

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: P938656

Luminaire Tested: HLB4LSFS5-1000LM-2700K

Issue Date: 1/15/2025

Test Information

Test Method: LM-79-2019
Report Number: P938656
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-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: 1100.0 lumens
Efficiency: N/A
Efficacy: 94.0 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

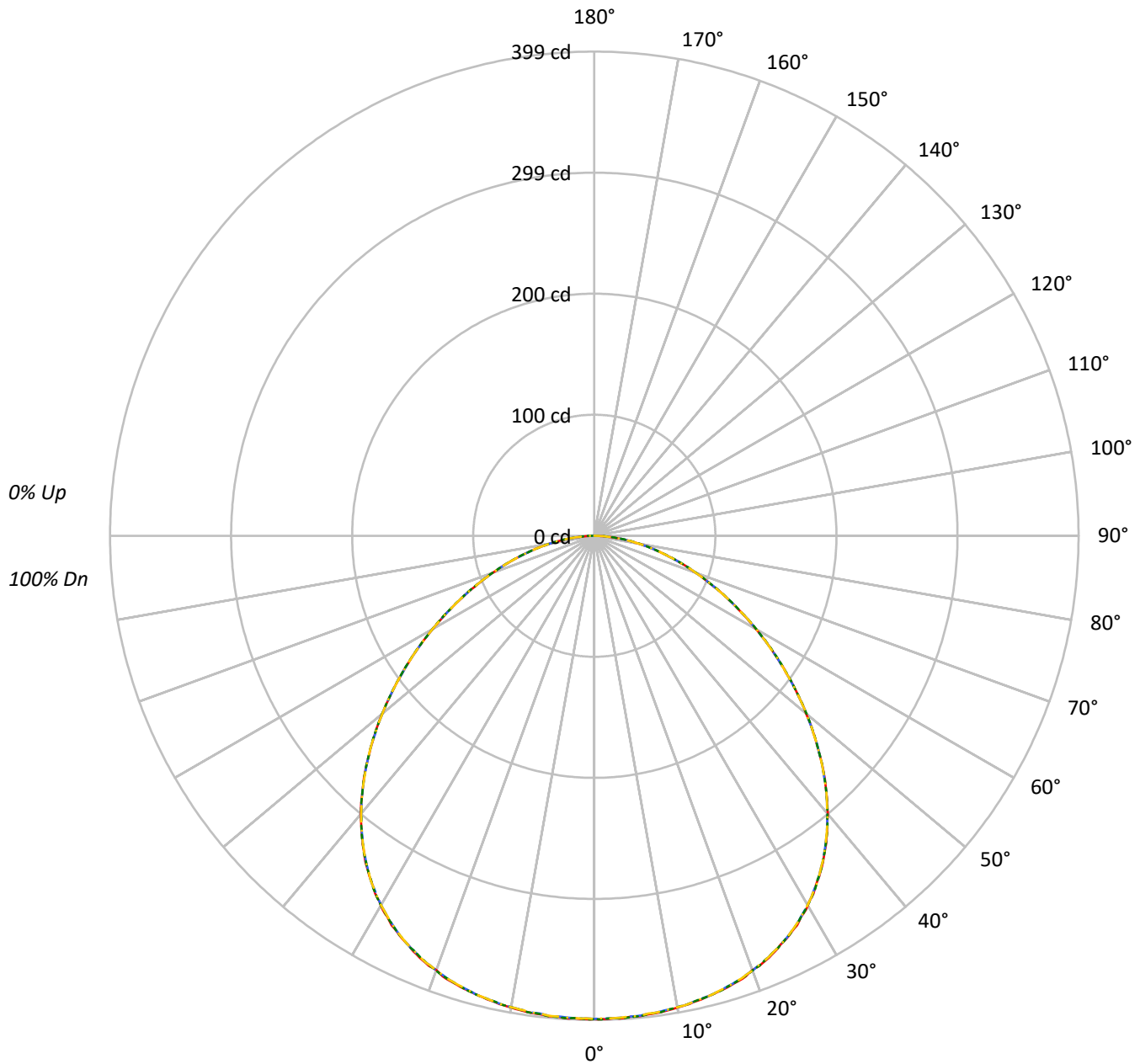
Input Watts (W): 11.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

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°	50113	50113	50113	50113
5°	50229	50242	50229	50242
10°	50452	50414	50452	50414
15°	50774	50774	50774	50774
20°	51013	51053	51013	51053
25°	51267	51239	51267	51239
30°	51123	51094	51123	51094
35°	50484	50407	50484	50407
40°	49171	49088	49171	49088
45°	47200	47182	47200	47182
50°	44600	44659	44600	44659
55°	41842	41864	41842	41864
60°	38762	38888	38762	38888
65°	35615	35794	35615	35794
70°	32601	32822	32601	32822
75°	29758	30050	29758	30050
80°	26960	27323	26960	27323
85°	23103	23537	23103	23537

