

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: P1214543

Luminaire Tested: HFL4001S/HFL4002S-940

Issue Date: 12/2/2025

Test Information

Test Method: LM-79-2019
Report Number: P1214543
Test Lab: THIRD PARTY NVLAP LAB
Issue Date: 12/2/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: HFL4001S/HFL4002S-940
Description: HALO FLEX LINEAR 400LM/FT 90 CRI COLOR SELECTABLE FIXTURE (ONE FOOT)
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

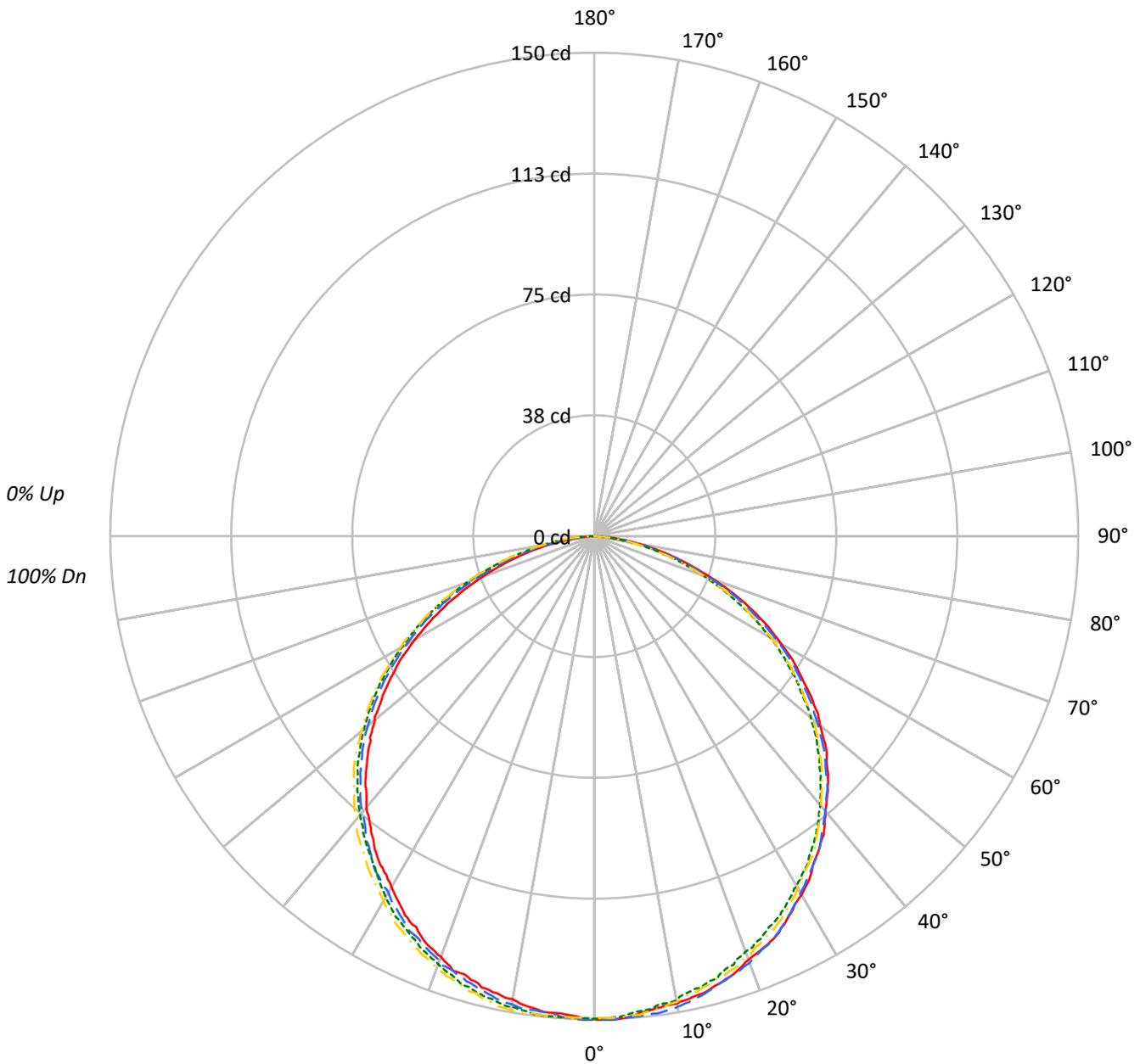
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 427.4 lumens
Efficiency: N/A
Efficacy: 95.0 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% 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				
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°	53748	53748	53748	53748
5°	53701	53377	53485	53881
10°	53666	53302	53156	54030
15°	53675	52969	53118	54121
20°	53417	52386	53035	53990
25°	53683	52297	52693	53801
30°	53238	51995	52078	53611
35°	52780	51598	51948	52999
40°	52224	51053	51475	52880
45°	51858	50082	50539	52568
50°	50963	48897	49567	52023
55°	49668	47416	48292	50982
60°	48007	45208	45998	49370
65°	45675	42025	42959	47373
70°	41333	37766	38710	44060
75°	36459	32439	33271	39648
80°	29960	24795	26241	34093
85°	21819	16467	15232	27170

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 315°
 Vertical Angle: 89.5°
 Luminance: 69897 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.2	3.3
10°-20°	40.8	9.6
20°-30°	62.1	14.5
30°-40°	75.3	17.6
40°-50°	78.5	18.4
50°-60°	70.5	16.5
60°-70°	52.2	12.2
70°-80°	27.5	6.4
80°-90°	6.3	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°	117.1	27.4
0°-40°	192.4	45.0
0°-60°	341.4	79.9
0°-90°	427.3	100.0
90°-120°	0.1	0.0
90°-150°	0.1	0.0
90°-180°	0.0	0.0
0°-180°	427.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	150	150	150	150	150	
5°	149	148	148	150	149	14
15°	144	143	143	146	144	41
25°	136	132	133	136	136	62
35°	120	118	119	121	120	75
45°	102	99	100	104	102	79
55°	79	76	77	82	79	71
65°	54	50	51	56	54	53
75°	26	23	24	29	26	28
85°	5	4	4	7	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°	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8
0.5°	150.3	149.7	150.2	150.0	149.6	149.8	149.5	149.1	150.2	149.7	150.2
1°	150.3	149.7	150.2	150.0	149.6	149.8	149.5	148.9	150.2	149.7	150.3
1.5°	150.2	149.7	150.2	150.1	149.5	149.9	149.6	148.9	149.6	149.7	150.1
2°	150.1	149.7	150.2	150.2	149.5	149.9	149.6	148.9	149.2	149.8	150.0
2.5°	150.2	149.7	150.1	150.1	149.4	149.7	149.6	148.8	149.0	149.8	150.0
3°	150.0	149.7	149.8	150.1	149.4	149.7	149.4	148.8	148.8	149.6	149.6
3.5°	149.8	149.7	149.7	150.1	149.1	148.7	149.5	148.8	148.7	149.6	149.6
4°	149.7	149.7	149.7	149.9	148.8	148.7	149.4	148.8	148.5	149.6	149.5
4.5°	149.4	149.7	149.7	149.9	148.5	148.7	149.3	148.8	148.5	149.6	149.0
5°	149.1	149.7	149.6	149.8	148.2	148.7	149.2	148.8	148.5	149.5	148.8
5.5°	148.7	149.8	149.6	149.8	148.1	148.6	149.2	148.8	148.5	149.3	148.7
6°	148.4	149.8	149.4	149.6	147.9	148.6	148.7	148.6	148.5	148.8	148.5
6.5°	148.2	149.5	149.5	149.5	147.9	148.6	148.5	148.4	148.2	148.8	148.5
7°	148.0	149.4	149.3	149.3	147.7	148.3	148.3	148.1	147.9	148.6	148.3
7.5°	147.8	149.2	149.4	149.3	147.0	148.3	148.0	148.0	147.6	148.4	148.3
8°	147.7	149.0	149.2	148.9	146.7	148.2	148.1	147.7	147.4	148.2	148.3
8.5°	147.3	148.7	149.0	148.7	146.6	148.2	147.7	147.6	147.1	148.3	148.3
9°	147.3	148.6	148.8	148.4	146.7	147.9	147.1	147.5	146.9	148.2	148.2
9.5°	147.3	148.5	148.7	148.3	146.5	147.3	146.9	147.6	146.3	147.7	147.8
10°	147.3	148.1	148.3	148.0	146.3	147.0	146.8	147.5	145.9	147.2	147.5
10.5°	146.9	147.7	148.1	147.9	145.3	146.8	146.4	147.4	145.9	147.0	147.4
11°	146.8	147.5	147.7	147.8	144.9	146.1	145.7	147.0	145.8	146.7	147.4
11.5°	146.6	147.1	147.5	147.3	144.6	145.8	145.4	146.6	145.4	146.5	146.9
12°	146.3	146.7	147.1	146.9	144.3	145.5	145.0	146.4	145.0	146.1	146.7
12.5°	146.0	146.5	146.7	146.6	143.9	145.1	144.9	146.0	145.0	145.8	146.1
13°	145.9	146.1	146.5	146.0	143.9	144.6	144.7	145.8	144.6	145.4	145.8
13.5°	145.8	145.8	146.1	145.8	143.6	144.2	144.0	145.3	144.4	145.4	145.4
14°	145.4	145.3	145.6	145.3	143.1	144.2	143.8	144.9	144.3	145.1	145.3
14.5°	144.9	145.1	145.2	145.2	142.6	144.3	143.6	144.5	143.4	144.8	144.7
15°	144.5	144.9	144.8	144.6	142.6	143.8	143.0	143.9	143.0	144.5	144.3
15.5°	144.2	144.5	144.3	144.2	142.4	143.1	142.5	143.3	142.9	144.3	143.9
16°	143.9	144.1	143.9	144.0	141.3	143.0	142.3	143.0	142.3	144.1	143.7
16.5°	143.4	143.8	143.6	143.6	140.8	142.7	142.1	142.4	141.8	143.8	143.0
17°	143.1	143.4	143.1	143.2	140.2	142.6	141.6	142.2	141.8	143.1	142.5
17.5°	142.7	142.9	142.7	142.7	140.0	141.6	141.1	142.2	141.8	142.6	142.4
18°	142.2	142.4	142.3	142.2	139.8	141.3	141.1	141.0	141.8	141.9	141.8
18.5°	141.6	142.2	142.1	141.5	138.6	140.3	140.5	140.5	140.8	141.5	141.5
19°	141.0	141.5	141.6	140.8	138.2	139.9	139.6	140.2	140.2	141.4	141.3
19.5°	140.3	141.0	141.2	140.3	137.9	139.7	139.0	139.3	139.7	140.5	141.3
20°	139.9	140.5	140.8	139.9	137.2	138.7	139.0	138.8	138.9	140.0	140.2
20.5°	139.4	140.2	140.2	139.4	136.8	138.5	138.6	138.3	138.6	139.5	139.7
21°	139.1	139.6	139.6	138.9	136.7	138.2	137.6	137.8	138.0	138.8	139.2
21.5°	138.7	138.9	139.1	138.4	135.8	137.4	136.9	137.5	137.5	138.3	138.7
22°	138.3	138.5	138.5	137.9	135.4	137.0	136.6	136.9	137.1	137.5	138.2



