

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: P637990

Luminaire Tested: GWS-SA4D-830-U-SLR-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P637990  
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-SA4D-830-U-SLR-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (64) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

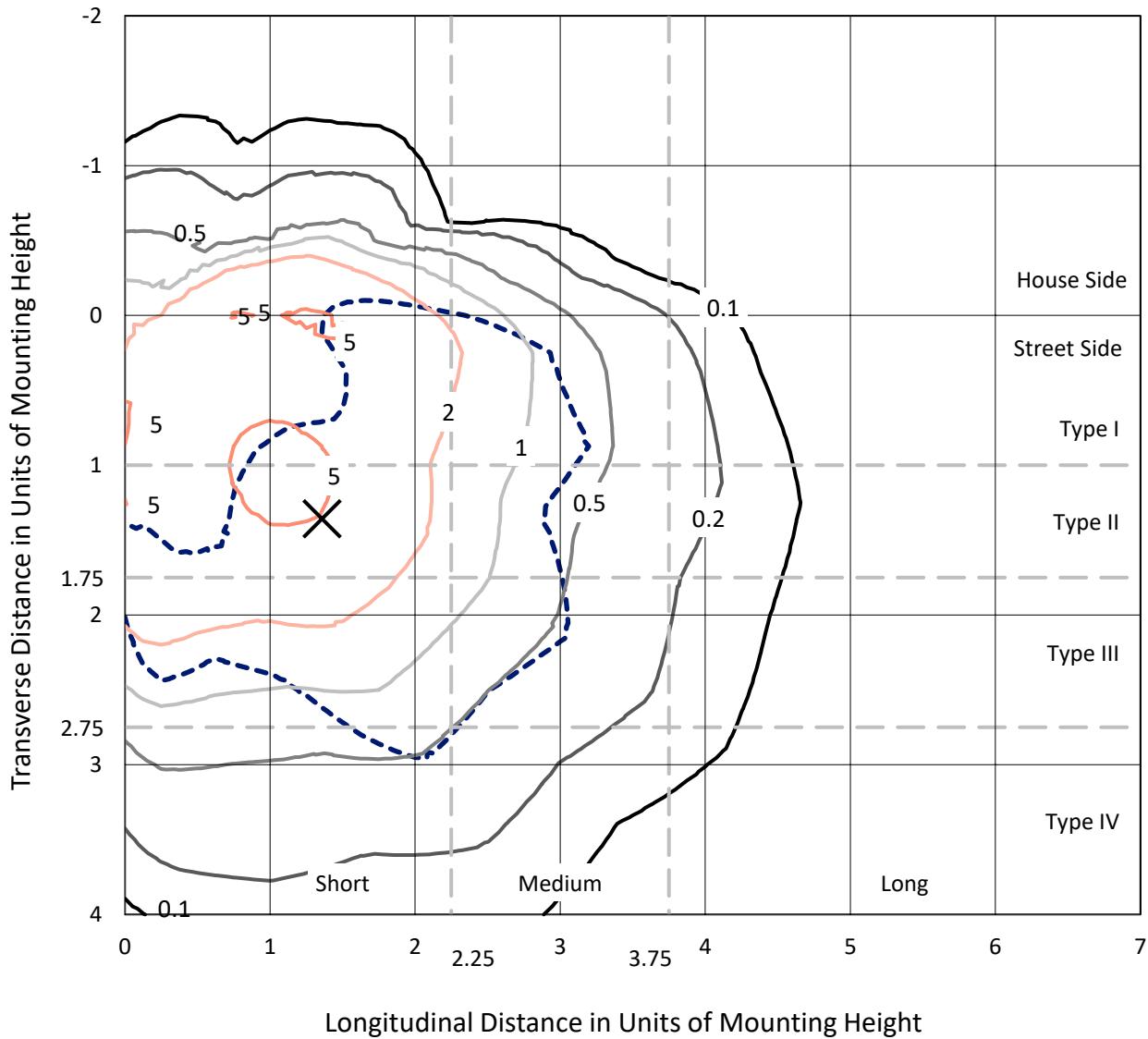
Lumens per Lamp: N/A  
Luminaire Lumens: 12072.9 lumens  
Efficiency: N/A  
Efficacy: 74.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3  
  
Input Watts (W): 162.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
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

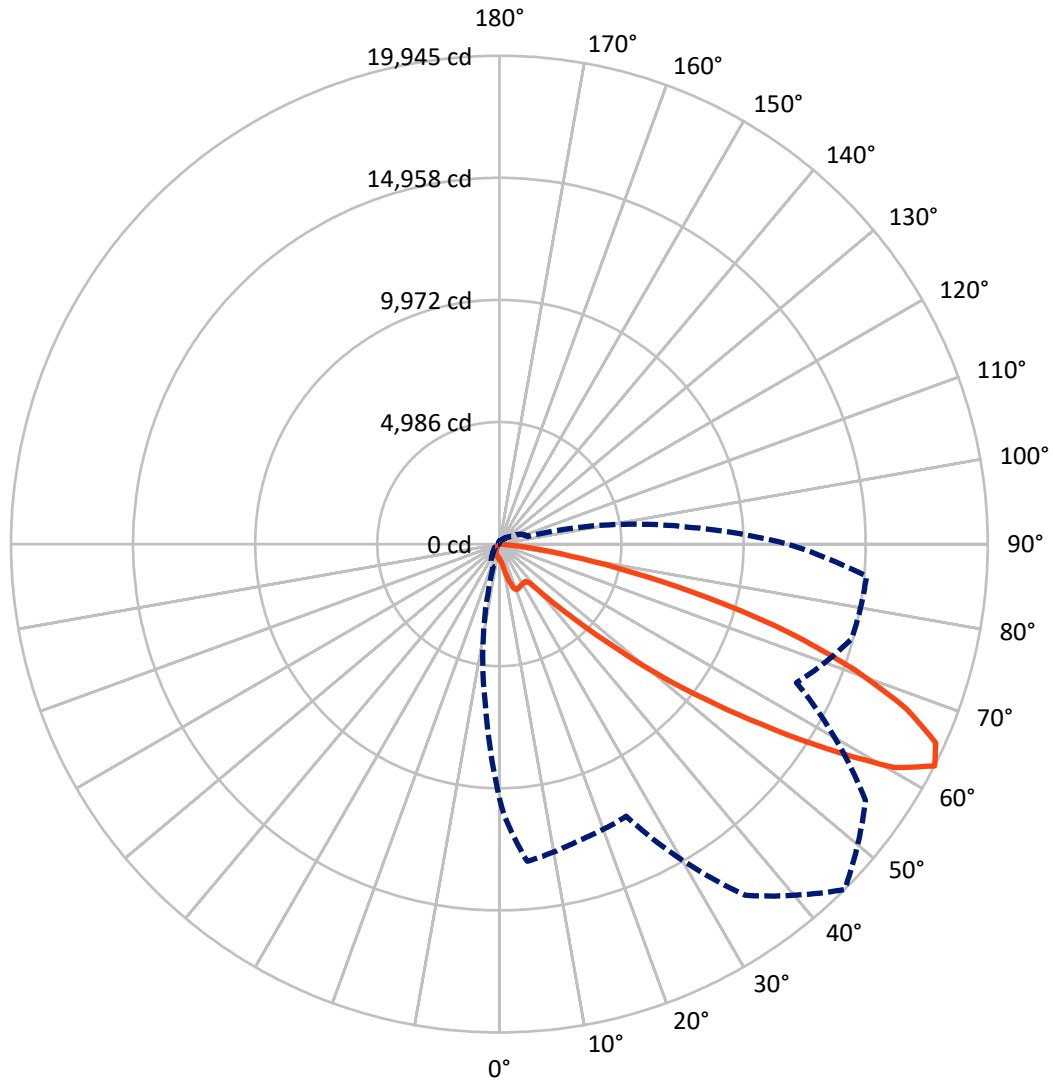
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.1 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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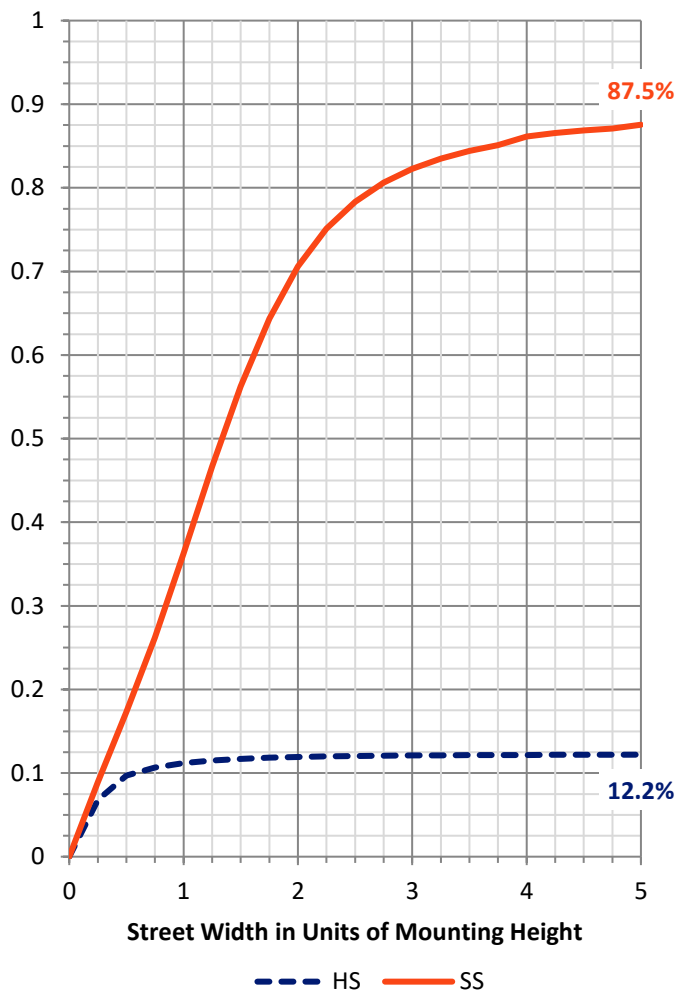
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1489.8	0.0	1489.8
	% Fixture	12.3	0.0	12.3
<b>Street Side</b>	Lumens	10583.1	0.0	10583.1
	% Fixture	87.7	0.0	87.7
<b>Total</b>	Lumens	12072.9	0.0	12072.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.7	0.5
10°-20°	210.5	1.7
20°-30°	457.6	3.8
30°-40°	751.0	6.2
40°-50°	1380.6	11.4
50°-60°	2964.9	24.6
60°-70°	3982.4	33.0
70°-80°	2073.7	17.2
80°-90°	196.6	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°	12072.9	100.0
0°-180°	12072.9	100.0

**Coefficient of Utilization**



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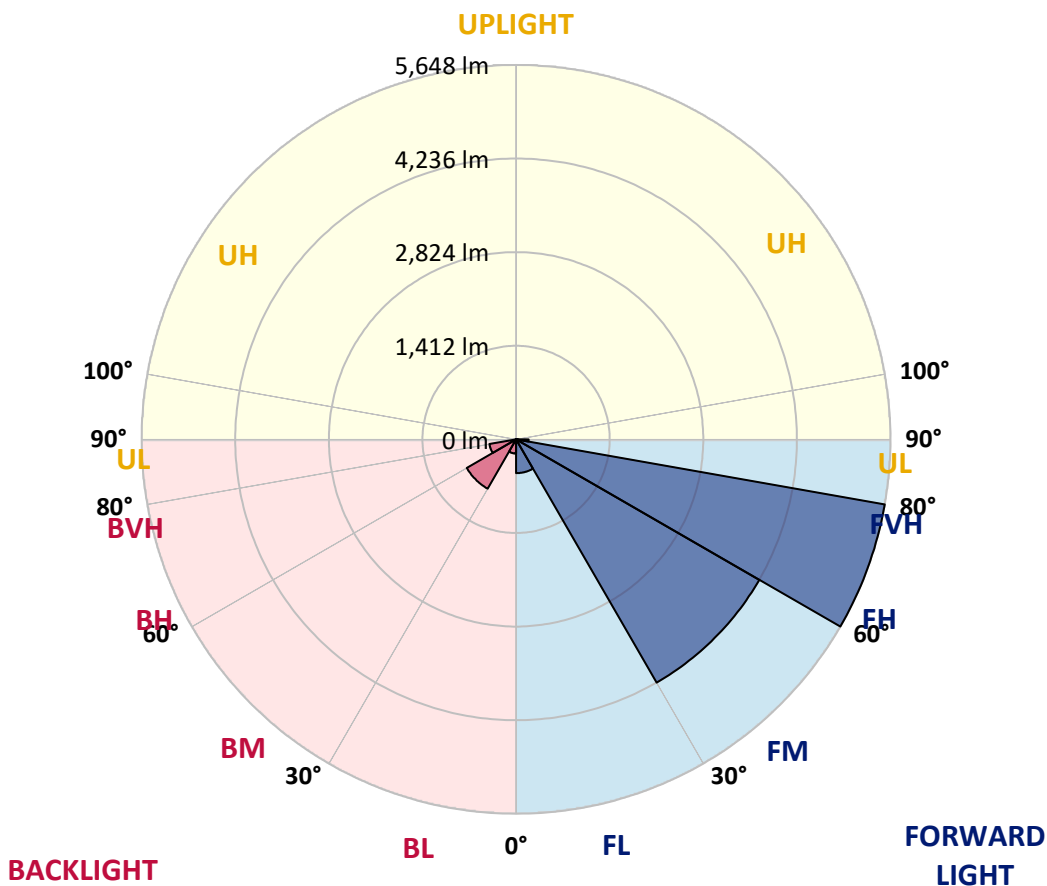
