

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: P639482

Luminaire Tested: GWS-SA5B-830-U-T2R-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P639482
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-12)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA5B-830-U-T2R-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND
TYPE II ROADWAY OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (80) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9455.2 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G0

Input Watts (W): 115.7
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



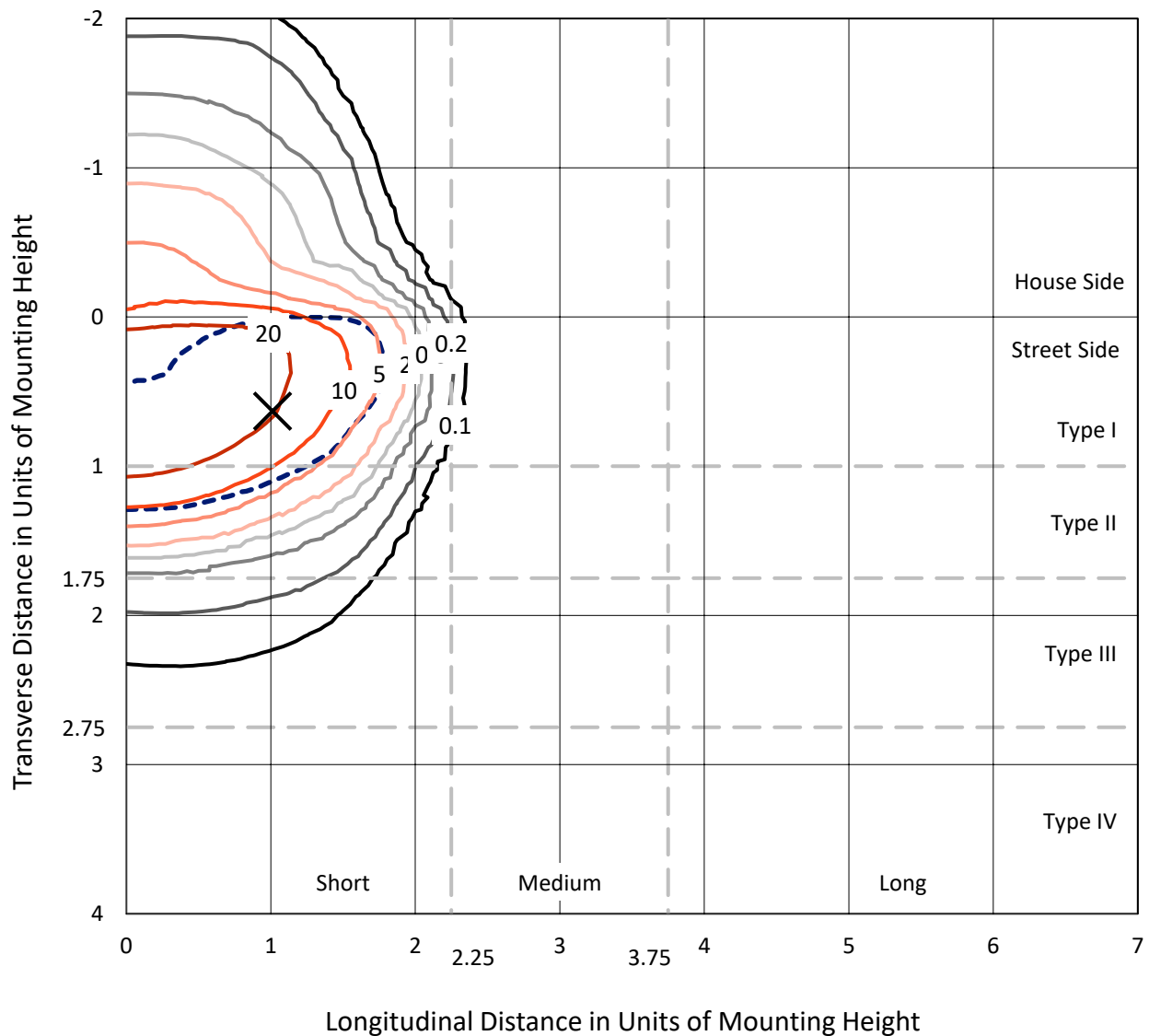
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

