

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: P324305

Luminaire Tested: **GLEON-SA1A-830-U-SLL-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P324305
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-27)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA1A-830-U-SLL-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(1) 80 CRI, 3000K, 615mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT
ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2875 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G1

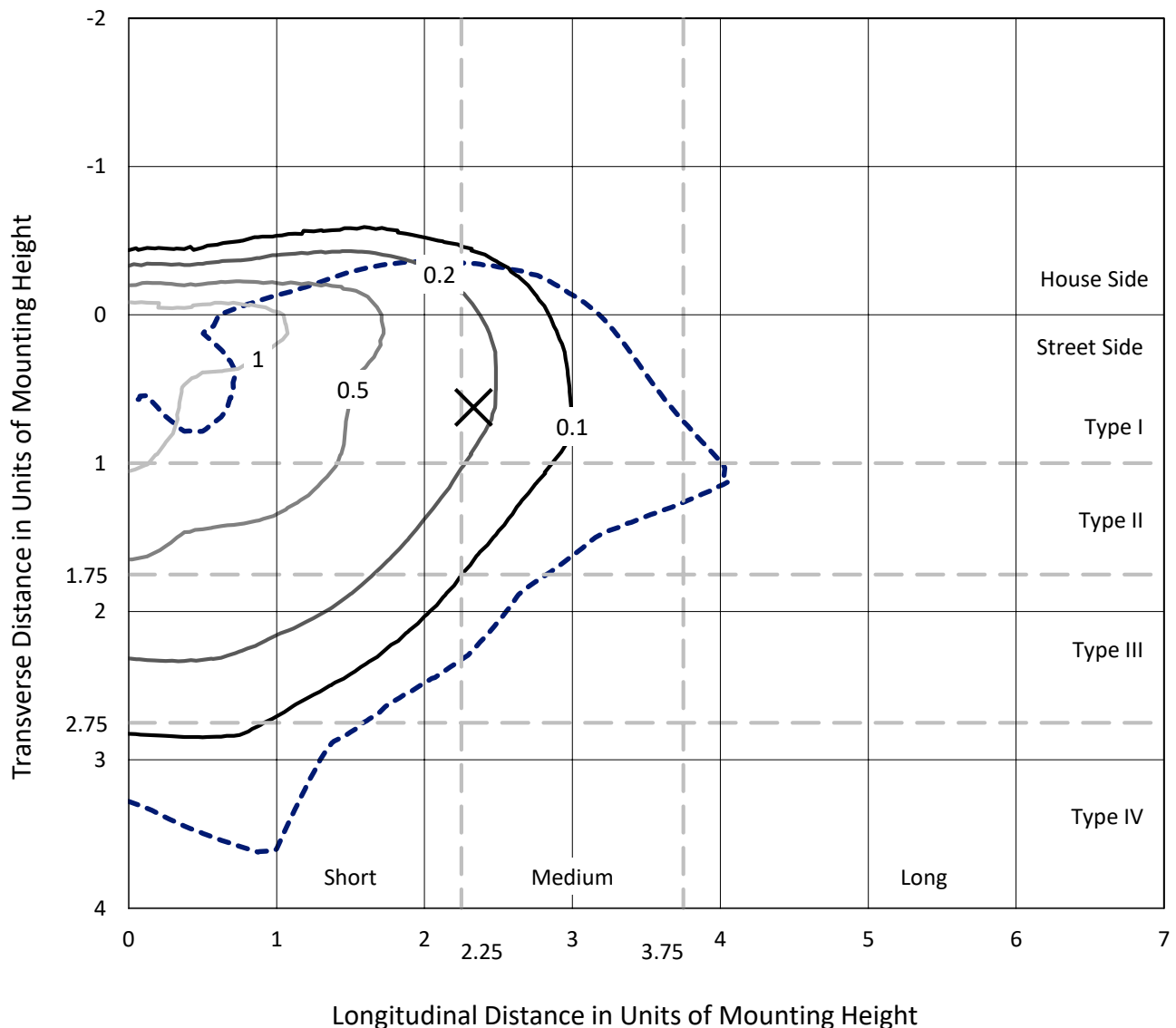
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

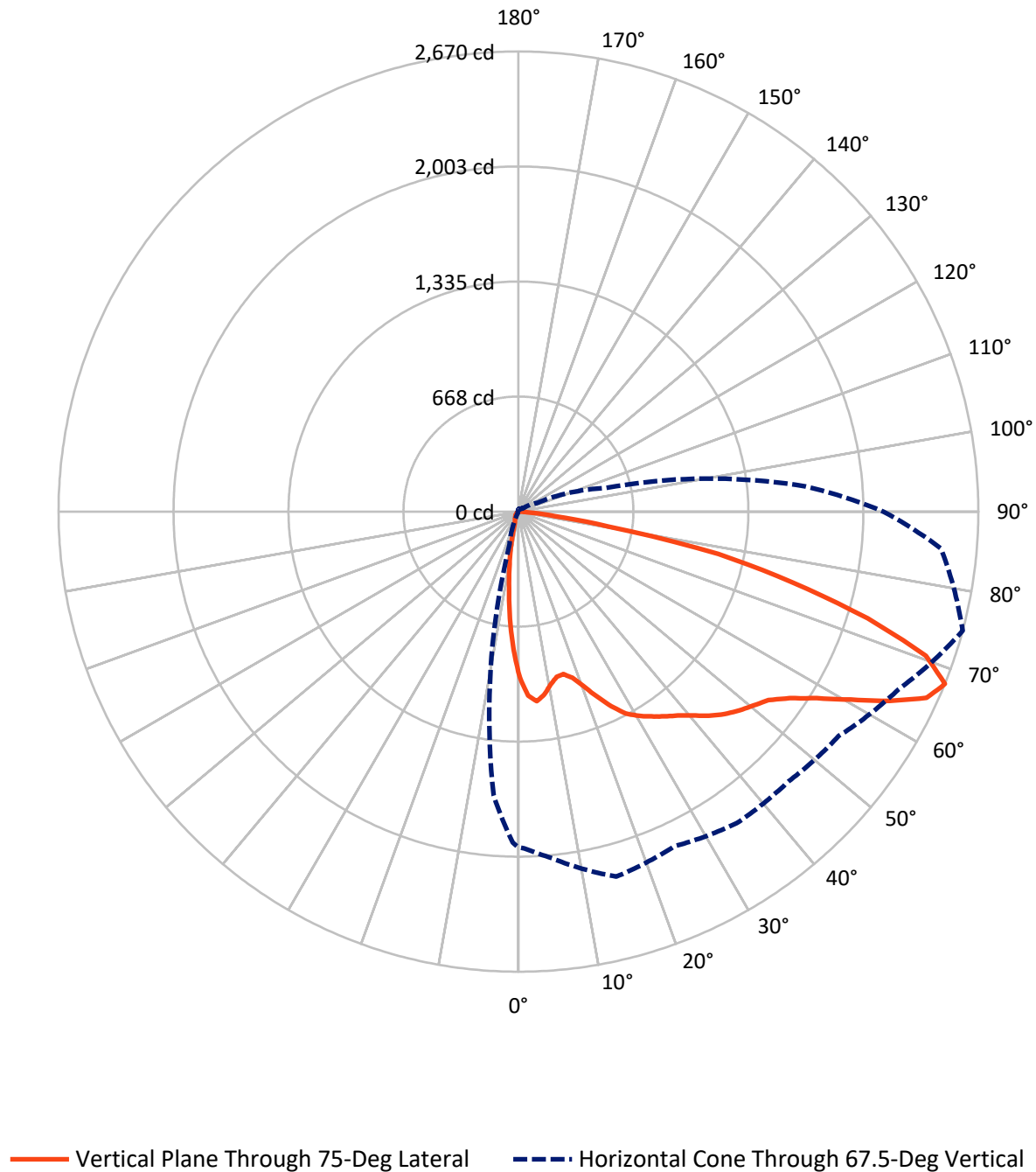
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	431.4	0.0	431.4
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	2443.6	0.0	2443.6
	% Fixture	85.0	0.0	85.0
Total	Lumens	2875.0	0.0	2875.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	2.5
10°-20°	144.1	5.0
20°-30°	203.8	7.1
30°-40°	299.6	10.4
40°-50°	430.7	15.0
50°-60°	606.3	21.1
60°-70°	708.1	24.6
70°-80°	361.3	12.6
80°-90°	48.0	1.7
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°	2875.0	100.0
0°-180°	2875.0	100.0

Coefficient of Utilization



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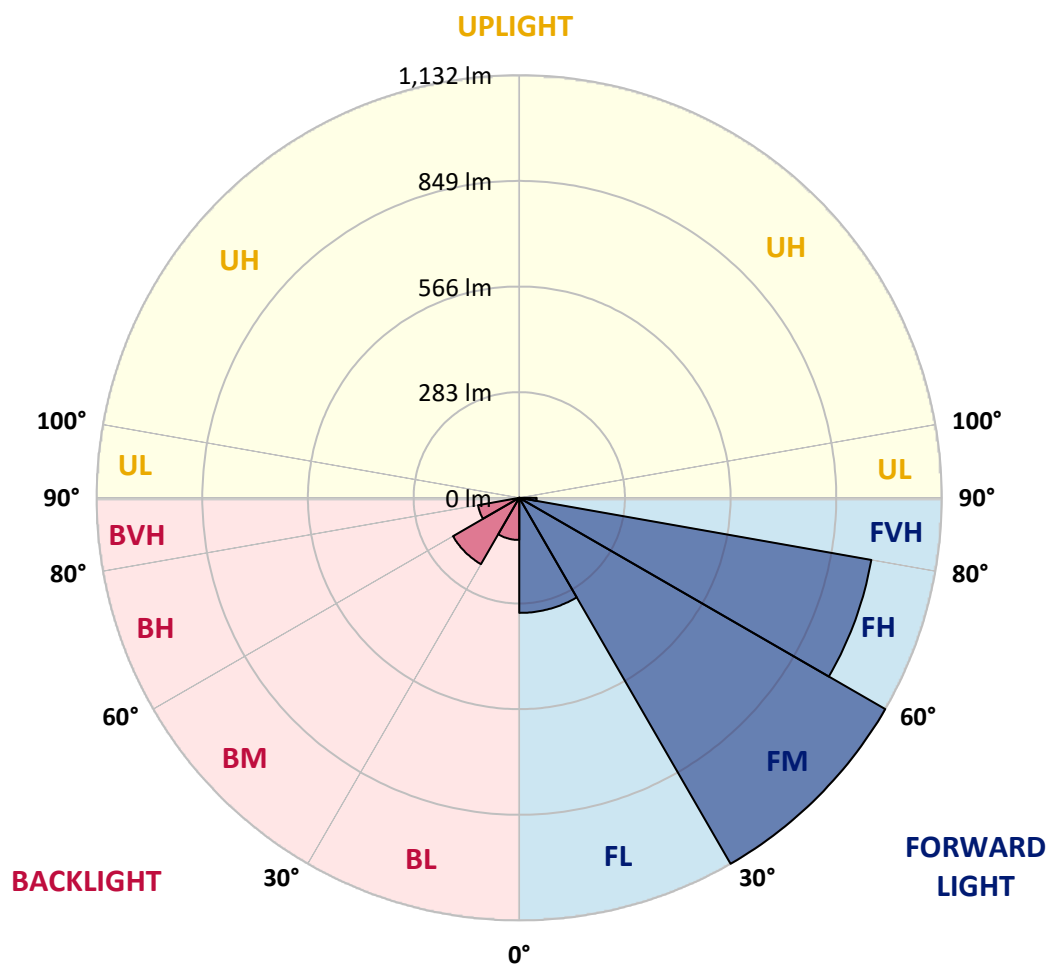
CATALOG NUMBER: GLEON-SA1A-830-U-SLL-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	308.2	10.7			
FM	(30°-60°)	1131.6	39.4			
