

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: P633535

Luminaire Tested: GWS-SA2E-830-U-SLR-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P633535
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-44)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2E-830-U-SLR-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND
SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: (32) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7193.3 lumens
Efficiency: N/A
Efficacy: 66.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

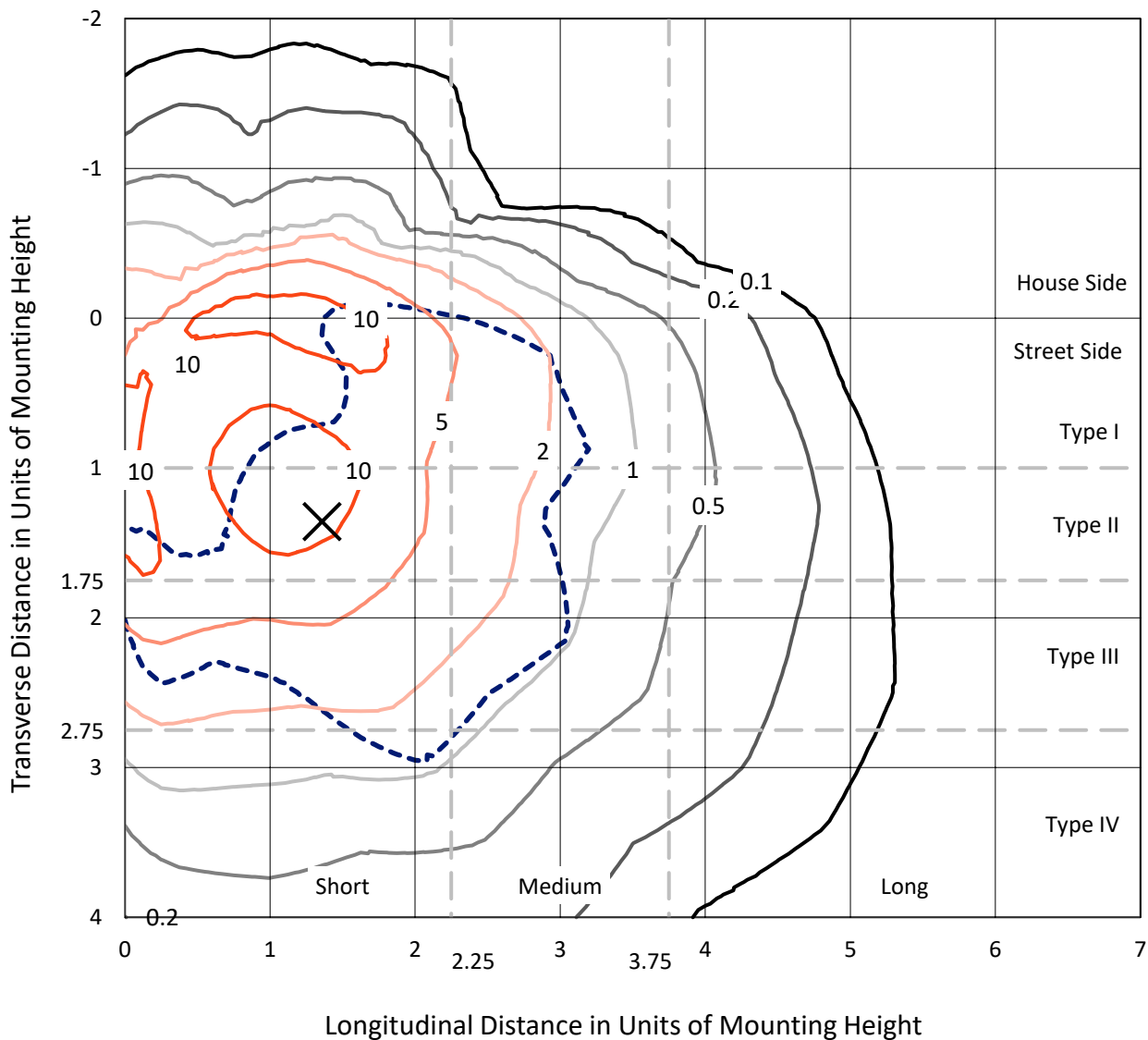
Input Watts (W): 108.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

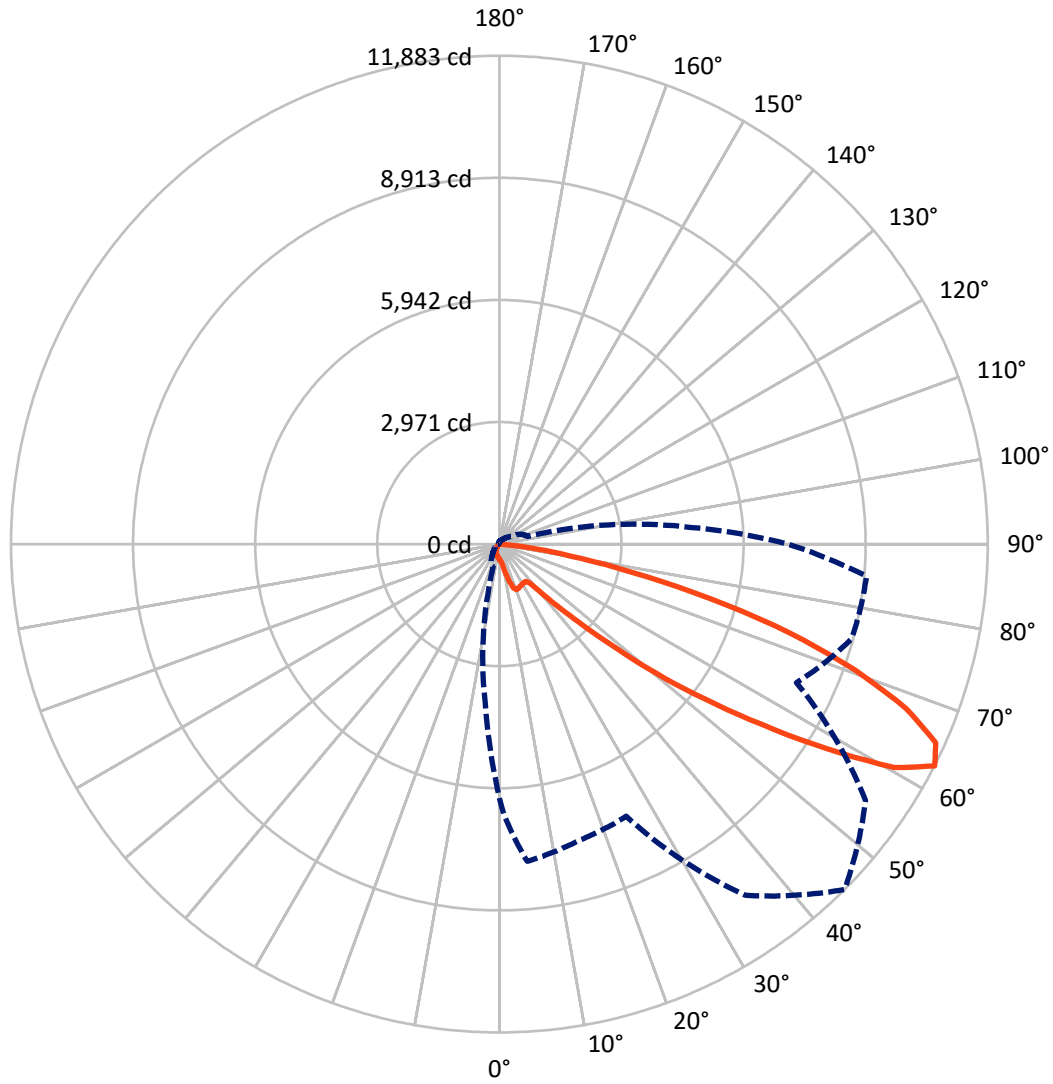
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.6 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	887.6	0.0	887.6
	% Fixture	12.3	0.0	12.3
Street Side	Lumens	6305.7	0.0	6305.7
	% Fixture	87.7	0.0	87.7
Total	Lumens	7193.3	0.0	7193.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.2	0.5
10°-20°	125.4	1.7
20°-30°	272.6	3.8
30°-40°	447.5	6.2
40°-50°	822.6	11.4
50°-60°	1766.6	24.6
60°-70°	2372.8	33.0
70°-80°	1235.5	17.2
80°-90°	117.2	1.6
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°	7193.3	100.0
0°-180°	7193.3	100.0

Coefficient of Utilization

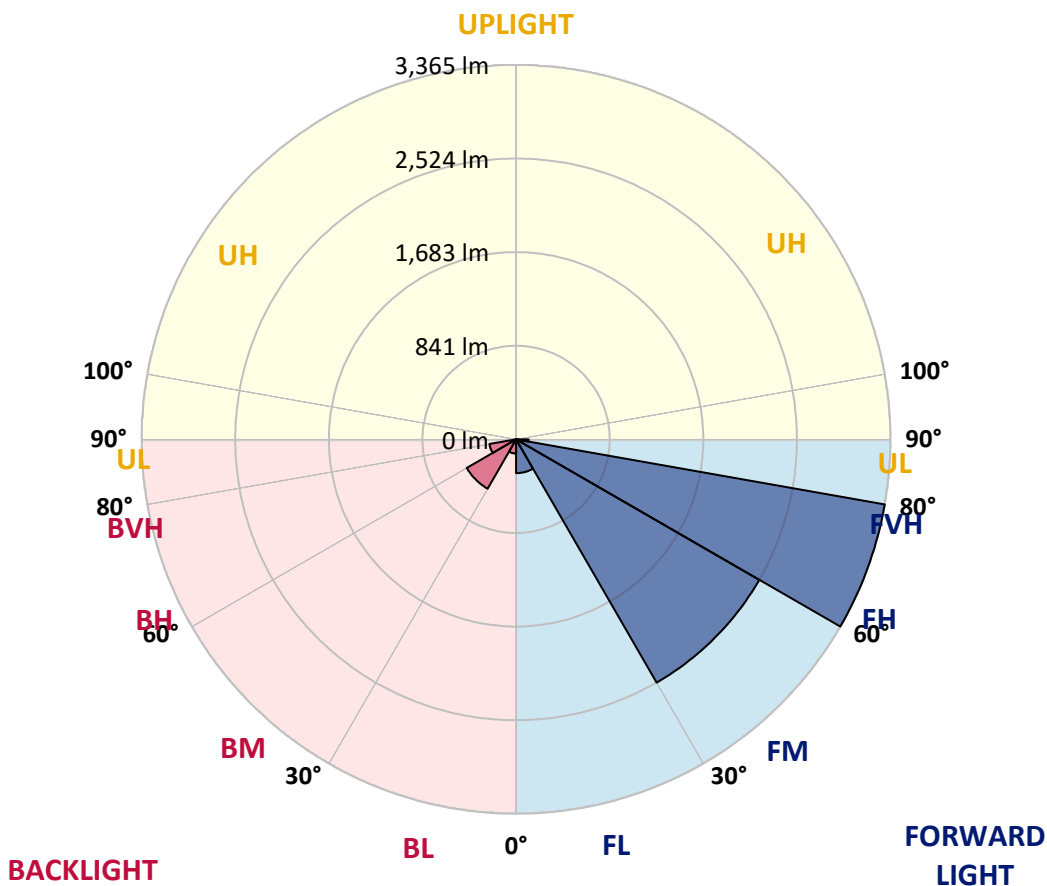


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	303.9	4.2			
FM (30°-60°)	2524.8	35.1			
FH (60°-80°)	3365.1	46.8			G2/5000
FVH (80°-90°)	111.9	1.6			G2/225
BL (0°-30°)	127.3	1.8	B1/500		