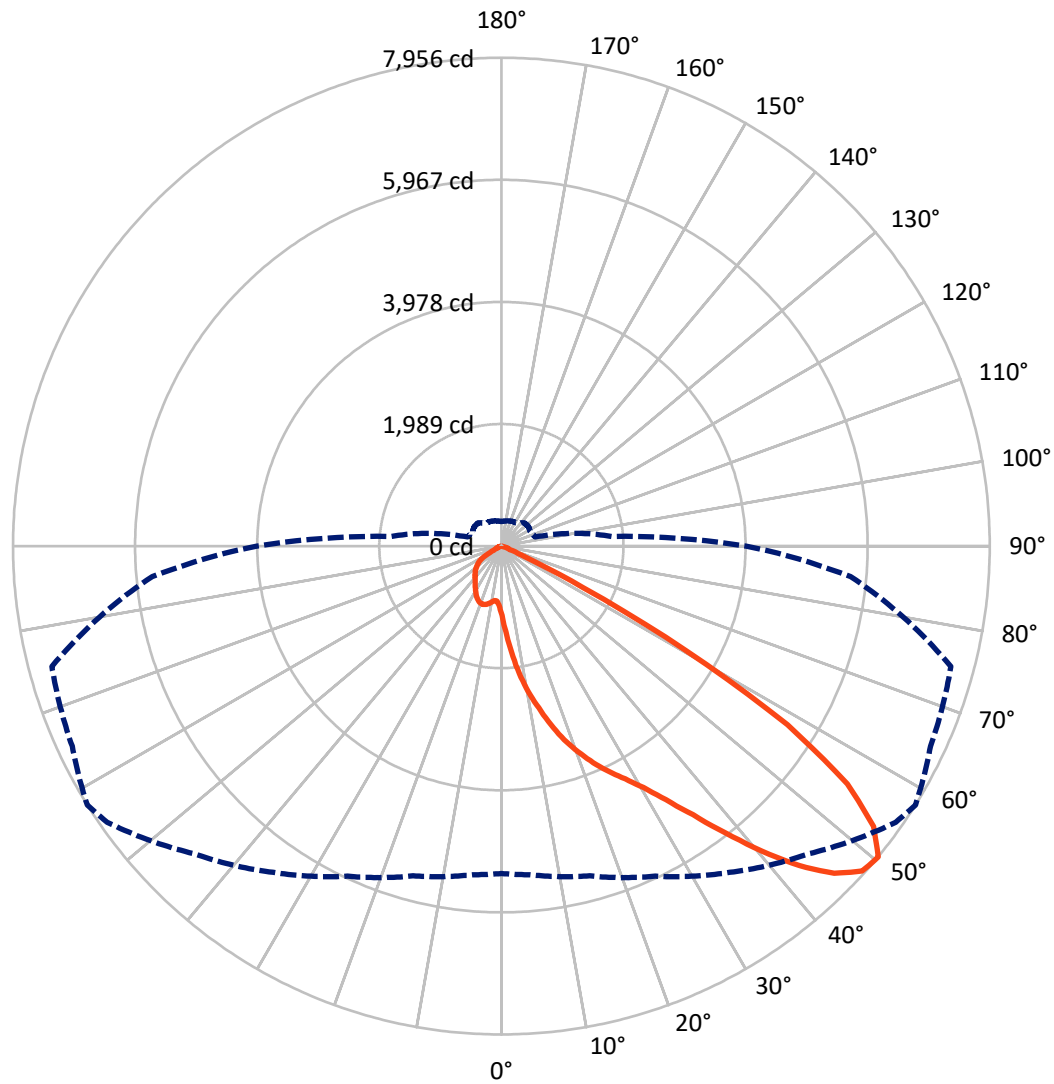


Based on 10 foot mounting height. Maximum calculated value = 34.7 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

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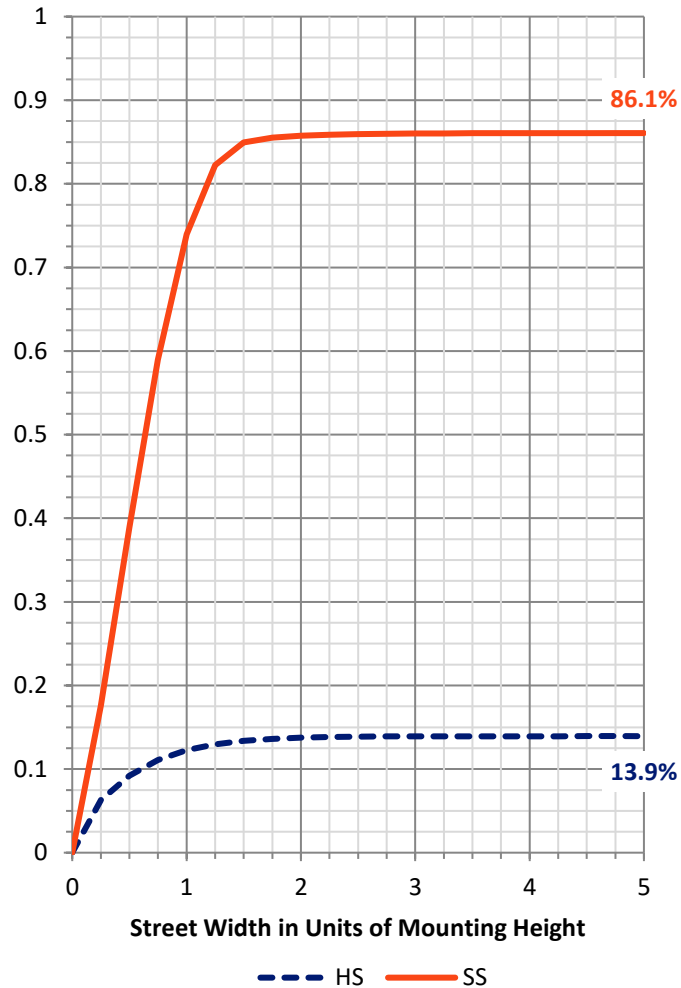
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1324.3	0.0	1324.3
	% Fixture	14.0	0.0	14.0
Street Side	Lumens	8130.9	0.0	8130.9
	% Fixture	86.0	0.0	86.0
Total	Lumens	9455.2	0.0	9455.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.9	1.5
10°-20°	553.9	5.9
20°-30°	1120.8	11.9
30°-40°	1982.8	21.0
40°-50°	2890.6	30.6
50°-60°	2316.9	24.5
60°-70°	417.4	4.4
70°-80°	32.9	0.3
80°-90°	0.0	0.0
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°	9455.2	100.0
0°-180°	9455.2	100.0

Coefficient of Utilization



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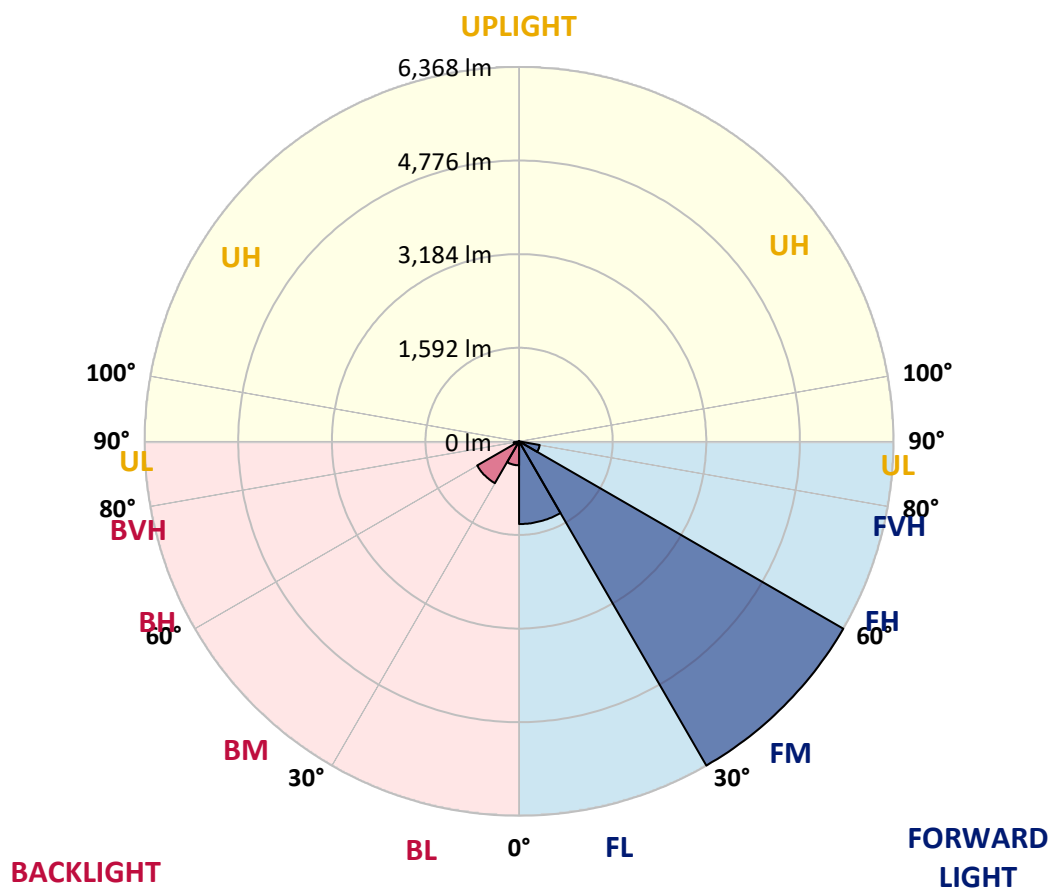
CATALOG NUMBER: GWS-SA5B-830-U-T2R-W-GRSBK

