

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: P437938

Luminaire Tested: **ISS-SA1F-830-U-SLL-HSS**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-21)
Test Lab: INNOVATION CENTER
Issue Date: 12/9/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-SA1F-830-U-SLL-HSS
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE
(1) 80 CRI, 3000K, 1200mA 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: 4639 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

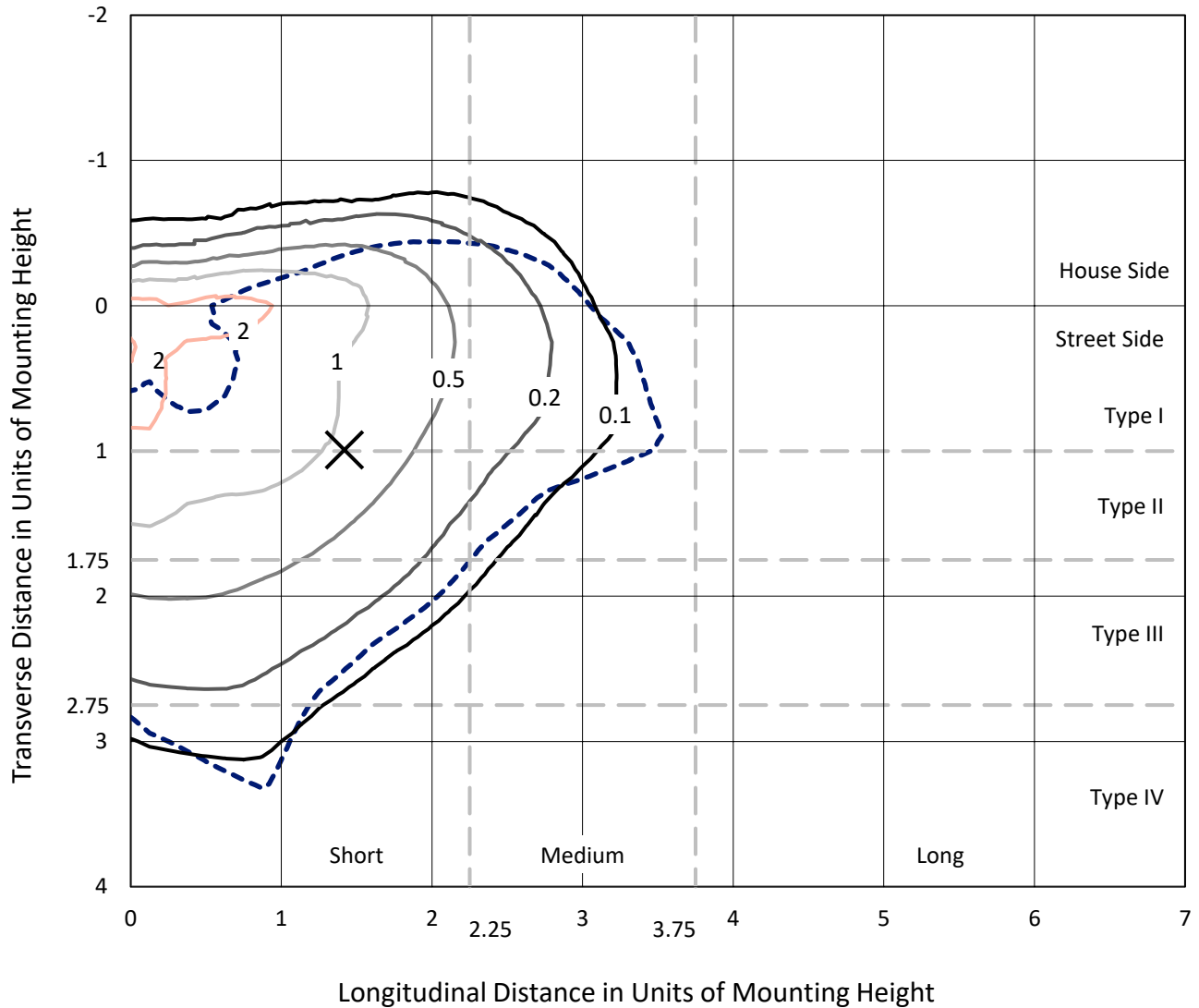
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