FH	(60°-80°)	957.3	33.3			G1/1800
FVH	(80°-90°)	46.5	1.6			G1/100
BL	(0°-30°)	112.8	3.9	B1/500		
BM	(30°-60°)	205.1	7.1	B0/220		
BH	(60°-80°)	112.1	3.9	B1/500		G1/500
BVH	(80°-90°)	1.5	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	1045.5	1047.2	1055.6	1075.2	1096.6	1098.3	1112.7	1097.8	1092.8	1068.8	1044.0
5°	1053.4	1059.7	1088.7	1146.3	1196.3	1212.4	1223.8	1194.7	1164.0	1105.5	1043.0
7.5°	989.8	1000.3	1046.0	1154.1	1243.4	1282.9	1290.4	1244.8	1169.8	1073.3	979.4
10°	908.4	920.4	975.4	1108.3	1231.0	1298.7	1309.1	1249.3	1141.4	1021.3	910.6
12.5°	842.5	856.5	912.8	1056.9	1188.4	1263.3	1283.7	1234.2	1116.9	984.4	863.6
15°	812.1	828.2	887.3	1023.6	1141.2	1200.1	1217.0	1195.6	1103.3	978.5	852.7
17.5°	829.5	847.0	908.0	1026.5	1096.8	1122.0	1135.6	1144.3	1103.3	1013.8	884.6
20°	901.0	919.8	984.4	1055.5	1060.0	1050.6	1065.2	1095.8	1116.1	1080.8	961.1
22.5°	999.9	1022.0	1094.8	1105.2	1042.0	1006.5	1008.4	1056.4	1139.4	1165.8	1067.3
25°	1120.5	1147.4	1221.5	1179.3	1049.5	980.2	979.5	1024.0	1162.1	1250.9	1185.7
27.5°	1240.2	1269.9	1335.0	1269.7	1080.4	975.4	974.0	1014.2	1184.3	1326.6	1314.9
30°	1340.5	1369.4	1425.5	1335.2	1113.8	986.6	980.0	1024.7	1197.5	1375.8	1409.2
32.5°	1422.3	1445.4	1490.8	1380.3	1149.5	1008.2	994.1	1052.8	1220.0	1417.4	1495.8
35°	1512.1	1536.5	1554.6	1423.2	1189.5	1039.4	1019.1	1097.3	1254.6	1459.6	1590.7
37.5°	1614.7	1638.9	1636.8	1462.4	1240.3	1091.0	1078.1	1167.8	1308.4	1501.4	1696.7
