

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P631058

Luminaire Tested: GWS-SA1E-830-U-SLR-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P631058
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-42)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1E-830-U-SLR-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR RIGHT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (16) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3211.4 lumens
Efficiency: N/A
Efficacy: 55.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G0

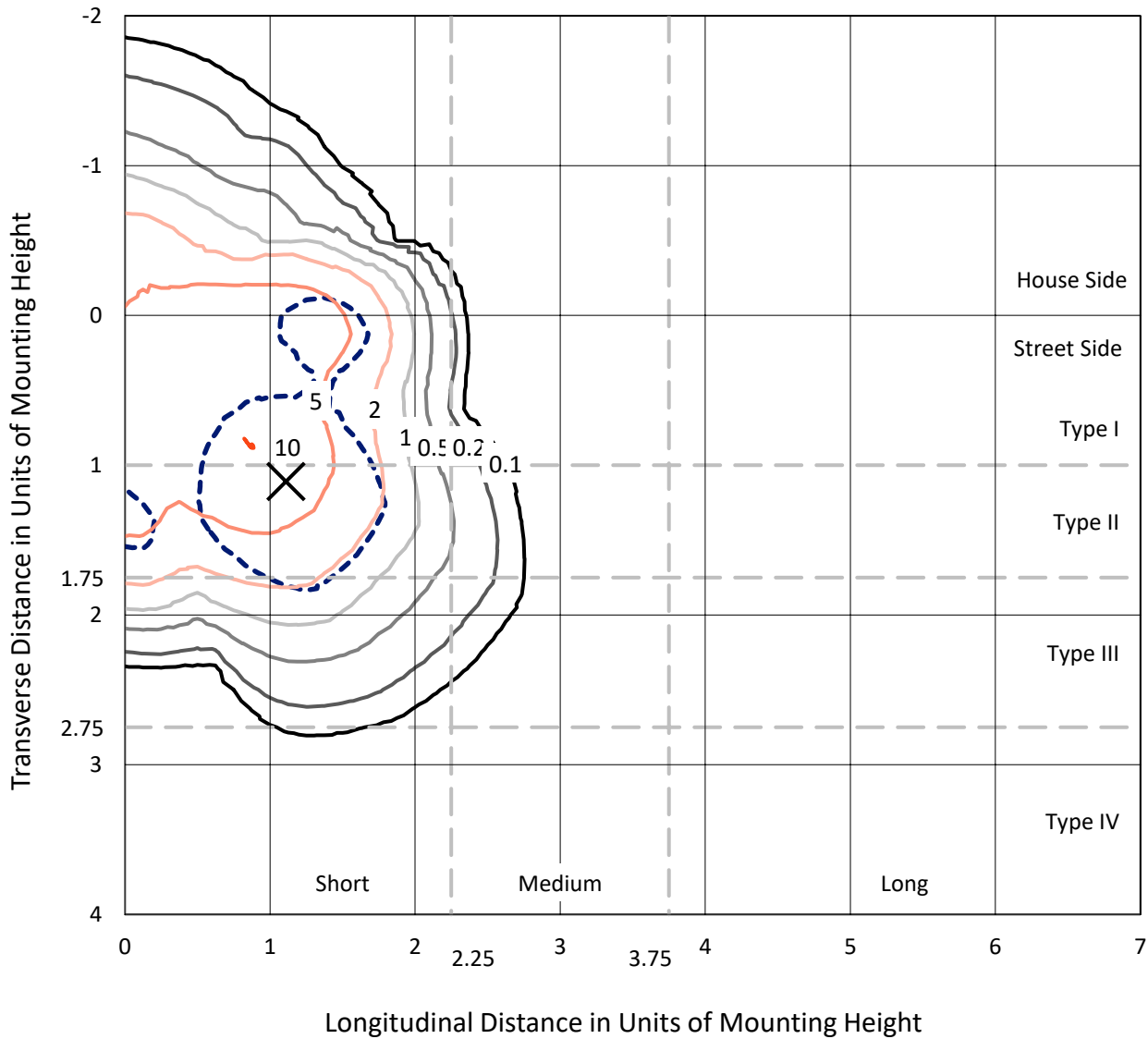
Input Watts (W): 58.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

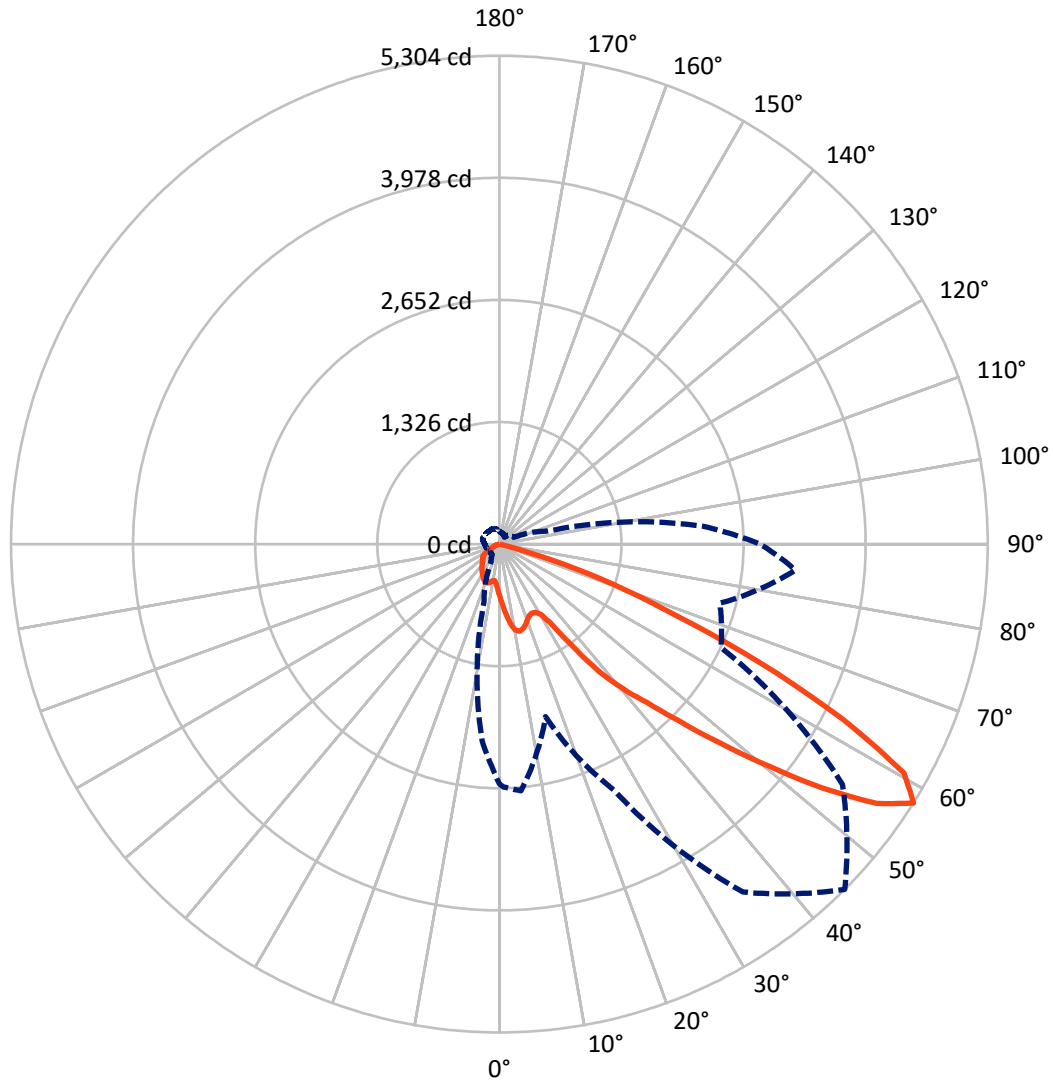
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.1 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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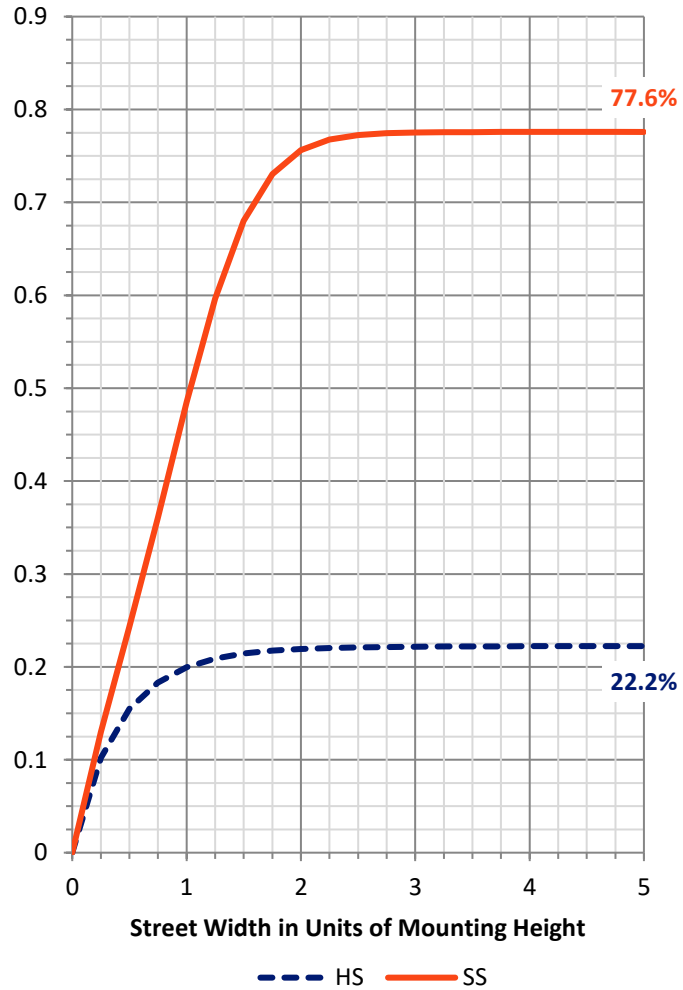
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	719.1	0.0	719.1
	% Fixture	22.4	0.0	22.4
Street Side	Lumens	2492.3	0.0	2492.3
	% Fixture	77.6	0.0	77.6
Total	Lumens	3211.4	0.0	3211.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.5	1.7
10°-20°	179.6	5.6
20°-30°	291.8	9.1
30°-40°	450.9	14.0
40°-50°	723.0	22.5
50°-60°	988.1	30.8
60°-70°	478.6	14.9
70°-80°	43.8	1.4
80°-90°	0.1	0.0
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°	3211.4	100.0
0°-180°	3211.4	100.0

Coefficient of Utilization



