

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: P639977

Luminaire Tested: GWS-SA5C-830-U-T2R-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P639977
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-SA5C-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: 12680.5 lumens
Efficiency: N/A
Efficacy: 80.5 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G1

Input Watts (W): 157.5
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



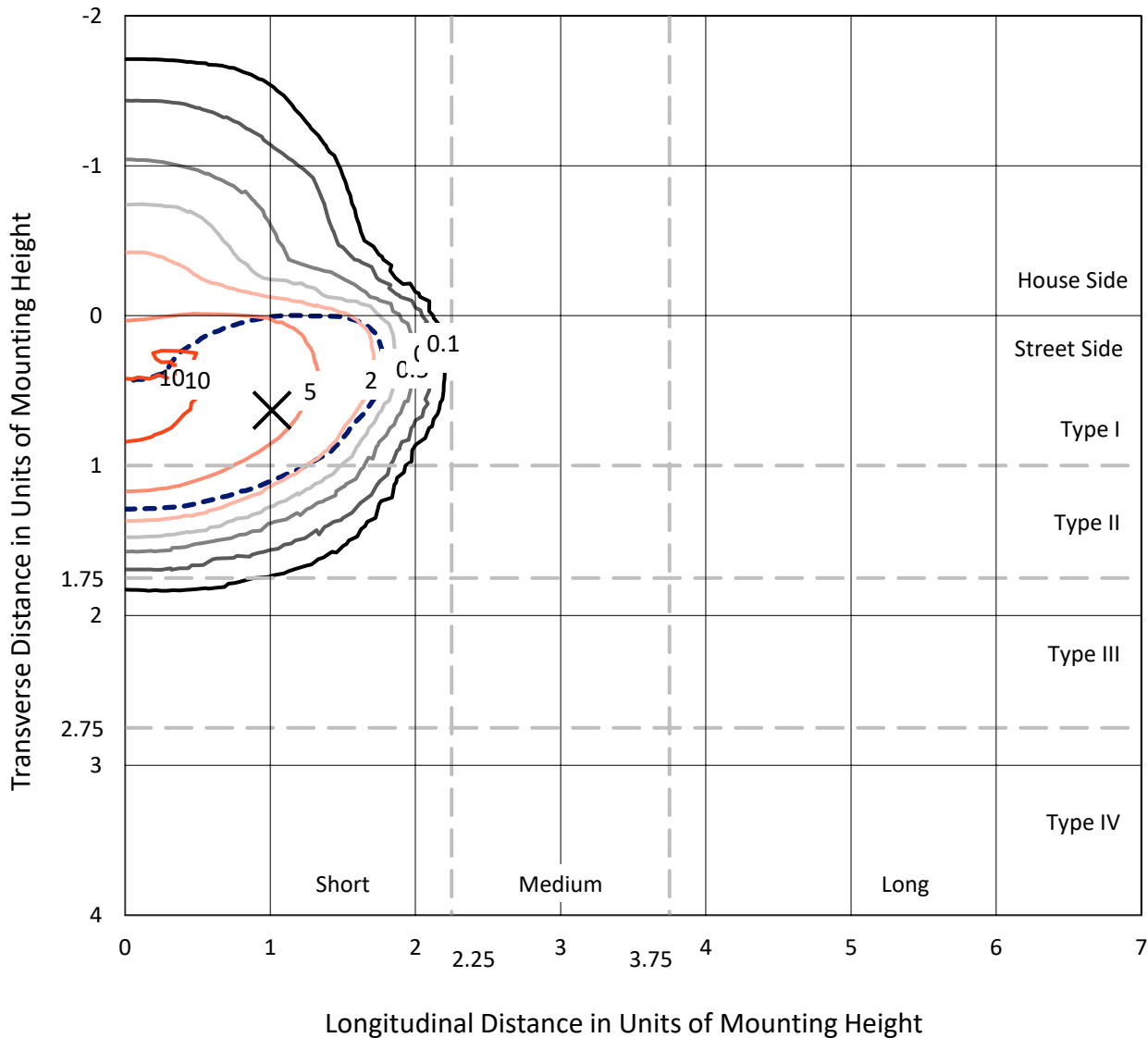
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

