

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: P323348

Luminaire Tested: **GLEON-SA4A-830-U-SL2-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P323348
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-21)
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-SL2-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12373 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G2

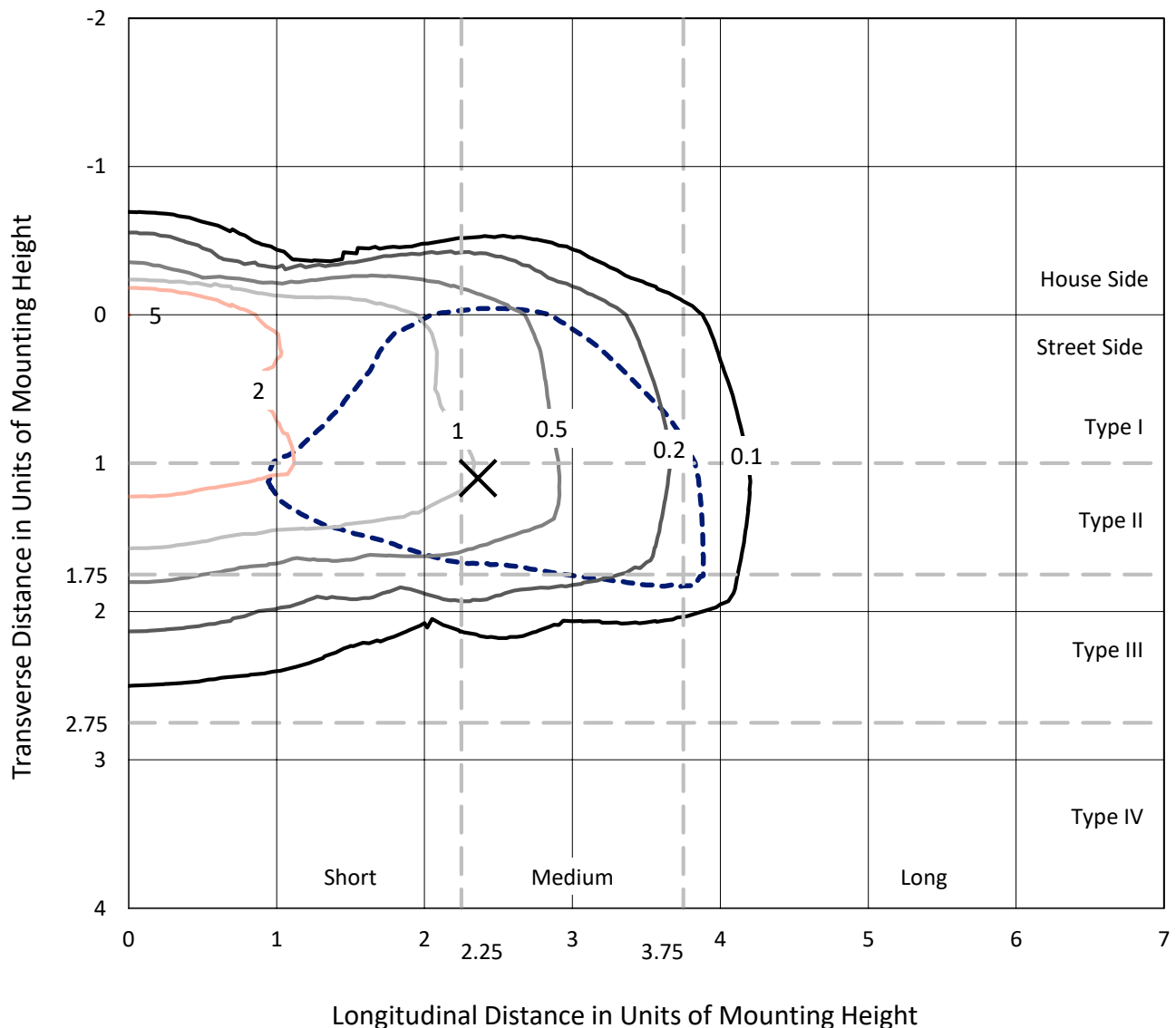
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

