

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: P316959

Luminaire Tested: **GLEON-SA5B-830-U-5NQ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P316959
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-5)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA5B-830-U-5NQ
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(5) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23412 lumens
Efficiency: N/A
Efficacy: 111.5 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type V - Short
BUG Rating: B4 - U0 - G2

Input Watts (W): 210
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

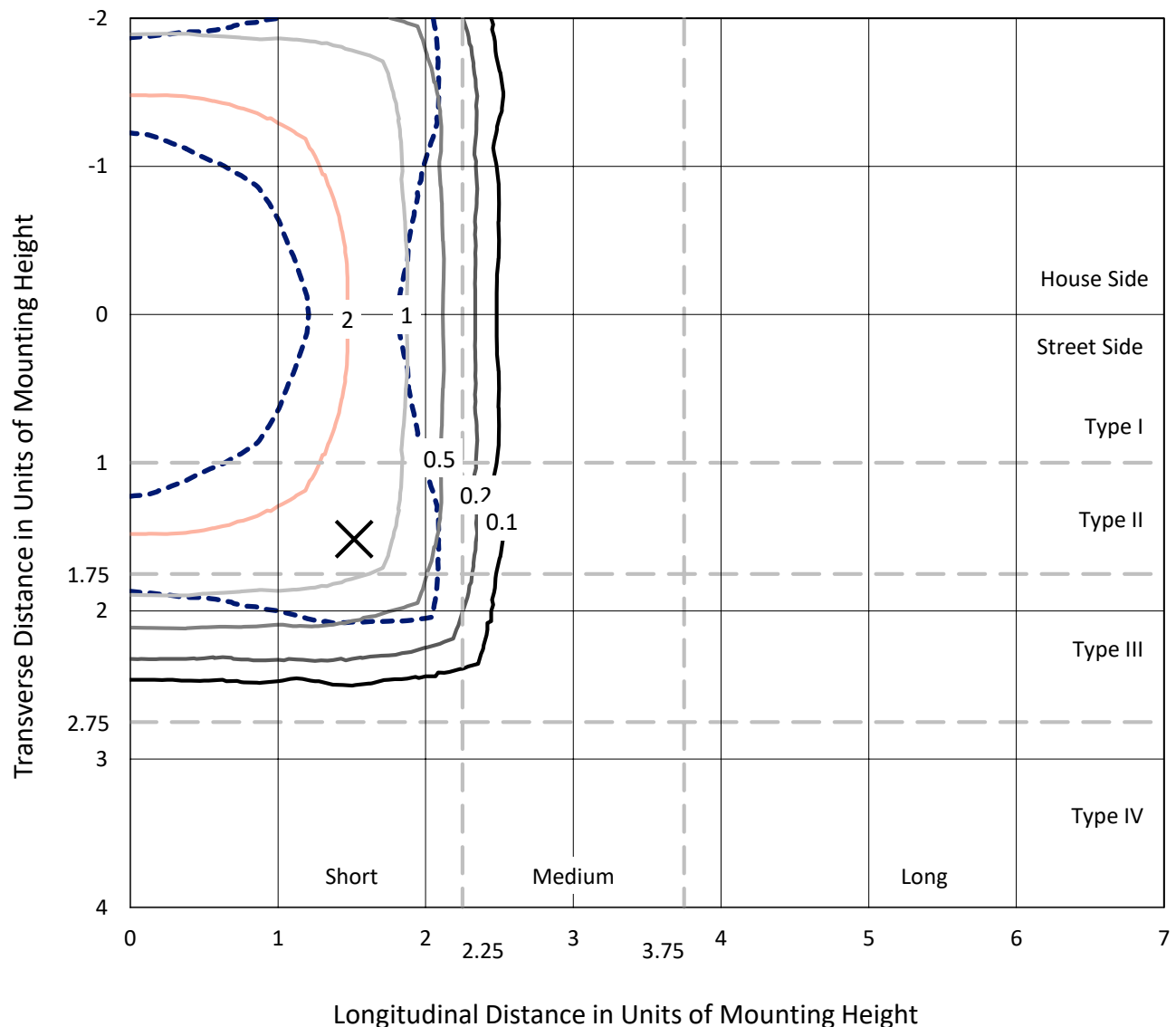


REPORT NUMBER: P316959

CATALOG NUMBER: GLEON-SA5B-830-U-5N9

Iso-Footcandle Lines of Horizontal Illumination

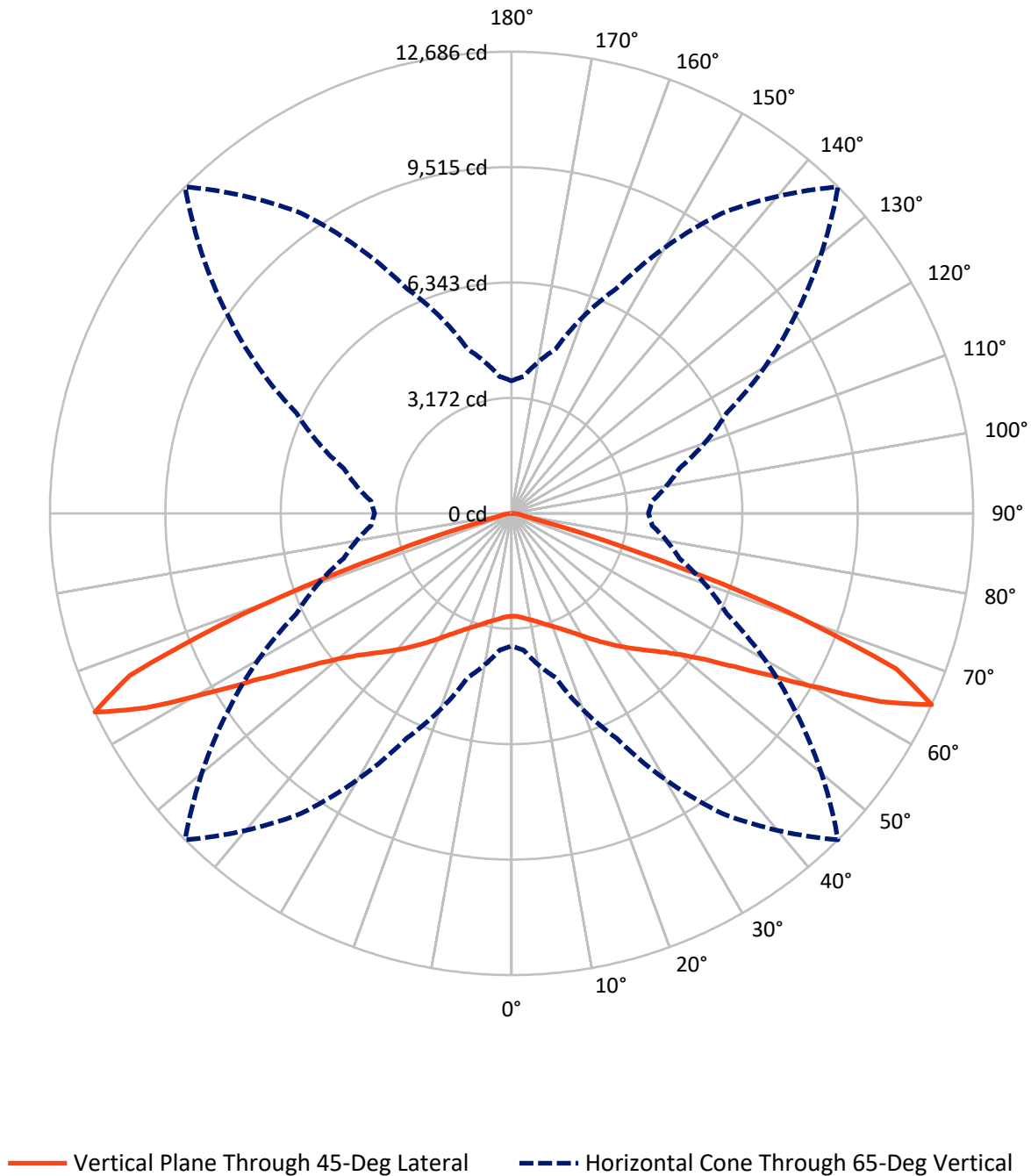
