

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: P323029

Luminaire Tested: **GLEON-SA5A-830-U-T4W-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P323029
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA5A-830-U-T4W-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(5) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13415 lumens
Efficiency: N/A
Efficacy: 82.8 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

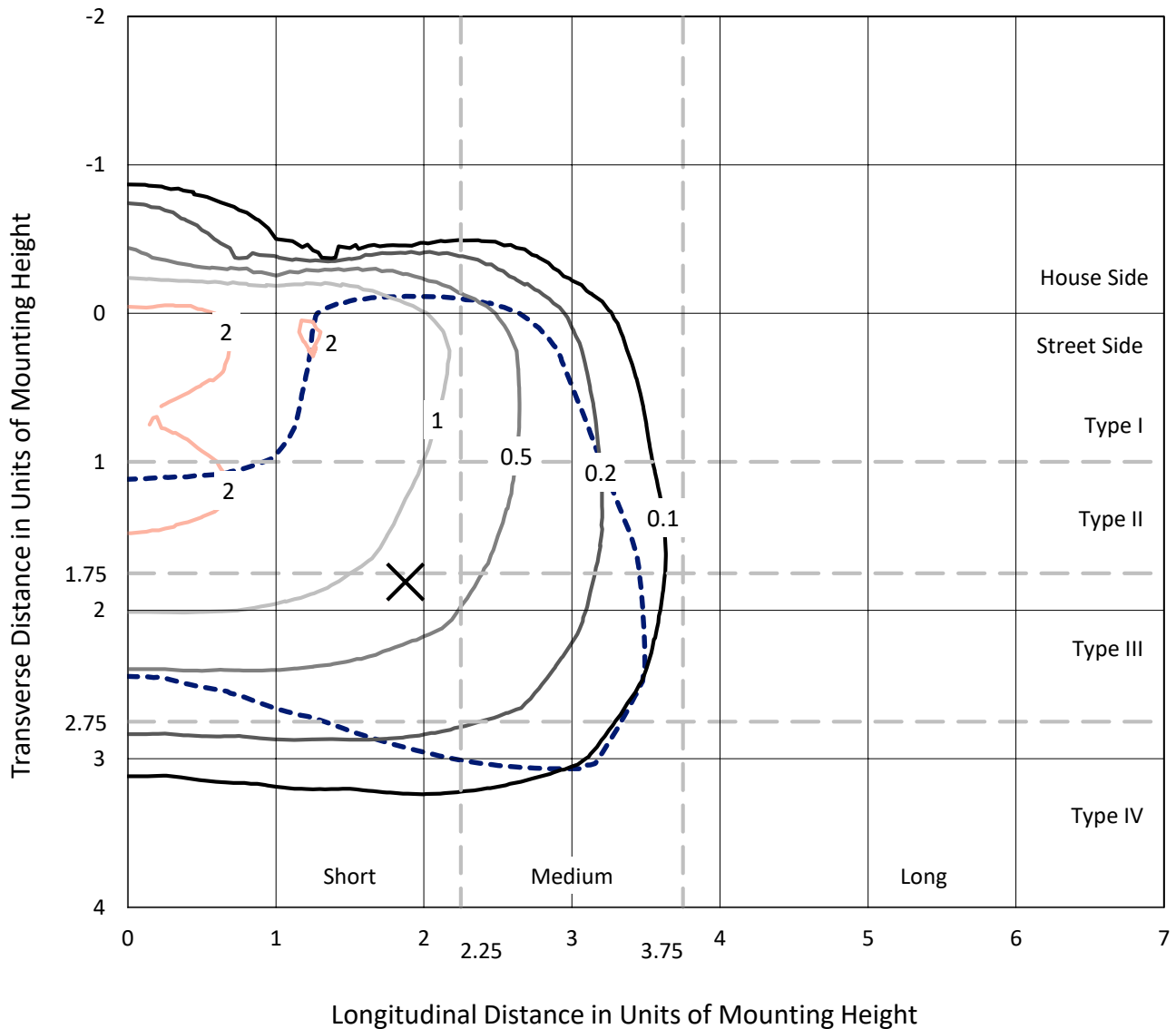
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