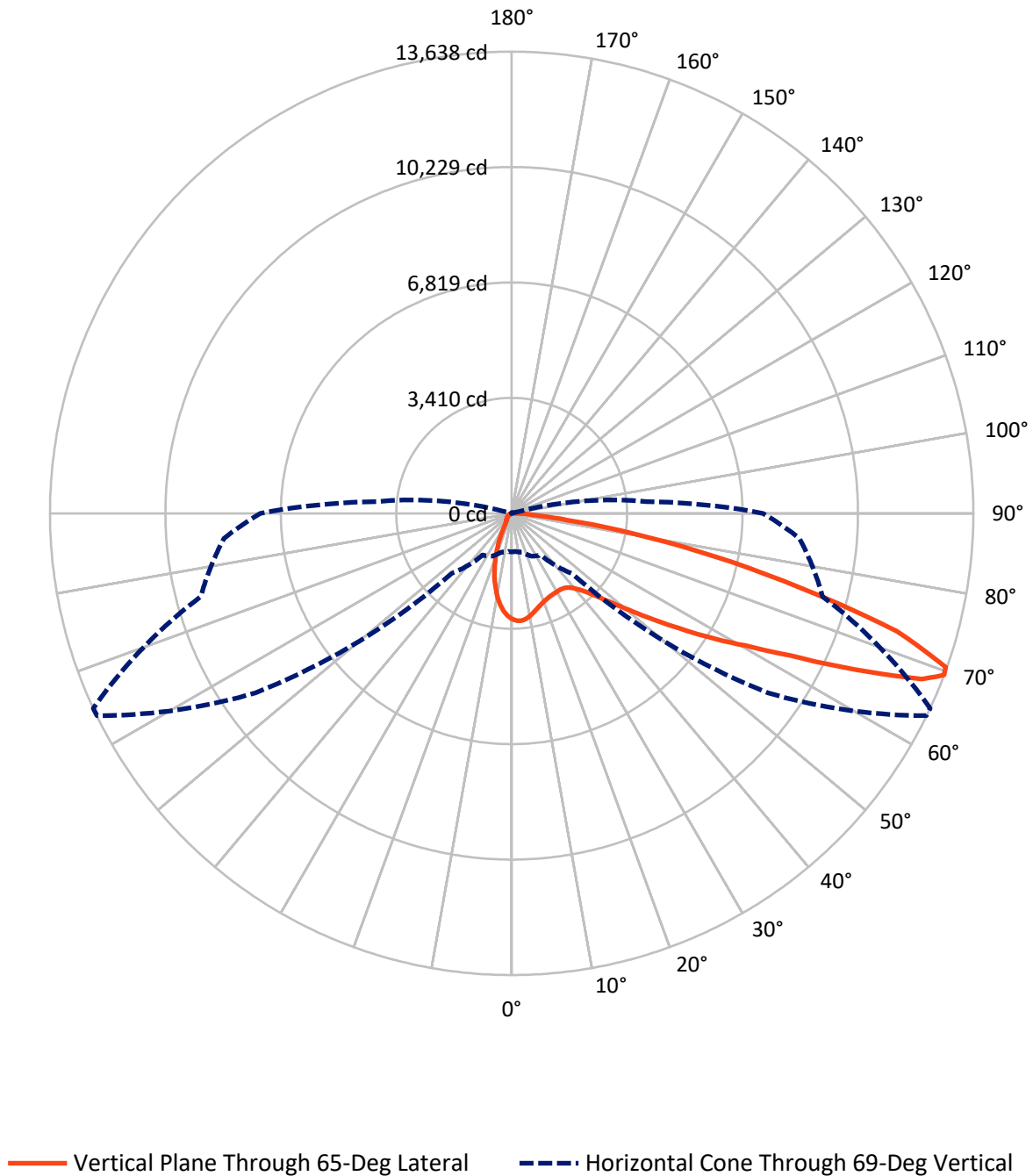
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



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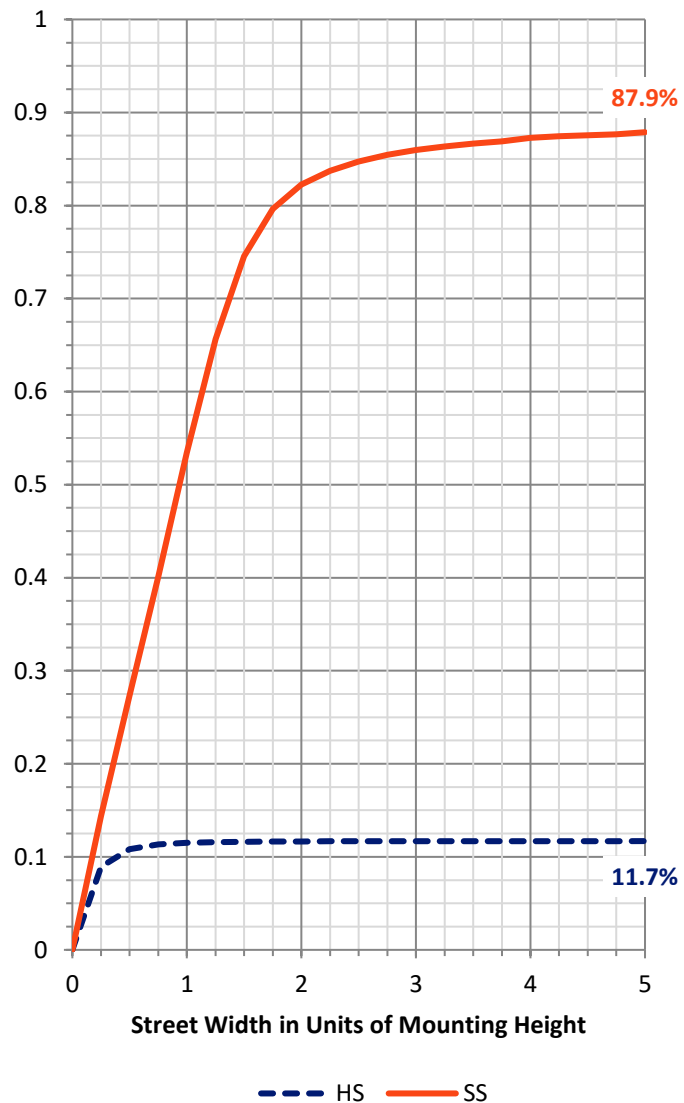
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1458.5	0.0	1458.5
	% Fixture	11.8	0.0	11.8
Street Side	Lumens	10914.5	0.0	10914.5
	% Fixture	88.2	0.0	88.2
Total	Lumens	12373.0	0.0	12373.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.5	2.1
10°-20°	572.3	4.6
20°-30°	792.7	6.4
30°-40°	1105.3	8.9
40°-50°	1718.0	13.9
50°-60°	2758.0	22.3
60°-70°	3119.8	25.2
70°-80°	1832.3	14.8
80°-90°	213.1	1.7
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°	12373.0	100.0
0°-180°	12373.0	100.0

