

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: P938660

Luminaire Tested: HLB4LSFS5-1000LM-5000K

Issue Date: 1/15/2025

Test Information

Test Method: LM-79-2019
Report Number: P938660
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: HLB4LSFS5-1000LM-5000K
Description: 4IN SELECTABLE LUMENS, 90CRI, DIMMING TO 10%
Light Source: SELECTABLE CCT 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1175.0 lumens
Efficiency: N/A
Efficacy: 101.3 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

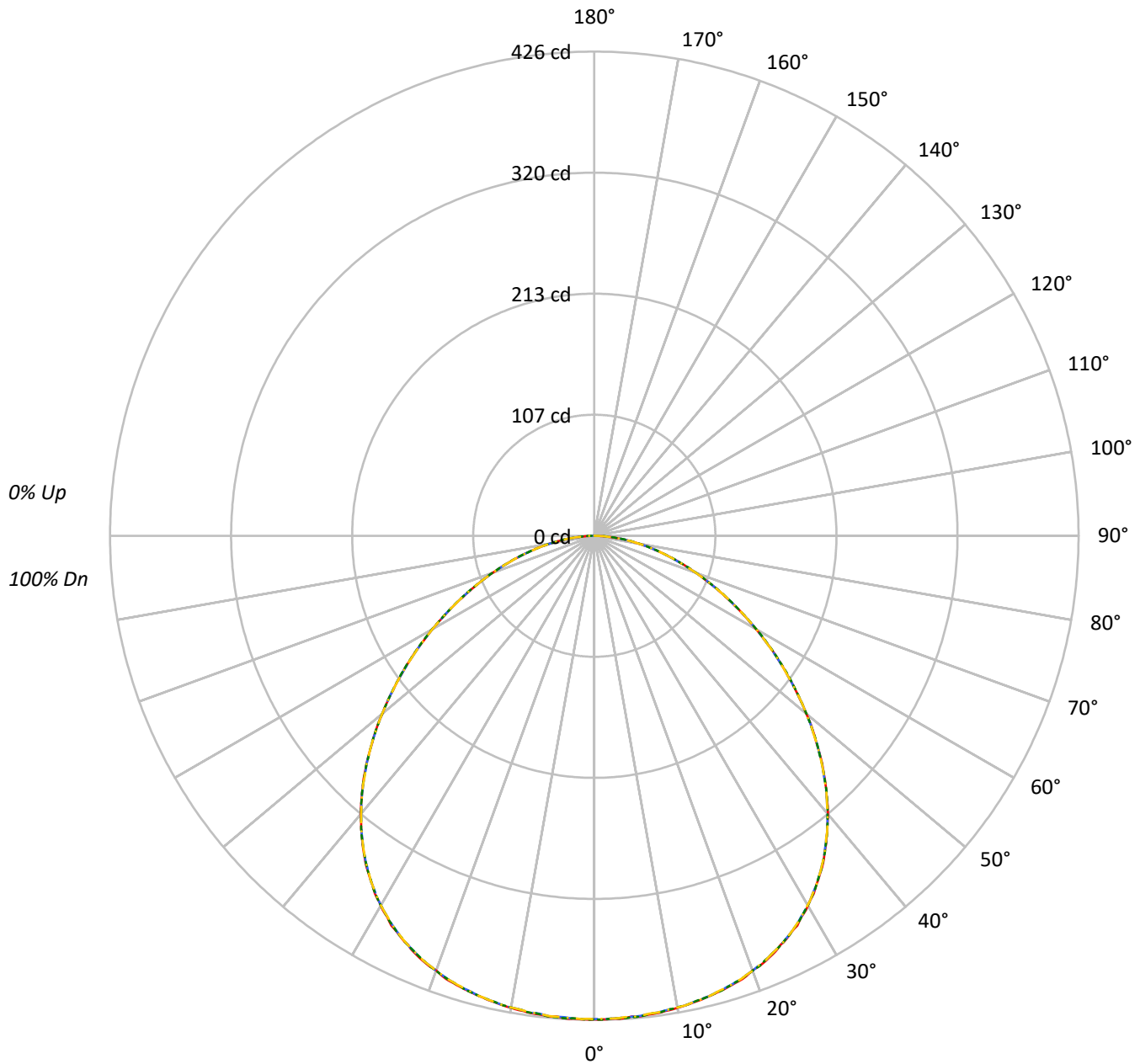
Input Watts (W): 11.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	53537	53537	53537	53537
5°	53665	53678	53665	53678
10°	53890	53851	53890	53851
15°	54226	54226	54226	54226
20°	54495	54535	54495	54535
25°	54766	54739	54766	54739
30°	54611	54582	54611	54582
35°	53926	53849	53926	53849
40°	52522	52423	52522	52423
45°	50421	50404	50421	50404
50°	47655	47713	47655	47713
55°	44694	44716	44694	44716
60°	41405	41530	41405	41530
65°	38057	38236	38057	38236
70°	34846	35067	34846	35067
75°	31801	32092	31801	32092
80°	28772	29135	28772	29135
85°	24692	25125	24692	25125

