

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO

Report Number: P832488

Luminaire Tested: **7ORB15FS-1PK-ED-CA-940**

Issue Date: 05/08/2024



Test Information

Test Method: LM-79-08
Report Number: P832488
Test Lab: Intertek
Issue Date: 05/08/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: 7ORB15FS-1PK-ED-CA-940
Description: 7 inch 90 CRI COLOR SELECTABLE SPIN LIGHT WITH E26 BASE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

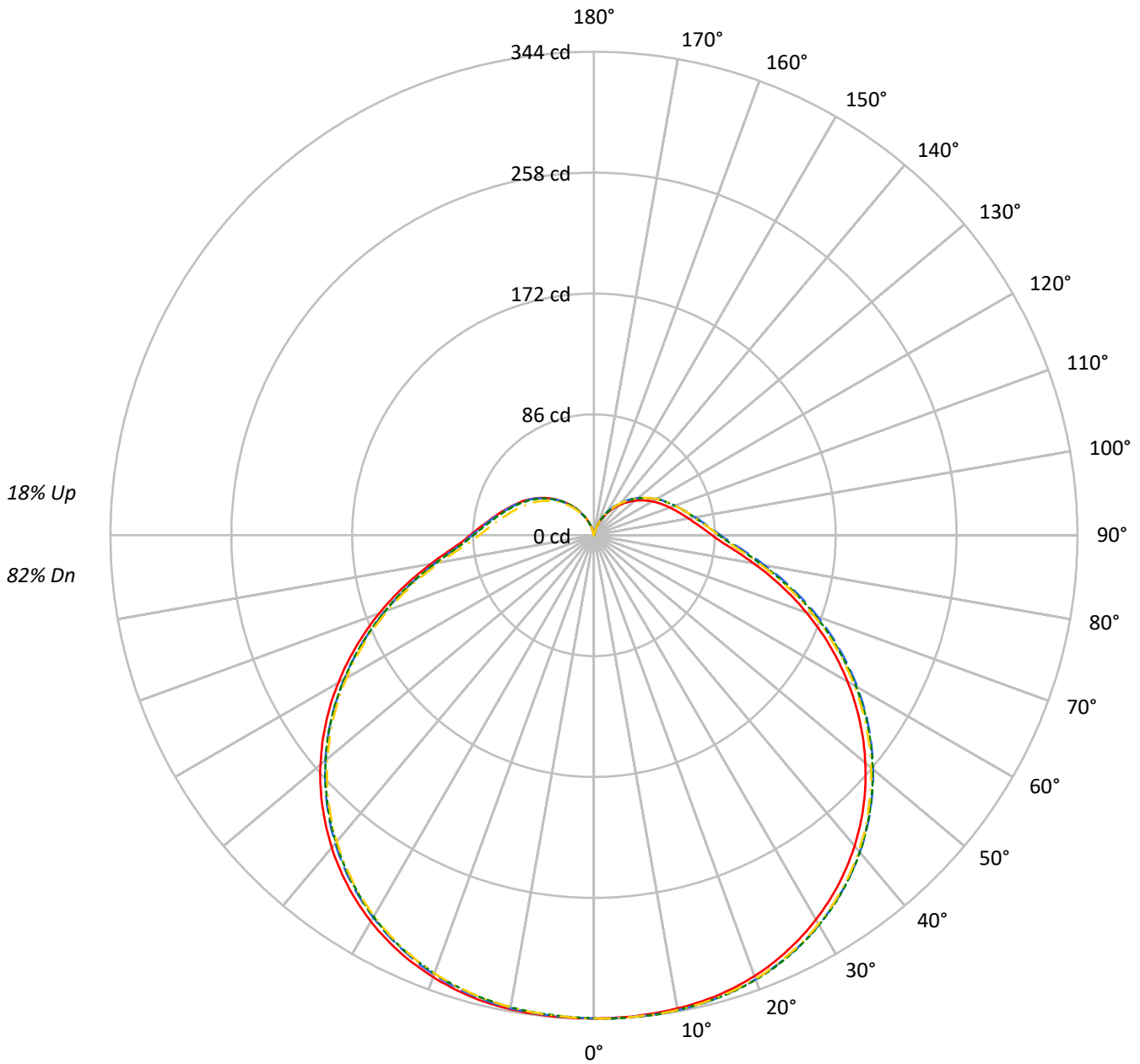
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1630.1 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.37 / 1.5
Luminous Opening: Vertical Cylinder (Dia: 0.6' x H: 0.25')
CIE Type: Semi-Direct

Input Watts (W): 15.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	115	115	115	115	110	110	110	110	101	101	101	93	93	93	85	85	85	85	85	85	82
1	102	96	91	86	97	92	87	83	84	80	77	77	74	71	71	68	66	66	66	66	63
2	92	82	74	68	87	79	72	66	72	66	61	66	61	57	60	57	53	53	53	53	50
3	83	71	62	55	79	68	60	54	63	56	50	57	52	47	52	48	44	44	44	44	41
4	75	63	53	46	72	60	51	45	55	48	42	51	45	40	46	41	37	37	37	37	34
5	69	56	46	39	66	53	45	38	49	42	36	45	39	34	41	36	32	32	32	32	29
6	64	50	40	34	60	48	39	33	44	37	31	41	34	29	37	32	28	28	28	28	25
7	59	45	36	29	56	43	35	29	40	33	27	37	30	26	34	29	24	24	24	24	22
8	55	41	32	26	52	39	31	25	36	29	24	34	27	23	31	26	22	22	22	22	19
9	51	37	29	23	48	36	28	23	33	26	22	31	25	20	29	23	19	19	19	19	17
10	48	34	26	21	45	33	25	20	31	24	19	29	23	18	27	21	18	18	18	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13088	13088	13088	13088
5°	12541	12567	12548	12515
10°	12083	12129	12107	12054
15°	11701	11760	11719	11646
20°	11335	11426	11358	11270
25°	10978	11103	11018	10911
30°	10627	10775	10681	10550
35°	10281	10454	10332	10186
40°	9921	10117	9976	9818
45°	9543	9765	9607	9441
50°	9144	9394	9216	9046
55°	8723	8987	8791	8610
60°	8269	8547	8333	8150
65°	7787	8078	7855	7665
70°	7283	7600	7364	7170
75°	6782	7113	6881	6688
80°	6317	6650	6448	6256
85°	5992	6332	6184	6004



