

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: P316321

Luminaire Tested: **GLEON-SA7B-830-U-5WQ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P316321
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA7B-830-U-5WQ
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(7) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33832 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type V - Short
BUG Rating: B5 - U0 - G4

Input Watts (W): 295
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

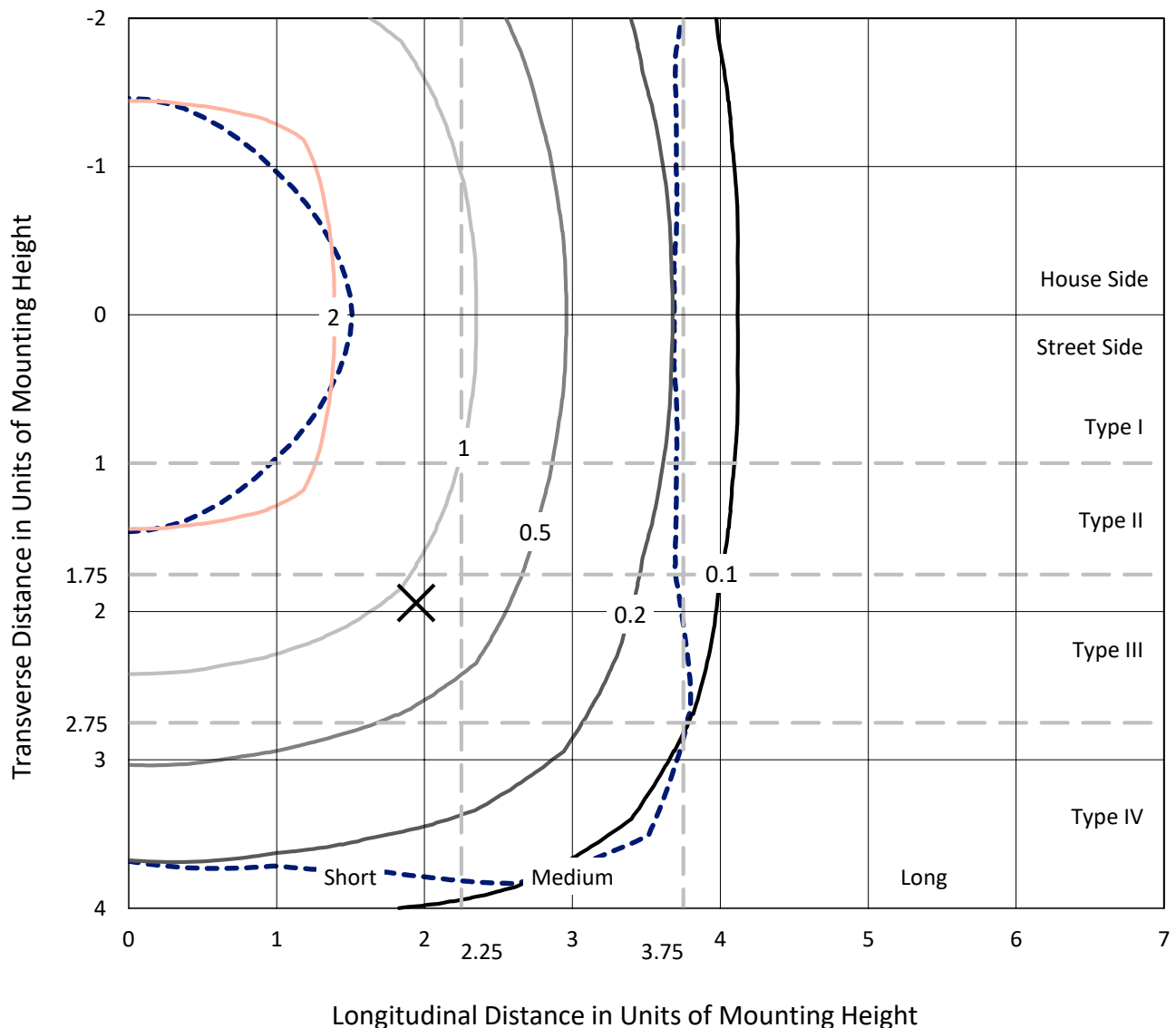


REPORT NUMBER: P316321
CATALOG NUMBER: GLEON-SA7B-830-U-5WQ

Iso-Footcandle Lines of Horizontal Illumination

✗ Max cd

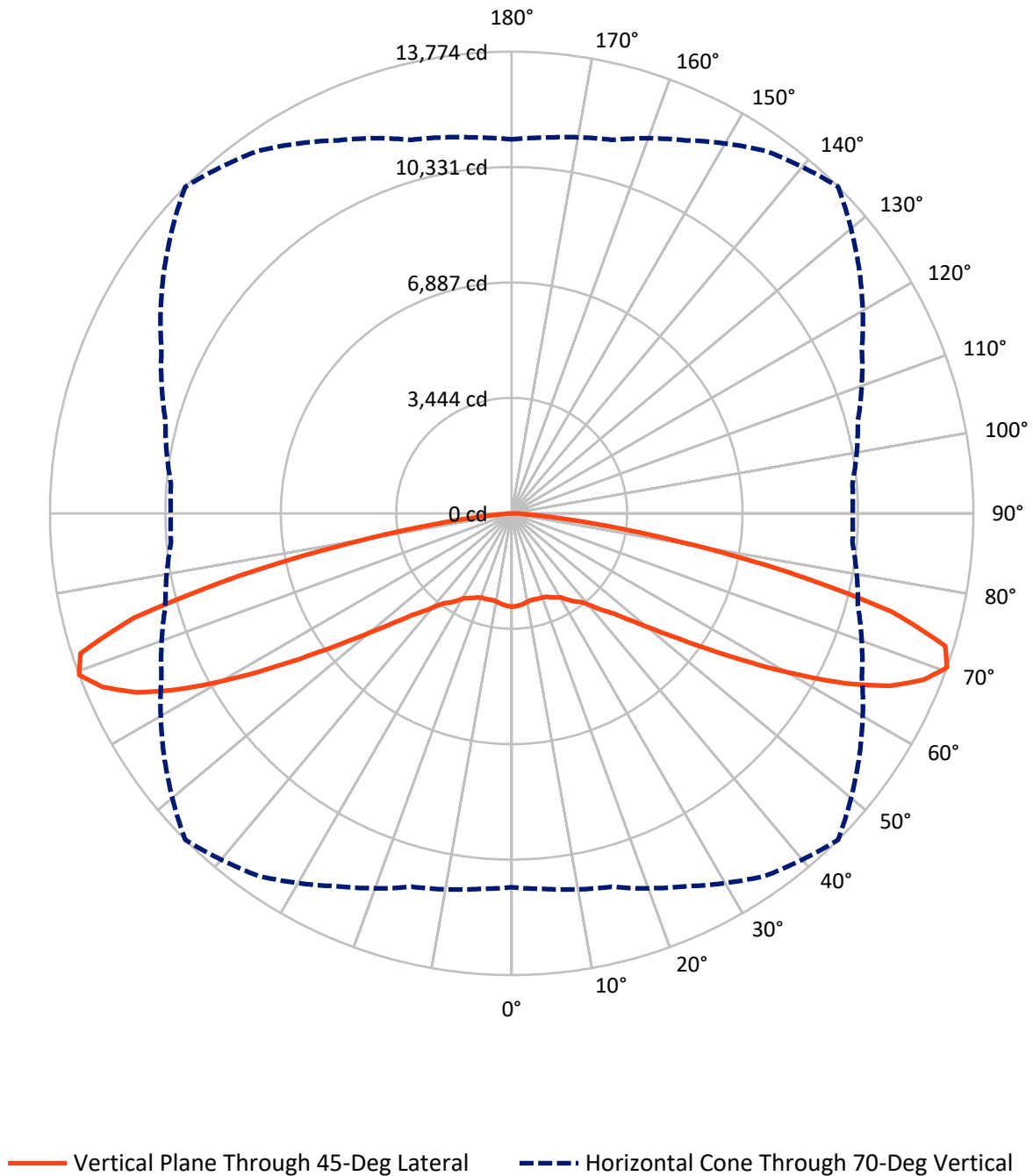
--- 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
