

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: P437940

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

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437940
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-23)
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-SLR-HSS
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT
ELIMINATOR RIGHT 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

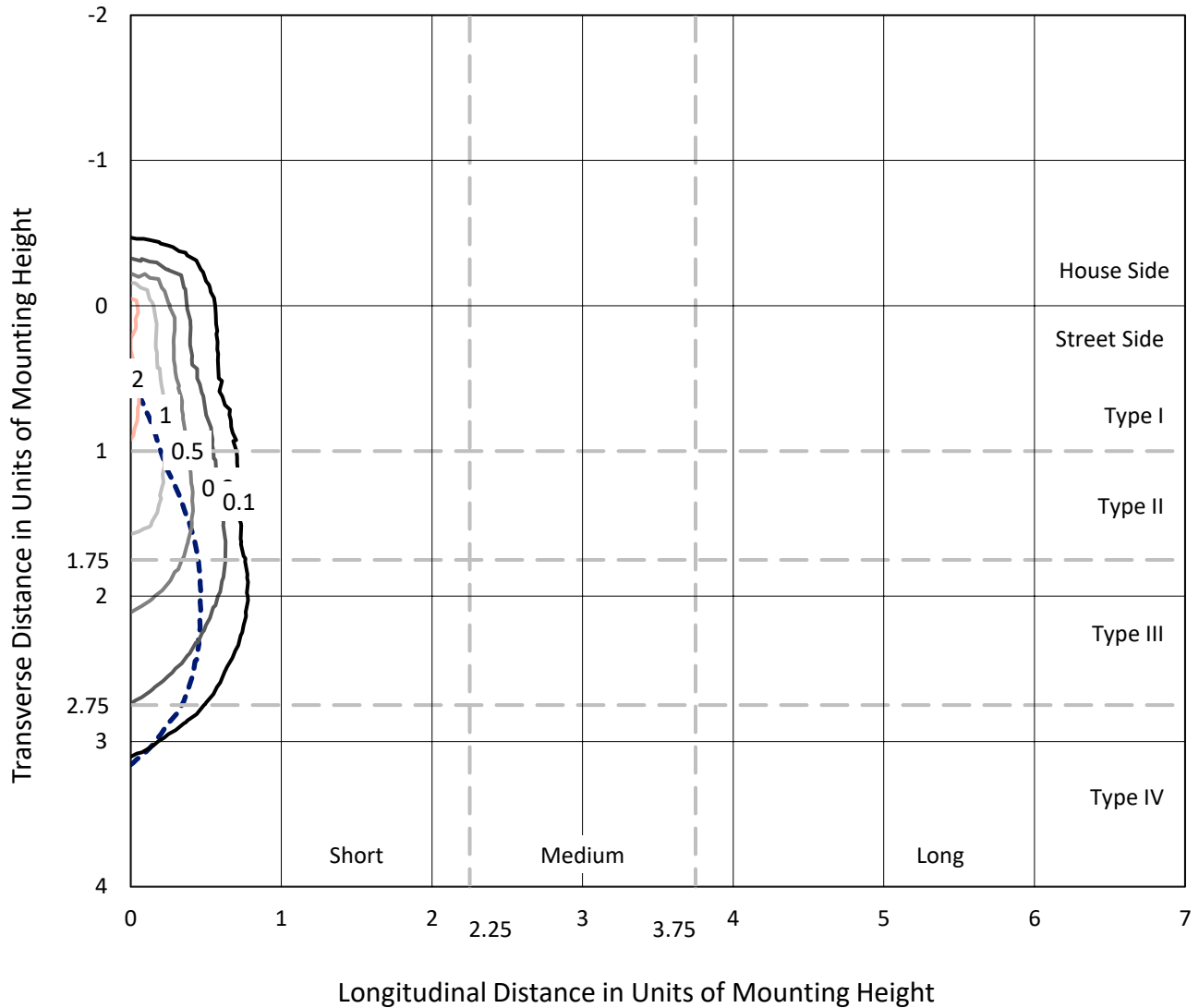
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

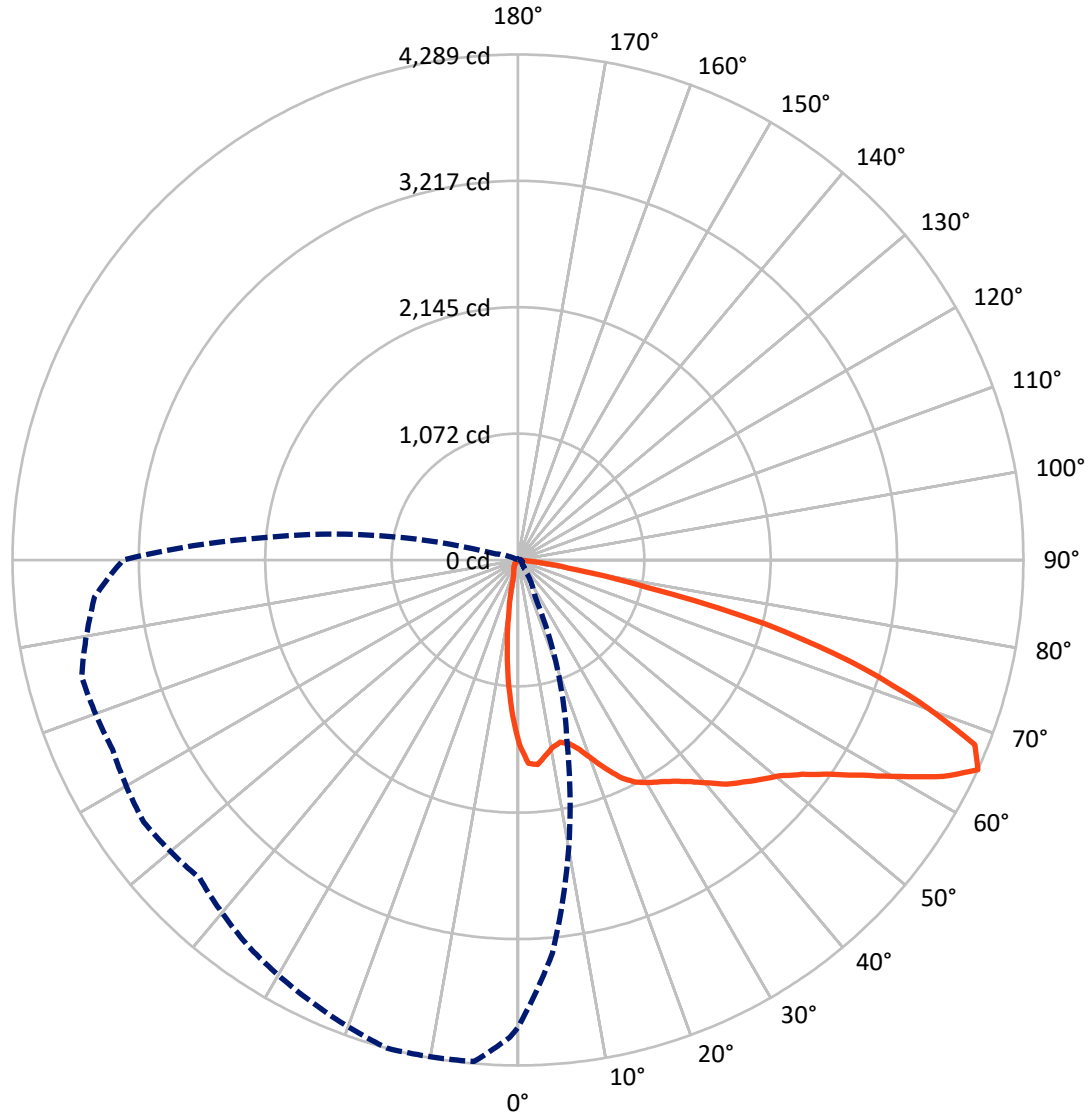
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.5 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 345-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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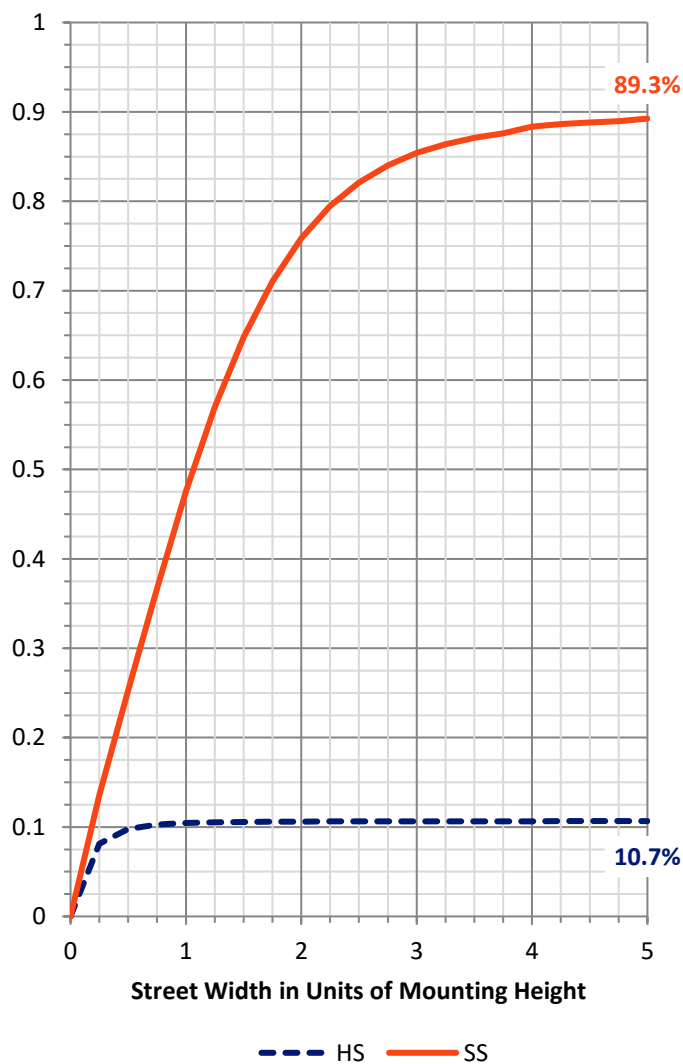
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	500.1	0.0	500.1
	% Fixture	10.8	0.0	10.8
Street Side	Lumens	4138.9	0.0	4138.9
	% Fixture	89.2	0.0	89.2
Total	Lumens	4639.0	0.0	4639.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	2.5
10°-20°	226.2	4.9
20°-30°	329.9	7.1
30°-40°	490.3	10.6
40°-50°	718.8	15.5
50°-60°	1034.4	22.3
60°-70°	1160.4	25.0
70°-80°	509.1	11.0
80°-90°	53.6	1.2
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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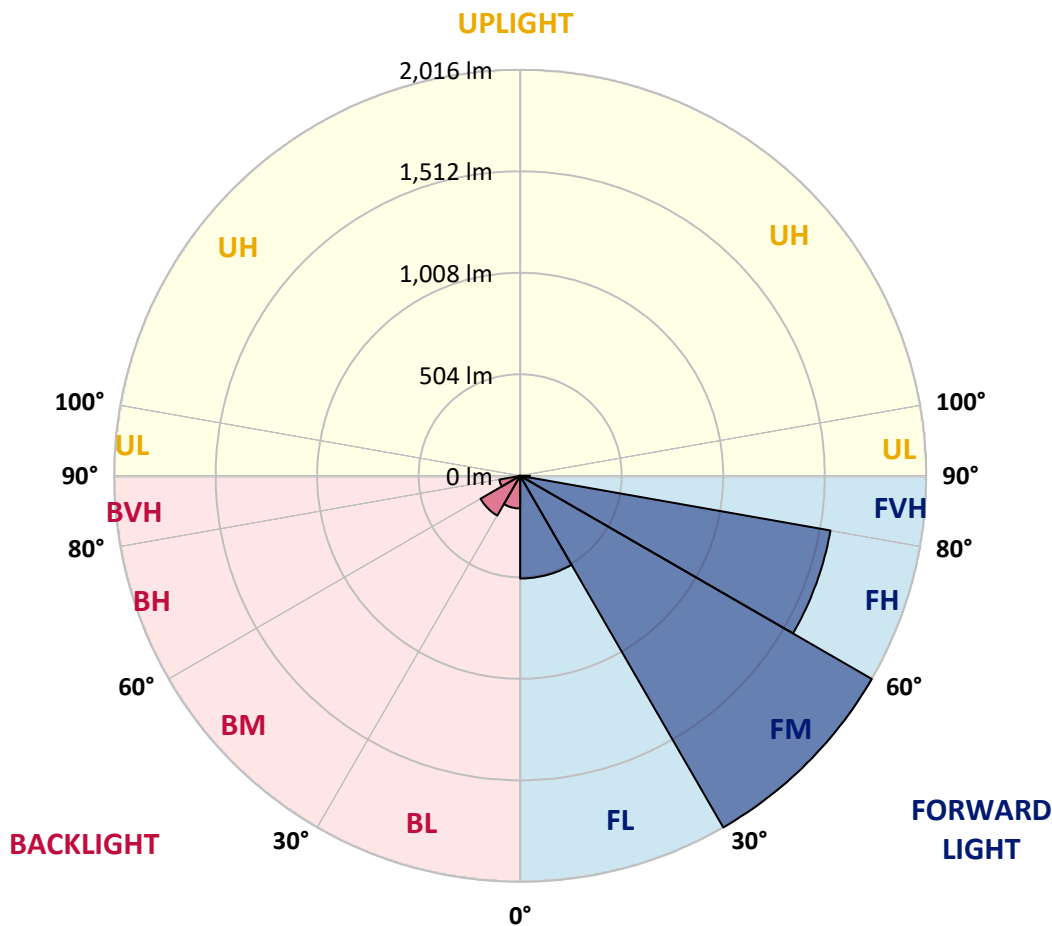
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	510.1	11.0			
FM (30°-60°)	2016.0	43.5			