CATALOG NUMBER: GWS-SA4D-830-U-SLR-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	510.0	4.2			
FM (30°-60°)	4237.4	35.1			
FH (60°-80°)	5647.8	46.8			G3/7500
FVH (80°-90°)	187.9	1.6			G2/225
BL (0°-30°)	213.7	1.8	B1/500		
BM (30°-60°)	859.1	7.1	B1/1000		
BH (60°-80°)	408.2	3.4	B1/500		G1/500
BVH (80°-90°)	8.8	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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5
2.5°	640.1	642.9	645.7	655.4	662.4	668.0	669.4	665.2	655.4	645.7	631.7
5°	620.6	623.4	633.1	659.6	686.1	707.0	714.0	709.8	686.1	655.4	623.4
7.5°	619.2	624.7	648.5	704.2	761.4	804.6	815.8	806.0	761.4	700.1	634.5
10°	669.4	679.1	714.0	814.4	919.0	995.7	1026.4	984.5	913.4	801.9	694.5
12.5°	800.5	817.2	884.1	1030.6	1192.3	1294.1	1336.0	1284.4	1172.8	1011.0	840.9
15°	1006.9	1032.0	1132.4	1351.3	1542.3	1633.0	1646.9	1617.7	1488.0	1309.5	1080.8
17.5°	1298.3	1334.6	1490.8	1713.9	1851.9	1884.0	1879.8	1849.1	1754.3	1631.6	1415.4
20°	1646.9	1690.2	1843.6	2027.6	2041.6	2003.9	1983.0	1964.9	1932.8	1911.9	1743.2
22.5°	1998.4	2051.4	2211.7	2257.7	2132.2	2023.5	1971.9	1985.8	2033.2	2136.4	2068.1
25°	2348.4	2398.6	2549.2	2425.1	2174.1	1992.8	1927.2	1960.7	2073.7	2296.8	2384.6
27.5°	2757.0	2794.6	2883.9	2539.4	2181.0	1967.7	1903.5	1955.1	2093.2	2397.2	2731.9
30°	3182.3	3204.6	3161.4	2570.1	2157.3	1930.0	1879.8	1955.1	2126.7	2464.1	2992.7
32.5°	3494.7	3498.9	3358.0	2572.9	2144.8	1899.3	1857.5	1946.8	2158.7	2519.9	3245.1
35°	3816.8	3795.9	3546.3	2614.7	2178.3	1910.5	1874.2	1970.5	2208.9	2585.5	3466.8
37.5°	4143.1	4105.5	3756.9	2683.1	2264.7	2031.8	2009.5	2091.8	2289.8	2676.1	3710.8
