

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: P938657

Luminaire Tested: HLB4LSFS5-1000LM-3000K

Issue Date: 1/15/2025

Test Information

Test Method: LM-79-2019
Report Number: P938657
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-3000K
Description: 4IN SELECTABLE LUMENS, 90CRI, DIMMING TO 10%
Light Source: SELECTABLE CCT 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1125.0 lumens
Efficiency: N/A
Efficacy: 97.0 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

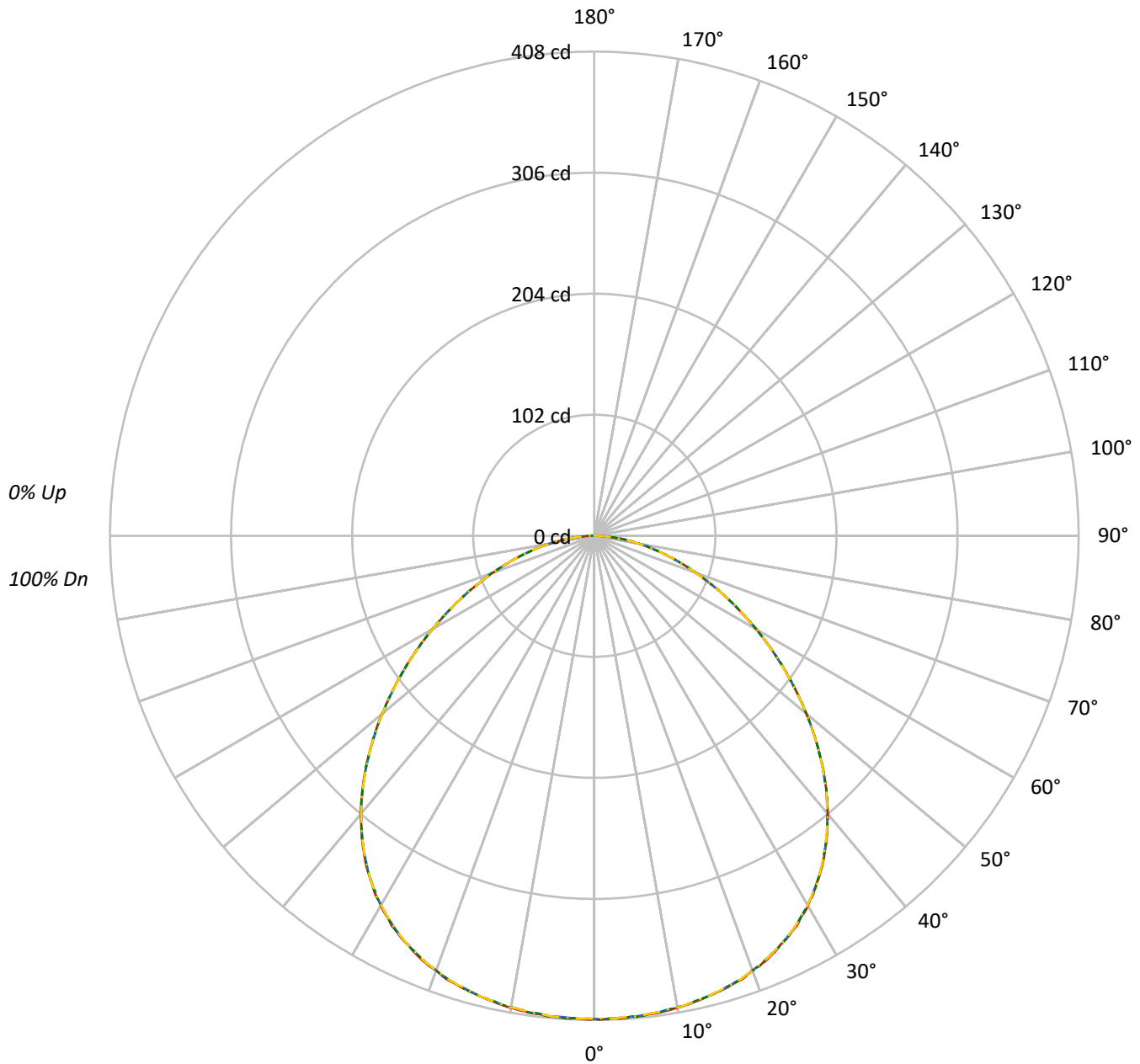
Input Watts (W): 11.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

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°	51259	51259	51259	51259
5°	51379	51391	51379	51391
10°	51602	51564	51602	51564
15°	51920	51920	51920	51920
20°	52178	52218	52178	52218
25°	52433	52406	52433	52406
30°	52286	52257	52286	52257
35°	51621	51544	51621	51544
40°	50288	50206	50288	50206
45°	48286	48268	48286	48268
50°	45618	45677	45618	45677
55°	42785	42807	42785	42807
60°	39643	39769	39643	39769
65°	36419	36598	36419	36598
70°	33374	33595	33374	33595
75°	30439	30731	30439	30731
80°	27540	27902	27540	27902
85°	23681	24114	23681	24114

