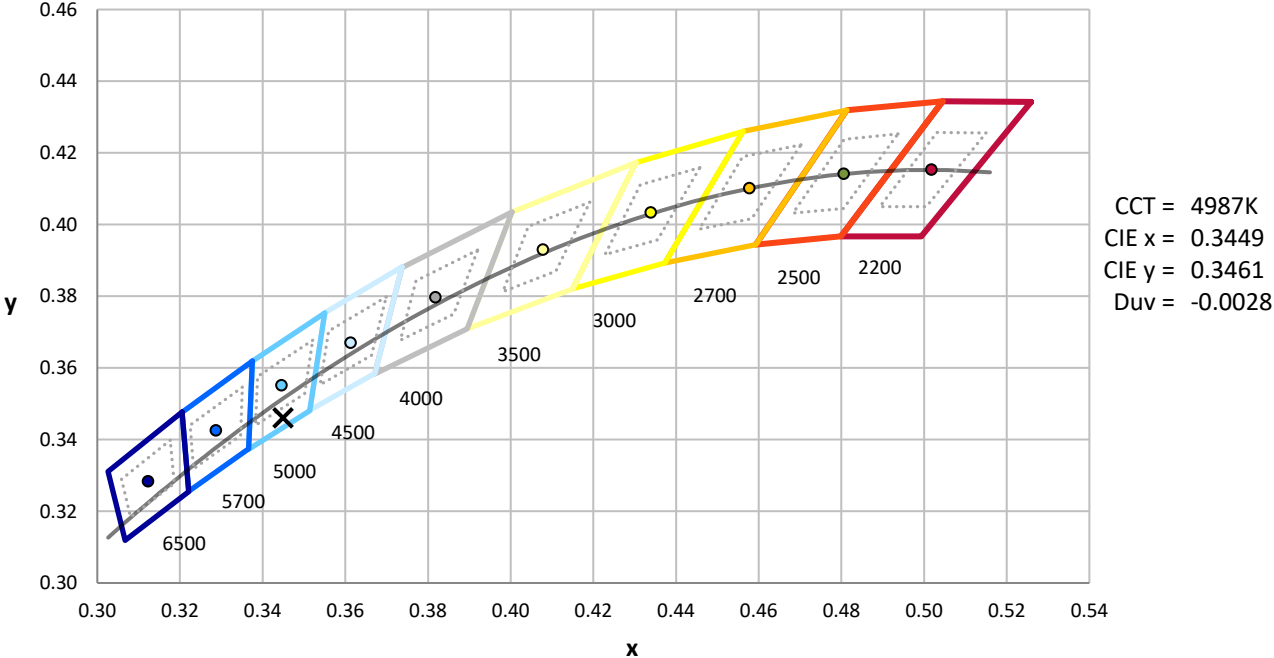
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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



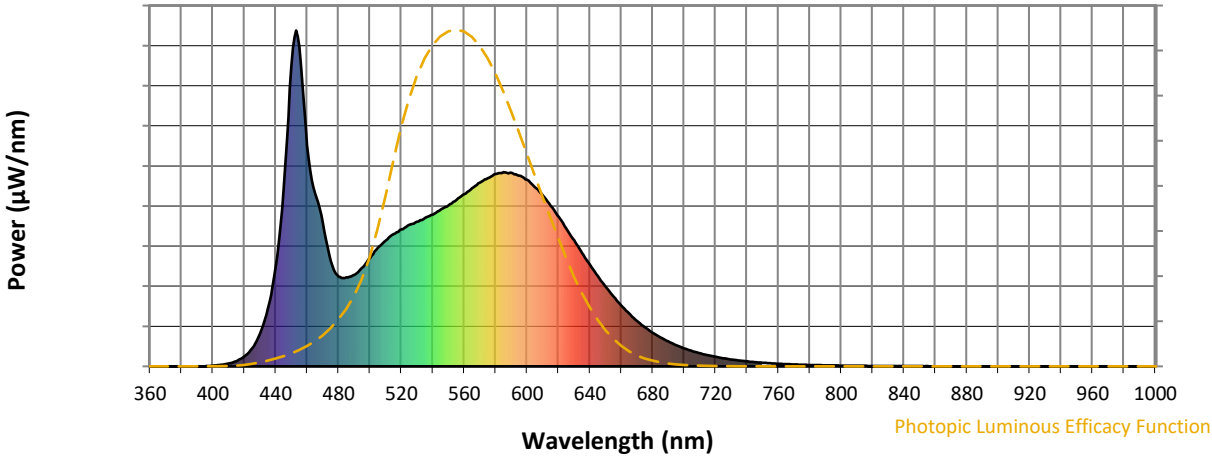
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2407-168-4

