

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: P938669

Luminaire Tested: HLB4LSFS5-850LM-4000K

Issue Date: 1/15/2025

Test Information

Test Method: LM-79-2019
Report Number: P938669
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2404364A001)
Test Lab:
Issue Date: 1/15/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: HLB4LSFS5-850LM-4000K
Description: 4IN SELECTABLE LUMENS, 90CRI, DIMMING TO 10%
Light Source: SELECTABLE CCT 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 933.1 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.3 / 1.38
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

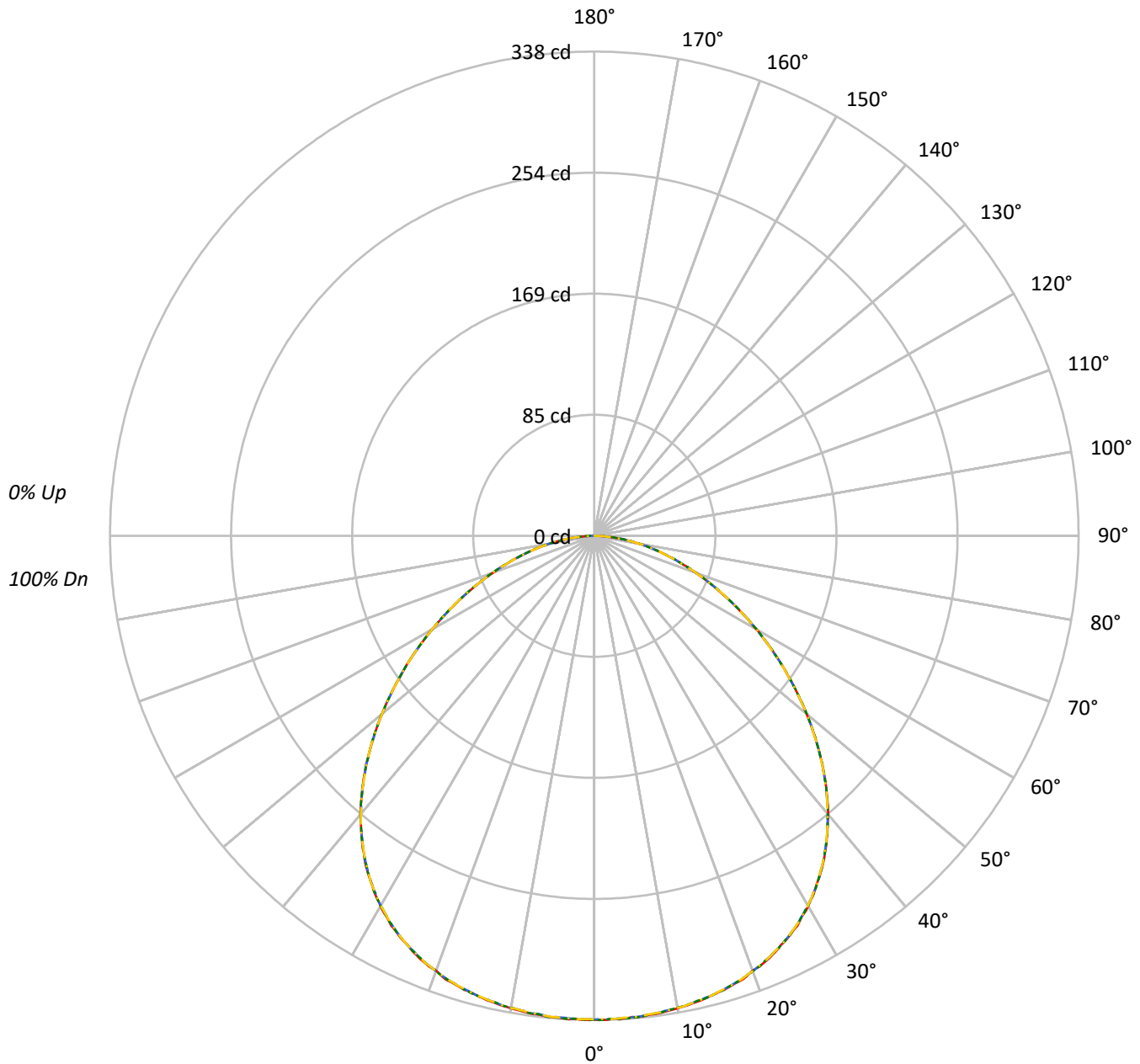
Input Watts (W): 9.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	109	105	100	97	106	102	98	95	98	95	92	94	92	89	91	88	87
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73
3	91	81	73	66	89	79	72	66	76	70	65	73	68	63	71	66	62
4	83	72	63	56	81	70	62	56	68	61	55	66	59	55	63	58	54
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41
7	66	53	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	42512	42512	42512	42512
5°	42611	42624	42611	42624
10°	42797	42759	42797	42759
15°	43074	43074	43074	43074
20°	43272	43312	43272	43312
25°	43491	43463	43491	43463
30°	43363	43349	43363	43349
35°	42818	42756	42818	42756
40°	41712	41630	41712	41630
45°	40045	40027	40045	40027
50°	37846	37885	37846	37885
55°	35479	35501	35479	35501
60°	32872	32973	32872	32973
65°	30225	30374	30225	30374
70°	27671	27855	27671	27855
75°	25236	25479	25236	25479
80°	22829	23192	22829	23192
85°	19638	20071	19638	20071