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1406.9	14.9			
FM	(30°-60°)	6367.8	67.3			
FH	(60°-80°)	356.2	3.8			G0/660
FVH	(80°-90°)	0.0	0.0			G0/10
BL	(0°-30°)	407.7	4.3	B1/500		
BM	(30°-60°)	822.5	8.7	B1/1000		
BH	(60°-80°)	94.1	1.0	B0/110		G0/110
BVH	(80°-90°)	0.0	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G0

Type II Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4
2.5°	1671.4	1645.1	1629.9	1617.8	1564.2	1479.3	1423.6	1394.3	1345.8	1263.9	1193.1
5°	2181.0	2161.7	2126.4	2102.1	2033.3	1913.0	1788.6	1739.1	1628.9	1443.9	1278.0
7.5°	2518.7	2504.5	2491.4	2459.0	2394.3	2285.1	2147.6	2096.0	1926.2	1663.3	1391.3
10°	2778.5	2767.4	2752.2	2751.2	2700.7	2602.6	2468.1	2414.5	2230.5	1901.9	1524.8
12.5°	3007.0	2997.9	2994.9	3023.2	2990.9	2918.1	2772.5	2705.7	2510.6	2145.6	1672.4
15°	3163.8	3161.7	3174.9	3230.5	3248.7	3215.3	3093.0	3021.2	2796.7	2390.3	1835.2
17.5°	3235.5	3241.6	3266.9	3362.9	3443.8	3472.1	3378.1	3317.4	3080.8	2638.0	2009.1
20°	3357.9	3355.9	3371.0	3462.0	3561.1	3662.2	3633.9	3582.4	3368.0	2899.9	2202.2
22.5°	3702.7	3673.4	3641.0	3655.2	3690.5	3808.8	3861.4	3835.1	3664.3	3168.8	2401.4
25°	4232.5	4202.2	4098.0	3996.9	3930.2	3983.8	4055.6	4068.7	3958.5	3444.8	2609.7
27.5°	4794.7	4767.4	4650.1	4498.4	4307.3	4214.3	4267.9	4294.2	4247.7	3773.5	2831.1
30°	5321.5	5285.1	5156.6	4968.6	4747.2	4604.6	4543.9	4562.1	4589.4	4162.7	3091.0
32.5°	5778.5	5751.2	5597.5	5399.3	5186.0	5037.3	4895.8	4926.1	4992.9	4639.0	3423.6
35°	6165.7	6151.6	5988.8	5791.6	5566.1	5490.3	5369.0	5375.0	5441.8	5214.3	3829.1
37.5°	6502.4	6478.2	6330.5	6147.5	5968.6	5956.4	5923.1	5926.1	5960.5	5884.6	4295.2
40°	6714.8	6692.5	6587.4	6474.1	6346.7	6348.7	6521.6	6534.8	6495.4	6542.9	4787.6
42.5°	6794.6	6778.5	6721.8	6722.9	6709.7	6769.4	7093.9	7118.2	6976.6	7059.6	5208.2
45°	6656.1	6649.0	6653.1	6798.7	6956.4	7140.4	7562.1	7604.5	7404.3	7402.3	5536.8
47.5°	6209.2	6195.1	6313.4	6561.1	6926.1	7284.0	7845.2	7910.9	7703.6	7598.5	5743.1
50°	5333.6	5374.0	5561.1	5933.2	6488.3	7086.9	7842.2	7956.4	7714.8	7581.3	5708.7
52.5°	3863.4	3855.4	4264.9	4776.5	5451.9	6455.9	7425.6	7592.4	7444.8	7412.4	5631.9
55°	2102.1	2175.9	2451.9	3129.4	3972.6	5261.8	6474.1	6838.1	7009.0	7350.8	5770.4
57.5°	772.5	804.8	977.7	1457.0	2103.1	3271.9	4945.3	5494.4	6022.2	7178.9	5747.1
60°	311.4	317.5	386.2	535.9	883.7	1665.3	2966.6	3453.9	3951.4	5495.4	4410.5
62.5°	226.5	234.6	261.9	313.4	446.9	728.0	1279.1	1487.3	1625.9	2721.9	2172.9
65°	183.0	189.1	211.3	234.6	295.2	391.3	412.5	397.4	395.3	703.7	498.5
67.5°	151.7	157.7	173.9	190.1	212.3	195.1	141.6	148.6	121.3	120.3	98.1
70°	111.2	118.3	134.5	151.7	127.4	52.6	81.9	121.3	92.0	76.8	74.8
72.5°	83.9	89.0	104.1	99.1	37.4	20.2	54.6	88.0	70.8	56.6	55.6
75°	62.7	65.7	52.6	16.2	4.0	5.1	20.2	36.4	39.4	32.4	32.4
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.0	4.0	5.1	6.1
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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



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CATALOG NUMBER: GWS-SA5B-830-U-T2R-W-GRSBK