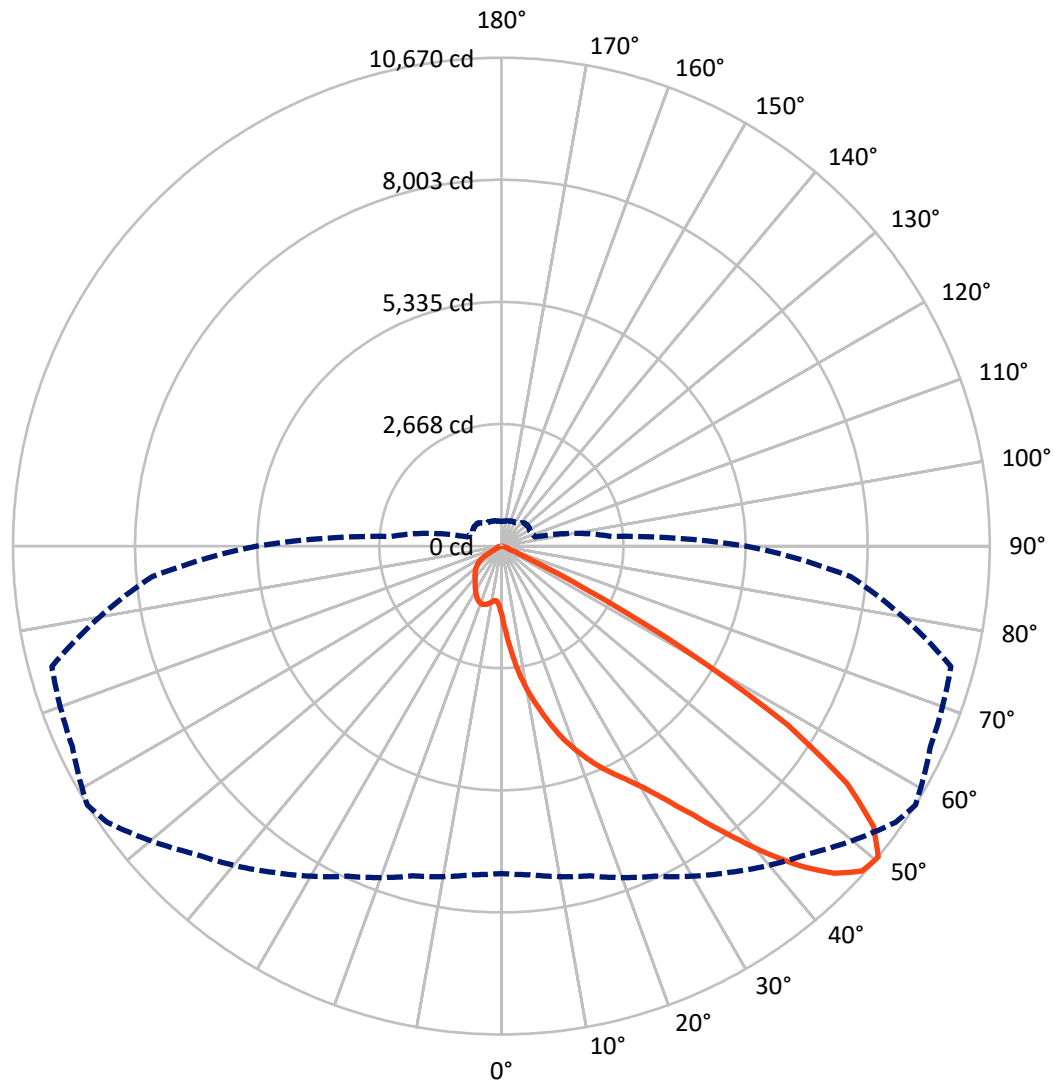


Based on 20 foot mounting height. Maximum calculated value = 11.6 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



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

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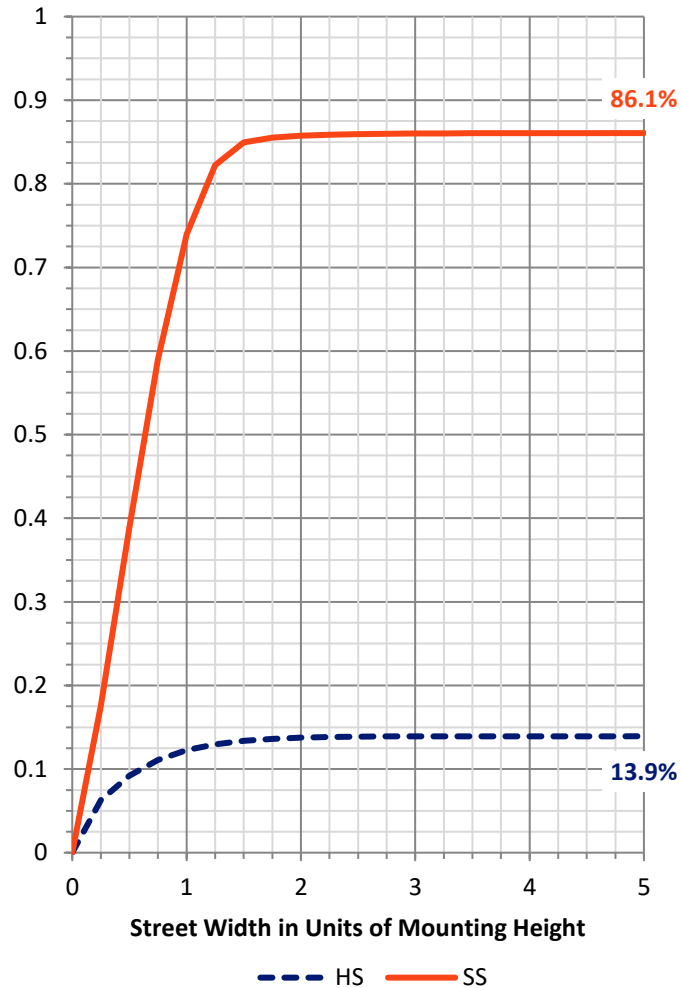
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1776.1	0.0	1776.1
	% Fixture	14.0	0.0	14.0
Street Side	Lumens	10904.4	0.0	10904.4
	% Fixture	86.0	0.0	86.0
Total	Lumens	12680.5	0.0	12680.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.6	1.5
10°-20°	742.8	5.9
20°-30°	1503.1	11.9
30°-40°	2659.2	21.0
