

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: P317938

Luminaire Tested: **GLEON-SA4D-830-U-T3R**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P317938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-10)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA4D-830-U-T3R
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25429 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Medium
BUG Rating: B3 - U0 - G4

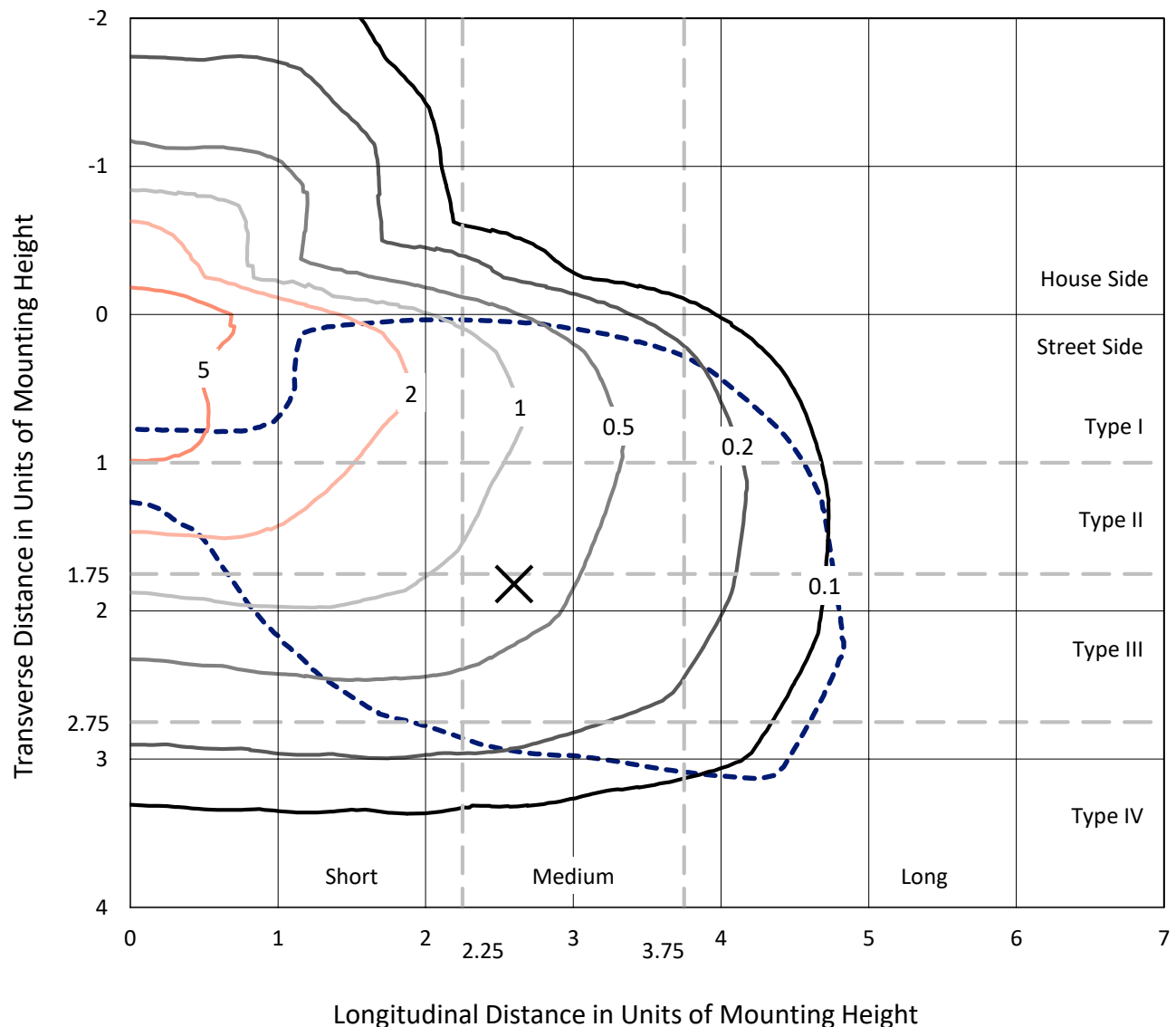
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P317938
 CATALOG NUMBER: GLEON-SA4D-830-U-T3R