**Photopic Flux vs. Wavelength**

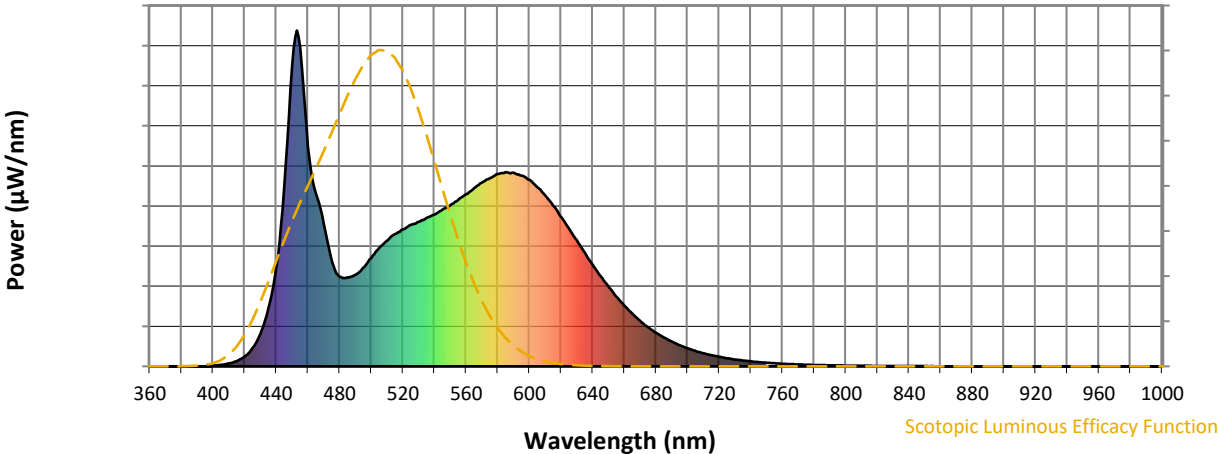


**Photopic Lumens: NR**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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

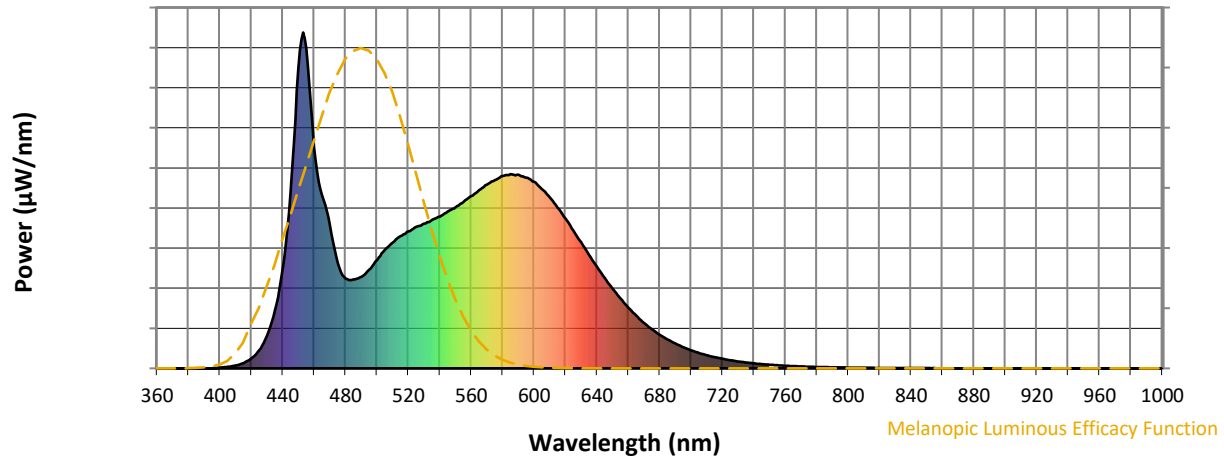
S/P: 2

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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**



