

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: P321748

Luminaire Tested: **GLEON-SA4A-830-U-T3R-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P321748
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-11)
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-T3R-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11488 lumens
Efficiency: N/A
Efficacy: 89.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G2

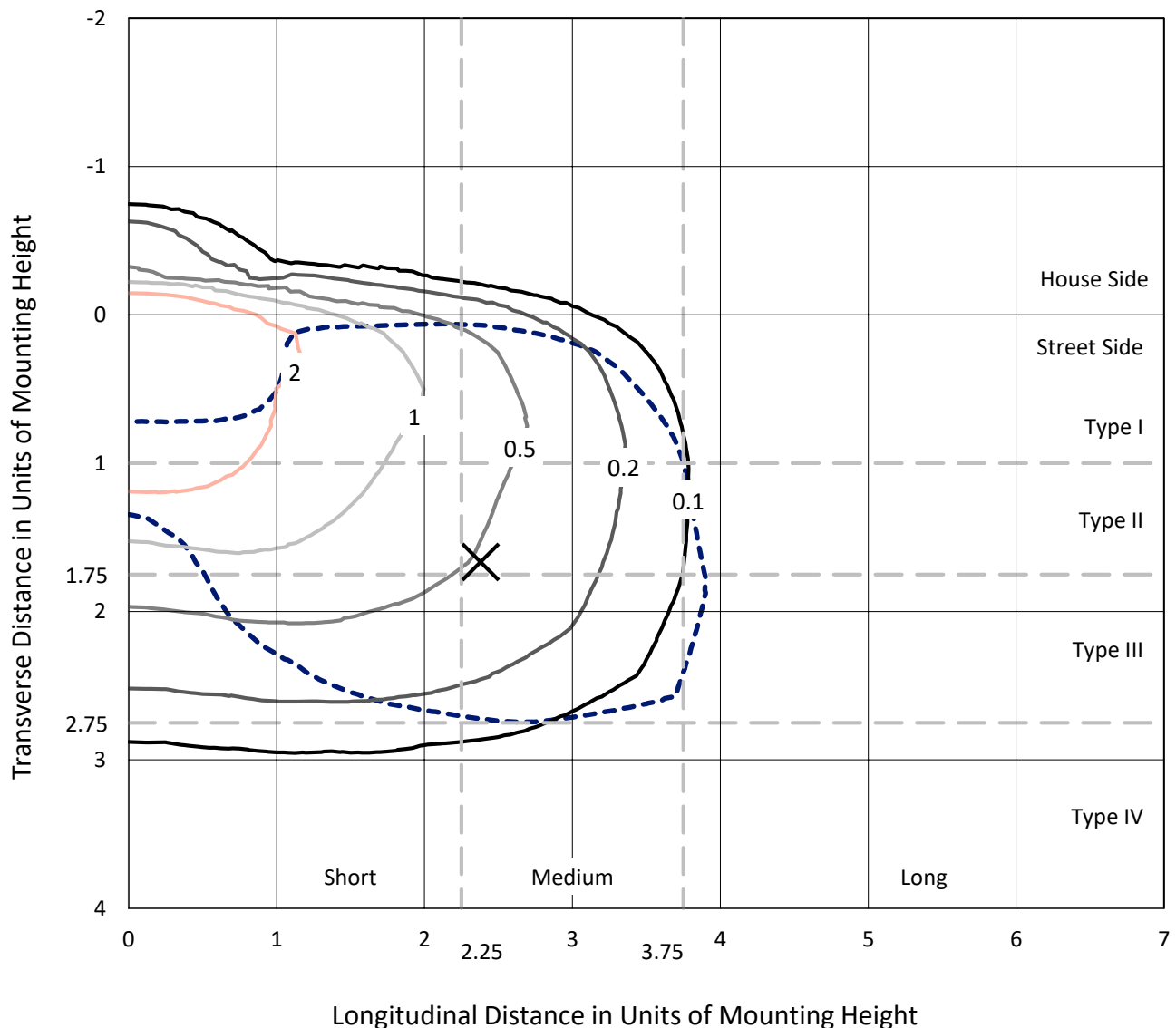
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

