

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P321775

Luminaire Tested: **GLEON-SA1D-830-U-T3R-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P321775  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA1D-830-U-T3R-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE III ROADWAY OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4965 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2

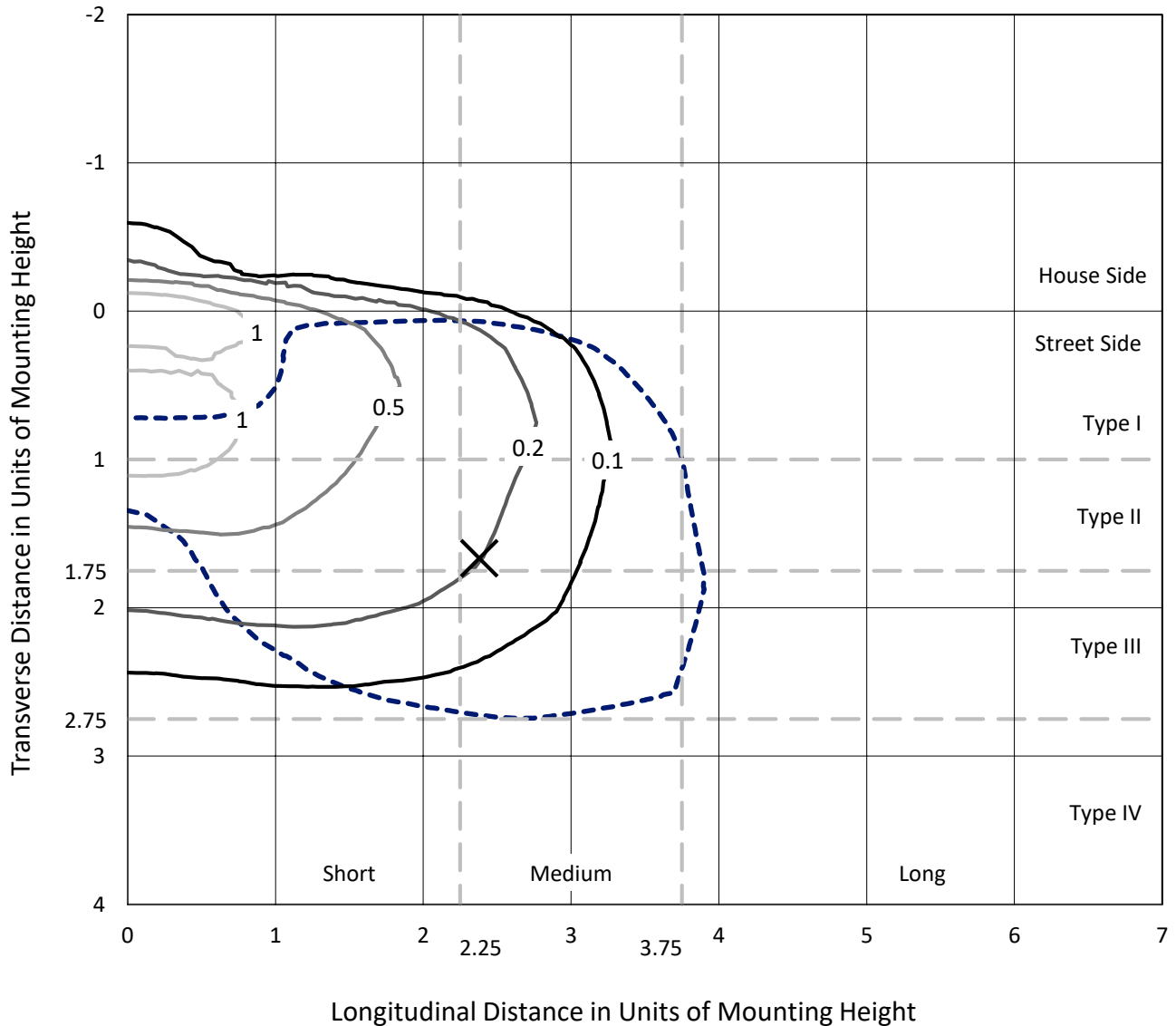
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

