

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: P641477

Luminaire Tested: GWS-SA5F-830-U-T4W-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P641477
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-52)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA5F-830-U-T4W-W
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND
TYPE IV WIDE OPTICS
Light Source: (80) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32872.4 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G5

Input Watts (W): 310.3
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



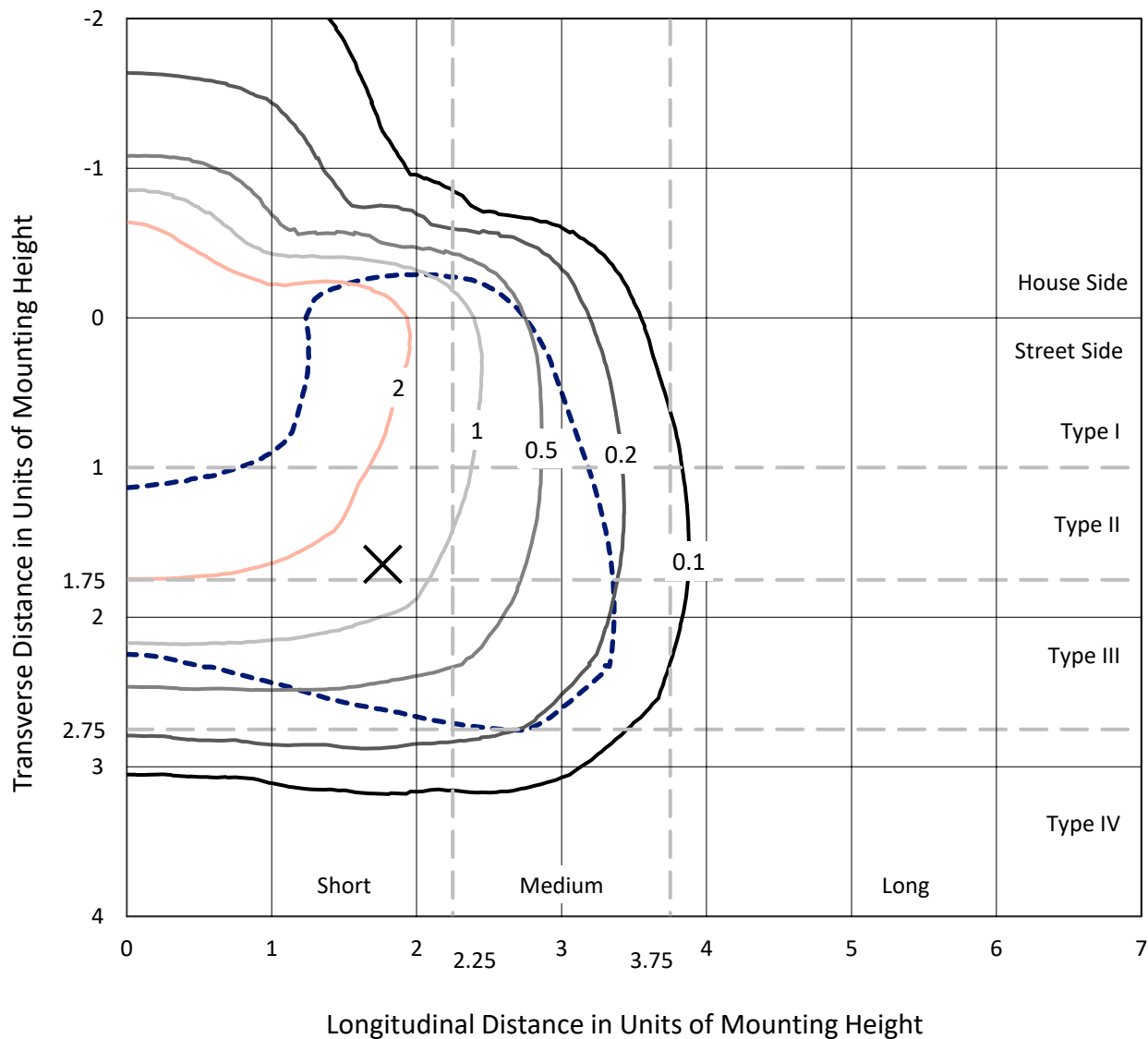
REPORT NUMBER: P641477

CATALOG NUMBER: GWS-SA5F-830-U-T4W-W

Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

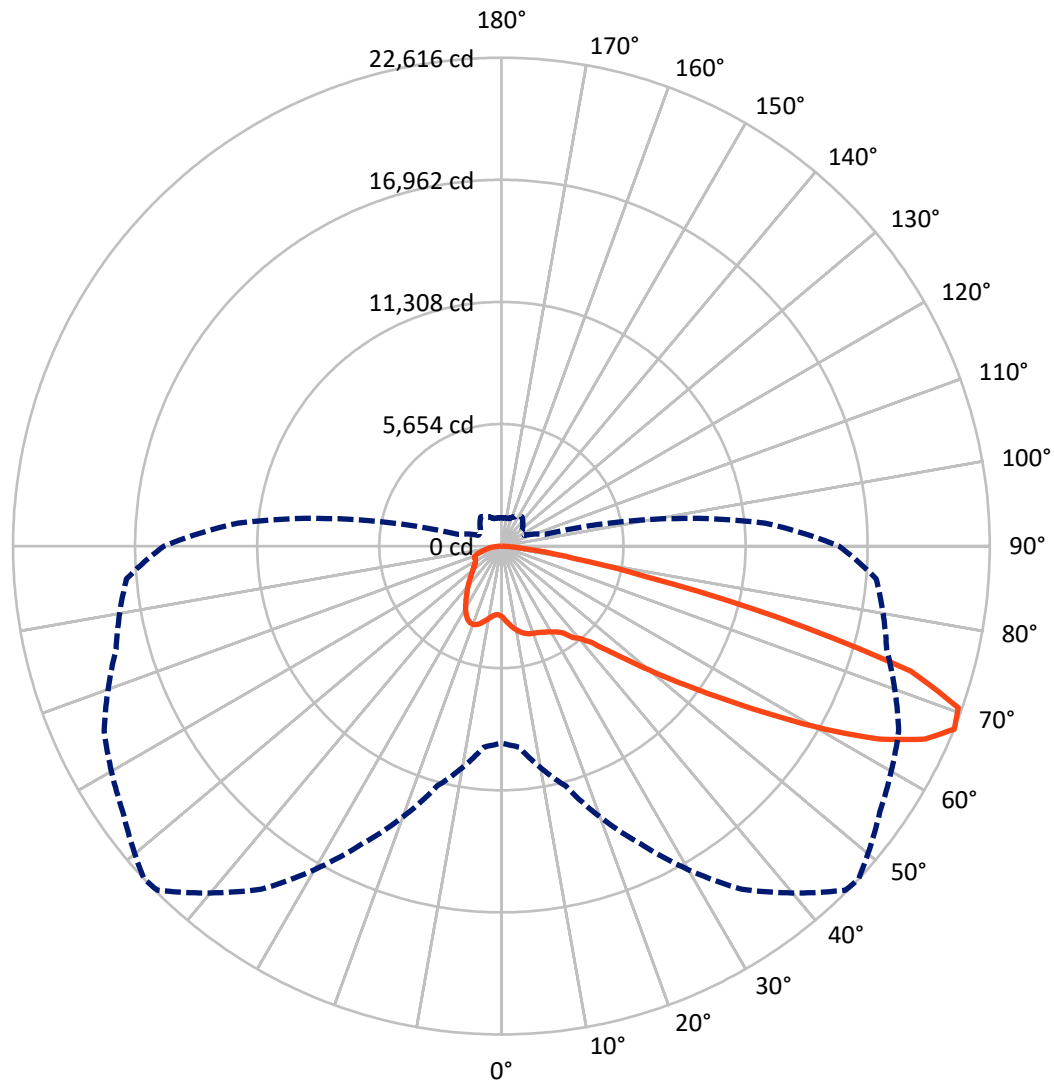


Based on 30 foot mounting height. Maximum calculated value = 4.6 fc
 Type III - Short - N/A

REPORT NUMBER: P641477

CATALOG NUMBER: GWS-SA5F-830-U-T4W-W

Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P641477

CATALOG NUMBER: GWS-SA5F-830-U-T4W-W