Type V - Short - N/A

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Luminous Intensity Polar Plot



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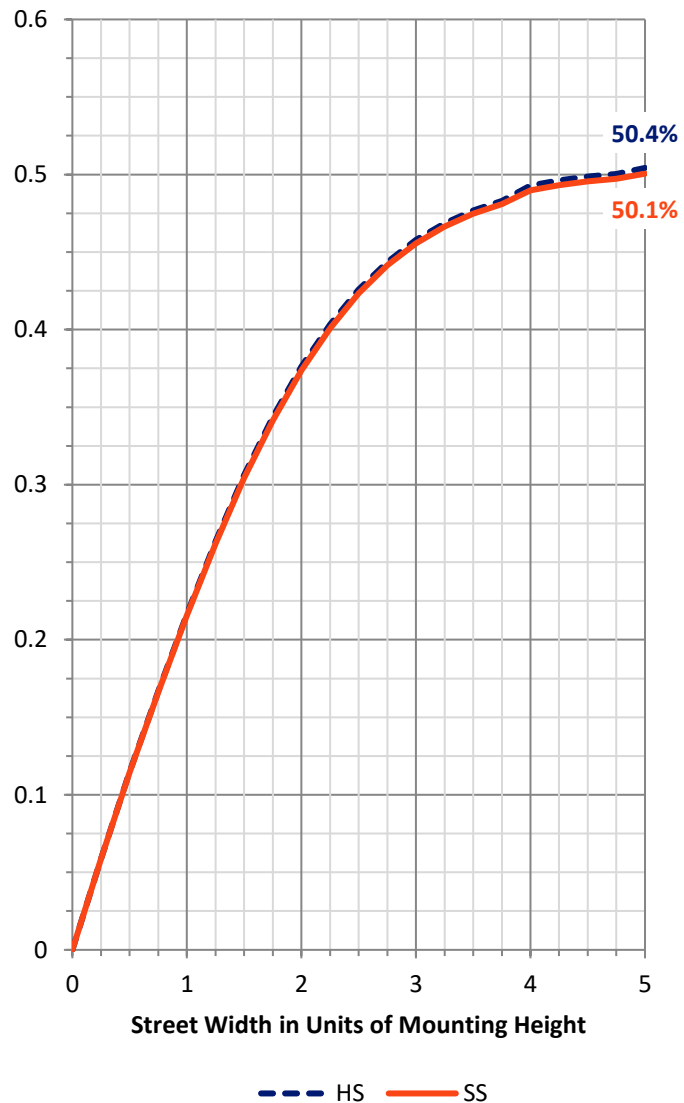
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	16916.0	0.0	16916.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	16916.0	0.0	16916.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	33832.0	0.0	33832.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.9	0.8
10°-20°	759.1	2.2
20°-30°	1294.2	3.8
30°-40°	2022.3	6.0
40°-50°	3427.3	10.1
50°-60°	6250.0	18.5
60°-70°	10759.8	31.8
70°-80°	8433.9	24.9
80°-90°	625.4	1.8
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°	33832.0	100.0
0°-180°	33832.0	100.0