Coefficient of Utilization



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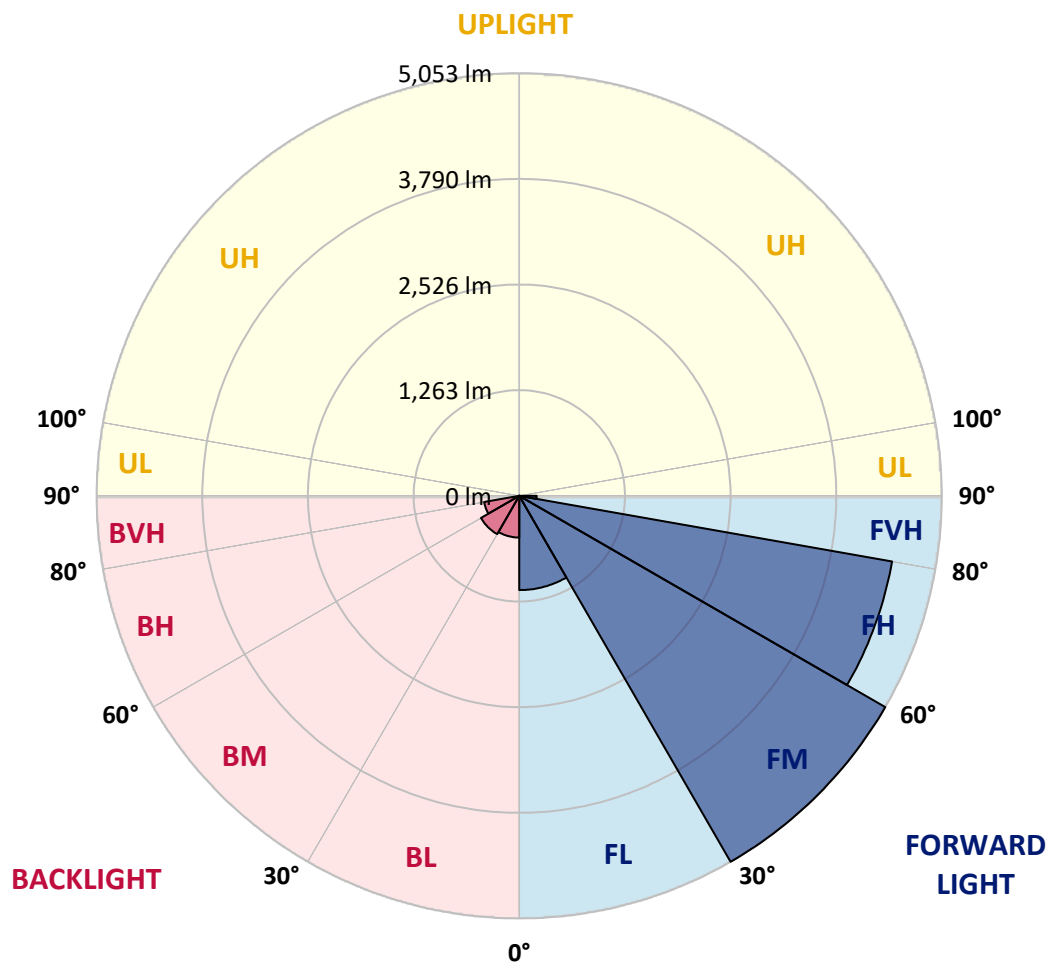
CATALOG NUMBER: GLEON-SA4A-830-U-SL2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1127.5	9.1			
FM	(30°-60°)	5052.8	40.8			
FH	(60°-80°)	4525.9	36.6			G2/5000
FVH	(80°-90°)	208.3	1.7			G2/225
BL	(0°-30°)	499.0	4.0	B1/500		
BM	(30°-60°)	528.5	4.3	B1/1000		
BH	(60°-80°)	426.1	3.4	B1/500		G1/500
BVH	(80°-90°)	4.8	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Medium





