

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: McGRAW-EDISON

Report Number: P324628

Luminaire Tested: **GLEON-SA4A-830-U-SLR-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P324628
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-28)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA4A-830-U-SLR-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11073 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Medium
BUG Rating: B1 - U0 - G2

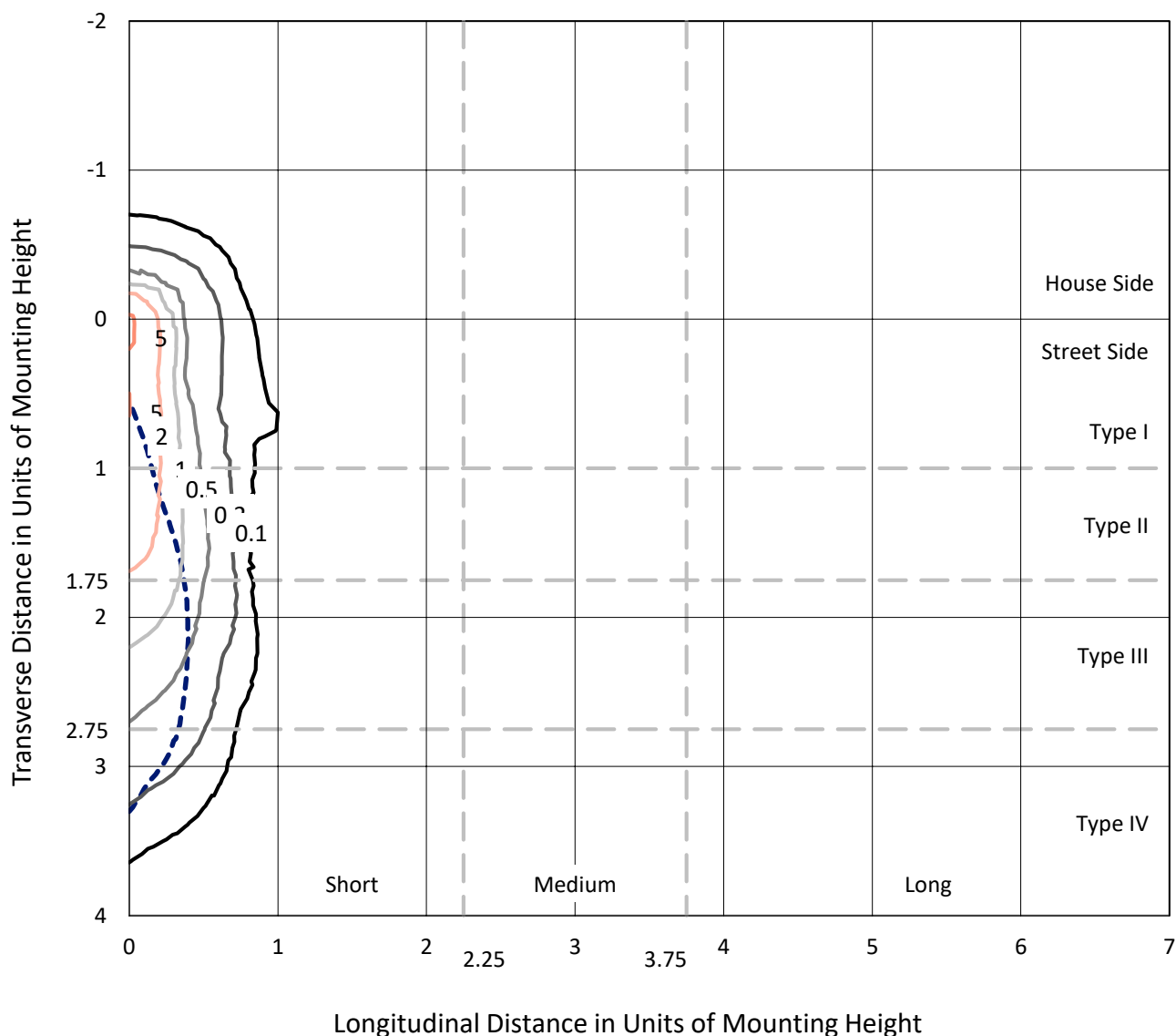
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P324628
 CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

Iso-Footcandle Lines of Horizontal Illumination

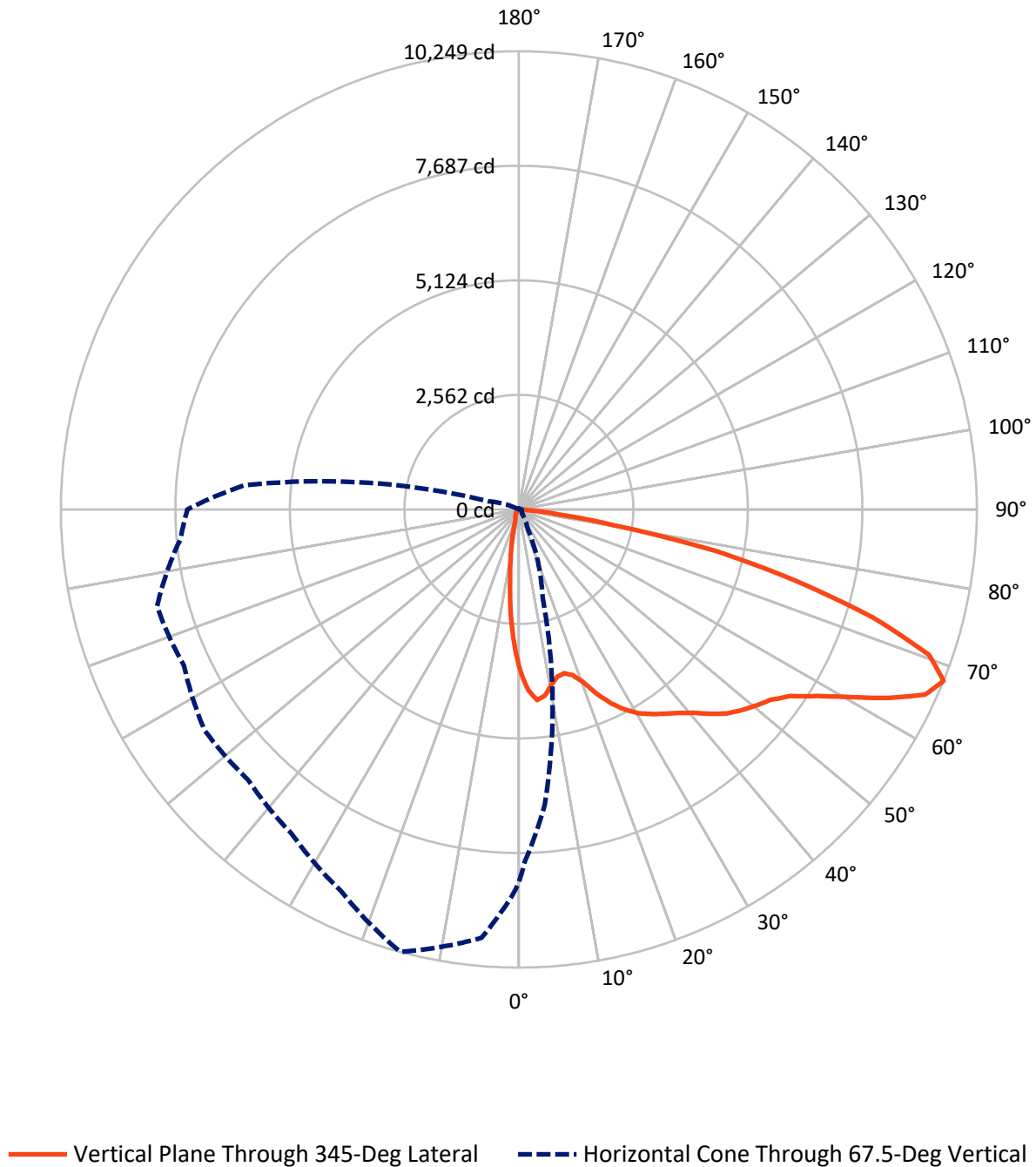
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type IV - Medium - N/A