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 89.5°

Luminance: 49033 cd/sqm



TEST NUMBER: P938656
 CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.8	3.4
10°-20°	110.1	10.0
20°-30°	170.0	15.5
30°-40°	204.8	18.6
40°-50°	204.0	18.5
50°-60°	170.4	15.5
60°-70°	119.1	10.8
70°-80°	65.3	5.9
80°-90°	18.5	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°	317.9	28.9
0°-40°	522.7	47.5
0°-60°	897.0	81.5
0°-90°	1100.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	398	398	398	398	398	
5°	398	398	398	398	398	38
15°	390	390	390	390	390	110
25°	369	369	369	369	369	170
35°	329	328	329	328	329	205
45°	265	265	265	265	265	204
55°	191	191	191	191	191	170
65°	120	120	120	120	120	119
75°	61	62	61	62	61	65
85°	16	16	16	16	16	18
90°	0	0	0	0	0	



TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	398.2	398.2	398.2	398.2	398.2	398.2	398.2	398.2	398.2	398.2	398.2
0.5°	398.6	398.2	397.8	398.0	398.5	398.0	397.8	398.2	398.6	398.2	397.8
1°	398.4	397.9	397.8	397.9	398.5	397.9	397.8	397.9	398.4	397.9	397.8
1.5°	398.4	398.1	398.1	398.0	398.1	398.0	398.1	398.1	398.4	398.1	398.1
2°	398.0	398.1	397.9	397.9	397.8	397.9	397.9	398.1	398.0	398.1	397.9
2.5°	397.9	397.9	397.8	397.9	397.7	397.9	397.8	397.9	397.9	397.9	397.8
3°	398.4	397.9	397.7	397.8	398.2	397.8	397.7	397.9	398.4	397.9	397.7
3.5°	398.1	398.1	397.4	397.5	398.1	397.5	397.4	398.1	398.1	398.1	397.4
4°	397.7	397.5	397.3	397.2	397.9	397.2	397.3	397.5	397.7	397.5	397.3
4.5°	397.2	397.2	397.3	397.3	397.7	397.3	397.3	397.2	397.2	397.2	397.3
5°	397.6	397.4	397.4	397.2	397.7	397.2	397.4	397.4	397.6	397.4	397.4
5.5°	397.6	397.2	397.2	397.1	397.7	397.1	397.2	397.2	397.6	397.2	397.2
6°	397.2	396.9	396.8	396.8	397.2	396.8	396.8	396.9	397.2	396.9	396.8
6.5°	396.9	396.7	396.3	396.7	396.6	396.7	396.3	396.7	396.9	396.7	396.3
7°	396.8	396.5	396.3	396.3	396.3	396.3	396.3	396.5	396.8	396.5	396.3
7.5°	396.7	396.3	396.1	396.1	396.5	396.1	396.1	396.3	396.7	396.3	396.1
8°	396.4	396.1	395.8	395.8	396.3	395.8	395.8	396.1	396.4	396.1	395.8
8.5°	395.9	395.7	395.3	395.6	395.5	395.6	395.3	395.7	395.9	395.7	395.3
9°	395.7	395.3	395.1	395.2	395.1	395.2	395.1	395.3	395.7	395.3	395.1
9.5°	395.3	395.1	394.6	394.9	394.8	394.9	394.6	395.1	395.3	395.1	394.6
10°	394.8	394.8	394.6	394.4	394.5	394.4	394.6	394.8	394.8	394.8	394.6
10.5°	394.5	394.4	394.3	394.2	394.1	394.2	394.3	394.4	394.5	394.4	394.3
11°	394.1	393.9	394.0	393.8	394.0	393.8	394.0	393.9	394.1	393.9	394.0
11.5°	393.7	393.4	393.3	393.2	393.3	393.2	393.3	393.4	393.7	393.4	393.3
12°	393.0	392.9	392.7	392.5	392.7	392.5	392.7	392.9	393.0	392.9	392.7
12.5°	392.5	392.4	392.2	392.0	392.1	392.0	392.2	392.4	392.5	392.4	392.2
13°	392.2	392.1	391.8	391.9	391.7	391.9	391.8	392.1	392.2	392.1	391.8
13.5°	391.4	391.7	391.1	391.7	391.4	391.7	391.1	391.7	391.4	391.7	391.1
14°	390.9	391.0	390.8	390.8	390.9	390.8	390.8	391.0	390.9	391.0	390.8
14.5°	390.4	390.2	390.2	390.0	390.2	390.0	390.2	390.2	390.4	390.2	390.2
15°	389.7	389.4	389.3	389.4	389.7	389.4	389.3	389.4	389.7	389.4	389.3
15.5°	388.9	388.8	388.6	388.8	389.2	388.8	388.6	388.8	388.9	388.8	388.6
16°	388.5	388.2	388.0	388.0	388.5	388.0	388.0	388.2	388.5	388.2	388.0
16.5°	387.8	387.5	387.2	387.5	387.4	387.5	387.2	387.5	387.8	387.5	387.2
17°	387.0	386.7	386.6	386.5	386.7	386.5	386.6	386.7	387.0	386.7	386.6
17.5°	386.2	385.8	385.7	385.7	385.9	385.7	385.7	385.8	386.2	385.8	385.7
18°	385.6	385.0	385.0	384.8	385.2	384.8	385.0	385.0	385.6	385.0	385.0
18.5°	385.0	384.3	384.3	384.1	384.2	384.1	384.3	384.3	385.0	384.3	384.3
19°	383.9	383.6	383.1	383.0	383.4	383.0	383.1	383.6	383.9	383.6	383.1
19.5°	382.3	382.4	382.1	382.3	382.4	382.3	382.1	382.4	382.3	382.4	382.1
20°	380.9	381.5	381.4	381.3	381.2	381.3	381.4	381.5	380.9	381.5	381.4
20.5°	380.2	380.5	380.0	380.3	380.2	380.3	380.0	380.5	380.2	380.5	380.0
21°	379.7	379.5	378.9	378.9	379.6	378.9	378.9	379.5	379.7	379.5	378.9

TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	376.3	375.9	375.5	375.7	375.6	375.7	375.5	375.9	376.3	375.9	375.5
23°	374.9	374.6	374.3	374.3	374.2	374.3	374.3	374.6	374.9	374.6	374.3
23.5°	373.6	373.0	372.8	372.9	372.9	372.9	372.8	373.0	373.6	373.0	372.8
24°	372.1	372.1	371.8	371.5	371.8	371.5	371.8	372.1	372.1	372.1	371.8
24.5°	370.2	370.9	370.3	370.2	370.4	370.2	370.3	370.9	370.2	370.9	370.3
25°	369.2	368.9	368.9	368.7	369.0	368.7	368.9	368.9	369.2	368.9	368.9
25.5°	367.8	367.3	367.4	367.3	367.3	367.3	367.4	367.3	367.8	367.3	367.4
26°	366.3	366.0	365.9	365.9	366.2	365.9	365.9	366.0	366.3	366.0	365.9
26.5°	364.6	364.4	364.2	364.1	364.6	364.1	364.2	364.4	364.6	364.4	364.2
27°	363.1	362.8	362.6	362.4	362.7	362.4	362.6	362.8	363.1	362.8	362.6
27.5°	361.9	361.2	360.8	360.9	360.9	360.9	360.8	361.2	361.9	361.2	360.8
28°	359.7	359.3	359.1	359.1	359.3	359.1	359.1	359.3	359.7	359.3	359.1
28.5°	357.3	357.3	357.0	357.2	357.3	357.2	357.0	357.3	357.3	357.3	357.0
29°	355.8	355.5	355.2	355.2	355.4	355.2	355.2	355.5	355.8	355.5	355.2
29.5°	354.1	353.6	353.3	353.1	353.5	353.1	353.3	353.6	354.1	353.6	353.3
30°	351.8	351.5	351.4	351.1	351.6	351.1	351.4	351.5	351.8	351.5	351.4
30.5°	349.4	349.2	349.4	349.2	349.7	349.2	349.4	349.2	349.4	349.2	349.4
31°	347.7	347.3	347.3	347.2	347.5	347.2	347.3	347.3	347.7	347.3	347.3
31.5°	345.7	345.4	344.8	344.9	345.3	344.9	344.8	345.4	345.7	345.4	344.8
32°	343.0	343.0	342.6	342.5	343.2	342.5	342.6	343.0	343.0	343.0	342.6
32.5°	340.4	340.6	340.6	340.3	340.7	340.3	340.6	340.6	340.4	340.6	340.6
33°	338.2	338.2	338.4	338.0	337.9	338.0	338.4	338.2	338.2	338.2	338.4
33.5°	336.0	336.0	335.7	335.7	335.7	335.7	335.7	336.0	336.0	336.0	335.7
34°	333.4	333.6	333.0	333.1	333.4	333.1	333.0	333.6	333.4	333.6	333.0
34.5°	331.1	330.7	330.4	330.4	330.9	330.4	330.4	330.7	331.1	330.7	330.4
35°	328.6	327.9	328.0	327.9	328.1	327.9	328.0	327.9	328.6	327.9	328.0
35.5°	325.7	325.5	325.2	325.3	325.3	325.3	325.2	325.5	325.7	325.5	325.2
36°	322.8	323.0	322.5	322.7	322.9	322.7	322.5	323.0	322.8	323.0	322.5
36.5°	320.1	320.1	319.7	319.9	319.8	319.9	319.7	320.1	320.1	320.1	319.7
37°	317.4	317.2	316.9	316.9	317.1	316.9	316.9	317.2	317.4	317.2	316.9
37.5°	314.2	314.2	313.8	313.9	314.3	313.9	313.8	314.2	314.2	314.2	313.8
38°	311.3	311.5	311.1	311.1	311.4	311.1	311.1	311.5	311.3	311.5	311.1
38.5°	308.3	308.4	308.0	308.1	308.3	308.1	308.0	308.4	308.3	308.4	308.0
39°	305.1	305.1	305.1	305.0	305.2	305.0	305.1	305.1	305.1	305.1	305.1
39.5°	302.2	302.0	301.9	301.9	301.8	301.9	301.9	302.0	302.2	302.0	301.9
40°	299.3	299.0	298.8	298.9	298.8	298.9	298.8	299.0	299.3	299.0	298.8
40.5°	296.0	295.6	295.3	295.5	295.7	295.5	295.3	295.6	296.0	295.6	295.3
41°	292.7	292.3	292.2	292.2	292.8	292.2	292.2	292.3	292.7	292.3	292.2
41.5°	289.2	289.0	288.9	288.9	289.1	288.9	288.9	289.0	289.2	289.0	288.9
42°	285.8	285.8	285.8	285.6	285.9	285.6	285.8	285.8	285.8	285.8	285.8
42.5°	282.5	282.4	282.3	282.3	282.5	282.3	282.3	282.4	282.5	282.4	282.3
43°	279.2	279.0	278.8	278.8	279.2	278.8	278.8	279.0	279.2	279.0	278.8
43.5°	275.8	275.5	275.3	275.5	275.7	275.5	275.3	275.5	275.8	275.5	275.3



TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	265.2	264.8	264.8	264.9	265.1	264.9	264.8	264.8	265.2	264.8	264.8
45.5°	261.4	261.3	261.3	261.3	261.2	261.3	261.3	261.3	261.4	261.3	261.3
46°	257.6	257.8	257.7	257.6	257.6	257.6	257.7	257.8	257.6	257.8	257.7
46.5°	254.0	254.1	254.1	254.1	254.0	254.1	254.1	254.1	254.0	254.1	254.1
47°	250.3	250.3	250.5	250.4	250.4	250.4	250.5	250.3	250.3	250.3	250.5
47.5°	246.7	246.4	246.5	246.5	246.9	246.5	246.5	246.4	246.7	246.4	246.5
48°	243.1	242.9	242.8	242.8	243.2	242.8	242.8	242.9	243.1	242.9	242.8
48.5°	239.5	239.4	239.4	239.3	239.4	239.3	239.4	239.4	239.5	239.4	239.4
49°	235.8	235.7	235.6	235.5	235.7	235.5	235.6	235.7	235.8	235.7	235.6
49.5°	231.8	231.8	231.7	231.8	232.0	231.8	231.7	231.8	231.8	231.8	231.7
50°	227.8	227.9	227.9	228.2	228.1	228.2	227.9	227.9	227.8	227.9	227.9
50.5°	224.3	224.1	224.2	224.5	224.3	224.5	224.2	224.1	224.3	224.1	224.2
51°	220.6	220.5	220.5	220.6	220.7	220.6	220.5	220.5	220.6	220.5	220.5
51.5°	216.6	216.6	216.7	216.8	216.9	216.8	216.7	216.6	216.6	216.6	216.7
52°	212.9	212.9	212.9	213.0	213.1	213.0	212.9	212.9	212.9	212.9	212.9
52.5°	209.1	209.1	209.1	209.2	209.3	209.2	209.1	209.1	209.1	209.1	209.1
53°	205.5	205.4	205.3	205.5	205.6	205.5	205.3	205.4	205.5	205.4	205.3
53.5°	201.8	201.5	201.6	201.8	202.0	201.8	201.6	201.5	201.8	201.5	201.6
54°	197.7	197.6	197.7	198.0	198.3	198.0	197.7	197.6	197.7	197.6	197.7
54.5°	193.9	193.9	194.1	194.4	194.6	194.4	194.1	193.9	193.9	193.9	194.1
55°	190.7	190.4	190.4	190.8	190.8	190.8	190.4	190.4	190.7	190.4	190.4
55.5°	186.9	186.5	186.7	186.9	187.1	186.9	186.7	186.5	186.9	186.5	186.7
56°	183.0	182.8	183.0	183.2	183.2	183.2	183.0	182.8	183.0	182.8	183.0
56.5°	179.4	179.2	179.2	179.4	179.6	179.4	179.2	179.2	179.4	179.2	179.2
57°	175.7	175.6	175.5	175.8	176.0	175.8	175.5	175.6	175.7	175.6	175.5
57.5°	172.0	171.7	171.9	172.0	172.5	172.0	171.9	171.7	172.0	171.7	171.9
58°	168.4	168.1	168.2	168.5	168.5	168.5	168.2	168.1	168.4	168.1	168.2
58.5°	164.7	164.7	164.7	164.9	165.1	164.9	164.7	164.7	164.7	164.7	164.7
59°	160.9	161.0	161.1	161.3	161.3	161.3	161.1	161.0	160.9	161.0	161.1
59.5°	157.5	157.4	157.6	157.6	157.9	157.6	157.6	157.4	157.5	157.4	157.6
60°	154.0	153.9	154.1	154.2	154.5	154.2	154.1	153.9	154.0	153.9	154.1
60.5°	150.3	150.3	150.4	150.7	150.9	150.7	150.4	150.3	150.3	150.3	150.4
61°	146.9	146.9	147.0	147.2	147.3	147.2	147.0	146.9	146.9	146.9	147.0
61.5°	143.3	143.4	143.6	143.6	143.8	143.6	143.6	143.4	143.3	143.4	143.6
62°	139.9	140.0	140.1	140.3	140.3	140.3	140.1	140.0	139.9	140.0	140.1
62.5°	136.4	136.5	136.6	136.8	136.9	136.8	136.6	136.5	136.4	136.5	136.6
63°	133.0	133.0	133.2	133.3	133.4	133.3	133.2	133.0	133.0	133.0	133.2
63.5°	129.7	129.8	129.9	130.0	130.2	130.0	129.9	129.8	129.7	129.8	129.9
64°	126.3	126.4	126.6	126.7	126.8	126.7	126.6	126.4	126.3	126.4	126.6
64.5°	122.9	123.1	123.3	123.4	123.4	123.4	123.3	123.1	122.9	123.1	123.3
65°	119.6	119.8	120.0	120.1	120.2	120.1	120.0	119.8	119.6	119.8	120.0
65.5°	116.5	116.6	116.8	116.9	117.0	116.9	116.8	116.6	116.5	116.6	116.8
66°	113.3	113.3	113.5	113.5	113.7	113.5	113.5	113.3	113.3	113.3	113.5

TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	103.8	103.9	103.9	104.2	104.3	104.2	103.9	103.9	103.8	103.9	103.9
68°	100.7	100.7	100.8	101.0	101.2	101.0	100.8	100.7	100.7	100.7	100.8
68.5°	97.6	97.7	97.8	98.0	98.1	98.0	97.8	97.7	97.6	97.7	97.8
69°	94.5	94.6	94.8	95.0	95.0	95.0	94.8	94.6	94.5	94.6	94.8
69.5°	91.7	91.7	91.8	92.0	92.2	92.0	91.8	91.7	91.7	91.7	91.8
70°	88.6	88.7	88.8	89.0	89.2	89.0	88.8	88.7	88.6	88.7	88.8
70.5°	85.8	85.8	86.0	86.2	86.3	86.2	86.0	85.8	85.8	85.8	86.0
71°	82.9	82.9	83.0	83.3	83.4	83.3	83.0	82.9	82.9	82.9	83.0
71.5°	80.1	80.1	80.1	80.5	80.7	80.5	80.1	80.1	80.1	80.1	80.1
72°	77.3	77.3	77.3	77.6	77.8	77.6	77.3	77.3	77.3	77.3	77.3
72.5°	74.5	74.5	74.7	74.9	75.1	74.9	74.7	74.5	74.5	74.5	74.7
73°	71.8	71.7	71.9	72.2	72.3	72.2	71.9	71.7	71.8	71.7	71.9
73.5°	69.2	69.0	69.2	69.5	69.7	69.5	69.2	69.0	69.2	69.0	69.2
74°	66.4	66.4	66.4	66.8	67.1	66.8	66.4	66.4	66.4	66.4	66.4
74.5°	63.8	63.7	63.8	64.1	64.4	64.1	63.8	63.7	63.8	63.7	63.8
75°	61.2	61.2	61.3	61.6	61.8	61.6	61.3	61.2	61.2	61.2	61.3
75.5°	58.7	58.6	58.7	59.0	59.2	59.0	58.7	58.6	58.7	58.6	58.7
76°	56.2	56.1	56.2	56.4	56.7	56.4	56.2	56.1	56.2	56.1	56.2
76.5°	53.7	53.6	53.7	53.9	54.1	53.9	53.7	53.6	53.7	53.6	53.7
77°	51.3	51.2	51.3	51.5	51.7	51.5	51.3	51.2	51.3	51.2	51.3
77.5°	48.9	48.8	48.9	49.1	49.3	49.1	48.9	48.8	48.9	48.8	48.9
78°	46.4	46.3	46.4	46.7	46.9	46.7	46.4	46.3	46.4	46.3	46.4
78.5°	44.1	44.0	44.1	44.4	44.8	44.4	44.1	44.0	44.1	44.0	44.1
79°	41.7	41.7	41.8	42.0	42.4	42.0	41.8	41.7	41.7	41.7	41.8
79.5°	39.4	39.4	39.4	39.7	39.9	39.7	39.4	39.4	39.4	39.4	39.4
80°	37.2	37.1	37.2	37.4	37.7	37.4	37.2	37.1	37.2	37.1	37.2
80.5°	34.9	35.0	34.9	35.1	35.3	35.1	34.9	35.0	34.9	35.0	34.9
81°	32.7	32.8	32.8	33.0	33.2	33.0	32.8	32.8	32.7	32.8	32.8
81.5°	30.5	30.6	30.6	30.8	30.9	30.8	30.6	30.6	30.5	30.6	30.6
82°	28.3	28.3	28.4	28.6	28.7	28.6	28.4	28.3	28.3	28.3	28.4
82.5°	26.2	26.3	26.4	26.6	26.6	26.6	26.4	26.3	26.2	26.3	26.4
83°	24.1	24.1	24.2	24.4	24.5	24.4	24.2	24.1	24.1	24.1	24.2
83.5°	22.0	22.0	22.1	22.3	22.4	22.3	22.1	22.0	22.0	22.0	22.1
84°	20.0	20.0	20.1	20.3	20.4	20.3	20.1	20.0	20.0	20.0	20.1
84.5°	18.0	18.0	18.1	18.2	18.3	18.2	18.1	18.0	18.0	18.0	18.1
85°	16.0	16.0	16.1	16.2	16.3	16.2	16.1	16.0	16.0	16.0	16.1
85.5°	14.1	14.1	14.1	14.2	14.3	14.2	14.1	14.1	14.1	14.1	14.1
86°	12.1	12.1	12.2	12.2	12.3	12.2	12.2	12.1	12.1	12.1	12.2
86.5°	10.1	10.1	10.4	10.5	10.8	10.5	10.4	10.1	10.1	10.1	10.4
87°	8.3	8.6	8.9	8.9	9.3	8.9	8.9	8.6	8.3	8.6	8.9
87.5°	6.3	6.9	7.2	7.2	7.9	7.2	7.2	6.9	6.3	6.9	7.2
88°	5.0	5.2	5.5	5.8	6.4	5.8	5.5	5.2	5.0	5.2	5.5
88.5°	3.6	3.8	4.0	4.8	5.4	4.8	4.0	3.8	3.6	3.8	4.0



