

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: P629573

Luminaire Tested: GWS-SA1B-830-U-SLL-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P629573
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-SA1B-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: 1723.8 lumens
Efficiency: N/A
Efficacy: 69.0 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): 25
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

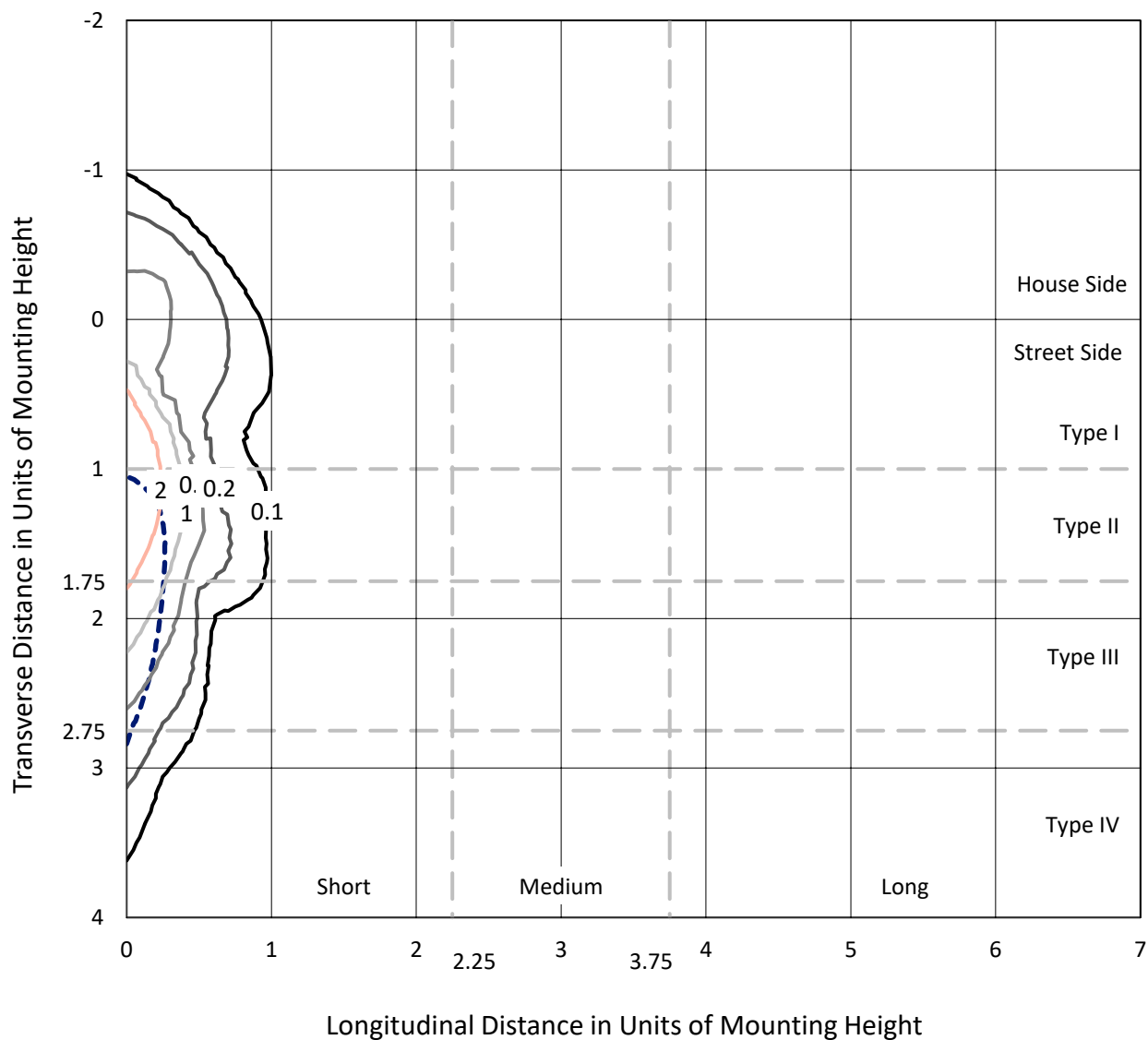


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Iso-Footcandle Lines of Horizontal Illumination

