

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: P979173

Luminaire Tested: **WPLLED38S-120W-3000K**

Issue Date: 03/31/2025



Test Information

Test Method: LM-79-08
Report Number: P979173
Test Lab: Cooper Lighting Solutions
Issue Date: 03/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: WPLLED38S-120W-3000K
Description: LUMARK WALL PACK LED LARGE 80CRI CCT AND LUMEN SELECTIVE FIXTURE
OPERATING @120W-3000K
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

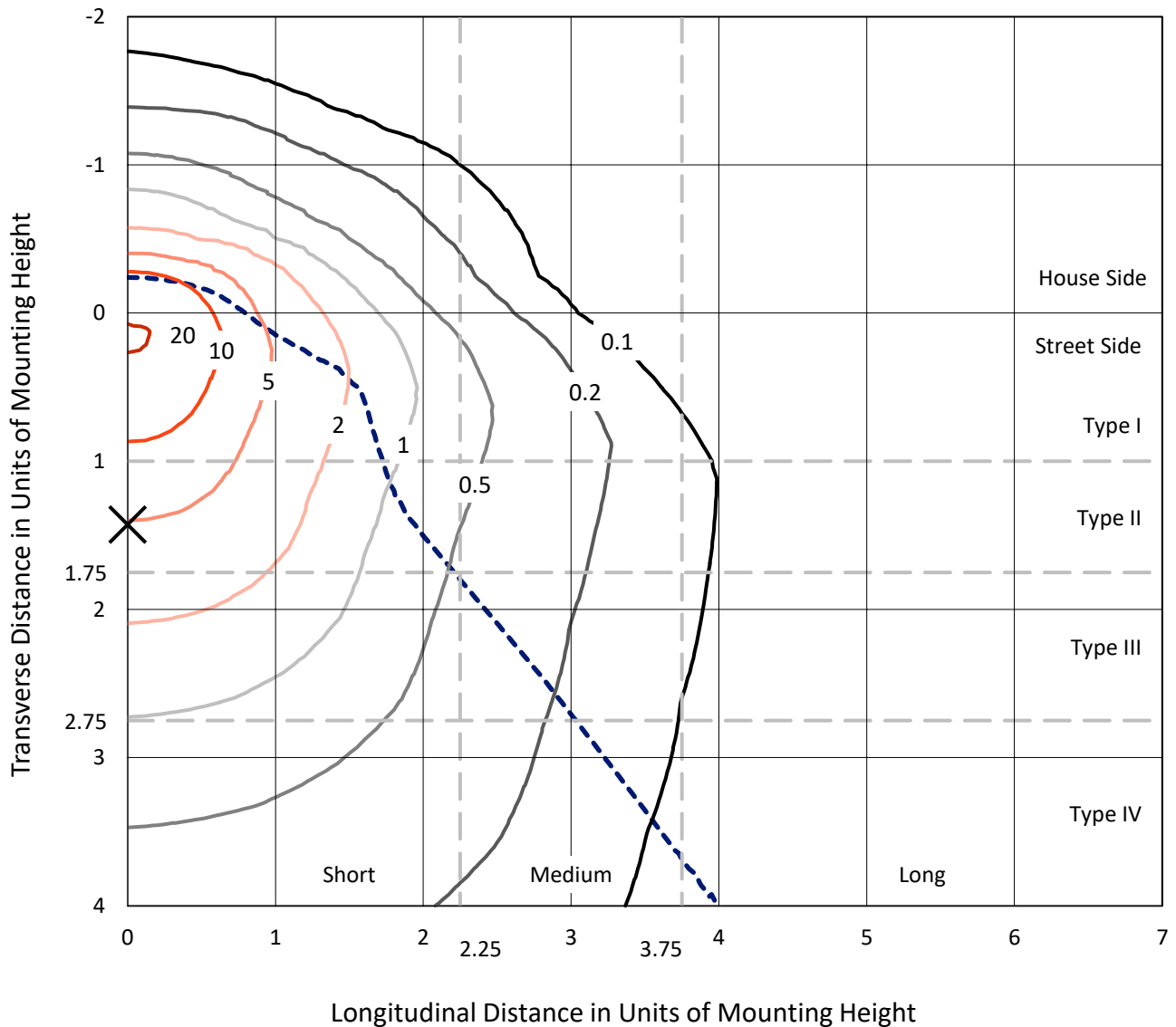
Lumens per Lamp: N/A
Luminaire Lumens: 16558.8 lumens
Efficiency: N/A
Efficacy: 139.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.25' x L: 0.33' x H: 0.58')
IES Classification: Type IV - Short
BUG Rating: B3 - U5 - G5

Input Watts (W): 118.6
Input Voltage (V): 120
Input Current (A_{in}): 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

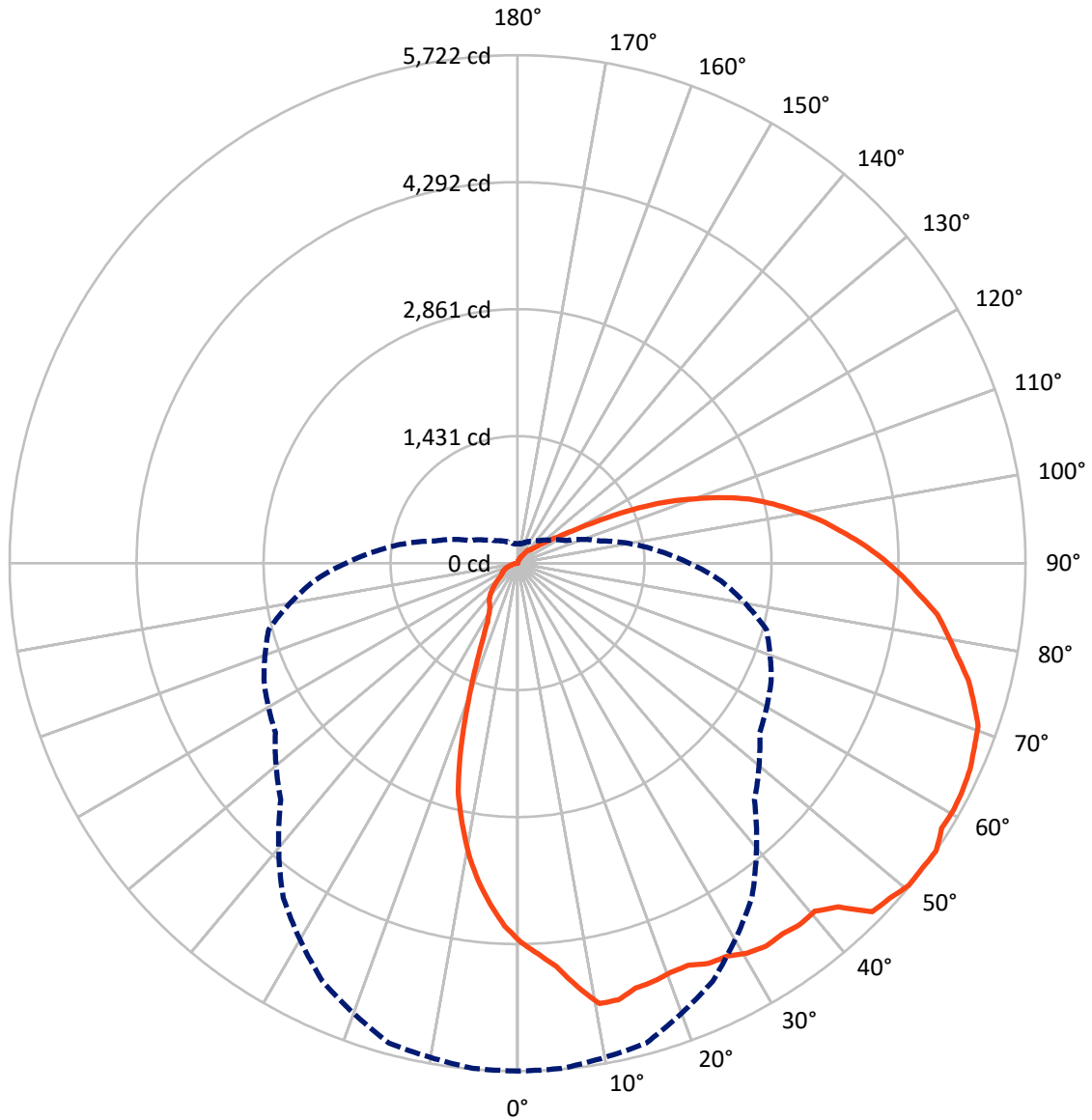
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 20.7 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 55-Deg Vertical