REPORT NUMBER: P323348

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	64°	65°	75°	85°
0°	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7
2.5°	3154.4	3146.6	3152.9	3166.5	3173.3	3173.3	3178.5	3172.2	3174.3	3159.1	3137.1
5°	2957.0	2945.0	2962.3	3000.5	3047.6	3087.9	3147.6	3179.0	3182.2	3182.7	3157.0
7.5°	2744.5	2733.5	2759.1	2804.2	2864.9	2939.8	3044.0	3135.1	3140.3	3189.5	3170.7
10°	2571.7	2563.9	2593.7	2641.9	2713.1	2796.8	2924.6	3051.3	3066.5	3175.4	3168.6
12.5°	2434.5	2428.3	2456.5	2512.0	2584.8	2677.5	2811.0	2958.1	2978.5	3143.4	3158.1
15°	2334.5	2333.5	2357.1	2410.5	2491.1	2577.5	2714.1	2871.7	2895.3	3108.9	3156.5
17.5°	2282.2	2283.8	2301.0	2346.6	2415.7	2501.6	2632.4	2798.9	2824.6	3078.0	3164.4
20°	2276.9	2278.5	2287.9	2313.6	2369.6	2445.5	2565.9	2737.7	2764.4	3055.0	3176.9
22.5°	2323.0	2322.0	2324.6	2322.0	2353.4	2411.0	2522.0	2690.6	2721.4	3039.8	3186.9
25°	2411.5	2409.9	2408.9	2389.5	2368.6	2399.5	2503.6	2663.9	2693.2	3028.8	3192.6
27.5°	2534.5	2533.5	2531.9	2500.0	2437.2	2417.8	2505.7	2653.9	2678.5	3019.9	3191.6
30°	2696.3	2703.6	2701.6	2657.0	2559.1	2473.8	2527.7	2648.7	2670.1	3002.6	3180.6
32.5°	2886.4	2901.0	2912.5	2864.9	2742.4	2584.8	2578.5	2654.4	2670.1	2989.5	3160.7
35°	3083.7	3102.6	3145.0	3128.2	2967.0	2751.8	2665.9	2689.0	2702.1	2996.8	3151.3
37.5°	3278.0	3300.5	3392.6	3441.3	3261.2	2972.8	2802.1	2774.3	2781.1	3041.3	3161.8
40°	3503.6	3537.7	3677.5	3756.0	3612.5	3268.6	3005.7	2920.9	2923.5	3139.2	3210.4
42.5°	3800.0	3835.1	3986.4	4109.4	4008.3	3642.4	3282.2	3145.0	3142.4	3322.5	3325.1
45°	4161.2	4197.9	4354.4	4491.1	4445.5	4085.3	3636.1	3472.2	3469.1	3611.5	3542.4
47.5°	4570.6	4606.8	4746.6	4887.4	4936.6	4602.6	4086.9	3918.8	3911.5	4013.1	3878.0
50°	4922.0	4945.5	5074.3	5263.8	5485.8	5238.2	4647.6	4485.8	4478.0	4546.6	4370.6
52.5°	5049.7	5063.3	5194.2	5459.6	6013.6	6098.9	5384.3	5175.9	5170.1	5200.0	5026.7
55°	4791.1	4815.7	4976.4	5370.1	6299.4	7071.7	6314.1	6030.3	5986.9	5922.5	5712.5
57.5°	4086.4	4125.6	4298.4	4822.0	6165.9	7843.4	7680.6	6996.8	6932.9	6539.2	6270.1
60°	3061.8	3109.9	3253.4	3818.3	5453.4	8118.3	9173.8	8073.8	7929.8	7030.3	6782.7
62.5°	2101.0	2125.1	2222.5	2590.6	4016.2	7668.0	10423.0	9516.2	9253.3	7564.3	7337.1
65°	1604.7	1613.1	1652.9	1779.6	2391.6	6228.8	10919.8	11419.3	11101.5	8203.1	7912.5
67.5°	1293.2	1286.4	1341.4	1522.5	1601.6	3800.0	10340.2	13219.8	13071.1	9057.0	8491.6
69°	1140.3	1130.9	1186.9	1397.4	1504.2	2512.0	9243.9	13628.7	13638.1	9507.8	8531.4
70°	1026.2	1032.5	1088.0	1323.0	1471.2	1971.7	8196.8	13524.5	13598.9	9676.4	8292.6
72.5°	685.3	702.1	813.6	1098.4	1414.6	1492.1	4949.2	11605.7	11891.5	9296.8	7114.6
75°	386.4	398.9	531.4	828.3	1333.0	1420.9	2614.1	8550.2	8826.6	7774.3	5486.3
77.5°	189.5	196.3	300.5	534.6	1114.7	1353.9	1482.7	5807.8	6123.5	5074.3	3103.1
80°	80.1	83.8	150.3	329.8	796.9	1292.1	1101.0	3574.3	3613.6	1987.9	826.7
82.5°	30.9	31.9	63.4	205.8	506.3	1007.3	920.9	1694.8	1653.9	374.3	188.5
85°	3.7	4.2	23.0	123.6	281.7	518.3	748.2	730.4	675.9	74.3	96.9
87.5°	0.0	0.0	1.6	37.7	83.8	242.9	389.0	303.1	273.3	24.1	50.3
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: P323348

CATALOG NUMBER: GLEON-SA4A-830-U-SL2-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7	3126.7
2.5°	3118.8	3113.6	3085.3	3044.5	3005.7	2957.6	2911.5	2883.7	2861.8	2847.1	2864.4
5°	3127.2	3104.2	3018.3	2908.4	2800.5	2679.0	2565.9	2470.1	2432.4	2390.6	2409.4
7.5°	3124.6	3081.1	2926.7	2730.9	2533.0	2328.3	2134.5	1985.3	1907.8	1831.9	1851.3
10°	3111.5	3038.2	2804.2	2514.1	2217.8	1923.5	1648.7	1439.8	1323.0	1217.3	1232.5
12.5°	3082.7	2980.6	2659.7	2266.0	1869.6	1481.7	1159.7	892.1	748.7	685.3	693.2
15°	3065.4	2924.6	2506.8	2014.6	1497.9	1031.9	708.9	527.2	461.8	440.8	443.5
17.5°	3057.0	2870.7	2348.7	1727.2	1117.8	657.1	458.1	404.2	390.0	386.4	387.4
20°	3048.7	2816.2	2185.8	1442.9	770.2	441.9	376.4	360.7	355.5	350.8	351.8
22.5°	3034.5	2763.9	2011.0	1155.0	519.4	358.6	339.3	324.1	313.1	307.3	308.4
25°	3017.3	2708.9	1832.4	860.2	379.1	319.9	301.6	280.1	267.0	256.5	257.1
27.5°	2989.5	2641.3	1648.2	626.2	318.3	286.4	261.8	238.2	216.2	204.2	204.2
30°	2950.8	2564.9	1443.4	448.2	285.3	253.4	223.6	194.2	170.7	159.7	158.6
32.5°	2907.8	2485.3	1236.6	339.8	259.2	222.5	188.5	157.6	136.6	127.7	127.2
35°	2871.2	2399.5	1030.4	284.8	233.0	192.7	155.5	129.3	112.6	105.2	104.7
37.5°	2847.6	2313.6	829.3	254.4	209.4	164.9	130.4	106.8	94.8	89.0	88.5
40°	2844.0	2249.7	645.5	231.4	187.4	140.3	108.9	90.6	79.6	73.3	72.8
42.5°	2891.6	2213.1	495.3	212.0	164.9	118.8	92.7	77.5	66.0	59.7	59.2
45°	3016.7	2224.6	381.1	194.8	142.4	100.5	78.5	64.4	53.9	49.2	48.2
47.5°	3245.0	2304.2	303.1	177.5	120.9	85.3	67.0	53.4	44.5	39.8	39.3
50°	3651.3	2491.1	253.4	158.6	101.0	72.8	55.5	43.5	36.1	31.9	31.4
52.5°	4190.5	2824.1	226.2	140.3	83.8	61.8	45.5	34.6	28.3	25.1	24.6
55°	4785.3	3227.2	208.4	120.4	68.6	51.3	36.1	27.2	22.0	19.4	18.3
57.5°	5365.9	3576.4	191.6	101.0	57.1	41.9	28.8	21.5	17.3	14.7	14.1
60°	5899.4	3897.4	172.3	81.2	46.6	33.0	22.5	16.8	13.6	11.0	11.0
62.5°	6470.6	4145.5	145.5	63.4	38.2	25.1	18.3	15.2	11.0	9.4	8.9
65°	7075.9	4329.8	114.1	49.2	29.8	18.8	15.2	15.7	8.9	6.8	6.3
67.5°	7523.0	4293.2	84.3	38.7	23.0	14.7	14.7	16.8	7.9	5.2	4.7
69°	7424.6	3995.3	70.7	33.5	19.9	12.6	13.6	16.8	7.3	4.7	4.2
70°	7139.2	3665.4	62.3	29.8	17.8	11.5	13.1	16.2	6.8	4.7	4.2
72.5°	5945.5	2760.7	48.7	22.5	14.1	9.4	11.0	14.1	6.8	4.7	3.7
75°	4472.2	1767.0	37.2	16.2	10.5	7.3	8.4	10.5	6.8	4.2	3.7
77.5°	2433.5	637.2	26.7	11.0	7.3	5.8	5.8	7.9	6.3	3.1	2.1
80°	625.6	160.2	16.8	7.3	5.8	4.2	3.7	5.2	3.7	0.5	0.0
82.5°	154.4	36.1	8.9	5.2	4.2	1.6	1.6	2.6	1.6	0.0	0.0
85°	84.8	17.8	5.8	3.7	2.1	0.0	0.0	0.5	0.0	0.0	0.0
87.5°	43.5	5.2	1.6	1.0	0.5	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