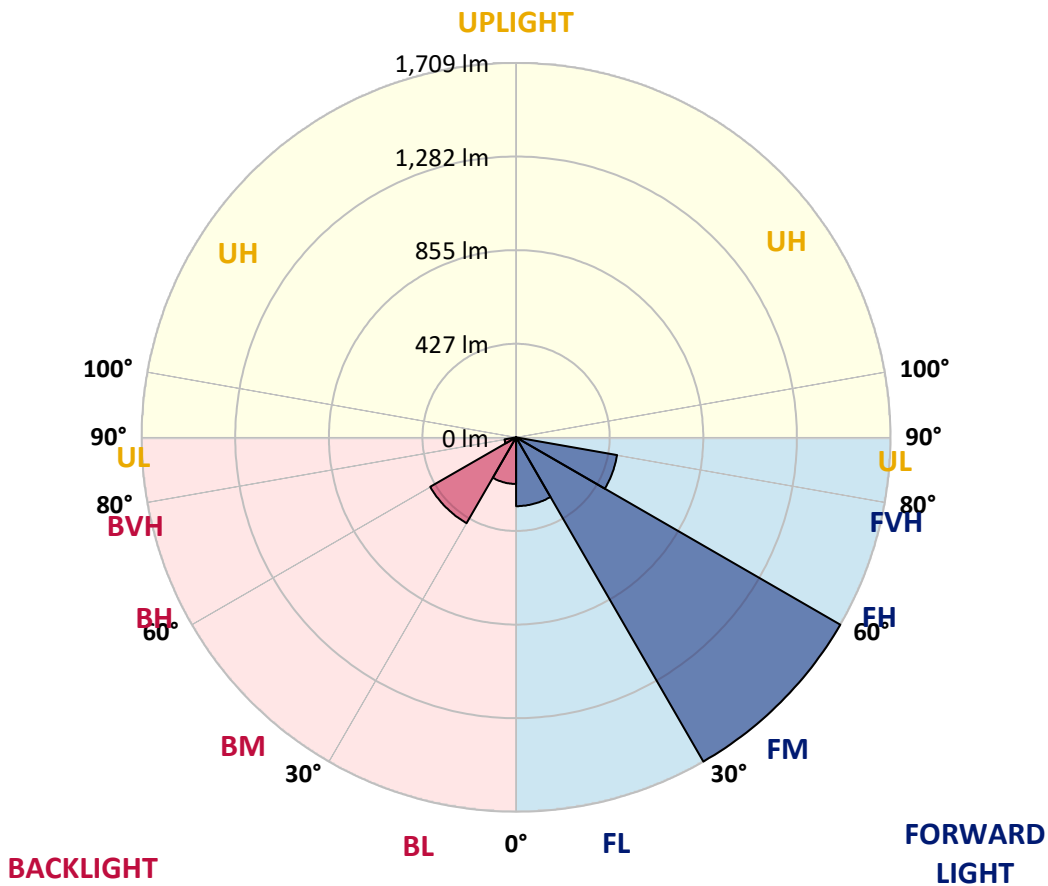
REPORT NUMBER: P631058

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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°)	314.2	9.8			
FM (30°-60°)	1709.5	53.2			
FH (60°-80°)	468.5	14.6			G0/660
FVH (80°-90°)	0.1	0.0			G0/10
BL (0°-30°)	212.8	6.6	B1/500		
BM (30°-60°)	452.4	14.1	B1/1000		
BH (60°-80°)	53.9	1.7	B0/110		G0/110
BVH (80°-90°)	0.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G0
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4
2.5°	611.5	615.4	621.8	635.6	647.3	655.1	658.5	657.6	652.9	649.4	642.5
5°	677.1	677.1	689.6	721.1	745.2	760.4	768.1	763.4	753.9	738.8	715.5
7.5°	734.5	736.6	757.8	802.6	839.3	860.9	873.4	870.8	854.0	825.1	778.5
10°	779.3	781.9	810.0	864.8	907.9	929.9	948.5	950.2	931.7	893.3	839.8
12.5°	822.9	825.5	854.9	907.5	945.5	954.5	970.9	977.4	972.7	945.5	889.8
15°	870.0	876.0	901.0	940.3	956.3	945.5	956.3	967.9	983.9	981.3	931.2
17.5°	916.1	920.4	945.9	959.7	942.0	914.0	919.2	933.0	969.2	1004.6	972.2
20°	958.9	964.9	986.0	967.9	914.4	870.8	871.3	889.4	944.6	1018.8	1014.1
22.5°	1003.7	1012.8	1027.9	977.0	888.9	836.7	838.9	855.3	925.2	1032.2	1061.6
25°	1062.4	1071.1	1081.0	999.4	880.7	819.9	828.1	843.2	925.2	1055.1	1120.2
27.5°	1141.8	1147.9	1148.3	1041.3	895.0	822.5	839.8	857.0	952.8	1100.8	1198.8
30°	1241.5	1251.0	1238.5	1106.4	939.4	857.0	882.5	904.1	1012.4	1178.1	1314.4
32.5°	1362.8	1376.1	1359.3	1203.1	1032.2	976.1	1022.3	1034.8	1107.3	1289.8	1445.6
