

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: P979177

Luminaire Tested: **WPLLED38S-120W-6500K**

Issue Date: 03/31/2025



Test Information

Test Method: LM-79-08
Report Number: P979177
Test Lab: Cooper Lighting Solutions
Issue Date: 03/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: WPLED38S-120W-6500K
Description: LUMARK WALL PACK LED LARGE 80CRI CCT AND LUMEN SELECTIVE FIXTURE
OPERATING @120W-6500K
Light Source: 6500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

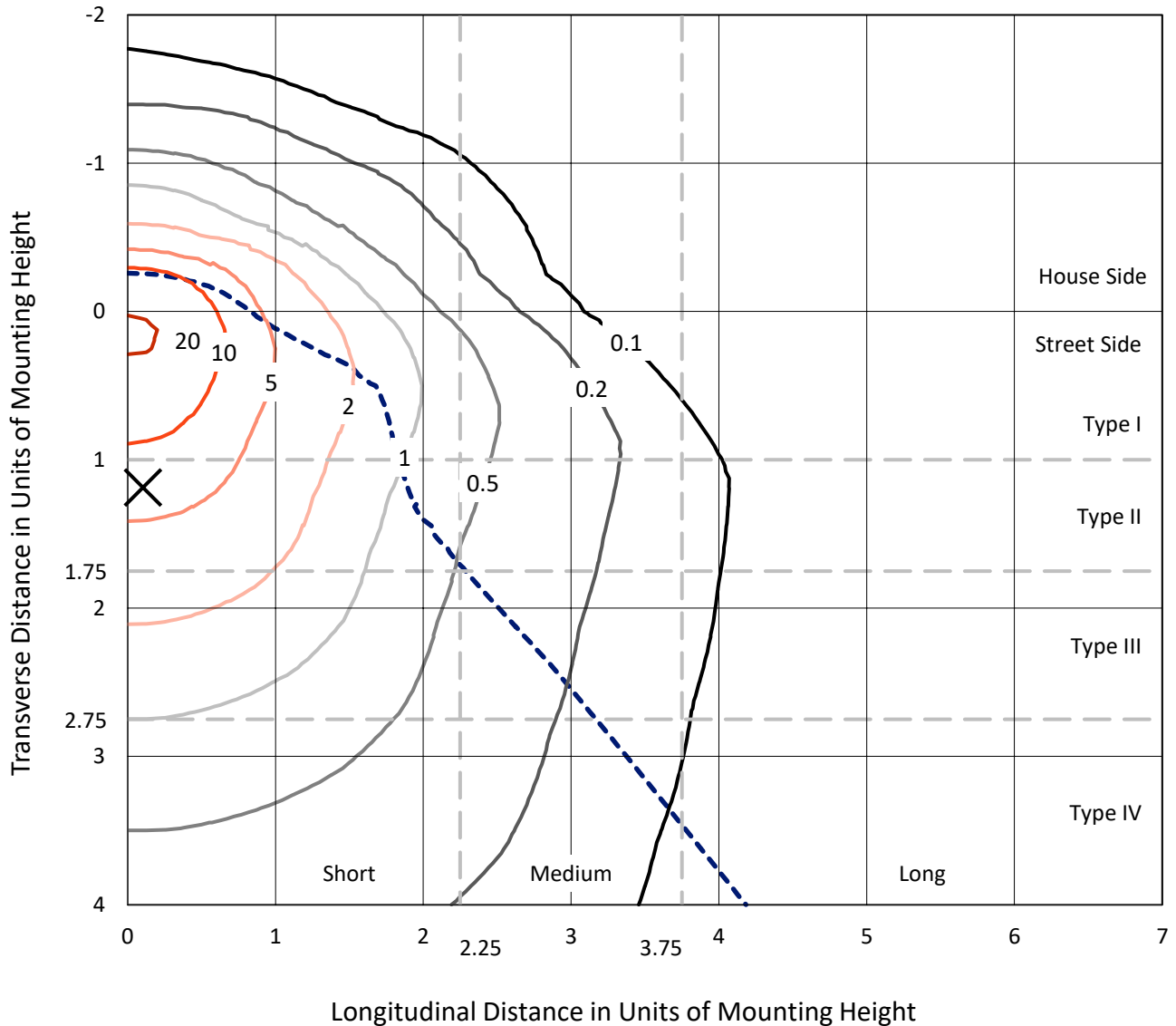
Lumens per Lamp: N/A
Luminaire Lumens: 17359.3 lumens
Efficiency: N/A
Efficacy: 144.8 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.25' x L: 0.33' x H: 0.58')
IES Classification: Type IV - Short
BUG Rating: B3 - U5 - G5

Input Watts (W): 119.9
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

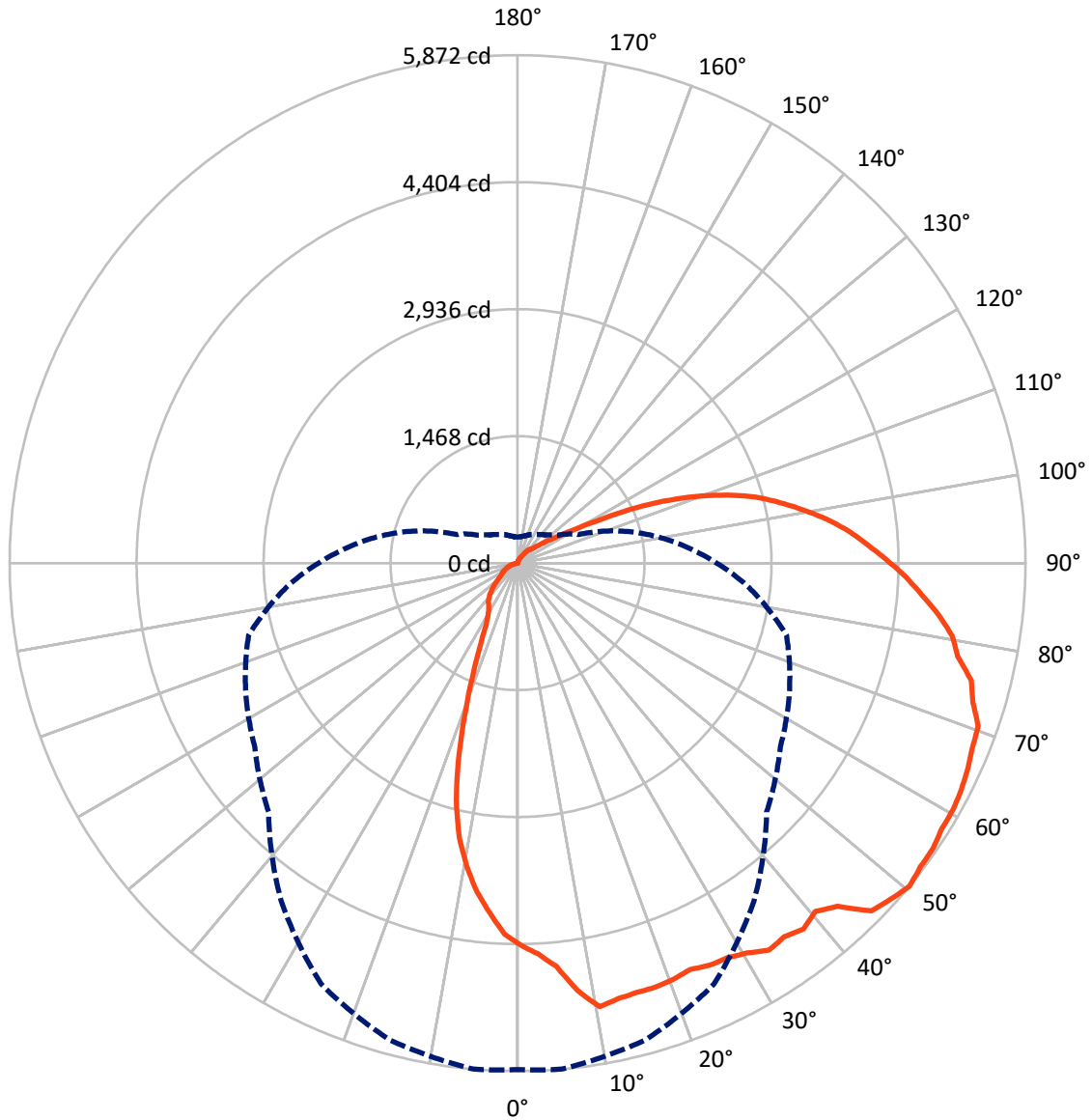
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 21.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

