

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P631544

Luminaire Tested: GWS-SA1F-830-U-SL3-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P631544
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-33)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1F-830-U-SL3-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND
TYPE III SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD,
WH
Light Source: (16) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5604.8 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G1

Input Watts (W): 67.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



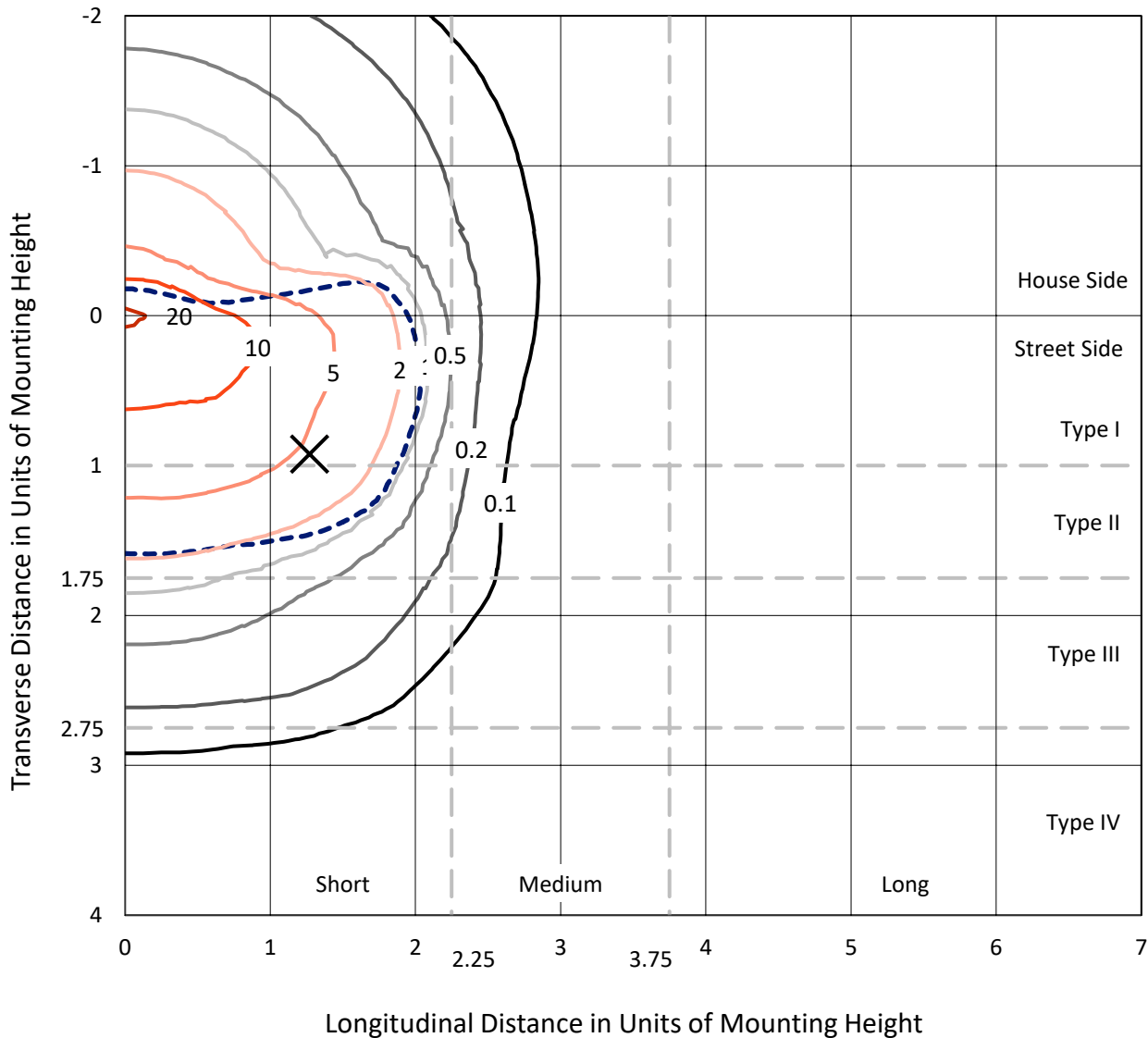
REPORT NUMBER: P631544

CATALOG NUMBER: GWS-SA1F-830-U-SL3-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

