

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: P1214544

Luminaire Tested: HFL4001S/HFL4002S-950

Issue Date: 12/2/2025

Test Information

Test Method: LM-79-2019
Report Number: P1214544
Test Lab: THIRD PARTY NVLAP LAB
Issue Date: 12/2/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: HFL4001S/HFL4002S-950
Description: HALO FLEX LINEAR 400LM/FT 90 CRI COLOR SELECTABLE FIXTURE (ONE FOOT)
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

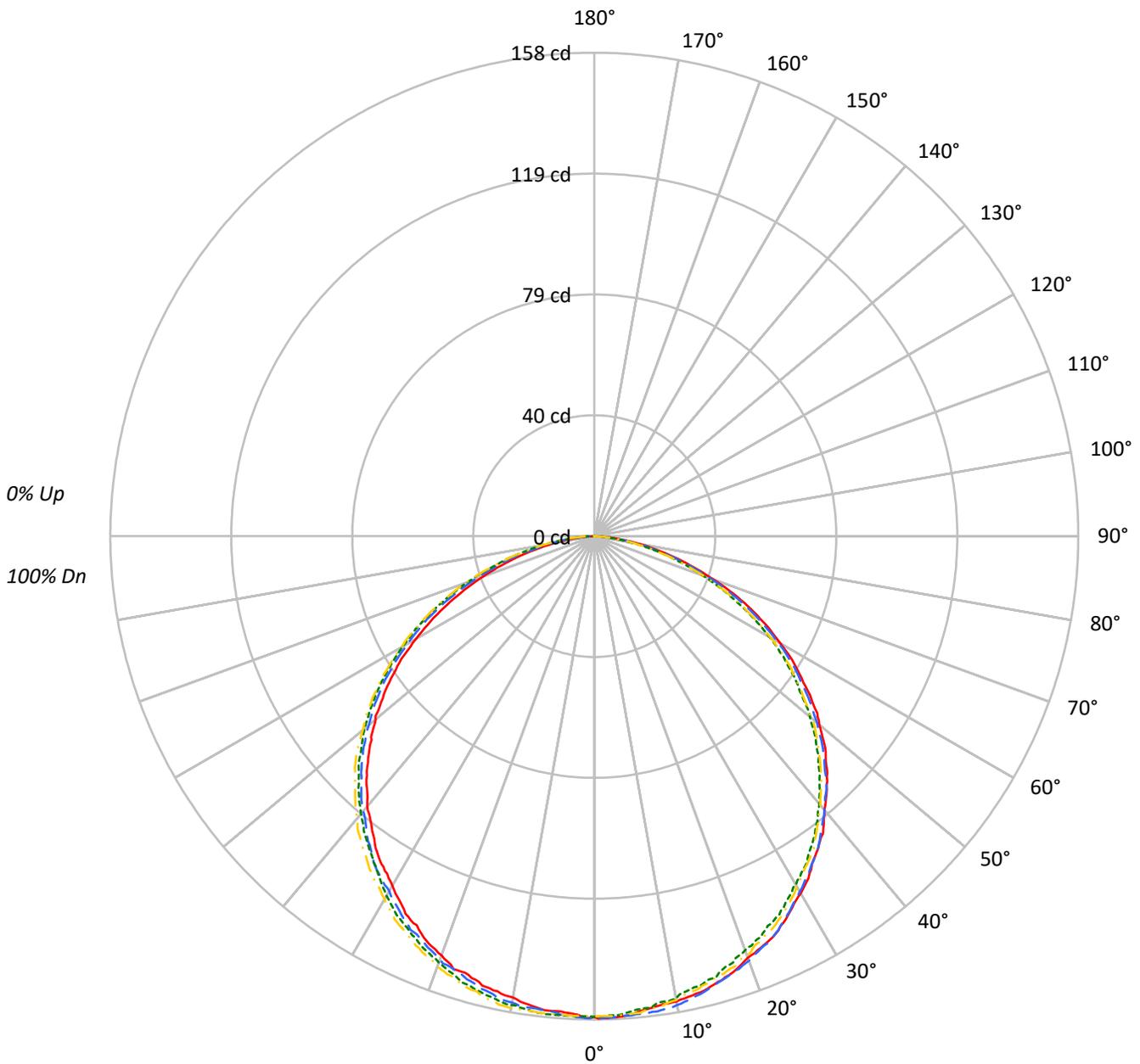
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 448.3 lumens
Efficiency: N/A
Efficacy: 99.6 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_{in}): 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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	56367	56367	56367	56367
5°	56330	55970	56114	56546
10°	56289	55925	55779	56690
15°	56312	55570	55755	56795
20°	56014	54983	55670	56663
25°	56295	54870	55266	56454
30°	55848	54564	54647	56221
35°	55365	54138	54532	55584
40°	54753	53582	54004	55503
45°	54446	52518	52974	55156
50°	53475	51298	52023	54591
55°	52108	49731	50669	53484
60°	50375	47433	48222	51810
65°	47883	44062	44996	49751
70°	43431	39654	40703	46158
75°	38261	33964	34934	41589
80°	31407	26035	27481	35746
85°	22642	17290	16055	28405

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 315°
 Vertical Angle: 89.5°
 Luminance: 74008 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.9	3.3
10°-20°	42.8	9.6
20°-30°	65.2	14.5
30°-40°	79.0	17.6
40°-50°	82.3	18.4
50°-60°	74.0	16.5
60°-70°	54.7	12.2
70°-80°	28.8	6.4
80°-90°	6.6	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°	122.9	27.4
0°-40°	201.9	45.0
0°-60°	358.1	79.9
0°-90°	448.2	100.0
90°-120°	0.1	0.0
90°-150°	0.1	0.0
90°-180°	0.0	0.0
0°-180°	448.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	157	157	157	157	157	
5°	156	155	156	157	156	15
15°	152	150	150	153	152	43
25°	142	139	140	143	142	65
35°	126	124	124	127	126	79
45°	107	104	104	109	107	83
55°	83	80	81	86	83	75
65°	56	52	53	59	56	56
75°	28	24	25	30	28	29
85°	6	4	4	7	6	7
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°	157.1	157.1	157.1	157.1	157.1	157.1	157.1	157.1	157.1	157.1	157.1
0.5°	157.7	157.1	157.5	157.3	157.0	157.2	156.9	156.5	157.5	157.1	157.6
1°	157.6	157.1	157.5	157.3	157.0	157.2	156.9	156.2	157.5	157.1	157.6
1.5°	157.6	157.1	157.5	157.4	156.8	157.3	156.9	156.2	157.0	157.1	157.4
2°	157.4	157.1	157.5	157.6	156.8	157.2	157.0	156.2	156.5	157.2	157.3
2.5°	157.5	157.1	157.4	157.4	156.7	157.1	157.0	156.1	156.3	157.2	157.3
3°	157.3	157.1	157.2	157.4	156.7	157.1	156.7	156.1	156.1	157.0	157.0
3.5°	157.2	157.1	157.1	157.4	156.4	156.0	156.8	156.1	156.0	157.0	156.9
4°	157.1	157.1	157.1	157.3	156.1	156.0	156.7	156.1	155.8	157.0	156.8
4.5°	156.8	157.1	157.1	157.3	155.8	156.0	156.6	156.1	155.8	157.0	156.3
5°	156.4	157.1	156.9	157.2	155.4	156.0	156.5	156.1	155.8	156.8	156.1
5.5°	156.0	157.2	156.9	157.2	155.3	155.9	156.5	156.1	155.8	156.6	156.0
6°	155.7	157.2	156.7	157.0	155.2	155.9	156.0	155.9	155.8	156.1	155.8
6.5°	155.5	156.8	156.8	156.8	155.2	155.9	155.8	155.7	155.5	156.1	155.8
7°	155.3	156.7	156.6	156.6	155.0	155.6	155.6	155.3	155.2	155.9	155.6
7.5°	155.0	156.5	156.7	156.6	154.2	155.6	155.3	155.3	154.9	155.7	155.6
8°	154.9	156.3	156.5	156.2	153.9	155.5	155.4	155.0	154.6	155.5	155.6
8.5°	154.6	156.0	156.3	156.0	153.8	155.5	154.9	154.9	154.3	155.6	155.6
9°	154.6	155.9	156.1	155.7	153.9	155.1	154.4	154.7	154.1	155.5	155.5
9.5°	154.5	155.8	156.0	155.6	153.7	154.5	154.1	154.8	153.5	155.0	155.0
10°	154.5	155.4	155.6	155.2	153.5	154.2	154.0	154.7	153.1	154.4	154.8
10.5°	154.1	155.0	155.4	155.1	152.4	154.0	153.5	154.6	153.0	154.2	154.7
11°	154.0	154.8	155.0	155.0	152.0	153.3	152.9	154.3	152.9	153.9	154.6
11.5°	153.7	154.3	154.8	154.6	151.7	152.9	152.5	153.8	152.6	153.7	154.1
12°	153.5	153.9	154.3	154.1	151.4	152.6	152.2	153.6	152.1	153.3	153.9
12.5°	153.2	153.7	153.9	153.7	151.0	152.2	152.1	153.1	152.1	152.9	153.3
13°	153.1	153.3	153.7	153.2	151.0	151.6	151.8	152.9	151.7	152.6	152.9
13.5°	152.9	152.9	153.3	152.9	150.7	151.3	151.1	152.4	151.5	152.6	152.6
14°	152.5	152.5	152.8	152.5	150.1	151.3	150.9	152.0	151.4	152.2	152.5
14.5°	152.0	152.2	152.3	152.3	149.6	151.3	150.7	151.6	150.5	151.9	151.8
15°	151.6	152.0	151.9	151.7	149.6	150.9	150.0	151.0	150.1	151.5	151.4
15.5°	151.2	151.6	151.4	151.3	149.4	150.2	149.5	150.4	149.9	151.3	151.0
16°	151.0	151.2	151.0	151.1	148.2	150.0	149.3	150.0	149.2	151.2	150.7
16.5°	150.4	150.8	150.6	150.6	147.7	149.7	149.1	149.4	148.8	150.9	150.1
17°	150.1	150.4	150.2	150.2	147.1	149.6	148.5	149.2	148.8	150.1	149.5
17.5°	149.7	149.9	149.7	149.7	146.9	148.5	148.1	149.2	148.8	149.6	149.4
18°	149.2	149.4	149.3	149.2	146.6	148.3	148.0	148.0	148.8	148.9	148.8
18.5°	148.6	149.1	149.1	148.4	145.4	147.2	147.4	147.4	147.7	148.4	148.4
19°	147.9	148.5	148.5	147.8	145.0	146.8	146.4	147.0	147.1	148.3	148.2
19.5°	147.2	148.0	148.1	147.2	144.7	146.6	145.8	146.2	146.6	147.4	148.2
20°	146.7	147.4	147.7	146.8	144.0	145.5	145.8	145.6	145.8	146.8	147.1
20.5°	146.3	147.0	147.0	146.2	143.5	145.3	145.4	145.1	145.4	146.4	146.6
21°	146.0	146.5	146.4	145.7	143.4	145.0	144.4	144.5	144.7	145.6	146.0
21.5°	145.5	145.8	145.9	145.2	142.5	144.2	143.6	144.3	144.3	145.1	145.5
22°	145.1	145.3	145.3	144.7	142.1	143.7	143.3	143.6	143.8	144.2	145.0