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

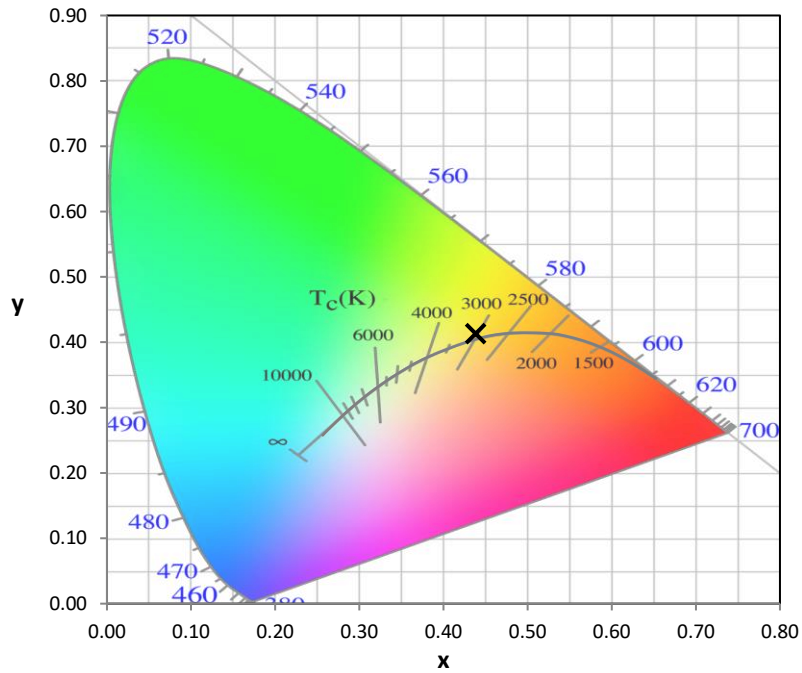
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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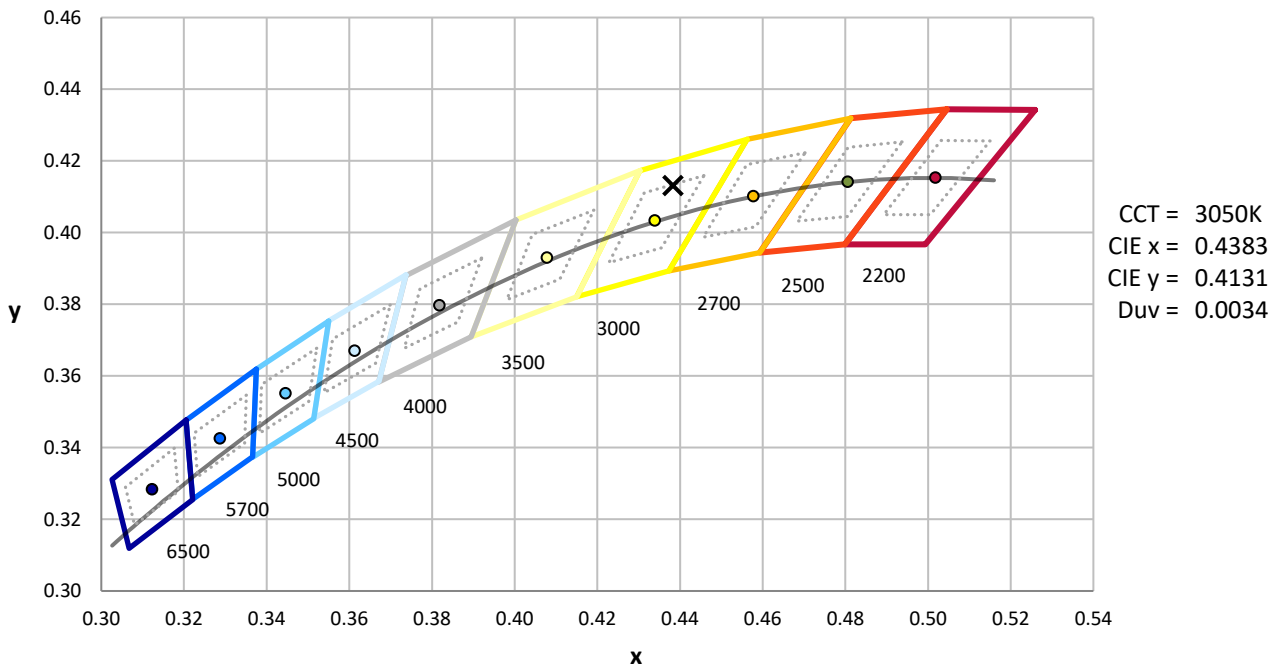
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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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