40°-50°	3876.6	30.6
50°-60°	3107.2	24.5
60°-70°	559.8	4.4
70°-80°	44.1	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°	12680.5	100.0
0°-180°	12680.5	100.0

Coefficient of Utilization



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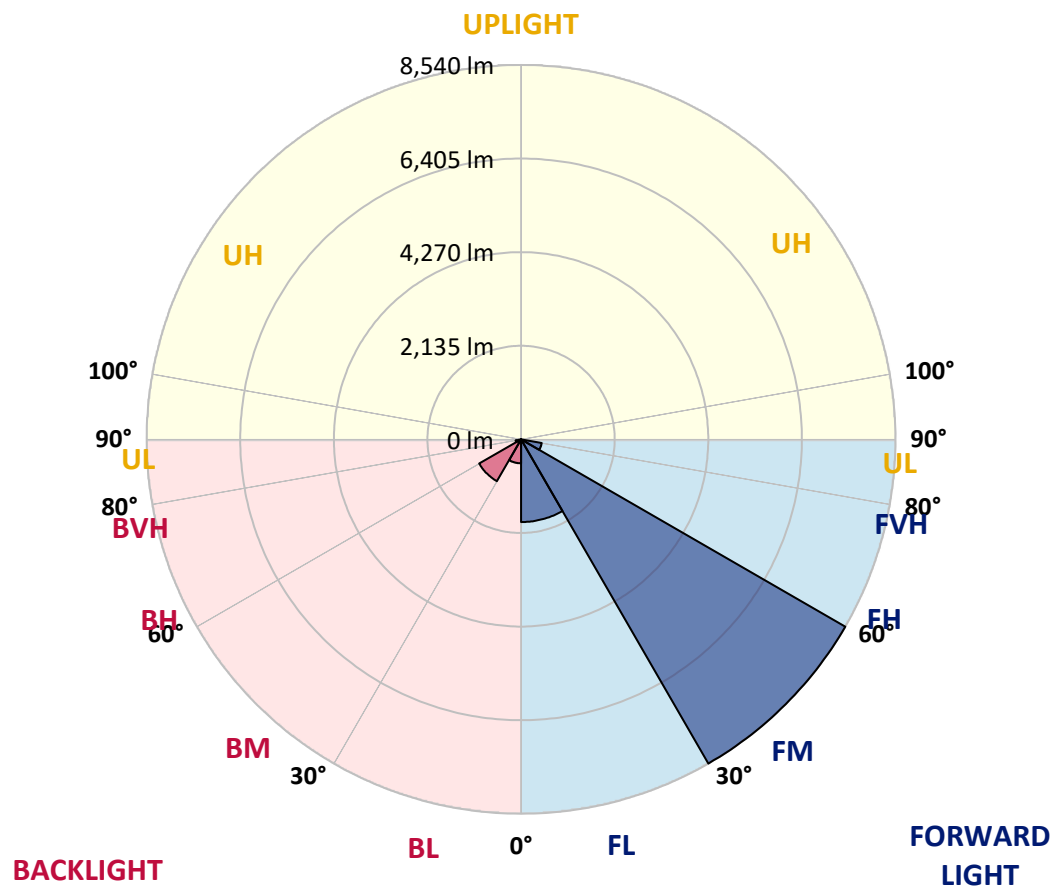
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1886.8	14.9			
FM	(30°-60°)	8539.9	67.3			
FH	(60°-80°)	477.7	3.8			G0/660
FVH	(80°-90°)	0.0	0.0			G0/10
BL	(0°-30°)	546.8	4.3	B2/1000		
BM	(30°-60°)	1103.0	8.7	B2/2500		
BH	(60°-80°)	126.2	1.0	B1/500		G1/500
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: B2-U0-G1