BM (30°-60°)	511.9	7.1	B1/1000		
BH (60°-80°)	243.2	3.4	B1/500		G1/500
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-G2
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9
2.5°	381.4	383.0	384.7	390.5	394.7	398.0	398.8	396.3	390.5	384.7	376.4
5°	369.7	371.4	377.2	393.0	408.8	421.3	425.4	422.9	408.8	390.5	371.4
7.5°	368.9	372.2	386.4	419.6	453.7	479.4	486.1	480.3	453.7	417.1	378.1
10°	398.8	404.6	425.4	485.2	547.6	593.3	611.5	586.6	544.2	477.8	413.8
12.5°	476.9	486.9	526.8	614.0	710.4	771.1	796.0	765.3	698.8	602.4	501.0
15°	599.9	614.9	674.7	805.1	919.0	973.0	981.3	963.8	886.6	780.2	643.9
17.5°	773.6	795.2	888.2	1021.2	1103.4	1122.5	1120.0	1101.8	1045.3	972.1	843.4
20°	981.3	1007.0	1098.4	1208.1	1216.4	1194.0	1181.5	1170.7	1151.6	1139.2	1038.6
22.5°	1190.7	1222.2	1317.8	1345.2	1270.4	1205.6	1174.9	1183.2	1211.4	1272.9	1232.2
25°	1399.2	1429.1	1518.9	1444.9	1295.4	1187.3	1148.3	1168.2	1235.5	1368.5	1420.8
27.5°	1642.7	1665.1	1718.3	1513.1	1299.5	1172.4	1134.2	1164.9	1247.2	1428.3	1627.7
30°	1896.1	1909.4	1883.6	1531.3	1285.4	1150.0	1120.0	1164.9	1267.1	1468.2	1783.1
32.5°	2082.2	2084.7	2000.8	1533.0	1277.9	1131.7	1106.7	1159.9	1286.2	1501.4	1933.5
35°	2274.1	2261.7	2113.0	1557.9	1297.9	1138.3	1116.7	1174.0	1316.1	1540.5	2065.6
37.5°	2468.6	2446.1	2238.4	1598.6	1349.4	1210.6	1197.3	1246.3	1364.3	1594.5	2211.0
40°	2668.0	2637.2	2368.9	1660.1	1464.0	1456.6	1502.3	1496.4	1496.4	1663.4	2360.6
42.5°	2911.4	2875.7	2561.6	1833.8	1731.6	1898.6	2023.2	1945.9	1803.0	1822.1	2555.0