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 fc
 Type V - Short - N/A

REPORT NUMBER: P316959
CATALOG NUMBER: GLEON-SA5B-830-U-5NQ

Luminous Intensity Polar Plot



REPORT NUMBER: P316959

CATALOG NUMBER: GLEON-SA5B-830-U-5NQ

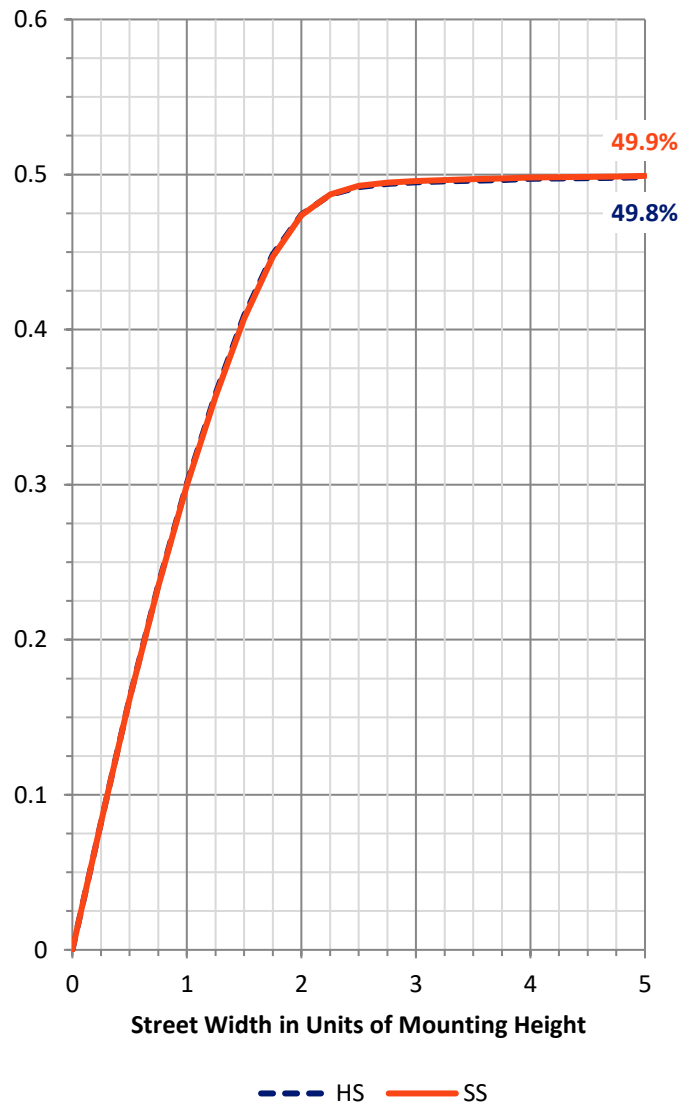
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	11706.0	0.0	11706.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	11706.0	0.0	11706.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	23412.0	0.0	23412.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.4	1.2
10°-20°	891.6	3.8
20°-30°	1672.9	7.1
30°-40°	2766.6	11.8
40°-50°	4285.0	18.3
50°-60°	6572.0	28.1
60°-70°	6132.5	26.2
70°-80°	713.7	3.0
80°-90°	100.3	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°	23412.0	100.0
0°-180°	23412.0	100.0