TEST NUMBER: P938656
CATALOG NUMBER: HLB4LSFS5-1000LM-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: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	398.2	398.2	398.2	398.2	398.2	398.2
0.5°	398.0	398.5	398.0	397.8	398.2	398.6
1°	397.9	398.5	397.9	397.8	397.9	398.4
1.5°	398.0	398.1	398.0	398.1	398.1	398.4
2°	397.9	397.8	397.9	397.9	398.1	398.0
2.5°	397.9	397.7	397.9	397.8	397.9	397.9
3°	397.8	398.2	397.8	397.7	397.9	398.4
3.5°	397.5	398.1	397.5	397.4	398.1	398.1
4°	397.2	397.9	397.2	397.3	397.5	397.7
4.5°	397.3	397.7	397.3	397.3	397.2	397.2
5°	397.2	397.7	397.2	397.4	397.4	397.6
5.5°	397.1	397.7	397.1	397.2	397.2	397.6
6°	396.8	397.2	396.8	396.8	396.9	397.2
6.5°	396.7	396.6	396.7	396.3	396.7	396.9
7°	396.3	396.3	396.3	396.3	396.5	396.8
7.5°	396.1	396.5	396.1	396.1	396.3	396.7
8°	395.8	396.3	395.8	395.8	396.1	396.4
8.5°	395.6	395.5	395.6	395.3	395.7	395.9
9°	395.2	395.1	395.2	395.1	395.3	395.7
9.5°	394.9	394.8	394.9	394.6	395.1	395.3
10°	394.4	394.5	394.4	394.6	394.8	394.8
10.5°	394.2	394.1	394.2	394.3	394.4	394.5
11°	393.8	394.0	393.8	394.0	393.9	394.1
11.5°	393.2	393.3	393.2	393.3	393.4	393.7
12°	392.5	392.7	392.5	392.7	392.9	393.0
12.5°	392.0	392.1	392.0	392.2	392.4	392.5
13°	391.9	391.7	391.9	391.8	392.1	392.2
13.5°	391.7	391.4	391.7	391.1	391.7	391.4
14°	390.8	390.9	390.8	390.8	391.0	390.9
14.5°	390.0	390.2	390.0	390.2	390.2	390.4
15°	389.4	389.7	389.4	389.3	389.4	389.7
15.5°	388.8	389.2	388.8	388.6	388.8	388.9
16°	388.0	388.5	388.0	388.0	388.2	388.5
16.5°	387.5	387.4	387.5	387.2	387.5	387.8
17°	386.5	386.7	386.5	386.6	386.7	387.0
17.5°	385.7	385.9	385.7	385.7	385.8	386.2
18°	384.8	385.2	384.8	385.0	385.0	385.6
18.5°	384.1	384.2	384.1	384.3	384.3	385.0
19°	383.0	383.4	383.0	383.1	383.6	383.9
19.5°	382.3	382.4	382.3	382.1	382.4	382.3
20°	381.3	381.2	381.3	381.4	381.5	380.9
20.5°	380.3	380.2	380.3	380.0	380.5	380.2
21°	378.9	379.6	378.9	378.9	379.5	379.7



TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	375.7	375.6	375.7	375.5	375.9	376.3
23°	374.3	374.2	374.3	374.3	374.6	374.9
23.5°	372.9	372.9	372.9	372.8	373.0	373.6
24°	371.5	371.8	371.5	371.8	372.1	372.1
24.5°	370.2	370.4	370.2	370.3	370.9	370.2
25°	368.7	369.0	368.7	368.9	368.9	369.2
25.5°	367.3	367.3	367.3	367.4	367.3	367.8
26°	365.9	366.2	365.9	365.9	366.0	366.3
26.5°	364.1	364.6	364.1	364.2	364.4	364.6
27°	362.4	362.7	362.4	362.6	362.8	363.1
27.5°	360.9	360.9	360.9	360.8	361.2	361.9
28°	359.1	359.3	359.1	359.1	359.3	359.7
28.5°	357.2	357.3	357.2	357.0	357.3	357.3
29°	355.2	355.4	355.2	355.2	355.5	355.8
29.5°	353.1	353.5	353.1	353.3	353.6	354.1
30°	351.1	351.6	351.1	351.4	351.5	351.8
30.5°	349.2	349.7	349.2	349.4	349.2	349.4
31°	347.2	347.5	347.2	347.3	347.3	347.7
31.5°	344.9	345.3	344.9	344.8	345.4	345.7
32°	342.5	343.2	342.5	342.6	343.0	343.0
32.5°	340.3	340.7	340.3	340.6	340.6	340.4
33°	338.0	337.9	338.0	338.4	338.2	338.2
33.5°	335.7	335.7	335.7	335.7	336.0	336.0
34°	333.1	333.4	333.1	333.0	333.6	333.4
34.5°	330.4	330.9	330.4	330.4	330.7	331.1
35°	327.9	328.1	327.9	328.0	327.9	328.6
35.5°	325.3	325.3	325.3	325.2	325.5	325.7
36°	322.7	322.9	322.7	322.5	323.0	322.8
36.5°	319.9	319.8	319.9	319.7	320.1	320.1
37°	316.9	317.1	316.9	316.9	317.2	317.4
37.5°	313.9	314.3	313.9	313.8	314.2	314.2
38°	311.1	311.4	311.1	311.1	311.5	311.3
38.5°	308.1	308.3	308.1	308.0	308.4	308.3
39°	305.0	305.2	305.0	305.1	305.1	305.1
39.5°	301.9	301.8	301.9	301.9	302.0	302.2
40°	298.9	298.8	298.9	298.8	299.0	299.3
40.5°	295.5	295.7	295.5	295.3	295.6	296.0
41°	292.2	292.8	292.2	292.2	292.3	292.7
41.5°	288.9	289.1	288.9	288.9	289.0	289.2
42°	285.6	285.9	285.6	285.8	285.8	285.8
42.5°	282.3	282.5	282.3	282.3	282.4	282.5
43°	278.8	279.2	278.8	278.8	279.0	279.2
43.5°	275.5	275.7	275.5	275.3	275.5	275.8



TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	264.9	265.1	264.9	264.8	264.8	265.2
45.5°	261.3	261.2	261.3	261.3	261.3	261.4
46°	257.6	257.6	257.6	257.7	257.8	257.6
46.5°	254.1	254.0	254.1	254.1	254.1	254.0
47°	250.4	250.4	250.4	250.5	250.3	250.3
47.5°	246.5	246.9	246.5	246.5	246.4	246.7
48°	242.8	243.2	242.8	242.8	242.9	243.1
48.5°	239.3	239.4	239.3	239.4	239.4	239.5
49°	235.5	235.7	235.5	235.6	235.7	235.8
49.5°	231.8	232.0	231.8	231.7	231.8	231.8
50°	228.2	228.1	228.2	227.9	227.9	227.8
50.5°	224.5	224.3	224.5	224.2	224.1	224.3
51°	220.6	220.7	220.6	220.5	220.5	220.6
51.5°	216.8	216.9	216.8	216.7	216.6	216.6
52°	213.0	213.1	213.0	212.9	212.9	212.9
52.5°	209.2	209.3	209.2	209.1	209.1	209.1
53°	205.5	205.6	205.5	205.3	205.4	205.5
53.5°	201.8	202.0	201.8	201.6	201.5	201.8
54°	198.0	198.3	198.0	197.7	197.6	197.7
54.5°	194.4	194.6	194.4	194.1	193.9	193.9
55°	190.8	190.8	190.8	190.4	190.4	190.7
55.5°	186.9	187.1	186.9	186.7	186.5	186.9
56°	183.2	183.2	183.2	183.0	182.8	183.0
56.5°	179.4	179.6	179.4	179.2	179.2	179.4
57°	175.8	176.0	175.8	175.5	175.6	175.7
57.5°	172.0	172.5	172.0	171.9	171.7	172.0
58°	168.5	168.5	168.5	168.2	168.1	168.4
58.5°	164.9	165.1	164.9	164.7	164.7	164.7
59°	161.3	161.3	161.3	161.1	161.0	160.9
59.5°	157.6	157.9	157.6	157.6	157.4	157.5
60°	154.2	154.5	154.2	154.1	153.9	154.0
60.5°	150.7	150.9	150.7	150.4	150.3	150.3
61°	147.2	147.3	147.2	147.0	146.9	146.9
61.5°	143.6	143.8	143.6	143.6	143.4	143.3
62°	140.3	140.3	140.3	140.1	140.0	139.9
62.5°	136.8	136.9	136.8	136.6	136.5	136.4
63°	133.3	133.4	133.3	133.2	133.0	133.0
63.5°	130.0	130.2	130.0	129.9	129.8	129.7
64°	126.7	126.8	126.7	126.6	126.4	126.3
64.5°	123.4	123.4	123.4	123.3	123.1	122.9
65°	120.1	120.2	120.1	120.0	119.8	119.6
65.5°	116.9	117.0	116.9	116.8	116.6	116.5
66°	113.5	113.7	113.5	113.5	113.3	113.3