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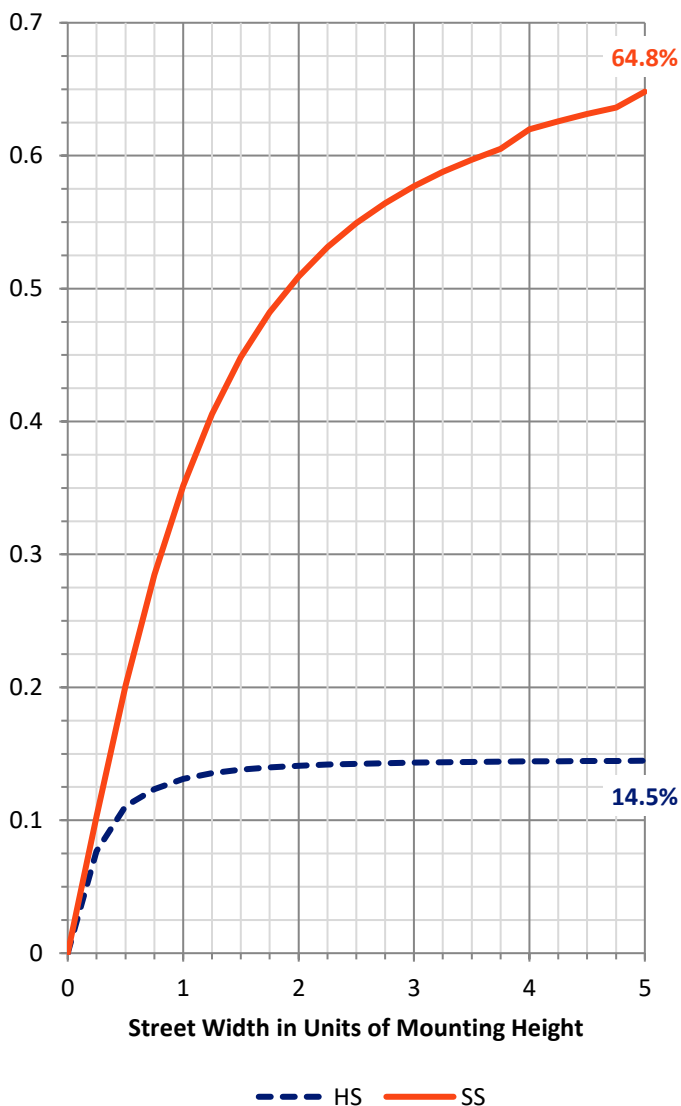
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2432.5	93.1	2525.6
	% Fixture	14.7	0.6	15.3
Street Side	Lumens	11769.6	2263.6	14033.2
	% Fixture	71.1	13.7	84.7
Total	Lumens	14202.1	2356.7	16558.8
	% Fixture	85.8	14.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	402.8	2.4
10°-20°	1121.6	6.8
20°-30°	1541.6	9.3
30°-40°	1786.8	10.8
40°-50°	1952.3	11.8
50°-60°	2066.9	12.5
60°-70°	2041.7	12.3
70°-80°	1822.6	11.0
80°-90°	1465.8	8.9
90°-100°	1088.6	6.6
100°-110°	697.2	4.2
110°-120°	319.9	1.9
120°-130°	129.5	0.8
130°-140°	67.8	0.4
140°-150°	34.2	0.2
150°-160°	13.4	0.1
160°-170°	4.7	0.0
170°-180°	1.3	0.0
0°-90°	14202.1	85.8
0°-180°	16558.8	100.0