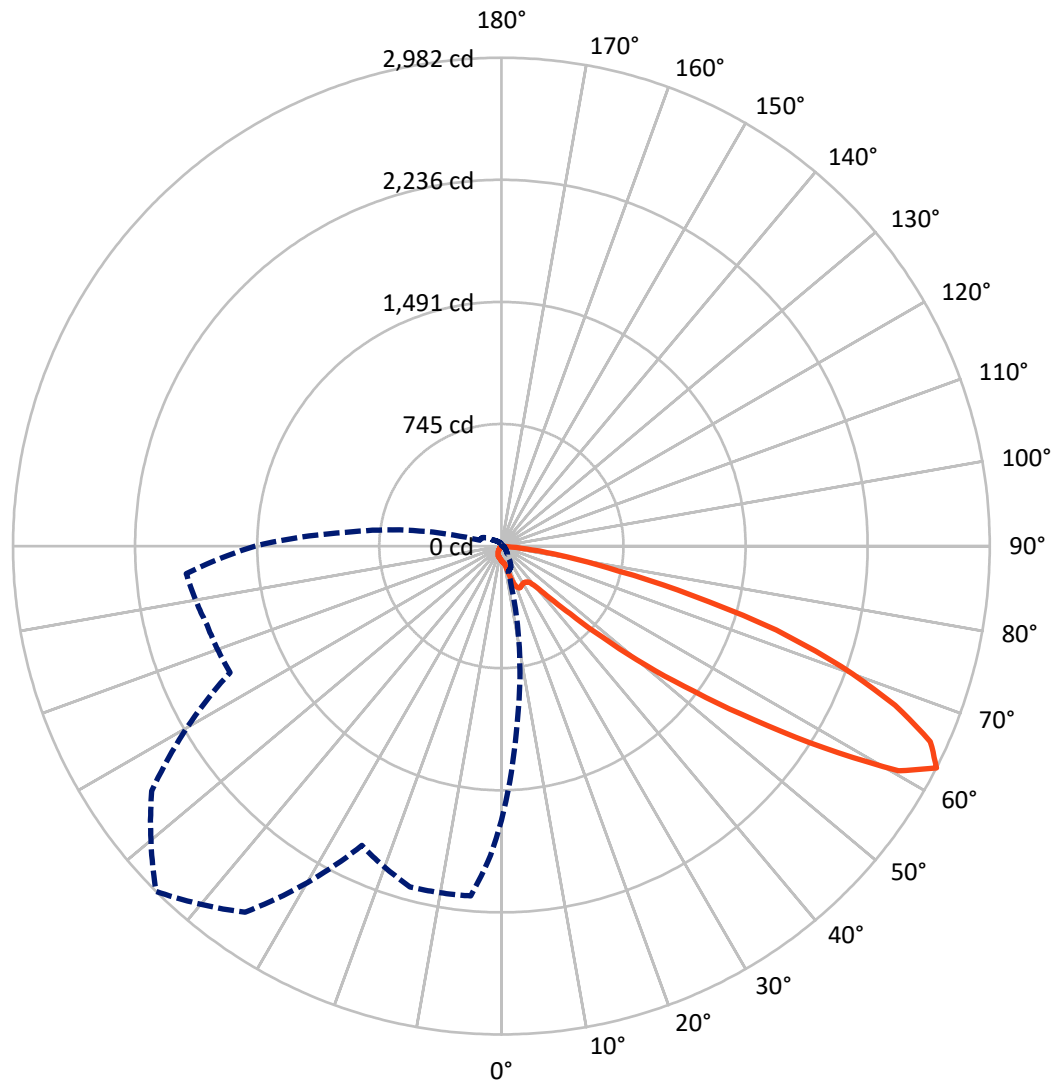
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.1 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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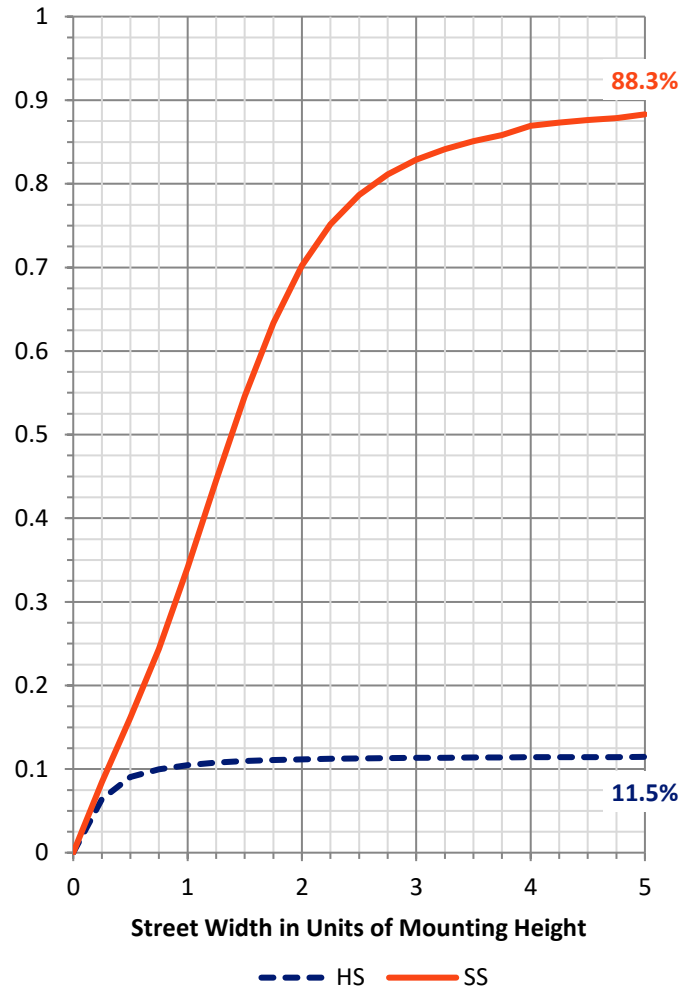
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	200.3	0.0	200.3
	% Fixture	11.6	0.0	11.6
Street Side	Lumens	1523.5	0.0	1523.5
	% Fixture	88.4	0.0	88.4
Total	Lumens	1723.8	0.0	1723.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.7	0.4
10°-20°	26.5	1.5
20°-30°	59.8	3.5
30°-40°	103.0	6.0
40°-50°	194.3	11.3
50°-60°	433.7	25.2
60°-70°	580.1	33.7
70°-80°	290.9	16.9
80°-90°	27.9	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°	1723.8	100.0
0°-180°	1723.8	100.0