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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°	137.9	138.0	138.1	137.4	135.2	136.4	136.2	136.3	136.5	137.0	137.5
23°	137.6	137.5	137.8	136.9	134.3	135.8	135.4	135.8	135.9	136.7	137.0
23.5°	137.1	137.0	137.4	136.5	133.7	135.3	135.0	135.1	135.0	135.9	136.4
24°	136.7	136.4	136.7	135.7	132.9	134.4	134.6	134.7	134.2	135.4	135.9
24.5°	136.1	135.7	136.0	135.2	132.6	134.3	134.1	134.2	133.2	134.7	135.6
25°	135.6	135.2	135.4	134.6	132.1	133.4	133.5	133.6	133.1	134.2	135.3
25.5°	134.6	134.4	134.6	133.8	131.5	132.9	132.7	133.1	132.6	133.6	134.4
26°	134.2	133.8	133.9	133.2	131.2	131.9	132.2	132.2	131.9	133.0	133.7
26.5°	133.4	133.0	133.2	132.8	130.2	131.4	131.4	131.6	131.5	132.7	133.0
27°	132.6	132.2	132.4	132.1	129.8	130.6	130.8	130.7	130.5	132.2	132.3
27.5°	131.9	131.7	131.8	131.4	128.9	130.0	129.9	130.0	129.7	131.4	131.5
28°	131.2	131.0	130.9	130.6	128.1	129.5	129.4	129.4	128.9	130.7	130.7
28.5°	130.2	130.5	130.1	129.9	127.4	128.5	128.5	129.1	128.1	130.0	130.0
29°	129.6	130.1	129.5	129.4	126.8	127.8	127.9	128.4	127.4	129.2	129.5
29.5°	129.0	129.5	128.6	128.6	125.7	127.2	127.1	127.7	126.5	128.4	128.6
30°	128.5	128.9	127.9	127.8	125.5	126.6	126.0	126.7	125.7	127.4	127.7
30.5°	127.7	128.1	127.2	127.0	124.5	125.7	125.5	125.8	124.8	126.7	127.1
31°	127.0	127.4	126.5	126.3	124.2	124.9	124.6	125.1	124.3	125.9	126.8
31.5°	126.4	126.6	125.6	125.5	123.2	124.3	123.9	124.1	123.3	125.3	126.0
32°	125.7	125.7	124.9	124.7	122.6	123.5	123.1	123.3	122.9	124.7	125.3
32.5°	124.7	124.9	124.3	124.0	122.0	122.9	122.3	122.3	122.1	124.2	124.7
33°	123.8	124.0	123.4	123.2	121.4	121.6	121.7	121.7	121.7	123.4	124.2
33.5°	122.7	122.9	122.6	122.5	120.3	121.1	121.0	121.1	120.9	122.6	123.5
34°	121.8	122.0	122.0	121.6	119.3	120.1	120.3	120.3	120.2	121.5	122.7
34.5°	121.2	121.1	121.3	120.9	118.6	119.1	119.9	119.6	119.3	120.2	121.7
35°	120.5	120.4	120.4	120.1	117.8	118.6	119.1	119.3	118.6	119.3	120.7
35.5°	119.8	120.0	119.8	119.1	117.1	117.6	118.0	118.2	117.6	118.6	119.8
36°	119.0	119.2	118.9	118.3	116.2	117.0	116.8	117.4	116.5	118.0	118.9
36.5°	118.1	118.2	117.9	117.2	115.5	115.7	115.9	116.3	115.7	117.4	118.3
37°	117.4	117.1	116.9	116.4	114.4	114.9	114.9	115.1	114.9	117.1	117.4
37.5°	116.8	116.2	115.9	115.5	113.5	113.9	114.0	114.0	113.8	116.3	116.4
38°	115.7	115.2	115.0	114.5	112.8	113.1	113.1	113.0	113.0	115.2	115.2
38.5°	114.7	114.3	114.1	113.6	111.7	112.1	112.1	112.0	112.1	114.2	114.2
39°	113.5	113.5	113.2	112.6	110.6	111.3	111.2	111.2	111.3	113.2	113.4
39.5°	112.6	112.5	112.4	111.8	109.7	110.4	110.2	110.5	110.8	112.1	112.5
40°	111.5	111.8	111.5	111.1	109.0	109.3	109.4	109.8	109.9	110.9	111.8
40.5°	110.6	110.9	110.4	109.9	107.7	108.7	108.2	108.7	108.7	110.2	111.1
41°	109.7	109.9	109.4	109.1	106.9	107.4	107.3	107.5	107.6	109.3	110.3
41.5°	108.8	109.0	108.5	108.2	105.9	106.5	106.4	106.6	106.6	108.4	109.4
42°	108.0	108.1	107.7	107.4	104.8	105.4	105.4	105.7	105.7	107.3	108.4
42.5°	107.2	107.2	106.9	106.3	103.7	104.8	104.6	104.8	105.0	106.2	107.3
43°	106.0	106.1	105.9	105.6	102.8	103.5	103.5	103.9	104.0	105.2	106.3
43.5°	105.3	104.9	104.9	104.5	102.0	102.5	102.5	103.1	102.8	104.1	105.3
44°	104.2	103.9	103.6	103.3	100.6	101.6	101.5	102.0	101.9	103.0	104.3
44.5°	103.4	103.0	102.4	102.4	99.4	100.6	100.5	100.7	100.7	102.0	103.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	102.2	101.8	101.3	101.3	98.7	99.4	99.4	99.6	99.6	101.2	102.4
45.5°	101.0	100.8	100.4	100.1	98.0	98.4	98.3	98.6	98.7	100.1	101.6
46°	100.1	99.9	99.5	99.1	96.4	97.0	97.0	97.5	97.6	99.0	100.3
46.5°	99.3	99.0	98.2	98.1	95.3	96.0	96.0	96.6	96.5	97.8	99.2
47°	98.5	98.0	97.4	96.8	94.4	94.9	95.3	95.4	95.4	96.8	98.4
47.5°	97.4	97.0	96.1	95.7	93.4	93.7	93.9	94.0	94.0	95.9	97.4
48°	96.3	96.0	95.1	94.5	92.3	92.5	93.1	93.0	93.5	94.7	96.1
48.5°	94.9	94.7	93.8	93.3	91.1	91.7	91.9	92.1	92.2	93.7	95.1
49°	93.7	93.5	92.5	92.1	89.9	90.3	90.9	90.9	91.1	92.7	94.1
49.5°	92.6	92.1	91.5	91.0	88.5	89.2	89.7	89.7	89.8	91.3	92.9
50°	91.3	91.1	90.4	90.0	87.6	88.0	88.3	88.5	88.8	90.1	91.6
50.5°	90.5	89.9	89.2	88.9	86.8	86.9	86.9	87.3	88.3	89.1	90.4
51°	89.4	88.8	87.9	87.7	85.4	85.9	85.8	85.9	86.6	87.9	89.4
51.5°	88.7	87.6	86.8	86.3	84.0	84.8	84.7	84.4	85.3	86.9	88.4
52°	87.1	86.1	85.7	84.9	82.6	83.6	83.1	83.3	84.1	86.0	87.2
52.5°	85.8	85.1	84.6	83.7	81.3	82.3	81.9	82.4	83.0	84.8	86.2
53°	84.8	83.9	83.3	82.4	80.0	81.0	81.0	81.1	82.1	83.3	84.9
53.5°	83.6	82.8	82.1	81.2	79.1	79.7	79.7	79.8	80.8	82.1	83.6
54°	82.1	81.6	80.8	79.8	78.1	78.5	78.5	78.6	79.5	80.6	82.4
54.5°	80.8	80.3	79.5	78.7	76.9	77.6	77.1	77.2	78.3	79.5	81.2
55°	79.4	79.2	78.3	77.7	75.8	76.7	75.9	76.2	77.2	78.3	80.1
55.5°	78.3	77.9	77.3	76.4	74.2	75.2	74.8	74.9	75.8	77.1	79.0
56°	77.1	76.5	76.0	75.3	73.1	73.9	74.1	74.1	74.5	75.8	77.5
56.5°	75.9	75.3	75.0	73.9	71.7	72.4	72.8	72.8	73.5	74.6	76.2
57°	74.8	74.2	73.7	72.7	70.7	71.2	71.3	71.4	72.3	73.7	75.0
57.5°	73.6	72.9	72.2	71.3	69.6	69.7	70.0	70.2	71.2	72.2	73.8
58°	72.5	71.7	71.1	70.0	68.1	68.4	68.9	68.8	69.6	71.0	72.3
58.5°	71.1	70.5	69.9	68.9	67.1	67.0	67.6	67.2	68.2	69.5	71.1
59°	69.7	69.3	68.7	67.5	65.8	65.9	66.0	65.9	66.7	68.2	69.8
59.5°	68.3	68.1	67.3	66.4	64.5	64.9	64.8	64.7	65.6	66.9	68.4
60°	66.9	66.5	65.9	65.0	63.0	63.8	63.5	63.5	64.1	65.5	67.0
60.5°	65.7	65.1	64.5	63.6	61.6	62.2	62.2	62.2	62.8	64.2	65.9
61°	64.3	63.7	63.2	62.2	60.2	60.9	60.8	60.7	61.4	63.0	64.7
61.5°	63.0	62.7	61.9	60.7	59.2	59.7	59.4	59.0	60.1	61.7	63.3
62°	61.9	61.3	60.6	59.5	57.7	58.3	58.3	57.8	58.7	60.5	62.0
62.5°	60.7	59.9	59.0	58.2	56.4	56.8	56.7	56.4	57.4	59.0	60.7
63°	59.2	58.5	57.8	56.9	55.1	55.4	55.4	55.2	56.1	57.7	59.4
63.5°	57.8	57.2	56.5	55.5	53.7	54.1	54.0	53.8	54.6	56.6	58.3
64°	56.5	55.6	55.1	54.2	52.3	52.7	52.7	52.5	53.4	55.2	56.7
64.5°	55.2	54.2	53.8	52.8	50.9	51.3	51.6	51.6	51.9	53.7	55.3
65°	53.8	52.9	52.5	51.5	49.5	49.8	50.0	49.9	50.6	52.4	53.8
65.5°	52.4	51.6	51.0	50.2	48.1	48.5	48.7	48.5	49.3	51.0	52.4
66°	51.2	50.1	49.7	48.7	46.7	47.0	47.3	47.3	47.8	49.6	51.3
66.5°	49.7	48.8	48.4	47.3	45.4	45.7	46.0	45.9	46.3	48.2	49.6
67°	48.2	47.5	46.8	46.0	44.1	44.2	44.6	44.6	45.0	46.6	48.1



