

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: P629078

Luminaire Tested: GWS-SA1A-830-U-SLL-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P629078
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-40)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1A-830-U-SLL-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: (16) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1367.8 lumens
Efficiency: N/A
Efficacy: 69.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B0 - U0 - G1

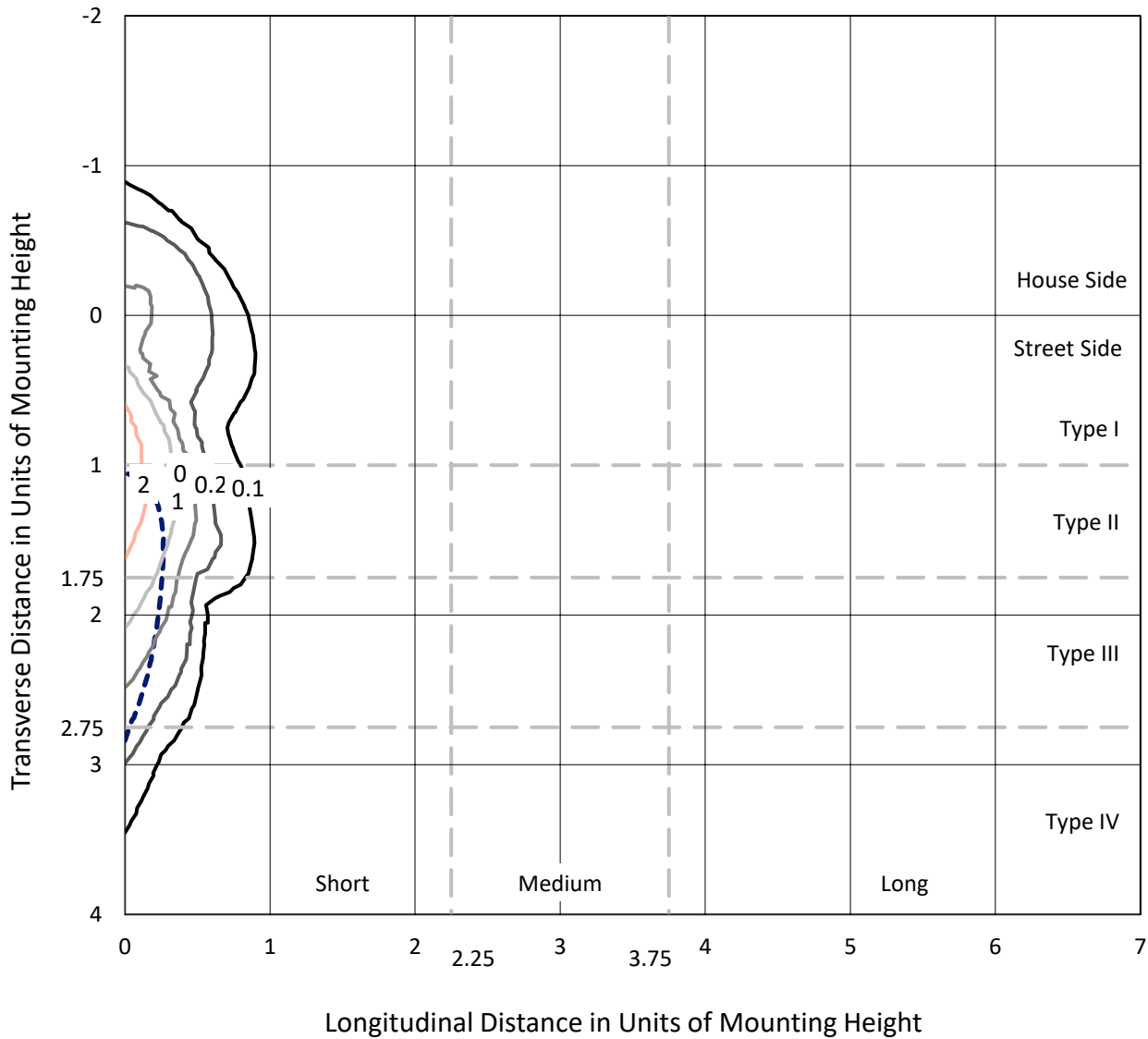
Input Watts (W): 19.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

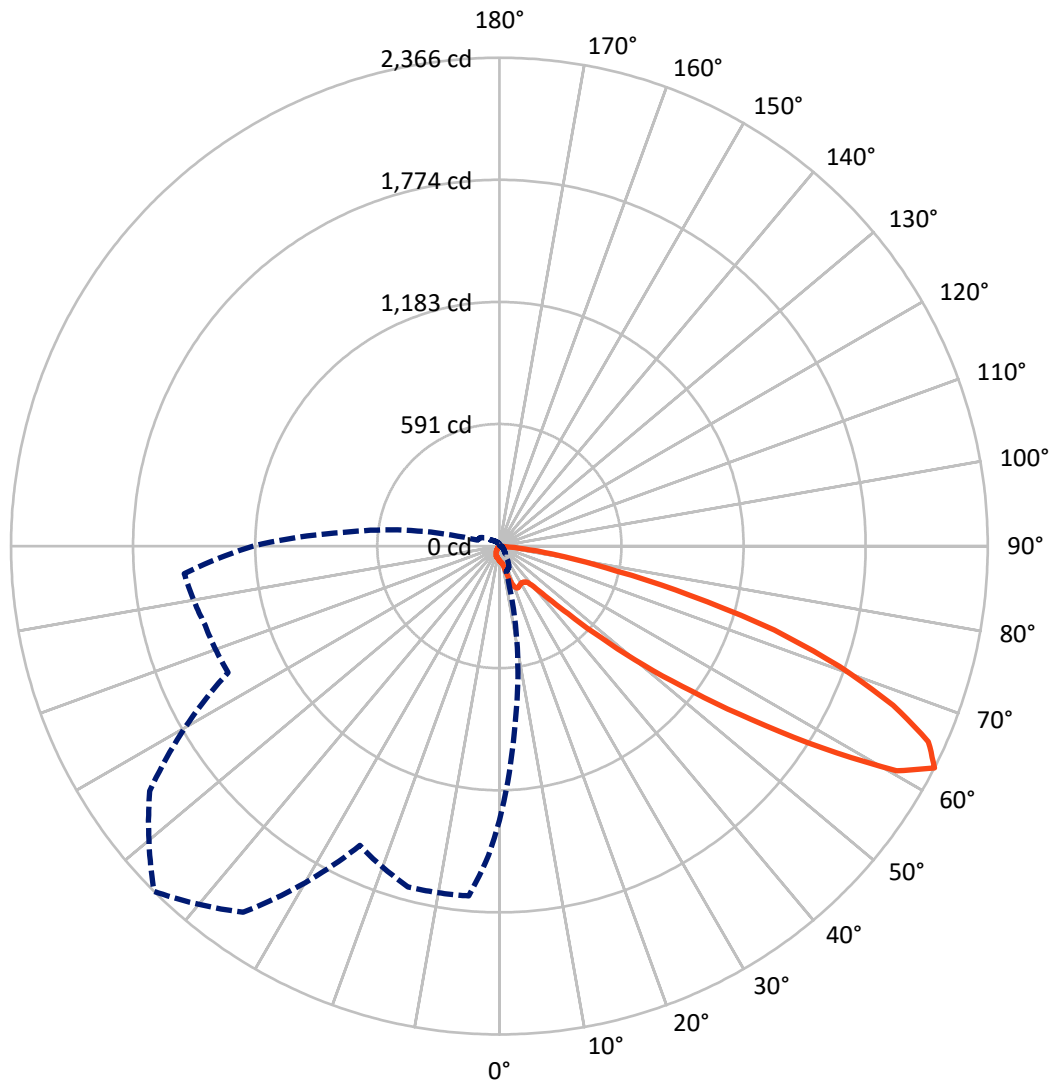
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.4 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	158.9	0.0	158.9
	% Fixture	11.6	0.0	11.6
Street Side	Lumens	1208.9	0.0	1208.9
	% Fixture	88.4	0.0	88.4
Total	Lumens	1367.8	0.0	1367.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	6.1	0.4
10°-20°	21.0	1.5
20°-30°	47.4	3.5
30°-40°	81.7	6.0
40°-50°	154.1	11.3
50°-60°	344.2	25.2
60°-70°	460.3	33.7
70°-80°	230.8	16.9
80°-90°	22.1	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°	1367.8	100.0
0°-180°	1367.8	100.0

Coefficient of Utilization



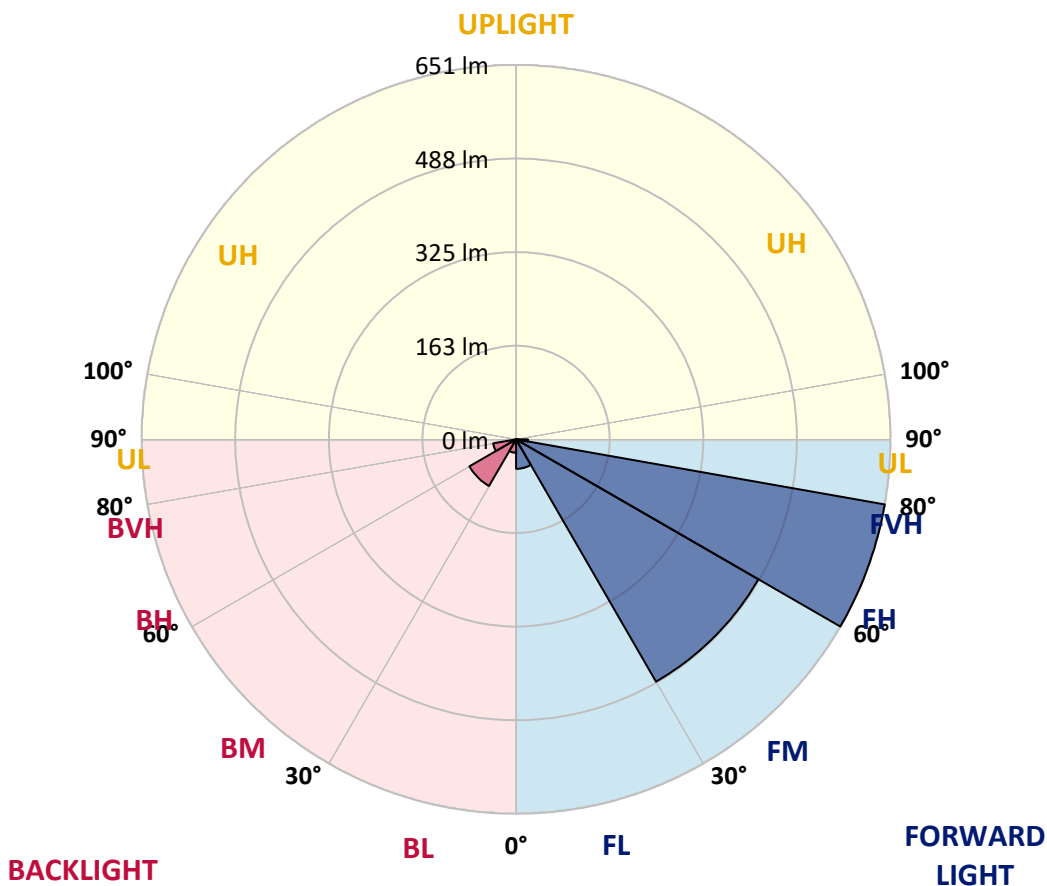
REPORT NUMBER: P629078

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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°)	51.2	3.7			
