

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: HALO

Report Number: P1214540

Luminaire Tested: HFL4001S/HFL4002S-927

Issue Date: 12/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1214540  
Test Lab: THIRD PARTY NVLAP LAB  
Issue Date: 12/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: HFL4001S/HFL4002S-927  
Description: HALO FLEX LINEAR 400LM/FT 90 CRI COLOR SELECTABLE FIXTURE (ONE FOOT)  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

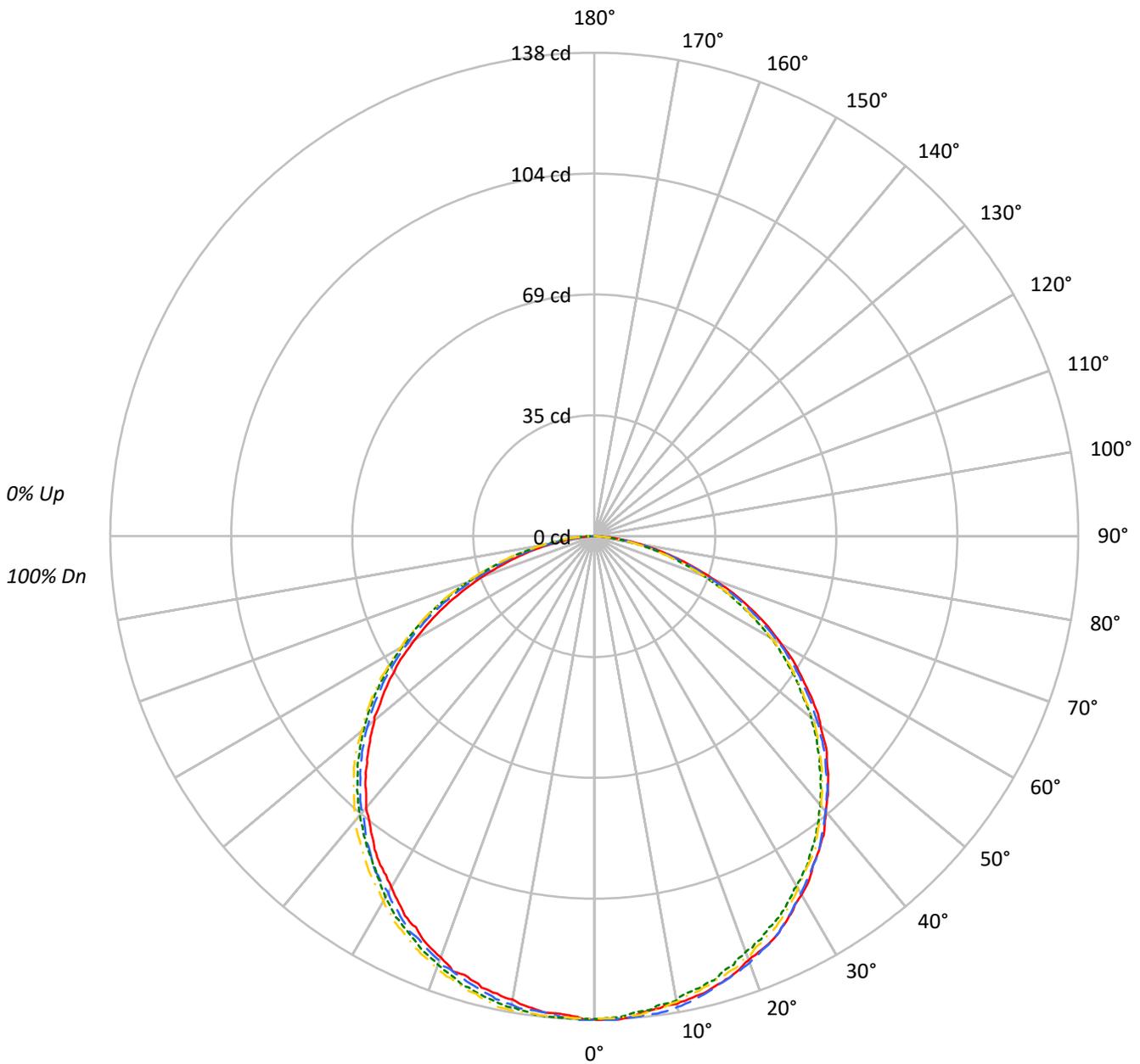
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 393.4 lumens  
Efficiency: N/A  
Efficacy: 87.4 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.39  
Luminous Opening: Rectangular (W 0.03' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 4.5  
Input Voltage (V): 24  
Input Current (A<sub>in</sub>): 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: 28.75 FT

TEST NUMBER: P1214540  
CATALOG NUMBER: HFL4001S/HFL4002S-927

### Luminous Intensity Polar Plot



0% Up  
100% Dn

— 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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84	84	84	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70	70	70	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59	59	59	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	53	50	50	50	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	44	44	44	44
6	70	57	48	41	68	56	47	41	54	46	41	52	46	40	51	45	40	38	38	38	38
7	65	51	43	37	63	51	42	36	49	42	36	48	41	36	46	40	36	34	34	34	34
8	60	47	38	33	59	46	38	32	45	37	32	44	37	32	42	36	32	30	30	30	30
9	56	43	35	29	55	42	35	29	41	34	29	40	34	29	39	33	29	27	27	27	27
10	53	40	32	26	52	39	32	26	38	31	26	37	31	26	36	30	26	24	24	24	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	49478	49478	49478	49478
5°	49415	49127	49235	49631
10°	49403	49076	48930	49768
15°	49403	48772	48921	49849
20°	49179	48224	48835	49713
25°	49407	48140	48496	49526
30°	49012	47852	47935	49344
35°	48575	47480	47831	48794
40°	48055	47025	47400	48711
45°	47748	46073	46479	48407
50°	46944	45046	45660	47893
55°	45727	43663	44476	46916
60°	44204	41620	42338	45424
65°	42025	38629	39478	43638
70°	38081	34829	35668	40493
75°	33548	29805	30637	36459
80°	27481	22935	24175	31200
85°	20172	15232	13997	25112