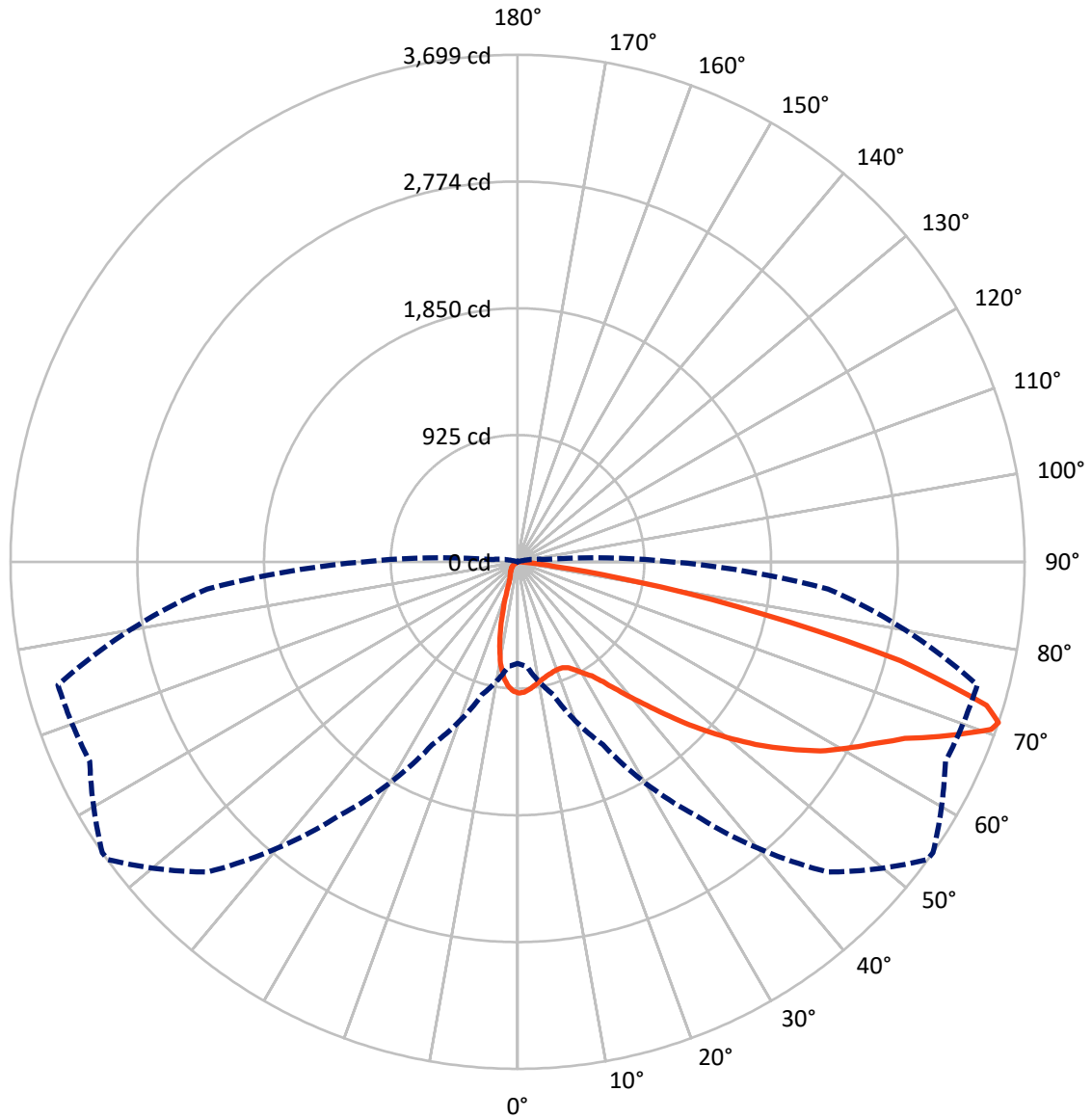
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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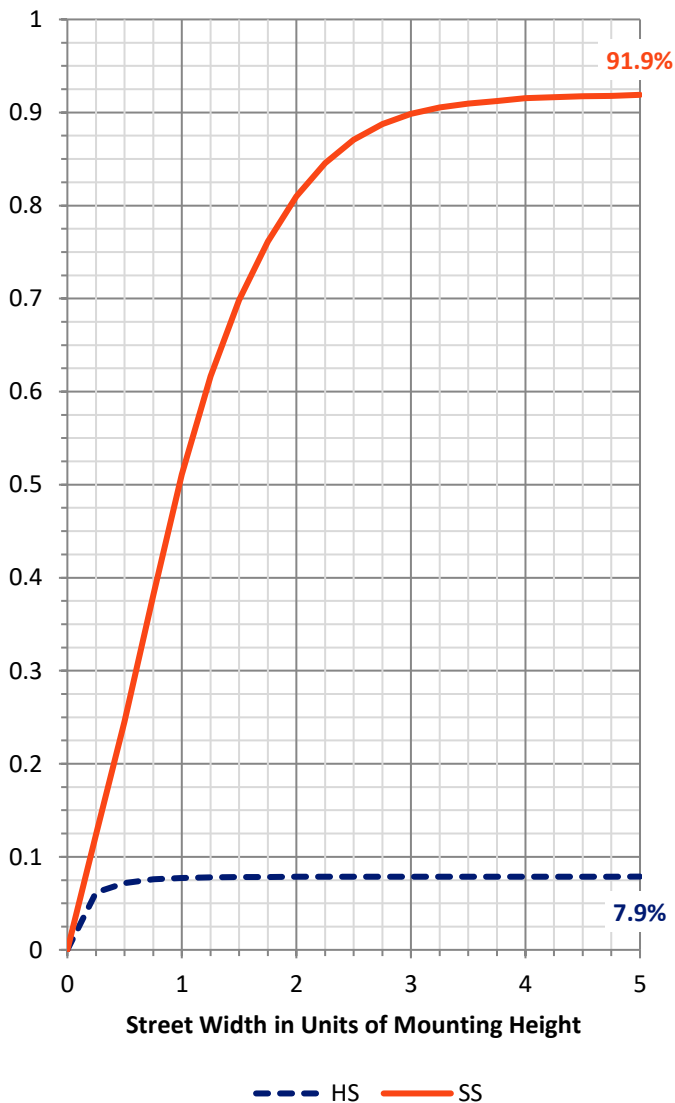
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	393.1	0.0	393.1
	% Fixture	7.9	0.0	7.9
<b>Street Side</b>	Lumens	4571.9	0.0	4571.9
	% Fixture	92.1	0.0	92.1
<b>Total</b>	Lumens	4965.0	0.0	4965.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.6	1.6
10°-20°	184.3	3.7
20°-30°	296.2	6.0
30°-40°	503.2	10.1
40°-50°	781.1	15.7
50°-60°	1050.2	21.2
60°-70°	1284.7	25.9
70°-80°	751.1	15.1
80°-90°	32.5	0.7
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°	4965.0	100.0
0°-180°	4965.0	100.0