35°	1505.2	1516.4	1498.3	1336.9	1248.8	1259.2	1342.9	1326.9	1298.0	1427.5	1598.8
37.5°	1661.4	1671.7	1636.8	1539.7	1569.0	1613.9	1747.7	1692.9	1599.7	1604.9	1764.9
40°	1804.6	1815.9	1761.1	1760.2	1820.6	1902.6	2064.0	1988.5	1861.6	1837.0	1920.7
42.5°	1953.1	1960.9	1911.2	1877.6	2014.8	2183.5	2354.4	2252.6	2035.1	2008.3	2115.8
45°	2165.0	2181.4	2092.9	1935.4	2189.6	2506.7	2744.9	2546.0	2153.3	2131.7	2414.4
47.5°	2476.5	2488.6	2308.2	1971.6	2352.3	2909.4	3233.0	2926.6	2257.3	2208.1	2822.6
50°	2734.2	2742.4	2506.3	2011.3	2525.3	3343.5	3789.2	3378.0	2374.3	2334.6	3203.7
52.5°	2924.0	2955.1	2766.5	2092.9	2752.7	3854.0	4405.0	3912.7	2556.8	2578.8	3519.5
55°	2963.3	3005.6	2944.3	2143.0	2952.9	4374.0	4973.8	4391.2	2738.9	2763.9	3625.7
57.5°	2604.3	2637.9	2688.8	1941.0	2948.2	4612.2	5303.9	4550.0	2656.1	2478.7	3228.3
60°	1950.9	1974.2	2066.6	1483.6	2711.3	4401.6	5046.7	4279.9	2322.5	1891.4	2459.7
62.5°	1156.9	1167.3	1284.2	961.0	2250.4	3790.5	4185.4	3693.0	1835.3	1272.1	1506.5
65°	444.0	439.7	529.1	474.2	1654.9	3019.4	3113.0	2815.3	1259.2	583.0	574.4
67.5°	68.6	65.6	88.5	140.2	1193.6	2092.5	2054.1	2029.0	788.8	135.9	118.7
70°	15.5	15.5	19.0	41.4	729.3	1229.4	1315.7	1254.5	504.9	28.9	15.5
72.5°	7.3	7.3	9.1	17.7	264.1	506.6	590.3	581.3	164.0	9.5	5.6
75°	2.6	3.0	3.0	3.9	16.0	26.3	60.4	43.2	10.4	0.0	0.0
77.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.4	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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4