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.7	2.0
10°-20°	96.0	5.9
20°-30°	150.8	9.2
30°-40°	190.6	11.7
40°-50°	210.5	12.9
50°-60°	207.9	12.8
60°-70°	184.6	11.3
70°-80°	147.3	9.0
80°-90°	109.3	6.7
90°-100°	85.7	5.3
100°-110°	69.4	4.3
110°-120°	55.0	3.4
120°-130°	40.7	2.5
130°-140°	26.9	1.6
140°-150°	15.0	0.9
150°-160°	6.3	0.4
160°-170°	1.4	0.1
170°-180°	0.0	0.0
0°-30°	279.5	17.1
0°-40°	470.1	28.8
0°-60°	888.4	54.5
0°-90°	1329.6	81.6
90°-120°	210.2	12.9
90°-150°	292.8	18.0
90°-180°	300.0	18.4
0°-180°	1630.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	344	344	344	344	344	
5°	343	344	344	343	343	33
15°	339	341	340	338	339	96
25°	326	330	327	324	326	150
35°	303	308	305	301	303	190
45°	271	278	273	268	271	209
55°	231	238	233	228	231	207
65°	185	192	186	182	185	183
75°	137	144	139	136	137	145
85°	97	102	100	97	97	83
90°	84	89	88	86	84	46
95°	75	80	80	78	75	60
105°	63	67	67	66	63	66
115°	53	56	57	56	53	52
125°	43	46	46	46	43	39
135°	33	35	35	35	33	26
145°	23	24	24	24	23	14
155°	13	13	13	13	13	6
165°	4	4	4	4	4	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	343.8	343.8	343.8	343.8	343.8	343.8	343.8	343.8	343.8	343.8	343.8
1°	343.8	343.9	343.9	343.7	344.0	343.9	344.0	343.9	343.8	343.9	343.6
2°	343.8	344.1	344.0	343.7	344.2	344.0	344.1	343.8	343.8	343.8	343.5
3°	343.6	344.0	344.0	343.8	344.2	344.0	343.9	343.9	343.8	343.9	343.4
4°	343.6	343.9	343.9	343.8	344.1	344.0	344.0	343.8	343.8	343.7	343.3
5°	343.4	343.7	343.7	343.8	344.1	343.9	343.8	343.8	343.6	343.5	343.2
6°	343.0	343.6	343.8	343.6	344.0	344.0	343.6	343.8	343.4	343.3	342.9
7°	342.9	343.5	343.8	343.6	344.0	343.9	343.6	343.7	343.2	343.2	342.7
8°	342.6	343.4	343.6	343.6	343.7	343.8	343.6	343.4	343.1	342.8	342.3
9°	342.3	343.1	343.3	343.4	343.5	343.6	343.3	343.3	342.8	342.6	342.1
10°	341.8	342.6	343.1	343.2	343.1	343.5	342.9	343.1	342.5	342.1	341.7
11°	341.5	342.4	342.9	343.0	342.7	343.1	342.7	342.9	342.1	341.7	341.2
12°	341.0	342.0	342.4	342.7	342.4	342.9	342.2	342.3	341.6	341.2	340.5
13°	340.4	341.4	342.1	342.3	341.9	342.5	341.7	341.7	341.1	340.6	339.9
14°	339.8	340.6	341.5	341.8	341.4	342.0	341.1	341.2	340.5	339.9	339.2
15°	339.1	340.1	340.7	341.1	340.8	341.5	340.4	340.4	339.6	339.1	338.3
16°	338.1	339.2	339.9	340.4	340.1	340.9	339.6	339.7	338.8	338.3	337.5
17°	337.2	338.2	339.2	339.6	339.4	340.0	338.8	338.8	337.8	337.2	336.3
18°	336.2	337.3	338.1	338.8	338.5	339.1	337.8	337.8	336.8	336.2	335.2
19°	335.1	336.3	337.3	337.9	337.5	338.2	336.9	336.8	335.8	334.9	334.0
20°	333.8	335.1	336.3	336.8	336.5	337.1	335.8	335.7	334.5	333.8	332.6
21°	332.5	333.8	335.0	335.7	335.3	335.8	334.7	334.4	333.2	332.4	331.2
22°	331.0	332.6	333.8	334.4	334.1	334.5	333.4	333.1	331.8	331.0	329.8
23°	329.5	331.2	332.4	333.3	332.8	333.3	331.9	331.7	330.4	329.4	328.0
24°	327.8	329.5	330.9	331.9	331.2	331.7	330.4	330.1	328.9	327.6	326.2
25°	326.0	327.8	329.4	330.4	329.7	330.2	328.8	328.6	327.2	325.9	324.5
26°	324.1	326.1	327.8	328.8	328.0	328.4	327.2	326.7	325.5	324.1	322.6
27°	322.3	324.3	326.1	327.1	326.3	326.6	325.3	325.0	323.5	322.2	320.7
28°	320.2	322.5	324.1	325.3	324.4	324.8	323.5	323.0	321.6	320.2	318.6
29°	318.1	320.4	322.2	323.5	322.4	322.7	321.6	321.0	319.6	318.1	316.3
30°	315.8	318.1	320.2	321.5	320.2	320.7	319.4	318.7	317.4	315.9	314.1
31°	313.5	315.9	318.0	319.3	318.1	318.4	317.3	316.6	315.0	313.6	311.8
32°	311.1	313.6	315.7	317.0	315.9	316.2	314.9	314.3	312.7	311.2	309.3
33°	308.7	311.2	313.4	314.8	313.5	313.8	312.6	311.9	310.2	308.7	306.7
34°	306.1	308.7	310.9	312.4	311.1	311.2	310.1	309.2	307.7	306.0	304.1
35°	303.4	306.1	308.4	310.1	308.5	308.7	307.5	306.6	304.9	303.3	301.4
36°	300.6	303.4	305.8	307.5	305.9	306.0	304.9	303.8	302.2	300.5	298.6
37°	297.6	300.5	303.1	304.8	303.1	303.2	302.1	301.0	299.3	297.5	295.6
38°	294.7	297.6	300.2	302.0	300.2	300.4	299.2	298.1	296.3	294.6	292.6
39°	291.6	294.6	297.4	299.1	297.4	297.4	296.2	295.0	293.4	291.4	289.5
40°	288.5	291.6	294.3	296.2	294.2	294.3	293.2	292.0	290.1	288.3	286.3
41°	285.2	288.3	291.3	293.0	291.2	291.2	289.9	288.7	286.8	285.0	283.1
42°	281.9	285.1	288.1	290.1	287.8	288.1	286.9	285.5	283.6	281.7	279.7
43°	278.5	281.8	284.7	286.8	284.5	284.7	283.4	282.1	280.2	278.1	276.1
44°	275.0	278.3	281.5	283.5	281.1	281.2	279.9	278.6	276.6	274.6	272.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	271.3	274.8	277.9	280.1	277.6	277.7	276.3	275.0	273.1	270.9	268.9
46°	267.7	271.1	274.3	276.6	274.0	274.1	272.7	271.4	269.5	267.3	265.1
47°	263.9	267.4	270.7	273.0	270.3	270.4	269.0	267.7	265.6	263.4	261.3
48°	260.0	263.7	267.0	269.3	266.6	266.7	265.2	263.8	261.9	259.6	257.3
49°	256.0	259.8	263.2	265.6	262.8	262.8	261.3	259.9	258.1	255.6	253.5
50°	252.0	255.8	259.2	261.8	258.9	258.8	257.3	255.9	254.0	251.6	249.4
51°	248.0	251.8	255.2	257.7	254.8	254.9	253.3	251.9	249.8	247.4	245.4
52°	243.8	247.7	251.3	253.6	250.8	250.7	249.2	247.8	245.7	243.3	241.1
53°	239.8	243.5	247.1	249.6	246.6	246.4	245.0	243.6	241.6	239.0	236.9
54°	235.3	239.3	242.9	245.3	242.4	242.1	240.6	239.3	237.2	234.7	232.5
55°	231.0	235.0	238.6	241.1	238.0	237.9	236.3	234.9	232.8	230.3	228.1
56°	226.5	230.7	234.4	236.9	233.7	233.6	232.0	230.4	228.4	225.9	223.7
57°	222.1	226.2	229.9	232.5	229.2	229.1	227.5	225.9	223.9	221.4	219.1
58°	217.6	221.7	225.6	228.1	224.6	224.6	223.0	221.4	219.4	216.8	214.5
59°	213.0	217.2	221.0	223.6	220.0	220.1	218.4	216.8	214.7	212.3	210.0
60°	208.4	212.7	216.5	219.1	215.4	215.4	213.8	212.2	210.0	207.6	205.3
61°	203.8	208.0	212.0	214.7	210.7	210.8	209.2	207.6	205.3	203.0	200.7
62°	199.1	203.3	207.3	210.0	205.9	206.0	204.5	202.8	200.6	198.3	196.1
63°	194.4	198.7	202.7	205.4	201.2	201.2	199.8	198.0	195.9	193.6	191.4
64°	189.6	193.9	197.9	200.6	196.5	196.4	195.0	193.3	191.0	188.9	186.6
65°	184.8	189.2	193.1	195.9	191.7	191.6	190.3	188.5	186.4	184.1	181.9
66°	180.1	184.5	188.6	191.2	187.0	187.0	185.5	183.7	181.6	179.4	177.2
67°	175.3	179.6	183.7	186.3	182.2	182.2	180.8	179.0	176.9	174.6	172.4
68°	170.5	174.9	179.0	181.6	177.4	177.4	175.9	174.3	172.1	169.9	167.8
69°	165.6	170.1	174.2	176.8	172.6	172.5	171.2	169.5	167.4	165.1	162.9
70°	160.8	165.3	169.4	172.0	167.8	167.7	166.2	164.6	162.6	160.4	158.3
71°	156.1	160.6	164.7	167.3	163.0	162.8	161.5	159.9	157.9	155.7	153.6
72°	151.5	155.8	159.9	162.5	158.2	158.0	156.7	155.1	153.2	151.1	149.0
73°	146.7	151.1	155.2	157.8	153.5	153.3	152.0	150.5	148.5	146.5	144.5
74°	142.0	146.5	150.4	153.0	148.8	148.6	147.2	145.8	143.9	141.9	140.0
75°	137.4	141.8	145.8	148.4	144.1	143.9	142.6	141.2	139.4	137.4	135.5
76°	132.8	137.2	141.2	143.7	139.4	139.2	137.9	136.5	134.9	132.9	131.1
77°	128.4	132.8	136.7	139.2	134.9	134.7	133.4	132.1	130.5	128.6	126.8
78°	124.0	128.2	132.2	134.7	130.3	130.2	129.0	127.8	126.2	124.4	122.6
79°	119.7	123.9	127.8	130.2	125.9	125.7	124.6	123.4	121.9	120.2	118.6
80°	115.5	119.7	123.5	125.8	121.6	121.5	120.4	119.3	117.9	116.4	114.7
81°	111.5	115.6	119.3	121.6	117.4	117.3	116.3	115.3	114.0	112.6	110.9
82°	107.6	111.6	115.2	117.5	113.4	113.3	112.3	111.4	110.2	108.7	107.3
83°	103.8	107.7	111.4	113.4	109.6	109.4	108.5	107.7	106.6	105.2	103.9
84°	100.3	104.1	107.6	109.6	105.9	105.8	104.9	104.2	103.1	102.0	100.6
85°	96.9	100.6	104.1	106.0	102.4	102.3	101.6	100.9	100.0	98.9	97.7
86°	93.8	97.4	100.7	102.5	99.1	99.1	98.4	97.9	97.0	96.0	95.0
87°	90.9	94.4	97.6	99.3	96.2	96.1	95.6	95.1	94.4	93.6	92.6
88°	88.4	91.7	94.8	96.4	93.5	93.4	93.0	92.7	92.0	91.4	90.5
89°	86.1	89.3	92.3	93.7	91.2	91.1	90.7	90.5	90.0	89.4	88.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	84.1	87.2	90.1	91.3	89.0	89.1	88.7	88.5	88.1	87.5	86.8
91°	82.2	85.2	88.0	89.2	87.0	87.0	86.8	86.7	86.3	85.8	85.0
92°	80.4	83.3	86.1	87.3	85.2	85.2	85.0	84.9	84.5	84.0	83.4
93°	78.6	81.5	84.2	85.4	83.4	83.4	83.2	83.2	82.9	82.4	81.8
94°	77.0	79.8	82.4	83.6	81.7	81.7	81.6	81.5	81.3	80.8	80.3
95°	75.4	78.2	80.7	81.9	80.0	80.1	80.0	80.0	79.7	79.3	78.9
96°	73.9	76.6	79.1	80.2	78.5	78.5	78.4	78.4	78.2	77.9	77.4
97°	72.4	75.0	77.6	78.6	77.0	77.0	77.0	77.0	76.8	76.5	76.0
98°	71.0	73.6	76.1	77.1	75.5	75.6	75.5	75.6	75.4	75.1	74.7
99°	69.7	72.2	74.6	75.6	74.1	74.2	74.1	74.3	74.1	73.8	73.4
100°	68.4	70.9	73.2	74.2	72.8	72.9	72.8	72.9	72.9	72.5	72.2
101°	67.2	69.6	71.9	72.9	71.5	71.5	71.5	71.7	71.6	71.3	70.9
102°	66.0	68.3	70.6	71.6	70.2	70.3	70.3	70.4	70.3	70.1	69.7
103°	64.8	67.1	69.3	70.3	68.9	69.1	69.1	69.2	69.2	68.9	68.6
104°	63.7	65.9	68.2	69.1	67.8	67.9	67.9	68.0	68.0	67.8	67.4
105°	62.6	64.7	67.0	67.9	66.6	66.8	66.8	66.9	66.9	66.7	66.3
106°	61.5	63.6	65.9	66.7	65.5	65.6	65.7	65.8	65.8	65.6	65.2
107°	60.5	62.6	64.8	65.6	64.4	64.5	64.6	64.7	64.7	64.5	64.2
108°	59.5	61.5	63.7	64.5	63.3	63.4	63.5	63.6	63.6	63.4	63.1
109°	58.5	60.5	62.6	63.4	62.3	62.4	62.4	62.6	62.6	62.4	62.1
110°	57.5	59.5	61.6	62.3	61.2	61.4	61.4	61.5	61.6	61.4	61.1
111°	56.6	58.5	60.5	61.3	60.2	60.3	60.3	60.5	60.5	60.3	60.1
112°	55.6	57.5	59.5	60.3	59.2	59.3	59.3	59.5	59.5	59.3	59.1
113°	54.7	56.6	58.5	59.3	58.2	58.4	58.3	58.5	58.5	58.3	58.1
114°	53.7	55.6	57.5	58.3	57.3	57.4	57.4	57.6	57.6	57.4	57.3
115°	52.8	54.6	56.5	57.3	56.4	56.5	56.5	56.6	56.7	56.5	56.4
116°	51.9	53.7	55.5	56.3	55.5	55.6	55.6	55.7	55.8	55.6	55.4
117°	50.9	52.7	54.5	55.3	54.5	54.6	54.6	54.7	54.7	54.6	54.4
118°	50.0	51.7	53.5	54.3	53.5	53.6	53.6	53.7	53.7	53.5	53.3
119°	49.0	50.8	52.6	53.3	52.4	52.5	52.5	52.6	52.7	52.5	52.3
120°	48.1	49.8	51.5	52.2	51.4	51.5	51.5	51.6	51.6	51.4	51.3
121°	47.1	48.8	50.5	51.2	50.4	50.5	50.5	50.6	50.6	50.3	50.2
122°	46.1	47.8	49.5	50.2	49.3	49.4	49.4	49.5	49.5	49.3	49.1
123°	45.2	46.8	48.5	49.1	48.3	48.4	48.4	48.4	48.4	48.2	48.0
124°	44.2	45.8	47.4	48.1	47.2	47.3	47.3	47.4	47.4	47.1	46.9
125°	43.2	44.8	46.4	47.0	46.2	46.3	46.2	46.3	46.3	46.0	45.8
126°	42.2	43.8	45.4	46.0	45.1	45.2	45.2	45.2	45.2	45.0	44.8
127°	41.2	42.8	44.3	44.9	44.0	44.1	44.1	44.1	44.1	43.9	43.7
128°	40.2	41.7	43.3	43.9	42.9	43.0	43.0	43.0	43.0	42.7	42.6
129°	39.2	40.7	42.2	42.8	41.8	41.9	41.9	41.9	41.9	41.6	41.5
130°	38.2	39.7	41.2	41.7	40.7	40.8	40.8	40.8	40.8	40.5	40.3
131°	37.1	38.6	40.1	40.6	39.6	39.7	39.7	39.7	39.7	39.4	39.2
132°	36.1	37.6	39.0	39.5	38.5	38.6	38.6	38.6	38.6	38.3	38.1
133°	35.1	36.5	37.9	38.4	37.4	37.5	37.5	37.5	37.5	37.2	37.0
134°	34.1	35.5	36.8	37.3	36.3	36.4	36.4	36.4	36.3	36.0	35.9

