

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: P438967

Luminaire Tested: **ISW-SA1F-830-U-SLR**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438967
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-22)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISW-SA1F-830-U-SLR
Description: IMPACT ELITE LED WEDGE LUMINAIRE
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5522 lumens
Efficiency: N/A
Efficacy: 83.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

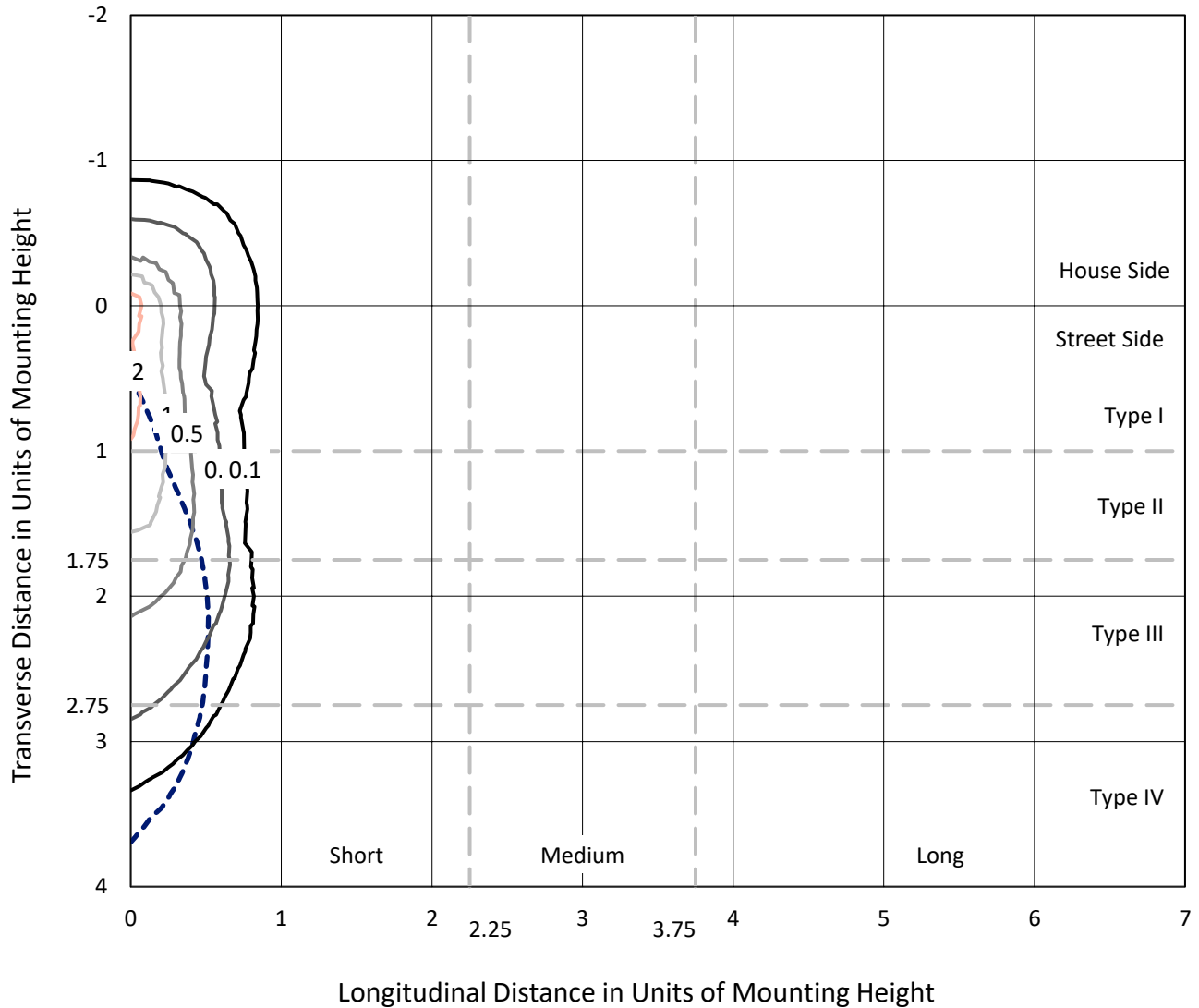
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