FH (60°-80°)	1564.5	33.7			G1/1800
FVH (80°-90°)	48.4	1.0			G1/100
BL (0°-30°)	162.2	3.5	B1/500		
BM (30°-60°)	227.6	4.9	B1/1000		
BH (60°-80°)	105.1	2.3	B0/110		G0/110
BVH (80°-90°)	5.2	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°	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5
2.5°	1656.8	1656.8	1632.3	1574.4	1521.0	1456.4	1420.8	1387.4	1351.8	1327.3	1289.4
5°	1578.9	1563.3	1527.7	1420.8	1307.2	1231.5	1173.6	1071.2	1022.2	986.5	970.9
7.5°	1449.7	1440.8	1382.9	1258.2	1122.4	999.9	922.0	837.3	770.5	743.8	697.0
10°	1360.7	1351.8	1278.3	1109.0	950.9	861.8	799.5	739.3	674.8	610.2	561.2
12.5°	1316.1	1298.3	1227.0	1035.5	899.7	812.8	741.6	668.1	587.9	516.6	458.7
15°	1327.3	1298.3	1218.1	1022.2	861.8	754.9	663.6	556.7	476.6	391.9	338.5
17.5°	1405.2	1374.0	1276.0	1033.3	812.8	677.0	556.7	436.5	329.6	251.6	224.9
20°	1549.9	1516.5	1382.9	1057.8	781.7	599.0	429.8	300.6	218.2	182.6	167.0
22.5°	1734.8	1690.2	1532.1	1097.9	746.0	521.1	325.1	213.8	167.0	144.8	133.6
25°	1928.5	1884.0	1708.1	1158.0	723.8	454.3	251.6	167.0	135.8	122.5	115.8
27.5°	2104.5	2048.8	1866.2	1247.1	697.0	394.2	209.3	144.8	122.5	106.9	102.4
30°	2264.8	2200.2	2024.3	1322.8	659.2	340.7	180.4	133.6	113.6	100.2	93.5
32.5°	2400.6	2349.4	2153.4	1376.2	628.0	311.8	160.3	118.0	98.0	86.9	82.4
35°	2563.2	2514.2	2278.2	1420.8	608.0	298.4	147.0	111.3	91.3	80.2	71.3
37.5°	2783.7	2712.4	2416.2	1460.9	585.7	287.3	135.8	104.7	86.9	73.5	66.8
40°	2981.9	2903.9	2576.6	1489.8	574.6	278.4	133.6	100.2	82.4	69.0	62.4