Cooper Lighting Solutions Photometric Lab
 1121 Highway 74 South
 Peachtree City, GA 30269



TEST NUMBER: P832488

CATALOG NUMBER: 7ORB15FS-1PK-ED-CA-940

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
135°	33.0	34.4	35.8	36.2	35.2	35.3	35.3	35.3	35.2	34.9	34.7
136°	32.0	33.4	34.7	35.2	34.1	34.2	34.2	34.2	34.1	33.8	33.6
137°	31.0	32.3	33.6	34.1	33.0	33.1	33.1	33.1	33.0	32.7	32.5
138°	29.9	31.2	32.5	33.0	31.9	32.0	32.0	32.0	31.8	31.5	31.4
139°	28.9	30.2	31.4	31.9	30.8	30.9	30.9	30.8	30.7	30.4	30.2
140°	27.9	29.1	30.3	30.8	29.7	29.8	29.7	29.7	29.6	29.3	29.1
141°	26.8	28.0	29.2	29.7	28.5	28.7	28.6	28.6	28.4	28.1	27.9
142°	25.8	27.0	28.1	28.6	27.4	27.5	27.5	27.5	27.3	27.0	26.8
143°	24.8	26.1	27.0	27.5	26.3	26.4	26.4	26.4	26.2	25.9	25.7
144°	23.8	25.0	25.9	26.4	25.2	25.3	25.3	25.3	25.1	24.8	24.5
145°	22.8	23.9	24.9	25.3	24.1	24.2	24.2	24.1	24.0	23.7	23.4
146°	21.8	22.9	23.9	24.2	23.0	23.1	23.1	23.1	22.9	22.5	22.3
147°	20.7	21.8	22.8	23.2	21.9	22.0	22.0	21.9	21.8	21.4	21.2
148°	19.7	20.8	21.7	22.1	20.8	20.9	20.9	20.9	20.7	20.3	20.1
149°	18.7	19.7	20.6	21.0	19.8	19.8	19.9	19.8	19.6	19.2	19.0
150°	17.7	18.7	19.6	19.9	18.7	18.8	18.8	18.7	18.5	18.2	17.9
151°	16.7	17.6	18.5	18.8	17.6	17.7	17.7	17.6	17.4	17.1	16.8
152°	15.7	16.6	17.4	17.8	16.6	16.6	16.6	16.6	16.4	16.0	15.7
153°	14.7	15.6	16.4	16.7	15.5	15.6	15.6	15.5	15.3	15.0	14.7
154°	13.7	14.6	15.3	15.7	14.5	14.5	14.5	14.5	14.3	13.9	13.6
155°	12.7	13.6	14.3	14.6	13.4	13.5	13.5	13.5	13.3	12.9	12.6
156°	11.8	12.6	13.3	13.6	12.4	12.5	12.5	12.5	12.3	11.9	11.6
157°	10.8	11.6	12.3	12.6	11.4	11.5	11.5	11.5	11.3	10.9	10.6
158°	9.9	10.7	11.3	11.6	10.5	10.5	10.6	10.5	10.3	10.0	9.7
159°	9.0	9.7	10.3	10.6	9.5	9.6	9.6	9.6	9.4	9.0	8.7
160°	8.1	8.8	9.4	9.7	8.6	8.6	8.7	8.6	8.4	8.1	7.8
161°	7.3	7.9	8.5	8.7	7.7	7.7	7.8	7.7	7.5	7.2	6.9
162°	6.5	7.1	7.6	7.8	6.8	6.9	6.9	6.8	6.7	6.4	6.1
163°	5.7	6.2	6.7	6.9	5.9	6.1	6.1	6.1	5.9	5.6	5.3
164°	4.9	5.4	5.8	6.1	5.2	5.3	5.3	5.3	5.1	4.8	4.5
165°	4.2	4.6	5.0	5.3	4.5	4.5	4.5	4.5	4.3	4.1	3.8
166°	3.5	3.9	4.3	4.5	3.7	3.8	3.8	3.8	3.6	3.4	3.1
167°	2.8	3.2	3.5	3.7	3.1	3.1	3.1	3.1	3.0	2.8	2.5
168°	2.3	2.6	2.9	3.1	2.4	2.5	2.5	2.5	2.4	2.2	2.0
169°	1.9	2.1	2.4	2.5	1.9	1.9	1.9	1.9	1.8	1.6	1.5
170°	1.4	1.6	1.8	2.0	1.4	1.4	1.4	1.4	1.3	1.2	1.0
171°	1.0	1.2	1.3	1.5	1.0	1.0	1.0	1.0	0.9	0.8	0.7
172°	0.7	0.8	0.9	1.0	0.7	0.7	0.7	0.7	0.6	0.5	0.4
173°	0.4	0.5	0.6	0.7	0.4	0.4	0.4	0.4	0.4	0.3	0.2
174°	0.3	0.3	0.4	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.1
175°	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1
176°	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
177°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
178°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P832488
CATALOG NUMBER: 7ORB15FS-1PK-ED-CA-940

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
180°	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