45°	3233.0	3202.3	2895.7	2166.1	2151.2	2535.0	2702.9	2550.0	2194.4	2188.6	2879.9
47.5°	3747.3	3741.5	3428.3	2551.7	2664.7	3345.2	3669.2	3375.1	2640.6	2576.6	3494.7
50°	4470.2	4452.7	4092.1	3003.7	3275.4	4348.9	4927.2	4437.0	3179.8	3029.4	4318.1
52.5°	5284.5	5302.7	5021.9	3497.2	3924.3	5465.6	6270.7	5653.4	3765.6	3605.2	5354.3
55°	6051.4	6156.1	6082.1	4074.7	4558.3	6698.6	7746.4	6987.8	4491.0	4358.9	6515.8
57.5°	6651.3	6946.3	7464.7	4913.9	5303.6	8141.1	9394.1	8434.4	5337.6	5582.8	8097.0
60°	6684.5	7075.0	8279.0	6669.6	6262.4	9378.3	11039.2	9847.7	6668.7	7660.8	9335.9
62.5°	6183.5	6602.3	7748.9	7467.2	7306.9	10431.0	11883.4	10878.0	7978.2	8878.1	8968.6
65°	5610.2	6033.1	7157.3	6562.4	7185.5	10386.1	11669.0	10902.1	8097.0	8050.5	8311.4
67.5°	4743.6	5123.3	6141.1	5808.8	6623.0	9885.1	10678.6	10215.0	7459.7	7529.5	7645.9
70°	3462.3	3827.9	4772.6	4789.3	5783.8	8981.9	9175.5	9111.6	6869.8	6943.8	6611.4
72.5°	2501.0	2809.2	3624.3	3927.6	4617.3	7532.0	7398.3	7645.0	5894.3	6184.3	5310.2
75°	1798.0	2029.0	2658.9	3416.6	3660.1	5593.6	5296.1	5920.9	4729.4	5325.2	3992.4
77.5°	729.5	810.9	1046.1	2301.6	2405.4	3763.1	3242.1	4300.7	3371.8	3498.9	1935.1
80°	29.9	33.2	43.2	1188.2	1649.3	2117.1	1734.9	2299.1	2226.8	1409.2	457.0
82.5°	3.3	3.3	7.5	342.3	722.0	1168.2	817.6	1324.4	1127.5	597.4	207.7
85°	0.8	0.8	1.7	39.1	169.5	187.0	110.5	406.3	524.3	244.3	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	7.5	8.3	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°	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9