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 89.5°

Luminance: 53360 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	3.4
10°-20°	117.6	10.0
20°-30°	181.5	15.5
30°-40°	218.8	18.6
40°-50°	217.9	18.5
50°-60°	182.0	15.5
60°-70°	127.3	10.8
70°-80°	69.8	5.9
80°-90°	19.8	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°	339.5	28.9
0°-40°	558.3	47.5
0°-60°	958.2	81.5
0°-90°	1175.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1175.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	425	425	425	425	425	
5°	425	425	425	425	425	40
15°	416	416	416	416	416	118
25°	394	394	394	394	394	182
35°	351	350	351	350	351	219
45°	283	283	283	283	283	218
55°	204	204	204	204	204	182
65°	128	128	128	128	128	127
75°	65	66	65	66	65	70
85°	17	17	17	17	17	19
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°	425.4	425.4	425.4	425.4	425.4	425.4	425.4	425.4	425.4	425.4	425.4
0.5°	425.8	425.4	425.0	425.2	425.7	425.2	425.0	425.4	425.8	425.4	425.0
1°	425.6	425.1	425.0	425.1	425.7	425.1	425.0	425.1	425.6	425.1	425.0
1.5°	425.6	425.3	425.3	425.2	425.3	425.2	425.3	425.3	425.6	425.3	425.3
2°	425.2	425.3	425.1	425.1	425.0	425.1	425.1	425.3	425.2	425.3	425.1
2.5°	425.1	425.1	425.0	425.1	424.9	425.1	425.0	425.1	425.1	425.1	425.0
3°	425.6	425.1	424.9	425.0	425.4	425.0	424.9	425.1	425.6	425.1	424.9
3.5°	425.3	425.3	424.5	424.6	425.3	424.6	424.5	425.3	425.3	425.3	424.5
4°	424.9	424.6	424.4	424.3	425.1	424.3	424.4	424.6	424.9	424.6	424.4
4.5°	424.3	424.3	424.4	424.4	424.9	424.4	424.4	424.3	424.3	424.3	424.4
5°	424.8	424.5	424.5	424.3	424.9	424.3	424.5	424.5	424.8	424.5	424.5
5.5°	424.8	424.3	424.3	424.1	424.9	424.1	424.3	424.3	424.8	424.3	424.3
6°	424.3	423.9	423.8	423.8	424.3	423.8	423.8	423.9	424.3	423.9	423.8
6.5°	423.9	423.7	423.3	423.7	423.6	423.7	423.3	423.7	423.9	423.7	423.3
7°	423.8	423.5	423.3	423.3	423.3	423.3	423.3	423.5	423.8	423.5	423.3
7.5°	423.7	423.3	423.1	423.1	423.5	423.1	423.1	423.3	423.7	423.3	423.1
8°	423.4	423.1	422.8	422.8	423.3	422.8	422.8	423.1	423.4	423.1	422.8
8.5°	422.9	422.7	422.2	422.5	422.4	422.5	422.2	422.7	422.9	422.7	422.2
9°	422.7	422.2	422.0	422.1	422.0	422.1	422.0	422.2	422.7	422.2	422.0
9.5°	422.2	422.0	421.5	421.8	421.7	421.8	421.5	422.0	422.2	422.0	421.5
10°	421.7	421.7	421.5	421.3	421.4	421.3	421.5	421.7	421.7	421.7	421.5
10.5°	421.4	421.3	421.2	421.1	421.0	421.1	421.2	421.3	421.4	421.3	421.2
11°	421.0	420.8	420.9	420.7	420.9	420.7	420.9	420.8	421.0	420.8	420.9
11.5°	420.5	420.2	420.1	420.0	420.1	420.0	420.1	420.2	420.5	420.2	420.1
12°	419.8	419.7	419.5	419.3	419.5	419.3	419.5	419.7	419.8	419.7	419.5
12.5°	419.3	419.2	419.0	418.8	418.9	418.8	419.0	419.2	419.3	419.2	419.0
13°	419.0	418.9	418.6	418.7	418.4	418.7	418.6	418.9	419.0	418.9	418.6
13.5°	418.1	418.4	417.8	418.4	418.1	418.4	417.8	418.4	418.1	418.4	417.8
14°	417.5	417.7	417.4	417.4	417.5	417.4	417.4	417.7	417.5	417.7	417.4
14.5°	417.0	416.8	416.8	416.6	416.8	416.6	416.8	416.8	417.0	416.8	416.8
15°	416.2	415.9	415.8	415.9	416.2	415.9	415.8	415.9	416.2	415.9	415.8
15.5°	415.4	415.3	415.1	415.3	415.7	415.3	415.1	415.3	415.4	415.3	415.1
16°	415.0	414.7	414.5	414.5	415.0	414.5	414.5	414.7	415.0	414.7	414.5
16.5°	414.2	413.9	413.6	413.9	413.8	413.9	413.6	413.9	414.2	413.9	413.6
17°	413.4	413.1	413.0	412.9	413.1	412.9	413.0	413.1	413.4	413.1	413.0
17.5°	412.6	412.1	412.0	412.0	412.2	412.0	412.0	412.1	412.6	412.1	412.0
18°	411.9	411.3	411.3	411.0	411.5	411.0	411.3	411.3	411.9	411.3	411.3
18.5°	411.3	410.5	410.5	410.3	410.4	410.3	410.5	410.5	411.3	410.5	410.5
19°	410.0	409.7	409.2	409.1	409.5	409.1	409.2	409.7	410.0	409.7	409.2
19.5°	408.4	408.5	408.1	408.4	408.5	408.4	408.1	408.5	408.4	408.5	408.1
20°	406.9	407.5	407.4	407.3	407.2	407.3	407.4	407.5	406.9	407.5	407.4
20.5°	406.2	406.5	405.9	406.3	406.2	406.3	405.9	406.5	406.2	406.5	405.9
21°	405.6	405.4	404.8	404.7	405.5	404.7	404.8	405.4	405.6	405.4	404.8

