Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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: P638498

Luminaire Tested: GWS-SA4E-830-U-T3-W-HSS

Issue Date: 1/10/2023

Report Generated By 670246102 / DESKTOP-G35701P

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P638498
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-26)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA4E-830-U-T3-W-HSS
Description:	GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source:	(64) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	17847.4 lumens
Efficiency:	N/A
Efficacy:	88.1 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 1' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B2 - U0 - G3

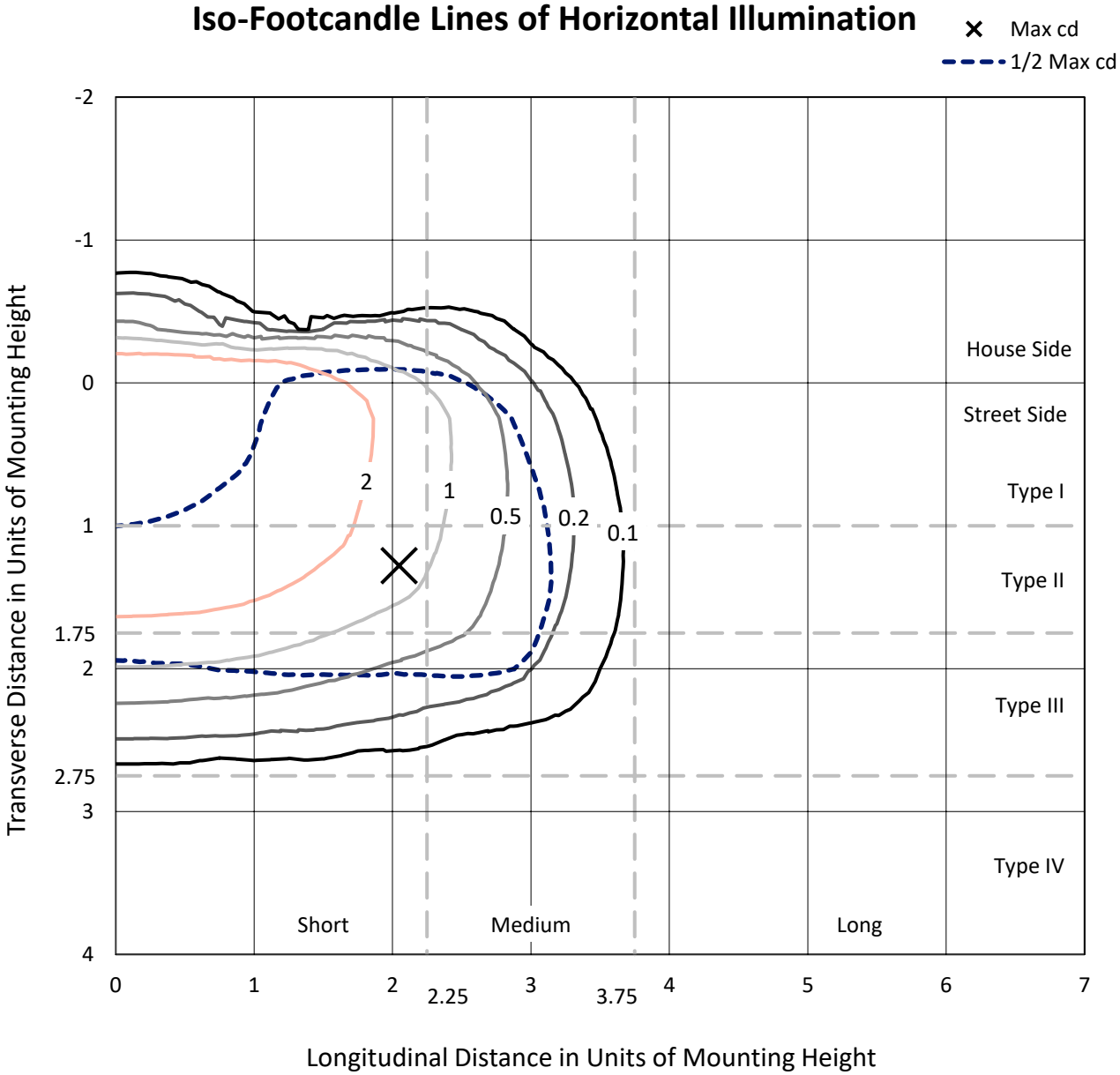
Input Watts (W):	202.6
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	0
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P638498
CATALOG NUMBER: GWS-SA4E-830-U-T3-W-HSS

Iso-Footcandle Lines of Horizontal Illumination



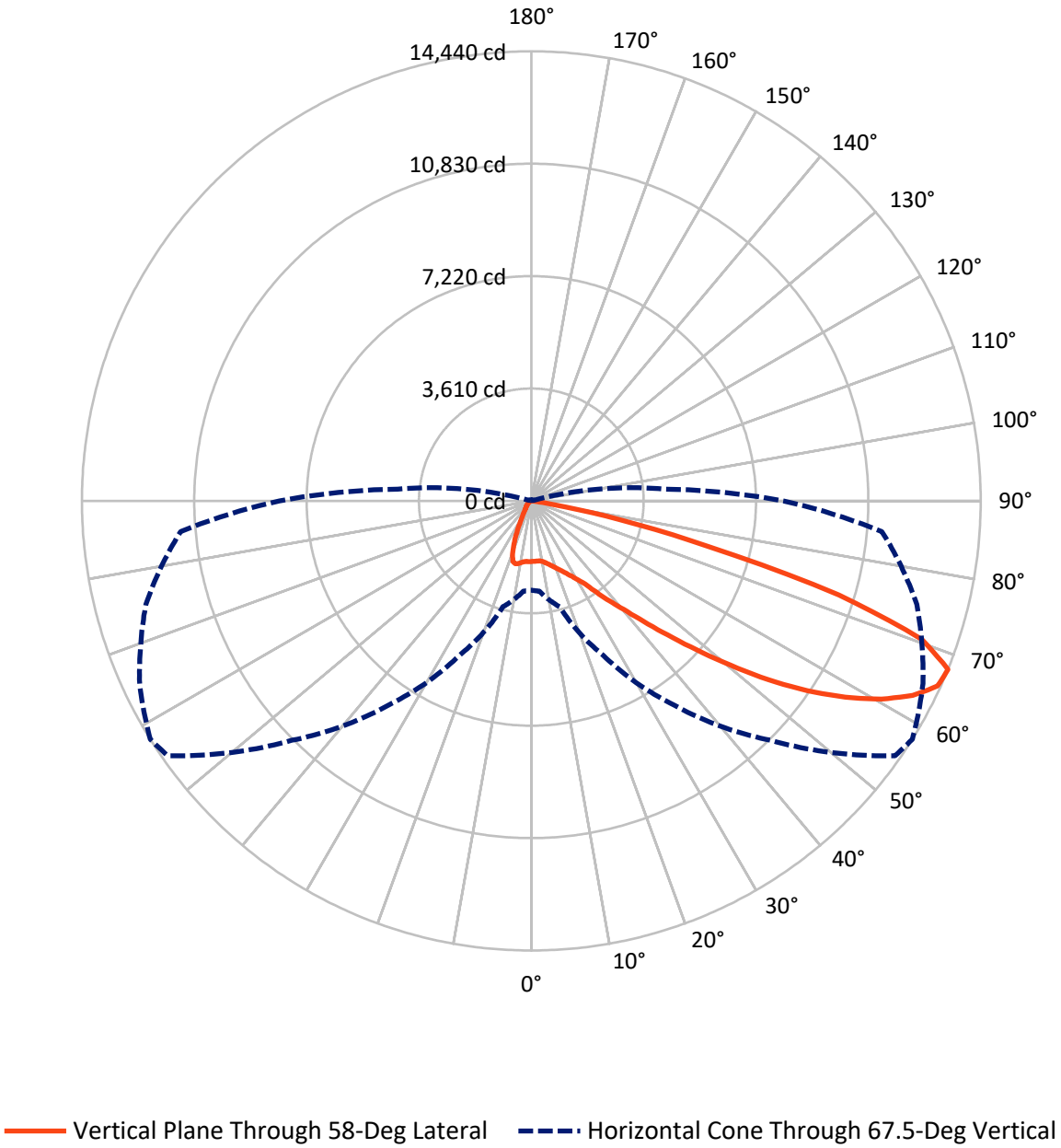
Based on 25 foot mounting height. Maximum calculated value = 4.3 fc
Type III - Short - N/A