**Coefficient of Utilization**

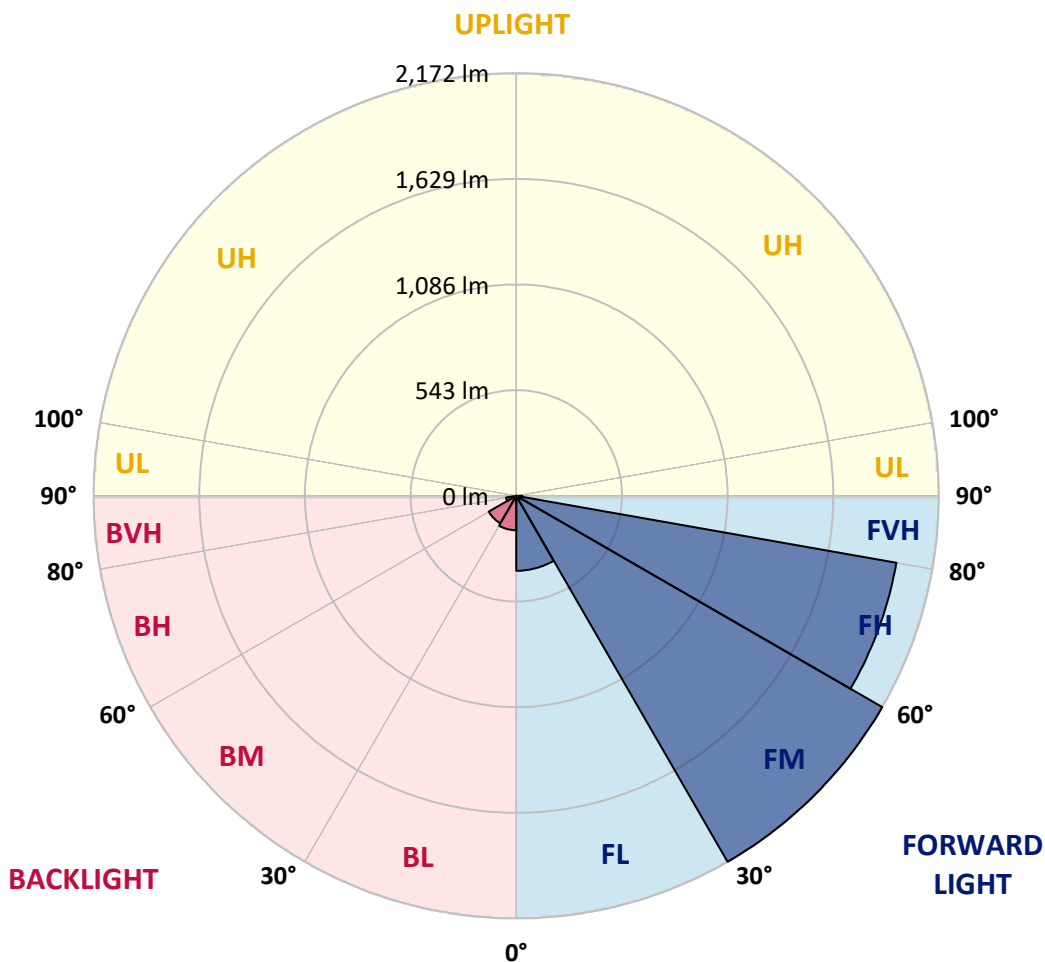


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	385.2	7.8			
FM (30°-60°)	2171.5	43.7			
FH (60°-80°)	1983.2	39.9			G2/5000
FVH (80°-90°)	32.0	0.6			G1/100
BL (0°-30°)	176.9	3.6	B1/500		
BM (30°-60°)	163.0	3.3	B0/220		
BH (60°-80°)	52.7	1.1	B0/110		G0/110
BVH (80°-90°)	0.5	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-G2**  
 Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	54°	55°	65°	75°	85°
0°	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5
2.5°	929.4	930.5	934.6	936.3	940.6	947.7	951.3	951.5	957.3	959.5	961.3
5°	863.7	870.3	877.0	884.2	897.1	914.3	931.2	932.8	951.5	965.3	972.7
7.5°	807.0	813.1	821.1	832.4	850.7	877.7	906.0	909.4	944.8	976.2	992.7
10°	748.8	753.8	765.3	782.1	807.3	843.4	881.5	887.1	938.8	991.0	1019.9
12.5°	686.6	689.5	703.6	727.7	764.7	810.6	860.8	868.1	935.0	1007.9	1052.0
15°	639.4	640.7	654.1	679.1	721.4	781.2	844.7	853.6	935.9	1028.2	1087.0
17.5°	627.3	628.0	635.1	652.3	689.8	754.9	832.0	842.9	938.6	1048.0	1122.3
20°	676.2	671.5	664.1	661.5	677.5	739.0	824.4	836.7	942.1	1065.6	1153.9
22.5°	810.2	796.3	765.8	725.0	700.2	740.2	826.4	838.7	953.5	1087.3	1190.5
25°	1009.0	989.8	937.9	857.6	780.5	772.3	843.2	855.6	975.6	1113.1	1225.5
27.5°	1235.3	1216.3	1152.8	1038.2	906.7	835.8	881.5	893.1	1008.3	1136.1	1252.2
30°	1452.0	1446.6	1371.7	1241.5	1065.4	938.8	931.0	940.8	1032.6	1149.9	1273.4
32.5°	1635.7	1627.2	1567.0	1440.4	1247.1	1062.5	989.2	992.1	1050.9	1167.7	1301.1
35°	1806.0	1795.5	1742.7	1623.0	1433.5	1213.7	1078.8	1074.6	1090.8	1203.6	1341.2
37.5°	1954.7	1964.3	1905.7	1791.8	1600.7	1370.8	1199.6	1186.9	1153.3	1262.1	1399.4