40°	4477.8	4426.2	3975.8	2786.3	2457.2	2444.6	2521.3	2511.5	2511.5	2791.8	3961.9
42.5°	4886.4	4826.5	4299.3	3077.7	2906.2	3186.5	3395.7	3266.0	3026.1	3058.2	4288.2
45°	5426.1	5374.5	4859.9	3635.5	3610.4	4254.7	4536.4	4279.8	3683.0	3673.2	4833.4
47.5°	6289.3	6279.6	5753.8	4282.6	4472.3	5614.4	6158.2	5664.6	4431.8	4324.4	5865.4
50°	7502.6	7473.3	6868.1	5041.2	5497.2	7299.0	8269.6	7446.8	5336.9	5084.5	7247.4
52.5°	8869.2	8899.9	8428.5	5869.6	6586.4	9173.2	10524.5	9488.4	6320.0	6050.9	8986.3
55°	10156.4	10332.1	10208.0	6838.8	7650.4	11242.7	13001.2	11728.0	7537.4	7315.7	10935.9
57.5°	11163.2	11658.3	12528.4	8247.2	8901.3	13663.6	15766.5	14155.9	8958.5	9369.8	13589.7
60°	11219.0	11874.4	13895.1	11193.9	10510.6	15740.1	18527.7	16528.0	11192.5	12857.6	15668.9
62.5°	10378.1	11080.9	13005.4	12532.6	12263.5	17506.9	19944.6	18257.2	13390.3	14900.5	15052.5
65°	9415.9	10125.7	12012.5	11014.0	12059.9	17431.6	19584.8	18297.6	13589.7	13511.6	13949.5
67.5°	7961.4	8598.7	10307.0	9749.2	11115.8	16590.7	17922.5	17144.3	12520.1	12637.2	12832.5
70°	5811.0	6424.6	8010.2	8038.1	9707.3	15074.9	15399.8	15292.4	11530.0	11654.1	11096.3
72.5°	4197.5	4714.9	6082.9	6591.9	7749.4	12641.4	12416.9	12831.1	9892.8	10379.5	8912.4
75°	3017.8	3405.4	4462.5	5734.3	6142.9	9388.0	8888.7	9937.4	7937.7	8937.5	6700.7
77.5°	1224.4	1361.1	1755.7	3862.8	4037.2	6315.8	5441.5	7218.1	5659.0	5872.4	3247.9
80°	50.2	55.8	72.5	1994.2	2768.1	3553.3	2911.8	3858.7	3737.3	2365.1	767.0
82.5°	5.6	5.6	12.6	574.5	1211.8	1960.7	1372.2	2222.9	1892.4	1002.7	348.6