Coefficient of Utilization



REPORT NUMBER: P316959

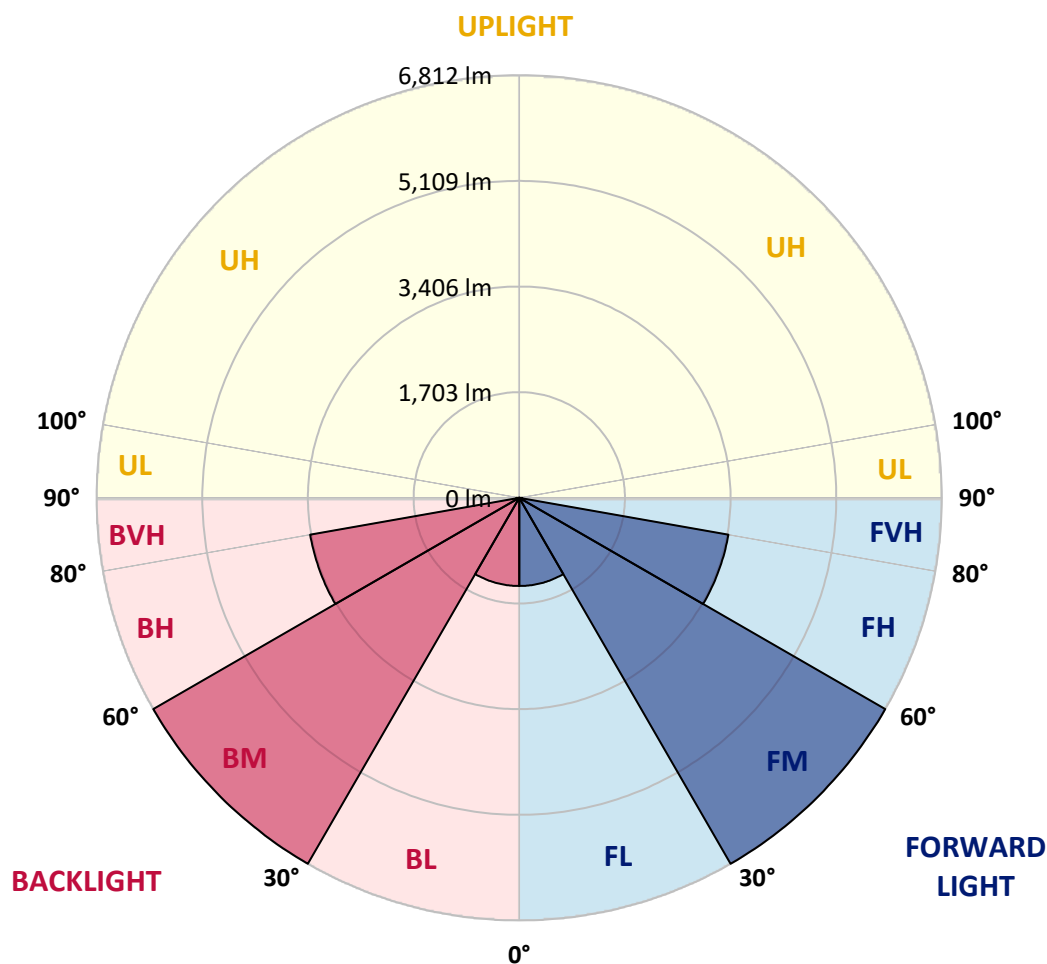
CATALOG NUMBER: GLEON-SA5B-830-U-5NQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1420.9	6.1			
FM	(30°-60°)	6811.8	29.1			
FH	(60°-80°)	3423.1	14.6			G2/5000
FVH	(80°-90°)	50.1	0.2			G1/100
BL	(0°-30°)	1420.9	6.1	B3/2500		
BM	(30°-60°)	6811.8	29.1	B4/8500		
BH	(60°-80°)	3423.1	14.6	B4/5000		G2/5000
BVH	(80°-90°)	50.1	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