2.5°	627.4	624.4	613.2	598.1	583.4	570.5	557.1	541.1	529.5	516.1	511.8
5°	697.3	678.4	647.7	615.8	586.4	561.4	537.3	511.4	492.4	473.4	466.9
7.5°	756.5	728.4	678.8	630.9	590.8	555.4	520.4	485.0	457.4	435.0	428.1
10°	809.5	777.2	710.7	651.6	601.1	560.1	517.8	473.4	437.6	410.8	404.3
12.5°	855.3	817.7	737.9	667.1	605.4	558.4	517.4	482.0	449.7	419.0	410.8
15°	893.7	852.3	760.8	677.5	599.0	536.8	501.0	495.4	492.8	459.1	443.2
17.5°	931.2	884.6	779.3	682.2	580.8	498.8	473.0	498.4	525.6	503.6	483.3
20°	970.5	917.4	798.3	683.1	550.6	456.1	451.8	491.9	526.5	519.6	500.6
22.5°	1016.7	958.4	822.1	682.7	512.7	419.9	436.3	479.4	507.5	507.0	491.9
25°	1083.6	1010.2	854.0	685.3	471.2	391.8	419.0	458.3	481.2	480.3	467.8
27.5°	1155.2	1071.9	895.4	691.7	435.8	375.4	398.7	429.4	449.2	448.4	437.6
30°	1255.7	1143.1	935.1	692.2	410.4	366.8	376.3	397.4	416.4	414.3	406.1
32.5°	1377.9	1223.4	968.3	667.6	394.4	358.6	353.0	363.8	378.4	375.4	373.3
35°	1525.4	1318.7	996.8	613.6	369.8	342.2	327.1	329.3	339.6	341.3	340.5
37.5°	1693.7	1432.2	1032.2	542.4	336.6	318.5	298.2	296.5	302.5	308.1	312.4
40°	1859.9	1560.0	1080.1	470.4	306.4	288.3	268.8	264.5	267.1	277.0	286.1
42.5°	2046.7	1708.0	1131.9	408.7	285.7	255.0	236.5	228.3	235.6	251.6	262.4
45°	2316.0	1915.6	1182.4	359.5	277.0	225.7	200.7	199.8	208.0	228.7	240.8
47.5°	2694.0	2184.0	1215.6	321.1	276.6	202.8	173.0	178.2	187.7	208.0	221.8