FM (30°-60°)	486.3	35.6			
FH (60°-80°)	650.7	47.6			G0/660
FVH (80°-90°)	20.7	1.5			G1/100
BL (0°-30°)	23.3	1.7	B0/110		
BM (30°-60°)	93.7	6.9	B0/220		
BH (60°-80°)	40.4	3.0	B0/110		G0/110
BVH (80°-90°)	1.5	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9
2.5°	70.1	70.0	69.6	68.7	67.9	67.4	66.4	66.4	66.2	65.9	65.3
5°	67.9	67.2	66.6	64.8	62.8	61.7	60.4	60.2	60.2	59.9	59.8
7.5°	64.3	63.6	62.8	59.9	58.1	57.0	55.9	55.7	55.2	55.2	55.2
10°	62.4	61.4	60.1	56.8	55.1	54.1	53.3	52.8	52.5	52.0	51.8
12.5°	66.6	64.8	62.0	56.2	53.8	52.5	51.5	51.2	50.2	49.6	49.1
15°	79.7	75.3	69.8	57.7	53.3	51.3	50.0	49.4	48.6	47.5	46.6
17.5°	101.2	94.9	85.7	62.4	52.8	50.4	48.7	47.6	46.5	45.2	44.2
20°	131.0	121.6	110.6	70.9	52.8	49.2	47.3	45.8	44.2	42.8	41.6
22.5°	168.9	159.5	140.7	85.5	53.4	47.8	45.5	43.6	41.6	40.3	39.0
25°	211.4	198.1	180.6	103.2	55.2	45.8	43.4	41.5	39.7	38.1	36.6
27.5°	258.6	244.2	220.9	128.3	59.1	43.9	41.1	39.4	37.7	36.1	34.2
30°	302.2	293.6	269.8	158.4	65.4	42.6	39.4	37.7	36.1	34.0	32.2
32.5°	354.5	339.3	319.7	192.7	73.9	41.3	37.9	35.6	34.3	32.4	30.4
35°	407.2	394.2	368.4	235.0	83.2	40.0	36.1	34.0	32.9	30.6	28.5
37.5°	461.4	458.5	433.1	281.8	92.5	38.5	34.0	32.7	31.6	29.0	26.6
40°	514.9	509.5	486.0	335.2	98.1	36.9	32.2	31.4	30.1	27.2	24.5
42.5°	566.0	562.0	539.1	386.4	97.3	35.5	30.4	29.5	28.5	25.6	22.2