REPORT NUMBER: P324628
CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

Luminous Intensity Polar Plot



REPORT NUMBER: P324628
 CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

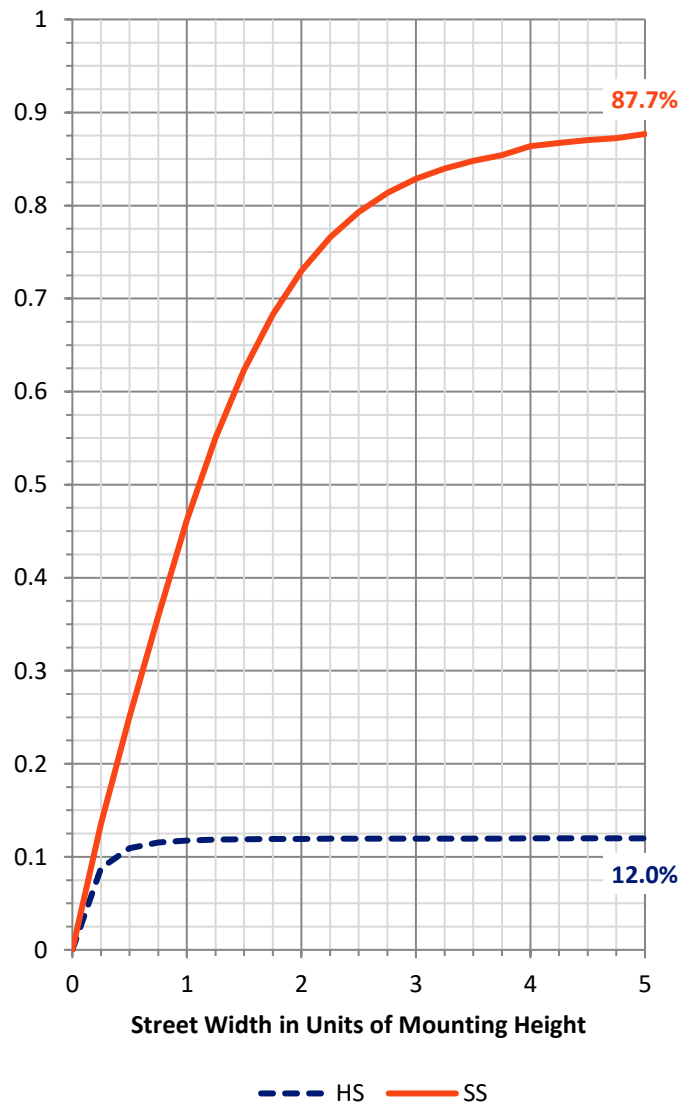
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1340.2	0.0	1340.2
	% Fixture	12.1	0.0	12.1
Street Side	Lumens	9732.8	0.0	9732.8
	% Fixture	87.9	0.0	87.9
Total	Lumens	11073.0	0.0	11073.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.8	2.5
10°-20°	551.0	5.0
20°-30°	782.5	7.1
30°-40°	1155.8	10.4
40°-50°	1666.8	15.1
50°-60°	2339.9	21.1
60°-70°	2727.7	24.6
70°-80°	1394.4	12.6
80°-90°	178.1	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	11073.0	100.0
0°-180°	11073.0	100.0

Coefficient of Utilization



REPORT NUMBER: P324628

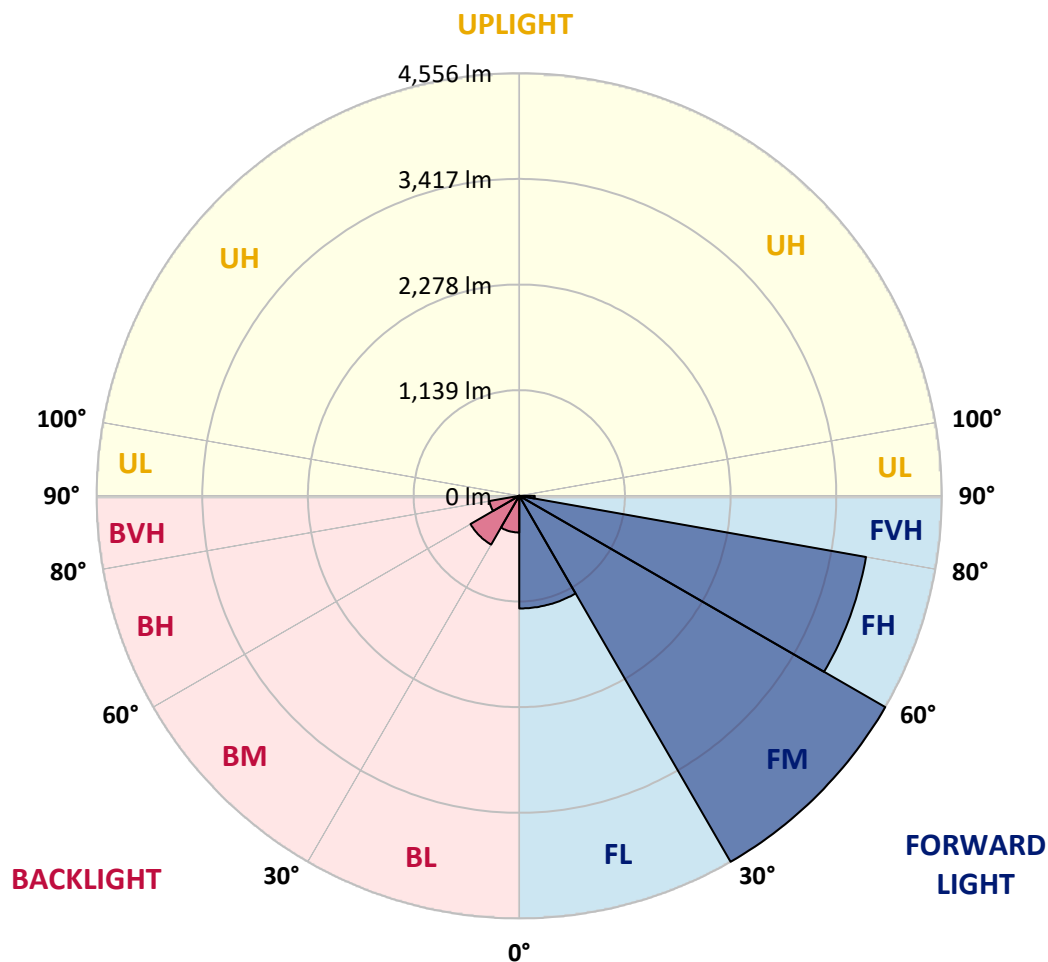
CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1214.5	11.0			
FM	(30°-60°)	4555.6	41.1			
FH	(60°-80°)	3795.4	34.3			G2/5000
FVH	(80°-90°)	167.3	1.5			G2/225
BL	(0°-30°)	395.8	3.6	B1/500		
BM	(30°-60°)	606.9	5.5	B1/1000		
BH	(60°-80°)	326.6	2.9	B1/500		G1/500
BVH	(80°-90°)	10.8	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Medium