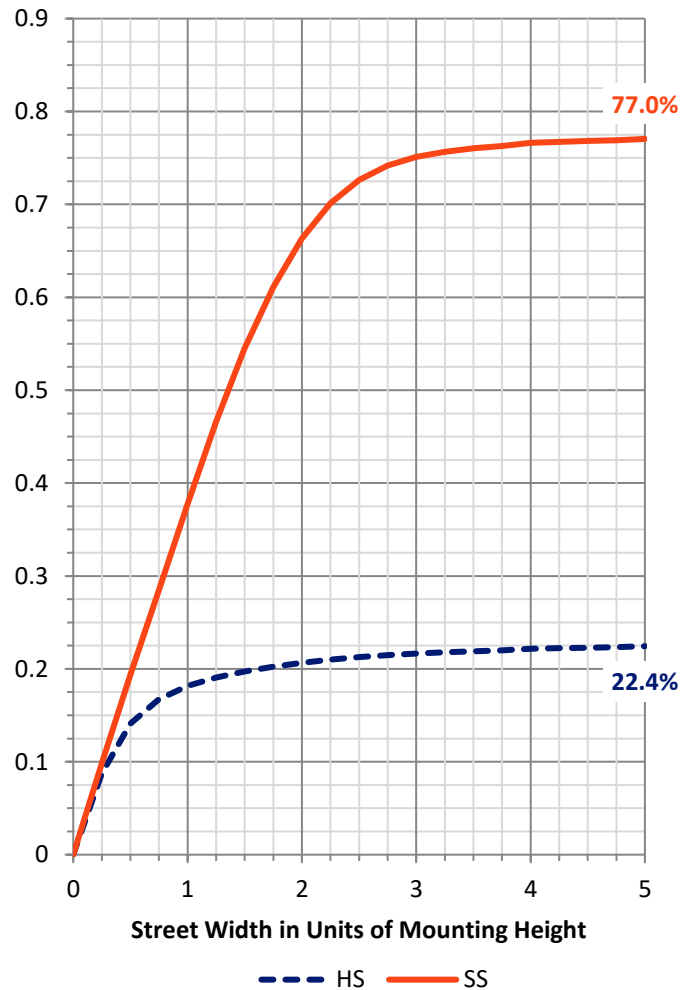
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7491.9	0.0	7491.9
	% Fixture	22.8	0.0	22.8
Street Side	Lumens	25380.5	0.0	25380.5
	% Fixture	77.2	0.0	77.2
Total	Lumens	32872.4	0.0	32872.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.0	1.0
10°-20°	1109.6	3.4
20°-30°	1886.0	5.7
30°-40°	2762.8	8.4
40°-50°	4209.4	12.8
50°-60°	7531.5	22.9
60°-70°	10050.0	30.6
70°-80°	4544.8	13.8
80°-90°	445.3	1.4
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°	32872.4	100.0
0°-180°	32872.4	100.0

Coefficient of Utilization



REPORT NUMBER: P641477

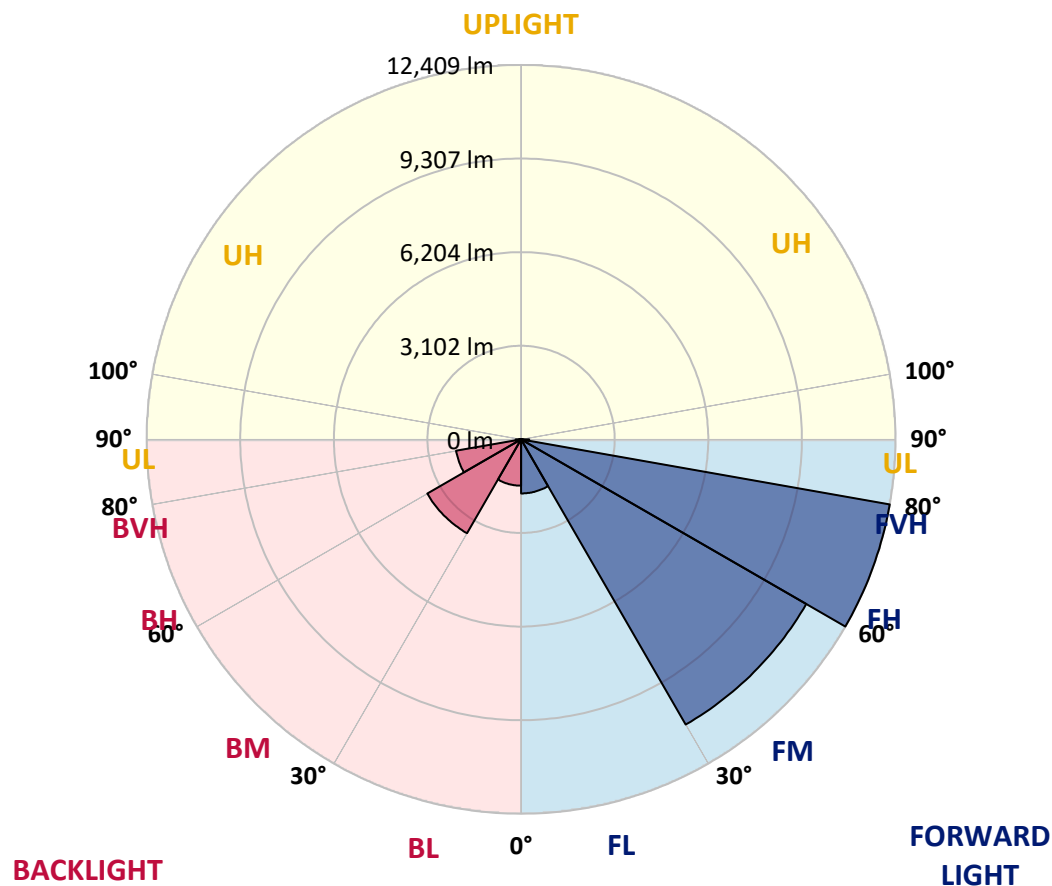
CATALOG NUMBER: GWS-SA5F-830-U-T4W-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1792.7	5.5			
FM	(30°-60°)	10914.0	33.2			
FH	(60°-80°)	12409.0	37.7			G5
FVH	(80°-90°)	264.9	0.8			G3/500
BL	(0°-30°)	1535.9	4.7	B3/2500		
BM	(30°-60°)	3589.7	10.9	B3/5000		
BH	(60°-80°)	2185.9	6.6	B3/2500		G3/2500
BVH	(80°-90°)	180.4	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-G5