45°	628.9	622.2	593.4	424.3	89.1	37.1	28.7	27.0	26.9	24.1	19.9
47.5°	746.4	724.6	675.7	453.5	80.8	41.3	26.7	24.8	25.9	22.7	17.7
50°	911.2	885.4	814.6	476.1	80.7	46.8	26.4	22.7	25.1	21.5	15.7
52.5°	1076.7	1031.3	945.3	488.3	86.6	50.9	29.3	20.6	24.1	20.4	14.3
55°	1235.2	1141.1	1000.1	448.1	91.3	55.2	34.7	19.4	22.3	19.1	13.4
57.5°	1386.3	1229.4	1023.9	354.5	107.1	57.0	37.9	19.9	19.8	17.5	12.8
60°	1407.1	1225.2	975.8	206.2	118.1	53.9	36.6	22.2	17.3	15.5	11.7
62.5°	1328.7	1143.7	866.1	128.6	109.6	52.8	32.6	25.3	15.7	13.8	10.2
65°	1209.6	1015.9	722.2	82.9	83.1	58.6	28.5	24.8	14.7	12.1	8.7
67.5°	1023.6	850.3	568.9	55.6	47.0	50.0	24.9	17.0	14.4	10.4	6.8
70°	747.1	605.2	370.4	37.1	28.0	40.0	20.9	12.1	13.6	8.6	4.9
72.5°	546.1	406.7	206.8	24.3	15.9	23.3	15.4	8.7	10.5	6.3	3.4
75°	393.1	279.9	118.1	15.5	10.5	12.8	10.0	6.0	6.8	5.0	3.1
77.5°	189.2	136.4	53.6	8.6	7.1	6.5	5.3	3.7	4.2	4.5	2.8
80°	7.1	5.3	4.0	4.2	4.5	2.9	2.4	1.9	2.4	3.1	1.5
82.5°	0.0	0.0	0.0	0.5	0.6	0.8	1.0	0.8	1.0	1.1	0.2
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°	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9
2.5°	65.8	65.4	65.8	66.1	66.4	66.7	66.2	66.6	66.9	66.1	66.4
5°	60.6	60.4	61.4	61.9	62.5	62.8	62.5	62.5	62.4	61.4	61.4
7.5°	56.0	56.2	57.0	58.1	59.0	59.4	59.1	59.0	58.5	57.0	57.0
10°	52.6	52.6	53.9	54.9	56.0	56.5	56.2	55.7	55.2	53.8	53.6
