

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: P633520

Luminaire Tested: GWS-SA2E-830-U-SL2-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633520  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-29)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2E-830-U-SL2-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

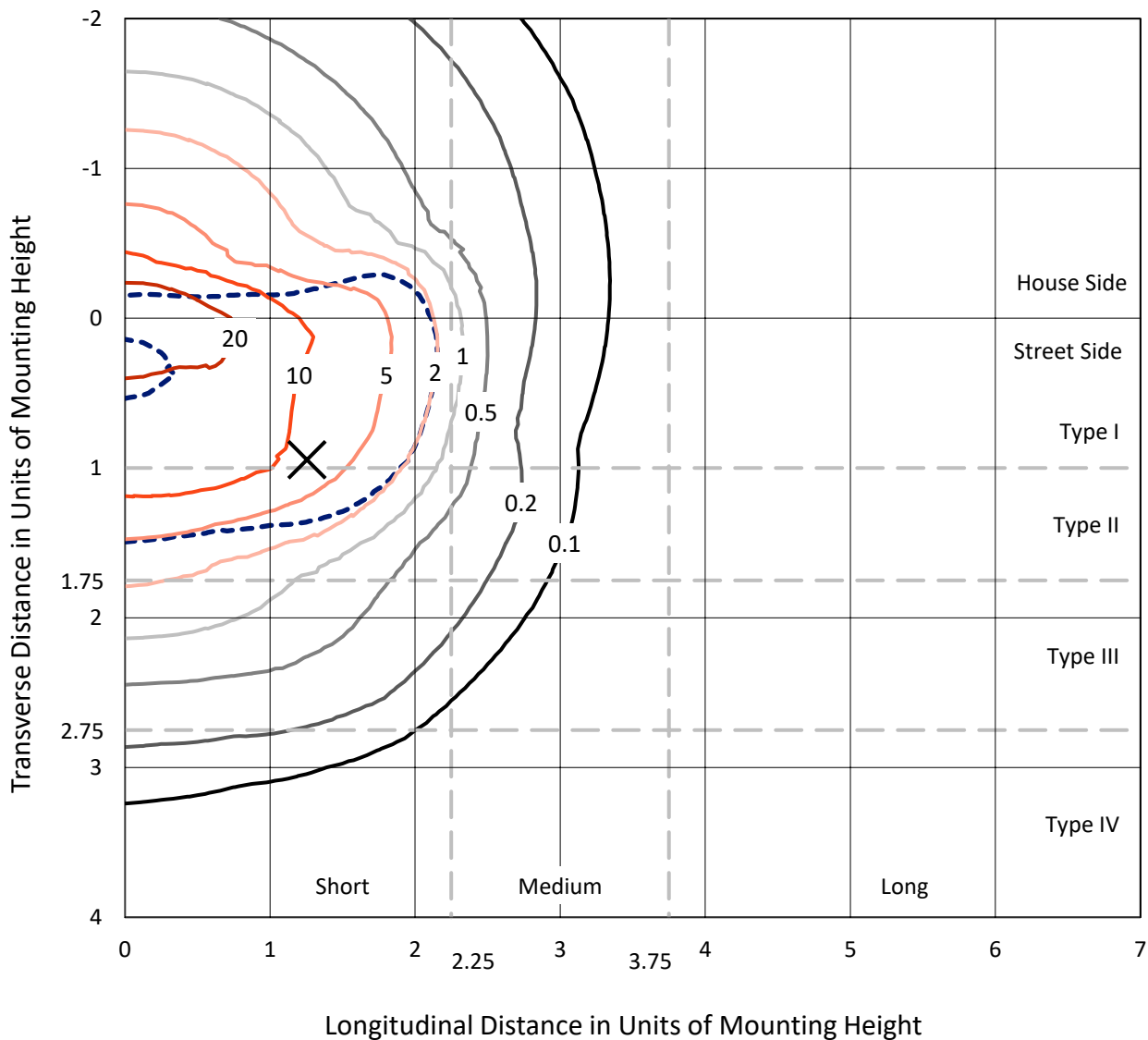
Lumens per Lamp: N/A  
Luminaire Lumens: 9872.2 lumens  
Efficiency: N/A  
Efficacy: 91.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 108.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