42.5°	3157.8	3086.5	2705.7	1501.0	565.6	262.8	131.4	98.0	82.4	66.8	57.9
45°	3269.1	3204.6	2859.4	1529.9	565.6	251.6	122.5	98.0	80.2	64.6	55.7
47.5°	3371.6	3309.2	2993.0	1561.1	556.7	242.7	111.3	106.9	80.2	62.4	51.2
50°	3520.8	3471.8	3162.3	1654.6	541.1	229.4	100.2	104.7	82.4	60.1	51.2
52.5°	3710.1	3687.8	3411.7	1781.6	518.9	204.9	89.1	98.0	82.4	57.9	49.0
55°	3919.4	3910.5	3672.2	1897.4	492.2	175.9	82.4	89.1	80.2	53.4	44.5
57.5°	4046.3	4046.3	3841.5	1961.9	469.9	140.3	73.5	73.5	77.9	49.0	40.1
60°	4093.1	4044.1	3821.4	1955.3	432.0	115.8	66.8	60.1	82.4	42.3	35.6
62.5°	4088.7	3981.8	3634.4	1848.4	380.8	106.9	57.9	51.2	60.1	37.9	31.2
65°	3968.4	3839.2	3349.3	1610.1	342.9	106.9	49.0	42.3	40.1	33.4	24.5
67.5°	3636.6	3558.6	2932.9	1365.1	316.2	106.9	42.3	35.6	31.2	26.7	22.3
70°	3088.8	2986.3	2362.8	1053.3	296.2	106.9	35.6	31.2	29.0	22.3	17.8
72.5°	2013.2	1955.3	1445.3	723.8	242.7	104.7	31.2	29.0	26.7	20.0	15.6
75°	1095.7	1013.3	795.0	258.3	173.7	75.7	26.7	24.5	20.0	17.8	13.4
77.5°	474.3	456.5	405.3	69.0	51.2	22.3	15.6	15.6	13.4	13.4	8.9
80°	62.4	46.8	53.4	20.0	17.8	11.1	8.9	6.7	6.7	6.7	4.5
82.5°	2.2	2.2	0.0	2.2	6.7	4.5	0.0	0.0	2.2	2.2	2.2
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°	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5
2.5°	1307.2	1280.5	1260.4	1260.4	1287.2	1271.6	1289.4	1278.3	1309.4	1325.0	1320.6
5°	937.5	948.7	937.5	955.4	984.3	999.9	1008.8	1031.1	1028.8	1037.8	1053.3