TEST NUMBER: P1214543

CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	46.8	46.0	45.6	44.8	42.7	43.1	43.1	43.2	43.9	45.3	46.7
68°	45.3	44.5	44.0	43.4	41.4	41.5	41.7	41.7	42.3	44.0	45.4
68.5°	43.9	43.3	42.6	42.1	40.1	40.1	40.4	40.5	40.9	42.5	44.0
69°	42.4	42.0	41.1	40.6	38.7	38.7	39.1	39.1	39.6	40.7	42.7
69.5°	40.9	40.6	39.8	39.3	37.4	37.3	37.5	37.8	38.3	39.7	41.0
70°	39.4	39.4	38.4	38.0	36.0	35.9	36.2	36.6	36.9	38.1	39.7
70.5°	38.1	37.9	37.1	36.5	34.7	34.6	34.7	35.3	35.6	36.9	38.4
71°	36.8	36.5	35.7	35.1	33.5	33.2	33.5	33.8	34.2	35.1	37.0
71.5°	35.3	35.1	34.3	33.8	32.1	32.0	32.0	32.5	32.8	34.3	35.6
72°	33.9	33.7	32.9	32.5	31.0	30.6	30.8	31.1	31.7	32.8	34.2
72.5°	32.6	32.4	31.5	31.1	29.6	29.3	29.4	29.8	30.2	31.5	32.9
73°	31.3	31.0	30.3	29.9	28.5	28.2	28.4	28.9	29.0	30.2	31.5
73.5°	30.2	30.1	29.0	28.6	27.1	27.2	27.1	27.4	27.8	29.1	30.3
74°	28.9	28.7	27.9	27.3	25.9	26.0	25.7	26.1	26.5	28.0	29.2
74.5°	27.6	27.5	26.6	26.1	24.6	24.7	24.6	24.9	25.3	26.6	28.0
75°	26.3	26.1	25.3	24.7	23.4	23.2	23.3	23.6	24.0	25.3	26.7
75.5°	25.0	24.8	24.1	23.5	22.2	21.9	22.1	22.4	23.0	24.1	25.4
76°	23.9	23.6	22.9	22.3	21.0	20.8	20.9	21.0	21.7	23.0	24.1
76.5°	22.7	22.3	21.6	21.2	20.1	19.5	19.7	19.9	20.5	21.7	22.7
77°	21.5	21.1	20.3	19.9	18.7	18.3	18.4	18.9	19.3	20.4	21.3
77.5°	20.2	20.0	19.2	18.7	17.5	17.5	17.7	17.5	18.1	19.1	20.0
78°	19.0	18.7	17.9	17.4	16.4	16.2	16.2	16.5	16.9	18.1	18.7
78.5°	17.9	17.6	16.9	16.3	15.3	15.0	15.2	15.3	16.0	16.8	17.5
79°	16.8	16.5	15.7	15.2	14.5	13.8	14.3	14.5	14.8	15.8	16.4
79.5°	15.7	15.4	14.6	14.1	13.2	13.2	13.4	13.2	13.7	14.7	15.4
80°	14.5	14.3	13.6	13.1	12.0	11.9	12.2	12.2	12.7	13.6	14.4
80.5°	13.5	13.1	12.6	12.0	11.0	10.8	11.2	11.2	11.7	12.6	13.4
81°	12.4	12.0	11.5	11.1	10.3	10.1	10.3	10.5	10.7	11.8	12.5
81.5°	11.4	11.0	10.5	10.1	9.2	9.3	9.2	9.4	9.7	10.7	11.9
82°	10.5	9.9	9.5	9.1	8.3	8.1	8.3	8.5	9.2	9.8	10.7
82.5°	9.7	9.0	8.6	8.3	7.5	7.5	7.6	7.7	7.9	9.0	9.7
83°	8.6	8.1	7.6	7.4	6.4	6.4	6.7	6.8	6.9	7.9	9.1
83.5°	7.7	7.2	6.8	6.5	5.6	5.6	6.0	6.5	6.6	7.0	8.1
84°	6.8	6.4	5.9	5.6	4.8	5.1	5.0	5.2	5.2	6.5	7.1
84.5°	6.0	5.6	5.1	4.8	4.0	4.1	4.3	4.3	4.4	5.2	6.4
85°	5.3	4.9	4.3	3.9	4.0	3.9	3.6	3.6	3.7	4.4	5.4
85.5°	4.6	4.3	3.5	3.2	2.7	2.8	3.1	2.9	3.1	3.7	4.7
86°	3.9	3.7	3.0	2.7	2.3	2.5	2.4	2.2	2.2	2.9	3.9
86.5°	3.2	3.1	2.4	2.1	1.8	2.2	2.0	1.8	2.1	2.3	3.3
87°	2.7	2.6	1.9	1.7	1.1	1.4	1.4	1.2	1.1	1.7	2.6
87.5°	2.3	2.0	1.6	1.3	0.8	0.9	1.1	0.9	0.6	1.1	2.1
88°	1.8	1.7	1.2	1.1	0.8	0.9	0.9	0.7	0.4	1.0	1.3
88.5°	1.3	1.2	0.8	0.8	0.3	0.6	0.8	0.1	0.0	0.3	0.8
89°	1.0	0.9	0.5	0.6	0.0	0.2	0.2	0.0	0.0	0.0	0.7
89.5°	0.7	0.6	0.4	0.4	0.1	0.0	0.3	0.0	0.0	0.0	0.2



TEST NUMBER: P1214543
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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: P1214543
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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: P1214543
 CATALOG NUMBER: HFL4001S/HFL4002S-940

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: P1214543
 CATALOG NUMBER: HFL4001S/HFL4002S-940

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: P1214543
CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1214543

CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	149.8	149.8	149.8	149.8	149.8	149.8
0.5°	149.9	149.6	149.8	149.5	149.2	150.3
1°	149.9	149.6	149.8	149.5	149.6	150.3
1.5°	149.9	149.6	149.8	149.5	149.5	150.2
2°	149.9	149.6	149.8	149.5	149.7	150.1
2.5°	149.9	149.6	149.8	149.5	150.1	150.2
3°	149.9	149.6	149.8	149.5	150.1	150.0
3.5°	149.9	149.6	149.8	149.5	150.1	149.8
4°	149.9	149.6	149.8	149.5	150.1	149.7
4.5°	149.9	149.6	149.9	149.5	150.3	149.4
5°	149.9	149.6	149.8	149.5	150.2	149.1
5.5°	149.9	149.6	150.0	149.5	150.2	148.7
6°	149.4	149.7	150.0	149.5	150.2	148.4
6.5°	148.8	149.5	149.8	149.5	150.2	148.2
7°	148.6	149.6	149.6	149.3	150.3	148.0
7.5°	148.6	149.3	149.6	149.3	150.3	147.8
8°	148.6	149.0	149.3	149.3	150.1	147.7
8.5°	148.5	148.8	149.3	149.3	149.8	147.3
9°	148.6	148.7	149.2	149.3	149.3	147.3
9.5°	148.6	148.4	149.2	149.4	149.1	147.3
10°	148.1	148.3	149.2	149.4	148.8	147.3
10.5°	147.5	148.4	148.8	149.2	148.5	146.9
11°	147.2	148.1	148.8	149.0	148.4	146.8
11.5°	147.1	147.8	148.4	149.0	148.0	146.6
12°	146.8	147.5	148.0	148.4	147.9	146.3
12.5°	146.3	147.1	147.7	148.1	147.6	146.0
13°	146.0	147.0	147.3	147.9	147.2	145.9
13.5°	145.8	146.8	147.1	147.6	146.9	145.8
14°	145.7	146.3	146.8	147.2	146.3	145.4
14.5°	145.6	146.1	146.5	146.5	145.8	144.9
15°	145.4	145.7	146.1	146.5	145.4	144.5
15.5°	144.9	145.2	145.6	146.4	145.0	144.2
16°	144.5	145.2	145.3	145.9	144.6	143.9
16.5°	144.5	145.0	145.1	145.3	144.4	143.4
17°	144.1	144.3	144.7	145.1	144.2	143.1
17.5°	143.5	143.7	144.3	144.6	143.9	142.7
18°	142.9	143.1	144.0	144.1	143.8	142.2
18.5°	142.7	142.9	143.8	144.1	143.4	141.6
19°	142.1	142.4	143.6	143.4	143.1	141.0
19.5°	141.6	141.9	143.3	143.2	142.8	140.3
20°	141.7	141.4	142.7	142.6	142.5	139.9
20.5°	140.5	140.7	142.4	142.0	141.8	139.4
21°	140.0	140.4	141.6	141.4	141.2	139.1
21.5°	139.8	139.9	140.9	141.0	140.5	138.7
22°	139.1	139.4	140.4	140.6	140.0	138.3