REPORT NUMBER: P633520  
 CATALOG NUMBER: GWS-SA2E-830-U-SL2-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

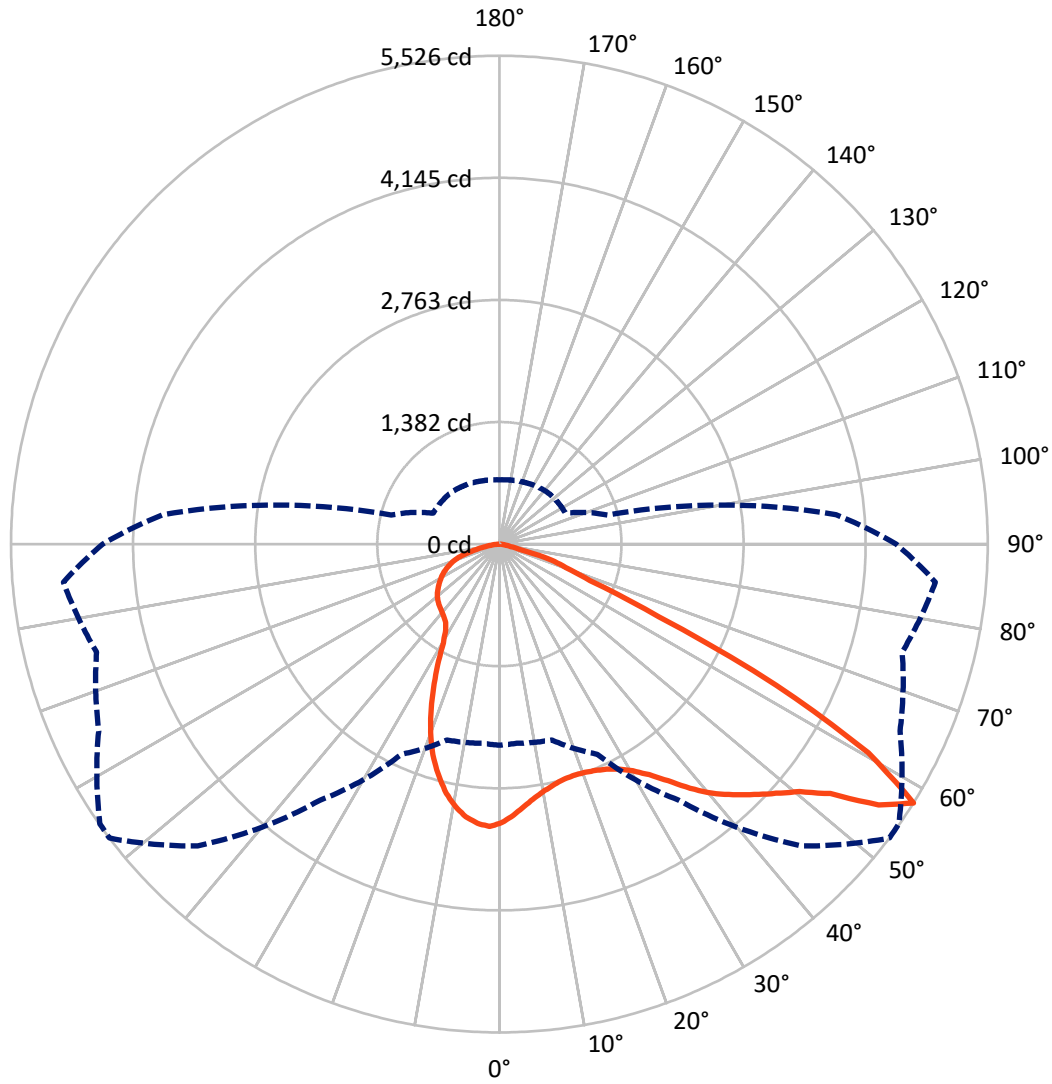
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 31.5 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 53-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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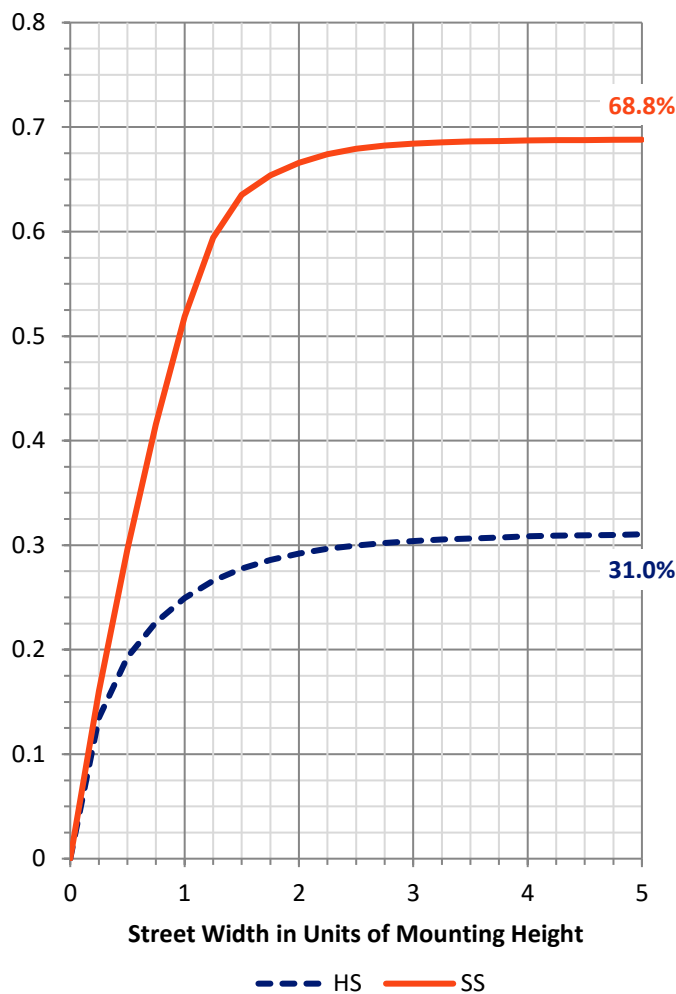
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3086.7	0.0	3086.7
	% Fixture	31.3	0.0	31.3
<b>Street Side</b>	Lumens	6785.5	0.0	6785.5
	% Fixture	68.7	0.0	68.7
<b>Total</b>	Lumens	9872.2	0.0	9872.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	285.1	2.9
10°-20°	747.9	7.6
20°-30°	1101.9	11.2
30°-40°	1542.4	15.6
40°-50°	2027.6	20.5
50°-60°	2377.4	24.1
60°-70°	1400.5	14.2
70°-80°	348.4	3.5
80°-90°	40.9	0.4
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°	9872.2	100.0
0°-180°	9872.2	100.0