7.5°	679.2	679.2	683.7	679.2	705.9	734.9	750.5	743.8	739.3	730.4	746.0
10°	545.6	521.1	492.2	492.2	496.6	512.2	514.4	503.3	487.7	458.7	467.7
12.5°	427.6	409.8	391.9	354.1	351.9	342.9	340.7	309.5	285.0	276.1	276.1
15°	314.0	302.9	282.8	265.0	247.2	238.3	222.7	184.8	160.3	158.1	160.3
17.5°	209.3	202.7	196.0	196.0	189.3	173.7	158.1	133.6	122.5	118.0	120.3
20°	155.9	153.7	147.0	149.2	149.2	135.8	120.3	109.1	104.7	104.7	106.9
22.5°	129.2	126.9	120.3	120.3	120.3	113.6	102.4	95.8	93.5	93.5	93.5
25°	111.3	109.1	104.7	102.4	102.4	98.0	89.1	84.6	82.4	82.4	82.4
27.5°	100.2	98.0	93.5	89.1	89.1	84.6	80.2	73.5	73.5	73.5	73.5
30°	89.1	86.9	84.6	80.2	77.9	73.5	69.0	66.8	64.6	64.6	64.6
32.5°	80.2	77.9	75.7	73.5	69.0	64.6	60.1	57.9	55.7	55.7	55.7
35°	69.0	64.6	62.4	64.6	62.4	55.7	53.4	49.0	46.8	46.8	46.8
37.5°	62.4	57.9	53.4	51.2	51.2	51.2	46.8	42.3	40.1	37.9	40.1
40°	57.9	53.4	49.0	44.5	42.3	44.5	40.1	35.6	33.4	31.2	33.4
42.5°	53.4	49.0	42.3	37.9	33.4	37.9	33.4	29.0	26.7	24.5	26.7
45°	51.2	46.8	40.1	33.4	29.0	29.0	29.0	24.5	20.0	20.0	20.0
47.5°	49.0	44.5	35.6	29.0	24.5	22.3	22.3	17.8	15.6	13.4	13.4
50°	46.8	42.3	33.4	24.5	20.0	17.8	17.8	13.4	11.1	11.1	11.1
52.5°	44.5	40.1	31.2	22.3	17.8	13.4	11.1	8.9	8.9	6.7	6.7
55°	40.1	35.6	26.7	20.0	15.6	11.1	8.9	6.7	6.7	4.5	6.7
57.5°	37.9	33.4	24.5	17.8	13.4	8.9	6.7	4.5	4.5	4.5	4.5
60°	33.4	29.0	20.0	13.4	8.9	6.7	4.5	4.5	4.5	2.2	2.2
62.5°	26.7	24.5	17.8	11.1	6.7	4.5	2.2	2.2	2.2	2.2	2.2
65°	24.5	22.3	15.6	8.9	4.5	2.2	2.2	2.2	2.2	2.2	2.2