12.5°	49.9	49.9	50.9	52.5	53.8	54.4	54.3	53.6	52.8	51.3	51.2
15°	47.3	47.1	48.6	50.0	51.8	52.6	52.3	51.8	50.4	49.1	48.7
17.5°	44.7	44.5	45.8	47.8	49.7	50.9	50.7	49.6	48.3	46.6	46.3
20°	42.1	41.8	43.4	45.3	47.3	48.4	48.1	47.1	45.5	43.9	43.6
22.5°	39.5	39.4	40.5	42.1	43.9	44.9	44.7	43.9	42.3	40.8	40.8
25°	36.6	36.6	37.4	38.5	39.8	40.3	40.5	40.2	39.2	38.4	38.4
27.5°	34.2	33.7	34.0	34.3	35.0	35.8	35.8	36.1	36.3	36.0	36.1
30°	32.2	31.4	30.9	30.3	30.0	30.3	30.6	31.7	32.9	33.5	33.8
32.5°	30.0	29.0	27.7	25.9	24.8	24.5	25.4	27.5	29.6	31.1	31.9
35°	27.7	26.4	24.0	21.4	19.9	19.4	20.6	23.0	26.1	28.7	29.8
37.5°	25.4	23.6	20.2	17.2	15.5	15.2	16.4	18.9	22.5	26.1	27.5
40°	22.8	20.7	16.7	13.4	12.1	11.8	12.8	15.4	19.1	23.2	25.4
42.5°	20.2	17.7	13.4	10.7	9.4	9.4	10.7	12.6	16.0	20.4	23.2
45°	17.7	14.9	11.0	8.6	7.8	7.9	8.7	10.7	13.4	18.0	20.6
47.5°	15.2	12.8	9.1	7.1	6.5	6.6	7.6	9.2	11.5	15.5	18.3
50°	13.1	10.9	7.9	6.0	5.5	5.8	6.8	8.3	10.2	13.8	16.0
52.5°	11.8	9.7	7.3	5.2	4.9	5.2	6.2	7.4	9.2	12.1	14.4
55°	11.2	9.6	7.3	4.7	4.2	4.5	5.5	6.8	8.3	11.0	13.0
57.5°	11.0	9.9	7.8	4.2	3.6	3.9	4.9	6.2	7.6	10.0	11.7
60°	10.4	9.4	7.6	3.4	2.8	3.2	4.0	5.3	7.0	9.4	10.9
62.5°	9.1	8.3	6.6	2.8	2.1	2.4	3.4	4.7	6.3	8.6	10.2
65°	7.4	6.6	5.2	1.8	1.3	1.6	2.6	4.0	5.5	7.8	9.2
67.5°	5.5	4.7	3.6	1.1	0.6	1.1	2.1	3.4	5.0	7.0	8.4
70°	3.4	2.8	1.9	0.6	0.5	1.0	1.9	3.2	4.5	6.5	7.9
72.5°	1.9	1.3	0.8	0.3	0.5	1.0	1.9	3.2	4.4	6.2	7.4