**Coefficient of Utilization**



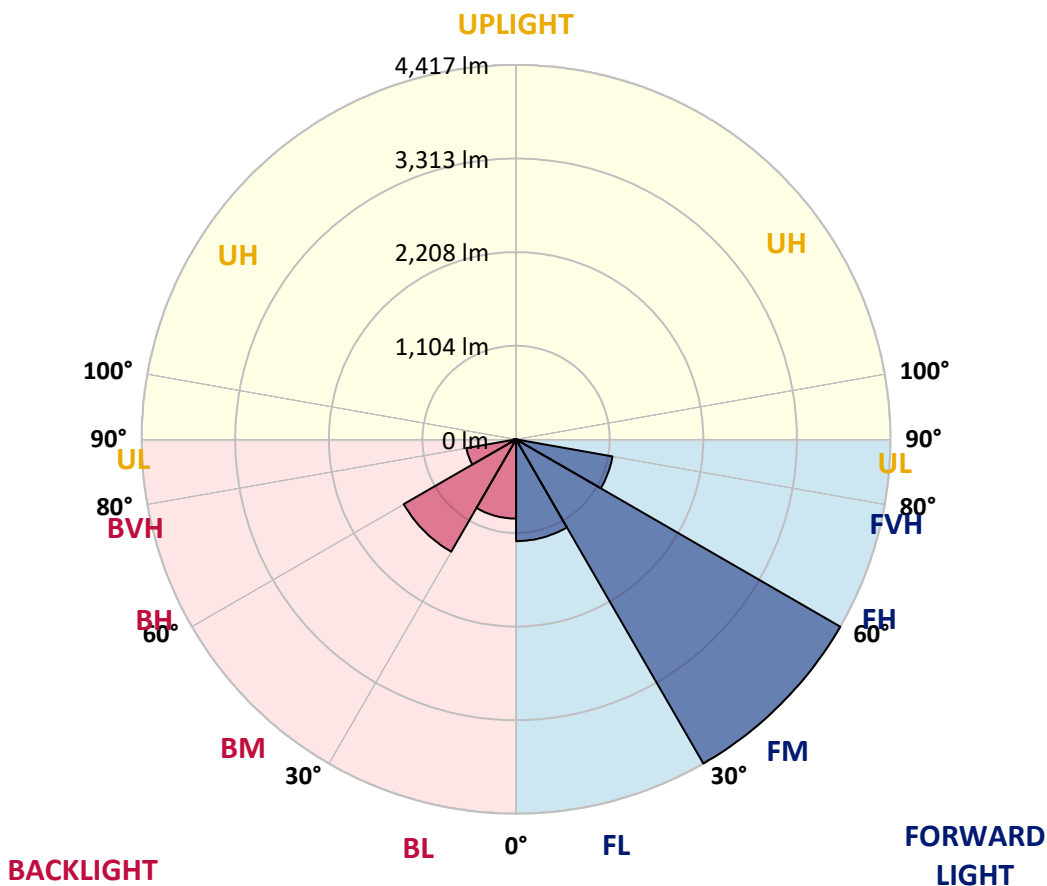
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1200.3	12.2			
FM (30°-60°)	4416.9	44.7			
FH (60°-80°)	1154.7	11.7			G1/1800
FVH (80°-90°)	13.7	0.1			G1/100
BL (0°-30°)	934.7	9.5	B2/1000		
BM (30°-60°)	1530.5	15.5	B2/2500		
BH (60°-80°)	594.3	6.0	B2/1000		G2/1000
BVH (80°-90°)	27.2	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	53°	55°	65°	75°	85°
0°	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5
2.5°	2971.3	2979.6	2981.3	3007.1	3008.7	3046.1	3071.0	3066.0	3091.8	3123.4	3148.3
5°	2829.2	2830.1	2838.4	2869.1	2885.7	2934.8	2976.3	2976.3	3026.2	3091.0	3146.6
7.5°	2712.1	2711.2	2718.7	2752.8	2780.2	2839.2	2895.7	2902.4	2972.2	3066.9	3157.4
10°	2603.2	2609.0	2617.4	2658.9	2693.8	2766.9	2834.2	2845.0	2933.1	3050.3	3172.4
12.5°	2533.4	2534.3	2546.7	2593.3	2638.1	2716.2	2786.9	2800.2	2901.5	3034.5	3183.2
15°	2488.6	2489.4	2502.7	2554.2	2606.6	2685.5	2757.8	2772.7	2883.2	3032.0	3204.0
17.5°	2468.6	2467.8	2480.3	2531.8	2589.1	2671.4	2748.6	2766.9	2891.6	3051.1	3240.5
20°	2468.6	2469.5	2476.1	2522.6	2580.8	2668.0	2757.8	2780.2	2924.0	3094.3	3297.0
22.5°	2503.5	2506.8	2510.2	2541.7	2587.4	2673.0	2781.9	2811.8	2993.8	3166.6	3371.0
25°	2571.7	2572.5	2575.8	2601.6	2622.3	2687.2	2821.8	2866.6	3102.6	3272.1	3464.1
27.5°	2663.1	2674.7	2678.0	2694.6	2694.6	2722.1	2884.1	2948.9	3249.7	3424.2	3582.9
30°	2791.0	2795.2	2801.0	2819.3	2799.3	2787.7	2975.5	3058.6	3420.0	3607.8	3725.8
32.5°	2903.2	2912.3	2943.9	2973.8	2938.1	2901.5	3110.1	3208.1	3583.7	3798.9	3877.8
35°	2998.7	3021.2	3081.8	3148.3	3123.4	3086.8	3288.7	3390.9	3718.3	3936.0	4012.4