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 292.5°  
 Vertical Angle: 89.5°  
 Luminance: 61673 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	13.1	3.3
10°-20°	37.6	9.6
20°-30°	57.2	14.5
30°-40°	69.3	17.6
40°-50°	72.2	18.4
50°-60°	64.9	16.5
60°-70°	48.0	12.2
70°-80°	25.3	6.4
80°-90°	5.8	1.5
90°-100°	0.1	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°-30°	107.8	27.4
0°-40°	177.1	45.0
0°-60°	314.3	79.9
0°-90°	393.3	100.0
90°-120°	0.1	0.0
90°-150°	0.1	0.0
90°-180°	0.0	0.0
0°-180°	393.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	138	138	138	138	138	
5°	137	136	137	138	137	13
15°	133	131	132	134	133	38
25°	125	122	122	125	125	57
35°	111	108	109	111	111	69
45°	94	91	92	95	94	73
55°	73	70	71	75	73	66
65°	50	46	46	51	50	49
75°	24	22	22	26	24	26
85°	5	4	3	6	5	6
90°	0	0	0	1	0	0
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	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°	137.9	137.9	137.9	137.9	137.9	137.9	137.9	137.9	137.9	137.9	137.9
0.5°	138.4	137.8	138.2	138.1	137.8	137.9	137.7	137.3	138.2	137.8	138.3
1°	138.3	137.8	138.2	138.1	137.8	137.9	137.7	137.1	138.2	137.8	138.3
1.5°	138.3	137.8	138.2	138.2	137.6	138.0	137.7	137.1	137.8	137.8	138.2
2°	138.2	137.8	138.2	138.3	137.6	138.0	137.7	137.1	137.3	137.9	138.1
2.5°	138.2	137.8	138.2	138.2	137.5	137.8	137.8	137.0	137.2	137.9	138.1
3°	138.1	137.8	137.9	138.2	137.5	137.8	137.5	137.0	137.0	137.8	137.8
3.5°	137.9	137.8	137.8	138.2	137.3	136.9	137.6	137.0	136.9	137.8	137.7
4°	137.8	137.8	137.8	138.0	137.0	136.9	137.5	137.0	136.7	137.8	137.6
4.5°	137.6	137.8	137.8	138.0	136.7	136.9	137.4	137.0	136.7	137.7	137.2
5°	137.2	137.8	137.7	137.9	136.4	136.9	137.3	137.0	136.7	137.6	137.0
5.5°	136.9	137.9	137.7	137.9	136.3	136.8	137.3	137.0	136.7	137.4	136.9
6°	136.6	137.9	137.5	137.8	136.2	136.8	136.9	136.8	136.7	137.0	136.7
6.5°	136.4	137.6	137.6	137.6	136.2	136.8	136.7	136.7	136.4	136.9	136.7
7°	136.3	137.5	137.4	137.4	136.0	136.5	136.5	136.3	136.2	136.8	136.5
7.5°	136.1	137.3	137.5	137.4	135.3	136.5	136.3	136.2	135.9	136.6	136.5
8°	136.0	137.2	137.3	137.1	135.0	136.5	136.4	136.0	135.7	136.5	136.5
8.5°	135.6	136.9	137.2	136.9	135.0	136.4	135.9	135.9	135.4	136.5	136.5
9°	135.6	136.8	137.0	136.6	135.0	136.1	135.5	135.8	135.2	136.5	136.5
9.5°	135.6	136.7	136.9	136.5	134.9	135.6	135.2	135.8	134.7	136.0	136.1
10°	135.6	136.4	136.5	136.2	134.7	135.3	135.1	135.8	134.3	135.5	135.8
10.5°	135.2	136.0	136.4	136.1	133.8	135.2	134.7	135.7	134.3	135.3	135.7
11°	135.2	135.8	136.0	136.0	133.4	134.5	134.2	135.4	134.2	135.1	135.7
11.5°	134.9	135.4	135.8	135.6	133.1	134.2	133.8	134.9	133.9	134.8	135.2
12°	134.7	135.1	135.4	135.2	132.9	133.9	133.5	134.8	133.5	134.5	135.1
12.5°	134.4	134.8	135.1	134.9	132.5	133.6	133.4	134.4	133.5	134.2	134.5
13°	134.3	134.5	134.8	134.4	132.5	133.1	133.2	134.2	133.1	133.9	134.2
13.5°	134.2	134.2	134.5	134.2	132.2	132.7	132.6	133.7	132.9	133.9	133.9
14°	133.8	133.8	134.1	133.8	131.7	132.7	132.4	133.4	132.9	133.5	133.8
14.5°	133.4	133.5	133.7	133.6	131.3	132.8	132.2	133.0	132.0	133.3	133.2
15°	133.0	133.4	133.3	133.2	131.3	132.4	131.7	132.5	131.7	133.0	132.8
15.5°	132.7	133.1	132.8	132.7	131.1	131.8	131.2	131.9	131.5	132.8	132.5
16°	132.5	132.7	132.5	132.6	130.1	131.6	131.0	131.6	130.9	132.7	132.2
16.5°	132.0	132.3	132.2	132.2	129.6	131.4	130.8	131.1	130.6	132.4	131.7
17°	131.8	132.0	131.8	131.8	129.1	131.3	130.3	130.9	130.6	131.7	131.2
17.5°	131.3	131.5	131.4	131.4	128.9	130.3	129.9	130.9	130.6	131.3	131.1
18°	130.9	131.1	131.0	130.9	128.7	130.1	129.8	129.8	130.6	130.6	130.6
18.5°	130.4	130.9	130.8	130.2	127.6	129.2	129.4	129.3	129.6	130.2	130.2
19°	129.8	130.3	130.3	129.7	127.2	128.8	128.5	129.0	129.1	130.1	130.1
19.5°	129.2	129.8	130.0	129.2	127.0	128.6	128.0	128.3	128.6	129.4	130.1
20°	128.8	129.3	129.6	128.8	126.3	127.7	128.0	127.7	127.9	128.9	129.0
20.5°	128.3	129.0	129.0	128.3	125.9	127.5	127.5	127.3	127.6	128.4	128.6
21°	128.1	128.5	128.5	127.9	125.8	127.2	126.7	126.8	127.0	127.8	128.1
21.5°	127.6	127.9	128.1	127.4	125.0	126.5	126.0	126.6	126.6	127.3	127.6
22°	127.3	127.5	127.5	127.0	124.7	126.1	125.7	126.0	126.2	126.6	127.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	127.0	127.0	127.2	126.5	124.5	125.5	125.4	125.5	125.6	126.1	126.6
23°	126.7	126.6	126.8	126.0	123.6	125.0	124.6	125.0	125.1	125.9	126.1
23.5°	126.2	126.1	126.4	125.7	123.1	124.5	124.2	124.4	124.3	125.1	125.5
24°	125.8	125.5	125.8	124.9	122.3	123.8	123.9	124.0	123.5	124.7	125.1
24.5°	125.3	124.9	125.2	124.5	122.1	123.6	123.4	123.6	122.6	124.0	124.8
25°	124.8	124.4	124.7	123.9	121.6	122.8	122.9	123.0	122.5	123.5	124.6
25.5°	123.9	123.7	123.9	123.2	121.1	122.3	122.2	122.5	122.1	123.0	123.7
26°	123.5	123.1	123.2	122.6	120.8	121.4	121.7	121.7	121.4	122.4	123.1
26.5°	122.8	122.4	122.6	122.3	119.9	121.0	121.0	121.2	121.1	122.2	122.5
27°	122.0	121.7	121.9	121.6	119.5	120.3	120.4	120.3	120.1	121.7	121.8
27.5°	121.5	121.2	121.3	121.0	118.7	119.7	119.6	119.7	119.4	121.0	121.0
28°	120.8	120.6	120.5	120.3	117.9	119.2	119.1	119.1	118.7	120.3	120.3
28.5°	119.8	120.1	119.7	119.6	117.3	118.3	118.3	118.8	117.9	119.6	119.7
29°	119.3	119.7	119.2	119.1	116.7	117.7	117.7	118.2	117.3	118.9	119.2
29.5°	118.7	119.2	118.3	118.3	115.7	117.0	117.0	117.6	116.5	118.2	118.4
30°	118.3	118.7	117.8	117.6	115.5	116.6	116.0	116.7	115.7	117.3	117.5
30.5°	117.6	117.9	117.1	116.9	114.6	115.7	115.5	115.8	114.9	116.6	117.0
31°	117.0	117.3	116.4	116.2	114.3	115.0	114.7	115.1	114.4	115.9	116.7
31.5°	116.4	116.6	115.6	115.6	113.4	114.4	114.1	114.3	113.5	115.4	116.0
32°	115.7	115.8	115.0	114.8	112.8	113.7	113.3	113.5	113.2	114.8	115.4
32.5°	114.8	114.9	114.4	114.1	112.3	113.1	112.5	112.6	112.4	114.3	114.8
33°	114.0	114.1	113.6	113.4	111.7	112.0	112.0	112.0	112.0	113.6	114.4
33.5°	112.9	113.1	112.9	112.8	110.7	111.5	111.4	111.5	111.3	112.9	113.7
34°	112.2	112.3	112.3	111.9	109.8	110.6	110.7	110.8	110.7	111.8	113.0
34.5°	111.6	111.5	111.7	111.3	109.2	109.6	110.4	110.1	109.8	110.7	112.0
35°	110.9	110.8	110.8	110.5	108.4	109.2	109.7	109.8	109.2	109.8	111.1
35.5°	110.3	110.5	110.3	109.7	107.8	108.2	108.7	108.8	108.2	109.2	110.3
36°	109.5	109.8	109.4	108.9	107.0	107.7	107.5	108.1	107.3	108.6	109.5
36.5°	108.7	108.8	108.5	107.9	106.3	106.5	106.7	107.1	106.5	108.1	108.9
37°	108.0	107.8	107.6	107.2	105.3	105.7	105.8	106.0	105.8	107.8	108.1
37.5°	107.5	107.0	106.7	106.3	104.4	104.8	104.9	104.9	104.8	107.0	107.1
38°	106.5	106.0	105.9	105.4	103.8	104.1	104.2	104.0	104.0	106.0	106.1
38.5°	105.5	105.2	105.1	104.6	102.9	103.2	103.2	103.1	103.2	105.2	105.2
39°	104.5	104.5	104.2	103.7	101.8	102.4	102.4	102.4	102.5	104.2	104.3
39.5°	103.7	103.6	103.4	103.0	101.0	101.6	101.5	101.7	102.0	103.2	103.5
40°	102.6	102.9	102.6	102.3	100.4	100.7	100.7	101.0	101.2	102.0	102.9
40.5°	101.8	102.1	101.6	101.2	99.2	100.0	99.6	100.1	100.1	101.5	102.3
41°	101.0	101.2	100.7	100.4	98.4	98.9	98.8	99.0	99.1	100.6	101.5
41.5°	100.2	100.3	99.9	99.6	97.5	98.0	98.0	98.2	98.1	99.8	100.7
42°	99.5	99.5	99.1	98.8	96.5	97.0	97.1	97.3	97.3	98.8	99.7
42.5°	98.6	98.6	98.4	97.9	95.4	96.5	96.3	96.5	96.6	97.8	98.8
43°	97.6	97.7	97.4	97.2	94.6	95.3	95.3	95.6	95.7	96.9	97.8
43.5°	96.9	96.6	96.5	96.2	93.9	94.3	94.3	94.9	94.6	95.8	96.9
44°	96.0	95.7	95.4	95.1	92.6	93.5	93.4	93.9	93.8	94.8	96.0
44.5°	95.2	94.8	94.2	94.3	91.5	92.6	92.5	92.7	92.7	93.9	95.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	94.1	93.7	93.3	93.2	90.8	91.5	91.5	91.7	91.6	93.2	94.3
45.5°	93.0	92.8	92.4	92.2	90.2	90.6	90.5	90.7	90.9	92.2	93.5
46°	92.2	92.0	91.6	91.2	88.8	89.3	89.3	89.8	89.8	91.1	92.3
46.5°	91.4	91.1	90.4	90.3	87.7	88.4	88.4	88.9	88.8	90.0	91.4
47°	90.6	90.2	89.6	89.1	86.9	87.4	87.7	87.8	87.8	89.1	90.6
47.5°	89.7	89.3	88.5	88.1	86.0	86.2	86.4	86.6	86.6	88.3	89.6
48°	88.6	88.4	87.5	87.0	85.0	85.2	85.7	85.6	86.0	87.1	88.4
48.5°	87.4	87.2	86.3	85.9	83.9	84.4	84.6	84.8	84.8	86.2	87.5
49°	86.2	86.1	85.2	84.8	82.8	83.1	83.7	83.7	83.8	85.3	86.6
49.5°	85.2	84.8	84.3	83.7	81.5	82.1	82.5	82.5	82.7	84.1	85.5
50°	84.1	83.9	83.3	82.8	80.7	81.1	81.3	81.5	81.8	82.9	84.3
50.5°	83.4	82.7	82.1	81.8	79.9	80.0	80.0	80.4	81.3	82.0	83.3
51°	82.3	81.7	80.9	80.7	78.6	79.1	79.0	79.1	79.7	80.9	82.3
51.5°	81.6	80.6	79.9	79.5	77.3	78.0	77.9	77.7	78.5	80.0	81.4
52°	80.2	79.3	78.9	78.2	76.0	77.0	76.5	76.7	77.4	79.2	80.3
52.5°	79.0	78.3	77.9	77.0	74.9	75.7	75.4	75.9	76.4	78.0	79.3
53°	78.0	77.3	76.7	75.9	73.7	74.6	74.5	74.6	75.5	76.7	78.2
53.5°	76.9	76.2	75.6	74.7	72.8	73.4	73.4	73.5	74.4	75.5	76.9
54°	75.6	75.1	74.4	73.5	71.9	72.3	72.3	72.3	73.2	74.2	75.9
54.5°	74.4	74.0	73.2	72.5	70.7	71.4	71.0	71.1	72.1	73.2	74.7
55°	73.1	72.9	72.1	71.5	69.8	70.6	69.9	70.1	71.1	72.1	73.8
55.5°	72.1	71.7	71.2	70.3	68.3	69.2	68.9	69.0	69.8	71.0	72.7
56°	71.0	70.5	70.0	69.3	67.3	68.0	68.2	68.2	68.6	69.8	71.4
56.5°	69.9	69.3	69.0	68.1	66.0	66.6	67.0	67.0	67.7	68.7	70.2
57°	68.9	68.3	67.8	66.9	65.1	65.6	65.6	65.8	66.6	67.8	69.0
57.5°	67.8	67.1	66.5	65.6	64.1	64.2	64.4	64.6	65.5	66.5	67.9
58°	66.8	66.0	65.4	64.5	62.7	63.0	63.4	63.3	64.1	65.3	66.6
58.5°	65.5	64.9	64.3	63.4	61.8	61.7	62.2	61.9	62.8	64.0	65.4
59°	64.2	63.8	63.3	62.2	60.5	60.7	60.8	60.7	61.4	62.8	64.2
59.5°	62.8	62.6	62.0	61.1	59.4	59.7	59.7	59.6	60.3	61.6	62.9
60°	61.6	61.2	60.7	59.8	58.0	58.8	58.5	58.4	59.0	60.3	61.7
60.5°	60.5	59.9	59.4	58.6	56.8	57.2	57.2	57.2	57.8	59.1	60.7
61°	59.2	58.7	58.2	57.3	55.5	56.1	56.0	55.9	56.5	58.0	59.5
61.5°	58.0	57.7	57.0	55.9	54.5	54.9	54.7	54.4	55.3	56.8	58.3
62°	56.9	56.4	55.8	54.8	53.1	53.7	53.6	53.2	54.1	55.7	57.1
62.5°	55.9	55.1	54.4	53.6	51.9	52.3	52.2	52.0	52.8	54.3	55.8
63°	54.5	53.8	53.2	52.3	50.7	51.0	51.0	50.8	51.7	53.1	54.7
63.5°	53.2	52.6	52.0	51.1	49.4	49.8	49.7	49.5	50.3	52.1	53.6
64°	52.0	51.2	50.7	49.9	48.1	48.5	48.5	48.3	49.1	50.8	52.2
64.5°	50.8	49.9	49.5	48.6	46.9	47.2	47.5	47.5	47.8	49.4	50.9
65°	49.5	48.7	48.3	47.4	45.5	45.9	46.1	46.0	46.5	48.2	49.6
65.5°	48.2	47.5	46.9	46.2	44.3	44.6	44.8	44.7	45.4	46.9	48.3
66°	47.1	46.2	45.8	44.8	43.0	43.2	43.6	43.5	44.0	45.7	47.2
66.5°	45.7	44.9	44.6	43.6	41.8	42.1	42.3	42.3	42.6	44.4	45.7
67°	44.4	43.7	43.1	42.4	40.6	40.7	41.0	41.0	41.5	42.9	44.3