85°	1.4	1.4	2.8	65.5	284.5	313.8	185.5	681.9	879.9	410.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	12.6	13.9	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-SA4D-830-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5
2.5°	631.7	624.7	616.4	608.0	603.8	592.7	588.5	585.7	582.9	584.3	584.3
5°	610.8	595.5	577.3	559.2	549.4	538.3	532.7	529.9	531.3	536.9	536.9
7.5°	608.0	578.7	539.7	516.0	504.8	496.5	490.9	488.1	489.5	496.5	499.2
10°	654.0	602.4	532.7	492.3	479.7	471.4	465.8	461.6	458.8	464.4	465.8
12.5°	753.0	681.9	566.2	489.5	467.2	456.0	451.8	443.5	439.3	442.1	443.5
15°	958.0	835.3	633.1	500.6	456.0	443.5	436.5	429.5	422.5	421.1	422.5
17.5°	1225.8	1050.1	734.9	527.1	447.6	432.3	422.5	412.8	403.0	401.6	400.2
20°	1557.7	1313.6	877.2	569.0	440.7	422.5	408.6	394.7	382.1	377.9	377.9
22.5°	1860.3	1631.6	1059.8	620.6	430.9	408.6	391.9	375.1	361.2	354.2	352.8
25°	2229.9	1969.1	1278.8	680.5	417.0	390.5	372.3	355.6	341.7	333.3	330.5
27.5°	2602.2	2324.7	1527.0	758.6	400.2	372.3	355.6	340.3	324.9	315.2	312.4
30°	2963.4	2708.2	1805.9	856.2	387.7	354.2	340.3	324.9	311.0	295.6	291.5
32.5°	3351.1	3100.0	2118.3	965.0	377.9	341.7	326.3	312.4	294.2	280.3	273.3
35°	3724.8	3504.5	2462.7	1071.0	368.2	330.5	313.8	299.8	280.3	265.0	255.2
37.5°	4101.3	3915.8	2822.5	1135.1	354.2	315.2	299.8	288.7	266.4	248.2	237.1
40°	4500.1	4341.2	3211.6	1108.7	341.7	298.4	290.1	277.5	252.4	231.5	217.5
42.5°	4938.0	4747.0	3607.6	1006.9	330.5	284.5	276.1	263.6	239.9	214.8	196.6
45°	5488.9	5191.8	3932.6	853.5	336.1	270.5	253.8	251.0	228.7	196.6	174.3
47.5°	6435.8	5875.2	4185.0	754.4	373.7	255.2	235.7	242.6	218.9	178.5	153.4
50°	7884.7	7007.5	4420.7	747.5	430.9	248.2	218.9	237.1	209.2	160.4	135.3