37.5°	3114.2	3131.7	3214.8	3322.8	3345.2	3327.8	3506.4	3579.5	3808.0	3970.9	4085.6
40°	3231.4	3258.0	3365.2	3514.7	3600.3	3612.8	3707.5	3756.5	3838.8	3902.8	4071.4
42.5°	3351.0	3396.7	3543.8	3718.3	3870.4	3898.6	3877.0	3897.8	3828.8	3808.9	4005.8
45°	3497.3	3551.3	3717.5	3940.2	4140.4	4184.4	4043.2	4024.1	3827.2	3773.1	3965.1
47.5°	3670.1	3724.1	3882.8	4142.1	4398.0	4430.4	4213.5	4178.6	3885.3	3828.0	4019.9
50°	3823.0	3860.4	4002.5	4292.5	4638.1	4657.2	4401.3	4358.9	4029.9	3980.0	4191.1
52.5°	3667.6	3663.5	3813.0	4170.3	4762.8	4992.9	4690.5	4649.8	4309.1	4232.6	4456.2
55°	3111.7	3064.4	3198.2	3549.6	4414.6	5291.2	5209.0	5127.5	4681.3	4486.9	4704.6
57.5°	2275.0	2261.7	2294.1	2624.0	3536.3	4829.2	5526.4	5518.9	5002.9	4719.6	4952.2
60°	1779.0	1759.0	1672.6	1681.8	2410.5	3772.3	4796.0	5016.2	5202.3	4859.1	5125.0
62.5°	1579.6	1564.6	1519.7	1395.9	1435.8	2529.3	3515.6	3717.5	4545.9	4291.6	4402.1
65°	1307.8	1303.7	1341.1	1336.1	1203.2	1396.8	1984.2	2187.8	2858.3	2894.0	2858.3
67.5°	950.6	943.1	1037.8	1224.8	1158.3	1054.4	1105.9	1176.6	1465.7	1316.2	1184.9
70°	618.2	607.4	662.2	884.9	1037.0	919.0	796.8	785.2	806.0	501.0	541.8
72.5°	414.6	402.2	401.3	486.9	626.5	619.0	617.4	611.5	545.9	395.5	438.7
75°	231.0	221.0	218.5	210.2	224.3	228.5	243.5	251.8	272.5	300.0	332.4
77.5°	39.1	38.2	48.2	61.5	84.8	108.8	134.6	142.1	175.3	207.7	228.5
80°	21.6	22.4	29.1	35.7	47.4	64.8	83.1	88.1	108.0	125.5	142.1
82.5°	11.6	11.6	15.0	19.1	25.8	34.1	44.9	49.0	62.3	73.1	84.8
85°	4.2	4.2	5.8	7.5	10.8	14.1	17.4	19.9	27.4	37.4	42.4
87.5°	0.0	0.0	0.0	0.0	0.8	1.7	3.3	3.3	4.2	7.5	10.8
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: P633520