Iso-Footcandle Lines of Horizontal Illumination

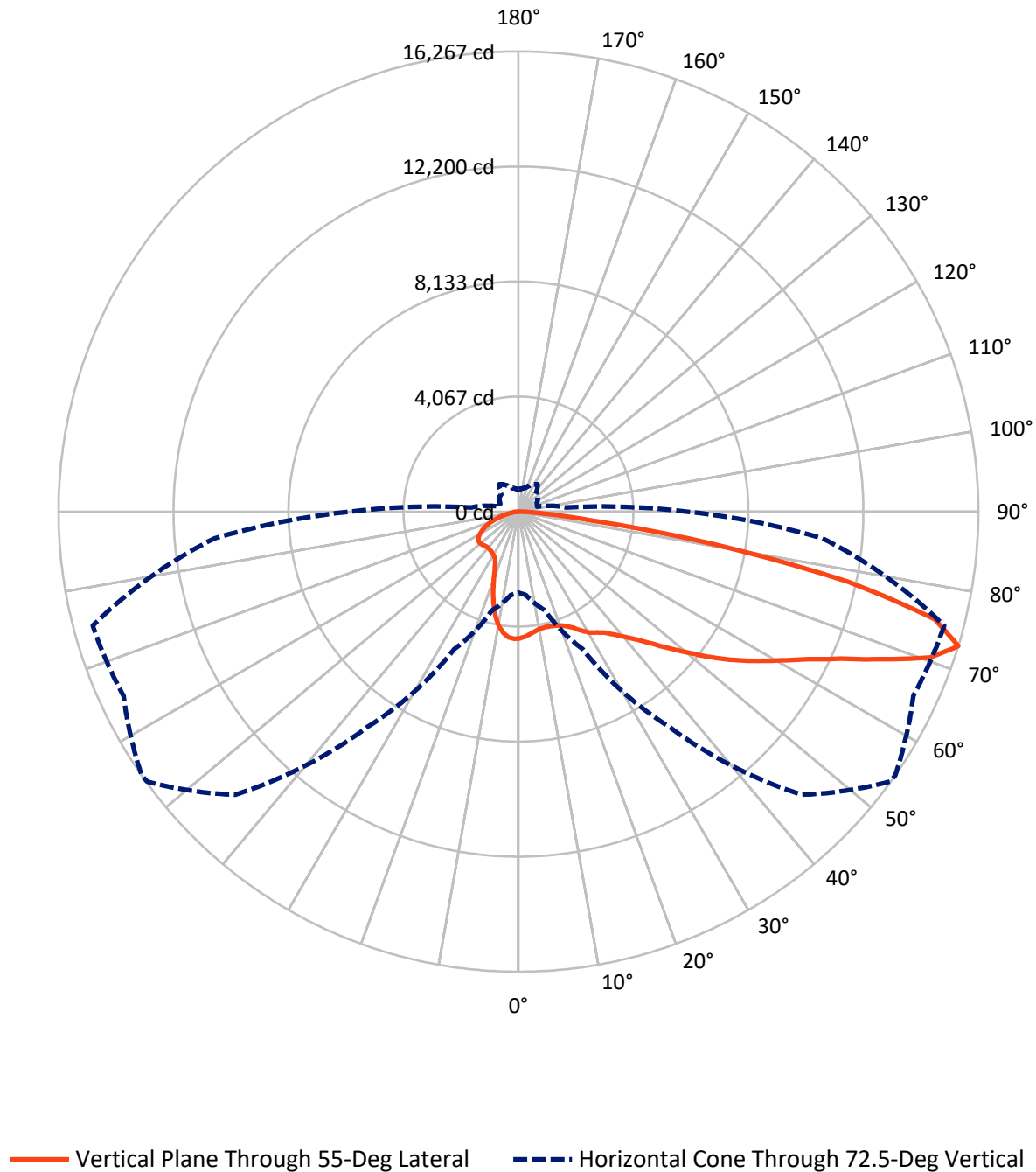
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.2 fc
 Type IV - Medium - N/A

REPORT NUMBER: P317938
CATALOG NUMBER: GLEON-SA4D-830-U-T3R

Luminous Intensity Polar Plot



REPORT NUMBER: P317938

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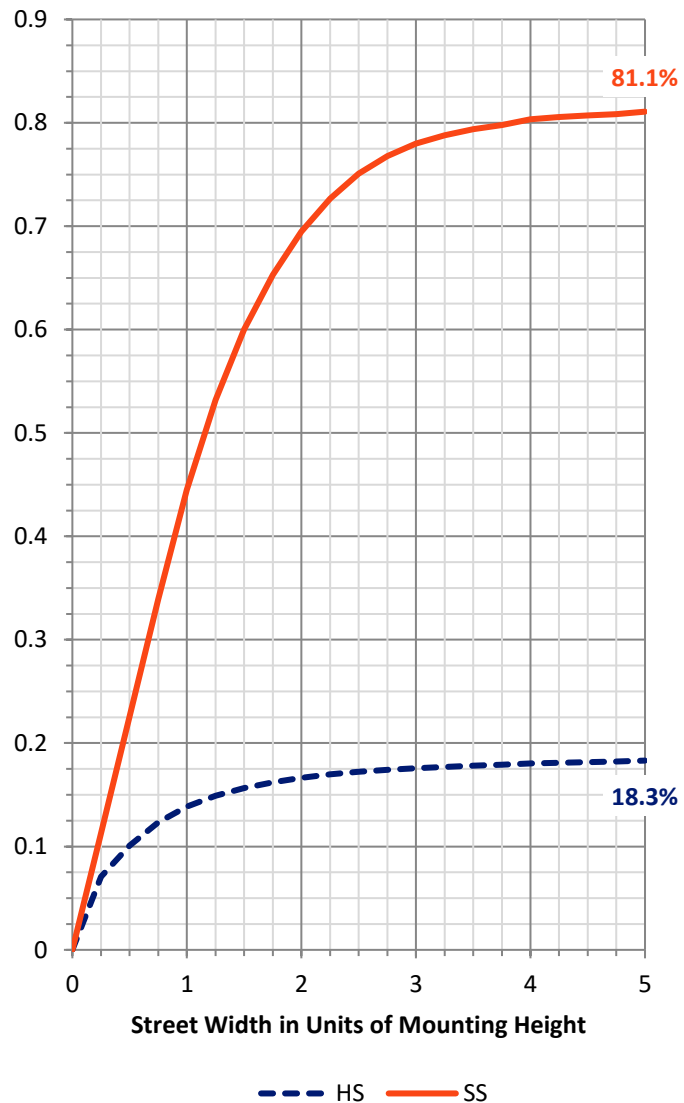
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4726.4	0.0	4726.4
	% Fixture	18.6	0.0	18.6
Street Side	Lumens	20702.6	0.0	20702.6
	% Fixture	81.4	0.0	81.4
Total	Lumens	25429.0	0.0	25429.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	405.8	1.6
10°-20°	1080.5	4.2
20°-30°	1781.5	7.0
30°-40°	2635.3	10.4
40°-50°	3678.3	14.5
50°-60°	4789.3	18.8
60°-70°	5885.9	23.1
70°-80°	4613.9	18.1
80°-90°	558.3	2.2
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°	25429.0	100.0
0°-180°	25429.0	100.0