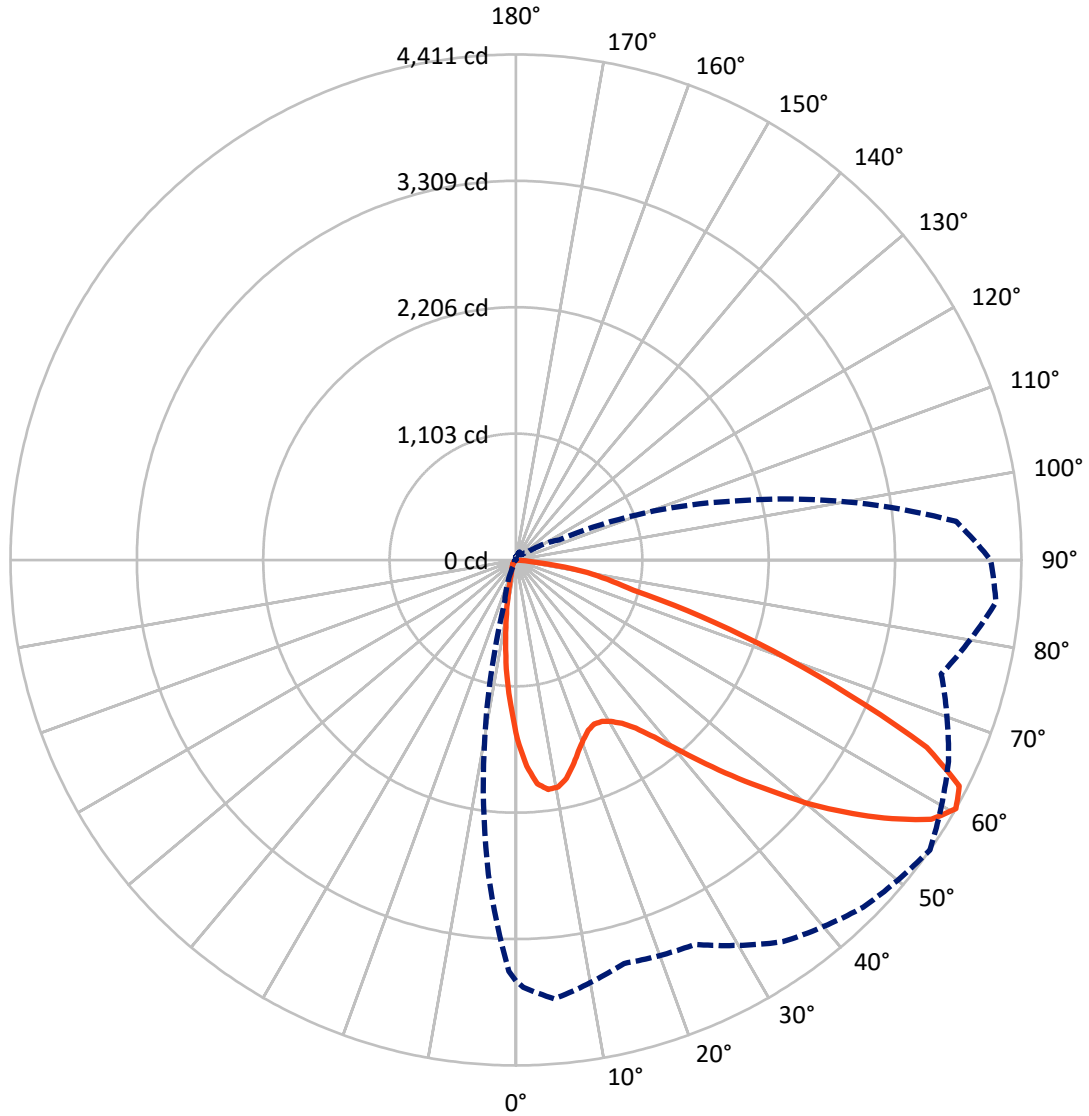
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral - - - Horizontal Cone Through 60-Deg Vertical

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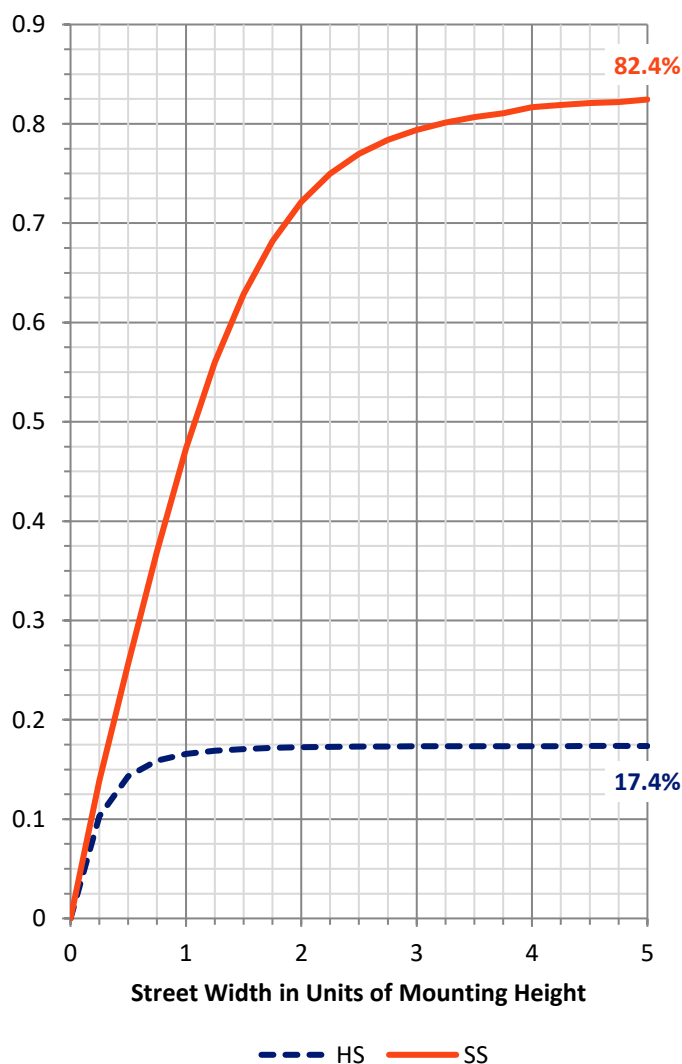
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	812.6	0.0	812.6
	% Fixture	17.5	0.0	17.5
Street Side	Lumens	3826.4	0.0	3826.4
	% Fixture	82.5	0.0	82.5
Total	Lumens	4639.0	0.0	4639.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.7	2.5
10°-20°	228.5	4.9
20°-30°	335.9	7.2
30°-40°	502.2	10.8
40°-50°	743.0	16.0
50°-60°	1068.0	23.0
60°-70°	1144.8	24.7
70°-80°	462.5	10.0
80°-90°	37.4	0.8
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°	4639.0	100.0
0°-180°	4639.0	100.0