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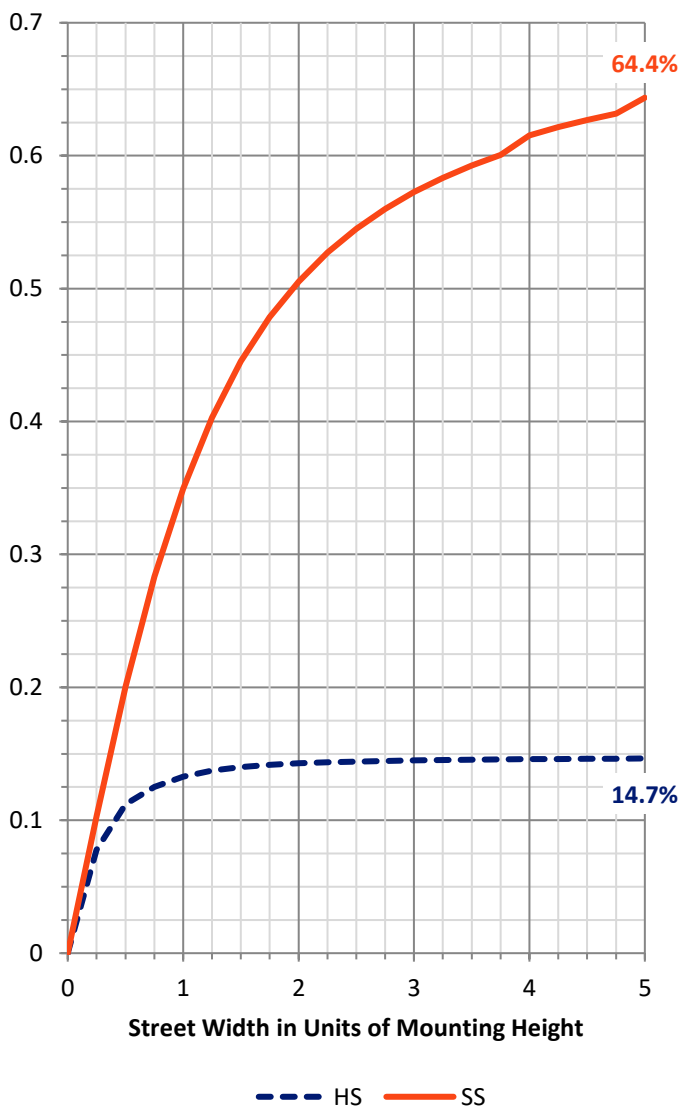
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2580.1	99.1	2679.2
	% Fixture	14.9	0.6	15.4
Street Side	Lumens	12265.0	2415.1	14680.1
	% Fixture	70.7	13.9	84.6
Total	Lumens	14845.1	2514.2	17359.3
	% Fixture	85.5	14.5	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	423.1	2.4
10°-20°	1175.2	6.8
20°-30°	1612.0	9.3
30°-40°	1863.2	10.7
40°-50°	2033.0	11.7
50°-60°	2153.4	12.4
60°-70°	2126.0	12.2
70°-80°	1912.3	11.0
80°-90°	1546.8	8.9
90°-100°	1156.4	6.7
100°-110°	746.1	4.3
110°-120°	344.3	2.0
120°-130°	138.6	0.8
130°-140°	72.0	0.4
140°-150°	36.3	0.2
150°-160°	14.1	0.1
160°-170°	5.0	0.0
170°-180°	1.4	0.0
0°-90°	14845.1	85.5
0°-180°	17359.3	100.0