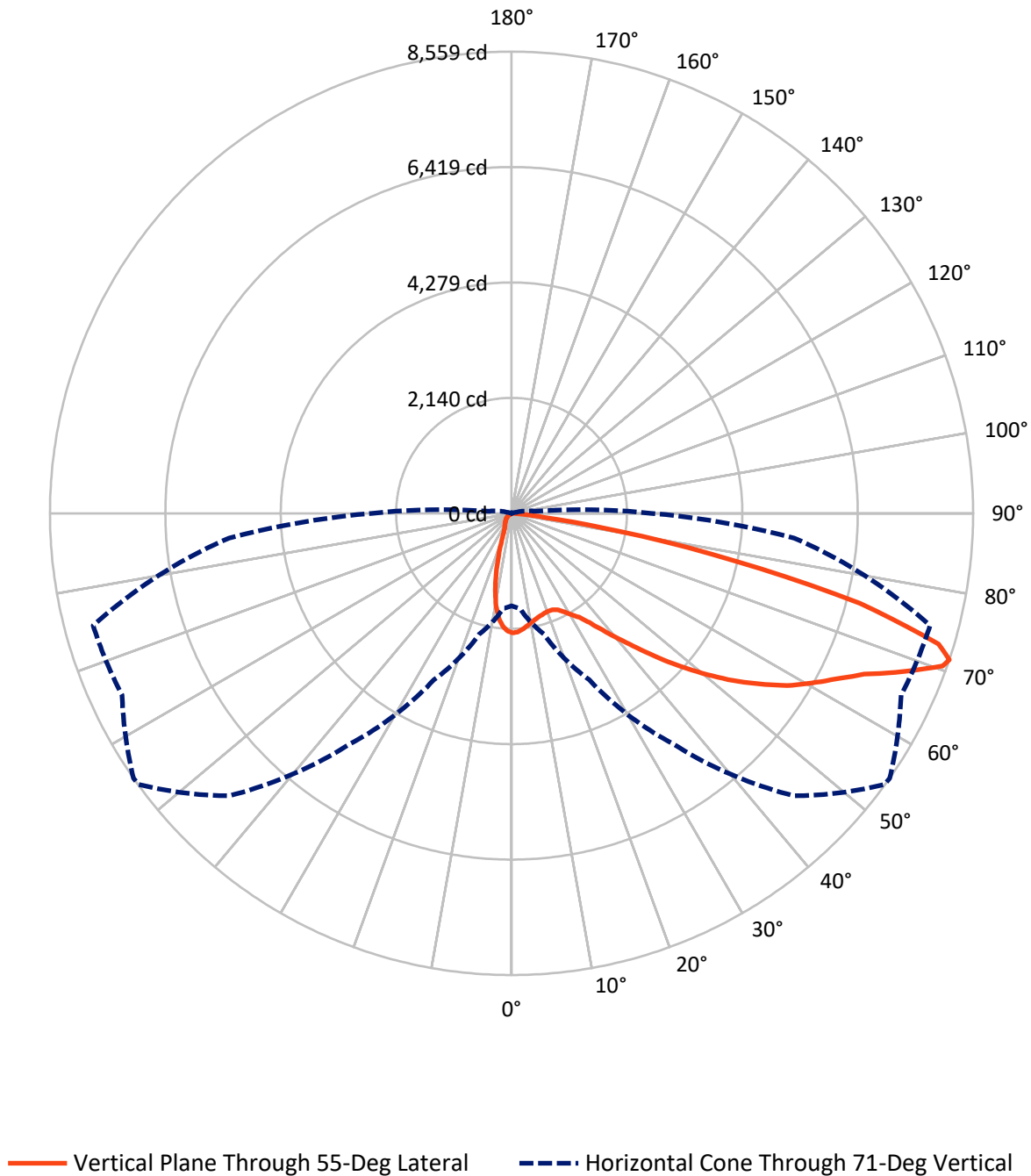
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



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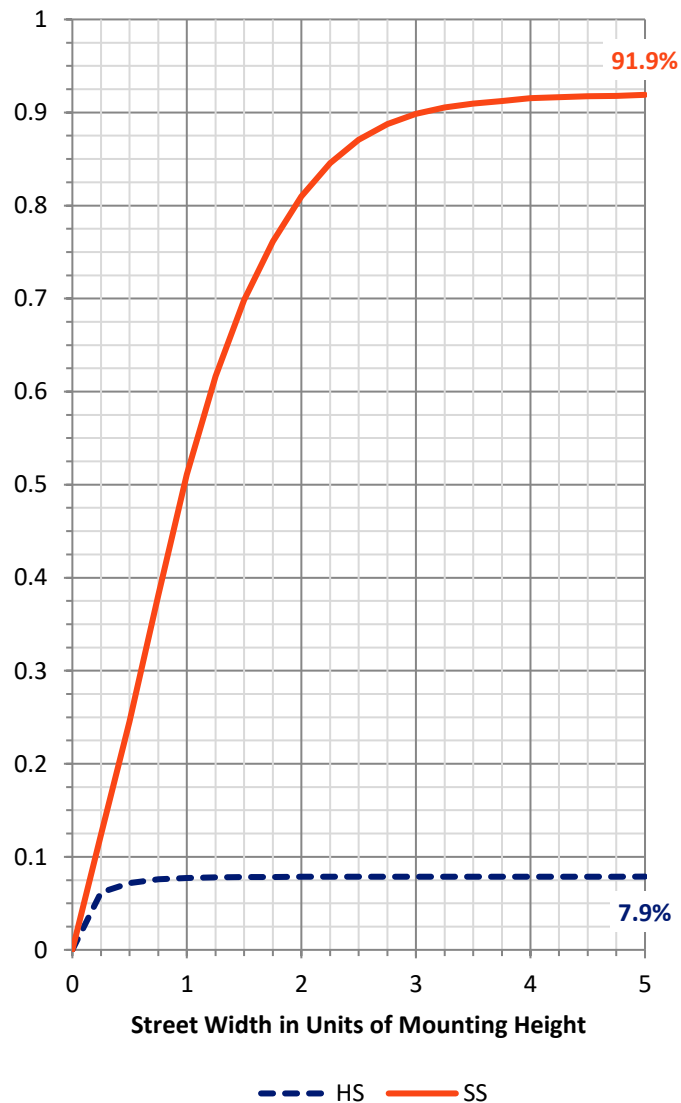
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	909.5	0.0	909.5
	% Fixture	7.9	0.0	7.9
Street Side	Lumens	10578.5	0.0	10578.5
	% Fixture	92.1	0.0	92.1
Total	Lumens	11488.0	0.0	11488.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.9	1.6
10°-20°	426.5	3.7
20°-30°	685.3	6.0
30°-40°	1164.4	10.1
40°-50°	1807.3	15.7
50°-60°	2429.9	21.2
60°-70°	2972.6	25.9
70°-80°	1738.0	15.1
80°-90°	75.1	0.7
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°	11488.0	100.0
0°-180°	11488.0	100.0