Coefficient of Utilization



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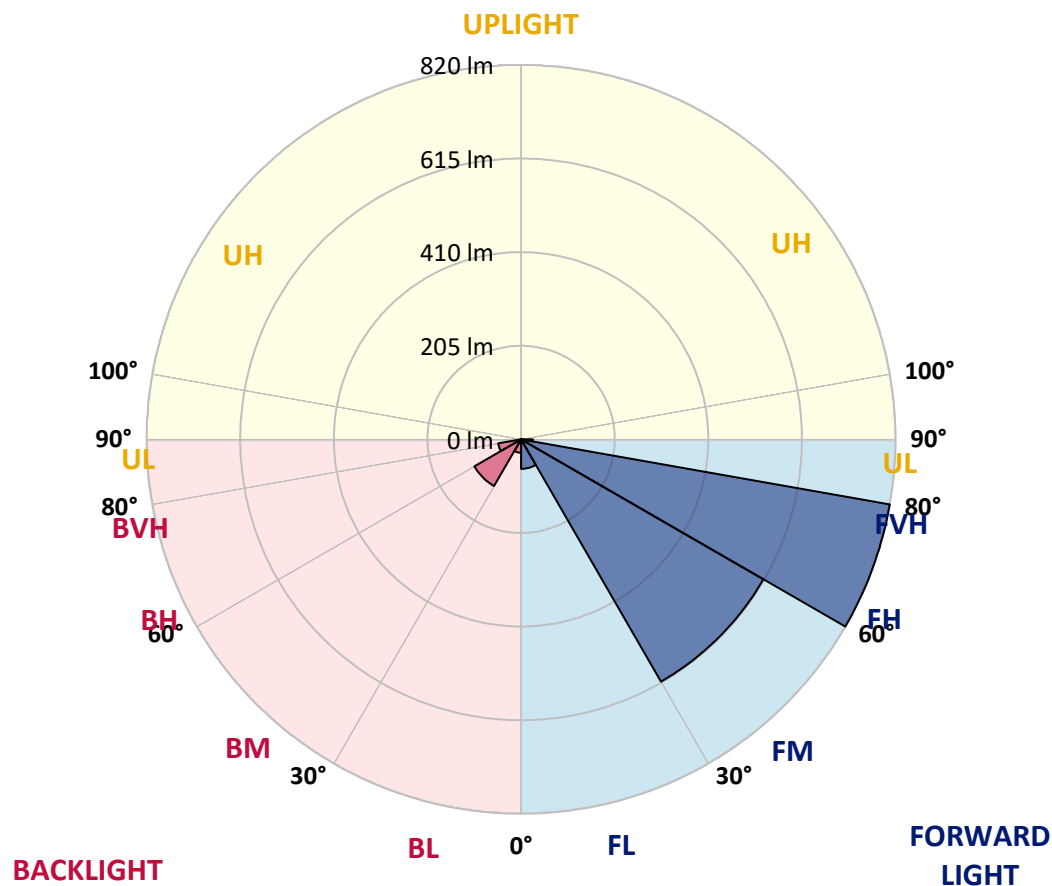
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	64.6	3.7			
FM	(30°-60°)	612.9	35.6			
FH	(60°-80°)	820.1	47.6			G1/1800
FVH	(80°-90°)	26.0	1.5			G1/100
BL	(0°-30°)	29.4	1.7	B0/110		
BM	(30°-60°)	118.1	6.9	B0/220		
BH	(60°-80°)	50.9	3.0	B0/110		G0/110
BVH	(80°-90°)	1.9	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°	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4
2.5°	88.4	88.2	87.8	86.5	85.5	84.9	83.7	83.7	83.5	83.1	82.3
5°	85.5	84.7	83.9	81.6	79.2	77.8	76.1	75.9	75.9	75.5	75.3
7.5°	81.0	80.2	79.2	75.5	73.3	71.8	70.4	70.2	69.6	69.6	69.6
10°	78.6	77.4	75.7	71.6	69.4	68.2	67.2	66.5	66.1	65.5	65.3
12.5°	83.9	81.6	78.2	70.8	67.8	66.1	64.9	64.5	63.3	62.5	61.8
15°	100.4	94.9	88.0	72.7	67.2	64.7	63.1	62.3	61.2	59.8	58.8
17.5°	127.6	119.6	108.0	78.6	66.5	63.5	61.4	60.0	58.6	56.9	55.7
20°	165.1	153.3	139.4	89.4	66.5	62.0	59.6	57.8	55.7	53.9	52.5
22.5°	212.9	201.0	177.4	107.8	67.4	60.2	57.4	54.9	52.5	50.8	49.2
25°	266.4	249.6	227.6	130.0	69.6	57.8	54.7	52.3	50.0	48.0	46.1
27.5°	326.0	307.8	278.4	161.7	74.5	55.3	51.8	49.6	47.6	45.5	43.1
30°	380.9	370.0	340.0	199.6	82.5	53.7	49.6	47.6	45.5	42.9	40.6
32.5°	446.8	427.6	402.9	242.9	93.1	52.0	47.8	44.9	43.3	40.8	38.4
35°	513.1	496.8	464.3	296.2	104.9	50.4	45.5	42.9	41.4	38.6	35.9
37.5°	581.5	577.8	545.8	355.1	116.5	48.6	42.9	41.2	39.8	36.5	33.5
40°	648.9	642.1	612.5	422.5	123.7	46.5	40.6	39.6	38.0	34.3	30.8
42.5°	713.4	708.3	679.5	487.0	122.7	44.7	38.4	37.1	35.9	32.2	28.0
45°	792.5	784.2	747.8	534.8	112.3	46.7	36.1	34.1	33.9	30.4	25.1
47.5°	940.7	913.2	851.5	571.5	101.8	52.0	33.7	31.2	32.7	28.6	22.2
50°	1148.3	1115.9	1026.7	600.1	101.6	59.0	33.3	28.6	31.6	27.1	19.8
52.5°	1356.9	1299.8	1191.4	615.4	109.2	64.1	36.9	25.9	30.4	25.7	18.0
55°	1556.7	1438.1	1260.4	564.8	115.1	69.6	43.7	24.5	28.2	24.1	16.9
57.5°	1747.2	1549.4	1290.4	446.8	134.9	71.8	47.8	25.1	24.9	22.0	16.1
60°	1773.3	1544.1	1229.7	259.8	148.8	68.0	46.1	28.0	21.8	19.6	14.7
62.5°	1674.5	1441.4	1091.6	162.1	138.2	66.5	41.0	31.8	19.8	17.3	12.9
65°	1524.5	1280.4	910.1	104.5	104.7	73.9	35.9	31.2	18.6	15.3	11.0
67.5°	1290.0	1071.6	717.0	70.0	59.2	63.1	31.4	21.4	18.2	13.1	8.6
70°	941.5	762.7	466.8	46.7	35.3	50.4	26.3	15.3	17.1	10.8	6.1
72.5°	688.2	512.5	260.6	30.6	20.0	29.4	19.4	11.0	13.3	8.0	4.3
75°	495.4	352.7	148.8	19.6	13.3	16.1	12.7	7.6	8.6	6.3	3.9
77.5°	238.4	171.9	67.6	10.8	9.0	8.2	6.7	4.7	5.3	5.7	3.5
80°	9.0	6.7	5.1	5.3	5.7	3.7	3.1	2.4	3.1	3.9	1.8
82.5°	0.0	0.0	0.0	0.6	0.8	1.0	1.2	1.0	1.2	1.4	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°	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4
2.5°	82.9	82.5	82.9	83.3	83.7	84.1	83.5	83.9	84.3	83.3	83.7
5°	76.3	76.1	77.4	78.0	78.8	79.2	78.8	78.8	78.6	77.4	77.4
7.5°	70.6	70.8	71.8	73.3	74.3	74.9	74.5	74.3	73.7	71.8	71.8
10°	66.3	66.3	68.0	69.2	70.6	71.2	70.8	70.2	69.6	67.8	67.6
12.5°	62.9	62.9	64.1	66.1	67.8	68.6	68.4	67.6	66.5	64.7	64.5
15°	59.6	59.4	61.2	63.1	65.3	66.3	65.9	65.3	63.5	61.8	61.4
17.5°	56.3	56.1	57.8	60.2	62.7	64.1	63.9	62.5	60.8	58.8	58.4
20°	53.1	52.7	54.7	57.1	59.6	61.0	60.6	59.4	57.4	55.3	54.9
22.5°	49.8	49.6	51.0	53.1	55.3	56.5	56.3	55.3	53.3	51.4	51.4
25°	46.1	46.1	47.1	48.6	50.2	50.8	51.0	50.6	49.4	48.4	48.4
27.5°	43.1	42.5	42.9	43.3	44.1	45.1	45.1	45.5	45.7	45.3	45.5
30°	40.6	39.6	39.0	38.2	37.8	38.2	38.6	40.0	41.4	42.3	42.7
32.5°	37.8	36.5	34.9	32.7	31.2	30.8	32.0	34.7	37.4	39.2	40.2
35°	34.9	33.3	30.2	26.9	25.1	24.5	25.9	29.0	32.9	36.1	37.6
37.5°	32.0	29.8	25.5	21.6	19.6	19.2	20.6	23.9	28.4	32.9	34.7
40°	28.8	26.1	21.0	16.9	15.3	14.9	16.1	19.4	24.1	29.2	32.0
42.5°	25.5	22.2	16.9	13.5	11.8	11.8	13.5	15.9	20.2	25.7	29.2
45°	22.2	18.8	13.9	10.8	9.8	10.0	11.0	13.5	16.9	22.7	25.9
47.5°	19.2	16.1	11.4	9.0	8.2	8.4	9.6	11.6	14.5	19.6	23.1
50°	16.5	13.7	10.0	7.6	6.9	7.3	8.6	10.4	12.9	17.3	20.2
52.5°	14.9	12.2	9.2	6.5	6.1	6.5	7.8	9.4	11.6	15.3	18.2
55°	14.1	12.0	9.2	5.9	5.3	5.7	6.9	8.6	10.4	13.9	16.3
57.5°	13.9	12.5	9.8	5.3	4.5	4.9	6.1	7.8	9.6	12.7	14.7
60°	13.1	11.8	9.6	4.3	3.5	4.1	5.1	6.7	8.8	11.8	13.7
62.5°	11.4	10.4	8.4	3.5	2.7	3.1	4.3	5.9	8.0	10.8	12.9
65°	9.4	8.4	6.5	2.2	1.6	2.0	3.3	5.1	6.9	9.8	11.6
67.5°	6.9	5.9	4.5	1.4	0.8	1.4	2.7	4.3	6.3	8.8	10.6
70°	4.3	3.5	2.4	0.8	0.6	1.2	2.4	4.1	5.7	8.2	10.0
72.5°	2.4	1.6	1.0	0.4	0.6	1.2	2.4	4.1	5.5	7.8	9.4
75°	1.8	1.0	0.4	0.2	0.4	1.0	2.2	3.7	5.3	7.3	9.0
77.5°	1.2	0.6	0.2	0.0	0.2	0.8	2.0	3.5	4.9	6.9	8.6
80°	0.2	0.0	0.0	0.0	0.0	0.6	1.8	3.1	4.5	6.1	7.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.2	1.4	2.7	3.9	5.1	6.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.0	3.1	3.9	4.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	2.4	2.9