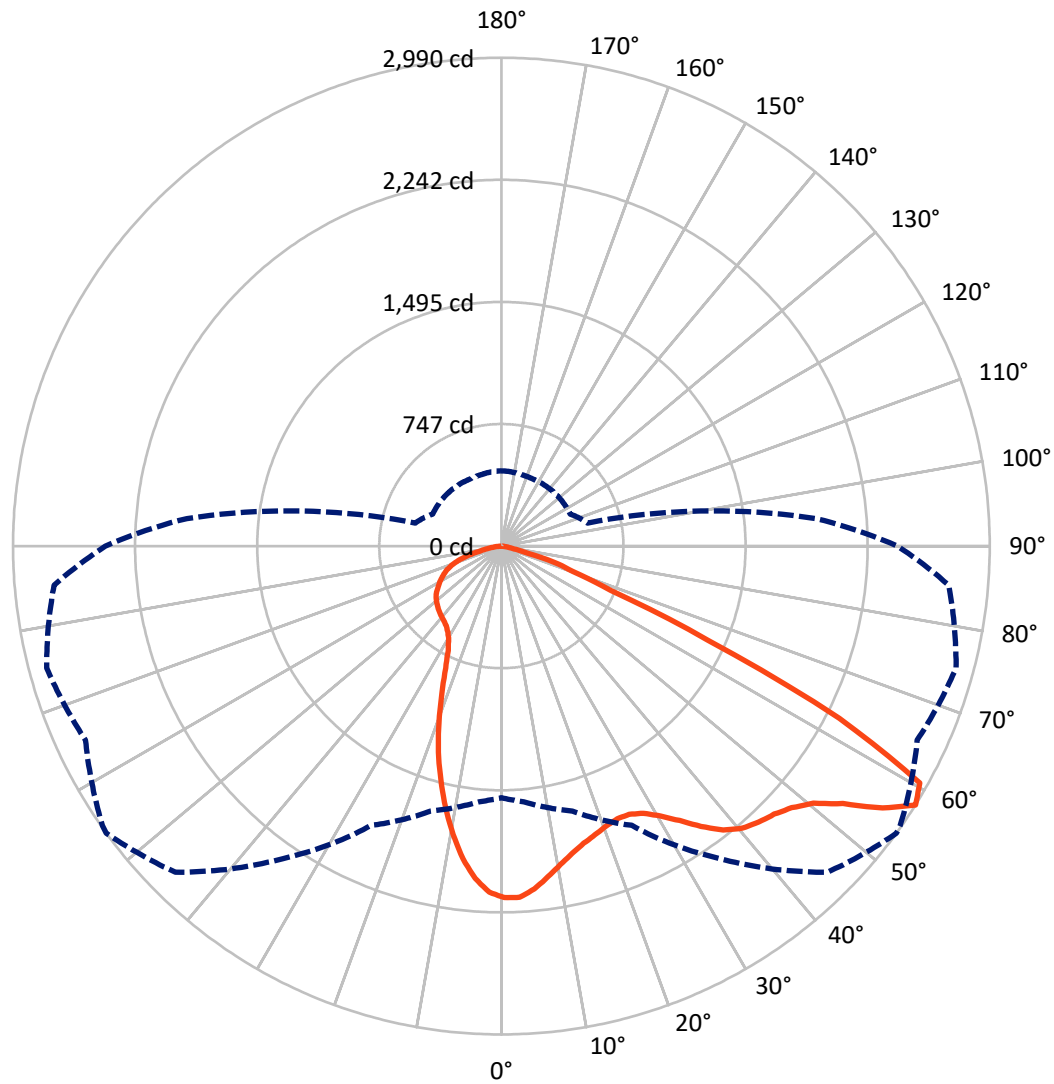


Based on 10 foot mounting height. Maximum calculated value = 21.5 fc
Type II - Short - N/A

REPORT NUMBER: P631544

CATALOG NUMBER: GWS-SA1F-830-U-SL3-W-GRSWH

Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

REPORT NUMBER: P631544

CATALOG NUMBER: GWS-SA1F-830-U-SL3-W-GRSWH

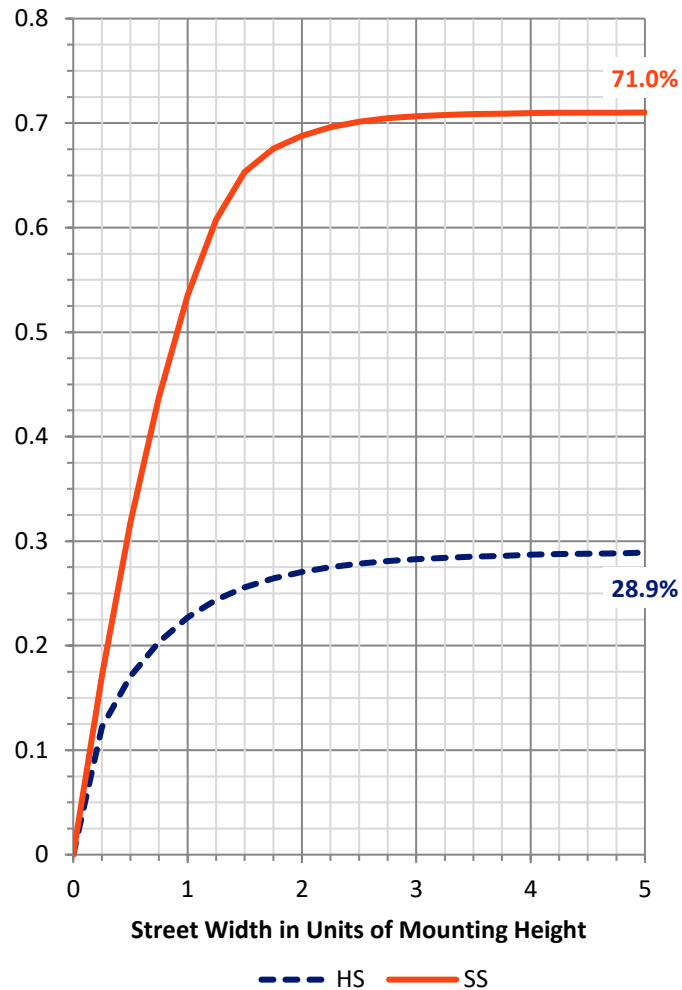
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1629.4	0.0	1629.4
	% Fixture	29.1	0.0	29.1
Street Side	Lumens	3975.4	0.0	3975.4
	% Fixture	70.9	0.0	70.9
Total	Lumens	5604.8	0.0	5604.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.1	3.4
10°-20°	451.3	8.1
20°-30°	624.6	11.1
30°-40°	867.8	15.5
40°-50°	1146.1	20.4
50°-60°	1362.0	24.3
60°-70°	754.6	13.5
70°-80°	187.9	3.4
80°-90°	21.4	0.4
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°	5604.8	100.0
0°-180°	5604.8	100.0