Type II Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7
2.5°	2241.5	2206.2	2185.9	2169.6	2097.7	1983.8	1909.3	1869.9	1804.9	1695.0	1600.1
5°	2924.9	2899.2	2851.7	2819.1	2726.9	2565.6	2398.8	2332.3	2184.5	1936.4	1714.0
7.5°	3377.8	3358.8	3341.2	3297.8	3211.0	3064.6	2880.2	2811.0	2583.2	2230.6	1865.9
10°	3726.3	3711.4	3691.1	3689.7	3621.9	3490.4	3310.0	3238.2	2991.4	2550.7	2044.9
12.5°	4032.8	4020.6	4016.5	4054.5	4011.1	3913.4	3718.2	3628.7	3367.0	2877.5	2242.8
15°	4243.0	4240.2	4257.9	4332.5	4356.9	4312.1	4148.0	4051.8	3750.7	3205.6	2461.2
17.5°	4339.2	4347.4	4381.3	4510.1	4618.6	4656.5	4530.4	4449.1	4131.8	3537.8	2694.4
20°	4503.3	4500.6	4520.9	4643.0	4775.9	4911.5	4873.5	4804.3	4516.9	3889.0	2953.4
22.5°	4965.7	4926.4	4883.0	4902.0	4949.4	5108.1	5178.6	5143.3	4914.2	4249.7	3220.5
25°	5676.3	5635.6	5495.9	5360.3	5270.8	5342.7	5439.0	5456.6	5308.8	4619.9	3499.9
27.5°	6430.2	6393.6	6236.3	6032.9	5776.6	5651.9	5723.7	5759.0	5696.6	5060.6	3796.8
30°	7136.7	7087.9	6915.7	6663.4	6366.5	6175.3	6093.9	6118.3	6154.9	5582.7	4145.3
32.5°	7749.6	7713.0	7506.9	7241.1	6955.0	6755.6	6565.8	6606.5	6696.0	6221.4	4591.5
35°	8269.0	8250.0	8031.7	7767.2	7464.8	7363.1	7200.4	7208.6	7298.0	6992.9	5135.2
37.5°	8720.5	8688.0	8490.0	8244.5	8004.5	7988.3	7943.5	7947.6	7993.7	7892.0	5760.3
40°	9005.3	8975.4	8834.4	8682.5	8511.7	8514.4	8746.3	8763.9	8711.0	8774.7	6420.7
42.5°	9112.4	9090.7	9014.8	9016.1	8998.5	9078.5	9513.8	9546.3	9356.5	9467.7	6984.8
45°	8926.6	8917.1	8922.6	9117.8	9329.4	9576.1	10141.6	10198.6	9930.1	9927.4	7425.5
47.5°	8327.3	8308.3	8466.9	8799.2	9288.7	9768.7	10521.3	10609.4	10331.4	10190.4	7702.1
50°	7153.0	7207.2	7458.1	7957.1	8701.5	9504.3	10517.2	10670.4	10346.4	10167.4	7656.0
52.5°	5181.3	5170.5	5719.7	6405.8	7311.6	8658.1	9958.5	10182.3	9984.3	9940.9	7553.0
55°	2819.1	2918.1	3288.3	4196.9	5327.8	7056.7	8682.5	9170.7	9399.9	9858.2	7738.8
57.5°	1036.0	1079.4	1311.3	1954.0	2820.5	4388.1	6632.2	7368.6	8076.4	9627.7	7707.6
60°	417.7	425.8	518.0	718.7	1185.2	2233.3	3978.5	4632.1	5299.3	7369.9	5914.9
62.5°	303.7	314.6	351.2	420.4	599.4	976.3	1715.4	1994.7	2180.5	3650.4	2914.1
65°	245.4	253.6	283.4	314.6	396.0	524.8	553.3	532.9	530.2	943.8	668.5
67.5°	203.4	211.5	233.2	254.9	284.8	261.7	189.8	199.3	162.7	161.4	131.5
70°	149.2	158.7	180.3	203.4	170.9	70.5	109.8	162.7	123.4	103.1	100.3
72.5°	112.5	119.3	139.7	132.9	50.2	27.1	73.2	118.0	94.9	75.9	74.6
75°	84.1	88.1	70.5	21.7	5.4	6.8	27.1	48.8	52.9	43.4	43.4
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.7	4.1	5.4	6.8	8.1
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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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7	1514.7
2.5°	1545.9	1488.9	1407.5	1339.7	1288.2	1238.0	1200.1	1162.1	1160.7	1141.8	1137.7
5°	1610.9	1507.9	1358.7	1251.6	1186.5	1147.2	1120.1	1106.5	1099.7	1092.9	1090.2
7.5°	1704.5	1556.7	1350.6	1236.7	1182.4	1156.7	1137.7	1129.6	1125.5	1120.1	1118.7
10°	1819.8	1627.2	1380.4	1265.2	1217.7	1193.3	1172.9	1160.7	1154.0	1144.5	1141.8
12.5°	1958.1	1714.0	1427.9	1312.6	1262.4	1229.9	1202.8	1185.2	1175.7	1163.5	1160.7
15°	2107.2	1807.6	1480.8	1356.0	1296.3	1254.3	1220.4	1193.3	1175.7	1160.7	1156.7
17.5°	2261.8	1902.5	1528.2	1385.8	1312.6	1262.4	1213.6	1177.0	1155.3	1136.3	1130.9
20°	2435.4	2000.1	1559.4	1391.3	1307.2	1240.7	1183.8	1137.7	1116.0	1090.2	1084.8
22.5°	2617.1	2091.0	1573.0	1379.1	1277.4	1200.1	1139.0	1091.6	1060.4	1033.3	1025.1
25°	2793.4	2172.3	1566.2	1345.2	1232.6	1143.1	1080.7	1031.9	998.0	970.9	964.1
27.5°	2980.5	2240.1	1541.8	1295.0	1171.6	1080.7	1021.1	979.0	947.9	918.0	911.2
30°	3190.7	2302.5	1502.5	1234.0	1099.7	1017.0	970.9	942.4	908.5	877.3	867.8
32.5°	3444.3	2358.1	1445.5	1160.7	1036.0	961.4	935.6	914.0	874.6	842.1	835.3
35°	3734.5	2404.2	1373.6	1084.8	973.6	926.2	920.7	892.3	840.7	802.8	794.6
37.5°	4070.7	2449.0	1288.2	1010.2	927.5	909.9	911.2	862.4	800.0	753.9	748.5
40°	4432.8	2493.7	1193.3	945.1	885.5	900.4	888.2	819.0	717.3	672.6	667.2
42.5°	4809.8	2542.5	1097.0	884.1	850.2	863.8	846.2	732.2	659.0	636.0	633.3
45°	5150.1	2600.8	992.6	823.1	815.0	810.9	781.1	663.1	631.9	615.6	614.3
47.5°	5395.6	2591.3	881.4	764.8	777.0	763.4	672.6	630.5	604.8	583.1	577.7
50°	5350.8	2425.9	766.1	699.7	728.2	716.0	604.8	592.6	569.5	546.5	538.3
52.5°	5236.9	2200.8	665.8	630.5	675.3	646.8	558.7	546.5	526.1	496.3	486.8
55°	5297.9	1989.3	587.2	574.9	621.1	535.6	507.1	488.2	466.5	433.9	429.9
57.5°	5101.3	1623.1	471.9	480.0	549.2	457.0	444.8	414.9	378.3	356.6	353.9
60°	3531.1	871.9	295.6	305.1	397.3	383.8	398.7	371.5	326.8	306.5	302.4
62.5°	1621.8	349.9	161.4	154.6	208.8	260.4	341.7	339.0	283.4	250.9	248.1
65°	393.2	160.0	115.3	108.5	118.0	155.9	222.4	267.1	229.2	191.2	187.1
67.5°	127.5	130.2	105.8	99.0	104.4	116.6	132.9	147.8	146.4	134.2	131.5
70°	101.7	118.0	97.6	89.5	89.5	93.6	89.5	71.9	62.4	67.8	70.5
72.5°	75.9	89.5	77.3	69.2	66.4	65.1	55.6	40.7	28.5	25.8	24.4
75°	44.7	50.2	47.5	40.7	38.0	33.9	27.1	17.6	9.5	6.8	4.1
77.5°	8.1	9.5	10.8	8.1	6.8	5.4	4.1	1.4	0.0	0.0	0.0
80°	0.0	1.4	1.4	1.4	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.