2.5°	376.4	372.2	367.3	362.3	359.8	353.1	350.6	349.0	347.3	348.1	348.1
5°	363.9	354.8	344.0	333.2	327.4	320.7	317.4	315.7	316.6	319.9	319.9
7.5°	362.3	344.8	321.6	307.4	300.8	295.8	292.5	290.8	291.6	295.8	297.5
10°	389.7	358.9	317.4	293.3	285.8	280.8	277.5	275.0	273.4	276.7	277.5
12.5°	448.7	406.3	337.3	291.6	278.3	271.7	269.2	264.2	261.7	263.4	264.2
15°	570.8	497.7	377.2	298.3	271.7	264.2	260.1	255.9	251.8	250.9	251.8
17.5°	730.4	625.7	437.9	314.1	266.7	257.6	251.8	245.9	240.1	239.3	238.5
20°	928.1	782.7	522.6	339.0	262.6	251.8	243.5	235.1	227.7	225.2	225.2
22.5°	1108.4	972.1	631.5	369.7	256.7	243.5	233.5	223.5	215.2	211.0	210.2
25°	1328.6	1173.2	761.9	405.5	248.4	232.6	221.8	211.9	203.6	198.6	196.9
27.5°	1550.4	1385.1	909.8	452.0	238.5	221.8	211.9	202.7	193.6	187.8	186.1
30°	1765.6	1613.6	1076.0	510.2	231.0	211.0	202.7	193.6	185.3	176.1	173.7
32.5°	1996.6	1847.1	1262.1	575.0	225.2	203.6	194.4	186.1	175.3	167.0	162.9
35°	2219.3	2088.0	1467.4	638.1	219.4	196.9	187.0	178.6	167.0	157.9	152.1
37.5°	2443.7	2333.1	1681.7	676.3	211.0	187.8	178.6	172.0	158.7	147.9	141.3
40°	2681.3	2586.6	1913.5	660.6	203.6	177.8	172.8	165.3	150.4	137.9	129.6
42.5°	2942.2	2828.4	2149.5	599.9	196.9	169.5	164.5	157.0	142.9	128.0	117.2
45°	3270.4	3093.4	2343.1	508.5	200.2	161.2	151.2	149.6	136.3	117.2	103.9
47.5°	3834.6	3500.5	2493.5	449.5	222.7	152.1	140.4	144.6	130.4	106.4	91.4
50°	4697.9	4175.2	2633.9	445.4	256.7	147.9	130.4	141.3	124.6	95.6	80.6
52.5°	5520.4	4860.7	2723.7	481.9	286.7	158.7	120.5	137.1	120.5	88.1	73.1