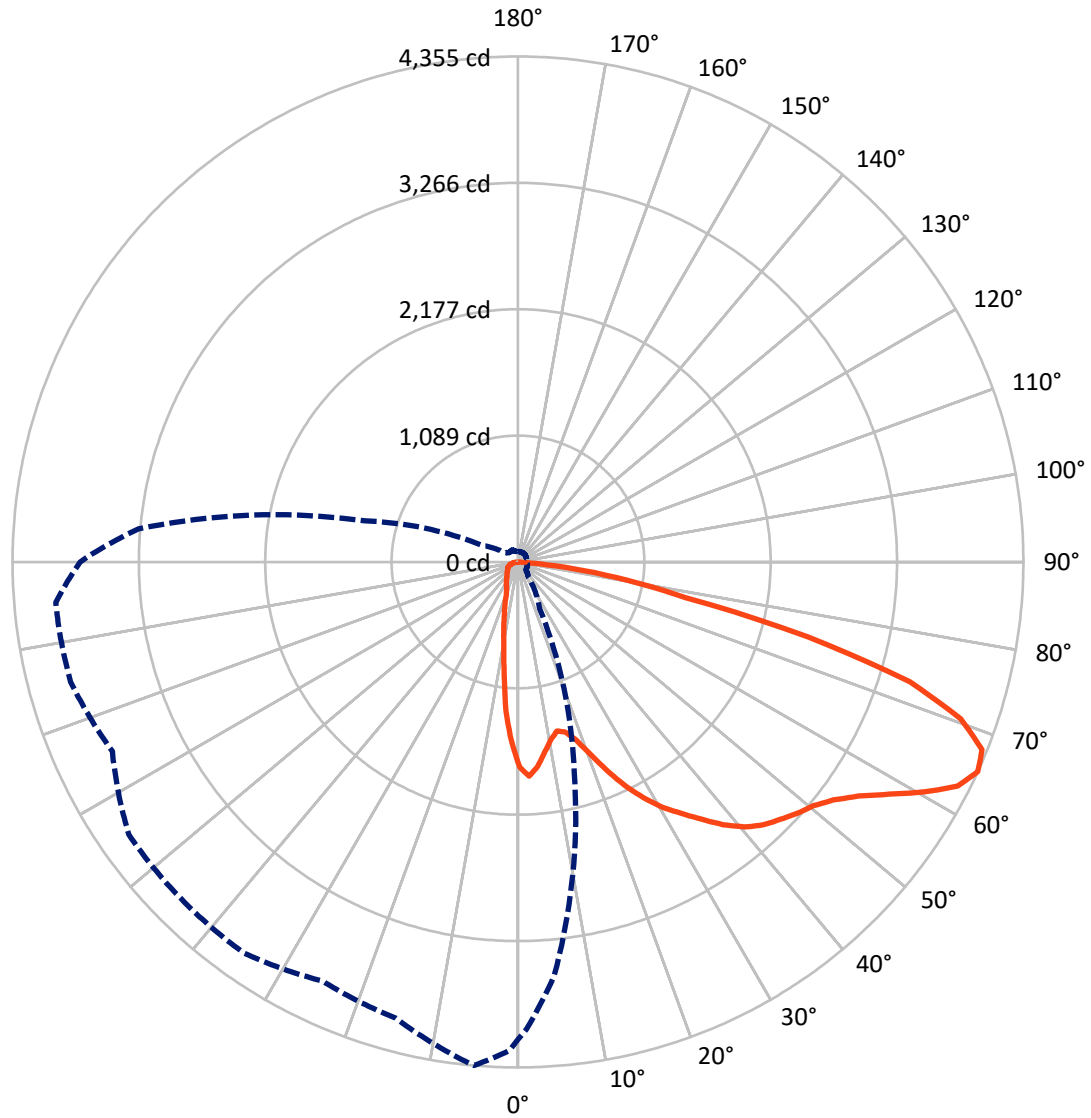
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	995.5	0.0	995.5
	% Fixture	18.0	0.0	18.0
Street Side	Lumens	4526.5	0.0	4526.5
	% Fixture	82.0	0.0	82.0
Total	Lumens	5522.0	0.0	5522.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.4	2.4
10°-20°	275.4	5.0
20°-30°	392.6	7.1
30°-40°	561.1	10.2
40°-50°	783.6	14.2
50°-60°	1089.9	19.7
60°-70°	1327.7	24.0
70°-80°	817.7	14.8
80°-90°	140.5	2.5
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°	5522.0	100.0
0°-180°	5522.0	100.0