50°	3062.6	2520.1	1178.9	291.7	267.5	187.7	152.3	162.7	172.2	189.9	204.1
52.5°	3284.8	2700.9	1036.1	264.1	239.5	180.8	132.0	150.2	151.9	167.9	183.0
55°	3261.5	2584.0	793.6	221.4	198.1	170.9	110.9	135.5	136.4	148.4	161.4
57.5°	2830.8	2218.5	545.0	179.5	148.9	141.1	91.5	114.4	122.6	129.9	139.4
60°	2109.7	1618.7	243.0	145.9	94.5	95.4	78.1	86.3	98.8	107.5	115.6
62.5°	1243.2	931.2	98.8	87.6	52.2	60.0	63.0	63.0	70.8	77.2	82.4
65°	469.9	325.8	40.1	44.0	27.2	28.0	37.1	45.7	51.8	57.4	64.3
67.5°	82.4	57.0	20.7	16.4	16.0	14.2	19.0	29.8	33.2	37.5	40.6
70°	13.8	11.7	8.6	8.2	7.3	7.8	12.5	21.1	23.3	24.6	25.9
72.5°	3.9	3.5	2.6	2.2	1.7	2.2	7.8	16.4	17.3	18.1	19.4
75°	0.0	0.0	0.0	0.0	0.0	0.0	3.0	11.7	12.5	12.9	14.2
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	3.5	4.3	3.5
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4
2.5°	509.2	500.6	495.8	493.2	493.2	489.8	485.9	484.6	490.2	490.2	499.7
5°	458.7	451.8	444.0	439.3	432.0	433.3	428.9	428.5	434.1	436.7	446.6
7.5°	423.8	415.1	410.4	407.4	403.5	401.8	397.9	396.6	399.6	403.9	413.4
10°	400.5	399.2	398.7	400.9	400.9	398.7	395.3	393.1	394.0	402.2	413.0
12.5°	406.5	409.1	410.0	413.4	415.1	413.4	410.8	411.7	417.3	432.4	448.4
15°	432.8	430.7	429.8	431.5	432.8	431.1	430.2	436.7	456.1	477.7	495.8
17.5°	460.9	447.1	441.0	441.0	441.9	441.0	441.9	454.4	485.9	507.5	520.9
20°	475.1	449.7	440.2	438.0	439.7	440.2	443.2	457.4	491.9	507.0	510.1
22.5°	470.8	438.9	428.1	426.3	428.1	429.8	432.8	444.9	477.3	485.0	483.7