Coefficient of Utilization

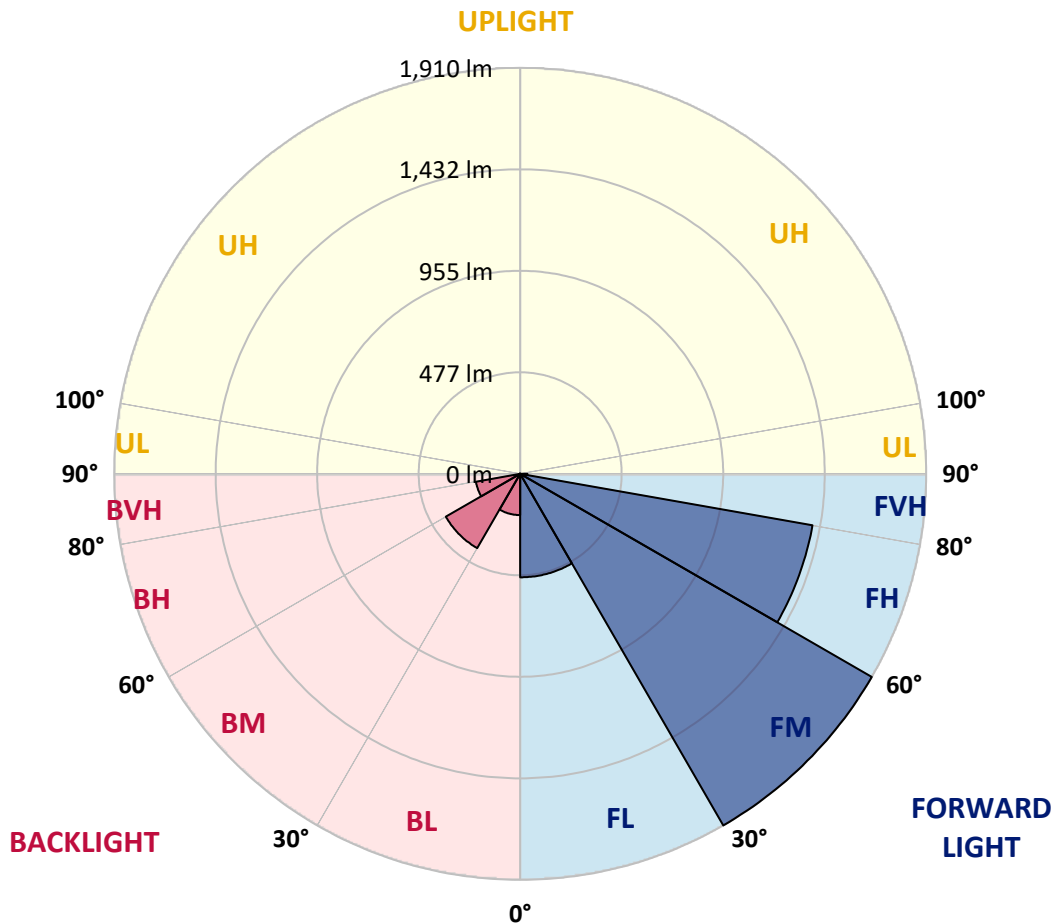


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	486.9	10.5			
FM (30°-60°)	1909.5	41.2			
FH (60°-80°)	1396.0	30.1			G1/1800
FVH (80°-90°)	34.0	0.7			G1/100
BL (0°-30°)	194.1	4.2	B1/500		
BM (30°-60°)	403.8	8.7	B1/1000		
BH (60°-80°)	211.3	4.6	B1/500		G1/500
BVH (80°-90°)	3.4	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3
2.5°	1681.7	1681.7	1695.1	1735.4	1780.2	1802.6	1827.2	1802.6	1798.1	1762.3	1735.4
5°	1630.2	1641.4	1683.9	1791.4	1905.6	1963.8	1995.2	1961.6	1901.1	1822.8	1724.2
7.5°	1513.8	1527.2	1576.5	1751.1	1907.9	2024.3	2080.3	2022.1	1919.1	1775.7	1632.4
10°	1388.4	1413.0	1477.9	1677.2	1858.6	1997.4	2075.8	2015.3	1887.7	1704.1	1527.2
12.5°	1305.5	1323.4	1410.7	1610.0	1804.9	1928.0	1970.6	1957.1	1840.7	1670.5	1484.6
15°	1292.1	1314.5	1406.3	1605.6	1753.4	1827.2	1842.9	1860.8	1820.5	1675.0	1498.1
17.5°	1350.3	1374.9	1477.9	1639.2	1706.3	1706.3	1722.0	1757.8	1795.9	1719.8	1578.7
20°	1469.0	1502.6	1616.8	1726.5	1681.7	1628.0	1630.2	1677.2	1780.2	1820.5	1722.0
22.5°	1628.0	1672.7	1811.6	1863.1	1708.6	1585.4	1574.2	1614.5	1782.5	1923.5	1919.1
25°	1838.4	1892.2	2026.5	2024.3	1773.5	1567.5	1556.3	1585.4	1802.6	2035.5	2091.5
27.5°	2028.8	2073.6	2207.9	2151.9	1838.4	1589.9	1565.3	1596.6	1818.3	2118.4	2246.0
30°	2190.0	2228.1	2346.8	2243.8	1894.4	1628.0	1585.4	1634.7	1851.9	2163.1	2384.8
32.5°	2313.2	2369.2	2478.9	2315.4	1961.6	1677.2	1632.4	1699.6	1907.9	2221.4	2505.8
35°	2478.9	2508.0	2637.9	2387.1	2051.2	1782.5	1710.8	1800.4	1999.7	2297.5	2640.1
37.5°	2622.2	2698.3	2783.4	2461.0	2160.9	1912.3	1834.0	1961.6	2125.1	2384.8	2796.9
40°	2792.4	2879.7	2971.5	2566.2	2261.7	2082.5	2048.9	2174.3	2313.2	2512.5	2951.4
42.5°	2949.1	3029.7	3092.4	2689.4	2384.8	2275.1	2299.7	2431.9	2505.8	2644.6	3083.5
45°	3074.5	3146.2	3240.2	2774.5	2521.4	2490.1	2615.5	2718.5	2696.1	2758.8	3202.2
47.5°	3204.4	3291.7	3329.8	2864.0	2698.3	2772.2	2996.2	3018.5	2895.4	2864.0	3305.2
50°	3294.0	3358.9	3383.5	2973.8	2915.5	3143.9	3323.1	3361.2	3112.6	2946.9	3439.5
52.5°	3403.7	3466.4	3495.5	3103.6	3148.4	3477.6	3685.8	3676.9	3323.1	3083.5	3571.6
55°	3598.5	3656.7	3685.8	3262.6	3314.1	3764.2	3994.9	3985.9	3573.9	3280.5	3768.7
57.5°	3737.4	3786.6	3833.6	3441.8	3520.1	3947.8	4205.4	4272.5	3876.2	3529.1	3983.7
60°	3674.7	3730.6	3844.8	3645.5	3701.5	4066.5	4286.0	4411.4	4165.1	3842.6	4205.4
62.5°	3497.7	3580.6	3699.3	3806.8	3842.6	4086.7	4174.0	4342.0	4319.6	4158.3	4306.1
65°	3273.8	3358.9	3473.1	3829.2	3811.2	3786.6	3838.1	3938.9	4095.6	4310.6	4256.9
67.5°	2870.8	2993.9	3137.2	3567.2	3314.1	3173.1	3186.5	3130.5	3446.2	4091.2	4006.1
70°	2337.8	2463.2	2617.7	3025.3	2555.0	2369.2	2416.2	2380.4	2628.9	3511.2	3432.8
72.5°	1645.9	1780.2	1970.6	2521.4	1780.2	1480.2	1592.1	1686.2	1981.8	2817.0	2521.4
75°	1090.5	1186.8	1323.4	1898.9	1269.7	994.2	1018.9	1056.9	1325.7	2129.6	1592.1
77.5°	564.3	660.6	721.0	1016.6	786.0	783.7	765.8	815.1	828.5	1278.6	830.8
80°	315.7	347.1	378.4	494.9	394.1	465.8	481.4	588.9	546.4	640.4	347.1
82.5°	154.5	194.8	212.7	304.5	253.0	185.9	91.8	192.6	324.7	347.1	161.2
85°	2.2	4.5	11.2	24.6	6.7	6.7	0.0	6.7	33.6	42.5	56.0
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°	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3
