

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: P639466

Luminaire Tested: GWS-SA5B-830-U-SL3-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639466  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-31)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5B-830-U-SL3-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

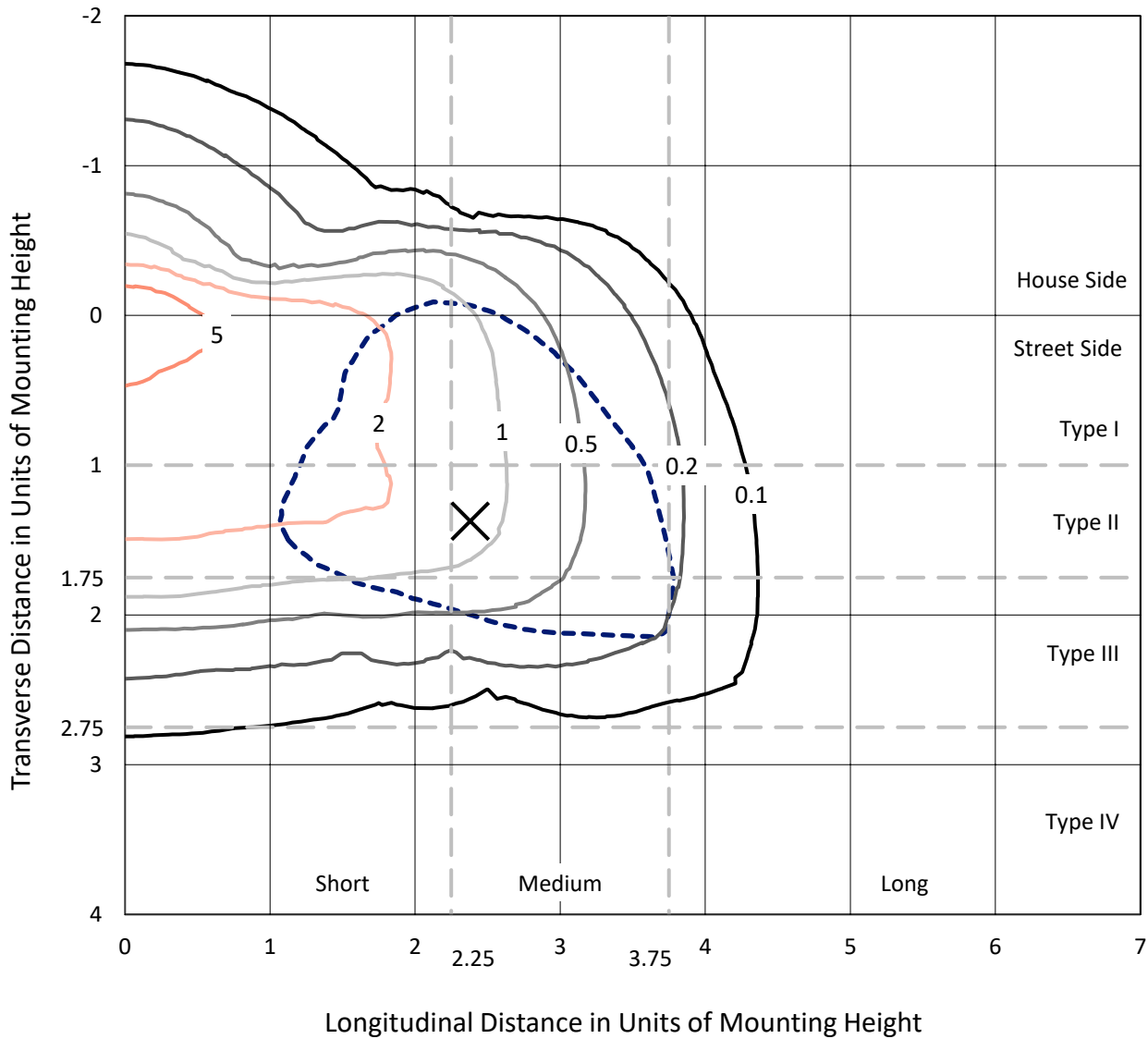
Lumens per Lamp: N/A  
Luminaire Lumens: 13820.4 lumens  
Efficiency: N/A  
Efficacy: 119.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B2 - U0 - G3  
  