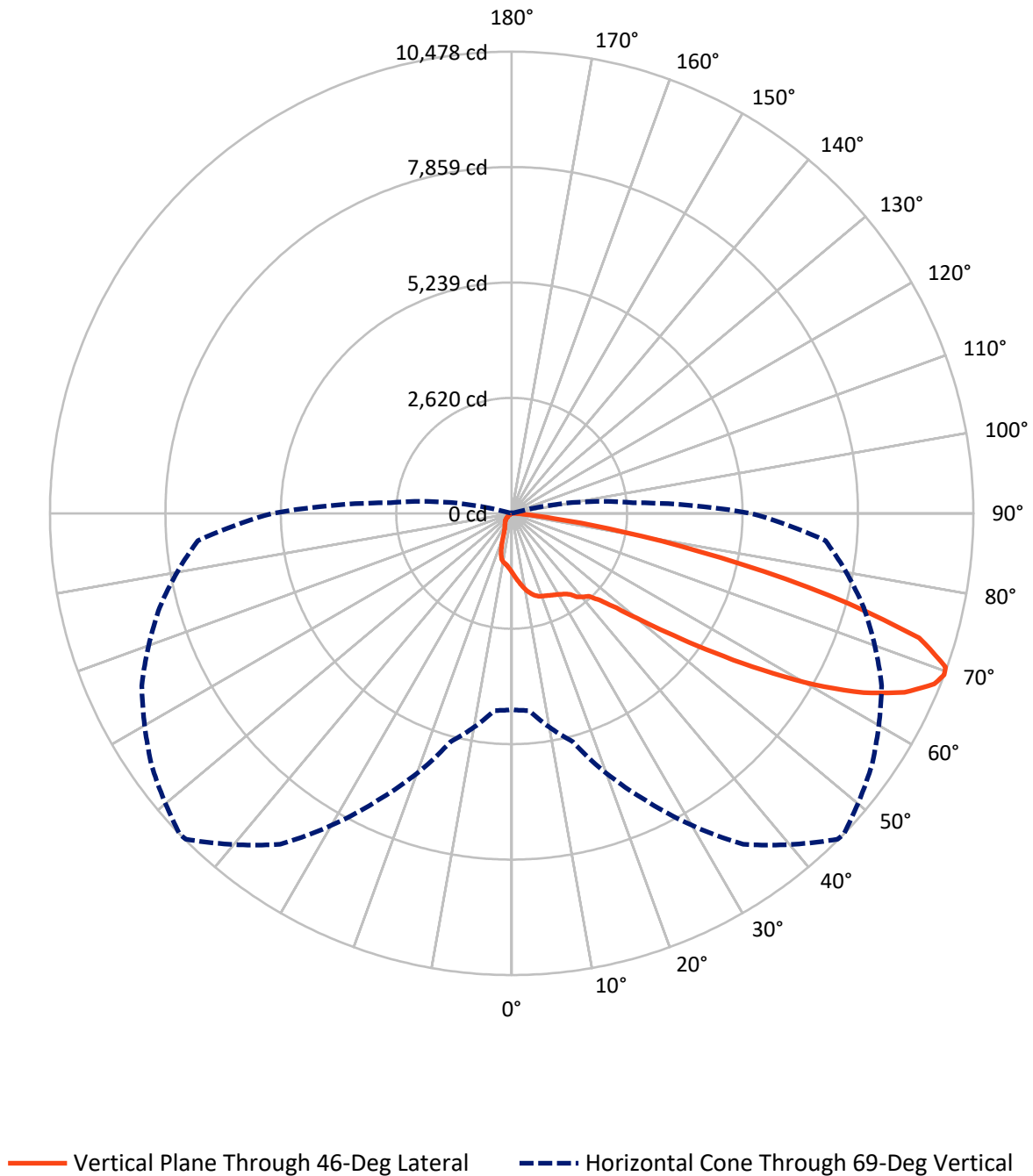
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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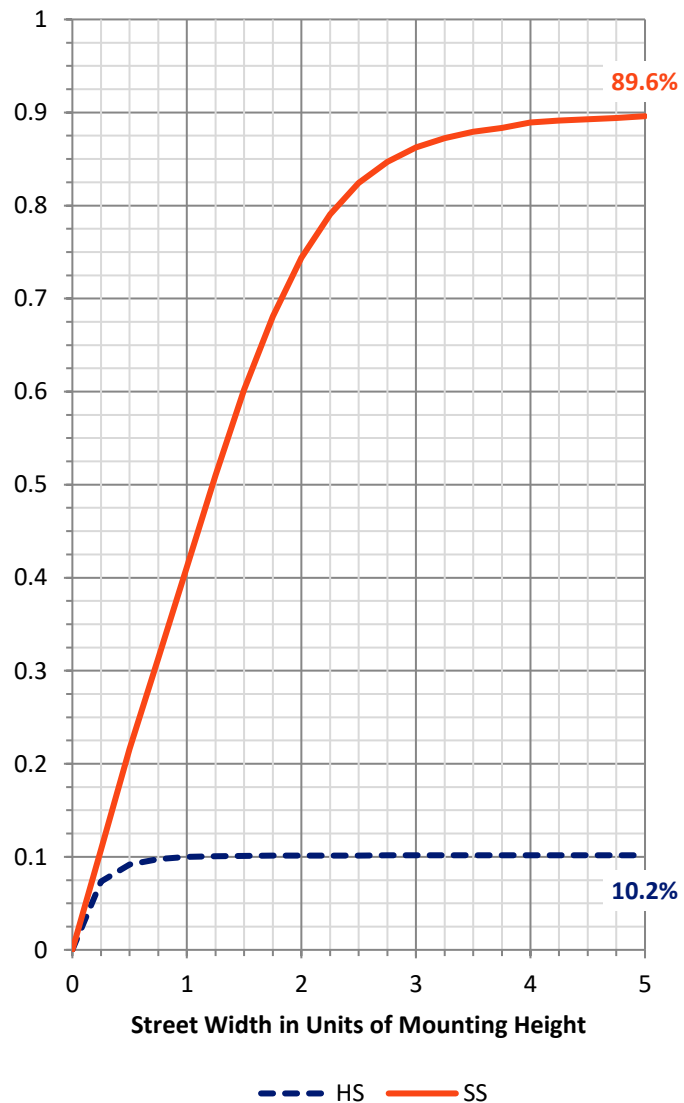
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1376.7	0.0	1376.7
	% Fixture	10.3	0.0	10.3
Street Side	Lumens	12038.3	0.0	12038.3
	% Fixture	89.7	0.0	89.7
Total	Lumens	13415.0	0.0	13415.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.8	1.0
10°-20°	405.9	3.0
20°-30°	638.3	4.8
30°-40°	915.3	6.8
40°-50°	1582.1	11.8
50°-60°	3125.5	23.3
60°-70°	4368.2	32.6
70°-80°	2110.3	15.7
80°-90°	135.6	1.0
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°	13415.0	100.0
0°-180°	13415.0	100.0