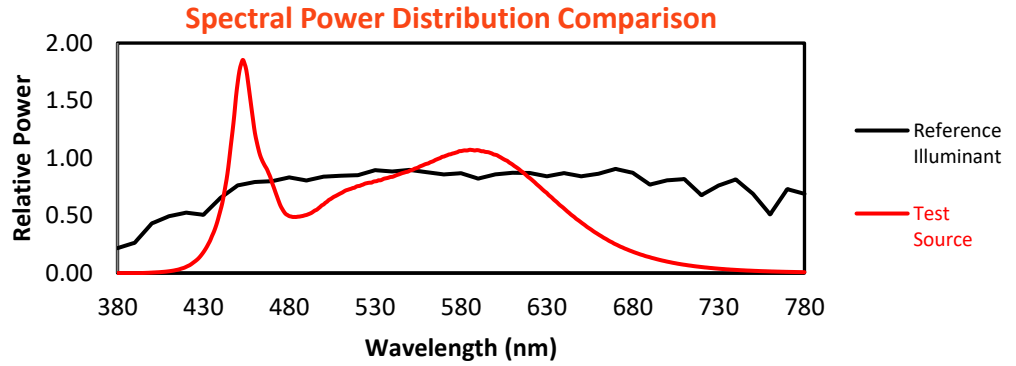
**Melanopic Lumens: NR**

**M/P: 4.35**

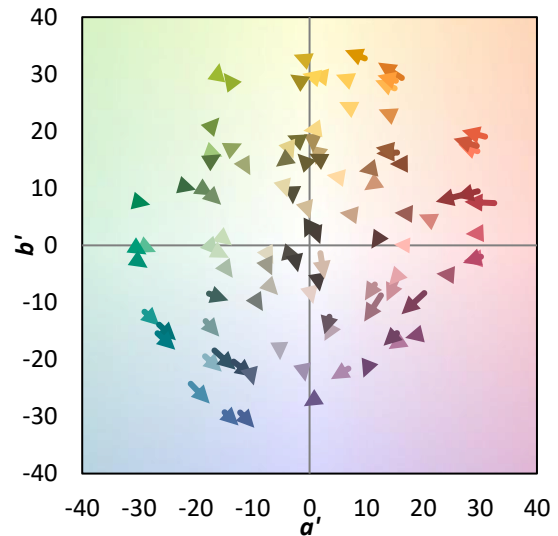
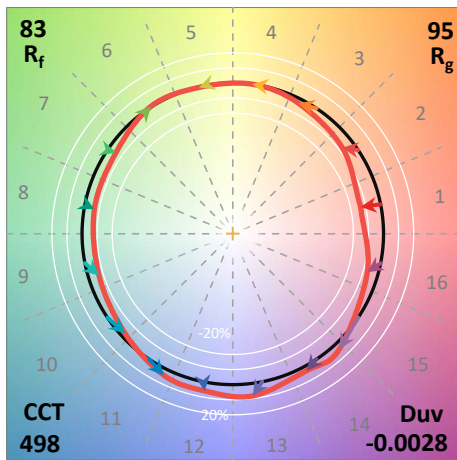
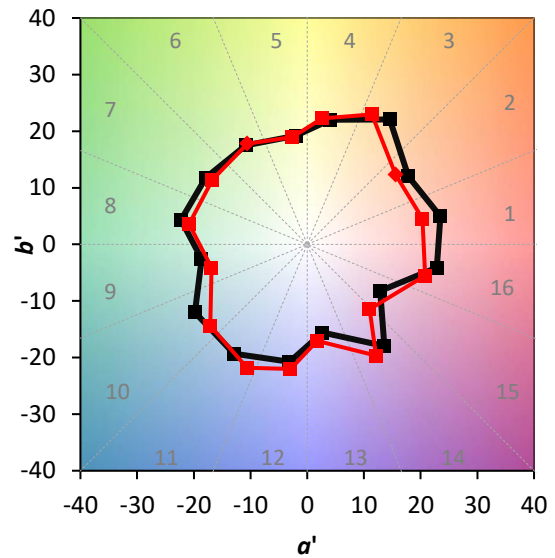
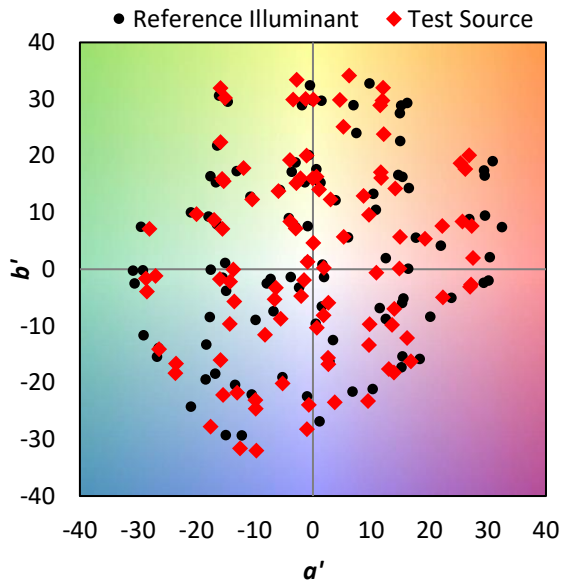
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	273	NR	620	446	NR	750	11	NR	880	0	NR
365	0	NR	495	294	NR	625	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			