CATALOG NUMBER: GWS-SA2E-830-U-SL2-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5	3152.5
2.5°	3169.1	3146.6	3177.4	3191.5	3196.5	3199.8	3178.2	3163.3	3158.3	3142.5	3133.3
5°	3180.7	3165.8	3194.8	3194.8	3174.1	3152.5	3108.4	3077.7	3056.1	3030.3	3026.2
7.5°	3200.7	3189.9	3205.6	3173.2	3120.9	3062.7	2986.3	2926.5	2878.3	2846.7	2847.5
10°	3227.2	3213.9	3201.5	3129.2	3033.6	2926.5	2809.3	2722.1	2642.3	2605.7	2585.8
12.5°	3244.7	3225.6	3173.2	3053.6	2913.2	2769.4	2604.1	2474.4	2358.9	2306.6	2302.4
15°	3266.3	3231.4	3126.7	2955.5	2760.3	2564.2	2351.5	2171.2	2014.9	1933.5	1929.4
17.5°	3294.5	3237.2	3071.0	2843.4	2599.1	2309.9	2042.4	1815.5	1649.3	1586.2	1597.0
20°	3334.4	3243.9	3007.9	2718.7	2398.8	2020.8	1687.6	1479.0	1415.0	1410.9	1402.6
22.5°	3379.3	3248.0	2938.1	2579.1	2156.2	1712.5	1394.3	1305.4	1304.5	1325.3	1330.3
25°	3430.0	3251.3	2859.2	2416.3	1893.6	1405.1	1233.1	1206.5	1227.2	1266.3	1271.3
27.5°	3494.8	3258.0	2763.6	2237.6	1614.5	1214.0	1144.2	1137.5	1162.4	1199.0	1197.3
30°	3590.3	3282.1	2662.2	2032.4	1327.8	1123.4	1090.1	1091.0	1101.0	1118.4	1120.9
32.5°	3687.6	3319.5	2563.3	1801.4	1163.3	1071.9	1056.9	1055.3	1055.3	1062.7	1064.4
35°	3779.8	3361.8	2456.2	1560.4	1083.5	1042.0	1032.0	1027.0	1024.5	1022.8	1020.4
37.5°	3831.3	3382.6	2351.5	1322.8	1041.1	1022.0	1012.0	1005.4	996.3	989.6	987.9
40°	3808.9	3358.5	2230.2	1145.0	1015.4	1002.9	991.3	982.1	969.7	963.9	960.5
42.5°	3734.1	3283.7	2098.0	1061.1	994.6	982.1	968.0	953.1	944.7	939.8	938.9
45°	3655.2	3193.2	1938.5	1012.0	974.7	959.7	943.1	926.5	917.3	914.8	914.0
47.5°	3652.7	3148.3	1769.0	973.0	950.6	935.6	914.8	898.2	888.2	884.9	881.6
50°	3762.3	3194.0	1577.9	938.9	925.6	909.8	886.6	868.3	855.8	851.7	850.8
52.5°	3990.0	3366.0	1406.7	904.9	892.4	874.1	855.0	836.7	821.8	814.3	813.5
55°	4236.0	3584.5	1300.4	870.0	853.3	837.6	820.1	800.2	783.5	771.9	770.3
57.5°	4490.2	3823.0	1268.0	825.9	813.5	802.7	781.9	760.3	741.2	730.4	727.9
60°	4699.6	4028.2	1328.6	779.4	772.7	758.6	739.5	718.7	705.4	697.1	695.5
62.5°	3934.3	3279.6	1072.7	728.7	728.7	713.7	692.1	677.2	668.0	662.2	660.6
65°	2496.9	2030.7	732.0	678.0	677.2	657.2	639.0	629.0	624.8	615.7	614.0
67.5°	1087.7	928.1	625.7	626.5	623.2	601.6	583.3	575.8	567.5	557.5	556.7
70°	564.2	575.0	560.0	569.2	563.4	537.6	520.1	508.5	491.1	481.1	481.9
72.5°	455.3	467.0	483.6	497.7	485.2	464.5	437.1	422.9	400.5	389.7	390.5
75°	347.3	359.8	375.6	390.5	380.6	354.8	337.3	323.2	297.5	285.0	287.5
77.5°	239.3	245.9	265.1	264.2	260.9	253.4	227.7	211.1	184.5	169.5	171.2
80°	148.7	152.9	162.0	166.2	164.5	154.5	133.8	121.3	105.5	96.4	97.2
82.5°	89.7	92.2	100.5	101.4	100.5	93.1	77.3	68.1	58.2	53.2	53.2
85°	45.7	47.4	52.3	52.3	47.4	39.9	35.7	31.6	25.8	23.3	23.3
87.5°	12.5	12.5	15.8	13.3	10.8	10.0	5.0	4.2	1.7	0.8	0.8
90°	0.0	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