TEST NUMBER: P938656

CATALOG NUMBER: HLB4LSFS5-1000LM-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	104.2	104.3	104.2	103.9	103.9	103.8
68°	101.0	101.2	101.0	100.8	100.7	100.7
68.5°	98.0	98.1	98.0	97.8	97.7	97.6
69°	95.0	95.0	95.0	94.8	94.6	94.5
69.5°	92.0	92.2	92.0	91.8	91.7	91.7
70°	89.0	89.2	89.0	88.8	88.7	88.6
70.5°	86.2	86.3	86.2	86.0	85.8	85.8
71°	83.3	83.4	83.3	83.0	82.9	82.9
71.5°	80.5	80.7	80.5	80.1	80.1	80.1
72°	77.6	77.8	77.6	77.3	77.3	77.3
72.5°	74.9	75.1	74.9	74.7	74.5	74.5
73°	72.2	72.3	72.2	71.9	71.7	71.8
73.5°	69.5	69.7	69.5	69.2	69.0	69.2
74°	66.8	67.1	66.8	66.4	66.4	66.4
74.5°	64.1	64.4	64.1	63.8	63.7	63.8
75°	61.6	61.8	61.6	61.3	61.2	61.2
75.5°	59.0	59.2	59.0	58.7	58.6	58.7
76°	56.4	56.7	56.4	56.2	56.1	56.2
76.5°	53.9	54.1	53.9	53.7	53.6	53.7
77°	51.5	51.7	51.5	51.3	51.2	51.3
77.5°	49.1	49.3	49.1	48.9	48.8	48.9
78°	46.7	46.9	46.7	46.4	46.3	46.4
78.5°	44.4	44.8	44.4	44.1	44.0	44.1
79°	42.0	42.4	42.0	41.8	41.7	41.7
79.5°	39.7	39.9	39.7	39.4	39.4	39.4
80°	37.4	37.7	37.4	37.2	37.1	37.2
80.5°	35.1	35.3	35.1	34.9	35.0	34.9
81°	33.0	33.2	33.0	32.8	32.8	32.7
81.5°	30.8	30.9	30.8	30.6	30.6	30.5
82°	28.6	28.7	28.6	28.4	28.3	28.3
82.5°	26.6	26.6	26.6	26.4	26.3	26.2
83°	24.4	24.5	24.4	24.2	24.1	24.1
83.5°	22.3	22.4	22.3	22.1	22.0	22.0
84°	20.3	20.4	20.3	20.1	20.0	20.0
84.5°	18.2	18.3	18.2	18.1	18.0	18.0
85°	16.2	16.3	16.2	16.1	16.0	16.0
85.5°	14.2	14.3	14.2	14.1	14.1	14.1
86°	12.2	12.3	12.2	12.2	12.1	12.1
86.5°	10.5	10.8	10.5	10.4	10.1	10.1
87°	8.9	9.3	8.9	8.9	8.6	8.3
87.5°	7.2	7.9	7.2	7.2	6.9	6.3
88°	5.8	6.4	5.8	5.5	5.2	5.0
88.5°	4.8	5.4	4.8	4.0	3.8	3.6



TEST NUMBER: P938656
CATALOG NUMBER: HLB4LSFS5-1000LM-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



Report Generated By 670245859 / DESKTOP-T8S5UU9





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







21.5°	378.5	378.3	378.2	377.8	378.1	377.8	378.2	378.3	378.5	378.3	378.2
22°	377.5	377.0	376.9	376.7	376.7	376.7	376.9	377.0	377.5	377.0	376.9



44°	272.1	272.0	271.8	272.0	272.0	272.0	271.8	272.0	272.1	272.0	271.8
44.5°	268.7	268.6	268.3	268.5	268.6	268.5	268.3	268.6	268.7	268.6	268.3



66.5°	110.0	110.1	110.3	110.4	110.5	110.4	110.3	110.1	110.0	110.1	110.3
67°	106.8	107.0	107.0	107.3	107.4	107.3	107.0	107.0	106.8	107.0	107.0



89°	2.3	2.6	3.0	3.8	4.4	3.8	3.0	2.6	2.3	2.6	3.0
89.5°	1.0	1.7	2.4	3.0	3.4	3.0	2.4	1.7	1.0	1.7	2.4





21.5°	377.8	378.1	377.8	378.2	378.3	378.5
22°	376.7	376.7	376.7	376.9	377.0	377.5



44°	272.0	272.0	272.0	271.8	272.0	272.1
44.5°	268.5	268.6	268.5	268.3	268.6	268.7



66.5°	110.4	110.5	110.4	110.3	110.1	110.0
67°	107.3	107.4	107.3	107.0	107.0	106.8



89°	3.8	4.4	3.8	3.0	2.6	2.3
89.5°	3.0	3.4	3.0	2.4	1.7	1.0



(END OF REPORT)