TEST NUMBER: P832488

CATALOG NUMBER: 7ORB15FS-1PK-ED-CA-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	343.8	343.8	343.8	343.8	343.8	343.8
1°	343.6	343.6	343.7	343.7	343.9	343.8
2°	343.5	343.4	343.6	343.6	343.8	343.8
3°	343.2	343.2	343.3	343.4	343.5	343.6
4°	343.1	342.9	343.2	343.1	343.5	343.6
5°	342.8	342.7	343.0	342.9	343.3	343.4
6°	342.4	342.4	342.8	342.7	343.0	343.0
7°	342.2	342.1	342.5	342.3	342.7	342.9
8°	341.7	341.8	342.1	342.0	342.4	342.6
9°	341.2	341.5	341.7	341.6	341.9	342.3
10°	340.8	341.0	341.2	341.1	341.5	341.8
11°	340.3	340.5	340.6	340.4	340.9	341.5
12°	339.6	339.8	340.0	339.8	340.3	341.0
13°	338.9	339.1	339.4	339.2	339.7	340.4
14°	338.2	338.4	338.6	338.4	338.8	339.8
15°	337.3	337.5	337.7	337.4	338.1	339.1
16°	336.1	336.5	336.7	336.4	337.1	338.1
17°	335.1	335.5	335.4	335.4	336.2	337.2
18°	334.0	334.4	334.4	334.2	335.1	336.2
19°	332.8	333.2	332.9	333.0	333.9	335.1
20°	331.4	331.9	331.7	331.7	332.6	333.8
21°	329.9	330.3	330.3	330.1	331.2	332.5
22°	328.3	328.8	328.9	328.6	329.7	331.0
23°	326.8	327.3	327.1	327.0	328.1	329.5
24°	325.1	325.6	325.5	325.2	326.4	327.8
25°	323.2	324.0	323.7	323.4	324.7	326.0
26°	321.4	322.1	321.7	321.5	322.7	324.1
27°	319.3	320.1	319.7	319.5	320.8	322.3
28°	317.2	318.0	317.6	317.4	318.7	320.2
29°	315.0	315.8	315.4	315.1	316.4	318.1
30°	312.6	313.5	313.0	312.8	314.1	315.8
31°	310.2	311.2	310.7	310.4	311.7	313.5
32°	307.7	308.7	308.2	308.0	309.2	311.1
33°	305.2	306.1	305.7	305.4	306.7	308.7
34°	302.5	303.3	303.0	302.6	304.1	306.1
35°	299.8	300.6	300.2	299.8	301.3	303.4
36°	296.9	297.9	297.4	296.9	298.4	300.6
37°	293.9	294.8	294.4	294.1	295.6	297.6
38°	290.8	291.8	291.4	290.9	292.5	294.7
39°	287.7	288.7	288.2	287.8	289.4	291.6
40°	284.4	285.5	284.9	284.5	286.2	288.5
41°	281.0	282.2	281.5	281.2	282.9	285.2
42°	277.6	278.9	278.1	277.8	279.5	281.9
43°	274.1	275.5	274.5	274.3	276.0	278.5
44°	270.5	271.9	271.0	270.7	272.5	275.0

Cooper Lighting Solutions Photometric Lab
 1121 Highway 74 South
 Peachtree City, GA 30269



TEST NUMBER: P832488

CATALOG NUMBER: 7ORB15FS-1PK-ED-CA-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	266.8	268.4	267.4	267.1	268.7	271.3
46°	263.0	264.6	263.5	263.3	264.9	267.7
47°	259.3	261.0	259.6	259.4	261.2	263.9
48°	255.4	257.0	255.7	255.5	257.1	260.0
49°	251.5	253.2	251.8	251.6	253.2	256.0
50°	247.3	249.3	247.8	247.5	249.2	252.0
51°	243.1	245.1	243.6	243.4	245.0	248.0
52°	238.9	240.9	239.4	239.1	240.8	243.8
53°	234.5	236.7	235.2	234.9	236.6	239.8
54°	230.2	232.4	230.8	230.5	232.3	235.3
55°	225.7	228.0	226.5	226.1	227.9	231.0
56°	221.1	223.6	222.0	221.7	223.5	226.5
57°	216.7	219.0	217.5	217.1	219.0	222.1
58°	212.1	214.5	212.9	212.6	214.5	217.6
59°	207.5	209.9	208.3	208.0	210.0	213.0
60°	202.9	205.4	203.6	203.4	205.3	208.4
61°	198.3	200.7	198.9	198.7	200.6	203.8
62°	193.5	196.0	194.2	194.0	195.9	199.1
63°	188.9	191.3	189.6	189.3	191.2	194.4
64°	184.2	186.6	184.9	184.5	186.4	189.6
65°	179.4	181.9	180.2	179.8	181.7	184.8
66°	174.7	177.2	175.4	175.0	176.9	180.1
67°	169.9	172.4	170.7	170.2	172.0	175.3
68°	165.3	167.7	166.0	165.4	167.3	170.5
69°	160.6	162.9	161.2	160.7	162.5	165.6
70°	155.9	158.3	156.4	155.9	157.7	160.8
71°	151.3	153.6	151.7	151.2	153.0	156.1
72°	146.7	149.1	147.0	146.5	148.3	151.5
73°	142.2	144.5	142.4	141.9	143.6	146.7
74°	137.7	139.9	137.8	137.2	139.0	142.0
75°	133.3	135.5	133.4	132.7	134.4	137.4
76°	128.9	131.1	128.9	128.2	129.9	132.8
77°	124.8	126.7	124.6	123.8	125.5	128.4
78°	120.6	122.5	120.3	119.5	121.1	124.0
79°	116.6	118.4	116.2	115.3	116.8	119.7
80°	112.8	114.4	112.1	111.2	112.6	115.5
81°	109.1	110.6	108.3	107.3	108.7	111.5
82°	105.6	106.9	104.6	103.5	104.8	107.6
83°	102.3	103.5	101.0	99.9	101.1	103.8
84°	99.2	100.2	97.8	96.6	97.6	100.3
85°	96.3	97.1	94.6	93.4	94.4	96.9
86°	93.7	94.3	91.8	90.5	91.3	93.8
87°	91.5	91.8	89.3	87.9	88.6	90.9
88°	89.5	89.6	87.1	85.6	86.2	88.4
89°	87.7	87.6	85.1	83.6	84.1	86.1

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 1121 Highway 74 South
 Peachtree City, GA 30269



TEST NUMBER: P832488

CATALOG NUMBER: 7ORB15FS-1PK-ED-CA-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	85.9	85.8	83.2	81.7	82.1	84.1
91°	84.3	84.1	81.5	79.9	80.3	82.2
92°	82.7	82.4	79.9	78.2	78.5	80.4
93°	81.1	80.8	78.3	76.6	76.9	78.6
94°	79.6	79.3	76.8	75.1	75.3	77.0
95°	78.1	77.8	75.4	73.7	73.8	75.4
96°	76.8	76.4	74.0	72.3	72.3	73.9
97°	75.4	75.0	72.6	70.9	70.9	72.4
98°	74.1	73.7	71.4	69.6	69.6	71.0
99°	72.8	72.4	70.1	68.4	68.3	69.7
100°	71.6	71.2	68.9	67.2	67.1	68.4
101°	70.4	70.0	67.7	66.0	65.9	67.2
102°	69.2	68.8	66.6	64.9	64.8	66.0
103°	68.1	67.7	65.4	63.8	63.7	64.8
104°	67.0	66.6	64.4	62.7	62.6	63.7
105°	65.9	65.5	63.3	61.7	61.5	62.6
106°	64.8	64.5	62.3	60.7	60.5	61.5
107°	63.8	63.4	61.3	59.7	59.5	60.5
108°	62.7	62.5	60.3	58.7	58.5	59.5
109°	61.7	61.4	59.4	57.7	57.5	58.5
110°	60.7	60.5	58.4	56.8	56.6	57.5
111°	59.7	59.5	57.4	55.9	55.7	56.6
112°	58.7	58.5	56.5	55.0	54.7	55.6
113°	57.8	57.5	55.6	54.0	53.8	54.7
114°	56.9	56.6	54.6	53.1	52.8	53.7
115°	56.0	55.6	53.7	52.2	51.9	52.8
116°	55.0	54.6	52.8	51.2	51.0	51.9
117°	54.0	53.6	51.8	50.3	50.1	50.9
118°	53.0	52.7	50.8	49.4	49.1	50.0
119°	51.9	51.6	49.9	48.4	48.2	49.0
120°	50.9	50.7	48.9	47.5	47.2	48.1
121°	49.9	49.6	47.9	46.5	46.3	47.1
122°	48.8	48.6	46.9	45.6	45.3	46.1
123°	47.7	47.6	45.9	44.6	44.4	45.2
124°	46.6	46.5	44.9	43.6	43.4	44.2
125°	45.6	45.5	43.9	42.6	42.4	43.2
126°	44.5	44.5	42.9	41.6	41.4	42.2
127°	43.4	43.4	41.9	40.6	40.5	41.2
128°	42.3	42.3	40.8	39.6	39.5	40.2
129°	41.2	41.3	39.8	38.6	38.5	39.2
130°	40.1	40.2	38.8	37.6	37.4	38.2
131°	39.0	39.1	37.7	36.5	36.4	37.1
132°	37.9	38.1	36.7	35.6	35.4	36.1
133°	36.7	37.0	35.7	34.5	34.4	35.1
134°	35.6	35.9	34.6	33.5	33.4	34.1

Cooper Lighting Solutions Photometric Lab
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 Peachtree City, GA 30269