Coefficient of Utilization



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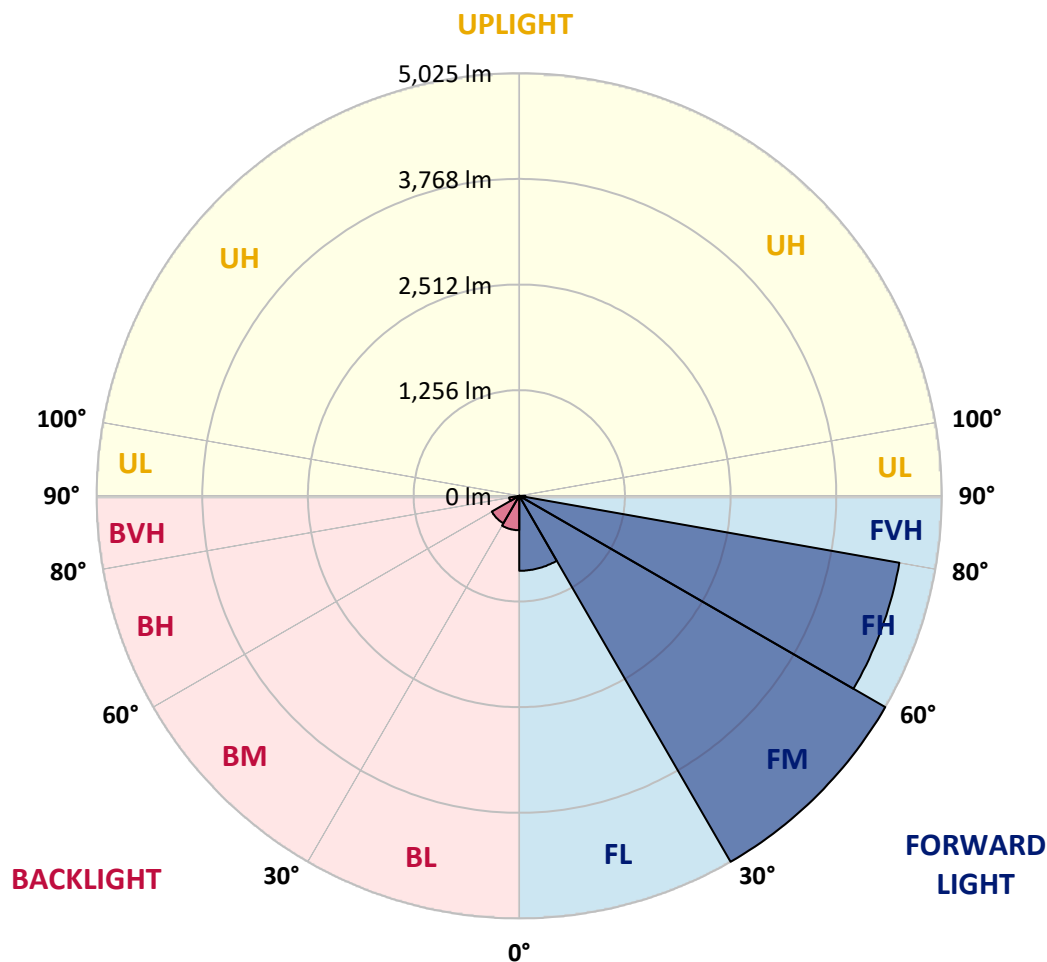
CATALOG NUMBER: GLEON-SA4A-830-U-T3R-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	891.3	7.8			
FM	(30°-60°)	5024.5	43.7			
FH	(60°-80°)	4588.7	39.9			G2/5000
FVH	(80°-90°)	73.9	0.6			G1/100
BL	(0°-30°)	409.4	3.6	B1/500		
BM	(30°-60°)	377.1	3.3	B1/1000		
BH	(60°-80°)	121.9	1.1	B1/500		G1/500
BVH	(80°-90°)	1.2	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