55°	6307.3	5256.2	2563.3	508.5	314.9	191.1	113.0	130.4	115.5	83.9	70.6
57.5°	7155.6	5432.4	2018.2	562.5	334.8	218.5	114.7	120.5	108.8	81.4	69.8
60°	7409.1	5207.2	1218.1	633.1	324.0	226.8	127.1	107.2	99.7	76.4	67.3
62.5°	7015.2	4672.9	718.7	576.6	314.9	214.4	145.4	98.9	90.6	69.8	62.3
65°	6426.1	3947.6	468.6	486.9	334.0	191.1	154.5	94.7	82.3	63.1	54.8
67.5°	5753.1	3179.8	328.2	287.5	308.3	172.0	130.4	93.9	73.9	53.2	44.9
70°	4845.8	2381.3	231.0	190.3	256.7	152.9	101.4	91.4	64.8	43.2	34.9
72.5°	3744.0	1490.6	172.0	123.0	182.8	124.6	80.6	77.3	52.3	35.7	26.6
75°	2761.1	850.0	121.3	88.9	120.5	94.7	59.8	54.8	44.9	34.1	24.1
77.5°	1441.6	425.4	75.6	68.1	69.0	59.0	43.2	39.9	41.5	34.1	22.4
80°	276.7	84.8	45.7	49.9	37.4	37.4	31.6	33.2	36.6	27.4	19.1
82.5°	115.5	18.3	24.9	28.3	23.3	25.8	25.8	26.6	25.8	19.9	14.1
85°	0.0	0.0	10.8	11.6	15.8	15.8	13.3	13.3	13.3	11.6	8.3
87.5°	0.0	0.0	0.0	0.0	0.8	2.5	5.0	5.8	6.6	5.0	3.3
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°	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9
2.5°	347.3	345.7	348.1	349.8	351.5	351.5	349.8	348.1	345.7	348.1	345.7
5°	320.7	323.2	327.4	329.0	330.7	327.4	325.7	320.7	316.6	317.4	315.7
7.5°	300.0	302.4	307.4	310.8	310.8	309.1	304.1	299.1	292.5	292.5	291.6
10°	280.8	284.2	290.0	294.1	295.8	294.1	289.2	282.5	276.7	276.7	274.2
12.5°	265.1	269.2	275.9	281.7	283.3	281.7	276.7	270.0	263.4	263.4	261.7
15°	251.8	256.7	264.2	270.9	273.4	270.9	265.1	256.7	250.1	250.9	248.4
17.5°	239.3	243.5	253.4	260.9	263.4	260.9	253.4	242.6	236.0	237.6	236.0