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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°	401.9	401.5	401.1	401.3	401.2	401.3	401.1	401.5	401.9	401.5	401.1
23°	400.5	400.2	399.8	399.8	399.7	399.8	399.8	400.2	400.5	400.2	399.8
23.5°	399.1	398.5	398.3	398.4	398.4	398.4	398.3	398.5	399.1	398.5	398.3
24°	397.4	397.4	397.1	396.8	397.1	396.8	397.1	397.4	397.4	397.4	397.1
24.5°	395.4	396.2	395.5	395.4	395.6	395.4	395.5	396.2	395.4	396.2	395.5
25°	394.4	394.1	394.1	393.9	394.2	393.9	394.1	394.1	394.4	394.1	394.1
25.5°	392.9	392.4	392.5	392.4	392.4	392.4	392.5	392.4	392.9	392.4	392.5
26°	391.2	390.9	390.8	390.8	391.1	390.8	390.8	390.9	391.2	390.9	390.8
26.5°	389.4	389.2	389.0	388.9	389.4	388.9	389.0	389.2	389.4	389.2	389.0
27°	387.9	387.6	387.3	387.1	387.4	387.1	387.3	387.6	387.9	387.6	387.3
27.5°	386.6	385.9	385.5	385.6	385.6	385.6	385.5	385.9	386.6	385.9	385.5
28°	384.2	383.8	383.6	383.6	383.8	383.6	383.6	383.8	384.2	383.8	383.6
28.5°	381.7	381.7	381.4	381.6	381.7	381.6	381.4	381.7	381.7	381.7	381.4
29°	380.1	379.8	379.5	379.5	379.7	379.5	379.5	379.8	380.1	379.8	379.5
29.5°	378.2	377.7	377.4	377.1	377.6	377.1	377.4	377.7	378.2	377.7	377.4
30°	375.8	375.5	375.4	375.0	375.6	375.0	375.4	375.5	375.8	375.5	375.4
30.5°	373.3	373.1	373.3	373.1	373.6	373.1	373.3	373.1	373.3	373.1	373.3
31°	371.4	370.9	370.9	370.8	371.2	370.8	370.9	370.9	371.4	370.9	370.9
31.5°	369.3	369.0	368.3	368.4	368.8	368.4	368.3	369.0	369.3	369.0	368.3
32°	366.4	366.4	366.0	365.9	366.6	365.9	366.0	366.4	366.4	366.4	366.0
32.5°	363.6	363.8	363.8	363.5	363.9	363.5	363.8	363.8	363.6	363.8	363.8
33°	361.3	361.3	361.5	361.1	361.0	361.1	361.5	361.3	361.3	361.3	361.5
33.5°	358.9	358.9	358.5	358.5	358.5	358.5	358.5	358.9	358.9	358.9	358.5
34°	356.1	356.3	355.7	355.8	356.1	355.8	355.7	356.3	356.1	356.3	355.7
34.5°	353.7	353.3	353.0	352.9	353.5	352.9	353.0	353.3	353.7	353.3	353.0
35°	351.0	350.2	350.4	350.2	350.5	350.2	350.4	350.2	351.0	350.2	350.4
35.5°	347.9	347.7	347.4	347.5	347.5	347.5	347.4	347.7	347.9	347.7	347.4
36°	344.8	345.0	344.5	344.7	344.9	344.7	344.5	345.0	344.8	345.0	344.5
36.5°	341.9	341.9	341.5	341.7	341.6	341.7	341.5	341.9	341.9	341.9	341.5
37°	339.0	338.8	338.5	338.5	338.7	338.5	338.5	338.8	339.0	338.8	338.5
37.5°	335.6	335.6	335.2	335.3	335.7	335.3	335.2	335.6	335.6	335.6	335.2
38°	332.5	332.7	332.3	332.3	332.6	332.3	332.3	332.7	332.5	332.7	332.3
38.5°	329.3	329.4	329.0	329.1	329.3	329.1	329.0	329.4	329.3	329.4	329.0
39°	325.9	325.9	325.9	325.8	326.0	325.8	325.9	325.9	325.9	325.9	325.9
39.5°	322.8	322.6	322.5	322.5	322.4	322.5	322.5	322.6	322.8	322.6	322.5
40°	319.7	319.4	319.1	319.2	319.1	319.2	319.1	319.4	319.7	319.4	319.1
40.5°	316.2	315.8	315.5	315.7	315.9	315.7	315.5	315.8	316.2	315.8	315.5
41°	312.6	312.2	312.1	312.1	312.7	312.1	312.1	312.2	312.6	312.2	312.1
41.5°	308.9	308.7	308.6	308.6	308.8	308.6	308.6	308.7	308.9	308.7	308.6
42°	305.3	305.3	305.3	305.1	305.4	305.1	305.3	305.3	305.3	305.3	305.3
42.5°	301.8	301.7	301.6	301.6	301.8	301.6	301.6	301.7	301.8	301.7	301.6
43°	298.2	298.0	297.8	297.8	298.2	297.8	297.8	298.0	298.2	298.0	297.8