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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°	144.7	144.7	144.9	144.1	141.9	143.1	142.9	143.0	143.2	143.7	144.3
23°	144.3	144.3	144.6	143.6	140.9	142.4	142.0	142.5	142.5	143.4	143.7
23.5°	143.8	143.7	144.1	143.2	140.3	141.9	141.6	141.8	141.6	142.6	143.1
24°	143.4	143.1	143.4	142.3	139.4	141.0	141.2	141.3	140.8	142.1	142.5
24.5°	142.8	142.4	142.7	141.8	139.2	140.9	140.7	140.8	139.7	141.3	142.2
25°	142.2	141.8	142.1	141.2	138.6	139.9	140.1	140.1	139.6	140.8	142.0
25.5°	141.2	141.0	141.2	140.4	138.0	139.4	139.3	139.6	139.1	140.1	141.0
26°	140.7	140.3	140.4	139.7	137.7	138.4	138.7	138.7	138.4	139.5	140.2
26.5°	140.0	139.5	139.8	139.3	136.6	137.9	137.9	138.1	138.0	139.2	139.6
27°	139.1	138.7	138.9	138.6	136.2	137.1	137.2	137.1	136.9	138.6	138.8
27.5°	138.4	138.2	138.2	137.9	135.2	136.4	136.3	136.4	136.0	137.9	137.9
28°	137.6	137.5	137.3	137.0	134.4	135.9	135.7	135.8	135.2	137.1	137.1
28.5°	136.6	136.9	136.4	136.3	133.7	134.8	134.8	135.4	134.4	136.3	136.4
29°	136.0	136.4	135.9	135.7	133.0	134.1	134.2	134.7	133.7	135.5	135.8
29.5°	135.3	135.9	134.9	134.9	131.9	133.4	133.3	134.0	132.8	134.7	134.9
30°	134.8	135.2	134.2	134.0	131.7	132.9	132.1	133.0	131.9	133.7	133.9
30.5°	134.0	134.4	133.5	133.2	130.6	131.8	131.7	132.0	131.0	132.9	133.3
31°	133.3	133.7	132.7	132.5	130.3	131.0	130.7	131.2	130.4	132.0	133.0
31.5°	132.6	132.9	131.8	131.7	129.2	130.3	130.0	130.2	129.4	131.5	132.2
32°	131.9	131.9	131.0	130.8	128.6	129.5	129.1	129.4	129.0	130.8	131.5
32.5°	130.8	131.0	130.4	130.1	128.0	128.9	128.3	128.4	128.1	130.3	130.8
33°	129.9	130.1	129.5	129.2	127.3	127.6	127.7	127.7	127.7	129.4	130.3
33.5°	128.7	128.9	128.6	128.5	126.2	127.0	126.9	127.1	126.9	128.6	129.5
34°	127.8	128.0	128.0	127.6	125.1	126.0	126.2	126.2	126.1	127.4	128.7
34.5°	127.2	127.0	127.2	126.8	124.4	124.9	125.8	125.5	125.2	126.1	127.6
35°	126.4	126.3	126.3	126.0	123.6	124.4	125.0	125.1	124.5	125.1	126.6
35.5°	125.7	125.9	125.7	125.0	122.8	123.3	123.8	124.0	123.4	124.5	125.7
36°	124.8	125.1	124.7	124.1	121.9	122.7	122.5	123.2	122.2	123.8	124.7
36.5°	123.9	124.0	123.7	123.0	121.1	121.4	121.6	122.0	121.4	123.2	124.1
37°	123.1	122.8	122.6	122.1	120.0	120.5	120.5	120.8	120.5	122.8	123.2
37.5°	122.6	121.9	121.6	121.2	119.0	119.5	119.6	119.6	119.4	122.0	122.1
38°	121.4	120.9	120.7	120.2	118.3	118.6	118.7	118.6	118.5	120.8	120.9
38.5°	120.3	119.9	119.7	119.2	117.2	117.6	117.6	117.5	117.6	119.8	119.9
39°	119.1	119.1	118.8	118.2	116.0	116.7	116.6	116.7	116.8	118.7	118.9
39.5°	118.1	118.0	117.9	117.3	115.1	115.8	115.6	115.9	116.2	117.6	118.0
40°	116.9	117.3	116.9	116.6	114.4	114.7	114.8	115.2	115.3	116.3	117.3
40.5°	116.0	116.3	115.8	115.3	113.0	114.0	113.6	114.0	114.1	115.6	116.6
41°	115.1	115.3	114.8	114.4	112.1	112.7	112.6	112.8	112.9	114.7	115.7
41.5°	114.2	114.3	113.8	113.6	111.1	111.7	111.6	111.9	111.8	113.7	114.8
42°	113.3	113.4	113.0	112.6	109.9	110.6	110.6	110.9	110.9	112.5	113.7
42.5°	112.4	112.4	112.2	111.5	108.8	109.9	109.8	109.9	110.1	111.4	112.6
43°	111.2	111.3	111.1	110.8	107.8	108.6	108.6	109.0	109.1	110.4	111.5
43.5°	110.5	110.1	110.0	109.6	107.0	107.5	107.5	108.2	107.8	109.2	110.5
44°	109.3	109.0	108.7	108.4	105.6	106.6	106.5	107.0	106.9	108.0	109.4
44.5°	108.5	108.0	107.4	107.5	104.3	105.5	105.4	105.7	105.7	107.0	108.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	107.3	106.8	106.3	106.3	103.5	104.3	104.2	104.5	104.4	106.2	107.4
45.5°	106.0	105.8	105.3	105.0	102.8	103.3	103.1	103.4	103.6	105.0	106.5
46°	105.0	104.8	104.4	103.9	101.2	101.8	101.8	102.3	102.3	103.8	105.2
46.5°	104.2	103.8	103.0	102.9	100.0	100.8	100.7	101.3	101.2	102.6	104.1
47°	103.3	102.8	102.1	101.6	99.0	99.5	100.0	100.0	100.1	101.5	103.3
47.5°	102.2	101.8	100.9	100.4	98.0	98.3	98.5	98.7	98.6	100.6	102.2
48°	101.0	100.7	99.7	99.2	96.8	97.0	97.6	97.5	98.1	99.3	100.8
48.5°	99.6	99.3	98.4	97.9	95.6	96.2	96.4	96.6	96.7	98.3	99.7
49°	98.3	98.1	97.0	96.6	94.3	94.7	95.4	95.4	95.5	97.2	98.7
49.5°	97.1	96.6	96.0	95.4	92.9	93.6	94.1	94.1	94.2	95.8	97.5
50°	95.8	95.6	94.9	94.4	91.9	92.4	92.7	92.8	93.2	94.5	96.1
50.5°	95.0	94.3	93.6	93.3	91.0	91.1	91.1	91.6	92.6	93.5	94.9
51°	93.8	93.2	92.2	92.0	89.6	90.1	90.0	90.1	90.8	92.2	93.8
51.5°	93.0	91.9	91.1	90.5	88.1	88.9	88.8	88.5	89.5	91.1	92.7
52°	91.4	90.4	89.9	89.1	86.6	87.7	87.1	87.4	88.3	90.2	91.5
52.5°	90.0	89.2	88.7	87.8	85.3	86.3	85.9	86.5	87.0	88.9	90.4
53°	88.9	88.0	87.4	86.5	83.9	85.0	84.9	85.1	86.1	87.4	89.1
53.5°	87.7	86.9	86.1	85.1	83.0	83.6	83.6	83.7	84.8	86.1	87.7
54°	86.2	85.6	84.8	83.7	81.9	82.4	82.4	82.4	83.5	84.6	86.5
54.5°	84.8	84.3	83.4	82.6	80.6	81.4	80.9	81.0	82.2	83.4	85.2
55°	83.3	83.1	82.1	81.5	79.5	80.4	79.6	79.9	81.0	82.1	84.1
55.5°	82.2	81.7	81.1	80.1	77.9	78.9	78.5	78.6	79.5	80.9	82.9
56°	80.9	80.3	79.8	79.0	76.6	77.5	77.7	77.7	78.1	79.6	81.3
56.5°	79.7	79.0	78.6	77.6	75.3	75.9	76.4	76.3	77.1	78.3	80.0
57°	78.5	77.8	77.3	76.3	74.2	74.7	74.8	74.9	75.9	77.3	78.6
57.5°	77.2	76.4	75.8	74.8	73.1	73.2	73.4	73.6	74.7	75.8	77.4
58°	76.1	75.2	74.6	73.5	71.4	71.8	72.3	72.1	73.0	74.4	75.9
58.5°	74.6	73.9	73.3	72.3	70.4	70.3	70.9	70.5	71.5	73.0	74.6
59°	73.1	72.7	72.1	70.9	69.0	69.1	69.3	69.1	69.9	71.5	73.2
59.5°	71.6	71.4	70.6	69.6	67.7	68.1	68.0	67.9	68.8	70.2	71.7
60°	70.2	69.7	69.1	68.1	66.1	67.0	66.6	66.6	67.2	68.7	70.3
60.5°	68.9	68.3	67.6	66.8	64.7	65.2	65.2	65.2	65.8	67.4	69.1
61°	67.4	66.9	66.3	65.3	63.2	63.9	63.8	63.7	64.4	66.1	67.8
61.5°	66.1	65.7	65.0	63.7	62.1	62.6	62.3	61.9	63.0	64.8	66.4
62°	64.9	64.3	63.5	62.5	60.5	61.2	61.1	60.6	61.6	63.4	65.0
62.5°	63.6	62.8	61.9	61.0	59.1	59.6	59.5	59.2	60.2	61.9	63.6
63°	62.1	61.3	60.6	59.7	57.8	58.1	58.1	57.9	58.9	60.5	62.3
63.5°	60.6	60.0	59.3	58.3	56.3	56.7	56.6	56.4	57.3	59.3	61.1
64°	59.3	58.4	57.8	56.9	54.8	55.2	55.3	55.1	56.0	57.9	59.4
64.5°	57.9	56.9	56.5	55.4	53.4	53.8	54.2	54.1	54.4	56.3	58.0
65°	56.4	55.5	55.1	54.0	51.9	52.3	52.5	52.4	53.0	55.0	56.5
65.5°	54.9	54.1	53.5	52.7	50.5	50.9	51.1	50.9	51.7	53.5	55.0
66°	53.7	52.6	52.2	51.1	49.0	49.3	49.7	49.6	50.2	52.1	53.8
66.5°	52.1	51.2	50.8	49.7	47.6	48.0	48.2	48.2	48.6	50.6	52.1
67°	50.6	49.8	49.1	48.3	46.3	46.4	46.7	46.8	47.2	48.9	50.5