Coefficient of Utilization

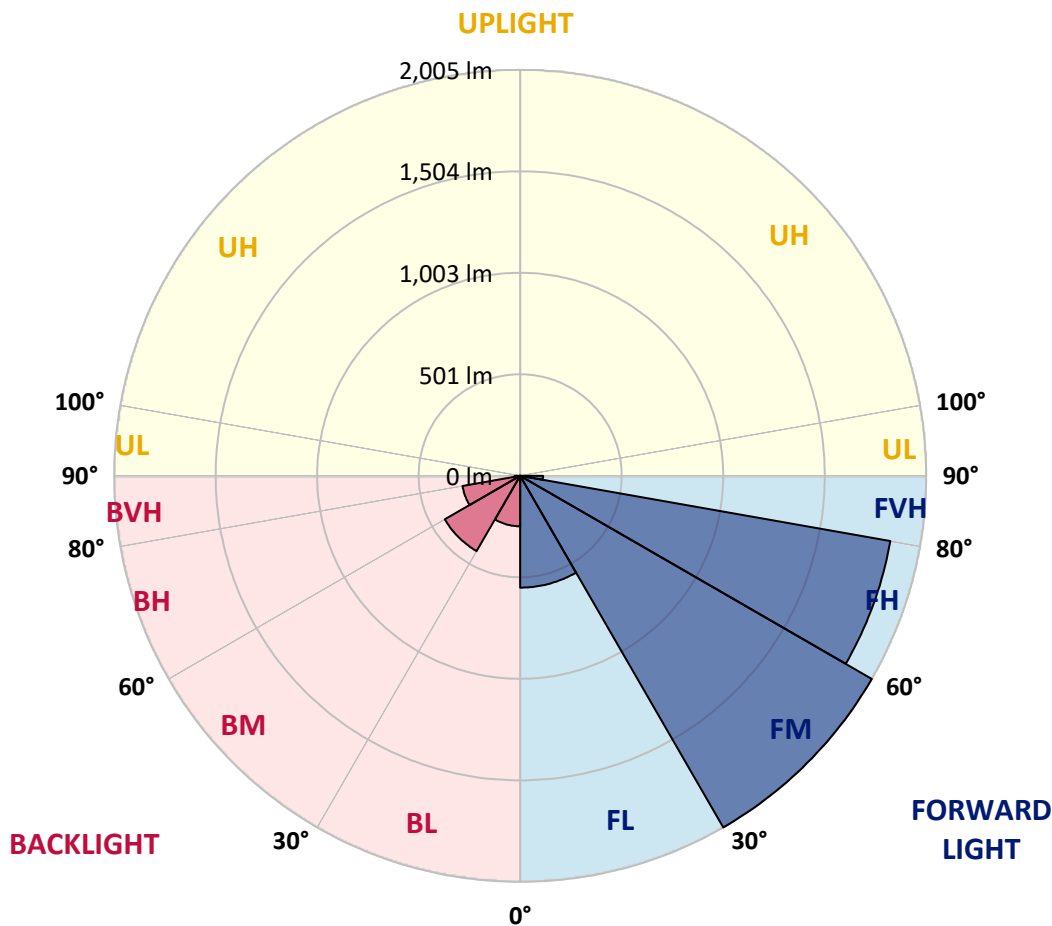


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	552.1	10.0			
FM (30°-60°)	2005.2	36.3			
FH (60°-80°)	1856.4	33.6			G2/5000
FVH (80°-90°)	112.9	2.0			G2/225
BL (0°-30°)	249.3	4.5	B1/500		
BM (30°-60°)	429.5	7.8	B1/1000		
BH (60°-80°)	289.1	5.2	B1/500		G1/500
BVH (80°-90°)	27.6	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8
2.5°	1811.6	1811.6	1789.2	1733.3	1681.9	1628.2	1610.3	1561.1	1529.8	1500.7	1511.9
5°	1706.5	1699.7	1659.5	1543.2	1453.7	1366.5	1312.8	1232.3	1223.4	1151.8	1147.3
7.5°	1565.6	1561.1	1500.7	1368.7	1265.9	1129.4	1048.9	979.6	919.2	876.7	863.3
10°	1469.4	1453.7	1379.9	1218.9	1069.0	970.6	925.9	865.5	814.1	760.4	715.7
12.5°	1406.8	1388.9	1315.1	1138.4	993.0	925.9	863.3	791.7	722.4	659.8	615.0
15°	1417.9	1388.9	1306.1	1118.3	966.2	870.0	782.8	697.8	617.3	547.9	492.0
17.5°	1498.5	1462.7	1371.0	1131.7	923.7	796.2	677.7	579.3	480.8	409.3	364.6
20°	1639.4	1587.9	1471.6	1169.7	892.4	726.9	570.3	440.6	337.7	288.5	275.1
22.5°	1811.6	1766.8	1608.0	1201.0	858.8	648.6	451.8	317.6	266.1	241.5	234.8
25°	1990.5	1941.3	1764.6	1252.4	832.0	577.0	355.6	252.7	228.1	216.9	212.5
27.5°	2173.9	2124.7	1918.9	1335.2	800.7	501.0	286.3	221.4	203.5	194.6	194.6
30°	2303.6	2263.3	2057.6	1409.0	764.9	440.6	252.7	205.8	190.1	181.2	178.9
32.5°	2449.0	2393.1	2187.3	1458.2	738.0	393.6	230.4	192.3	178.9	167.7	167.7
35°	2612.2	2549.6	2308.1	1507.4	711.2	371.3	214.7	183.4	170.0	158.8	156.6
37.5°	2791.2	2710.6	2431.1	1549.9	682.1	360.1	205.8	174.4	161.0	152.1	147.6
40°	2988.0	2903.0	2594.3	1585.7	662.0	346.7	199.0	167.7	154.3	143.1	140.9
42.5°	3153.5	3077.4	2708.4	1608.0	653.1	328.8	196.8	161.0	149.8	136.4	132.0
45°	3238.5	3173.6	2847.1	1614.8	648.6	317.6	185.6	161.0	145.4	132.0	125.2
47.5°	3312.3	3265.3	2947.7	1648.3	637.4	306.4	172.2	170.0	143.1	125.2	118.5
50°	3437.5	3388.3	3104.3	1710.9	624.0	293.0	158.8	163.3	143.1	120.8	114.1
52.5°	3587.4	3573.9	3310.0	1809.3	603.9	275.1	145.4	154.3	143.1	118.5	109.6
55°	3806.5	3786.4	3582.9	1936.8	579.3	250.5	132.0	140.9	140.9	111.8	102.9
57.5°	3992.2	3994.4	3833.4	2026.3	556.9	210.2	123.0	120.8	134.2	105.1	96.2
60°	4077.1	4077.1	3913.9	2059.8	527.8	176.7	116.3	107.4	138.7	98.4	89.5
62.5°	4130.8	4086.1	3802.1	2028.5	494.3	158.8	105.1	98.4	111.8	91.7	82.8
65°	4115.2	4030.2	3578.4	1869.7	445.1	154.3	98.4	89.5	89.5	85.0	78.3
67.5°	3974.3	3842.3	3249.6	1601.3	393.6	152.1	89.5	82.8	80.5	76.0	71.6
70°	3591.8	3497.9	2858.3	1306.1	360.1	152.1	82.8	73.8	71.6	67.1	64.9
72.5°	2936.5	2797.9	2281.2	979.6	333.2	152.1	76.0	64.9	62.6	60.4	58.1
75°	2006.1	1847.4	1603.6	601.6	261.7	132.0	67.1	53.7	53.7	51.4	49.2
77.5°	1107.1	1071.3	903.5	317.6	163.3	80.5	51.4	42.5	44.7	42.5	40.3