**Summary**

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

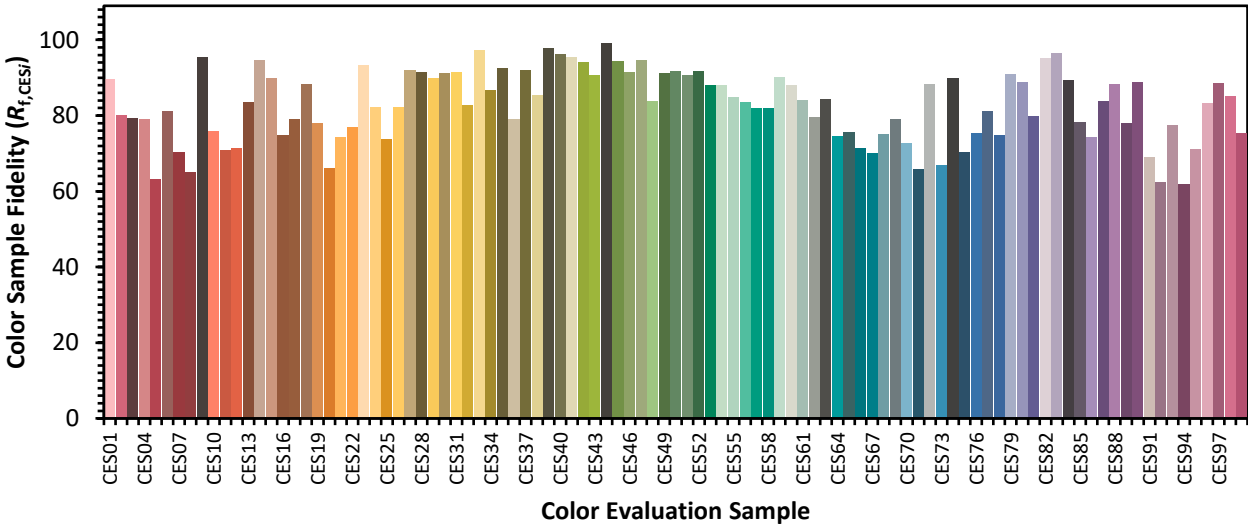


**Color Vector