40°	2079.1	2079.1	2048.6	1953.6	1781.3	1533.4	1336.3	1319.6	1247.1	1352.1	1473.2
42.5°	2123.9	2133.5	2144.9	2091.2	1942.9	1702.4	1488.6	1471.2	1379.3	1479.9	1566.4
45°	2126.6	2141.8	2200.0	2199.7	2088.9	1870.2	1660.2	1652.0	1548.7	1643.9	1681.8
47.5°	2088.9	2107.9	2203.7	2258.1	2204.6	2026.5	1847.9	1837.7	1747.8	1845.0	1802.7
50°	2030.7	2051.7	2163.2	2281.1	2283.3	2162.5	2045.7	2030.3	1967.0	2074.9	1927.5
52.5°	1926.6	1967.2	2126.8	2286.5	2335.1	2280.0	2233.8	2227.1	2212.2	2296.3	2027.0
55°	1703.9	1748.9	2035.6	2288.2	2383.0	2384.1	2410.2	2412.0	2442.1	2503.1	2101.0
57.5°	1598.7	1624.1	1876.5	2296.7	2454.1	2502.3	2589.9	2603.7	2650.3	2699.6	2185.5
60°	1532.5	1562.6	1798.0	2285.1	2565.8	2657.2	2756.4	2761.1	2811.0	2902.2	2299.8
62.5°	1479.6	1509.3	1748.5	2240.5	2691.3	2843.6	2919.1	2919.6	2957.0	3143.6	2429.8
65°	1349.2	1374.2	1648.4	2190.4	2774.2	3027.9	3108.2	3105.3	3135.8	3398.2	2580.7
67.5°	1160.6	1179.8	1444.0	2000.2	2743.0	3195.6	3393.6	3384.0	3347.0	3618.3	2640.0
70°	897.3	904.2	1138.1	1666.9	2450.5	3260.0	3669.3	3664.4	3476.5	3578.8	2422.7
71°	741.7	764.5	1003.0	1471.2	2254.6	3200.5	3696.1	3699.0	3443.9	3471.4	2273.1
72.5°	430.7	450.1	727.0	1129.8	1914.1	2952.1	3557.4	3578.4	3291.9	3157.5	1941.6
75°	92.3	98.8	269.5	546.9	1052.9	2069.1	2807.9	2882.6	2683.1	2148.0	1170.2
77.5°	64.2	69.3	115.5	248.1	348.0	1022.4	1744.3	1828.5	1602.9	807.3	374.5
80°	50.8	56.6	90.1	122.6	94.1	329.7	817.1	868.6	534.6	180.1	63.1
82.5°	28.3	33.7	70.2	66.2	36.1	62.6	228.7	258.6	107.0	36.3	14.9
85°	8.2	10.0	45.3	48.2	15.4	12.0	39.0	48.4	20.3	9.6	6.7
87.5°	0.0	0.0	21.8	18.5	4.5	1.8	3.6	4.0	4.0	4.0	4.5
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: P321775