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	43.1	42.4	41.9	41.2	39.3	39.6	39.7	39.7	40.4	41.7	43.0
68°	41.7	41.0	40.5	40.0	38.1	38.2	38.4	38.4	38.9	40.5	41.8
68.5°	40.4	39.9	39.2	38.8	36.9	36.9	37.2	37.3	37.6	39.1	40.5
69°	39.0	38.6	37.9	37.4	35.6	35.6	36.0	36.0	36.5	37.4	39.3
69.5°	37.6	37.4	36.6	36.2	34.5	34.3	34.5	34.8	35.2	36.5	37.8
70°	36.3	36.2	35.3	35.0	33.2	33.1	33.3	33.6	34.0	35.1	36.6
70.5°	35.1	34.9	34.2	33.6	32.0	31.8	32.0	32.5	32.8	33.9	35.4
71°	33.9	33.6	32.9	32.3	30.8	30.6	30.8	31.1	31.5	32.3	34.0
71.5°	32.5	32.3	31.6	31.1	29.5	29.4	29.5	29.9	30.1	31.5	32.8
72°	31.2	31.0	30.3	29.9	28.6	28.2	28.3	28.6	29.2	30.2	31.5
72.5°	30.0	29.8	29.0	28.6	27.3	27.0	27.1	27.4	27.8	29.0	30.3
73°	28.8	28.6	27.9	27.5	26.2	26.0	26.1	26.6	26.7	27.8	29.0
73.5°	27.8	27.7	26.7	26.3	24.9	25.1	25.0	25.2	25.6	26.8	27.9
74°	26.6	26.4	25.7	25.1	23.8	23.9	23.7	24.0	24.4	25.7	26.9
74.5°	25.4	25.3	24.4	24.0	22.7	22.7	22.6	22.9	23.3	24.5	25.8
75°	24.2	24.1	23.3	22.8	21.5	21.4	21.5	21.7	22.1	23.3	24.6
75.5°	23.0	22.8	22.2	21.6	20.4	20.2	20.3	20.6	21.1	22.2	23.4
76°	22.0	21.7	21.1	20.5	19.4	19.1	19.3	19.4	20.0	21.1	22.2
76.5°	20.9	20.5	19.9	19.5	18.5	18.0	18.1	18.4	18.9	20.0	20.9
77°	19.8	19.4	18.6	18.3	17.2	16.9	17.0	17.4	17.8	18.8	19.6
77.5°	18.6	18.4	17.6	17.2	16.1	16.1	16.3	16.1	16.7	17.6	18.4
78°	17.5	17.2	16.5	16.1	15.1	14.9	14.9	15.2	15.6	16.6	17.2
78.5°	16.5	16.2	15.5	15.0	14.1	13.8	14.0	14.1	14.7	15.5	16.1
79°	15.5	15.2	14.5	14.0	13.4	12.7	13.2	13.3	13.6	14.6	15.1
79.5°	14.5	14.1	13.4	13.0	12.1	12.1	12.3	12.2	12.6	13.5	14.1
80°	13.3	13.1	12.5	12.0	11.1	11.0	11.2	11.3	11.7	12.5	13.2
80.5°	12.4	12.1	11.6	11.1	10.1	9.9	10.3	10.3	10.8	11.6	12.3
81°	11.4	11.0	10.6	10.2	9.5	9.3	9.5	9.7	9.8	10.9	11.5
81.5°	10.5	10.1	9.7	9.3	8.4	8.5	8.5	8.7	8.9	9.8	10.9
82°	9.7	9.1	8.7	8.4	7.6	7.4	7.7	7.8	8.4	9.0	9.9
82.5°	8.9	8.2	7.9	7.6	6.9	6.9	7.0	7.1	7.2	8.2	9.0
83°	7.9	7.4	7.0	6.8	5.9	5.9	6.1	6.3	6.3	7.3	8.4
83.5°	7.1	6.6	6.2	5.9	5.2	5.2	5.5	6.0	6.1	6.5	7.4
84°	6.3	5.9	5.4	5.1	4.4	4.7	4.6	4.8	4.8	6.0	6.6
84.5°	5.6	5.2	4.7	4.5	3.7	3.8	4.0	4.0	4.0	4.8	5.9
85°	4.9	4.5	4.0	3.6	3.7	3.6	3.3	3.3	3.4	4.0	5.0
85.5°	4.2	3.9	3.3	3.0	2.5	2.6	2.9	2.7	2.8	3.4	4.3
86°	3.6	3.4	2.8	2.5	2.1	2.3	2.2	2.0	2.0	2.7	3.5
86.5°	3.0	2.9	2.2	1.9	1.7	2.0	1.9	1.7	1.9	2.1	3.0
87°	2.5	2.4	1.8	1.5	1.0	1.3	1.3	1.1	1.1	1.5	2.3
87.5°	2.1	1.9	1.4	1.2	0.7	0.8	1.0	0.8	0.6	1.1	1.9
88°	1.6	1.5	1.1	1.0	0.8	0.8	0.8	0.7	0.3	0.9	1.2
88.5°	1.2	1.1	0.7	0.7	0.2	0.6	0.7	0.1	0.0	0.2	0.7
89°	0.9	0.8	0.5	0.6	0.0	0.2	0.2	0.0	0.0	0.0	0.6
89.5°	0.6	0.6	0.3	0.3	0.1	0.0	0.2	0.0	0.0	0.0	0.2



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.4	0.3	0.3	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.2
90.5°	0.2	0.2	0.2	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0
91°	0.0	0.2	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0
91.5°	0.0	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0
92°	0.0	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0
92.5°	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93°	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
93.5°	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
94°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94.5°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
109°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
109.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
111°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
111.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
116°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
116.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
118°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
118.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
121°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
121.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
126°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
126.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
129°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
129.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
131°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
131.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
133°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
133.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
134°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
134.5°	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
135°	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
135.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
136°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
136.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
138°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
138.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
139°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
139.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
141°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
141.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
143°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
143.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
144°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
144.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
146°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
146.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
148°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
148.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
149°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
149.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
151°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
151.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
153°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
153.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
154°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
154.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
156°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
156.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
158°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
158.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
159°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
159.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
163°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
163.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
164°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
164.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
168°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
168.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
169°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
169.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
171°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
171.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
173°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
173.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
174°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
174.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
176°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
176.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
178°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
178.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
CATALOG NUMBER: HFL4001S/HFL4002S-927

**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



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	137.9	137.9	137.9	137.9	137.9	137.9
0.5°	138.0	137.8	137.9	137.7	137.4	138.4
1°	138.0	137.8	137.9	137.7	137.7	138.3
1.5°	138.0	137.8	137.9	137.7	137.6	138.3
2°	138.0	137.8	137.9	137.7	137.8	138.2
2.5°	138.0	137.8	137.9	137.7	138.2	138.2
3°	138.0	137.8	137.9	137.7	138.2	138.1
3.5°	138.0	137.8	137.9	137.6	138.2	137.9
4°	138.0	137.8	137.9	137.6	138.2	137.8
4.5°	138.0	137.8	138.0	137.6	138.3	137.6
5°	138.0	137.8	137.9	137.6	138.3	137.2
5.5°	138.0	137.8	138.1	137.6	138.3	136.9
6°	137.5	137.8	138.1	137.6	138.3	136.6
6.5°	136.9	137.6	137.9	137.7	138.3	136.4
7°	136.8	137.7	137.7	137.4	138.3	136.3
7.5°	136.8	137.4	137.7	137.4	138.3	136.1
8°	136.8	137.1	137.4	137.4	138.2	136.0
8.5°	136.7	137.0	137.4	137.4	137.9	135.6
9°	136.8	136.9	137.3	137.4	137.5	135.6
9.5°	136.8	136.6	137.3	137.5	137.2	135.6
10°	136.4	136.6	137.3	137.5	137.0	135.6
10.5°	135.8	136.6	137.0	137.3	136.7	135.2
11°	135.5	136.3	136.9	137.2	136.7	135.2
11.5°	135.4	136.1	136.6	137.2	136.2	134.9
12°	135.2	135.8	136.2	136.6	136.2	134.7
12.5°	134.7	135.5	136.0	136.4	135.9	134.4
13°	134.4	135.3	135.6	136.2	135.5	134.3
13.5°	134.2	135.1	135.4	135.9	135.2	134.2
14°	134.1	134.7	135.2	135.5	134.7	133.8
14.5°	134.0	134.5	134.8	134.9	134.2	133.4
15°	133.9	134.2	134.5	134.8	133.9	133.0
15.5°	133.4	133.7	134.0	134.7	133.5	132.7
16°	133.1	133.7	133.8	134.3	133.1	132.5
16.5°	133.0	133.4	133.6	133.8	132.9	132.0
17°	132.7	132.8	133.2	133.6	132.8	131.8
17.5°	132.1	132.3	132.8	133.1	132.4	131.3
18°	131.5	131.8	132.6	132.6	132.4	130.9
18.5°	131.4	131.5	132.4	132.6	132.0	130.4
19°	130.8	131.1	132.2	132.0	131.8	129.8
19.5°	130.4	130.6	131.9	131.8	131.5	129.2
20°	130.4	130.2	131.4	131.3	131.2	128.8
20.5°	129.3	129.6	131.1	130.8	130.6	128.3
21°	128.9	129.3	130.3	130.2	130.0	128.1
21.5°	128.7	128.8	129.8	129.8	129.4	127.6
22°	128.1	128.4	129.3	129.4	128.9	127.3