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°	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4
2.5°	83.5	84.7	84.7	85.5	86.5	88.4	89.4	90.8	91.8	92.9	93.3
5°	77.2	77.4	77.6	78.0	79.2	81.2	83.1	85.3	88.0	90.0	91.2
7.5°	71.8	71.8	71.8	72.5	73.7	75.1	76.9	80.0	83.1	85.5	87.6
10°	67.4	68.0	68.2	69.2	70.6	72.5	74.5	77.2	80.6	83.9	87.6
12.5°	64.5	65.1	66.1	67.2	68.6	70.6	72.9	76.3	83.5	90.2	98.0
15°	61.8	62.7	63.9	65.3	66.9	69.2	71.6	78.8	95.5	108.2	120.4
17.5°	59.0	60.2	61.8	63.3	65.3	67.8	70.8	84.7	117.6	138.6	159.4
20°	55.3	56.9	58.8	61.0	63.5	66.3	70.8	97.0	149.4	179.6	207.2
22.5°	51.8	53.5	55.7	58.6	61.4	64.3	71.8	115.5	190.4	228.6	263.5
25°	49.0	51.0	53.3	55.7	59.0	62.3	74.3	141.7	239.8	289.0	313.7
27.5°	46.3	48.8	51.0	53.1	55.9	59.6	79.8	176.6	298.2	348.2	367.6
30°	43.7	46.5	48.8	50.8	53.7	57.6	88.2	221.0	363.1	411.7	413.7
32.5°	41.4	44.1	46.7	48.8	51.4	55.9	99.8	273.1	429.6	476.6	457.4
35°	39.0	42.0	44.5	46.7	49.6	54.5	113.3	329.2	496.8	536.2	500.9
37.5°	36.5	40.0	43.1	44.7	47.6	53.1	123.1	387.8	565.4	594.4	539.0
40°	34.3	38.2	41.6	43.3	44.7	51.2	124.5	447.8	635.0	651.7	575.0
42.5°	31.8	36.1	39.2	41.4	42.7	50.0	115.9	498.4	693.4	708.9	621.9
45°	29.2	34.3	36.7	38.4	40.8	50.8	104.9	537.6	760.1	786.8	699.3
47.5°	26.5	32.2	34.3	35.5	38.8	55.7	100.8	563.7	870.1	925.6	829.7
50°	24.1	30.4	32.7	32.5	38.4	62.0	105.3	583.5	1035.4	1100.7	1008.5
52.5°	21.4	28.4	31.0	30.2	41.4	66.9	114.3	599.3	1162.6	1306.1	1248.7
55°	19.2	26.1	28.6	28.4	47.1	70.6	121.2	516.4	1215.3	1496.9	1519.4
57.5°	17.6	23.7	25.7	29.2	50.8	70.6	140.2	366.6	1216.3	1637.3	1878.6
60°	16.1	21.4	22.9	32.0	49.4	66.9	138.8	224.5	1121.0	1627.8	2069.6
62.5°	14.9	19.4	21.2	32.9	43.7	66.3	125.3	139.2	956.0	1503.9	1931.1
65°	13.9	17.8	20.4	30.2	39.6	71.0	84.5	100.0	775.4	1362.6	1772.1
67.5°	12.9	16.3	21.6	24.7	35.9	63.5	61.0	71.0	608.6	1207.7	1626.1
70°	12.0	15.5	22.9	20.2	31.4	49.6	43.3	53.9	466.0	1007.7	1420.6
72.5°	11.4	14.5	19.2	15.9	25.5	38.4	30.2	39.2	304.5	786.6	1158.1
75°	10.8	13.3	14.1	12.9	19.0	25.1	22.9	26.3	181.5	575.0	878.7
77.5°	10.6	12.5	11.4	10.4	12.9	14.9	17.3	17.8	88.6	287.6	460.5
80°	9.4	11.2	9.8	8.6	8.8	9.8	12.9	11.8	20.2	73.1	122.9
82.5°	7.3	8.8	8.2	7.1	7.1	7.1	8.6	8.0	6.5	32.9	55.5
85°	5.1	6.1	6.1	5.7	5.5	5.5	5.3	5.1	1.8	2.0	3.1
87.5°	3.5	4.3	4.5	4.3	3.7	3.3	2.9	2.4	0.8	0.0	0.4
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°	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4
2.5°	94.7	95.3	95.3	94.5	93.9	92.3	90.6	89.0	88.6	88.4
5°	94.7	97.2	98.4	98.2	96.7	94.1	90.6	86.9	85.9	85.5
7.5°	93.3	98.0	101.6	102.3	99.6	94.9	88.6	83.1	81.6	81.0
10°	96.5	105.7	113.1	114.1	111.0	101.8	91.6	82.3	80.0	78.6
12.5°	114.1	129.2	138.2	142.5	136.5	124.9	108.0	91.2	86.1	83.9
15°	149.6	171.0	188.2	188.2	182.7	162.1	140.6	113.5	106.5	100.4
17.5°	195.1	222.1	237.2	235.5	227.2	212.7	187.0	148.0	133.9	127.6
20°	247.0	263.1	266.6	265.5	261.9	253.5	235.7	193.9	174.9	165.1
22.5°	291.9	287.6	282.5	278.4	277.4	279.8	277.4	245.1	230.2	212.9
25°	322.3	298.0	282.7	275.3	278.8	292.9	308.2	296.2	284.3	266.4
27.5°	338.8	296.8	274.7	267.2	273.1	293.1	326.4	346.8	334.5	326.0
30°	347.8	295.8	269.6	262.3	271.3	296.4	339.0	394.1	394.5	380.9
32.5°	360.7	302.3	270.6	263.9	276.0	306.2	354.9	442.3	454.1	446.8
35°	375.1	312.3	275.3	269.2	284.1	319.2	372.7	490.9	515.6	513.1
37.5°	388.8	323.5	286.4	280.4	296.6	330.4	389.8	538.6	572.9	581.5
40°	403.1	339.2	320.2	326.0	334.9	348.2	405.2	580.1	636.0	648.9
42.5°	436.8	393.7	422.7	433.5	434.7	407.4	438.6	633.1	698.0	713.4
45°	511.9	490.7	573.7	589.1	581.1	498.2	519.2	709.7	784.8	792.5
47.5°	606.8	616.6	780.5	833.4	785.6	605.4	617.0	870.7	943.6	940.7
50°	717.4	763.8	1015.2	1139.9	1025.6	744.6	729.7	1068.7	1157.1	1148.3
52.5°	848.3	934.8	1297.3	1474.5	1366.3	901.1	895.0	1331.0	1384.9	1356.9
55°	1013.0	1099.9	1621.8	1869.4	1715.5	1092.2	1113.2	1635.1	1645.5	1556.7
57.5°	1258.7	1315.3	2004.3	2322.3	2080.1	1351.8	1504.3	2039.8	1915.3	1747.2
60°	1704.9	1592.2	2374.0	2785.6	2467.9	1716.9	2020.0	2279.7	2005.1	1773.3
62.5°	1860.2	1827.4	2605.4	2981.6	2728.7	2016.8	2154.1	2143.7	1888.8	1674.5
65°	1624.9	1768.8	2564.0	2878.1	2695.2	1967.4	1933.1	1993.7	1757.8	1524.5
67.5°	1501.0	1631.2	2407.0	2592.6	2509.7	1799.8	1723.1	1706.5	1475.7	1290.0
70°	1376.1	1505.1	2179.5	2202.5	2163.9	1526.7	1425.9	1315.1	1103.0	941.5
72.5°	1225.9	1296.9	1863.7	1754.3	1710.6	1199.1	1177.9	990.3	826.8	688.2
75°	1069.1	1048.5	1453.0	1204.0	1236.7	933.0	994.8	727.2	605.8	495.4
77.5°	777.6	762.3	973.2	731.3	809.9	611.1	549.0	290.2	276.4	238.4
80°	433.9	523.1	525.6	409.8	511.3	398.4	137.4	9.6	6.1	9.0
82.5°	201.7	224.9	284.9	190.0	291.7	197.4	28.4	0.0	0.0	0.0
85°	65.3	95.5	80.0	28.0	70.6	66.7	4.7	0.0	0.0	0.0
87.5°	3.9	8.0	2.0	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