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 89.5°

Luminance: 41822 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.1	3.4
10°-20°	93.4	10.0
20°-30°	144.2	15.5
30°-40°	173.7	18.6
40°-50°	173.0	18.5
50°-60°	144.5	15.5
60°-70°	101.1	10.8
70°-80°	55.4	5.9
80°-90°	15.7	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	269.6	28.9
0°-40°	443.4	47.5
0°-60°	760.9	81.5
0°-90°	933.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	933.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	338	338	338	338	338	
5°	337	337	337	337	337	32
15°	331	331	331	331	331	93
25°	313	313	313	313	313	144
35°	279	278	279	278	279	174
45°	225	225	225	225	225	173
55°	162	162	162	162	162	145
65°	102	102	102	102	102	101
75°	52	52	52	52	52	55
85°	14	14	14	14	14	15
90°	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°	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8
0.5°	338.1	337.8	337.5	337.6	338.1	337.6	337.5	337.8	338.1	337.8	337.5
1°	338.0	337.6	337.5	337.6	338.1	337.6	337.5	337.6	338.0	337.6	337.5
1.5°	338.0	337.7	337.7	337.6	337.7	337.6	337.7	337.7	338.0	337.7	337.7
2°	337.6	337.7	337.6	337.6	337.5	337.6	337.6	337.7	337.6	337.7	337.6
2.5°	337.6	337.6	337.5	337.6	337.4	337.6	337.5	337.6	337.6	337.6	337.5
3°	338.0	337.6	337.4	337.5	337.8	337.5	337.4	337.6	338.0	337.6	337.4
3.5°	337.7	337.7	337.1	337.2	337.7	337.2	337.1	337.7	337.7	337.7	337.1
4°	337.4	337.2	337.1	337.0	337.6	337.0	337.1	337.2	337.4	337.2	337.1
4.5°	337.0	337.0	337.1	337.1	337.4	337.1	337.1	337.0	337.0	337.0	337.1
5°	337.3	337.1	337.1	337.0	337.4	337.0	337.1	337.1	337.3	337.1	337.1
5.5°	337.3	337.0	337.0	336.8	337.4	336.8	337.0	337.0	337.3	337.0	337.0
6°	337.0	336.6	336.6	336.6	337.0	336.6	336.6	336.6	337.0	336.6	336.6
6.5°	336.6	336.5	336.1	336.5	336.4	336.5	336.1	336.5	336.6	336.5	336.1
7°	336.6	336.3	336.1	336.1	336.1	336.1	336.1	336.3	336.6	336.3	336.1
7.5°	336.5	336.1	336.0	336.0	336.3	336.0	336.0	336.1	336.5	336.1	336.0
8°	336.2	336.0	335.7	335.7	336.1	335.7	335.7	336.0	336.2	336.0	335.7
8.5°	335.8	335.6	335.3	335.6	335.5	335.6	335.3	335.6	335.8	335.6	335.3
9°	335.6	335.3	335.1	335.2	335.1	335.2	335.1	335.3	335.6	335.3	335.1
9.5°	335.3	335.1	334.7	335.0	334.9	335.0	334.7	335.1	335.3	335.1	334.7
10°	334.9	334.9	334.7	334.6	334.6	334.6	334.7	334.9	334.9	334.9	334.7
10.5°	334.6	334.6	334.5	334.4	334.3	334.4	334.5	334.6	334.6	334.6	334.5
11°	334.3	334.1	334.2	334.1	334.2	334.1	334.2	334.1	334.3	334.1	334.2
11.5°	334.0	333.7	333.6	333.6	333.6	333.6	333.6	333.7	334.0	333.7	333.6
12°	333.4	333.3	333.1	333.0	333.1	333.0	333.1	333.3	333.4	333.3	333.1
12.5°	333.0	332.9	332.7	332.6	332.6	332.6	332.7	332.9	333.0	332.9	332.7
13°	332.7	332.6	332.4	332.5	332.3	332.5	332.4	332.6	332.7	332.6	332.4
13.5°	332.1	332.3	331.8	332.3	332.1	332.3	331.8	332.3	332.1	332.3	331.8
14°	331.6	331.7	331.5	331.5	331.6	331.5	331.5	331.7	331.6	331.7	331.5
14.5°	331.1	331.0	331.0	330.8	331.0	330.8	331.0	331.0	331.1	331.0	331.0
15°	330.6	330.3	330.2	330.3	330.6	330.3	330.2	330.3	330.6	330.3	330.2
15.5°	329.9	329.8	329.6	329.8	330.1	329.8	329.6	329.8	329.9	329.8	329.6
16°	329.6	329.3	329.1	329.1	329.6	329.1	329.1	329.3	329.6	329.3	329.1
16.5°	329.0	328.7	328.5	328.7	328.6	328.7	328.5	328.7	329.0	328.7	328.5
17°	328.3	328.0	328.0	327.9	328.0	327.9	328.0	328.0	328.3	328.0	328.0
17.5°	327.6	327.3	327.2	327.2	327.4	327.2	327.2	327.3	327.6	327.3	327.2
18°	327.1	326.6	326.6	326.4	326.8	326.4	326.6	326.6	327.1	326.6	326.6
18.5°	326.6	326.0	326.0	325.8	325.9	325.8	326.0	326.0	326.6	326.0	326.0
19°	325.6	325.4	325.0	324.9	325.2	324.9	325.0	325.4	325.6	325.4	325.0
19.5°	324.3	324.4	324.1	324.3	324.4	324.3	324.1	324.4	324.3	324.4	324.1
20°	323.1	323.6	323.5	323.5	323.4	323.5	323.5	323.6	323.1	323.6	323.5
20.5°	322.5	322.8	322.4	322.6	322.5	322.6	322.4	322.8	322.5	322.8	322.4
21°	322.1	322.0	321.5	321.4	322.0	321.4	321.5	322.0	322.1	322.0	321.5