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	54°	55°	65°	75°	85°
0°	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5
2.5°	2150.5	2153.1	2162.4	2166.5	2176.3	2192.8	2201.1	2201.6	2215.0	2220.1	2224.3
5°	1998.3	2013.8	2029.3	2045.8	2075.7	2115.4	2154.6	2158.2	2201.6	2233.6	2250.6
7.5°	1867.3	1881.2	1899.8	1926.1	1968.4	2030.8	2096.3	2104.1	2186.1	2258.8	2297.0
10°	1732.7	1744.0	1770.9	1809.5	1867.8	1951.4	2039.6	2052.5	2172.2	2292.9	2359.9
12.5°	1588.8	1595.5	1628.0	1683.7	1769.3	1875.6	1991.6	2008.7	2163.4	2332.1	2434.2
15°	1479.4	1482.5	1513.5	1571.2	1669.2	1807.5	1954.5	1975.1	2165.5	2379.0	2515.2
17.5°	1451.6	1453.1	1469.6	1509.3	1596.0	1746.6	1925.1	1950.4	2171.7	2424.9	2596.7
20°	1564.5	1553.7	1536.7	1530.5	1567.6	1710.0	1907.5	1935.9	2179.9	2465.7	2670.0
22.5°	1874.5	1842.6	1771.9	1677.5	1620.2	1712.6	1912.2	1940.6	2206.2	2515.7	2754.5
25°	2334.7	2290.3	2170.1	1984.4	1805.9	1786.8	1950.9	1979.8	2257.3	2575.6	2835.5
27.5°	2858.2	2814.4	2667.4	2402.2	2097.9	1933.9	2039.6	2066.4	2333.1	2628.7	2897.4
30°	3359.6	3347.2	3173.9	2872.7	2465.2	2172.2	2154.1	2176.8	2389.3	2660.7	2946.4
32.5°	3784.7	3765.1	3625.8	3332.8	2885.6	2458.5	2288.8	2295.5	2431.6	2701.9	3010.4
35°	4178.8	4154.5	4032.3	3755.3	3316.8	2808.2	2496.1	2486.3	2524.0	2785.0	3103.3
37.5°	4522.8	4545.0	4409.3	4145.7	3703.7	3171.9	2775.7	2746.3	2668.4	2920.1	3237.9
40°	4810.7	4810.7	4740.0	4520.2	4121.5	3547.9	3091.9	3053.2	2885.6	3128.5	3408.6
42.5°	4914.3	4936.5	4962.8	4838.5	4495.5	3938.9	3444.2	3404.0	3191.5	3424.1	3624.2
45°	4920.5	4955.6	5090.2	5089.7	4833.4	4327.3	3841.4	3822.3	3583.5	3803.8	3891.4
47.5°	4833.4	4877.2	5099.0	5224.9	5101.1	4688.9	4275.7	4252.0	4044.1	4269.0	4171.0
50°	4698.7	4747.2	5005.1	5278.0	5283.2	5003.6	4733.3	4697.7	4551.2	4800.9	4459.9
52.5°	4457.8	4551.7	4921.0	5290.4	5402.8	5275.4	5168.6	5153.2	5118.6	5313.1	4690.0
55°	3942.5	4046.7	4710.1	5294.5	5513.7	5516.3	5576.7	5580.8	5650.4	5791.8	4861.2
57.5°	3699.0	3757.8	4341.8	5314.1	5678.3	5789.7	5992.4	6024.4	6132.2	6246.2	5056.7
60°	3545.8	3615.5	4160.2	5287.3	5936.7	6148.2	6377.8	6388.6	6504.1	6715.1	5321.3
62.5°	3423.6	3492.2	4045.7	5184.1	6227.1	6579.4	6754.3	6755.3	6842.0	7273.8	5622.1
65°	3121.8	3179.6	3814.1	5068.1	6419.0	7006.0	7191.7	7185.0	7255.7	7862.8	5971.3
67.5°	2685.4	2729.8	3341.0	4628.1	6346.8	7393.9	7852.0	7829.8	7744.2	8372.0	6108.5
70°	2076.2	2092.2	2633.3	3856.9	5670.0	7543.0	8490.1	8478.7	8043.9	8280.7	5605.6
71°	1716.2	1768.8	2320.7	3404.0	5216.6	7405.3	8552.0	8558.7	7968.6	8032.0	5259.4
72.5°	996.6	1041.5	1682.1	2614.2	4428.9	6830.7	8231.1	8279.6	7616.8	7305.7	4492.4
75°	213.6	228.5	623.6	1265.3	2436.3	4787.4	6496.9	6669.7	6208.0	4970.0	2707.6
77.5°	148.6	160.4	267.2	574.1	805.2	2365.6	4035.9	4230.9	3708.8	1867.8	866.6
80°	117.6	131.0	208.4	283.7	217.7	762.9	1890.5	2009.7	1237.0	416.8	146.0
82.5°	65.5	77.9	162.5	153.2	83.6	144.9	529.2	598.4	247.6	84.1	34.6
85°	19.1	23.2	104.7	111.4	35.6	27.9	90.3	111.9	46.9	22.2	15.5
87.5°	0.0	0.0	50.6	42.8	10.3	4.1	8.3	9.3	9.3	9.3	10.3
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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CATALOG NUMBER: GLEON-SA4A-830-U-T3R-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5	2215.5
2.5°	2224.3	2227.9	2215.0	2198.0	2179.9	2157.7	2134.5	2116.5	2115.9	2107.2	2098.4
5°	2251.6	2249.5	2214.0	2159.8	2095.8	2029.3	1965.8	1894.1	1870.4	1841.0	1831.2
7.5°	2302.2	2287.7	2212.4	2093.8	1953.5	1814.2	1670.3	1525.3	1463.4	1407.7	1397.9
10°	2365.6	2338.3	2202.6	1994.7	1737.3	1480.4	1263.3	1066.2	979.6	913.0	909.9
12.5°	2431.6	2389.9	2175.3	1845.1	1454.1	1093.0	842.9	648.9	576.7	530.3	534.4
15°	2500.8	2438.3	2116.5	1643.4	1131.7	741.8	517.9	403.9	375.0	363.1	366.2
17.5°	2571.4	2471.9	2034.4	1400.5	813.5	478.7	358.5	326.5	326.5	329.1	330.1
20°	2632.8	2489.9	1913.7	1128.1	551.4	348.7	313.6	309.0	311.6	315.7	316.2
22.5°	2693.7	2491.0	1756.4	852.2	385.8	305.4	298.7	296.6	298.2	302.8	303.3
25°	2743.2	2478.6	1559.4	606.1	308.0	287.8	284.7	283.7	284.7	290.4	290.4
27.5°	2763.3	2433.7	1319.0	426.1	276.0	268.2	267.2	268.2	269.8	273.9	274.4
30°	2765.4	2355.3	1056.9	308.5	250.2	241.9	244.0	247.6	246.1	245.0	246.1
32.5°	2770.5	2264.5	801.6	253.8	228.5	215.6	213.0	213.0	206.8	203.2	201.2
35°	2787.6	2157.7	581.3	228.0	206.3	191.4	181.6	170.2	158.4	152.2	150.6
37.5°	2814.4	2045.8	416.3	211.0	186.7	169.7	151.1	131.0	114.0	109.4	109.4
40°	2863.4	1930.2	308.0	197.6	171.3	150.1	122.3	95.9	80.5	77.9	77.9
42.5°	2940.8	1808.5	245.5	185.7	157.8	130.0	93.4	69.6	58.3	56.7	56.2
45°	3021.2	1674.4	214.6	174.4	143.4	106.8	69.1	51.6	44.9	43.3	43.3
47.5°	3101.7	1531.5	199.6	163.5	129.5	83.0	51.6	40.8	37.7	37.7	38.2
50°	3169.8	1382.4	188.8	151.7	111.4	62.9	40.8	34.6	33.5	35.6	36.1
52.5°	3186.8	1235.9	175.4	136.7	89.2	48.0	33.5	30.4	30.4	30.4	30.4
55°	3176.5	1122.5	157.8	118.1	66.0	38.2	28.9	26.8	26.3	26.3	26.3
57.5°	3211.6	1055.4	126.4	91.8	47.5	30.9	25.3	23.7	22.7	22.2	22.2
60°	3282.2	1011.5	90.3	66.0	35.6	25.8	21.7	20.1	18.6	17.5	17.5
62.5°	3376.1	973.4	67.1	49.0	27.3	20.6	18.1	16.5	14.4	13.4	13.4
65°	3448.3	905.3	51.1	36.6	20.6	16.5	13.9	13.4	10.3	9.3	8.8
67.5°	3338.0	755.7	41.3	26.8	15.5	12.9	10.8	10.3	6.2	5.2	5.2
70°	2862.9	526.1	33.0	19.6	11.3	10.3	8.8	6.7	4.6	4.1	4.1
71°	2596.2	439.5	29.9	16.5	9.8	9.8	8.3	5.7	4.1	3.6	3.6
72.5°	2156.7	312.1	25.3	12.9	8.8	10.3	8.8	5.2	4.1	3.6	3.1
75°	1251.9	130.5	17.5	8.8	6.7	12.4	11.3	4.6	3.1	2.6	2.6
77.5°	376.6	48.0	9.8	5.7	5.2	10.8	12.9	4.1	1.5	0.5	0.5
80°	68.6	20.6	6.2	3.6	3.6	6.7	9.8	2.1	0.0	0.0	0.0
82.5°	24.2	10.3	3.6	2.1	1.5	3.1	4.6	0.0	0.0	0.0	0.0
85°	13.9	7.2	2.1	1.0	0.0	0.5	1.0	0.0	0.0	0.0	0.0
87.5°	9.3	2.1	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
 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