67.5°	20.0	17.8	11.1	6.7	2.2	2.2	0.0	2.2	2.2	0.0	0.0
70°	15.6	15.6	8.9	4.5	2.2	0.0	0.0	2.2	2.2	0.0	0.0
72.5°	13.4	13.4	8.9	2.2	0.0	0.0	0.0	2.2	2.2	2.2	0.0
75°	11.1	11.1	8.9	4.5	0.0	0.0	0.0	2.2	2.2	2.2	2.2
77.5°	8.9	6.7	4.5	2.2	0.0	0.0	0.0	2.2	2.2	2.2	2.2
80°	4.5	4.5	2.2	0.0	0.0	0.0	0.0	2.2	2.2	2.2	2.2
82.5°	2.2	2.2	0.0	0.0	0.0	0.0	0.0	2.2	4.5	4.5	2.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	4.5	4.5	4.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.2	4.5	4.5	4.5	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



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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5
2.5°	1331.7	1367.3	1407.4	1431.9	1485.4	1532.1	1587.8	1636.8	1694.7	1725.9	1737.0
5°	1068.9	1089.0	1140.2	1207.0	1267.1	1351.8	1449.7	1558.9	1676.9	1732.6	1772.6
7.5°	737.1	754.9	828.4	890.8	991.0	1100.1	1233.7	1382.9	1536.6	1614.5	1685.8
10°	481.0	505.5	567.9	654.7	781.7	915.3	1051.1	1207.0	1385.2	1476.5	1572.2
12.5°	278.4	307.3	383.0	496.6	621.3	763.8	904.1	1075.6	1273.8	1374.0	1472.0
15°	160.3	171.5	216.0	316.2	456.5	630.2	795.0	979.9	1211.5	1322.8	1438.6
17.5°	120.3	126.9	140.3	182.6	291.7	483.2	714.8	950.9	1218.1	1367.3	1469.8
20°	106.9	111.3	118.0	133.6	184.8	342.9	616.9	930.9	1282.7	1474.2	1598.9
22.5°	95.8	100.2	106.9	118.0	140.3	231.6	514.4	928.6	1389.6	1632.3	1772.6
25°	84.6	89.1	95.8	106.9	124.7	167.0	398.6	922.0	1523.2	1806.0	1982.0
27.5°	73.5	77.9	84.6	95.8	111.3	138.1	302.9	901.9	1683.6	1993.1	2180.2