Coefficient of Utilization



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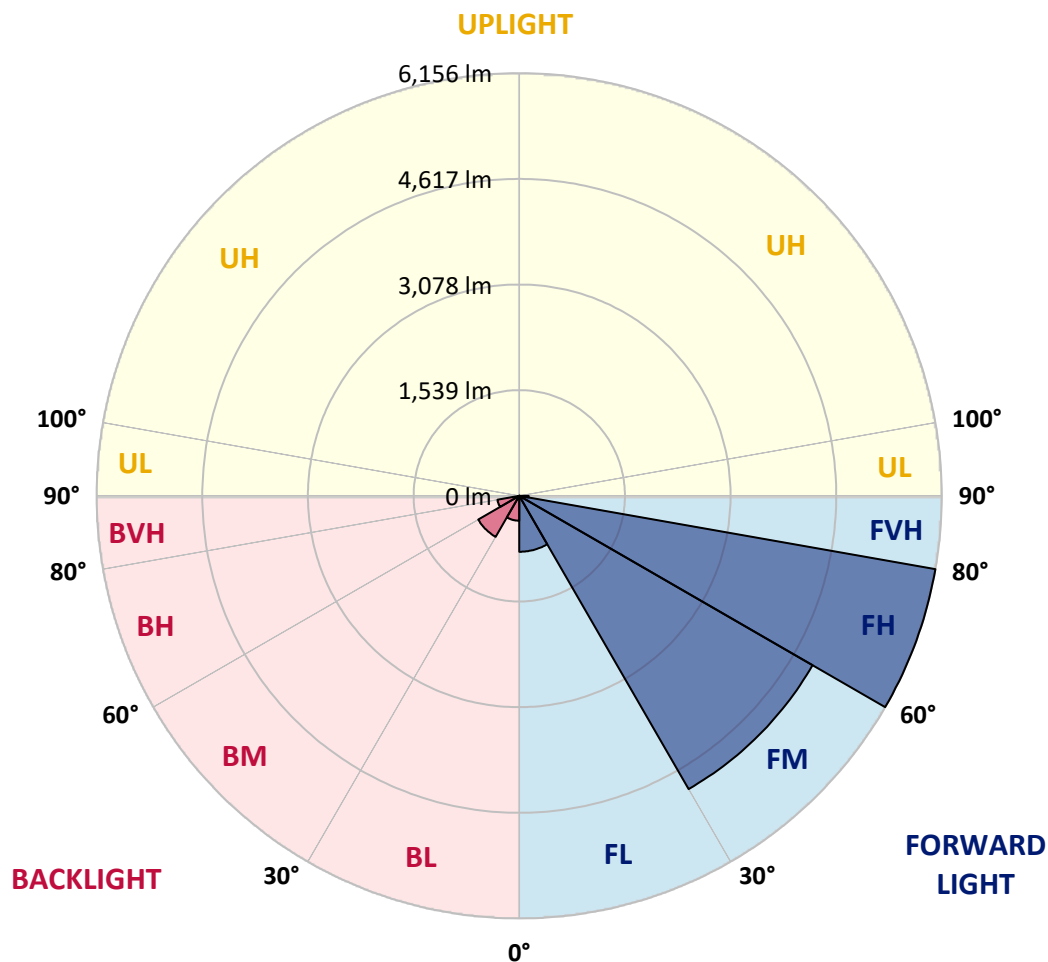
CATALOG NUMBER: GLEON-SA5A-830-U-T4W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	815.1	6.1			
FM	(30°-60°)	4933.0	36.8			
FH	(60°-80°)	6155.7	45.9			G3/7500
FVH	(80°-90°)	134.5	1.0			G2/225
BL	(0°-30°)	362.9	2.7	B1/500		
BM	(30°-60°)	689.9	5.1	B1/1000		
BH	(60°-80°)	322.8	2.4	B1/500		G1/500
BVH	(80°-90°)	1.1	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	46°	55°	65°	75°	85°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1493.2	1491.3	1482.5	1478.7	1457.3	1444.8	1439.7	1424.0	1401.4	1378.7	1353.6
5°	1663.0	1662.4	1646.0	1630.3	1590.1	1552.3	1545.4	1508.9	1458.0	1410.2	1362.4
7.5°	1836.6	1828.4	1812.1	1781.9	1723.4	1663.0	1657.4	1605.8	1533.5	1464.3	1395.7
10°	1983.8	1978.8	1957.4	1911.5	1842.9	1774.4	1767.4	1703.9	1622.1	1537.2	1449.8
12.5°	2098.3	2094.5	2066.2	2009.0	1936.0	1864.9	1855.5	1798.9	1711.5	1616.5	1513.3
15°	2168.1	2166.2	2131.6	2070.6	1998.9	1937.3	1929.1	1879.4	1798.3	1698.9	1582.5
17.5°	2184.5	2185.1	2149.2	2087.6	2028.5	1984.4	1978.1	1940.4	1872.5	1773.7	1651.7
20°	2148.0	2155.5	2123.4	2070.0	2033.5	2010.2	2005.2	1982.5	1925.3	1832.2	1707.1
22.5°	2096.4	2100.2	2078.2	2042.3	2027.2	2031.6	2029.1	2016.5	1968.1	1882.5	1761.8
25°	2064.9	2064.9	2051.7	2021.5	2031.6	2058.7	2059.3	2056.8	2018.4	1944.2	1828.4
27.5°	2063.7	2059.9	2044.8	2022.2	2049.8	2091.4	2093.9	2110.9	2087.0	2019.0	1911.5
30°	2114.0	2109.6	2077.5	2048.0	2083.2	2127.8	2134.1	2171.2	2159.3	2100.2	2003.9
32.5°	2231.6	2215.9	2144.8	2096.4	2122.8	2176.3	2184.5	2243.6	2262.4	2200.2	2093.2
35°	2392.6	2343.0	2240.4	2188.2	2190.7	2246.7	2254.3	2341.1	2397.0	2292.0	2162.4
37.5°	2614.7	2590.1	2423.5	2283.8	2295.2	2380.1	2402.1	2496.4	2480.7	2342.3	2241.1
40°	3101.5	3063.1	2885.8	2551.8	2395.2	2488.2	2495.2	2545.5	2546.7	2456.2	2404.6
42.5°	3764.5	3748.7	3561.9	3038.0	2592.0	2560.6	2573.2	2658.1	2753.1	2696.4	2693.9
45°	4498.5	4490.3	4292.2	3683.3	2990.2	2797.7	2813.4	2927.3	3109.1	3121.6	3201.5