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.

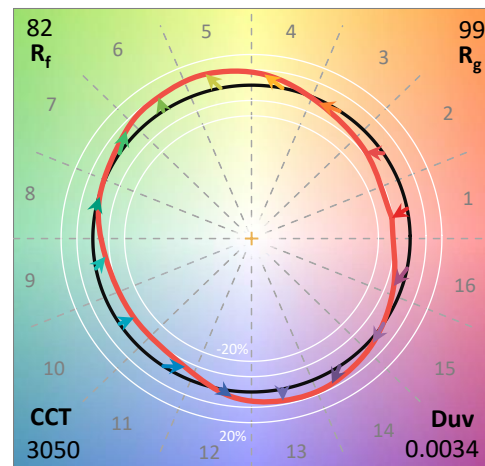
Test Information

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
 R_f: 81.5
 R_g: 99.2

CRI (Ra): 81.0
 R1: 79.6
 R2: 85.6
 R3: 92.0
 R4: 82.6
 R5: 78.9
 R6: 81.7
 R7: 85.2
 R8: 62.0
 R9: 7.1
 R10: 67.0
 R11: 82.7
 R12: 63.2
 R13: 80.3
 R14: 95.0
 R15: 71.7



Test Conditions

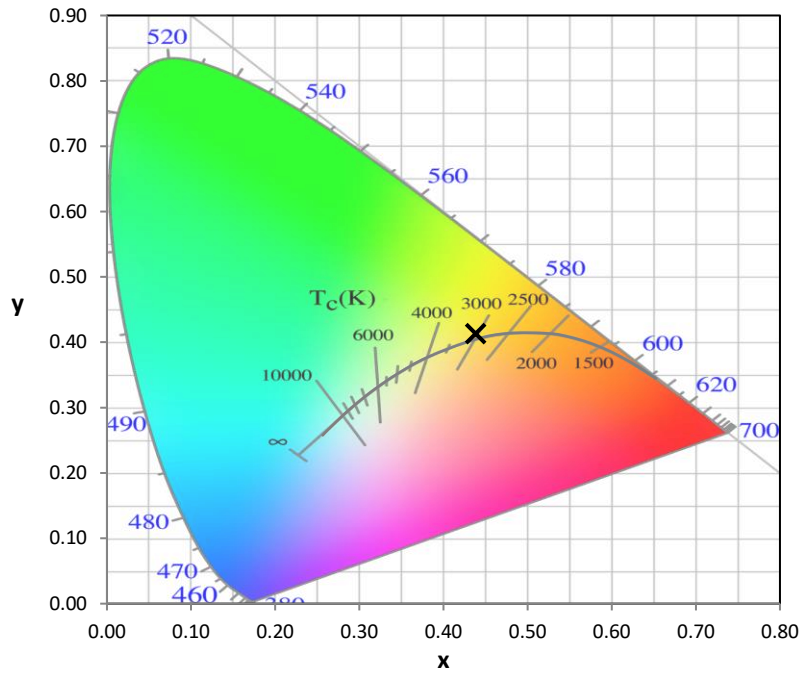
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

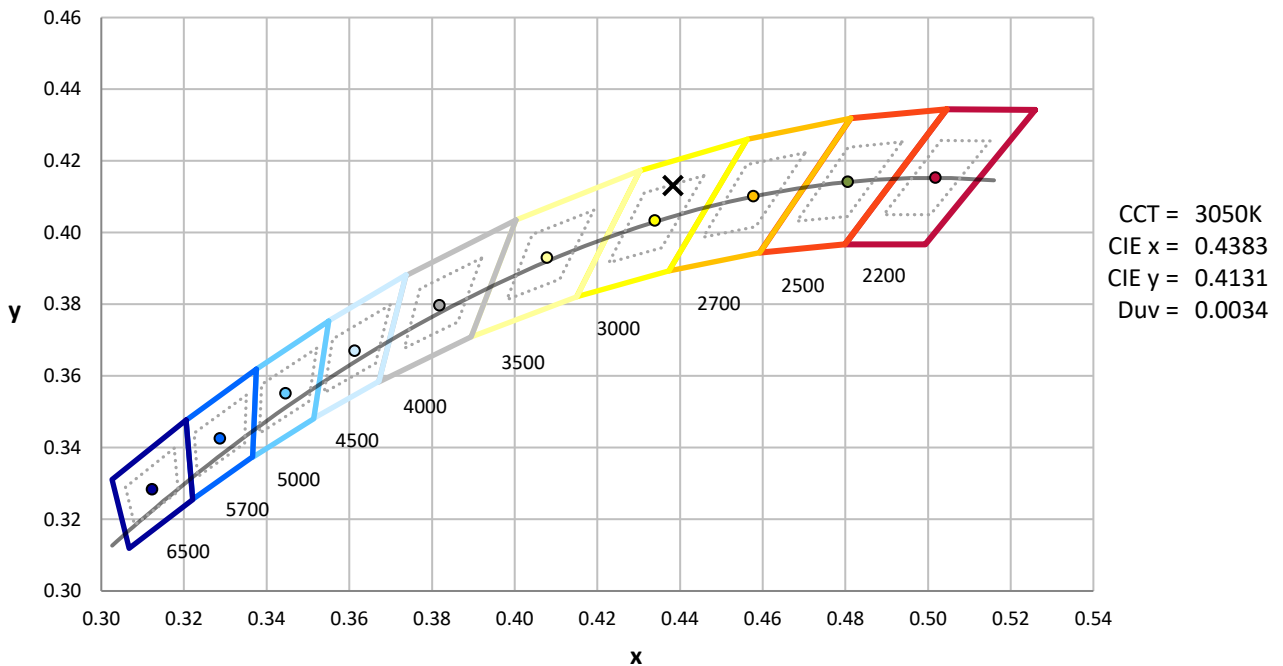
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