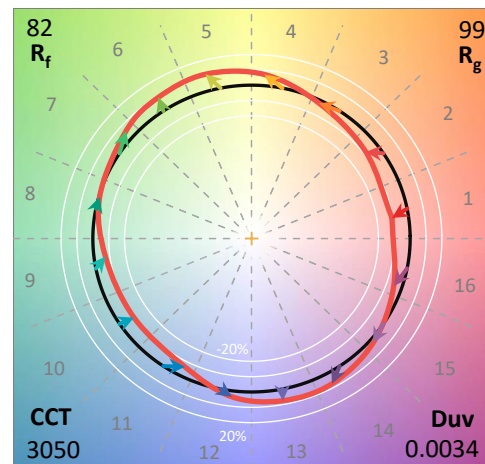
Test Information

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

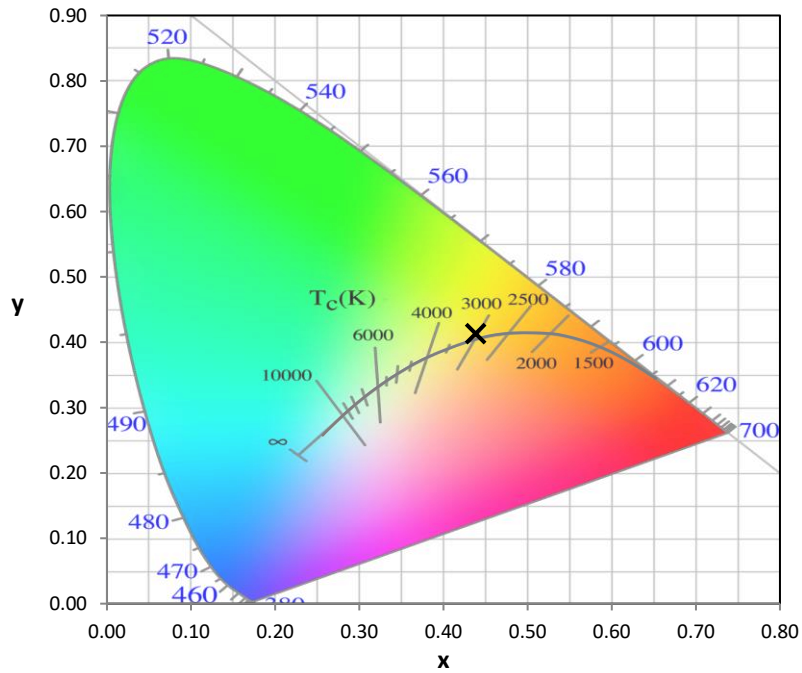
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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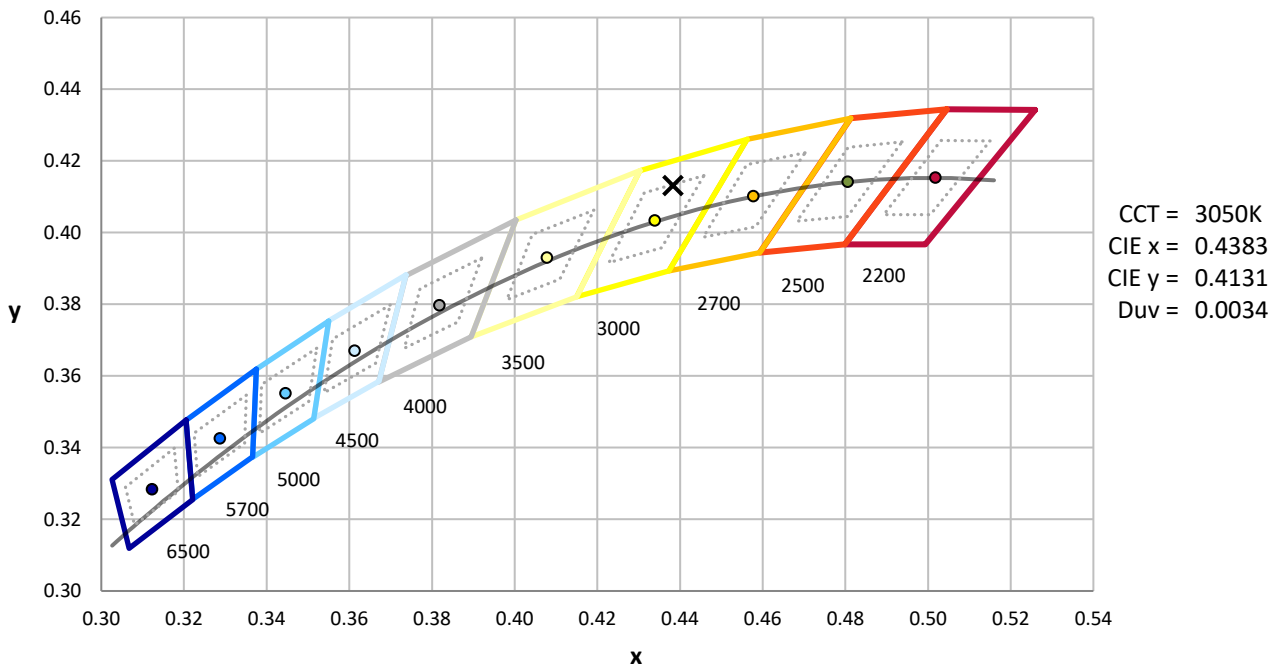
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



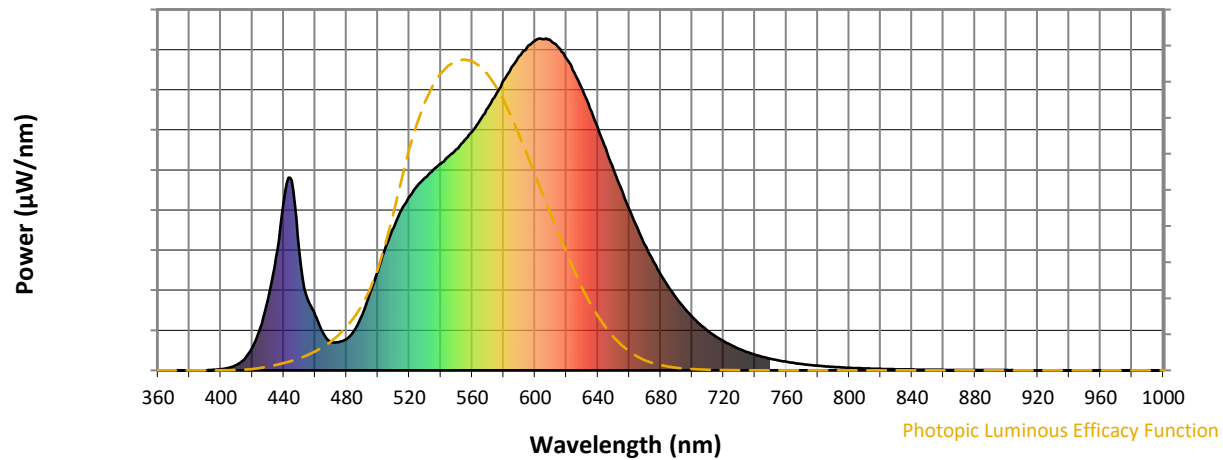
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