43.5°	294.7	294.2	294.0	294.2	294.4	294.2	294.0	294.2	294.7	294.2	294.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	283.3	282.9	282.9	283.0	283.2	283.0	282.9	282.9	283.3	282.9	282.9
45.5°	279.2	279.1	279.1	279.1	279.0	279.1	279.1	279.1	279.2	279.1	279.1
46°	275.2	275.4	275.3	275.2	275.1	275.2	275.3	275.4	275.2	275.4	275.3
46.5°	271.3	271.4	271.4	271.4	271.3	271.4	271.4	271.4	271.3	271.4	271.4
47°	267.3	267.3	267.5	267.4	267.4	267.4	267.5	267.3	267.3	267.3	267.5
47.5°	263.6	263.2	263.3	263.3	263.8	263.3	263.3	263.2	263.6	263.2	263.3
48°	259.7	259.5	259.3	259.3	259.8	259.3	259.3	259.5	259.7	259.5	259.3
48.5°	255.8	255.7	255.7	255.6	255.7	255.6	255.7	255.7	255.8	255.7	255.7
49°	251.9	251.8	251.7	251.6	251.8	251.6	251.7	251.8	251.9	251.8	251.7
49.5°	247.6	247.6	247.5	247.6	247.8	247.6	247.5	247.6	247.6	247.6	247.5
50°	243.4	243.5	243.5	243.8	243.7	243.8	243.5	243.5	243.4	243.5	243.5
50.5°	239.6	239.4	239.5	239.8	239.6	239.8	239.5	239.4	239.6	239.4	239.5
51°	235.6	235.5	235.5	235.6	235.7	235.6	235.5	235.5	235.6	235.5	235.5
51.5°	231.4	231.4	231.5	231.6	231.7	231.6	231.5	231.4	231.4	231.4	231.5
52°	227.4	227.4	227.4	227.5	227.6	227.5	227.4	227.4	227.4	227.4	227.4
52.5°	223.4	223.3	223.4	223.5	223.6	223.5	223.4	223.3	223.4	223.3	223.4
53°	219.5	219.4	219.3	219.5	219.6	219.5	219.3	219.4	219.5	219.4	219.3
53.5°	215.5	215.2	215.3	215.5	215.7	215.5	215.3	215.2	215.5	215.2	215.3
54°	211.2	211.1	211.2	211.5	211.9	211.5	211.2	211.1	211.2	211.1	211.2
54.5°	207.1	207.1	207.3	207.6	207.9	207.6	207.3	207.1	207.1	207.1	207.3
55°	203.7	203.3	203.3	203.8	203.8	203.8	203.3	203.3	203.7	203.3	203.3
55.5°	199.7	199.2	199.5	199.7	199.9	199.7	199.5	199.2	199.7	199.2	199.5
56°	195.5	195.2	195.5	195.7	195.7	195.7	195.5	195.2	195.5	195.2	195.5
56.5°	191.7	191.5	191.5	191.7	191.9	191.7	191.5	191.5	191.7	191.5	191.5
57°	187.7	187.6	187.5	187.8	188.0	187.8	187.5	187.6	187.7	187.6	187.5
57.5°	183.7	183.4	183.6	183.7	184.2	183.7	183.6	183.4	183.7	183.4	183.6
58°	179.9	179.6	179.7	180.0	180.0	180.0	179.7	179.6	179.9	179.6	179.7
58.5°	175.9	175.9	175.9	176.1	176.3	176.1	175.9	175.9	175.9	175.9	175.9
59°	171.9	172.0	172.1	172.3	172.3	172.3	172.1	172.0	171.9	172.0	172.1
59.5°	168.2	168.1	168.3	168.3	168.7	168.3	168.3	168.1	168.2	168.1	168.3
60°	164.5	164.4	164.6	164.7	165.0	164.7	164.6	164.4	164.5	164.4	164.6
60.5°	160.6	160.6	160.7	161.0	161.2	161.0	160.7	160.6	160.6	160.6	160.7
61°	156.9	156.9	157.0	157.2	157.3	157.2	157.0	156.9	156.9	156.9	157.0
61.5°	153.1	153.2	153.4	153.4	153.6	153.4	153.4	153.2	153.1	153.2	153.4
62°	149.4	149.5	149.6	149.9	149.9	149.9	149.6	149.5	149.4	149.5	149.6
62.5°	145.8	145.9	146.0	146.2	146.3	146.2	146.0	145.9	145.8	145.9	146.0
63°	142.1	142.1	142.3	142.4	142.5	142.4	142.3	142.1	142.1	142.1	142.3
63.5°	138.5	138.6	138.7	138.8	139.0	138.8	138.7	138.6	138.5	138.6	138.7
64°	134.9	135.0	135.2	135.3	135.5	135.3	135.2	135.0	134.9	135.0	135.2
64.5°	131.3	131.5	131.7	131.8	131.8	131.8	131.7	131.5	131.3	131.5	131.7
65°	127.8	128.0	128.2	128.3	128.4	128.3	128.2	128.0	127.8	128.0	128.2
65.5°	124.4	124.5	124.7	124.8	124.9	124.8	124.7	124.5	124.4	124.5	124.7
66°	121.1	121.1	121.3	121.3	121.5	121.3	121.3	121.1	121.1	121.1	121.3