REPORT NUMBER: P316959

CATALOG NUMBER: GLEON-SA5B-830-U-5NQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2827.3	2827.3	2827.3	2827.3	2827.3	2827.3	2827.3	2827.3	2827.3	2827.3	2827.3
2.5°	2836.6	2835.1	2836.6	2837.4	2832.7	2835.1	2834.3	2838.2	2839.7	2838.2	2838.2
5°	2869.3	2866.9	2870.0	2873.9	2867.7	2869.3	2866.9	2871.6	2873.1	2870.0	2872.4
7.5°	2914.3	2915.1	2918.2	2925.2	2921.3	2924.4	2919.8	2920.6	2919.8	2915.1	2915.9
10°	2963.3	2964.1	2969.5	2978.8	2980.4	2980.4	2977.3	2975.0	2971.8	2968.7	2969.5
12.5°	3022.4	3026.2	3030.1	3041.8	3041.8	3048.0	3046.5	3040.2	3034.8	3030.1	3030.1
15°	3102.4	3101.6	3106.3	3118.0	3123.4	3133.5	3133.5	3124.9	3118.0	3113.3	3111.7
17.5°	3186.3	3188.7	3191.8	3205.8	3214.3	3226.0	3227.5	3220.5	3215.9	3209.7	3205.8
20°	3284.3	3288.1	3300.6	3306.0	3313.8	3324.7	3328.6	3327.0	3322.3	3319.2	3320.0
22.5°	3398.5	3408.6	3416.4	3424.2	3433.5	3441.2	3445.1	3450.6	3445.9	3443.6	3442.0
25°	3536.8	3543.8	3559.4	3573.4	3579.6	3581.9	3586.6	3594.3	3593.6	3588.1	3588.1
27.5°	3693.8	3707.0	3726.5	3746.7	3746.7	3738.9	3754.4	3767.7	3763.0	3756.0	3746.7
30°	3884.2	3896.7	3919.2	3947.2	3933.2	3927.7	3948.7	3972.8	3965.8	3954.2	3952.6
32.5°	4089.4	4101.1	4130.6	4160.9	4143.0	4135.2	4157.8	4192.8	4180.3	4157.0	4143.0
35°	4311.7	4323.3	4365.3	4401.8	4371.5	4358.3	4376.9	4415.0	4393.3	4349.7	4338.9
37.5°	4553.4	4559.6	4614.0	4651.3	4630.3	4595.3	4618.6	4646.6	4628.0	4575.1	4554.1
40°	4804.4	4826.9	4889.9	4933.4	4896.9	4841.7	4880.5	4919.4	4891.4	4823.8	4788.1
42.5°	5097.4	5114.5	5198.4	5237.3	5178.2	5100.5	5153.3	5206.2	5178.2	5112.9	5081.8
45°	5402.0	5428.4	5528.7	5567.5	5482.1	5383.4	5447.9	5540.3	5538.0	5444.0	5411.3
47.5°	5733.9	5760.3	5880.0	5931.3	5838.8	5706.7	5797.6	5928.2	5918.8	5815.5	5789.0
50°	6117.0	6145.0	6294.2	6358.7	6272.4	6118.6	6255.3	6370.4	6353.3	6225.8	6228.1
52.5°	6598.1	6596.5	6782.2	6894.2	6805.6	6669.6	6795.5	6907.4	6836.6	6660.2	6654.8
55°	7019.3	7044.9	7275.0	7487.1	7481.7	7429.6	7480.1	7484.8	7282.7	7048.0	7019.3
57.5°	7295.9	7344.9	7669.0	8052.9	8340.4	8409.6	8311.7	8014.8	7541.5	7166.2	7120.3
60°	7125.7	7200.4	7709.4	8492.0	9339.1	9745.5	9193.0	8272.1	7340.2	6817.2	6755.0
62.5°	5977.1	6103.0	6848.3	8279.8	10198.6	11386.9	9831.8	7859.4	6539.8	5819.3	5712.9
65°	3640.2	3773.1	4671.5	6814.9	10059.5	12686.3	9540.4	6523.5	4773.3	3877.2	3762.2
67.5°	1213.1	1252.0	1781.2	3766.9	7906.0	11398.6	7919.2	3905.2	2077.3	1377.1	1336.7
70°	474.8	478.7	565.0	1091.9	3733.5	7829.1	4119.7	1111.3	590.6	467.1	477.2
72.5°	348.9	350.5	374.6	456.2	973.0	3449.0	1008.0	458.5	364.5	327.2	327.2
75°	280.6	280.6	297.7	332.6	436.0	791.1	442.2	328.7	285.2	261.1	258.0
77.5°	221.5	226.2	239.4	261.9	295.3	380.8	306.2	260.3	230.0	207.5	202.8
80°	164.8	169.4	191.2	202.1	212.2	264.2	226.2	203.6	181.9	155.4	150.8
82.5°	108.0	112.7	139.9	146.1	143.8	172.5	152.3	150.0	133.7	100.3	95.6
85°	70.7	72.3	93.3	97.1	89.4	78.5	97.1	102.6	93.3	65.3	62.9
87.5°	33.4	33.4	47.4	44.3	40.4	32.6	44.3	52.1	52.8	31.9	31.1
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.

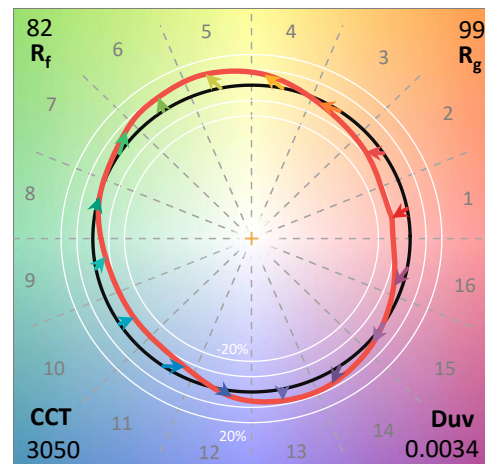
Test Information

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

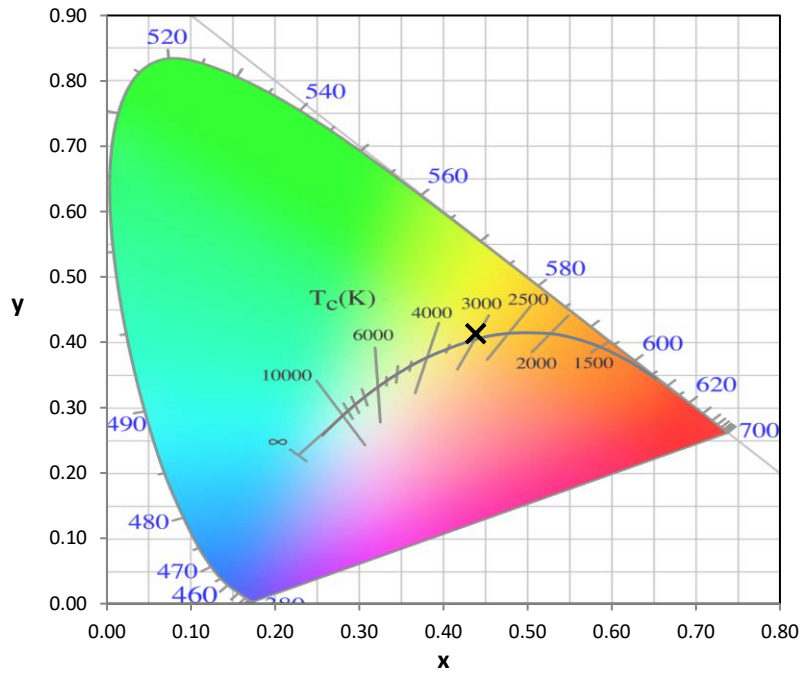
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