25°	449.2	417.7	409.1	409.1	413.0	412.5	413.8	422.5	449.2	454.0	451.8
27.5°	422.0	392.3	384.9	389.2	392.7	391.8	392.3	399.6	419.4	420.7	418.6
30°	394.4	368.5	361.6	366.8	371.5	370.7	371.1	378.4	391.0	389.7	386.6
32.5°	366.4	347.4	342.2	345.2	352.6	351.7	353.4	361.2	365.9	360.3	356.9
35°	340.5	330.6	326.7	328.4	334.0	335.3	338.3	343.5	343.5	336.6	330.6
37.5°	316.3	315.0	312.4	310.3	315.4	319.3	323.6	329.7	321.1	311.1	305.5
40°	293.9	299.5	296.0	290.4	293.4	299.0	307.7	312.4	302.1	292.1	282.7
42.5°	273.2	282.7	281.4	274.5	277.0	282.2	292.1	296.0	283.9	272.7	263.7
45°	253.3	266.7	267.5	258.9	261.5	266.7	278.3	279.6	264.1	252.0	245.5
47.5°	236.0	250.7	251.1	244.7	245.5	252.9	263.7	264.1	246.4	235.2	227.0
50°	219.6	236.5	237.8	232.2	233.0	241.7	250.7	249.0	230.0	218.4	211.0
52.5°	199.8	222.7	225.7	223.1	226.6	233.5	239.1	233.0	211.0	199.4	192.9
55°	178.2	208.0	214.5	212.7	216.6	222.2	223.5	219.6	192.0	180.4	174.3
57.5°	153.2	171.3	182.5	179.1	182.1	187.7	191.6	188.6	167.9	158.8	153.6
60°	126.9	139.0	141.5	135.9	133.3	143.3	152.3	148.4	130.8	125.1	119.1
62.5°	92.8	106.6	108.3	101.0	98.0	108.7	116.5	112.6	93.2	87.2	82.4
65°	74.2	87.2	90.6	83.7	82.0	90.2	94.9	85.4	71.6	65.2	60.0
67.5°	48.8	59.1	68.2	67.7	64.3	66.9	63.4	55.7	45.7	42.3	38.8
70°	30.2	36.2	41.9	44.0	43.6	42.7	38.0	32.4	29.3	28.0	26.3
72.5°	23.3	29.3	33.7	35.0	35.4	34.1	30.2	25.0	22.0	20.3	19.0
75°	17.3	22.0	25.5	27.2	28.0	27.2	23.3	19.9	16.8	15.5	14.2