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P638498
CATALOG NUMBER: GWS-SA4E-830-U-T3-W-HSS

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

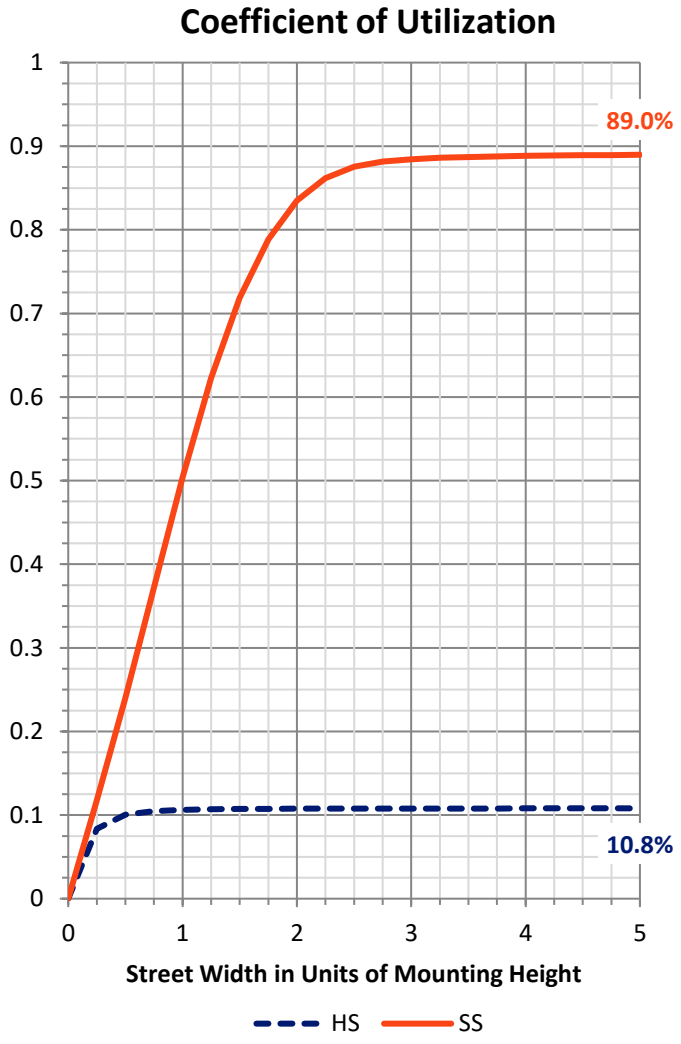
REPORT NUMBER: P638498
CATALOG NUMBER: GWS-SA4E-830-U-T3-W-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1947.1	0.0	1947.1
	% Fixture	10.9	0.0	10.9
Street Side	Lumens	15900.3	0.0	15900.3
	% Fixture	89.1	0.0	89.1
Total	Lumens	17847.4	0.0	17847.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.7	1.0
10°-20°	513.0	2.9
20°-30°	895.4	5.0
30°-40°	1599.0	9.0
40°-50°	2922.7	16.4
50°-60°	4860.8	27.2
60°-70°	5279.6	29.6
70°-80°	1550.1	8.7
80°-90°	44.1	0.2
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°	17847.4	100.0
0°-180°	17847.4	100.0



Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

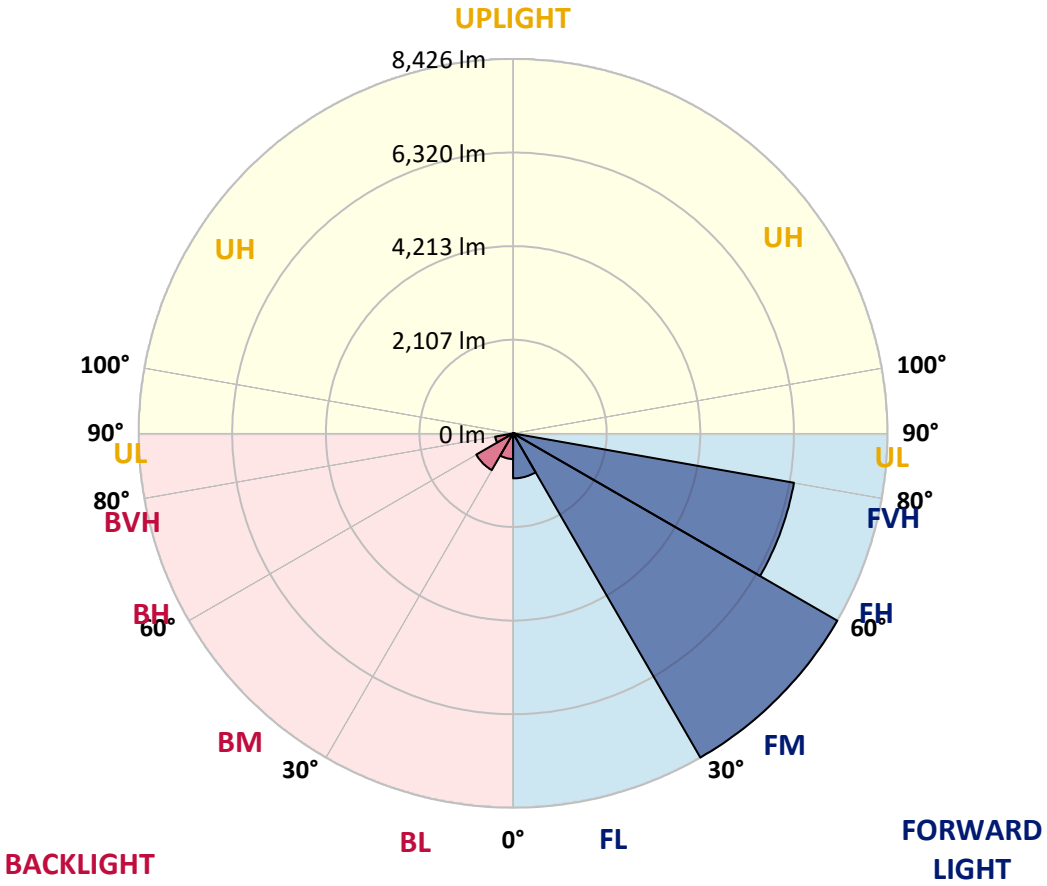
Scaled Data Report

REPORT NUMBER: P638498
CATALOG NUMBER: GWS-SA4E-830-U-T3-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	1013.5	5.7			
FM	(30°-60°)	8426.1	47.2			
FH	(60°-80°)	6418.7	36.0			G3/7500
FVH	(80°-90°)	42.0	0.2			G1/100
BL	(0°-30°)	577.6	3.2	B2/1000		
BM	(30°-60°)	956.4	5.4	B1/1000		
BH	(60°-80°)	411.0	2.3	B1/500		G1/500
BVH	(80°-90°)	2.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3
Type III Short



Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P638498
CATALOG NUMBER: GWS-SA4E-830-U-T3-W-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8	*1944.8*	1944.8	1944.8	1944.8
2.5°	1908.2	1904.8	1904.8	1918.7	1920.4	1927.4	1943.1	*1944.8*	1953.5	1950.1	1937.9
5°	1808.9	1810.6	1821.1	1845.5	1866.4	1892.6	1930.9	*1939.6*	1958.8	1969.2	1962.3
7.5°	1716.5	1718.3	1734.0	1772.3	1812.4	1864.7	1927.4	*1944.8*	1983.2	2011.1	2012.8
10°	1681.7	1679.9	1695.6	1739.2	1791.5	1864.7	1955.3	*1977.9*	2035.5	2084.2	2093.0
12.5°	1692.1	1690.4	1706.1	1746.2	1803.7	1896.0	2004.1	*2035.5*	2108.6	2183.6	2199.3
15°	1734.0	1732.2	1742.7	1775.8	1838.5	1934.4	2066.8	*2113.9*	2206.2	2296.9	2321.3
17.5°	1859.4	1850.7	1840.3	1843.8	1880.4	1979.7	2147.0	*2204.5*	2319.5	2427.6	2448.5
20°	2082.5	2059.9	2032.0	1995.4	1977.9	2045.9	2239.3	*2305.6*	2445.0	2568.7	2572.2
22.5°	2418.8	2410.1	2345.7	2239.3	2164.4	2166.2	2347.4	*2424.1*	2594.9	2730.8	2711.6
25°	2887.6	2882.4	2783.1	2608.8	2413.6	2347.4	2485.1	*2563.5*	2772.6	2917.3	2856.3
27.5°	3469.7	3433.1	3316.3	3081.1	2790.0	2582.7	2659.3	*2729.0*	2960.8	3096.7	2981.7
30°	3976.8	3978.5	3868.8	3623.0	3295.4	2936.4	2871.9	*2932.9*	3133.3	3276.2	3136.8
32.5°	4464.8	4480.4	4360.2	4138.9	3779.9	3398.2	3176.9	*3187.4*	3354.7	3509.8	3340.7
35°	4917.8	4930.0	4846.4	4658.2	4323.6	3881.0	3602.1	*3596.9*	3687.5	3846.1	3624.8
37.5°	5425.0	5437.2	5355.3	5186.2	4872.5	4433.4	4084.8	*4077.9*	4114.5	4243.4	3990.7
40°	5965.2	5987.9	5897.2	5754.3	5454.6	5083.4	4646.0	*4583.3*	4546.7	4698.3	4464.8
42.5°	6512.4	6547.3	6515.9	6373.0	6116.8	5810.1	5374.4	*5276.8*	5198.4	5388.4	5140.9
45°	7192.0	7233.9	7219.9	7110.1	6911.5	6662.3	6251.0	*6137.7*	6101.1	6277.1	5982.6
47.5°	7845.6	7890.9	7941.4	7917.0	7775.8	7660.8	7204.2	*7139.8*	7129.3	7317.5	6860.9
50°	8331.8	8373.6	8567.0	8706.4	8802.3	8777.9	8382.3	*8286.5*	8270.8	8391.0	7788.0
52.5°	8680.3	8720.4	8987.0	9422.7	9774.7	9966.4	9567.3	*9546.4*	9461.0	9419.2	8655.9
55°	8950.4	9006.2	9286.8	9945.5	10654.8	11080.0	10830.8	*10755.8*	10536.3	10295.8	9461.0
57.5°	9004.4	9027.1	9422.7	10311.5	11337.9	12026.3	12026.3	*11895.5*	11472.1	11139.2	10391.6
60°	8520.0	8589.7	9124.7	10281.8	11630.7	12644.9	13017.8	*12927.2*	12355.6	11946.1	11287.4
62.5°	7444.7	7523.2	8174.9	9572.6	11337.9	12772.1	13768.9	*13755.0*	13110.2	12613.5	12029.7
65°	5709.0	5766.5	6334.6	8007.6	10100.6	12282.4	14305.7	*14344.0*	13706.2	13054.4	12285.9
67.5°	*2868.5*	*2908.5*	*3522.0*	*5470.3*	*8005.9*	*10872.6*	*14269.1*	*14439.9*	*13887.4*	*12820.9*	*11308.3*
70°	1002.0	1042.1	1331.4	2347.4	4872.5	8302.1	13035.3	*13314.1*	12822.7	10944.0	8342.2
72.5°	343.3	362.5	552.4	871.3	1896.0	4921.3	9912.4	*10332.4*	9452.3	7347.1	4794.1
75°	195.2	207.4	296.3	472.3	794.7	1619.0	5623.6	*5881.6*	5510.4	4004.7	1972.7
77.5°	132.4	142.9	184.7	268.4	439.2	521.1	2293.4	*2887.6*	2518.2	1307.0	503.6
80°	78.4	85.4	113.3	158.6	224.8	202.2	491.4	*653.5*	841.7	390.4	151.6
82.5°	36.6	41.8	73.2	104.6	113.3	85.4	144.6	*176.0*	237.0	191.7	62.7
85°	0.0	0.0	24.4	43.6	41.8	24.4	40.1	*43.6*	64.5	95.8	24.4
87.5°	0.0	0.0	0.0	0.0	0.0	1.7	3.5	*5.2*	10.5	19.2	10.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P638498
CATALOG NUMBER: GWS-SA4E-830-U-T3-W-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8	1944.8
2.5°	1951.8	1939.6	1953.5	1946.6	1953.5	1951.8	1937.9	1929.1	1929.1	1913.5	1908.2
5°	1976.2	1964.0	1967.5	1951.8	1948.3	1939.6	1922.2	1915.2	1915.2	1899.5	1894.3
7.5°	2030.2	2011.1	2007.6	1976.2	1962.3	1937.9	1906.5	1894.3	1892.6	1876.9	1871.6
10°	2115.6	2093.0	2077.3	2037.2	1997.1	1948.3	1882.1	1826.3	1795.0	1753.1	1749.7
12.5°	2220.2	2192.3	2167.9	2106.9	2040.7	1930.9	1735.7	1531.8	1406.3	1307.0	1314.0
15°	2336.9	2310.8	2272.5	2180.1	2044.2	1758.4	1350.6	1036.9	883.5	801.6	798.1
17.5°	2464.2	2425.8	2363.1	2237.6	1934.4	1343.6	878.3	620.4	540.2	512.3	505.4
20°	2582.7	2535.6	2457.2	2249.8	1617.2	909.7	548.9	481.0	467.0	458.3	458.3
22.5°	2708.1	2648.9	2532.1	2155.7	1202.5	582.1	467.0	451.4	440.9	428.7	427.0
25°	2835.3	2758.7	2600.1	1910.0	787.7	458.3	437.4	420.0	400.8	381.6	376.4
27.5°	2943.4	2844.1	2652.4	1544.0	505.4	413.0	399.1	369.4	343.3	322.4	318.9
30°	3072.3	2945.1	2675.0	1129.3	397.3	364.2	343.3	311.9	280.6	259.7	252.7
32.5°	3244.9	3105.5	2640.2	735.4	352.0	320.7	287.5	250.9	219.6	196.9	193.4
35°	3513.2	3347.7	2479.8	468.8	318.9	277.1	237.0	198.7	172.5	155.1	151.6
37.5°	3840.9	3687.5	2216.7	352.0	285.8	240.5	193.4	156.8	137.7	125.5	122.0
40°	4327.1	4112.7	1890.8	308.5	252.7	203.9	158.6	129.0	115.0	104.6	101.1
42.5°	4957.9	4614.6	1516.1	280.6	221.3	170.8	129.0	106.3	94.1	87.1	85.4
45°	5695.1	5104.3	1120.5	252.7	191.7	141.2	106.3	87.1	78.4	73.2	71.4
47.5°	6449.7	5533.0	773.8	223.1	163.8	116.8	88.9	74.9	68.0	61.0	59.3
50°	7254.8	5895.5	528.0	193.4	139.4	95.8	76.7	68.0	59.3	54.0	52.3
52.5°	7845.6	6029.7	367.7	167.3	118.5	81.9	68.0	61.0	54.0	47.1	45.3
55°	8391.0	6026.2	278.8	141.2	101.1	71.4	61.0	54.0	47.1	41.8	40.1
57.5°	8934.7	5979.1	219.6	120.2	87.1	64.5	54.0	47.1	43.6	36.6	34.9
60°	9286.8	5801.4	170.8	101.1	74.9	55.8	47.1	41.8	36.6	31.4	29.6
62.5°	9473.2	5553.9	130.7	80.2	61.0	48.8	41.8	36.6	31.4	26.1	24.4
65°	9220.5	5114.8	102.8	62.7	47.1	41.8	34.9	29.6	24.4	19.2	17.4
67.5°	*8100.0*	*4313.1*	*80.2*	*50.5*	*36.6*	*31.4*	*29.6*	*24.4*	*17.4*	*13.9*	*12.2*
70°	5724.7	2953.8	62.7	38.3	27.9	24.4	22.7	19.2	13.9	10.5	8.7
72.5°	3142.1	1490.0	45.3	27.9	20.9	19.2	17.4	15.7	12.2	8.7	8.7
75°	1209.4	409.5	33.1	19.2	13.9	13.9	12.2	12.2	10.5	7.0	7.0
77.5°	315.4	122.0	20.9	12.2	8.7	8.7	8.7	7.0	7.0	5.2	5.2
80°	101.1	40.1	12.2	8.7	7.0	5.2	5.2	3.5	5.2	3.5	3.5
82.5°	33.1	13.9	7.0	7.0	5.2	3.5	3.5	1.7	1.7	0.0	0.0
85°	12.2	7.0	5.2	3.5	3.5	3.5	1.7	0.0	0.0	0.0	0.0
87.5°	7.0	3.5	3.5	3.5	3.5	1.7	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

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

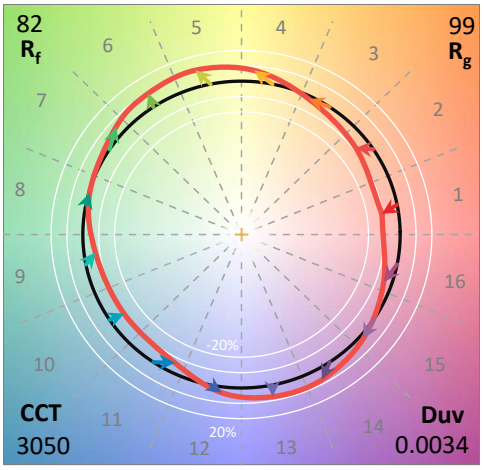
Test Information

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	CRI (Ra):	81.0		
CIE u':	0.2476	R1:	79.6	R9:	7.1
CIE v':	0.5251	R2:	85.6	R10:	67.0
Duv:	0.0034	R3:	92.0	R11:	82.7
CIE x:	0.4383	R4:	82.6	R12:	63.2
CIE y:	0.4131	R5:	78.9	R13:	80.3
CIE z:	0.1487	R6:	81.7	R14:	95.0
Peak Wavelength (nm):	603	R7:	85.2	R15:	71.7
Dominant Wavelength (nm):	581	R8:	62.0		
Purity:	55.55201				