52.5°	9265.3	8158.0	4571.3	808.8	481.1	266.4	202.2	230.1	202.2	147.8	122.7
55°	10585.9	8821.8	4302.1	853.5	528.5	320.7	189.7	218.9	193.8	140.8	118.5
57.5°	12009.7	9117.4	3387.3	944.1	562.0	366.8	192.4	202.2	182.7	136.7	117.1
60°	12435.0	8739.5	2044.4	1062.6	543.9	380.7	213.4	179.9	167.3	128.3	113.0
62.5°	11774.0	7842.8	1206.3	967.8	528.5	359.8	244.0	165.9	152.0	117.1	104.6
65°	10785.3	6625.4	786.5	817.2	560.6	320.7	259.4	159.0	138.1	106.0	92.0
67.5°	9655.7	5336.9	550.8	482.5	517.4	288.7	218.9	157.6	124.1	89.2	75.3
70°	8132.9	3996.7	387.7	319.3	430.9	256.6	170.1	153.4	108.8	72.5	58.6
72.5°	6283.7	2501.8	288.7	206.4	306.8	209.2	135.3	129.7	87.9	60.0	44.6
75°	4634.0	1426.6	203.6	149.2	202.2	159.0	100.4	92.0	75.3	57.2	40.4
77.5°	2419.5	714.0	126.9	114.4	115.7	99.0	72.5	66.9	69.7	57.2	37.7
80°	464.4	142.2	76.7	83.7	62.8	62.8	53.0	55.8	61.4	46.0	32.1
82.5°	193.8	30.7	41.8	47.4	39.0	43.2	43.2	44.6	43.2	33.5	23.7
85°	0.0	0.0	18.1	19.5	26.5	26.5	22.3	22.3	22.3	19.5	13.9
87.5°	0.0	0.0	0.0	0.0	1.4	4.2	8.4	9.8	11.2	8.4	5.6
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°	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5
2.5°	582.9	580.1	584.3	587.1	589.9	589.9	587.1	584.3	580.1	584.3	580.1
5°	538.3	542.5	549.4	552.2	555.0	549.4	546.7	538.3	531.3	532.7	529.9
7.5°	503.4	507.6	516.0	521.6	521.6	518.8	510.4	502.0	490.9	490.9	489.5
10°	471.4	476.9	486.7	493.7	496.5	493.7	485.3	474.1	464.4	464.4	460.2
12.5°	444.9	451.8	463.0	472.7	475.5	472.7	464.4	453.2	442.1	442.1	439.3
15°	422.5	430.9	443.5	454.6	458.8	454.6	444.9	430.9	419.8	421.1	417.0