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 89.5°

Luminance: 50475 cd/sqm



TEST NUMBER: P938657
 CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.7	3.4
10°-20°	112.6	10.0
20°-30°	173.8	15.5
30°-40°	209.5	18.6
40°-50°	208.6	18.5
50°-60°	174.2	15.5
60°-70°	121.8	10.8
70°-80°	66.8	5.9
80°-90°	19.0	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°	325.1	28.9
0°-40°	534.5	47.5
0°-60°	917.4	81.5
0°-90°	1125.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1125.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	407	407	407	407	407	
5°	407	407	407	407	407	39
15°	398	398	398	398	398	113
25°	378	377	378	377	378	174
35°	336	336	336	336	336	210
45°	271	271	271	271	271	209
55°	195	195	195	195	195	174
65°	122	123	122	123	122	122
75°	63	63	63	63	63	67
85°	16	17	16	17	16	19
90°	0	0	0	0	0	

TEST NUMBER: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	407.3	407.3	407.3	407.3	407.3	407.3	407.3	407.3	407.3	407.3	407.3
0.5°	407.7	407.3	406.9	407.1	407.6	407.1	406.9	407.3	407.7	407.3	406.9
1°	407.5	407.0	406.9	407.0	407.6	407.0	406.9	407.0	407.5	407.0	406.9
1.5°	407.5	407.2	407.2	407.1	407.2	407.1	407.2	407.2	407.5	407.2	407.2
2°	407.1	407.2	407.0	407.0	406.9	407.0	407.0	407.2	407.1	407.2	407.0
2.5°	407.0	407.0	406.9	407.0	406.8	407.0	406.9	407.0	407.0	407.0	406.9
3°	407.5	407.0	406.8	406.9	407.3	406.9	406.8	407.0	407.5	407.0	406.8
3.5°	407.2	407.2	406.5	406.6	407.2	406.6	406.5	407.2	407.2	407.2	406.5
4°	406.8	406.6	406.4	406.3	407.0	406.3	406.4	406.6	406.8	406.6	406.4
4.5°	406.3	406.3	406.4	406.4	406.8	406.4	406.4	406.3	406.3	406.3	406.4
5°	406.7	406.5	406.5	406.3	406.8	406.3	406.5	406.5	406.7	406.5	406.5
5.5°	406.7	406.3	406.3	406.1	406.8	406.1	406.3	406.3	406.7	406.3	406.3
6°	406.3	405.9	405.8	405.8	406.3	405.8	405.8	405.9	406.3	405.9	405.8
6.5°	405.9	405.7	405.3	405.7	405.6	405.7	405.3	405.7	405.9	405.7	405.3
7°	405.8	405.5	405.3	405.3	405.3	405.3	405.3	405.5	405.8	405.5	405.3
7.5°	405.7	405.3	405.1	405.1	405.5	405.1	405.1	405.3	405.7	405.3	405.1
8°	405.4	405.1	404.8	404.8	405.3	404.8	404.8	405.1	405.4	405.1	404.8
8.5°	404.9	404.7	404.3	404.6	404.5	404.6	404.3	404.7	404.9	404.7	404.3
9°	404.7	404.3	404.1	404.2	404.1	404.2	404.1	404.3	404.7	404.3	404.1
9.5°	404.3	404.1	403.6	403.9	403.8	403.9	403.6	404.1	404.3	404.1	403.6
10°	403.8	403.8	403.6	403.4	403.5	403.4	403.6	403.8	403.8	403.8	403.6
10.5°	403.5	403.4	403.3	403.2	403.1	403.2	403.3	403.4	403.5	403.4	403.3
11°	403.1	402.9	403.0	402.8	403.0	402.8	403.0	402.9	403.1	402.9	403.0
11.5°	402.7	402.4	402.3	402.2	402.3	402.2	402.3	402.4	402.7	402.4	402.3
12°	401.9	401.8	401.6	401.4	401.6	401.4	401.6	401.8	401.9	401.8	401.6
12.5°	401.4	401.3	401.1	400.9	401.0	400.9	401.1	401.3	401.4	401.3	401.1
13°	401.1	401.0	400.7	400.8	400.6	400.8	400.7	401.0	401.1	401.0	400.7
13.5°	400.3	400.6	400.0	400.6	400.3	400.6	400.0	400.6	400.3	400.6	400.0
14°	399.7	399.9	399.6	399.6	399.7	399.6	399.6	399.9	399.7	399.9	399.6
14.5°	399.2	399.0	399.0	398.8	399.0	398.8	399.0	399.0	399.2	399.0	399.0
15°	398.5	398.2	398.1	398.2	398.5	398.2	398.1	398.2	398.5	398.2	398.1
15.5°	397.7	397.6	397.4	397.6	398.0	397.6	397.4	397.6	397.7	397.6	397.4
16°	397.3	397.0	396.8	396.8	397.3	396.8	396.8	397.0	397.3	397.0	396.8
16.5°	396.6	396.3	396.0	396.3	396.2	396.3	396.0	396.3	396.6	396.3	396.0
17°	395.8	395.5	395.4	395.3	395.5	395.3	395.4	395.5	395.8	395.5	395.4
17.5°	395.0	394.6	394.5	394.5	394.7	394.5	394.5	394.6	395.0	394.6	394.5
18°	394.4	393.8	393.8	393.5	394.0	393.5	393.8	393.8	394.4	393.8	393.8
18.5°	393.8	393.0	393.0	392.8	392.9	392.8	393.0	393.0	393.8	393.0	393.0
19°	392.6	392.3	391.8	391.7	392.1	391.7	391.8	392.3	392.6	392.3	391.8
19.5°	391.0	391.1	390.8	391.0	391.1	391.0	390.8	391.1	391.0	391.1	390.8
20°	389.6	390.2	390.1	390.0	389.9	390.0	390.1	390.2	389.6	390.2	390.1
20.5°	388.9	389.2	388.7	389.0	388.9	389.0	388.7	389.2	388.9	389.2	388.7
21°	388.4	388.2	387.6	387.5	388.3	387.5	387.6	388.2	388.4	388.2	387.6