Input Watts (W): 115.7  
Input Voltage (V): 120  
Input Current (Ain): 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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 CATALOG NUMBER: GWS-SA5B-830-U-SL3-W

### Iso-Footcandle Lines of Horizontal Illumination

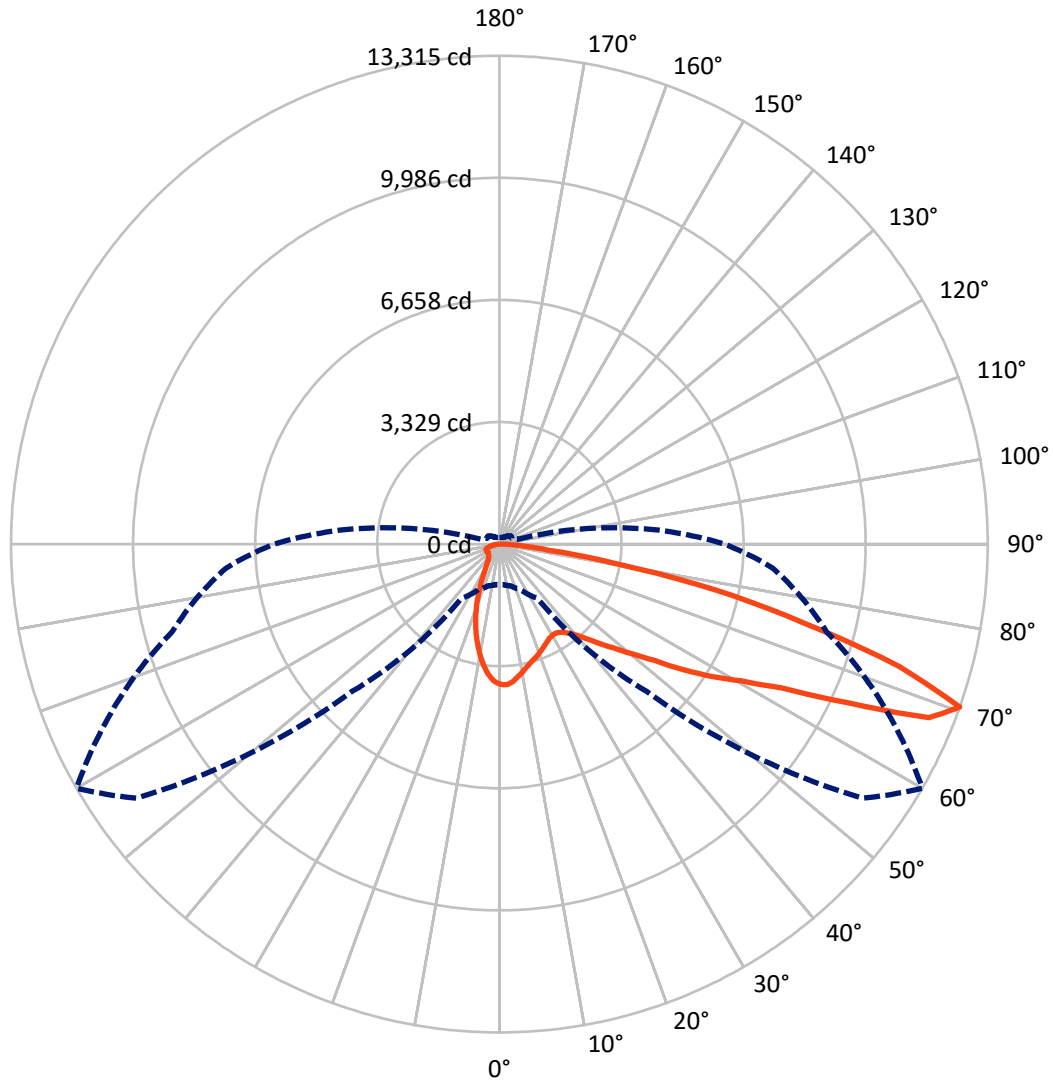
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.6 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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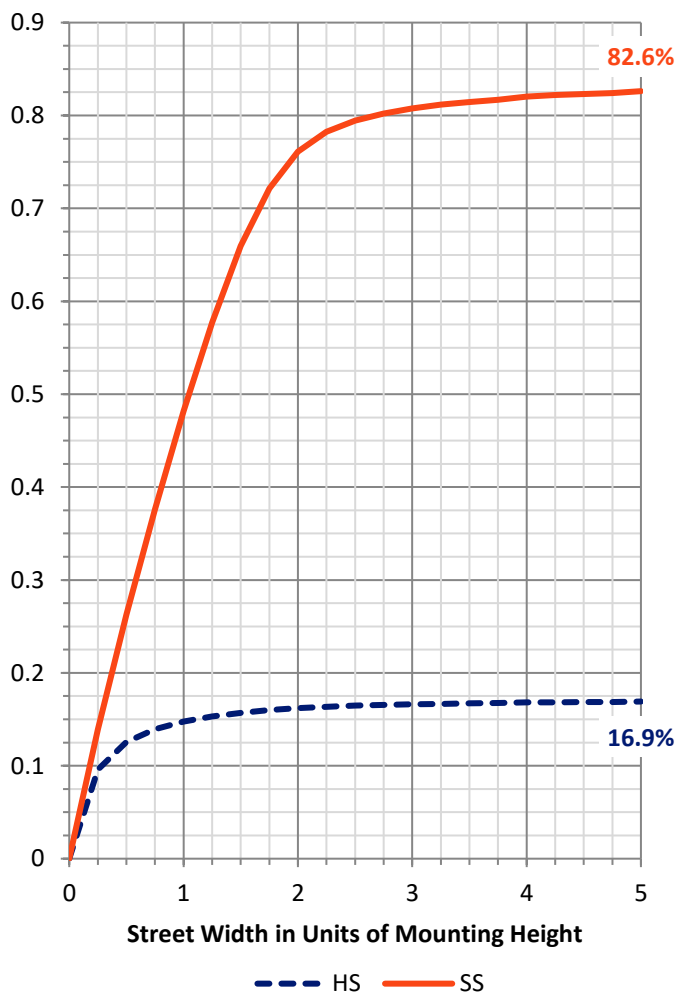
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2363.6	0.0	2363.6
	% Fixture	17.1	0.0	17.1
<b>Street Side</b>	Lumens	11456.8	0.0	11456.8
	% Fixture	82.9	0.0	82.9
<b>Total</b>	Lumens	13820.4	0.0	13820.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	329.6	2.4
10°-20°	738.5	5.3
20°-30°	945.8	6.8
30°-40°	1243.0	9.0
40°-50°	1803.3	13.0
50°-60°	2813.6	20.4
60°-70°	3683.6	26.7
70°-80°	2036.9	14.7
80°-90°	226.1	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°	13820.4	100.0
0°-180°	13820.4	100.0