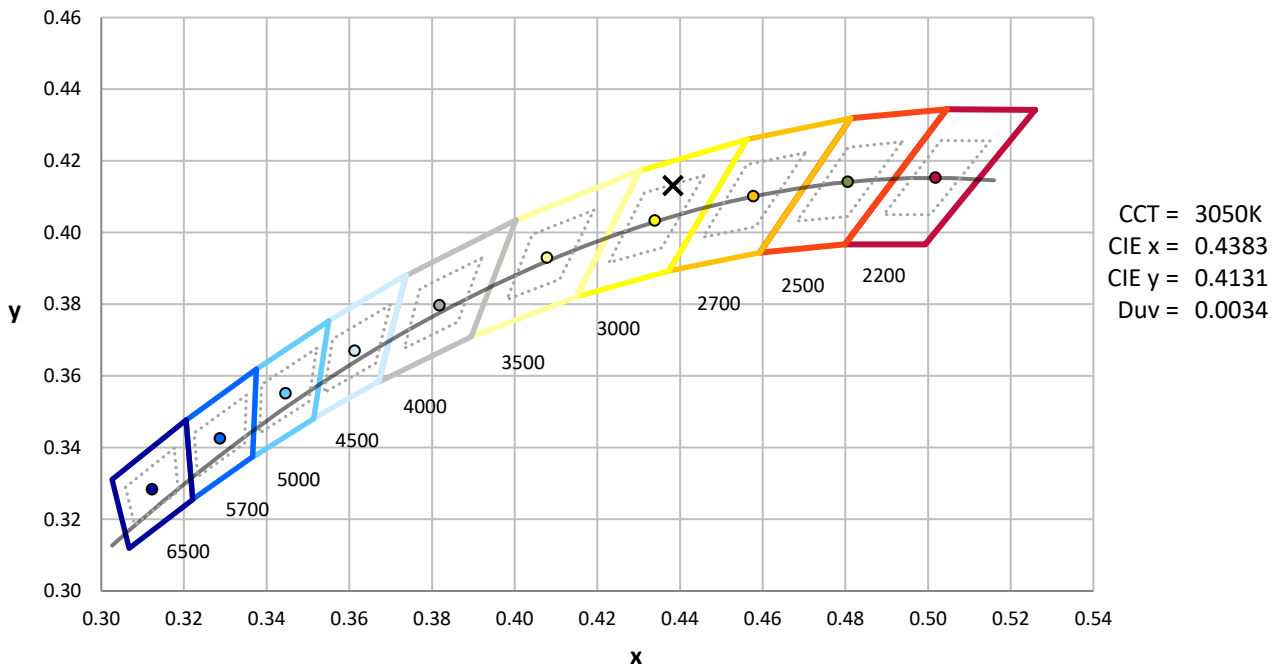
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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



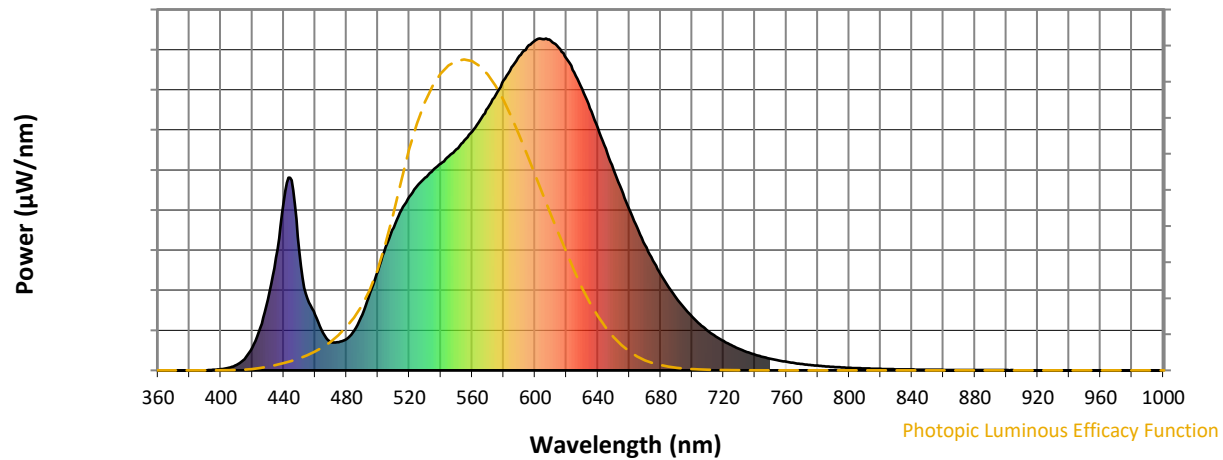
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