47.5°	5089.1	5085.3	4971.5	4403.5	3599.7	3199.6	3204.7	3325.4	3644.9	3802.8	3930.5
50°	5627.5	5645.7	5555.8	5182.8	4429.9	3829.2	3817.3	3897.8	4411.0	4669.6	4828.1
52.5°	6376.0	6401.8	6149.5	5909.9	5301.1	4610.4	4601.0	4685.3	5331.9	5525.6	5553.9
55°	7037.0	6993.0	6793.6	6724.4	6363.4	5575.3	5572.8	5647.0	6222.5	6304.9	6357.1
57.5°	7328.9	7311.9	7408.1	7566.6	7476.1	6715.6	6710.0	6653.4	7019.4	7028.2	7188.6
60°	7513.2	7533.9	7828.9	8317.6	8543.5	7942.8	7906.3	7561.0	7780.5	7761.0	7932.7
62.5°	7374.8	7415.7	7946.5	8761.1	9342.3	9013.9	8962.4	8392.5	8430.9	8363.6	8523.3
65°	6640.2	6703.7	7573.6	8677.4	9738.5	9851.1	9798.9	9126.5	8947.3	8836.6	8747.9
67.5°	5391.6	5429.4	6337.6	7949.7	9559.9	10350.5	10339.8	9770.0	9337.2	8756.7	8068.6
69°	4455.7	4492.8	5367.1	7183.6	9166.8	10457.4	10478.2	9976.3	9263.0	8271.1	7149.0
70°	3773.9	3813.5	4628.0	6526.9	8710.8	10407.8	10444.9	9956.8	9050.4	7708.8	6342.0
72.5°	1979.4	2013.4	2849.3	4496.6	7101.2	9556.7	9669.3	9115.2	7671.7	5598.6	3750.0
75°	622.1	641.6	1112.7	2350.5	4862.0	7430.8	7456.6	7150.3	5447.6	3079.5	1561.8
77.5°	237.1	231.5	370.5	866.1	2458.1	4679.0	4836.9	4468.3	2858.7	1088.8	360.4
80°	127.7	128.3	192.5	358.5	1051.7	2404.6	2537.9	2165.6	1015.8	339.6	83.0
82.5°	55.4	57.9	108.2	190.0	483.1	886.9	953.5	793.8	388.1	228.3	30.8
85°	12.0	13.2	52.2	103.2	196.9	249.1	261.0	257.3	247.2	177.4	12.0
87.5°	0.0	0.0	23.3	37.1	49.7	56.6	49.7	64.8	136.5	119.5	6.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1345.4	1334.1	1314.6	1293.2	1278.1	1262.4	1249.8	1244.1	1237.8	1233.4	1239.1
5°	1342.9	1320.9	1283.1	1246.6	1220.2	1198.8	1181.2	1174.3	1167.4	1162.4	1161.7
7.5°	1364.9	1334.1	1276.2	1222.7	1181.9	1152.9	1129.0	1119.0	1110.8	1107.0	1103.9
10°	1407.0	1367.4	1290.0	1220.2	1167.4	1118.3	1066.8	1027.1	1001.3	989.4	985.0
12.5°	1461.8	1412.1	1316.5	1233.4	1156.7	1062.3	952.9	858.6	797.5	777.4	765.5
15°	1525.9	1464.3	1351.1	1250.4	1117.7	945.4	759.8	636.5	579.9	568.6	556.0