2.5°	1706.3	1688.4	1636.9	1592.1	1522.7	1493.6	1446.6	1435.4	1397.3	1359.2	1336.8
5°	1675.0	1623.5	1518.2	1415.2	1321.2	1233.8	1168.9	1115.2	1054.7	1030.1	1045.7
7.5°	1549.6	1477.9	1325.7	1204.7	1070.4	969.6	877.8	830.8	774.8	752.4	736.7
10°	1446.6	1359.2	1184.6	1025.6	897.9	819.6	763.6	696.4	631.5	580.0	573.3
12.5°	1381.6	1287.6	1092.8	924.8	830.8	754.6	689.7	602.4	528.5	479.2	456.8
15°	1379.4	1263.0	1063.7	886.8	777.0	680.7	597.9	499.4	423.2	360.5	338.1
17.5°	1460.0	1318.9	1077.1	846.4	700.9	575.5	468.0	365.0	291.1	248.6	226.2
20°	1601.1	1446.6	1101.7	806.1	627.0	468.0	329.2	248.6	199.3	179.1	170.2
22.5°	1771.3	1587.6	1146.5	774.8	550.9	353.8	232.9	179.1	156.7	143.3	141.1
25°	1977.3	1766.8	1209.2	752.4	481.4	273.2	181.4	147.8	134.4	125.4	120.9
27.5°	2158.7	1939.2	1303.3	734.5	414.3	223.9	154.5	129.9	116.4	109.7	107.5
30°	2293.0	2080.3	1410.7	694.2	360.5	194.8	145.6	123.2	107.5	98.5	96.3
32.5°	2447.5	2187.8	1462.2	653.9	329.2	172.4	127.6	109.7	98.5	89.6	87.3
35°	2617.7	2337.8	1513.8	622.5	309.0	154.5	116.4	96.3	82.9	73.9	71.7
37.5°	2814.8	2503.5	1560.8	595.6	297.8	143.3	109.7	89.6	76.1	67.2	62.7
40°	3034.2	2633.4	1592.1	577.7	282.1	136.6	105.2	85.1	71.7	60.5	58.2
42.5°	3208.9	2783.4	1601.1	571.0	266.5	134.4	100.8	82.9	67.2	58.2	53.7
45°	3334.3	2915.5	1632.4	564.3	255.3	125.4	98.5	80.6	62.7	53.7	49.3
47.5°	3426.1	3056.6	1661.5	557.6	244.1	114.2	105.2	80.6	60.5	49.3	44.8
50°	3596.3	3222.3	1717.5	539.7	228.4	103.0	105.2	78.4	58.2	47.0	42.5
52.5°	3779.9	3437.3	1842.9	519.5	208.3	91.8	96.3	78.4	56.0	44.8	40.3
55°	3954.6	3699.3	1959.4	492.6	174.7	82.9	89.6	78.4	51.5	42.5	38.1
57.5°	4082.2	3873.9	2022.1	459.1	138.8	73.9	73.9	73.9	44.8	35.8	33.6
60°	4142.7	3856.0	1993.0	416.5	112.0	64.9	60.5	76.1	40.3	31.3	29.1
62.5°	4095.6	3670.2	1865.3	371.7	98.5	56.0	49.3	67.2	35.8	26.9	24.6
65°	3950.1	3356.7	1652.6	335.9	96.3	47.0	40.3	40.3	29.1	22.4	20.2
67.5°	3589.6	2944.6	1399.5	302.3	98.5	40.3	33.6	31.3	24.6	17.9	15.7
70°	2985.0	2366.9	1059.2	286.6	98.5	33.6	29.1	24.6	17.9	15.7	13.4
72.5°	1896.7	1469.0	734.5	253.0	98.5	26.9	24.6	22.4	13.4	11.2	6.7
75°	1124.1	893.5	344.8	194.8	82.9	22.4	17.9	13.4	6.7	4.5	4.5
77.5°	660.6	573.3	150.0	107.5	35.8	13.4	9.0	4.5	2.2	0.0	0.0
80°	271.0	235.1	56.0	31.3	15.7	6.7	2.2	0.0	0.0	0.0	0.0
82.5°	159.0	165.7	20.2	13.4	4.5	0.0	0.0	0.0	0.0	0.0	0.0
85°	49.3	76.1	0.0	2.2	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°	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3
2.5°	1334.6	1312.2	1303.3	1289.8	1278.6	1265.2	1283.1	1298.8	1280.9	1301.0	1332.4
5°	1030.1	996.5	1041.3	1012.2	1027.8	1009.9	985.3	989.8	994.2	985.3	1009.9
7.5°	714.3	730.0	741.2	739.0	752.4	727.8	727.8	712.1	689.7	698.7	694.2
10°	541.9	510.6	521.8	519.5	544.1	510.6	488.2	463.5	461.3	465.8	461.3
12.5°	432.2	394.1	369.5	356.0	353.8	338.1	318.0	293.3	277.7	275.4	288.9
15°	324.7	295.6	273.2	253.0	250.8	219.4	192.6	174.7	159.0	161.2	170.2
17.5°	223.9	215.0	208.3	190.3	179.1	152.3	129.9	118.7	114.2	114.2	116.4
20°	163.5	159.0	154.5	147.8	136.6	116.4	103.0	98.5	96.3	96.3	98.5
22.5°	136.6	129.9	125.4	123.2	114.2	98.5	89.6	85.1	85.1	85.1	85.1
25°	116.4	112.0	109.7	105.2	98.5	85.1	78.4	76.1	73.9	73.9	76.1
27.5°	105.2	96.3	91.8	91.8	85.1	76.1	69.4	67.2	64.9	64.9	67.2
30°	94.0	87.3	82.9	78.4	73.9	64.9	60.5	58.2	58.2	58.2	58.2