**Coefficient of Utilization**



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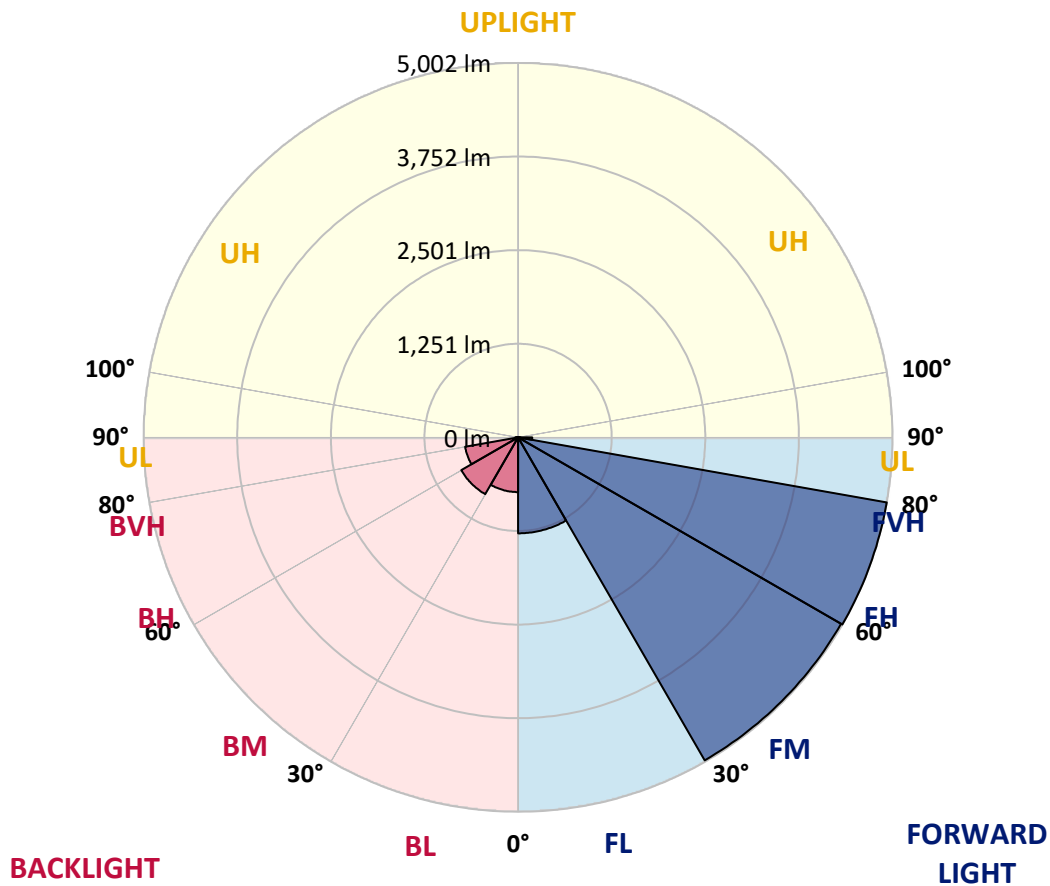
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1282.6	9.3			
FM (30°-60°)	4983.6	36.1			
FH (60°-80°)	5002.2	36.2			G3/7500
FVH (80°-90°)	188.4	1.4			G2/225
BL (0°-30°)	731.3	5.3	B2/1000		
BM (30°-60°)	876.3	6.3	B1/1000		
BH (60°-80°)	718.3	5.2	B2/1000		G2/1000
BVH (80°-90°)	37.7	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-G3**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3
2.5°	3770.7	3774.7	3785.9	3802.0	3818.2	3826.3	3846.5	3840.5	3836.4	3828.3	3818.2
5°	3603.8	3611.9	3622.0	3653.4	3688.8	3717.1	3762.6	3767.7	3769.7	3773.7	3757.5
7.5°	3391.5	3393.5	3417.8	3459.2	3505.8	3554.3	3630.1	3651.4	3669.6	3689.8	3676.7
10°	3156.9	3162.0	3180.2	3239.8	3319.7	3391.5	3493.6	3529.0	3567.4	3611.9	3593.7
12.5°	2964.8	2965.8	2995.1	3058.8	3145.8	3242.9	3370.3	3412.7	3463.3	3533.1	3516.9
15°	2812.1	2812.1	2839.4	2894.0	2994.1	3108.4	3260.0	3314.6	3383.4	3477.4	3449.1
17.5°	2690.8	2691.8	2709.0	2766.6	2855.6	2982.0	3162.0	3235.8	3311.6	3436.0	3393.5
20°	2627.0	2622.0	2625.0	2660.4	2736.3	2858.6	3063.9	3149.8	3252.0	3407.7	3343.0
22.5°	2624.0	2614.9	2601.8	2604.8	2649.3	2750.4	2958.7	3062.9	3191.3	3384.4	3291.4
25°	2675.6	2665.5	2642.2	2615.9	2611.9	2672.5	2859.6	2977.9	3128.6	3374.3	3241.8
27.5°	2762.5	2755.5	2725.1	2685.7	2644.2	2642.2	2784.8	2908.2	3083.1	3384.4	3206.5
30°	2877.8	2865.7	2846.5	2795.9	2733.2	2668.5	2755.5	2870.7	3052.8	3416.8	3191.3
32.5°	3008.3	3001.2	2983.0	2932.4	2865.7	2762.5	2778.7	2878.8	3052.8	3473.4	3194.3
35°	3146.8	3145.8	3145.8	3112.4	3038.6	2910.2	2870.7	2947.6	3099.3	3564.4	3226.7
37.5°	3281.3	3280.3	3312.6	3324.8	3240.8	3102.3	3027.5	3085.1	3201.4	3698.9	3306.6
40°	3390.5	3394.5	3465.3	3526.0	3479.5	3351.1	3245.9	3275.2	3367.2	3890.0	3446.1
42.5°	3500.7	3511.8	3618.0	3725.2	3743.4	3632.2	3526.0	3543.2	3604.9	4142.8	3654.4
45°	3621.0	3626.1	3774.7	3924.4	4012.4	3946.6	3859.7	3882.9	3897.1	4455.3	3964.8
47.5°	3737.3	3750.5	3942.6	4147.9	4314.7	4308.6	4260.1	4253.0	4256.1	4835.5	4331.9