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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°	319.2	318.9	318.5	318.7	318.6	318.7	318.5	318.9	319.2	318.9	318.5
23°	318.0	317.8	317.5	317.5	317.5	317.5	317.5	317.8	318.0	317.8	317.5
23.5°	316.9	316.4	316.3	316.4	316.4	316.4	316.3	316.4	316.9	316.4	316.3
24°	315.6	315.6	315.4	315.1	315.4	315.1	315.4	315.6	315.6	315.6	315.4
24.5°	314.0	314.6	314.1	314.0	314.2	314.0	314.1	314.6	314.0	314.6	314.1
25°	313.2	312.9	312.9	312.8	313.0	312.8	312.9	312.9	313.2	312.9	312.9
25.5°	312.0	311.6	311.7	311.6	311.6	311.6	311.7	311.6	312.0	311.6	311.7
26°	310.7	310.4	310.4	310.4	310.6	310.4	310.4	310.4	310.7	310.4	310.4
26.5°	309.3	309.1	308.9	308.9	309.3	308.9	308.9	309.1	309.3	309.1	308.9
27°	308.0	307.8	307.6	307.4	307.7	307.4	307.6	307.8	308.0	307.8	307.6
27.5°	307.0	306.4	306.1	306.2	306.2	306.2	306.1	306.4	307.0	306.4	306.1
28°	305.1	304.8	304.6	304.6	304.8	304.6	304.6	304.8	305.1	304.8	304.6
28.5°	303.1	303.1	302.8	303.0	303.1	303.0	302.8	303.1	303.1	303.1	302.8
29°	301.8	301.6	301.3	301.3	301.5	301.3	301.3	301.6	301.8	301.6	301.3
29.5°	300.3	299.9	299.7	299.5	299.8	299.5	299.7	299.9	300.3	299.9	299.7
30°	298.4	298.2	298.1	297.8	298.3	297.8	298.1	298.2	298.4	298.2	298.1
30.5°	296.4	296.3	296.4	296.3	296.7	296.3	296.4	296.3	296.4	296.3	296.4
31°	294.9	294.6	294.6	294.5	294.8	294.5	294.6	294.6	294.9	294.6	294.6
31.5°	293.2	293.0	292.5	292.6	292.9	292.6	292.5	293.0	293.2	293.0	292.5
32°	291.0	291.0	290.7	290.6	291.2	290.6	290.7	291.0	291.0	291.0	290.7
32.5°	288.7	288.9	288.9	288.7	289.0	288.7	288.9	288.9	288.7	288.9	288.9
33°	286.9	286.9	287.1	286.7	286.7	286.7	287.1	286.9	286.9	286.9	287.1
33.5°	285.0	285.0	284.7	284.7	284.7	284.7	284.7	285.0	285.0	285.0	284.7
34°	282.8	283.0	282.5	282.6	282.8	282.6	282.5	283.0	282.8	283.0	282.5
34.5°	280.9	280.6	280.3	280.2	280.7	280.2	280.3	280.6	280.9	280.6	280.3
35°	278.7	278.1	278.2	278.1	278.3	278.1	278.2	278.1	278.7	278.1	278.2
35.5°	276.3	276.1	275.9	276.0	276.0	276.0	275.9	276.1	276.3	276.1	275.9
36°	273.8	274.0	273.6	273.7	273.9	273.7	273.6	274.0	273.8	274.0	273.6
36.5°	271.6	271.6	271.2	271.4	271.3	271.4	271.2	271.6	271.6	271.6	271.2
37°	269.2	269.0	268.8	268.8	269.0	268.8	268.8	269.0	269.2	269.0	268.8
37.5°	266.5	266.5	266.2	266.3	266.6	266.3	266.2	266.5	266.5	266.5	266.2
38°	264.0	264.2	263.9	263.9	264.1	263.9	263.9	264.2	264.0	264.2	263.9
38.5°	261.5	261.6	261.3	261.4	261.5	261.4	261.3	261.6	261.5	261.6	261.3
39°	258.8	258.8	258.8	258.7	258.9	258.7	258.8	258.8	258.8	258.8	258.8
39.5°	256.4	256.2	256.1	256.1	256.0	256.1	256.1	256.2	256.4	256.2	256.1
40°	253.9	253.6	253.4	253.5	253.4	253.5	253.4	253.6	253.9	253.6	253.4
40.5°	251.1	250.8	250.5	250.7	250.9	250.7	250.5	250.8	251.1	250.8	250.5
41°	248.3	247.9	247.9	247.9	248.4	247.9	247.9	247.9	248.3	247.9	247.9
41.5°	245.3	245.2	245.1	245.1	245.3	245.1	245.1	245.2	245.3	245.2	245.1
42°	242.4	242.4	242.4	242.3	242.5	242.3	242.4	242.4	242.4	242.4	242.4
42.5°	239.7	239.6	239.5	239.5	239.7	239.5	239.5	239.6	239.7	239.6	239.5
43°	236.8	236.7	236.5	236.5	236.8	236.5	236.5	236.7	236.8	236.7	236.5