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4	1129.4
2.5°	1152.7	1110.2	1049.5	999.0	960.6	923.1	894.8	866.5	865.5	851.4	848.3
5°	1201.2	1124.4	1013.1	933.3	884.7	855.4	835.2	825.1	820.0	815.0	812.9
7.5°	1271.0	1160.8	1007.1	922.1	881.7	862.5	848.3	842.3	839.2	835.2	834.2
10°	1356.9	1213.3	1029.3	943.4	908.0	889.8	874.6	865.5	860.5	853.4	851.4
12.5°	1460.0	1278.0	1064.7	978.8	941.3	917.1	896.9	883.7	876.6	867.5	865.5
15°	1571.3	1347.8	1104.1	1011.1	966.6	935.3	910.0	889.8	876.6	865.5	862.5
17.5°	1686.5	1418.6	1139.5	1033.4	978.8	941.3	904.9	877.6	861.5	847.3	843.3
20°	1815.9	1491.4	1162.8	1037.4	974.7	925.2	882.7	848.3	832.1	812.9	808.9
22.5°	1951.4	1559.1	1172.9	1028.3	952.5	894.8	849.3	813.9	790.7	770.5	764.4
25°	2082.9	1619.8	1167.8	1003.0	919.1	852.4	805.9	769.5	744.2	724.0	718.9
27.5°	2222.4	1670.4	1149.6	965.6	873.6	805.9	761.4	730.0	706.8	684.5	679.5
30°	2379.1	1716.9	1120.3	920.1	820.0	758.3	724.0	702.7	677.4	654.2	647.1
32.5°	2568.2	1758.3	1077.8	865.5	772.5	716.9	697.7	681.5	652.2	627.9	622.8
35°	2784.6	1792.7	1024.3	808.9	726.0	690.6	686.5	665.3	626.9	598.6	592.5
37.5°	3035.3	1826.1	960.6	753.3	691.6	678.5	679.5	643.1	596.6	562.2	558.1
40°	3305.3	1859.4	889.8	704.7	660.3	671.4	662.3	610.7	534.9	501.5	497.5
42.5°	3586.4	1895.8	818.0	659.2	634.0	644.1	630.9	546.0	491.4	474.2	472.2
45°	3840.2	1939.3	740.1	613.7	607.7	604.6	582.4	494.4	471.2	459.0	458.0
47.5°	4023.2	1932.2	657.2	570.3	579.4	569.3	501.5	470.2	451.0	434.8	430.7
50°	3989.8	1808.9	571.3	521.7	543.0	533.9	451.0	441.9	424.7	407.5	401.4
52.5°	3904.9	1641.0	496.5	470.2	503.5	482.3	416.6	407.5	392.3	370.1	363.0
55°	3950.4	1483.3	437.8	428.7	463.1	399.4	378.2	364.0	347.8	323.6	320.5
57.5°	3803.8	1210.3	351.9	357.9	409.5	340.7	331.6	309.4	282.1	265.9	263.9
60°	2632.9	650.1	220.4	227.5	296.3	286.1	297.3	277.0	243.7	228.5	225.5
62.5°	1209.3	260.9	120.3	115.3	155.7	194.1	254.8	252.8	211.3	187.1	185.0
65°	293.2	119.3	85.9	80.9	88.0	116.3	165.8	199.2	170.9	142.6	139.5
67.5°	95.0	97.1	78.9	73.8	77.9	87.0	99.1	110.2	109.2	100.1	98.1
70°	75.8	88.0	72.8	66.7	66.7	69.8	66.7	53.6	46.5	50.6	52.6
72.5°	56.6	66.7	57.6	51.6	49.5	48.5	41.5	30.3	21.2	19.2	18.2
75°	33.4	37.4	35.4	30.3	28.3	25.3	20.2	13.1	7.1	5.1	3.0
77.5°	6.1	7.1	8.1	6.1	5.1	4.0	3.0	1.0	0.0	0.0	0.0
80°	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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

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.