Coefficient of Utilization



REPORT NUMBER: P316321

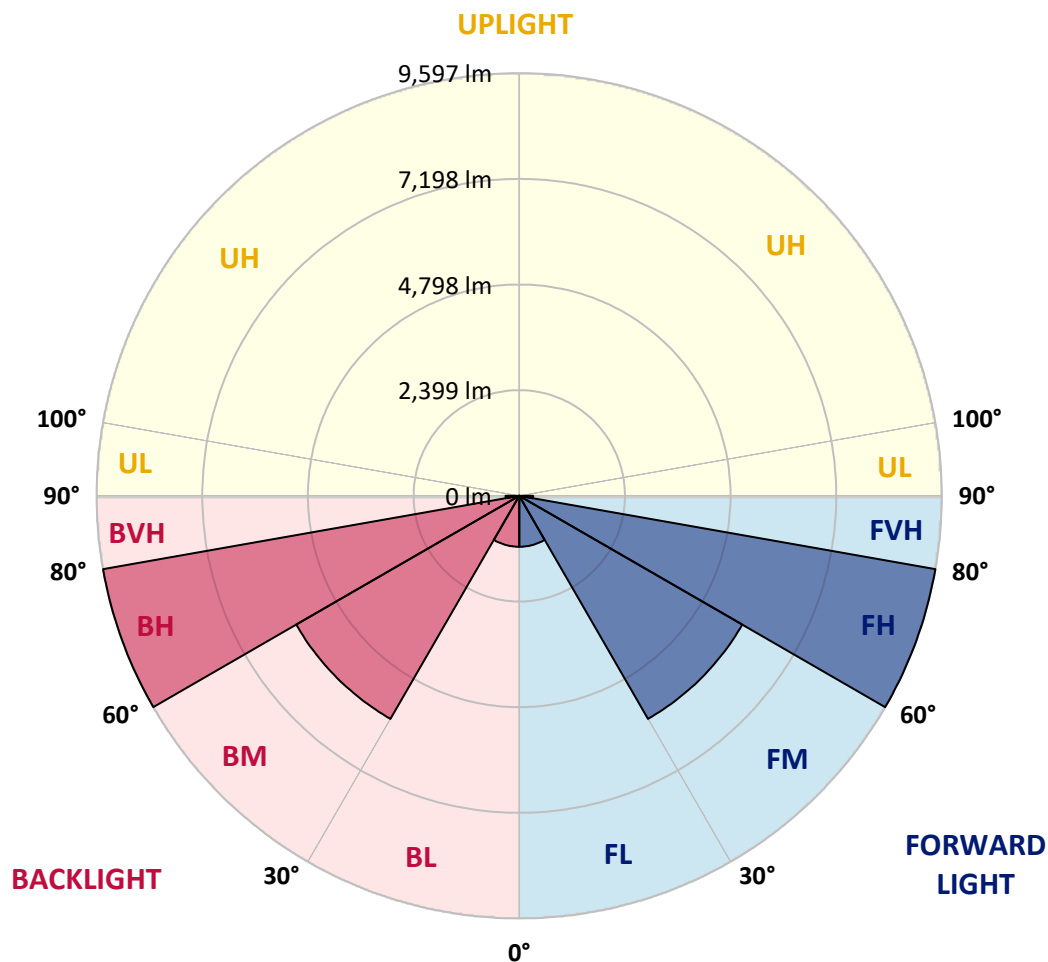
CATALOG NUMBER: GLEON-SA7B-830-U-5WQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1156.6	3.4			
FM	(30°-60°)	5849.8	17.3			
FH	(60°-80°)	9596.9	28.4			G4/12000
FVH	(80°-90°)	312.7	0.9			G3/500
BL	(0°-30°)	1156.6	3.4	B3/2500		
BM	(30°-60°)	5849.8	17.3	B4/8500		
BH	(60°-80°)	9596.9	28.4	B5		G4/12000
BVH	(80°-90°)	312.7	0.9			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G4

Type V Short





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CATALOG NUMBER: GLEON-SA7B-830-U-5WQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2784.4	2784.4	2784.4	2784.4	2784.4	2784.4	2784.4	2784.4	2784.4	2784.4	2784.4
2.5°	2772.1	2775.4	2772.1	2774.3	2768.7	2770.9	2770.9	2770.9	2769.8	2770.9	2768.7
5°	2747.4	2749.7	2745.2	2747.4	2744.1	2747.4	2748.6	2747.4	2745.2	2746.3	2741.9
7.5°	2710.5	2712.8	2709.4	2712.8	2708.3	2713.9	2712.8	2709.4	2706.0	2706.0	2701.6
10°	2690.4	2691.5	2682.5	2679.2	2669.1	2671.3	2674.7	2678.1	2681.4	2688.1	2687.0
12.5°	2691.5	2691.5	2678.1	2663.5	2649.0	2652.3	2657.9	2670.2	2683.7	2696.0	2697.1
15°	2702.7	2701.6	2681.4	2657.9	2647.8	2657.9	2661.3	2669.1	2690.4	2711.6	2712.8
17.5°	2710.5	2710.5	2679.2	2652.3	2651.2	2666.9	2665.8	2669.1	2692.6	2723.9	2725.1
20°	2725.1	2725.1	2684.8	2655.7	2655.7	2672.5	2673.6	2679.2	2702.7	2737.4	2743.0
22.5°	2757.5	2758.6	2716.1	2692.6	2694.8	2704.9	2708.3	2717.2	2738.5	2776.5	2783.3
25°	2803.4	2805.6	2762.0	2748.6	2756.4	2775.4	2773.2	2779.9	2803.4	2840.3	2847.0
27.5°	2867.2	2861.6	2821.3	2815.7	2823.5	2837.0	2835.9	2837.0	2856.0	2889.6	2897.4
30°	2950.0	2947.8	2918.7	2922.0	2918.7	2914.2	2915.3	2924.3	2934.3	2961.2	2969.0
32.5°	3030.6	3032.8	3014.9	3031.7	3056.3	3073.1	3047.4	3022.8	3011.6	3026.1	3032.8
35°	3176.1	3181.7	3153.7	3142.5	3176.1	3225.3	3152.6	3112.3	3134.7	3153.7	3159.3
37.5°	3423.4	3426.8	3379.8	3335.0	3310.4	3357.4	3284.6	3288.0	3366.3	3402.1	3401.0
40°	3705.4	3706.5	3675.2	3636.0	3593.5	3604.7	3575.6	3584.6	3636.0	3668.5	3677.4
42.5°	4041.2	4037.8	3988.6	3932.6	3920.3	3931.5	3882.2	3875.5	3934.8	3993.0	3994.2
45°	4476.5	4468.7	4404.9	4343.3	4284.0	4259.4	4247.1	4279.5	4361.2	4414.9	4416.1
47.5°	4945.4	4924.1	4890.6	4841.3	4789.8	4765.2	4745.1	4760.7	4820.1	4841.3	4843.6
50°	5427.7	5432.2	5438.9	5419.9	5400.9	5393.1	5340.5	5310.2	5328.1	5289.0	5283.4
52.5°	5999.6	6008.6	6073.5	6128.3	6160.8	6177.6	6078.0	5973.9	5915.7	5839.6	5817.2
55°	6674.5	6689.0	6784.1	6936.3	7093.0	7175.8	6995.6	6800.9	6620.7	6478.6	6432.7
57.5°	7426.5	7452.2	7583.2	7875.3	8196.5	8392.3	8087.9	7734.3	7386.2	7181.4	7145.6
60°	8308.4	8333.0	8514.3	8932.8	9453.2	9747.6	9286.5	8707.9	8274.8	8078.9	8012.9
62.5°	9358.1	9360.3	9583.1	10072.1	10759.2	11168.8	10544.4	9771.1	9324.5	9088.4	9024.6
65°	10487.3	10492.9	10723.4	11251.7	11962.3	12407.7	11702.7	10896.9	10350.8	10002.7	9953.5
67.5°	11285.2	11308.7	11551.6	12187.3	12852.0	13253.8	12524.1	11613.1	10982.0	10566.8	10525.4
70°	11157.7	11249.4	11534.8	12276.8	13201.2	13774.2	12657.3	11528.1	10695.5	10205.3	10170.6
72.5°	9730.8	9906.5	10287.0	11260.6	12739.0	13528.0	11931.0	10325.0	9382.7	8965.3	8902.6
75°	6626.3	6911.7	7485.8	8890.3	10883.5	11712.7	10044.1	8232.3	7345.9	6768.5	6725.9
77.5°	2954.5	3019.4	3746.8	5364.0	7510.4	8411.3	7297.8	5385.2	4042.3	3224.2	3051.8
80°	823.7	833.7	1112.4	1997.6	3759.1	4942.0	4035.6	2098.4	1179.6	831.5	783.4
82.5°	261.9	284.3	346.9	518.2	1263.5	2255.0	1297.1	559.6	398.4	317.8	286.5
85°	127.6	126.5	175.7	210.4	322.3	499.1	343.6	259.6	227.2	151.1	136.5
87.5°	53.7	54.8	81.7	73.9	94.0	80.6	110.8	116.4	122.0	67.1	58.2
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.