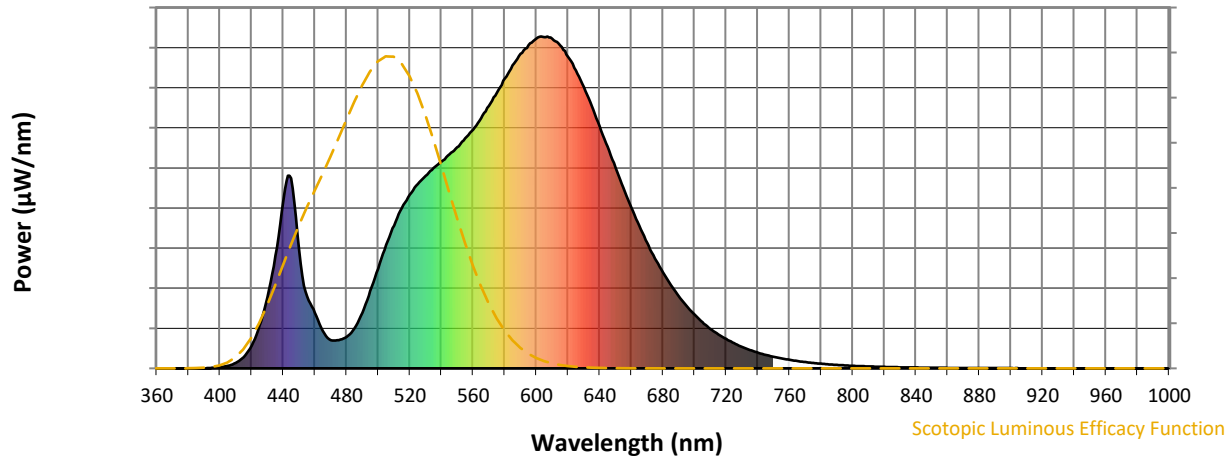


Photopic Lumens: NR

λ (nm)	Power W ^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			

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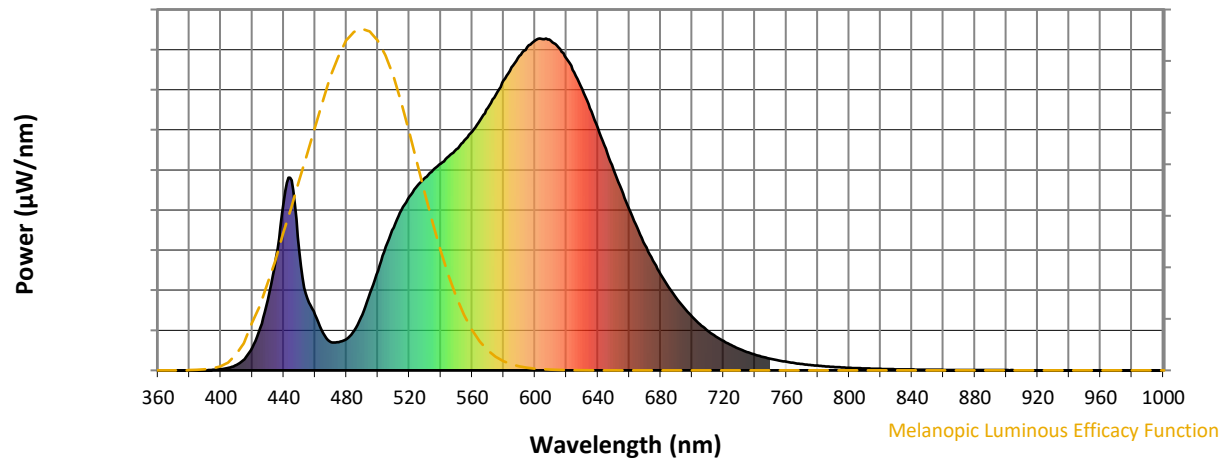
Scotopic Flux vs. Wavelength


Scotopic Lumens: NR
S/P: 1.27

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			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

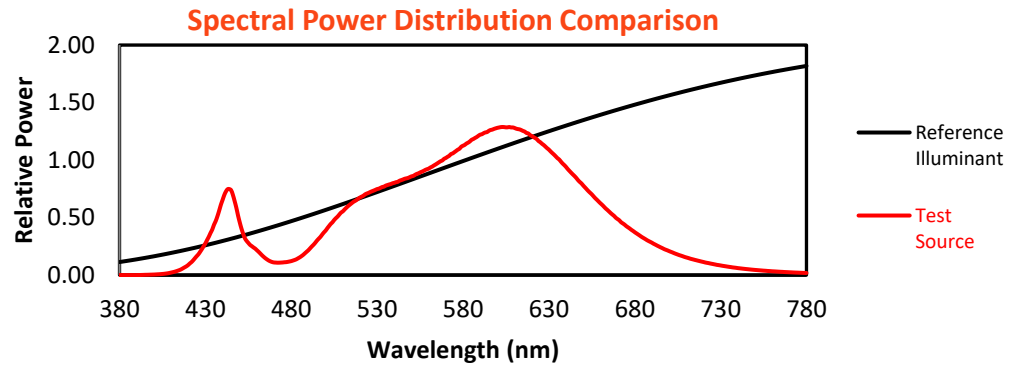
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168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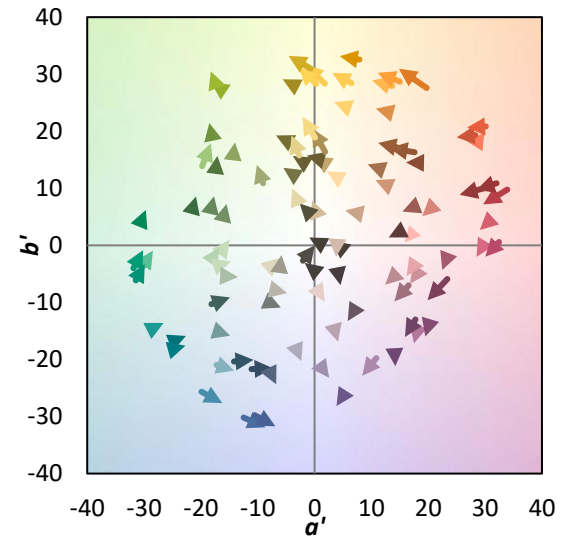
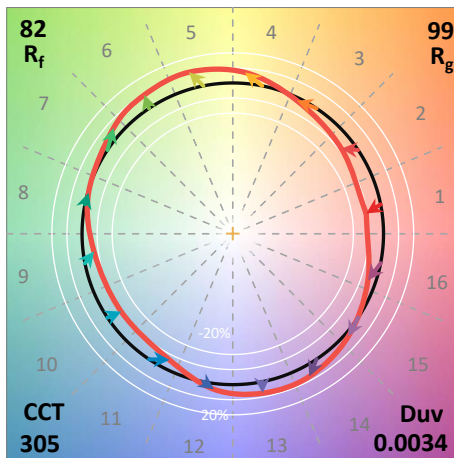
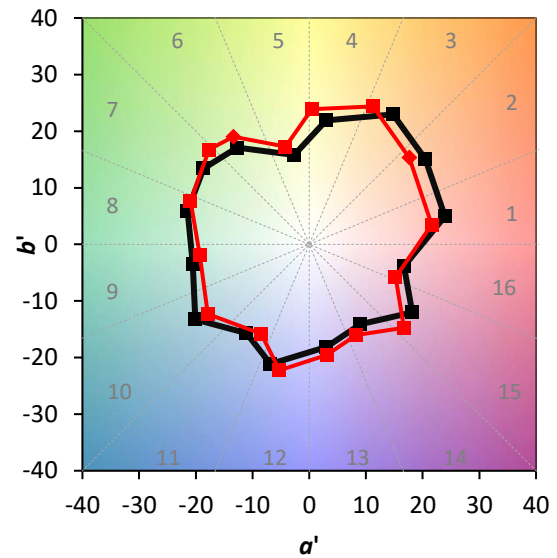
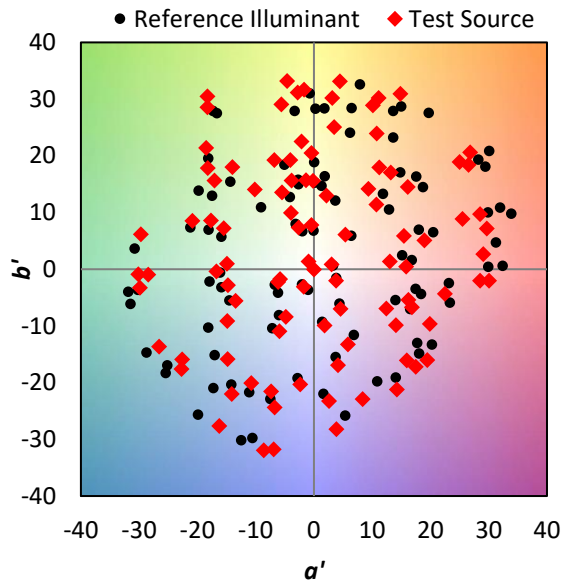
TM-30-18