80°	641.9	603.9	536.8	154.3	93.9	47.0	31.3	31.3	33.5	33.5	31.3
82.5°	310.9	270.6	277.3	62.6	33.5	20.1	13.4	15.7	17.9	22.4	22.4
85°	11.2	11.2	22.4	4.5	0.0	0.0	0.0	0.0	0.0	4.5	6.7
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°	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8
2.5°	1476.1	1476.1	1485.0	1523.1	1491.7	1487.3	1496.2	1511.9	1518.6	1549.9	1547.7
5°	1138.4	1131.7	1158.5	1194.3	1214.4	1225.6	1243.5	1283.8	1268.1	1292.7	1288.2
7.5°	840.9	852.1	840.9	881.2	912.5	959.5	995.2	986.3	988.5	968.4	997.5
10°	686.6	682.1	655.3	668.7	686.6	715.7	740.3	744.8	767.1	731.3	755.9
12.5°	586.0	568.1	541.2	527.8	523.3	545.7	552.4	563.6	577.0	588.2	592.7
15°	469.7	456.2	438.4	418.2	413.8	413.8	429.4	445.1	463.0	467.4	483.1
17.5°	351.1	344.4	337.7	337.7	337.7	337.7	351.1	357.8	366.8	380.2	378.0
20°	266.1	266.1	268.4	279.6	286.3	290.7	299.7	301.9	299.7	301.9	301.9
22.5°	234.8	232.6	239.3	243.8	255.0	266.1	270.6	268.4	261.7	257.2	261.7
25°	212.5	214.7	216.9	223.7	232.6	243.8	246.0	243.8	237.1	237.1	237.1
27.5°	194.6	196.8	201.3	208.0	216.9	225.9	228.1	223.7	216.9	219.2	216.9
30°	181.2	185.6	187.9	194.6	201.3	210.2	210.2	205.8	201.3	201.3	201.3
32.5°	165.5	170.0	174.4	181.2	190.1	194.6	194.6	192.3	187.9	185.6	185.6
35°	156.6	156.6	161.0	170.0	174.4	178.9	181.2	178.9	174.4	170.0	167.7
37.5°	147.6	147.6	149.8	154.3	163.3	167.7	170.0	165.5	161.0	156.6	156.6
40°	138.7	138.7	140.9	143.1	152.1	158.8	158.8	152.1	147.6	149.8	147.6
42.5°	132.0	132.0	134.2	134.2	138.7	149.8	147.6	143.1	140.9	140.9	138.7
45°	125.2	123.0	125.2	125.2	127.5	138.7	138.7	132.0	132.0	134.2	132.0
47.5°	118.5	116.3	118.5	118.5	120.8	127.5	127.5	125.2	125.2	125.2	127.5
50°	111.8	111.8	111.8	111.8	114.1	116.3	120.8	118.5	118.5	118.5	120.8
52.5°	105.1	105.1	105.1	107.4	107.4	111.8	114.1	111.8	114.1	114.1	114.1
55°	100.6	98.4	98.4	102.9	102.9	107.4	109.6	107.4	109.6	109.6	109.6
57.5°	93.9	93.9	93.9	96.2	98.4	102.9	107.4	102.9	105.1	105.1	107.4
60°	87.2	87.2	87.2	91.7	93.9	98.4	100.6	98.4	100.6	100.6	100.6
62.5°	80.5	82.8	82.8	85.0	87.2	93.9	96.2	93.9	96.2	96.2	96.2
65°	76.0	76.0	78.3	80.5	82.8	87.2	89.5	89.5	89.5	91.7	89.5
67.5°	69.3	69.3	71.6	73.8	76.0	82.8	82.8	82.8	85.0	82.8	82.8
70°	62.6	62.6	64.9	67.1	69.3	76.0	76.0	76.0	78.3	73.8	73.8
72.5°	55.9	55.9	58.1	60.4	64.9	71.6	69.3	69.3	69.3	67.1	67.1
75°	49.2	49.2	51.4	53.7	55.9	64.9	62.6	60.4	60.4	58.1	58.1
77.5°	40.3	40.3	42.5	47.0	49.2	55.9	53.7	51.4	49.2	49.2	49.2
80°	31.3	33.5	35.8	38.0	40.3	44.7	42.5	40.3	38.0	38.0	38.0
82.5°	22.4	24.6	26.8	29.1	31.3	31.3	31.3	31.3	29.1	26.8	26.8
85°	8.9	13.4	17.9	17.9	20.1	17.9	20.1	17.9	15.7	15.7	13.4
87.5°	0.0	0.0	0.0	0.0	0.0	2.2	4.5	6.7	6.7	6.7	6.7