17.5°	1587.5	1519.6	1392.6	1253.6	1032.2	755.4	556.6	473.0	451.0	458.5	460.4
20°	1641.6	1574.3	1433.4	1225.9	876.8	566.7	430.9	410.1	418.3	432.7	435.3
22.5°	1696.4	1627.2	1471.2	1152.9	678.0	430.2	388.1	393.1	401.3	415.8	418.3
25°	1763.0	1691.3	1506.4	1018.9	508.8	366.1	368.6	376.1	384.3	397.5	398.8
27.5°	1839.8	1772.5	1529.7	844.7	377.4	336.5	344.7	356.0	364.2	376.8	379.3
30°	1941.7	1879.4	1537.2	664.2	316.4	310.1	313.9	327.7	339.6	351.0	352.9
32.5°	2037.3	1985.1	1512.1	501.3	293.1	285.6	285.6	293.7	307.6	318.3	320.8
35°	2125.3	2091.4	1431.6	366.7	275.5	262.9	256.6	256.6	265.4	274.2	276.8
37.5°	2241.7	2240.4	1301.4	292.5	258.5	244.0	230.8	220.8	217.6	219.5	220.8
40°	2441.1	2443.0	1131.5	262.3	244.0	224.5	204.4	186.2	169.2	163.5	162.9
42.5°	2752.4	2724.1	953.5	247.8	231.5	204.4	174.2	149.7	123.3	115.1	114.5
45°	3246.8	3078.9	764.8	234.6	218.3	181.8	144.0	110.7	89.3	83.0	83.0
47.5°	3967.0	3544.9	592.5	220.1	200.6	156.0	108.8	79.9	65.4	62.3	62.9
50°	4711.7	4001.6	454.1	201.9	179.3	128.9	80.5	57.9	49.7	49.7	50.3
52.5°	5372.1	4336.2	354.1	182.4	152.8	101.3	61.0	45.3	41.5	40.9	41.5
55°	5990.4	4551.9	271.1	159.8	121.4	75.5	46.5	37.1	34.6	33.3	32.7
57.5°	6586.7	4658.9	203.2	128.9	88.1	54.7	37.1	31.4	28.9	27.0	26.4
60°	6983.6	4572.1	139.6	95.0	61.0	39.6	30.8	27.0	23.9	22.0	21.4
62.5°	7207.5	4334.9	89.9	68.6	43.4	29.6	24.5	22.6	18.2	16.4	16.4
65°	7116.9	3943.7	62.9	49.1	31.4	22.0	18.2	18.2	13.2	10.7	10.1
67.5°	6306.8	3331.7	47.8	36.5	22.6	16.4	13.8	15.7	8.2	5.0	5.0
69°	5426.2	2761.2	40.9	30.2	18.9	13.2	12.0	14.5	5.7	3.8	3.1
70°	4716.1	2382.0	37.1	26.4	15.7	11.3	10.7	13.8	5.7	3.1	2.5
72.5°	2821.6	1328.4	28.3	18.9	10.1	8.8	8.8	15.7	5.7	3.1	2.5
75°	1140.3	468.0	20.8	13.2	7.5	7.5	10.7	20.1	5.0	2.5	1.9
77.5°	258.5	102.5	12.0	8.2	5.0	7.5	12.6	15.7	3.1	1.3	0.0
80°	62.9	25.2	7.5	5.0	3.1	5.7	9.4	8.8	0.6	0.0	0.0
82.5°	20.8	8.8	3.1	2.5	0.6	1.9	4.4	2.5	0.0	0.0	0.0
85°	8.8	5.0	1.3	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0
87.5°	5.7	1.9	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