REPORT NUMBER: P324628

CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0
2.5°	3949.6	3919.1	3885.6	3775.9	3674.2	3557.7	3462.7	3396.7	3313.8	3206.2	3179.0
5°	3921.2	3888.7	3783.3	3539.3	3325.8	3118.1	2917.7	2800.2	2654.4	2506.4	2469.7
7.5°	3636.4	3602.3	3450.2	3116.0	2828.5	2528.5	2268.3	2107.2	1942.5	1807.2	1735.3
10°	3340.0	3302.8	3131.7	2726.2	2372.1	2100.9	1910.0	1756.3	1600.5	1455.7	1340.3
12.5°	3135.9	3087.2	2901.4	2441.9	2133.5	1949.3	1771.0	1586.9	1376.0	1220.7	1093.7
15°	3050.4	2994.8	2798.6	2332.3	2049.0	1832.9	1600.5	1374.4	1127.3	949.5	833.0
17.5°	3116.5	3044.1	2833.8	2324.9	1943.0	1648.8	1355.0	1089.6	821.5	641.6	558.7
20°	3341.0	3246.1	2979.1	2322.8	1814.5	1430.0	1057.6	757.5	541.4	435.4	391.9
22.5°	3694.6	3569.2	3187.9	2339.6	1681.8	1200.2	763.8	514.6	406.5	351.5	325.8
25°	4121.6	3976.3	3488.5	2398.9	1565.3	976.8	555.0	406.5	343.1	302.7	281.2
27.5°	4527.6	4409.6	3868.2	2484.4	1475.1	796.3	450.6	344.6	293.2	266.5	249.2
30°	4933.1	4784.7	4258.0	2586.2	1366.5	674.1	396.1	314.2	262.8	234.5	223.5
32.5°	5228.0	5104.7	4563.3	2659.6	1250.6	594.3	354.1	287.5	245.5	216.7	200.4
35°	5574.7	5435.2	4825.1	2675.9	1176.1	544.0	318.4	258.6	213.0	187.3	170.0
37.5°	5949.3	5775.6	5127.2	2640.2	1117.9	519.3	291.7	245.5	198.8	172.6	154.2
40°	6363.7	6167.5	5417.3	2588.8	1060.7	510.9	271.2	235.5	187.8	161.0	142.2
42.5°	6800.1	6568.8	5668.6	2534.8	1024.5	482.1	269.1	225.6	179.4	150.6	131.7
45°	7166.8	6932.3	5926.7	2516.9	998.8	450.6	278.0	218.7	173.6	142.2	123.8
47.5°	7459.0	7237.1	6191.1	2556.8	984.1	421.8	253.4	227.7	170.5	134.8	117.0
50°	7807.8	7556.6	6563.5	2675.9	962.6	392.9	229.2	260.7	170.5	130.1	111.2
52.5°	8245.3	7996.7	6979.0	2860.5	919.6	353.0	206.2	261.2	172.1	123.8	103.9
55°	8795.6	8615.2	7572.3	3063.0	850.9	294.3	178.4	224.5	165.8	112.3	97.0
57.5°	9323.4	9175.9	8113.1	3201.5	759.1	229.8	155.3	181.0	151.6	98.6	86.6
59°	9467.6	9306.6	8311.4	3207.8	690.3	200.4	143.7	149.5	148.5	92.3	80.3
60°	9467.6	9296.6	8368.6	3174.2	640.5	184.1	136.4	133.2	154.8	88.1	76.6
62.5°	9296.1	9055.8	8182.9	2947.1	522.5	156.8	119.1	110.2	139.0	79.2	67.7
65°	8939.4	8589.5	7550.3	2536.3	465.8	143.7	102.8	90.2	96.5	69.8	59.3
67.5°	8344.5	7870.3	6638.0	2049.0	443.3	140.1	88.7	76.6	72.9	59.8	51.9
70°	7296.9	6770.7	5530.6	1611.0	423.9	138.5	74.5	64.5	58.8	50.4	44.1
72.5°	5310.8	4762.1	3926.5	1259.5	412.3	141.6	59.8	54.0	48.3	39.3	34.1
75°	3037.8	2678.5	2206.9	832.0	351.5	135.3	46.2	45.1	34.6	28.3	23.6
77.5°	1569.5	1521.8	1322.5	319.5	168.4	59.3	30.4	26.2	20.5	17.3	14.2
80°	677.2	669.9	579.7	92.3	44.6	33.0	17.3	11.0	9.4	7.3	5.8
82.5°	234.0	234.0	206.2	31.0	19.9	16.3	2.1	0.0	0.0	0.0	0.0
85°	47.2	53.0	37.2	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P324628

CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0
2.5°	3145.9	3082.4	3078.2	3038.4	2988.5	2966.0	2952.9	2975.9	3004.3	3007.4	3049.9
5°	2441.9	2375.3	2403.1	2332.3	2346.4	2332.3	2309.2	2313.4	2326.0	2286.6	2335.4
7.5°	1714.9	1664.5	1696.5	1677.6	1702.8	1712.8	1698.6	1677.6	1615.7	1608.4	1650.9
10°	1292.6	1235.4	1201.3	1165.6	1173.5	1189.7	1184.5	1169.3	1129.9	1132.0	1173.0
12.5°	1038.7	974.7	907.0	819.4	797.9	810.0	797.9	789.0	751.2	754.3	790.5
15°	787.9	735.5	664.6	594.3	556.1	559.7	526.2	502.5	478.9	450.6	472.6
17.5°	531.9	499.9	478.9	458.0	412.3	401.8	359.3	313.7	295.9	282.7	292.2
20°	376.6	359.3	350.9	349.9	323.7	310.6	269.1	240.8	231.9	229.2	235.0
22.5°	314.7	302.2	290.1	283.3	270.2	254.9	223.5	209.3	203.0	199.9	204.1
25°	273.8	264.4	251.8	240.3	235.0	218.7	196.2	185.7	181.5	178.4	180.5
27.5°	243.4	235.0	220.3	213.0	208.8	194.6	175.2	166.8	163.1	162.1	161.6
30°	219.3	211.4	197.8	189.4	182.0	169.4	157.9	149.5	145.8	144.8	143.7
32.5°	195.1	188.8	179.9	171.5	163.7	152.1	142.2	135.3	129.6	128.5	128.0
35°	164.7	158.4	153.7	153.2	145.8	134.8	127.5	118.6	113.8	112.3	112.8
37.5°	146.4	138.0	127.5	131.1	129.0	121.2	111.2	102.3	97.6	96.5	96.5
40°	134.8	125.9	113.8	107.5	113.8	112.3	96.5	87.6	82.9	82.4	81.3
42.5°	123.8	114.9	101.2	90.8	93.9	98.6	83.4	75.0	70.3	69.2	67.7
45°	115.9	106.5	91.3	79.2	72.9	82.9	71.3	60.9	58.2	56.1	55.1
47.5°	108.6	99.7	82.4	68.7	58.2	59.8	57.2	49.8	46.7	44.6	44.1
50°	102.3	92.9	74.5	58.8	48.3	44.1	46.2	39.3	36.7	34.6	33.6
52.5°	94.9	86.0	66.1	50.9	40.4	34.6	35.1	31.0	28.3	26.8	26.2
55°	89.2	80.3	59.3	44.6	35.7	28.3	25.2	24.1	22.6	21.5	21.0
57.5°	81.3	72.9	52.5	37.8	30.4	23.1	19.4	19.4	18.9	17.8	17.3
59°	76.6	69.2	48.3	34.1	27.8	19.9	17.3	17.8	17.3	16.3	15.7
60°	72.9	66.1	45.1	31.5	26.2	18.4	15.7	16.8	16.3	15.2	14.7
62.5°	64.5	59.8	38.8	26.2	23.1	14.7	13.1	14.2	14.2	13.6	13.1
65°	56.7	51.4	33.0	22.0	21.5	12.6	10.5	12.6	13.1	12.1	11.0
67.5°	49.3	44.1	28.9	17.8	19.9	10.0	7.9	10.5	14.2	11.0	10.0
70°	42.0	36.7	22.6	14.2	21.0	6.8	6.3	9.4	16.8	12.1	9.4
72.5°	32.5	28.3	15.7	10.5	22.6	4.7	4.7	7.9	18.9	13.1	8.9
75°	22.6	18.4	9.4	6.3	18.4	3.1	3.1	7.3	17.8	12.1	8.4
77.5°	13.1	10.0	3.1	0.5	9.4	0.0	0.5	5.2	12.6	7.3	3.7
80°	4.7	2.1	0.0	0.0	5.8	0.0	0.0	0.0	1.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P324628

CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0
2.5°	3060.9	3131.7	3195.2	3291.2	3405.0	3536.2	3649.0	3770.2	3884.0	3931.2	3963.7
5°	2345.4	2433.0	2535.3	2676.4	2864.2	3095.5	3312.2	3557.2	3820.5	3952.2	4076.0
7.5°	1658.2	1747.4	1874.3	2024.4	2251.5	2526.9	2810.2	3148.5	3505.2	3713.5	3918.6
10°	1192.4	1302.0	1420.6	1625.7	1856.5	2117.7	2409.4	2787.1	3184.7	3415.5	3662.6
12.5°	811.5	936.4	1115.8	1345.5	1616.8	1872.7	2126.1	2486.5	2948.1	3176.9	3441.8
15°	486.8	556.1	746.0	1011.9	1344.5	1663.4	1940.9	2302.4	2794.4	3074.6	3350.0
17.5°	300.1	332.1	435.4	653.6	1003.0	1406.4	1786.7	2240.0	2816.5	3157.4	3452.3
20°	239.2	251.8	284.8	386.1	664.6	1123.1	1613.1	2227.4	2996.4	3416.1	3732.4
22.5°	207.7	219.8	241.8	280.7	418.1	840.9	1448.4	2238.9	3254.5	3803.7	4173.0
25°	183.1	193.6	214.6	246.6	306.4	592.3	1272.1	2290.3	3590.7	4284.8	4677.2
27.5°	163.7	172.6	192.0	221.4	262.8	413.4	1072.2	2352.7	3989.4	4776.8	5164.0
30°	145.8	153.7	171.0	198.3	228.2	317.9	853.0	2395.2	4388.6	5164.0	5511.8
32.5°	130.6	136.4	152.1	175.2	198.3	253.4	648.4	2388.4	4685.0	5486.1	5762.0
35°	114.9	120.7	134.3	154.2	172.6	209.3	509.9	2260.9	4943.1	5820.2	6048.4
37.5°	97.6	104.9	118.0	135.9	148.5	184.1	412.3	2107.2	5204.9	6202.1	6367.9
40°	82.9	90.2	101.8	121.2	129.0	174.7	316.8	1920.0	5499.2	6629.1	6718.3
42.5°	68.7	75.5	87.6	104.4	121.7	150.6	234.5	1705.9	5781.9	6994.2	7037.8
45°	55.6	62.4	75.0	91.8	130.1	124.8	181.5	1476.7	6010.1	7298.0	7312.1
47.5°	44.1	50.4	63.5	86.6	121.2	99.7	129.6	1296.8	6201.6	7535.1	7497.8
50°	34.1	39.3	53.0	99.1	106.0	82.4	98.1	1237.0	6373.1	7681.9	7585.4
52.5°	26.8	31.5	43.5	92.9	82.4	68.2	82.4	1293.1	6608.1	7803.6	7634.7
55°	21.5	26.2	34.1	53.0	56.1	57.7	70.3	1345.5	7013.6	8089.0	7925.9
57.5°	17.8	22.6	27.8	37.2	42.5	48.8	62.4	1351.3	7491.5	8563.2	8409.0
59°	16.3	20.5	25.2	33.0	37.2	44.6	58.8	1319.8	7659.9	8735.8	8658.7
60°	15.2	19.4	23.6	30.4	34.6	42.0	56.7	1289.9	7667.3	8729.5	8765.2
62.5°	13.1	17.3	21.0	25.7	29.4	35.7	50.9	1179.3	7356.7	8443.6	8701.2
65°	11.5	15.2	18.9	22.0	25.2	32.0	46.2	977.3	6826.4	7982.5	8263.2
67.5°	10.5	13.1	17.3	19.4	22.6	28.3	40.9	696.6	6163.8	7418.6	7600.6
70°	9.4	12.6	15.7	17.8	20.5	24.7	35.1	400.3	5204.9	6592.9	6722.5
72.5°	8.9	12.1	14.2	16.8	18.4	22.0	32.0	188.3	3811.1	5281.5	5619.8
75°	7.9	11.0	13.1	15.7	17.3	19.9	27.3	90.2	2534.8	3822.1	4206.6
77.5°	4.7	8.9	12.1	14.2	15.2	17.3	22.6	51.9	1617.8	2645.5	3116.0
80°	0.0	3.1	8.9	12.1	13.1	14.7	17.3	40.9	865.6	1511.3	1814.0
82.5°	0.0	0.0	6.3	9.4	8.9	10.0	13.1	25.7	390.3	987.8	1113.2
85°	0.0	0.0	2.1	7.3	6.3	4.7	8.9	8.9	85.5	499.9	623.7
87.5°	0.0	0.0	0.0	0.5	3.1	2.1	3.7	1.0	0.5	37.2	151.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P324628

CATALOG NUMBER: GLEON-SA4A-830-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0	3607.0
2.5°	4077.6	4116.4	4181.9	4212.9	4197.7	4133.2	4056.0	3977.4	3931.2	3949.6
5°	4328.3	4528.2	4643.6	4681.9	4617.9	4473.1	4283.7	4034.0	3945.4	3921.2
7.5°	4328.3	4704.4	4942.6	4984.6	4841.9	4558.1	4202.9	3813.2	3683.6	3636.4
10°	4176.2	4688.2	5020.2	5086.8	4887.5	4463.1	3987.3	3542.5	3388.8	3340.0
12.5°	4004.6	4556.0	4905.9	4997.7	4834.0	4368.7	3837.8	3359.4	3178.4	3135.9
15°	3899.2	4393.4	4682.9	4749.5	4680.3	4313.6	3802.2	3304.3	3091.3	3050.4
17.5°	3937.0	4267.5	4371.8	4410.7	4457.4	4294.2	3899.2	3425.0	3155.3	3116.5
20°	4079.1	4134.7	4080.7	4129.5	4255.4	4313.1	4130.5	3716.6	3393.0	3341.0
22.5°	4320.4	4066.0	3914.4	3933.8	4087.0	4375.5	4484.1	4133.2	3759.7	3694.6
25°	4601.6	4121.6	3822.1	3804.8	3962.1	4457.9	4807.2	4586.4	4193.5	4121.6
27.5°	4955.2	4246.5	3803.2	3785.9	3918.6	4535.0	5075.8	5034.4	4650.4	4527.6
30°	5228.0	4369.2	3859.3	3819.5	3962.1	4588.5	5291.4	5414.7	5014.5	4933.1
32.5°	5423.6	4514.0	3950.6	3892.9	4084.9	4680.8	5457.7	5763.0	5351.2	5228.0
35°	5572.6	4671.4	4098.0	4003.1	4253.8	4820.9	5613.5	6133.9	5709.5	5574.7
37.5°	5712.1	4892.2	4328.3	4215.0	4518.7	5046.5	5778.2	6554.6	6110.3	5949.3
40°	5906.8	5142.5	4683.4	4582.7	4964.1	5353.9	5983.9	6993.2	6566.2	6363.7
42.5°	6101.4	5411.0	5047.0	5074.3	5519.6	5727.4	6249.3	7456.9	7016.3	6800.1
45°	6279.2	5688.0	5564.7	5690.6	6035.3	6137.1	6513.2	7725.0	7375.6	7166.8
47.5°	6437.6	6034.2	6079.4	6414.6	6621.8	6507.9	6710.4	7956.3	7643.1	7459.0
50°	6621.8	6482.2	6757.6	7231.9	7296.9	6843.7	6889.8	8230.1	7955.8	7807.8
52.5°	6823.2	6954.4	7508.8	7926.9	7905.9	7208.2	7070.3	8537.0	8384.4	8245.3
55°	7051.9	7335.7	8170.3	8577.4	8559.6	7615.3	7369.3	8916.3	8921.5	8795.6
57.5°	7391.3	7664.1	8619.4	9103.6	9133.5	8085.3	7876.0	9341.2	9407.3	9323.4
59°	7634.7	7877.1	8797.2	9323.4	9445.1	8448.9	8246.4	9587.7	9544.2	9467.6
60°	7815.2	8012.4	8885.3	9438.2	9626.0	8695.4	8519.7	9732.5	9560.5	9467.6
62.5°	8261.6	8307.2	9044.3	9568.3	9834.3	9243.1	9288.7	9979.1	9447.7	9296.1
65°	8469.9	8493.5	9042.2	9335.4	9632.9	9669.6	9986.4	9986.4	9172.3	8939.4
67.5°	8382.8	8268.9	8593.7	8563.2	8860.1	9416.2	10248.7	9620.3	8645.6	8344.5
70°	7674.6	7236.6	7092.3	7105.4	7332.6	8190.3	9729.4	8542.8	7648.9	7296.9
72.5°	6385.7	5335.0	4978.8	5385.3	5444.6	6294.4	8291.5	6433.4	5640.8	5310.8
75°	5136.2	3760.7	3181.6	3610.7	3711.4	4606.3	6414.0	4006.7	3294.9	3037.8
77.5°	3689.9	2699.5	2283.0	2253.1	2383.2	2921.4	4551.3	2016.5	1681.8	1569.5
80°	2096.2	1776.8	1913.1	1805.1	1870.7	1826.6	2162.3	884.4	724.4	677.2
82.5°	1265.3	1050.2	1137.3	946.9	1198.1	1043.4	833.0	283.3	246.0	234.0
85°	823.1	573.9	299.0	200.4	412.8	666.7	186.2	77.1	59.3	47.2
87.5°	283.8	146.4	14.7	6.3	44.1	124.3	6.8	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