TEST NUMBER: P832488

CATALOG NUMBER: 7ORB15FS-1PK-ED-CA-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
135°	34.5	34.8	33.5	32.5	32.4	33.0
136°	33.4	33.7	32.5	31.5	31.4	32.0
137°	32.2	32.6	31.4	30.4	30.3	31.0
138°	31.1	31.5	30.3	29.4	29.3	29.9
139°	30.0	30.4	29.3	28.3	28.3	28.9
140°	28.8	29.4	28.2	27.3	27.2	27.9
141°	27.7	28.2	27.1	26.3	26.2	26.8
142°	26.6	27.2	26.1	25.3	25.2	25.8
143°	25.4	26.0	25.1	24.3	24.2	24.8
144°	24.3	25.0	24.1	23.3	23.2	23.8
145°	23.2	24.0	23.0	22.3	22.2	22.8
146°	22.1	22.9	22.0	21.2	21.2	21.8
147°	21.0	21.8	20.9	20.2	20.2	20.7
148°	19.9	20.7	19.9	19.2	19.2	19.7
149°	18.8	19.6	18.8	18.2	18.1	18.7
150°	17.7	18.6	17.8	17.1	17.1	17.7
151°	16.6	17.5	16.8	16.1	16.1	16.7
152°	15.5	16.4	15.7	15.2	15.2	15.7
153°	14.5	15.4	14.7	14.2	14.2	14.7
154°	13.4	14.3	13.7	13.2	13.2	13.7
155°	12.4	13.3	12.7	12.2	12.3	12.7
156°	11.4	12.3	11.7	11.3	11.3	11.8
157°	10.4	11.3	10.8	10.4	10.4	10.8
158°	9.5	10.3	9.8	9.4	9.5	9.9
159°	8.5	9.4	8.9	8.6	8.6	9.0
160°	7.6	8.4	8.0	7.7	7.7	8.1
161°	6.7	7.5	7.1	6.8	6.9	7.3
162°	5.9	6.6	6.3	6.0	6.1	6.5
163°	5.1	5.8	5.5	5.2	5.3	5.7
164°	4.4	5.0	4.7	4.5	4.6	4.9
165°	3.6	4.2	4.0	3.8	3.9	4.2
166°	3.0	3.5	3.3	3.1	3.2	3.5
167°	2.3	2.8	2.6	2.5	2.6	2.8
168°	1.8	2.3	2.1	2.0	2.1	2.3
169°	1.3	1.7	1.6	1.6	1.6	1.9
170°	0.9	1.2	1.2	1.1	1.2	1.4
171°	0.6	0.8	0.8	0.8	0.8	1.0
172°	0.3	0.5	0.5	0.5	0.5	0.7
173°	0.2	0.3	0.3	0.3	0.3	0.4
174°	0.1	0.2	0.2	0.2	0.2	0.3
175°	0.1	0.1	0.1	0.1	0.2	0.2
176°	0.1	0.1	0.1	0.1	0.1	0.2
177°	0.0	0.0	0.0	0.1	0.1	0.1
178°	0.0	0.0	0.0	0.0	0.1	0.1
179°	0.0	0.0	0.0	0.0	0.0	0.0

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



TEST NUMBER: P832488
CATALOG NUMBER: 7ORB15FS-1PK-ED-CA-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
180°	0.0	0.0	0.0	0.0	0.0	0.0

Signify Classified - Internal
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

HALO

Report Number: SP1-2405-083-4

Test Date: 05/22/2024

Luminaire Tested: 7ORB15FS-1PK-ED-CA-4000K

Data in this report applies to families of products 7ORB15FS-1PK-ED-CA-4000K.

Test Information

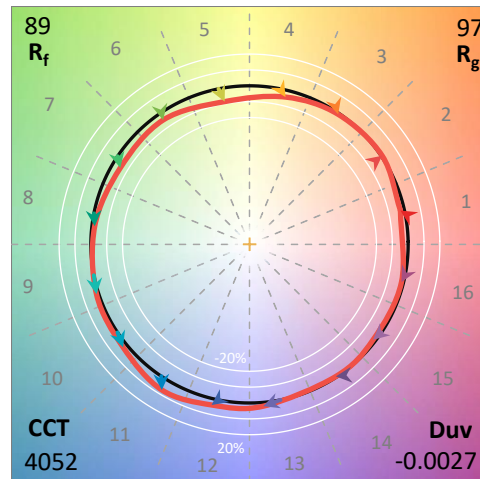
Test Method: LM-79-2019
 Report Number: SP1-2405-083-4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 05/22/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: HALO
 Catalog Number: **7ORB15FS-1PK-ED-CA-4000K**
 Description: Halo Spin Light 4000K

Spectral Parameters

CCT (K): 4052
 CIE u': 0.2257
 CIE v': 0.4972
 Duv: -0.0027
 CIE x: 0.3763
 CIE y: 0.3684
 CIE z: 0.2553
 Peak Wavelength (nm): 632
 Dominant Wavelength (nm): 580
 Purity: 23.7

CRI (Ra):	94.7		
R1:	96.3	R9:	92.3
R2:	96.1	R10:	95.1
R3:	98.2	R11:	98.0
R4:	94.5	R12:	73.8
R5:	95.1	R13:	96.2
R6:	92.4	R14:	99.1
R7:	92.0		
R8:	92.9		

Rf: 88.7
 Rg: 97.1



Test Conditions

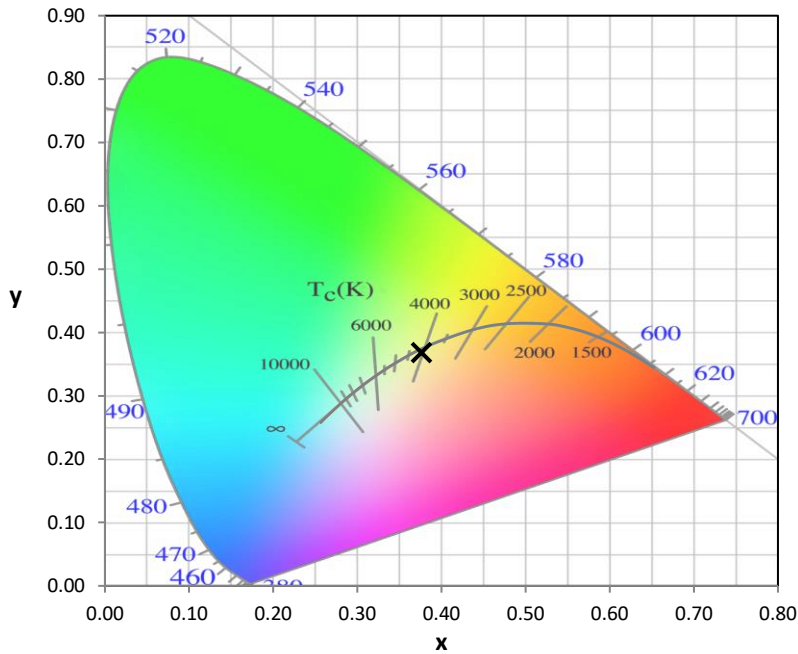
Stabilization Time: 10M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/42%
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2405-083-4

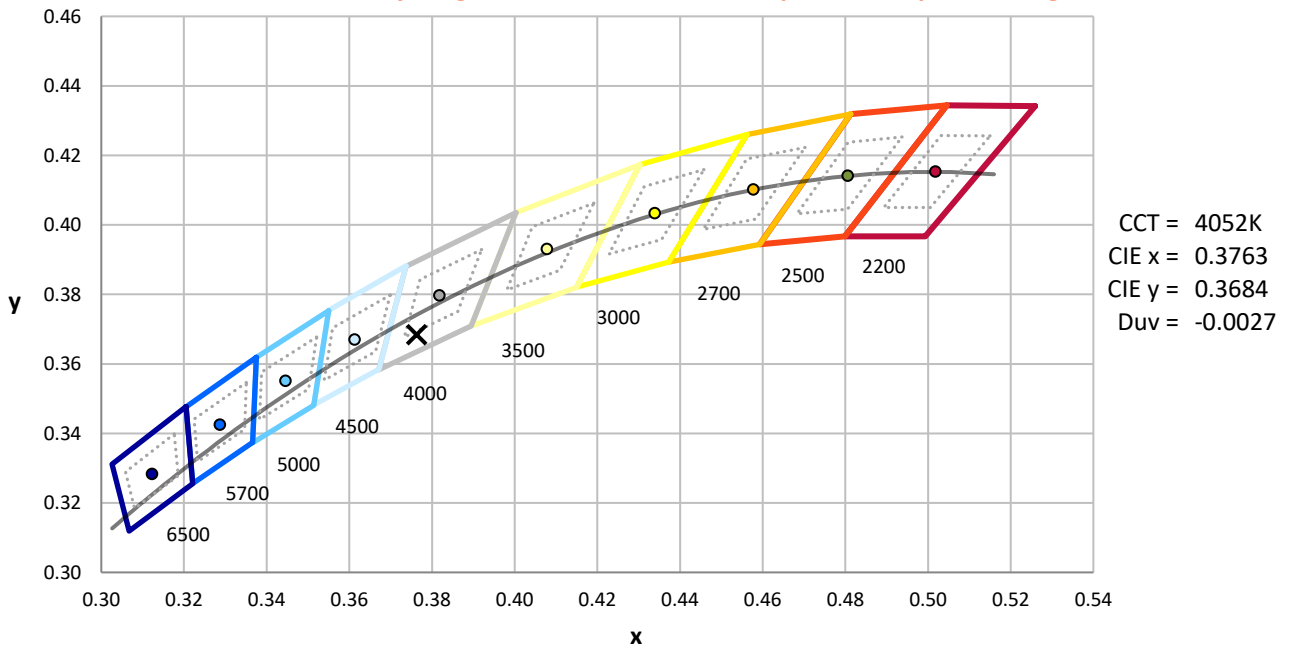
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/12/2024	8/12/2024
Power Meter	XITRON 2801 IN0071	10/23/2023	10/23/2024
AC Power Source	CHROMA 61603 IN0063	10/24/2023	10/24/2024
DC Power Source	AGILENT E3634A IN0208	10/24/2023	10/24/2024
Sphere Thermometer	ONSET IN0085	10/24/2023	10/24/2024
Room Thermometer	ONSET IN0046	10/24/2023	10/24/2024

REPORT NUMBER: SP1-2405-083-4

CIE 1931 Chromaticity Diagram



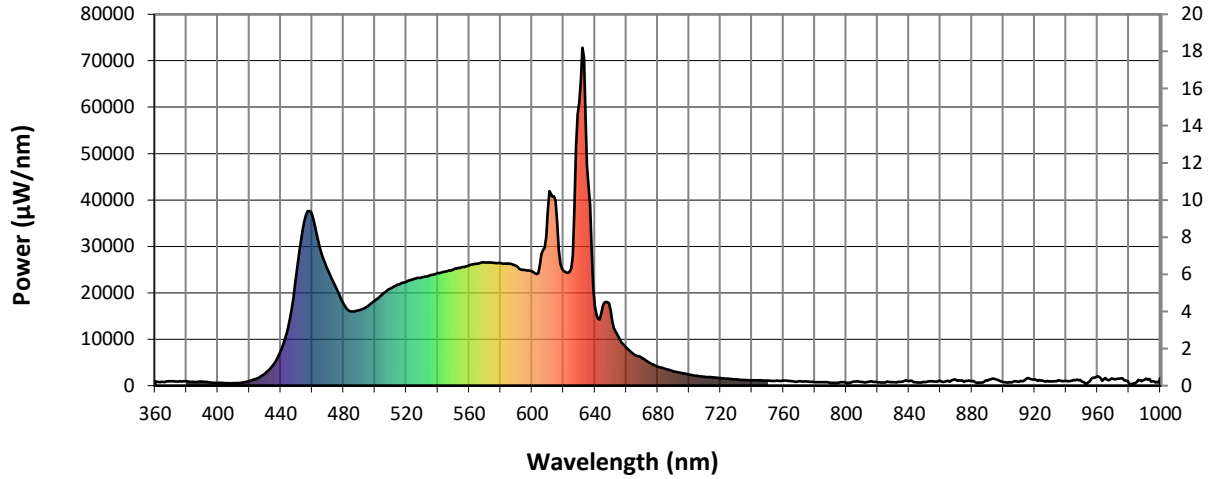
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