43.5°	234.0	233.7	233.5	233.7	233.8	233.7	233.5	233.7	234.0	233.7	233.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	225.0	224.7	224.7	224.7	224.9	224.7	224.7	224.7	225.0	224.7	224.7
45.5°	221.7	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.7	221.6	221.6
46°	218.6	218.7	218.6	218.6	218.5	218.6	218.6	218.7	218.6	218.7	218.6
46.5°	215.5	215.6	215.6	215.6	215.5	215.6	215.6	215.6	215.5	215.6	215.6
47°	212.3	212.3	212.5	212.4	212.4	212.4	212.5	212.3	212.3	212.3	212.5
47.5°	209.3	209.0	209.1	209.1	209.5	209.1	209.1	209.0	209.3	209.0	209.1
48°	206.2	206.0	206.0	206.0	206.3	206.0	206.0	206.0	206.2	206.0	206.0
48.5°	203.1	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.1	203.0	203.0
49°	200.0	200.0	199.9	199.8	200.0	199.8	199.9	200.0	200.0	200.0	199.9
49.5°	196.6	196.6	196.5	196.6	196.8	196.6	196.5	196.6	196.6	196.6	196.5
50°	193.3	193.4	193.4	193.6	193.5	193.6	193.4	193.4	193.3	193.4	193.4
50.5°	190.3	190.1	190.2	190.4	190.3	190.4	190.2	190.1	190.3	190.1	190.2
51°	187.1	187.0	187.0	187.1	187.2	187.1	187.0	187.0	187.1	187.0	187.0
51.5°	183.8	183.8	183.8	183.9	184.0	183.9	183.8	183.8	183.8	183.8	183.8
52°	180.6	180.6	180.6	180.7	180.8	180.7	180.6	180.6	180.6	180.6	180.6
52.5°	177.4	177.3	177.4	177.5	177.6	177.5	177.4	177.3	177.4	177.3	177.4
53°	174.3	174.2	174.2	174.3	174.4	174.3	174.2	174.2	174.3	174.2	174.2
53.5°	171.2	170.9	171.0	171.2	171.3	171.2	171.0	170.9	171.2	170.9	171.0
54°	167.7	167.7	167.7	168.0	168.2	168.0	167.7	167.7	167.7	167.7	167.7
54.5°	164.5	164.5	164.7	164.9	165.1	164.9	164.7	164.5	164.5	164.5	164.7
55°	161.7	161.5	161.5	161.8	161.8	161.8	161.5	161.5	161.7	161.5	161.5
55.5°	158.6	158.2	158.4	158.6	158.7	158.6	158.4	158.2	158.6	158.2	158.4
56°	155.2	155.1	155.2	155.4	155.4	155.4	155.2	155.1	155.2	155.1	155.2
56.5°	152.2	152.0	152.0	152.2	152.4	152.2	152.0	152.0	152.2	152.0	152.0
57°	149.0	149.0	148.9	149.1	149.3	149.1	148.9	149.0	149.0	149.0	148.9
57.5°	145.9	145.6	145.8	145.9	146.3	145.9	145.8	145.6	145.9	145.6	145.8
58°	142.9	142.6	142.7	143.0	143.0	143.0	142.7	142.6	142.9	142.6	142.7
58.5°	139.7	139.7	139.7	139.9	140.0	139.9	139.7	139.7	139.7	139.7	139.7
59°	136.5	136.6	136.7	136.9	136.9	136.9	136.7	136.6	136.5	136.6	136.7
59.5°	133.6	133.5	133.7	133.7	133.9	133.7	133.7	133.5	133.6	133.5	133.7
60°	130.6	130.5	130.7	130.8	131.0	130.8	130.7	130.5	130.6	130.5	130.7
60.5°	127.5	127.5	127.6	127.8	128.0	127.8	127.6	127.5	127.5	127.5	127.6
61°	124.6	124.6	124.7	124.8	124.9	124.8	124.7	124.6	124.6	124.6	124.7
61.5°	121.6	121.7	121.8	121.8	122.0	121.8	121.8	121.7	121.6	121.7	121.8
62°	118.7	118.8	118.8	119.0	119.0	119.0	118.8	118.8	118.7	118.8	118.8
62.5°	115.7	115.8	115.9	116.1	116.2	116.1	115.9	115.8	115.7	115.8	115.9
63°	112.8	112.8	113.0	113.1	113.2	113.1	113.0	112.8	112.8	112.8	113.0
63.5°	110.0	110.1	110.2	110.2	110.4	110.2	110.2	110.1	110.0	110.1	110.2
64°	107.2	107.2	107.4	107.5	107.6	107.5	107.4	107.2	107.2	107.2	107.4
64.5°	104.2	104.4	104.6	104.6	104.6	104.6	104.6	104.4	104.2	104.4	104.6
65°	101.5	101.6	101.8	101.9	102.0	101.9	101.8	101.6	101.5	101.6	101.8
65.5°	98.8	98.9	99.1	99.1	99.2	99.1	99.1	98.9	98.8	98.9	99.1
66°	96.1	96.1	96.3	96.3	96.5	96.3	96.3	96.1	96.1	96.1	96.3