Coefficient of Utilization



REPORT NUMBER: P317938

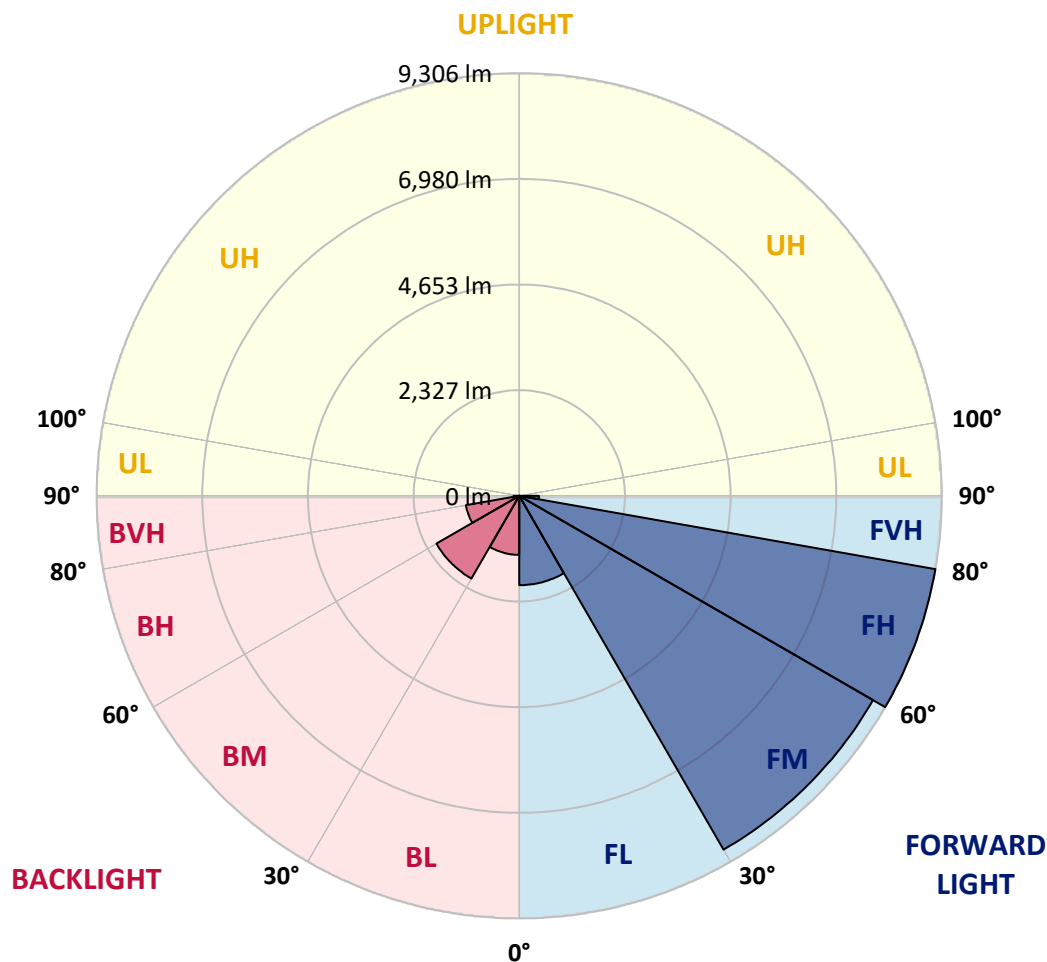
CATALOG NUMBER: GLEON-SA4D-830-U-T3R

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1967.5	7.7			
FM	(30°-60°)	8997.3	35.4			
FH	(60°-80°)	9306.1	36.6			G4/12000
FVH	(80°-90°)	431.7	1.7			G3/500
BL	(0°-30°)	1300.4	5.1	B3/2500		
BM	(30°-60°)	2105.7	8.3	B2/2500		
BH	(60°-80°)	1193.6	4.7	B3/2500		G3/2500
BVH	(80°-90°)	126.7	0.5			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Medium