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	127.6	128.0	128.7	129.1	128.7	127.0
23°	127.2	127.4	128.0	128.4	128.2	126.7
23.5°	126.5	126.7	127.4	128.2	127.5	126.2
24°	126.2	126.1	126.6	127.5	126.7	125.8
24.5°	125.5	125.7	126.1	126.9	126.3	125.3
25°	124.9	125.1	125.7	126.3	125.9	124.8
25.5°	124.4	124.5	124.9	125.8	125.2	123.9
26°	123.9	124.1	124.9	125.2	124.7	123.5
26.5°	123.6	123.5	124.2	124.9	124.0	122.8
27°	122.8	122.9	123.9	124.3	123.3	122.0
27.5°	122.3	122.6	123.2	123.9	122.8	121.5
28°	121.4	121.8	122.5	122.8	122.0	120.8
28.5°	121.0	121.1	121.9	122.3	121.3	119.8
29°	120.0	120.4	121.5	121.6	120.6	119.3
29.5°	119.3	119.7	120.7	121.2	119.9	118.7
30°	118.7	119.1	119.7	120.2	119.3	118.3
30.5°	118.3	118.2	119.0	119.6	118.7	117.6
31°	117.4	117.5	118.4	118.8	118.2	117.0
31.5°	117.0	116.7	117.9	118.1	117.5	116.4
32°	116.3	115.8	117.2	117.5	116.8	115.7
32.5°	115.6	115.1	116.6	117.2	116.4	114.8
33°	114.7	114.2	115.9	116.3	115.9	114.0
33.5°	114.3	113.4	115.2	115.7	115.2	112.9
34°	113.5	112.9	114.6	115.1	114.4	112.2
34.5°	112.8	112.0	114.0	114.3	113.8	111.6
35°	111.9	111.4	113.3	113.5	113.0	110.9
35.5°	111.1	110.7	112.6	112.7	112.4	110.3
36°	110.5	110.1	111.8	112.0	111.6	109.5
36.5°	109.8	109.3	110.9	111.5	111.0	108.7
37°	109.3	108.5	110.4	110.7	110.0	108.0
37.5°	108.3	107.9	109.5	109.8	109.1	107.5
38°	107.5	107.2	108.8	109.2	108.2	106.5
38.5°	106.7	106.1	107.9	108.5	107.2	105.5
39°	105.9	105.5	107.0	107.7	106.4	104.5
39.5°	105.2	104.8	106.2	106.6	105.6	103.7
40°	104.3	104.0	105.3	105.7	104.8	102.6
40.5°	103.3	103.2	104.4	104.9	104.0	101.8
41°	102.4	102.3	103.4	104.2	103.1	101.0
41.5°	101.8	101.6	102.5	103.3	102.3	100.2
42°	101.4	100.7	101.4	102.3	101.5	99.5
42.5°	100.2	99.8	100.6	101.4	100.7	98.6
43°	99.1	99.2	99.6	100.5	99.9	97.6
43.5°	98.3	98.1	98.8	99.5	98.9	96.9
44°	97.5	97.2	97.9	98.8	97.9	96.0
44.5°	96.5	96.3	97.0	97.8	97.1	95.2



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	95.8	95.4	96.1	97.0	96.3	94.1
45.5°	95.0	94.7	95.3	96.1	95.3	93.0
46°	94.1	93.8	94.5	95.4	94.3	92.2
46.5°	93.0	92.8	93.4	94.2	93.4	91.4
47°	91.9	91.7	92.2	93.4	92.2	90.6
47.5°	91.3	90.6	91.3	92.4	91.2	89.7
48°	89.7	89.9	90.3	91.3	90.1	88.6
48.5°	88.7	88.7	89.3	90.1	89.0	87.4
49°	87.5	87.8	88.3	88.8	87.9	86.2
49.5°	86.4	86.9	87.5	87.8	87.0	85.2
50°	85.6	85.8	86.7	86.5	85.7	84.1
50.5°	84.6	84.8	85.6	85.6	84.8	83.4
51°	83.6	83.7	84.3	84.6	83.8	82.3
51.5°	82.5	82.6	83.6	83.6	82.9	81.6
52°	81.4	81.8	82.5	82.8	81.8	80.2
52.5°	80.2	80.5	81.7	81.5	80.6	79.0
53°	78.9	79.5	80.2	80.3	79.3	78.0
53.5°	77.7	78.3	79.1	79.3	78.1	76.9
54°	76.7	77.4	77.9	78.3	76.8	75.6
54.5°	75.7	76.2	76.7	77.0	75.6	74.4
55°	74.4	75.0	75.6	75.9	74.7	73.1
55.5°	73.3	74.2	74.7	74.9	74.0	72.1
56°	72.2	72.7	73.3	73.8	73.0	71.0
56.5°	71.1	71.7	72.0	72.8	71.8	69.9
57°	70.0	70.4	70.9	71.1	70.4	68.9
57.5°	68.9	69.3	69.7	70.0	69.2	67.8
58°	68.1	68.1	68.8	68.8	68.0	66.8
58.5°	66.8	67.1	67.5	67.8	66.8	65.5
59°	65.5	65.8	66.3	66.5	65.5	64.2
59.5°	64.3	64.6	65.2	65.3	64.3	62.8
60°	63.0	63.3	64.0	63.9	63.0	61.6
60.5°	61.6	62.1	62.9	62.7	61.7	60.5
61°	60.5	61.0	62.0	61.8	60.6	59.2
61.5°	59.1	59.8	60.8	60.6	59.4	58.0
62°	58.0	58.6	59.5	59.2	58.2	56.9
62.5°	56.8	57.7	58.4	58.0	57.1	55.9
63°	55.6	56.3	57.0	56.6	55.9	54.5
63.5°	54.6	55.1	55.8	55.3	54.7	53.2
64°	53.4	53.8	54.5	54.2	53.4	52.0
64.5°	52.2	52.6	53.2	53.0	52.0	50.8
65°	51.0	51.4	52.0	51.9	50.7	49.5
65.5°	49.6	50.1	50.8	50.5	49.5	48.2
66°	48.2	48.9	49.5	49.2	48.2	47.1
66.5°	46.9	47.5	48.2	48.0	46.9	45.7
67°	45.3	46.3	46.8	46.8	45.4	44.4



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	44.0	44.9	45.6	45.5	43.8	43.1
68°	42.6	43.7	44.2	44.2	42.6	41.7
68.5°	41.4	42.3	42.9	43.0	41.4	40.4
69°	40.2	41.1	41.7	41.8	40.1	39.0
69.5°	39.2	40.0	40.5	40.6	38.8	37.6
70°	37.8	38.6	39.0	39.3	37.5	36.3
70.5°	36.7	37.3	37.7	38.0	36.2	35.1
71°	35.4	36.2	36.5	36.8	34.9	33.9
71.5°	34.2	34.8	35.2	35.2	33.7	32.5
72°	32.9	33.5	33.9	34.1	32.5	31.2
72.5°	31.6	32.2	32.7	32.8	31.3	30.0
73°	30.4	31.1	31.4	31.4	30.1	28.8
73.5°	29.0	29.7	30.1	30.1	28.9	27.8
74°	27.9	28.5	28.9	28.9	27.9	26.6
74.5°	26.8	27.5	27.8	27.8	26.7	25.4
75°	25.6	26.3	26.6	26.5	25.5	24.2
75.5°	24.4	25.1	25.4	25.4	24.4	23.0
76°	23.2	23.8	24.1	24.2	23.3	22.0
76.5°	22.0	22.8	23.0	23.1	22.1	20.9
77°	20.9	21.6	21.8	21.8	21.0	19.8
77.5°	19.9	20.6	20.7	20.7	19.9	18.6
78°	18.9	19.4	19.6	19.6	18.9	17.5
78.5°	17.6	18.3	18.4	18.5	17.8	16.5
79°	16.5	17.1	17.3	17.5	16.7	15.5
79.5°	15.5	16.1	16.3	16.4	15.6	14.5
80°	14.5	15.1	15.3	15.3	14.6	13.3
80.5°	13.5	14.0	14.4	14.3	13.6	12.4
81°	12.4	13.1	13.4	13.3	12.7	11.4
81.5°	11.5	12.1	12.5	12.4	11.6	10.5
82°	10.5	11.1	11.5	11.5	10.7	9.7
82.5°	9.7	10.3	10.7	10.7	9.8	8.9
83°	8.8	9.3	9.8	9.8	8.9	7.9
83.5°	8.2	8.5	9.0	8.8	8.1	7.1
84°	7.1	7.8	8.1	8.0	7.3	6.3
84.5°	6.3	6.9	7.3	7.4	6.7	5.6
85°	6.0	6.1	6.6	6.8	5.8	4.9
85.5°	5.0	5.5	5.9	5.9	5.1	4.2
86°	4.5	4.8	5.2	5.2	4.4	3.6
86.5°	3.6	4.1	4.5	4.5	3.8	3.0
87°	3.1	3.5	3.9	3.8	3.2	2.5
87.5°	2.3	2.9	3.3	3.3	2.8	2.1
88°	1.9	2.4	2.8	2.7	2.3	1.6
88.5°	1.1	1.9	2.2	2.3	1.9	1.2
89°	1.1	1.5	1.8	1.8	1.5	0.9
89.5°	0.6	1.1	1.5	1.5	1.1	0.6



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.1	1.0	1.1	1.1	0.8	0.4
90.5°	0.1	0.7	0.8	0.8	0.6	0.2
91°	0.0	0.6	0.6	0.6	0.4	0.0
91.5°	0.0	0.3	0.5	0.3	0.2	0.0
92°	0.0	0.2	0.4	0.2	0.2	0.0
92.5°	0.0	0.2	0.3	0.2	0.2	0.0
93°	0.0	0.2	0.2	0.1	0.0	0.0
93.5°	0.0	0.1	0.2	0.1	0.0	0.0
94°	0.0	0.1	0.1	0.1	0.1	0.0
94.5°	0.0	0.1	0.1	0.0	0.0	0.0
95°	0.0	0.1	0.1	0.0	0.0	0.0
95.5°	0.0	0.0	0.1	0.0	0.0	0.0
96°	0.0	0.0	0.1	0.0	0.0	0.0
96.5°	0.0	0.0	0.1	0.0	0.0	0.0
97°	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0
98°	0.0	0.0	0.0	0.0	0.0	0.0
98.5°	0.0	0.0	0.0	0.0	0.0	0.0
99°	0.0	0.0	0.0	0.0	0.0	0.0
99.5°	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.1	0.0	0.0	0.0
100.5°	0.0	0.0	0.1	0.0	0.0	0.0
101°	0.0	0.0	0.0	0.0	0.0	0.0
101.5°	0.0	0.0	0.0	0.0	0.0	0.0
102°	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0
103°	0.0	0.0	0.0	0.0	0.0	0.0
103.5°	0.0	0.0	0.0	0.0	0.0	0.0
104°	0.0	0.0	0.0	0.0	0.0	0.0
104.5°	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0
105.5°	0.0	0.0	0.0	0.0	0.0	0.0
106°	0.0	0.0	0.0	0.0	0.0	0.0
106.5°	0.0	0.0	0.0	0.0	0.0	0.0
107°	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0
108°	0.0	0.0	0.0	0.0	0.0	0.0
108.5°	0.0	0.0	0.0	0.0	0.0	0.0
109°	0.0	0.0	0.0	0.0	0.0	0.0
109.5°	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0
110.5°	0.0	0.0	0.0	0.0	0.0	0.0
111°	0.0	0.0	0.0	0.0	0.0	0.0
111.5°	0.0	0.0	0.0	0.0	0.0	0.0
112°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0
113°	0.0	0.0	0.0	0.0	0.0	0.0
113.5°	0.0	0.0	0.0	0.0	0.0	0.0
114°	0.0	0.0	0.0	0.0	0.0	0.0
114.5°	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0
115.5°	0.0	0.0	0.0	0.0	0.0	0.0
116°	0.0	0.0	0.0	0.0	0.0	0.0
116.5°	0.0	0.0	0.0	0.0	0.0	0.0
117°	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0
118°	0.0	0.0	0.0	0.0	0.0	0.0
118.5°	0.0	0.0	0.0	0.0	0.0	0.0
119°	0.0	0.0	0.0	0.0	0.0	0.0
119.5°	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0
120.5°	0.0	0.0	0.0	0.0	0.0	0.0
121°	0.0	0.0	0.0	0.0	0.0	0.0
121.5°	0.0	0.0	0.0	0.0	0.0	0.0
122°	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0
123°	0.0	0.0	0.0	0.0	0.0	0.0
123.5°	0.0	0.0	0.0	0.0	0.0	0.0
124°	0.0	0.0	0.0	0.0	0.0	0.0
124.5°	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0
125.5°	0.0	0.0	0.0	0.0	0.0	0.0
126°	0.0	0.0	0.0	0.0	0.0	0.0
126.5°	0.0	0.0	0.0	0.0	0.0	0.0
127°	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0
128°	0.0	0.0	0.0	0.0	0.0	0.0
128.5°	0.0	0.0	0.0	0.0	0.0	0.0
129°	0.0	0.0	0.0	0.0	0.0	0.0
129.5°	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0
130.5°	0.0	0.0	0.0	0.0	0.0	0.0
131°	0.0	0.0	0.0	0.0	0.0	0.0
131.5°	0.0	0.0	0.0	0.0	0.0	0.0
132°	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0
133°	0.0	0.0	0.0	0.0	0.0	0.0
133.5°	0.0	0.0	0.0	0.0	0.0	0.0
134°	0.0	0.0	0.0	0.0	0.0	0.0
134.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
135°	0.0	0.0	0.0	0.0	0.0	0.0
135.5°	0.0	0.0	0.0	0.0	0.0	0.0
136°	0.0	0.0	0.0	0.0	0.0	0.0
136.5°	0.0	0.0	0.0	0.0	0.0	0.0
137°	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0
138°	0.0	0.0	0.0	0.0	0.0	0.0
138.5°	0.0	0.0	0.0	0.0	0.0	0.0
139°	0.0	0.0	0.0	0.0	0.0	0.0
139.5°	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0
140.5°	0.0	0.0	0.0	0.0	0.0	0.0
141°	0.0	0.0	0.0	0.0	0.0	0.0
141.5°	0.0	0.0	0.0	0.0	0.0	0.0
142°	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0
143°	0.0	0.0	0.0	0.0	0.0	0.0
143.5°	0.0	0.0	0.0	0.0	0.0	0.0
144°	0.0	0.0	0.0	0.0	0.0	0.0
144.5°	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0
145.5°	0.0	0.0	0.0	0.0	0.0	0.0
146°	0.0	0.0	0.0	0.0	0.0	0.0
146.5°	0.0	0.0	0.0	0.0	0.0	0.0
147°	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0
148°	0.0	0.0	0.0	0.0	0.0	0.0
148.5°	0.0	0.0	0.0	0.0	0.0	0.0
149°	0.0	0.0	0.0	0.0	0.0	0.0
149.5°	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0
150.5°	0.0	0.0	0.0	0.0	0.0	0.0
151°	0.0	0.0	0.0	0.0	0.0	0.0
151.5°	0.0	0.0	0.0	0.0	0.0	0.0
152°	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0
153°	0.0	0.0	0.0	0.0	0.0	0.0
153.5°	0.0	0.0	0.0	0.0	0.0	0.0
154°	0.0	0.0	0.0	0.0	0.0	0.0
154.5°	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0
155.5°	0.0	0.0	0.0	0.0	0.0	0.0
156°	0.0	0.0	0.0	0.0	0.0	0.0
156.5°	0.0	0.0	0.0	0.0	0.0	0.0
157°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
CATALOG NUMBER: HFL4001S/HFL4002S-927