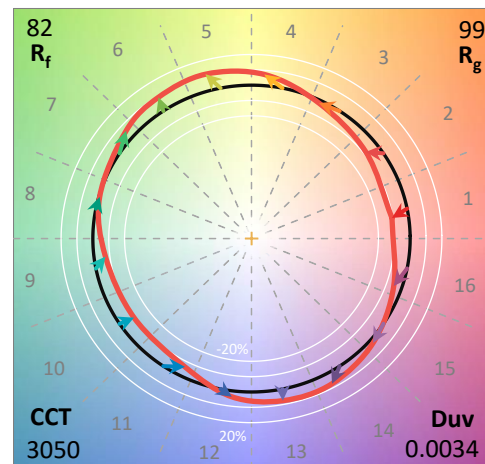
Test Information

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

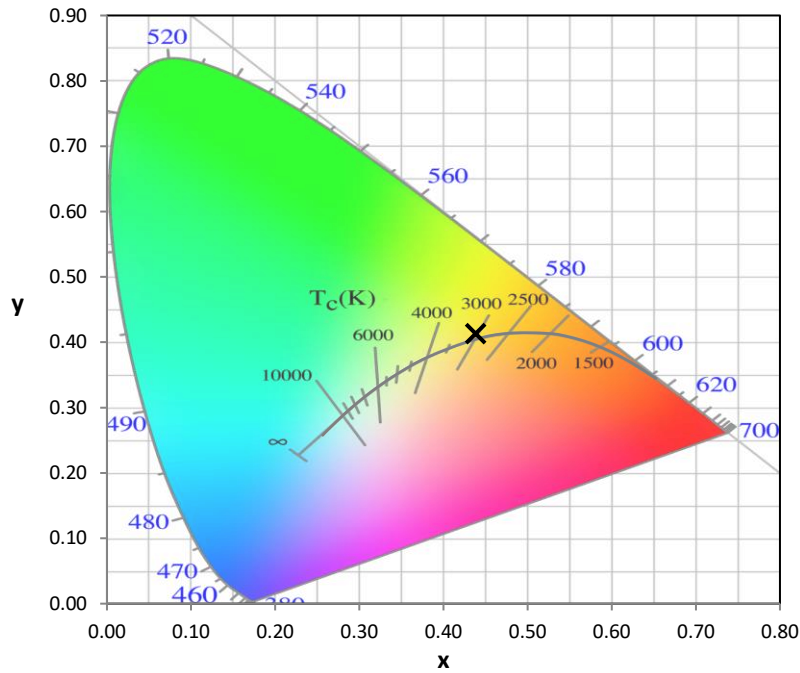
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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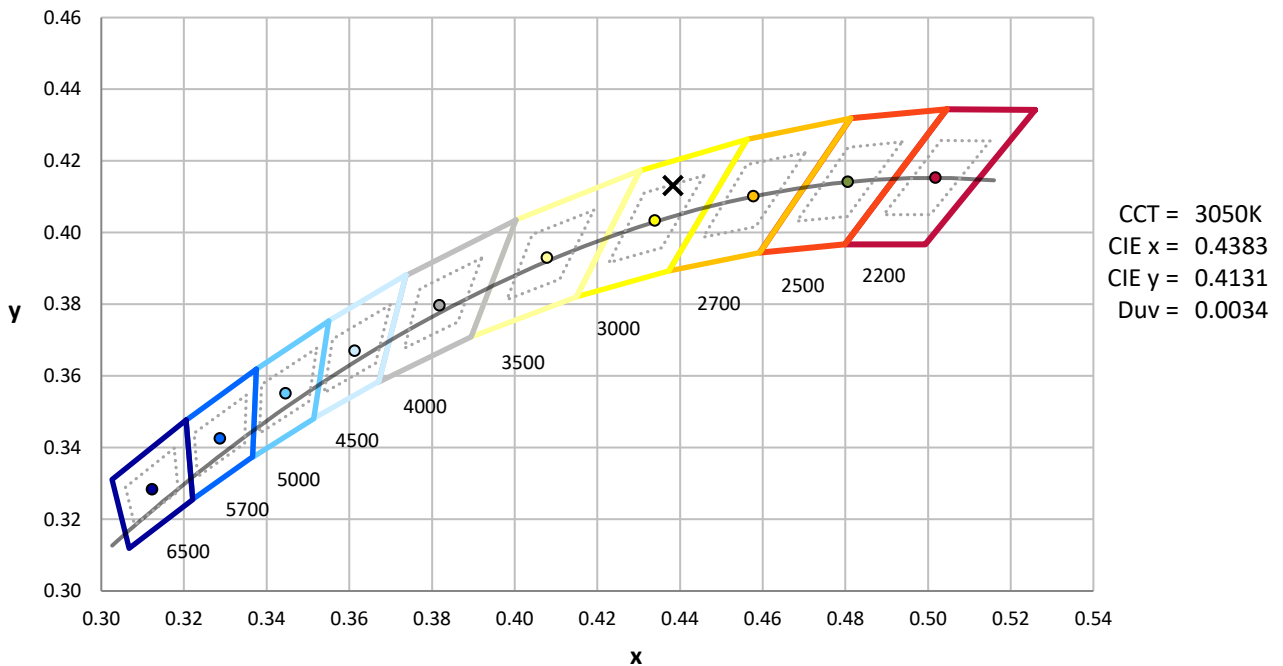
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



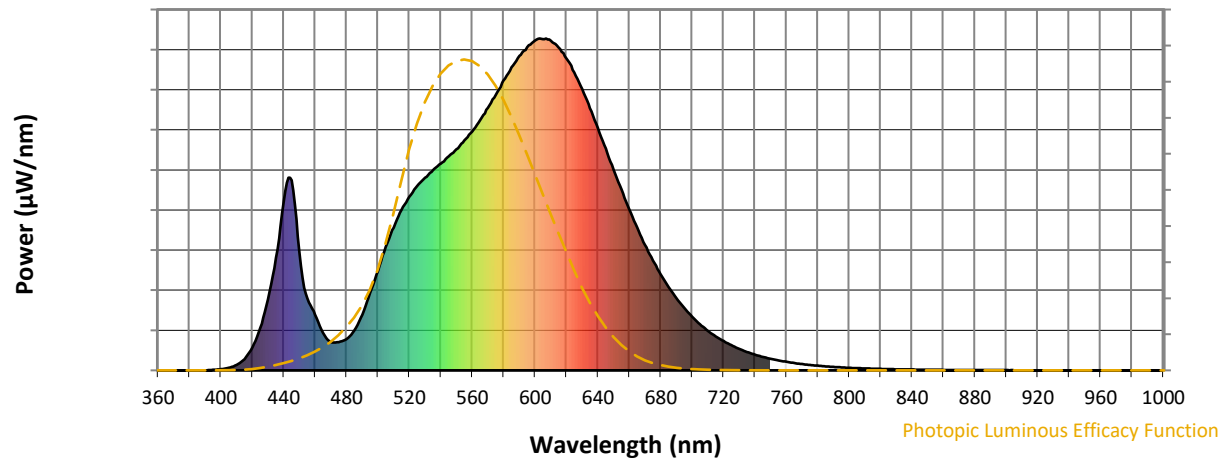
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

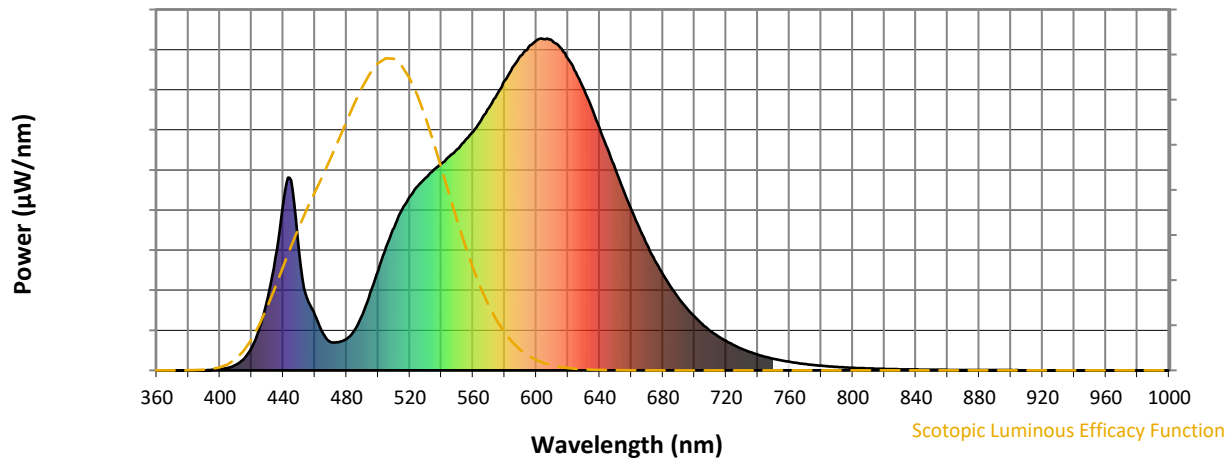


Photopic Lumens: NR

λ (nm)	Power 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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Scotopic Flux vs. Wavelength