17.5°	401.6	408.6	425.3	437.9	442.1	437.9	425.3	407.2	396.0	398.8	396.0
20°	377.9	386.3	403.0	417.0	421.1	417.0	403.0	383.5	372.3	372.3	373.7
22.5°	352.8	361.2	377.9	387.7	393.3	389.1	375.1	357.0	345.8	345.8	347.2
25°	330.5	334.7	347.2	357.0	358.4	354.2	343.1	329.1	320.7	324.9	326.3
27.5°	309.6	309.6	315.2	320.7	319.3	315.2	311.0	299.8	298.4	302.6	306.8
30°	287.3	280.3	277.5	273.3	271.9	270.5	274.7	274.7	277.5	283.1	287.3
32.5°	267.7	253.8	241.3	228.7	221.7	227.3	238.5	248.2	258.0	266.4	270.5
35°	245.4	223.1	202.2	185.5	174.3	182.7	200.8	218.9	235.7	246.8	253.8
37.5°	223.1	191.1	165.9	145.0	136.7	143.6	163.2	188.3	213.4	227.3	237.1
40°	199.4	159.0	129.7	113.0	104.6	111.6	131.1	156.2	189.7	207.8	220.3
42.5°	175.7	131.1	104.6	87.9	83.7	87.9	103.2	128.3	164.6	186.9	203.6
45°	152.0	108.8	83.7	71.1	66.9	71.1	83.7	104.6	140.8	165.9	185.5
47.5°	131.1	92.0	69.7	58.6	55.8	60.0	69.7	87.9	118.5	143.6	165.9
50°	114.4	80.9	60.0	50.2	47.4	51.6	60.0	73.9	100.4	122.7	146.4
52.5°	103.2	75.3	53.0	43.2	41.8	44.6	51.6	62.8	85.1	104.6	126.9
55°	100.4	75.3	48.8	39.0	37.7	40.4	46.0	54.4	73.9	90.6	110.2
57.5°	103.2	80.9	46.0	33.5	32.1	34.9	40.4	47.4	64.1	78.1	96.2
60°	103.2	82.3	40.4	26.5	25.1	27.9	33.5	41.8	57.2	68.3	83.7
62.5°	93.4	75.3	33.5	20.9	18.1	20.9	27.9	34.9	50.2	61.4	73.9
65°	80.9	64.1	27.9	15.3	12.6	15.3	22.3	29.3	43.2	53.0	66.9
67.5°	65.5	48.8	20.9	11.2	8.4	11.2	16.7	23.7	36.3	46.0	60.0
70°	48.8	34.9	16.7	9.8	8.4	9.8	15.3	22.3	32.1	41.8	55.8
72.5°	36.3	23.7	13.9	9.8	7.0	9.8	13.9	20.9	30.7	40.4	53.0
75°	30.7	19.5	12.6	8.4	7.0	8.4	12.6	19.5	27.9	37.7	50.2