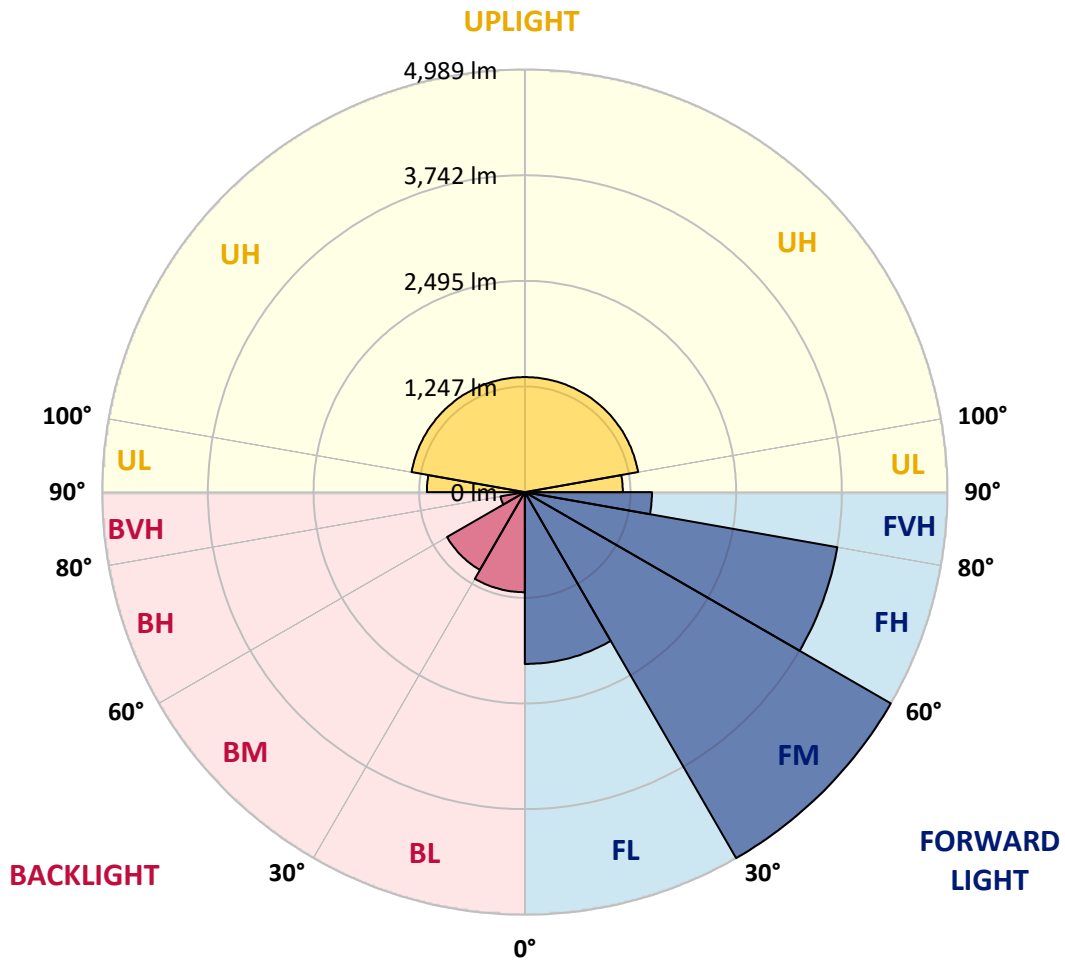


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2028.7	11.7			
FM (30°-60°)	4989.2	28.7			
FH (60°-80°)	3746.8	21.6			G2/5000
FVH (80°-90°)	1500.4	8.6			G5
BL (0°-30°)	1181.6	6.8	B3/2500		
BM (30°-60°)	1060.5	6.1	B2/2500		
BH (60°-80°)	291.6	1.7	B1/500		G1/500
BVH (80°-90°)	46.4	0.3			G1/100
UL (90°-100°)	1156.4	6.7		U5	
UH (100°-180°)	1357.8	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°	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9
2.5°	4523.0	4522.3	4506.3	4546.7	4562.7	4578.7	4574.9	4531.4	4541.3	4526.1	4507.0
5°	4673.9	4682.3	4683.1	4744.0	4725.0	4699.1	4676.2	4616.8	4577.9	4547.4	4515.4
7.5°	4977.2	4991.0	5051.9	4994.0	4912.5	4804.2	4718.9	4637.3	4534.5	4451.4	4407.2
10°	5189.1	5215.0	5288.9	5268.4	5122.8	4935.3	4770.0	4650.3	4558.9	4448.3	4405.7
12.5°	5113.7	5167.0	5216.5	5234.1	5155.6	5143.4	4950.6	4744.0	4609.2	4427.0	4367.6
15°	5114.4	5151.0	5161.7	5187.6	5124.3	5164.7	5069.5	4843.1	4529.9	4372.1	4291.4
17.5°	5103.0	5154.8	5090.8	5100.7	5103.8	5087.0	5083.9	4866.7	4563.4	4325.7	4217.4
20°	5032.9	5137.3	5103.0	5035.9	5039.0	5035.2	4973.4	4907.9	4520.0	4265.4	4143.5
22.5°	5029.1	5103.8	5083.9	4990.2	4943.7	4914.0	4894.2	4898.7	4488.0	4183.1	4042.2
25°	5092.3	5151.8	5093.8	5010.0	4905.6	4805.8	4805.0	4763.9	4468.2	4068.1	3917.9
27.5°	5135.0	5165.5	5090.0	5029.1	4877.4	4710.5	4654.9	4600.8	4363.8	3952.2	3787.6
30°	5221.9	5229.5	5166.2	5019.9	4867.5	4677.7	4495.6	4483.4	4326.4	3825.7	3639.0
32.5°	5333.1	5335.4	5254.6	5078.6	4849.2	4619.8	4379.0	4296.7	4196.9	3672.5	3480.5
35°	5312.6	5305.7	5281.3	5102.2	4854.5	4532.9	4270.0	4127.5	4065.0	3504.9	3299.9
37.5°	5371.2	5367.4	5292.7	5096.9	4833.2	4472.0	4167.9	3994.9	3897.4	3327.3	3085.7
40°	5302.7	5297.3	5242.5	5058.0	4811.1	4403.4	4042.9	3840.2	3724.4	3137.5	2886.1
42.5°	5428.4	5422.3	5301.1	5054.2	4733.4	4311.2	3958.3	3715.2	3539.9	2971.4	2719.2
45°	5724.9	5736.3	5520.6	5158.6	4692.2	4226.6	3890.5	3628.3	3416.5	2841.9	2562.2
47.5°	5781.3	5805.6	5679.9	5285.9	4737.2	4136.7	3774.7	3536.9	3309.0	2723.7	2421.2
50°	5855.9	5871.9	5708.1	5371.2	4764.6	4070.3	3707.6	3469.1	3218.3	2628.5	2300.8
52.5°	5832.3	5831.6	5725.6	5403.3	4775.3	4017.0	3591.8	3390.6	3142.1	2532.4	2188.0
55°	5821.6	5825.5	5733.2	5410.1	4793.6	3942.3	3498.0	3313.6	3075.8	2441.0	2062.2
57.5°	5785.1	5785.8	5673.0	5393.3	4778.3	3879.1	3384.5	3195.5	2990.5	2358.7	1939.5
60°	5774.4	5785.1	5623.5	5329.3	4731.1	3804.4	3268.6	3071.2	2902.1	2259.6	1788.6
62.5°	5757.6	5759.2	5594.5	5298.1	4693.0	3723.6	3137.5	2950.8	2817.5	2143.8	1617.2
65°	5703.5	5719.5	5558.7	5298.1	4641.9	3637.5	3027.8	2813.7	2696.3	1986.8	1412.2
67.5°	5643.3	5672.3	5522.9	5258.5	4610.7	3570.4	2913.5	2678.0	2574.4	1771.1	1201.1
70°	5628.1	5648.6	5469.6	5189.9	4545.9	3472.9	2793.8	2540.8	2419.7	1532.6	956.4
72.5°	5477.9	5504.6	5346.1	5083.2	4456.7	3389.0	2678.0	2378.5	2231.4	1253.6	724.8
75°	5381.2	5416.2	5253.9	4989.4	4365.3	3296.1	2577.4	2219.2	1994.4	977.8	535.0
77.5°	5166.2	5203.6	5036.7	4805.0	4214.4	3161.9	2452.4	2057.7	1739.1	716.4	405.4
80°	5046.6	5092.3	4920.1	4661.7	4090.9	3022.5	2319.8	1893.8	1464.0	505.3	331.5
82.5°	4867.5	4904.8	4739.5	4465.9	3899.6	2878.4	2188.0	1736.8	1217.1	368.1	272.8
85°	4658.7	4689.9	4510.8	4246.4	3688.5	2701.6	2048.5	1593.5	993.0	286.5	227.9
87.5°	4474.3	4485.7	4334.8	4033.0	3486.6	2520.2	1900.7	1416.7	783.4	233.2	192.0
90°	4268.5	4267.7	4109.2	3818.9	3265.6	2339.6	1749.0	1249.1	612.7	202.7	168.4
92.5°	4074.2	4049.8	3889.7	3574.2	3030.1	2164.3	1596.6	1082.2	486.2	180.6	154.7
95°	3866.1	3846.3	3674.1	3368.5	2793.8	1998.2	1443.4	920.6	395.5	166.1	146.3
97.5°	3659.6	3620.0	3442.4	3128.4	2558.4	1818.4	1279.6	772.0	333.0	155.5	141.0
100°	3381.4	3363.1	3212.2	2885.3	2297.0	1614.9	1108.1	622.6	282.0	149.4	135.7
102.5°	3124.6	3112.4	2937.1	2607.1	2037.8	1407.6	922.1	519.7	243.9	147.1	131.1
105°	2887.6	2859.4	2685.6	2324.4	1771.1	1204.9	752.2	415.3	216.4	145.6	128.0
107.5°	2563.7	2546.2	2345.7	1995.9	1456.4	982.3	598.2	340.7	197.4	143.3	125.0
110°	2212.4	2200.9	2004.3	1630.1	1194.2	790.3	482.4	283.5	182.1	139.5	120.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	1846.6	1829.8	1623.3	1304.7	941.2	615.8	394.8	246.2	170.7	134.1	115.1
115°	1449.5	1440.4	1264.3	988.4	725.5	497.6	326.2	214.9	161.6	127.3	109.0
117.5°	1059.3	1041.0	916.0	737.7	571.6	413.8	278.2	194.3	153.9	117.4	100.6
120°	768.2	762.1	676.0	578.4	480.9	351.3	240.1	176.0	144.8	108.2	91.5
122.5°	581.5	585.3	533.5	471.7	410.0	303.3	213.4	161.6	132.6	96.8	82.3
125°	471.0	467.2	439.0	397.8	348.3	264.4	195.1	150.9	120.4	86.1	74.7
127.5°	386.4	382.6	361.2	338.4	298.7	238.5	182.1	144.0	107.5	76.2	66.3
130°	317.0	313.2	299.5	288.1	264.4	216.4	173.0	135.7	96.0	67.1	57.9
132.5°	263.7	264.4	256.1	246.9	232.4	200.4	164.6	126.5	84.6	59.4	51.8
135°	230.2	230.2	222.5	214.1	208.8	185.2	156.2	115.8	73.9	53.3	48.0
137.5°	212.6	211.1	200.4	192.0	188.2	174.5	144.0	102.9	64.8	48.8	44.2
140°	195.9	195.1	182.1	171.5	166.9	157.8	129.6	89.2	56.4	45.0	41.2
142.5°	166.1	165.4	158.5	153.2	144.8	139.5	111.3	75.4	48.8	41.2	38.1
145°	128.0	128.8	128.0	125.7	120.4	116.6	93.0	63.3	41.9	38.1	35.8
147.5°	102.9	102.1	102.9	100.6	97.5	93.7	77.0	52.6	38.1	35.1	33.5
150°	84.6	83.8	83.8	82.3	79.3	73.2	63.3	43.4	34.3	32.8	31.2
152.5°	68.6	69.4	68.6	66.3	64.0	57.9	49.5	35.8	31.2	30.5	29.7
155°	54.9	55.6	56.4	54.1	51.8	46.5	38.9	30.5	29.0	29.0	28.2
157.5°	45.0	44.2	44.2	43.4	39.6	35.8	30.5	26.7	26.7	27.4	27.4
160°	33.5	33.5	34.3	32.8	29.7	26.7	24.4	23.6	25.1	26.7	25.9
162.5°	22.9	23.6	23.6	23.6	22.1	19.8	20.6	22.9	24.4	25.1	25.1
165°	14.5	14.5	16.0	16.8	15.2	16.0	19.1	22.1	23.6	25.1	25.1
167.5°	7.6	7.6	9.1	10.7	12.2	13.7	19.1	22.1	23.6	25.1	25.1
170°	3.8	3.8	5.3	8.4	10.7	13.7	19.1	22.1	24.4	25.1	25.1
172.5°	3.0	3.0	5.3	8.4	10.7	14.5	19.1	22.1	24.4	25.1	25.1
175°	3.0	3.0	5.3	8.4	11.4	14.5	19.8	22.9	24.4	25.1	25.1
177.5°	3.0	3.8	6.1	9.1	11.4	15.2	19.8	22.9	24.4	25.9	25.1
180°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9	4417.9
2.5°	4478.8	4452.2	4440.0	4395.8	4338.6	4317.3	4299.7	4305.8	4290.6	4297.5
5°	4467.4	4434.6	4368.3	4288.3	4225.8	4160.3	4117.6	4074.2	4058.2	4050.5
7.5°	4365.3	4295.2	4209.8	4130.6	4067.3	3962.9	3892.0	3868.4	3832.6	3803.6
10°	4364.5	4235.0	4094.7	3969.8	3831.8	3748.7	3643.6	3580.3	3550.6	3560.5
12.5°	4304.3	4152.7	3970.5	3796.0	3629.1	3490.4	3370.7	3222.1	3243.5	3235.1
15°	4218.2	4016.2	3816.6	3603.9	3379.9	3191.7	3037.7	2886.1	2824.3	2848.7
17.5°	4117.6	3888.2	3653.5	3379.9	3123.8	2839.6	2641.4	2431.8	2313.7	2325.2
20°	4046.0	3738.8	3459.9	3142.9	2808.3	2462.3	2130.8	1903.0	1783.3	1826.7
22.5°	3924.8	3602.4	3262.5	2860.1	2425.7	2000.5	1659.1	1469.3	1355.8	1350.4
25°	3783.0	3420.3	3045.3	2586.6	2024.9	1581.3	1260.5	1080.7	1015.9	992.2
27.5°	3617.7	3229.0	2796.1	2243.6	1637.0	1236.9	971.7	849.0	798.7	786.5
30°	3450.8	3046.1	2535.5	1901.4	1319.9	944.2	788.0	718.7	692.7	685.9
32.5°	3257.2	2822.0	2298.5	1596.6	1066.2	785.0	695.0	647.8	628.7	626.4
35°	3054.5	2617.8	2005.8	1320.7	868.0	701.9	637.9	600.5	589.1	586.8
37.5°	2839.6	2377.7	1753.6	1111.9	753.7	642.4	596.0	570.8	560.1	557.9
40°	2635.3	2159.0	1518.1	914.5	665.3	591.4	557.9	523.6	515.2	515.9
42.5°	2448.6	1963.2	1289.5	766.7	602.1	544.1	509.1	485.5	472.5	473.3
45°	2291.6	1781.0	1083.7	669.9	551.0	493.1	463.4	428.3	415.3	413.1
47.5°	2149.9	1595.8	903.1	608.9	502.2	454.2	410.0	375.0	362.0	364.3
50°	1988.3	1384.7	781.9	561.7	458.8	403.9	363.5	325.4	303.3	302.6
52.5°	1845.0	1201.8	696.6	522.8	423.0	365.0	316.3	277.4	249.2	244.6
55°	1697.2	1029.6	639.4	479.4	377.2	325.4	275.9	236.2	220.2	219.5
57.5°	1529.5	903.1	601.3	445.1	336.1	279.7	234.7	208.8	208.8	211.9
60°	1369.5	785.7	568.5	398.6	296.5	241.6	206.5	185.2	189.0	194.3
62.5°	1196.5	702.7	535.0	359.7	259.1	208.8	179.1	163.1	167.7	168.4
65°	993.8	641.7	496.1	318.6	224.8	180.6	150.9	144.0	144.0	146.3
67.5°	796.4	587.6	446.6	279.7	191.3	147.8	130.3	125.0	130.3	131.1
70°	639.4	531.9	394.8	241.6	162.3	122.7	115.1	111.3	111.3	110.5
72.5°	531.9	480.1	341.4	205.8	133.4	103.6	96.8	92.2	86.9	88.4
75°	455.0	423.7	294.2	172.2	108.2	83.8	71.6	67.1	63.3	61.0
77.5°	394.8	362.0	244.6	140.2	86.1	64.0	48.8	39.6	37.3	35.8
80°	336.1	305.6	205.8	114.3	66.3	42.7	23.6	13.0	9.1	9.1
82.5°	285.0	251.5	169.9	92.2	48.8	22.1	5.3	0.8	0.0	0.0
85°	238.5	209.6	142.5	75.4	39.6	19.1	5.3	1.5	0.0	0.0
87.5°	200.4	174.5	124.2	65.5	35.8	18.3	6.1	1.5	0.8	0.0
90°	176.8	153.9	112.0	59.4	32.8	17.5	6.9	3.0	1.5	1.5
92.5°	157.8	138.7	102.1	54.9	31.2	17.5	7.6	3.8	3.0	2.3
95°	144.0	126.5	93.0	51.8	29.7	17.5	8.4	5.3	3.8	3.8
97.5°	132.6	117.4	86.1	48.0	28.2	17.5	8.4	6.1	4.6	4.6
100°	124.2	109.0	79.3	45.0	27.4	16.8	8.4	6.1	4.6	4.6
102.5°	118.1	103.6	72.4	41.9	26.7	16.8	9.1	6.1	5.3	4.6
105°	112.8	99.1	66.3	40.4	25.1	16.0	9.1	6.9	5.3	4.6
107.5°	109.7	95.3	61.7	38.1	24.4	15.2	9.1	6.1	4.6	4.6
110°	105.2	88.4	57.2	35.8	22.9	14.5	8.4	6.1	4.6	4.6