TEST NUMBER: P1214544

CATALOG NUMBER: HFL4001S/HFL4002S-950

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	49.1	48.3	47.8	47.0	44.8	45.2	45.2	45.3	46.0	47.5	49.0
68°	47.5	46.7	46.2	45.6	43.4	43.5	43.8	43.8	44.4	46.2	47.6
68.5°	46.0	45.4	44.6	44.2	42.0	42.0	42.4	42.5	42.9	44.5	46.1
69°	44.5	44.0	43.2	42.6	40.6	40.6	41.0	41.0	41.6	42.7	44.7
69.5°	42.9	42.6	41.7	41.3	39.3	39.1	39.3	39.6	40.2	41.6	43.0
70°	41.4	41.3	40.2	39.9	37.8	37.7	37.9	38.3	38.8	40.0	41.7
70.5°	40.0	39.7	38.9	38.3	36.4	36.3	36.5	37.1	37.4	38.7	40.3
71°	38.6	38.3	37.5	36.8	35.1	34.9	35.1	35.5	35.9	36.8	38.8
71.5°	37.0	36.8	36.0	35.4	33.6	33.5	33.6	34.1	34.4	35.9	37.4
72°	35.6	35.3	34.5	34.1	32.5	32.1	32.3	32.6	33.2	34.4	35.9
72.5°	34.2	34.0	33.1	32.6	31.1	30.7	30.9	31.2	31.6	33.0	34.5
73°	32.8	32.5	31.8	31.4	29.9	29.6	29.8	30.3	30.4	31.7	33.1
73.5°	31.7	31.5	30.5	30.0	28.4	28.6	28.4	28.7	29.1	30.5	31.8
74°	30.3	30.1	29.3	28.6	27.1	27.3	27.0	27.4	27.8	29.3	30.7
74.5°	29.0	28.8	27.9	27.4	25.8	25.9	25.8	26.1	26.5	27.9	29.4
75°	27.6	27.4	26.5	26.0	24.5	24.4	24.5	24.8	25.2	26.5	28.0
75.5°	26.3	26.0	25.3	24.6	23.3	23.0	23.2	23.5	24.1	25.3	26.7
76°	25.0	24.7	24.0	23.4	22.1	21.8	22.0	22.1	22.8	24.1	25.3
76.5°	23.8	23.4	22.6	22.2	21.1	20.5	20.6	20.9	21.5	22.8	23.8
77°	22.5	22.1	21.2	20.8	19.6	19.2	19.3	19.8	20.2	21.4	22.4
77.5°	21.2	21.0	20.1	19.6	18.4	18.3	18.6	18.4	19.0	20.1	21.0
78°	19.9	19.6	18.8	18.3	17.2	17.0	17.0	17.3	17.7	19.0	19.6
78.5°	18.8	18.5	17.7	17.1	16.1	15.7	16.0	16.1	16.8	17.7	18.4
79°	17.7	17.3	16.5	16.0	15.2	14.5	15.0	15.2	15.5	16.6	17.2
79.5°	16.5	16.1	15.3	14.8	13.8	13.8	14.0	13.9	14.3	15.4	16.1
80°	15.2	15.0	14.3	13.7	12.6	12.5	12.8	12.8	13.3	14.3	15.1
80.5°	14.2	13.8	13.2	12.6	11.5	11.3	11.7	11.7	12.3	13.2	14.1
81°	13.0	12.6	12.1	11.7	10.8	10.6	10.8	11.0	11.2	12.4	13.1
81.5°	12.0	11.5	11.0	10.6	9.6	9.7	9.6	9.9	10.1	11.2	12.4
82°	11.0	10.4	9.9	9.6	8.7	8.5	8.7	8.9	9.6	10.2	11.2
82.5°	10.1	9.4	9.1	8.7	7.8	7.8	8.0	8.1	8.3	9.4	10.2
83°	9.0	8.4	7.9	7.7	6.7	6.7	7.0	7.1	7.2	8.3	9.6
83.5°	8.1	7.6	7.1	6.8	5.9	5.9	6.3	6.8	6.9	7.4	8.4
84°	7.2	6.7	6.2	5.9	5.1	5.4	5.3	5.4	5.4	6.8	7.5
84.5°	6.3	5.9	5.3	5.1	4.2	4.3	4.5	4.6	4.6	5.5	6.7
85°	5.5	5.2	4.5	4.1	4.2	4.0	3.7	3.8	3.9	4.6	5.7
85.5°	4.8	4.5	3.7	3.4	2.8	2.9	3.3	3.0	3.2	3.9	4.9
86°	4.1	3.9	3.1	2.8	2.4	2.6	2.5	2.3	2.3	3.0	4.0
86.5°	3.4	3.3	2.5	2.2	1.9	2.3	2.1	1.9	2.2	2.4	3.5
87°	2.8	2.7	2.0	1.8	1.2	1.4	1.5	1.2	1.2	1.8	2.7
87.5°	2.4	2.1	1.7	1.4	0.8	0.9	1.1	0.9	0.7	1.2	2.2
88°	1.8	1.7	1.2	1.1	0.9	0.9	0.9	0.7	0.4	1.0	1.4
88.5°	1.4	1.3	0.8	0.8	0.3	0.6	0.8	0.1	0.0	0.3	0.8
89°	1.0	0.9	0.6	0.6	0.0	0.2	0.2	0.0	0.0	0.0	0.7
89.5°	0.7	0.7	0.4	0.4	0.1	0.0	0.3	0.0	0.0	0.0	0.2



TEST NUMBER: P1214544
 CATALOG NUMBER: HFL4001S/HFL4002S-950

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.4	0.4	0.4	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.2
90.5°	0.2	0.3	0.3	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0
91°	0.0	0.3	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: P1214544
 CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544

CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544
 CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544
CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544

CATALOG NUMBER: HFL4001S/HFL4002S-950

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	157.1	157.1	157.1	157.1	157.1	157.1
0.5°	157.3	157.0	157.2	156.9	156.6	157.7
1°	157.3	157.0	157.2	156.9	156.9	157.6
1.5°	157.3	157.0	157.2	156.9	156.8	157.6
2°	157.3	157.0	157.2	156.9	157.0	157.4
2.5°	157.3	157.0	157.2	156.9	157.5	157.5
3°	157.3	157.0	157.2	156.9	157.5	157.3
3.5°	157.3	157.0	157.2	156.8	157.5	157.2
4°	157.3	157.0	157.2	156.8	157.5	157.1
4.5°	157.3	157.0	157.3	156.8	157.7	156.8
5°	157.3	157.0	157.2	156.8	157.6	156.4
5.5°	157.3	157.0	157.3	156.8	157.6	156.0
6°	156.7	157.1	157.3	156.8	157.6	155.7
6.5°	156.1	156.8	157.2	156.9	157.6	155.5
7°	155.9	156.9	156.9	156.6	157.7	155.3
7.5°	155.9	156.6	156.9	156.6	157.7	155.0
8°	155.9	156.3	156.6	156.6	157.5	154.9
8.5°	155.8	156.1	156.6	156.6	157.1	154.6
9°	155.9	156.0	156.5	156.6	156.6	154.6
9.5°	155.9	155.6	156.5	156.7	156.4	154.5
10°	155.4	155.6	156.5	156.7	156.1	154.5
10.5°	154.8	155.7	156.1	156.5	155.8	154.1
11°	154.4	155.4	156.1	156.3	155.7	154.0
11.5°	154.3	155.1	155.7	156.3	155.3	153.7
12°	154.0	154.7	155.2	155.7	155.2	153.5
12.5°	153.5	154.4	155.0	155.4	154.9	153.2
13°	153.1	154.2	154.5	155.2	154.4	153.1
13.5°	152.9	154.0	154.3	154.8	154.1	152.9
14°	152.8	153.5	154.0	154.4	153.5	152.5
14.5°	152.7	153.3	153.7	153.7	152.9	152.0
15°	152.6	152.9	153.3	153.6	152.6	151.6
15.5°	152.0	152.4	152.8	153.5	152.1	151.2
16°	151.6	152.3	152.5	153.1	151.7	151.0
16.5°	151.5	152.1	152.2	152.4	151.5	150.4
17°	151.2	151.4	151.7	152.2	151.3	150.1
17.5°	150.6	150.7	151.4	151.7	150.9	149.7
18°	149.9	150.2	151.1	151.1	150.9	149.2
18.5°	149.7	149.9	150.9	151.1	150.4	148.6
19°	149.1	149.3	150.6	150.5	150.2	147.9
19.5°	148.6	148.8	150.3	150.2	149.8	147.2
20°	148.7	148.4	149.7	149.6	149.5	146.7
20.5°	147.4	147.6	149.3	149.0	148.8	146.3
21°	146.9	147.3	148.5	148.3	148.2	146.0
21.5°	146.7	146.7	147.9	148.0	147.4	145.5
22°	145.9	146.3	147.3	147.5	146.9	145.1