Coefficient of Utilization



REPORT NUMBER: P631544

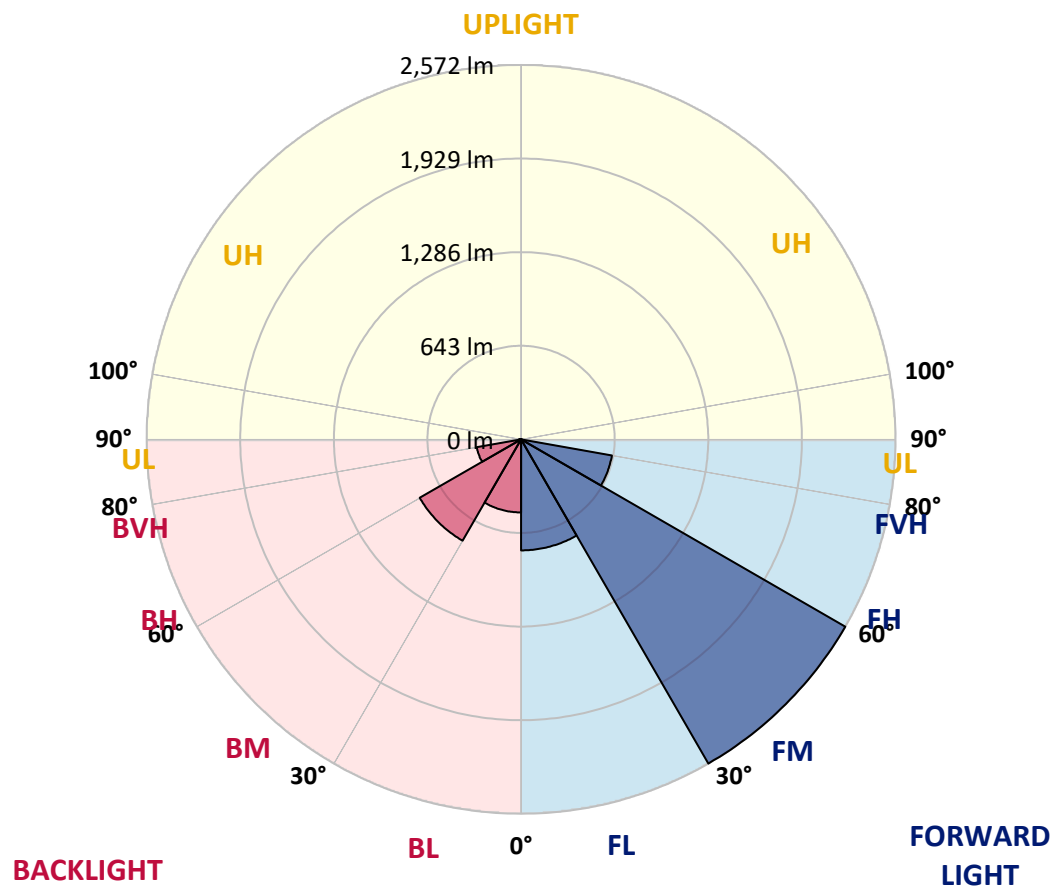
CATALOG NUMBER: GWS-SA1F-830-U-SL3-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	762.9	13.6			
FM	(30°-60°)	2572.1	45.9			
FH	(60°-80°)	633.7	11.3			G0/660
FVH	(80°-90°)	6.7	0.1			G0/10
BL	(0°-30°)	502.1	9.0	B2/1000		
BM	(30°-60°)	803.8	14.3	B1/1000		
BH	(60°-80°)	308.8	5.5	B1/500		G1/500
BVH	(80°-90°)	14.7	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1

Type II Short





REPORT NUMBER: P631544

CATALOG NUMBER: GWS-SA1F-830-U-SL3-W-GRSWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	54°	55°	65°	75°	85°
0°	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8
2.5°	2111.5	2115.8	2118.7	2128.8	2137.4	2145.1	2153.2	2153.2	2152.8	2151.3	2148.5
5°	2028.0	2032.8	2039.5	2053.5	2072.2	2085.6	2107.7	2109.6	2119.2	2123.0	2121.1
7.5°	1931.1	1932.6	1941.2	1959.4	1989.2	2013.2	2044.8	2048.7	2071.7	2085.1	2082.7
10°	1825.1	1820.3	1835.6	1862.5	1901.4	1941.7	1982.4	1985.8	2022.7	2048.2	2046.3
12.5°	1728.2	1728.6	1744.0	1776.6	1825.1	1875.0	1929.7	1937.3	1982.9	2015.6	2012.2
15°	1647.1	1649.0	1667.7	1704.7	1759.8	1819.3	1887.5	1894.6	1952.2	1995.4	1985.8
17.5°	1582.3	1584.2	1600.5	1642.8	1701.8	1773.7	1856.7	1863.9	1935.4	1986.8	1967.1
20°	1537.7	1536.7	1552.6	1592.9	1653.8	1732.0	1829.9	1840.4	1930.2	1990.1	1954.6
22.5°	1519.5	1519.0	1530.5	1563.6	1620.7	1699.9	1813.6	1828.0	1935.9	2005.0	1946.9
25°	1528.6	1526.7	1536.7	1561.2	1606.8	1687.4	1818.4	1833.7	1960.4	2035.7	1948.4
27.5°	1556.9	1554.5	1563.1	1585.2	1619.7	1700.3	1851.9	1869.7	2012.2	2091.8	1967.6
30°	1600.1	1598.6	1607.3	1628.4	1658.6	1743.5	1916.2	1936.4	2092.3	2179.2	2009.3
32.5°	1650.4	1648.0	1663.4	1687.9	1722.9	1822.2	2002.6	2029.0	2187.3	2291.4	2079.4
35°	1707.1	1705.1	1726.2	1761.7	1812.1	1931.6	2107.2	2136.0	2284.2	2418.6	2172.4
37.5°	1762.2	1762.2	1803.0	1855.8	1919.1	2050.6	2205.5	2223.8	2351.4	2531.3	2272.2
40°	1811.2	1814.0	1875.5	1954.6	2035.2	2158.0	2270.3	2285.7	2381.1	2609.0	2359.1
42.5°	1865.4	1867.8	1939.3	2042.9	2138.9	2244.9	2309.7	2317.3	2386.9	2647.9	2420.5
45°	1908.6	1911.9	2000.7	2111.5	2229.1	2310.1	2340.8	2347.6	2395.1	2669.0	2465.1
47.5°	1931.1	1935.9	2037.6	2166.7	2290.0	2368.7	2392.2	2395.1	2428.6	2706.0	2518.8
50°	1927.3	1936.9	2051.5	2194.0	2335.1	2427.7	2474.7	2479.5	2497.3	2760.2	2581.7
52.5°	1961.3	1965.7	2081.3	2226.7	2399.4	2536.6	2618.2	2624.9	2616.7	2801.0	2619.1
55°	1904.7	1925.4	2044.3	2221.9	2497.3	2705.0	2830.7	2827.3	2725.1	2846.5	2681.5
57.5°	1540.6	1570.8	1679.7	1886.0	2336.0	2823.0	2989.5	2981.3	2809.1	2881.6	2749.1
60°	1066.5	1071.3	1169.7	1316.0	1803.0	2493.9	2943.0	2960.7	2824.5	2837.4	2623.9
62.5°	853.0	851.6	860.7	864.6	1146.7	1753.1	2323.1	2387.9	2346.6	2210.8	1859.6
65°	728.3	733.6	760.5	746.5	748.5	987.4	1388.0	1397.1	1368.3	1319.4	983.5
67.5°	570.0	579.1	626.6	680.8	663.5	635.7	720.1	715.8	564.2	436.6	360.8
70°	357.0	362.7	413.6	534.5	577.7	522.0	463.0	461.1	302.3	248.5	272.5
72.5°	208.2	209.2	223.6	297.9	383.3	357.0	340.6	328.2	194.3	198.1	217.3
75°	114.7	114.7	114.2	128.6	151.1	133.9	129.5	126.2	130.0	147.3	161.7
77.5°	24.0	24.5	25.9	34.1	44.1	53.7	67.6	68.1	84.9	98.4	109.9
80°	11.0	11.5	14.4	18.2	23.5	31.2	41.3	41.7	51.3	61.9	69.6
82.5°	5.8	6.2	7.7	9.6	12.5	16.3	23.0	23.0	30.7	36.5	41.3
85°	1.9	1.9	2.9	3.8	5.3	6.7	9.1	9.1	13.4	17.8	20.6
87.5°	0.0	0.0	0.0	0.0	0.5	1.0	1.9	1.9	2.4	2.9	4.8
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: P631544