Type III Short





REPORT NUMBER: P641477

CATALOG NUMBER: GWS-SA5F-830-U-T4W-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7
2.5°	3475.0	3486.9	3484.5	3465.5	3453.6	3432.2	3434.6	3401.3	3351.4	3318.1	3280.1
5°	3781.6	3800.6	3776.9	3746.0	3698.4	3629.5	3622.4	3546.3	3451.2	3384.7	3315.7
7.5°	4047.8	4059.7	4031.2	3978.9	3910.0	3817.3	3800.6	3710.3	3591.5	3486.9	3387.0
10°	4254.6	4268.9	4230.8	4161.9	4071.6	3978.9	3967.0	3874.3	3748.3	3624.7	3498.8
12.5°	4430.5	4435.2	4394.8	4302.1	4204.7	4109.6	4097.7	4012.2	3895.7	3769.7	3631.9
15°	4532.7	4535.1	4485.2	4383.0	4290.3	4207.1	4199.9	4126.3	4019.3	3900.5	3753.1
17.5°	4525.6	4530.3	4494.7	4404.3	4323.5	4273.6	4266.5	4219.0	4135.8	4028.8	3881.4
20°	4437.6	4442.4	4418.6	4359.2	4316.4	4302.1	4304.5	4290.3	4240.3	4152.4	4002.7
22.5°	4368.7	4375.8	4354.4	4311.7	4306.9	4340.2	4347.3	4354.4	4330.7	4252.2	4107.2
25°	4402.0	4413.9	4380.6	4321.2	4330.7	4404.3	4418.6	4442.4	4423.4	4356.8	4230.8
27.5°	4632.5	4639.7	4554.1	4432.9	4404.3	4482.8	4504.2	4542.2	4527.9	4466.1	4368.7
30°	5167.3	5162.6	4979.6	4682.4	4563.6	4594.5	4611.1	4665.8	4670.6	4630.2	4537.5
32.5°	5920.8	5897.0	5614.2	5141.2	4796.5	4720.5	4739.5	4813.2	4867.8	4825.1	4699.1
35°	6717.0	6695.7	6384.3	5830.5	5226.7	4962.9	4941.5	4998.6	5081.8	4962.9	4782.3
37.5°	7475.3	7442.0	7123.5	6439.0	5756.8	5388.4	5357.5	5300.4	5250.5	5022.3	4884.5
40°	8316.7	8278.7	8000.6	7225.7	6341.5	5714.0	5635.6	5409.8	5364.6	5219.6	5150.7
42.5°	9215.1	9215.1	8984.6	8221.6	7047.4	6179.9	6077.7	5737.8	5785.3	5690.2	5609.4
45°	10113.6	10139.7	9956.7	9224.7	7991.1	7059.3	6895.3	6412.8	6526.9	6484.1	6443.7
47.5°	10879.0	10928.9	10893.2	10249.1	9146.2	8128.9	7879.3	7377.8	7622.6	7724.8	7838.9
50°	11703.7	11758.4	11722.7	11468.4	10498.7	9424.3	9200.9	8682.7	9103.4	9410.0	9783.2
52.5°	12927.8	13006.3	12709.1	12611.7	12141.1	10895.6	10695.9	10106.5	10869.4	11378.1	12210.0
55°	13961.8	13959.4	13854.8	14078.2	13904.7	12694.9	12473.8	11939.0	12913.6	13453.1	14670.1
57.5°	14441.9	14498.9	14857.8	15490.1	15837.1	14893.5	14682.0	14135.3	15107.4	15387.9	16702.3
60°	14689.1	14760.4	15454.4	16704.7	17638.8	17294.1	17210.9	16514.5	17061.2	17027.9	18416.0
62.5°	14342.1	14484.7	15599.4	17260.9	18924.7	19706.7	19680.5	18627.6	18722.6	18397.0	19478.5
65°	12749.6	12904.1	14653.4	16982.8	19659.1	21541.6	21548.7	20541.0	19999.0	19062.5	19300.2
67.5°	9117.7	9338.7	11501.7	15195.4	19400.1	22532.8	22616.0	21408.5	20298.5	18473.1	17427.2
70°	4970.0	5131.7	6826.4	11045.3	17066.0	22295.1	22449.6	20990.2	18977.0	15979.7	13415.1
72.5°	2258.0	2310.3	3175.5	6061.0	11658.6	19190.9	19837.4	18732.1	15585.2	11803.6	8530.6
75°	1033.9	1057.7	1383.3	2899.8	6091.9	12842.3	13296.2	13952.3	10845.7	7453.9	4447.1
77.5°	648.9	656.0	786.7	1326.3	3037.6	6410.4	6888.2	8307.2	6351.0	3688.9	1858.7
80°	382.7	389.8	489.6	717.8	1426.1	2933.1	3387.0	3284.8	2985.4	1592.5	846.2
82.5°	192.5	199.7	282.8	408.8	777.2	1167.0	1373.8	1381.0	1112.4	862.8	477.8
85°	68.9	71.3	92.7	161.6	330.4	385.1	430.2	525.3	544.3	501.5	230.6
87.5°	0.0	0.0	2.4	4.8	9.5	38.0	40.4	76.1	159.3	178.3	92.7
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: P641477