TEST NUMBER: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	384.8	384.4	384.0	384.2	384.1	384.2	384.0	384.4	384.8	384.4	384.0
23°	383.4	383.1	382.8	382.8	382.7	382.8	382.8	383.1	383.4	383.1	382.8
23.5°	382.1	381.5	381.3	381.4	381.4	381.4	381.3	381.5	382.1	381.5	381.3
24°	380.5	380.5	380.2	379.9	380.2	379.9	380.2	380.5	380.5	380.5	380.2
24.5°	378.6	379.3	378.7	378.6	378.8	378.6	378.7	379.3	378.6	379.3	378.7
25°	377.6	377.3	377.3	377.1	377.4	377.1	377.3	377.3	377.6	377.3	377.3
25.5°	376.2	375.7	375.8	375.7	375.7	375.7	375.8	375.7	376.2	375.7	375.8
26°	374.6	374.3	374.2	374.2	374.5	374.2	374.2	374.3	374.6	374.3	374.2
26.5°	372.9	372.7	372.5	372.4	372.9	372.4	372.5	372.7	372.9	372.7	372.5
27°	371.4	371.1	370.9	370.7	371.0	370.7	370.9	371.1	371.4	371.1	370.9
27.5°	370.2	369.5	369.0	369.1	369.1	369.1	369.0	369.5	370.2	369.5	369.0
28°	367.8	367.4	367.2	367.2	367.4	367.2	367.2	367.4	367.8	367.4	367.2
28.5°	365.4	365.4	365.1	365.3	365.4	365.3	365.1	365.4	365.4	365.4	365.1
29°	363.9	363.6	363.3	363.3	363.5	363.3	363.3	363.6	363.9	363.6	363.3
29.5°	362.1	361.6	361.3	361.1	361.5	361.1	361.3	361.6	362.1	361.6	361.3
30°	359.8	359.5	359.4	359.1	359.6	359.1	359.4	359.5	359.8	359.5	359.4
30.5°	357.4	357.2	357.4	357.2	357.7	357.2	357.4	357.2	357.4	357.2	357.4
31°	355.6	355.2	355.2	355.1	355.4	355.1	355.2	355.2	355.6	355.2	355.2
31.5°	353.6	353.3	352.6	352.7	353.2	352.7	352.6	353.3	353.6	353.3	352.6
32°	350.8	350.8	350.4	350.3	351.0	350.3	350.4	350.8	350.8	350.8	350.4
32.5°	348.1	348.3	348.3	348.0	348.4	348.0	348.3	348.3	348.1	348.3	348.3
33°	345.9	345.9	346.1	345.7	345.6	345.7	346.1	345.9	345.9	345.9	346.1
33.5°	343.6	343.6	343.3	343.3	343.3	343.3	343.3	343.6	343.6	343.6	343.3
34°	341.0	341.2	340.6	340.7	341.0	340.7	340.6	341.2	341.0	341.2	340.6
34.5°	338.7	338.3	338.0	337.9	338.5	337.9	338.0	338.3	338.7	338.3	338.0
35°	336.0	335.3	335.4	335.3	335.5	335.3	335.4	335.3	336.0	335.3	335.4
35.5°	333.1	332.9	332.6	332.7	332.7	332.7	332.6	332.9	333.1	332.9	332.6
36°	330.1	330.3	329.8	330.0	330.2	330.0	329.8	330.3	330.1	330.3	329.8
36.5°	327.4	327.4	327.0	327.2	327.1	327.2	327.0	327.4	327.4	327.4	327.0
37°	324.6	324.4	324.1	324.1	324.3	324.1	324.1	324.4	324.6	324.4	324.1
37.5°	321.4	321.4	321.0	321.1	321.5	321.1	321.0	321.4	321.4	321.4	321.0
38°	318.3	318.5	318.1	318.1	318.4	318.1	318.1	318.5	318.3	318.5	318.1
38.5°	315.3	315.4	315.0	315.1	315.3	315.1	315.0	315.4	315.3	315.4	315.0
39°	312.0	312.0	312.0	311.9	312.1	311.9	312.0	312.0	312.0	312.0	312.0
39.5°	309.1	308.9	308.8	308.8	308.7	308.8	308.8	308.9	309.1	308.9	308.8
40°	306.1	305.8	305.6	305.7	305.6	305.7	305.6	305.8	306.1	305.8	305.6
40.5°	302.7	302.3	302.0	302.2	302.4	302.2	302.0	302.3	302.7	302.3	302.0
41°	299.3	298.9	298.8	298.8	299.4	298.8	298.8	298.9	299.3	298.9	298.8
41.5°	295.8	295.6	295.5	295.5	295.7	295.5	295.5	295.6	295.8	295.6	295.5
42°	292.3	292.3	292.3	292.1	292.4	292.1	292.3	292.3	292.3	292.3	292.3
42.5°	289.0	288.9	288.8	288.8	289.0	288.8	288.8	288.9	289.0	288.9	288.8
43°	285.5	285.3	285.1	285.1	285.5	285.1	285.1	285.3	285.5	285.3	285.1
43.5°	282.1	281.7	281.5	281.7	281.9	281.7	281.5	281.7	282.1	281.7	281.5