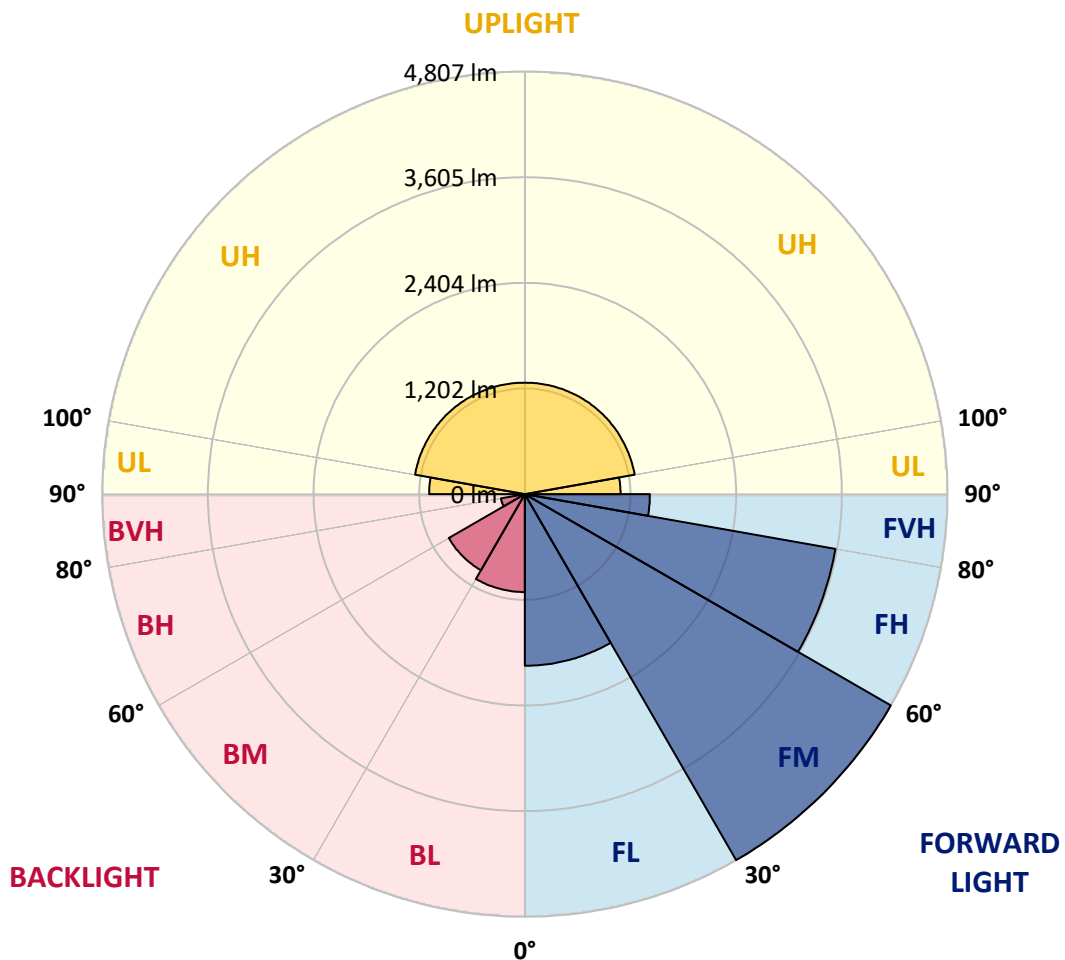
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1952.1	11.8			
FM (30°-60°)	4807.0	29.0			
FH (60°-80°)	3588.1	21.7			G2/5000
FVH (80°-90°)	1422.4	8.6			G5
BL (0°-30°)	1113.9	6.7	B3/2500		
BM (30°-60°)	998.9	6.0	B1/1000		
BH (60°-80°)	276.2	1.7	B1/500		G1/500
BVH (80°-90°)	43.4	0.3			G1/100
UL (90°-100°)	1088.6	6.6		U5	
UH (100°-180°)	1268.1	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°	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2
2.5°	4407.4	4407.4	4404.4	4391.8	4382.8	4388.8	4366.5	4319.0	4296.7	4275.9	4256.6
5°	4563.4	4558.2	4550.0	4521.0	4463.1	4399.9	4382.1	4330.8	4301.1	4258.8	4226.1
7.5°	4813.7	4847.1	4792.2	4689.6	4590.8	4575.2	4526.2	4463.8	4379.1	4282.6	4238.0
10°	5046.2	5075.9	5026.2	4962.3	4918.4	4801.8	4606.4	4505.4	4386.6	4249.9	4192.7
12.5°	5048.4	5073.7	4988.3	4984.6	5042.5	4942.2	4753.5	4504.7	4344.2	4186.7	4127.3
15°	4969.7	5001.6	4934.0	5011.3	4983.1	4944.4	4859.8	4586.4	4357.6	4169.6	4082.0
17.5°	4954.8	4997.2	4931.1	4972.7	4954.8	4894.7	4911.0	4649.5	4327.9	4110.2	4009.2
20°	4922.9	4964.5	4925.1	4889.5	4862.7	4839.0	4823.4	4713.4	4300.4	4047.1	3923.8
22.5°	4920.7	4941.5	4914.0	4853.8	4795.1	4763.9	4716.4	4694.8	4274.4	3956.5	3830.9
25°	4996.4	5018.7	4943.7	4865.7	4723.1	4672.6	4587.1	4573.8	4233.5	3869.5	3721.0
27.5°	5017.2	5039.5	4953.4	4865.7	4726.0	4564.1	4495.8	4428.9	4184.5	3744.0	3602.1
30°	5098.2	5127.9	5032.8	4872.4	4712.7	4478.7	4356.8	4270.7	4083.5	3625.1	3437.2
32.5°	5144.3	5182.2	5120.5	4929.6	4687.4	4436.3	4209.8	4128.1	4011.4	3479.5	3297.5
35°	5133.1	5187.4	5130.9	4969.7	4692.6	4388.0	4070.9	3983.2	3873.3	3326.5	3123.7
37.5°	5166.6	5218.6	5130.9	4963.0	4671.1	4319.0	4009.9	3819.8	3719.5	3158.6	2926.9
40°	5156.2	5201.5	5070.7	4931.1	4643.6	4243.9	3906.7	3683.8	3544.9	2971.4	2731.5
42.5°	5294.3	5323.3	5142.0	4922.2	4572.3	4143.6	3816.8	3574.6	3384.5	2813.2	2565.1
45°	5601.9	5637.5	5359.7	4994.2	4547.0	4059.0	3700.2	3460.2	3256.7	2681.7	2411.3
47.5°	5642.7	5671.0	5502.3	5094.5	4572.3	3983.9	3636.3	3383.0	3140.1	2578.5	2282.8
50°	5708.1	5715.5	5546.2	5166.6	4585.6	3923.0	3553.1	3328.7	3062.1	2477.4	2168.4
52.5°	5708.8	5716.3	5575.1	5196.3	4587.1	3851.7	3472.9	3250.0	2991.5	2391.3	2062.2
55°	5722.2	5712.6	5596.7	5197.8	4602.0	3773.7	3329.5	3151.9	2903.1	2302.1	1933.7
57.5°	5634.6	5618.2	5527.6	5185.9	4609.4	3709.8	3212.1	3047.2	2837.0	2221.9	1814.1
60°	5644.2	5602.6	5514.2	5156.2	4568.6	3613.3	3111.8	2921.7	2758.2	2123.8	1681.8
62.5°	5628.6	5578.8	5484.5	5133.9	4524.0	3547.9	3008.6	2789.4	2655.7	2022.1	1525.8
65°	5600.4	5541.0	5458.5	5116.8	4475.7	3483.3	2886.0	2671.3	2564.3	1851.2	1332.7
67.5°	5549.9	5482.3	5401.3	5061.8	4422.2	3411.2	2763.4	2532.4	2423.2	1652.9	1126.9
70°	5503.8	5430.3	5342.6	4986.0	4361.3	3315.4	2656.5	2395.0	2273.1	1431.5	901.1
72.5°	5376.0	5296.6	5210.4	4856.8	4269.9	3225.5	2536.1	2242.7	2074.8	1160.3	679.0
75°	5243.1	5169.5	5075.9	4749.1	4166.7	3116.3	2429.9	2084.5	1861.6	906.3	499.2
77.5°	5067.0	4980.1	4883.5	4573.0	4008.5	2984.8	2308.1	1927.7	1612.0	670.1	381.1
80°	4914.0	4820.4	4735.0	4428.2	3871.0	2848.1	2198.9	1768.0	1363.1	473.9	312.0
82.5°	4764.7	4652.5	4553.0	4254.3	3699.4	2701.8	2062.9	1626.9	1135.1	345.4	257.0
85°	4540.3	4427.4	4325.6	4044.9	3492.9	2531.7	1941.8	1482.7	916.7	269.7	213.9
87.5°	4342.7	4260.3	4141.4	3835.4	3283.4	2366.0	1785.8	1326.0	725.8	220.6	179.8
90°	4130.3	4040.4	3926.0	3614.0	3065.8	2195.1	1635.0	1171.5	566.8	190.9	157.5
92.5°	3908.9	3825.0	3706.9	3388.2	2850.3	2036.2	1493.9	1005.1	453.1	168.6	145.6
95°	3671.9	3619.2	3480.3	3178.7	2629.7	1858.6	1344.6	853.5	370.7	156.0	137.4
97.5°	3452.1	3387.4	3261.9	2959.5	2390.5	1698.2	1198.2	707.9	308.3	147.1	131.5
100°	3198.7	3140.1	3013.0	2708.5	2139.4	1517.7	1028.1	578.7	260.7	141.1	127.8
102.5°	2957.3	2915.0	2779.8	2447.7	1885.4	1313.4	855.8	470.2	225.1	138.2	123.3
105°	2704.0	2665.4	2530.9	2179.5	1635.8	1116.5	691.6	381.1	201.3	136.7	120.3
107.5°	2386.1	2365.3	2216.7	1847.5	1361.7	921.9	563.1	312.7	184.2	135.2	117.4
110°	2049.5	2044.3	1866.8	1534.0	1115.8	739.1	451.7	264.5	170.9	131.5	113.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	1724.2	1664.0	1528.1	1185.6	873.6	582.4	364.7	229.5	159.7	126.3	108.5
115°	1349.0	1311.9	1165.5	919.7	676.7	462.1	306.1	200.6	152.3	119.6	102.5
117.5°	977.6	945.7	846.9	705.0	537.1	386.3	257.8	182.0	144.9	110.7	95.1
120°	713.1	704.2	629.2	535.6	445.7	330.6	223.6	164.9	135.9	101.0	86.2
122.5°	537.1	531.1	499.9	442.7	382.6	284.5	199.1	151.5	125.5	91.4	78.0
125°	442.0	430.9	410.8	374.4	321.7	248.9	182.7	141.9	113.7	81.7	69.8
127.5°	358.1	358.8	342.5	312.7	280.8	221.4	170.9	135.2	102.5	71.3	62.4
130°	294.2	290.5	285.3	268.9	248.1	203.5	162.7	127.8	91.4	63.1	55.0
132.5°	246.6	245.1	241.4	231.0	217.7	188.7	155.3	118.9	81.0	56.5	49.8
135°	215.4	216.2	211.0	201.3	197.6	175.3	147.1	107.7	69.8	50.5	45.3
137.5°	200.6	199.8	187.9	179.0	178.3	164.2	135.2	95.8	61.7	46.1	42.3
140°	185.0	183.5	171.6	161.9	158.2	149.3	121.8	83.2	53.5	42.3	39.4
142.5°	158.2	155.3	148.6	142.6	136.7	132.2	104.7	71.3	46.1	38.6	36.4
145°	120.3	121.8	122.6	117.4	112.9	109.2	87.7	59.4	40.9	35.7	34.2
147.5°	97.3	95.8	96.6	95.1	92.1	86.2	72.1	49.0	36.4	33.4	31.9
150°	79.5	78.0	78.7	76.5	74.3	69.1	59.4	40.9	32.7	31.2	30.5
152.5°	64.6	64.6	65.4	63.1	60.9	55.7	46.1	34.2	29.7	29.0	29.0
155°	52.0	52.7	52.0	51.3	48.3	43.1	35.7	29.0	27.5	27.5	27.5
157.5°	41.6	41.6	41.6	40.9	37.1	34.2	29.0	25.3	26.0	26.7	26.7
160°	31.2	31.9	31.9	31.2	29.0	25.3	23.0	23.0	24.5	25.3	25.3
162.5°	22.3	21.5	23.0	23.0	20.1	18.6	20.1	21.5	23.8	24.5	24.5
165°	13.4	13.4	14.9	14.9	14.9	14.9	17.8	20.8	23.0	23.8	24.5
167.5°	7.4	7.4	8.2	10.4	11.1	13.4	17.8	20.8	23.0	23.8	24.5
170°	3.7	3.7	5.2	8.2	10.4	13.4	18.6	21.5	23.0	23.8	24.5
172.5°	2.2	3.0	5.2	8.2	10.4	14.1	18.6	21.5	23.0	24.5	24.5
175°	3.0	3.0	5.2	8.2	11.1	14.1	18.6	21.5	23.8	24.5	25.3
177.5°	3.0	3.7	5.9	8.9	11.1	14.1	19.3	21.5	23.8	24.5	25.3
180°	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2	4269.2
2.5°	4233.5	4217.2	4195.6	4162.2	4138.5	4127.3	4119.9	4094.6	4096.9	4092.4
5°	4197.1	4142.9	4093.9	4031.5	3966.1	3933.4	3900.0	3880.7	3851.7	3858.4
7.5°	4203.8	4125.8	4028.5	3905.2	3813.8	3744.0	3683.8	3672.7	3631.8	3610.3
10°	4148.8	4034.5	3891.8	3763.3	3635.5	3526.3	3432.7	3415.7	3346.6	3328.7
12.5°	4063.4	3906.7	3738.8	3588.0	3443.9	3262.6	3151.2	3100.7	3029.4	2995.9
15°	4010.7	3809.4	3607.3	3406.7	3195.0	3012.3	2842.9	2740.4	2657.2	2669.8
17.5°	3916.3	3685.3	3442.4	3195.0	2922.4	2706.2	2460.3	2271.7	2185.5	2183.3
20°	3820.5	3549.4	3273.0	2962.5	2627.5	2304.3	2015.4	1774.7	1695.2	1660.3
22.5°	3699.4	3395.6	3070.2	2712.2	2292.5	1851.2	1557.8	1361.7	1262.1	1248.0
25°	3567.2	3221.0	2844.4	2438.1	1892.8	1476.1	1178.2	1010.3	941.2	932.3
27.5°	3411.2	3053.9	2630.5	2100.1	1537.0	1130.6	907.0	790.4	750.3	742.9
30°	3240.3	2855.5	2384.6	1758.3	1224.2	882.5	736.2	673.0	652.2	649.3
32.5°	3087.3	2672.1	2151.3	1488.7	985.8	738.4	656.7	613.6	596.5	589.1
35°	2895.7	2447.0	1889.1	1237.6	809.7	658.9	603.2	570.5	559.4	554.9
37.5°	2685.4	2242.7	1647.7	1036.3	707.9	606.9	565.3	540.8	532.6	530.4
40°	2481.9	2033.9	1421.1	864.7	629.2	560.1	528.9	498.5	491.0	491.8
42.5°	2314.7	1849.7	1206.4	722.8	566.1	516.3	482.1	464.3	452.4	449.4
45°	2155.0	1673.7	1011.0	625.5	518.5	465.0	439.8	411.5	398.2	395.9
47.5°	2018.3	1487.9	841.7	571.3	476.9	431.6	388.5	355.1	344.7	342.5
50°	1866.1	1291.1	732.5	528.2	432.3	383.3	343.2	307.5	290.5	290.5
52.5°	1733.8	1121.7	652.2	491.8	395.9	345.4	300.9	265.9	243.7	241.4
55°	1591.9	962.0	598.7	451.7	358.8	303.8	264.5	231.0	216.9	217.7
57.5°	1444.9	840.2	560.9	416.0	317.2	267.4	231.0	206.5	206.5	211.0
60°	1279.9	739.1	530.4	378.1	277.8	232.5	203.5	184.2	187.9	190.9
62.5°	1106.1	660.4	499.2	338.0	244.4	199.1	173.8	164.9	172.3	173.8
65°	925.6	602.5	463.5	299.4	211.7	173.8	148.6	150.1	155.3	156.7
67.5°	751.8	548.2	416.0	262.2	182.0	143.4	133.7	131.5	138.9	138.9
70°	597.3	502.9	369.2	225.8	153.0	119.6	113.7	111.4	115.1	113.7
72.5°	497.7	451.7	319.4	191.7	125.5	98.1	92.9	92.1	89.9	88.4
75°	424.9	397.4	276.3	159.7	101.8	79.5	69.8	67.6	63.1	63.1
77.5°	367.0	338.0	230.3	131.5	82.5	60.9	47.5	40.1	37.9	36.4
80°	315.0	283.8	190.9	105.5	62.4	40.1	22.3	12.6	8.2	9.7
82.5°	266.7	235.5	159.0	85.4	45.3	20.1	4.5	0.7	0.0	0.0
85°	224.3	195.4	134.5	70.6	37.1	17.8	5.2	1.5	0.0	0.0
87.5°	188.7	164.9	115.9	61.7	33.4	17.1	5.9	2.2	0.7	0.0
90°	164.2	144.1	104.7	55.7	31.2	16.3	5.9	3.0	1.5	1.5
92.5°	148.6	130.0	95.1	51.3	29.0	16.3	6.7	3.7	2.2	2.2
95°	134.5	119.6	86.9	48.3	27.5	16.3	7.4	4.5	3.7	3.7
97.5°	124.1	109.9	81.0	45.3	26.7	16.3	8.2	5.2	4.5	3.7
100°	115.9	102.5	73.5	42.3	25.3	15.6	8.2	5.9	4.5	4.5
102.5°	110.7	96.6	67.6	39.4	24.5	15.6	8.2	5.9	4.5	4.5
105°	106.2	92.9	62.4	37.9	23.0	14.9	8.2	5.9	4.5	4.5
107.5°	102.5	89.1	57.9	35.7	22.3	14.1	8.2	5.9	4.5	4.5
110°	98.8	82.5	53.5	33.4	20.8	13.4	8.2	5.2	4.5	3.7