75°	1.5	0.8	0.3	0.2	0.3	0.8	1.8	2.9	4.2	5.8	7.1
77.5°	1.0	0.5	0.2	0.0	0.2	0.6	1.6	2.8	3.9	5.5	6.8
80°	0.2	0.0	0.0	0.0	0.0	0.5	1.5	2.4	3.6	4.9	6.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.2	1.1	2.1	3.1	4.0	4.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.6	2.4	3.1	3.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	1.9	2.3
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°	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9
2.5°	66.2	67.2	67.2	67.9	68.7	70.1	70.9	72.1	72.9	73.7	74.0
5°	61.2	61.4	61.5	61.9	62.8	64.5	65.9	67.7	69.8	71.4	72.4
7.5°	57.0	57.0	57.0	57.5	58.5	59.6	61.1	63.5	65.9	67.9	69.5
10°	53.4	53.9	54.1	54.9	56.0	57.5	59.1	61.2	64.0	66.6	69.5
12.5°	51.2	51.7	52.5	53.3	54.4	56.0	57.8	60.6	66.2	71.6	77.7
15°	49.1	49.7	50.7	51.8	53.1	54.9	56.8	62.5	75.8	85.8	95.6
17.5°	46.8	47.8	49.1	50.2	51.8	53.8	56.2	67.2	93.3	110.0	126.5
20°	43.9	45.2	46.6	48.4	50.4	52.6	56.2	76.9	118.6	142.5	164.4
22.5°	41.1	42.4	44.2	46.5	48.7	51.0	57.0	91.7	151.1	181.4	209.1
25°	38.9	40.5	42.3	44.2	46.8	49.4	59.0	112.4	190.3	229.3	248.9
27.5°	36.8	38.7	40.5	42.1	44.4	47.3	63.3	140.1	236.6	276.3	291.7
30°	34.7	36.9	38.7	40.3	42.6	45.7	70.0	175.4	288.1	326.7	328.3
32.5°	32.9	35.0	37.1	38.7	40.8	44.4	79.2	216.7	340.9	378.2	362.9
35°	30.9	33.4	35.3	37.1	39.4	43.2	89.9	261.2	394.2	425.5	397.4
37.5°	29.0	31.7	34.2	35.5	37.7	42.1	97.7	307.7	448.6	471.6	427.7