50°	3896.1	3915.3	4140.8	4388.5	4633.2	4745.5	4759.6	4706.0	4683.8	5258.1	4788.9
52.5°	4197.4	4197.4	4399.6	4643.3	4972.0	5250.0	5345.1	5257.1	5186.3	5705.1	5274.3
55°	4574.6	4590.8	4751.5	4948.7	5365.3	5780.9	6102.5	6005.4	5805.2	6191.5	5782.9
57.5°	4742.4	4762.7	5017.5	5323.9	5880.0	6384.6	6830.5	6796.1	6503.9	6697.0	6310.8
60°	4439.1	4481.6	4832.4	5346.1	6346.2	7358.4	7672.8	7572.7	7155.1	7227.9	6883.1
62.5°	3702.9	3749.5	4138.8	4855.7	6281.5	8411.0	9000.5	8631.4	7968.1	7898.3	7645.5
65°	2209.4	2207.4	2675.6	3626.1	5483.6	8703.2	11101.7	10413.1	9224.0	8818.5	8430.2
67.5°	1404.5	1401.5	1499.6	1921.2	3649.3	7987.3	12452.7	12631.7	10929.8	9495.0	8494.9
70°	1108.3	1107.2	1178.0	1370.1	1805.0	5683.8	12076.5	13315.2	11960.2	9237.1	7479.7
72.5°	807.9	810.0	919.2	1147.7	1392.4	2853.6	9779.1	11393.0	11000.6	8154.2	6072.1
75°	580.4	583.5	649.2	878.7	1284.2	1560.3	6502.9	8566.7	8369.5	6536.3	4177.2
77.5°	369.1	373.1	430.8	615.8	1037.5	1259.9	3942.6	6047.9	5568.6	3682.7	1485.4
80°	225.5	238.6	287.2	459.1	829.2	945.5	1970.8	3186.2	2788.8	1010.2	499.5
82.5°	116.3	126.4	172.9	284.1	571.3	830.2	1115.3	1338.8	863.5	422.7	265.9
85°	36.4	42.5	60.7	115.3	272.0	514.7	738.2	665.4	396.4	199.2	123.4
87.5°	9.1	9.1	10.1	10.1	11.1	23.3	142.6	150.7	105.2	62.7	50.6
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: P639466  
 CATALOG NUMBER: GWS-SA5B-830-U-SL3-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3	3824.3
2.5°	3798.0	3773.7	3763.6	3762.6	3737.3	3700.9	3676.7	3659.5	3649.3	3647.3	3647.3
5°	3730.2	3698.9	3657.4	3626.1	3558.3	3489.6	3431.9	3399.6	3362.2	3357.1	3356.1
7.5°	3640.2	3594.7	3515.9	3427.9	3309.6	3195.3	3098.3	3032.5	2966.8	2954.7	2950.6
10°	3543.2	3481.5	3347.0	3192.3	3015.3	2844.4	2695.8	2579.5	2502.7	2448.1	2438.0
12.5°	3447.1	3365.2	3168.0	2937.5	2694.8	2461.2	2237.7	2047.6	1910.1	1830.2	1816.1
15°	3357.1	3242.9	2972.9	2678.6	2363.1	2043.6	1727.1	1480.4	1287.2	1218.5	1202.3
17.5°	3275.2	3132.6	2783.8	2410.7	2017.3	1599.7	1239.7	1020.3	907.0	872.6	864.6