REPORT NUMBER: P979173
 CATALOG NUMBER: WPLLED38S-120W-3000K

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	93.6	75.0	49.0	31.2	20.1	12.6	7.4	5.2	3.7	3.7
115°	88.4	66.1	44.6	29.7	19.3	11.9	7.4	5.2	3.7	3.0
117.5°	81.7	58.7	40.9	27.5	18.6	11.1	7.4	4.5	3.0	3.0
120°	73.5	52.0	37.9	26.7	17.8	10.4	6.7	4.5	3.0	3.0
122.5°	66.1	47.5	35.7	25.3	17.1	10.4	6.7	4.5	3.0	2.2
125°	58.7	43.8	33.4	24.5	16.3	9.7	6.7	4.5	2.2	2.2
127.5°	52.0	40.1	31.9	24.5	16.3	9.7	6.7	4.5	2.2	2.2
130°	47.5	37.9	30.5	23.8	15.6	9.7	7.4	4.5	3.0	2.2
132.5°	43.8	35.7	29.7	23.8	15.6	10.4	7.4	4.5	3.0	3.0
135°	40.9	34.2	29.0	23.0	14.9	10.4	7.4	4.5	3.0	3.0
137.5°	38.6	32.7	28.2	22.3	14.9	10.4	8.2	5.2	3.7	3.0
140°	36.4	31.2	27.5	22.3	14.9	11.1	8.2	5.2	3.7	3.7
142.5°	34.2	30.5	26.0	21.5	14.9	11.1	8.2	5.2	3.7	3.7
145°	31.9	29.0	25.3	20.8	14.9	11.1	8.2	5.2	3.7	3.7
147.5°	30.5	28.2	24.5	20.1	14.1	11.1	8.2	5.2	3.7	3.0
150°	29.0	26.7	23.8	19.3	14.1	11.1	8.2	5.2	3.7	3.0
152.5°	28.2	26.0	23.0	18.6	14.1	11.1	8.2	5.2	3.0	3.0
155°	26.7	25.3	22.3	18.6	14.1	11.1	8.2	5.2	3.0	3.0
157.5°	26.0	24.5	21.5	18.6	14.1	10.4	8.2	4.5	3.0	3.0
160°	25.3	23.8	21.5	18.6	14.1	10.4	8.2	4.5	3.0	3.0
162.5°	24.5	23.8	21.5	18.6	14.1	10.4	7.4	4.5	3.0	3.0
165°	23.8	23.0	21.5	18.6	13.4	10.4	7.4	4.5	2.2	2.2
167.5°	24.5	23.0	21.5	18.6	13.4	10.4	7.4	3.7	2.2	2.2
170°	24.5	23.0	21.5	17.8	13.4	9.7	7.4	3.7	2.2	1.5
172.5°	24.5	23.8	21.5	17.8	13.4	10.4	7.4	3.7	2.2	1.5
175°	24.5	23.8	21.5	18.6	13.4	10.4	7.4	3.7	2.2	1.5
177.5°	24.5	23.8	21.5	18.6	13.4	9.7	7.4	3.7	2.2	1.5
180°	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1

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: SP1-2407-168-1

Test Date: 08/08/2024

Luminaire Tested: LSDL-92S-100W 3000k

Data in this report applies to families of products including LSDL-92S-100W 3000k.

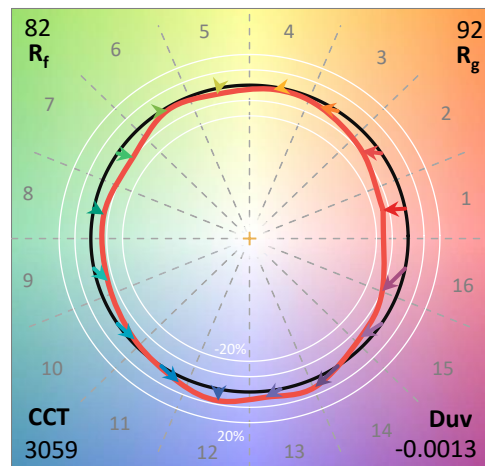
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-168-1
 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 3000k**
 Description: Lumark Wallpack 100W

Spectral Parameters

CCT (K): 3059
 CIE u': 0.2490
 CIE v': 0.5184
 Duv: -0.0013
 CIE x: 0.4310
 CIE y: 0.3988
 CIE z: 0.1702
 Peak Wavelength (nm): 600
 Dominant Wavelength (nm): 583
 Purity: 49.0643
 Rf: 81.8
 Rg: 91.9

