

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: P938666

Luminaire Tested: HLB4LSFS5-850LM-2700K

Issue Date: 1/15/2025

Test Information

Test Method: LM-79-2019
Report Number: P938666
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-2700K
Description: 4IN SELECTABLE LUMENS, 90CRI, DIMMING TO 10%
Light Source: SELECTABLE CCT 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 888.7 lumens
Efficiency: N/A
Efficacy: 96.6 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

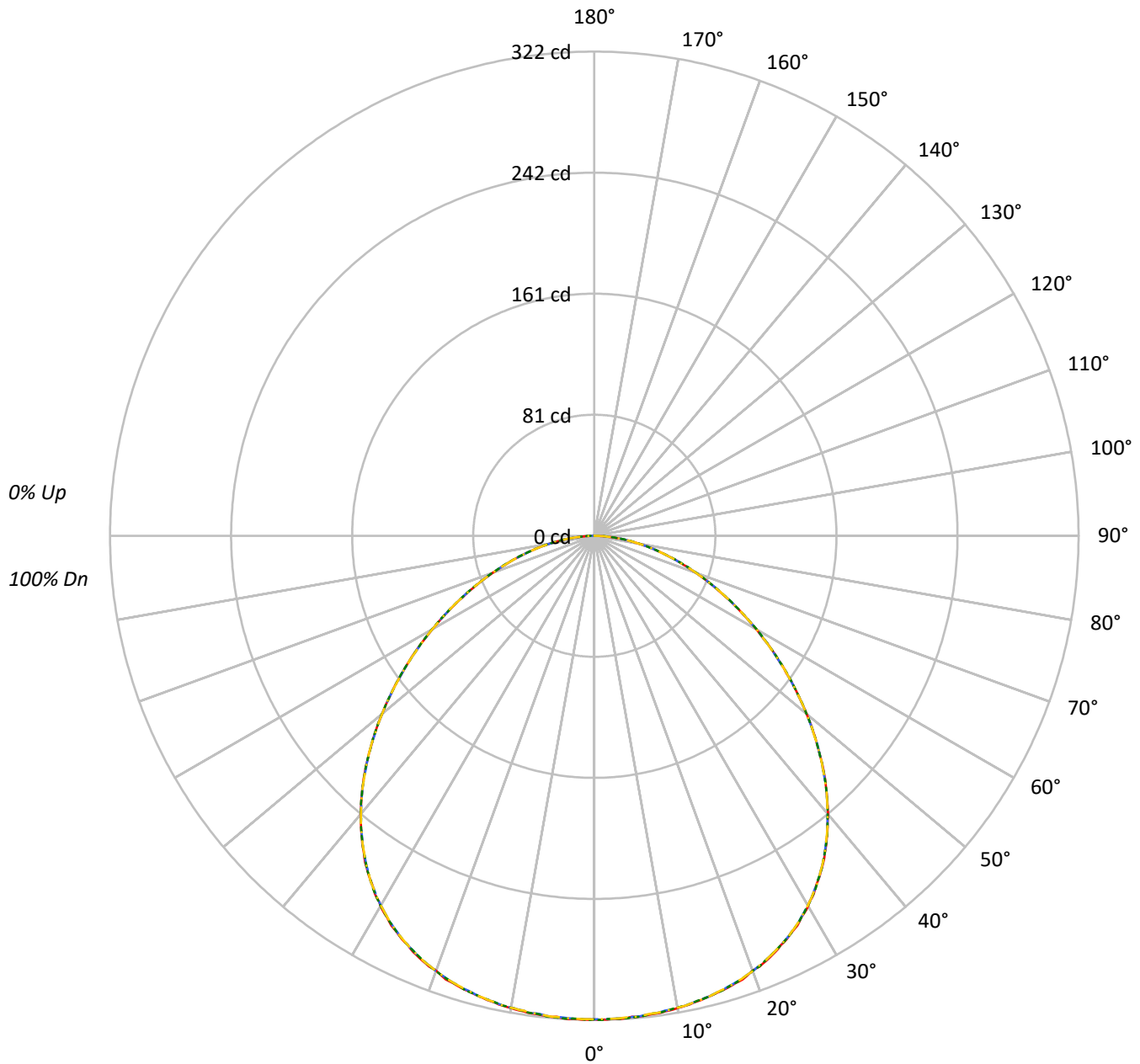
Input Watts (W): 9.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	105	100	97	106	102	98	95	98	95	92	94	92	89	91	88	87	85		
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71		
3	91	81	73	66	89	79	72	66	76	70	65	73	68	63	71	66	62	60		
4	83	72	63	56	81	70	62	56	68	61	55	66	59	55	63	58	54	52		
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45		
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39		
7	66	53	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35		
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31		
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28		
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	40486	40486	40486	40486
5°	40577	40590	40577	40590
10°	40753	40727	40753	40727
15°	41015	41015	41015	41015
20°	41209	41249	41209	41249
25°	41422	41394	41422	41394
30°	41300	41285	41300	41285
35°	40790	40728	40790	40728
40°	39724	39658	39724	39658
45°	38141	38123	38141	38123
50°	36044	36084	36044	36084
55°	33790	33811	33790	33811
60°	31311	31412	31311	31412
65°	28766	28915	28766	28915
70°	26346	26530	26346	26530
75°	24021	24264	24021	24264
80°	21742	22032	21742	22032
85°	18772	19060	18772	19060