TEST NUMBER: P938660

CATALOG NUMBER: HLB4LSFS5-1000LM-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	110.9	111.0	111.0	111.3	111.4	111.3	111.0	111.0	110.9	111.0	111.0
68°	107.6	107.6	107.7	107.9	108.1	107.9	107.7	107.6	107.6	107.6	107.7
68.5°	104.2	104.3	104.5	104.7	104.8	104.7	104.5	104.3	104.2	104.3	104.5
69°	101.0	101.1	101.3	101.5	101.5	101.5	101.3	101.1	101.0	101.1	101.3
69.5°	97.9	97.9	98.0	98.3	98.5	98.3	98.0	97.9	97.9	97.9	98.0
70°	94.7	94.8	94.9	95.1	95.3	95.1	94.9	94.8	94.7	94.8	94.9
70.5°	91.6	91.6	91.8	92.1	92.2	92.1	91.8	91.6	91.6	91.6	91.8
71°	88.6	88.6	88.7	89.0	89.1	89.0	88.7	88.6	88.6	88.6	88.7
71.5°	85.5	85.5	85.5	86.0	86.2	86.0	85.5	85.5	85.5	85.5	85.5
72°	82.6	82.6	82.6	82.9	83.1	82.9	82.6	82.6	82.6	82.6	82.6
72.5°	79.5	79.5	79.8	80.0	80.2	80.0	79.8	79.5	79.5	79.5	79.8
73°	76.7	76.6	76.8	77.1	77.2	77.1	76.8	76.6	76.7	76.6	76.8
73.5°	73.9	73.7	73.9	74.2	74.4	74.2	73.9	73.7	73.9	73.7	73.9
74°	70.9	70.9	70.9	71.4	71.7	71.4	70.9	70.9	70.9	70.9	70.9
74.5°	68.2	68.0	68.2	68.5	68.8	68.5	68.2	68.0	68.2	68.0	68.2
75°	65.4	65.4	65.5	65.8	66.0	65.8	65.5	65.4	65.4	65.4	65.5
75.5°	62.7	62.6	62.7	63.1	63.3	63.1	62.7	62.6	62.7	62.6	62.7
76°	60.0	59.9	60.0	60.2	60.5	60.2	60.0	59.9	60.0	59.9	60.0
76.5°	57.4	57.3	57.4	57.6	57.8	57.6	57.4	57.3	57.4	57.3	57.4
77°	54.7	54.6	54.7	55.1	55.3	55.1	54.7	54.6	54.7	54.6	54.7
77.5°	52.2	52.1	52.2	52.4	52.6	52.4	52.2	52.1	52.2	52.1	52.2
78°	49.6	49.5	49.6	49.9	50.1	49.9	49.6	49.5	49.6	49.5	49.6
78.5°	47.1	47.0	47.1	47.4	47.8	47.4	47.1	47.0	47.1	47.0	47.1
79°	44.6	44.6	44.7	44.9	45.3	44.9	44.7	44.6	44.6	44.6	44.7
79.5°	42.1	42.1	42.1	42.5	42.7	42.5	42.1	42.1	42.1	42.1	42.1
80°	39.7	39.6	39.7	39.9	40.2	39.9	39.7	39.6	39.7	39.6	39.7
80.5°	37.3	37.4	37.3	37.5	37.7	37.5	37.3	37.4	37.3	37.4	37.3
81°	34.9	35.0	35.0	35.2	35.4	35.2	35.0	35.0	34.9	35.0	35.0
81.5°	32.6	32.7	32.7	32.9	33.0	32.9	32.7	32.7	32.6	32.7	32.7
82°	30.3	30.3	30.4	30.6	30.7	30.6	30.4	30.3	30.3	30.3	30.4
82.5°	28.0	28.1	28.2	28.4	28.4	28.4	28.2	28.1	28.0	28.1	28.2
83°	25.7	25.7	25.9	26.1	26.2	26.1	25.9	25.7	25.7	25.7	25.9
83.5°	23.5	23.5	23.6	23.9	24.0	23.9	23.6	23.5	23.5	23.5	23.6
84°	21.3	21.3	21.4	21.6	21.8	21.6	21.4	21.3	21.3	21.3	21.4
84.5°	19.2	19.2	19.3	19.4	19.5	19.4	19.3	19.2	19.2	19.2	19.3
85°	17.1	17.1	17.2	17.3	17.4	17.3	17.2	17.1	17.1	17.1	17.2
85.5°	15.0	15.0	15.0	15.1	15.2	15.1	15.0	15.0	15.0	15.0	15.0
86°	12.9	12.9	13.0	13.0	13.1	13.0	13.0	12.9	12.9	12.9	13.0
86.5°	10.8	10.8	11.1	11.2	11.6	11.2	11.1	10.8	10.8	10.8	11.1
87°	8.8	9.1	9.5	9.5	10.0	9.5	9.5	9.1	8.8	9.1	9.5
87.5°	6.7	7.4	7.7	7.7	8.4	7.7	7.7	7.4	6.7	7.4	7.7
88°	5.4	5.6	5.9	6.2	6.8	6.2	5.9	5.6	5.4	5.6	5.9
88.5°	3.9	4.1	4.3	5.1	5.8	5.1	4.3	4.1	3.9	4.1	4.3