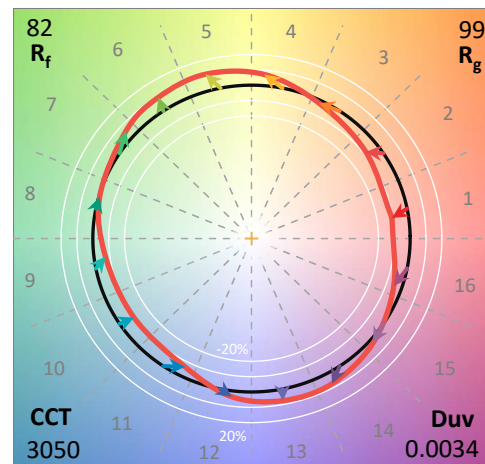
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2408-195-9
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/07/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **GALN-SB1A-830-U-5WQ**
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

Spectral Parameters

CCT (K): 3050
 CIE u' : 0.2476
 CIE v' : 0.5251
 Duv: 0.0034
 CIE x: 0.4383
 CIE y: 0.4131
 CIE z: 0.1487
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 581
 Purity: 55.55201
 R_f: 81.5
 R_g: 99.2

CRI (Ra): 81.0
 R1: 79.6
 R2: 85.6
 R3: 92.0
 R4: 82.6
 R5: 78.9
 R6: 81.7
 R7: 85.2
 R8: 62.0
 R9: 7.1
 R10: 67.0
 R11: 82.7
 R12: 63.2
 R13: 80.3
 R14: 95.0
 R15: 71.7



Test Conditions

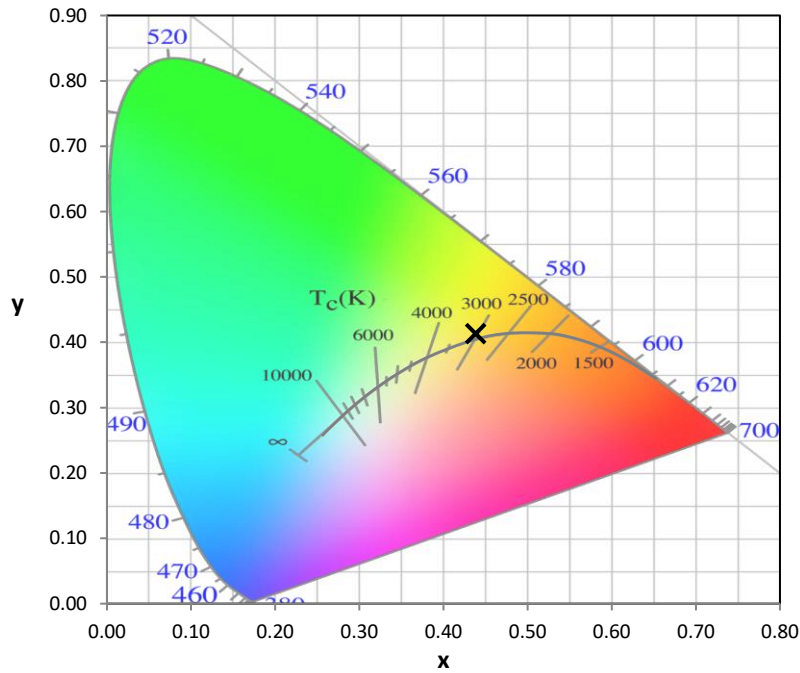
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

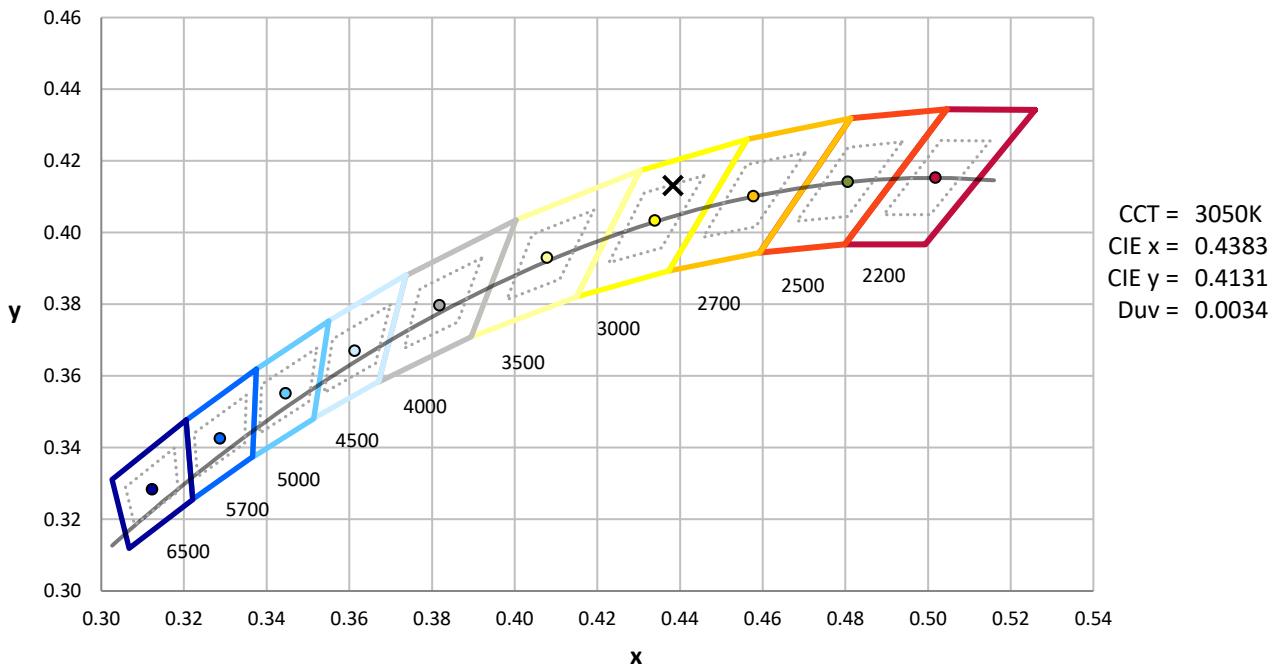
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2408-195-9