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Photopic Flux vs. Wavelength

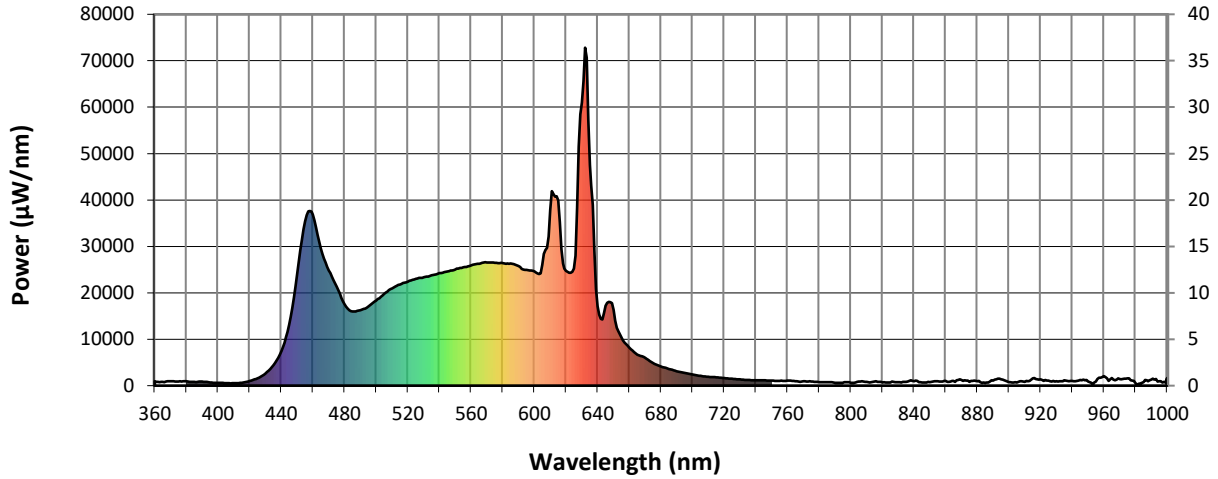


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λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	938	NR	490	16267	NR	620	24732	NR	750	1085	NR	880	956	NR
365	782	NR	495	17017	NR	625	25192	NR	755	1039	NR	885	585	NR
370	928	NR	500	18343	NR	630	61026	NR	760	1077	NR	890	1088	NR
375	912	NR	505	19743	NR	635	47544	NR	765	967	NR	895	1349	NR
380	931	NR	510	20935	NR	640	17063	NR	770	948	NR	900	772	NR
385	782	NR	515	21771	NR	645	17224	NR	775	894	NR	905	664	NR
390	870	NR	520	22423	NR	650	16343	NR	780	750	NR	910	821	NR
395	681	NR	525	22994	NR	655	10445	NR	785	712	NR	915	1593	NR
400	613	NR	530	23323	NR	660	8187	NR	790	596	NR	920	1389	NR
405	551	NR	535	23773	NR	665	6698	NR	795	607	NR	925	1073	NR
410	523	NR	540	24221	NR	670	5995	NR	800	636	NR	930	926	NR
415	640	NR	545	24582	NR	675	4872	NR	805	888	NR	935	1145	NR
420	1003	NR	550	25003	NR	680	4144	NR	810	785	NR	940	1053	NR
425	1598	NR	555	25479	NR	685	3604	NR	815	903	NR	945	1210	NR
430	2612	NR	560	25931	NR	690	3106	NR	820	709	NR	950	898	NR
435	4399	NR	565	26273	NR	695	2738	NR	825	679	NR	955	866	NR
440	7420	NR	570	26546	NR	700	2380	NR	830	740	NR	960	2051	NR
445	13061	NR	575	26477	NR	705	2095	NR	835	787	NR	965	1649	NR
450	23975	NR	580	26385	NR	710	1911	NR	840	981	NR	970	1403	NR
455	35411	NR	585	26352	NR	715	1775	NR	845	705	NR	975	1602	NR
460	36872	NR	590	25766	NR	720	1621	NR	850	774	NR	980	569	NR
465	29587	NR	595	24930	NR	725	1479	NR	855	929	NR	985	711	NR
470	24817	NR	600	24587	NR	730	1338	NR	860	1035	NR	990	1277	NR
475	21260	NR	605	25958	NR	735	1218	NR	865	1009	NR	995	943	NR
480	17593	NR	610	37936	NR	740	1160	NR	870	1194	NR	1000	1674	NR
485	15980	NR	615	39919	NR	745	1138	NR	875	810	NR			

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Scotopic Flux vs. Wavelength



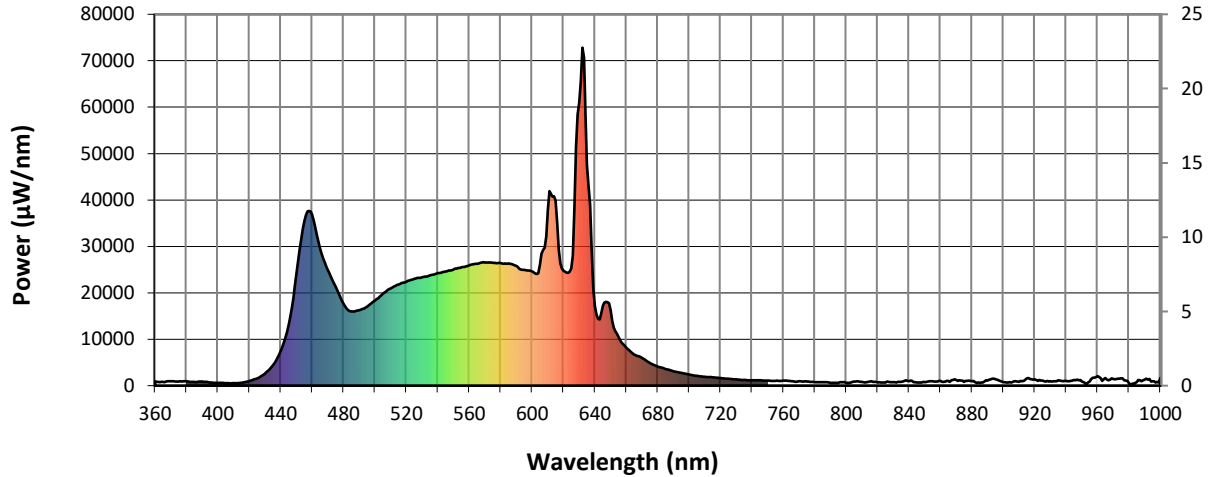
Scotopic Lumens: 3529.6

S/P: 1.92

λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	938	NR	490	16267	NR	620	24732	NR	750	1085	NR	880	956	NR
365	782	NR	495	17017	NR	625	25192	NR	755	1039	NR	885	585	NR
370	928	NR	500	18343	NR	630	61026	NR	760	1077	NR	890	1088	NR
375	912	NR	505	19743	NR	635	47544	NR	765	967	NR	895	1349	NR
380	931	NR	510	20935	NR	640	17063	NR	770	948	NR	900	772	NR
385	782	NR	515	21771	NR	645	17224	NR	775	894	NR	905	664	NR
390	870	NR	520	22423	NR	650	16343	NR	780	750	NR	910	821	NR
395	681	NR	525	22994	NR	655	10445	NR	785	712	NR	915	1593	NR
400	613	NR	530	23323	NR	660	8187	NR	790	596	NR	920	1389	NR
405	551	NR	535	23773	NR	665	6698	NR	795	607	NR	925	1073	NR
410	523	NR	540	24221	NR	670	5995	NR	800	636	NR	930	926	NR
415	640	NR	545	24582	NR	675	4872	NR	805	888	NR	935	1145	NR
420	1003	NR	550	25003	NR	680	4144	NR	810	785	NR	940	1053	NR
425	1598	NR	555	25479	NR	685	3604	NR	815	903	NR	945	1210	NR
430	2612	NR	560	25931	NR	690	3106	NR	820	709	NR	950	898	NR
435	4399	NR	565	26273	NR	695	2738	NR	825	679	NR	955	866	NR
440	7420	NR	570	26546	NR	700	2380	NR	830	740	NR	960	2051	NR
445	13061	NR	575	26477	NR	705	2095	NR	835	787	NR	965	1649	NR
450	23975	NR	580	26385	NR	710	1911	NR	840	981	NR	970	1403	NR
455	35411	NR	585	26352	NR	715	1775	NR	845	705	NR	975	1602	NR
460	36872	NR	590	25766	NR	720	1621	NR	850	774	NR	980	569	NR
465	29587	NR	595	24930	NR	725	1479	NR	855	929	NR	985	711	NR
470	24817	NR	600	24587	NR	730	1338	NR	860	1035	NR	990	1277	NR
475	21260	NR	605	25958	NR	735	1218	NR	865	1009	NR	995	943	NR
480	17593	NR	610	37936	NR	740	1160	NR	870	1194	NR	1000	1674	NR
485	15980	NR	615	39919	NR	745	1138	NR	875	810	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 1504.9 M/P: 0.82