40°	1715.1	1739.9	1722.2	1505.3	1300.0	1176.2	1166.6	1273.8	1380.4	1554.9	1820.9
42.5°	1809.0	1835.9	1798.0	1545.9	1371.0	1283.5	1299.8	1410.3	1470.6	1620.8	1927.9
45°	1884.8	1912.1	1861.6	1585.4	1446.0	1413.7	1462.8	1561.4	1579.0	1676.5	2000.3
47.5°	1939.8	1965.7	1905.7	1624.9	1541.8	1572.9	1658.5	1720.0	1676.9	1724.9	2051.6
50°	1974.9	1995.1	1918.7	1674.3	1667.7	1758.7	1862.4	1892.4	1769.1	1768.5	2114.0
52.5°	1997.3	2006.4	1928.2	1726.0	1799.0	1960.9	2062.1	2071.5	1864.1	1816.4	2198.0
55°	2074.2	2081.6	1995.8	1788.5	1907.5	2138.1	2242.7	2234.0	1971.5	1910.2	2297.2
57.5°	2205.5	2213.3	2135.4	1878.4	1995.4	2247.6	2373.6	2389.2	2097.5	2042.1	2403.4
60°	2271.4	2285.9	2258.1	1992.2	2080.5	2317.6	2462.8	2512.7	2254.9	2215.8	2506.3
62.5°	2211.6	2232.6	2272.9	2118.5	2165.0	2356.1	2490.5	2557.0	2416.2	2418.4	2569.8
65°	2092.3	2109.1	2177.4	2187.7	2214.1	2351.4	2421.9	2495.2	2514.9	2604.4	2566.4
67.5°	1948.2	1954.5	2012.5	2193.1	2143.0	2208.1	2215.7	2269.9	2436.9	2670.3	2463.3
70°	1740.8	1744.2	1794.9	2010.7	1841.6	1855.9	1844.6	1855.6	2095.0	2509.8	2203.0
72.5°	1401.0	1409.6	1481.6	1669.9	1341.6	1300.4	1389.2	1384.3	1613.5	2120.4	1636.2
75°	1031.5	1046.4	1155.2	1345.0	941.6	851.7	916.6	933.9	1147.0	1640.2	1023.2
77.5°	722.2	733.3	838.7	988.8	681.5	609.1	585.6	606.2	757.1	1186.5	515.5
80°	416.1	420.2	487.4	570.9	459.2	525.4	476.0	490.2	453.7	527.9	221.7
82.5°	272.2	272.9	299.2	339.8	286.0	332.3	246.0	314.5	279.1	212.1	72.2