CIE 1931 Chromaticity Diagram



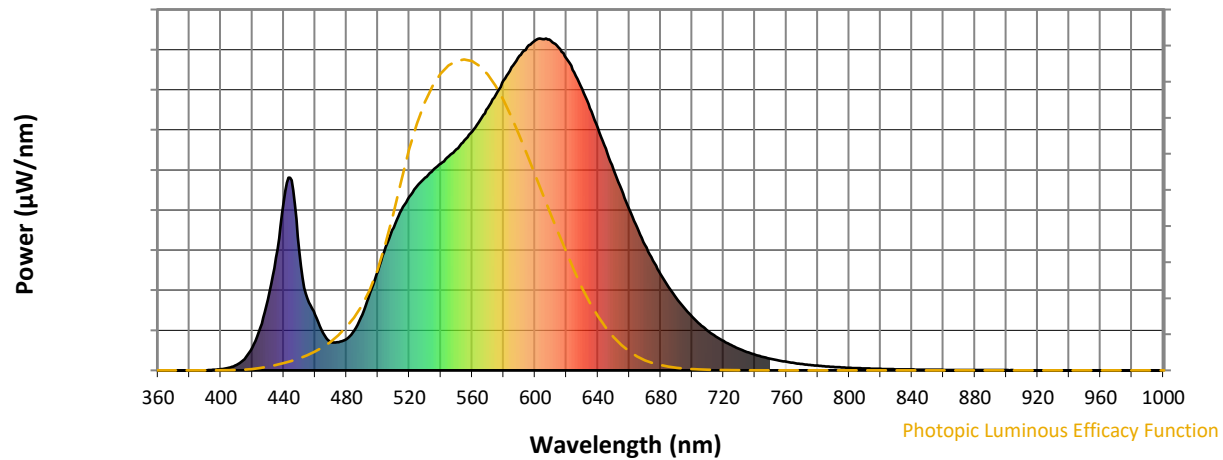
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

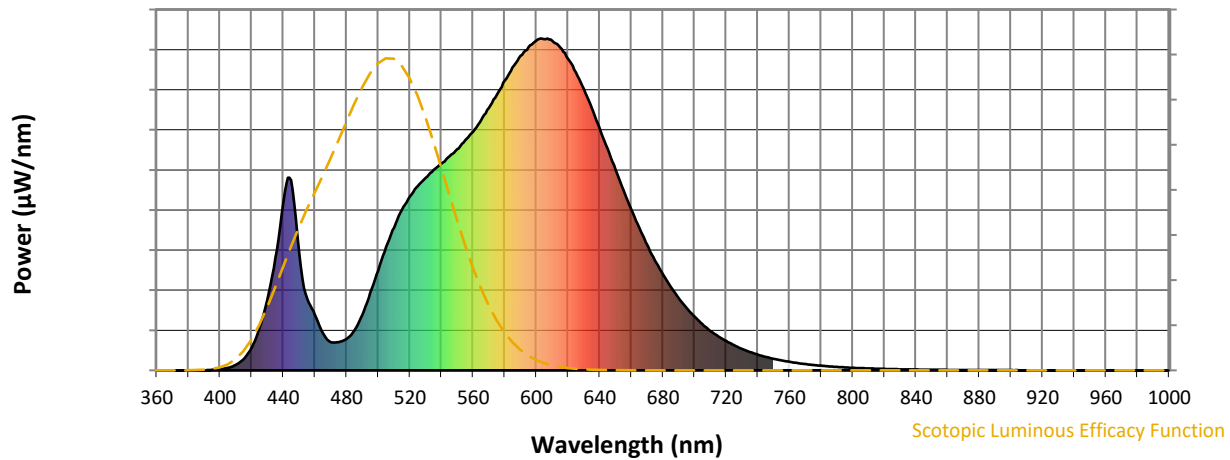


Photopic Lumens: NR

λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength



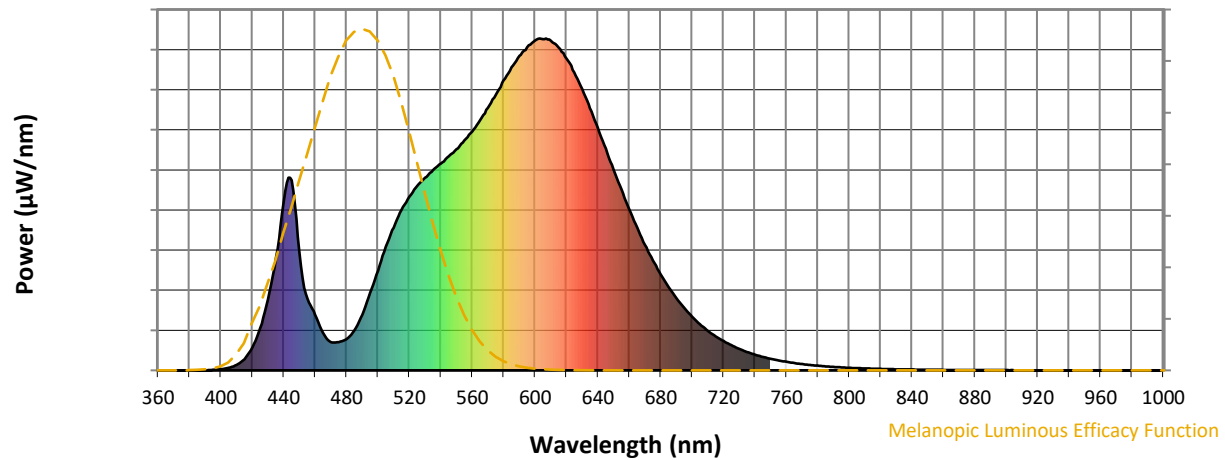
Scotopic Lumens: NR

S/P: 1.27

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	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

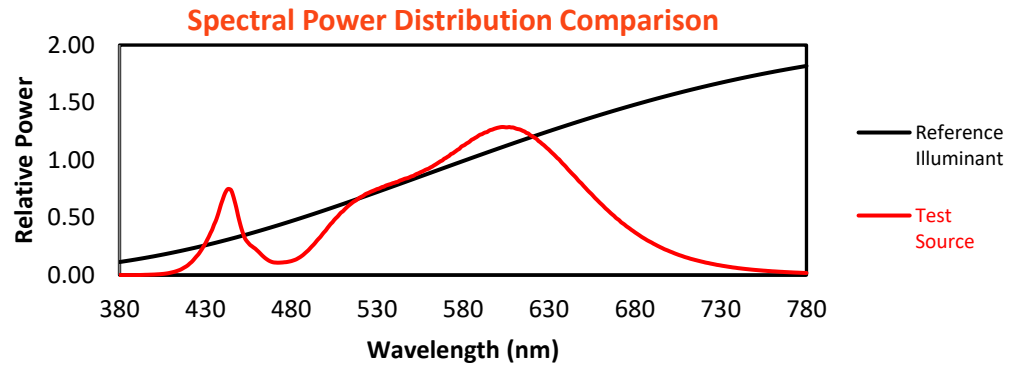
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