TEST NUMBER: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	271.3	270.9	270.9	271.0	271.2	271.0	270.9	270.9	271.3	270.9	270.9
45.5°	267.3	267.2	267.2	267.2	267.1	267.2	267.2	267.2	267.3	267.2	267.2
46°	263.5	263.7	263.6	263.5	263.4	263.5	263.6	263.7	263.5	263.7	263.6
46.5°	259.8	259.9	259.9	259.9	259.8	259.9	259.9	259.9	259.8	259.9	259.9
47°	256.0	256.0	256.2	256.1	256.1	256.1	256.2	256.0	256.0	256.0	256.2
47.5°	252.3	252.0	252.1	252.1	252.5	252.1	252.1	252.0	252.3	252.0	252.1
48°	248.6	248.4	248.3	248.3	248.7	248.3	248.3	248.4	248.6	248.4	248.3
48.5°	244.9	244.8	244.8	244.7	244.8	244.7	244.8	244.8	244.9	244.8	244.8
49°	241.2	241.1	241.0	240.9	241.1	240.9	241.0	241.1	241.2	241.1	241.0
49.5°	237.0	237.0	236.9	237.0	237.2	237.0	236.9	237.0	237.0	237.0	236.9
50°	233.0	233.1	233.1	233.4	233.3	233.4	233.1	233.1	233.0	233.1	233.1
50.5°	229.4	229.2	229.3	229.6	229.4	229.6	229.3	229.2	229.4	229.2	229.3
51°	225.6	225.5	225.5	225.6	225.7	225.6	225.5	225.5	225.6	225.5	225.5
51.5°	221.5	221.5	221.7	221.8	221.9	221.8	221.7	221.5	221.5	221.5	221.7
52°	217.7	217.7	217.7	217.8	217.9	217.8	217.7	217.7	217.7	217.7	217.7
52.5°	213.9	213.8	213.9	214.0	214.1	214.0	213.9	213.8	213.9	213.8	213.9
53°	210.2	210.1	210.0	210.2	210.3	210.2	210.0	210.1	210.2	210.1	210.0
53.5°	206.4	206.1	206.2	206.4	206.6	206.4	206.2	206.1	206.4	206.1	206.2
54°	202.2	202.1	202.2	202.5	202.8	202.5	202.2	202.1	202.2	202.1	202.2
54.5°	198.3	198.3	198.5	198.8	199.0	198.8	198.5	198.3	198.3	198.3	198.5
55°	195.0	194.7	194.7	195.1	195.1	195.1	194.7	194.7	195.0	194.7	194.7
55.5°	191.2	190.8	191.0	191.2	191.4	191.2	191.0	190.8	191.2	190.8	191.0
56°	187.1	186.9	187.1	187.3	187.3	187.3	187.1	186.9	187.1	186.9	187.1
56.5°	183.5	183.3	183.3	183.5	183.7	183.5	183.3	183.3	183.5	183.3	183.3
57°	179.7	179.6	179.5	179.8	180.0	179.8	179.5	179.6	179.7	179.6	179.5
57.5°	175.9	175.6	175.8	175.9	176.4	175.9	175.8	175.6	175.9	175.6	175.8
58°	172.2	171.9	172.0	172.4	172.4	172.4	172.0	171.9	172.2	171.9	172.0
58.5°	168.4	168.4	168.4	168.6	168.8	168.6	168.4	168.4	168.4	168.4	168.4
59°	164.6	164.7	164.8	165.0	165.0	165.0	164.8	164.7	164.6	164.7	164.8
59.5°	161.1	161.0	161.2	161.2	161.5	161.2	161.2	161.0	161.1	161.0	161.2
60°	157.5	157.4	157.6	157.7	158.0	157.7	157.6	157.4	157.5	157.4	157.6
60.5°	153.7	153.7	153.8	154.1	154.3	154.1	153.8	153.7	153.7	153.7	153.8
61°	150.2	150.2	150.3	150.5	150.6	150.5	150.3	150.2	150.2	150.2	150.3
61.5°	146.6	146.7	146.9	146.9	147.1	146.9	146.9	146.7	146.6	146.7	146.9
62°	143.1	143.2	143.3	143.5	143.5	143.5	143.3	143.2	143.1	143.2	143.3
62.5°	139.6	139.7	139.8	140.0	140.1	140.0	139.8	139.7	139.6	139.7	139.8
63°	136.0	136.0	136.2	136.3	136.4	136.3	136.2	136.0	136.0	136.0	136.2
63.5°	132.6	132.7	132.8	132.9	133.1	132.9	132.8	132.7	132.6	132.7	132.8
64°	129.2	129.3	129.5	129.6	129.7	129.6	129.5	129.3	129.2	129.3	129.5
64.5°	125.7	125.9	126.1	126.2	126.2	126.2	126.1	125.9	125.7	125.9	126.1
65°	122.3	122.5	122.7	122.8	122.9	122.8	122.7	122.5	122.3	122.5	122.7
65.5°	119.1	119.2	119.4	119.5	119.6	119.5	119.4	119.2	119.1	119.2	119.4
66°	115.9	115.9	116.1	116.1	116.3	116.1	116.1	115.9	115.9	115.9	116.1