CATALOG NUMBER: GWS-SA5F-830-U-T4W-W

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7	3258.7
2.5°	3268.2	3232.5	3220.7	3208.8	3189.8	3182.6	3168.4	3154.1	3154.1	3139.9	3132.7
5°	3284.8	3237.3	3206.4	3192.1	3180.3	3187.4	3187.4	3192.1	3208.8	3199.3	3204.0
7.5°	3344.3	3289.6	3246.8	3234.9	3234.9	3263.4	3282.5	3306.2	3337.1	3341.9	3341.9
10°	3448.8	3384.7	3339.5	3332.4	3344.3	3384.7	3413.2	3441.7	3479.7	3482.1	3486.9
12.5°	3562.9	3498.8	3453.6	3463.1	3475.0	3527.3	3558.2	3582.0	3620.0	3620.0	3617.6
15°	3681.8	3610.5	3572.4	3591.5	3627.1	3686.5	3691.3	3693.7	3712.7	3707.9	3705.5
17.5°	3805.4	3729.3	3700.8	3729.3	3767.3	3795.9	3772.1	3738.8	3731.7	3722.2	3717.4
20°	3926.6	3848.2	3836.3	3857.7	3869.6	3845.8	3772.1	3710.3	3681.8	3667.5	3662.8
22.5°	4031.2	3964.6	3957.5	3957.5	3898.1	3814.9	3705.5	3622.4	3584.3	3565.3	3560.6
25°	4154.8	4093.0	4081.1	4016.9	3864.8	3712.7	3565.3	3489.3	3458.4	3448.8	3451.2
27.5°	4299.8	4257.0	4219.0	4035.9	3769.7	3532.0	3365.7	3332.4	3320.5	3332.4	3339.5
30°	4478.0	4435.2	4349.7	4012.2	3617.6	3296.7	3137.5	3135.1	3170.8	3201.7	3206.4
32.5°	4623.0	4604.0	4463.8	3936.1	3403.7	3037.6	2902.2	2911.7	2975.8	3018.6	3025.8
35°	4737.1	4768.0	4558.8	3810.1	3149.4	2792.8	2685.9	2690.6	2726.3	2785.7	2788.1
37.5°	4898.7	5003.3	4644.4	3617.6	2857.0	2581.3	2483.8	2448.2	2443.4	2460.1	2464.8
40°	5224.4	5381.2	4706.2	3337.1	2574.2	2391.1	2281.8	2212.9	2153.4	2108.3	2094.0
42.5°	5716.4	5897.0	4741.9	2997.2	2322.2	2203.4	2079.8	1991.8	1887.2	1792.2	1758.9
45°	6619.6	6679.0	4741.9	2636.0	2098.8	2027.5	1903.9	1799.3	1666.2	1554.5	1530.7
47.5°	8064.7	7874.6	4746.6	2286.6	1901.5	1873.0	1766.0	1647.2	1499.8	1407.1	1392.8
50°	10242.0	9574.1	4844.1	1996.6	1737.5	1742.2	1663.8	1533.1	1400.0	1331.0	1319.2
52.5°	12709.1	11668.1	5105.5	1782.7	1599.6	1635.3	1592.5	1466.5	1347.7	1288.3	1276.4
55°	15029.0	13593.3	5329.0	1630.5	1483.2	1545.0	1542.6	1426.1	1319.2	1259.7	1252.6
57.5°	17001.8	14912.5	5295.7	1506.9	1383.3	1461.8	1497.4	1400.0	1300.2	1250.2	1243.1
60°	18228.3	15611.3	4822.7	1392.8	1307.3	1402.4	1471.3	1392.8	1309.7	1297.8	1300.2
62.5°	18760.7	15483.0	3914.7	1307.3	1257.4	1373.8	1499.8	1442.8	1397.6	1426.1	1442.8
65°	17933.5	14380.1	2880.8	1243.1	1209.8	1381.0	1566.4	1521.2	1397.6	1416.6	1423.7
67.5°	15637.5	12240.9	2082.1	1178.9	1150.4	1402.4	1661.4	1509.3	1316.8	1316.8	1302.5
70°	11268.8	8803.9	1511.7	1114.8	1091.0	1371.5	1666.2	1428.5	1224.1	1217.0	1181.3
72.5°	6781.2	5193.5	1178.9	1043.4	1000.7	1217.0	1561.6	1333.4	1133.8	1074.3	1031.6
75°	3522.5	2602.7	988.8	965.0	858.1	1031.6	1428.5	1186.1	969.8	917.5	893.7
77.5°	1509.3	1217.0	848.5	860.4	713.1	867.6	1152.8	1026.8	860.4	793.9	772.5
80°	744.0	691.7	670.3	689.3	570.4	670.3	993.5	898.5	729.7	653.6	622.7
82.5°	425.5	404.1	482.5	489.6	406.4	560.9	839.0	760.6	603.7	520.5	470.6
85°	197.3	211.5	292.4	294.7	251.9	385.1	549.1	427.8	320.9	266.2	254.3
87.5°	78.4	92.7	128.4	126.0	73.7	71.3	47.5	26.1	21.4	19.0	16.6
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.