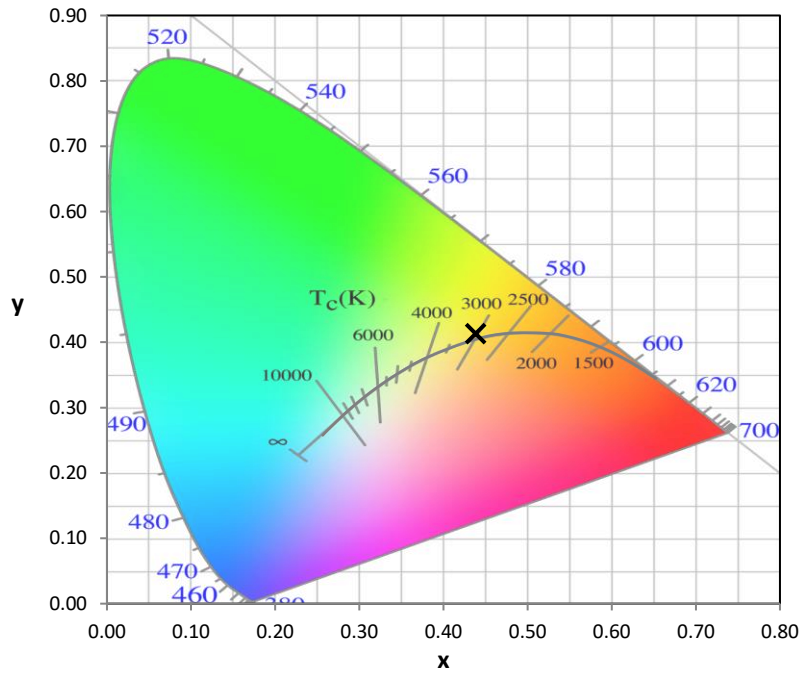
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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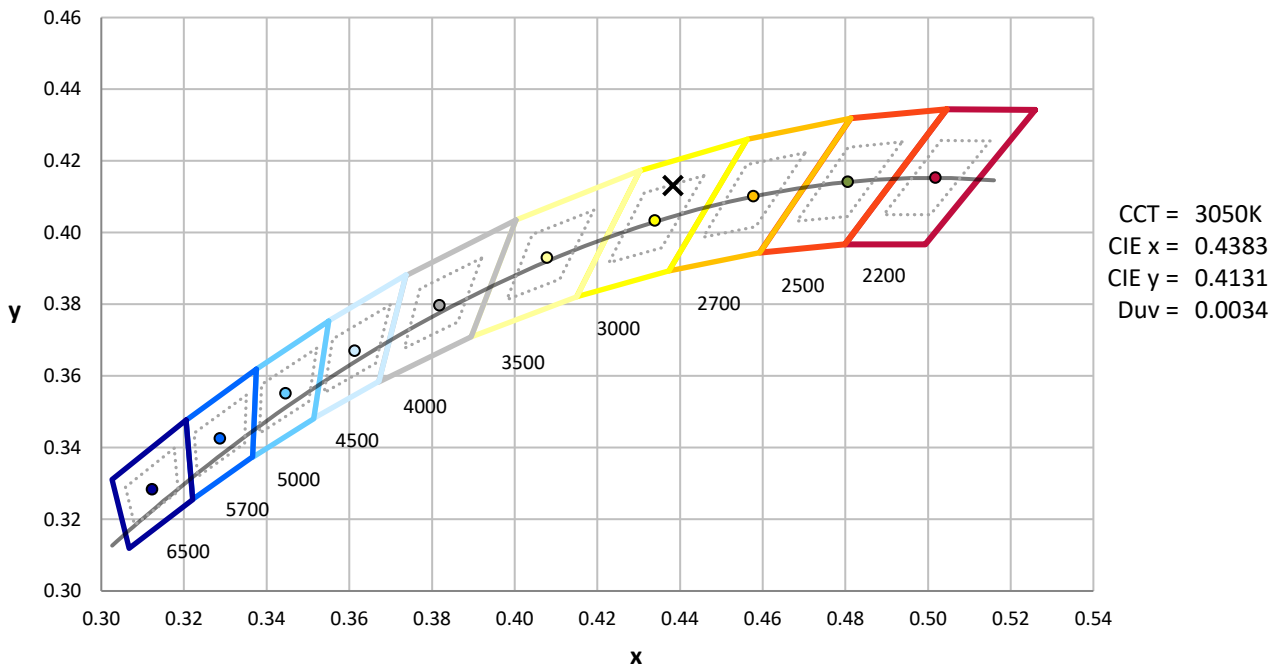
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