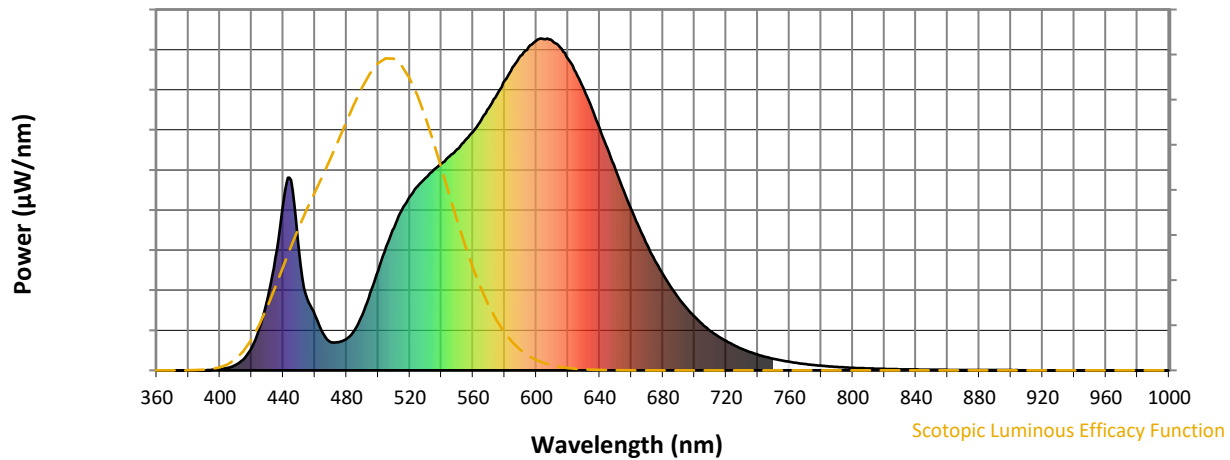


Photopic Lumens: NR

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

Scotopic Flux vs. Wavelength



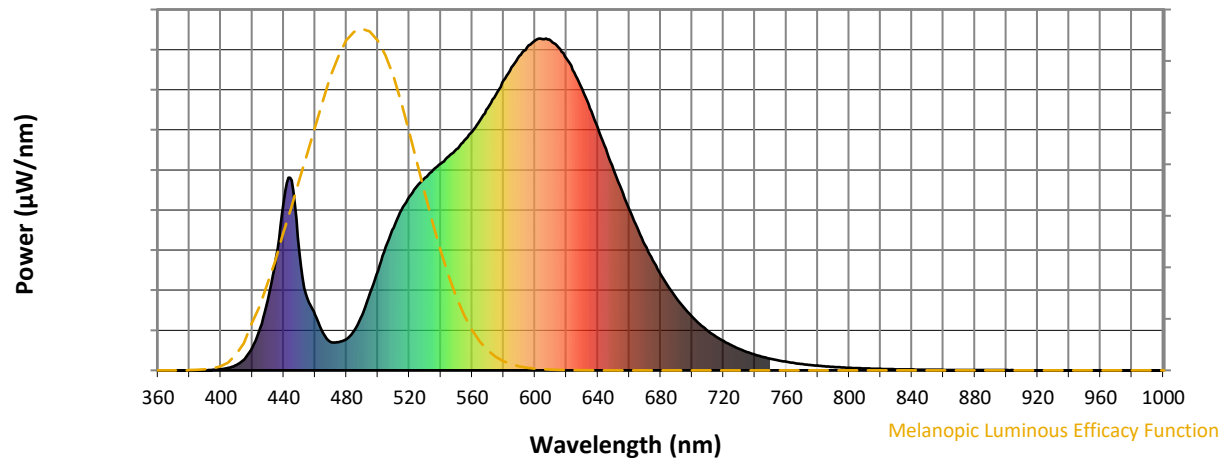
Scotopic Lumens: NR

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

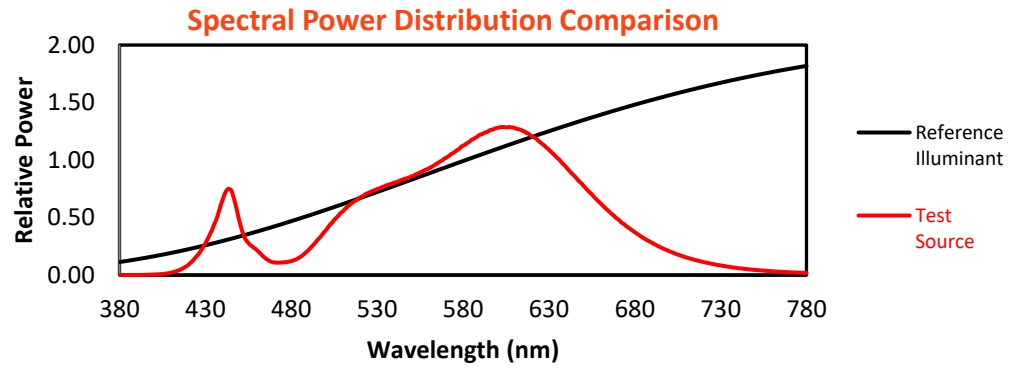
λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	NR	620	940	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

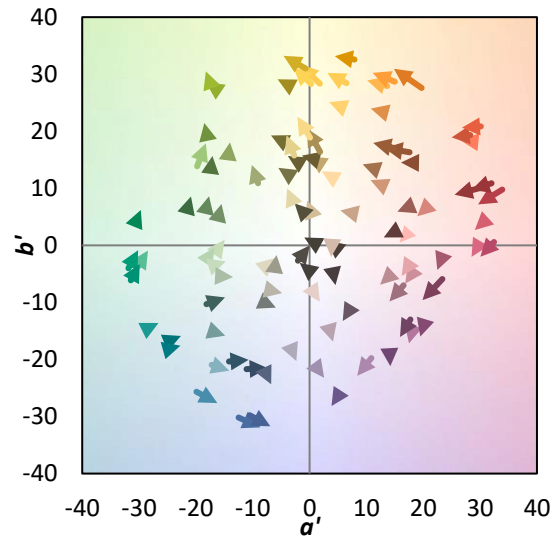
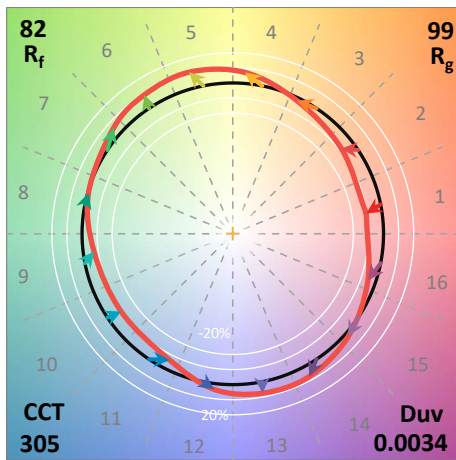
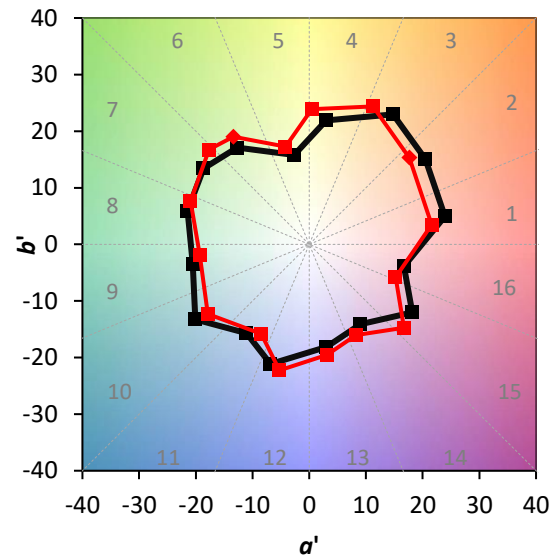
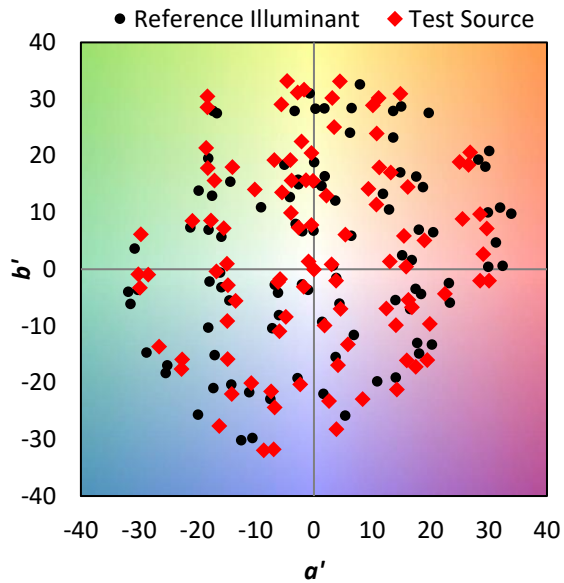
TM-30-18