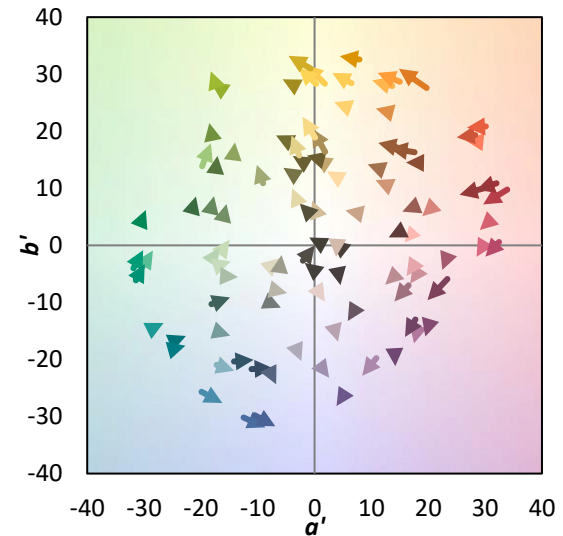
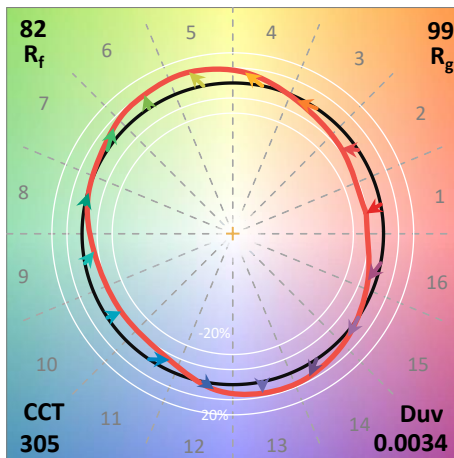
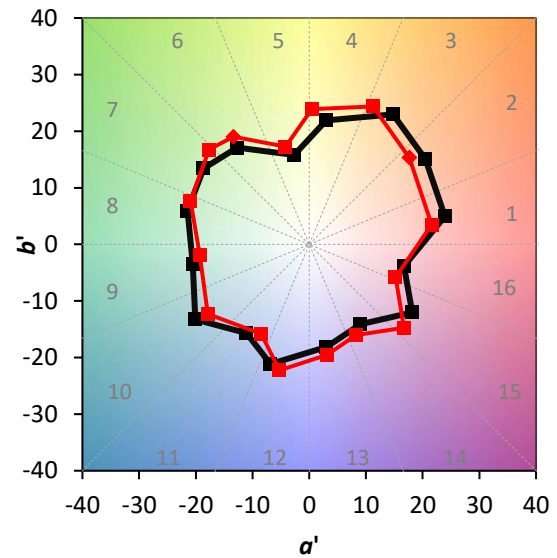
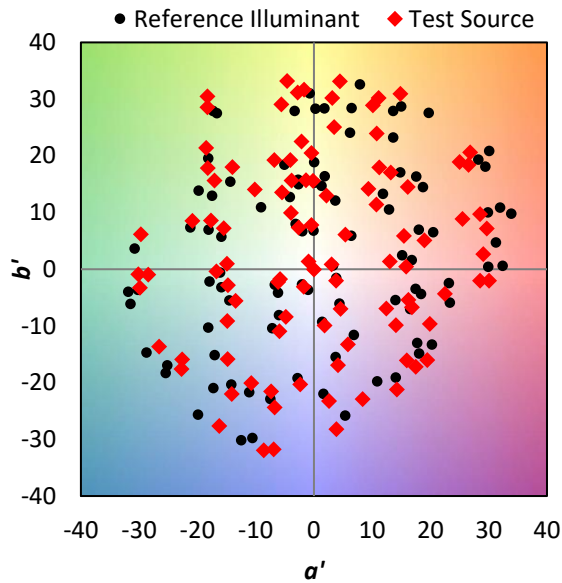
TM-30-18