32.5°	82.9	78.4	73.9	69.4	62.7	58.2	53.7	51.5	49.3	49.3	49.3
35°	67.2	62.7	62.7	60.5	53.7	49.3	44.8	42.5	40.3	42.5	42.5
37.5°	58.2	51.5	51.5	51.5	47.0	42.5	38.1	35.8	33.6	33.6	35.8
40°	53.7	44.8	42.5	42.5	42.5	35.8	31.3	29.1	26.9	26.9	29.1
42.5°	47.0	40.3	35.8	33.6	35.8	31.3	24.6	22.4	22.4	22.4	22.4
45°	44.8	35.8	31.3	26.9	29.1	26.9	20.2	17.9	17.9	17.9	17.9
47.5°	40.3	31.3	26.9	20.2	20.2	20.2	15.7	13.4	13.4	13.4	13.4
50°	38.1	29.1	20.2	17.9	15.7	15.7	13.4	11.2	9.0	9.0	11.2
52.5°	35.8	26.9	17.9	13.4	11.2	11.2	9.0	9.0	6.7	6.7	6.7
55°	33.6	22.4	15.7	11.2	9.0	6.7	6.7	6.7	6.7	4.5	6.7
57.5°	29.1	20.2	11.2	9.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
60°	26.9	15.7	9.0	4.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2
62.5°	22.4	13.4	6.7	4.5	2.2	0.0	2.2	2.2	2.2	2.2	2.2
65°	17.9	11.2	4.5	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	13.4	9.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	11.2	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	6.7	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3	1565.3
2.5°	1330.1	1343.6	1392.8	1437.6	1486.9	1540.6	1585.4	1650.3	1670.5	1681.7
5°	1005.4	1054.7	1115.2	1168.9	1265.2	1354.8	1460.0	1574.2	1621.2	1630.2
7.5°	725.5	759.1	824.1	931.5	1018.9	1153.2	1289.8	1442.1	1513.8	1513.8
10°	499.4	555.3	638.2	739.0	855.4	974.1	1133.1	1305.5	1372.7	1388.4
12.5°	318.0	380.7	492.6	602.4	736.7	853.2	1012.2	1207.0	1283.1	1305.5
15°	183.6	226.2	329.2	450.1	611.3	759.1	938.3	1175.6	1269.7	1292.1
17.5°	123.2	138.8	194.8	300.1	479.2	676.3	915.9	1209.2	1323.4	1350.3
20°	103.0	109.7	129.9	185.9	338.1	588.9	906.9	1283.1	1421.9	1469.0
22.5°	89.6	96.3	109.7	136.6	241.8	497.1	900.2	1390.6	1578.7	1628.0
25°	78.4	85.1	96.3	116.4	170.2	405.3	911.4	1542.9	1780.2	1838.4
27.5°	69.4	76.1	87.3	100.8	136.6	313.5	913.6	1686.2	1968.3	2028.8
30°	60.5	67.2	76.1	87.3	109.7	241.8	873.3	1831.7	2120.6	2190.0
32.5°	53.7	58.2	67.2	76.1	91.8	188.1	790.5	1943.7	2246.0	2313.2
35°	44.8	49.3	58.2	64.9	80.6	152.3	698.7	2046.7	2396.0	2478.9
37.5°	38.1	42.5	49.3	58.2	71.7	118.7	606.8	2136.3	2541.6	2622.2
40°	31.3	38.1	44.8	51.5	64.9	91.8	506.1	2232.6	2707.3	2792.4
42.5°	26.9	31.3	38.1	47.0	56.0	73.9	416.5	2293.0	2848.4	2949.1
45°	20.2	26.9	35.8	47.0	47.0	58.2	358.3	2337.8	2949.1	3074.5
47.5°	15.7	22.4	31.3	44.8	42.5	49.3	329.2	2416.2	3088.0	3204.4
50°	13.4	17.9	31.3	38.1	35.8	42.5	338.1	2485.6	3193.2	3294.0
52.5°	11.2	15.7	26.9	29.1	31.3	38.1	356.0	2613.2	3325.3	3403.7
55°	9.0	13.4	20.2	24.6	26.9	35.8	385.2	2772.2	3497.7	3598.5
57.5°	6.7	11.2	15.7	20.2	24.6	33.6	405.3	2873.0	3659.0	3737.4
60°	6.7	9.0	13.4	17.9	22.4	31.3	376.2	2754.3	3589.6	3674.7
62.5°	4.5	9.0	11.2	15.7	17.9	24.6	277.7	2494.6	3381.3	3497.7
65°	2.2	6.7	9.0	11.2	13.4	17.9	159.0	2181.1	3135.0	3273.8
67.5°	0.0	4.5	6.7	9.0	9.0	13.4	73.9	1760.1	2729.7	2870.8
70°	0.0	2.2	4.5	4.5	6.7	11.2	38.1	1242.8	2147.5	2337.8
72.5°	2.2	2.2	4.5	4.5	4.5	9.0	24.6	752.4	1444.3	1645.9
75°	2.2	2.2	2.2	2.2	4.5	6.7	15.7	483.7	909.1	1090.5
77.5°	2.2	4.5	2.2	2.2	2.2	4.5	9.0	268.7	497.1	564.3
80°	2.2	2.2	2.2	2.2	2.2	4.5	4.5	24.6	235.1	315.7
82.5°	0.0	0.0	0.0	0.0	2.2	2.2	2.2	2.2	120.9	154.5
85°	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	2.2
87.5°	0.0	0.0	0.0	2.2	2.2	2.2	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