CATALOG NUMBER: GLEON-SA1D-830-U-T3R-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5	957.5
2.5°	961.3	962.9	957.3	949.9	942.1	932.5	922.5	914.7	914.5	910.7	906.9
5°	973.1	972.2	956.8	933.4	905.8	877.0	849.6	818.6	808.4	795.7	791.4
7.5°	995.0	988.7	956.2	904.9	844.3	784.1	721.9	659.2	632.5	608.4	604.2
10°	1022.4	1010.6	951.9	862.1	750.9	639.8	546.0	460.8	423.4	394.6	393.3
12.5°	1050.9	1032.9	940.1	797.4	628.5	472.4	364.3	280.5	249.2	229.2	231.0
15°	1080.8	1053.8	914.7	710.3	489.1	320.6	223.8	174.6	162.1	156.9	158.3
17.5°	1111.3	1068.3	879.3	605.3	351.6	206.9	154.9	141.1	141.1	142.2	142.7
20°	1137.9	1076.1	827.1	487.6	238.3	150.7	135.5	133.5	134.7	136.4	136.7
22.5°	1164.2	1076.6	759.1	368.3	166.8	132.0	129.1	128.2	128.9	130.9	131.1
25°	1185.6	1071.2	673.9	262.0	133.1	124.4	123.1	122.6	123.1	125.5	125.5
27.5°	1194.3	1051.8	570.1	184.1	119.3	115.9	115.5	115.9	116.6	118.4	118.6
30°	1195.2	1017.9	456.8	133.3	108.1	104.6	105.4	107.0	106.3	105.9	106.3
32.5°	1197.4	978.7	346.4	109.7	98.8	93.2	92.1	92.1	89.4	87.8	86.9
35°	1204.8	932.5	251.3	98.5	89.2	82.7	78.5	73.6	68.4	65.8	65.1
37.5°	1216.3	884.2	179.9	91.2	80.7	73.3	65.3	56.6	49.3	47.3	47.3
40°	1237.5	834.2	133.1	85.4	74.0	64.9	52.8	41.5	34.8	33.7	33.7
42.5°	1271.0	781.6	106.1	80.3	68.2	56.2	40.4	30.1	25.2	24.5	24.3
45°	1305.7	723.7	92.7	75.4	62.0	46.1	29.9	22.3	19.4	18.7	18.7
47.5°	1340.5	661.9	86.3	70.7	56.0	35.9	22.3	17.6	16.3	16.3	16.5
50°	1370.0	597.5	81.6	65.5	48.2	27.2	17.6	14.9	14.5	15.4	15.6
52.5°	1377.3	534.2	75.8	59.1	38.6	20.7	14.5	13.2	13.2	13.2	13.2
55°	1372.9	485.1	68.2	51.1	28.5	16.5	12.5	11.6	11.4	11.4	11.4
57.5°	1388.0	456.1	54.6	39.7	20.5	13.4	10.9	10.3	9.8	9.6	9.6
60°	1418.6	437.2	39.0	28.5	15.4	11.1	9.4	8.7	8.0	7.6	7.6
62.5°	1459.1	420.7	29.0	21.2	11.8	8.9	7.8	7.1	6.2	5.8	5.8
65°	1490.3	391.3	22.1	15.8	8.9	7.1	6.0	5.8	4.5	4.0	3.8
67.5°	1442.6	326.6	17.8	11.6	6.7	5.6	4.7	4.5	2.7	2.2	2.2
70°	1237.3	227.4	14.3	8.5	4.9	4.5	3.8	2.9	2.0	1.8	1.8
71°	1122.0	189.9	12.9	7.1	4.2	4.2	3.6	2.5	1.8	1.6	1.6
72.5°	932.1	134.9	10.9	5.6	3.8	4.5	3.8	2.2	1.8	1.6	1.3
75°	541.1	56.4	7.6	3.8	2.9	5.4	4.9	2.0	1.3	1.1	1.1
77.5°	162.7	20.7	4.2	2.5	2.2	4.7	5.6	1.8	0.7	0.2	0.2
80°	29.7	8.9	2.7	1.6	1.6	2.9	4.2	0.9	0.0	0.0	0.0
82.5°	10.5	4.5	1.6	0.9	0.7	1.3	2.0	0.0	0.0	0.0	0.0
85°	6.0	3.1	0.9	0.4	0.0	0.2	0.4	0.0	0.0	0.0	0.0
87.5°	4.0	0.9	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



Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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  
 Rf: 81.5  
 Rg: 99.2

CRI (Ra):	81.0		
R1:	79.6	R9:	7.1
R2:	85.6	R10:	67.0
R3:	92.0	R11:	82.7
R4:	82.6	R12:	63.2
R5:	78.9	R13:	80.3
R6:	81.7	R14:	95.0
R7:	85.2	R15:	71.7
R8:	62.0		



**Test Conditions**

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

REPORT NUMBER: SP1-2408-195-9

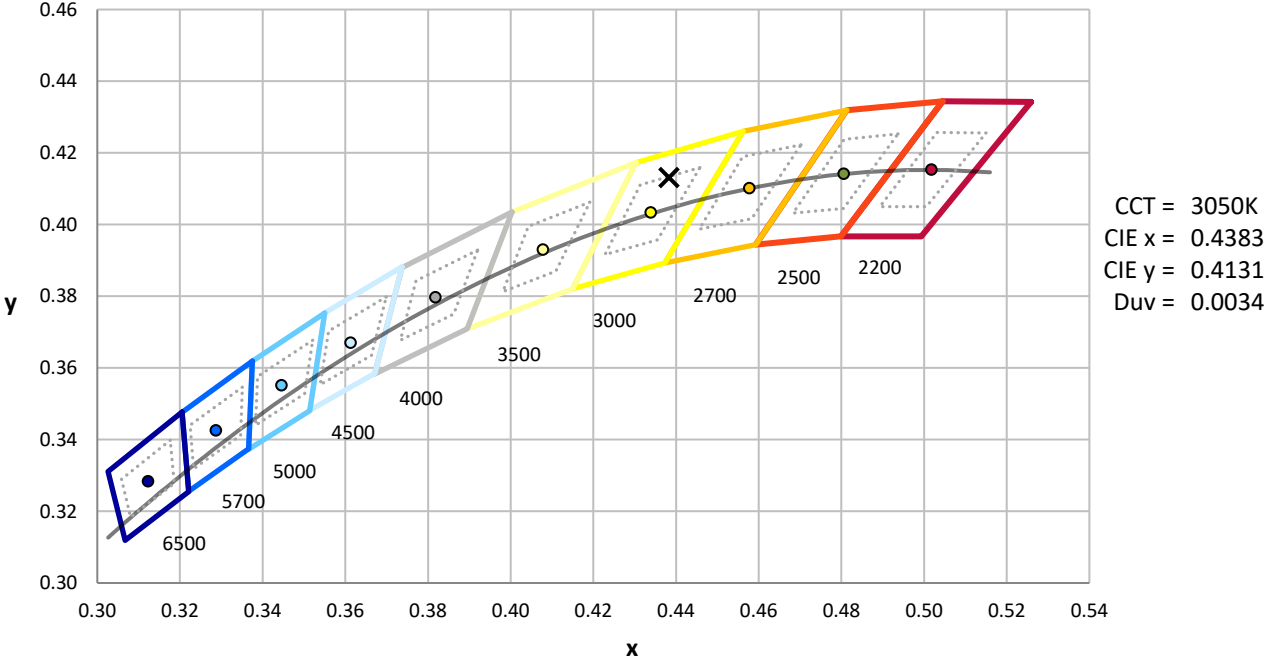
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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



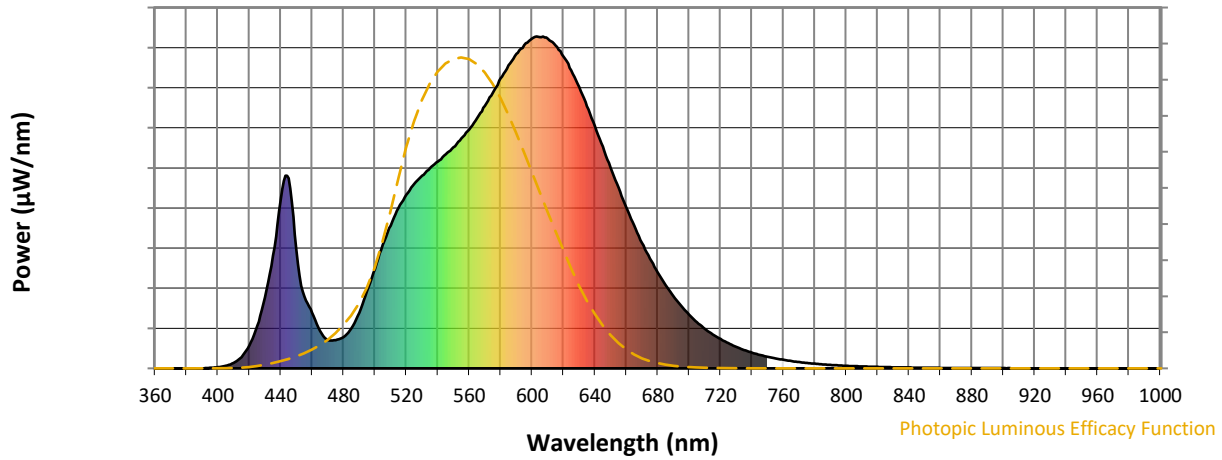
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /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**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /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**