TEST NUMBER: P1214543

CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	138.6	139.0	139.8	140.2	139.8	137.9
23°	138.1	138.4	139.0	139.5	139.2	137.6
23.5°	137.4	137.6	138.4	139.2	138.5	137.1
24°	137.1	137.0	137.5	138.5	137.7	136.7
24.5°	136.3	136.6	137.0	137.9	137.2	136.1
25°	135.7	135.9	136.5	137.2	136.7	135.6
25.5°	135.1	135.2	135.7	136.7	136.0	134.6
26°	134.6	134.8	135.7	136.0	135.4	134.2
26.5°	134.3	134.1	134.9	135.7	134.7	133.4
27°	133.4	133.5	134.6	135.1	134.0	132.6
27.5°	132.9	133.2	133.8	134.6	133.3	131.9
28°	131.9	132.3	133.1	133.4	132.6	131.2
28.5°	131.4	131.6	132.5	132.8	131.8	130.2
29°	130.4	130.8	131.9	132.1	131.0	129.6
29.5°	129.6	130.1	131.1	131.6	130.3	129.0
30°	128.9	129.4	130.0	130.6	129.6	128.5
30.5°	128.5	128.4	129.3	129.9	129.0	127.7
31°	127.5	127.6	128.6	129.1	128.4	127.0
31.5°	127.1	126.8	128.0	128.3	127.7	126.4
32°	126.3	125.8	127.3	127.6	126.9	125.7
32.5°	125.6	125.0	126.7	127.3	126.5	124.7
33°	124.6	124.1	125.9	126.4	125.9	123.8
33.5°	124.1	123.2	125.2	125.7	125.1	122.7
34°	123.3	122.7	124.5	125.0	124.3	121.8
34.5°	122.5	121.7	123.8	124.2	123.6	121.2
35°	121.5	121.0	123.1	123.3	122.8	120.5
35.5°	120.7	120.3	122.3	122.4	122.1	119.8
36°	120.0	119.6	121.5	121.6	121.2	119.0
36.5°	119.2	118.8	120.5	121.1	120.5	118.1
37°	118.7	117.9	120.0	120.3	119.5	117.4
37.5°	117.7	117.3	119.0	119.3	118.5	116.8
38°	116.7	116.5	118.2	118.6	117.6	115.7
38.5°	115.9	115.2	117.2	117.9	116.5	114.7
39°	115.0	114.6	116.2	117.0	115.5	113.5
39.5°	114.3	113.8	115.4	115.8	114.7	112.6
40°	113.3	112.9	114.4	114.9	113.9	111.5
40.5°	112.2	112.1	113.4	113.9	113.0	110.6
41°	111.3	111.2	112.4	113.1	112.0	109.7
41.5°	110.6	110.4	111.3	112.2	111.1	108.8
42°	110.1	109.3	110.1	111.2	110.3	108.0
42.5°	108.8	108.5	109.3	110.2	109.4	107.2
43°	107.6	107.7	108.2	109.1	108.5	106.0
43.5°	106.7	106.5	107.4	108.1	107.5	105.3
44°	105.9	105.6	106.3	107.3	106.4	104.2
44.5°	104.9	104.6	105.4	106.2	105.5	103.4



TEST NUMBER: P1214543

CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	104.1	103.6	104.4	105.4	104.7	102.2
45.5°	103.3	102.9	103.5	104.4	103.5	101.0
46°	102.2	101.9	102.6	103.6	102.4	100.1
46.5°	101.0	100.8	101.5	102.4	101.4	99.3
47°	99.9	99.6	100.2	101.5	100.2	98.5
47.5°	99.1	98.4	99.2	100.4	99.0	97.4
48°	97.4	97.6	98.1	99.1	97.9	96.3
48.5°	96.3	96.4	97.0	97.9	96.6	94.9
49°	95.1	95.4	96.0	96.4	95.5	93.7
49.5°	93.9	94.4	95.1	95.4	94.5	92.6
50°	93.0	93.2	94.2	93.9	93.1	91.3
50.5°	91.9	92.2	92.9	93.0	92.1	90.5
51°	90.8	90.9	91.6	91.9	91.1	89.4
51.5°	89.6	89.7	90.8	90.8	90.0	88.7
52°	88.5	88.8	89.7	89.9	88.9	87.1
52.5°	87.1	87.4	88.7	88.6	87.6	85.8
53°	85.7	86.4	87.1	87.2	86.1	84.8
53.5°	84.5	85.0	85.9	86.1	84.8	83.6
54°	83.3	84.0	84.6	85.0	83.5	82.1
54.5°	82.2	82.7	83.3	83.6	82.1	80.8
55°	80.8	81.5	82.2	82.5	81.2	79.4
55.5°	79.7	80.6	81.1	81.3	80.4	78.3
56°	78.5	79.0	79.7	80.2	79.3	77.1
56.5°	77.2	77.8	78.2	79.1	77.9	75.9
57°	76.1	76.5	77.0	77.3	76.4	74.8
57.5°	74.9	75.3	75.7	76.0	75.2	73.6
58°	74.0	74.0	74.7	74.7	73.9	72.5
58.5°	72.5	72.9	73.3	73.6	72.5	71.1
59°	71.2	71.5	72.0	72.3	71.2	69.7
59.5°	69.8	70.2	70.9	70.9	69.8	68.3
60°	68.4	68.8	69.5	69.4	68.4	66.9
60.5°	66.9	67.5	68.3	68.2	67.1	65.7
61°	65.7	66.3	67.3	67.2	65.8	64.3
61.5°	64.2	65.0	66.1	65.8	64.5	63.0
62°	63.0	63.7	64.6	64.3	63.2	61.9
62.5°	61.7	62.6	63.4	63.0	62.0	60.7
63°	60.4	61.2	61.9	61.5	60.7	59.2
63.5°	59.3	59.9	60.7	60.1	59.4	57.8
64°	58.0	58.5	59.2	58.9	58.1	56.5
64.5°	56.7	57.1	57.8	57.6	56.5	55.2
65°	55.4	55.8	56.5	56.4	55.1	53.8
65.5°	53.9	54.4	55.2	54.8	53.8	52.4
66°	52.3	53.1	53.7	53.4	52.3	51.2
66.5°	51.0	51.6	52.3	52.1	50.9	49.7
67°	49.2	50.3	50.8	50.8	49.3	48.2



TEST NUMBER: P1214543
 CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	47.8	48.8	49.5	49.4	47.6	46.8
68°	46.3	47.5	48.1	48.0	46.3	45.3
68.5°	45.0	45.9	46.6	46.7	45.0	43.9
69°	43.7	44.7	45.3	45.4	43.5	42.4
69.5°	42.6	43.4	44.0	44.1	42.2	40.9
70°	41.0	42.0	42.4	42.6	40.7	39.4
70.5°	39.8	40.6	40.9	41.2	39.3	38.1
71°	38.5	39.3	39.6	40.0	37.9	36.8
71.5°	37.1	37.8	38.3	38.3	36.7	35.3
72°	35.8	36.4	36.9	37.0	35.3	33.9
72.5°	34.4	35.0	35.5	35.6	34.0	32.6
73°	33.0	33.8	34.1	34.2	32.7	31.3
73.5°	31.5	32.2	32.7	32.7	31.4	30.2
74°	30.3	31.0	31.4	31.3	30.3	28.9
74.5°	29.1	29.8	30.2	30.1	29.0	27.6
75°	27.8	28.6	28.9	28.8	27.7	26.3
75.5°	26.5	27.3	27.6	27.5	26.5	25.0
76°	25.2	25.9	26.2	26.3	25.3	23.9
76.5°	23.9	24.7	25.0	25.1	24.0	22.7
77°	22.7	23.4	23.7	23.7	22.8	21.5
77.5°	21.6	22.4	22.5	22.5	21.6	20.2
78°	20.5	21.1	21.3	21.3	20.5	19.0
78.5°	19.2	19.9	20.0	20.0	19.3	17.9
79°	17.9	18.6	18.8	19.0	18.2	16.8
79.5°	16.8	17.5	17.7	17.8	17.0	15.7
80°	15.7	16.5	16.7	16.6	15.9	14.5
80.5°	14.7	15.2	15.6	15.5	14.7	13.5
81°	13.5	14.3	14.5	14.4	13.8	12.4
81.5°	12.5	13.2	13.6	13.5	12.6	11.4
82°	11.4	12.1	12.5	12.5	11.6	10.5
82.5°	10.6	11.2	11.6	11.6	10.6	9.7
83°	9.5	10.1	10.6	10.6	9.7	8.6
83.5°	8.9	9.2	9.8	9.6	8.8	7.7
84°	7.7	8.5	8.8	8.7	7.9	6.8
84.5°	6.9	7.5	7.9	8.0	7.3	6.0
85°	6.5	6.6	7.2	7.3	6.3	5.3
85.5°	5.4	6.0	6.4	6.4	5.5	4.6
86°	4.9	5.2	5.7	5.6	4.8	3.9
86.5°	4.0	4.5	4.9	4.8	4.2	3.2
87°	3.4	3.8	4.2	4.1	3.5	2.7
87.5°	2.5	3.1	3.6	3.6	3.0	2.3
88°	2.0	2.6	3.0	2.9	2.5	1.8
88.5°	1.2	2.0	2.4	2.5	2.0	1.3
89°	1.1	1.6	2.0	1.9	1.6	1.0
89.5°	0.6	1.2	1.6	1.7	1.1	0.7