TEST NUMBER: P938669

CATALOG NUMBER: HLB4LSFS5-850LM-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	88.0	88.1	88.1	88.4	88.5	88.4	88.1	88.1	88.0	88.1	88.1
68°	85.5	85.5	85.5	85.7	85.9	85.7	85.5	85.5	85.5	85.5	85.5
68.5°	82.8	82.9	83.0	83.1	83.2	83.1	83.0	82.9	82.8	82.9	83.0
69°	80.2	80.3	80.4	80.6	80.6	80.6	80.4	80.3	80.2	80.3	80.4
69.5°	77.8	77.8	77.9	78.0	78.2	78.0	77.9	77.8	77.8	77.8	77.9
70°	75.2	75.3	75.4	75.5	75.7	75.5	75.4	75.3	75.2	75.3	75.4
70.5°	72.8	72.8	72.9	73.1	73.2	73.1	72.9	72.8	72.8	72.8	72.9
71°	70.3	70.3	70.4	70.7	70.8	70.7	70.4	70.3	70.3	70.3	70.4
71.5°	67.9	67.9	67.9	68.3	68.4	68.3	67.9	67.9	67.9	67.9	67.9
72°	65.6	65.6	65.6	65.8	66.0	65.8	65.6	65.6	65.6	65.6	65.6
72.5°	63.2	63.2	63.3	63.5	63.7	63.5	63.3	63.2	63.2	63.2	63.3
73°	60.9	60.8	61.0	61.3	61.3	61.3	61.0	60.8	60.9	60.8	61.0
73.5°	58.7	58.5	58.7	58.9	59.1	58.9	58.7	58.5	58.7	58.5	58.7
74°	56.3	56.3	56.3	56.7	56.9	56.7	56.3	56.3	56.3	56.3	56.3
74.5°	54.2	54.0	54.2	54.4	54.7	54.4	54.2	54.0	54.2	54.0	54.2
75°	51.9	51.9	52.0	52.2	52.4	52.2	52.0	51.9	51.9	51.9	52.0
75.5°	49.8	49.7	49.8	50.1	50.2	50.1	49.8	49.7	49.8	49.7	49.8
76°	47.7	47.6	47.7	47.8	48.1	47.8	47.7	47.6	47.7	47.6	47.7
76.5°	45.6	45.5	45.6	45.7	45.9	45.7	45.6	45.5	45.6	45.5	45.6
77°	43.5	43.4	43.5	43.7	43.9	43.7	43.5	43.4	43.5	43.4	43.5
77.5°	41.5	41.4	41.5	41.6	41.8	41.6	41.5	41.4	41.5	41.4	41.5
78°	39.4	39.3	39.4	39.6	39.8	39.6	39.4	39.3	39.4	39.3	39.4
78.5°	37.4	37.3	37.4	37.6	38.0	37.6	37.4	37.3	37.4	37.3	37.4
79°	35.4	35.4	35.5	35.6	36.0	35.6	35.5	35.4	35.4	35.4	35.5
79.5°	33.5	33.5	33.5	33.7	33.9	33.7	33.5	33.5	33.5	33.5	33.5
80°	31.5	31.5	31.5	31.7	32.0	31.7	31.5	31.5	31.5	31.5	31.5
80.5°	29.6	29.7	29.6	29.8	30.0	29.8	29.6	29.7	29.6	29.7	29.6
81°	27.7	27.8	27.8	28.0	28.1	28.0	27.8	27.8	27.7	27.8	27.8
81.5°	25.9	26.0	26.0	26.1	26.2	26.1	26.0	26.0	25.9	26.0	26.0
82°	24.0	24.0	24.1	24.3	24.4	24.3	24.1	24.0	24.0	24.0	24.1
82.5°	22.2	22.3	22.4	22.5	22.5	22.5	22.4	22.3	22.2	22.3	22.4
83°	20.4	20.4	20.5	20.7	20.8	20.7	20.5	20.4	20.4	20.4	20.5
83.5°	18.7	18.7	18.8	18.9	19.0	18.9	18.8	18.7	18.7	18.7	18.8
84°	16.9	16.9	17.0	17.2	17.3	17.2	17.0	16.9	16.9	16.9	17.0
84.5°	15.3	15.3	15.4	15.4	15.5	15.4	15.4	15.3	15.3	15.3	15.4
85°	13.6	13.6	13.7	13.8	13.9	13.8	13.7	13.6	13.6	13.6	13.7
85.5°	11.9	11.9	11.9	12.0	12.1	12.0	11.9	11.9	11.9	11.9	11.9
86°	10.3	10.3	10.3	10.3	10.4	10.3	10.3	10.3	10.3	10.3	10.3
86.5°	8.6	8.6	8.8	8.9	9.2	8.9	8.8	8.6	8.6	8.6	8.8
87°	7.0	7.3	7.5	7.5	7.9	7.5	7.5	7.3	7.0	7.3	7.5
87.5°	5.3	5.8	6.1	6.1	6.7	6.1	6.1	5.8	5.3	5.8	6.1
88°	4.3	4.4	4.7	4.9	5.4	4.9	4.7	4.4	4.3	4.4	4.7
88.5°	3.1	3.3	3.4	4.1	4.6	4.1	3.4	3.3	3.1	3.3	3.4