30°	64.6	69.0	75.7	84.6	100.2	120.3	231.6	868.5	1821.6	2160.1	2313.8
32.5°	55.7	60.1	66.8	75.7	89.1	104.7	187.1	797.2	1928.5	2291.5	2422.9
35°	46.8	51.2	57.9	66.8	77.9	89.1	153.7	681.4	2037.6	2427.4	2554.3
37.5°	40.1	44.5	49.0	57.9	69.0	80.2	126.9	608.0	2117.8	2596.6	2721.3
40°	33.4	37.9	44.5	51.2	60.1	75.7	102.4	510.0	2198.0	2759.2	2875.0
42.5°	26.7	31.2	37.9	46.8	55.7	66.8	82.4	420.9	2278.2	2906.2	3015.3
45°	20.0	24.5	31.2	42.3	55.7	57.9	66.8	358.5	2298.2	3044.2	3137.8
47.5°	15.6	17.8	24.5	35.6	53.4	51.2	55.7	311.8	2336.1	3153.3	3258.0
50°	11.1	13.4	20.0	33.4	46.8	42.3	49.0	294.0	2389.5	3238.0	3293.6
52.5°	8.9	11.1	15.6	29.0	37.9	37.9	44.5	311.8	2458.5	3338.2	3384.9
55°	6.7	8.9	13.4	20.0	29.0	33.4	42.3	336.3	2592.2	3514.1	3505.2
57.5°	4.5	6.7	11.1	15.6	22.3	29.0	40.1	374.1	2728.0	3712.3	3721.2
60°	4.5	6.7	8.9	13.4	20.0	24.5	35.6	378.6	2705.7	3741.3	3872.6
62.5°	2.2	4.5	8.9	11.1	15.6	20.0	31.2	318.5	2491.9	3601.0	3792.5
65°	2.2	4.5	6.7	11.1	13.4	17.8	24.5	202.7	2169.0	3351.5	3605.4
67.5°	2.2	4.5	6.7	8.9	11.1	15.6	20.0	104.7	1839.5	3093.2	3338.2
70°	2.2	4.5	6.7	8.9	11.1	13.4	17.8	51.2	1394.1	2607.7	2924.0
72.5°	2.2	4.5	6.7	8.9	8.9	11.1	15.6	35.6	895.2	1959.7	2264.8
75°	2.2	4.5	4.5	6.7	8.9	11.1	13.4	24.5	579.0	1318.3	1717.0
77.5°	2.2	4.5	4.5	6.7	8.9	11.1	15.6	22.3	423.1	904.1	1187.0
80°	2.2	4.5	4.5	6.7	8.9	8.9	11.1	15.6	227.1	599.0	754.9
82.5°	4.5	4.5	6.7	6.7	6.7	8.9	11.1	11.1	118.0	383.0	510.0
85°	4.5	4.5	6.7	6.7	8.9	8.9	8.9	11.1	51.2	160.3	253.9