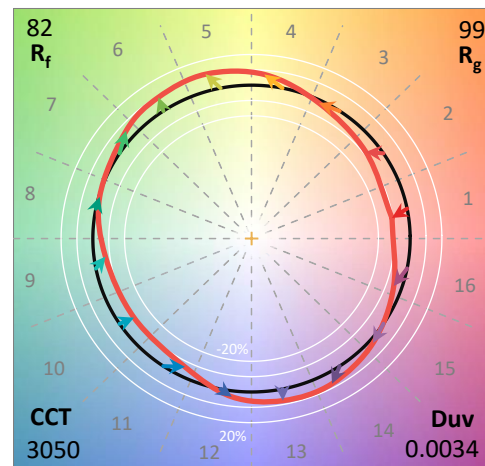
Test Information

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

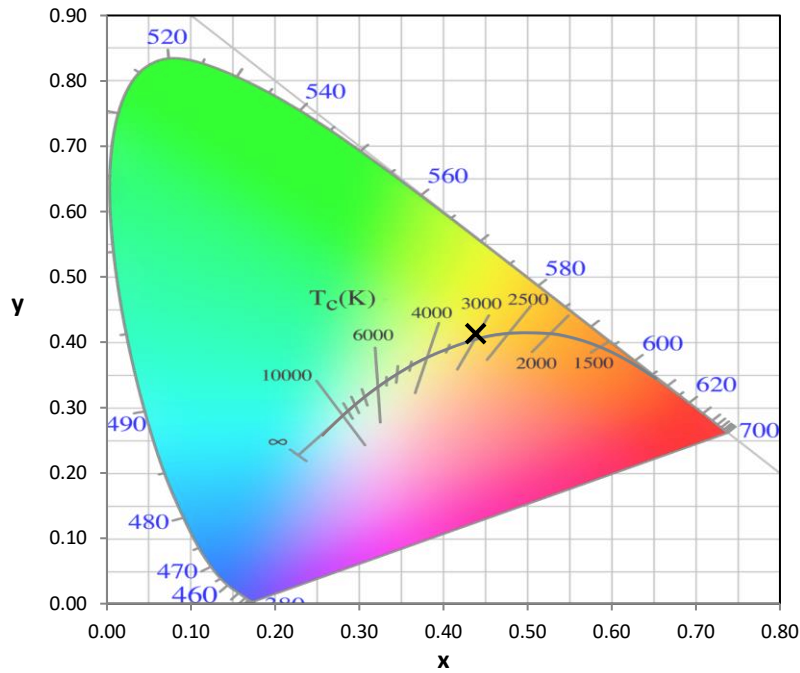
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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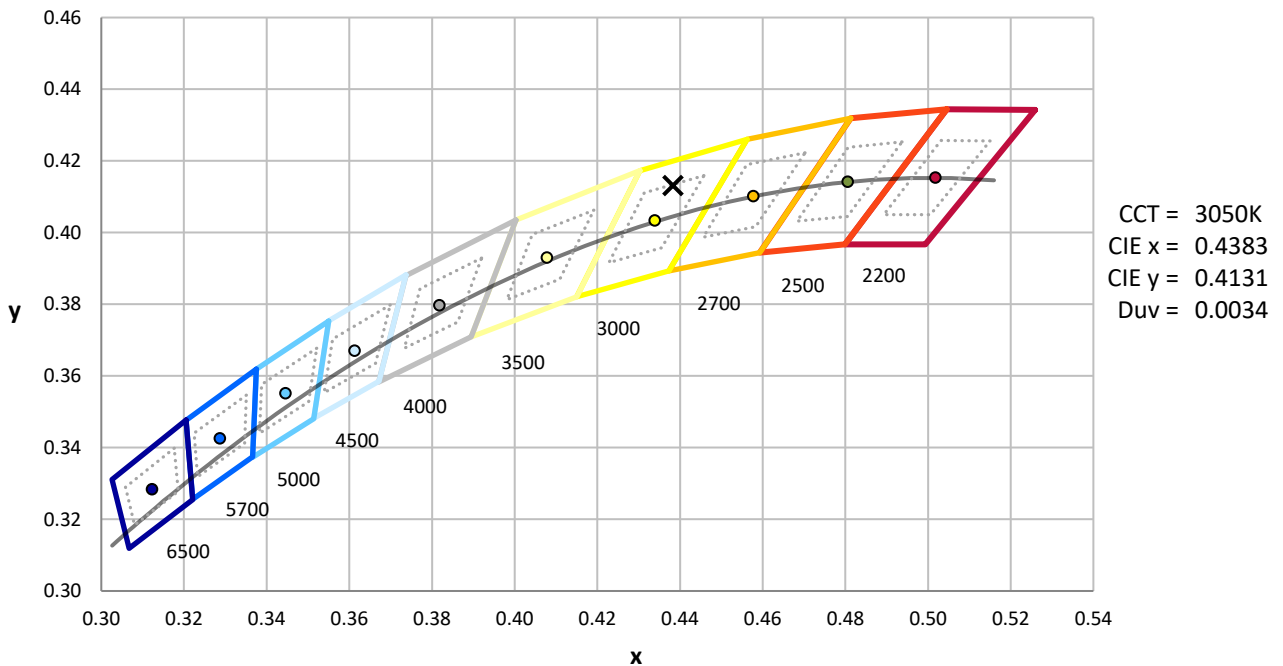
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