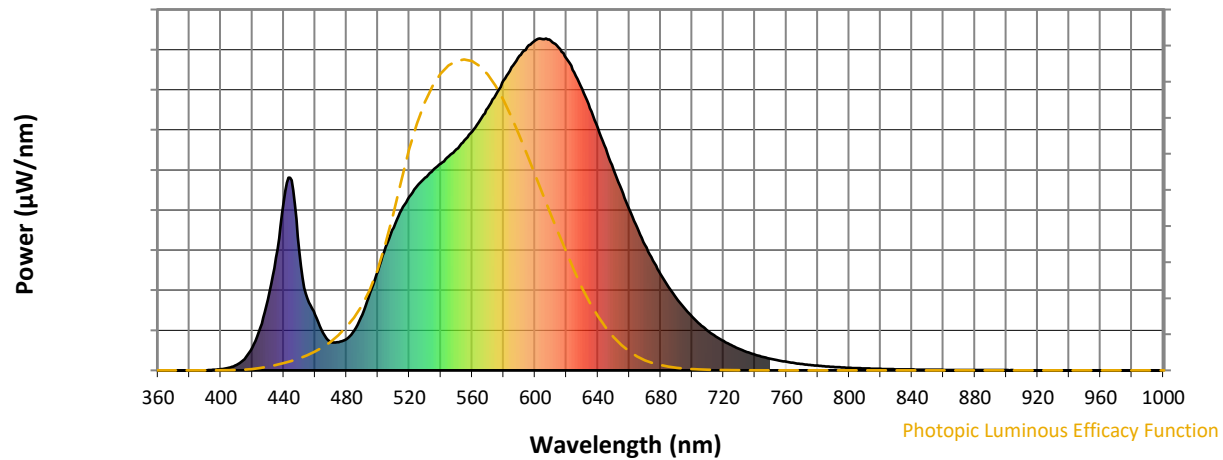
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

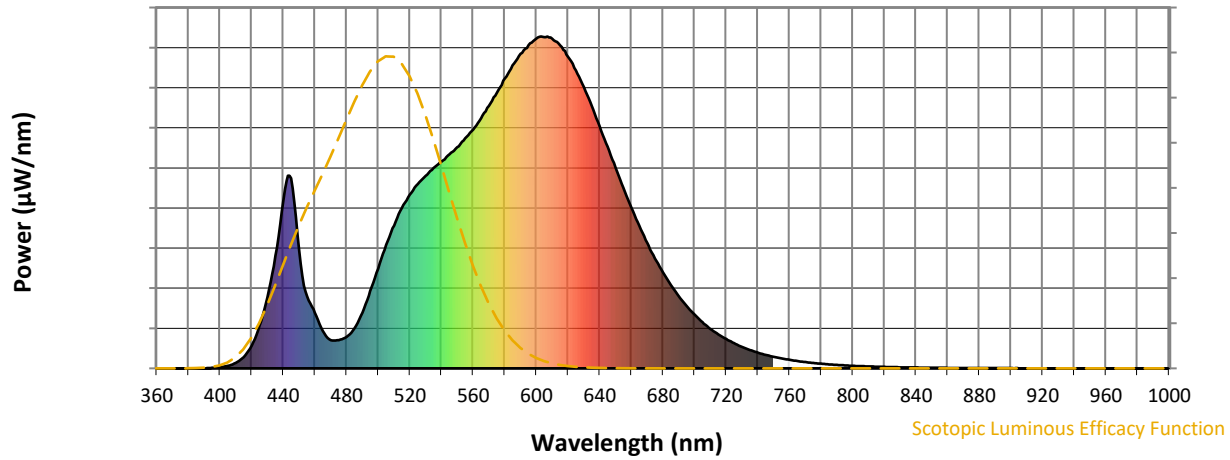


Photopic Lumens: NR

λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	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

Scotopic Flux vs. Wavelength



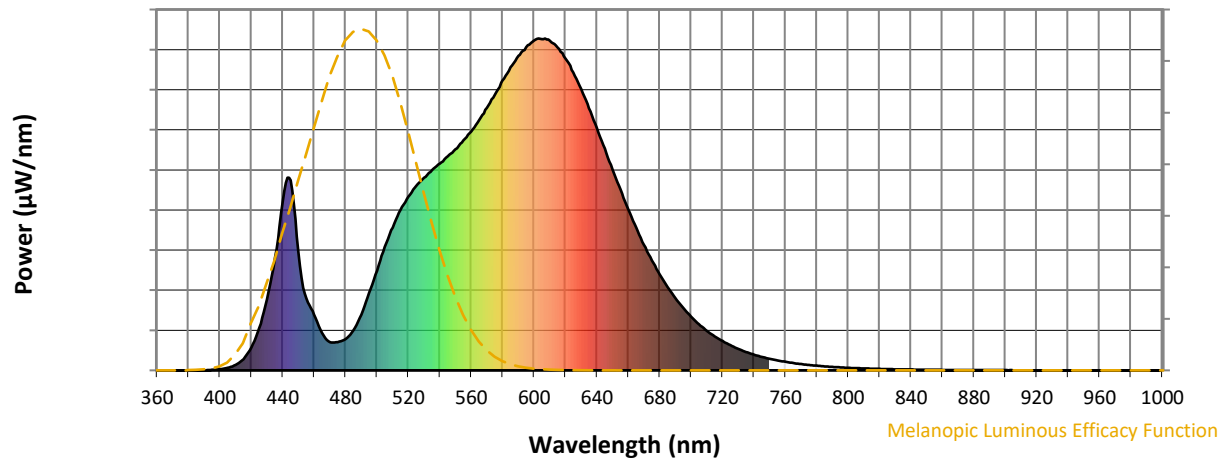
Scotopic Lumens: NR

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			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

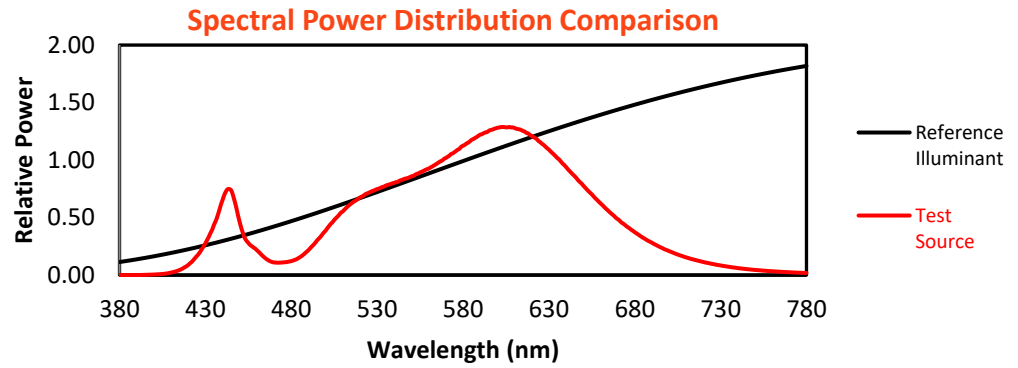
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	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