Graphics**

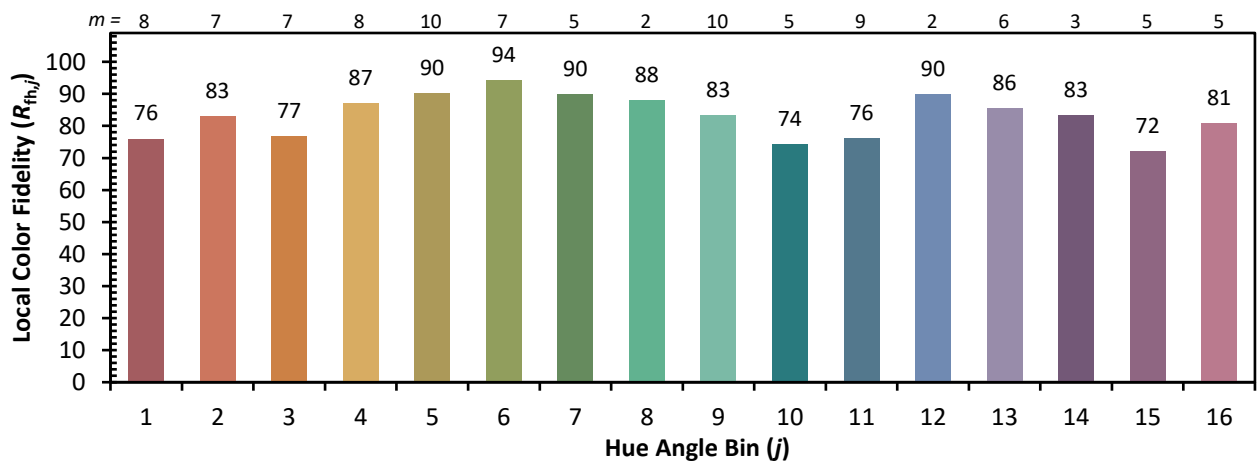
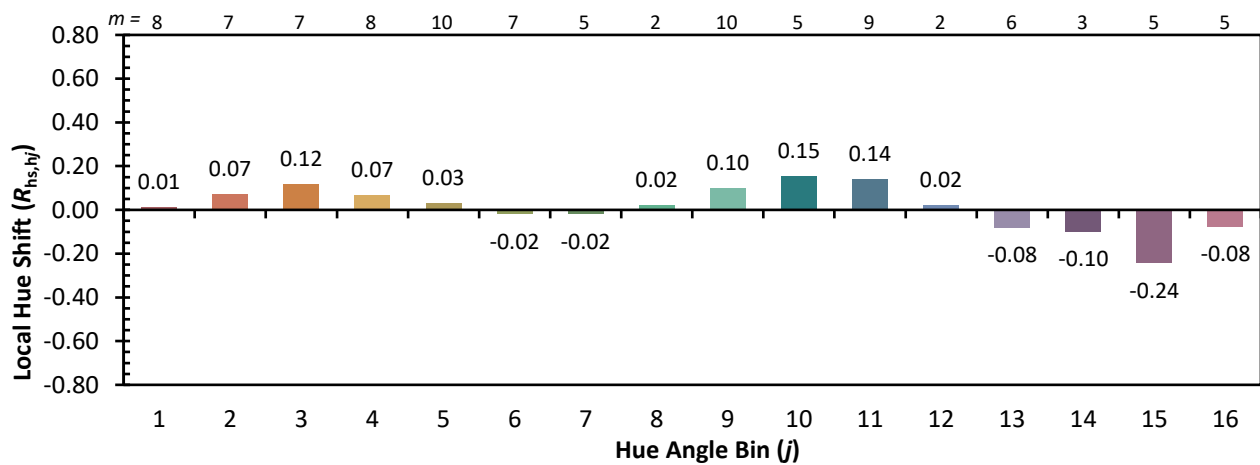
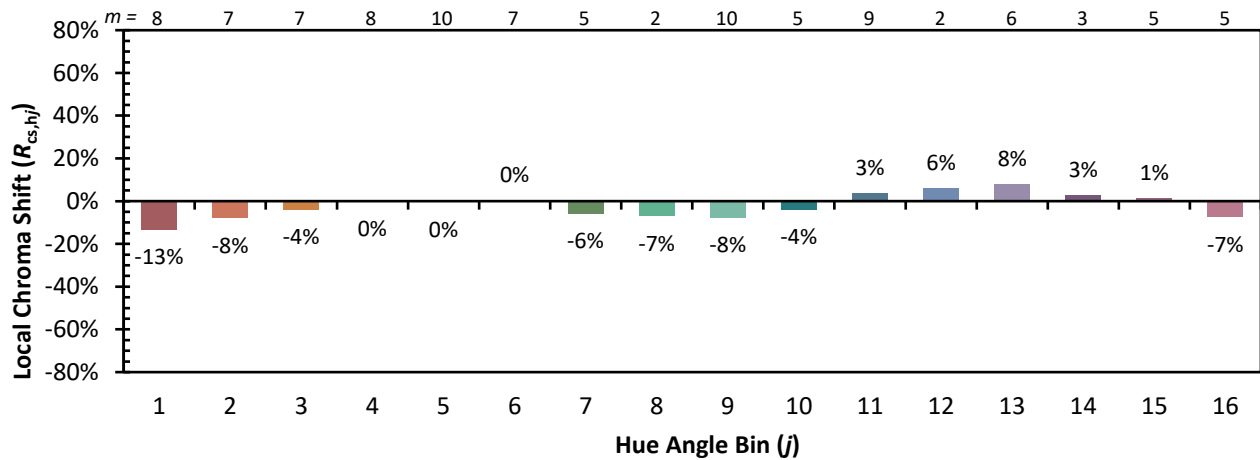