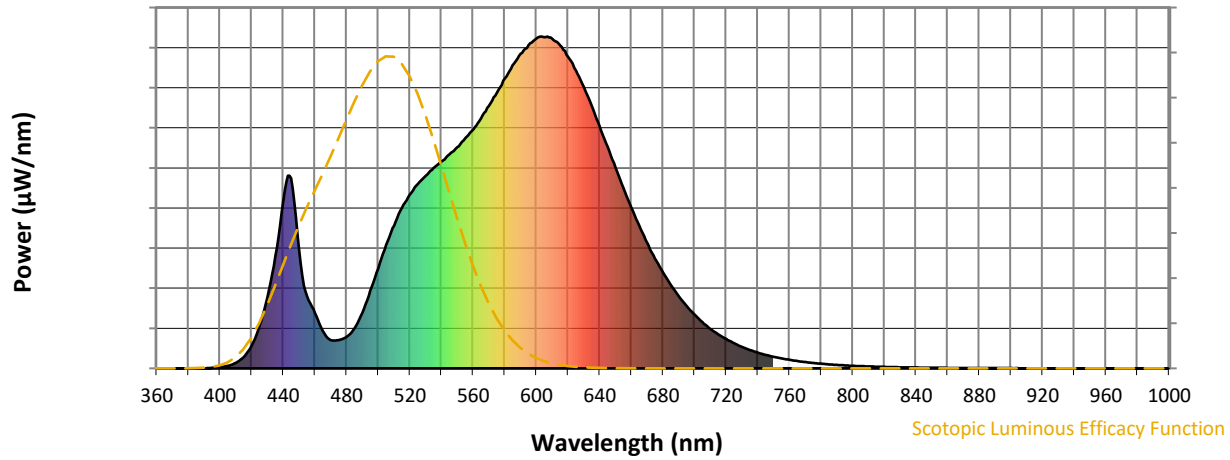


Photopic Lumens: NR

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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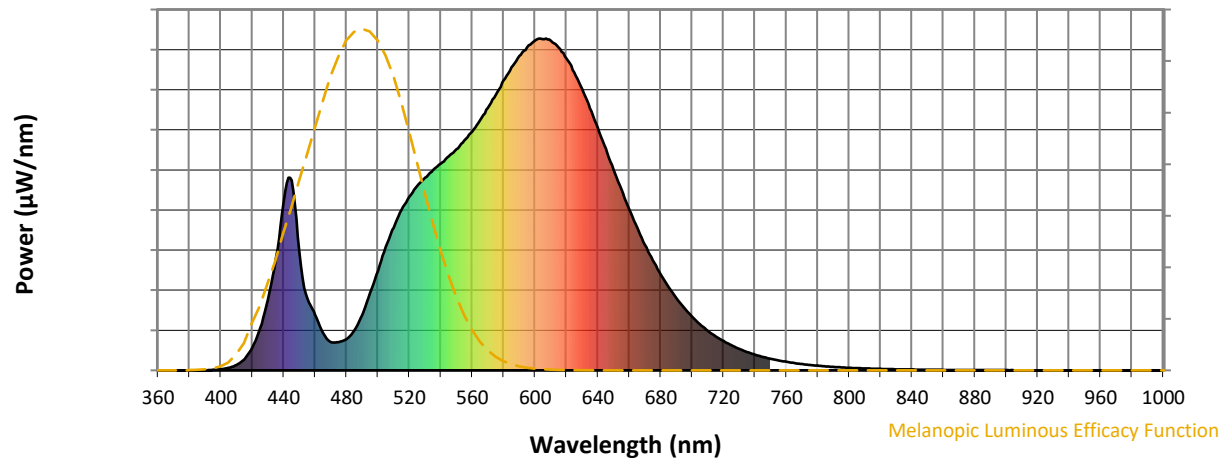
Scotopic Flux vs. Wavelength