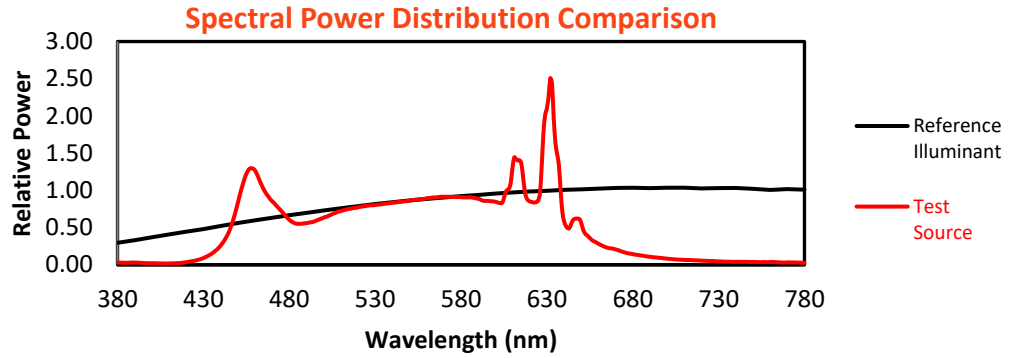
λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	938	NR	490	16267	NR	620	24732	NR	750	1085	NR	880	956	NR
365	782	NR	495	17017	NR	625	25192	NR	755	1039	NR	885	585	NR
370	928	NR	500	18343	NR	630	61026	NR	760	1077	NR	890	1088	NR
375	912	NR	505	19743	NR	635	47544	NR	765	967	NR	895	1349	NR
380	931	NR	510	20935	NR	640	17063	NR	770	948	NR	900	772	NR
385	782	NR	515	21771	NR	645	17224	NR	775	894	NR	905	664	NR
390	870	NR	520	22423	NR	650	16343	NR	780	750	NR	910	821	NR
395	681	NR	525	22994	NR	655	10445	NR	785	712	NR	915	1593	NR
400	613	NR	530	23323	NR	660	8187	NR	790	596	NR	920	1389	NR
405	551	NR	535	23773	NR	665	6698	NR	795	607	NR	925	1073	NR
410	523	NR	540	24221	NR	670	5995	NR	800	636	NR	930	926	NR
415	640	NR	545	24582	NR	675	4872	NR	805	888	NR	935	1145	NR
420	1003	NR	550	25003	NR	680	4144	NR	810	785	NR	940	1053	NR
425	1598	NR	555	25479	NR	685	3604	NR	815	903	NR	945	1210	NR
430	2612	NR	560	25931	NR	690	3106	NR	820	709	NR	950	898	NR
435	4399	NR	565	26273	NR	695	2738	NR	825	679	NR	955	866	NR
440	7420	NR	570	26546	NR	700	2380	NR	830	740	NR	960	2051	NR
445	13061	NR	575	26477	NR	705	2095	NR	835	787	NR	965	1649	NR
450	23975	NR	580	26385	NR	710	1911	NR	840	981	NR	970	1403	NR
455	35411	NR	585	26352	NR	715	1775	NR	845	705	NR	975	1602	NR
460	36872	NR	590	25766	NR	720	1621	NR	850	774	NR	980	569	NR
465	29587	NR	595	24930	NR	725	1479	NR	855	929	NR	985	711	NR
470	24817	NR	600	24587	NR	730	1338	NR	860	1035	NR	990	1277	NR
475	21260	NR	605	25958	NR	735	1218	NR	865	1009	NR	995	943	NR
480	17593	NR	610	37936	NR	740	1160	NR	870	1194	NR	1000	1674	NR
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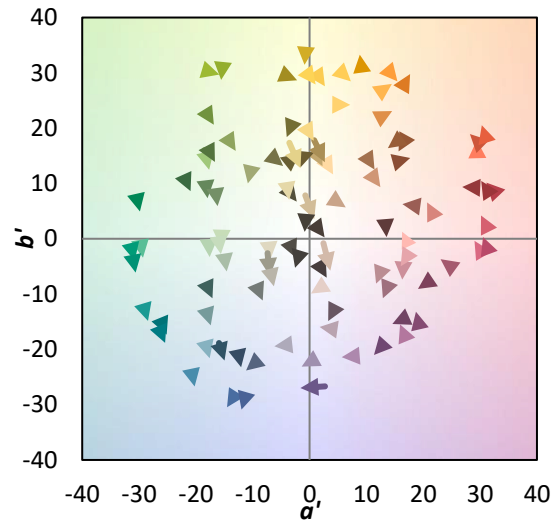
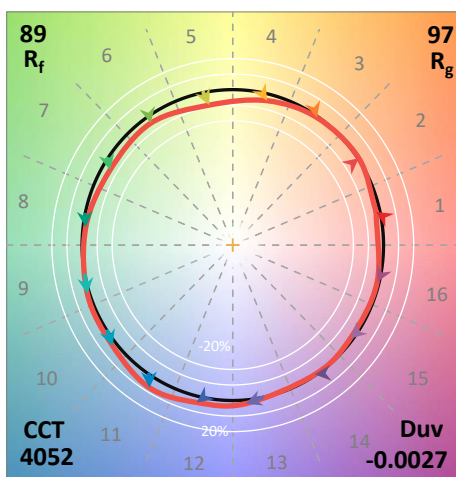
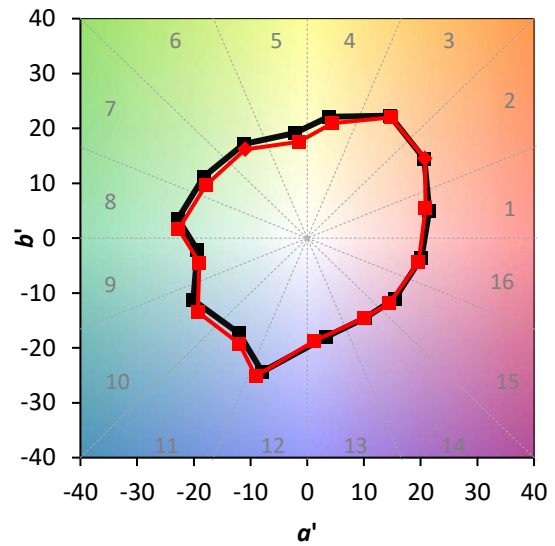
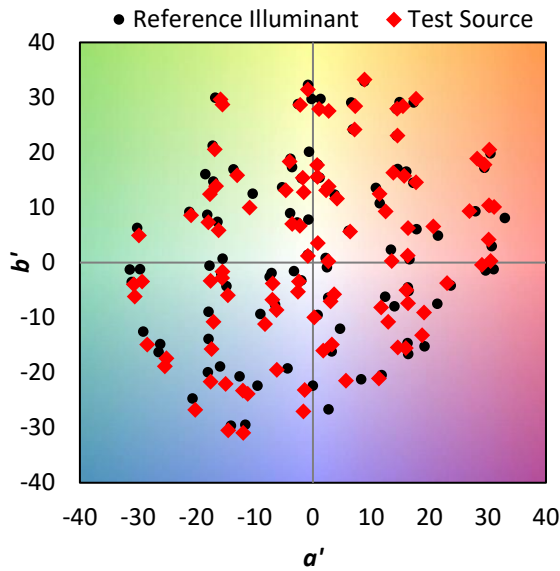
TM-30-18