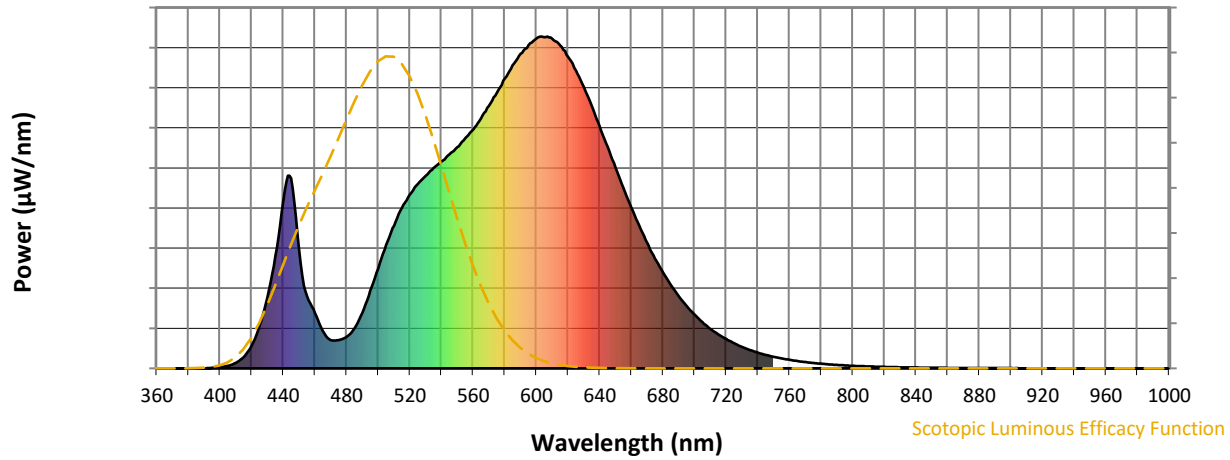


Photopic Lumens: NR

λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	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			

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Scotopic Flux vs. Wavelength



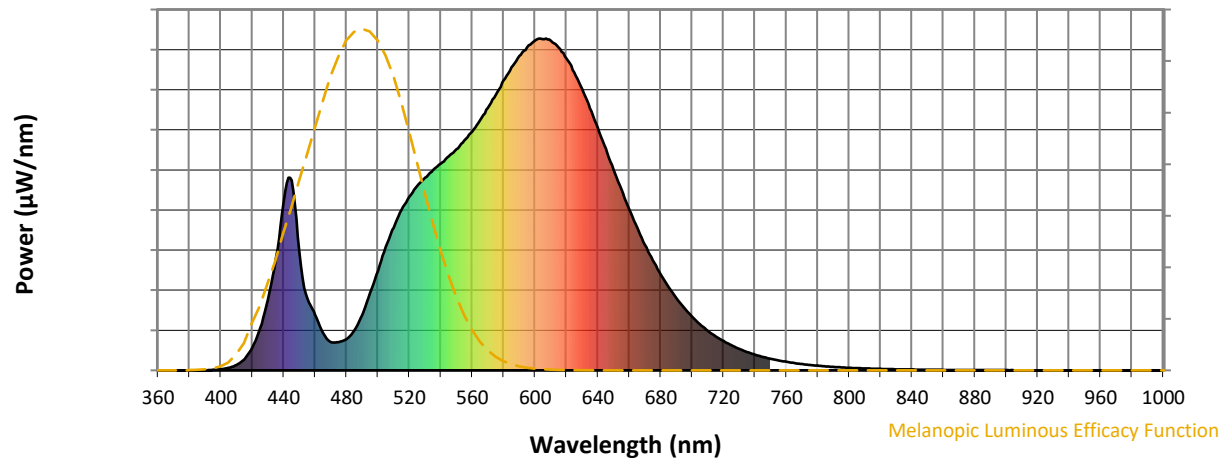
Scotopic Lumens: NR

S/P: 1.27

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			

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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			