85°	147.1	147.9	173.5	241.2	161.9	91.5	53.8	110.5	172.6	48.6	19.7
87.5°	16.2	14.8	52.3	87.7	44.9	8.3	2.9	12.4	27.6	3.1	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°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	1031.4	1020.1	991.9	962.1	938.1	915.6	893.0	865.4	844.0	839.6	832.5
5°	1009.3	973.5	914.4	855.0	807.2	746.9	708.6	678.8	649.6	647.9	642.0
7.5°	932.2	885.1	801.9	719.8	652.5	595.0	537.0	498.2	467.7	456.9	450.5
10°	858.1	805.2	701.3	607.6	547.5	496.7	455.8	415.3	378.5	353.1	341.7
12.5°	806.4	747.8	633.3	552.5	509.5	461.3	411.4	360.8	318.4	287.9	269.3
15°	786.4	723.9	610.5	530.7	477.6	416.6	352.9	295.0	248.0	220.4	203.6
17.5°	810.2	737.5	608.8	504.2	430.0	354.1	283.7	215.3	171.1	150.1	139.3
20°	870.7	780.8	608.1	471.6	373.3	280.0	192.2	141.6	114.8	103.1	98.1
22.5°	956.2	836.1	613.5	439.5	314.3	200.1	132.7	104.1	90.3	84.0	81.2
25°	1066.2	913.7	628.9	410.3	258.9	149.3	103.4	87.2	77.5	72.6	70.5
27.5°	1183.5	1003.1	652.9	385.0	213.8	119.0	88.5	74.6	67.7	64.3	62.4
30°	1280.2	1106.6	677.1	356.8	181.1	103.8	81.0	68.1	60.1	57.9	56.1
32.5°	1364.8	1184.9	694.3	331.4	159.8	92.2	73.3	60.9	55.4	51.2	49.3
35°	1452.4	1250.1	693.8	313.5	145.0	83.5	66.7	54.5	47.9	43.0	41.5
37.5°	1547.1	1323.8	681.9	298.3	138.6	76.5	63.1	51.1	44.5	39.6	37.7
40°	1658.1	1401.1	669.8	284.0	136.9	71.0	60.5	48.3	41.4	36.6	34.7
42.5°	1766.3	1470.9	659.2	273.3	129.2	70.8	58.2	46.3	39.0	34.3	32.1