Summary

$R_f = 81.5$
 $R_g = 99.2$
 $CIE R_a = 81.0$
 $R_9 = 7.1$

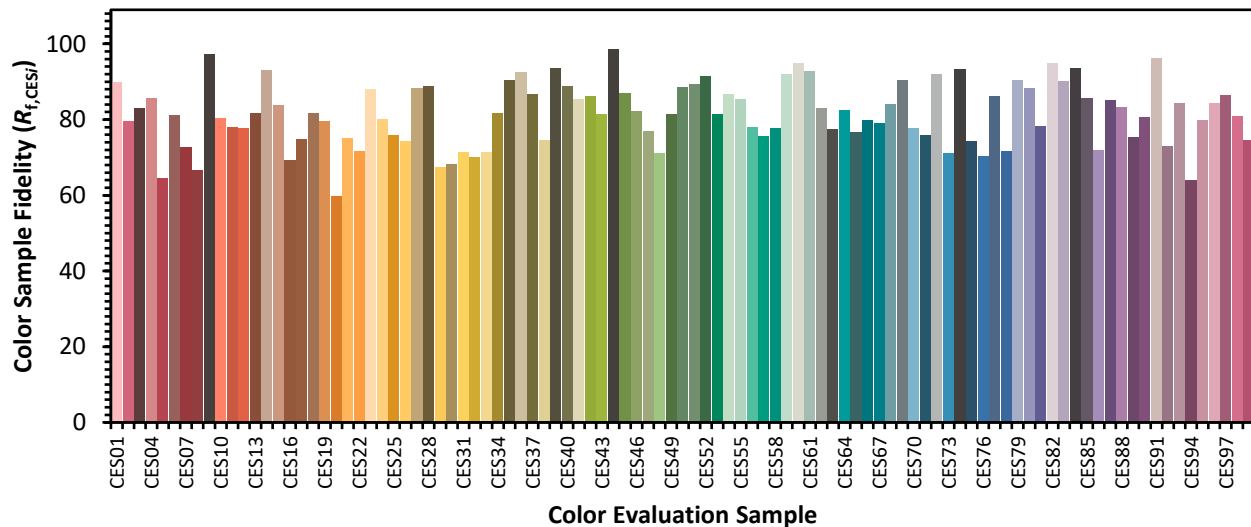


Color Vector Graphics

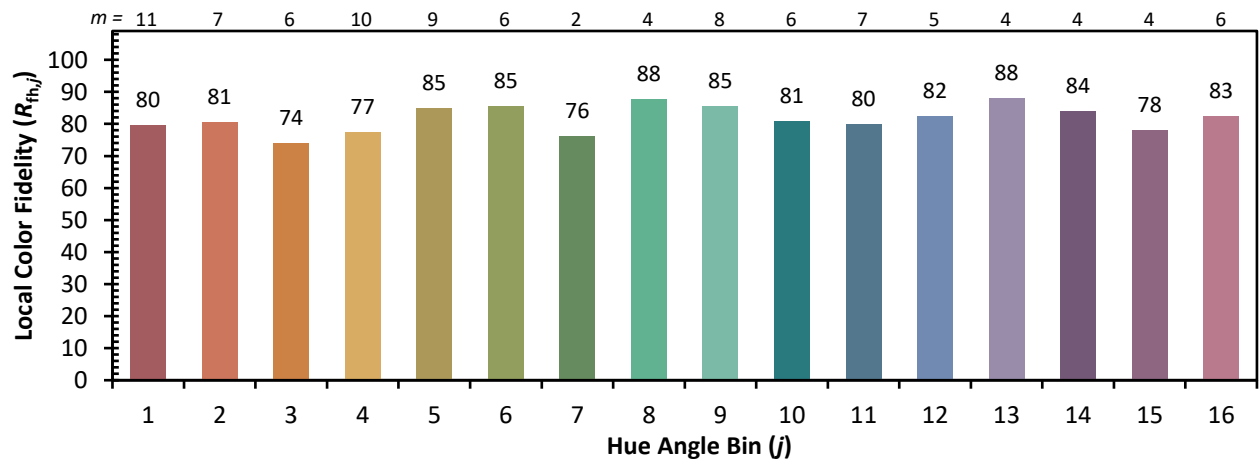
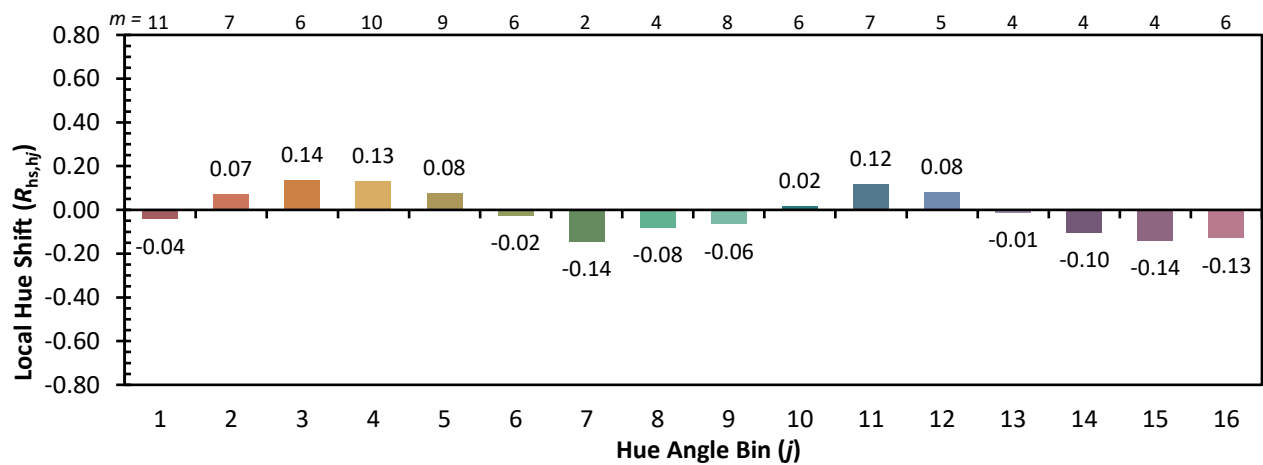
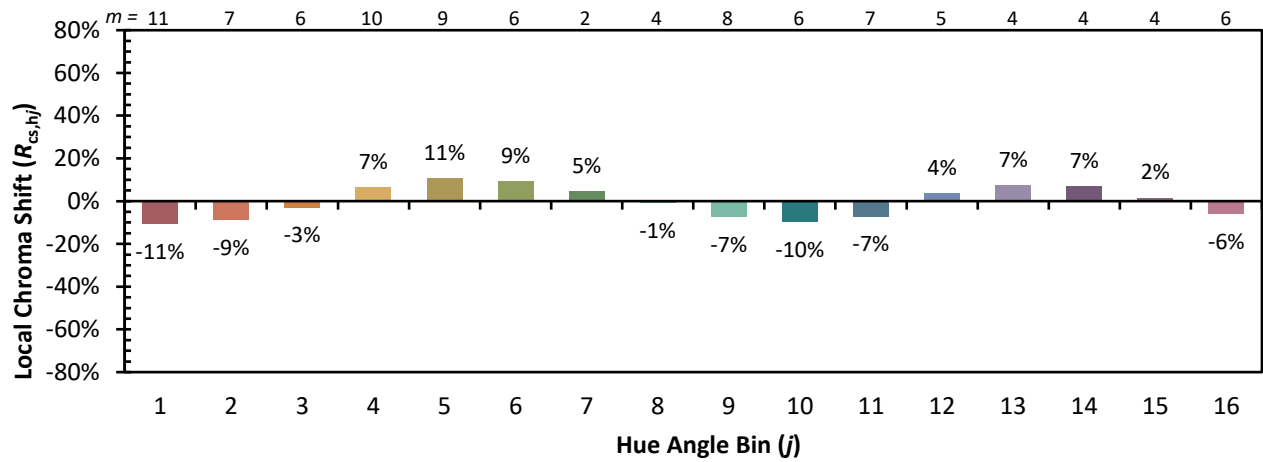


Individual Sample Fidelity Index ($R_{f,i}$)

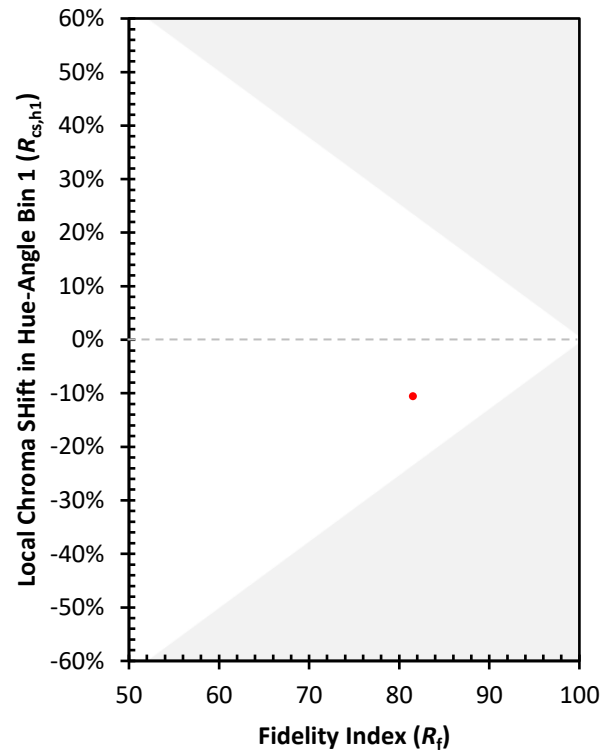
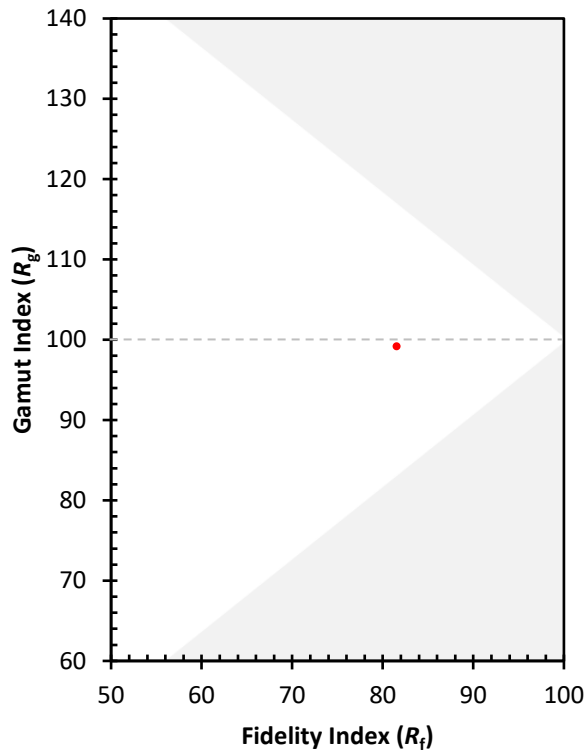
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
CES10 = 76	CES35 = 90	CES60 = 95	CES85 = 86
CES11 = 59	CES36 = 93	CES61 = 93	CES86 = 72
CES12 = 65	CES37 = 87	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 75	CES63 = 77	CES88 = 83
CES14 = 74	CES39 = 94	CES64 = 83	CES89 = 75
CES15 = 71	CES40 = 89	CES65 = 77	CES90 = 81
CES16 = 47	CES41 = 85	CES66 = 80	CES91 = 96
CES17 = 50	CES42 = 86	CES67 = 79	CES92 = 73
CES18 = 56	CES43 = 81	CES68 = 84	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 76	CES96 = 84
CES22 = 79	CES47 = 77	CES72 = 92	CES97 = 87
CES23 = 92	CES48 = 71	CES73 = 71	CES98 = 81
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 74
CES25 = 72	CES50 = 89	CES75 = 74	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)