REPORT NUMBER: P317938

CATALOG NUMBER: GLEON-SA4D-830-U-T3R

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	54°	55°	65°	75°	85°
0°	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1
2.5°	4339.1	4328.8	4341.7	4359.7	4379.5	4406.1	4421.6	4428.4	4455.1	4465.4	4487.7
5°	4138.1	4133.0	4154.5	4185.4	4229.2	4291.0	4340.8	4350.3	4420.7	4470.5	4516.0
7.5°	3992.1	3992.1	4017.0	4054.0	4102.9	4186.2	4256.7	4269.5	4388.9	4496.3	4580.5
10°	3876.2	3880.5	3909.7	3953.5	4011.0	4099.5	4193.1	4207.7	4380.3	4556.4	4690.4
12.5°	3798.9	3809.2	3835.8	3875.3	3946.6	4054.0	4172.5	4192.2	4398.4	4642.3	4822.7
15°	3847.8	3865.0	3867.6	3883.9	3923.4	4040.2	4184.5	4205.1	4437.0	4729.9	4973.0
17.5°	4062.6	4068.6	4041.9	4007.6	3988.7	4063.4	4220.6	4242.1	4483.4	4816.7	5117.3
20°	4388.9	4385.5	4328.0	4235.2	4139.0	4151.0	4279.9	4302.2	4546.1	4893.1	5261.6
22.5°	4801.2	4789.2	4700.7	4529.8	4365.7	4297.0	4383.8	4402.7	4640.6	5002.2	5416.2
25°	5301.1	5274.4	5157.6	4928.3	4687.0	4510.0	4540.1	4558.1	4778.0	5124.1	5557.9
27.5°	5828.4	5801.8	5653.2	5375.8	5054.6	4778.9	4755.7	4771.1	4934.3	5214.3	5662.7
30°	6379.8	6351.5	6215.8	5904.9	5444.5	5057.1	4956.7	4962.7	5044.3	5263.3	5748.6
32.5°	6933.8	6907.2	6755.2	6394.4	5867.9	5356.0	5101.8	5094.1	5110.4	5314.0	5845.6
35°	7495.5	7505.8	7328.1	6928.7	6336.9	5688.4	5273.6	5257.3	5221.2	5417.9	5983.0
37.5°	8096.8	8089.9	7859.7	7442.3	6827.3	6049.2	5520.1	5517.5	5393.0	5614.6	6198.6
40°	8498.7	8503.0	8363.0	7967.9	7322.9	6448.6	5836.2	5830.2	5667.0	5909.2	6481.2
42.5°	8655.9	8684.2	8720.3	8469.5	7841.7	6911.5	6213.2	6204.6	6049.2	6331.7	6813.6
45°	8667.1	8723.8	8947.1	8915.3	8367.3	7441.4	6695.1	6671.0	6559.4	6893.5	7210.4
47.5°	8570.9	8629.3	9000.3	9180.7	8837.1	8000.6	7258.5	7239.6	7143.4	7596.0	7639.8
50°	8360.4	8416.3	8890.4	9310.4	9223.6	8538.2	7907.8	7858.0	7806.5	8407.7	8131.1
52.5°	7966.2	8073.6	8743.5	9341.3	9454.7	9015.8	8590.6	8558.0	8586.3	9264.0	8623.3
55°	7032.6	7152.8	8364.7	9315.5	9625.6	9416.9	9273.4	9271.7	9418.6	10162.4	9151.5
57.5°	6509.5	6594.6	7593.5	9271.7	9828.3	9815.4	9949.4	9965.7	10251.7	11140.7	9704.6
60°	6214.1	6303.4	7202.7	9109.4	10142.6	10330.7	10639.1	10671.7	11098.6	12223.7	10370.2
62.5°	5945.2	6043.2	6960.5	8778.7	10512.8	11067.7	11465.3	11494.5	11995.3	13336.9	11013.6
65°	5485.7	5596.5	6605.7	8561.4	10849.5	12028.8	12515.8	12535.5	13025.1	14503.2	11505.7
67.5°	4836.4	4937.8	5936.7	8081.3	11098.6	13196.0	13912.3	13923.5	14046.3	15326.9	11757.4
70°	4078.0	4116.7	4983.3	7090.1	10804.0	14287.7	15442.9	15445.4	14977.3	15854.3	11716.1
72.5°	2865.3	2956.3	3617.6	5367.2	9284.6	14154.5	16237.3	16266.5	15410.2	15588.0	10779.9
75°	1757.3	1853.5	2269.2	3252.6	5890.3	11132.1	15002.2	15204.9	14598.6	13898.6	8806.2
77.5°	1175.0	1211.0	1480.7	1896.4	2668.6	6404.7	11534.0	11915.4	12127.5	10135.8	5631.7
80°	655.3	724.0	981.7	1178.4	1187.0	2544.9	6915.8	7005.1	6747.4	4035.9	1737.5
82.5°	347.0	384.8	655.3	692.3	647.6	852.0	2577.5	2580.1	2155.8	1082.2	516.2
85°	268.8	300.6	449.2	422.6	330.7	377.9	850.3	896.7	733.5	443.2	168.3
87.5°	134.0	166.6	304.9	268.0	129.7	108.2	304.0	324.7	289.4	173.5	61.0
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: P317938