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
 Rf: 81.5
 Rg: 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

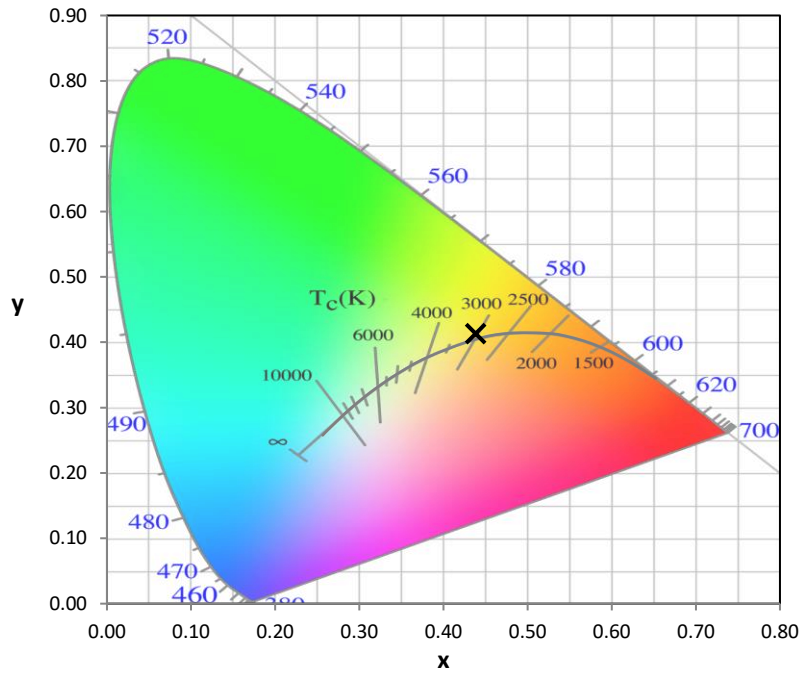
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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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

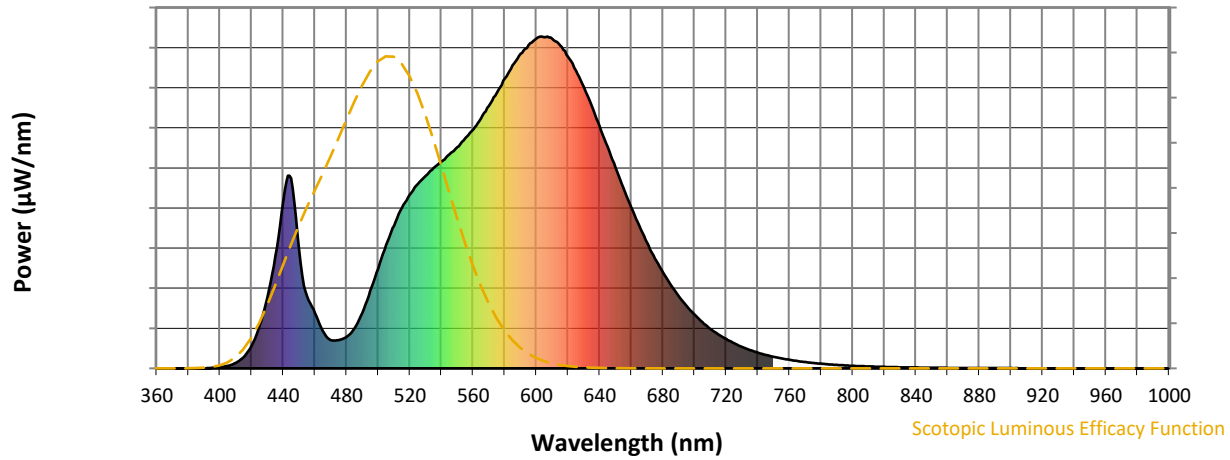


Photopic Lumens: NR

λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /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