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
157.5°	0.0	0.0	0.0	0.0	0.0	0.0
158°	0.0	0.0	0.0	0.0	0.0	0.0
158.5°	0.0	0.0	0.0	0.0	0.0	0.0
159°	0.0	0.0	0.0	0.0	0.0	0.0
159.5°	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0
160.5°	0.0	0.0	0.0	0.0	0.0	0.0
161°	0.0	0.0	0.0	0.0	0.0	0.0
161.5°	0.0	0.0	0.0	0.0	0.0	0.0
162°	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0
163°	0.0	0.0	0.0	0.0	0.0	0.0
163.5°	0.0	0.0	0.0	0.0	0.0	0.0
164°	0.0	0.0	0.0	0.0	0.0	0.0
164.5°	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0
165.5°	0.0	0.0	0.0	0.0	0.0	0.0
166°	0.0	0.0	0.0	0.0	0.0	0.0
166.5°	0.0	0.0	0.0	0.0	0.0	0.0
167°	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0
168°	0.0	0.0	0.0	0.0	0.0	0.0
168.5°	0.0	0.0	0.0	0.0	0.0	0.0
169°	0.0	0.0	0.0	0.0	0.0	0.0
169.5°	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0
170.5°	0.0	0.0	0.0	0.0	0.0	0.0
171°	0.0	0.0	0.0	0.0	0.0	0.0
171.5°	0.0	0.0	0.0	0.0	0.0	0.0
172°	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0
173°	0.0	0.0	0.0	0.0	0.0	0.0
173.5°	0.0	0.0	0.0	0.0	0.0	0.0
174°	0.0	0.0	0.0	0.0	0.0	0.0
174.5°	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0
175.5°	0.0	0.0	0.0	0.0	0.0	0.0
176°	0.0	0.0	0.0	0.0	0.0	0.0
176.5°	0.0	0.0	0.0	0.0	0.0	0.0
177°	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0
178°	0.0	0.0	0.0	0.0	0.0	0.0
178.5°	0.0	0.0	0.0	0.0	0.0	0.0
179°	0.0	0.0	0.0	0.0	0.0	0.0
179.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214540  
CATALOG NUMBER: HFL4001S/HFL4002S-927

**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



TEST NUMBER: P1214540  
 CATALOG NUMBER: HFL4001S/HFL4002S-927

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room Dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	25.6	27.2	26.0	27.5	27.9	25.2	26.9	25.6	27.2	27.5
	3H	27.3	28.8	27.7	29.1	29.4	26.8	28.3	27.2	28.6	29.0
	4H	27.9	29.2	28.3	29.6	30.0	27.4	28.8	27.8	29.1	29.5
	6H	28.2	29.5	28.6	29.9	30.3	27.7	29.0	28.1	29.3	29.7
	8H	28.3	29.6	28.8	30.0	30.4	27.7	29.0	28.2	29.4	29.8
	12H	28.4	29.6	28.8	29.9	30.4	27.8	28.9	28.2	29.3	29.8
4H	2H	26.2	27.6	26.6	28.0	28.3	25.9	27.2	26.3	27.6	28.0
	3H	28.1	29.3	28.5	29.7	30.1	27.7	28.8	28.1	29.2	29.6
	4H	28.8	29.9	29.2	30.3	30.7	28.3	29.3	28.7	29.8	30.2
	6H	29.3	30.2	29.8	30.7	31.1	28.7	29.6	29.2	30.1	30.5
	8H	29.4	30.3	29.9	30.7	31.2	28.8	29.7	29.3	30.1	30.6
	12H	29.5	30.3	30.0	30.8	31.2	28.8	29.6	29.3	30.1	30.6
8H	4H	29.1	29.9	29.5	30.4	30.8	28.5	29.4	29.0	29.8	30.3
	6H	29.7	30.4	30.2	30.9	31.3	29.0	29.7	29.5	30.2	30.7
	8H	29.9	30.5	30.4	31.0	31.5	29.2	29.8	29.7	30.3	30.8
	12H	30.0	30.6	30.5	31.1	31.6	29.2	29.8	29.8	30.3	30.9
12H	4H	29.1	29.9	29.6	30.3	30.8	28.6	29.3	29.0	29.8	30.3
	6H	29.7	30.4	30.2	30.8	31.4	29.1	29.7	29.6	30.2	30.7
	8H	29.9	30.5	30.5	31.0	31.6	29.2	29.8	29.7	30.3	30.9

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Halo Track & Surface

Report Number: SP1-2509-560-1

Test Date: 10/10/2025

Luminaire Tested: HFLESD4-HFL4001S-HFLP60A-927

Data in this report applies to families of products including HFLESD4-HFL4001S-HFLP60A\*

The results of this test have not been influenced by sources from within Eaton or from external interests.

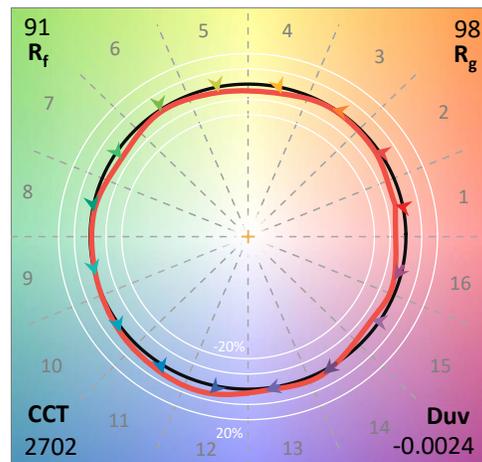
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2509-560-1  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/20/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Halo Track & Surface  
 Catalog Number: **HFLESD4-HFL4001S-HFLP60A-927**  
 Description: HALO FLEX LINEAR 4 SURFACE MOUNT DEEP 400LM/FT 60W UNV

**Spectral Parameters**

CCT (K): 2702  
 CIE u': 0.2631  
 CIE v': 0.5238  
 Duv: -0.0024  
 CIE x: 0.4555  
 CIE y: 0.4031  
 CIE z: 0.1414  
 Peak Wavelength (nm): 621  
 Dominant Wavelength (nm): 585  
 Purity: 57.7  
 R<sub>f</sub>: 91.1  
 R<sub>g</sub>: 97.7

CRI (Ra):	93.3		
R1:	96.6	R9:	65.7
R2:	98.5	R10:	97.9
R3:	95.1	R11:	96.8
R4:	94.2	R12:	84.4
R5:	96.8	R13:	98.5
R6:	93.9	R14:	98.3
R7:	89.3	R15:	92.3
R8:	82.3		



**Test Conditions**

Stabilization Time: 50M  
 Operation Time: 1H 50M  
 Sphere Temperature (°C): 25.3

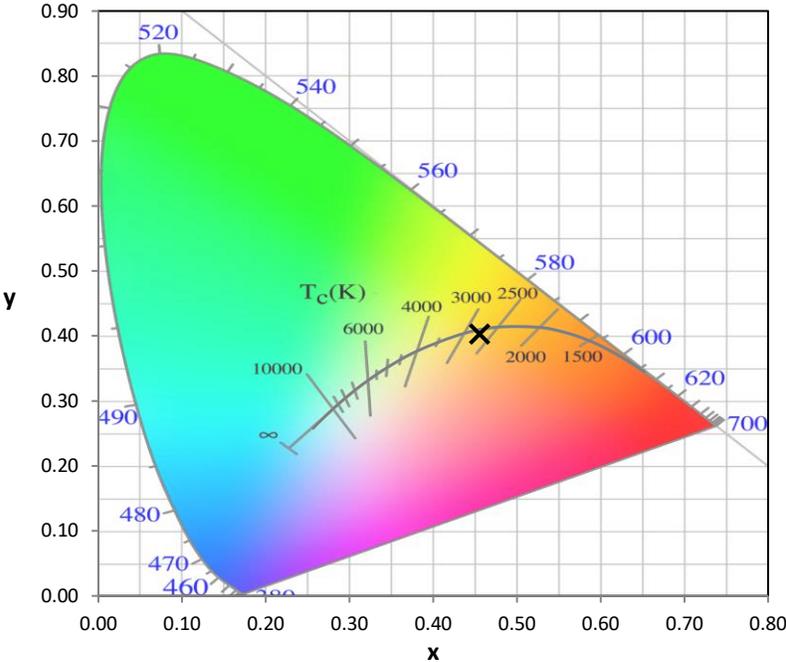
REPORT NUMBER: SP1-2509-560-1

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208	10/22/2024	10/22/2025
Sphere Thermometer	ONSET IN0085	10/22/2024	10/22/2025
Room Thermometer	ONSET IN0046	10/22/2024	10/22/2025