TEST NUMBER: P1214543
 CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.1	1.0	1.2	1.2	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	0.6	0.4	0.0
91.5°	0.0	0.3	0.5	0.4	0.3	0.0
92°	0.0	0.3	0.4	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: P1214543
CATALOG NUMBER: HFL4001S/HFL4002S-940

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: P1214543
CATALOG NUMBER: HFL4001S/HFL4002S-940

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: P1214543
CATALOG NUMBER: HFL4001S/HFL4002S-940

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: P1214543
CATALOG NUMBER: HFL4001S/HFL4002S-940

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P1214543
 CATALOG NUMBER: HFL4001S/HFL4002S-940

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	25.9	27.5	26.3	27.8	28.1	25.5	27.2	25.9	27.5	27.8
	3H	27.6	29.0	27.9	29.4	29.7	27.1	28.6	27.5	28.9	29.3
	4H	28.1	29.5	28.5	29.9	30.3	27.7	29.0	28.1	29.4	29.8
	6H	28.5	29.8	28.9	30.2	30.6	28.0	29.3	28.4	29.6	30.0
	8H	28.6	29.9	29.0	30.2	30.6	28.0	29.3	28.5	29.7	30.1
	12H	28.7	29.9	29.1	30.2	30.7	28.1	29.2	28.5	29.6	30.0
4H	2H	26.5	27.9	26.9	28.2	28.6	26.1	27.5	26.5	27.9	28.3
	3H	28.4	29.6	28.8	30.0	30.4	27.9	29.1	28.4	29.5	29.9
	4H	29.1	30.1	29.5	30.6	31.0	28.6	29.6	29.0	30.0	30.5
	6H	29.6	30.5	30.0	30.9	31.4	29.0	29.9	29.4	30.3	30.8
	8H	29.7	30.6	30.2	31.0	31.5	29.1	29.9	29.5	30.4	30.8
	12H	29.8	30.6	30.3	31.0	31.5	29.1	29.9	29.6	30.4	30.8
8H	4H	29.4	30.2	29.8	30.7	31.1	28.8	29.7	29.3	30.1	30.6
	6H	30.0	30.7	30.5	31.2	31.6	29.3	30.0	29.8	30.5	31.0
	8H	30.2	30.8	30.7	31.3	31.8	29.5	30.1	30.0	30.6	31.1
	12H	30.3	30.8	30.8	31.3	31.9	29.5	30.1	30.0	30.6	31.2
12H	4H	29.4	30.2	29.9	30.6	31.1	28.8	29.6	29.3	30.1	30.6
	6H	30.0	30.7	30.5	31.1	31.6	29.4	30.0	29.9	30.5	31.0
	8H	30.2	30.8	30.7	31.3	31.9	29.5	30.1	30.0	30.6	31.1

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: SP1-2509-560-4

Test Date: 10/10/2025

Luminaire Tested: HFLESD4-HFL4001S-HFLP60A-940

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.

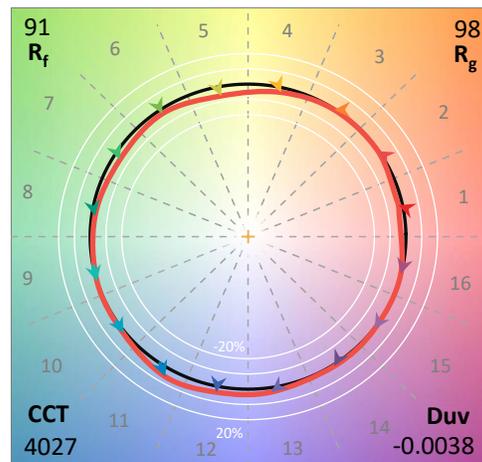
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2509-560-4
 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-940**
 Description: HALO FLEX LINEAR 4 SURFACE MOUNT DEEP 400LM/FT 60W UNV

Spectral Parameters

CCT (K): 4027
 CIE u': 0.2268
 CIE v': 0.4964
 Duv: -0.0038
 CIE x: 0.3767
 CIE y: 0.3664
 CIE z: 0.2569
 Peak Wavelength (nm): 455
 Dominant Wavelength (nm): 581
 Purity: 23
 R_f: 90.8
 R_g: 98.4

CRI (Ra):	95.7		
R1:	97.7	R9:	87.3
R2:	97.7	R10:	97.8
R3:	98.2	R11:	97.1
R4:	95.4	R12:	74.9
R5:	96.1	R13:	98.4
R6:	94.5	R14:	99.6
R7:	93.6	R15:	96.6
R8:	92.4		



Test Conditions

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

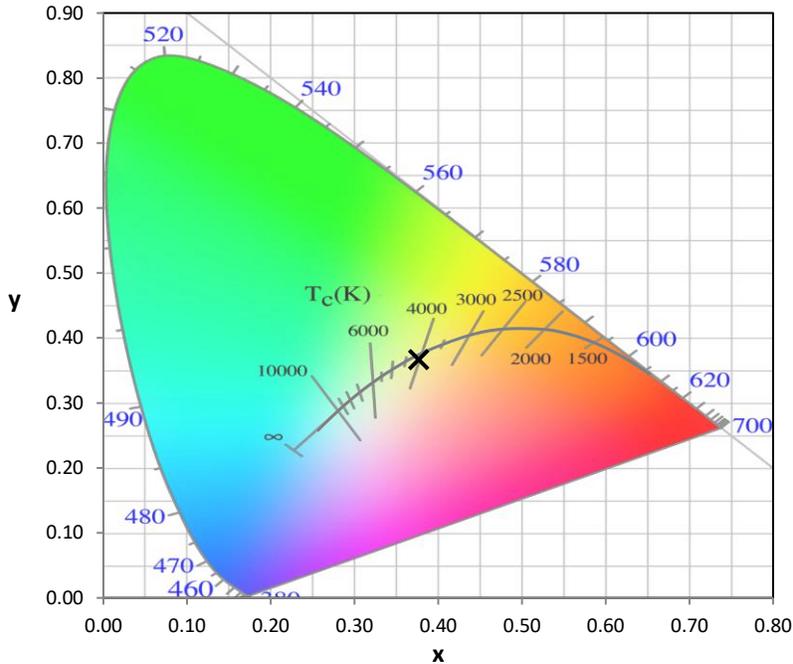
REPORT NUMBER: SP1-2509-560-4

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

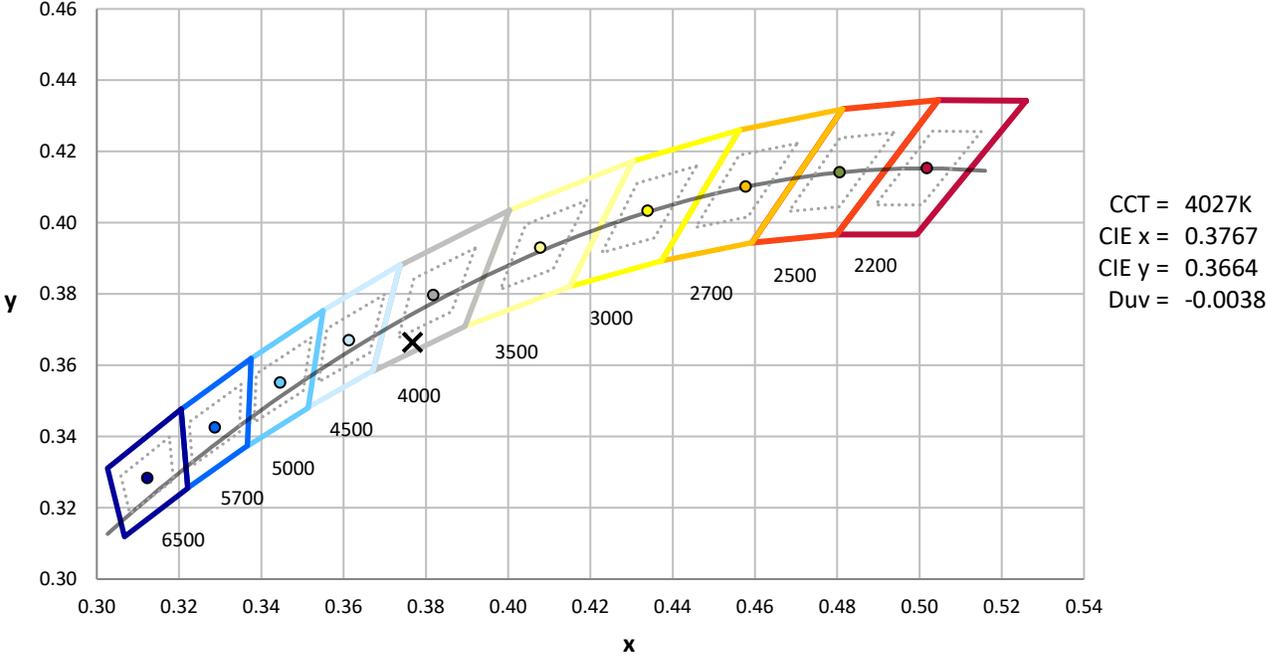
Sample Number	Condition	Description
P2509-560-LM.4	Good	EX LINEAR 4' SURFACE MOUNT DEEP, 400LM/FT 6