Rf:	81.5
Rg:	99.2



Test Conditions

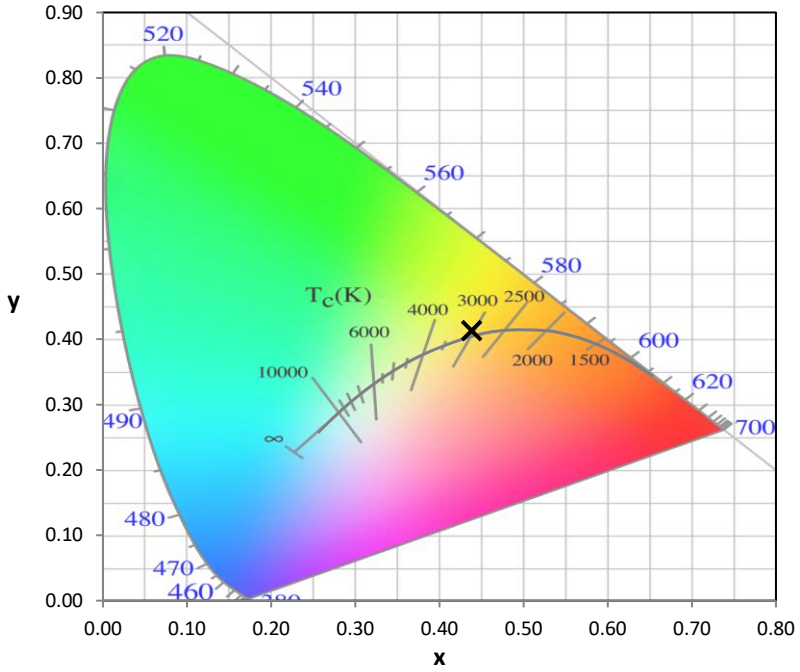
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

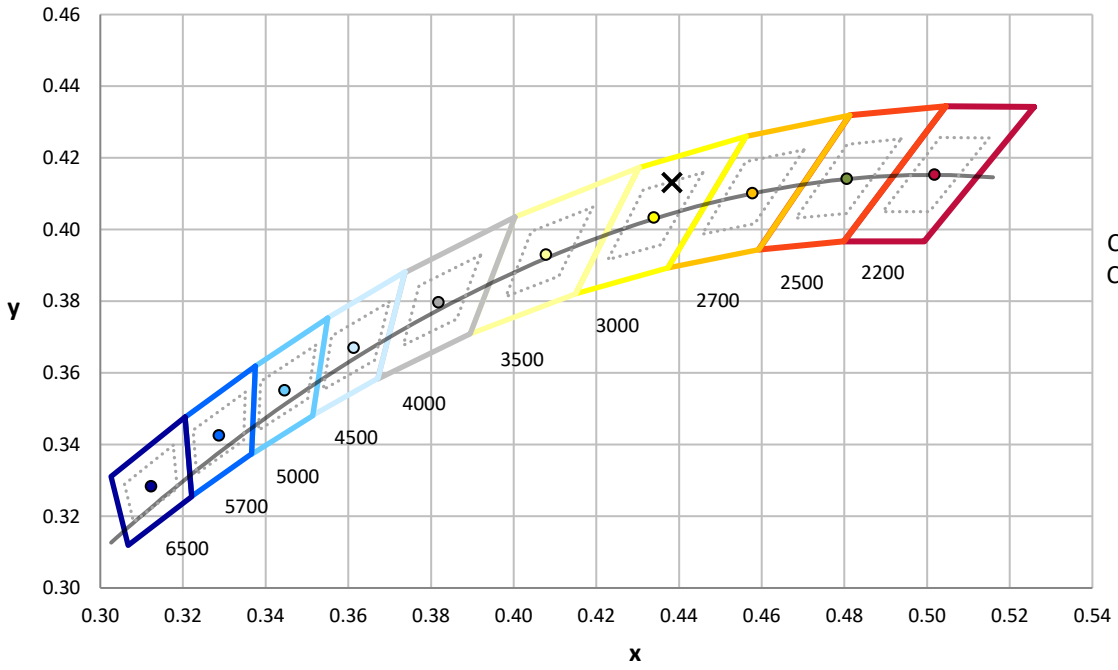
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