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°	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8
2.5°	1565.6	1601.3	1621.5	1657.2	1695.3	1746.7	1789.2	1849.6	1903.3	1914.4	1927.9
5°	1297.2	1344.1	1366.5	1424.7	1514.1	1570.0	1659.5	1753.4	1869.7	1905.5	1952.5
7.5°	975.1	1010.9	1069.0	1120.5	1225.6	1319.5	1440.3	1576.7	1713.2	1791.4	1867.5
10°	742.5	787.2	849.9	910.3	1013.1	1107.1	1250.2	1402.3	1576.7	1648.3	1728.8
12.5°	617.3	653.1	715.7	798.4	894.6	984.1	1091.4	1256.9	1440.3	1532.0	1630.4
15°	498.7	536.8	615.0	706.7	800.7	901.3	1004.2	1163.0	1386.6	1480.6	1574.5
17.5°	398.1	431.6	498.7	597.1	700.0	811.9	937.1	1138.4	1397.8	1514.1	1623.7
20°	308.6	337.7	389.2	478.6	583.7	715.7	876.7	1129.4	1464.9	1628.2	1737.8
22.5°	266.1	277.3	306.4	369.0	476.4	630.7	820.8	1136.1	1572.3	1782.5	1907.7
25°	237.1	246.0	257.2	295.2	380.2	543.5	771.6	1149.6	1686.3	1956.9	2100.1
27.5°	219.2	223.7	230.4	248.3	310.9	471.9	722.4	1167.5	1840.6	2133.6	2272.3
30°	201.3	201.3	208.0	225.9	272.9	420.5	686.6	1203.2	1992.7	2285.7	2422.1
32.5°	183.4	183.4	194.6	210.2	248.3	378.0	650.8	1214.4	2106.8	2419.9	2529.5
35°	167.7	172.2	181.2	199.0	232.6	346.7	617.3	1194.3	2189.5	2534.0	2645.8
37.5°	158.8	161.0	172.2	187.9	212.5	317.6	583.7	1167.5	2301.4	2686.0	2773.3
40°	147.6	152.1	163.3	178.9	199.0	295.2	545.7	1138.4	2399.8	2856.0	2900.7
42.5°	140.9	145.4	154.3	170.0	190.1	268.4	509.9	1116.0	2504.9	3001.4	3032.7
45°	134.2	138.7	149.8	163.3	190.1	248.3	474.1	1100.4	2607.8	3113.2	3137.8
47.5°	127.5	132.0	143.1	161.0	187.9	237.1	449.5	1084.7	2672.6	3209.4	3216.1
50°	123.0	127.5	140.9	165.5	181.2	232.6	438.4	1100.4	2782.2	3285.4	3265.3
52.5°	116.3	123.0	138.7	172.2	172.2	228.1	429.4	1156.3	2918.6	3397.3	3345.8
55°	114.1	118.5	134.2	165.5	156.6	216.9	429.4	1198.8	3099.8	3618.7	3533.7
57.5°	107.4	111.8	129.7	154.3	143.1	199.0	424.9	1268.1	3357.0	3862.4	3786.4
60°	100.6	107.4	125.2	138.7	129.7	176.7	404.8	1344.1	3533.7	3994.4	4007.8
62.5°	96.2	102.9	125.2	120.8	118.5	154.3	373.5	1391.1	3515.8	3951.9	4079.4
65°	89.5	96.2	114.1	109.6	111.8	138.7	333.2	1368.7	3281.0	3773.0	3996.6
67.5°	82.8	89.5	98.4	98.4	102.9	134.2	290.7	1239.0	3026.0	3556.0	3813.2
70°	76.0	80.5	85.0	89.5	93.9	132.0	257.2	1062.3	2733.0	3348.0	3551.6
72.5°	67.1	69.3	73.8	78.3	87.2	125.2	243.8	863.3	2328.2	2898.5	3213.9
75°	58.1	60.4	64.9	69.3	76.0	118.5	223.7	655.3	1918.9	2290.2	2596.6
77.5°	49.2	51.4	55.9	58.1	64.9	105.1	192.3	474.1	1494.0	1650.5	1898.8
80°	38.0	40.3	44.7	44.7	53.7	78.3	149.8	331.0	1048.9	1169.7	1299.4
82.5°	26.8	29.1	31.3	33.5	40.3	53.7	98.4	199.0	711.2	802.9	780.5
85°	15.7	17.9	17.9	22.4	24.6	35.8	55.9	102.9	465.2	366.8	362.3
87.5°	6.7	6.7	6.7	8.9	8.9	13.4	17.9	20.1	44.7	15.7	11.2