77.5°	6.0	7.3	9.1	9.9	9.5	9.1	8.2	8.2	6.5	6.0	5.2
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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CATALOG NUMBER: GWS-SA1E-830-U-SLR-W-GRSBK

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4
2.5°	510.5	518.3	532.5	545.5	559.3	573.5	589.0	605.0	612.3	611.5
5°	461.7	478.6	501.9	527.3	555.8	586.4	620.5	655.5	670.6	677.1
7.5°	431.1	454.8	485.5	517.8	555.4	599.0	650.3	705.1	727.1	734.5
10°	435.0	462.6	488.1	519.6	559.7	616.2	680.1	745.2	771.1	779.3
12.5°	466.5	472.5	479.4	505.3	555.8	629.2	707.3	784.9	814.7	822.9
15°	495.0	466.9	454.0	477.7	542.0	638.2	734.9	827.7	860.5	870.0
17.5°	496.3	454.0	425.1	443.6	519.6	642.1	762.1	871.3	907.1	916.1
20°	480.3	439.7	402.6	403.0	488.9	641.2	784.5	910.5	950.7	958.9
22.5°	457.0	422.9	384.5	371.1	456.1	639.5	809.1	952.4	996.0	1003.7
25°	431.1	401.3	367.2	346.9	423.3	641.2	843.6	1007.2	1055.1	1062.4
27.5°	403.0	377.6	353.9	337.5	395.7	647.7	885.1	1077.1	1134.1	1141.8
30°	373.7	354.7	345.2	335.3	378.4	649.4	929.9	1158.7	1230.7	1241.5
32.5°	344.8	334.4	334.9	336.6	362.1	637.4	970.9	1249.3	1345.5	1362.8
35°	318.0	315.0	323.6	332.3	338.3	606.3	1006.8	1356.3	1487.5	1505.2
37.5°	295.2	297.8	308.5	317.2	312.4	562.3	1054.2	1490.1	1646.3	1661.4
40°	273.2	279.6	292.1	296.0	292.6	510.9	1111.2	1619.1	1783.9	1804.6
42.5°	252.9	257.6	275.3	276.2	287.0	458.7	1166.0	1758.0	1942.3	1953.1