CRI (Ra):	79.3		
R1:	78.1	R9:	-8.3
R2:	92.3	R10:	82.8
R3:	91.2	R11:	73.1
R4:	74.6	R12:	70.5
R5:	78.8	R13:	81.8
R6:	90.5	R14:	95.7
R7:	77.6	R15:	69.8
R8:	50.9		



Test Conditions

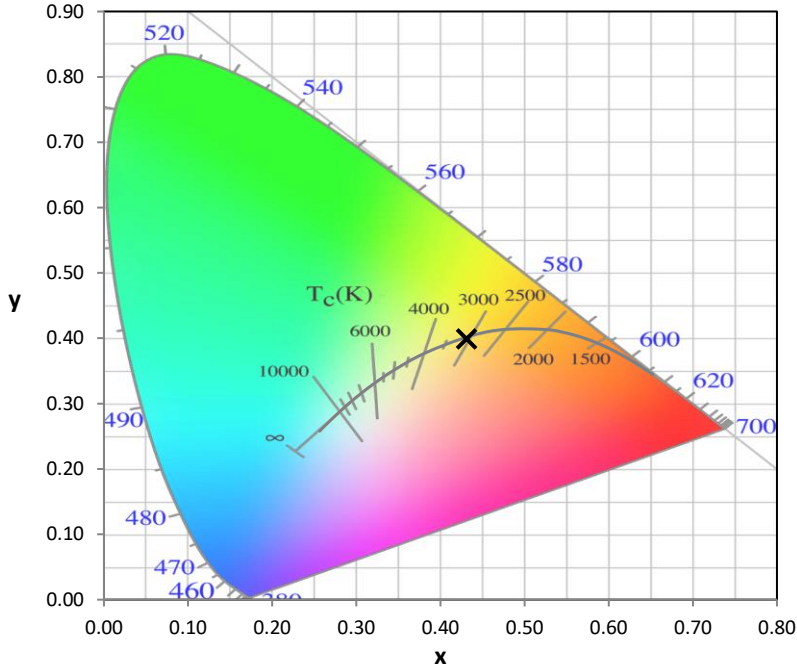
Stabilization Time: 51M
 Operation Time: 1H 51M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-168-1

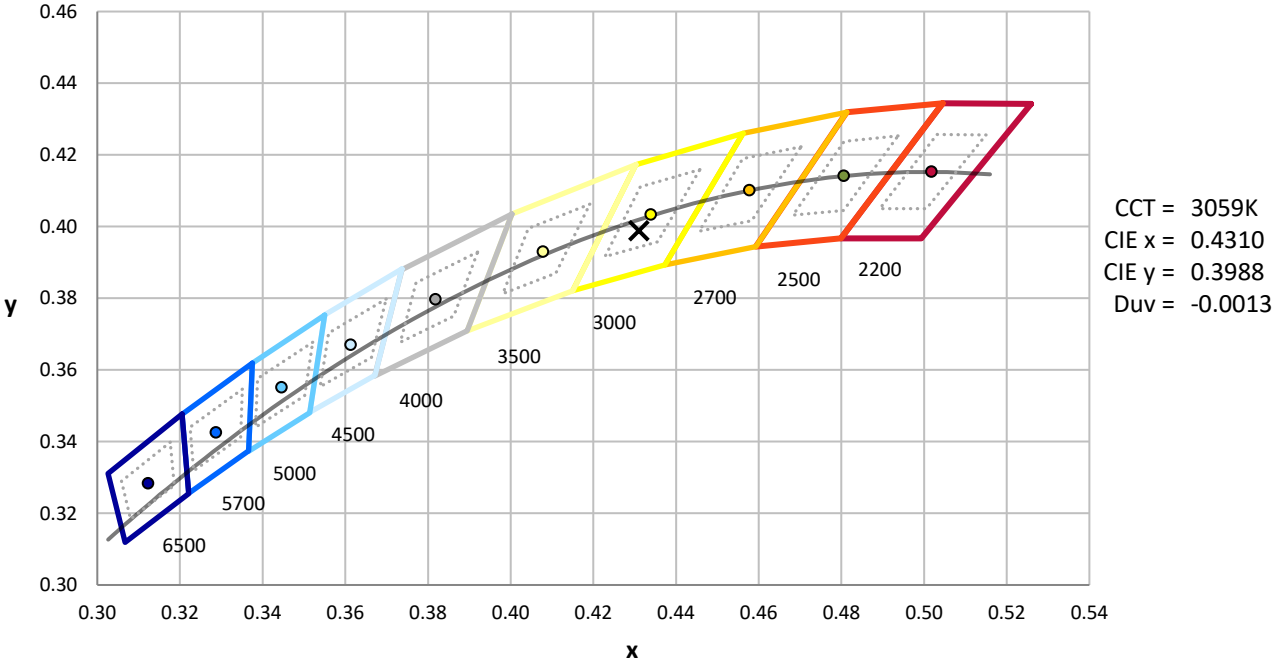
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-168-1

CIE 1931 Chromaticity Diagram



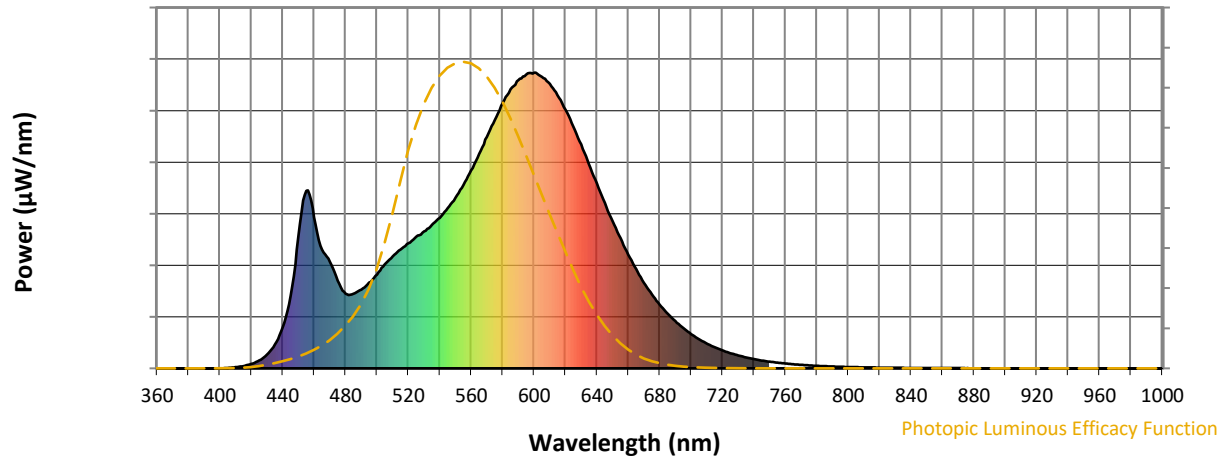
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