20°	225.2	230.2	240.1	248.4	250.9	248.4	240.1	228.5	221.8	221.8	222.7
22.5°	210.2	215.2	225.2	231.0	234.3	231.8	223.5	212.7	206.1	206.1	206.9
25°	196.9	199.4	206.9	212.7	213.5	211.0	204.4	196.1	191.1	193.6	194.4
27.5°	184.5	184.5	187.8	191.1	190.3	187.8	185.3	178.6	177.8	180.3	182.8
30°	171.2	167.0	165.3	162.9	162.0	161.2	163.7	163.7	165.3	168.7	171.2
32.5°	159.5	151.2	143.7	136.3	132.1	135.4	142.1	147.9	153.7	158.7	161.2
35°	146.2	132.9	120.5	110.5	103.9	108.8	119.6	130.4	140.4	147.1	151.2
37.5°	132.9	113.8	98.9	86.4	81.4	85.6	97.2	112.2	127.1	135.4	141.3
40°	118.8	94.7	77.3	67.3	62.3	66.5	78.1	93.1	113.0	123.8	131.3
42.5°	104.7	78.1	62.3	52.3	49.9	52.3	61.5	76.4	98.0	111.3	121.3
45°	90.6	64.8	49.9	42.4	39.9	42.4	49.9	62.3	83.9	98.9	110.5
47.5°	78.1	54.8	41.5	34.9	33.2	35.7	41.5	52.3	70.6	85.6	98.9
50°	68.1	48.2	35.7	29.9	28.3	30.7	35.7	44.0	59.8	73.1	87.2
52.5°	61.5	44.9	31.6	25.8	24.9	26.6	30.7	37.4	50.7	62.3	75.6
55°	59.8	44.9	29.1	23.3	22.4	24.1	27.4	32.4	44.0	54.0	65.6
57.5°	61.5	48.2	27.4	19.9	19.1	20.8	24.1	28.3	38.2	46.5	57.3
60°	61.5	49.0	24.1	15.8	15.0	16.6	19.9	24.9	34.1	40.7	49.9
62.5°	55.7	44.9	19.9	12.5	10.8	12.5	16.6	20.8	29.9	36.6	44.0
65°	48.2	38.2	16.6	9.1	7.5	9.1	13.3	17.4	25.8	31.6	39.9
67.5°	39.1	29.1	12.5	6.6	5.0	6.6	10.0	14.1	21.6	27.4	35.7
70°	29.1	20.8	10.0	5.8	5.0	5.8	9.1	13.3	19.1	24.9	33.2
72.5°	21.6	14.1	8.3	5.8	4.2	5.8	8.3	12.5	18.3	24.1	31.6
75°	18.3	11.6	7.5	5.0	4.2	5.0	7.5	11.6	16.6	22.4	29.9
77.5°	17.4	10.8	6.6	4.2	3.3	4.2	6.6	10.0	15.0	20.8	29.1