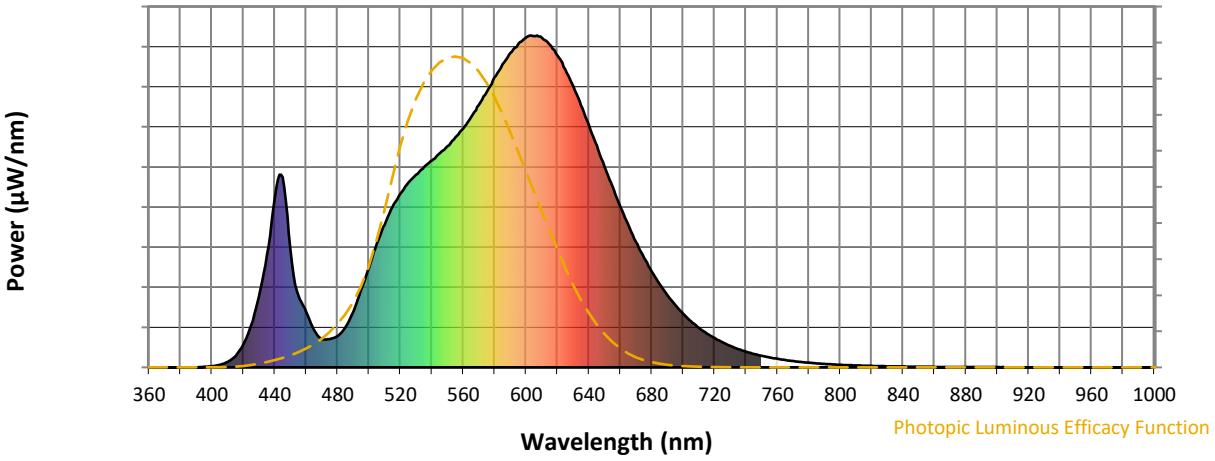


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

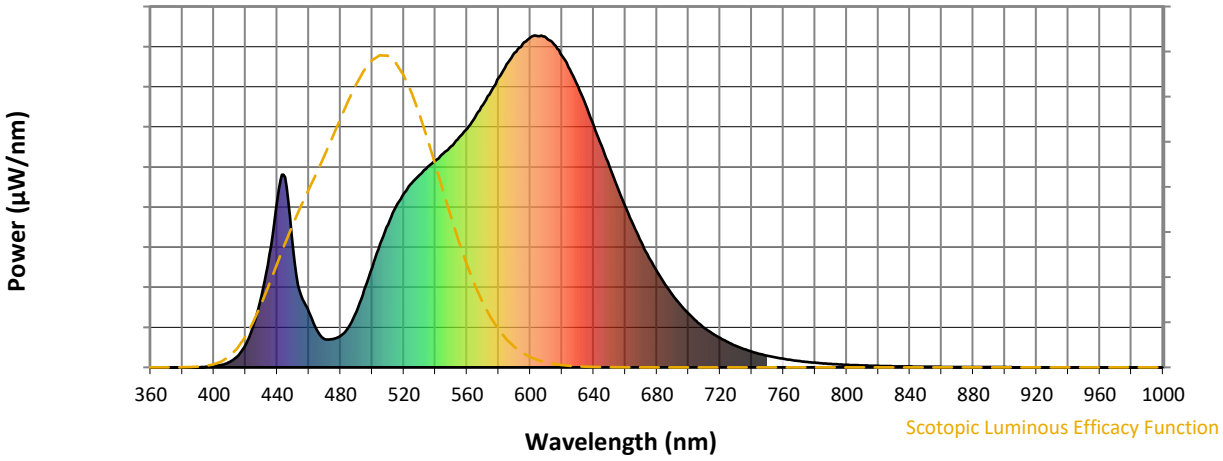


Photopic Lumens: NR

λ (nm)	Power W^/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

Scotopic Flux vs. Wavelength

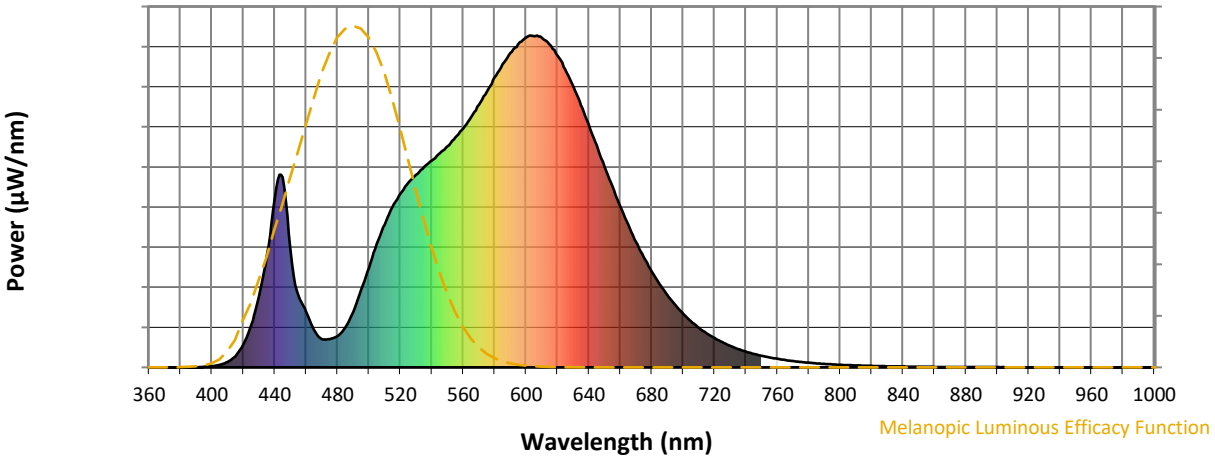


Scotopic Lumens: NR **S/P: 1.27**

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 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			

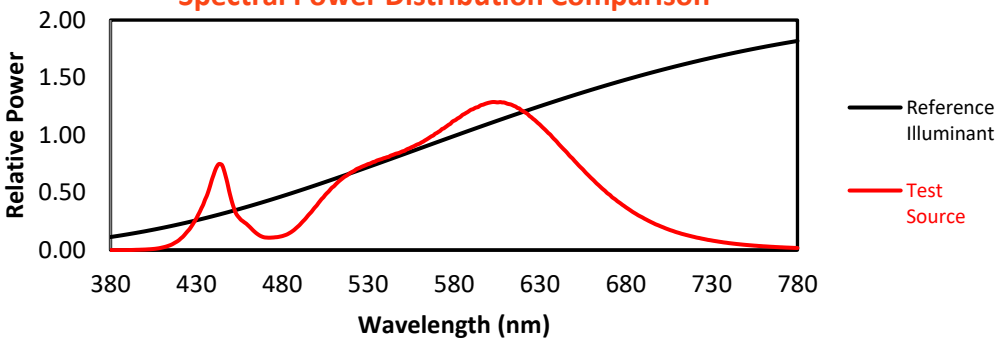
REPORT NUMBER: SP1-2408-195-9

TM-30-18

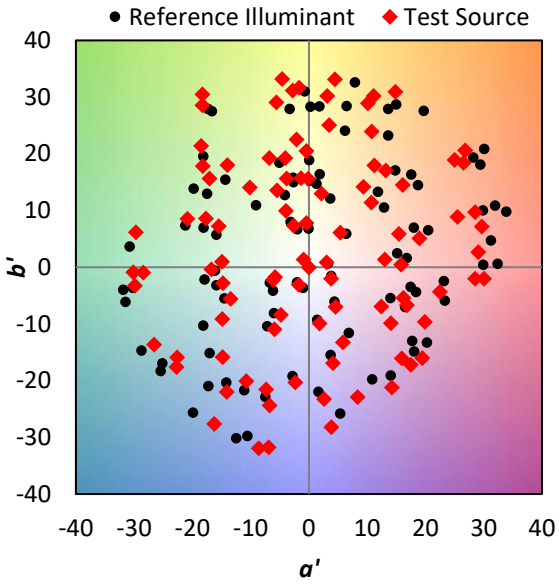
Summary

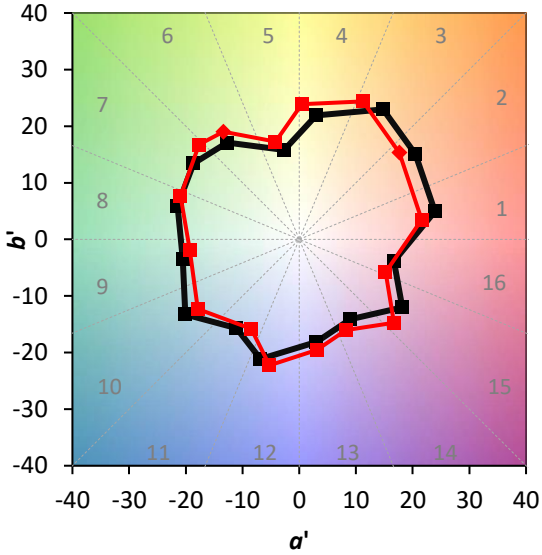
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