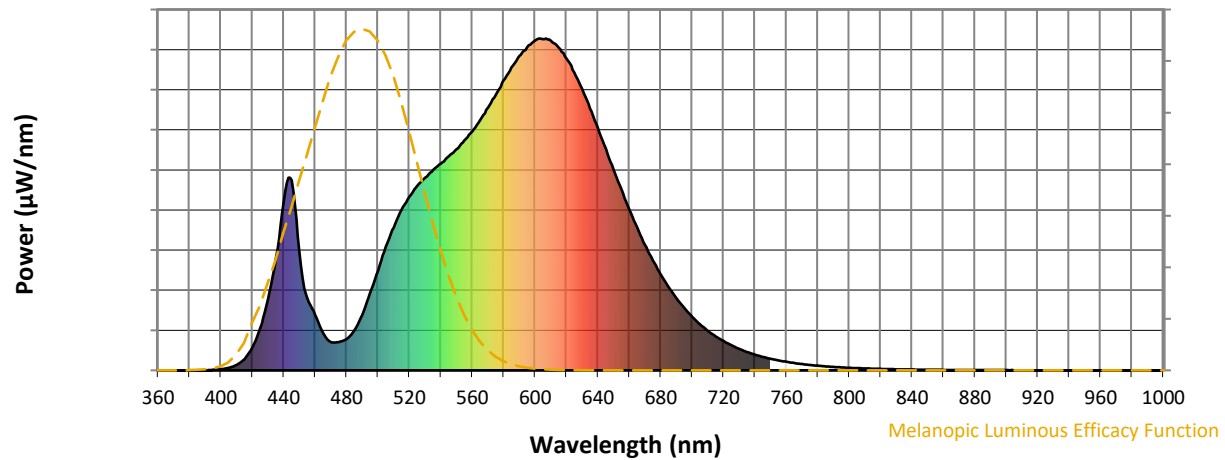
Scotopic Lumens: NR

S/P: 1.27

λ (nm)	Power 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			

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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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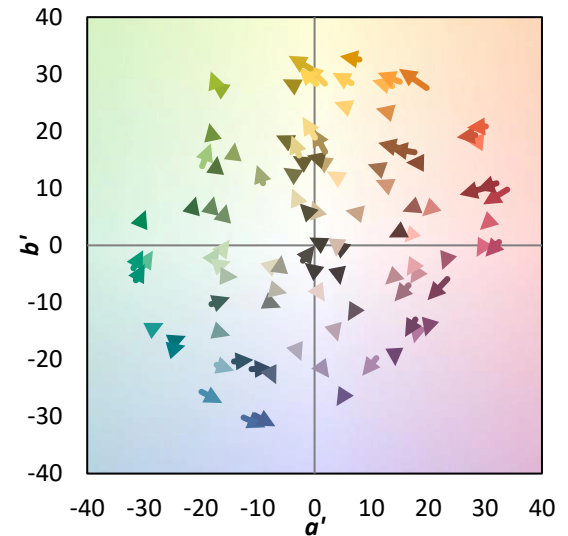
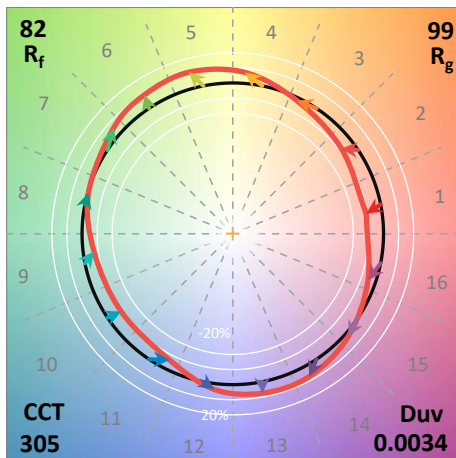
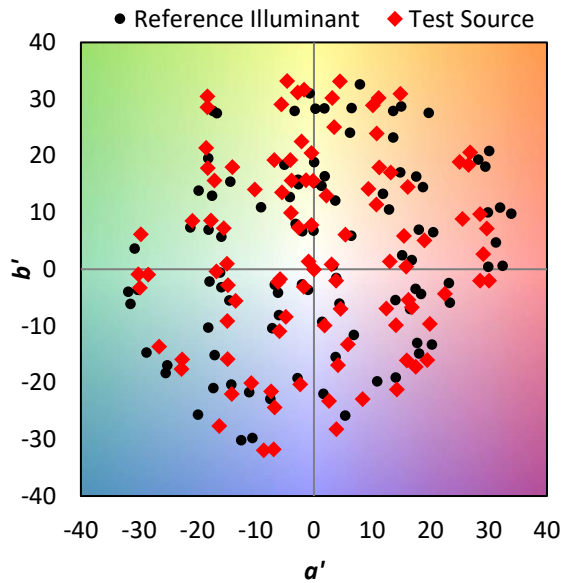
TM-30-18