TEST NUMBER: P938669
CATALOG NUMBER: HLB4LSFS5-850LM-4000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P938669

CATALOG NUMBER: HLB4LSFS5-850LM-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	337.8	337.8	337.8	337.8	337.8	337.8
0.5°	337.6	338.1	337.6	337.5	337.8	338.1
1°	337.6	338.1	337.6	337.5	337.6	338.0
1.5°	337.6	337.7	337.6	337.7	337.7	338.0
2°	337.6	337.5	337.6	337.6	337.7	337.6
2.5°	337.6	337.4	337.6	337.5	337.6	337.6
3°	337.5	337.8	337.5	337.4	337.6	338.0
3.5°	337.2	337.7	337.2	337.1	337.7	337.7
4°	337.0	337.6	337.0	337.1	337.2	337.4
4.5°	337.1	337.4	337.1	337.1	337.0	337.0
5°	337.0	337.4	337.0	337.1	337.1	337.3
5.5°	336.8	337.4	336.8	337.0	337.0	337.3
6°	336.6	337.0	336.6	336.6	336.6	337.0
6.5°	336.5	336.4	336.5	336.1	336.5	336.6
7°	336.1	336.1	336.1	336.1	336.3	336.6
7.5°	336.0	336.3	336.0	336.0	336.1	336.5
8°	335.7	336.1	335.7	335.7	336.0	336.2
8.5°	335.6	335.5	335.6	335.3	335.6	335.8
9°	335.2	335.1	335.2	335.1	335.3	335.6
9.5°	335.0	334.9	335.0	334.7	335.1	335.3
10°	334.6	334.6	334.6	334.7	334.9	334.9
10.5°	334.4	334.3	334.4	334.5	334.6	334.6
11°	334.1	334.2	334.1	334.2	334.1	334.3
11.5°	333.6	333.6	333.6	333.6	333.7	334.0
12°	333.0	333.1	333.0	333.1	333.3	333.4
12.5°	332.6	332.6	332.6	332.7	332.9	333.0
13°	332.5	332.3	332.5	332.4	332.6	332.7
13.5°	332.3	332.1	332.3	331.8	332.3	332.1
14°	331.5	331.6	331.5	331.5	331.7	331.6
14.5°	330.8	331.0	330.8	331.0	331.0	331.1
15°	330.3	330.6	330.3	330.2	330.3	330.6
15.5°	329.8	330.1	329.8	329.6	329.8	329.9
16°	329.1	329.6	329.1	329.1	329.3	329.6
16.5°	328.7	328.6	328.7	328.5	328.7	329.0
17°	327.9	328.0	327.9	328.0	328.0	328.3
17.5°	327.2	327.4	327.2	327.2	327.3	327.6
18°	326.4	326.8	326.4	326.6	326.6	327.1
18.5°	325.8	325.9	325.8	326.0	326.0	326.6
19°	324.9	325.2	324.9	325.0	325.4	325.6
19.5°	324.3	324.4	324.3	324.1	324.4	324.3
20°	323.5	323.4	323.5	323.5	323.6	323.1
20.5°	322.6	322.5	322.6	322.4	322.8	322.5
21°	321.4	322.0	321.4	321.5	322.0	322.1