87.5°	4.5	6.7	6.7	6.7	8.9	8.9	8.9	8.9	6.7	8.9	8.9
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°	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5	1565.5
2.5°	1770.4	1799.4	1812.7	1801.6	1792.7	1766.0	1728.1	1690.2	1659.1	1656.8
5°	1863.9	1926.3	1975.3	1950.8	1917.4	1839.5	1743.7	1636.8	1596.7	1578.9
7.5°	1843.9	1979.7	2062.1	2039.9	1973.1	1826.1	1676.9	1536.6	1472.0	1449.7
10°	1752.6	1935.2	2044.3	2037.6	1975.3	1801.6	1616.8	1447.5	1378.5	1360.7
12.5°	1668.0	1848.4	1953.0	1957.5	1935.2	1774.9	1587.8	1407.4	1325.0	1316.1
15°	1623.4	1777.1	1839.5	1852.8	1861.7	1772.6	1614.5	1434.1	1347.3	1327.3
17.5°	1632.3	1705.8	1721.4	1710.3	1770.4	1774.9	1690.2	1527.7	1429.7	1405.2
20°	1685.8	1659.1	1607.8	1619.0	1685.8	1783.8	1803.8	1692.5	1581.1	1549.9
22.5°	1788.2	1656.8	1554.4	1545.5	1632.3	1799.4	1926.3	1868.4	1752.6	1734.8
25°	1939.7	1690.2	1532.1	1514.3	1590.0	1815.0	2051.0	2053.2	1961.9	1928.5
27.5°	2086.6	1743.7	1529.9	1512.1	1590.0	1835.0	2135.6	2235.8	2140.1	2104.5
30°	2171.3	1806.0	1565.5	1532.1	1619.0	1852.8	2191.3	2380.6	2296.0	2264.8
32.5°	2249.2	1872.9	1603.4	1563.3	1674.7	1901.8	2242.5	2512.0	2438.5	2400.6
35°	2313.8	1950.8	1674.7	1612.3	1757.1	1973.1	2304.9	2656.7	2610.0	2563.2
37.5°	2376.1	2028.7	1774.9	1739.2	1895.1	2075.5	2387.3	2808.2	2830.4	2783.7
40°	2465.2	2117.8	1946.3	1917.4	2097.8	2231.4	2487.5	2959.6	3033.1	2981.9
42.5°	2549.8	2231.4	2120.0	2146.8	2342.7	2411.8	2601.1	3097.7	3180.1	3157.8