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°	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8	1766.8
2.5°	1948.0	1963.7	1974.8	1970.4	1963.7	1925.6	1887.6	1847.4	1811.6	1811.6
5°	2028.5	2093.4	2120.2	2097.8	2048.6	1970.4	1872.0	1769.1	1719.9	1706.5
7.5°	1986.0	2109.0	2173.9	2144.8	2079.9	1936.8	1787.0	1652.8	1579.0	1565.6
10°	1901.0	2062.1	2135.9	2126.9	2055.3	1889.8	1708.7	1556.6	1478.3	1469.4
12.5°	1802.6	1959.2	2053.1	2057.6	2010.6	1865.2	1675.1	1494.0	1424.7	1406.8
15°	1742.2	1878.7	1943.5	1927.9	1941.3	1845.1	1688.6	1518.6	1433.6	1417.9
17.5°	1744.5	1802.6	1818.3	1793.7	1845.1	1840.6	1764.6	1608.0	1514.1	1498.5
20°	1802.6	1753.4	1704.2	1699.7	1766.8	1856.3	1885.4	1757.9	1650.5	1639.4
22.5°	1903.3	1740.0	1637.1	1621.5	1706.5	1872.0	2001.7	1941.3	1840.6	1811.6
25°	2015.1	1753.4	1594.6	1574.5	1650.5	1883.1	2126.9	2129.2	2017.3	1990.5
27.5°	2135.9	1795.9	1594.6	1572.3	1652.8	1901.0	2209.7	2299.1	2196.2	2173.9
30°	2243.2	1856.3	1610.3	1585.7	1679.6	1918.9	2265.6	2451.2	2334.9	2303.6
32.5°	2308.1	1907.7	1648.3	1603.6	1726.6	1954.7	2317.0	2580.9	2491.5	2449.0
35°	2359.5	1968.1	1710.9	1652.8	1795.9	2012.9	2359.5	2721.8	2636.8	2612.2
37.5°	2397.5	2039.7	1775.8	1719.9	1887.6	2091.1	2419.9	2871.7	2844.8	2791.2
40°	2460.2	2084.4	1892.1	1872.0	2046.4	2214.1	2491.5	3001.4	3019.3	2988.0
42.5°	2516.1	2171.6	2057.6	2079.9	2249.9	2350.6	2587.6	3097.6	3193.7	3153.5
45°	2560.8	2292.4	2265.6	2339.4	2484.8	2525.0	2641.3	3164.7	3265.3	3238.5
47.5°	2623.4	2451.2	2542.9	2639.1	2759.8	2706.2	2697.2	3236.2	3339.1	3312.3
50°	2712.9	2636.8	2820.2	2945.5	3023.8	2853.8	2766.6	3301.1	3453.2	3437.5
52.5°	2804.6	2851.5	3102.0	3218.3	3269.8	3037.2	2865.0	3404.0	3587.4	3587.4
55°	2974.6	3061.8	3401.7	3475.5	3544.9	3202.7	2996.9	3558.3	3795.3	3806.5
57.5°	3222.8	3287.7	3629.8	3714.8	3732.7	3388.3	3204.9	3773.0	3972.0	3992.2
60°	3480.0	3511.3	3855.7	3931.8	3871.4	3627.6	3448.7	4023.5	4088.3	4077.1
62.5°	3764.0	3728.3	4012.3	4066.0	4050.3	3837.8	3755.1	4251.6	4173.3	4130.8
65°	3989.9	3855.7	4092.8	4104.0	4112.9	3983.2	4068.2	4354.5	4209.1	4115.2
67.5°	4126.4	3875.9	3929.5	3878.1	3913.9	3945.2	4280.7	4312.0	4057.0	3974.3
70°	4095.0	3591.8	3350.3	3292.1	3294.4	3513.5	4144.2	4045.8	3710.4	3591.8
72.5°	3806.5	3019.3	2668.1	2589.9	2605.5	2625.7	3484.5	3531.4	2999.2	2936.5
75°	3204.9	2326.0	1921.2	1903.3	1880.9	1968.1	2786.7	2580.9	1990.5	2006.1
77.5°	2614.5	1713.2	1411.2	1319.5	1306.1	1319.5	1901.0	1473.9	1156.3	1107.1
80°	1885.4	1140.6	1053.4	1033.3	970.6	780.5	995.2	948.3	653.1	641.9
82.5°	1241.3	787.2	805.1	671.0	630.7	494.3	603.9	483.1	326.5	310.9
85°	644.1	409.3	337.7	147.6	165.5	138.7	132.0	107.4	11.2	11.2
87.5°	22.4	8.9	6.7	6.7	4.5	2.2	2.2	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