40°	27.2	30.3	33.0	34.3	35.5	40.7	98.8	355.3	503.8	517.1	456.2
42.5°	25.3	28.7	31.1	32.9	33.8	39.7	92.0	395.5	550.2	562.5	493.5
45°	23.2	27.2	29.2	30.4	32.4	40.3	83.2	426.6	603.1	624.3	554.9
47.5°	21.1	25.6	27.2	28.2	30.8	44.2	80.0	447.3	690.4	734.5	658.3
50°	19.1	24.1	25.9	25.8	30.4	49.2	83.6	463.0	821.6	873.4	800.2
52.5°	17.0	22.5	24.6	24.0	32.9	53.1	90.7	475.5	922.5	1036.3	990.8
55°	15.2	20.7	22.7	22.5	37.4	56.0	96.2	409.7	964.3	1187.8	1205.6
57.5°	13.9	18.8	20.4	23.2	40.3	56.0	111.3	290.9	965.1	1299.2	1490.6
60°	12.8	17.0	18.1	25.4	39.2	53.1	110.1	178.1	889.5	1291.6	1642.2
62.5°	11.8	15.4	16.8	26.1	34.7	52.6	99.4	110.5	758.6	1193.3	1532.3
65°	11.0	14.1	16.2	24.0	31.4	56.4	67.0	79.4	615.3	1081.2	1406.1
67.5°	10.2	13.0	17.2	19.6	28.5	50.4	48.4	56.4	482.9	958.3	1290.3
70°	9.6	12.3	18.1	16.0	24.9	39.4	34.3	42.8	369.7	799.6	1127.2
72.5°	9.1	11.5	15.2	12.6	20.2	30.4	24.0	31.1	241.6	624.2	918.9
75°	8.6	10.5	11.2	10.2	15.1	19.9	18.1	20.9	144.0	456.2	697.2
77.5°	8.4	9.9	9.1	8.3	10.2	11.8	13.8	14.1	70.3	228.2	365.4
80°	7.4	8.9	7.8	6.8	7.0	7.8	10.2	9.4	16.0	58.0	97.5
82.5°	5.8	7.0	6.5	5.7	5.7	5.7	6.8	6.3	5.2	26.1	44.1
85°	4.0	4.9	4.9	4.5	4.4	4.4	4.2	4.0	1.5	1.6	2.4
87.5°	2.8	3.4	3.6	3.4	2.9	2.6	2.3	1.9	0.6	0.0	0.3
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):

	285°	295°	305°	315°	325°	335°	345°	355°	358°	360°