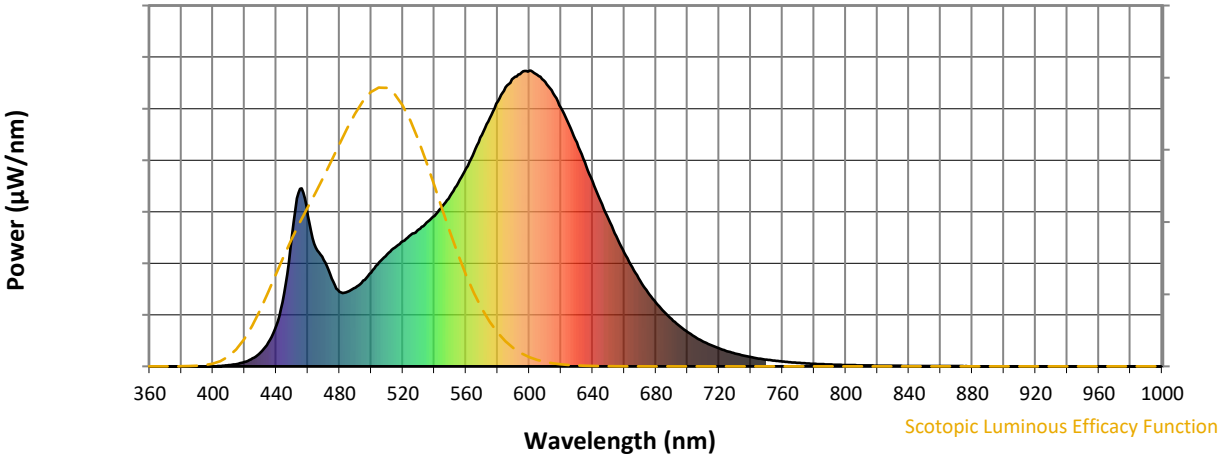


Photopic Lumens: NR

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	266	NR	620	875	NR	750	23	NR	880	0	NR
365	0	NR	495	290	NR	625	818	NR	755	19	NR	885	0	NR
370	0	NR	500	317	NR	630	758	NR	760	16	NR	890	0	NR
375	0	NR	505	352	NR	635	690	NR	765	14	NR	895	0	NR
380	0	NR	510	379	NR	640	625	NR	770	12	NR	900	0	NR
385	0	NR	515	402	NR	645	560	NR	775	10	NR	905	0	NR
390	0	NR	520	423	NR	650	498	NR	780	9	NR	910	0	NR
395	0	NR	525	445	NR	655	440	NR	785	7	NR	915	0	NR
400	0	NR	530	463	NR	660	385	NR	790	6	NR	920	0	NR
405	1	NR	535	486	NR	665	335	NR	795	5	NR	925	0	NR
410	4	NR	540	509	NR	670	289	NR	800	5	NR	930	0	NR
415	8	NR	545	542	NR	675	250	NR	805	4	NR	935	0	NR
420	15	NR	550	577	NR	680	216	NR	810	3	NR	940	0	NR
425	27	NR	555	620	NR	685	185	NR	815	3	NR	945	0	NR
430	46	NR	560	670	NR	690	160	NR	820	3	NR	950	0	NR
435	81	NR	565	725	NR	695	136	NR	825	2	NR	955	0	NR
440	139	NR	570	782	NR	700	116	NR	830	2	NR	960	0	NR
445	246	NR	575	840	NR	705	99	NR	835	2	NR	965	0	NR
450	446	NR	580	896	NR	710	84	NR	840	1	NR	970	0	NR
455	601	NR	585	944	NR	715	71	NR	845	1	NR	975	0	NR
460	511	NR	590	975	NR	720	61	NR	850	1	NR	980	0	NR
465	402	NR	595	994	NR	725	51	NR	855	1	NR	985	0	NR
470	359	NR	600	1000	NR	730	44	NR	860	1	NR	990	0	NR
475	297	NR	605	985	NR	735	37	NR	865	1	NR	995	0	NR
480	252	NR	610	962	NR	740	32	NR	870	1	NR	1000	0	NR
485	252	NR	615	923	NR	745	27	NR	875	1	NR			

REPORT NUMBER: SP1-2407-168-1

Scotopic Flux vs. Wavelength



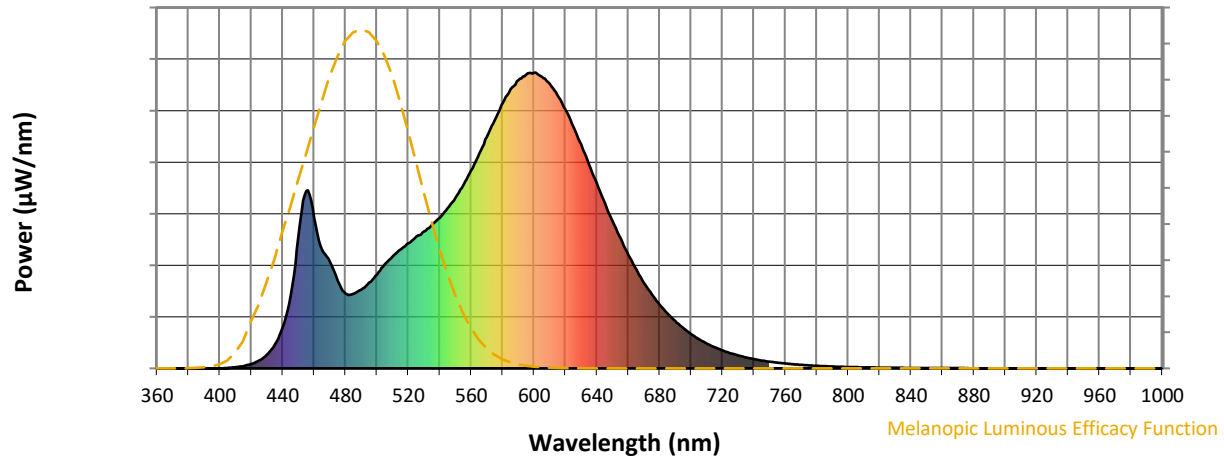
Scotopic Lumens: NR

S/P: 1.39

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	266	NR	620	875	NR	750	23	NR	880	0	NR
365	0	NR	495	290	NR	625	818	NR	755	19	NR	885	0	NR
370	0	NR	500	317	NR	630	758	NR	760	16	NR	890	0	NR
375	0	NR	505	352	NR	635	690	NR	765	14	NR	895	0	NR
380	0	NR	510	379	NR	640	625	NR	770	12	NR	900	0	NR
385	0	NR	515	402	NR	645	560	NR	775	10	NR	905	0	NR
390	0	NR	520	423	NR	650	498	NR	780	9	NR	910	0	NR
395	0	NR	525	445	NR	655	440	NR	785	7	NR	915	0	NR
400	0	NR	530	463	NR	660	385	NR	790	6	NR	920	0	NR
405	1	NR	535	486	NR	665	335	NR	795	5	NR	925	0	NR
410	4	NR	540	509	NR	670	289	NR	800	5	NR	930	0	NR
415	8	NR	545	542	NR	675	250	NR	805	4	NR	935	0	NR
420	15	NR	550	577	NR	680	216	NR	810	3	NR	940	0	NR
425	27	NR	555	620	NR	685	185	NR	815	3	NR	945	0	NR
430	46	NR	560	670	NR	690	160	NR	820	3	NR	950	0	NR
435	81	NR	565	725	NR	695	136	NR	825	2	NR	955	0	NR
440	139	NR	570	782	NR	700	116	NR	830	2	NR	960	0	NR
445	246	NR	575	840	NR	705	99	NR	835	2	NR	965	0	NR
450	446	NR	580	896	NR	710	84	NR	840	1	NR	970	0	NR
455	601	NR	585	944	NR	715	71	NR	845	1	NR	975	0	NR
460	511	NR	590	975	NR	720	61	NR	850	1	NR	980	0	NR
465	402	NR	595	994	NR	725	51	NR	855	1	NR	985	0	NR
470	359	NR	600	1000	NR	730	44	NR	860	1	NR	990	0	NR
475	297	NR	605	985	NR	735	37	NR	865	1	NR	995	0	NR
480	252	NR	610	962	NR	740	32	NR	870	1	NR	1000	0	NR
485	252	NR	615	923	NR	745	27	NR	875	1	NR			