Summary

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

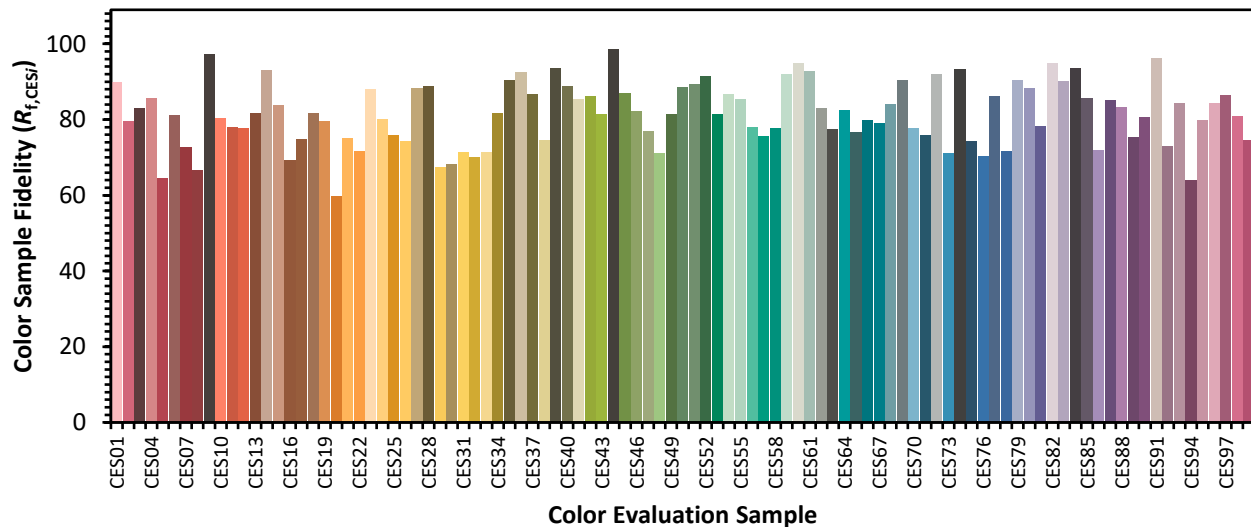


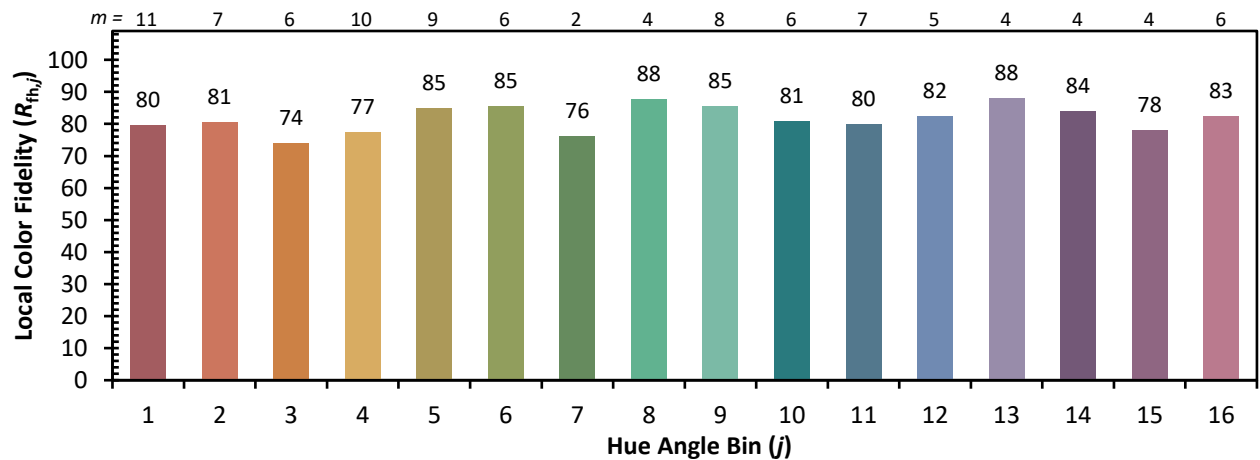
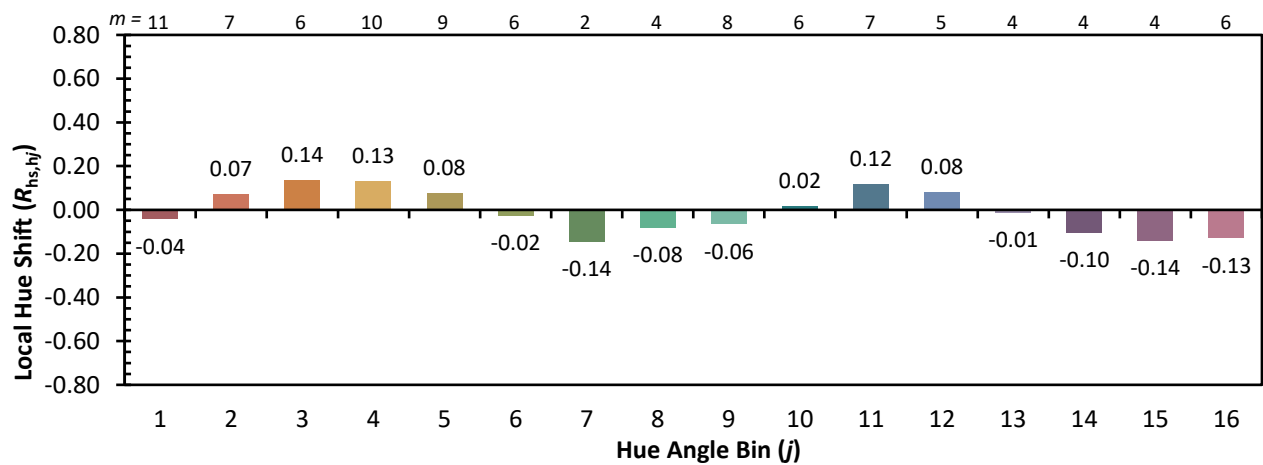
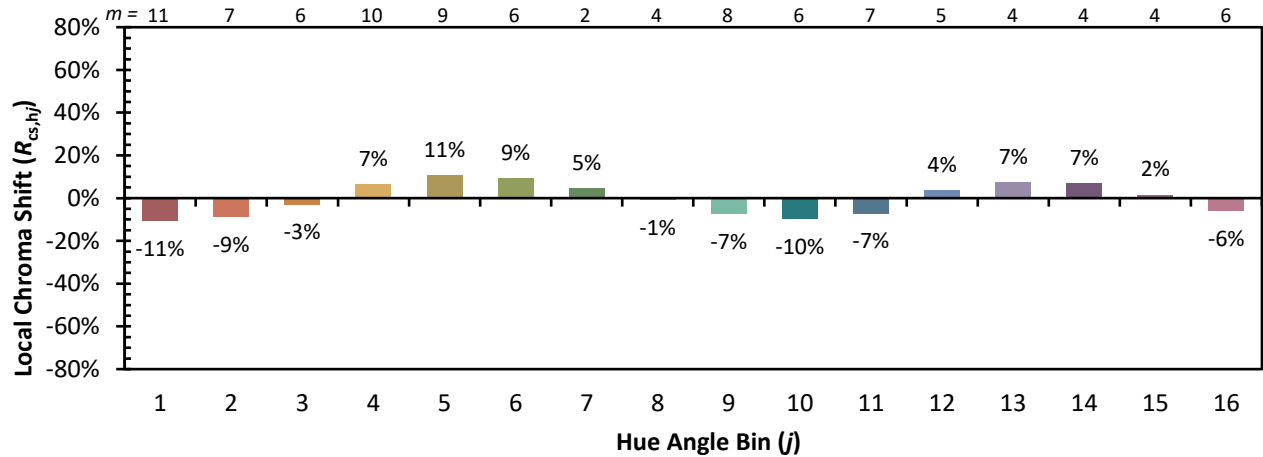