TEST NUMBER: P1214544

CATALOG NUMBER: HFL4001S/HFL4002S-950

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	145.4	145.8	146.7	147.1	146.7	144.7
23°	144.9	145.2	145.8	146.3	146.0	144.3
23.5°	144.1	144.4	145.1	146.0	145.3	143.8
24°	143.8	143.7	144.3	145.3	144.4	143.4
24.5°	143.0	143.3	143.7	144.6	143.9	142.8
25°	142.3	142.6	143.2	144.0	143.4	142.2
25.5°	141.8	141.8	142.4	143.4	142.7	141.2
26°	141.2	141.4	142.3	142.7	142.1	140.7
26.5°	140.9	140.7	141.5	142.3	141.3	140.0
27°	140.0	140.1	141.2	141.7	140.6	139.1
27.5°	139.4	139.7	140.4	141.2	139.9	138.4
28°	138.4	138.8	139.7	140.0	139.1	137.6
28.5°	137.8	138.0	139.0	139.4	138.3	136.6
29°	136.8	137.2	138.4	138.6	137.4	136.0
29.5°	135.9	136.4	137.5	138.1	136.7	135.3
30°	135.2	135.7	136.4	137.0	135.9	134.8
30.5°	134.8	134.7	135.6	136.3	135.3	134.0
31°	133.8	133.9	134.9	135.4	134.7	133.3
31.5°	133.3	133.0	134.3	134.6	133.9	132.6
32°	132.5	132.0	133.5	133.9	133.2	131.9
32.5°	131.7	131.2	132.9	133.5	132.7	130.8
33°	130.7	130.2	132.0	132.6	132.1	129.9
33.5°	130.2	129.3	131.3	131.8	131.3	128.7
34°	129.3	128.7	130.6	131.2	130.4	127.8
34.5°	128.5	127.7	129.9	130.3	129.7	127.2
35°	127.5	126.9	129.1	129.4	128.8	126.4
35.5°	126.6	126.2	128.3	128.4	128.1	125.7
36°	125.9	125.4	127.4	127.6	127.1	124.8
36.5°	125.1	124.6	126.4	127.0	126.4	123.9
37°	124.5	123.7	125.8	126.2	125.4	123.1
37.5°	123.5	123.0	124.8	125.2	124.3	122.6
38°	122.4	122.2	124.0	124.4	123.4	121.4
38.5°	121.6	120.9	122.9	123.7	122.2	120.3
39°	120.7	120.2	121.9	122.8	121.2	119.1
39.5°	119.9	119.4	121.1	121.5	120.3	118.1
40°	118.8	118.5	120.0	120.5	119.5	116.9
40.5°	117.7	117.5	119.0	119.5	118.6	116.0
41°	116.7	116.6	117.9	118.7	117.5	115.1
41.5°	116.1	115.8	116.8	117.7	116.6	114.2
42°	115.5	114.7	115.5	116.6	115.7	113.3
42.5°	114.1	113.8	114.6	115.6	114.8	112.4
43°	112.9	113.0	113.5	114.5	113.9	111.2
43.5°	112.0	111.7	112.6	113.4	112.7	110.5
44°	111.1	110.8	111.5	112.6	111.6	109.3
44.5°	110.0	109.7	110.6	111.4	110.7	108.5



TEST NUMBER: P1214544

CATALOG NUMBER: HFL4001S/HFL4002S-950

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	109.2	108.7	109.5	110.6	109.8	107.3
45.5°	108.3	107.9	108.6	109.5	108.6	106.0
46°	107.2	106.9	107.7	108.7	107.5	105.0
46.5°	106.0	105.7	106.5	107.4	106.4	104.2
47°	104.8	104.4	105.1	106.4	105.1	103.3
47.5°	104.0	103.2	104.0	105.3	103.9	102.2
48°	102.2	102.4	102.9	104.0	102.7	101.0
48.5°	101.0	101.1	101.7	102.7	101.4	99.6
49°	99.7	100.1	100.7	101.2	100.1	98.3
49.5°	98.5	99.1	99.7	100.0	99.1	97.1
50°	97.6	97.8	98.8	98.6	97.7	95.8
50.5°	96.4	96.7	97.5	97.5	96.7	95.0
51°	95.2	95.4	96.1	96.4	95.5	93.8
51.5°	94.0	94.1	95.2	95.3	94.4	93.0
52°	92.8	93.2	94.1	94.3	93.2	91.4
52.5°	91.4	91.7	93.1	92.9	91.9	90.0
53°	89.9	90.6	91.4	91.5	90.3	88.9
53.5°	88.6	89.2	90.1	90.4	89.0	87.7
54°	87.4	88.2	88.8	89.2	87.6	86.2
54.5°	86.2	86.8	87.4	87.7	86.2	84.8
55°	84.8	85.5	86.2	86.5	85.2	83.3
55.5°	83.6	84.5	85.1	85.3	84.3	82.2
56°	82.3	82.9	83.6	84.1	83.2	80.9
56.5°	81.0	81.7	82.0	82.9	81.8	79.7
57°	79.8	80.3	80.8	81.1	80.2	78.5
57.5°	78.5	79.0	79.4	79.7	78.9	77.2
58°	77.6	77.6	78.4	78.4	77.5	76.1
58.5°	76.1	76.4	76.9	77.2	76.1	74.6
59°	74.7	75.0	75.6	75.8	74.7	73.1
59.5°	73.3	73.6	74.3	74.4	73.2	71.6
60°	71.8	72.2	72.9	72.8	71.7	70.2
60.5°	70.2	70.8	71.7	71.5	70.4	68.9
61°	68.9	69.5	70.6	70.5	69.0	67.4
61.5°	67.3	68.1	69.3	69.1	67.7	66.1
62°	66.1	66.8	67.8	67.4	66.3	64.9
62.5°	64.7	65.7	66.5	66.0	65.1	63.6
63°	63.4	64.2	64.9	64.6	63.7	62.1
63.5°	62.2	62.8	63.6	63.1	62.3	60.6
64°	60.9	61.3	62.1	61.8	60.9	59.3
64.5°	59.5	60.0	60.7	60.4	59.3	57.9
65°	58.1	58.6	59.3	59.1	57.8	56.4
65.5°	56.5	57.1	57.9	57.5	56.4	54.9
66°	54.9	55.7	56.4	56.0	54.9	53.7
66.5°	53.5	54.1	54.9	54.7	53.4	52.1
67°	51.6	52.8	53.3	53.3	51.7	50.6



TEST NUMBER: P1214544

CATALOG NUMBER: HFL4001S/HFL4002S-950

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	50.2	51.2	52.0	51.8	49.9	49.1
68°	48.6	49.8	50.4	50.4	48.6	47.5
68.5°	47.2	48.2	48.9	49.0	47.2	46.0
69°	45.9	46.9	47.5	47.7	45.6	44.5
69.5°	44.6	45.6	46.1	46.2	44.2	42.9
70°	43.1	44.0	44.4	44.7	42.7	41.4
70.5°	41.8	42.5	43.0	43.3	41.2	40.0
71°	40.4	41.3	41.6	41.9	39.8	38.6
71.5°	38.9	39.7	40.2	40.2	38.5	37.0
72°	37.5	38.2	38.7	38.9	37.0	35.6
72.5°	36.1	36.7	37.3	37.3	35.6	34.2
73°	34.7	35.4	35.8	35.8	34.3	32.8
73.5°	33.1	33.8	34.3	34.3	32.9	31.7
74°	31.8	32.5	32.9	32.9	31.8	30.3
74.5°	30.5	31.3	31.7	31.6	30.4	29.0
75°	29.1	30.0	30.4	30.2	29.1	27.6
75.5°	27.8	28.6	29.0	28.9	27.8	26.3
76°	26.4	27.2	27.5	27.6	26.5	25.0
76.5°	25.1	26.0	26.2	26.3	25.2	23.8
77°	23.8	24.6	24.9	24.9	23.9	22.5
77.5°	22.7	23.5	23.6	23.6	22.7	21.2
78°	21.5	22.1	22.4	22.3	21.5	19.9
78.5°	20.1	20.9	21.0	21.0	20.3	18.8
79°	18.8	19.5	19.8	19.9	19.1	17.7
79.5°	17.6	18.4	18.6	18.7	17.8	16.5
80°	16.5	17.3	17.5	17.4	16.7	15.2
80.5°	15.4	16.0	16.4	16.3	15.5	14.2
81°	14.1	15.0	15.2	15.1	14.4	13.0
81.5°	13.1	13.8	14.2	14.2	13.2	12.0
82°	12.0	12.7	13.1	13.1	12.2	11.0
82.5°	11.1	11.8	12.2	12.2	11.2	10.1
83°	10.0	10.6	11.1	11.1	10.2	9.0
83.5°	9.3	9.7	10.3	10.1	9.3	8.1
84°	8.1	8.9	9.2	9.2	8.3	7.2
84.5°	7.2	7.9	8.3	8.4	7.7	6.3
85°	6.8	6.9	7.6	7.7	6.6	5.5
85.5°	5.6	6.3	6.7	6.7	5.8	4.8
86°	5.2	5.4	6.0	5.9	5.0	4.1
86.5°	4.1	4.7	5.1	5.1	4.4	3.4
87°	3.5	3.9	4.4	4.3	3.7	2.8
87.5°	2.6	3.3	3.8	3.8	3.1	2.4
88°	2.1	2.7	3.1	3.1	2.7	1.8
88.5°	1.3	2.1	2.5	2.6	2.1	1.4
89°	1.2	1.7	2.0	2.0	1.7	1.0
89.5°	0.6	1.3	1.7	1.8	1.2	0.7