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

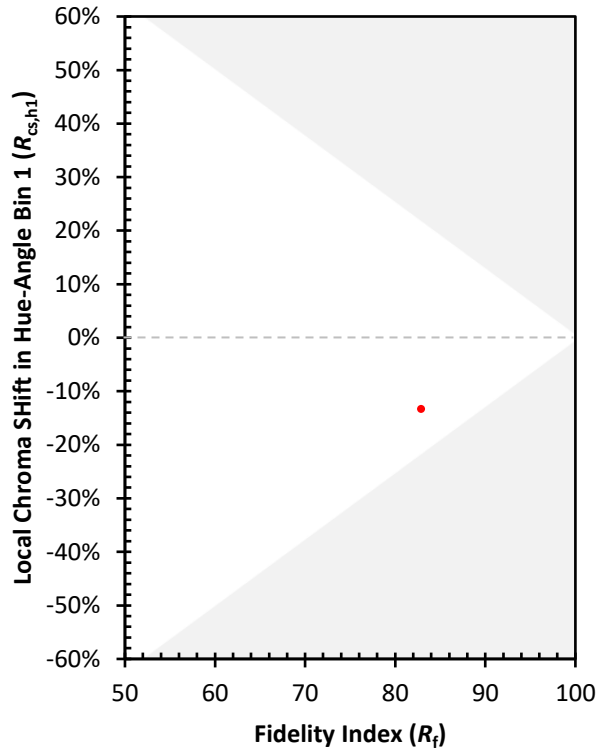
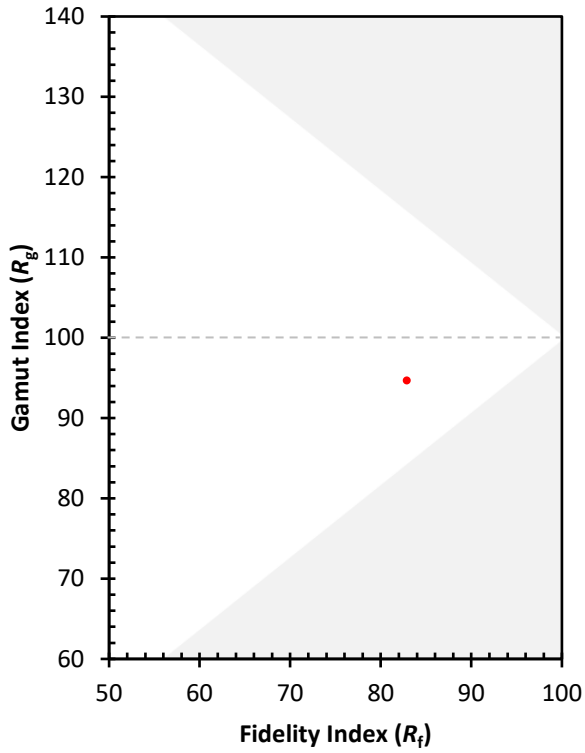
CES01 = 85	CES26 = 82	CES51 = 91	CES76 = 75
CES02 = 60	CES27 = 92	CES52 = 92	CES77 = 81
CES03 = 30	CES28 = 92	CES53 = 88	CES78 = 75
CES04 = 69	CES29 = 90	CES54 = 88	CES79 = 91
CES05 = 47	CES30 = 91	CES55 = 85	CES80 = 89
CES06 = 50	CES31 = 91	CES56 = 84	CES81 = 80
CES07 = 40	CES32 = 83	CES57 = 82	CES82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



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)