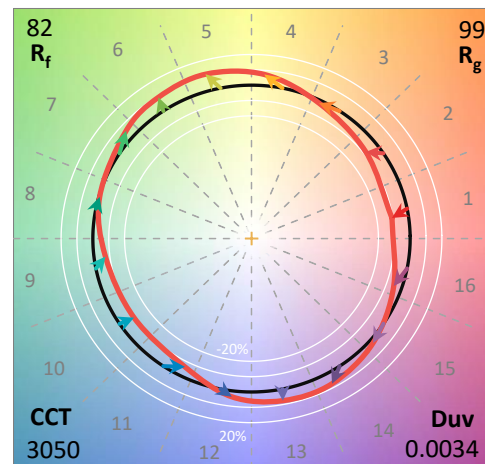
Test Information

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

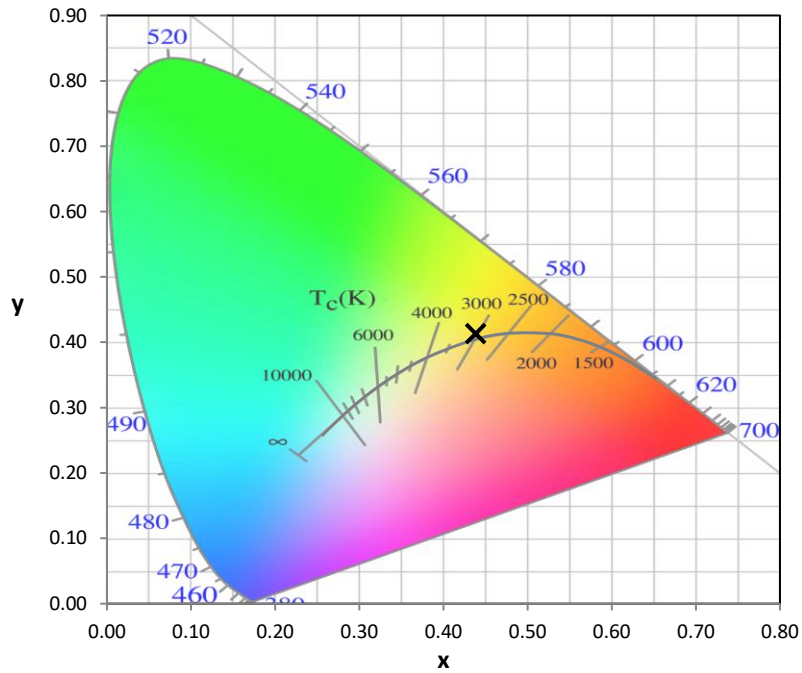
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

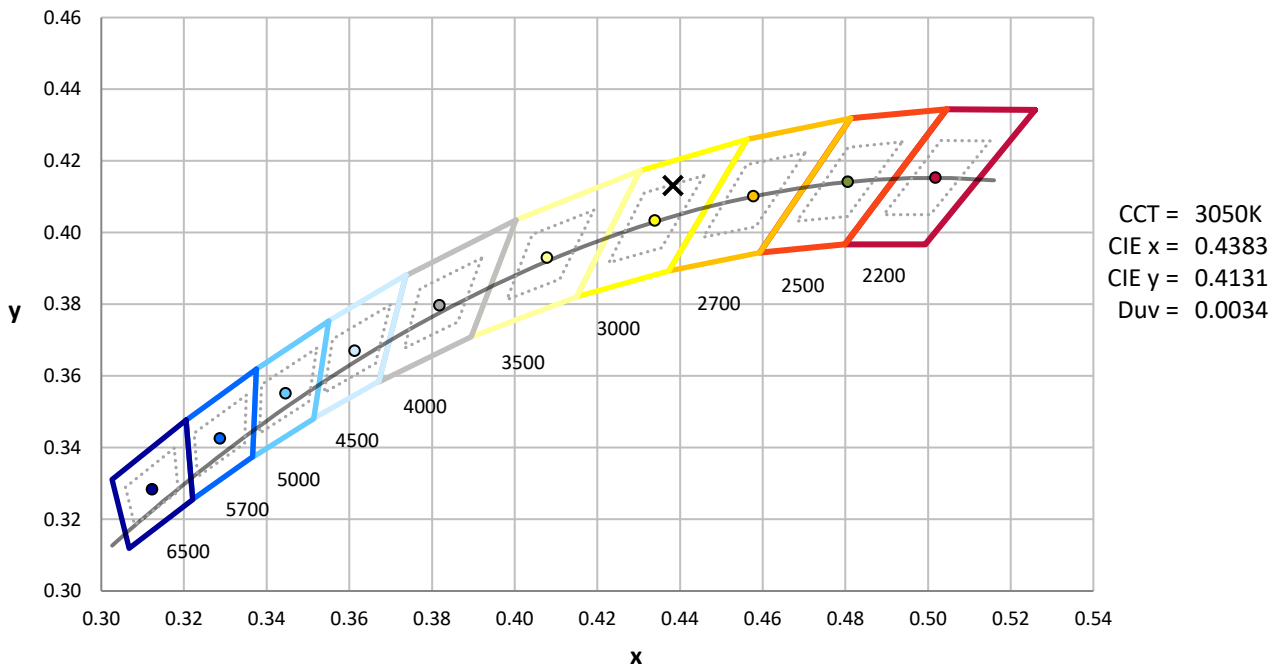
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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



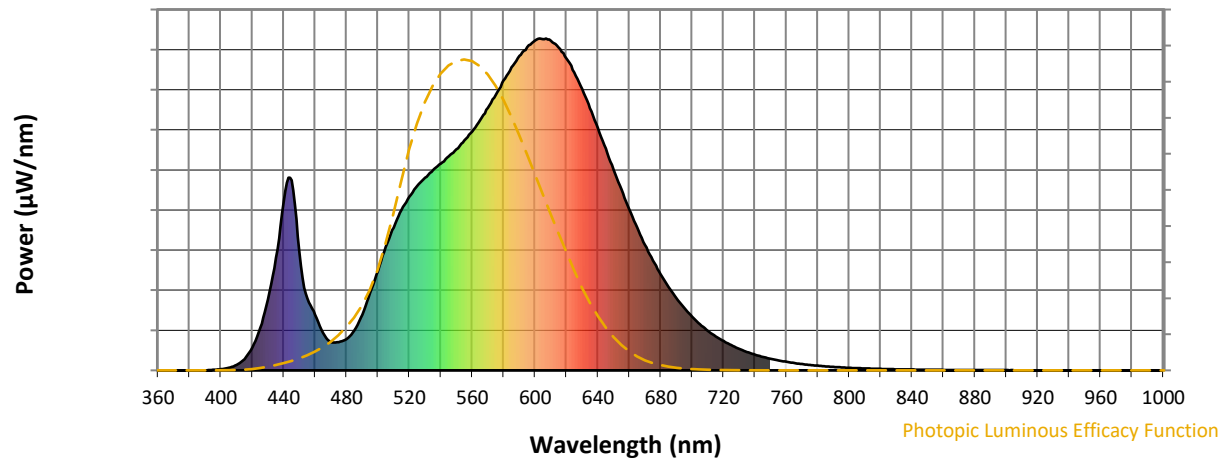
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