REPORT NUMBER: SP1-2407-168-1

Melanopic Flux vs. Wavelength



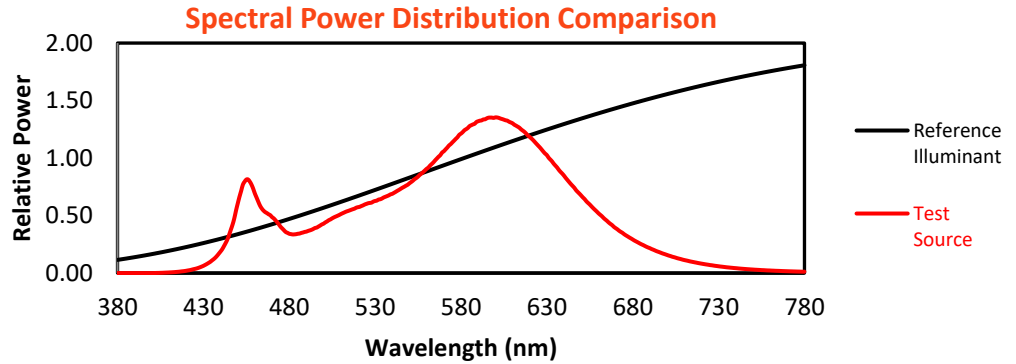
Melanopic Lumens: NR

M/P: 2.77

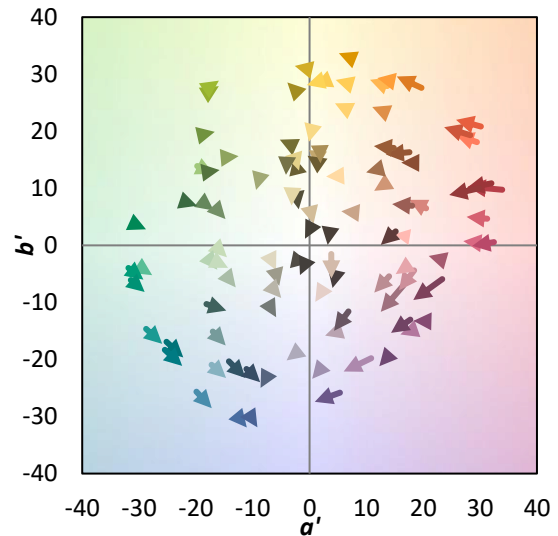
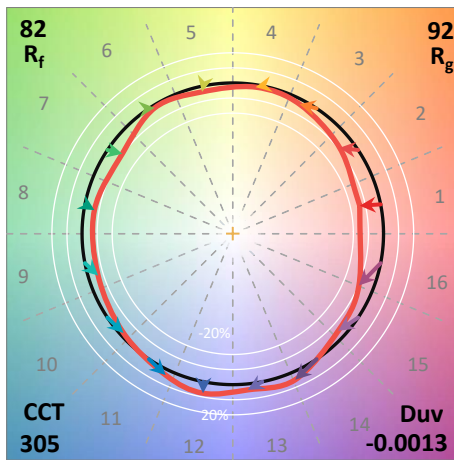
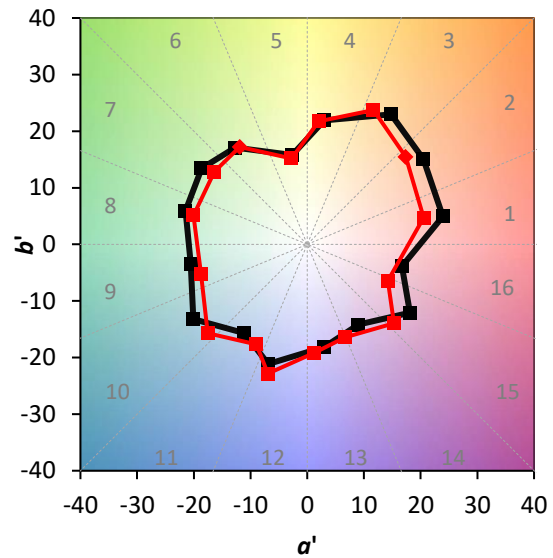
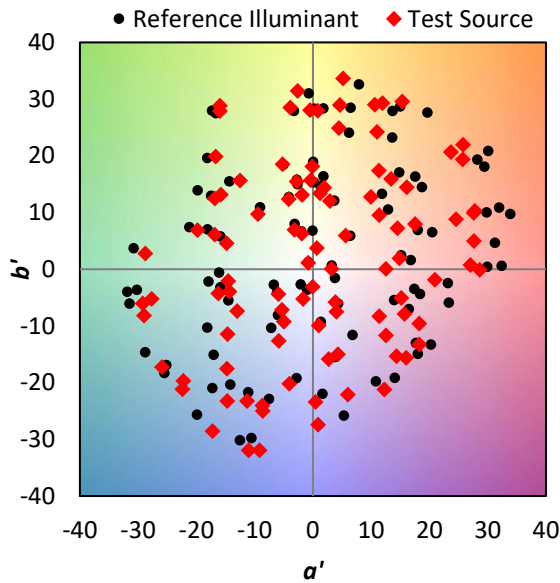
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	266	NR	620	875	NR	750	23	NR	880	0	NR
365	0	NR	495	290	NR	625	818	NR	755	19	NR	885	0	NR
370	0	NR	500	317	NR	630	758	NR	760	16	NR	890	0	NR
375	0	NR	505	352	NR	635	690	NR	765	14	NR	895	0	NR
380	0	NR	510	379	NR	640	625	NR	770	12	NR	900	0	NR
385	0	NR	515	402	NR	645	560	NR	775	10	NR	905	0	NR
390	0	NR	520	423	NR	650	498	NR	780	9	NR	910	0	NR
395	0	NR	525	445	NR	655	440	NR	785	7	NR	915	0	NR
400	0	NR	530	463	NR	660	385	NR	790	6	NR	920	0	NR
405	1	NR	535	486	NR	665	335	NR	795	5	NR	925	0	NR
410	4	NR	540	509	NR	670	289	NR	800	5	NR	930	0	NR
415	8	NR	545	542	NR	675	250	NR	805	4	NR	935	0	NR
420	15	NR	550	577	NR	680	216	NR	810	3	NR	940	0	NR
425	27	NR	555	620	NR	685	185	NR	815	3	NR	945	0	NR
430	46	NR	560	670	NR	690	160	NR	820	3	NR	950	0	NR
435	81	NR	565	725	NR	695	136	NR	825	2	NR	955	0	NR
440	139	NR	570	782	NR	700	116	NR	830	2	NR	960	0	NR
445	246	NR	575	840	NR	705	99	NR	835	2	NR	965	0	NR
450	446	NR	580	896	NR	710	84	NR	840	1	NR	970	0	NR
455	601	NR	585	944	NR	715	71	NR	845	1	NR	975	0	NR
460	511	NR	590	975	NR	720	61	NR	850	1	NR	980	0	NR
465	402	NR	595	994	NR	725	51	NR	855	1	NR	985	0	NR
470	359	NR	600	1000	NR	730	44	NR	860	1	NR	990	0	NR
475	297	NR	605	985	NR	735	37	NR	865	1	NR	995	0	NR
480	252	NR	610	962	NR	740	32	NR	870	1	NR	1000	0	NR
485	252	NR	615	923	NR	745	27	NR	875	1	NR			