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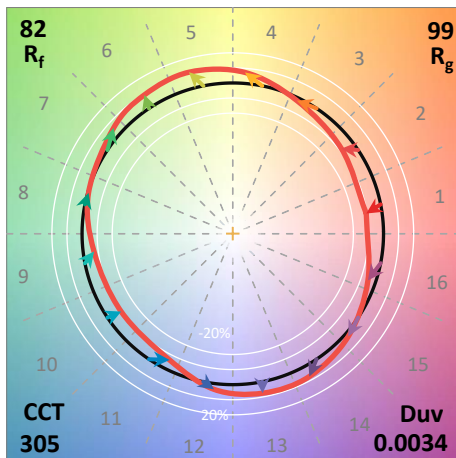
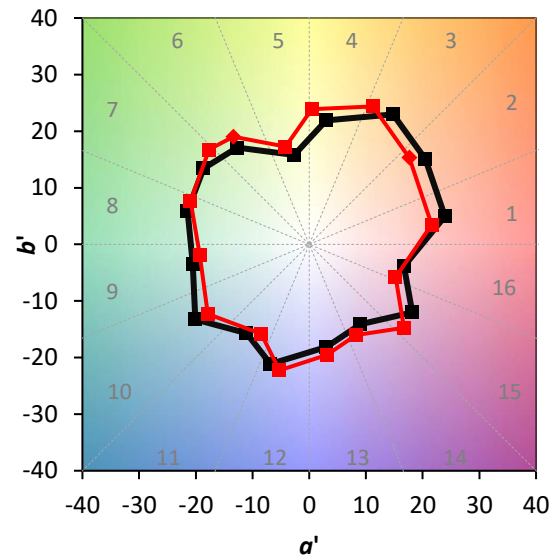
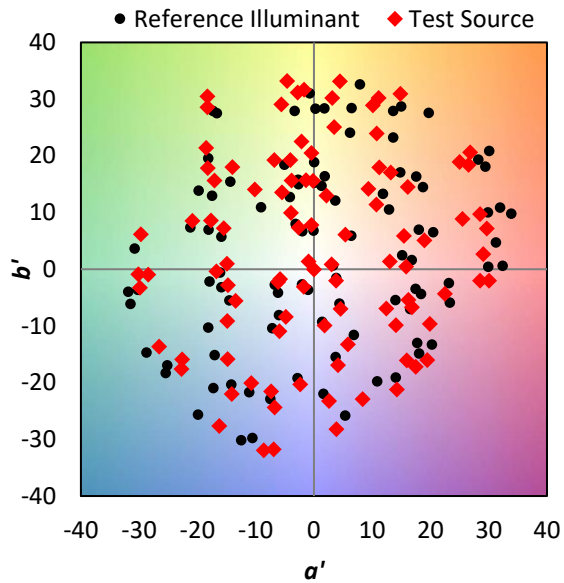
TM-30-18