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 89.5°

Luminance: 40380 cd/sqm



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CATALOG NUMBER: HLB4LSFS5-850LM-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.6	3.4
10°-20°	88.9	10.0
20°-30°	137.3	15.5
30°-40°	165.5	18.6
40°-50°	164.8	18.5
50°-60°	137.6	15.5
60°-70°	96.2	10.8
70°-80°	52.8	5.9
80°-90°	15.0	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°	256.8	28.9
0°-40°	422.3	47.5
0°-60°	724.7	81.5
0°-90°	888.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	888.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	322	322	322	322	322	
5°	321	321	321	321	321	31
15°	315	315	315	315	315	89
25°	298	298	298	298	298	137
35°	266	265	266	265	266	166
45°	214	214	214	214	214	165
55°	154	154	154	154	154	138
65°	97	97	97	97	97	96
75°	49	50	49	50	49	53
85°	13	13	13	13	13	15
90°	0	0	0	0	0	

TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7
0.5°	322.0	321.7	321.4	321.6	322.0	321.6	321.4	321.7	322.0	321.7	321.4
1°	321.9	321.5	321.4	321.5	322.0	321.5	321.4	321.5	321.9	321.5	321.4
1.5°	321.9	321.6	321.6	321.6	321.6	321.6	321.6	321.6	321.9	321.6	321.6
2°	321.6	321.6	321.5	321.5	321.4	321.5	321.5	321.6	321.6	321.6	321.5
2.5°	321.5	321.5	321.4	321.5	321.3	321.5	321.4	321.5	321.5	321.5	321.4
3°	321.9	321.5	321.3	321.4	321.7	321.4	321.3	321.5	321.9	321.5	321.3
3.5°	321.6	321.6	321.1	321.2	321.6	321.2	321.1	321.6	321.6	321.6	321.1
4°	321.3	321.2	321.0	320.9	321.5	320.9	321.0	321.2	321.3	321.2	321.0
4.5°	320.9	320.9	321.0	321.0	321.3	321.0	321.0	320.9	320.9	320.9	321.0
5°	321.2	321.1	321.1	320.9	321.3	320.9	321.1	321.1	321.2	321.1	321.1
5.5°	321.2	320.9	320.9	320.8	321.3	320.8	320.9	320.9	321.2	320.9	320.9
6°	320.9	320.6	320.5	320.5	320.9	320.5	320.5	320.6	320.9	320.6	320.5
6.5°	320.6	320.5	320.1	320.5	320.4	320.5	320.1	320.5	320.6	320.5	320.1
7°	320.5	320.3	320.1	320.1	320.1	320.1	320.1	320.3	320.5	320.3	320.1
7.5°	320.5	320.1	320.0	320.0	320.3	320.0	320.0	320.1	320.5	320.1	320.0
8°	320.2	320.0	319.7	319.7	320.1	319.7	319.7	320.0	320.2	320.0	319.7
8.5°	319.8	319.7	319.3	319.6	319.5	319.6	319.3	319.7	319.8	319.7	319.3
9°	319.7	319.3	319.2	319.3	319.2	319.3	319.2	319.3	319.7	319.3	319.2
9.5°	319.3	319.2	318.8	319.0	318.9	319.0	318.8	319.2	319.3	319.2	318.8
10°	318.9	318.9	318.8	318.6	318.7	318.6	318.8	318.9	318.9	318.9	318.8
10.5°	318.7	318.6	318.5	318.5	318.4	318.5	318.5	318.6	318.7	318.6	318.5
11°	318.4	318.2	318.3	318.1	318.3	318.1	318.3	318.2	318.4	318.2	318.3
11.5°	318.1	317.8	317.8	317.7	317.8	317.7	317.8	317.8	318.1	317.8	317.8
12°	317.5	317.4	317.3	317.1	317.3	317.1	317.3	317.4	317.5	317.4	317.3
12.5°	317.1	317.0	316.9	316.7	316.8	316.7	316.9	317.0	317.1	317.0	316.9
13°	316.9	316.8	316.6	316.6	316.5	316.6	316.6	316.8	316.9	316.8	316.6
13.5°	316.2	316.5	316.0	316.5	316.2	316.5	316.0	316.5	316.2	316.5	316.0
14°	315.8	315.9	315.7	315.7	315.8	315.7	315.7	315.9	315.8	315.9	315.7
14.5°	315.4	315.2	315.2	315.0	315.2	315.0	315.2	315.2	315.4	315.2	315.2
15°	314.8	314.6	314.5	314.6	314.8	314.6	314.5	314.6	314.8	314.6	314.5
15.5°	314.2	314.1	313.9	314.1	314.4	314.1	313.9	314.1	314.2	314.1	313.9
16°	313.9	313.6	313.5	313.5	313.9	313.5	313.5	313.6	313.9	313.6	313.5
16.5°	313.3	313.1	312.8	313.1	313.0	313.1	312.8	313.1	313.3	313.1	312.8
17°	312.7	312.4	312.3	312.3	312.4	312.3	312.3	312.4	312.7	312.4	312.3
17.5°	312.0	311.7	311.6	311.6	311.8	311.6	311.6	311.7	312.0	311.7	311.6
18°	311.6	311.1	311.1	310.8	311.2	310.8	311.1	311.1	311.6	311.1	311.1
18.5°	311.1	310.4	310.4	310.3	310.4	310.3	310.4	310.4	311.1	310.4	310.4
19°	310.1	309.9	309.5	309.4	309.7	309.4	309.5	309.9	310.1	309.9	309.5
19.5°	308.9	308.9	308.7	308.9	308.9	308.9	308.7	308.9	308.9	308.9	308.7
20°	307.7	308.2	308.1	308.1	308.0	308.1	308.1	308.2	307.7	308.2	308.1
20.5°	307.2	307.4	307.0	307.3	307.2	307.3	307.0	307.4	307.2	307.4	307.0
21°	306.8	306.6	306.1	306.1	306.7	306.1	306.1	306.6	306.8	306.6	306.1

TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	304.0	303.7	303.4	303.5	303.4	303.5	303.4	303.7	304.0	303.7	303.4
23°	302.9	302.7	302.4	302.4	302.3	302.4	302.4	302.7	302.9	302.7	302.4
23.5°	301.9	301.4	301.2	301.3	301.3	301.3	301.2	301.4	301.9	301.4	301.2
24°	300.6	300.6	300.3	300.1	300.3	300.1	300.3	300.6	300.6	300.6	300.3
24.5°	299.1	299.6	299.2	299.1	299.2	299.1	299.2	299.6	299.1	299.6	299.2
25°	298.3	298.0	298.0	297.9	298.1	297.9	298.0	298.0	298.3	298.0	298.0
25.5°	297.2	296.8	296.8	296.8	296.8	296.8	296.8	296.8	297.2	296.8	296.8
26°	295.9	295.7	295.6	295.6	295.8	295.6	295.6	295.7	295.9	295.7	295.6
26.5°	294.5	294.4	294.2	294.1	294.5	294.1	294.2	294.4	294.5	294.4	294.2
27°	293.4	293.1	293.0	292.8	293.0	292.8	293.0	293.1	293.4	293.1	293.0
27.5°	292.4	291.8	291.5	291.6	291.6	291.6	291.5	291.8	292.4	291.8	291.5
28°	290.6	290.3	290.1	290.1	290.3	290.1	290.1	290.3	290.6	290.3	290.1
28.5°	288.7	288.7	288.4	288.6	288.7	288.6	288.4	288.7	288.7	288.7	288.4
29°	287.5	287.2	287.0	287.0	287.2	287.0	287.0	287.2	287.5	287.2	287.0
29.5°	286.0	285.6	285.4	285.2	285.6	285.2	285.4	285.6	286.0	285.6	285.4
30°	284.2	284.0	283.9	283.7	284.1	283.7	283.9	284.0	284.2	284.0	283.9
30.5°	282.3	282.1	282.3	282.1	282.5	282.1	282.3	282.1	282.3	282.1	282.3
31°	280.9	280.6	280.6	280.5	280.7	280.5	280.6	280.6	280.9	280.6	280.6
31.5°	279.3	279.0	278.6	278.6	279.0	278.6	278.6	279.0	279.3	279.0	278.6
32°	277.1	277.1	276.8	276.7	277.3	276.7	276.8	277.1	277.1	277.1	276.8
32.5°	275.0	275.2	275.2	274.9	275.2	274.9	275.2	275.2	275.0	275.2	275.2
33°	273.2	273.2	273.4	273.1	273.0	273.1	273.4	273.2	273.2	273.2	273.4
33.5°	271.4	271.4	271.2	271.2	271.2	271.2	271.2	271.4	271.4	271.4	271.2
34°	269.4	269.5	269.0	269.1	269.4	269.1	269.0	269.5	269.4	269.5	269.0
34.5°	267.5	267.2	267.0	266.9	267.4	266.9	267.0	267.2	267.5	267.2	267.0
35°	265.5	264.9	265.0	264.9	265.1	264.9	265.0	264.9	265.5	264.9	265.0
35.5°	263.2	263.0	262.8	262.8	262.8	262.8	262.8	263.0	263.2	263.0	262.8
36°	260.8	260.9	260.5	260.7	260.8	260.7	260.5	260.9	260.8	260.9	260.5
36.5°	258.6	258.6	258.3	258.5	258.4	258.5	258.3	258.6	258.6	258.6	258.3
37°	256.4	256.2	256.0	256.0	256.2	256.0	256.0	256.2	256.4	256.2	256.0
37.5°	253.9	253.9	253.5	253.6	253.9	253.6	253.5	253.9	253.9	253.9	253.5
38°	251.5	251.6	251.3	251.3	251.5	251.3	251.3	251.6	251.5	251.6	251.3
38.5°	249.1	249.2	248.8	248.9	249.1	248.9	248.8	249.2	249.1	249.2	248.8
39°	246.5	246.5	246.5	246.4	246.5	246.4	246.5	246.5	246.5	246.5	246.5
39.5°	244.2	244.0	243.9	243.9	243.8	243.9	243.9	244.0	244.2	244.0	243.9
40°	241.8	241.5	241.4	241.5	241.4	241.5	241.4	241.5	241.8	241.5	241.4
40.5°	239.1	238.8	238.6	238.8	238.9	238.8	238.6	238.8	239.1	238.8	238.6
41°	236.4	236.1	236.0	236.0	236.5	236.0	236.0	236.1	236.4	236.1	236.0
41.5°	233.7	233.5	233.4	233.4	233.6	233.4	233.4	233.5	233.7	233.5	233.4
42°	230.9	230.9	230.9	230.7	231.0	230.7	230.9	230.9	230.9	230.9	230.9
42.5°	228.3	228.2	228.1	228.1	228.3	228.1	228.1	228.2	228.3	228.2	228.1
43°	225.6	225.4	225.2	225.2	225.6	225.2	225.2	225.4	225.6	225.4	225.2
43.5°	222.9	222.5	222.4	222.5	222.7	222.5	222.4	222.5	222.9	222.5	222.4

TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	214.3	214.0	214.0	214.0	214.2	214.0	214.0	214.0	214.3	214.0	214.0
45.5°	211.2	211.1	211.1	211.1	211.0	211.1	211.1	211.1	211.2	211.1	211.1
46°	208.2	208.3	208.2	208.2	208.1	208.2	208.2	208.3	208.2	208.3	208.2
46.5°	205.2	205.3	205.3	205.3	205.2	205.3	205.3	205.3	205.2	205.3	205.3
47°	202.2	202.2	202.4	202.3	202.3	202.3	202.4	202.2	202.2	202.2	202.4
47.5°	199.3	199.1	199.2	199.2	199.5	199.2	199.2	199.1	199.3	199.1	199.2
48°	196.4	196.2	196.2	196.2	196.5	196.2	196.2	196.2	196.4	196.2	196.2
48.5°	193.4	193.4	193.4	193.3	193.4	193.3	193.4	193.4	193.4	193.4	193.4
49°	190.5	190.4	190.3	190.3	190.4	190.3	190.3	190.4	190.5	190.4	190.3
49.5°	187.2	187.2	187.2	187.2	187.4	187.2	187.2	187.2	187.2	187.2	187.2
50°	184.1	184.2	184.2	184.4	184.3	184.4	184.2	184.2	184.1	184.2	184.2
50.5°	181.2	181.1	181.1	181.4	181.2	181.4	181.1	181.1	181.2	181.1	181.1
51°	178.2	178.1	178.1	178.2	178.3	178.2	178.1	178.1	178.2	178.1	178.1
51.5°	175.0	175.0	175.1	175.2	175.2	175.2	175.1	175.0	175.0	175.0	175.1
52°	172.0	172.0	172.0	172.1	172.1	172.1	172.0	172.0	172.0	172.0	172.0
52.5°	169.0	168.9	169.0	169.0	169.1	169.0	169.0	168.9	169.0	168.9	169.0
53°	166.0	165.9	165.9	166.0	166.1	166.0	165.9	165.9	166.0	165.9	165.9
53.5°	163.0	162.8	162.8	163.0	163.2	163.0	162.8	162.8	163.0	162.8	162.8
54°	159.8	159.7	159.8	160.0	160.2	160.0	159.8	159.7	159.8	159.7	159.8
54.5°	156.7	156.7	156.8	157.0	157.2	157.0	156.8	156.7	156.7	156.7	156.8
55°	154.0	153.8	153.8	154.1	154.1	154.1	153.8	153.8	154.0	153.8	153.8
55.5°	151.0	150.7	150.8	151.0	151.2	151.0	150.8	150.7	151.0	150.7	150.8
56°	147.8	147.7	147.8	148.0	148.0	148.0	147.8	147.7	147.8	147.7	147.8
56.5°	145.0	144.8	144.8	145.0	145.1	145.0	144.8	144.8	145.0	144.8	144.8
57°	141.9	141.9	141.8	142.0	142.2	142.0	141.8	141.9	141.9	141.9	141.8
57.5°	138.9	138.7	138.8	138.9	139.3	138.9	138.8	138.7	138.9	138.7	138.8
58°	136.1	135.8	135.9	136.1	136.1	136.1	135.9	135.8	136.1	135.8	135.9
58.5°	133.0	133.0	133.0	133.2	133.4	133.2	133.0	133.0	133.0	133.0	133.0
59°	130.0	130.1	130.2	130.3	130.3	130.3	130.2	130.1	130.0	130.1	130.2
59.5°	127.2	127.2	127.3	127.3	127.6	127.3	127.3	127.2	127.2	127.2	127.3
60°	124.4	124.3	124.5	124.5	124.8	124.5	124.5	124.3	124.4	124.3	124.5
60.5°	121.4	121.4	121.5	121.8	121.9	121.8	121.5	121.4	121.4	121.4	121.5
61°	118.7	118.7	118.7	118.9	119.0	118.9	118.7	118.7	118.7	118.7	118.7
61.5°	115.8	115.9	116.0	116.0	116.2	116.0	116.0	115.9	115.8	115.9	116.0
62°	113.0	113.1	113.2	113.3	113.3	113.3	113.2	113.1	113.0	113.1	113.2
62.5°	110.2	110.3	110.4	110.6	110.6	110.6	110.4	110.3	110.2	110.3	110.4
63°	107.5	107.5	107.6	107.7	107.8	107.7	107.6	107.5	107.5	107.5	107.6
63.5°	104.8	104.8	104.9	105.0	105.1	105.0	104.9	104.8	104.8	104.8	104.9
64°	102.0	102.1	102.3	102.4	102.4	102.4	102.3	102.1	102.0	102.1	102.3
64.5°	99.3	99.4	99.6	99.7	99.7	99.7	99.6	99.4	99.3	99.4	99.6
65°	96.6	96.8	97.0	97.0	97.1	97.0	97.0	96.8	96.6	96.8	97.0
65.5°	94.1	94.2	94.3	94.4	94.5	94.4	94.3	94.2	94.1	94.2	94.3
66°	91.6	91.6	91.7	91.7	91.9	91.7	91.7	91.6	91.6	91.6	91.7

TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	83.8	83.9	83.9	84.2	84.2	84.2	83.9	83.9	83.8	83.9	83.9
68°	81.4	81.4	81.5	81.6	81.8	81.6	81.5	81.4	81.4	81.4	81.5
68.5°	78.8	78.9	79.0	79.2	79.2	79.2	79.0	78.9	78.8	78.9	79.0
69°	76.4	76.5	76.6	76.8	76.8	76.8	76.6	76.5	76.4	76.5	76.6
69.5°	74.1	74.1	74.2	74.3	74.5	74.3	74.2	74.1	74.1	74.1	74.2
70°	71.6	71.7	71.8	71.9	72.1	71.9	71.8	71.7	71.6	71.7	71.8
70.5°	69.3	69.3	69.5	69.6	69.7	69.6	69.5	69.3	69.3	69.3	69.5
71°	67.0	67.0	67.1	67.3	67.4	67.3	67.1	67.0	67.0	67.0	67.1
71.5°	64.7	64.7	64.7	65.0	65.2	65.0	64.7	64.7	64.7	64.7	64.7
72°	62.5	62.5	62.5	62.7	62.9	62.7	62.5	62.5	62.5	62.5	62.5
72.5°	60.2	60.2	60.3	60.5	60.6	60.5	60.3	60.2	60.2	60.2	60.3
73°	58.0	57.9	58.1	58.3	58.4	58.3	58.1	57.9	58.0	57.9	58.1
73.5°	55.9	55.7	55.9	56.1	56.3	56.1	55.9	55.7	55.9	55.7	55.9
74°	53.6	53.6	53.6	54.0	54.2	54.0	53.6	53.6	53.6	53.6	53.6
74.5°	51.6	51.4	51.6	51.8	52.1	51.8	51.6	51.4	51.6	51.4	51.6
75°	49.4	49.4	49.5	49.8	49.9	49.8	49.5	49.4	49.4	49.4	49.5
75.5°	47.4	47.4	47.4	47.7	47.8	47.7	47.4	47.4	47.4	47.4	47.4
76°	45.4	45.3	45.4	45.5	45.8	45.5	45.4	45.3	45.4	45.3	45.4
76.5°	43.4	43.3	43.4	43.6	43.7	43.6	43.4	43.3	43.4	43.3	43.4
77°	41.4	41.3	41.4	41.6	41.8	41.6	41.4	41.3	41.4	41.3	41.4
77.5°	39.5	39.4	39.5	39.7	39.8	39.7	39.5	39.4	39.5	39.4	39.5
78°	37.5	37.4	37.5	37.8	37.9	37.8	37.5	37.4	37.5	37.4	37.5
78.5°	35.6	35.5	35.6	35.8	36.2	35.8	35.6	35.5	35.6	35.5	35.6
79°	33.7	33.7	33.8	33.9	34.3	33.9	33.8	33.7	33.7	33.7	33.8
79.5°	31.9	31.9	31.9	32.1	32.3	32.1	31.9	31.9	31.9	31.9	31.9
80°	30.0	30.0	30.0	30.2	30.4	30.2	30.0	30.0	30.0	30.0	30.0
80.5°	28.2	28.3	28.2	28.4	28.5	28.4	28.2	28.3	28.2	28.3	28.2
81°	26.4	26.5	26.5	26.6	26.8	26.6	26.5	26.5	26.4	26.5	26.5
81.5°	24.6	24.7	24.7	24.9	25.0	24.9	24.7	24.7	24.6	24.7	24.7
82°	22.9	22.9	23.0	23.1	23.2	23.1	23.0	22.9	22.9	22.9	23.0
82.5°	21.1	21.2	21.3	21.5	21.5	21.5	21.3	21.2	21.1	21.2	21.3
83°	19.5	19.5	19.6	19.7	19.8	19.7	19.6	19.5	19.5	19.5	19.6
83.5°	17.8	17.8	17.9	18.0	18.1	18.0	17.9	17.8	17.8	17.8	17.9
84°	16.1	16.1	16.2	16.4	16.5	16.4	16.2	16.1	16.1	16.1	16.2
84.5°	14.5	14.5	14.6	14.7	14.8	14.7	14.6	14.5	14.5	14.5	14.6
85°	13.0	13.0	13.0	13.1	13.2	13.1	13.0	13.0	13.0	13.0	13.0
85.5°	11.4	11.4	11.4	11.4	11.5	11.4	11.4	11.4	11.4	11.4	11.4
86°	9.8	9.8	9.9	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
86.5°	8.2	8.2	8.4	8.5	8.7	8.5	8.4	8.2	8.2	8.2	8.4
87°	6.7	6.9	7.2	7.2	7.6	7.2	7.2	6.9	6.7	6.9	7.2
87.5°	5.1	5.6	5.8	5.8	6.4	5.8	5.8	5.6	5.1	5.6	5.8
88°	4.1	4.2	4.5	4.7	5.2	4.7	4.5	4.2	4.1	4.2	4.5
88.5°	2.9	3.1	3.3	3.9	4.4	3.9	3.3	3.1	2.9	3.1	3.3