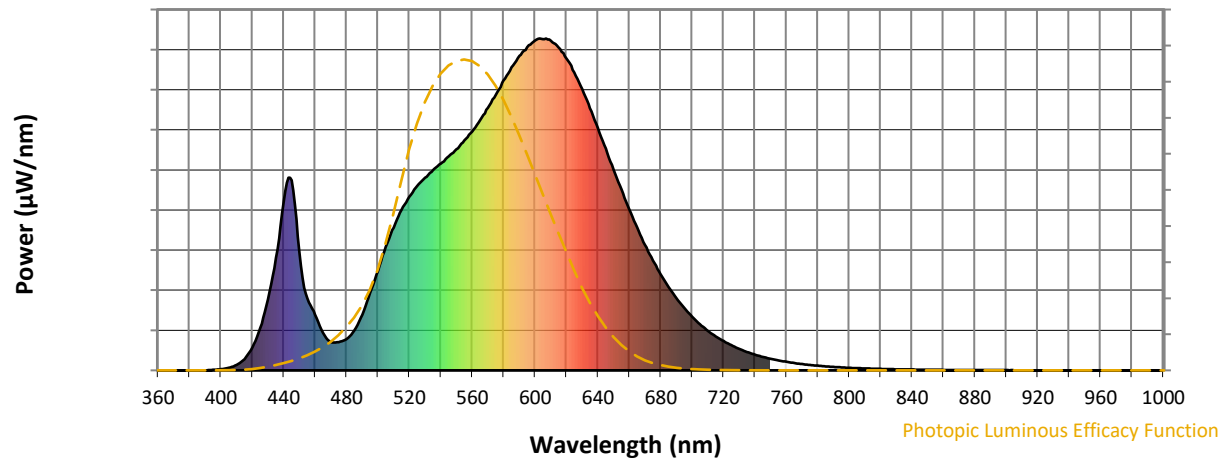
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