CATALOG NUMBER: GWS-SA1F-830-U-SL3-W-GRSWH

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8	2151.8
2.5°	2142.2	2127.3	2127.8	2130.7	2121.6	2107.7	2098.6	2087.0	2079.8	2078.4	2083.7
5°	2111.5	2094.2	2082.2	2069.8	2043.9	2013.2	1989.2	1969.5	1956.5	1951.7	1946.0
7.5°	2069.3	2046.7	2016.5	1981.5	1934.5	1879.8	1841.4	1805.4	1780.5	1773.3	1769.9
10°	2027.1	1994.4	1940.7	1875.5	1797.3	1723.4	1653.8	1600.5	1558.3	1534.3	1542.0
12.5°	1983.4	1943.1	1859.1	1758.9	1650.0	1538.7	1447.5	1359.2	1291.1	1257.0	1246.9
15°	1945.0	1890.3	1773.3	1637.5	1492.6	1352.5	1220.6	1088.1	1001.8	954.8	941.8
17.5°	1912.4	1841.4	1682.6	1513.7	1340.5	1140.9	978.7	855.9	796.9	771.0	769.1
20°	1880.3	1793.4	1592.9	1380.3	1164.9	941.3	796.4	738.9	717.7	708.6	708.2
22.5°	1851.5	1743.0	1498.4	1246.9	990.3	791.2	711.5	686.6	680.8	680.8	679.8
25°	1827.0	1692.7	1401.4	1105.4	832.4	704.3	667.4	656.8	659.2	663.5	664.0
27.5°	1816.9	1653.3	1307.9	960.0	723.5	653.9	637.1	635.7	642.4	649.1	650.1
30°	1827.5	1626.5	1211.9	820.9	658.3	623.2	615.6	618.4	626.6	633.3	633.3
32.5°	1860.1	1613.0	1114.0	719.2	620.4	601.6	599.2	602.1	608.4	612.2	612.7
35°	1915.3	1618.3	1012.8	650.6	595.9	585.8	585.3	587.2	589.6	592.0	592.5
37.5°	1984.8	1641.8	904.4	610.8	580.1	574.3	573.3	572.9	573.3	573.3	573.8
40°	2053.0	1677.3	807.5	587.2	569.0	564.2	561.8	558.5	558.0	557.0	556.5
42.5°	2103.4	1704.7	730.2	570.5	558.9	553.2	550.3	545.0	544.5	544.1	543.6
45°	2141.3	1727.7	665.9	554.1	548.4	543.1	536.9	532.1	533.0	534.0	534.0
47.5°	2184.0	1747.8	618.9	538.8	535.4	530.2	522.5	519.1	522.5	525.8	525.8
50°	2235.8	1776.1	580.5	523.4	522.0	515.8	509.0	507.6	511.4	516.2	516.2
52.5°	2273.7	1800.6	553.2	508.1	508.1	499.9	494.2	493.7	498.0	502.8	503.3
55°	2344.7	1857.7	543.6	490.3	488.4	482.2	477.9	474.5	479.8	484.1	484.1
57.5°	2424.8	1933.5	546.0	464.9	462.5	460.6	457.2	453.4	454.8	459.6	460.1
60°	2255.0	1786.7	519.6	439.5	438.0	437.1	432.8	426.0	428.0	431.8	432.3
62.5°	1575.1	1187.5	420.3	407.8	412.6	412.1	406.4	398.7	399.2	404.5	404.5
65°	817.5	642.4	369.0	379.0	386.2	383.3	373.7	367.0	366.1	372.8	371.3
67.5°	352.6	350.7	335.8	348.8	356.5	350.2	340.2	329.1	330.1	332.5	330.6
70°	284.0	292.7	298.9	312.8	319.1	307.5	296.5	290.3	285.0	284.5	281.2
72.5°	226.9	238.9	252.8	267.2	269.2	257.6	243.7	238.0	229.8	229.3	226.0
75°	170.8	180.9	191.9	203.4	203.4	192.4	183.3	180.4	170.8	167.9	165.0
77.5°	116.6	122.8	131.5	134.3	137.2	132.9	123.8	119.0	108.0	105.1	101.2
80°	73.4	77.7	83.0	84.9	87.8	82.5	75.3	70.0	62.4	60.0	58.1
82.5°	44.1	47.0	50.4	51.3	53.7	49.9	43.2	39.3	35.0	33.1	31.7
85°	22.5	24.0	25.9	26.4	25.9	22.1	19.7	17.8	14.9	14.4	13.4
87.5°	5.8	6.7	7.2	6.7	6.2	4.8	3.4	2.4	1.0	1.0	0.5
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.