CATALOG NUMBER: GLEON-SA4D-830-U-T3R

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1	4485.1
2.5°	4496.3	4504.0	4513.5	4503.2	4499.7	4486.0	4462.8	4457.6	4445.6	4446.5	4453.3
5°	4535.8	4548.7	4543.5	4504.0	4456.8	4390.7	4321.9	4263.5	4224.9	4222.3	4219.7
7.5°	4611.4	4620.0	4579.6	4467.1	4334.8	4181.9	4037.6	3911.4	3834.9	3816.1	3811.8
10°	4729.9	4728.2	4617.4	4390.7	4127.0	3853.8	3621.9	3446.7	3344.5	3314.5	3306.7
12.5°	4862.2	4842.4	4630.3	4251.5	3833.2	3454.5	3160.7	2965.8	2859.2	2824.9	2816.3
15°	4998.7	4949.8	4598.5	4043.7	3472.5	3024.2	2715.8	2535.4	2477.9	2459.0	2455.6
17.5°	5125.9	5031.4	4507.5	3761.9	3061.1	2595.6	2355.1	2282.9	2296.7	2321.6	2322.4
20°	5250.4	5086.4	4361.4	3406.4	2627.3	2242.6	2161.0	2214.2	2279.5	2330.2	2337.0
22.5°	5373.2	5125.0	4173.4	2995.8	2239.1	2044.2	2101.7	2198.8	2273.5	2328.5	2337.9
25°	5476.3	5134.5	3914.0	2557.8	1969.4	1969.4	2073.4	2165.3	2239.1	2293.2	2302.7
27.5°	5514.1	5070.9	3548.1	2152.4	1833.7	1935.1	2033.9	2110.3	2173.0	2230.5	2240.8
30°	5528.7	4953.2	3125.5	1826.9	1777.9	1898.1	1980.6	2045.9	2105.1	2159.3	2168.7
32.5°	5531.3	4811.5	2677.2	1642.2	1739.3	1859.5	1914.5	1972.0	2035.6	2057.0	2060.5
35°	5547.6	4644.0	2204.8	1547.7	1703.2	1823.4	1867.2	1908.5	1805.4	1813.1	1820.0
37.5°	5594.8	4478.3	1809.7	1494.5	1680.0	1804.5	1856.9	1707.5	1626.7	1607.8	1605.3
40°	5683.3	4301.3	1516.8	1451.5	1671.4	1814.0	1790.8	1594.1	1455.0	1351.0	1335.6
42.5°	5806.1	4110.7	1329.6	1423.2	1677.4	1859.5	1698.9	1485.0	1254.0	1187.0	1178.4
45°	5944.4	3910.5	1228.2	1403.4	1698.0	1894.7	1680.0	1339.9	1160.4	1109.7	1105.4
47.5°	6078.4	3665.7	1175.8	1394.8	1726.4	1866.4	1600.1	1295.2	1115.7	1089.1	1091.7
50°	6232.1	3445.0	1144.0	1385.4	1751.3	1848.3	1509.9	1272.0	1098.5	1131.2	1165.5
52.5°	6361.8	3216.5	1115.7	1366.5	1760.7	1816.6	1486.7	1276.3	1098.5	1161.2	1193.9
55°	6515.5	3043.9	1083.1	1327.0	1742.7	1726.4	1470.4	1302.1	1111.4	1071.9	1075.3
57.5°	6714.0	2987.2	1047.0	1265.1	1682.6	1595.0	1462.7	1327.0	1103.7	1078.8	1087.4
60°	6988.8	3047.3	1032.4	1184.4	1588.9	1491.9	1463.6	1314.1	1049.6	1006.6	1007.5
62.5°	7250.8	3114.3	1031.5	1133.7	1473.9	1400.0	1443.8	1272.0	1022.1	997.2	1006.6
65°	7336.6	3046.5	990.3	1077.0	1344.2	1290.1	1407.7	1227.4	1001.5	963.7	962.0
67.5°	7221.6	2836.1	907.0	985.1	1195.6	1162.1	1360.5	1174.1	968.8	937.9	932.8
70°	6879.7	2366.2	803.9	864.0	1026.4	1017.8	1285.8	1112.3	925.0	898.4	876.1
72.5°	5959.8	1686.0	677.7	718.9	835.7	863.2	1182.7	1031.5	863.2	805.6	771.3
75°	4894.8	1248.0	556.6	565.2	634.7	709.4	1041.0	937.1	790.2	692.3	665.6
77.5°	2997.5	763.6	443.2	446.6	455.2	566.0	857.2	831.4	697.4	577.2	558.3
80°	970.5	416.6	320.4	336.7	310.9	414.8	663.1	707.7	598.6	482.7	462.1
82.5°	369.3	243.1	216.4	227.6	215.6	278.3	483.6	566.9	490.4	396.8	322.9
85°	178.6	137.4	128.0	143.4	133.1	142.6	309.2	417.4	371.9	258.5	240.5
87.5°	63.6	61.0	49.0	66.1	56.7	50.7	94.5	210.4	245.6	177.8	158.9
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

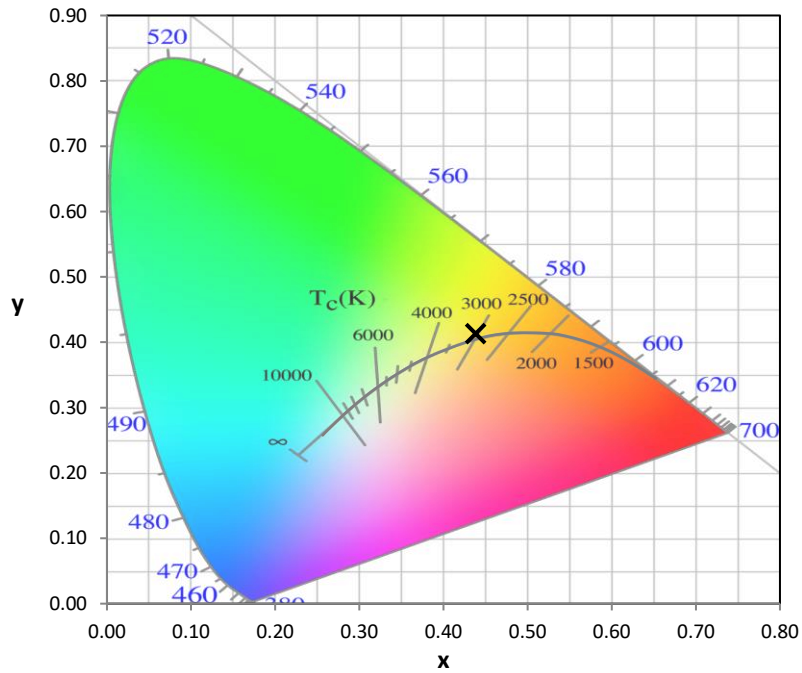
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