45°	2627.8	2371.7	2371.7	2436.3	2607.7	2610.0	2687.9	3193.4	3280.3	3269.1
47.5°	2730.2	2545.4	2632.2	2810.4	2901.7	2781.4	2781.4	3284.7	3402.8	3371.6
50°	2830.4	2777.0	2977.4	3140.0	3220.2	2988.6	2877.2	3407.2	3547.5	3520.8
52.5°	2939.6	3001.9	3300.3	3460.7	3507.4	3224.6	3022.0	3529.7	3710.1	3710.1
55°	3115.5	3193.4	3641.0	3774.7	3841.5	3420.6	3206.8	3703.4	3908.3	3919.4
57.5°	3295.9	3378.3	3832.6	4001.8	4088.7	3710.1	3445.1	3935.0	4048.6	4046.3
60°	3485.2	3572.0	3981.8	4148.8	4275.7	4006.3	3727.9	4146.6	4115.4	4093.1
62.5°	3719.0	3719.0	4037.4	4115.4	4269.0	4193.3	4046.3	4266.8	4139.9	4088.7
65°	3832.6	3796.9	3877.1	3819.2	3995.1	4139.9	4289.1	4271.3	4053.0	3968.4
67.5°	3772.4	3556.4	3418.4	3331.5	3369.4	3618.8	4182.2	4059.7	3701.2	3636.6
70°	3360.5	2843.8	2714.6	2576.6	2503.1	2761.4	3614.3	3585.4	3148.9	3088.8
72.5°	2739.1	2053.2	1741.5	1881.8	1810.5	2102.2	2961.8	2529.8	2066.6	2013.2
75°	2273.7	1527.7	1135.7	1138.0	1149.1	1380.7	2164.6	1503.2	1135.7	1095.7
77.5°	1645.7	1075.6	917.5	821.7	830.6	881.9	1126.8	641.4	523.3	474.3
80°	1004.3	665.9	741.6	659.2	636.9	489.9	485.5	93.5	62.4	62.4
82.5°	547.8	423.1	394.2	142.5	220.5	267.2	220.5	4.5	2.2	2.2
85°	278.4	169.2	80.2	24.5	29.0	24.5	4.5	0.0	0.0	0.0
87.5°	8.9	6.7	6.7	4.5	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

REPORT NUMBER: SP1-2408-195-9

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			

REPORT NUMBER: SP1-2408-195-9

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)