TEST NUMBER: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	106.1	106.2	106.2	106.5	106.6	106.5	106.2	106.2	106.1	106.2	106.2
68°	103.0	103.0	103.1	103.3	103.5	103.3	103.1	103.0	103.0	103.0	103.1
68.5°	99.8	99.9	100.0	100.2	100.3	100.2	100.0	99.9	99.8	99.9	100.0
69°	96.7	96.8	97.0	97.2	97.2	97.2	97.0	96.8	96.7	96.8	97.0
69.5°	93.8	93.8	93.9	94.1	94.3	94.1	93.9	93.8	93.8	93.8	93.9
70°	90.7	90.8	90.9	91.1	91.3	91.1	90.9	90.8	90.7	90.8	90.9
70.5°	87.7	87.7	87.9	88.1	88.2	88.1	87.9	87.7	87.7	87.7	87.9
71°	84.8	84.8	84.9	85.2	85.3	85.2	84.9	84.8	84.8	84.8	84.9
71.5°	81.9	81.9	81.9	82.3	82.5	82.3	81.9	81.9	81.9	81.9	81.9
72°	79.1	79.1	79.1	79.4	79.6	79.4	79.1	79.1	79.1	79.1	79.1
72.5°	76.2	76.2	76.4	76.6	76.8	76.6	76.4	76.2	76.2	76.2	76.4
73°	73.4	73.3	73.5	73.8	74.0	73.8	73.5	73.3	73.4	73.3	73.5
73.5°	70.7	70.5	70.7	71.0	71.2	71.0	70.7	70.5	70.7	70.5	70.7
74°	67.9	67.9	67.9	68.3	68.6	68.3	67.9	67.9	67.9	67.9	67.9
74.5°	65.3	65.1	65.3	65.6	65.9	65.6	65.3	65.1	65.3	65.1	65.3
75°	62.6	62.6	62.7	63.0	63.2	63.0	62.7	62.6	62.6	62.6	62.7
75.5°	60.1	60.0	60.1	60.4	60.6	60.4	60.1	60.0	60.1	60.0	60.1
76°	57.5	57.3	57.5	57.7	58.0	57.7	57.5	57.3	57.5	57.3	57.5
76.5°	54.9	54.8	54.9	55.1	55.3	55.1	54.9	54.8	54.9	54.8	54.9
77°	52.4	52.3	52.4	52.7	52.9	52.7	52.4	52.3	52.4	52.3	52.4
77.5°	50.0	49.9	50.0	50.2	50.4	50.2	50.0	49.9	50.0	49.9	50.0
78°	47.5	47.4	47.5	47.8	48.0	47.8	47.5	47.4	47.5	47.4	47.5
78.5°	45.1	45.0	45.1	45.4	45.8	45.4	45.1	45.0	45.1	45.0	45.1
79°	42.7	42.7	42.8	43.0	43.4	43.0	42.8	42.7	42.7	42.7	42.8
79.5°	40.3	40.3	40.3	40.6	40.8	40.6	40.3	40.3	40.3	40.3	40.3
80°	38.0	37.9	38.0	38.2	38.5	38.2	38.0	37.9	38.0	37.9	38.0
80.5°	35.7	35.8	35.7	35.9	36.1	35.9	35.7	35.8	35.7	35.8	35.7
81°	33.4	33.5	33.5	33.7	33.9	33.7	33.5	33.5	33.4	33.5	33.5
81.5°	31.2	31.3	31.3	31.5	31.6	31.5	31.3	31.3	31.2	31.3	31.3
82°	29.0	29.0	29.1	29.3	29.4	29.3	29.1	29.0	29.0	29.0	29.1
82.5°	26.8	26.9	27.0	27.2	27.2	27.2	27.0	26.9	26.8	26.9	27.0
83°	24.7	24.7	24.8	25.0	25.1	25.0	24.8	24.7	24.7	24.7	24.8
83.5°	22.5	22.5	22.6	22.8	22.9	22.8	22.6	22.5	22.5	22.5	22.6
84°	20.4	20.4	20.5	20.7	20.8	20.7	20.5	20.4	20.4	20.4	20.5
84.5°	18.4	18.4	18.5	18.6	18.7	18.6	18.5	18.4	18.4	18.4	18.5
85°	16.4	16.4	16.5	16.6	16.7	16.6	16.5	16.4	16.4	16.4	16.5
85.5°	14.4	14.4	14.4	14.5	14.6	14.5	14.4	14.4	14.4	14.4	14.4
86°	12.4	12.4	12.5	12.5	12.6	12.5	12.5	12.4	12.4	12.4	12.5
86.5°	10.4	10.4	10.7	10.8	11.1	10.8	10.7	10.4	10.4	10.4	10.7
87°	8.5	8.8	9.1	9.1	9.6	9.1	9.1	8.8	8.5	8.8	9.1
87.5°	6.4	7.0	7.3	7.3	8.0	7.3	7.3	7.0	6.4	7.0	7.3
88°	5.1	5.3	5.6	5.9	6.5	5.9	5.6	5.3	5.1	5.3	5.6
88.5°	3.7	3.9	4.1	4.9	5.5	4.9	4.1	3.9	3.7	3.9	4.1