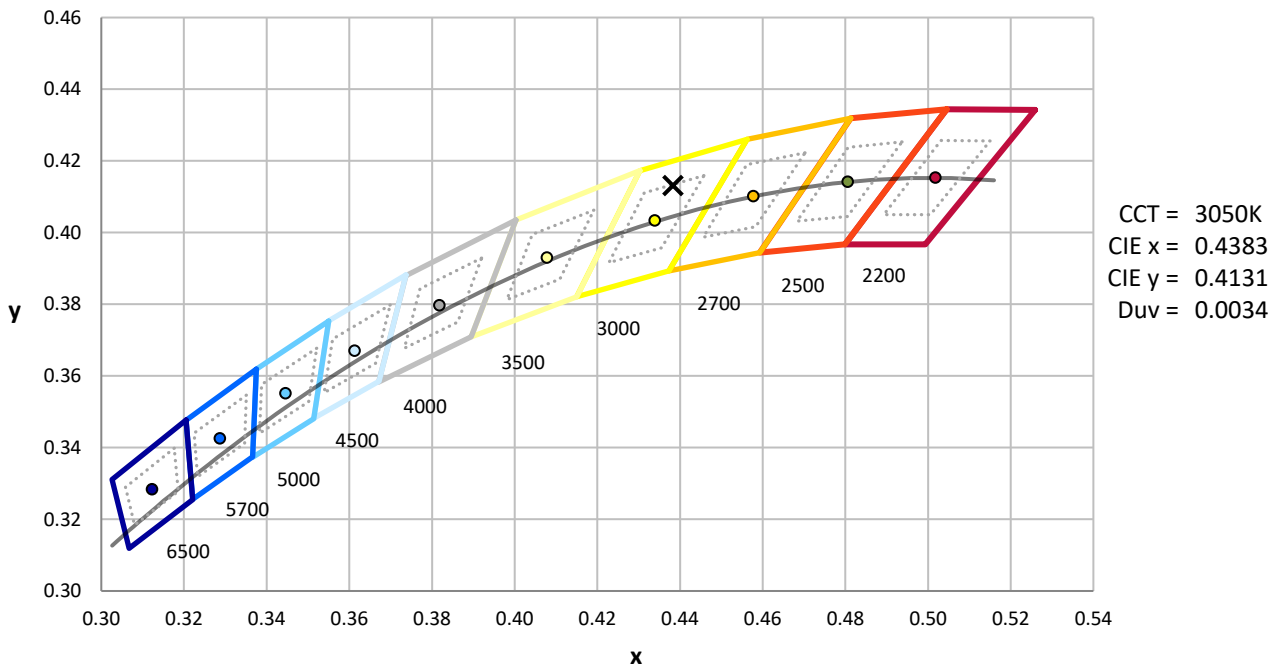
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