80°	15.0	9.1	5.8	3.3	2.5	3.3	5.8	8.3	11.6	15.8	22.4
82.5°	11.6	7.5	4.2	1.7	0.8	1.7	4.2	5.0	7.5	9.1	13.3
85°	7.5	4.2	1.7	0.0	0.0	0.0	1.7	3.3	3.3	4.2	6.6
87.5°	3.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.7	2.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P633535
 CATALOG NUMBER: GWS-SA2E-830-U-SLR-W-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9	373.9
2.5°	350.6	351.5	353.1	355.6	361.4	366.4	371.4	378.1	381.4	381.4
5°	317.4	318.2	319.1	322.4	330.7	337.3	348.1	361.4	368.1	369.7
7.5°	291.6	293.3	295.0	297.5	305.8	314.9	329.0	354.0	366.4	368.9
10°	276.7	279.2	282.5	287.5	295.0	304.9	329.0	373.9	394.7	398.8
12.5°	265.1	269.2	272.5	278.3	287.5	303.3	351.5	430.4	467.0	476.9
15°	253.4	258.4	263.4	269.2	279.2	309.1	394.7	531.8	592.4	599.9
17.5°	241.8	247.6	254.3	260.9	273.4	323.2	462.8	672.2	756.9	773.6
20°	228.5	236.0	245.1	253.4	267.5	345.7	557.5	839.2	945.6	981.3
22.5°	214.4	223.5	234.3	245.1	260.9	373.1	672.2	1018.7	1167.4	1190.7
25°	202.7	211.9	221.8	232.6	250.1	406.3	810.9	1241.4	1376.8	1399.2
27.5°	191.9	201.1	210.2	220.2	239.3	449.5	978.0	1478.2	1619.4	1642.7
30°	180.3	191.1	200.2	210.2	229.3	502.7	1170.7	1740.7	1874.5	1896.1
32.5°	170.3	181.1	190.3	200.2	221.8	560.9	1373.5	1973.4	2082.2	2082.2
35°	162.0	173.7	180.3	193.6	216.0	598.2	1565.4	2195.2	2277.5	2274.1
37.5°	152.9	167.0	172.0	181.1	208.6	602.4	1745.7	2429.5	2490.2	2468.6
40°	143.7	158.7	166.2	171.2	200.2	568.3	1943.5	2644.7	2696.2	2668.0
42.5°	135.4	147.1	157.9	163.7	195.3	508.5	2102.2	2874.9	2936.4	2911.4