TEST NUMBER: P938657
CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

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: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	407.3	407.3	407.3	407.3	407.3	407.3
0.5°	407.1	407.6	407.1	406.9	407.3	407.7
1°	407.0	407.6	407.0	406.9	407.0	407.5
1.5°	407.1	407.2	407.1	407.2	407.2	407.5
2°	407.0	406.9	407.0	407.0	407.2	407.1
2.5°	407.0	406.8	407.0	406.9	407.0	407.0
3°	406.9	407.3	406.9	406.8	407.0	407.5
3.5°	406.6	407.2	406.6	406.5	407.2	407.2
4°	406.3	407.0	406.3	406.4	406.6	406.8
4.5°	406.4	406.8	406.4	406.4	406.3	406.3
5°	406.3	406.8	406.3	406.5	406.5	406.7
5.5°	406.1	406.8	406.1	406.3	406.3	406.7
6°	405.8	406.3	405.8	405.8	405.9	406.3
6.5°	405.7	405.6	405.7	405.3	405.7	405.9
7°	405.3	405.3	405.3	405.3	405.5	405.8
7.5°	405.1	405.5	405.1	405.1	405.3	405.7
8°	404.8	405.3	404.8	404.8	405.1	405.4
8.5°	404.6	404.5	404.6	404.3	404.7	404.9
9°	404.2	404.1	404.2	404.1	404.3	404.7
9.5°	403.9	403.8	403.9	403.6	404.1	404.3
10°	403.4	403.5	403.4	403.6	403.8	403.8
10.5°	403.2	403.1	403.2	403.3	403.4	403.5
11°	402.8	403.0	402.8	403.0	402.9	403.1
11.5°	402.2	402.3	402.2	402.3	402.4	402.7
12°	401.4	401.6	401.4	401.6	401.8	401.9
12.5°	400.9	401.0	400.9	401.1	401.3	401.4
13°	400.8	400.6	400.8	400.7	401.0	401.1
13.5°	400.6	400.3	400.6	400.0	400.6	400.3
14°	399.6	399.7	399.6	399.6	399.9	399.7
14.5°	398.8	399.0	398.8	399.0	399.0	399.2
15°	398.2	398.5	398.2	398.1	398.2	398.5
15.5°	397.6	398.0	397.6	397.4	397.6	397.7
16°	396.8	397.3	396.8	396.8	397.0	397.3
16.5°	396.3	396.2	396.3	396.0	396.3	396.6
17°	395.3	395.5	395.3	395.4	395.5	395.8
17.5°	394.5	394.7	394.5	394.5	394.6	395.0
18°	393.5	394.0	393.5	393.8	393.8	394.4
18.5°	392.8	392.9	392.8	393.0	393.0	393.8
19°	391.7	392.1	391.7	391.8	392.3	392.6
19.5°	391.0	391.1	391.0	390.8	391.1	391.0
20°	390.0	389.9	390.0	390.1	390.2	389.6
20.5°	389.0	388.9	389.0	388.7	389.2	388.9
21°	387.5	388.3	387.5	387.6	388.2	388.4