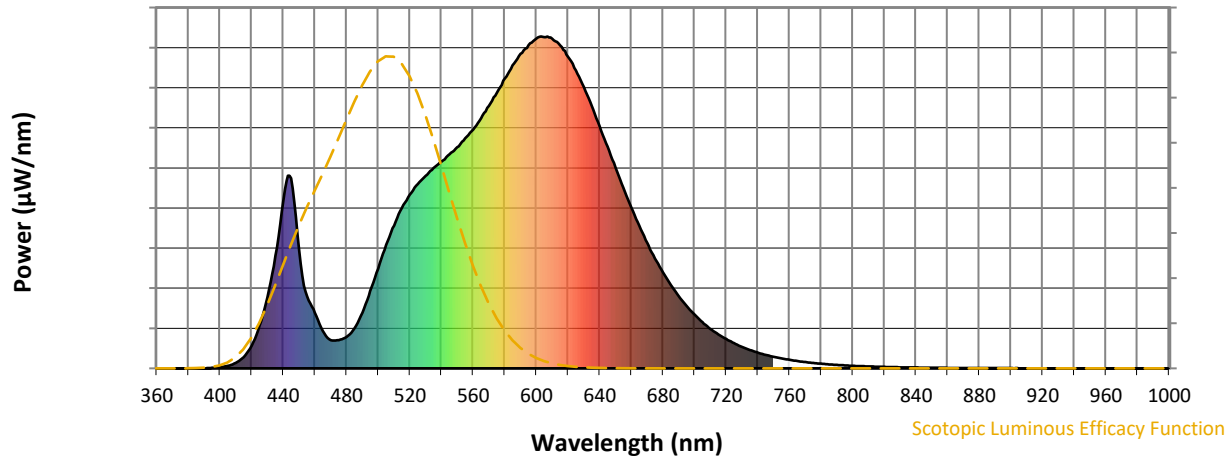


Photopic Lumens: NR

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



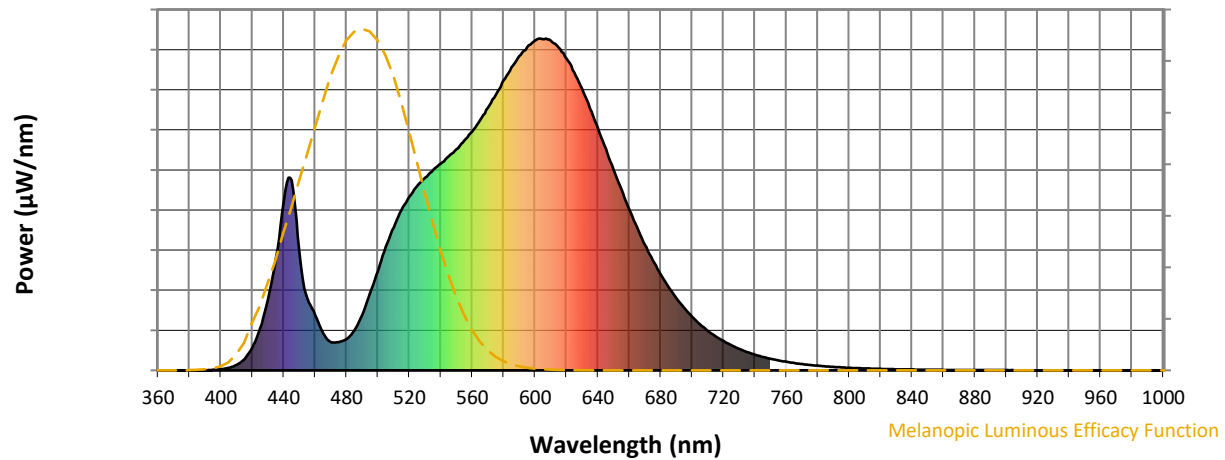
Scotopic Lumens: NR

S/P: 1.27

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

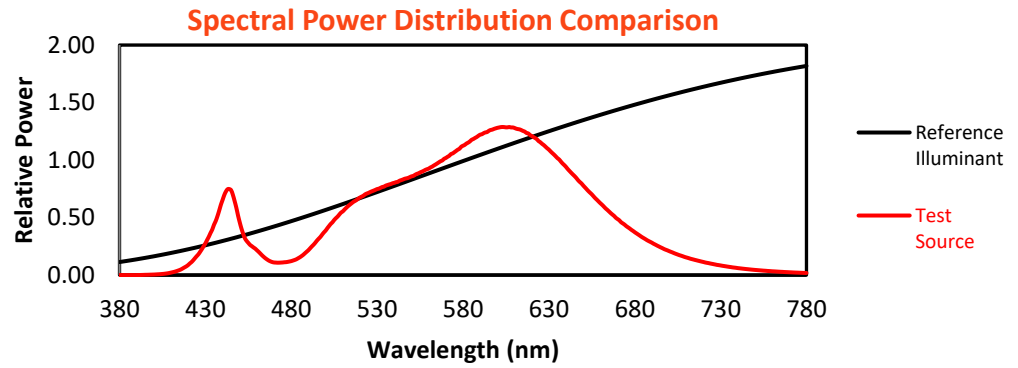
λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	NR	620	940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