45°	1852.8	1535.8	657.1	266.9	121.2	73.3	56.9	44.9	37.0	32.4	30.4
47.5°	1924.7	1606.4	670.2	262.4	113.6	66.9	59.9	44.0	35.3	30.8	28.5
50°	2010.2	1693.0	701.0	255.1	105.5	60.2	68.6	44.3	33.8	29.1	26.7
52.5°	2129.5	1812.9	746.2	242.7	94.5	54.1	67.6	44.5	32.1	27.4	24.9
55°	2263.2	1962.5	794.8	222.1	79.1	46.0	57.9	42.6	29.0	25.5	23.2
57.5°	2403.8	2098.3	823.7	197.6	62.9	39.8	46.3	38.8	25.6	22.9	21.4
60°	2425.9	2149.9	810.5	167.5	50.0	34.6	34.3	39.5	22.9	20.2	19.1
62.5°	2371.0	2085.1	746.6	140.7	41.8	30.4	28.2	34.5	20.7	18.0	16.9
65°	2265.4	1909.8	643.1	126.8	38.8	26.0	23.4	24.2	18.1	15.7	14.7
67.5°	2118.6	1675.8	528.0	118.9	38.4	22.3	20.0	18.4	15.7	13.6	12.8
70°	1818.4	1396.1	421.2	114.5	37.3	18.8	16.9	15.0	13.1	11.6	10.9
72.5°	1338.4	989.3	327.7	109.8	37.6	15.0	14.7	12.4	10.5	9.0	8.7
75°	773.3	565.2	214.9	88.9	35.8	11.6	12.3	8.7	7.4	6.3	6.3
77.5°	412.1	344.7	81.9	37.0	13.1	7.4	6.9	5.2	4.6	3.8	3.7
80°	179.6	151.7	24.7	10.4	7.2	3.9	2.6	2.3	2.0	1.6	1.5
82.5°	63.6	54.9	8.0	5.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
85°	14.4	10.4	0.0	1.2	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	818.1	815.1	797.4	798.1	801.2	805.7	795.1	800.0	813.2	825.9	830.6
5°	632.6	633.3	622.5	629.2	635.2	639.3	622.1	622.4	632.9	647.2	654.7
7.5°	445.8	444.7	445.2	461.1	472.5	464.3	470.7	448.5	449.8	460.1	452.4
10°	331.4	316.4	307.9	319.9	332.3	327.8	316.8	309.6	314.6	325.9	325.1