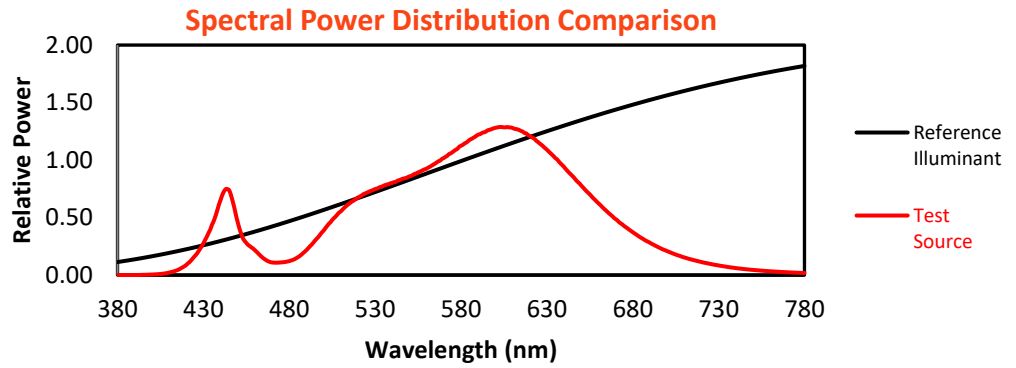
**Melanopic Lumens: NR**

**M/P: 2.32**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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			

**Summary**

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