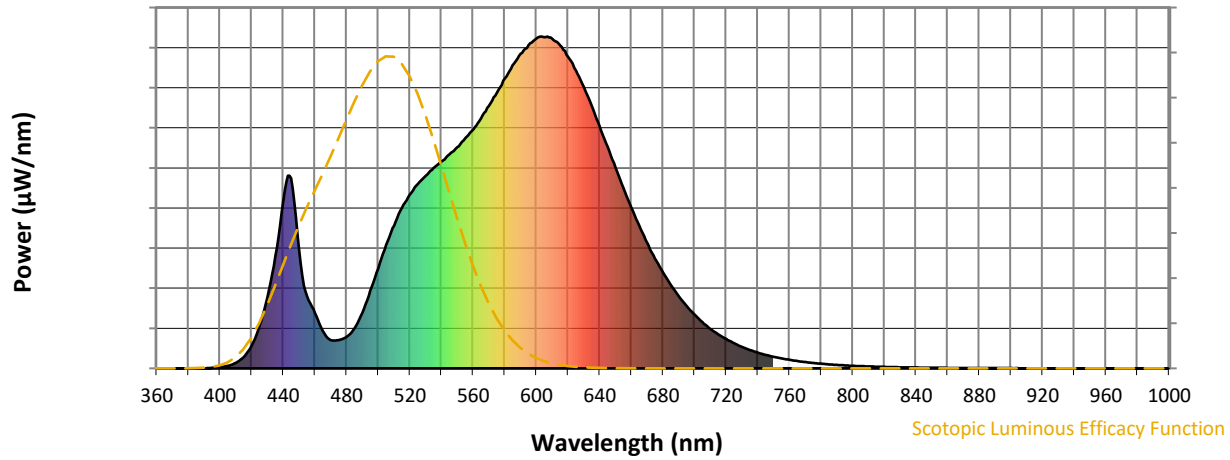


Photopic Lumens: NR

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



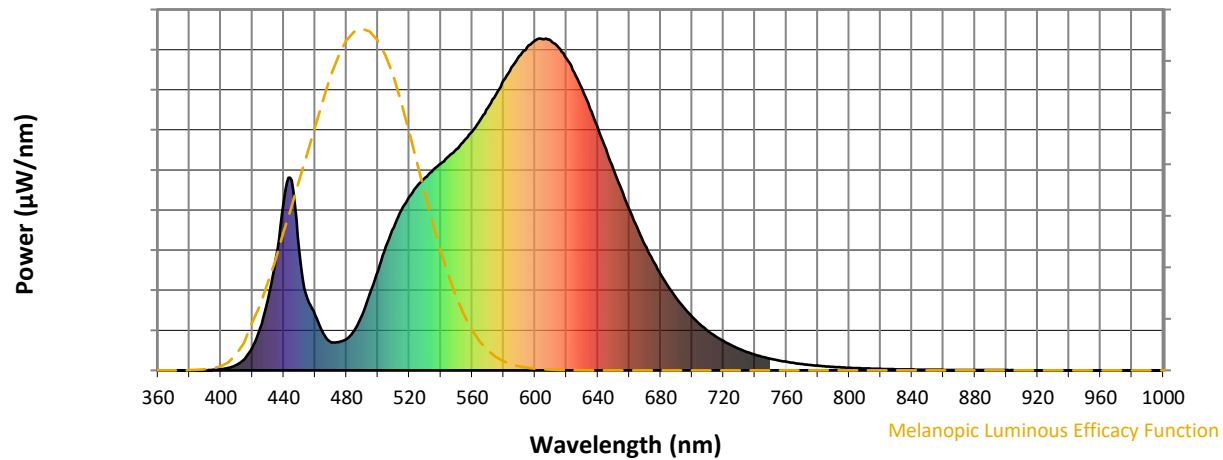
Scotopic Lumens: NR

S/P: 1.27

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

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

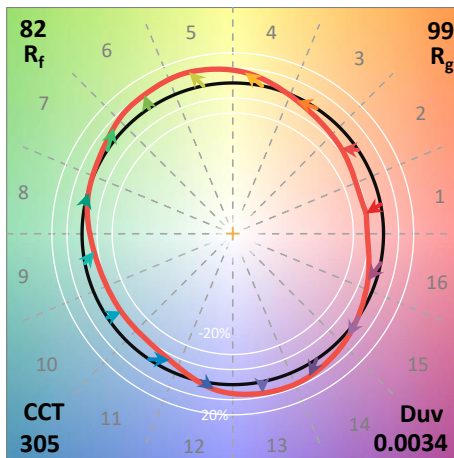
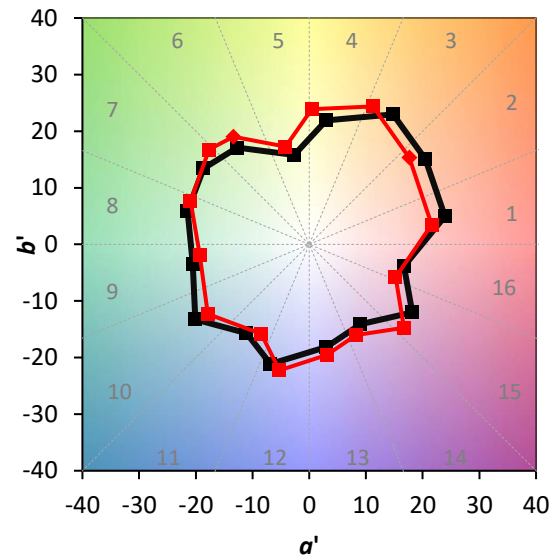
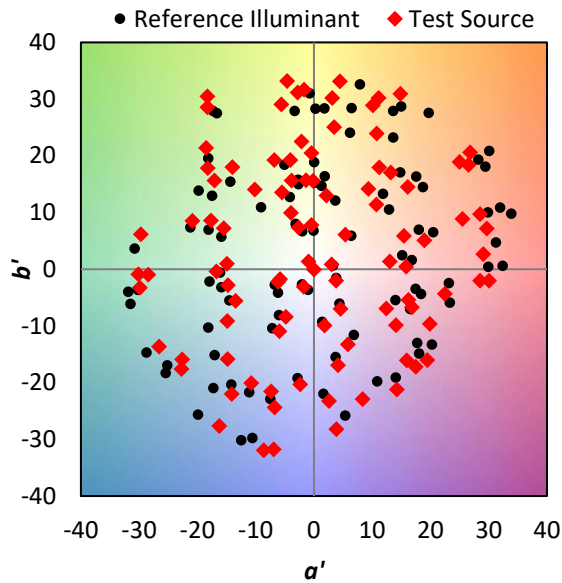
TM-30-18