REPORT NUMBER: P979177
 CATALOG NUMBER: WPLLED38S-120W-6500K

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	99.8	80.0	52.6	33.5	21.3	13.7	8.4	5.3	3.8	3.8
115°	94.5	70.1	48.0	31.2	21.3	13.0	8.4	5.3	3.8	3.8
117.5°	86.9	62.5	43.4	29.7	19.8	12.2	7.6	5.3	3.0	3.0
120°	78.5	55.6	40.4	28.2	19.1	11.4	7.6	4.6	3.0	3.0
122.5°	70.9	50.3	37.3	27.4	18.3	10.7	7.6	4.6	3.0	3.0
125°	62.5	45.7	35.1	26.7	17.5	10.7	7.6	4.6	3.0	2.3
127.5°	55.6	41.9	33.5	25.9	16.8	10.7	7.6	4.6	3.0	2.3
130°	50.3	39.6	32.8	25.1	16.8	10.7	7.6	4.6	3.0	3.0
132.5°	45.7	37.3	31.2	25.1	16.8	10.7	8.4	4.6	3.0	3.0
135°	42.7	35.1	30.5	24.4	16.0	11.4	8.4	5.3	3.0	3.0
137.5°	40.4	34.3	29.0	23.6	16.0	11.4	8.4	5.3	3.8	3.8
140°	38.1	32.8	28.2	22.9	16.0	11.4	9.1	5.3	3.8	3.8
142.5°	35.8	32.0	27.4	22.9	15.2	12.2	9.1	5.3	3.8	3.8
145°	33.5	30.5	26.7	21.3	15.2	12.2	9.1	5.3	3.8	3.8
147.5°	32.0	29.0	25.1	20.6	15.2	12.2	9.1	5.3	3.8	3.8
150°	30.5	27.4	24.4	19.8	15.2	12.2	9.1	5.3	3.8	3.0
152.5°	29.0	26.7	23.6	19.8	14.5	12.2	9.1	5.3	3.8	3.0
155°	28.2	25.9	22.9	19.8	14.5	11.4	9.1	5.3	3.8	3.0
157.5°	26.7	25.1	22.9	19.1	14.5	11.4	8.4	5.3	3.0	3.0
160°	25.9	24.4	22.9	19.8	14.5	11.4	8.4	5.3	3.0	3.0
162.5°	25.1	24.4	22.1	19.1	14.5	11.4	8.4	4.6	3.0	3.0
165°	25.1	24.4	22.1	19.1	14.5	11.4	8.4	4.6	3.0	2.3
167.5°	25.1	24.4	22.1	19.1	14.5	11.4	8.4	4.6	2.3	2.3
170°	25.1	23.6	22.1	19.1	14.5	10.7	7.6	4.6	2.3	2.3
172.5°	25.1	24.4	22.1	19.1	14.5	10.7	7.6	3.8	2.3	2.3
175°	25.1	24.4	22.1	19.1	14.5	10.7	7.6	3.8	2.3	2.3
177.5°	25.9	24.4	22.1	19.1	14.5	10.7	7.6	3.8	2.3	1.5
180°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2

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: SP1-2407-168-5

Test Date: 08/08/2024

Luminaire Tested: LSDL-92S-100W 6500k

Data in this report applies to families of products including LSDL-92S-100W 6500k.

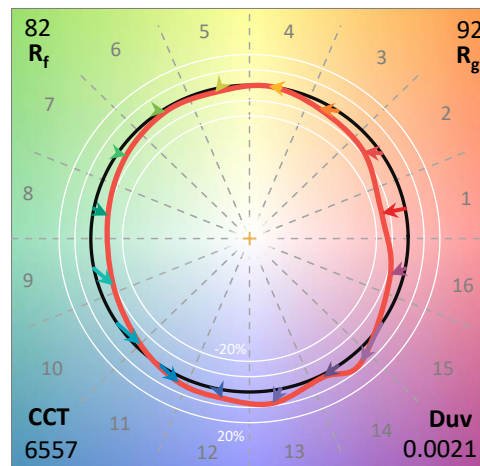
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-168-5
 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 6500k**
 Description: Lumark Wallpack 100W

Spectral Parameters

CCT (K): 6557
 CIE u': 0.1985
 CIE v': 0.4668
 Duv: 0.0021
 CIE x: 0.3121
 CIE y: 0.3263
 CIE z: 0.3616
 Peak Wavelength (nm): 453
 Dominant Wavelength (nm): 487
 Purity: 7.689333
 Rf: 81.6
 Rg: 92.3

CRI (Ra):	82.1		
R1:	80.1	R9:	-3.7
R2:	89.1	R10:	72.9
R3:	92.6	R11:	78.9
R4:	79.9	R12:	57.0
R5:	80.7	R13:	83.1
R6:	82.7	R14:	96.5
R7:	86.0	R15:	74.6
R8:	65.5		