Summary

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

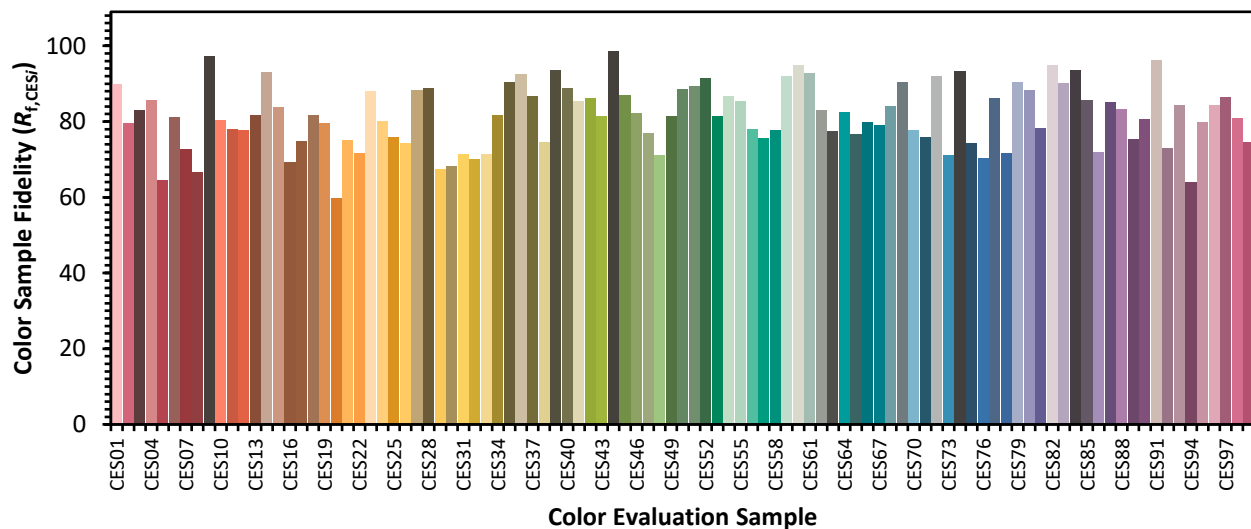


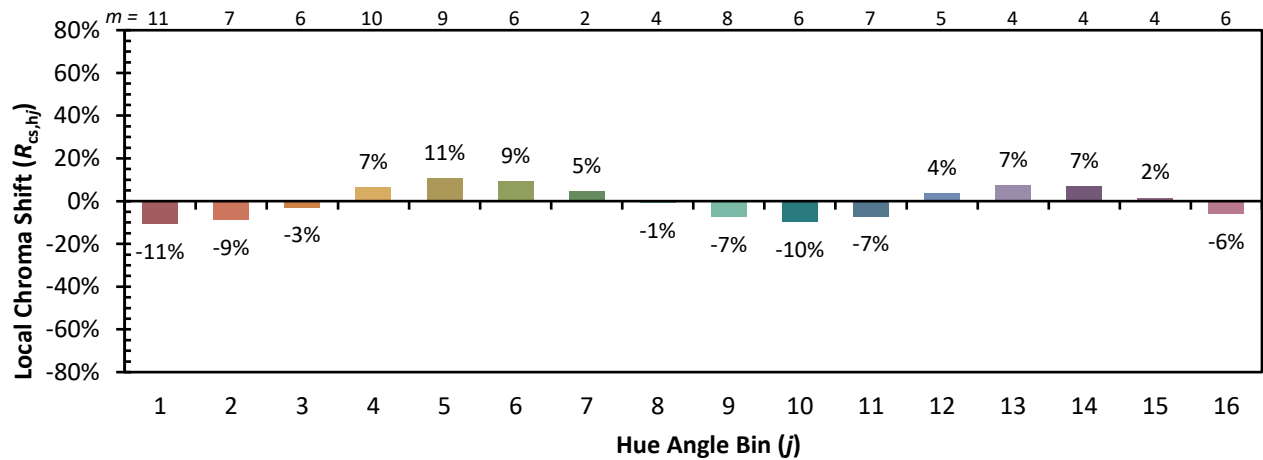
Color Vector Graphics

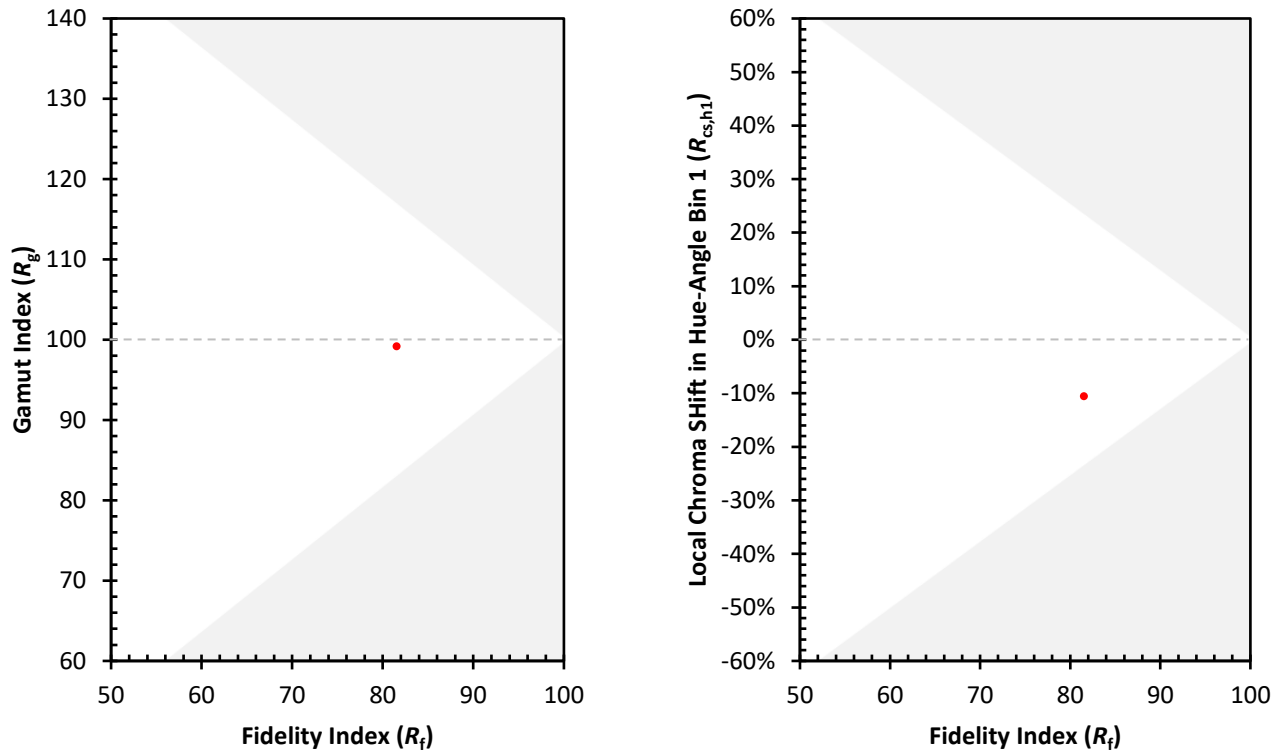


Individual Sample Fidelity Index ($R_{f,i}$)

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)