Summary

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

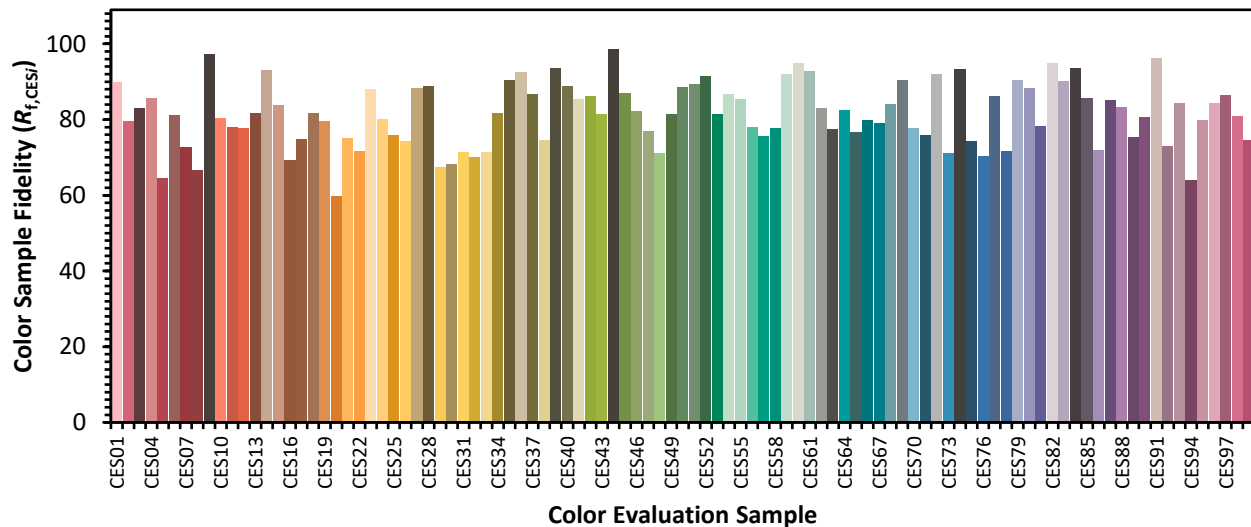


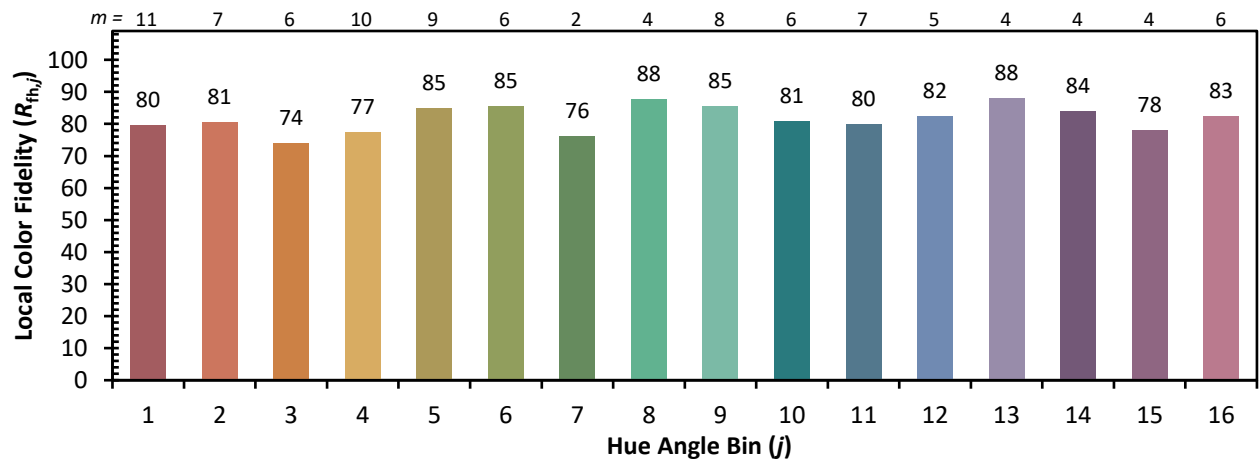
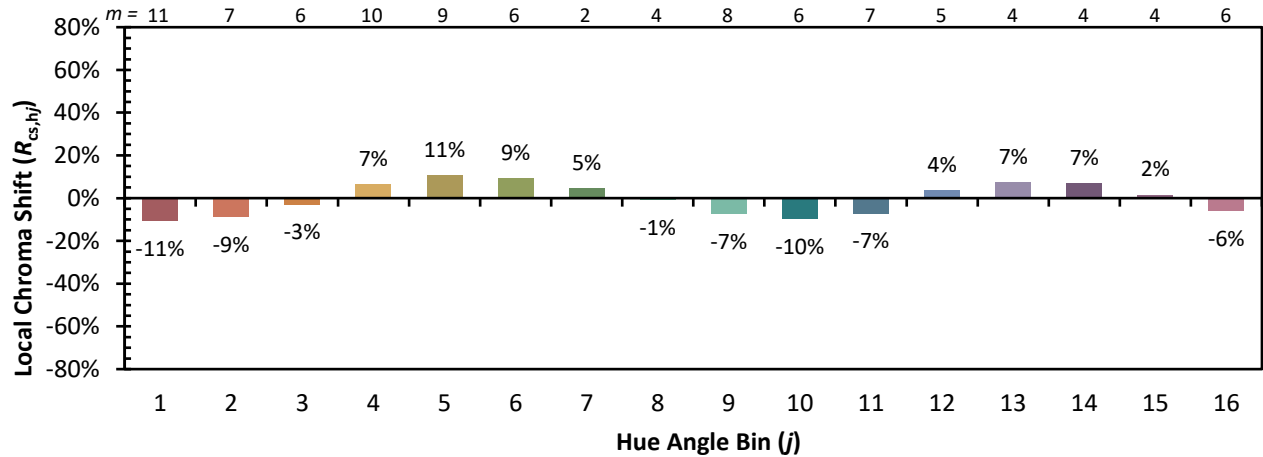
Color Vector Graphics

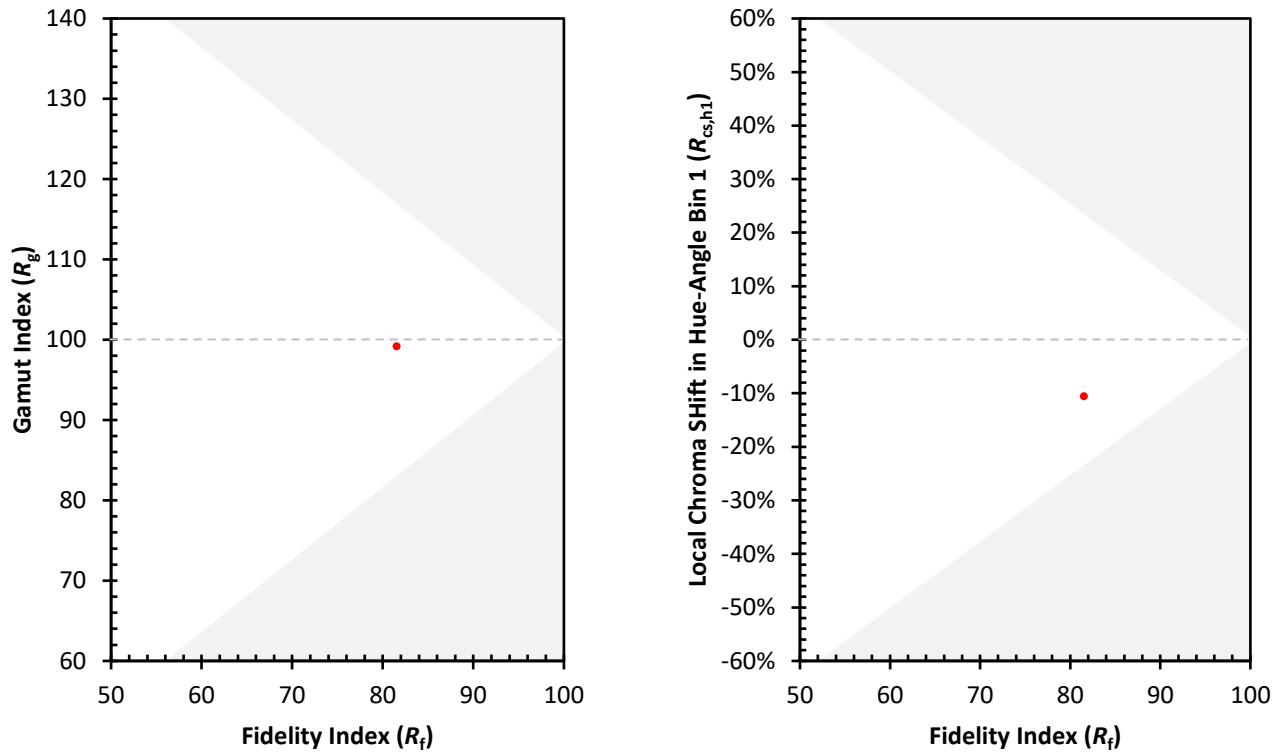


Individual Sample Fidelity Index ($R_{f,i}$)

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)