Test Conditions

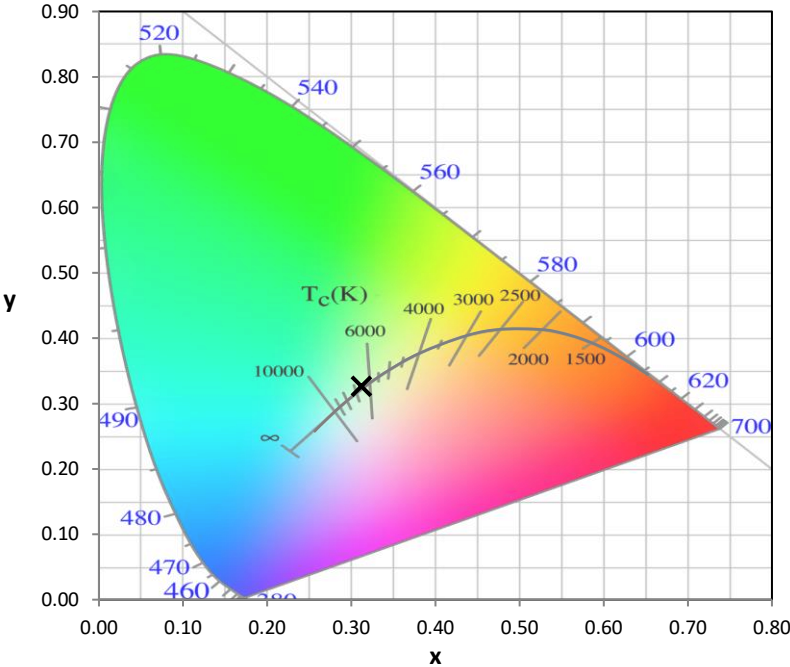
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-168-5

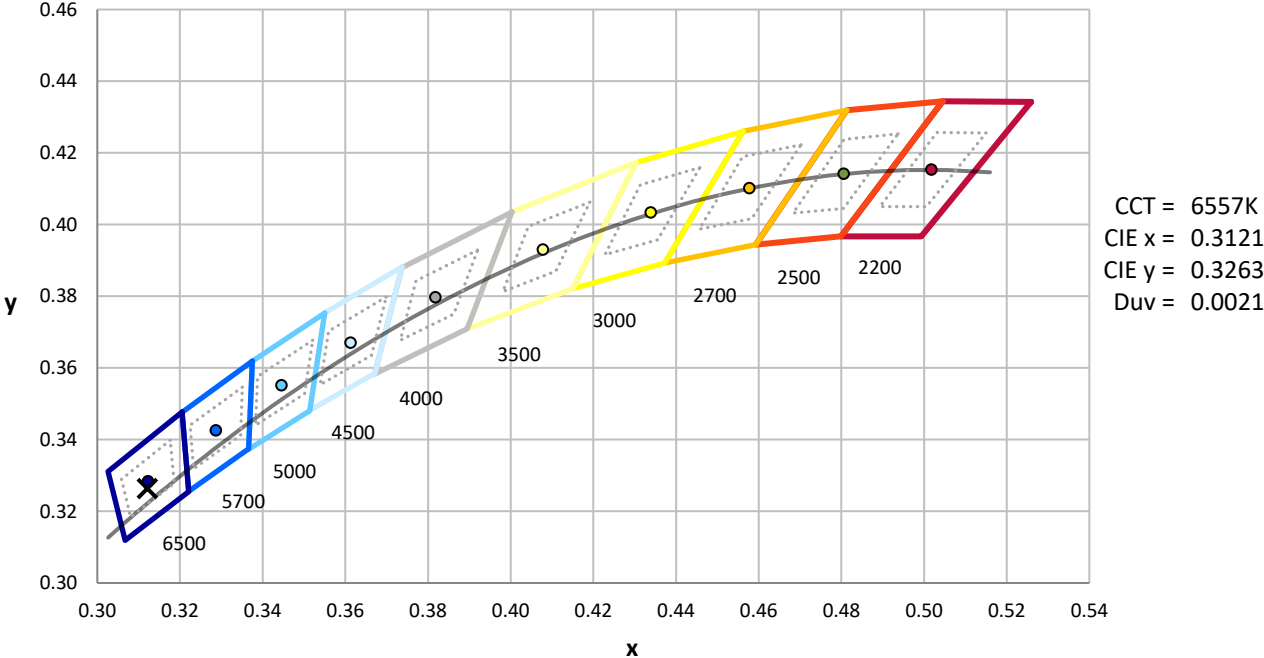
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-168-5