12.5°	260.4	238.9	226.2	217.6	227.8	219.4	219.1	212.9	206.1	207.3	225.4
15°	195.8	180.2	165.2	151.4	151.2	148.3	133.7	117.4	116.0	116.9	126.3
17.5°	134.7	129.4	123.3	111.4	108.3	96.3	82.1	75.6	72.3	73.8	76.9
20°	94.7	92.6	93.3	86.9	82.4	71.0	62.6	60.1	59.5	61.0	62.5
22.5°	78.4	74.8	74.4	71.5	67.0	58.7	54.2	52.7	52.0	53.4	54.5
25°	68.6	65.0	63.5	61.7	56.9	51.2	48.5	47.1	46.4	47.3	47.9
27.5°	60.5	57.1	55.7	54.5	49.8	45.8	43.6	42.4	41.8	42.1	42.8
30°	54.3	51.3	49.6	48.1	44.1	41.3	39.4	38.1	37.6	37.6	38.3
32.5°	47.9	46.3	44.7	42.8	39.1	37.2	35.3	33.9	33.4	33.5	34.0
35°	39.9	39.4	39.8	38.0	34.9	33.2	31.3	29.8	29.4	29.6	30.1
37.5°	35.4	33.0	34.5	33.5	31.7	29.6	27.1	25.7	25.1	25.5	25.7
40°	32.5	29.6	28.5	29.4	29.1	25.6	23.4	22.1	21.5	21.7	21.9
42.5°	30.1	26.6	24.1	24.0	25.6	22.3	20.0	18.8	18.1	18.1	18.4
45°	27.8	24.0	21.0	18.7	21.5	18.9	16.8	15.7	14.8	14.8	15.0
47.5°	26.0	21.8	18.2	15.3	16.2	15.5	13.8	12.7	11.8	11.8	12.0
50°	24.4	19.6	15.8	12.8	12.1	12.8	11.2	9.9	9.4	9.3	9.5
52.5°	22.6	17.4	13.5	10.9	9.5	9.7	8.7	7.9	7.2	7.2	7.5
55°	20.8	15.7	11.7	9.3	7.9	7.2	6.9	6.4	5.9	5.9	6.1
57.5°	19.1	13.8	9.9	7.6	6.3	5.7	5.7	5.3	4.9	4.9	5.2
60°	17.4	11.8	8.2	6.3	4.9	4.8	4.9	4.5	4.2	4.2	4.5
62.5°	15.5	10.1	6.7	5.2	3.9	3.8	4.2	3.9	3.7	3.7	3.9
65°	13.2	8.6	5.3	3.9	3.0	3.0	3.5	3.3	3.0	3.0	3.3
67.5°	11.2	7.2	4.1	2.9	2.2	2.3	3.0	2.7	2.6	2.6	2.9
70°	9.3	5.6	2.9	1.8	1.2	1.8	2.3	2.3	2.3	2.3	2.6
72.5°	6.9	3.8	1.6	0.7	0.5	1.2	1.9	2.2	2.0	2.0	2.5