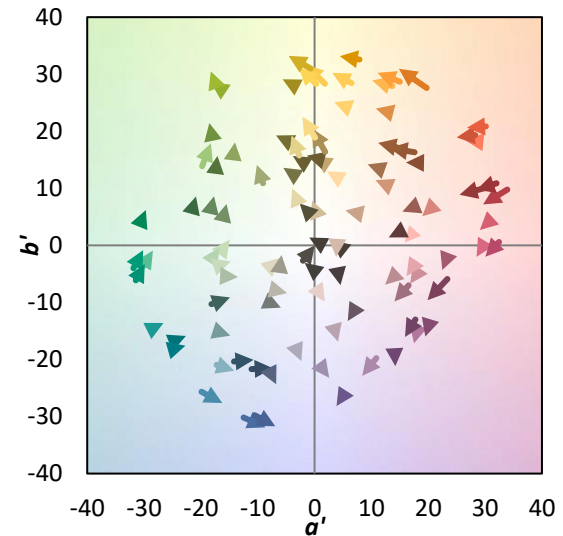
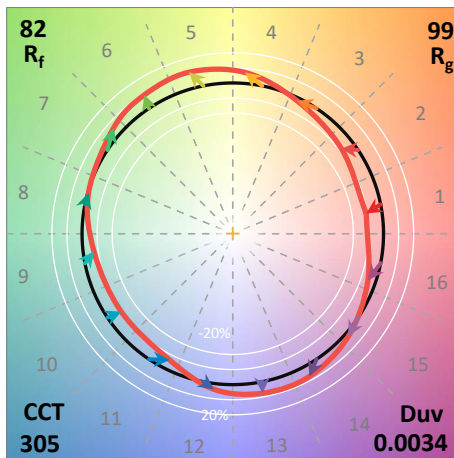
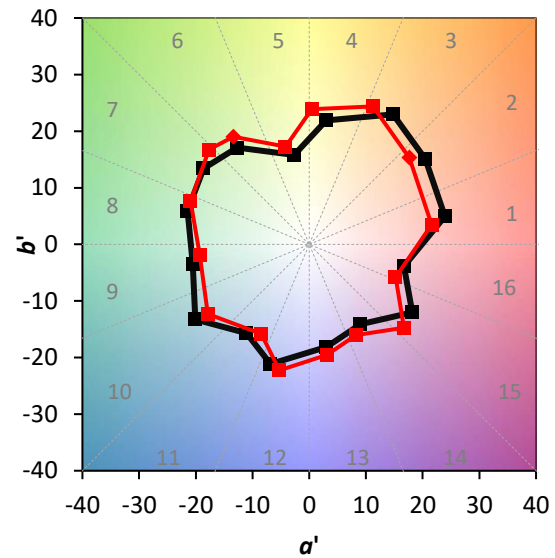
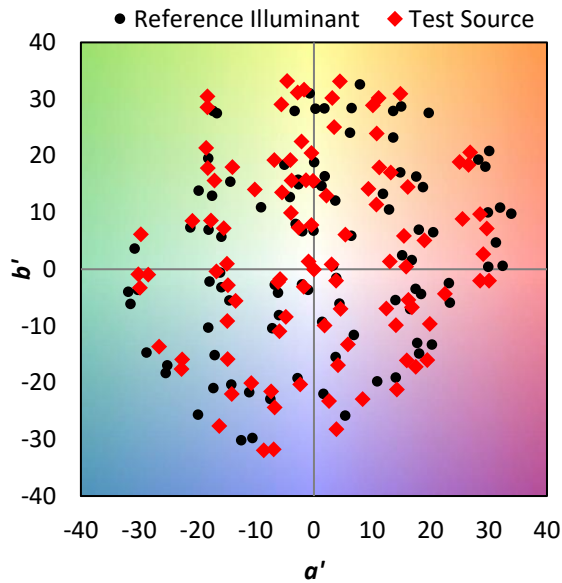
TM-30-18