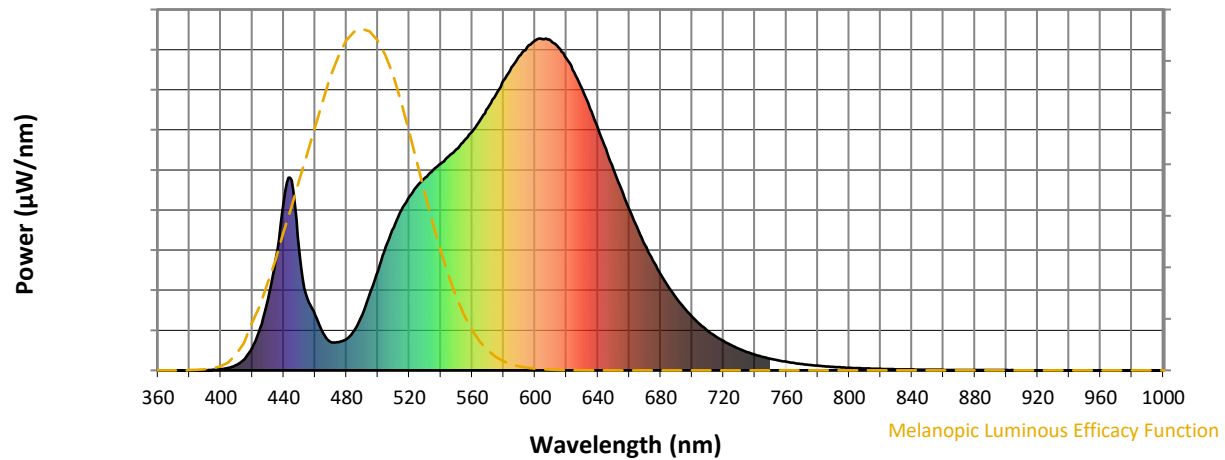
Scotopic Lumens: NR

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

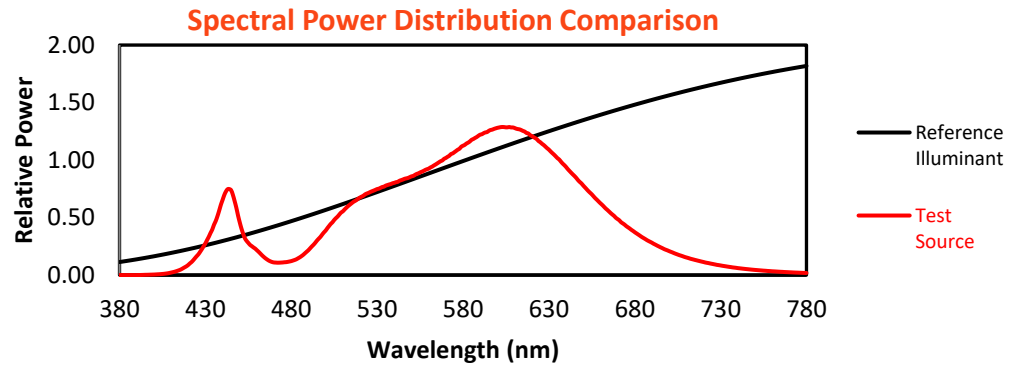
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168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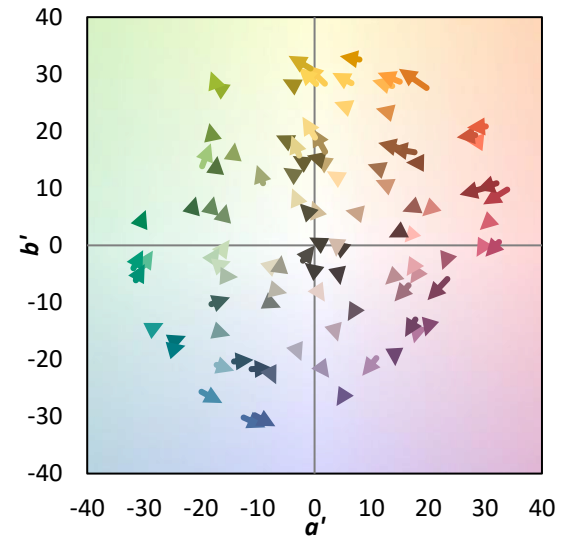
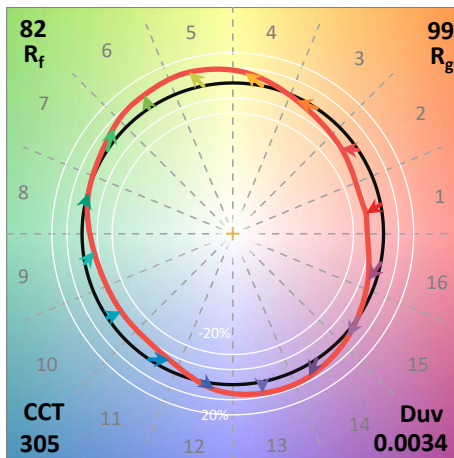
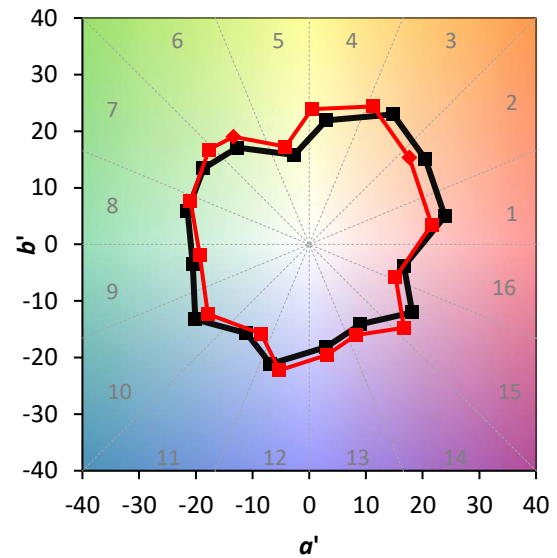
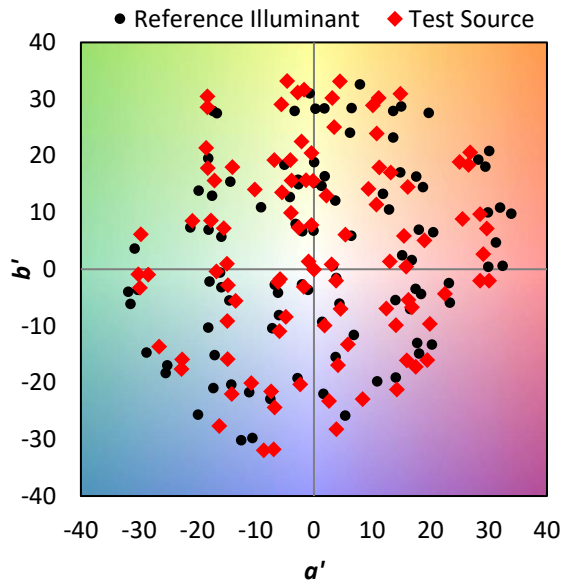
TM-30-18