TEST NUMBER: P938669

CATALOG NUMBER: HLB4LSFS5-850LM-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	318.7	318.6	318.7	318.5	318.9	319.2
23°	317.5	317.5	317.5	317.5	317.8	318.0
23.5°	316.4	316.4	316.4	316.3	316.4	316.9
24°	315.1	315.4	315.1	315.4	315.6	315.6
24.5°	314.0	314.2	314.0	314.1	314.6	314.0
25°	312.8	313.0	312.8	312.9	312.9	313.2
25.5°	311.6	311.6	311.6	311.7	311.6	312.0
26°	310.4	310.6	310.4	310.4	310.4	310.7
26.5°	308.9	309.3	308.9	308.9	309.1	309.3
27°	307.4	307.7	307.4	307.6	307.8	308.0
27.5°	306.2	306.2	306.2	306.1	306.4	307.0
28°	304.6	304.8	304.6	304.6	304.8	305.1
28.5°	303.0	303.1	303.0	302.8	303.1	303.1
29°	301.3	301.5	301.3	301.3	301.6	301.8
29.5°	299.5	299.8	299.5	299.7	299.9	300.3
30°	297.8	298.3	297.8	298.1	298.2	298.4
30.5°	296.3	296.7	296.3	296.4	296.3	296.4
31°	294.5	294.8	294.5	294.6	294.6	294.9
31.5°	292.6	292.9	292.6	292.5	293.0	293.2
32°	290.6	291.2	290.6	290.7	291.0	291.0
32.5°	288.7	289.0	288.7	288.9	288.9	288.7
33°	286.7	286.7	286.7	287.1	286.9	286.9
33.5°	284.7	284.7	284.7	284.7	285.0	285.0
34°	282.6	282.8	282.6	282.5	283.0	282.8
34.5°	280.2	280.7	280.2	280.3	280.6	280.9
35°	278.1	278.3	278.1	278.2	278.1	278.7
35.5°	276.0	276.0	276.0	275.9	276.1	276.3
36°	273.7	273.9	273.7	273.6	274.0	273.8
36.5°	271.4	271.3	271.4	271.2	271.6	271.6
37°	268.8	269.0	268.8	268.8	269.0	269.2
37.5°	266.3	266.6	266.3	266.2	266.5	266.5
38°	263.9	264.1	263.9	263.9	264.2	264.0
38.5°	261.4	261.5	261.4	261.3	261.6	261.5
39°	258.7	258.9	258.7	258.8	258.8	258.8
39.5°	256.1	256.0	256.1	256.1	256.2	256.4
40°	253.5	253.4	253.5	253.4	253.6	253.9
40.5°	250.7	250.9	250.7	250.5	250.8	251.1
41°	247.9	248.4	247.9	247.9	247.9	248.3
41.5°	245.1	245.3	245.1	245.1	245.2	245.3
42°	242.3	242.5	242.3	242.4	242.4	242.4
42.5°	239.5	239.7	239.5	239.5	239.6	239.7
43°	236.5	236.8	236.5	236.5	236.7	236.8
43.5°	233.7	233.8	233.7	233.5	233.7	234.0



TEST NUMBER: P938669

CATALOG NUMBER: HLB4LSFS5-850LM-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	224.7	224.9	224.7	224.7	224.7	225.0
45.5°	221.6	221.6	221.6	221.6	221.6	221.7
46°	218.6	218.5	218.6	218.6	218.7	218.6
46.5°	215.6	215.5	215.6	215.6	215.6	215.5
47°	212.4	212.4	212.4	212.5	212.3	212.3
47.5°	209.1	209.5	209.1	209.1	209.0	209.3
48°	206.0	206.3	206.0	206.0	206.0	206.2
48.5°	203.0	203.0	203.0	203.0	203.0	203.1
49°	199.8	200.0	199.8	199.9	200.0	200.0
49.5°	196.6	196.8	196.6	196.5	196.6	196.6
50°	193.6	193.5	193.6	193.4	193.4	193.3
50.5°	190.4	190.3	190.4	190.2	190.1	190.3
51°	187.1	187.2	187.1	187.0	187.0	187.1
51.5°	183.9	184.0	183.9	183.8	183.8	183.8
52°	180.7	180.8	180.7	180.6	180.6	180.6
52.5°	177.5	177.6	177.5	177.4	177.3	177.4
53°	174.3	174.4	174.3	174.2	174.2	174.3
53.5°	171.2	171.3	171.2	171.0	170.9	171.2
54°	168.0	168.2	168.0	167.7	167.7	167.7
54.5°	164.9	165.1	164.9	164.7	164.5	164.5
55°	161.8	161.8	161.8	161.5	161.5	161.7
55.5°	158.6	158.7	158.6	158.4	158.2	158.6
56°	155.4	155.4	155.4	155.2	155.1	155.2
56.5°	152.2	152.4	152.2	152.0	152.0	152.2
57°	149.1	149.3	149.1	148.9	149.0	149.0
57.5°	145.9	146.3	145.9	145.8	145.6	145.9
58°	143.0	143.0	143.0	142.7	142.6	142.9
58.5°	139.9	140.0	139.9	139.7	139.7	139.7
59°	136.9	136.9	136.9	136.7	136.6	136.5
59.5°	133.7	133.9	133.7	133.7	133.5	133.6
60°	130.8	131.0	130.8	130.7	130.5	130.6
60.5°	127.8	128.0	127.8	127.6	127.5	127.5
61°	124.8	124.9	124.8	124.7	124.6	124.6
61.5°	121.8	122.0	121.8	121.8	121.7	121.6
62°	119.0	119.0	119.0	118.8	118.8	118.7
62.5°	116.1	116.2	116.1	115.9	115.8	115.7
63°	113.1	113.2	113.1	113.0	112.8	112.8
63.5°	110.2	110.4	110.2	110.2	110.1	110.0
64°	107.5	107.6	107.5	107.4	107.2	107.2
64.5°	104.6	104.6	104.6	104.6	104.4	104.2
65°	101.9	102.0	101.9	101.8	101.6	101.5
65.5°	99.1	99.2	99.1	99.1	98.9	98.8
66°	96.3	96.5	96.3	96.3	96.1	96.1