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



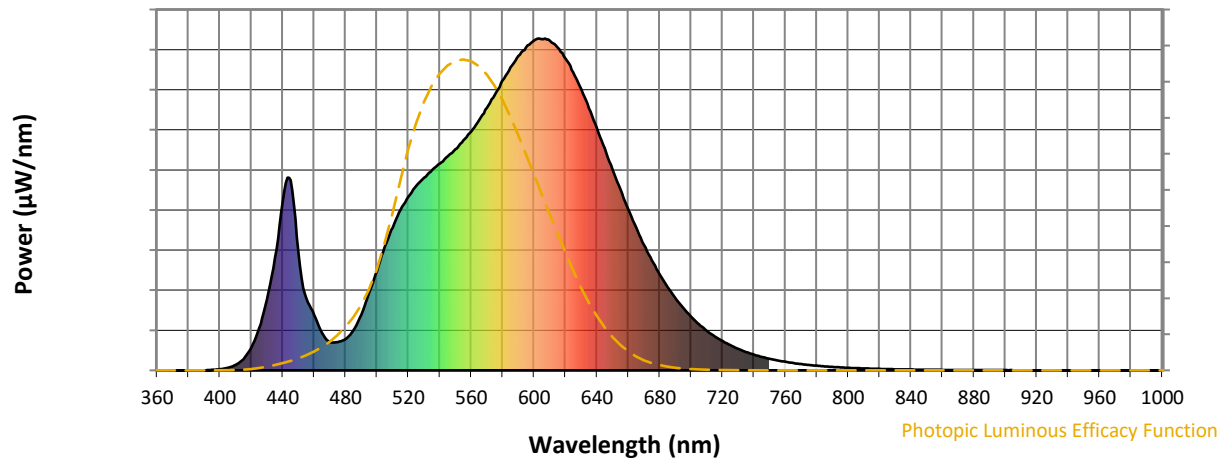
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