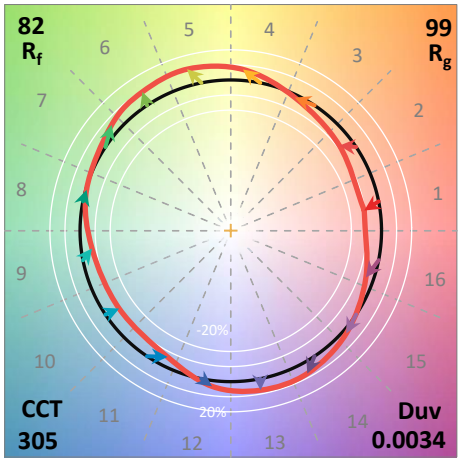
Spectral Power Distribution Comparison

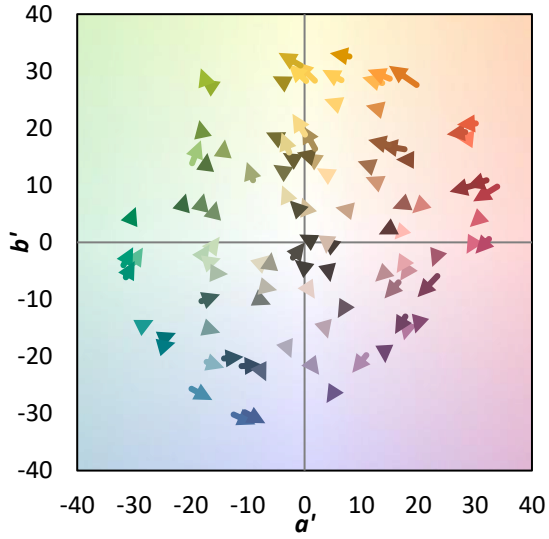


Color Vector Graphics







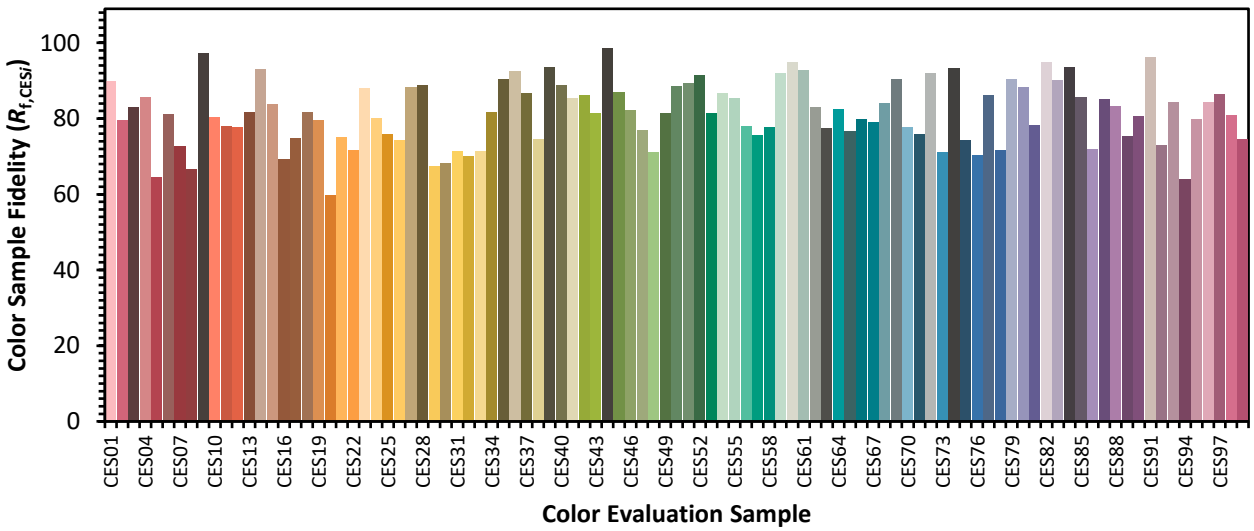


REPORT NUMBER: SP1-2408-195-9

TM-30-18

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

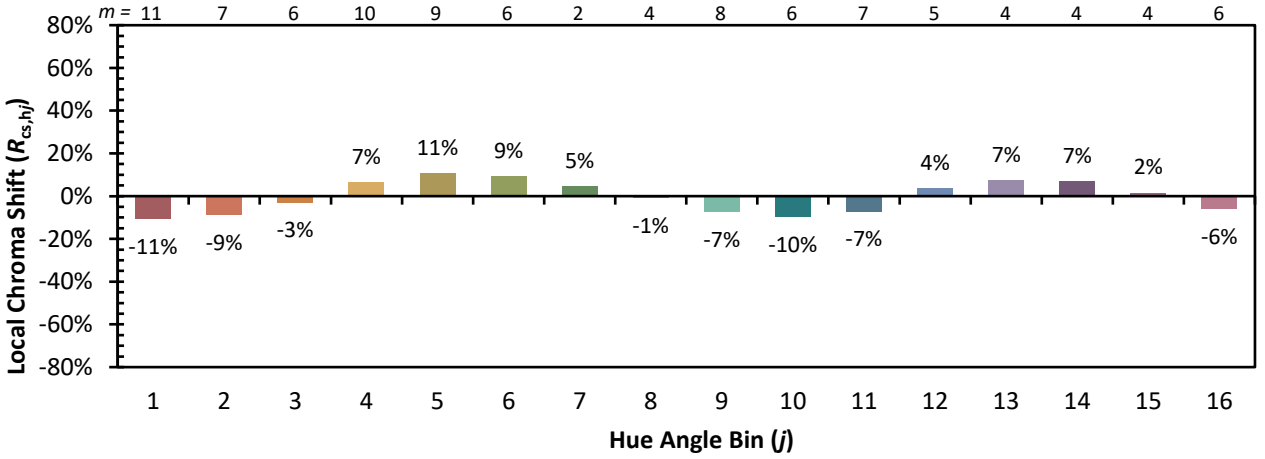
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82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