TEST NUMBER: P1214544
 CATALOG NUMBER: HFL4001S/HFL4002S-950

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.1	1.1	1.3	1.3	0.9	0.4
90.5°	0.1	0.8	0.9	0.9	0.6	0.2
91°	0.0	0.6	0.6	0.7	0.5	0.0
91.5°	0.0	0.4	0.6	0.4	0.3	0.0
92°	0.0	0.3	0.5	0.3	0.2	0.0
92.5°	0.0	0.3	0.4	0.3	0.2	0.0
93°	0.0	0.3	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: P1214544

CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544
CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544
 CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544
CATALOG NUMBER: HFL4001S/HFL4002S-950

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: P1214544
 CATALOG NUMBER: HFL4001S/HFL4002S-950

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	26.1	27.7	26.4	28.0	28.3	25.7	27.3	26.1	27.6	28.0
	3H	27.7	29.2	28.1	29.5	29.9	27.3	28.8	27.7	29.1	29.5
	4H	28.3	29.7	28.7	30.0	30.4	27.8	29.2	28.2	29.6	29.9
	6H	28.7	30.0	29.1	30.3	30.7	28.1	29.4	28.5	29.8	30.2
	8H	28.8	30.0	29.2	30.4	30.8	28.2	29.4	28.6	29.8	30.2
	12H	28.8	30.0	29.3	30.4	30.8	28.2	29.4	28.7	29.8	30.2
4H	2H	26.7	28.1	27.1	28.4	28.8	26.3	27.7	26.7	28.1	28.4
	3H	28.6	29.7	29.0	30.1	30.5	28.1	29.3	28.5	29.7	30.1
	4H	29.3	30.3	29.7	30.7	31.2	28.7	29.8	29.2	30.2	30.6
	6H	29.8	30.7	30.2	31.1	31.6	29.2	30.1	29.6	30.5	31.0
	8H	29.9	30.7	30.3	31.2	31.7	29.2	30.1	29.7	30.5	31.0
	12H	30.0	30.7	30.5	31.2	31.7	29.3	30.1	29.8	30.5	31.0
8H	4H	29.5	30.4	30.0	30.8	31.3	29.0	29.9	29.5	30.3	30.8
	6H	30.1	30.8	30.6	31.3	31.8	29.5	30.2	30.0	30.7	31.2
	8H	30.3	31.0	30.8	31.5	31.9	29.6	30.3	30.1	30.8	31.3
	12H	30.5	31.0	31.0	31.5	32.1	29.7	30.3	30.2	30.8	31.3
12H	4H	29.6	30.3	30.0	30.8	31.3	29.0	29.8	29.5	30.3	30.7
	6H	30.2	30.8	30.7	31.3	31.8	29.5	30.2	30.0	30.6	31.2
	8H	30.4	31.0	30.9	31.5	32.0	29.7	30.3	30.2	30.7	31.3

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: SP1-2509-560-5

Test Date: 10/10/2025

Luminaire Tested: HFLESD4-HFL4001S-HFLP60A-950

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.

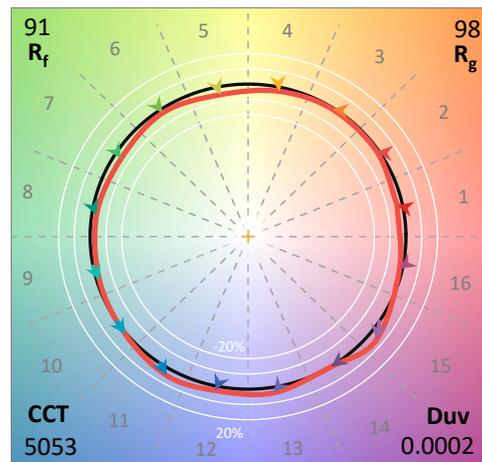
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2509-560-5
 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-950**
 Description: HALO FLEX LINEAR 4 SURFACE MOUNT DEEP 400LM/FT 60W UNV

Spectral Parameters

CCT (K): 5053
 CIE u': 0.2108
 CIE v': 0.4840
 Duv: 0.0002
 CIE x: 0.3437
 CIE y: 0.3507
 CIE z: 0.3056
 Peak Wavelength (nm): 455
 Dominant Wavelength (nm): 571
 Purity: 8.34
 R_f: 90.7
 R_g: 98.1

CRI (Ra):	95.2		
R1:	96.6	R9:	82.2
R2:	99.0	R10:	96.8
R3:	97.9	R11:	94.7
R4:	93.7	R12:	73.1
R5:	94.6	R13:	98.7
R6:	94.4	R14:	99.1
R7:	94.2	R15:	95.5
R8:	91.4		



Test Conditions

Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 25.3

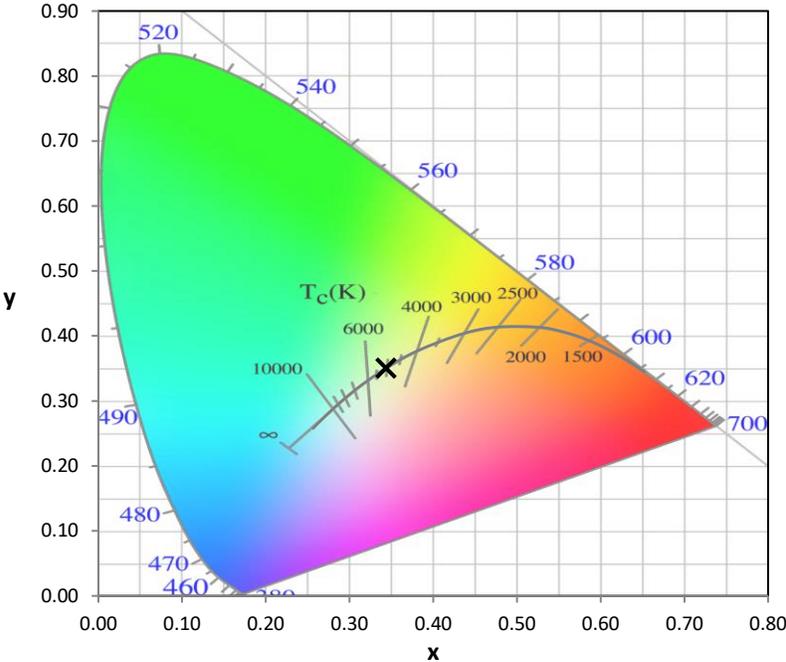
REPORT NUMBER: SP1-2509-560-5

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

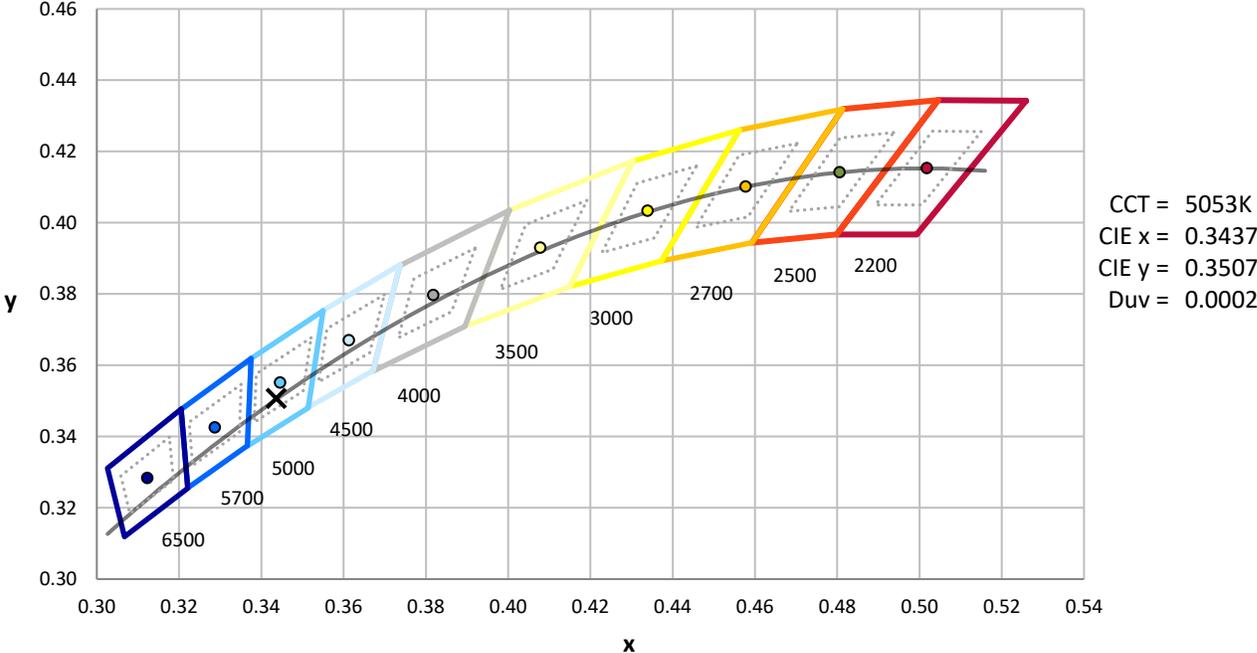
Sample Number	Condition	Description
P2509-560-LM.4	Good	EX LINEAR 4' SURFACE MOUNT DEEP, 400LM/FT 6