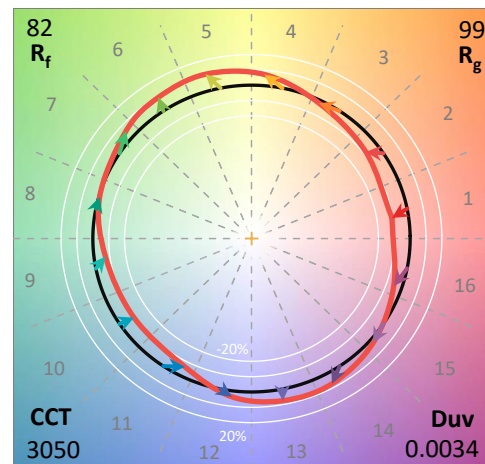
Test Information

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

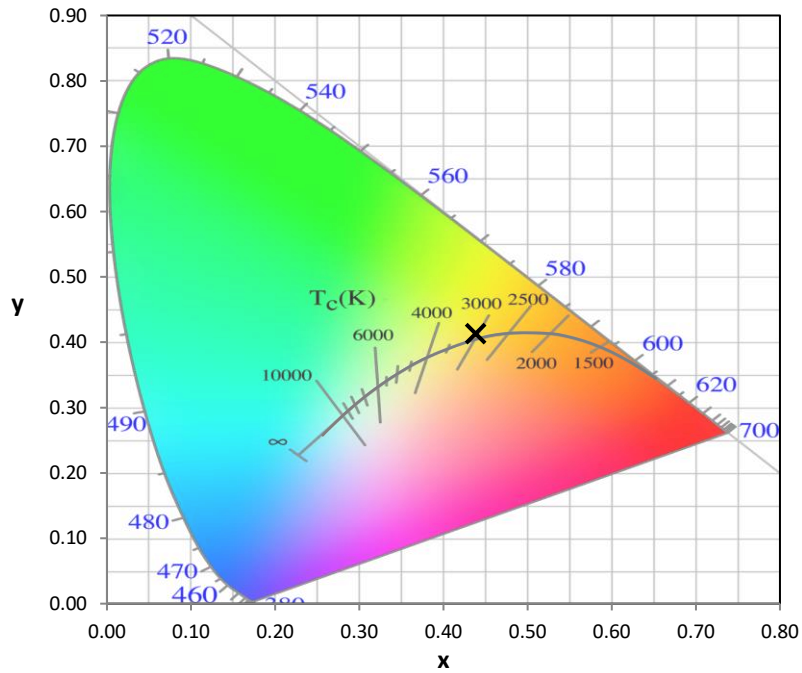
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

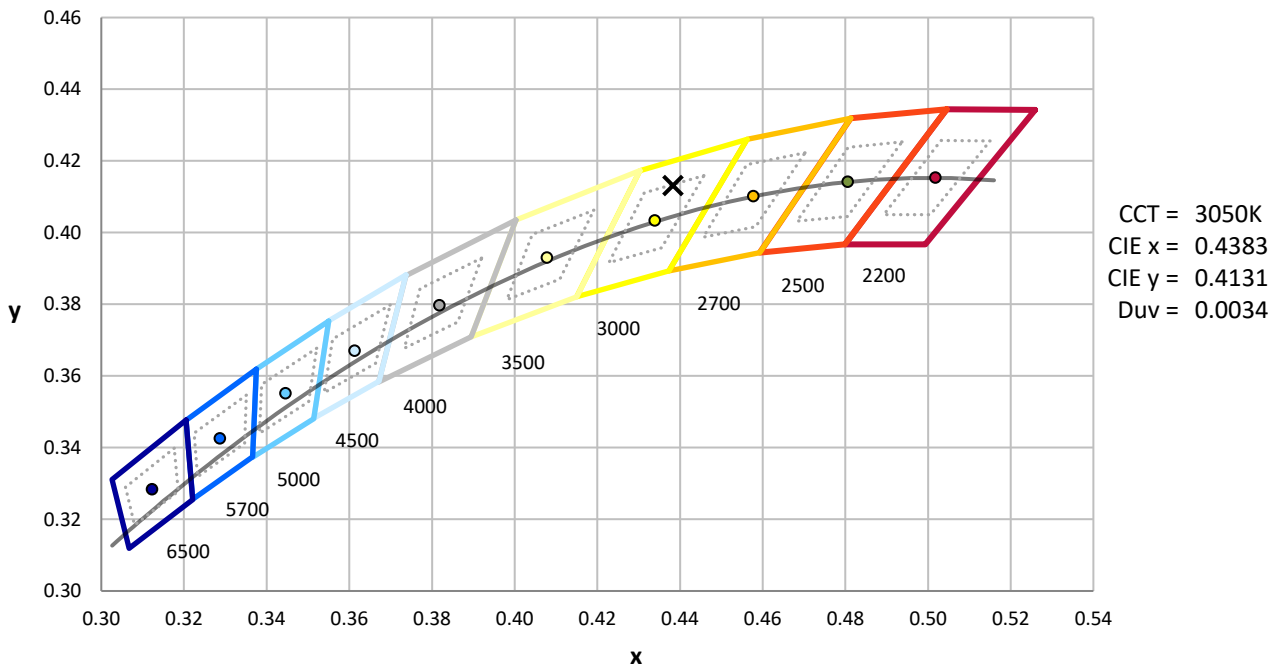
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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



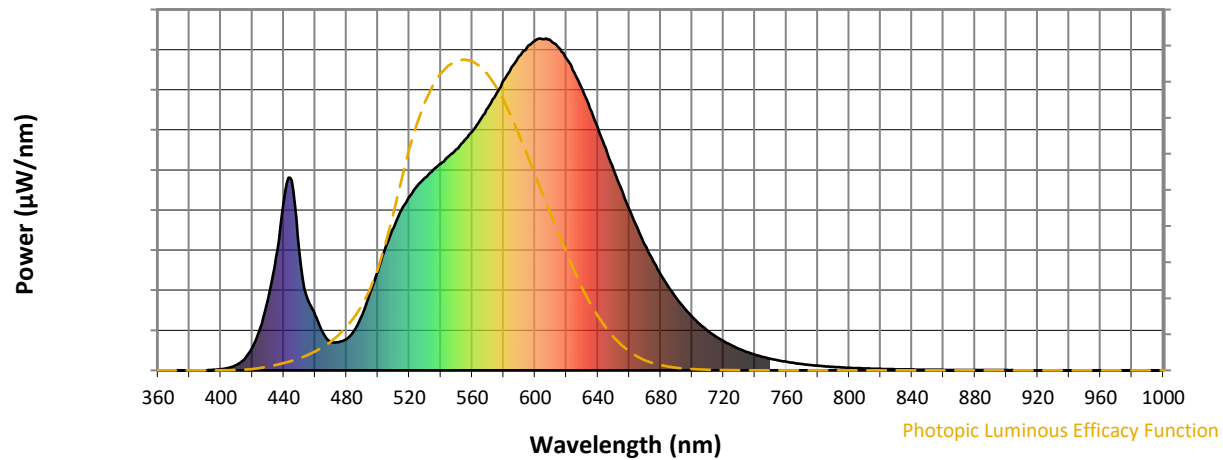
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