TEST NUMBER: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	384.2	384.1	384.2	384.0	384.4	384.8
23°	382.8	382.7	382.8	382.8	383.1	383.4
23.5°	381.4	381.4	381.4	381.3	381.5	382.1
24°	379.9	380.2	379.9	380.2	380.5	380.5
24.5°	378.6	378.8	378.6	378.7	379.3	378.6
25°	377.1	377.4	377.1	377.3	377.3	377.6
25.5°	375.7	375.7	375.7	375.8	375.7	376.2
26°	374.2	374.5	374.2	374.2	374.3	374.6
26.5°	372.4	372.9	372.4	372.5	372.7	372.9
27°	370.7	371.0	370.7	370.9	371.1	371.4
27.5°	369.1	369.1	369.1	369.0	369.5	370.2
28°	367.2	367.4	367.2	367.2	367.4	367.8
28.5°	365.3	365.4	365.3	365.1	365.4	365.4
29°	363.3	363.5	363.3	363.3	363.6	363.9
29.5°	361.1	361.5	361.1	361.3	361.6	362.1
30°	359.1	359.6	359.1	359.4	359.5	359.8
30.5°	357.2	357.7	357.2	357.4	357.2	357.4
31°	355.1	355.4	355.1	355.2	355.2	355.6
31.5°	352.7	353.2	352.7	352.6	353.3	353.6
32°	350.3	351.0	350.3	350.4	350.8	350.8
32.5°	348.0	348.4	348.0	348.3	348.3	348.1
33°	345.7	345.6	345.7	346.1	345.9	345.9
33.5°	343.3	343.3	343.3	343.3	343.6	343.6
34°	340.7	341.0	340.7	340.6	341.2	341.0
34.5°	337.9	338.5	337.9	338.0	338.3	338.7
35°	335.3	335.5	335.3	335.4	335.3	336.0
35.5°	332.7	332.7	332.7	332.6	332.9	333.1
36°	330.0	330.2	330.0	329.8	330.3	330.1
36.5°	327.2	327.1	327.2	327.0	327.4	327.4
37°	324.1	324.3	324.1	324.1	324.4	324.6
37.5°	321.1	321.5	321.1	321.0	321.4	321.4
38°	318.1	318.4	318.1	318.1	318.5	318.3
38.5°	315.1	315.3	315.1	315.0	315.4	315.3
39°	311.9	312.1	311.9	312.0	312.0	312.0
39.5°	308.8	308.7	308.8	308.8	308.9	309.1
40°	305.7	305.6	305.7	305.6	305.8	306.1
40.5°	302.2	302.4	302.2	302.0	302.3	302.7
41°	298.8	299.4	298.8	298.8	298.9	299.3
41.5°	295.5	295.7	295.5	295.5	295.6	295.8
42°	292.1	292.4	292.1	292.3	292.3	292.3
42.5°	288.8	289.0	288.8	288.8	288.9	289.0
43°	285.1	285.5	285.1	285.1	285.3	285.5
43.5°	281.7	281.9	281.7	281.5	281.7	282.1



TEST NUMBER: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	271.0	271.2	271.0	270.9	270.9	271.3
45.5°	267.2	267.1	267.2	267.2	267.2	267.3
46°	263.5	263.4	263.5	263.6	263.7	263.5
46.5°	259.9	259.8	259.9	259.9	259.9	259.8
47°	256.1	256.1	256.1	256.2	256.0	256.0
47.5°	252.1	252.5	252.1	252.1	252.0	252.3
48°	248.3	248.7	248.3	248.3	248.4	248.6
48.5°	244.7	244.8	244.7	244.8	244.8	244.9
49°	240.9	241.1	240.9	241.0	241.1	241.2
49.5°	237.0	237.2	237.0	236.9	237.0	237.0
50°	233.4	233.3	233.4	233.1	233.1	233.0
50.5°	229.6	229.4	229.6	229.3	229.2	229.4
51°	225.6	225.7	225.6	225.5	225.5	225.6
51.5°	221.8	221.9	221.8	221.7	221.5	221.5
52°	217.8	217.9	217.8	217.7	217.7	217.7
52.5°	214.0	214.1	214.0	213.9	213.8	213.9
53°	210.2	210.3	210.2	210.0	210.1	210.2
53.5°	206.4	206.6	206.4	206.2	206.1	206.4
54°	202.5	202.8	202.5	202.2	202.1	202.2
54.5°	198.8	199.0	198.8	198.5	198.3	198.3
55°	195.1	195.1	195.1	194.7	194.7	195.0
55.5°	191.2	191.4	191.2	191.0	190.8	191.2
56°	187.3	187.3	187.3	187.1	186.9	187.1
56.5°	183.5	183.7	183.5	183.3	183.3	183.5
57°	179.8	180.0	179.8	179.5	179.6	179.7
57.5°	175.9	176.4	175.9	175.8	175.6	175.9
58°	172.4	172.4	172.4	172.0	171.9	172.2
58.5°	168.6	168.8	168.6	168.4	168.4	168.4
59°	165.0	165.0	165.0	164.8	164.7	164.6
59.5°	161.2	161.5	161.2	161.2	161.0	161.1
60°	157.7	158.0	157.7	157.6	157.4	157.5
60.5°	154.1	154.3	154.1	153.8	153.7	153.7
61°	150.5	150.6	150.5	150.3	150.2	150.2
61.5°	146.9	147.1	146.9	146.9	146.7	146.6
62°	143.5	143.5	143.5	143.3	143.2	143.1
62.5°	140.0	140.1	140.0	139.8	139.7	139.6
63°	136.3	136.4	136.3	136.2	136.0	136.0
63.5°	132.9	133.1	132.9	132.8	132.7	132.6
64°	129.6	129.7	129.6	129.5	129.3	129.2
64.5°	126.2	126.2	126.2	126.1	125.9	125.7
65°	122.8	122.9	122.8	122.7	122.5	122.3
65.5°	119.5	119.6	119.5	119.4	119.2	119.1
66°	116.1	116.3	116.1	116.1	115.9	115.9