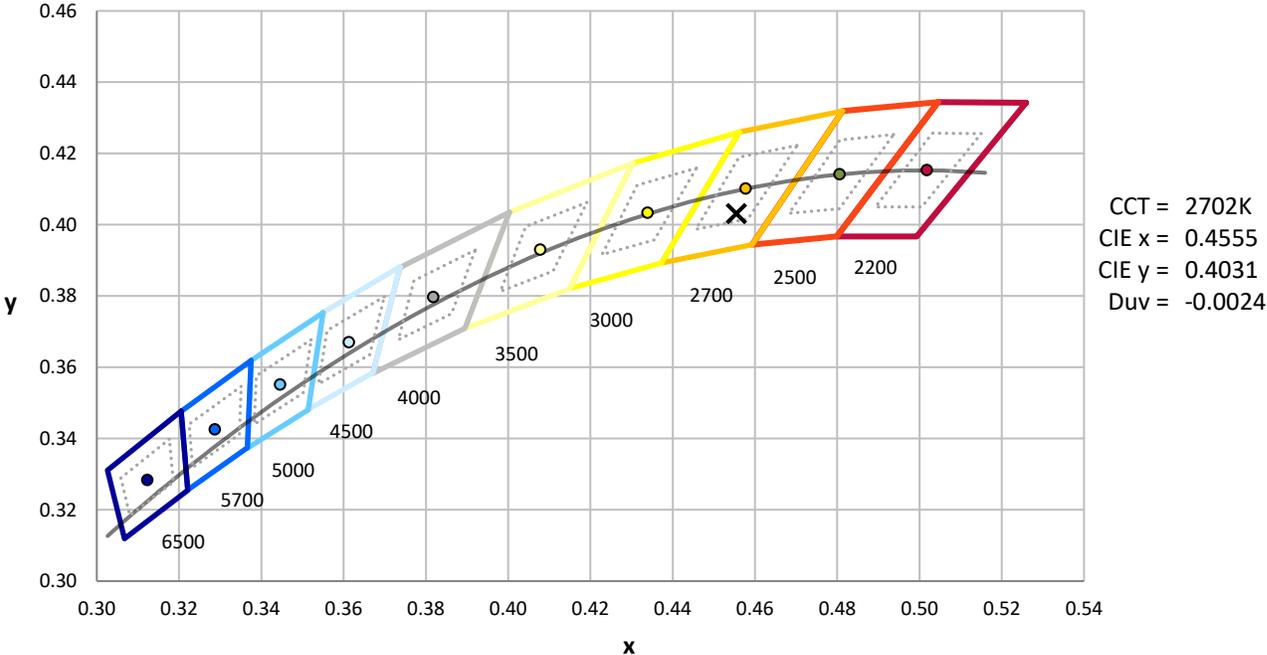
Sample Number	Condition	Description
P2509-560-LM.4	Good	EX LINEAR 4' SURFACE MOUNT DEEP, 400LM/FT 6

REPORT NUMBER: SP1-2509-560-1

CIE 1931 Chromaticity Diagram



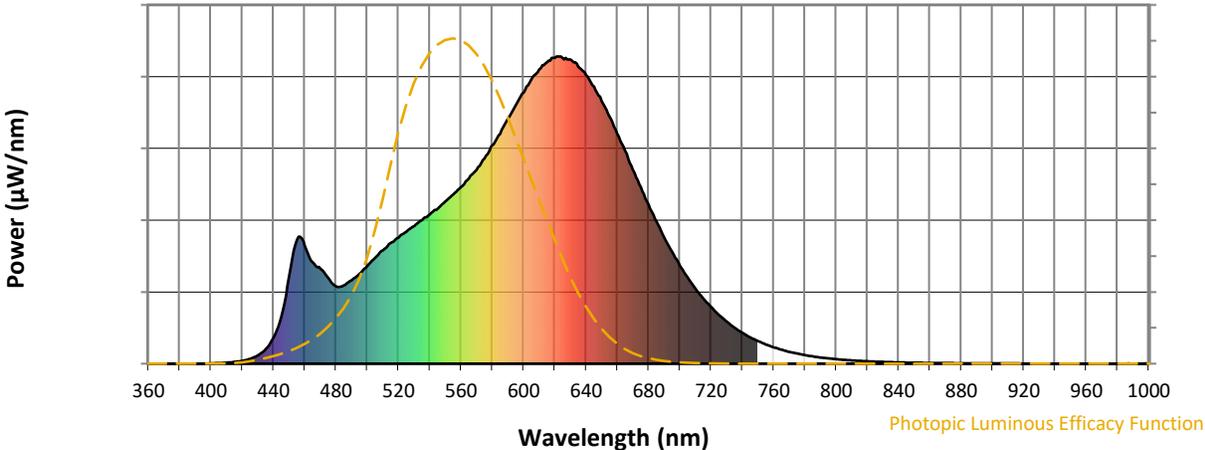
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2509-560-1

**Photopic Flux vs. Wavelength**

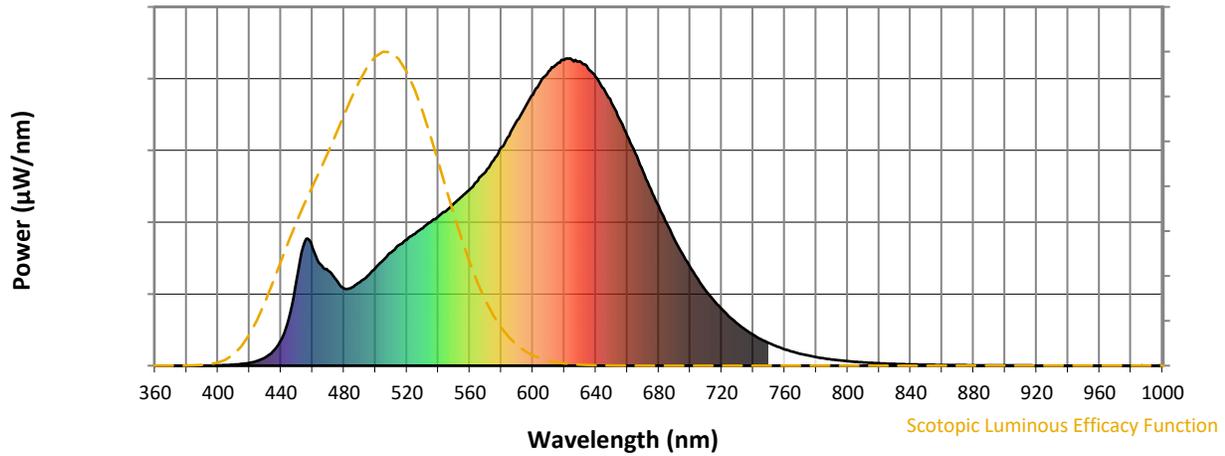


**Photopic Lumens: NR**

$\lambda$ (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	271	NR	620	995	NR	750	73	NR	880	1	NR
365	0	NR	495	292	NR	625	995	NR	755	63	NR	885	1	NR
370	0	NR	500	318	NR	630	991	NR	760	53	NR	890	1	NR
375	0	NR	505	344	NR	635	967	NR	765	46	NR	895	1	NR
380	0	NR	510	369	NR	640	939	NR	770	39	NR	900	1	NR
385	0	NR	515	393	NR	645	902	NR	775	33	NR	905	1	NR
390	0	NR	520	411	NR	650	855	NR	780	28	NR	910	1	NR
395	0	NR	525	429	NR	655	804	NR	785	24	NR	915	1	NR
400	1	NR	530	448	NR	660	748	NR	790	20	NR	920	1	NR
405	2	NR	535	467	NR	665	692	NR	795	17	NR	925	1	NR
410	3	NR	540	486	NR	670	631	NR	800	15	NR	930	0	NR
415	6	NR	545	505	NR	675	575	NR	805	12	NR	935	1	NR
420	10	NR	550	528	NR	680	519	NR	810	11	NR	940	0	NR
425	16	NR	555	551	NR	685	463	NR	815	9	NR	945	0	NR
430	27	NR	560	575	NR	690	412	NR	820	8	NR	950	0	NR
435	47	NR	565	603	NR	695	364	NR	825	7	NR	955	0	NR
440	84	NR	570	631	NR	700	320	NR	830	6	NR	960	0	NR
445	153	NR	575	668	NR	705	280	NR	835	5	NR	965	0	NR
450	283	NR	580	710	NR	710	244	NR	840	4	NR	970	0	NR
455	403	NR	585	748	NR	715	213	NR	845	4	NR	975	0	NR
460	386	NR	590	799	NR	720	184	NR	850	3	NR	980	0	NR
465	331	NR	595	841	NR	725	159	NR	855	3	NR	985	0	NR
470	308	NR	600	883	NR	730	137	NR	860	2	NR	990	1	NR
475	279	NR	605	925	NR	735	117	NR	865	2	NR	995	1	NR
480	251	NR	610	958	NR	740	100	NR	870	2	NR	1000	0	NR
485	255	NR	615	981	NR	745	86	NR	875	2	NR			