REPORT NUMBER: SP1-2408-195-9

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**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /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**



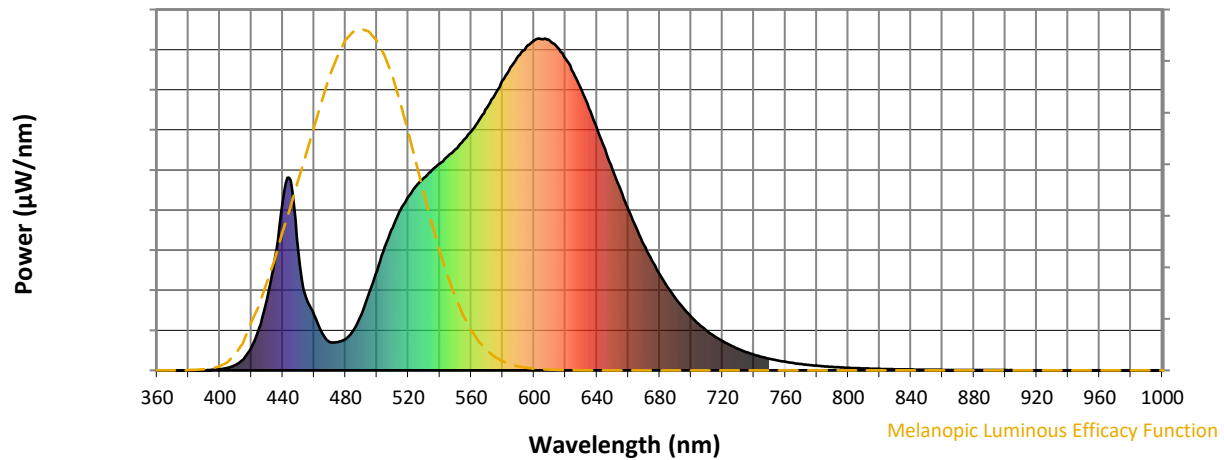
**Scotopic Lumens: NR**

**S/P: 1.27**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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**

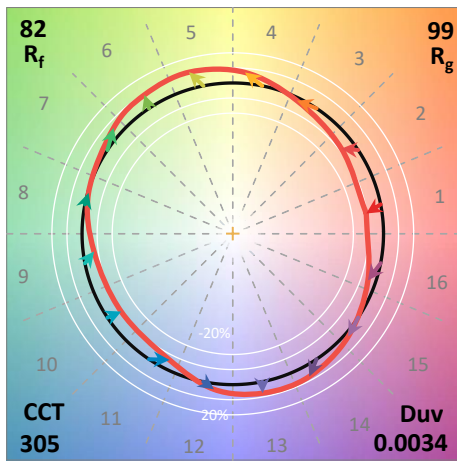
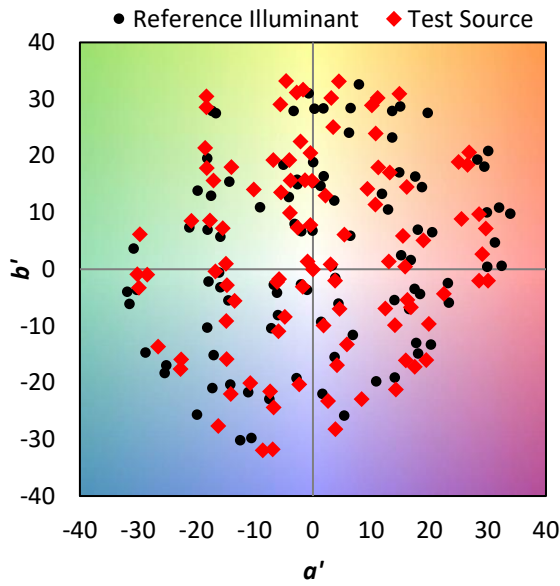
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	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**