Scotopic Lumens: NR
S/P: 1.27

λ (nm)	Power 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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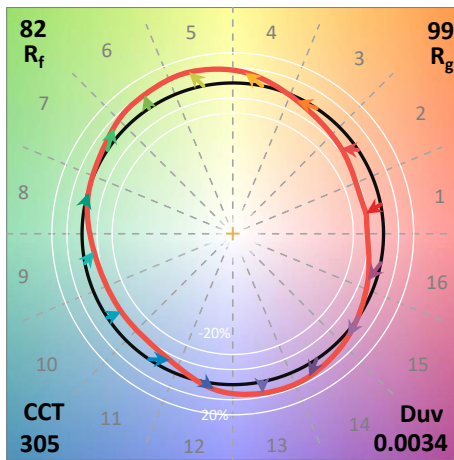
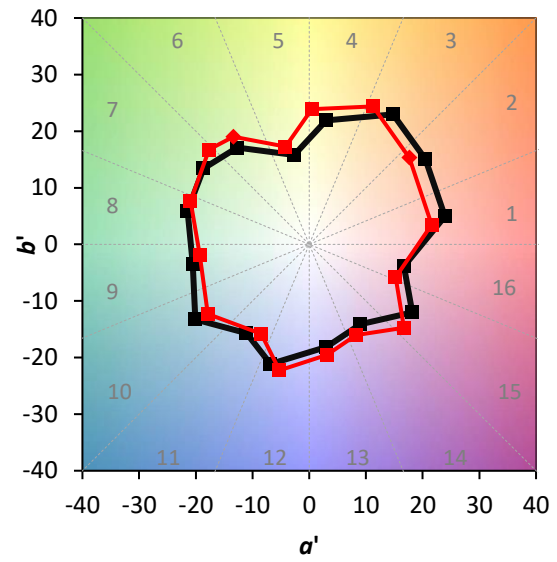
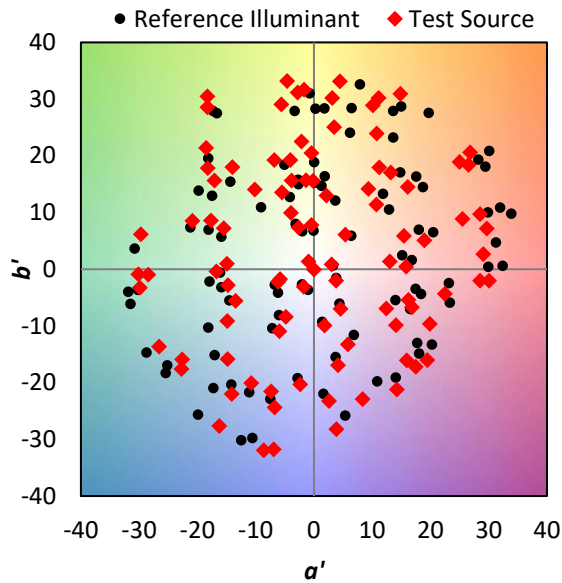
TM-30-18