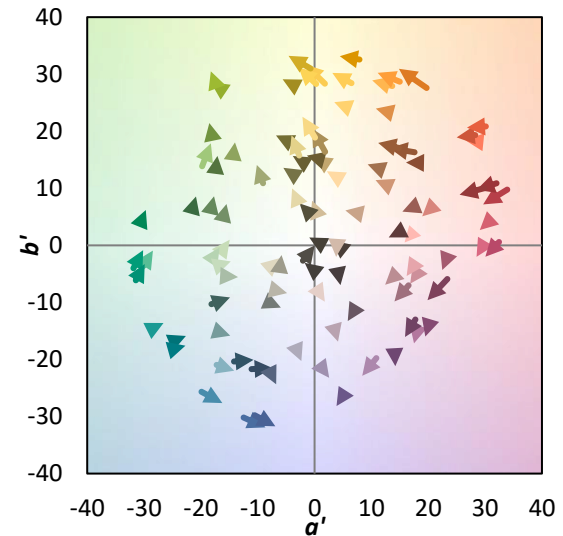
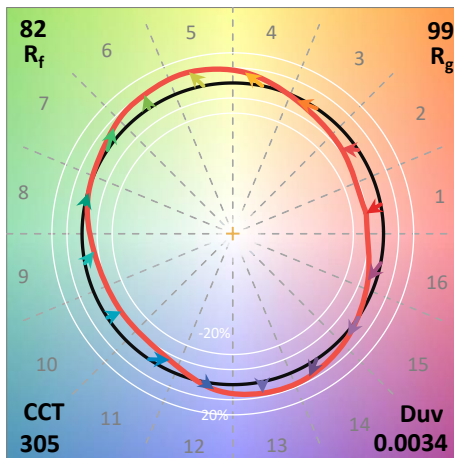
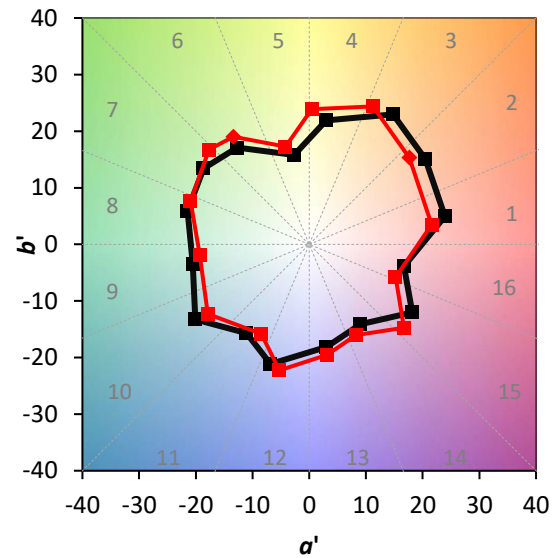
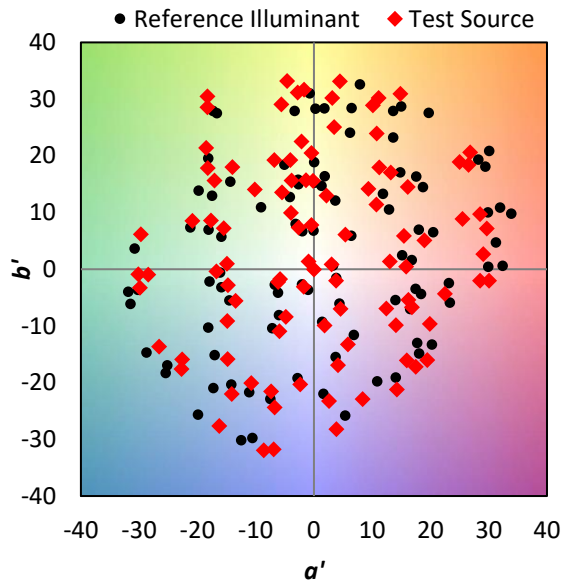
TM-30-18