CIE 1931 Chromaticity Diagram



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

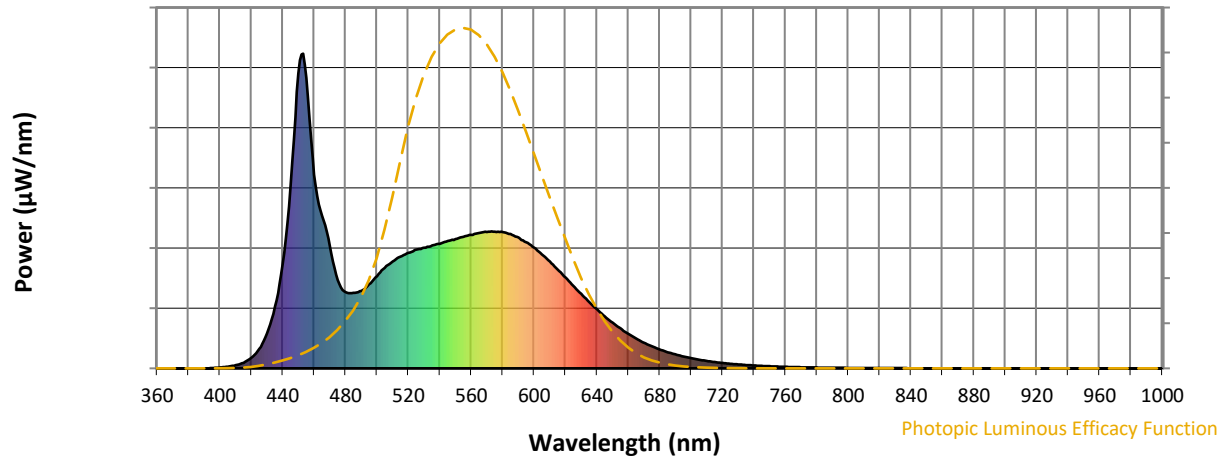


CCT = 6557K
 CIE x = 0.3121
 CIE y = 0.3263
 Duv = 0.0021

Point lies inside the ANSI 6500K 4-step quadrangle

REPORT NUMBER: SP1-2407-168-5

Photopic Flux vs. Wavelength

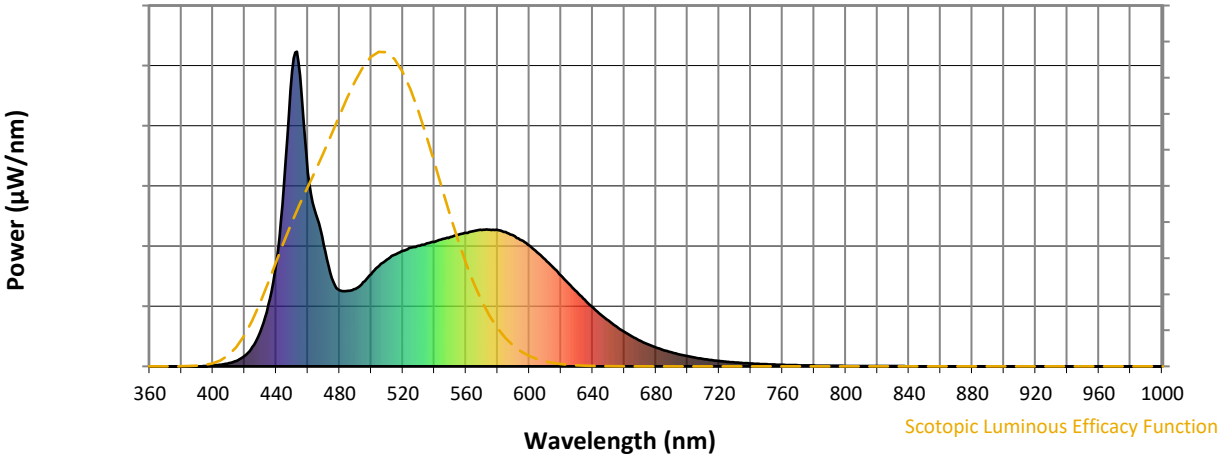


Photopic Lumens: NR

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	246	NR	620	288	NR	750	7	NR	880	0	NR
365	0	NR	495	267	NR	625	262	NR	755	6	NR	885	0	NR
370	0	NR	500	293	NR	630	237	NR	760	5	NR	890	0	NR
375	0	NR	505	319	NR	635	211	NR	765	4	NR	895	0	NR
380	0	NR	510	339	NR	640	188	NR	770	4	NR	900	0	NR
385	0	NR	515	355	NR	645	165	NR	775	3	NR	905	0	NR
390	0	NR	520	367	NR	650	145	NR	780	3	NR	910	0	NR
395	1	NR	525	377	NR	655	127	NR	785	2	NR	915	0	NR
400	3	NR	530	384	NR	660	110	NR	790	2	NR	920	0	NR
405	5	NR	535	391	NR	665	95	NR	795	2	NR	925	0	NR
410	10	NR	540	396	NR	670	81	NR	800	1	NR	930	0	NR
415	18	NR	545	405	NR	675	70	NR	805	1	NR	935	0	NR
420	33	NR	550	411	NR	680	60	NR	810	1	NR	940	0	NR
425	62	NR	555	418	NR	685	51	NR	815	1	NR	945	0	NR
430	111	NR	560	425	NR	690	44	NR	820	1	NR	950	0	NR
435	196	NR	565	430	NR	695	38	NR	825	1	NR	955	0	NR
440	331	NR	570	434	NR	700	32	NR	830	1	NR	960	0	NR
445	583	NR	575	434	NR	705	28	NR	835	1	NR	965	0	NR
450	937	NR	580	433	NR	710	23	NR	840	1	NR	970	0	NR
455	923	NR	585	427	NR	715	20	NR	845	0	NR	975	0	NR
460	616	NR	590	416	NR	720	17	NR	850	0	NR	980	0	NR
465	485	NR	595	401	NR	725	15	NR	855	0	NR	985	0	NR
470	386	NR	600	384	NR	730	13	NR	860	0	NR	990	0	NR
475	280	NR	605	362	NR	735	11	NR	865	0	NR	995	0	NR
480	242	NR	610	339	NR	740	9	NR	870	0	NR	1000	0	NR
485	240	NR	615	314	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP1-2407-168-5

Scotopic Flux vs. Wavelength



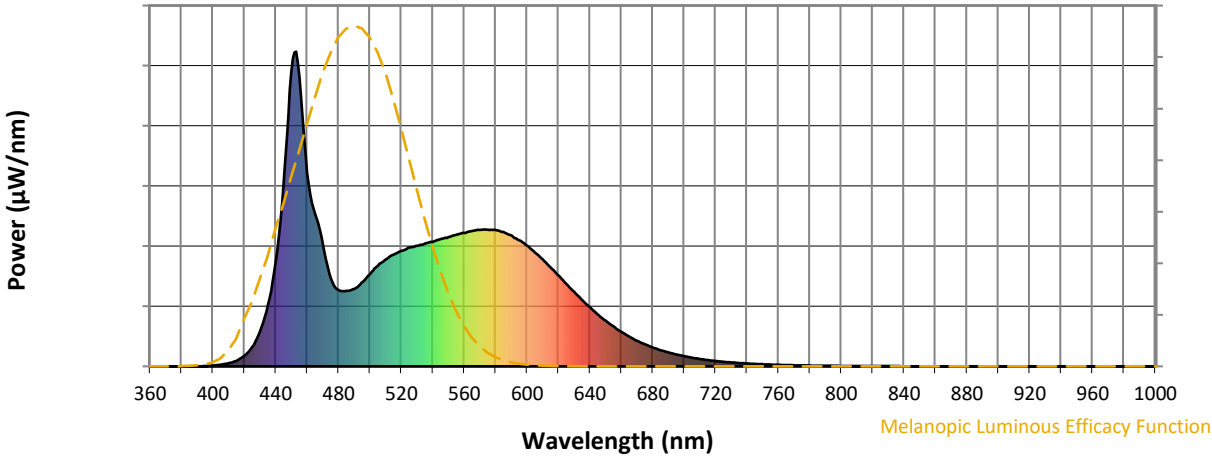
Scotopic Lumens: NR

S/P: 2.27

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	246	NR	620	288	NR	750	7	NR	880	0	NR
365	0	NR	495	267	NR	625	262	NR	755	6	NR	885	0	NR
370	0	NR	500	293	NR	630	237	NR	760	5	NR	890	0	NR
375	0	NR	505	319	NR	635	211	NR	765	4	NR	895	0	NR
380	0	NR	510	339	NR	640	188	NR	770	4	NR	900	0	NR
385	0	NR	515	355	NR	645	165	NR	775	3	NR	905	0	NR
390	0	NR	520	367	NR	650	145	NR	780	3	NR	910	0	NR
395	1	NR	525	377	NR	655	127	NR	785	2	NR	915	0	NR
400	3	NR	530	384	NR	660	110	NR	790	2	NR	920	0	NR
405	5	NR	535	391	NR	665	95	NR	795	2	NR	925	0	NR
410	10	NR	540	396	NR	670	81	NR	800	1	NR	930	0	NR
415	18	NR	545	405	NR	675	70	NR	805	1	NR	935	0	NR
420	33	NR	550	411	NR	680	60	NR	810	1	NR	940	0	NR
425	62	NR	555	418	NR	685	51	NR	815	1	NR	945	0	NR
430	111	NR	560	425	NR	690	44	NR	820	1	NR	950	0	NR
435	196	NR	565	430	NR	695	38	NR	825	1	NR	955	0	NR
440	331	NR	570	434	NR	700	32	NR	830	1	NR	960	0	NR
445	583	NR	575	434	NR	705	28	NR	835	1	NR	965	0	NR
450	937	NR	580	433	NR	710	23	NR	840	1	NR	970	0	NR
455	923	NR	585	427	NR	715	20	NR	845	0	NR	975	0	NR
460	616	NR	590	416	NR	720	17	NR	850	0	NR	980	0	NR
465	485	NR	595	401	NR	725	15	NR	855	0	NR	985	0	NR
470	386	NR	600	384	NR	730	13	NR	860	0	NR	990	0	NR
475	280	NR	605	362	NR	735	11	NR	865	0	NR	995	0	NR
480	242	NR	610	339	NR	740	9	NR	870	0	NR	1000	0	NR
485	240	NR	615	314	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP1-2407-168-5