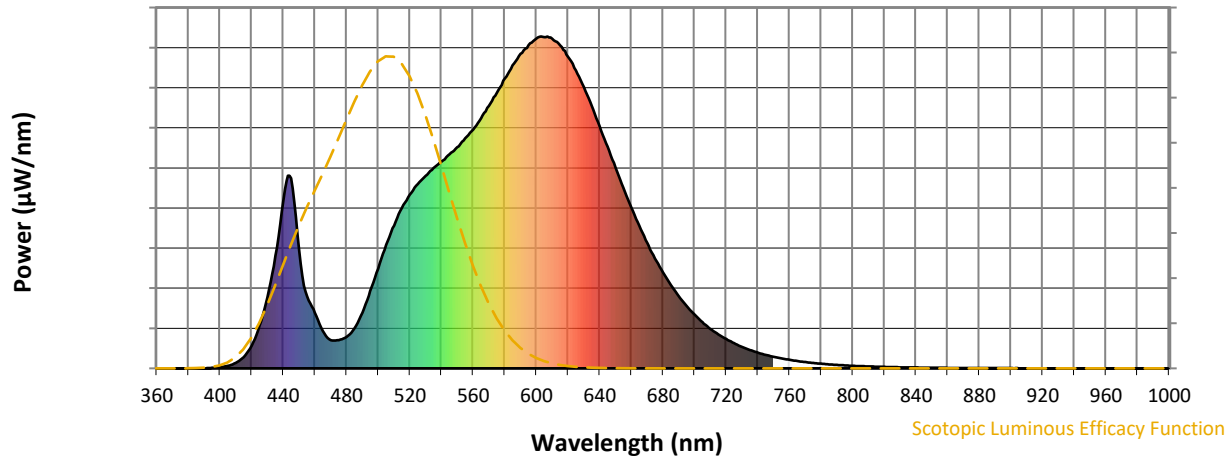


Photopic Lumens: NR

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



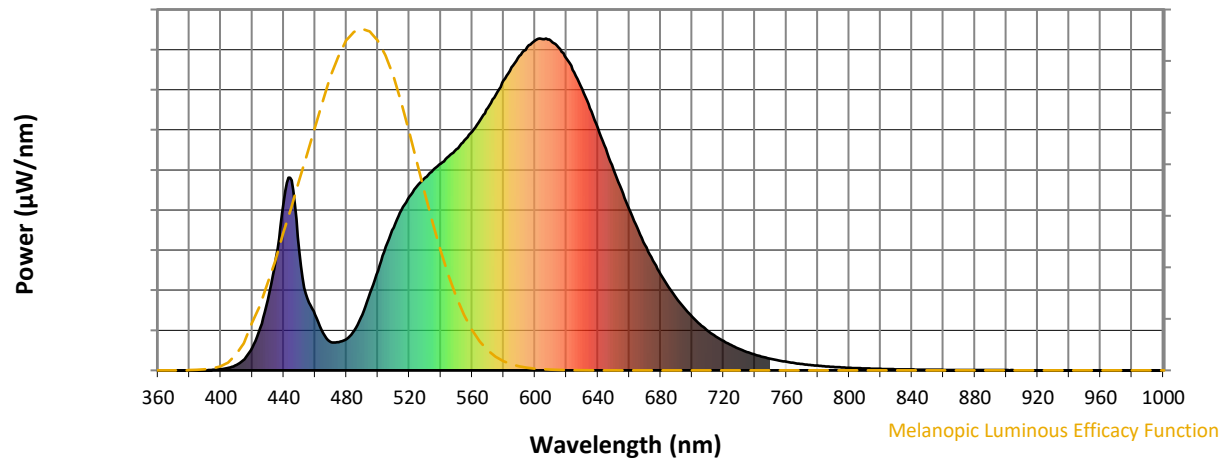
Scotopic Lumens: NR

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

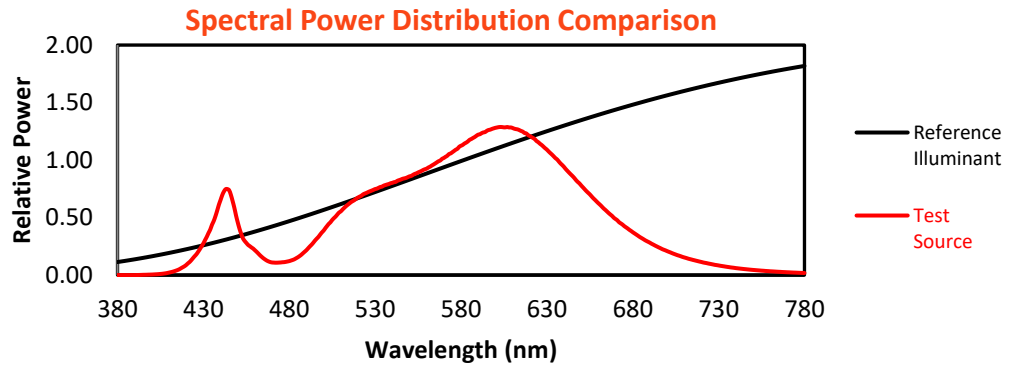
λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	NR	620	940	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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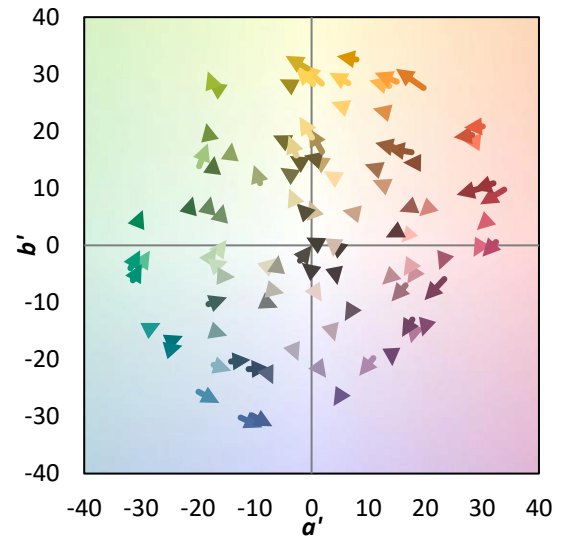
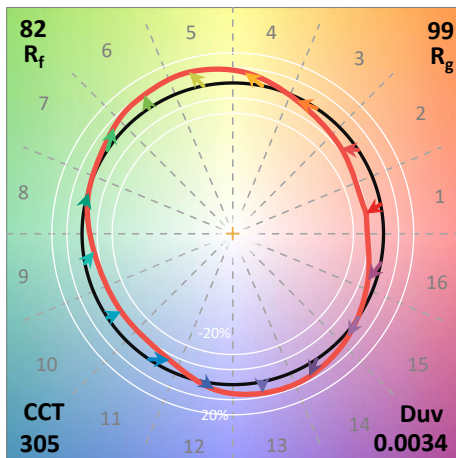
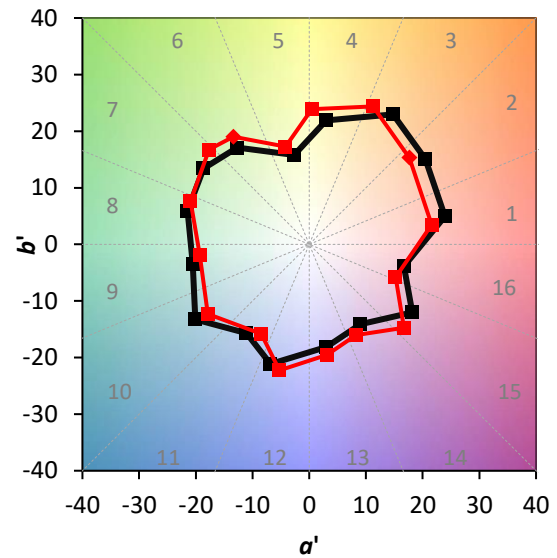
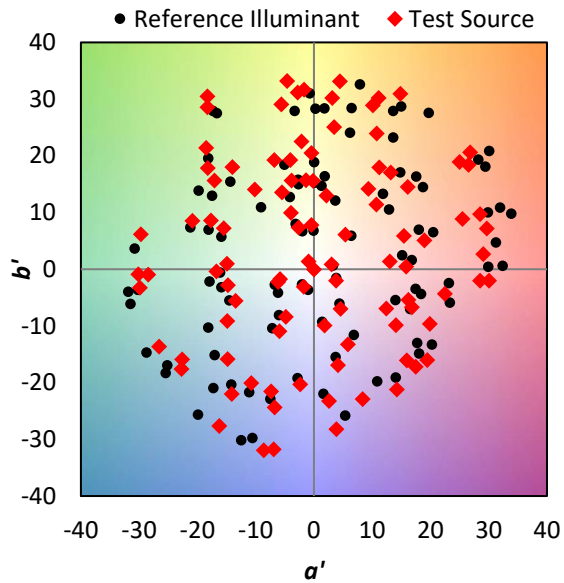
TM-30-18