TEST NUMBER: P938660
CATALOG NUMBER: HLB4LSFS5-1000LM-5000K

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: P938660

CATALOG NUMBER: HLB4LSFS5-1000LM-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	425.4	425.4	425.4	425.4	425.4	425.4
0.5°	425.2	425.7	425.2	425.0	425.4	425.8
1°	425.1	425.7	425.1	425.0	425.1	425.6
1.5°	425.2	425.3	425.2	425.3	425.3	425.6
2°	425.1	425.0	425.1	425.1	425.3	425.2
2.5°	425.1	424.9	425.1	425.0	425.1	425.1
3°	425.0	425.4	425.0	424.9	425.1	425.6
3.5°	424.6	425.3	424.6	424.5	425.3	425.3
4°	424.3	425.1	424.3	424.4	424.6	424.9
4.5°	424.4	424.9	424.4	424.4	424.3	424.3
5°	424.3	424.9	424.3	424.5	424.5	424.8
5.5°	424.1	424.9	424.1	424.3	424.3	424.8
6°	423.8	424.3	423.8	423.8	423.9	424.3
6.5°	423.7	423.6	423.7	423.3	423.7	423.9
7°	423.3	423.3	423.3	423.3	423.5	423.8
7.5°	423.1	423.5	423.1	423.1	423.3	423.7
8°	422.8	423.3	422.8	422.8	423.1	423.4
8.5°	422.5	422.4	422.5	422.2	422.7	422.9
9°	422.1	422.0	422.1	422.0	422.2	422.7
9.5°	421.8	421.7	421.8	421.5	422.0	422.2
10°	421.3	421.4	421.3	421.5	421.7	421.7
10.5°	421.1	421.0	421.1	421.2	421.3	421.4
11°	420.7	420.9	420.7	420.9	420.8	421.0
11.5°	420.0	420.1	420.0	420.1	420.2	420.5
12°	419.3	419.5	419.3	419.5	419.7	419.8
12.5°	418.8	418.9	418.8	419.0	419.2	419.3
13°	418.7	418.4	418.7	418.6	418.9	419.0
13.5°	418.4	418.1	418.4	417.8	418.4	418.1
14°	417.4	417.5	417.4	417.4	417.7	417.5
14.5°	416.6	416.8	416.6	416.8	416.8	417.0
15°	415.9	416.2	415.9	415.8	415.9	416.2
15.5°	415.3	415.7	415.3	415.1	415.3	415.4
16°	414.5	415.0	414.5	414.5	414.7	415.0
16.5°	413.9	413.8	413.9	413.6	413.9	414.2
17°	412.9	413.1	412.9	413.0	413.1	413.4
17.5°	412.0	412.2	412.0	412.0	412.1	412.6
18°	411.0	411.5	411.0	411.3	411.3	411.9
18.5°	410.3	410.4	410.3	410.5	410.5	411.3
19°	409.1	409.5	409.1	409.2	409.7	410.0
19.5°	408.4	408.5	408.4	408.1	408.5	408.4
20°	407.3	407.2	407.3	407.4	407.5	406.9
20.5°	406.3	406.2	406.3	405.9	406.5	406.2
21°	404.7	405.5	404.7	404.8	405.4	405.6