Color Vector Graphics



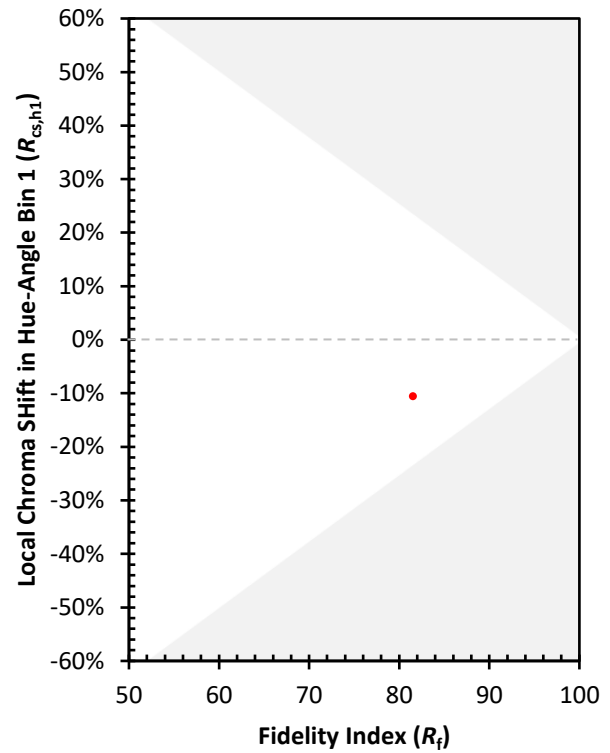
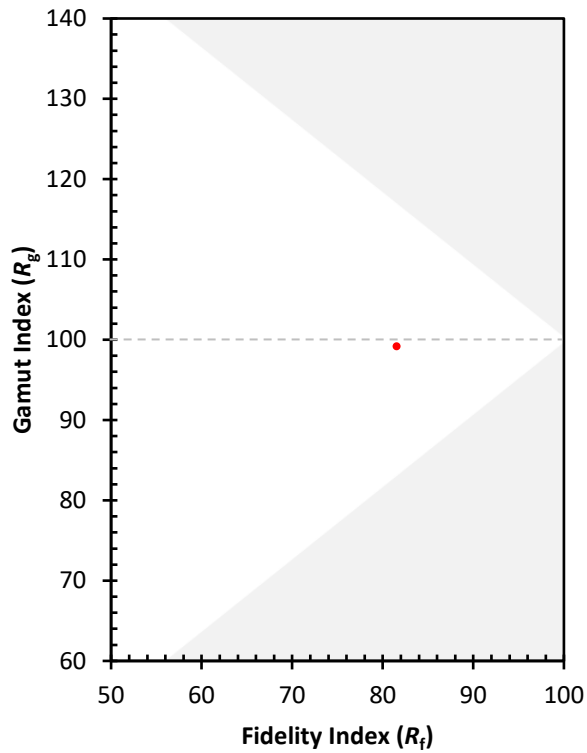
Individual Sample Fidelity Index ($R_{f,i}$)

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)