TEST NUMBER: P938669

CATALOG NUMBER: HLB4LSFS5-850LM-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	88.4	88.5	88.4	88.1	88.1	88.0
68°	85.7	85.9	85.7	85.5	85.5	85.5
68.5°	83.1	83.2	83.1	83.0	82.9	82.8
69°	80.6	80.6	80.6	80.4	80.3	80.2
69.5°	78.0	78.2	78.0	77.9	77.8	77.8
70°	75.5	75.7	75.5	75.4	75.3	75.2
70.5°	73.1	73.2	73.1	72.9	72.8	72.8
71°	70.7	70.8	70.7	70.4	70.3	70.3
71.5°	68.3	68.4	68.3	67.9	67.9	67.9
72°	65.8	66.0	65.8	65.6	65.6	65.6
72.5°	63.5	63.7	63.5	63.3	63.2	63.2
73°	61.3	61.3	61.3	61.0	60.8	60.9
73.5°	58.9	59.1	58.9	58.7	58.5	58.7
74°	56.7	56.9	56.7	56.3	56.3	56.3
74.5°	54.4	54.7	54.4	54.2	54.0	54.2
75°	52.2	52.4	52.2	52.0	51.9	51.9
75.5°	50.1	50.2	50.1	49.8	49.7	49.8
76°	47.8	48.1	47.8	47.7	47.6	47.7
76.5°	45.7	45.9	45.7	45.6	45.5	45.6
77°	43.7	43.9	43.7	43.5	43.4	43.5
77.5°	41.6	41.8	41.6	41.5	41.4	41.5
78°	39.6	39.8	39.6	39.4	39.3	39.4
78.5°	37.6	38.0	37.6	37.4	37.3	37.4
79°	35.6	36.0	35.6	35.5	35.4	35.4
79.5°	33.7	33.9	33.7	33.5	33.5	33.5
80°	31.7	32.0	31.7	31.5	31.5	31.5
80.5°	29.8	30.0	29.8	29.6	29.7	29.6
81°	28.0	28.1	28.0	27.8	27.8	27.7
81.5°	26.1	26.2	26.1	26.0	26.0	25.9
82°	24.3	24.4	24.3	24.1	24.0	24.0
82.5°	22.5	22.5	22.5	22.4	22.3	22.2
83°	20.7	20.8	20.7	20.5	20.4	20.4
83.5°	18.9	19.0	18.9	18.8	18.7	18.7
84°	17.2	17.3	17.2	17.0	16.9	16.9
84.5°	15.4	15.5	15.4	15.4	15.3	15.3
85°	13.8	13.9	13.8	13.7	13.6	13.6
85.5°	12.0	12.1	12.0	11.9	11.9	11.9
86°	10.3	10.4	10.3	10.3	10.3	10.3
86.5°	8.9	9.2	8.9	8.8	8.6	8.6
87°	7.5	7.9	7.5	7.5	7.3	7.0
87.5°	6.1	6.7	6.1	6.1	5.8	5.3
88°	4.9	5.4	4.9	4.7	4.4	4.3
88.5°	4.1	4.6	4.1	3.4	3.3	3.1



TEST NUMBER: P938669
CATALOG NUMBER: HLB4LSFS5-850LM-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-T8S5UU9





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







21.5°	321.0	320.9	320.8	320.5	320.7	320.5	320.8	320.9	321.0	320.9	320.8
22°	320.2	319.8	319.7	319.5	319.5	319.5	319.7	319.8	320.2	319.8	319.7



44°	230.8	230.7	230.6	230.7	230.7	230.7	230.6	230.7	230.8	230.7	230.6
44.5°	227.9	227.8	227.6	227.7	227.8	227.7	227.6	227.8	227.9	227.8	227.6



66.5°	93.3	93.4	93.5	93.6	93.7	93.6	93.5	93.4	93.3	93.4	93.5
67°	90.6	90.8	90.8	91.0	91.1	91.0	90.8	90.8	90.6	90.8	90.8



89°	1.9	2.2	2.6	3.3	3.8	3.3	2.6	2.2	1.9	2.2	2.6
89.5°	0.8	1.4	2.0	2.5	2.9	2.5	2.0	1.4	0.8	1.4	2.0





21.5°	320.5	320.7	320.5	320.8	320.9	321.0
22°	319.5	319.5	319.5	319.7	319.8	320.2



44°	230.7	230.7	230.7	230.6	230.7	230.8
44.5°	227.7	227.8	227.7	227.6	227.8	227.9



66.5°	93.6	93.7	93.6	93.5	93.4	93.3
67°	91.0	91.1	91.0	90.8	90.8	90.6



89°	3.3	3.8	3.3	2.6	2.2	1.9
89.5°	2.5	2.9	2.5	2.0	1.4	0.8



(END OF REPORT)