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

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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



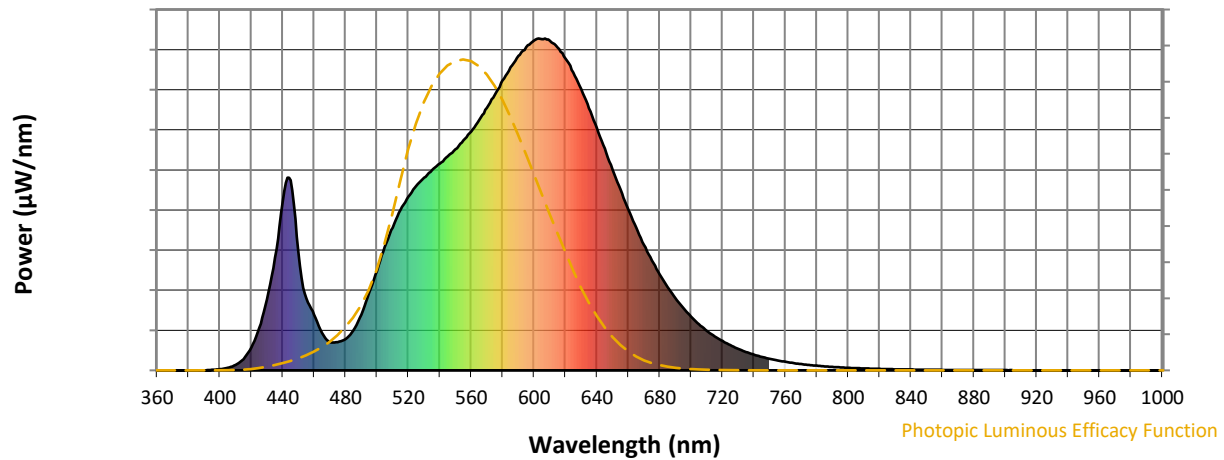
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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



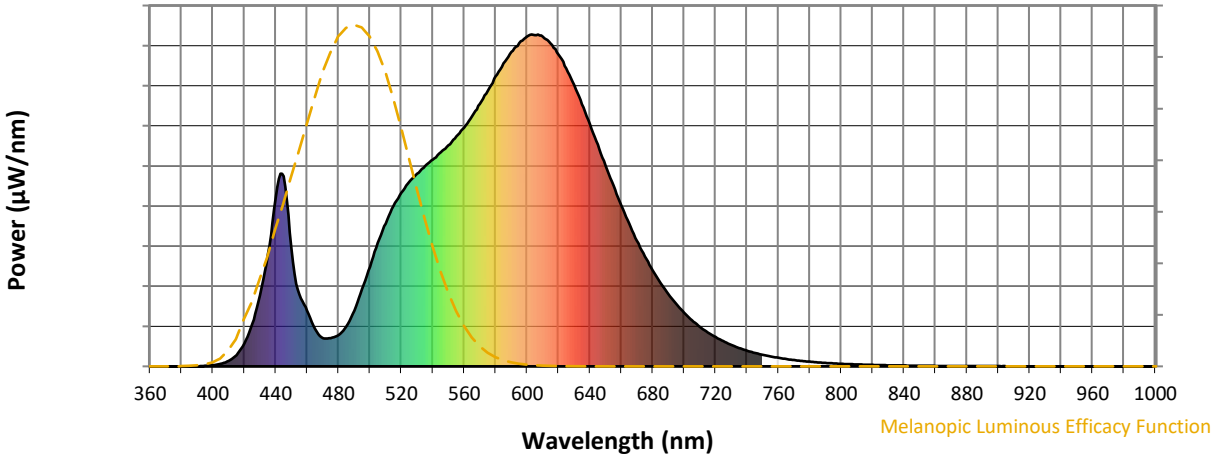
Scotopic Lumens: NR

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 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			