75°	4.5	2.2	0.5	0.0	0.0	0.7	1.5	1.8	1.8	1.6	2.0
77.5°	2.6	0.7	0.0	0.0	0.0	0.0	1.0	0.8	0.7	0.5	1.0
80°	0.7	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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	849.8	865.9	888.5	912.5	949.4	978.7	1007.4	1032.1	1041.6	1045.5
5°	672.7	696.2	729.3	771.8	838.4	898.3	959.1	1020.2	1046.8	1053.4
7.5°	482.7	512.8	554.8	608.1	686.1	763.8	848.6	938.4	979.5	989.8
10°	357.2	394.0	442.2	498.3	572.8	652.6	745.1	847.7	894.6	908.4
12.5°	253.5	303.2	367.7	436.0	500.5	571.7	665.3	778.3	827.6	842.5
15°	148.9	196.9	273.3	364.7	447.4	519.6	614.6	742.8	797.1	812.1
17.5°	85.4	109.4	167.1	269.0	381.2	481.2	598.7	751.6	815.7	829.5
20°	65.2	72.9	96.3	173.2	303.8	443.4	598.7	801.8	880.6	901.0
22.5°	57.1	62.6	72.2	103.4	223.6	403.0	605.6	874.2	977.3	999.9
25°	50.7	55.7	63.9	77.8	152.5	354.9	622.1	963.2	1091.2	1120.5
27.5°	45.4	50.1	57.5	68.1	104.3	296.9	644.3	1067.5	1216.7	1240.2
30°	40.6	45.1	51.8	59.2	80.5	231.1	663.3	1165.8	1315.3	1340.5
32.5°	36.1	40.2	46.2	51.8	65.9	170.9	665.3	1243.7	1397.2	1422.3
35°	31.9	35.5	41.0	45.4	54.6	135.0	633.6	1311.3	1479.0	1512.1
37.5°	27.8	31.3	36.1	39.4	48.1	110.0	585.1	1386.6	1584.1	1614.7
40°	24.0	27.1	32.0	34.2	45.5	84.6	532.4	1465.6	1687.0	1715.1
42.5°	20.4	23.4	28.2	32.4	39.9	63.2	475.4	1539.7	1779.6	1809.0
45°	17.0	20.2	24.9	34.3	33.1	47.3	414.6	1588.8	1852.8	1884.8
47.5°	13.8	17.3	23.8	32.7	26.4	34.7	366.4	1635.4	1908.2	1939.8