Summary

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

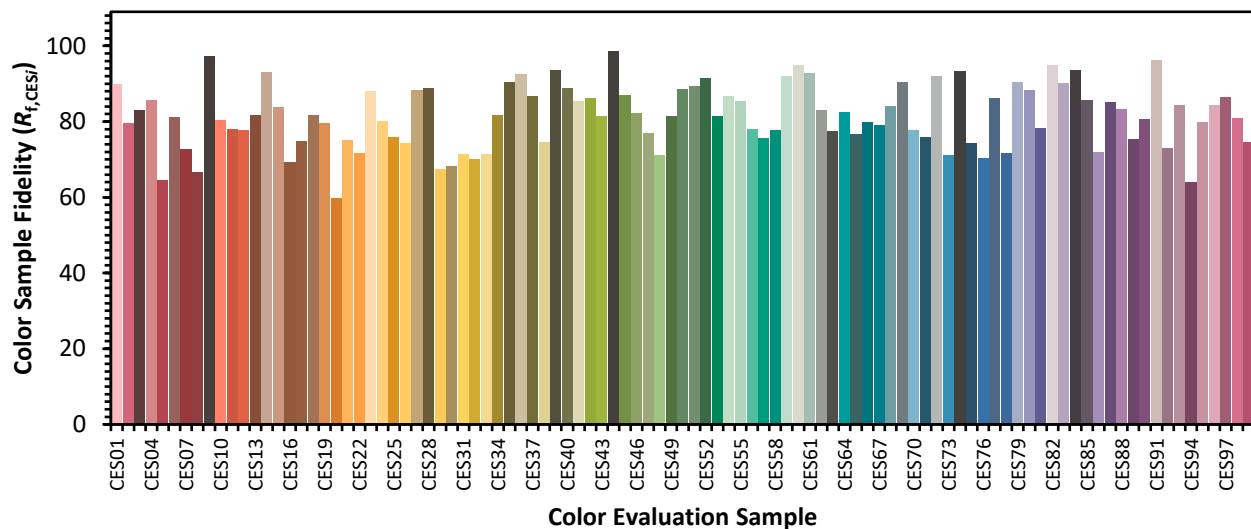


Color Vector Graphics

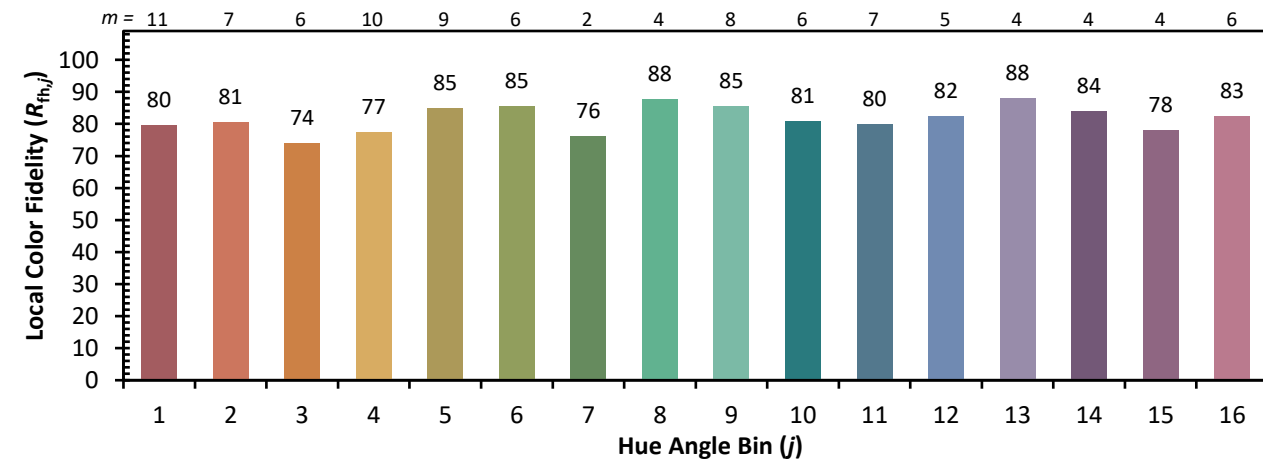
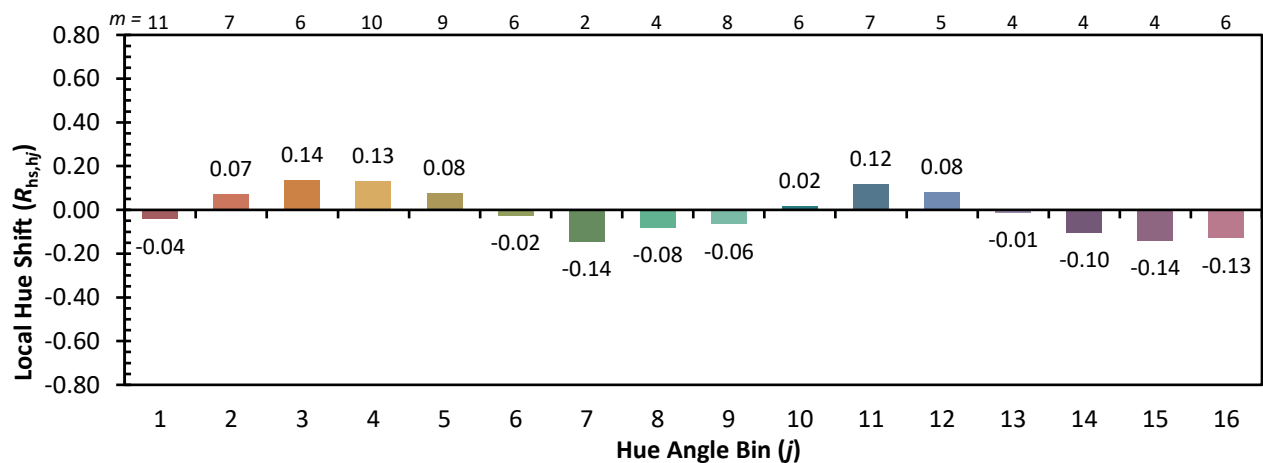
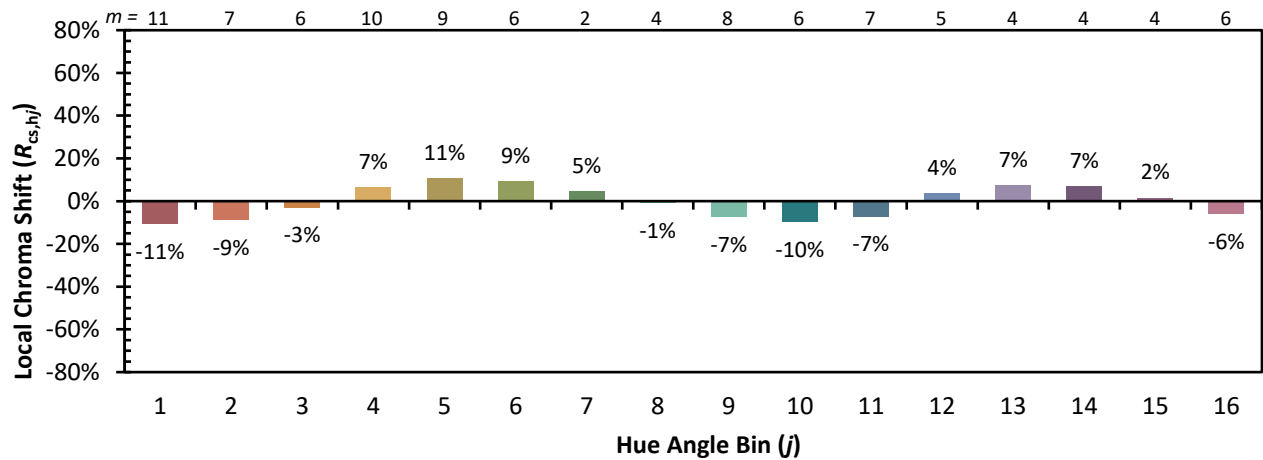