REPORT NUMBER: SP1-2509-560-1

**Scotopic Flux vs. Wavelength**



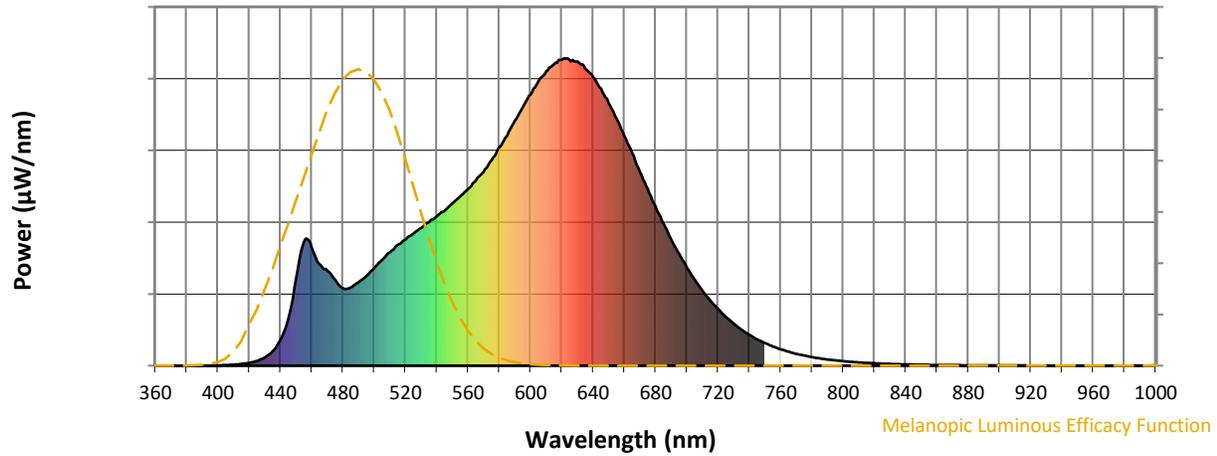
**Scotopic Lumens: NR**

**S/P: 1.36**

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	271	NR	620	995	NR	750	73	NR	880	1	NR
365	0	NR	495	292	NR	625	995	NR	755	63	NR	885	1	NR
370	0	NR	500	318	NR	630	991	NR	760	53	NR	890	1	NR
375	0	NR	505	344	NR	635	967	NR	765	46	NR	895	1	NR
380	0	NR	510	369	NR	640	939	NR	770	39	NR	900	1	NR
385	0	NR	515	393	NR	645	902	NR	775	33	NR	905	1	NR
390	0	NR	520	411	NR	650	855	NR	780	28	NR	910	1	NR
395	0	NR	525	429	NR	655	804	NR	785	24	NR	915	1	NR
400	1	NR	530	448	NR	660	748	NR	790	20	NR	920	1	NR
405	2	NR	535	467	NR	665	692	NR	795	17	NR	925	1	NR
410	3	NR	540	486	NR	670	631	NR	800	15	NR	930	0	NR
415	6	NR	545	505	NR	675	575	NR	805	12	NR	935	1	NR
420	10	NR	550	528	NR	680	519	NR	810	11	NR	940	0	NR
425	16	NR	555	551	NR	685	463	NR	815	9	NR	945	0	NR
430	27	NR	560	575	NR	690	412	NR	820	8	NR	950	0	NR
435	47	NR	565	603	NR	695	364	NR	825	7	NR	955	0	NR
440	84	NR	570	631	NR	700	320	NR	830	6	NR	960	0	NR
445	153	NR	575	668	NR	705	280	NR	835	5	NR	965	0	NR
450	283	NR	580	710	NR	710	244	NR	840	4	NR	970	0	NR
455	403	NR	585	748	NR	715	213	NR	845	4	NR	975	0	NR
460	386	NR	590	799	NR	720	184	NR	850	3	NR	980	0	NR
465	331	NR	595	841	NR	725	159	NR	855	3	NR	985	0	NR
470	308	NR	600	883	NR	730	137	NR	860	2	NR	990	1	NR
475	279	NR	605	925	NR	735	117	NR	865	2	NR	995	1	NR
480	251	NR	610	958	NR	740	100	NR	870	2	NR	1000	0	NR
485	255	NR	615	981	NR	745	86	NR	875	2	NR			

REPORT NUMBER: SP1-2509-560-1

**Melanopic Flux vs. Wavelength**



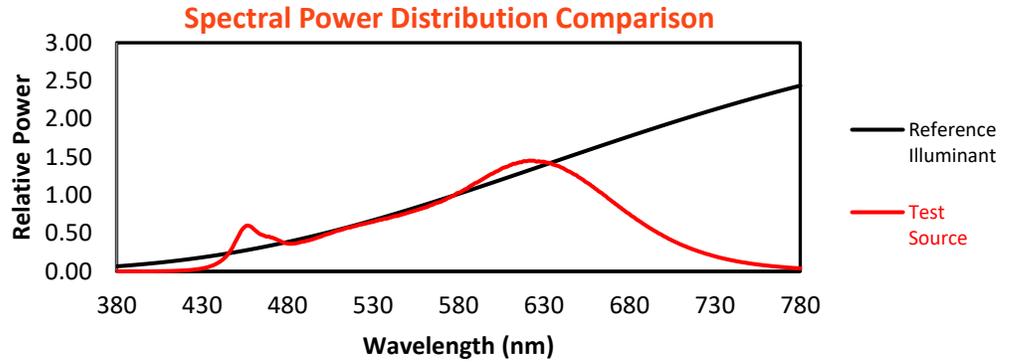
**Melanopic Lumens: NR**

**M/P: 2.67**

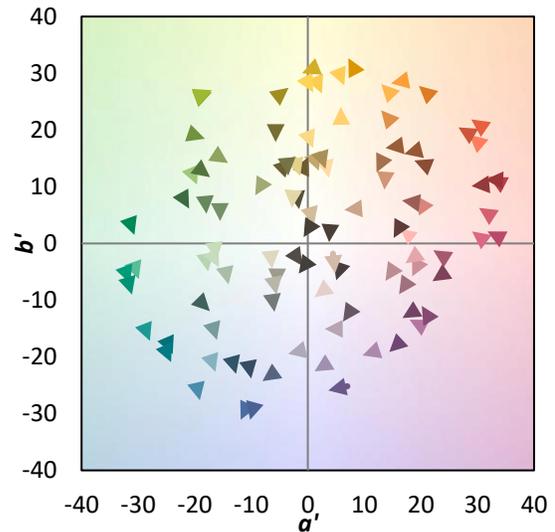
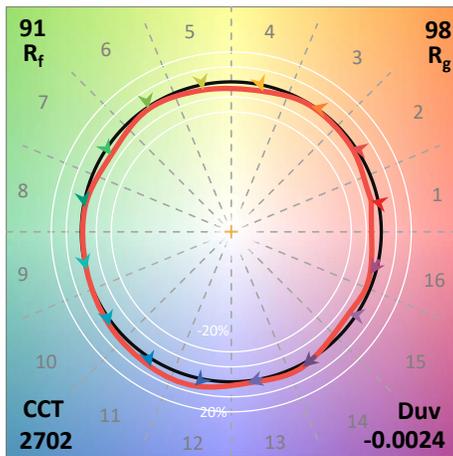
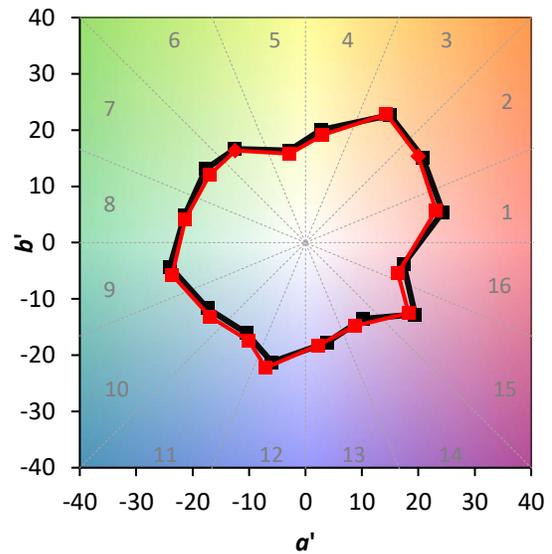
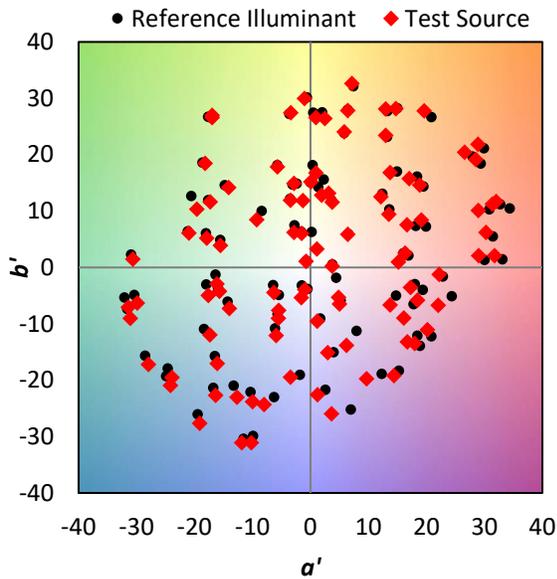
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	271	NR	620	995	NR	750	73	NR	880	1	NR
365	0	NR	495	292	NR	625	995	NR	755	63	NR	885	1	NR
370	0	NR	500	318	NR	630	991	NR	760	53	NR	890	1	NR
375	0	NR	505	344	NR	635	967	NR	765	46	NR	895	1	NR
380	0	NR	510	369	NR	640	939	NR	770	39	NR	900	1	NR
385	0	NR	515	393	NR	645	902	NR	775	33	NR	905	1	NR
390	0	NR	520	411	NR	650	855	NR	780	28	NR	910	1	NR
395	0	NR	525	429	NR	655	804	NR	785	24	NR	915	1	NR
400	1	NR	530	448	NR	660	748	NR	790	20	NR	920	1	NR
405	2	NR	535	467	NR	665	692	NR	795	17	NR	925	1	NR
410	3	NR	540	486	NR	670	631	NR	800	15	NR	930	0	NR
415	6	NR	545	505	NR	675	575	NR	805	12	NR	935	1	NR
420	10	NR	550	528	NR	680	519	NR	810	11	NR	940	0	NR
425	16	NR	555	551	NR	685	463	NR	815	9	NR	945	0	NR
430	27	NR	560	575	NR	690	412	NR	820	8	NR	950	0	NR
435	47	NR	565	603	NR	695	364	NR	825	7	NR	955	0	NR
440	84	NR	570	631	NR	700	320	NR	830	6	NR	960	0	NR
445	153	NR	575	668	NR	705	280	NR	835	5	NR	965	0	NR
450	283	NR	580	710	NR	710	244	NR	840	4	NR	970	0	NR
455	403	NR	585	748	NR	715	213	NR	845	4	NR	975	0	NR
460	386	NR	590	799	NR	720	184	NR	850	3	NR	980	0	NR
465	331	NR	595	841	NR	725	159	NR	855	3	NR	985	0	NR
470	308	NR	600	883	NR	730	137	NR	860	2	NR	990	1	NR
475	279	NR	605	925	NR	735	117	NR	865	2	NR	995	1	NR
480	251	NR	610	958	NR	740	100	NR	870	2	NR	1000	0	NR
485	255	NR	615	981	NR	745	86	NR	875	2	NR			