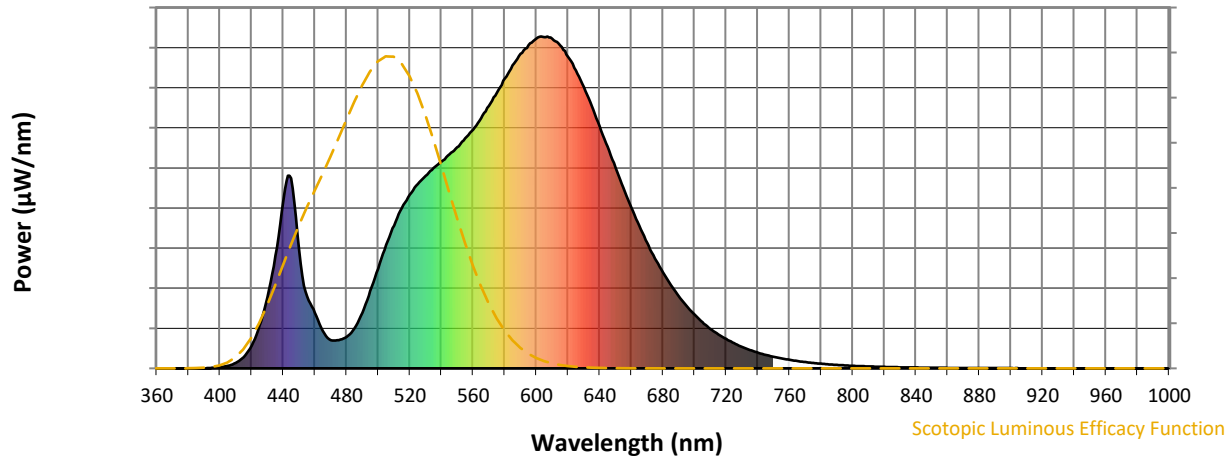


Photopic Lumens: NR

λ (nm)	Power 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			

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength



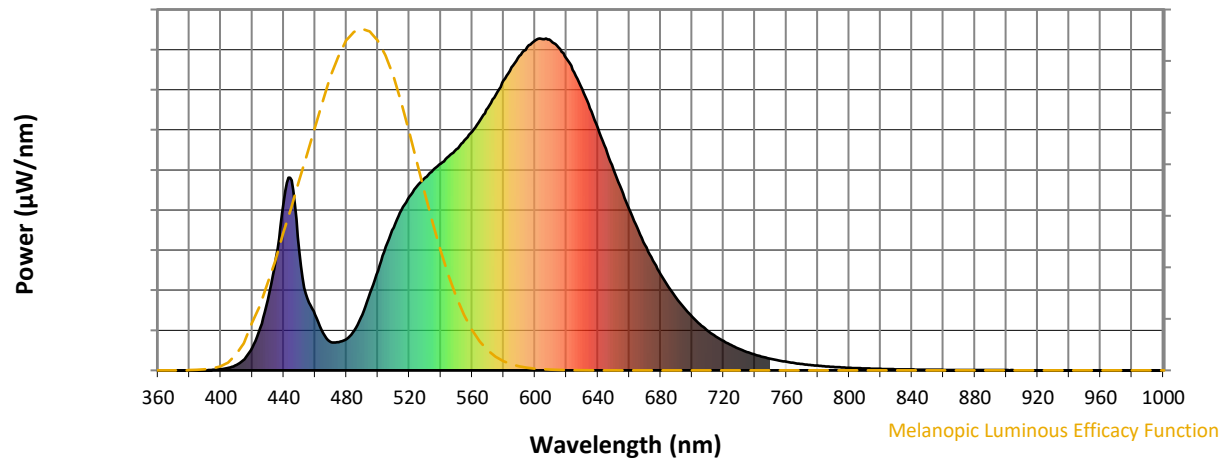
Scotopic Lumens: NR

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

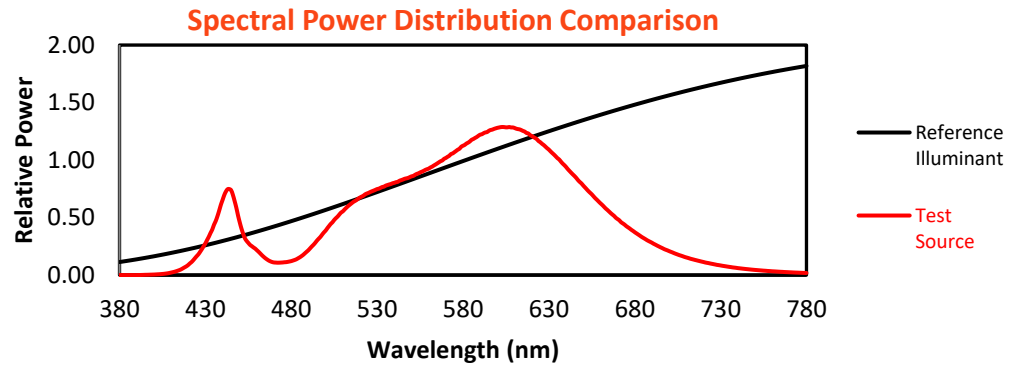
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	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

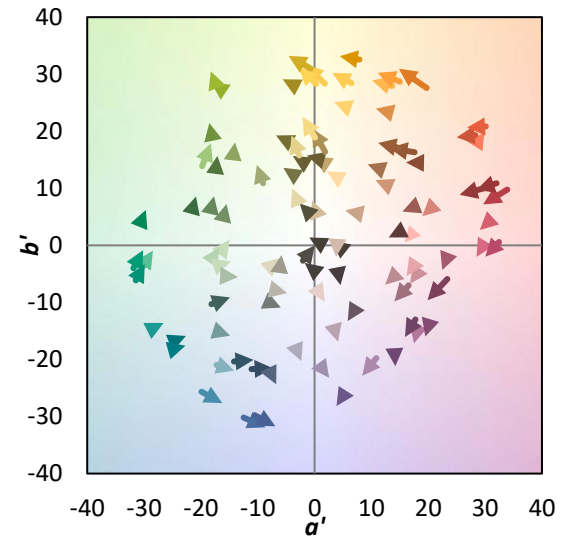
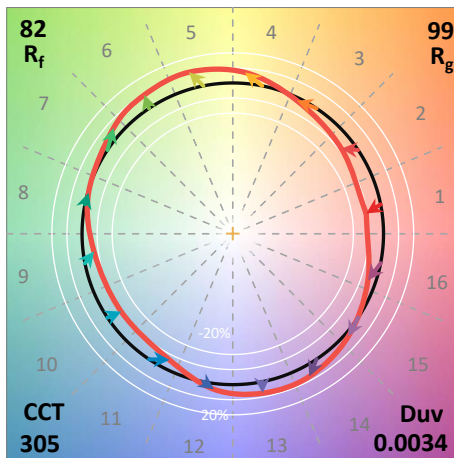
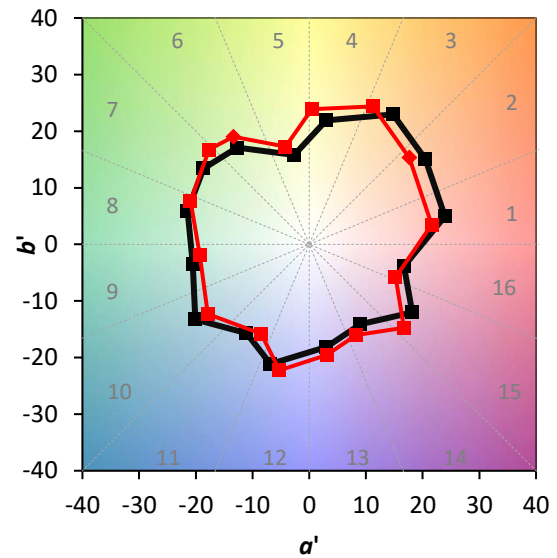
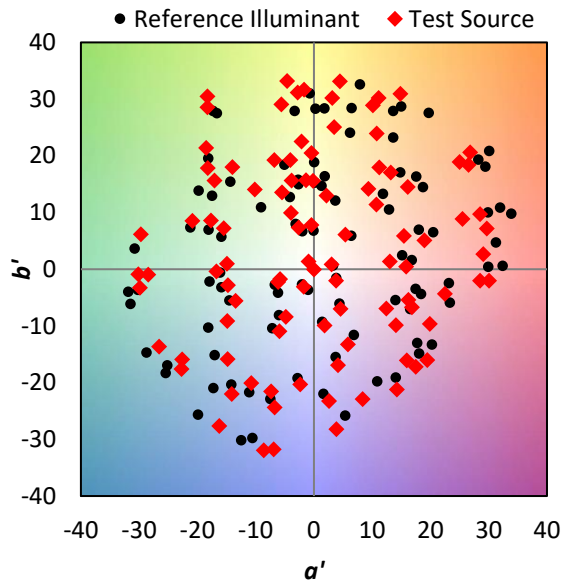
TM-30-18