Melanopic Flux vs. Wavelength



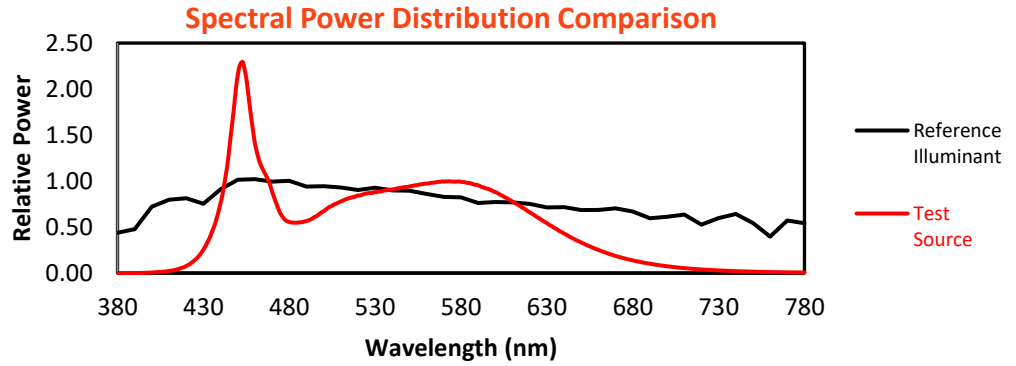
Melanopic Lumens: NR

M/P: 5.06

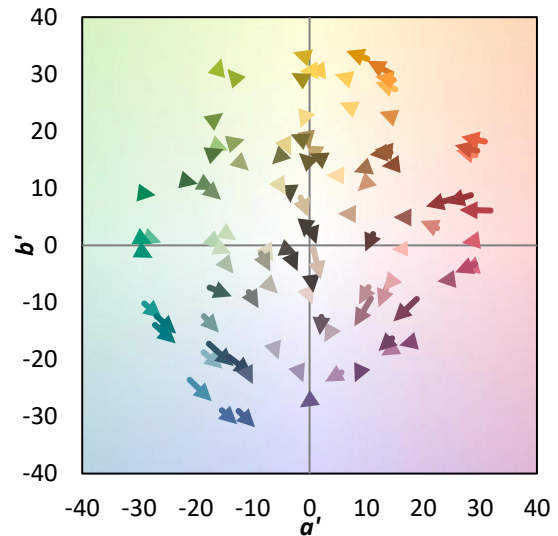
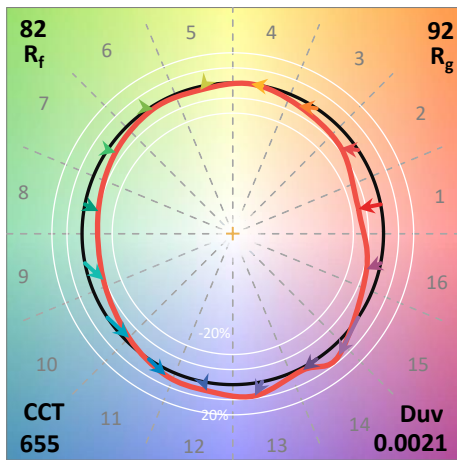
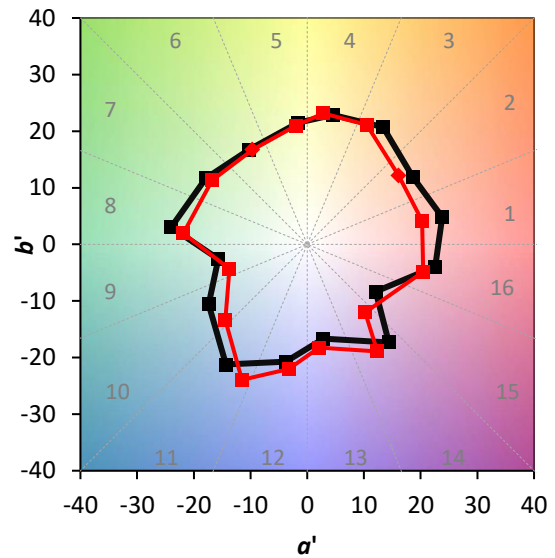
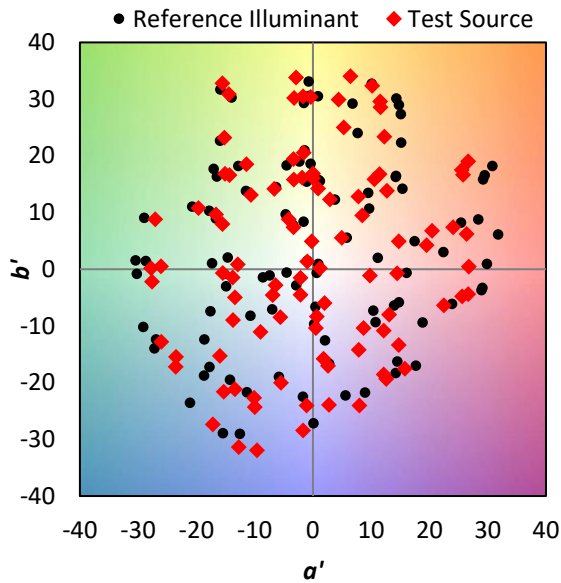
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	246	NR	620	288	NR	750	7	NR	880	0	NR
365	0	NR	495	267	NR	625	262	NR	755	6	NR	885	0	NR
370	0	NR	500	293	NR	630	237	NR	760	5	NR	890	0	NR
375	0	NR	505	319	NR	635	211	NR	765	4	NR	895	0	NR
380	0	NR	510	339	NR	640	188	NR	770	4	NR	900	0	NR
385	0	NR	515	355	NR	645	165	NR	775	3	NR	905	0	NR
390	0	NR	520	367	NR	650	145	NR	780	3	NR	910	0	NR
395	1	NR	525	377	NR	655	127	NR	785	2	NR	915	0	NR
400	3	NR	530	384	NR	660	110	NR	790	2	NR	920	0	NR
405	5	NR	535	391	NR	665	95	NR	795	2	NR	925	0	NR
410	10	NR	540	396	NR	670	81	NR	800	1	NR	930	0	NR
415	18	NR	545	405	NR	675	70	NR	805	1	NR	935	0	NR
420	33	NR	550	411	NR	680	60	NR	810	1	NR	940	0	NR
425	62	NR	555	418	NR	685	51	NR	815	1	NR	945	0	NR
430	111	NR	560	425	NR	690	44	NR	820	1	NR	950	0	NR
435	196	NR	565	430	NR	695	38	NR	825	1	NR	955	0	NR
440	331	NR	570	434	NR	700	32	NR	830	1	NR	960	0	NR
445	583	NR	575	434	NR	705	28	NR	835	1	NR	965	0	NR
450	937	NR	580	433	NR	710	23	NR	840	1	NR	970	0	NR
455	923	NR	585	427	NR	715	20	NR	845	0	NR	975	0	NR
460	616	NR	590	416	NR	720	17	NR	850	0	NR	980	0	NR
465	485	NR	595	401	NR	725	15	NR	855	0	NR	985	0	NR
470	386	NR	600	384	NR	730	13	NR	860	0	NR	990	0	NR
475	280	NR	605	362	NR	735	11	NR	865	0	NR	995	0	NR
480	242	NR	610	339	NR	740	9	NR	870	0	NR	1000	0	NR
485	240	NR	615	314	NR	745	8	NR	875	0	NR			