45°	236.5	235.6	253.7	259.3	294.3	400.9	1219.5	1943.2	2149.4	2165.0
47.5°	220.5	219.6	224.0	249.4	297.3	347.4	1272.6	2214.2	2449.8	2476.5
50°	205.4	206.7	193.3	244.7	280.9	306.4	1296.7	2464.9	2722.9	2734.2
52.5°	192.0	187.3	164.0	229.1	246.0	267.5	1228.1	2578.8	2892.1	2924.0
55°	173.0	146.7	135.1	186.0	194.2	233.5	1005.9	2512.8	2906.8	2963.3
57.5°	148.0	115.2	114.8	137.2	137.2	216.6	644.3	2146.8	2505.0	2604.3
60°	113.9	89.3	94.9	95.4	88.0	157.9	361.6	1555.2	1852.1	1950.9
62.5°	81.1	68.2	71.6	57.0	50.5	79.0	173.5	895.4	1143.1	1156.9
65°	54.4	46.2	37.5	31.5	31.1	33.7	71.6	323.6	393.6	444.0
67.5°	35.8	28.0	19.9	19.9	22.4	22.4	27.2	53.5	75.1	68.6
70°	23.3	19.4	12.5	12.1	14.7	14.7	13.8	14.7	15.5	15.5
72.5°	17.3	14.7	7.3	6.5	8.2	8.6	7.8	7.3	7.3	7.3
75°	12.9	10.4	4.3	3.0	3.9	5.2	4.3	3.0	3.0	2.6
77.5°	5.2	3.9	1.7	1.3	2.2	3.0	2.6	1.3	0.9	0.9
80°	0.4	0.9	0.9	0.9	1.3	1.7	2.2	0.9	0.4	0.4
82.5°	0.0	0.4	0.4	0.4	0.9	1.3	1.7	0.9	0.4	0.4
85°	0.0	0.0	0.0	0.0	0.9	1.3	0.9	0.4	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.4	1.3	0.9	0.4	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			

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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			

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

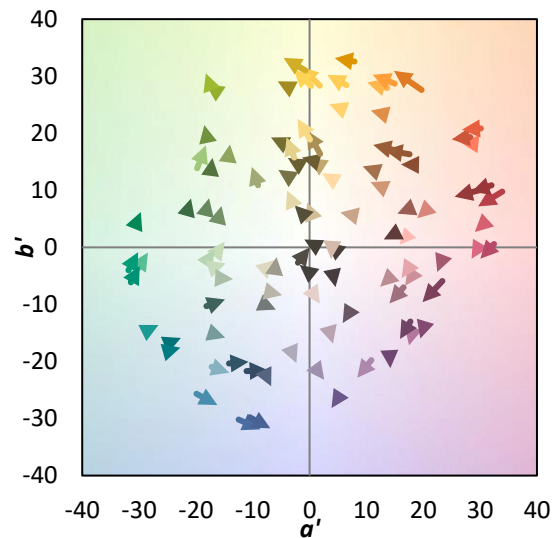
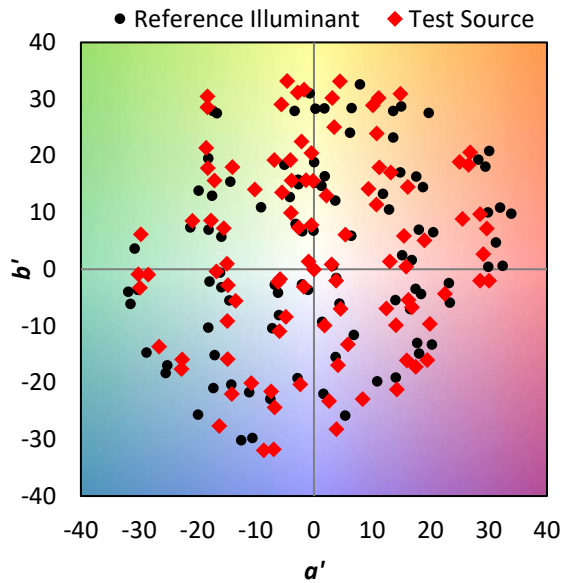
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	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)