Summary

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

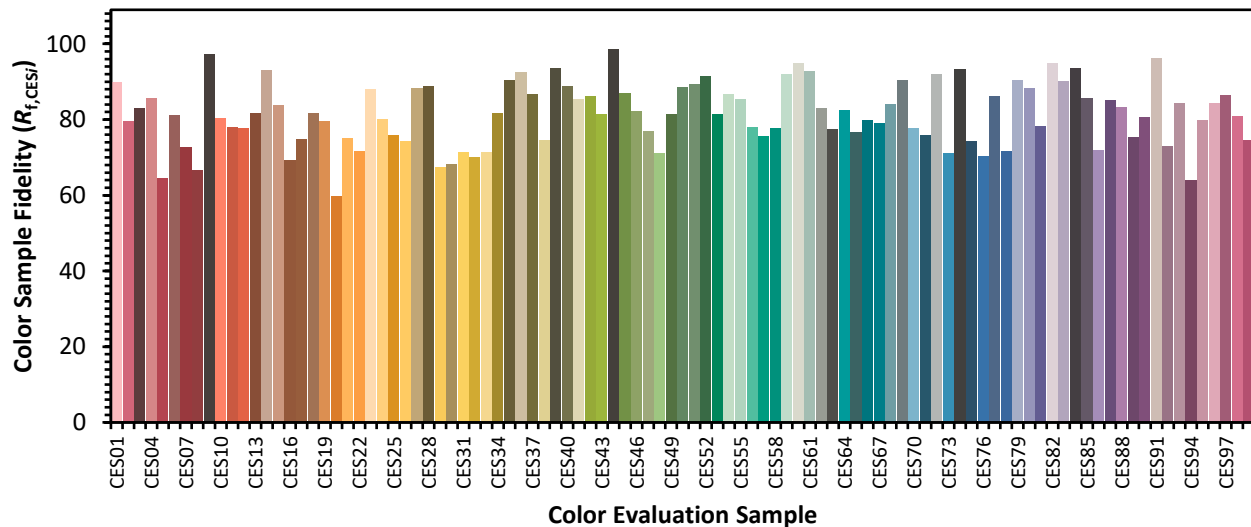


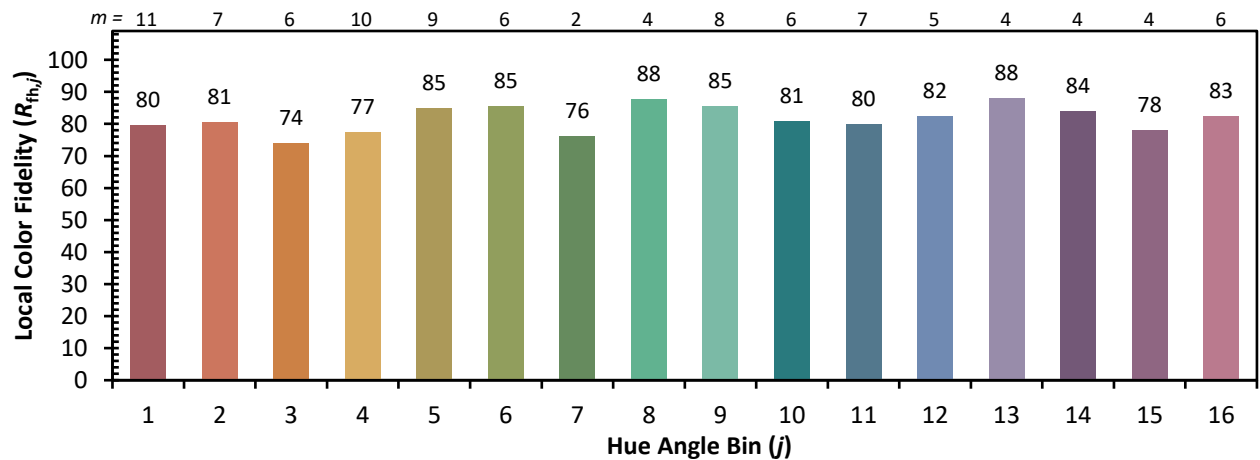
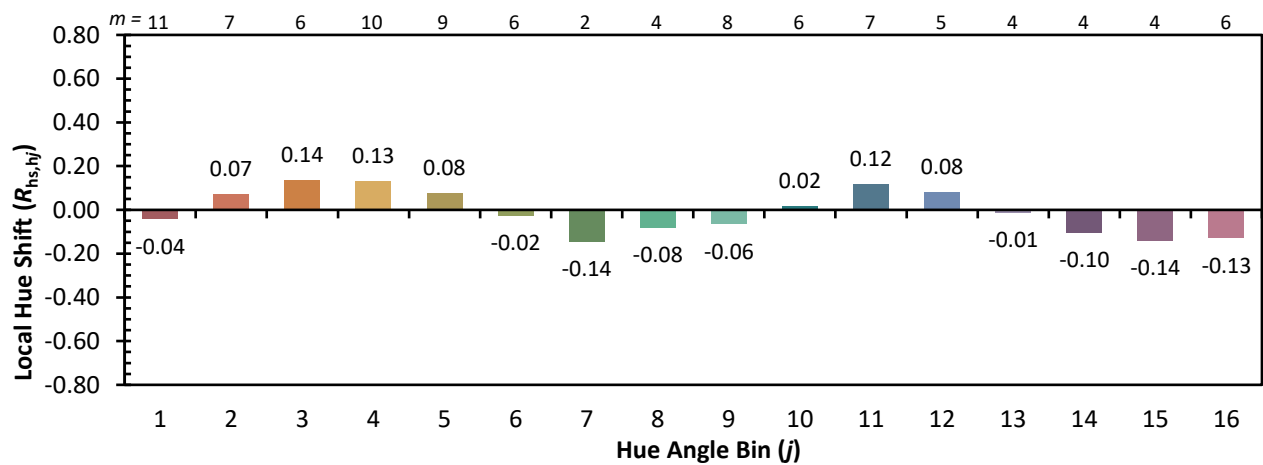