45°	127.1	137.1	143.7	154.5	198.6	467.0	2238.4	3143.3	3251.3	3233.0
47.5°	118.8	127.1	131.3	147.9	221.0	447.9	2321.5	3558.7	3762.3	3747.3
50°	109.7	119.6	119.6	146.2	254.3	454.5	2393.8	4160.3	4475.2	4470.2
52.5°	100.5	111.3	109.7	158.7	280.0	485.2	2476.1	4691.2	5238.8	5284.5
55°	91.4	101.4	103.0	183.6	295.0	511.8	2157.8	4914.7	5891.0	6051.4
57.5°	81.4	87.2	107.2	202.7	290.0	589.1	1478.2	4955.4	6307.3	6651.3
60°	70.6	75.6	121.3	198.6	274.2	544.2	930.6	4589.8	6248.3	6684.5
62.5°	61.5	69.8	128.0	175.3	279.2	471.9	593.3	3911.8	5685.8	6183.5
65°	54.0	67.3	116.3	158.7	282.5	319.9	400.5	3182.3	5136.6	5610.2
67.5°	48.2	74.8	95.6	141.3	242.6	225.2	275.0	2472.7	4319.0	4743.6
70°	44.0	76.4	78.1	121.3	187.8	144.6	181.1	1664.3	2977.1	3462.3
72.5°	39.9	56.5	59.0	97.2	121.3	88.1	117.2	952.2	2170.3	2501.0
75°	38.2	38.2	40.7	63.1	67.3	64.0	75.6	568.3	1556.3	1798.0
77.5°	35.7	29.1	25.8	40.7	36.6	45.7	44.9	252.6	674.7	729.5
80°	28.3	20.8	17.4	25.8	24.9	30.7	26.6	20.8	30.7	29.9
82.5°	17.4	13.3	12.5	15.8	14.1	15.8	12.5	3.3	3.3	3.3
85°	8.3	7.5	6.6	6.6	7.5	6.6	5.0	1.7	0.8	0.8
87.5°	4.2	4.2	3.3	2.5	3.3	3.3	2.5	0.8	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

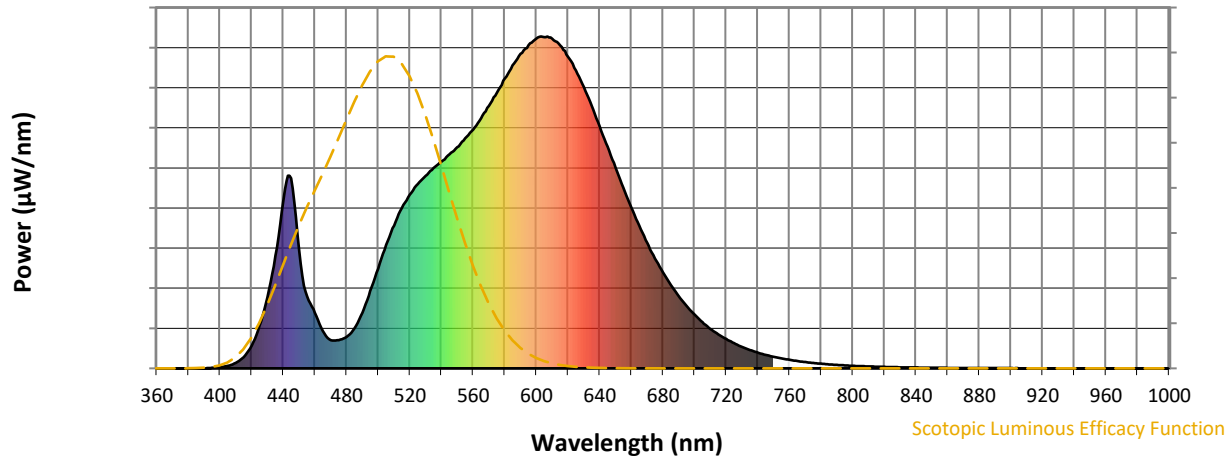


Photopic Lumens: NR

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			

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

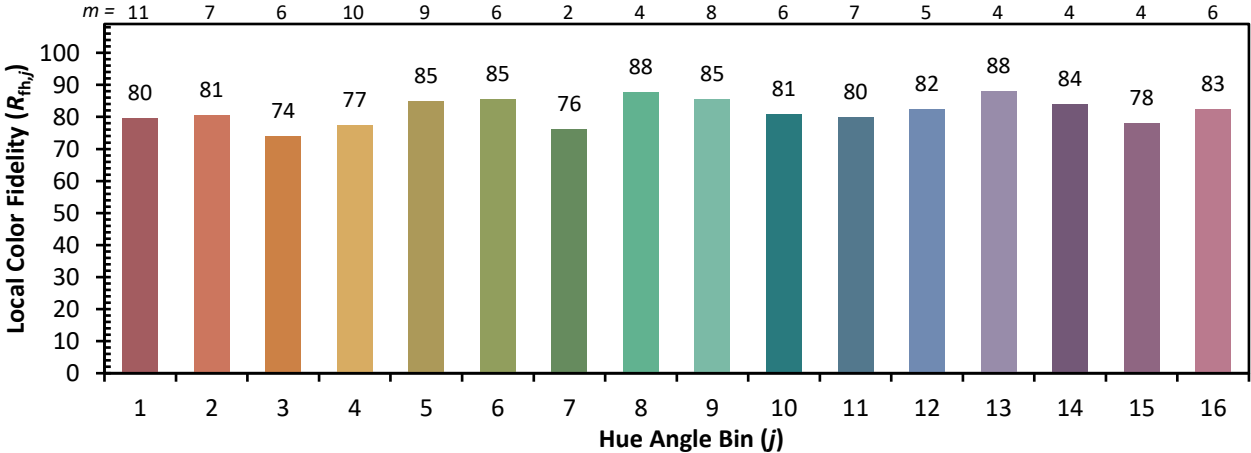


Individual Sample Fidelity Index ($R_{f,i}$)

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)