REPORT NUMBER: SP1-2509-560-5

CIE 1931 Chromaticity Diagram



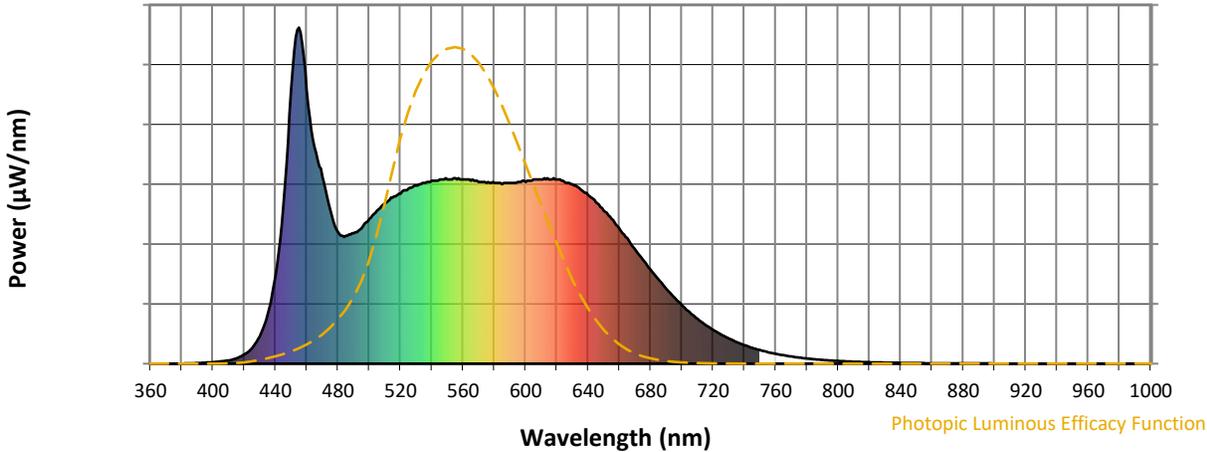
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2509-560-5

Photopic Flux vs. Wavelength

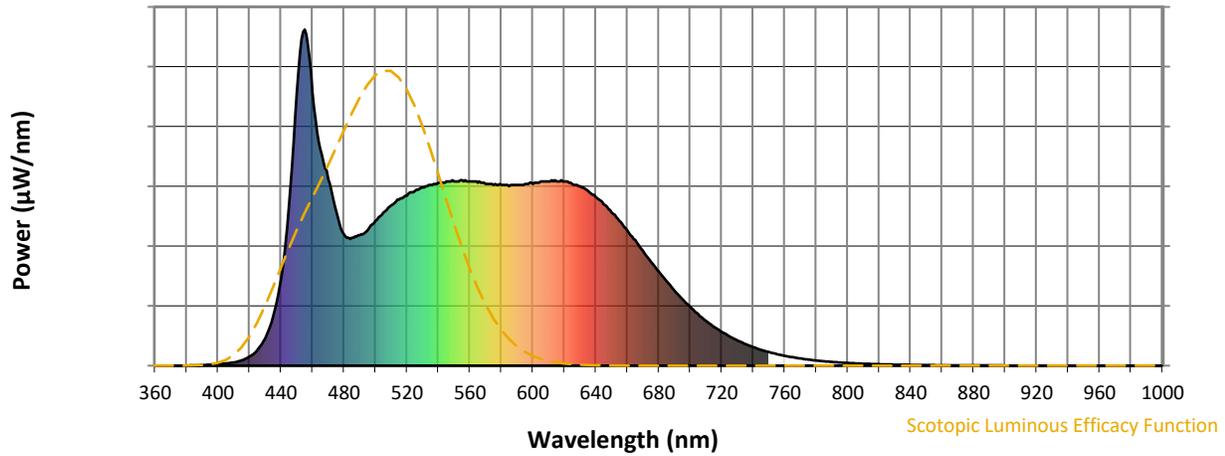


Photopic Lumens: NR

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	388	NR	620	548	NR	750	41	NR	880	1	NR
365	0	NR	495	402	NR	625	541	NR	755	35	NR	885	1	NR
370	0	NR	500	431	NR	630	534	NR	760	30	NR	890	1	NR
375	0	NR	505	456	NR	635	520	NR	765	25	NR	895	1	NR
380	0	NR	510	477	NR	640	502	NR	770	21	NR	900	0	NR
385	1	NR	515	495	NR	645	480	NR	775	18	NR	905	0	NR
390	2	NR	520	505	NR	650	456	NR	780	15	NR	910	0	NR
395	3	NR	525	520	NR	655	431	NR	785	13	NR	915	0	NR
400	5	NR	530	530	NR	660	402	NR	790	11	NR	920	0	NR
405	7	NR	535	537	NR	665	374	NR	795	10	NR	925	0	NR
410	10	NR	540	544	NR	670	341	NR	800	8	NR	930	0	NR
415	16	NR	545	548	NR	675	310	NR	805	7	NR	935	0	NR
420	27	NR	550	548	NR	680	280	NR	810	6	NR	940	0	NR
425	47	NR	555	552	NR	685	251	NR	815	5	NR	945	0	NR
430	82	NR	560	548	NR	690	223	NR	820	4	NR	950	0	NR
435	148	NR	565	544	NR	695	198	NR	825	4	NR	955	0	NR
440	259	NR	570	541	NR	700	174	NR	830	3	NR	960	0	NR
445	470	NR	575	537	NR	705	153	NR	835	3	NR	965	0	NR
450	811	NR	580	537	NR	710	133	NR	840	2	NR	970	0	NR
455	1000	NR	585	534	NR	715	116	NR	845	2	NR	975	0	NR
460	815	NR	590	537	NR	720	101	NR	850	2	NR	980	0	NR
465	644	NR	595	541	NR	725	87	NR	855	1	NR	985	0	NR
470	555	NR	600	541	NR	730	75	NR	860	1	NR	990	0	NR
475	459	NR	605	548	NR	735	64	NR	865	1	NR	995	0	NR
480	391	NR	610	548	NR	740	55	NR	870	1	NR	1000	0	NR
485	381	NR	615	548	NR	745	47	NR	875	1	NR			

REPORT NUMBER: SP1-2509-560-5

Scotopic Flux vs. Wavelength



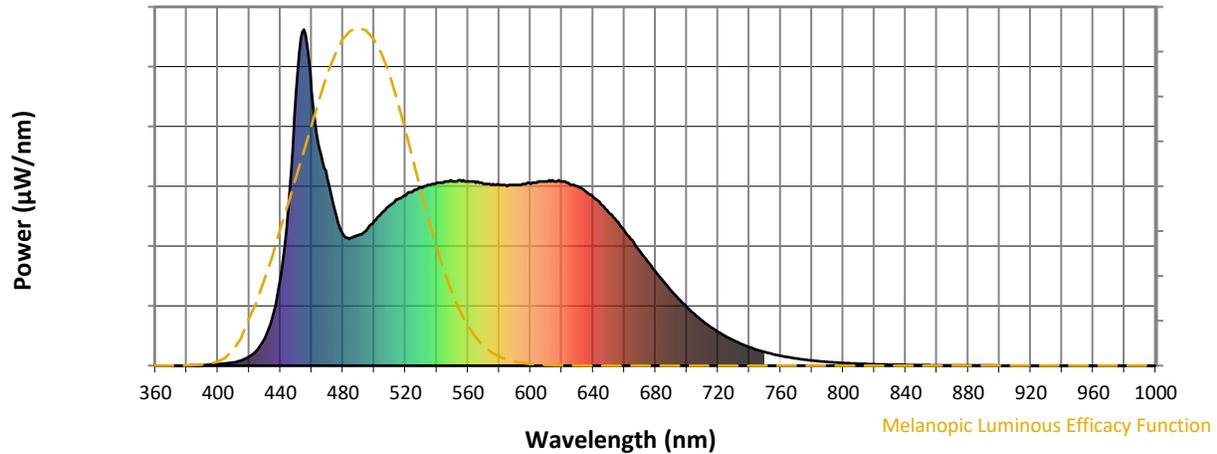
Scotopic Lumens: NR

S/P: 2.14

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	388	NR	620	548	NR	750	41	NR	880	1	NR
365	0	NR	495	402	NR	625	541	NR	755	35	NR	885	1	NR
370	0	NR	500	431	NR	630	534	NR	760	30	NR	890	1	NR
375	0	NR	505	456	NR	635	520	NR	765	25	NR	895	1	NR
380	0	NR	510	477	NR	640	502	NR	770	21	NR	900	0	NR
385	1	NR	515	495	NR	645	480	NR	775	18	NR	905	0	NR
390	2	NR	520	505	NR	650	456	NR	780	15	NR	910	0	NR
395	3	NR	525	520	NR	655	431	NR	785	13	NR	915	0	NR
400	5	NR	530	530	NR	660	402	NR	790	11	NR	920	0	NR
405	7	NR	535	537	NR	665	374	NR	795	10	NR	925	0	NR
410	10	NR	540	544	NR	670	341	NR	800	8	NR	930	0	NR
415	16	NR	545	548	NR	675	310	NR	805	7	NR	935	0	NR
420	27	NR	550	548	NR	680	280	NR	810	6	NR	940	0	NR
425	47	NR	555	552	NR	685	251	NR	815	5	NR	945	0	NR
430	82	NR	560	548	NR	690	223	NR	820	4	NR	950	0	NR
435	148	NR	565	544	NR	695	198	NR	825	4	NR	955	0	NR
440	259	NR	570	541	NR	700	174	NR	830	3	NR	960	0	NR
445	470	NR	575	537	NR	705	153	NR	835	3	NR	965	0	NR
450	811	NR	580	537	NR	710	133	NR	840	2	NR	970	0	NR
455	1000	NR	585	534	NR	715	116	NR	845	2	NR	975	0	NR
460	815	NR	590	537	NR	720	101	NR	850	2	NR	980	0	NR
465	644	NR	595	541	NR	725	87	NR	855	1	NR	985	0	NR
470	555	NR	600	541	NR	730	75	NR	860	1	NR	990	0	NR
475	459	NR	605	548	NR	735	64	NR	865	1	NR	995	0	NR
480	391	NR	610	548	NR	740	55	NR	870	1	NR	1000	0	NR
485	381	NR	615	548	NR	745	47	NR	875	1	NR			