**Summary**

$R_f = 91.1$   
 $R_g = 97.7$   
 $CIE R_a = 93.3$   
 $R_9 = 65.7$

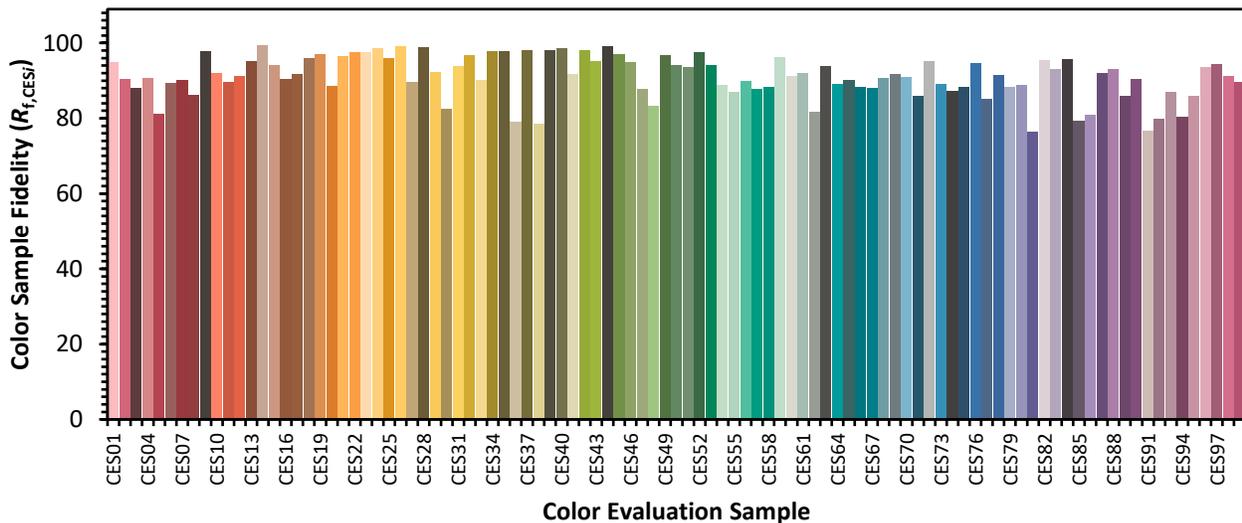


**Color Vector Graphics**

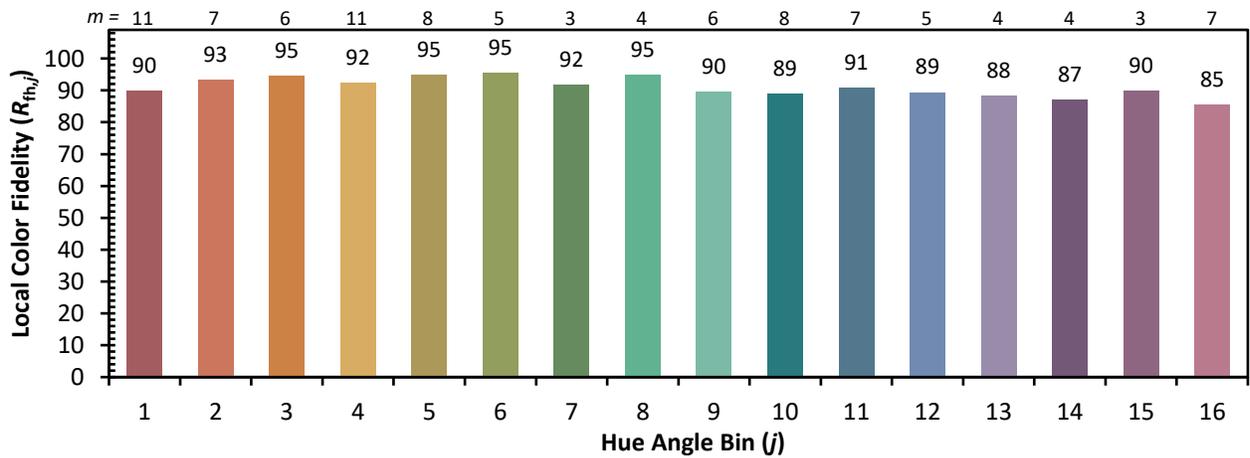
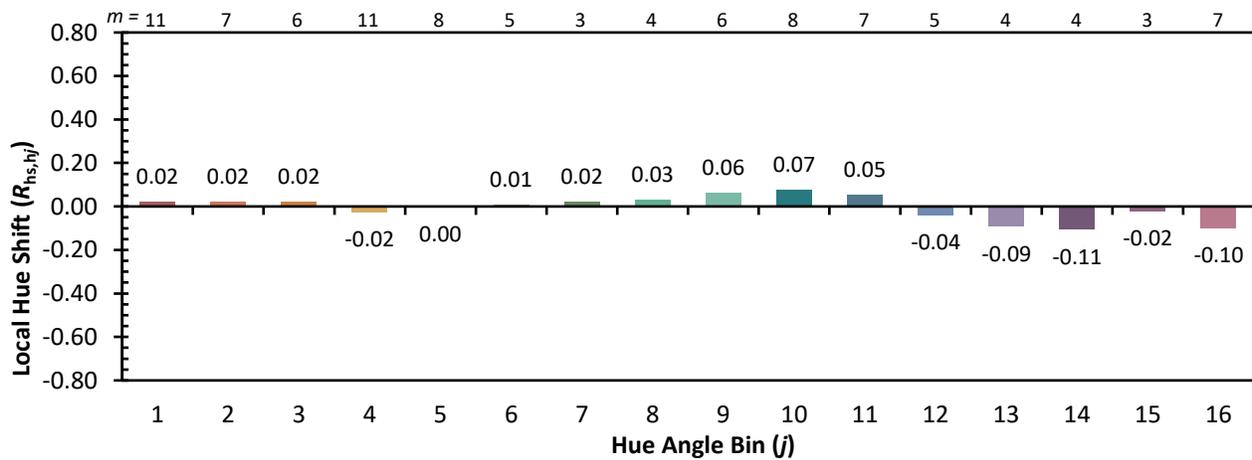
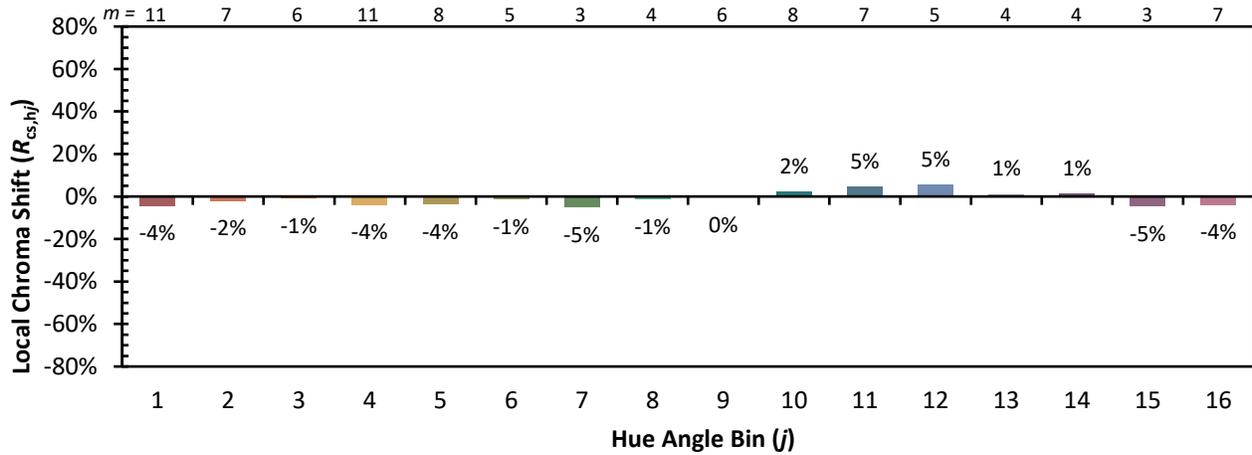


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

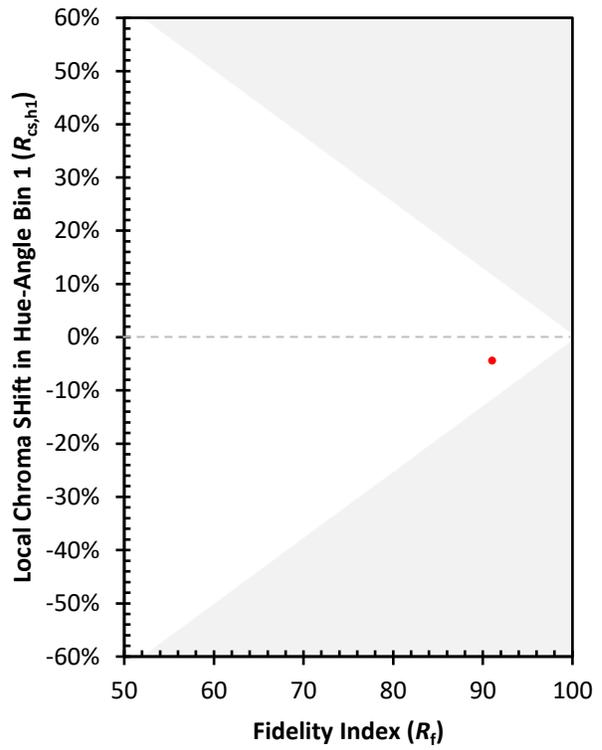
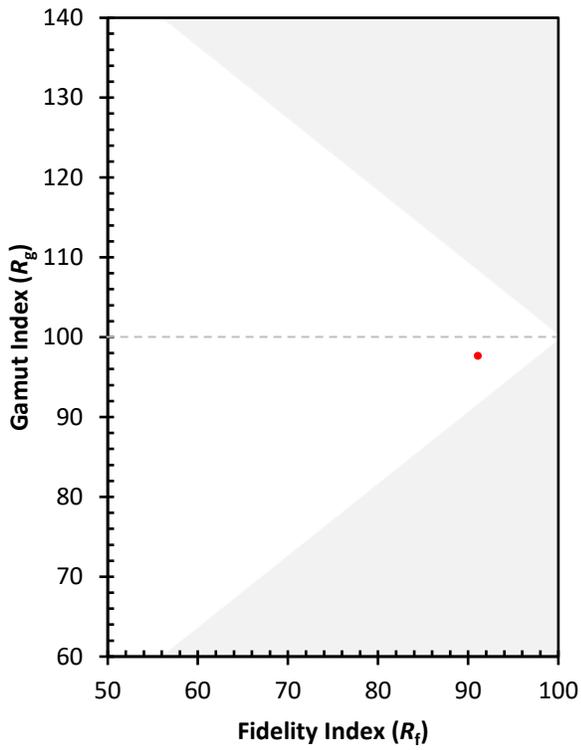
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CES02 = 64	CES27 = 90	CES52 = 98	CES77 = 85
CES03 = 32	CES28 = 99	CES53 = 94	CES78 = 91
CES04 = 71	CES29 = 92	CES54 = 89	CES79 = 88
CES05 = 51	CES30 = 82	CES55 = 87	CES80 = 89
CES06 = 52	CES31 = 94	CES56 = 90	CES81 = 76
CES07 = 44	CES32 = 97	CES57 = 88	CES82 = 95
CES08 = 43	CES33 = 90	CES58 = 88	CES83 = 93
CES09 = 29	CES34 = 98	CES59 = 96	CES84 = 96
CES10 = 77	CES35 = 98	CES60 = 91	CES85 = 79
CES11 = 60	CES36 = 79	CES61 = 92	CES86 = 81
CES12 = 66	CES37 = 98	CES62 = 82	CES87 = 92
CES13 = 44	CES38 = 79	CES63 = 94	CES88 = 93
CES14 = 74	CES39 = 98	CES64 = 89	CES89 = 86
CES15 = 72	CES40 = 99	CES65 = 90	CES90 = 91
CES16 = 48	CES41 = 92	CES66 = 88	CES91 = 77
CES17 = 50	CES42 = 98	CES67 = 88	CES92 = 80
CES18 = 57	CES43 = 95	CES68 = 91	CES93 = 87
CES19 = 72	CES44 = 99	CES69 = 92	CES94 = 80
CES20 = 68	CES45 = 97	CES70 = 91	CES95 = 86
CES21 = 87	CES46 = 95	CES71 = 86	CES96 = 93
CES22 = 79	CES47 = 88	CES72 = 95	CES97 = 94
CES23 = 92	CES48 = 83	CES73 = 89	CES98 = 91
CES24 = 91	CES49 = 97	CES74 = 87	CES99 = 90
CES25 = 72	CES50 = 94	CES75 = 88	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)