Summary

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

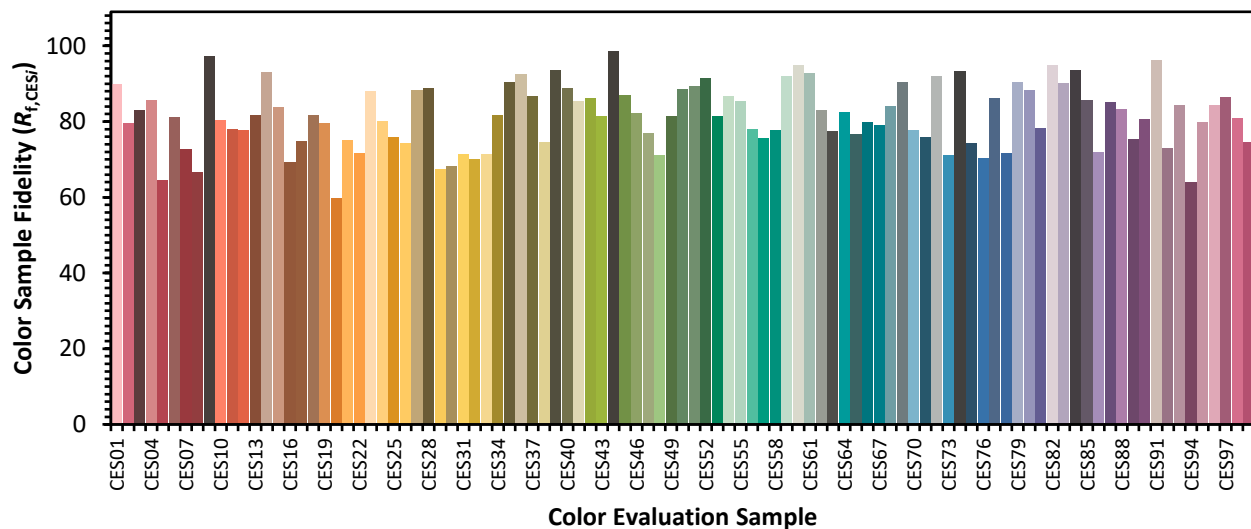


Color Vector Graphics

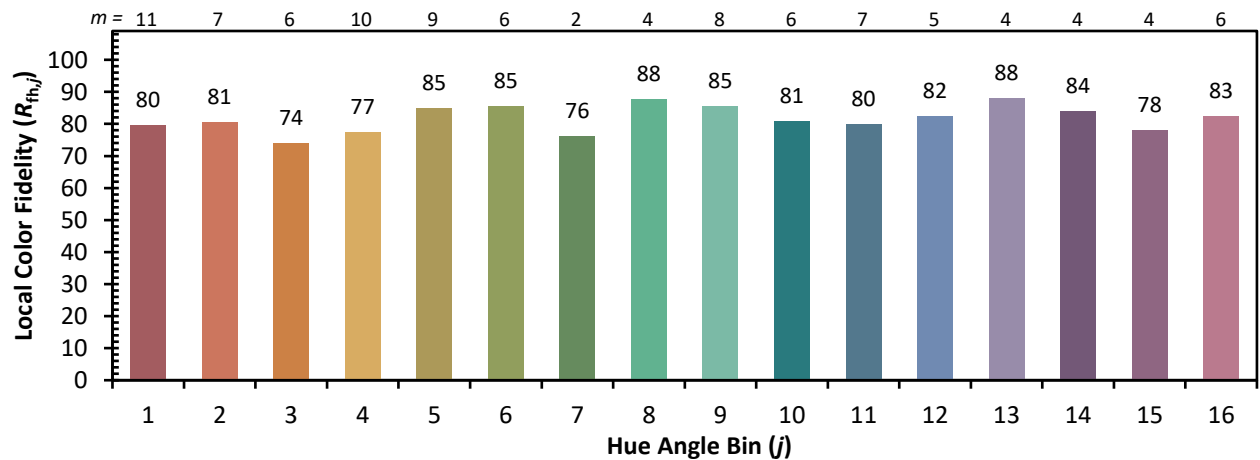
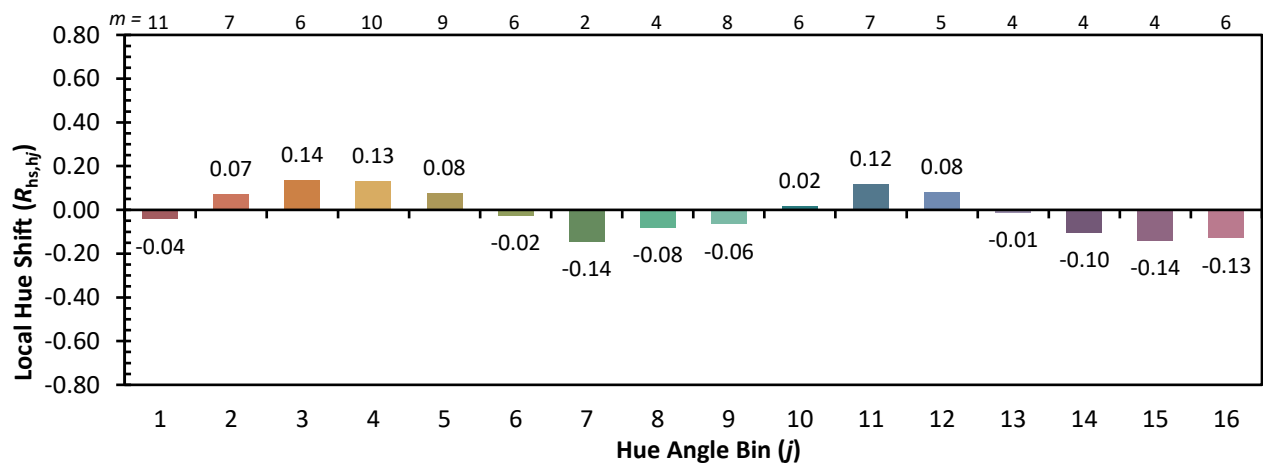
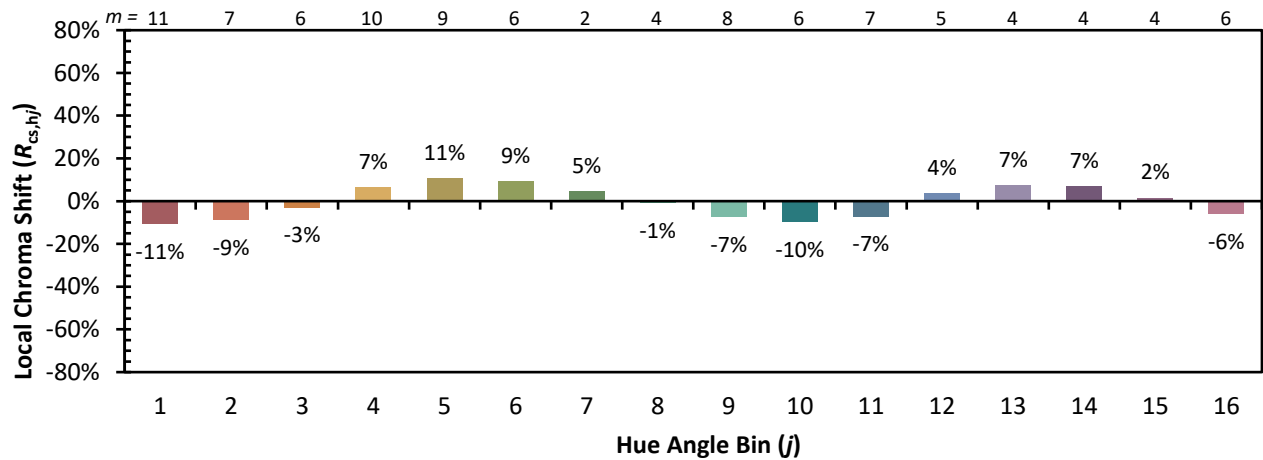


Individual Sample Fidelity Index ($R_{f,i}$)

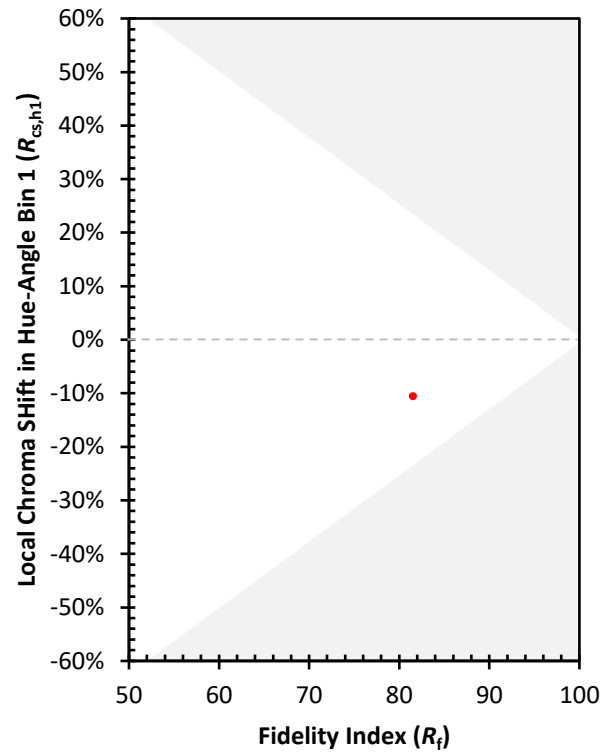
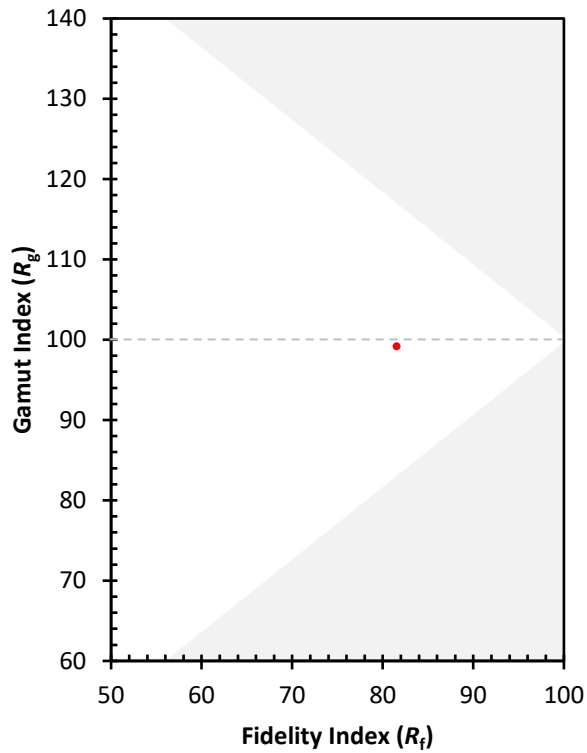
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82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