77.5°	29.3	18.1	11.2	7.0	5.6	7.0	11.2	16.7	25.1	34.9	48.8
80°	25.1	15.3	9.8	5.6	4.2	5.6	9.8	13.9	19.5	26.5	37.7
82.5°	19.5	12.6	7.0	2.8	1.4	2.8	7.0	8.4	12.6	15.3	22.3
85°	12.6	7.0	2.8	0.0	0.0	0.0	2.8	5.6	5.6	7.0	11.2
87.5°	5.6	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.8	4.2
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: P637990

CATALOG NUMBER: GWS-SA4D-830-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5
2.5°	588.5	589.9	592.7	596.9	606.6	615.0	623.4	634.5	640.1	640.1
5°	532.7	534.1	535.5	541.1	555.0	566.2	584.3	606.6	617.8	620.6
7.5°	489.5	492.3	495.1	499.2	513.2	528.5	552.2	594.1	615.0	619.2
10°	464.4	468.6	474.1	482.5	495.1	511.8	552.2	627.5	662.4	669.4
12.5°	444.9	451.8	457.4	467.2	482.5	509.0	589.9	722.4	783.7	800.5
15°	425.3	433.7	442.1	451.8	468.6	518.8	662.4	892.5	994.3	1006.9
17.5°	405.8	415.6	426.7	437.9	458.8	542.5	776.8	1128.2	1270.4	1298.3
20°	383.5	396.0	411.4	425.3	449.0	580.1	935.7	1408.5	1587.0	1646.9
22.5°	359.8	375.1	393.3	411.4	437.9	626.1	1128.2	1709.7	1959.3	1998.4
25°	340.3	355.6	372.3	390.5	419.8	681.9	1361.1	2083.4	2310.7	2348.4
27.5°	322.1	337.5	352.8	369.6	401.6	754.4	1641.4	2480.9	2717.9	2757.0
30°	302.6	320.7	336.1	352.8	384.9	843.7	1964.9	2921.5	3146.1	3182.3
32.5°	285.9	304.0	319.3	336.1	372.3	941.3	2305.2	3312.0	3494.7	3494.7
35°	271.9	291.5	302.6	324.9	362.6	1004.1	2627.3	3684.3	3822.4	3816.8
37.5°	256.6	280.3	288.7	304.0	350.0	1011.0	2929.9	4077.6	4179.4	4143.1
40°	241.3	266.4	278.9	287.3	336.1	953.9	3261.8	4438.8	4525.2	4477.8
42.5°	227.3	246.8	265.0	274.7	327.7	853.5	3528.2	4825.1	4928.3	4886.4