REPORT NUMBER: SP1-2509-560-4

CIE 1931 Chromaticity Diagram



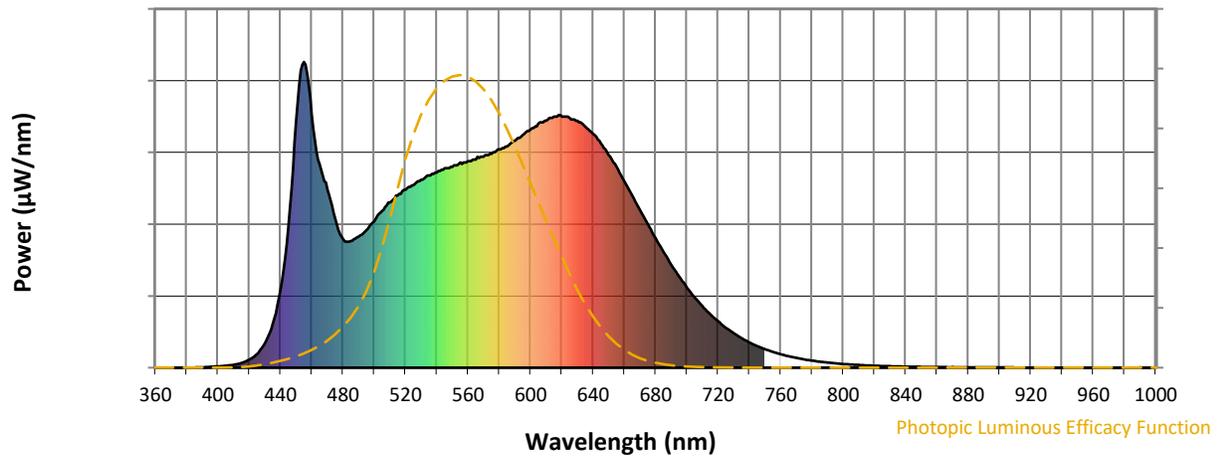
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2509-560-4

Photopic Flux vs. Wavelength

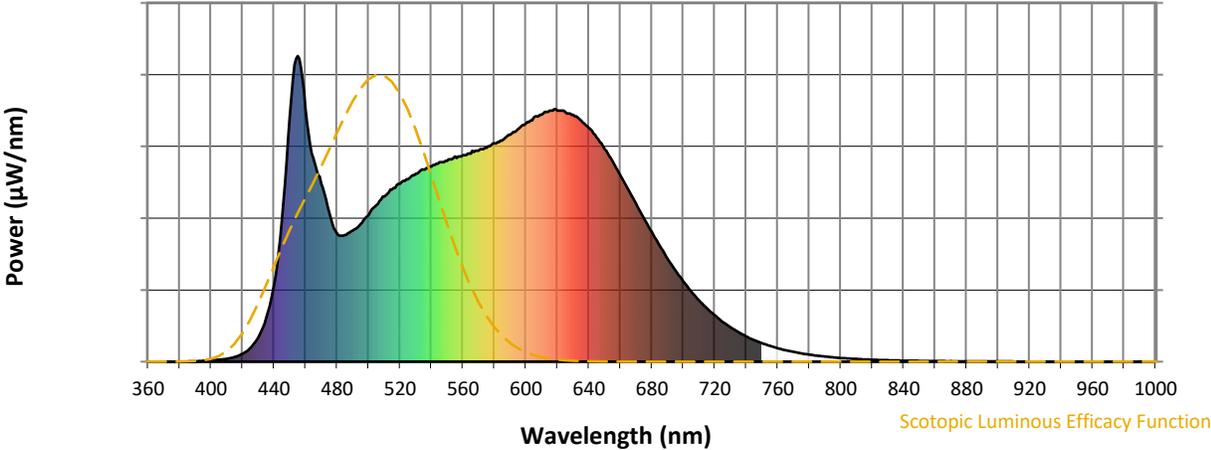


Photopic Lumens: NR

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	429	NR	620	822	NR	750	61	NR	880	1	NR
365	0	NR	495	449	NR	625	817	NR	755	52	NR	885	1	NR
370	0	NR	500	479	NR	630	808	NR	760	44	NR	890	1	NR
375	0	NR	505	512	NR	635	789	NR	765	38	NR	895	1	NR
380	0	NR	510	540	NR	640	765	NR	770	32	NR	900	1	NR
385	0	NR	515	563	NR	645	732	NR	775	27	NR	905	1	NR
390	1	NR	520	582	NR	650	695	NR	780	23	NR	910	1	NR
395	3	NR	525	596	NR	655	657	NR	785	20	NR	915	0	NR
400	4	NR	530	615	NR	660	610	NR	790	17	NR	920	0	NR
405	7	NR	535	629	NR	665	563	NR	795	14	NR	925	0	NR
410	10	NR	540	638	NR	670	516	NR	800	12	NR	930	0	NR
415	15	NR	545	653	NR	675	469	NR	805	10	NR	935	0	NR
420	26	NR	550	657	NR	680	424	NR	810	9	NR	940	0	NR
425	45	NR	555	671	NR	685	379	NR	815	8	NR	945	0	NR
430	79	NR	560	676	NR	690	338	NR	820	6	NR	950	0	NR
435	143	NR	565	681	NR	695	299	NR	825	5	NR	955	0	NR
440	253	NR	570	690	NR	700	262	NR	830	5	NR	960	0	NR
445	460	NR	575	700	NR	705	231	NR	835	4	NR	965	0	NR
450	803	NR	580	714	NR	710	200	NR	840	4	NR	970	0	NR
455	1000	NR	585	723	NR	715	175	NR	845	3	NR	975	0	NR
460	831	NR	590	742	NR	720	152	NR	850	3	NR	980	0	NR
465	667	NR	595	761	NR	725	131	NR	855	2	NR	985	0	NR
470	582	NR	600	779	NR	730	113	NR	860	2	NR	990	1	NR
475	488	NR	605	798	NR	735	97	NR	865	2	NR	995	0	NR
480	421	NR	610	808	NR	740	82	NR	870	2	NR	1000	0	NR
485	414	NR	615	822	NR	745	71	NR	875	1	NR			

REPORT NUMBER: SP1-2509-560-4

Scotopic Flux vs. Wavelength

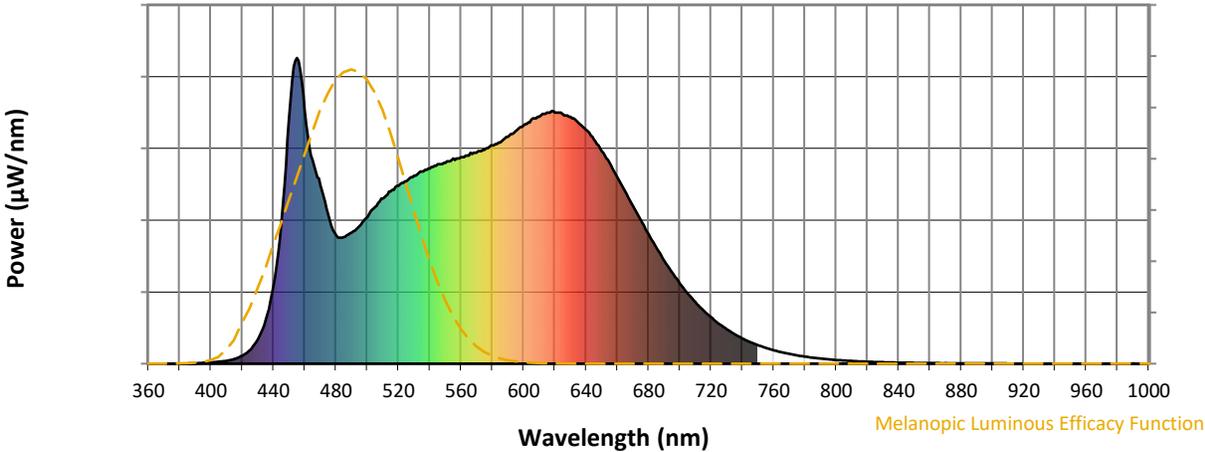


Scotopic Lumens: NR S/P: 1.88

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	429	NR	620	822	NR	750	61	NR	880	1	NR
365	0	NR	495	449	NR	625	817	NR	755	52	NR	885	1	NR
370	0	NR	500	479	NR	630	808	NR	760	44	NR	890	1	NR
375	0	NR	505	512	NR	635	789	NR	765	38	NR	895	1	NR
380	0	NR	510	540	NR	640	765	NR	770	32	NR	900	1	NR
385	0	NR	515	563	NR	645	732	NR	775	27	NR	905	1	NR
390	1	NR	520	582	NR	650	695	NR	780	23	NR	910	1	NR
395	3	NR	525	596	NR	655	657	NR	785	20	NR	915	0	NR
400	4	NR	530	615	NR	660	610	NR	790	17	NR	920	0	NR
405	7	NR	535	629	NR	665	563	NR	795	14	NR	925	0	NR
410	10	NR	540	638	NR	670	516	NR	800	12	NR	930	0	NR
415	15	NR	545	653	NR	675	469	NR	805	10	NR	935	0	NR
420	26	NR	550	657	NR	680	424	NR	810	9	NR	940	0	NR
425	45	NR	555	671	NR	685	379	NR	815	8	NR	945	0	NR
430	79	NR	560	676	NR	690	338	NR	820	6	NR	950	0	NR
435	143	NR	565	681	NR	695	299	NR	825	5	NR	955	0	NR
440	253	NR	570	690	NR	700	262	NR	830	5	NR	960	0	NR
445	460	NR	575	700	NR	705	231	NR	835	4	NR	965	0	NR
450	803	NR	580	714	NR	710	200	NR	840	4	NR	970	0	NR
455	1000	NR	585	723	NR	715	175	NR	845	3	NR	975	0	NR
460	831	NR	590	742	NR	720	152	NR	850	3	NR	980	0	NR
465	667	NR	595	761	NR	725	131	NR	855	2	NR	985	0	NR
470	582	NR	600	779	NR	730	113	NR	860	2	NR	990	1	NR
475	488	NR	605	798	NR	735	97	NR	865	2	NR	995	0	NR
480	421	NR	610	808	NR	740	82	NR	870	2	NR	1000	0	NR
485	414	NR	615	822	NR	745	71	NR	875	1	NR			