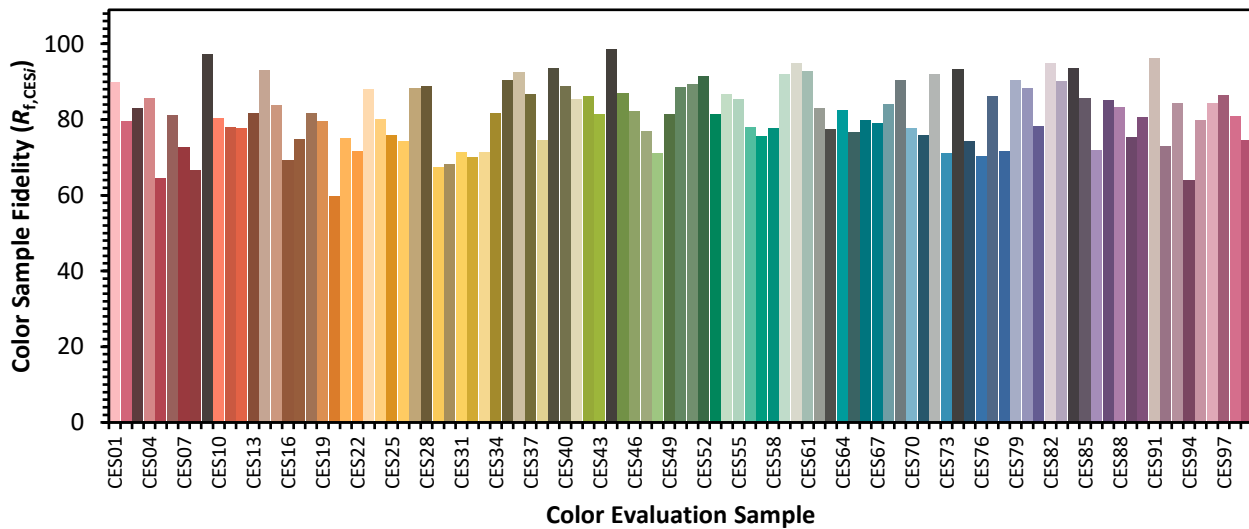
**Color Vector Graphics**



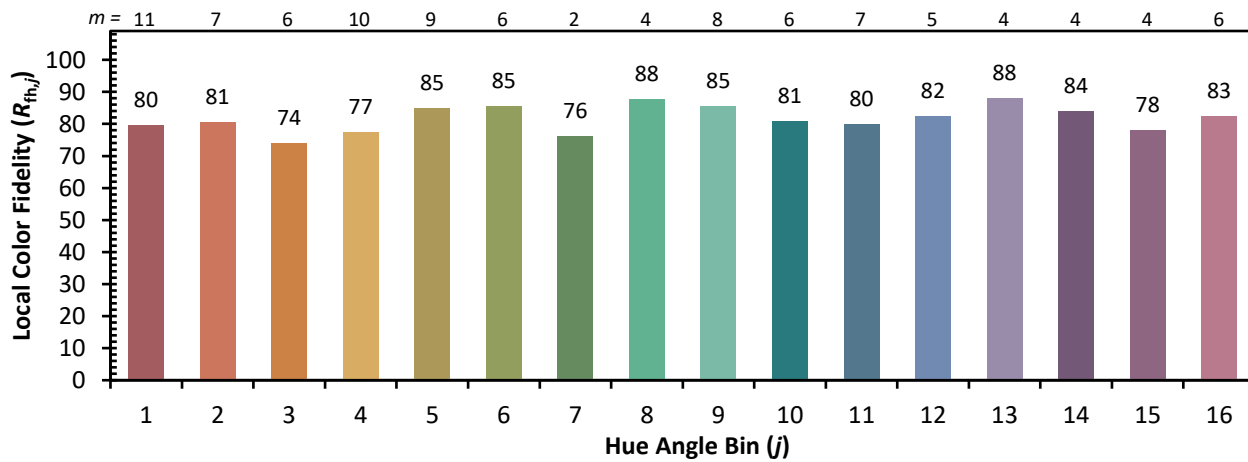
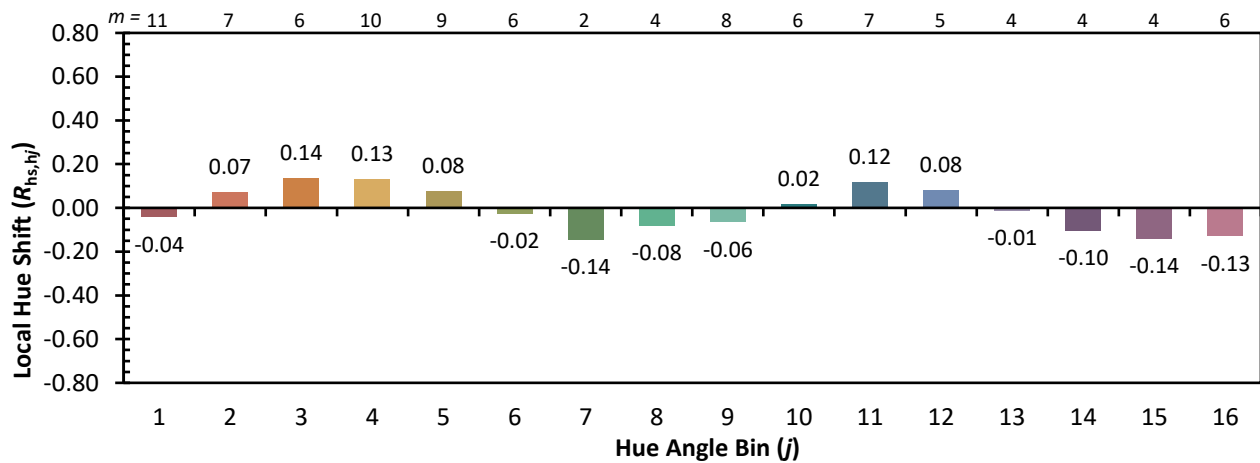
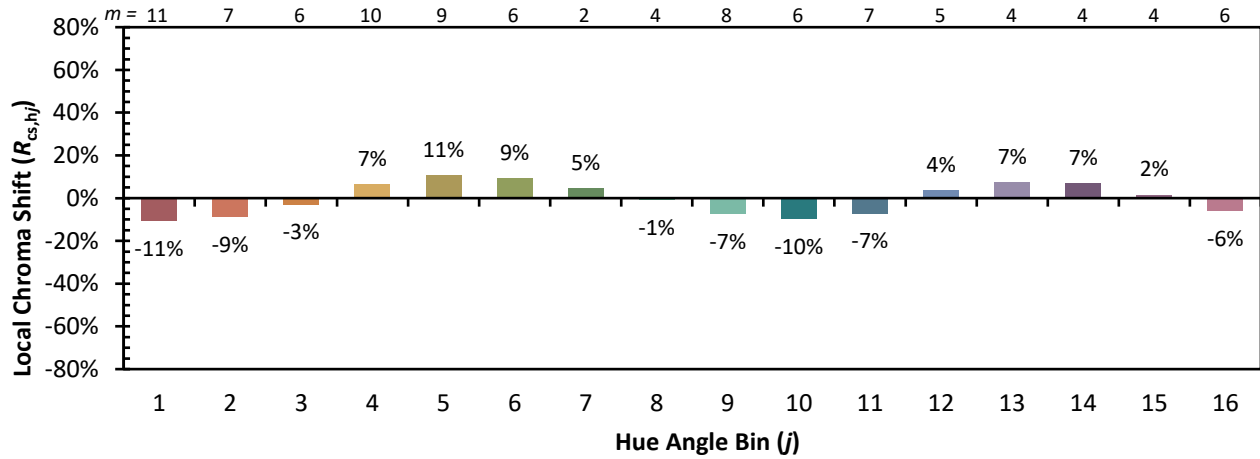


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)