45°	213.4	230.1	241.3	259.4	333.3	783.7	3756.9	5275.5	5456.8	5426.1
47.5°	199.4	213.4	220.3	248.2	370.9	751.7	3896.3	5972.8	6314.4	6289.3
50°	184.1	200.8	200.8	245.4	426.7	762.8	4017.6	6982.4	7510.9	7502.6
52.5°	168.7	186.9	184.1	266.4	470.0	814.4	4155.7	7873.5	8792.5	8869.2
55°	153.4	170.1	172.9	308.2	495.1	859.0	3621.6	8248.6	9887.2	10156.4
57.5°	136.7	146.4	179.9	340.3	486.7	988.7	2480.9	8317.0	10585.9	11163.2
60°	118.5	126.9	203.6	333.3	460.2	913.4	1561.9	7703.4	10486.9	11219.0
62.5°	103.2	117.1	214.8	294.2	468.6	792.1	995.7	6565.4	9542.8	10378.1
65°	90.6	113.0	195.2	266.4	474.1	536.9	672.2	5341.0	8621.0	9415.9
67.5°	80.9	125.5	160.4	237.1	407.2	377.9	461.6	4150.1	7248.8	7961.4
70°	73.9	128.3	131.1	203.6	315.2	242.6	304.0	2793.2	4996.6	5811.0
72.5°	66.9	94.8	99.0	163.2	203.6	147.8	196.6	1598.1	3642.5	4197.5
75°	64.1	64.1	68.3	106.0	113.0	107.4	126.9	953.9	2612.0	3017.8
77.5°	60.0	48.8	43.2	68.3	61.4	76.7	75.3	423.9	1132.4	1224.4
80°	47.4	34.9	29.3	43.2	41.8	51.6	44.6	34.9	51.6	50.2
82.5°	29.3	22.3	20.9	26.5	23.7	26.5	20.9	5.6	5.6	5.6
85°	13.9	12.6	11.2	11.2	12.6	11.2	8.4	2.8	1.4	1.4
87.5°	7.0	7.0	5.6	4.2	5.6	5.6	4.2	1.4	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

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

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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			



REPORT NUMBER: SP1-2408-195-9

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.32**

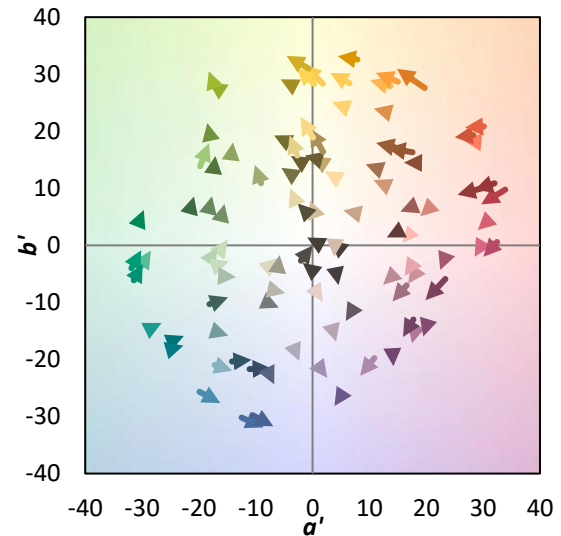
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625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