TEST NUMBER: P938657

CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	106.5	106.6	106.5	106.2	106.2	106.1
68°	103.3	103.5	103.3	103.1	103.0	103.0
68.5°	100.2	100.3	100.2	100.0	99.9	99.8
69°	97.2	97.2	97.2	97.0	96.8	96.7
69.5°	94.1	94.3	94.1	93.9	93.8	93.8
70°	91.1	91.3	91.1	90.9	90.8	90.7
70.5°	88.1	88.2	88.1	87.9	87.7	87.7
71°	85.2	85.3	85.2	84.9	84.8	84.8
71.5°	82.3	82.5	82.3	81.9	81.9	81.9
72°	79.4	79.6	79.4	79.1	79.1	79.1
72.5°	76.6	76.8	76.6	76.4	76.2	76.2
73°	73.8	74.0	73.8	73.5	73.3	73.4
73.5°	71.0	71.2	71.0	70.7	70.5	70.7
74°	68.3	68.6	68.3	67.9	67.9	67.9
74.5°	65.6	65.9	65.6	65.3	65.1	65.3
75°	63.0	63.2	63.0	62.7	62.6	62.6
75.5°	60.4	60.6	60.4	60.1	60.0	60.1
76°	57.7	58.0	57.7	57.5	57.3	57.5
76.5°	55.1	55.3	55.1	54.9	54.8	54.9
77°	52.7	52.9	52.7	52.4	52.3	52.4
77.5°	50.2	50.4	50.2	50.0	49.9	50.0
78°	47.8	48.0	47.8	47.5	47.4	47.5
78.5°	45.4	45.8	45.4	45.1	45.0	45.1
79°	43.0	43.4	43.0	42.8	42.7	42.7
79.5°	40.6	40.8	40.6	40.3	40.3	40.3
80°	38.2	38.5	38.2	38.0	37.9	38.0
80.5°	35.9	36.1	35.9	35.7	35.8	35.7
81°	33.7	33.9	33.7	33.5	33.5	33.4
81.5°	31.5	31.6	31.5	31.3	31.3	31.2
82°	29.3	29.4	29.3	29.1	29.0	29.0
82.5°	27.2	27.2	27.2	27.0	26.9	26.8
83°	25.0	25.1	25.0	24.8	24.7	24.7
83.5°	22.8	22.9	22.8	22.6	22.5	22.5
84°	20.7	20.8	20.7	20.5	20.4	20.4
84.5°	18.6	18.7	18.6	18.5	18.4	18.4
85°	16.6	16.7	16.6	16.5	16.4	16.4
85.5°	14.5	14.6	14.5	14.4	14.4	14.4
86°	12.5	12.6	12.5	12.5	12.4	12.4
86.5°	10.8	11.1	10.8	10.7	10.4	10.4
87°	9.1	9.6	9.1	9.1	8.8	8.5
87.5°	7.3	8.0	7.3	7.3	7.0	6.4
88°	5.9	6.5	5.9	5.6	5.3	5.1
88.5°	4.9	5.5	4.9	4.1	3.9	3.7



TEST NUMBER: P938657
CATALOG NUMBER: HLB4LSFS5-1000LM-3000K

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°	387.1	386.9	386.8	386.4	386.7	386.4	386.8	386.9	387.1	386.9	386.8
22°	386.1	385.5	385.4	385.2	385.2	385.2	385.4	385.5	386.1	385.5	385.4



44°	278.3	278.2	278.0	278.2	278.2	278.2	278.0	278.2	278.3	278.2	278.0
44.5°	274.8	274.7	274.4	274.6	274.7	274.6	274.4	274.7	274.8	274.7	274.4



66.5°	112.5	112.6	112.8	112.9	113.0	112.9	112.8	112.6	112.5	112.6	112.8
67°	109.3	109.5	109.5	109.8	109.9	109.8	109.5	109.5	109.3	109.5	109.5



89°	2.3	2.6	3.1	3.9	4.5	3.9	3.1	2.6	2.3	2.6	3.1
89.5°	1.0	1.7	2.4	3.0	3.5	3.0	2.4	1.7	1.0	1.7	2.4





21.5°	386.4	386.7	386.4	386.8	386.9	387.1
22°	385.2	385.2	385.2	385.4	385.5	386.1



44°	278.2	278.2	278.2	278.0	278.2	278.3
44.5°	274.6	274.7	274.6	274.4	274.7	274.8



66.5°	112.9	113.0	112.9	112.8	112.6	112.5
67°	109.8	109.9	109.8	109.5	109.5	109.3



89°	3.9	4.5	3.9	3.1	2.6	2.3
89.5°	3.0	3.5	3.0	2.4	1.7	1.0



(END OF REPORT)