Summary

$R_f = 88.7$
 $R_g = 97.1$
 CIE $R_a = 94.7$
 $R_9 = 92.3$



Color Vector Graphics

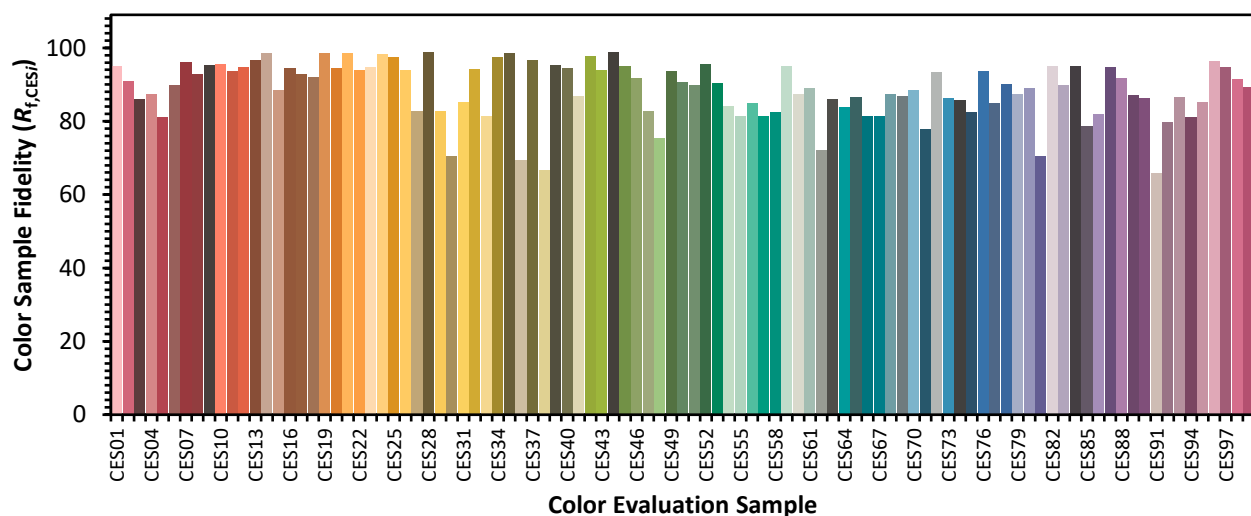


REPORT NUMBER: SP1-2405-083-4

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

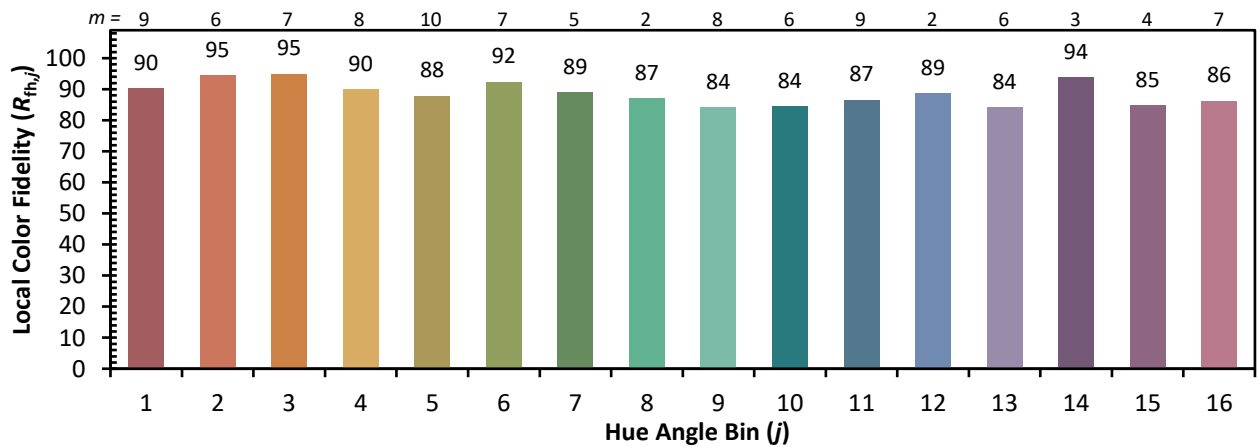
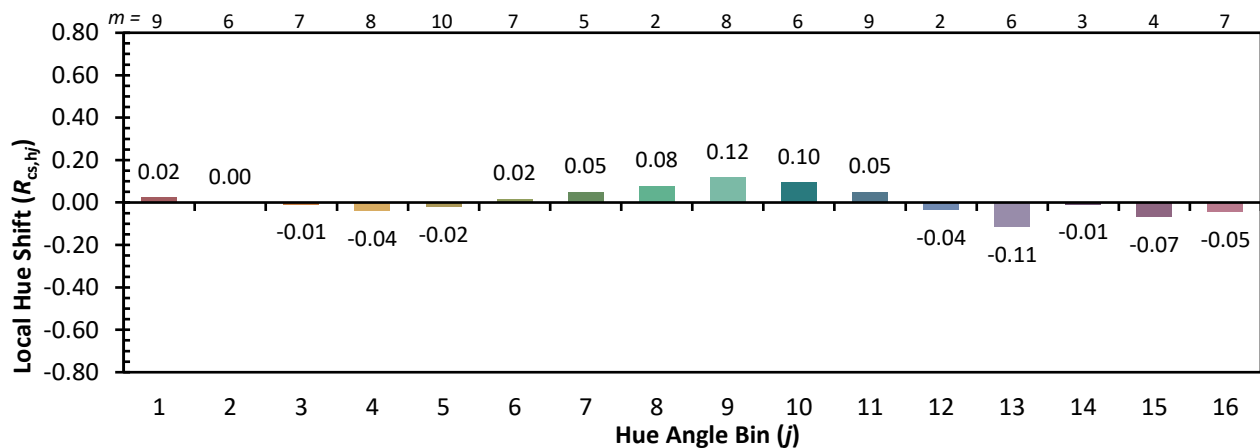
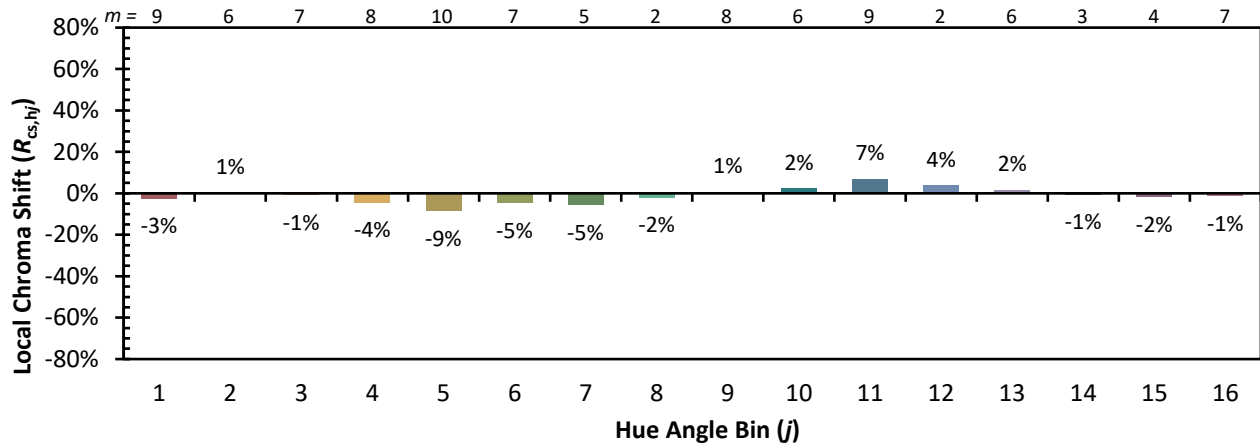
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CES02 = 62	CES27 = 83	CES52 = 95	CES77 = 85
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CES04 = 69	CES29 = 83	CES54 = 84	CES79 = 87
CES05 = 49	CES30 = 71	CES55 = 81	CES80 = 89
CES06 = 50	CES31 = 85	CES56 = 85	CES81 = 70
CES07 = 43	CES32 = 94	CES57 = 81	CES82 = 95
CES08 = 41	CES33 = 81	CES58 = 82	CES83 = 90
CES09 = 29	CES34 = 97	CES59 = 95	CES84 = 95
CES10 = 74	CES35 = 99	CES60 = 87	CES85 = 79
CES11 = 57	CES36 = 69	CES61 = 89	CES86 = 82
CES12 = 63	CES37 = 97	CES62 = 72	CES87 = 95
CES13 = 43	CES38 = 67	CES63 = 86	CES88 = 92
CES14 = 74	CES39 = 95	CES64 = 84	CES89 = 87
CES15 = 71	CES40 = 95	CES65 = 87	CES90 = 86
CES16 = 47	CES41 = 87	CES66 = 81	CES91 = 66
CES17 = 49	CES42 = 98	CES67 = 81	CES92 = 80
CES18 = 56	CES43 = 94	CES68 = 87	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 87	CES94 = 81
CES20 = 66	CES45 = 95	CES70 = 88	CES95 = 85
CES21 = 85	CES46 = 92	CES71 = 78	CES96 = 96
CES22 = 78	CES47 = 83	CES72 = 93	CES97 = 95
CES23 = 91	CES48 = 75	CES73 = 86	CES98 = 92
CES24 = 90	CES49 = 94	CES74 = 86	CES99 = 89
CES25 = 71	CES50 = 91	CES75 = 82	



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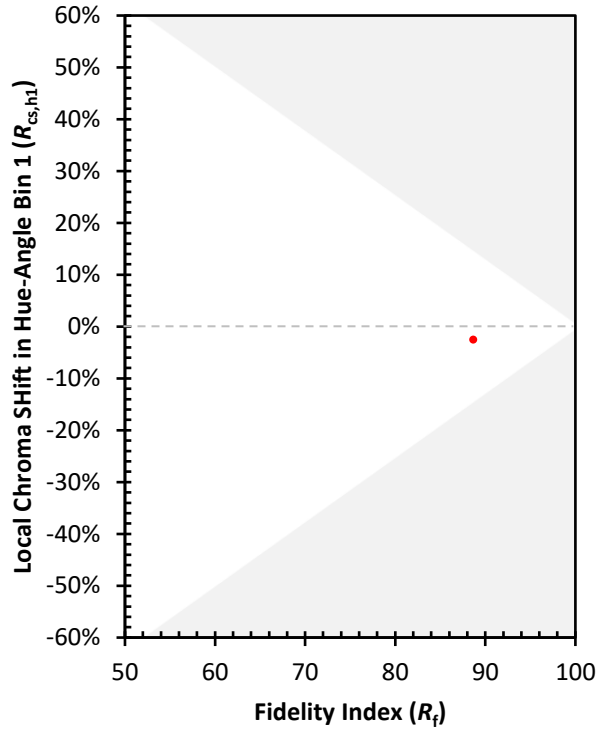
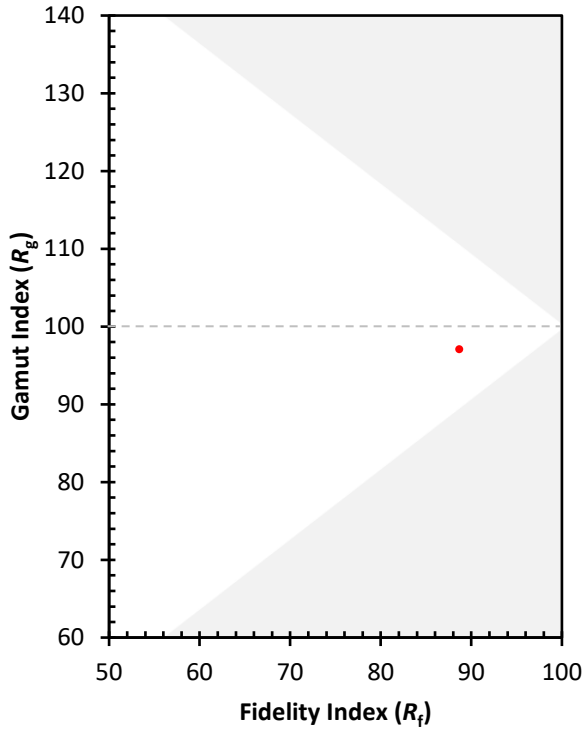
Color Rendition by Hue-Angle Bin



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TM-30-18

Measure Comparisons



(END OF REPORT)