TEST NUMBER: P938660

CATALOG NUMBER: HLB4LSFS5-1000LM-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	401.3	401.2	401.3	401.1	401.5	401.9
23°	399.8	399.7	399.8	399.8	400.2	400.5
23.5°	398.4	398.4	398.4	398.3	398.5	399.1
24°	396.8	397.1	396.8	397.1	397.4	397.4
24.5°	395.4	395.6	395.4	395.5	396.2	395.4
25°	393.9	394.2	393.9	394.1	394.1	394.4
25.5°	392.4	392.4	392.4	392.5	392.4	392.9
26°	390.8	391.1	390.8	390.8	390.9	391.2
26.5°	388.9	389.4	388.9	389.0	389.2	389.4
27°	387.1	387.4	387.1	387.3	387.6	387.9
27.5°	385.6	385.6	385.6	385.5	385.9	386.6
28°	383.6	383.8	383.6	383.6	383.8	384.2
28.5°	381.6	381.7	381.6	381.4	381.7	381.7
29°	379.5	379.7	379.5	379.5	379.8	380.1
29.5°	377.1	377.6	377.1	377.4	377.7	378.2
30°	375.0	375.6	375.0	375.4	375.5	375.8
30.5°	373.1	373.6	373.1	373.3	373.1	373.3
31°	370.8	371.2	370.8	370.9	370.9	371.4
31.5°	368.4	368.8	368.4	368.3	369.0	369.3
32°	365.9	366.6	365.9	366.0	366.4	366.4
32.5°	363.5	363.9	363.5	363.8	363.8	363.6
33°	361.1	361.0	361.1	361.5	361.3	361.3
33.5°	358.5	358.5	358.5	358.5	358.9	358.9
34°	355.8	356.1	355.8	355.7	356.3	356.1
34.5°	352.9	353.5	352.9	353.0	353.3	353.7
35°	350.2	350.5	350.2	350.4	350.2	351.0
35.5°	347.5	347.5	347.5	347.4	347.7	347.9
36°	344.7	344.9	344.7	344.5	345.0	344.8
36.5°	341.7	341.6	341.7	341.5	341.9	341.9
37°	338.5	338.7	338.5	338.5	338.8	339.0
37.5°	335.3	335.7	335.3	335.2	335.6	335.6
38°	332.3	332.6	332.3	332.3	332.7	332.5
38.5°	329.1	329.3	329.1	329.0	329.4	329.3
39°	325.8	326.0	325.8	325.9	325.9	325.9
39.5°	322.5	322.4	322.5	322.5	322.6	322.8
40°	319.2	319.1	319.2	319.1	319.4	319.7
40.5°	315.7	315.9	315.7	315.5	315.8	316.2
41°	312.1	312.7	312.1	312.1	312.2	312.6
41.5°	308.6	308.8	308.6	308.6	308.7	308.9
42°	305.1	305.4	305.1	305.3	305.3	305.3
42.5°	301.6	301.8	301.6	301.6	301.7	301.8
43°	297.8	298.2	297.8	297.8	298.0	298.2
43.5°	294.2	294.4	294.2	294.0	294.2	294.7



TEST NUMBER: P938660

CATALOG NUMBER: HLB4LSFS5-1000LM-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	283.0	283.2	283.0	282.9	282.9	283.3
45.5°	279.1	279.0	279.1	279.1	279.1	279.2
46°	275.2	275.1	275.2	275.3	275.4	275.2
46.5°	271.4	271.3	271.4	271.4	271.4	271.3
47°	267.4	267.4	267.4	267.5	267.3	267.3
47.5°	263.3	263.8	263.3	263.3	263.2	263.6
48°	259.3	259.8	259.3	259.3	259.5	259.7
48.5°	255.6	255.7	255.6	255.7	255.7	255.8
49°	251.6	251.8	251.6	251.7	251.8	251.9
49.5°	247.6	247.8	247.6	247.5	247.6	247.6
50°	243.8	243.7	243.8	243.5	243.5	243.4
50.5°	239.8	239.6	239.8	239.5	239.4	239.6
51°	235.6	235.7	235.6	235.5	235.5	235.6
51.5°	231.6	231.7	231.6	231.5	231.4	231.4
52°	227.5	227.6	227.5	227.4	227.4	227.4
52.5°	223.5	223.6	223.5	223.4	223.3	223.4
53°	219.5	219.6	219.5	219.3	219.4	219.5
53.5°	215.5	215.7	215.5	215.3	215.2	215.5
54°	211.5	211.9	211.5	211.2	211.1	211.2
54.5°	207.6	207.9	207.6	207.3	207.1	207.1
55°	203.8	203.8	203.8	203.3	203.3	203.7
55.5°	199.7	199.9	199.7	199.5	199.2	199.7
56°	195.7	195.7	195.7	195.5	195.2	195.5
56.5°	191.7	191.9	191.7	191.5	191.5	191.7
57°	187.8	188.0	187.8	187.5	187.6	187.7
57.5°	183.7	184.2	183.7	183.6	183.4	183.7
58°	180.0	180.0	180.0	179.7	179.6	179.9
58.5°	176.1	176.3	176.1	175.9	175.9	175.9
59°	172.3	172.3	172.3	172.1	172.0	171.9
59.5°	168.3	168.7	168.3	168.3	168.1	168.2
60°	164.7	165.0	164.7	164.6	164.4	164.5
60.5°	161.0	161.2	161.0	160.7	160.6	160.6
61°	157.2	157.3	157.2	157.0	156.9	156.9
61.5°	153.4	153.6	153.4	153.4	153.2	153.1
62°	149.9	149.9	149.9	149.6	149.5	149.4
62.5°	146.2	146.3	146.2	146.0	145.9	145.8
63°	142.4	142.5	142.4	142.3	142.1	142.1
63.5°	138.8	139.0	138.8	138.7	138.6	138.5
64°	135.3	135.5	135.3	135.2	135.0	134.9
64.5°	131.8	131.8	131.8	131.7	131.5	131.3
65°	128.3	128.4	128.3	128.2	128.0	127.8
65.5°	124.8	124.9	124.8	124.7	124.5	124.4
66°	121.3	121.5	121.3	121.3	121.1	121.1