Summary

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

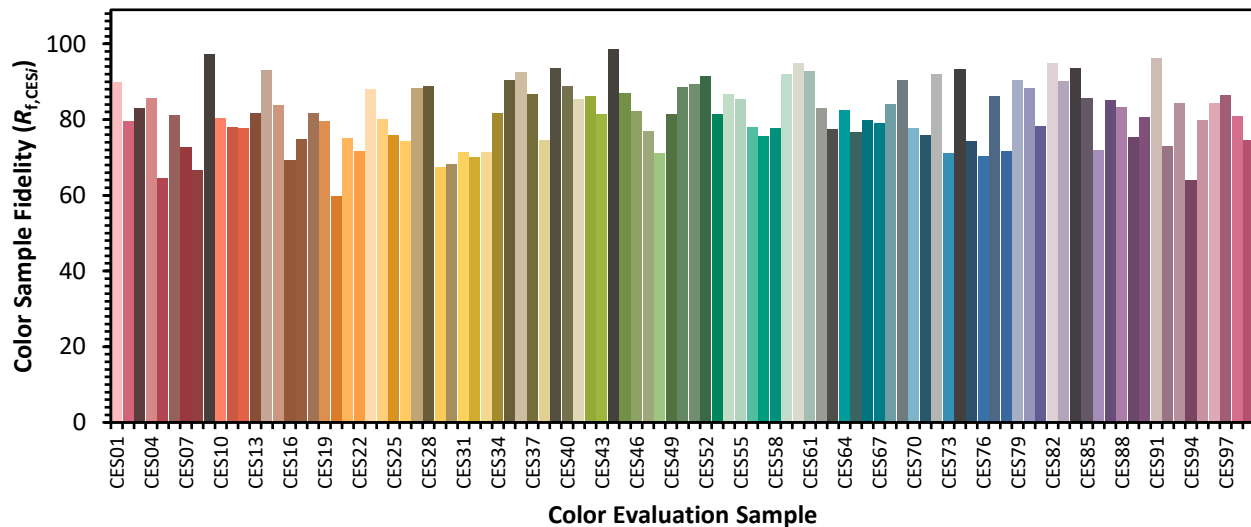


Color Vector Graphics

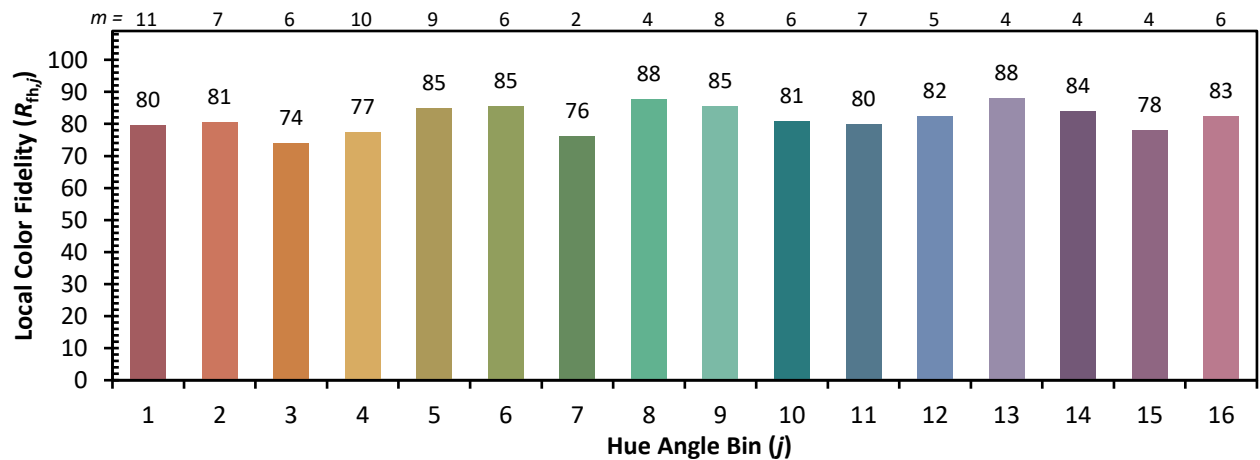
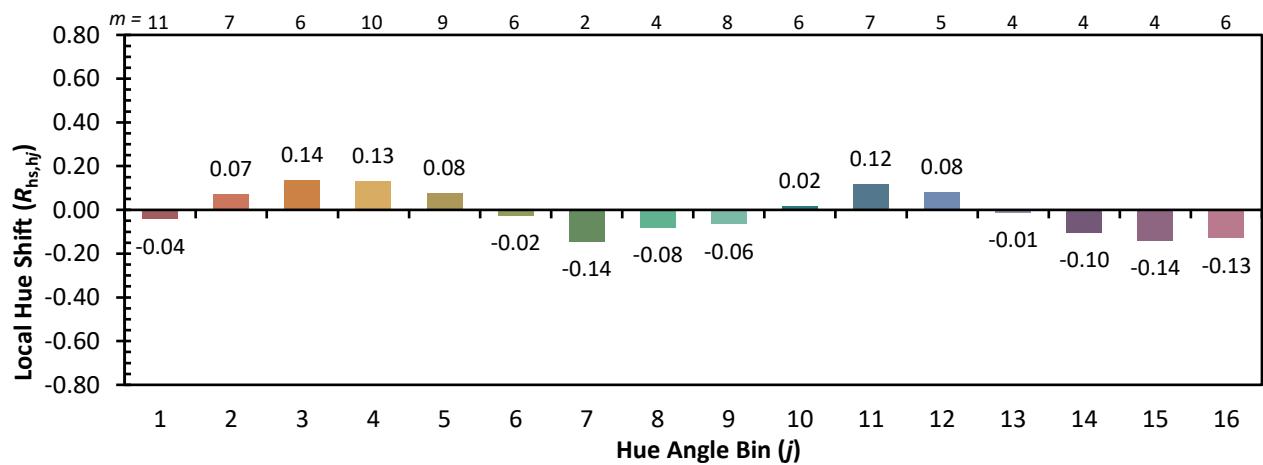
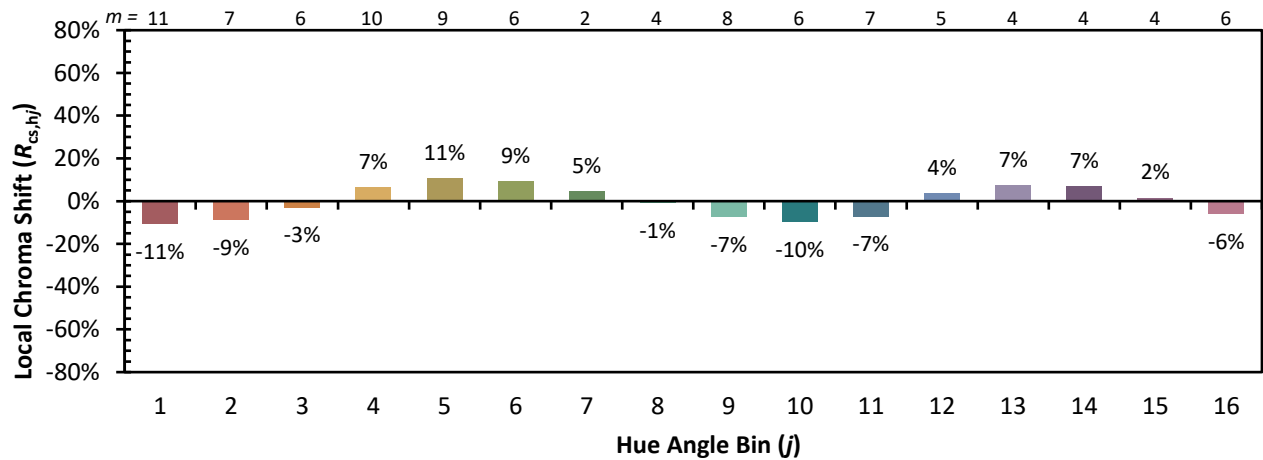


Individual Sample Fidelity Index ($R_{f,i}$)

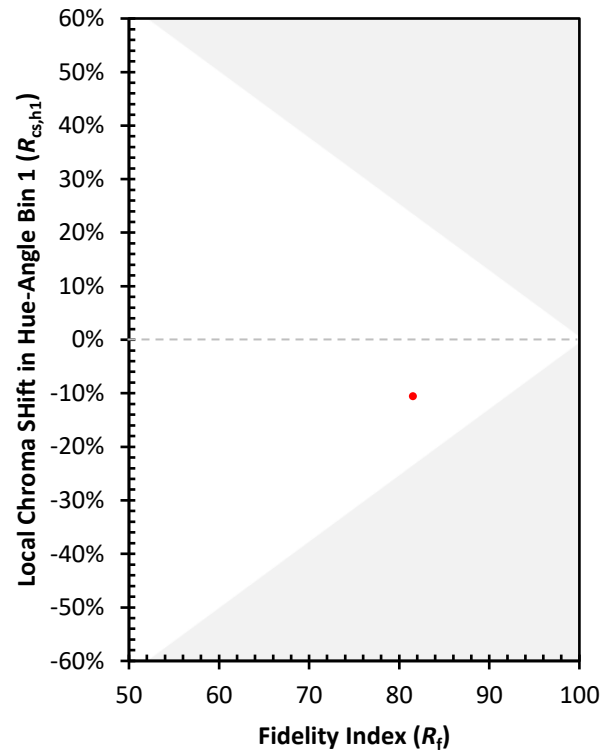
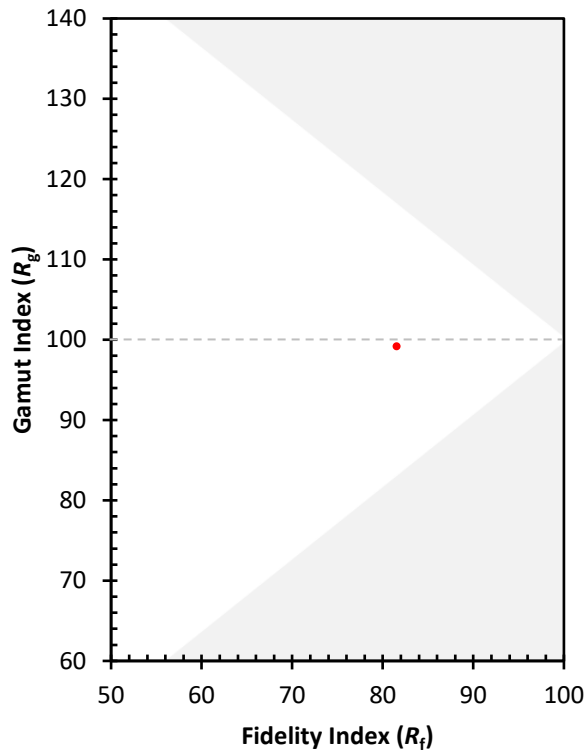
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82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