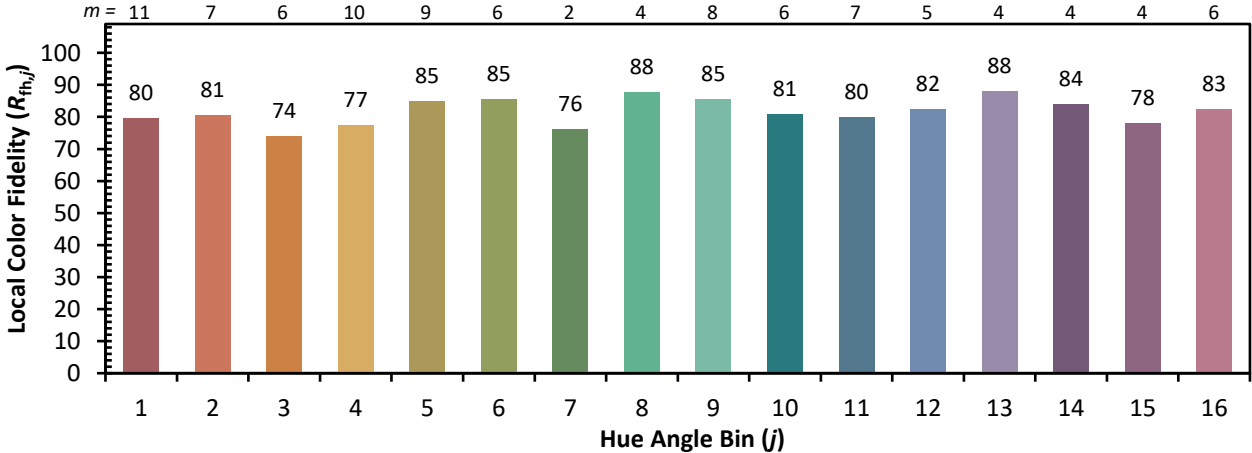


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

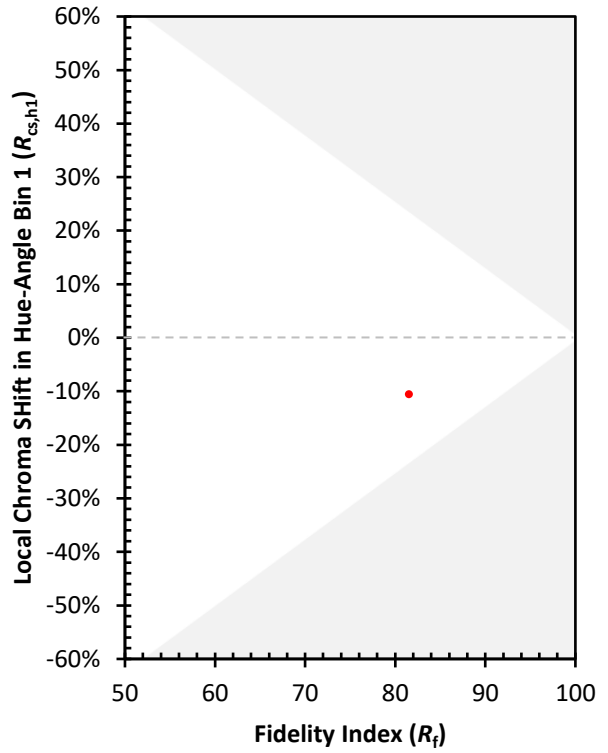
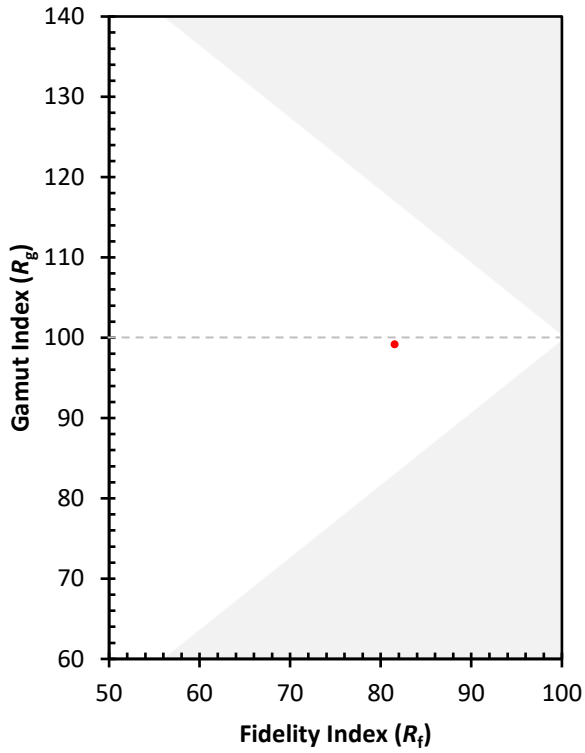
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 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)