0°	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9
2.5°	75.1	75.6	75.6	75.0	74.5	73.2	71.9	70.6	70.3	70.1
5°	75.1	77.1	78.1	77.9	76.8	74.7	71.9	69.0	68.2	67.9
7.5°	74.0	77.7	80.7	81.1	79.0	75.3	70.3	65.9	64.8	64.3
10°	76.6	83.9	89.7	90.5	88.1	80.8	72.7	65.3	63.5	62.4
12.5°	90.5	102.5	109.6	113.0	108.3	99.1	85.7	72.4	68.3	66.6
15°	118.7	135.7	149.3	149.3	144.9	128.6	111.6	90.0	84.5	79.7
17.5°	154.8	176.2	188.2	186.9	180.3	168.8	148.4	117.4	106.2	101.2
20°	196.0	208.8	211.5	210.7	207.8	201.1	187.1	153.9	138.8	131.0
22.5°	231.6	228.2	224.1	220.9	220.1	222.0	220.1	194.5	182.7	168.9
25°	255.7	236.5	224.3	218.5	221.2	232.4	244.6	235.0	225.6	211.4
27.5°	268.8	235.5	218.0	212.0	216.7	232.6	259.0	275.2	265.4	258.6
30°	276.0	234.7	213.9	208.1	215.2	235.2	269.0	312.7	313.1	302.2
32.5°	286.2	239.9	214.8	209.4	219.0	242.9	281.6	351.0	360.3	354.5
35°	297.7	247.8	218.5	213.6	225.4	253.3	295.7	389.5	409.1	407.2
37.5°	308.5	256.7	227.2	222.5	235.3	262.2	309.3	427.4	454.6	461.4
40°	319.9	269.2	254.1	258.6	265.8	276.3	321.5	460.3	504.7	514.9
42.5°	346.6	312.4	335.4	344.0	345.0	323.3	348.0	502.4	553.9	566.0
45°	406.2	389.3	455.3	467.4	461.1	395.3	412.0	563.1	622.7	628.9
47.5°	481.5	489.3	619.3	661.3	623.4	480.4	489.6	690.9	748.7	746.4
50°	569.3	606.0	805.6	904.5	813.8	590.8	579.0	848.0	918.1	911.2
52.5°	673.1	741.8	1029.4	1170.0	1084.1	715.0	710.2	1056.1	1098.9	1076.7