Summary

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

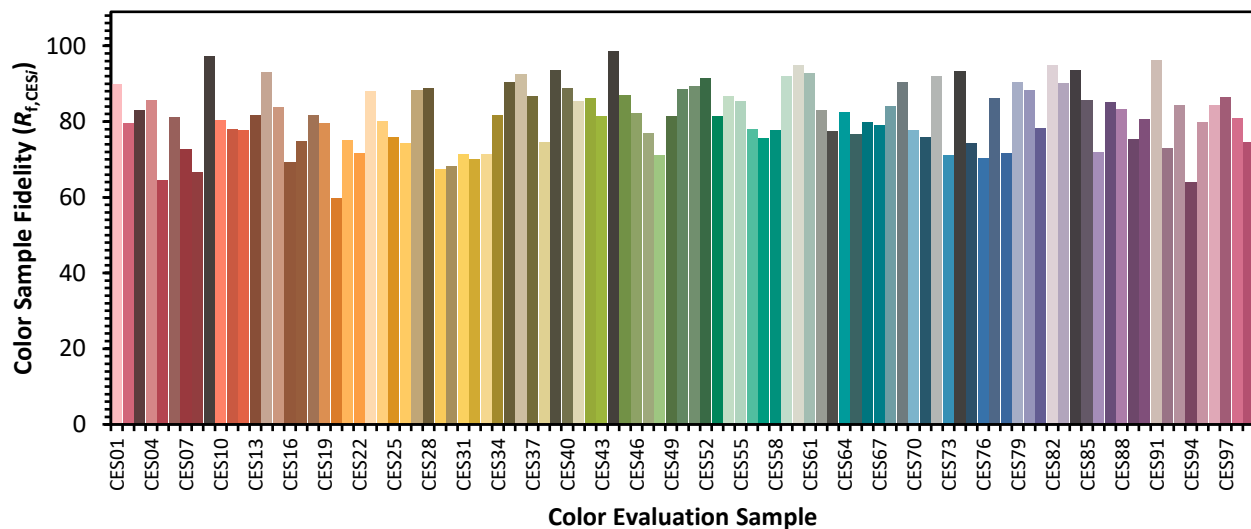


Color Vector Graphics

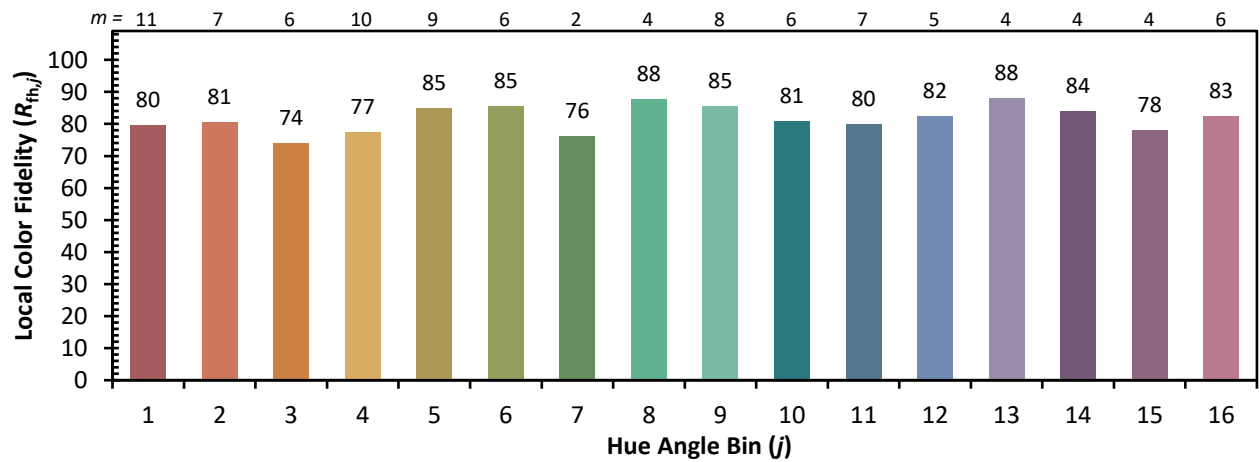
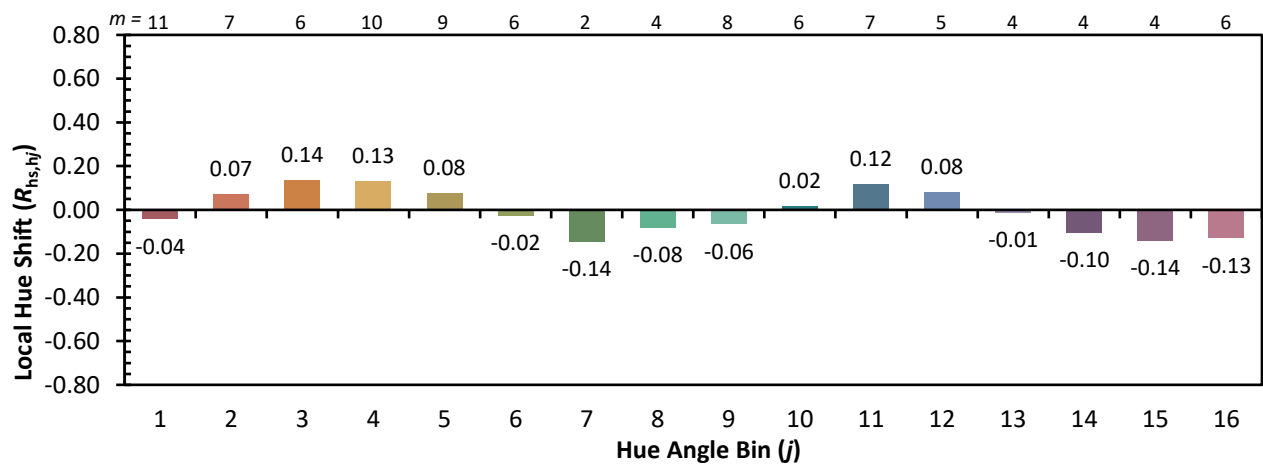
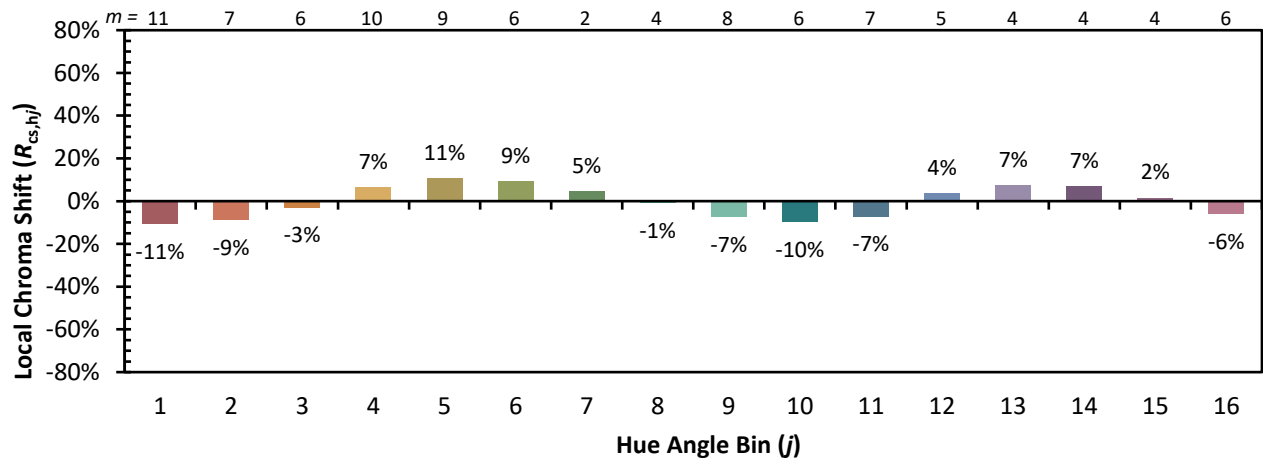