20°	3193.3	3019.4	2591.7	2128.5	1650.2	1182.1	906.0	802.9	760.4	747.3	743.2
22.5°	3105.3	2895.0	2382.3	1850.5	1279.1	884.8	741.2	695.7	682.5	683.6	682.5
25°	3017.4	2768.6	2162.9	1548.1	952.5	717.9	647.2	630.0	633.0	642.1	644.1
27.5°	2944.6	2656.4	1947.5	1216.4	744.2	617.8	584.5	583.5	594.6	606.7	608.7
30°	2892.0	2556.3	1735.2	935.3	612.8	549.1	535.9	542.0	555.1	564.2	567.3
32.5°	2854.6	2470.3	1508.7	735.1	536.9	500.5	494.5	500.5	508.6	517.7	519.7
35°	2841.4	2407.6	1286.2	599.6	485.4	465.1	461.1	464.1	468.2	473.2	475.3
37.5°	2870.7	2376.3	1053.6	521.8	454.0	441.9	435.8	433.8	434.8	436.8	437.8
40°	2957.7	2390.4	863.5	476.3	433.8	422.7	412.6	408.5	407.5	409.5	408.5
42.5°	3107.4	2450.1	726.0	450.0	417.6	401.4	390.3	386.3	386.3	391.3	391.3
45°	3326.8	2567.4	626.9	430.8	403.5	383.2	371.1	369.1	373.1	381.2	382.2
47.5°	3648.3	2739.3	567.3	416.6	390.3	367.1	354.9	353.9	362.0	375.1	376.2
50°	4029.6	2987.0	534.9	406.5	381.2	353.9	341.8	342.8	351.9	366.0	369.1
52.5°	4488.6	3324.8	536.9	402.4	376.2	345.8	333.7	331.7	340.8	354.9	358.0
55°	4962.9	3735.3	576.4	403.5	369.1	341.8	325.6	318.5	326.6	336.7	337.7
57.5°	5484.6	4198.4	674.5	401.4	360.0	337.7	318.5	302.3	307.4	313.5	316.5
60°	6073.1	4743.4	885.8	405.5	355.9	328.6	304.4	283.1	282.1	286.2	287.2
62.5°	6859.8	5484.6	1123.4	412.6	365.0	317.5	283.1	260.9	256.8	258.9	259.9
65°	7461.5	5838.6	1048.6	406.5	384.2	309.4	262.9	239.6	231.6	229.5	229.5
67.5°	7216.8	5370.4	730.1	390.3	393.3	310.4	246.7	217.4	207.3	202.2	201.2
70°	6140.9	4362.2	507.6	374.1	383.2	308.4	229.5	199.2	186.1	179.0	178.0
72.5°	4851.6	3330.8	410.5	341.8	347.8	278.1	204.3	179.0	167.9	158.8	158.8
75°	3122.5	2032.5	342.8	304.4	284.1	216.4	177.0	159.8	148.6	139.5	139.5
77.5°	1050.6	754.3	265.9	257.9	212.3	162.8	148.6	137.5	128.4	120.3	119.3
80°	426.7	358.0	195.2	195.2	148.6	124.4	116.3	111.2	105.2	95.1	95.1
82.5°	247.7	217.4	136.5	118.3	99.1	86.0	80.9	75.8	75.8	68.8	68.8
85°	119.3	120.3	81.9	72.8	56.6	49.5	47.5	44.5	43.5	39.4	38.4
87.5°	64.7	65.7	41.5	32.4	22.2	19.2	16.2	15.2	14.2	13.1	13.1
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