REPORT NUMBER: SP1-2509-560-5

Melanopic Flux vs. Wavelength



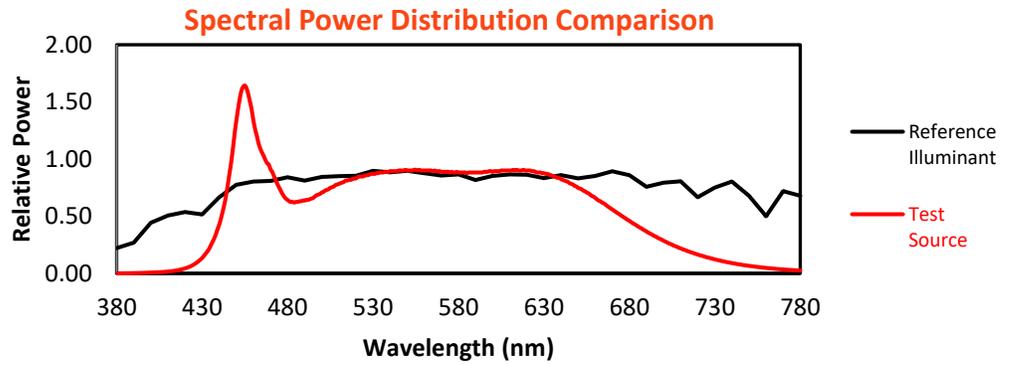
Melanopic Lumens: NR

M/P: 4.71

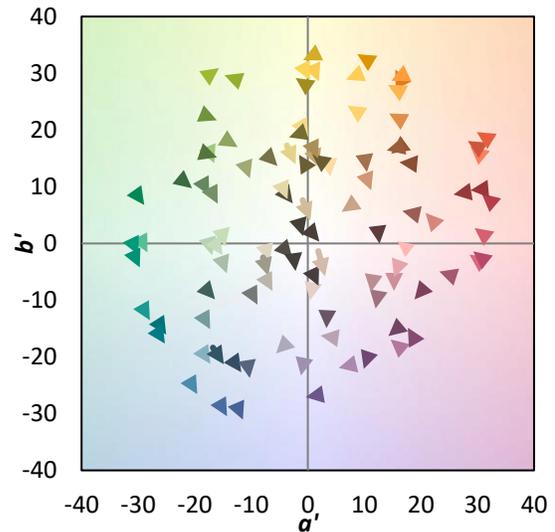
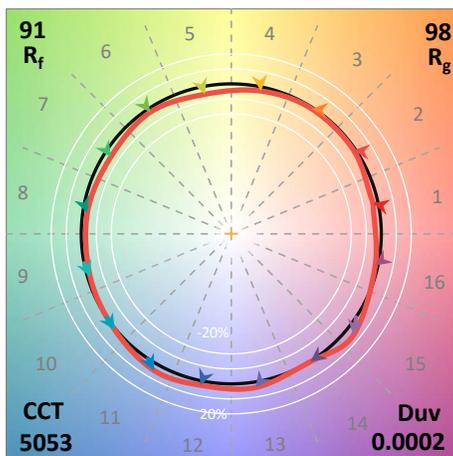
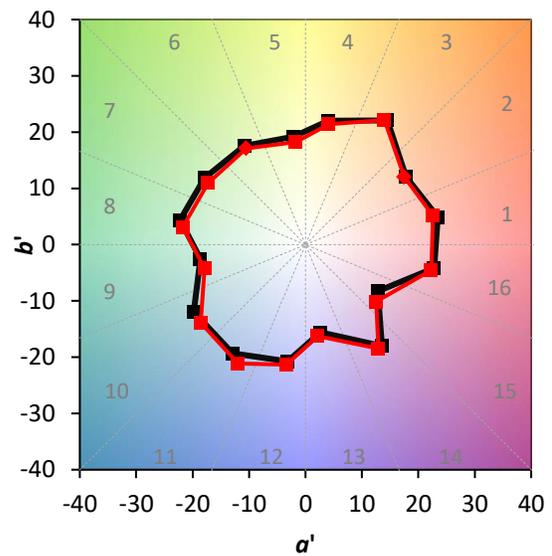
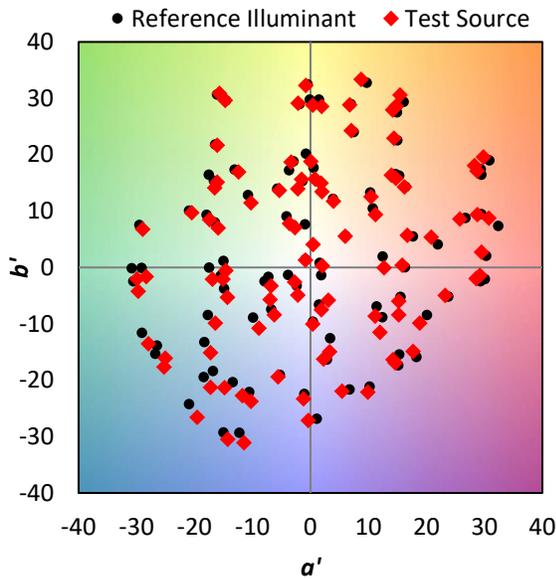
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	388	NR	620	548	NR	750	41	NR	880	1	NR
365	0	NR	495	402	NR	625	541	NR	755	35	NR	885	1	NR
370	0	NR	500	431	NR	630	534	NR	760	30	NR	890	1	NR
375	0	NR	505	456	NR	635	520	NR	765	25	NR	895	1	NR
380	0	NR	510	477	NR	640	502	NR	770	21	NR	900	0	NR
385	1	NR	515	495	NR	645	480	NR	775	18	NR	905	0	NR
390	2	NR	520	505	NR	650	456	NR	780	15	NR	910	0	NR
395	3	NR	525	520	NR	655	431	NR	785	13	NR	915	0	NR
400	5	NR	530	530	NR	660	402	NR	790	11	NR	920	0	NR
405	7	NR	535	537	NR	665	374	NR	795	10	NR	925	0	NR
410	10	NR	540	544	NR	670	341	NR	800	8	NR	930	0	NR
415	16	NR	545	548	NR	675	310	NR	805	7	NR	935	0	NR
420	27	NR	550	548	NR	680	280	NR	810	6	NR	940	0	NR
425	47	NR	555	552	NR	685	251	NR	815	5	NR	945	0	NR
430	82	NR	560	548	NR	690	223	NR	820	4	NR	950	0	NR
435	148	NR	565	544	NR	695	198	NR	825	4	NR	955	0	NR
440	259	NR	570	541	NR	700	174	NR	830	3	NR	960	0	NR
445	470	NR	575	537	NR	705	153	NR	835	3	NR	965	0	NR
450	811	NR	580	537	NR	710	133	NR	840	2	NR	970	0	NR
455	1000	NR	585	534	NR	715	116	NR	845	2	NR	975	0	NR
460	815	NR	590	537	NR	720	101	NR	850	2	NR	980	0	NR
465	644	NR	595	541	NR	725	87	NR	855	1	NR	985	0	NR
470	555	NR	600	541	NR	730	75	NR	860	1	NR	990	0	NR
475	459	NR	605	548	NR	735	64	NR	865	1	NR	995	0	NR
480	391	NR	610	548	NR	740	55	NR	870	1	NR	1000	0	NR
485	381	NR	615	548	NR	745	47	NR	875	1	NR			