50°	11.0	14.6	26.8	29.1	21.7	26.6	346.2	1677.1	1944.6	1974.9
52.5°	9.0	12.3	25.3	22.3	18.1	21.9	357.1	1744.6	1978.2	1997.3
55°	7.5	9.7	15.3	15.5	15.4	18.7	370.6	1841.6	2065.2	2074.2
57.5°	6.5	7.8	10.6	12.0	12.9	16.6	370.9	1980.8	2199.9	2205.5
60°	5.6	6.8	8.9	9.7	11.2	14.8	357.4	2029.4	2252.9	2271.4
62.5°	4.9	6.0	7.4	8.0	9.4	13.3	325.8	1959.0	2180.2	2211.6
65°	4.4	5.4	6.1	6.8	8.3	12.0	273.7	1818.2	2059.5	2092.3
67.5°	3.8	4.8	5.4	6.1	7.5	10.6	201.6	1654.6	1921.0	1948.2
70°	3.4	4.2	4.9	5.4	6.5	9.0	122.3	1404.0	1729.5	1740.8
72.5°	3.3	3.8	4.5	4.9	5.7	7.9	62.0	1031.8	1382.6	1401.0
75°	2.9	3.4	4.1	4.4	5.0	6.8	25.2	677.7	1002.0	1031.5
77.5°	2.3	3.1	3.7	3.9	4.4	5.6	12.8	433.1	703.2	722.2
80°	0.8	2.3	3.1	3.3	3.7	4.1	8.4	237.1	407.9	416.1
82.5°	0.0	1.5	2.5	2.3	2.6	3.1	5.4	112.8	269.3	272.2
85°	0.0	0.7	1.9	1.5	1.1	2.2	1.9	24.7	141.2	147.1
87.5°	0.0	0.0	0.1	0.7	0.5	0.8	0.3	0.1	12.8	16.2
90°	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
 Rf: 81.5
 Rg: 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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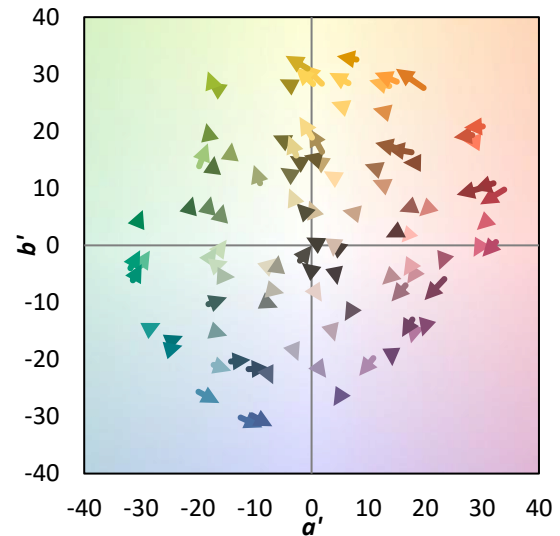
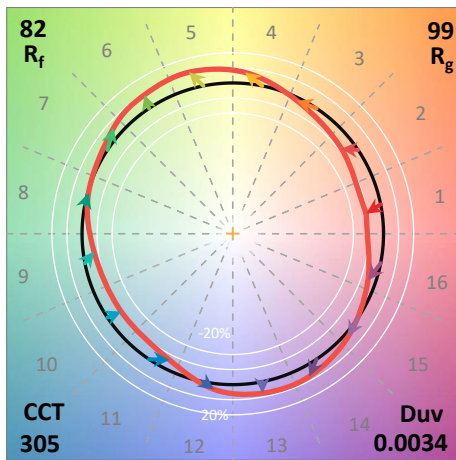
TM-30-18

Summary

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



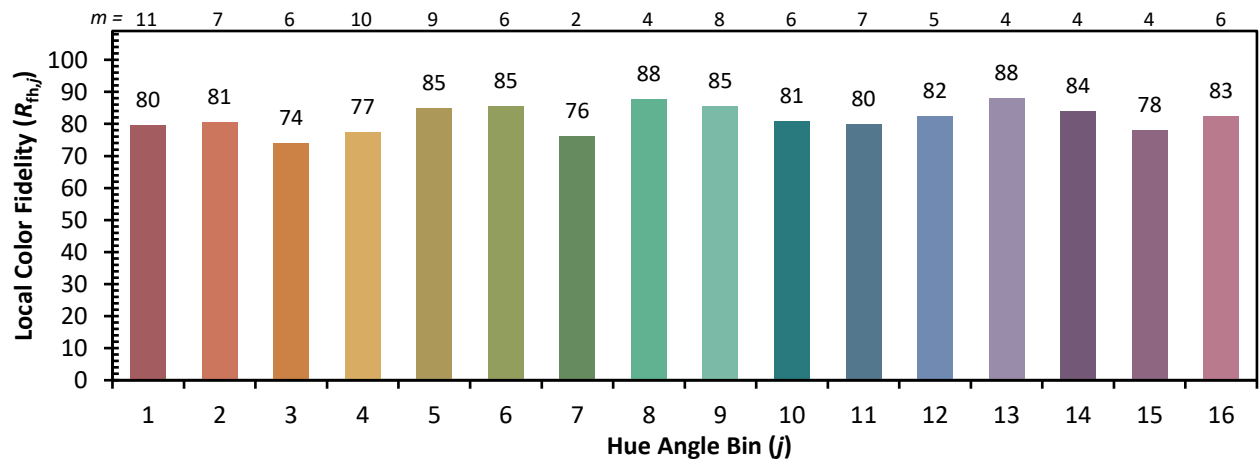
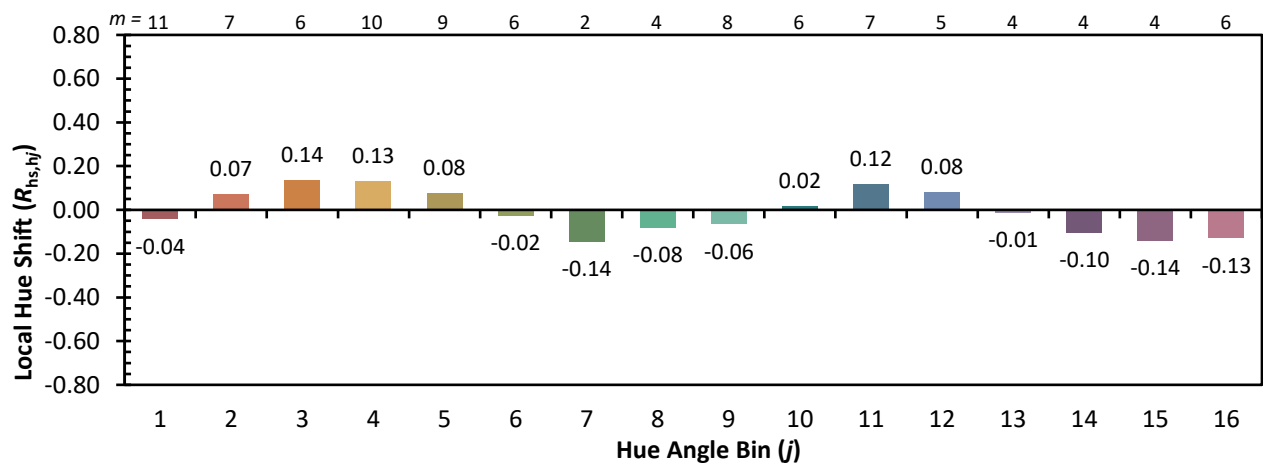
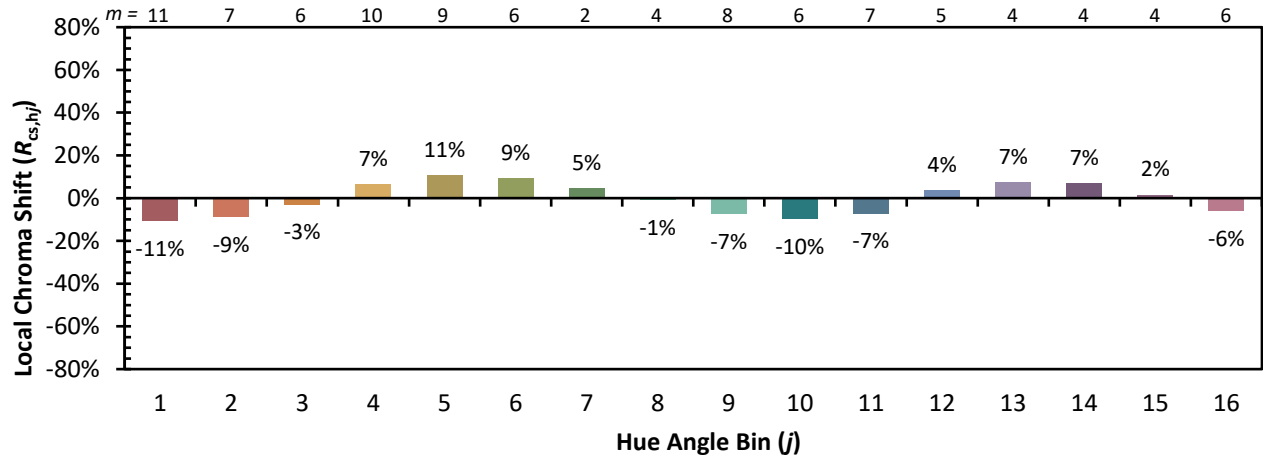
Color Vector Graphics



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)