TEST NUMBER: P938666
CATALOG NUMBER: HLB4LSFS5-850LM-2700K

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: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	321.7	321.7	321.7	321.7	321.7	321.7
0.5°	321.6	322.0	321.6	321.4	321.7	322.0
1°	321.5	322.0	321.5	321.4	321.5	321.9
1.5°	321.6	321.6	321.6	321.6	321.6	321.9
2°	321.5	321.4	321.5	321.5	321.6	321.6
2.5°	321.5	321.3	321.5	321.4	321.5	321.5
3°	321.4	321.7	321.4	321.3	321.5	321.9
3.5°	321.2	321.6	321.2	321.1	321.6	321.6
4°	320.9	321.5	320.9	321.0	321.2	321.3
4.5°	321.0	321.3	321.0	321.0	320.9	320.9
5°	320.9	321.3	320.9	321.1	321.1	321.2
5.5°	320.8	321.3	320.8	320.9	320.9	321.2
6°	320.5	320.9	320.5	320.5	320.6	320.9
6.5°	320.5	320.4	320.5	320.1	320.5	320.6
7°	320.1	320.1	320.1	320.1	320.3	320.5
7.5°	320.0	320.3	320.0	320.0	320.1	320.5
8°	319.7	320.1	319.7	319.7	320.0	320.2
8.5°	319.6	319.5	319.6	319.3	319.7	319.8
9°	319.3	319.2	319.3	319.2	319.3	319.7
9.5°	319.0	318.9	319.0	318.8	319.2	319.3
10°	318.6	318.7	318.6	318.8	318.9	318.9
10.5°	318.5	318.4	318.5	318.5	318.6	318.7
11°	318.1	318.3	318.1	318.3	318.2	318.4
11.5°	317.7	317.8	317.7	317.8	317.8	318.1
12°	317.1	317.3	317.1	317.3	317.4	317.5
12.5°	316.7	316.8	316.7	316.9	317.0	317.1
13°	316.6	316.5	316.6	316.6	316.8	316.9
13.5°	316.5	316.2	316.5	316.0	316.5	316.2
14°	315.7	315.8	315.7	315.7	315.9	315.8
14.5°	315.0	315.2	315.0	315.2	315.2	315.4
15°	314.6	314.8	314.6	314.5	314.6	314.8
15.5°	314.1	314.4	314.1	313.9	314.1	314.2
16°	313.5	313.9	313.5	313.5	313.6	313.9
16.5°	313.1	313.0	313.1	312.8	313.1	313.3
17°	312.3	312.4	312.3	312.3	312.4	312.7
17.5°	311.6	311.8	311.6	311.6	311.7	312.0
18°	310.8	311.2	310.8	311.1	311.1	311.6
18.5°	310.3	310.4	310.3	310.4	310.4	311.1
19°	309.4	309.7	309.4	309.5	309.9	310.1
19.5°	308.9	308.9	308.9	308.7	308.9	308.9
20°	308.1	308.0	308.1	308.1	308.2	307.7
20.5°	307.3	307.2	307.3	307.0	307.4	307.2
21°	306.1	306.7	306.1	306.1	306.6	306.8



TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	303.5	303.4	303.5	303.4	303.7	304.0
23°	302.4	302.3	302.4	302.4	302.7	302.9
23.5°	301.3	301.3	301.3	301.2	301.4	301.9
24°	300.1	300.3	300.1	300.3	300.6	300.6
24.5°	299.1	299.2	299.1	299.2	299.6	299.1
25°	297.9	298.1	297.9	298.0	298.0	298.3
25.5°	296.8	296.8	296.8	296.8	296.8	297.2
26°	295.6	295.8	295.6	295.6	295.7	295.9
26.5°	294.1	294.5	294.1	294.2	294.4	294.5
27°	292.8	293.0	292.8	293.0	293.1	293.4
27.5°	291.6	291.6	291.6	291.5	291.8	292.4
28°	290.1	290.3	290.1	290.1	290.3	290.6
28.5°	288.6	288.7	288.6	288.4	288.7	288.7
29°	287.0	287.2	287.0	287.0	287.2	287.5
29.5°	285.2	285.6	285.2	285.4	285.6	286.0
30°	283.7	284.1	283.7	283.9	284.0	284.2
30.5°	282.1	282.5	282.1	282.3	282.1	282.3
31°	280.5	280.7	280.5	280.6	280.6	280.9
31.5°	278.6	279.0	278.6	278.6	279.0	279.3
32°	276.7	277.3	276.7	276.8	277.1	277.1
32.5°	274.9	275.2	274.9	275.2	275.2	275.0
33°	273.1	273.0	273.1	273.4	273.2	273.2
33.5°	271.2	271.2	271.2	271.2	271.4	271.4
34°	269.1	269.4	269.1	269.0	269.5	269.4
34.5°	266.9	267.4	266.9	267.0	267.2	267.5
35°	264.9	265.1	264.9	265.0	264.9	265.5
35.5°	262.8	262.8	262.8	262.8	263.0	263.2
36°	260.7	260.8	260.7	260.5	260.9	260.8
36.5°	258.5	258.4	258.5	258.3	258.6	258.6
37°	256.0	256.2	256.0	256.0	256.2	256.4
37.5°	253.6	253.9	253.6	253.5	253.9	253.9
38°	251.3	251.5	251.3	251.3	251.6	251.5
38.5°	248.9	249.1	248.9	248.8	249.2	249.1
39°	246.4	246.5	246.4	246.5	246.5	246.5
39.5°	243.9	243.8	243.9	243.9	244.0	244.2
40°	241.5	241.4	241.5	241.4	241.5	241.8
40.5°	238.8	238.9	238.8	238.6	238.8	239.1
41°	236.0	236.5	236.0	236.0	236.1	236.4
41.5°	233.4	233.6	233.4	233.4	233.5	233.7
42°	230.7	231.0	230.7	230.9	230.9	230.9
42.5°	228.1	228.3	228.1	228.1	228.2	228.3
43°	225.2	225.6	225.2	225.2	225.4	225.6
43.5°	222.5	222.7	222.5	222.4	222.5	222.9

TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	214.0	214.2	214.0	214.0	214.0	214.3
45.5°	211.1	211.0	211.1	211.1	211.1	211.2
46°	208.2	208.1	208.2	208.2	208.3	208.2
46.5°	205.3	205.2	205.3	205.3	205.3	205.2
47°	202.3	202.3	202.3	202.4	202.2	202.2
47.5°	199.2	199.5	199.2	199.2	199.1	199.3
48°	196.2	196.5	196.2	196.2	196.2	196.4
48.5°	193.3	193.4	193.3	193.4	193.4	193.4
49°	190.3	190.4	190.3	190.3	190.4	190.5
49.5°	187.2	187.4	187.2	187.2	187.2	187.2
50°	184.4	184.3	184.4	184.2	184.2	184.1
50.5°	181.4	181.2	181.4	181.1	181.1	181.2
51°	178.2	178.3	178.2	178.1	178.1	178.2
51.5°	175.2	175.2	175.2	175.1	175.0	175.0
52°	172.1	172.1	172.1	172.0	172.0	172.0
52.5°	169.0	169.1	169.0	169.0	168.9	169.0
53°	166.0	166.1	166.0	165.9	165.9	166.0
53.5°	163.0	163.2	163.0	162.8	162.8	163.0
54°	160.0	160.2	160.0	159.8	159.7	159.8
54.5°	157.0	157.2	157.0	156.8	156.7	156.7
55°	154.1	154.1	154.1	153.8	153.8	154.0
55.5°	151.0	151.2	151.0	150.8	150.7	151.0
56°	148.0	148.0	148.0	147.8	147.7	147.8
56.5°	145.0	145.1	145.0	144.8	144.8	145.0
57°	142.0	142.2	142.0	141.8	141.9	141.9
57.5°	138.9	139.3	138.9	138.8	138.7	138.9
58°	136.1	136.1	136.1	135.9	135.8	136.1
58.5°	133.2	133.4	133.2	133.0	133.0	133.0
59°	130.3	130.3	130.3	130.2	130.1	130.0
59.5°	127.3	127.6	127.3	127.3	127.2	127.2
60°	124.5	124.8	124.5	124.5	124.3	124.4
60.5°	121.8	121.9	121.8	121.5	121.4	121.4
61°	118.9	119.0	118.9	118.7	118.7	118.7
61.5°	116.0	116.2	116.0	116.0	115.9	115.8
62°	113.3	113.3	113.3	113.2	113.1	113.0
62.5°	110.6	110.6	110.6	110.4	110.3	110.2
63°	107.7	107.8	107.7	107.6	107.5	107.5
63.5°	105.0	105.1	105.0	104.9	104.8	104.8
64°	102.4	102.4	102.4	102.3	102.1	102.0
64.5°	99.7	99.7	99.7	99.6	99.4	99.3
65°	97.0	97.1	97.0	97.0	96.8	96.6
65.5°	94.4	94.5	94.4	94.3	94.2	94.1
66°	91.7	91.9	91.7	91.7	91.6	91.6



TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	84.2	84.2	84.2	83.9	83.9	83.8
68°	81.6	81.8	81.6	81.5	81.4	81.4
68.5°	79.2	79.2	79.2	79.0	78.9	78.8
69°	76.8	76.8	76.8	76.6	76.5	76.4
69.5°	74.3	74.5	74.3	74.2	74.1	74.1
70°	71.9	72.1	71.9	71.8	71.7	71.6
70.5°	69.6	69.7	69.6	69.5	69.3	69.3
71°	67.3	67.4	67.3	67.1	67.0	67.0
71.5°	65.0	65.2	65.0	64.7	64.7	64.7
72°	62.7	62.9	62.7	62.5	62.5	62.5
72.5°	60.5	60.6	60.5	60.3	60.2	60.2
73°	58.3	58.4	58.3	58.1	57.9	58.0
73.5°	56.1	56.3	56.1	55.9	55.7	55.9
74°	54.0	54.2	54.0	53.6	53.6	53.6
74.5°	51.8	52.1	51.8	51.6	51.4	51.6
75°	49.8	49.9	49.8	49.5	49.4	49.4
75.5°	47.7	47.8	47.7	47.4	47.4	47.4
76°	45.5	45.8	45.5	45.4	45.3	45.4
76.5°	43.6	43.7	43.6	43.4	43.3	43.4
77°	41.6	41.8	41.6	41.4	41.3	41.4
77.5°	39.7	39.8	39.7	39.5	39.4	39.5
78°	37.8	37.9	37.8	37.5	37.4	37.5
78.5°	35.8	36.2	35.8	35.6	35.5	35.6
79°	33.9	34.3	33.9	33.8	33.7	33.7
79.5°	32.1	32.3	32.1	31.9	31.9	31.9
80°	30.2	30.4	30.2	30.0	30.0	30.0
80.5°	28.4	28.5	28.4	28.2	28.3	28.2
81°	26.6	26.8	26.6	26.5	26.5	26.4
81.5°	24.9	25.0	24.9	24.7	24.7	24.6
82°	23.1	23.2	23.1	23.0	22.9	22.9
82.5°	21.5	21.5	21.5	21.3	21.2	21.1
83°	19.7	19.8	19.7	19.6	19.5	19.5
83.5°	18.0	18.1	18.0	17.9	17.8	17.8
84°	16.4	16.5	16.4	16.2	16.1	16.1
84.5°	14.7	14.8	14.7	14.6	14.5	14.5
85°	13.1	13.2	13.1	13.0	13.0	13.0
85.5°	11.4	11.5	11.4	11.4	11.4	11.4
86°	9.9	9.9	9.9	9.9	9.8	9.8
86.5°	8.5	8.7	8.5	8.4	8.2	8.2
87°	7.2	7.6	7.2	7.2	6.9	6.7
87.5°	5.8	6.4	5.8	5.8	5.6	5.1
88°	4.7	5.2	4.7	4.5	4.2	4.1
88.5°	3.9	4.4	3.9	3.3	3.1	2.9



TEST NUMBER: P938666

CATALOG NUMBER: HLB4LSFS5-850LM-2700K

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



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







21.5°	305.8	305.6	305.5	305.2	305.4	305.2	305.5	305.6	305.8	305.6	305.5
22°	305.0	304.6	304.5	304.3	304.3	304.3	304.5	304.6	305.0	304.6	304.5



44°	219.8	219.8	219.6	219.8	219.8	219.8	219.6	219.8	219.8	219.8	219.6
44.5°	217.1	217.0	216.7	216.9	217.0	216.9	216.7	217.0	217.1	217.0	216.7



66.5°	88.9	88.9	89.1	89.2	89.3	89.2	89.1	88.9	88.9	88.9	89.1
67°	86.3	86.5	86.5	86.7	86.8	86.7	86.5	86.5	86.3	86.5	86.5



89°	1.8	2.1	2.5	3.1	3.6	3.1	2.5	2.1	1.8	2.1	2.5
89.5°	0.8	1.4	1.9	2.4	2.8	2.4	1.9	1.4	0.8	1.4	1.9





21.5°	305.2	305.4	305.2	305.5	305.6	305.8
22°	304.3	304.3	304.3	304.5	304.6	305.0



44°	219.8	219.8	219.8	219.6	219.8	219.8
44.5°	216.9	217.0	216.9	216.7	217.0	217.1



66.5°	89.2	89.3	89.2	89.1	88.9	88.9
67°	86.7	86.8	86.7	86.5	86.5	86.3



89°	3.1	3.6	3.1	2.5	2.1	1.8
89.5°	2.4	2.8	2.4	1.9	1.4	0.8



(END OF REPORT)