REPORT NUMBER: SP1-2509-560-4

Melanopic Flux vs. Wavelength

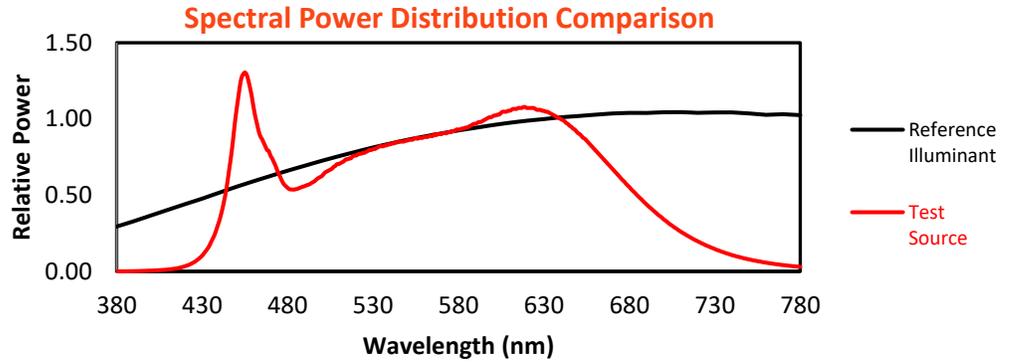


Melanopic Lumens: NR M/P: 4.04

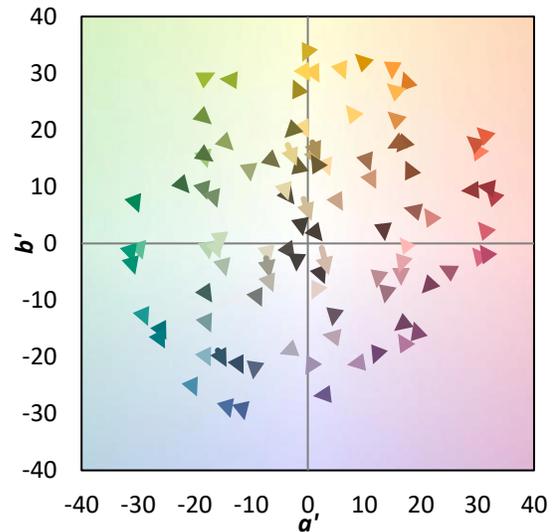
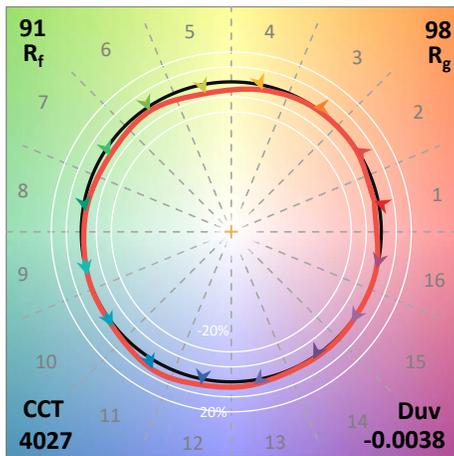
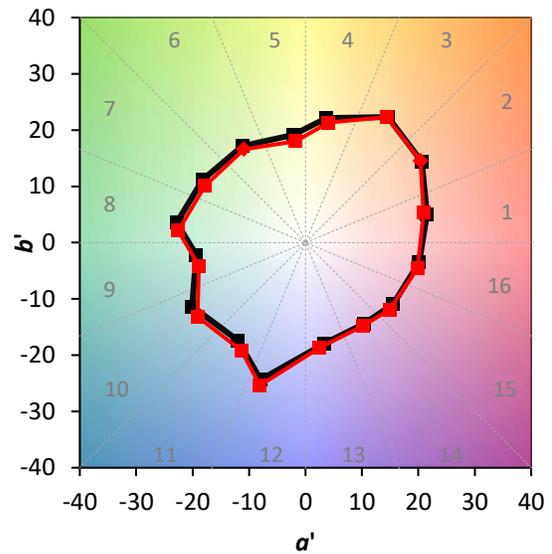
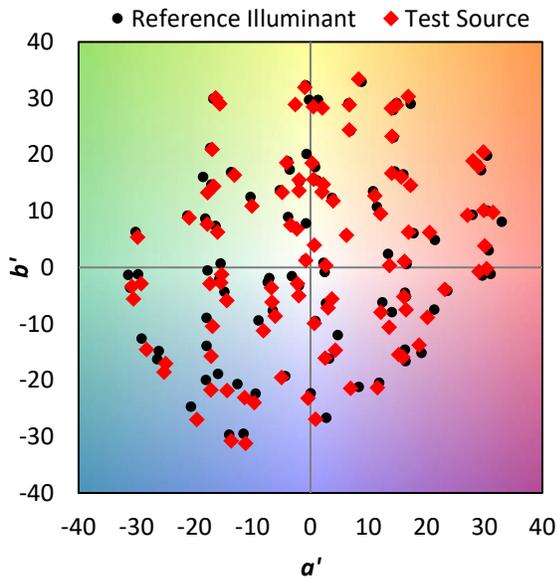
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	429	NR	620	822	NR	750	61	NR	880	1	NR
365	0	NR	495	449	NR	625	817	NR	755	52	NR	885	1	NR
370	0	NR	500	479	NR	630	808	NR	760	44	NR	890	1	NR
375	0	NR	505	512	NR	635	789	NR	765	38	NR	895	1	NR
380	0	NR	510	540	NR	640	765	NR	770	32	NR	900	1	NR
385	0	NR	515	563	NR	645	732	NR	775	27	NR	905	1	NR
390	1	NR	520	582	NR	650	695	NR	780	23	NR	910	1	NR
395	3	NR	525	596	NR	655	657	NR	785	20	NR	915	0	NR
400	4	NR	530	615	NR	660	610	NR	790	17	NR	920	0	NR
405	7	NR	535	629	NR	665	563	NR	795	14	NR	925	0	NR
410	10	NR	540	638	NR	670	516	NR	800	12	NR	930	0	NR
415	15	NR	545	653	NR	675	469	NR	805	10	NR	935	0	NR
420	26	NR	550	657	NR	680	424	NR	810	9	NR	940	0	NR
425	45	NR	555	671	NR	685	379	NR	815	8	NR	945	0	NR
430	79	NR	560	676	NR	690	338	NR	820	6	NR	950	0	NR
435	143	NR	565	681	NR	695	299	NR	825	5	NR	955	0	NR
440	253	NR	570	690	NR	700	262	NR	830	5	NR	960	0	NR
445	460	NR	575	700	NR	705	231	NR	835	4	NR	965	0	NR
450	803	NR	580	714	NR	710	200	NR	840	4	NR	970	0	NR
455	1000	NR	585	723	NR	715	175	NR	845	3	NR	975	0	NR
460	831	NR	590	742	NR	720	152	NR	850	3	NR	980	0	NR
465	667	NR	595	761	NR	725	131	NR	855	2	NR	985	0	NR
470	582	NR	600	779	NR	730	113	NR	860	2	NR	990	1	NR
475	488	NR	605	798	NR	735	97	NR	865	2	NR	995	0	NR
480	421	NR	610	808	NR	740	82	NR	870	2	NR	1000	0	NR
485	414	NR	615	822	NR	745	71	NR	875	1	NR			