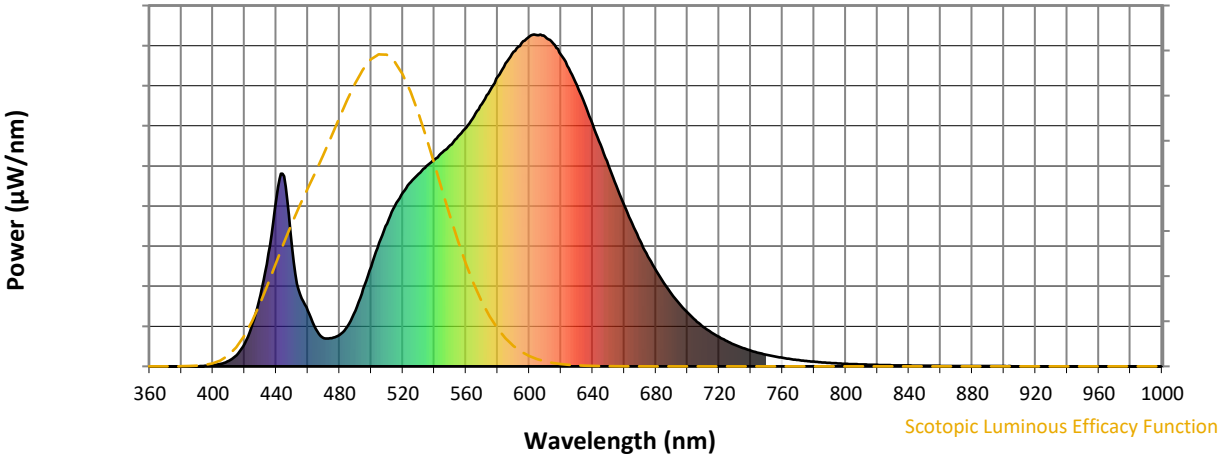


Photopic Lumens: NR

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			

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength



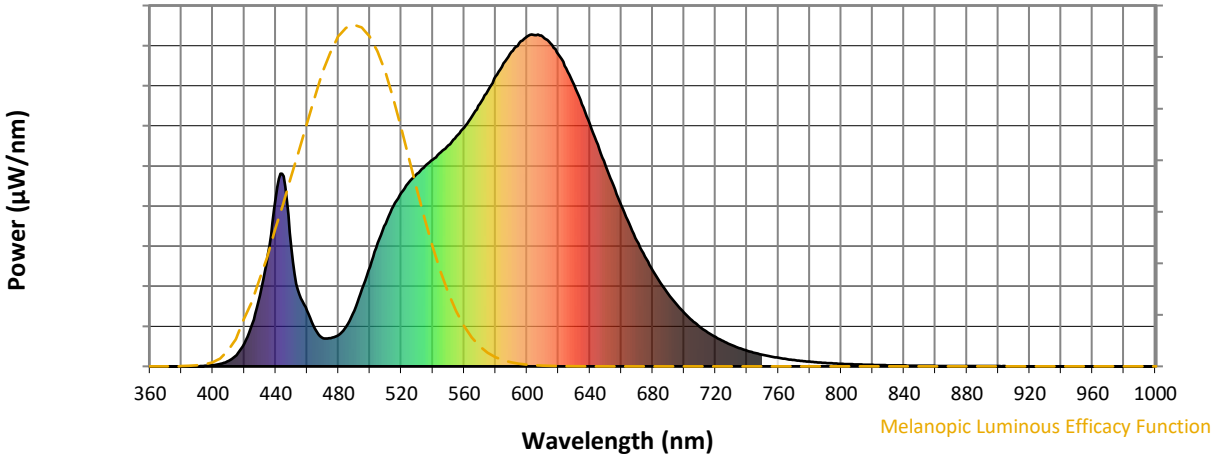
Scotopic Lumens: NR