55°	803.8	872.8	1286.9	1483.3	1361.2	866.6	883.3	1297.4	1305.7	1235.2
57.5°	998.8	1043.6	1590.4	1842.7	1650.5	1072.6	1193.6	1618.6	1519.8	1386.3
60°	1352.8	1263.4	1883.7	2210.4	1958.2	1362.4	1602.9	1808.9	1591.0	1407.1
62.5°	1476.1	1450.0	2067.3	2365.8	2165.2	1600.3	1709.3	1701.0	1498.7	1328.7
65°	1289.3	1403.5	2034.5	2283.7	2138.6	1561.1	1533.9	1582.0	1394.8	1209.6
67.5°	1191.0	1294.3	1909.9	2057.1	1991.4	1428.1	1367.2	1354.1	1170.9	1023.6
70°	1091.9	1194.3	1729.4	1747.7	1717.0	1211.4	1131.4	1043.5	875.2	747.1
72.5°	972.7	1029.1	1478.8	1392.0	1357.3	951.5	934.6	785.8	656.1	546.1
75°	848.3	832.0	1153.0	955.4	981.3	740.3	789.4	577.0	480.7	393.1
77.5°	617.0	604.9	772.2	580.3	642.6	484.9	435.7	230.3	219.3	189.2
80°	344.3	415.1	417.0	325.2	405.7	316.1	109.0	7.6	4.9	7.1
82.5°	160.0	178.5	226.1	150.8	231.4	156.6	22.5	0.0	0.0	0.0
85°	51.8	75.8	63.5	22.2	56.0	53.0	3.7	0.0	0.0	0.0
87.5°	3.1	6.3	1.6	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

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

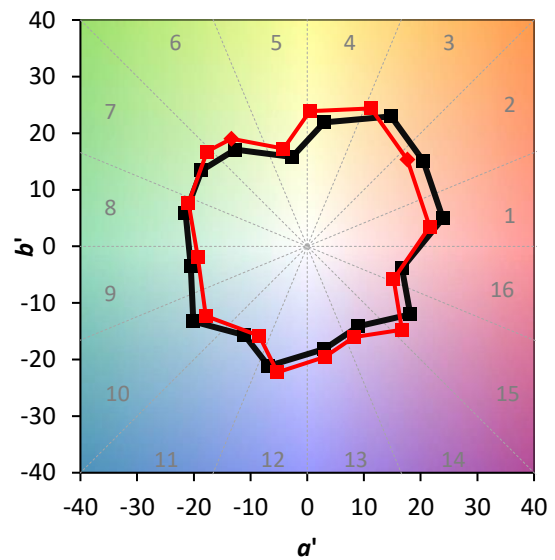
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300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

$R_f = 81.5$
 $R_g = 99.2$
 $CIE R_a = 81.0$
 $R_9 = 7.1$

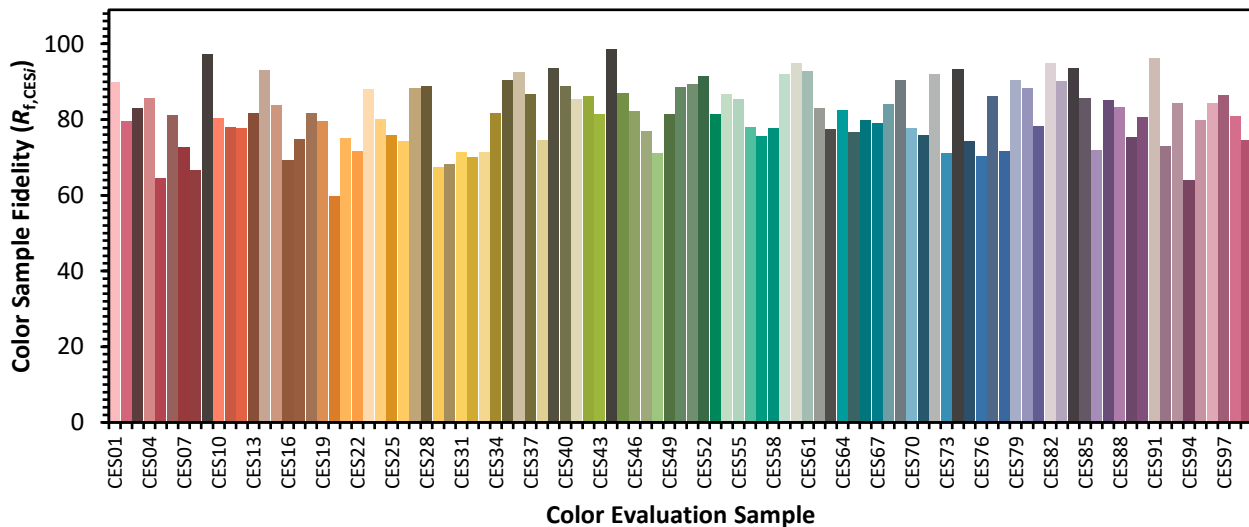


Color Vector Graphics



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)