Summary

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

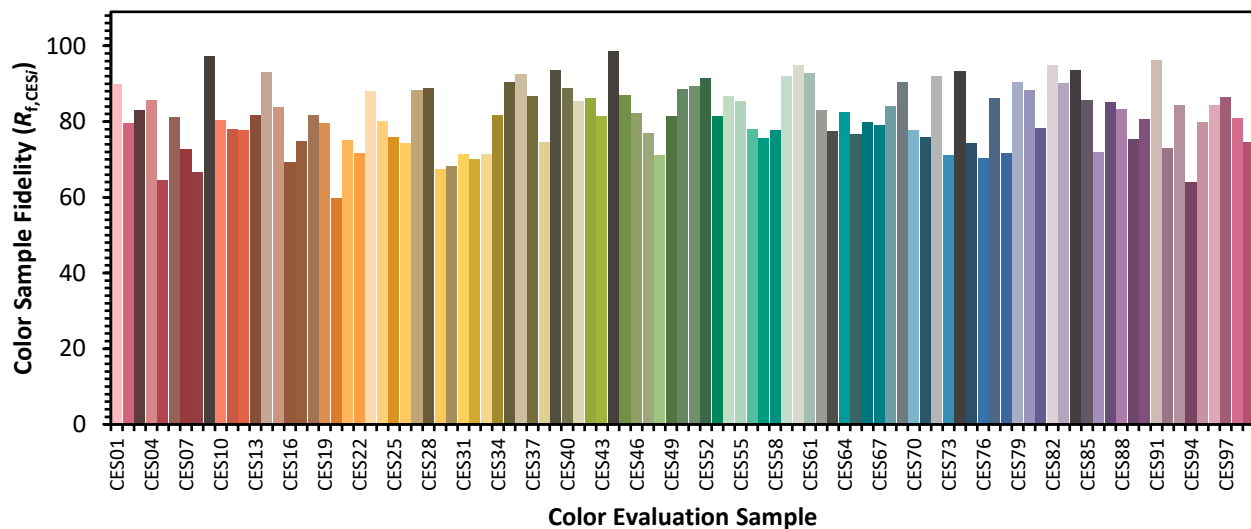


Color Vector Graphics

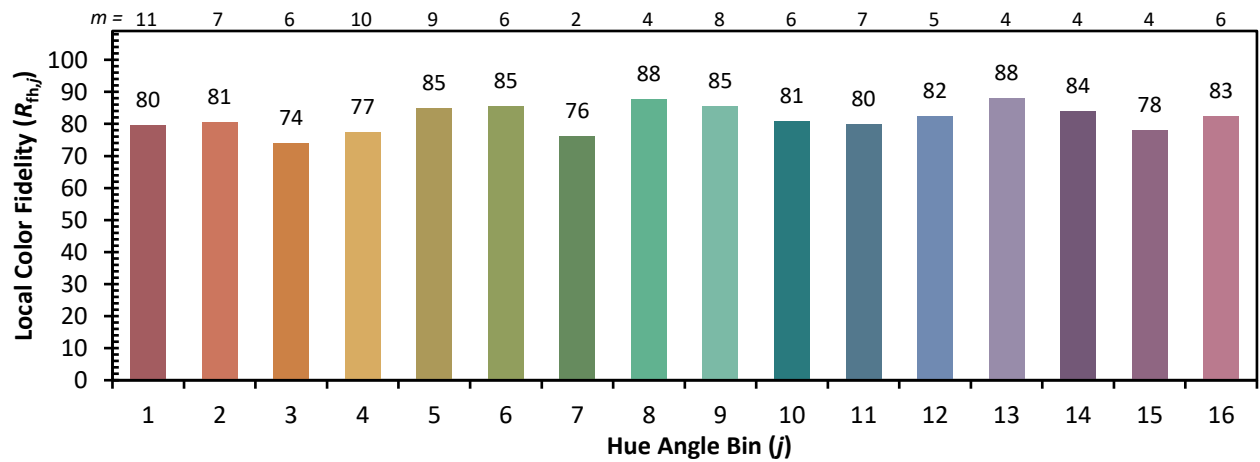
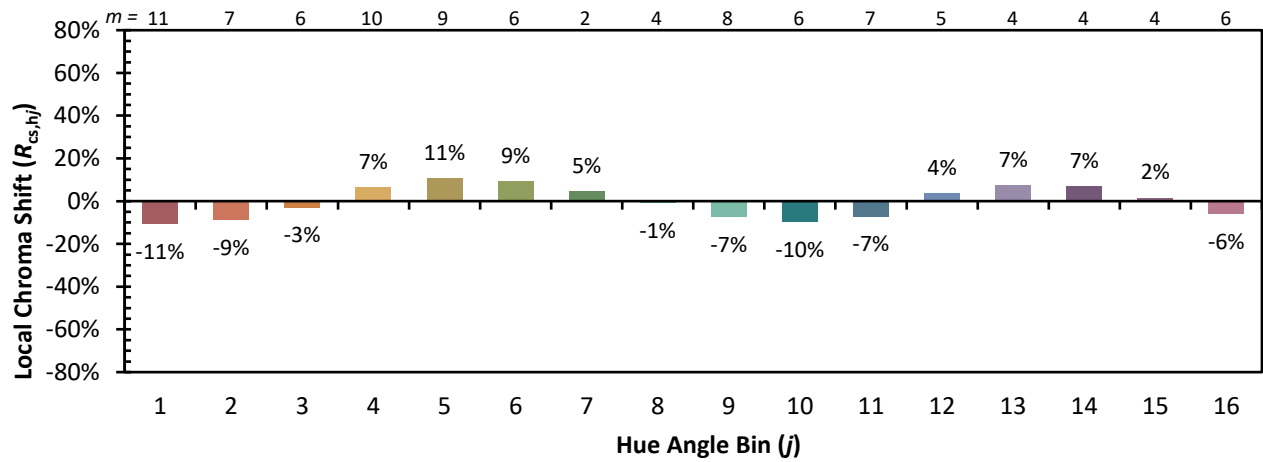


Individual Sample Fidelity Index ($R_{f,i}$)

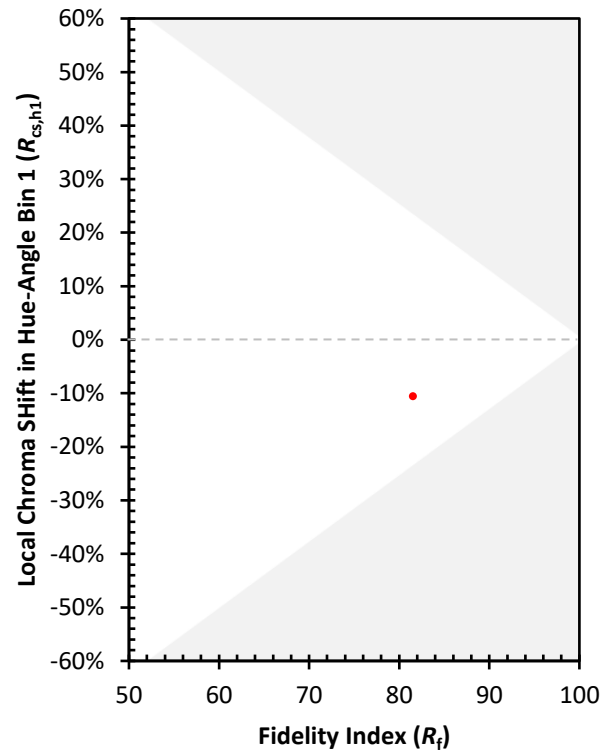
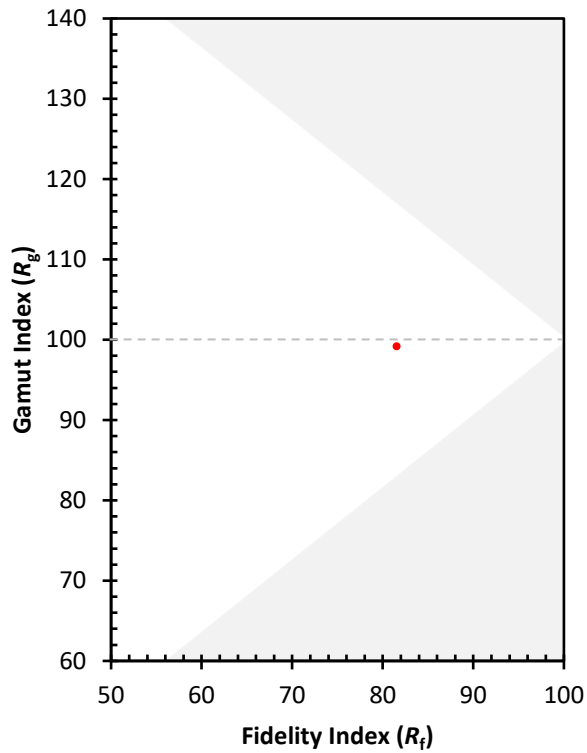
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 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)