Summary

$R_f = 81.8$
 $R_g = 91.9$
 $CIE R_a = 79.3$
 $R_9 = -8.3$

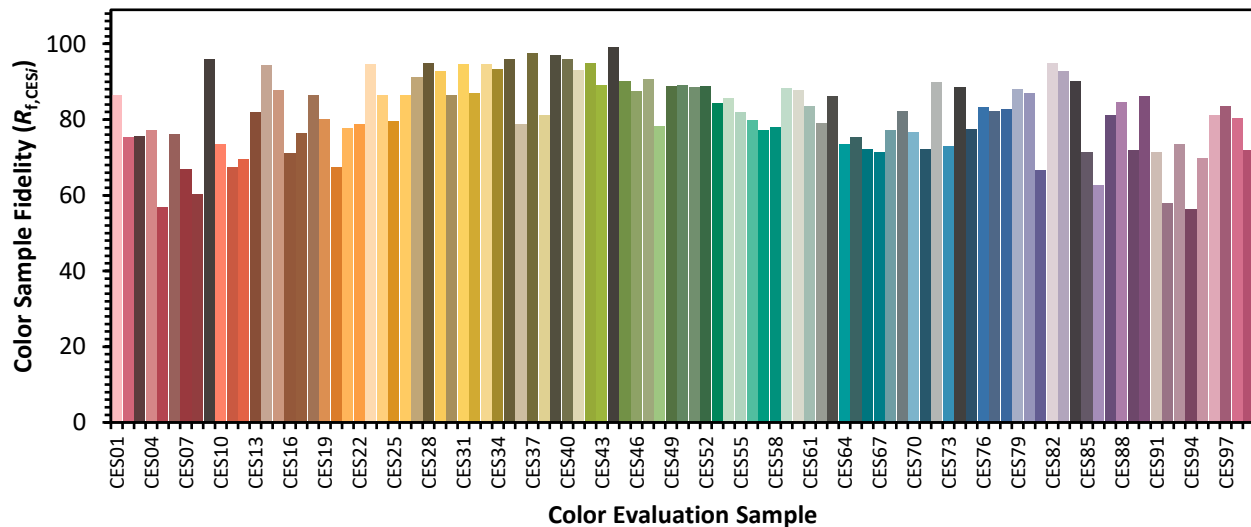


Color Vector Graphics

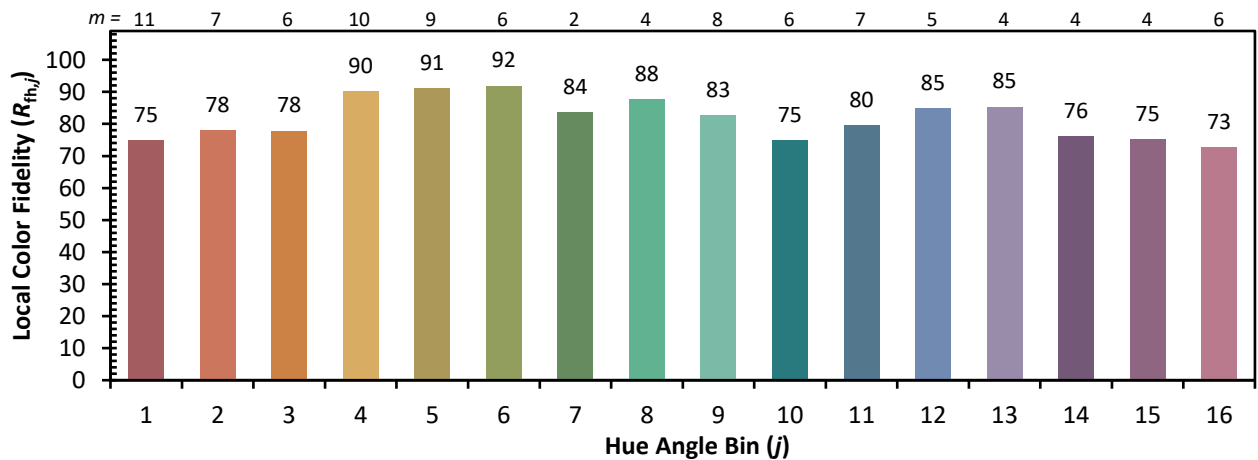
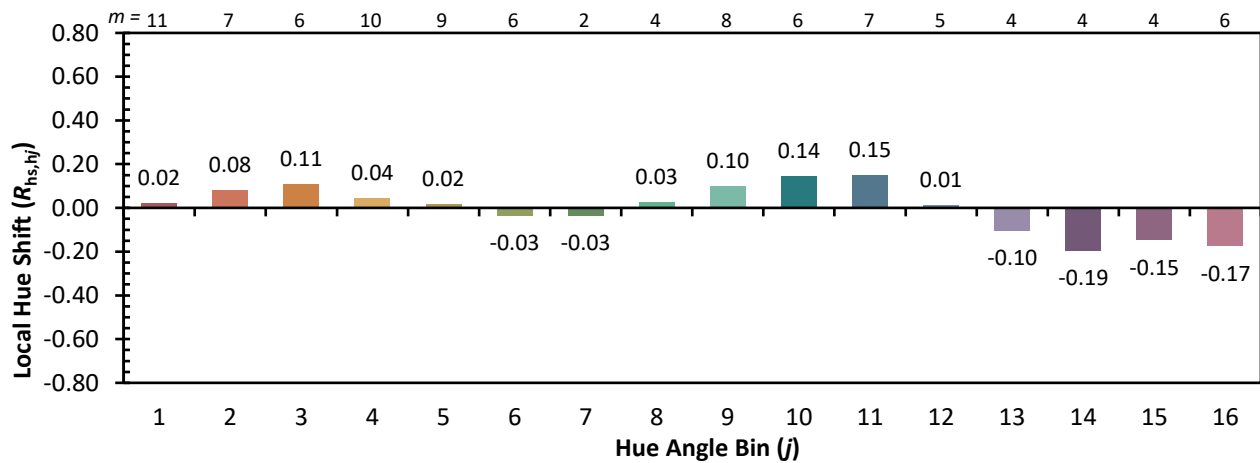
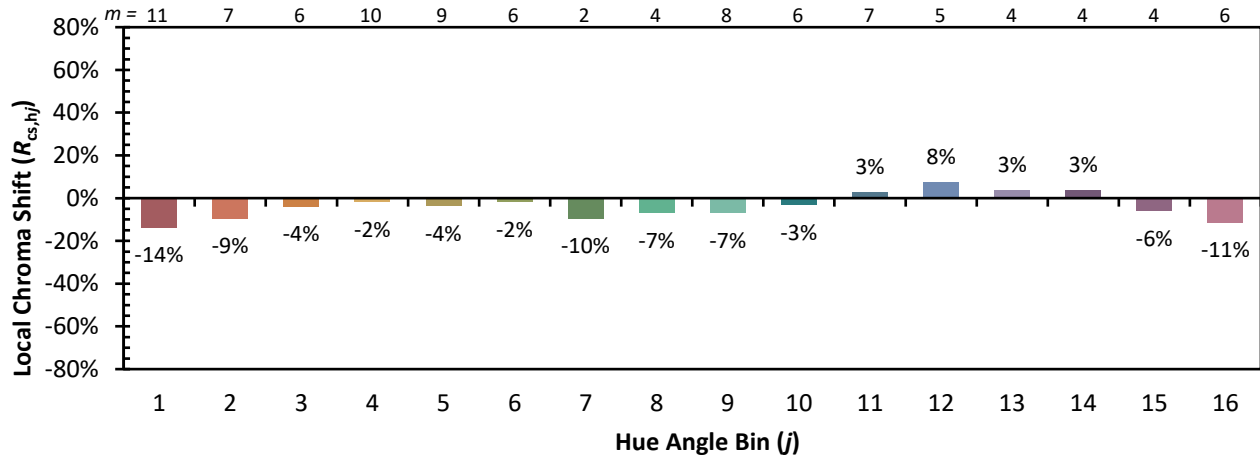


Individual Sample Fidelity Index ($R_{f,i}$)

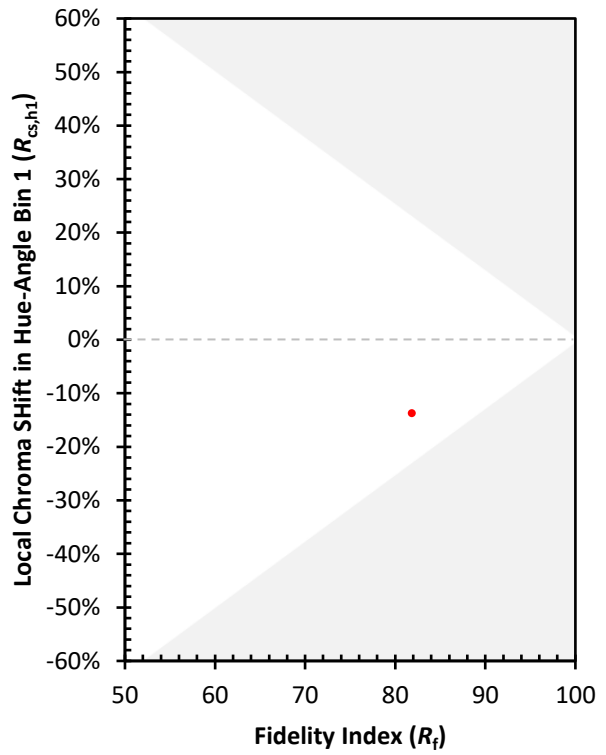
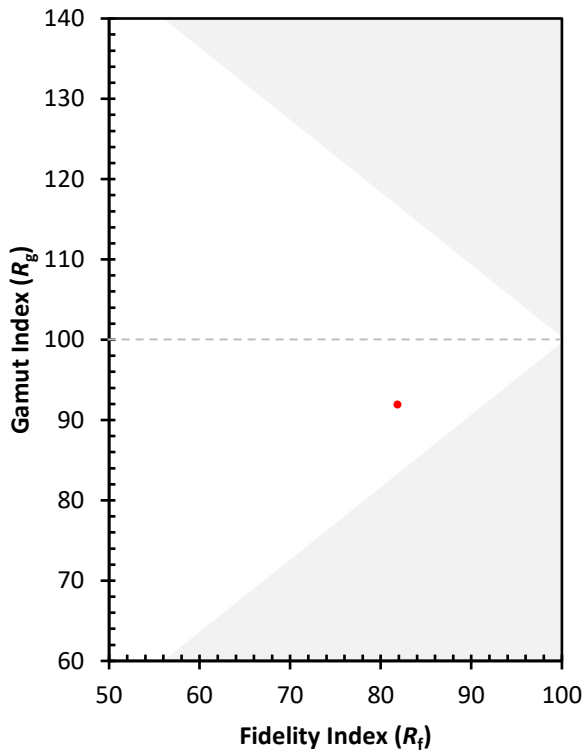
CES01 = 86	CES26 = 86	CES51 = 88	CES76 = 83
CES02 = 63	CES27 = 91	CES52 = 89	CES77 = 82
CES03 = 31	CES28 = 95	CES53 = 84	CES78 = 83
CES04 = 71	CES29 = 93	CES54 = 86	CES79 = 88
CES05 = 49	CES30 = 86	CES55 = 82	CES80 = 87
CES06 = 51	CES31 = 95	CES56 = 80	CES81 = 67
CES07 = 42	CES32 = 87	CES57 = 77	CES82 = 95
CES08 = 40	CES33 = 95	CES58 = 78	CES83 = 93
CES09 = 29	CES34 = 93	CES59 = 88	CES84 = 90
CES10 = 76	CES35 = 96	CES60 = 88	CES85 = 71
CES11 = 59	CES36 = 79	CES61 = 84	CES86 = 63
CES12 = 65	CES37 = 98	CES62 = 79	CES87 = 81
CES13 = 43	CES38 = 81	CES63 = 86	CES88 = 85
CES14 = 74	CES39 = 97	CES64 = 73	CES89 = 72
CES15 = 71	CES40 = 96	CES65 = 75	CES90 = 86
CES16 = 47	CES41 = 93	CES66 = 72	CES91 = 71
CES17 = 50	CES42 = 95	CES67 = 71	CES92 = 58
CES18 = 56	CES43 = 89	CES68 = 77	CES93 = 74
CES19 = 72	CES44 = 99	CES69 = 82	CES94 = 56
CES20 = 66	CES45 = 90	CES70 = 77	CES95 = 70
CES21 = 87	CES46 = 88	CES71 = 72	CES96 = 81
CES22 = 79	CES47 = 91	CES72 = 90	CES97 = 84
CES23 = 92	CES48 = 78	CES73 = 73	CES98 = 80
CES24 = 91	CES49 = 89	CES74 = 89	CES99 = 72
CES25 = 72	CES50 = 89	CES75 = 78	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)