Summary

$R_f = 90.7$
 $R_g = 98.1$
 $CIE R_a = 95.2$
 $R_9 = 82.2$

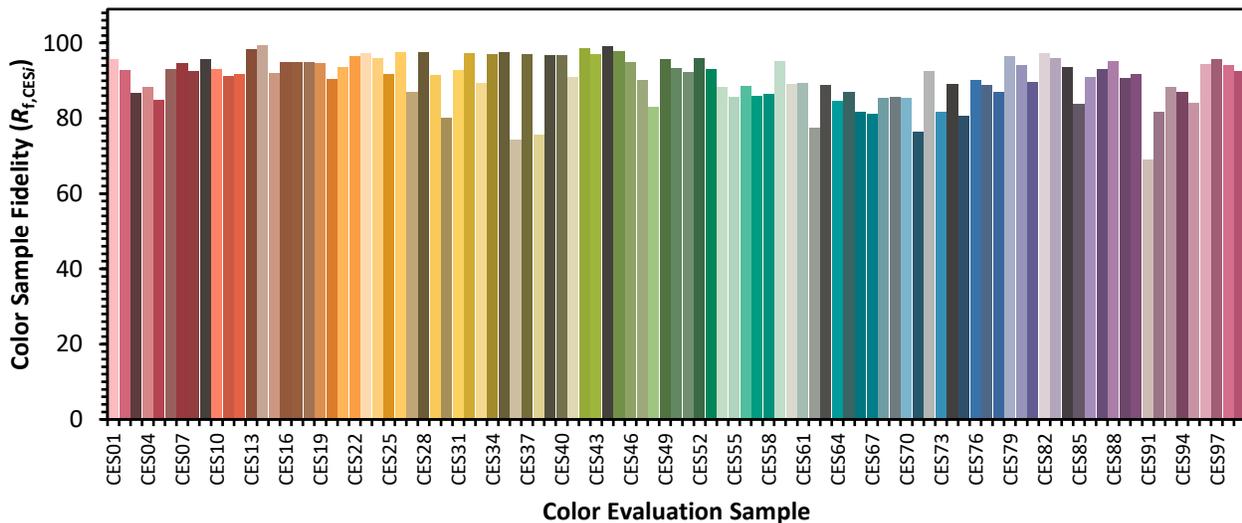


Color Vector Graphics

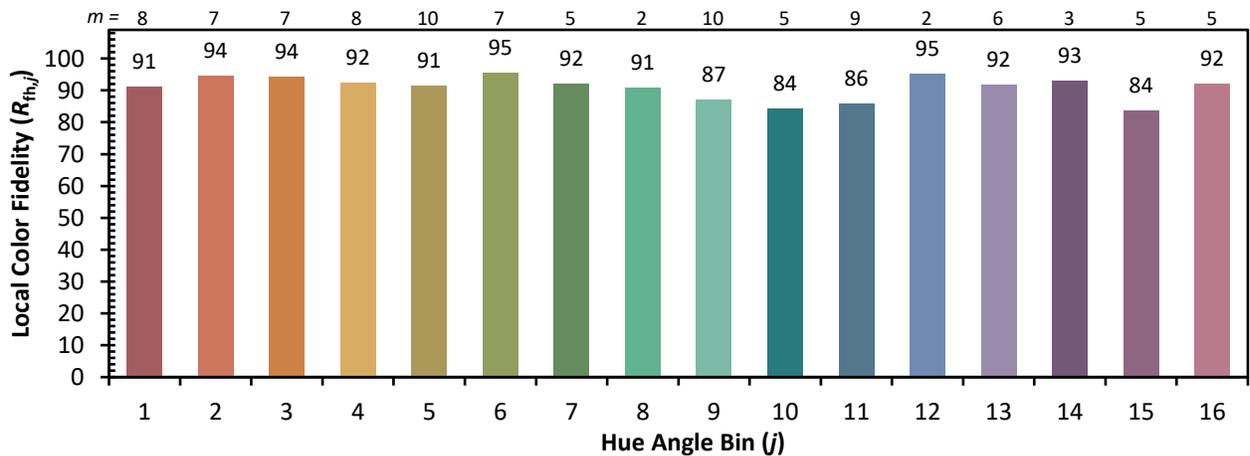
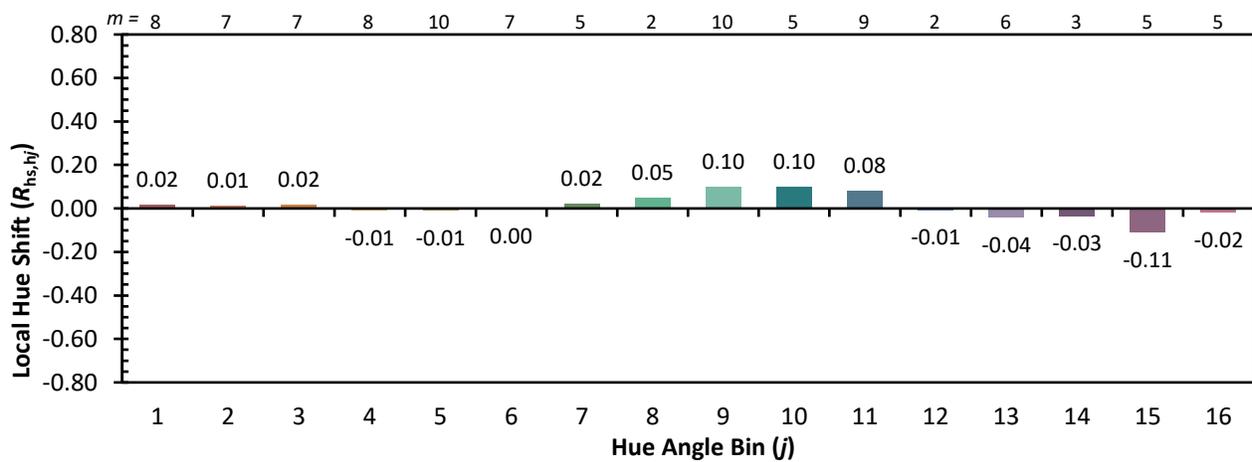
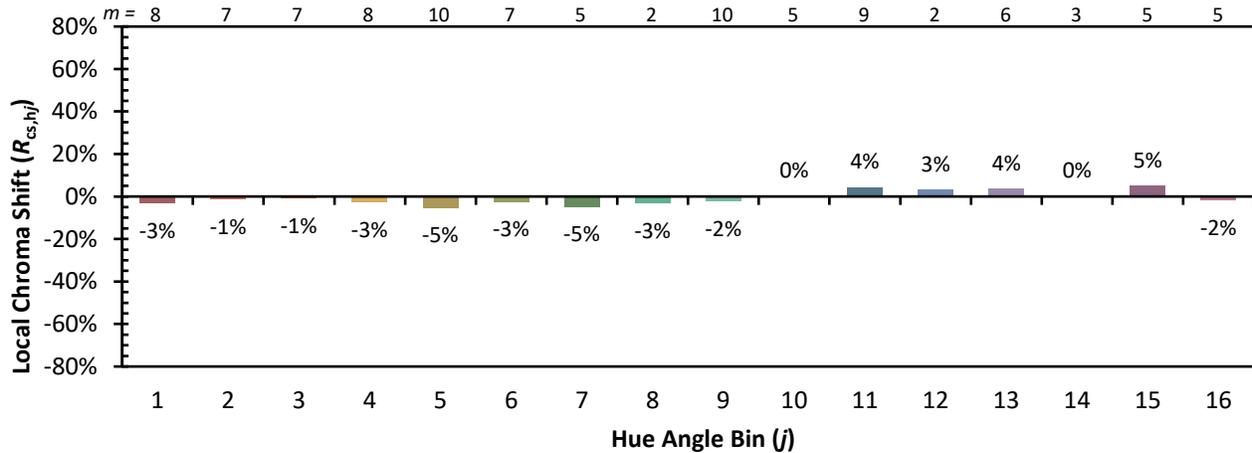


Individual Sample Fidelity Index ($R_{f,i}$)

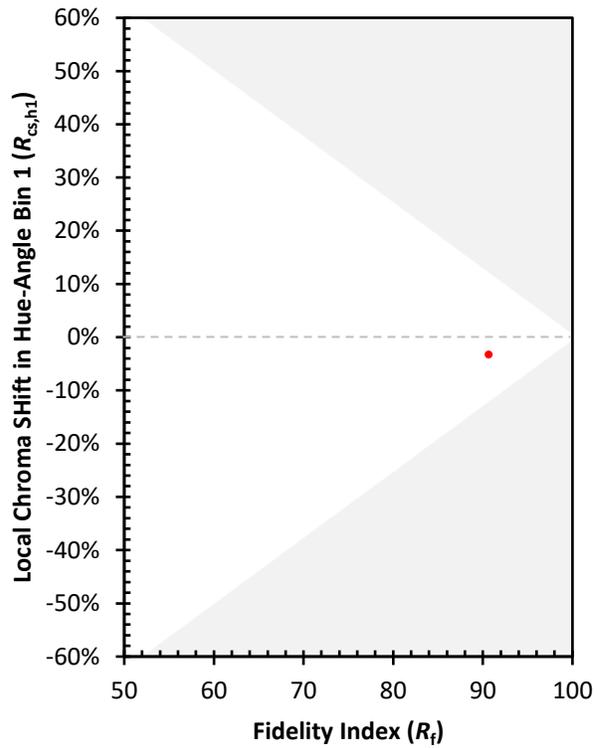
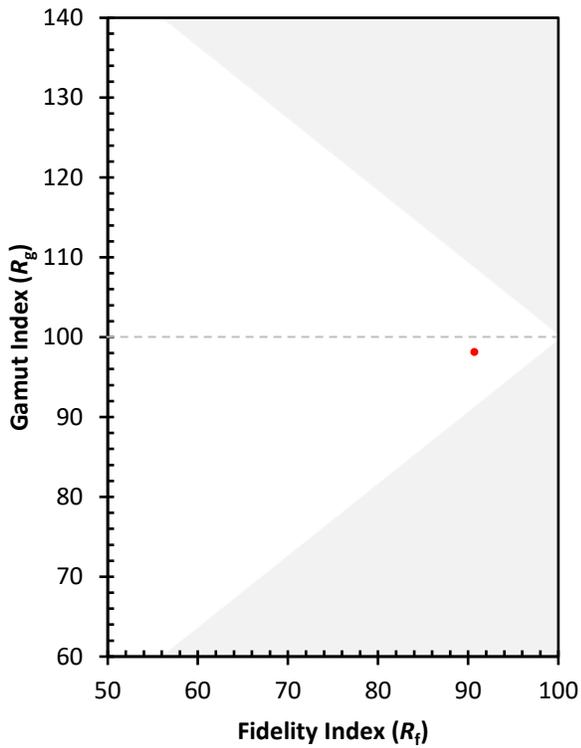
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CES02 = 61	CES27 = 87	CES52 = 96	CES77 = 89
CES03 = 31	CES28 = 98	CES53 = 93	CES78 = 87
CES04 = 69	CES29 = 91	CES54 = 88	CES79 = 96
CES05 = 48	CES30 = 80	CES55 = 86	CES80 = 94
CES06 = 50	CES31 = 93	CES56 = 89	CES81 = 90
CES07 = 41	CES32 = 97	CES57 = 86	CES82 = 97
CES08 = 40	CES33 = 89	CES58 = 86	CES83 = 96
CES09 = 29	CES34 = 97	CES59 = 95	CES84 = 94
CES10 = 73	CES35 = 97	CES60 = 89	CES85 = 84
CES11 = 56	CES36 = 74	CES61 = 89	CES86 = 91
CES12 = 62	CES37 = 97	CES62 = 77	CES87 = 93
CES13 = 42	CES38 = 76	CES63 = 89	CES88 = 95
CES14 = 74	CES39 = 97	CES64 = 85	CES89 = 91
CES15 = 71	CES40 = 97	CES65 = 87	CES90 = 92
CES16 = 47	CES41 = 91	CES66 = 82	CES91 = 69
CES17 = 49	CES42 = 99	CES67 = 81	CES92 = 82
CES18 = 56	CES43 = 97	CES68 = 86	CES93 = 88
CES19 = 70	CES44 = 99	CES69 = 86	CES94 = 87
CES20 = 65	CES45 = 98	CES70 = 85	CES95 = 84
CES21 = 85	CES46 = 95	CES71 = 76	CES96 = 95
CES22 = 77	CES47 = 90	CES72 = 93	CES97 = 96
CES23 = 91	CES48 = 83	CES73 = 82	CES98 = 94
CES24 = 89	CES49 = 96	CES74 = 89	CES99 = 93
CES25 = 70	CES50 = 93	CES75 = 81	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)