Summary

$R_f = 90.8$
 $R_g = 98.4$
 $CIE R_a = 95.7$
 $R_9 = 87.3$

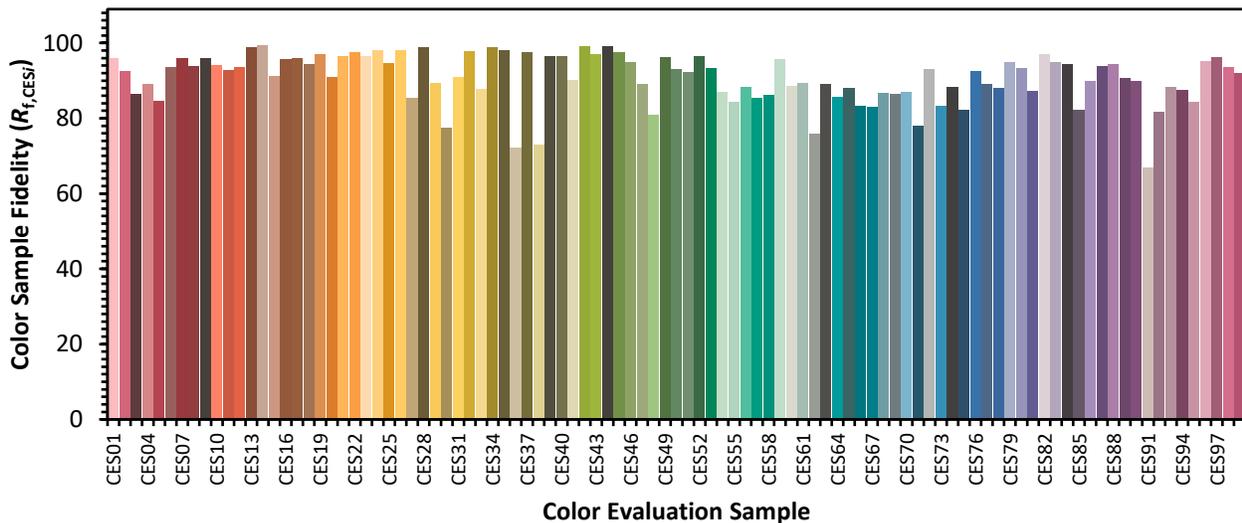


Color Vector Graphics

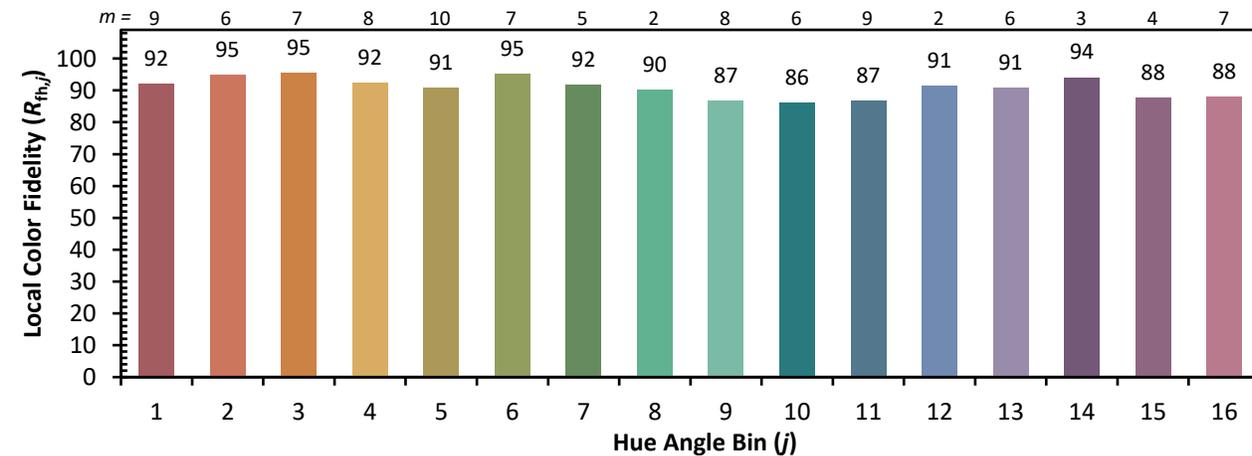
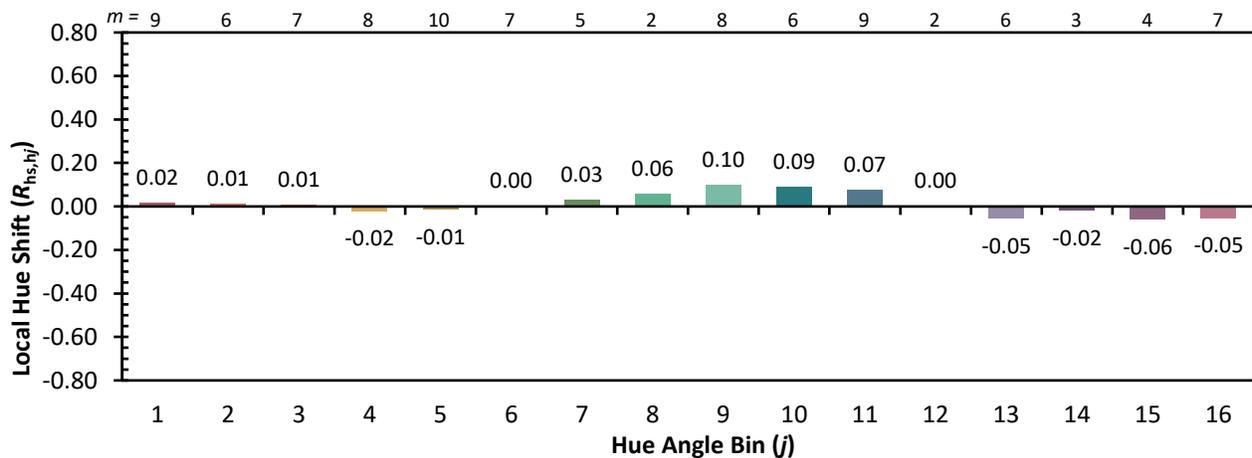
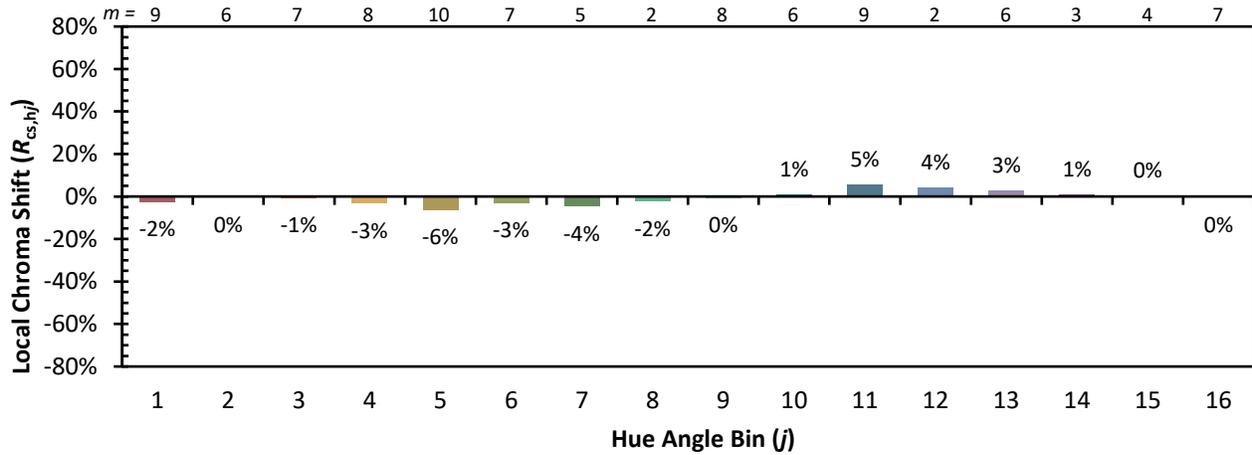


Individual Sample Fidelity Index ($R_{f,i}$)

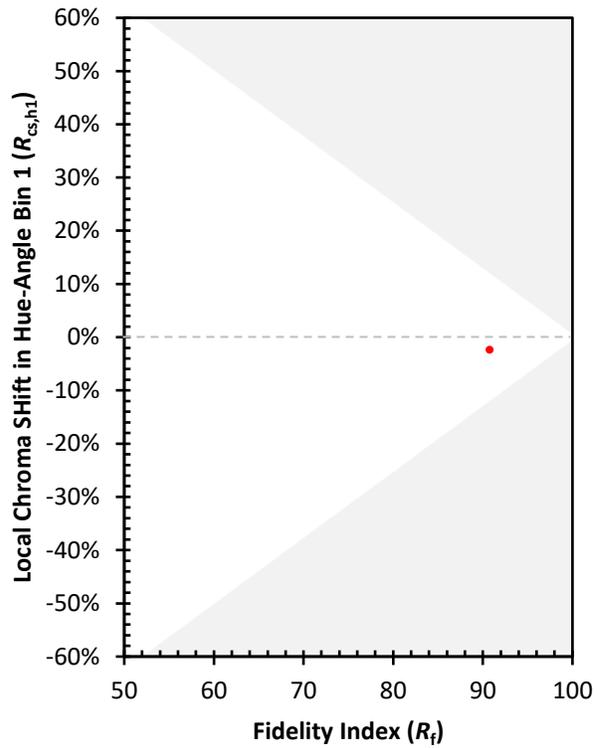
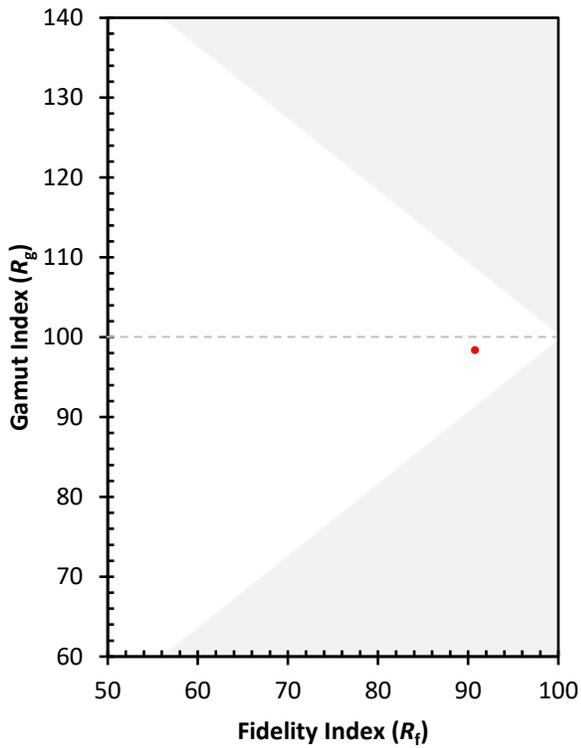
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CES02 = 62	CES27 = 85	CES52 = 97	CES77 = 89
CES03 = 31	CES28 = 99	CES53 = 93	CES78 = 88
CES04 = 69	CES29 = 89	CES54 = 87	CES79 = 95
CES05 = 49	CES30 = 78	CES55 = 84	CES80 = 93
CES06 = 51	CES31 = 91	CES56 = 88	CES81 = 87
CES07 = 42	CES32 = 98	CES57 = 86	CES82 = 97
CES08 = 41	CES33 = 88	CES58 = 86	CES83 = 95
CES09 = 29	CES34 = 99	CES59 = 96	CES84 = 94
CES10 = 74	CES35 = 98	CES60 = 88	CES85 = 82
CES11 = 57	CES36 = 72	CES61 = 89	CES86 = 90
CES12 = 63	CES37 = 98	CES62 = 76	CES87 = 94
CES13 = 43	CES38 = 73	CES63 = 89	CES88 = 94
CES14 = 74	CES39 = 97	CES64 = 86	CES89 = 91
CES15 = 71	CES40 = 97	CES65 = 88	CES90 = 90
CES16 = 47	CES41 = 90	CES66 = 83	CES91 = 67
CES17 = 49	CES42 = 99	CES67 = 83	CES92 = 82
CES18 = 56	CES43 = 97	CES68 = 87	CES93 = 88
CES19 = 71	CES44 = 99	CES69 = 87	CES94 = 87
CES20 = 66	CES45 = 98	CES70 = 87	CES95 = 84
CES21 = 85	CES46 = 95	CES71 = 78	CES96 = 95
CES22 = 78	CES47 = 89	CES72 = 93	CES97 = 96
CES23 = 91	CES48 = 81	CES73 = 83	CES98 = 94
CES24 = 90	CES49 = 96	CES74 = 88	CES99 = 92
CES25 = 71	CES50 = 93	CES75 = 82	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)