Summary

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

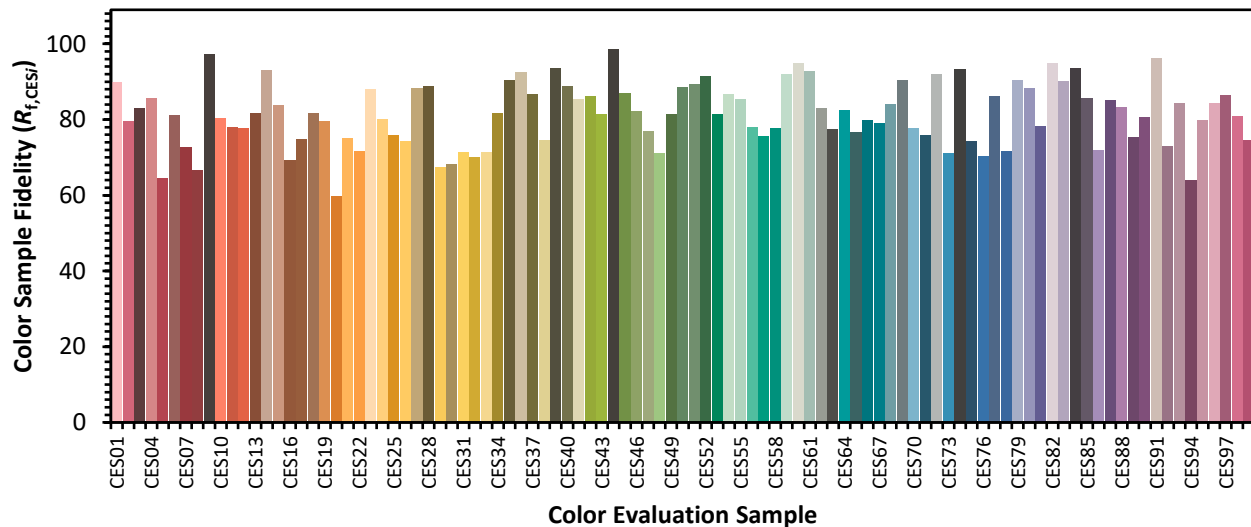


Color Vector Graphics

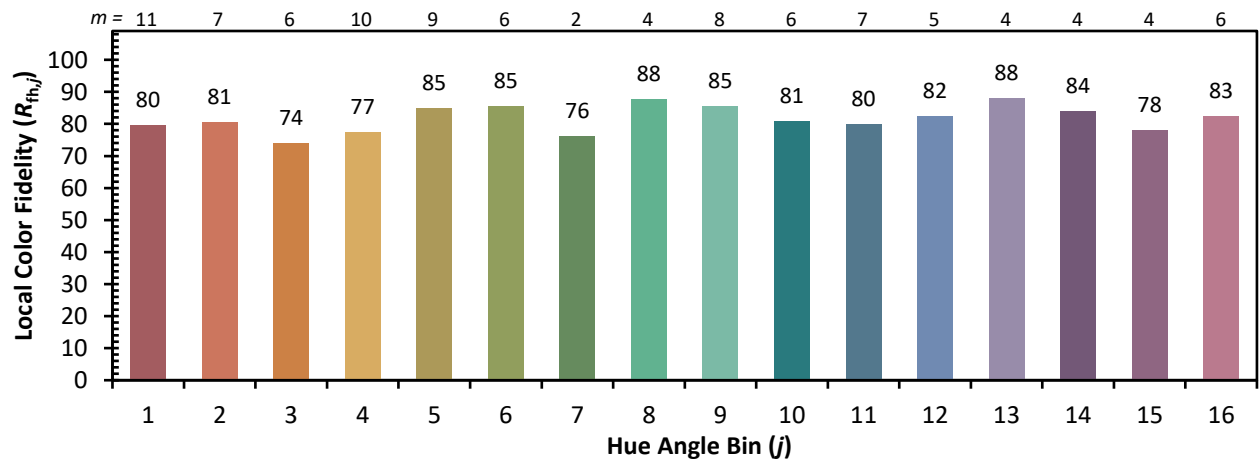
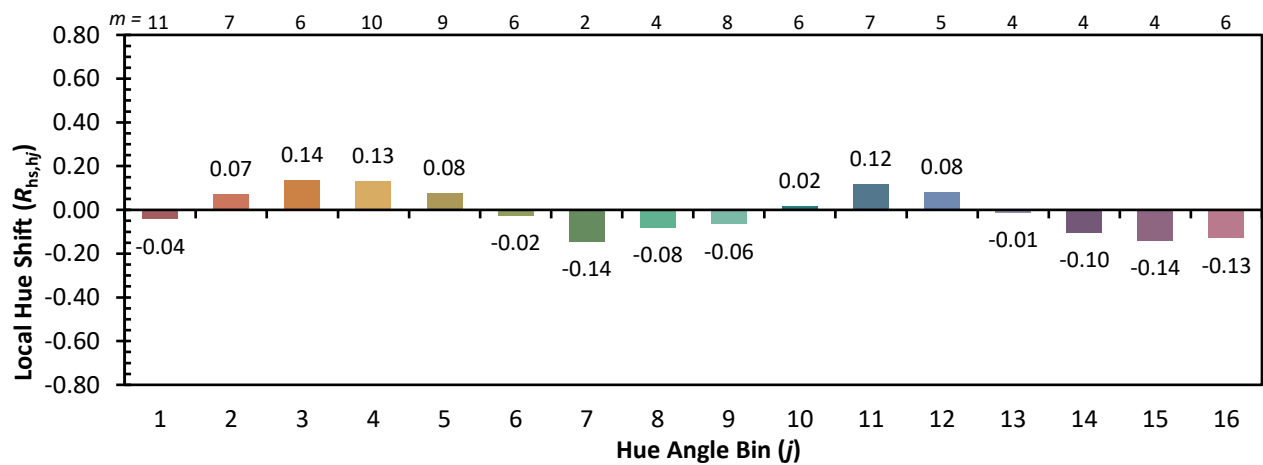
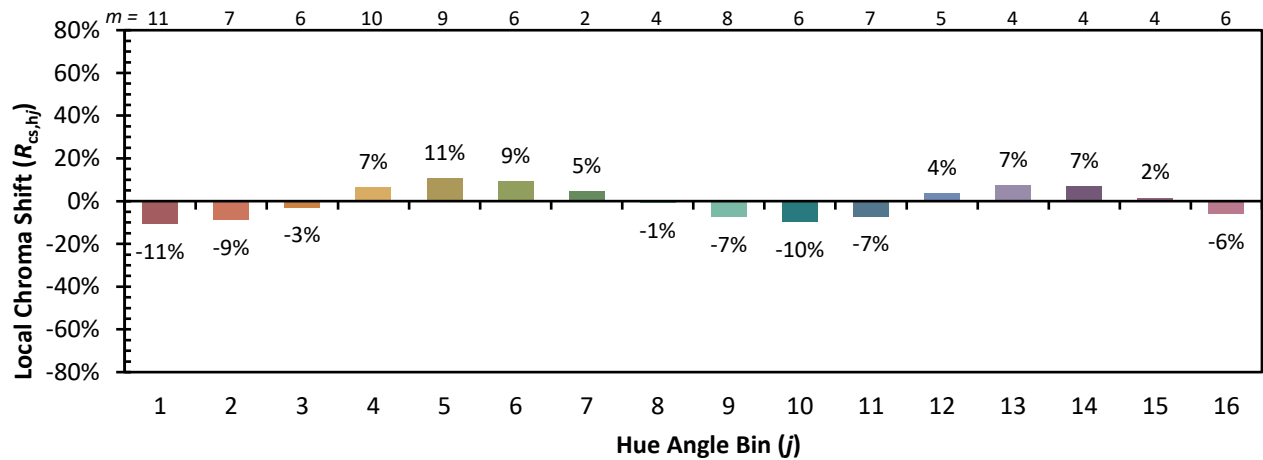