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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



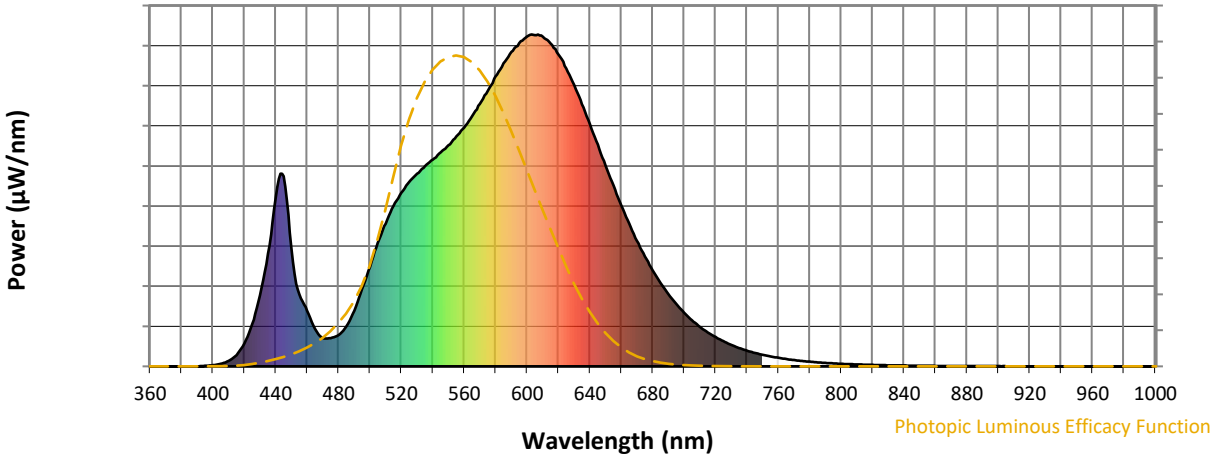
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**

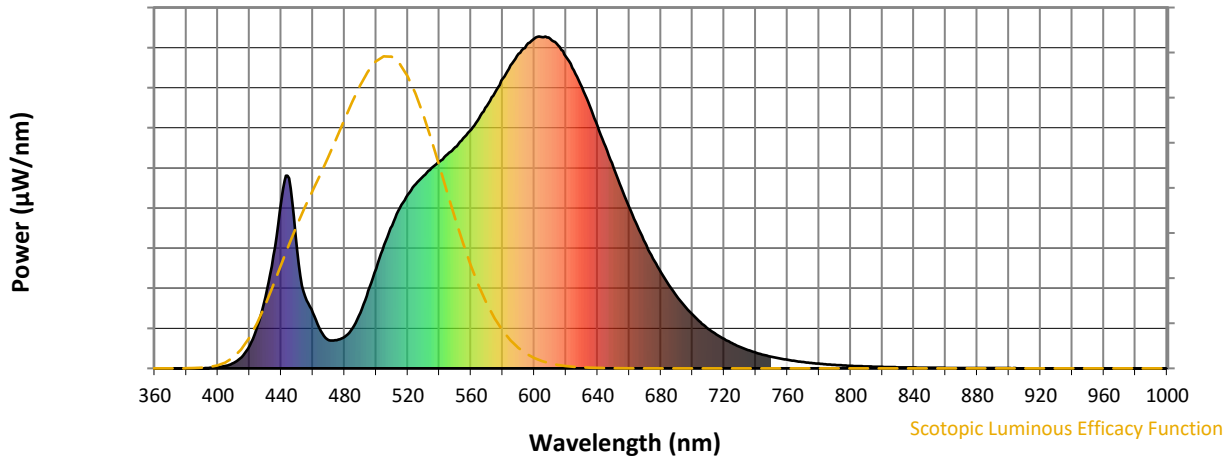


**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (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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**Scotopic Flux vs. Wavelength**