Summary

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

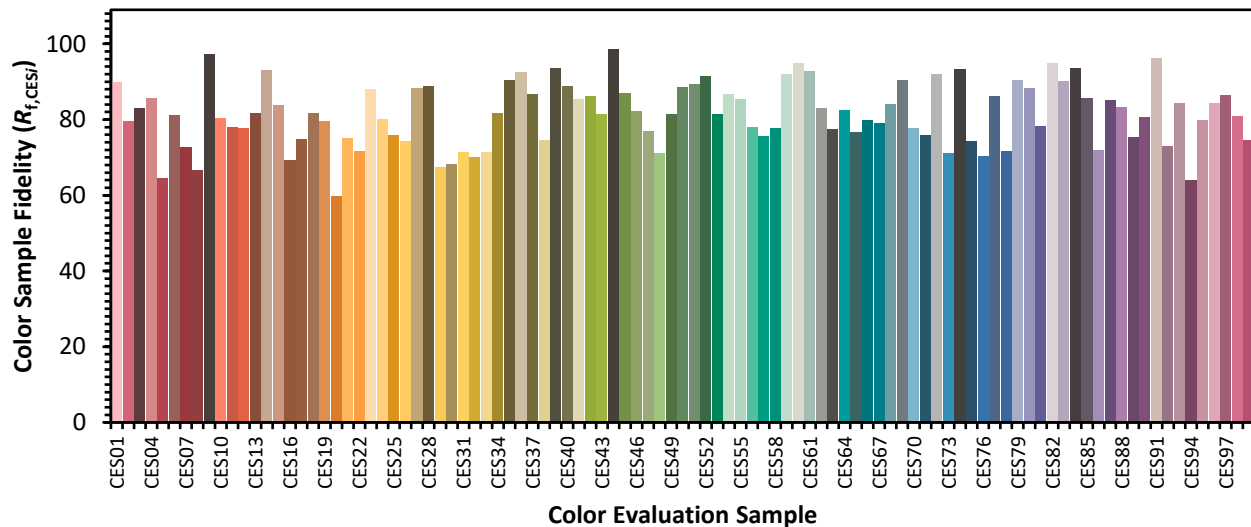


Color Vector Graphics

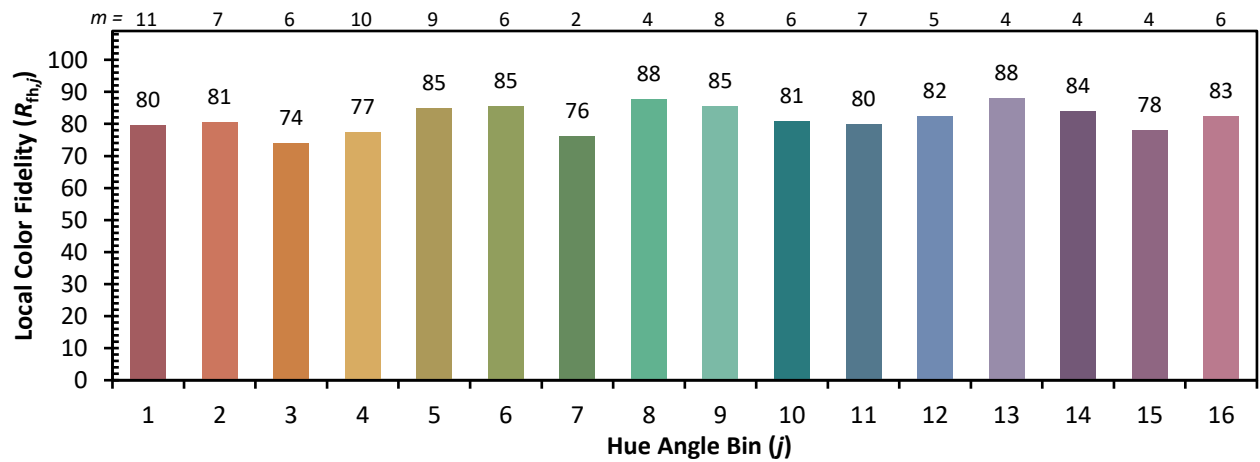
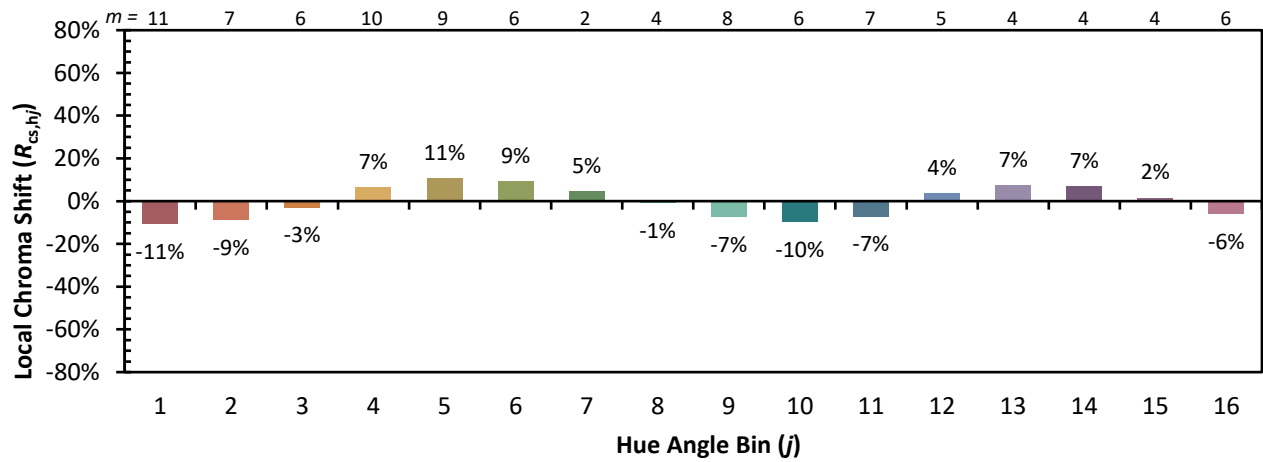


Individual Sample Fidelity Index ($R_{f,i}$)

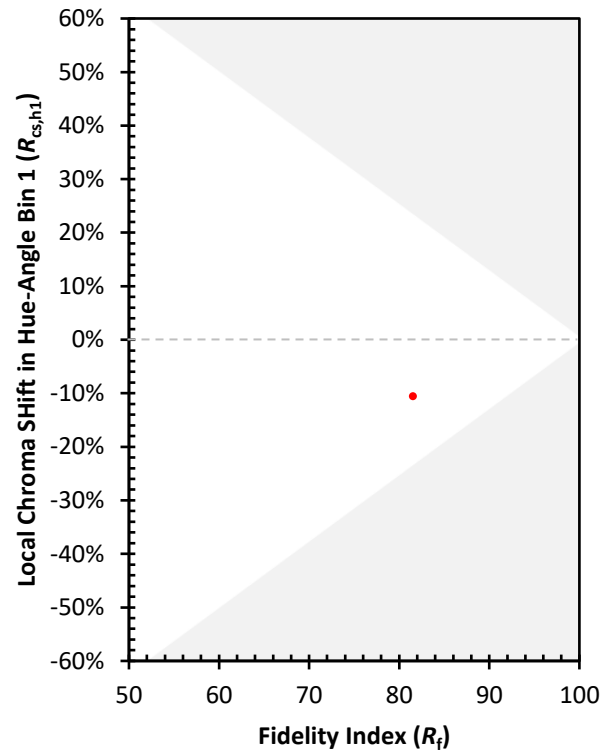
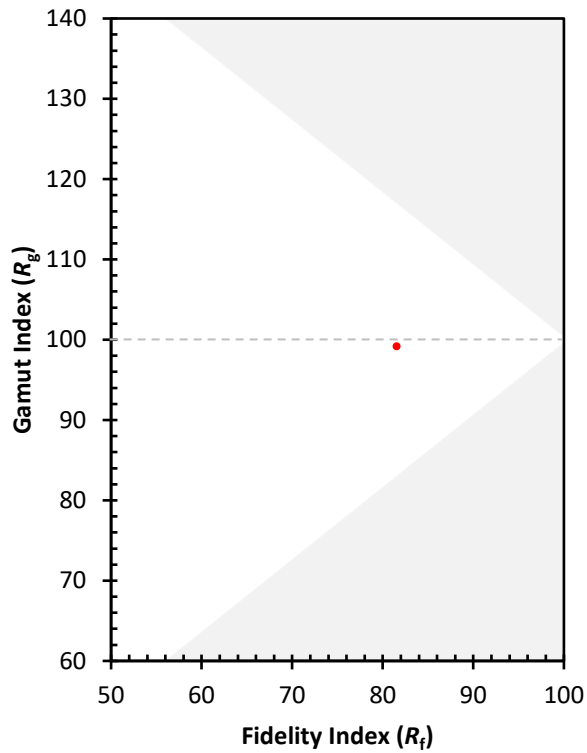
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82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