Individual Sample Fidelity Index ($R_{f,i}$)

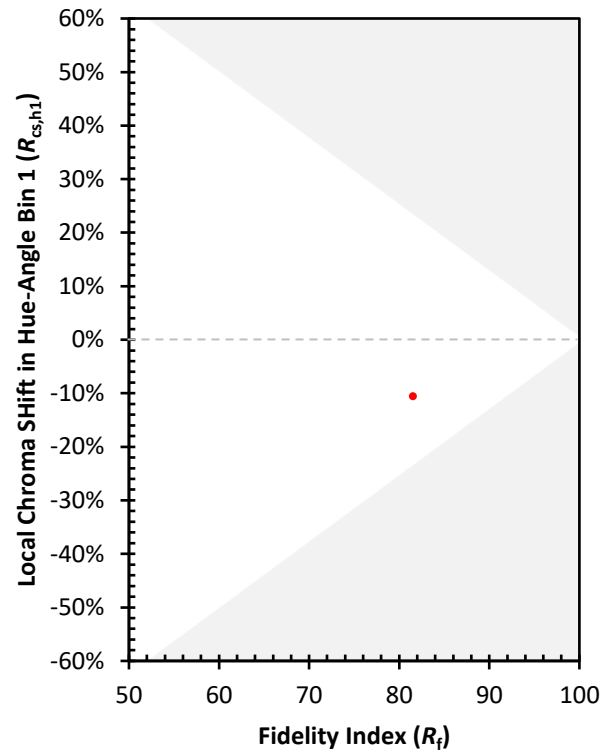
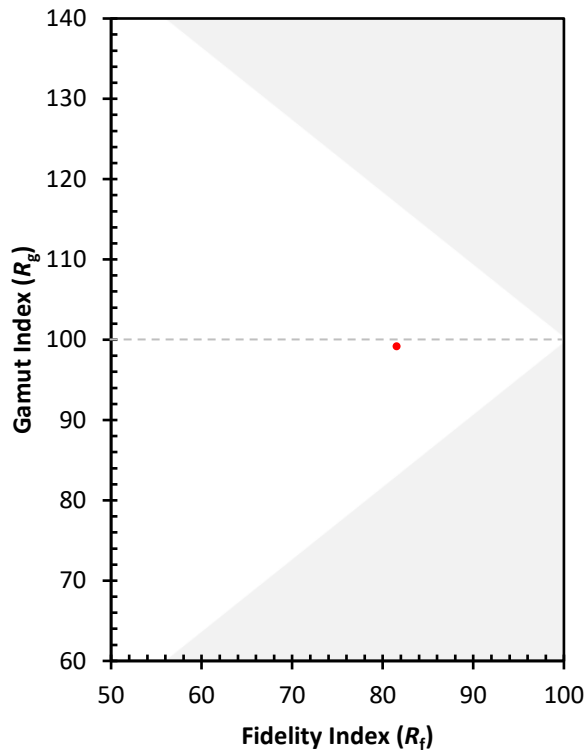
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82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