Individual Sample Fidelity Index ($R_{f,i}$)

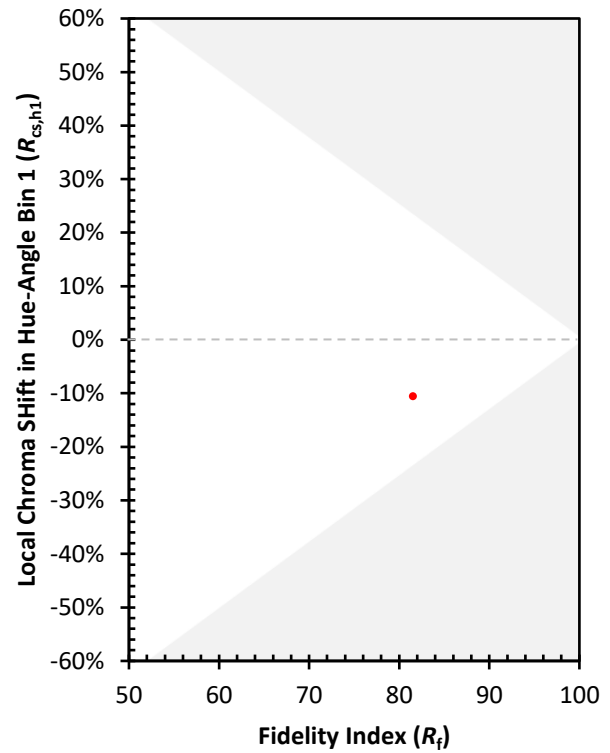
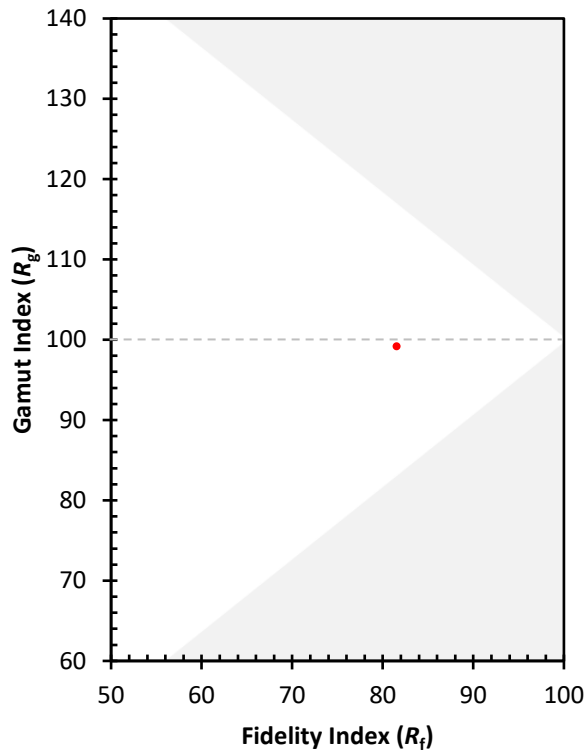
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82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