TEST NUMBER: P938660

CATALOG NUMBER: HLB4LSFS5-1000LM-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	111.3	111.4	111.3	111.0	111.0	110.9
68°	107.9	108.1	107.9	107.7	107.6	107.6
68.5°	104.7	104.8	104.7	104.5	104.3	104.2
69°	101.5	101.5	101.5	101.3	101.1	101.0
69.5°	98.3	98.5	98.3	98.0	97.9	97.9
70°	95.1	95.3	95.1	94.9	94.8	94.7
70.5°	92.1	92.2	92.1	91.8	91.6	91.6
71°	89.0	89.1	89.0	88.7	88.6	88.6
71.5°	86.0	86.2	86.0	85.5	85.5	85.5
72°	82.9	83.1	82.9	82.6	82.6	82.6
72.5°	80.0	80.2	80.0	79.8	79.5	79.5
73°	77.1	77.2	77.1	76.8	76.6	76.7
73.5°	74.2	74.4	74.2	73.9	73.7	73.9
74°	71.4	71.7	71.4	70.9	70.9	70.9
74.5°	68.5	68.8	68.5	68.2	68.0	68.2
75°	65.8	66.0	65.8	65.5	65.4	65.4
75.5°	63.1	63.3	63.1	62.7	62.6	62.7
76°	60.2	60.5	60.2	60.0	59.9	60.0
76.5°	57.6	57.8	57.6	57.4	57.3	57.4
77°	55.1	55.3	55.1	54.7	54.6	54.7
77.5°	52.4	52.6	52.4	52.2	52.1	52.2
78°	49.9	50.1	49.9	49.6	49.5	49.6
78.5°	47.4	47.8	47.4	47.1	47.0	47.1
79°	44.9	45.3	44.9	44.7	44.6	44.6
79.5°	42.5	42.7	42.5	42.1	42.1	42.1
80°	39.9	40.2	39.9	39.7	39.6	39.7
80.5°	37.5	37.7	37.5	37.3	37.4	37.3
81°	35.2	35.4	35.2	35.0	35.0	34.9
81.5°	32.9	33.0	32.9	32.7	32.7	32.6
82°	30.6	30.7	30.6	30.4	30.3	30.3
82.5°	28.4	28.4	28.4	28.2	28.1	28.0
83°	26.1	26.2	26.1	25.9	25.7	25.7
83.5°	23.9	24.0	23.9	23.6	23.5	23.5
84°	21.6	21.8	21.6	21.4	21.3	21.3
84.5°	19.4	19.5	19.4	19.3	19.2	19.2
85°	17.3	17.4	17.3	17.2	17.1	17.1
85.5°	15.1	15.2	15.1	15.0	15.0	15.0
86°	13.0	13.1	13.0	13.0	12.9	12.9
86.5°	11.2	11.6	11.2	11.1	10.8	10.8
87°	9.5	10.0	9.5	9.5	9.1	8.8
87.5°	7.7	8.4	7.7	7.7	7.4	6.7
88°	6.2	6.8	6.2	5.9	5.6	5.4
88.5°	5.1	5.8	5.1	4.3	4.1	3.9



TEST NUMBER: P938660
CATALOG NUMBER: HLB4LSFS5-1000LM-5000K

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°	404.3	404.1	403.9	403.5	403.8	403.5	403.9	404.1	404.3	404.1	403.9
22°	403.2	402.7	402.6	402.4	402.4	402.4	402.6	402.7	403.2	402.7	402.6



44°	290.7	290.6	290.3	290.6	290.6	290.6	290.3	290.6	290.7	290.6	290.3
44.5°	287.0	286.9	286.6	286.8	286.9	286.8	286.6	286.9	287.0	286.9	286.6



66.5°	117.5	117.6	117.8	117.9	118.0	117.9	117.8	117.6	117.5	117.6	117.8
67°	114.1	114.3	114.3	114.6	114.8	114.6	114.3	114.3	114.1	114.3	114.3



89°	2.4	2.7	3.3	4.1	4.7	4.1	3.3	2.7	2.4	2.7	3.3
89.5°	1.1	1.8	2.5	3.2	3.7	3.2	2.5	1.8	1.1	1.8	2.5





21.5°	403.5	403.8	403.5	403.9	404.1	404.3
22°	402.4	402.4	402.4	402.6	402.7	403.2



44°	290.6	290.6	290.6	290.3	290.6	290.7
44.5°	286.8	286.9	286.8	286.6	286.9	287.0



66.5°	117.9	118.0	117.9	117.8	117.6	117.5
67°	114.6	114.8	114.6	114.3	114.3	114.1



89°	4.1	4.7	4.1	3.3	2.7	2.4
89.5°	3.2	3.7	3.2	2.5	1.8	1.1



(END OF REPORT)