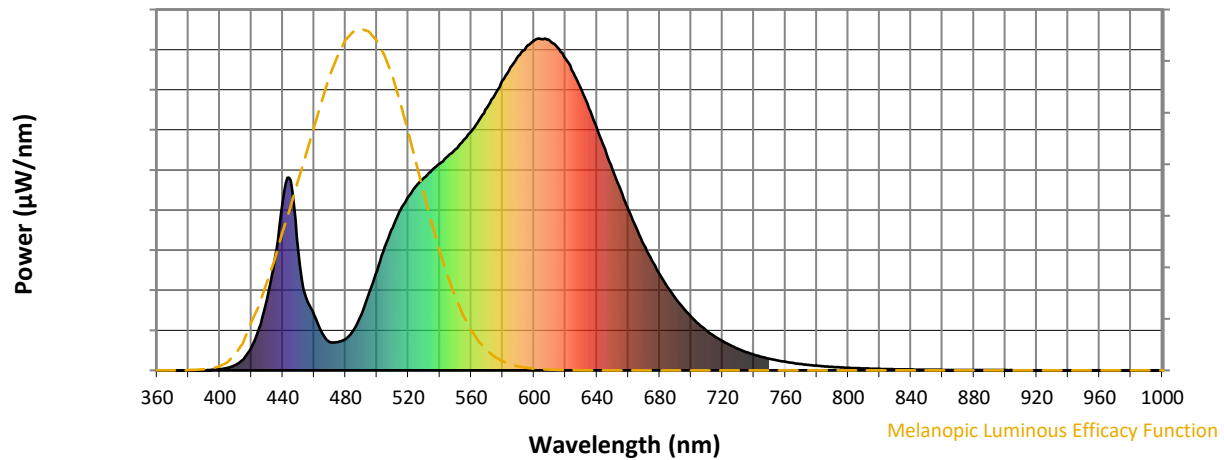
**Scotopic Lumens: NR**

**S/P: 1.27**

$\lambda$ (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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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

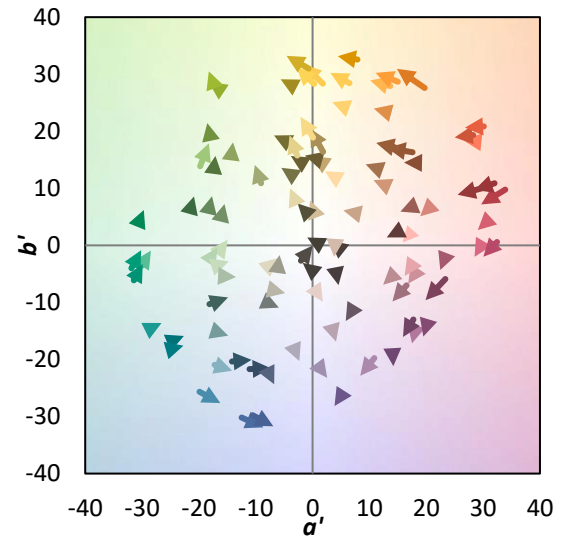
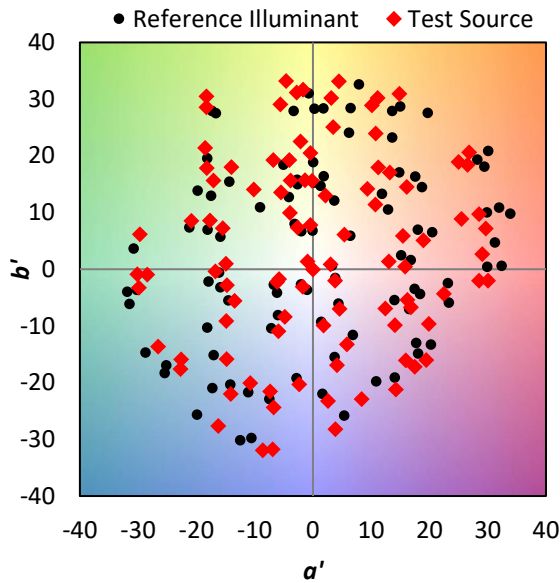
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625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