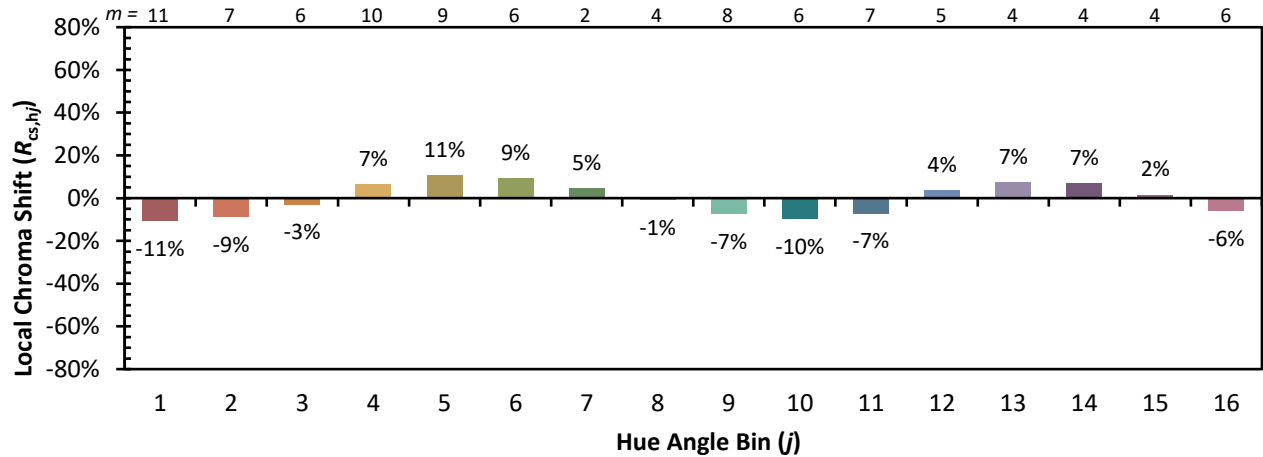
Color Vector Graphics

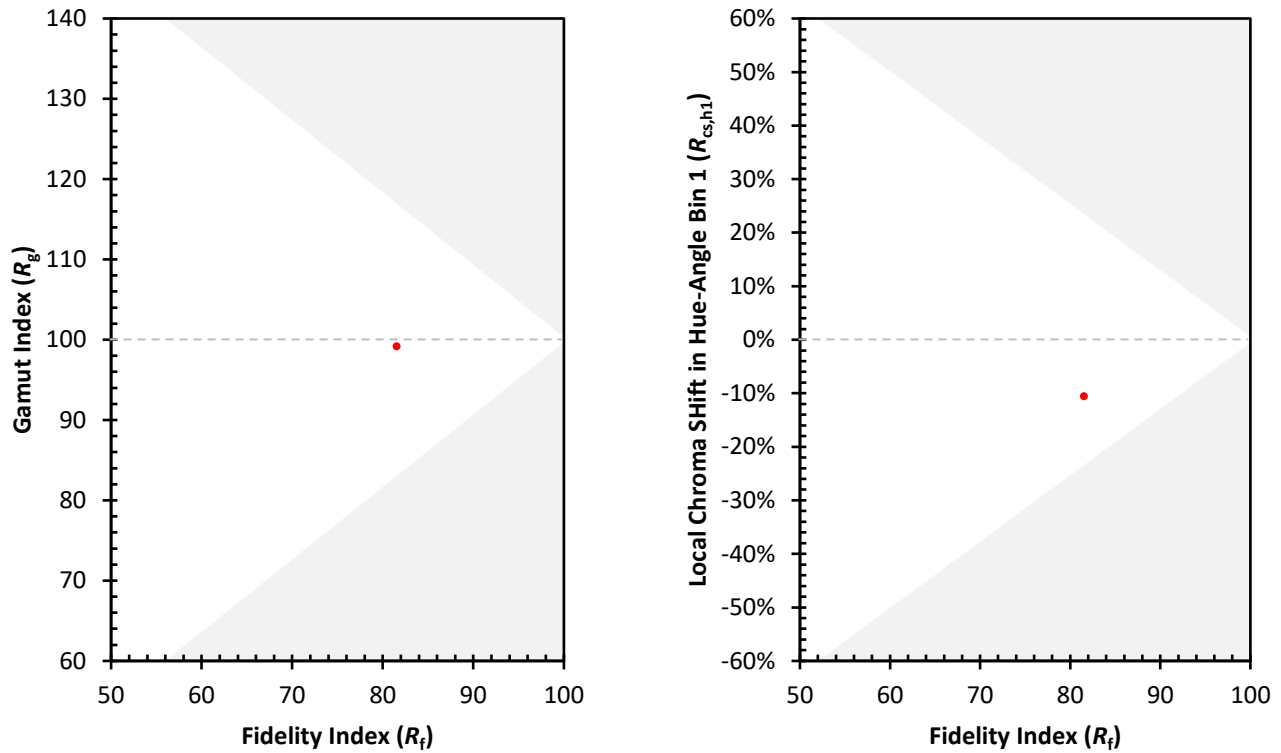


Individual Sample Fidelity Index ($R_{f,i}$)

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)