Individual Sample Fidelity Index ($R_{f,i}$)

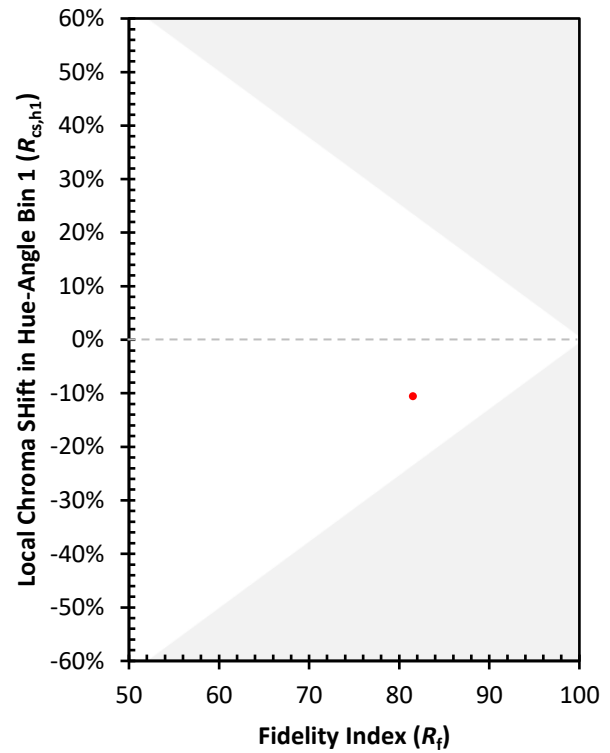
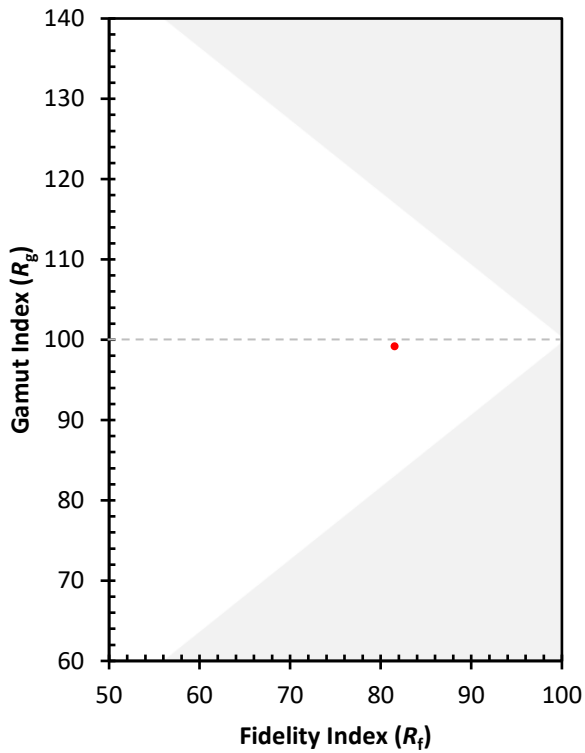
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82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