Summary

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



Color Vector Graphics

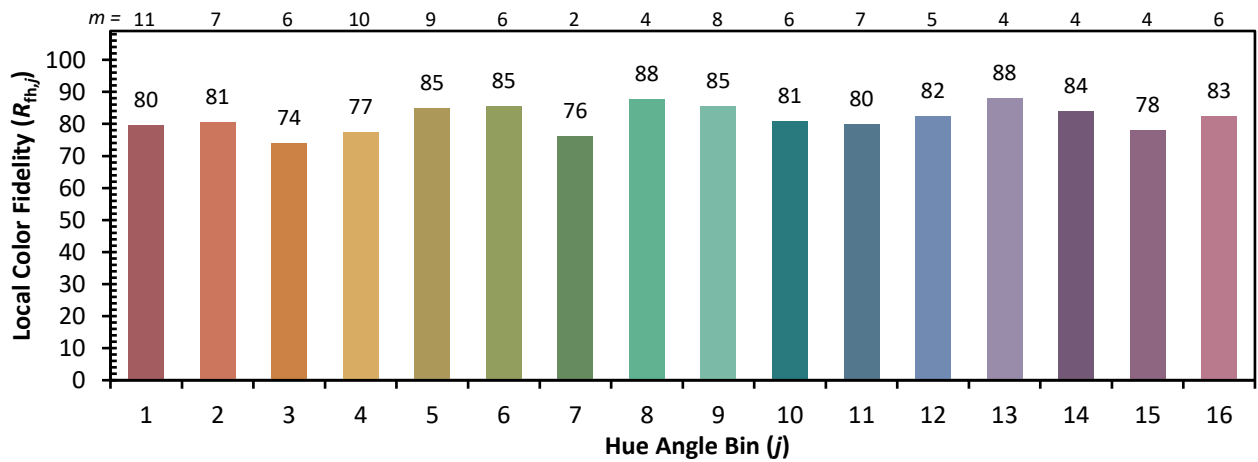
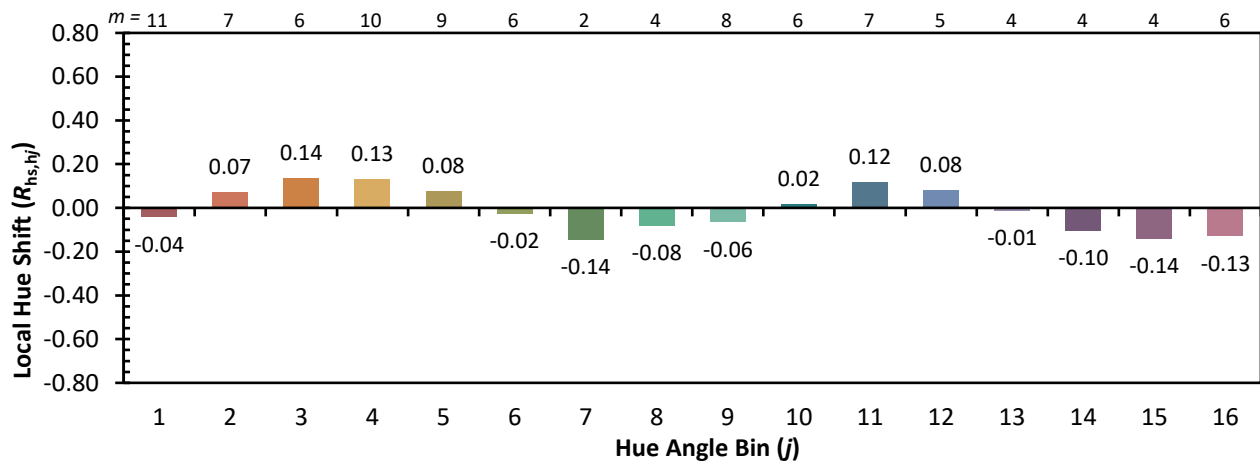
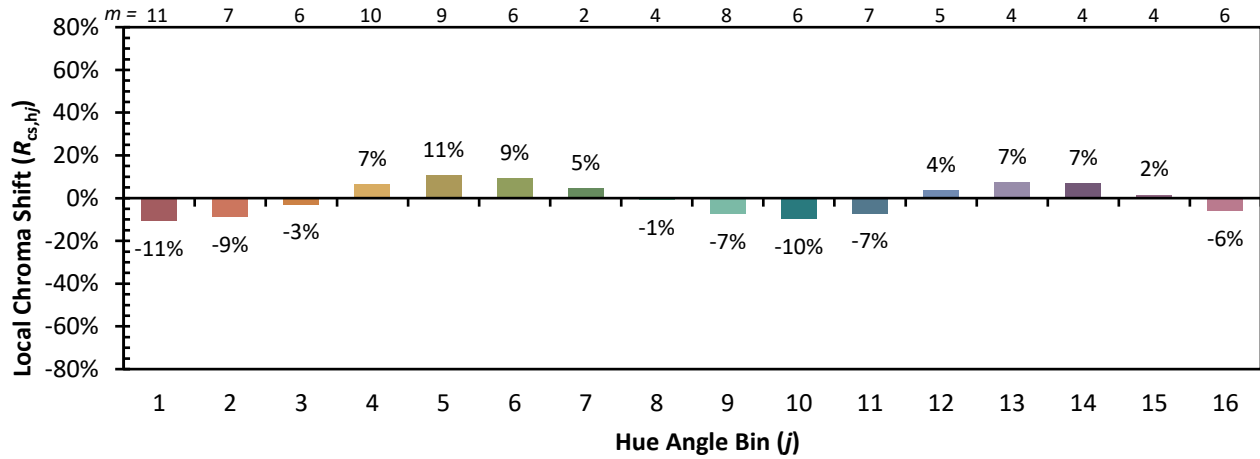


Individual Sample Fidelity Index ($R_{f,i}$)

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)