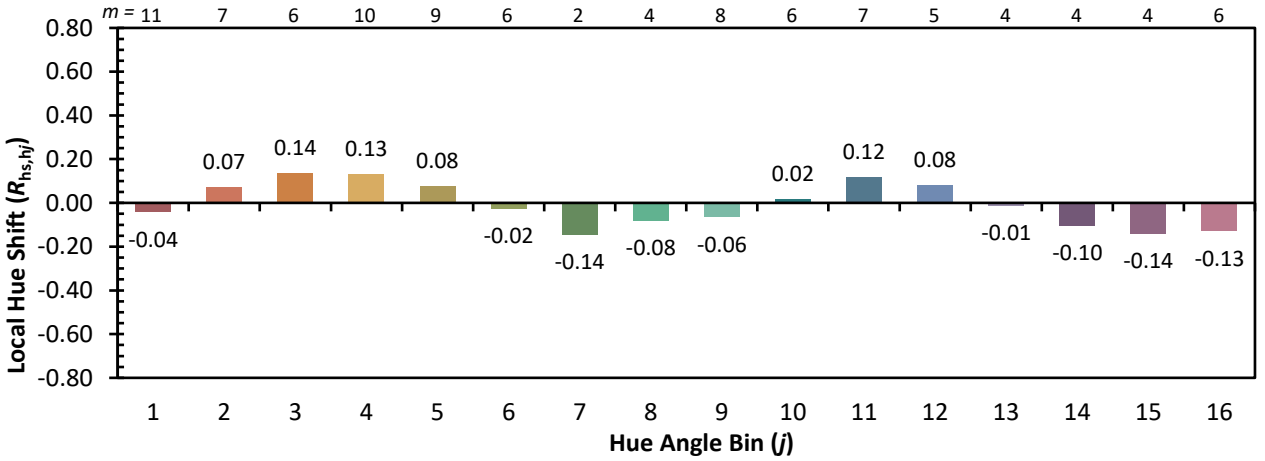


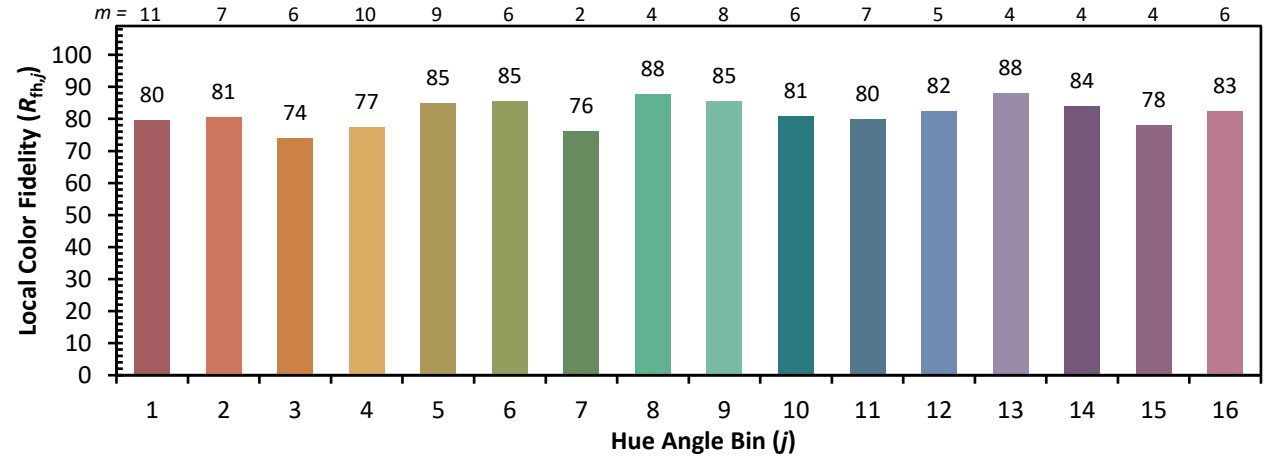
REPORT NUMBER: SP1-2408-195-9

TM-30-18

Color Rendition by Hue-Angle Bin



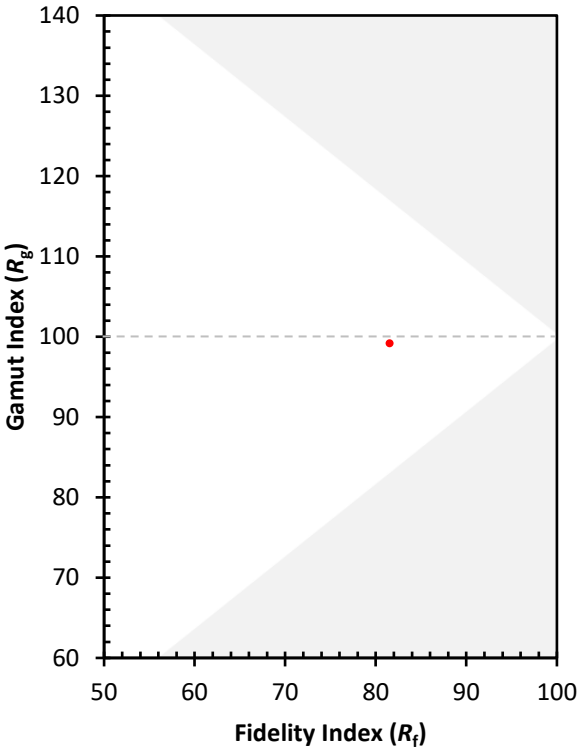


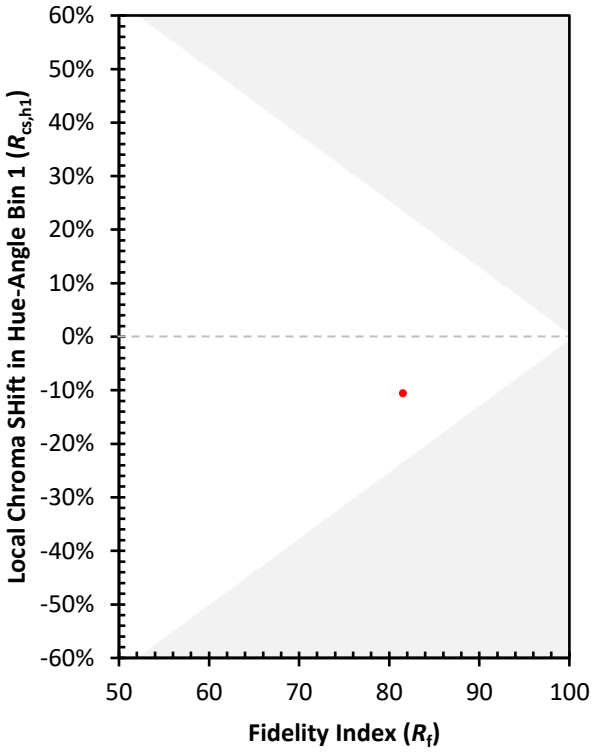


REPORT NUMBER: SP1-2408-195-9

TM-30-18

Measure Comparisons





(END OF REPORT)