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

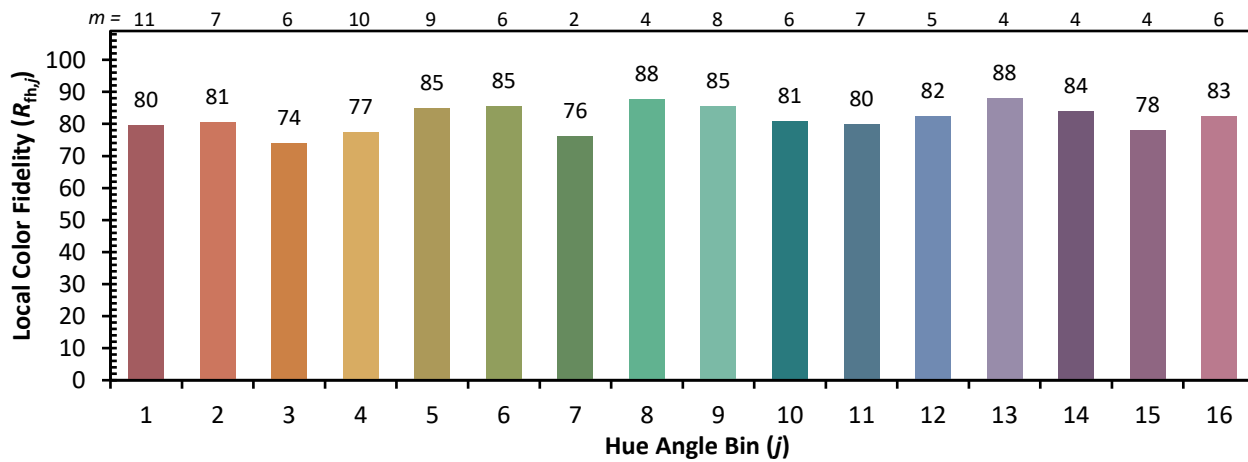
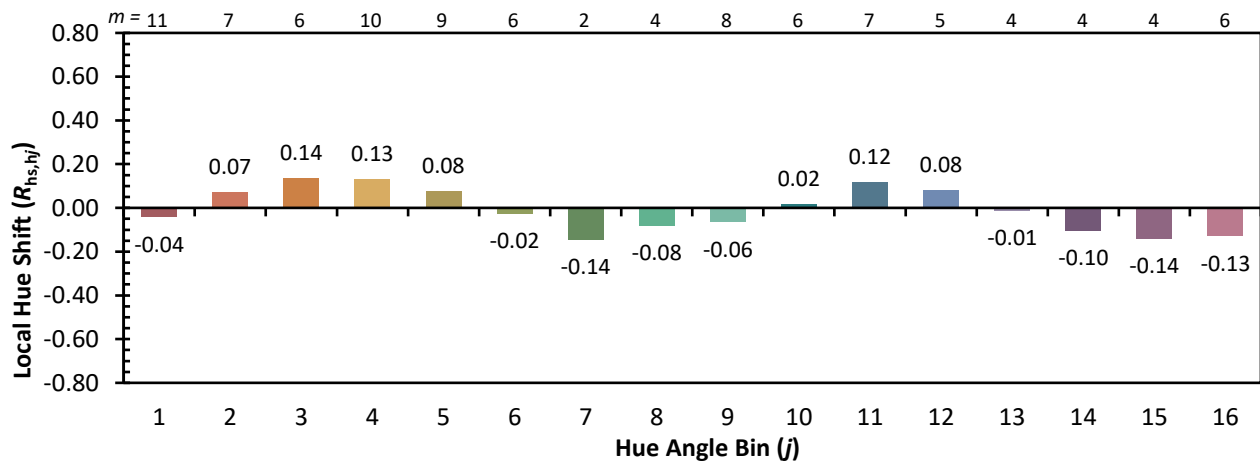
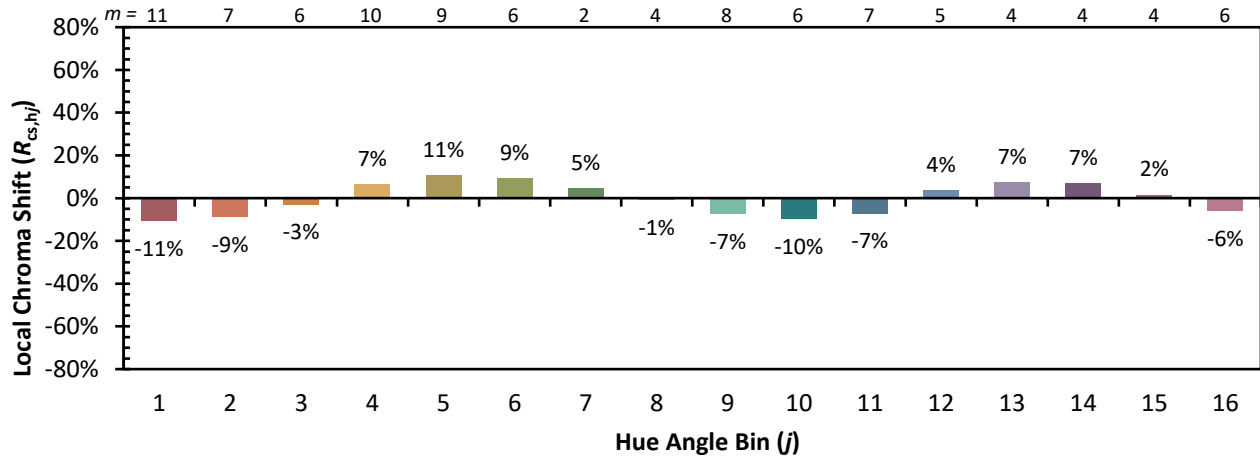


Individual Sample Fidelity Index ($R_{f,i}$)

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)