Summary

$R_f = 81.6$
 $R_g = 92.3$
 $CIE R_a = 82.1$
 $R_9 = -3.7$

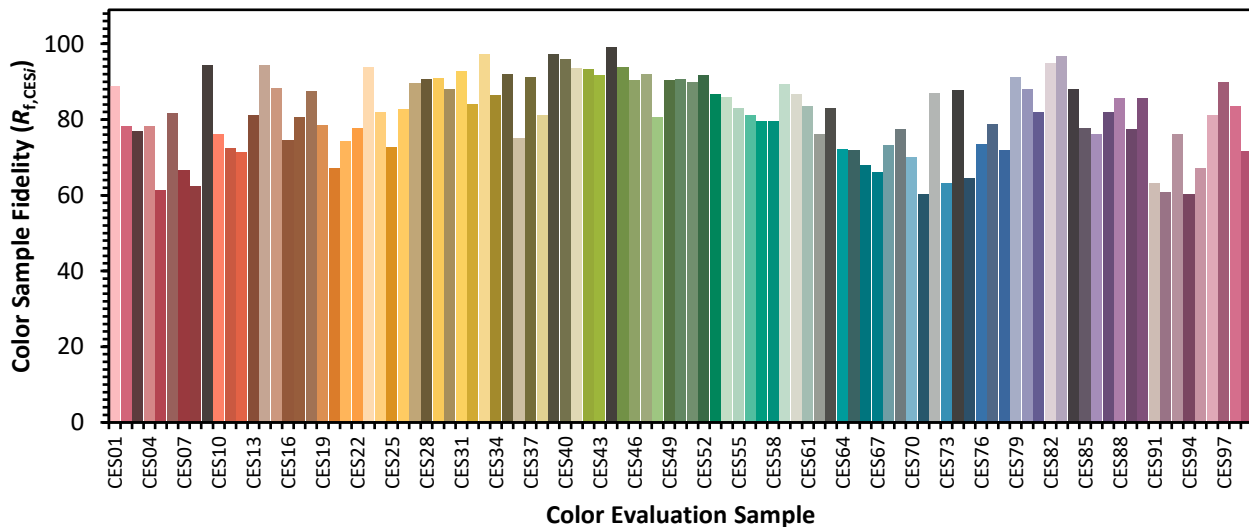


Color Vector Graphics

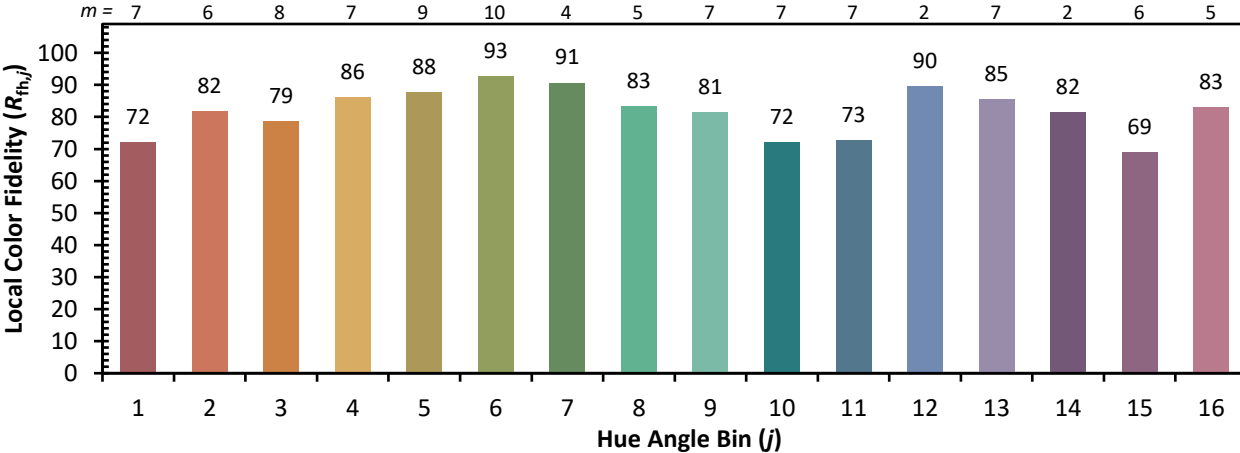
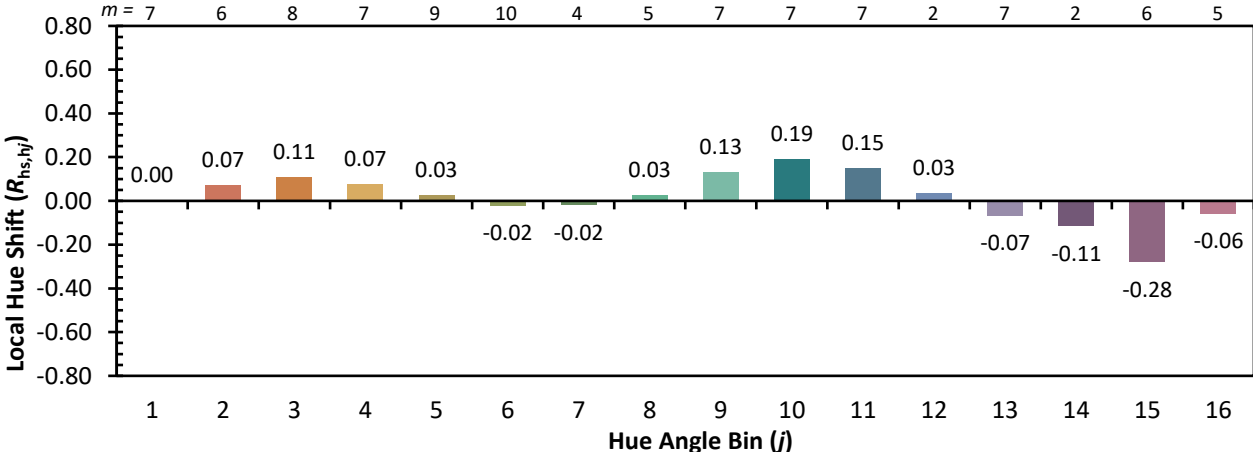
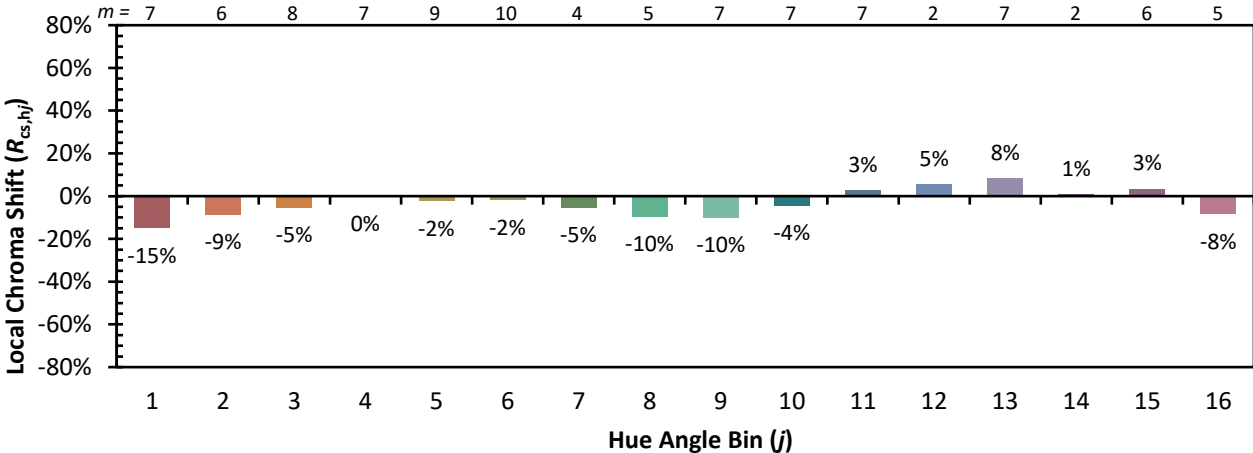


Individual Sample Fidelity Index ($R_{f,i}$)

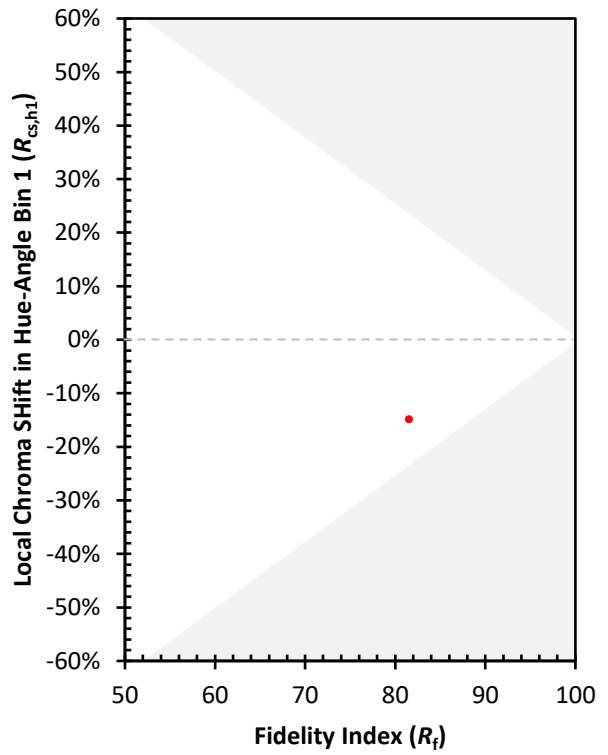
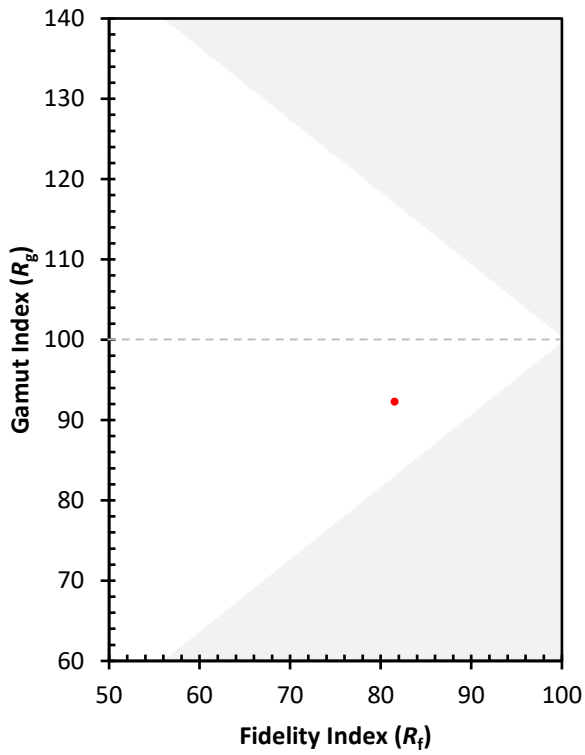
CES01 = 85	CES26 = 83	CES51 = 90	CES76 = 74
CES02 = 59	CES27 = 90	CES52 = 92	CES77 = 79
CES03 = 30	CES28 = 91	CES53 = 87	CES78 = 72
CES04 = 68	CES29 = 91	CES54 = 86	CES79 = 91
CES05 = 45	CES30 = 88	CES55 = 83	CES80 = 88
CES06 = 49	CES31 = 93	CES56 = 81	CES81 = 82
CES07 = 38	CES32 = 84	CES57 = 80	CES82 = 95
CES08 = 38	CES33 = 97	CES58 = 80	CES83 = 97
CES09 = 29	CES34 = 86	CES59 = 89	CES84 = 88
CES10 = 72	CES35 = 92	CES60 = 87	CES85 = 78
CES11 = 55	CES36 = 75	CES61 = 83	CES86 = 76
CES12 = 60	CES37 = 91	CES62 = 76	CES87 = 82
CES13 = 41	CES38 = 81	CES63 = 83	CES88 = 86
CES14 = 74	CES39 = 97	CES64 = 72	CES89 = 77
CES15 = 70	CES40 = 96	CES65 = 72	CES90 = 86
CES16 = 45	CES41 = 93	CES66 = 68	CES91 = 63
CES17 = 48	CES42 = 93	CES67 = 66	CES92 = 61
CES18 = 55	CES43 = 92	CES68 = 73	CES93 = 76
CES19 = 70	CES44 = 99	CES69 = 77	CES94 = 60
CES20 = 63	CES45 = 94	CES70 = 70	CES95 = 67
CES21 = 84	CES46 = 90	CES71 = 60	CES96 = 81
CES22 = 76	CES47 = 92	CES72 = 87	CES97 = 90
CES23 = 91	CES48 = 81	CES73 = 63	CES98 = 83
CES24 = 90	CES49 = 90	CES74 = 88	CES99 = 72
CES25 = 70	CES50 = 91	CES75 = 65	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)