

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P303600

Luminaire Tested: **HLA4S06VWFL9FS1EMWR-2700K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P303600  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A1813664A001)  
Test Lab: EVERFINE  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HLA4S06VWFL9FS1EMWR-2700K  
Description: 4IN HLA LED DOWNLIGHT WITH 80 DEGREE OPTIC AND 2700K LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 678.744 (1 lamp)  
Luminaire Lumens: 704.4 lumens  
Efficiency: 103.8%  
Efficacy: 69.7 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.16 / 1.26  
Luminous Opening: Circular (Dia: 0.25m x H: 0m)  
CIE Type: Direct

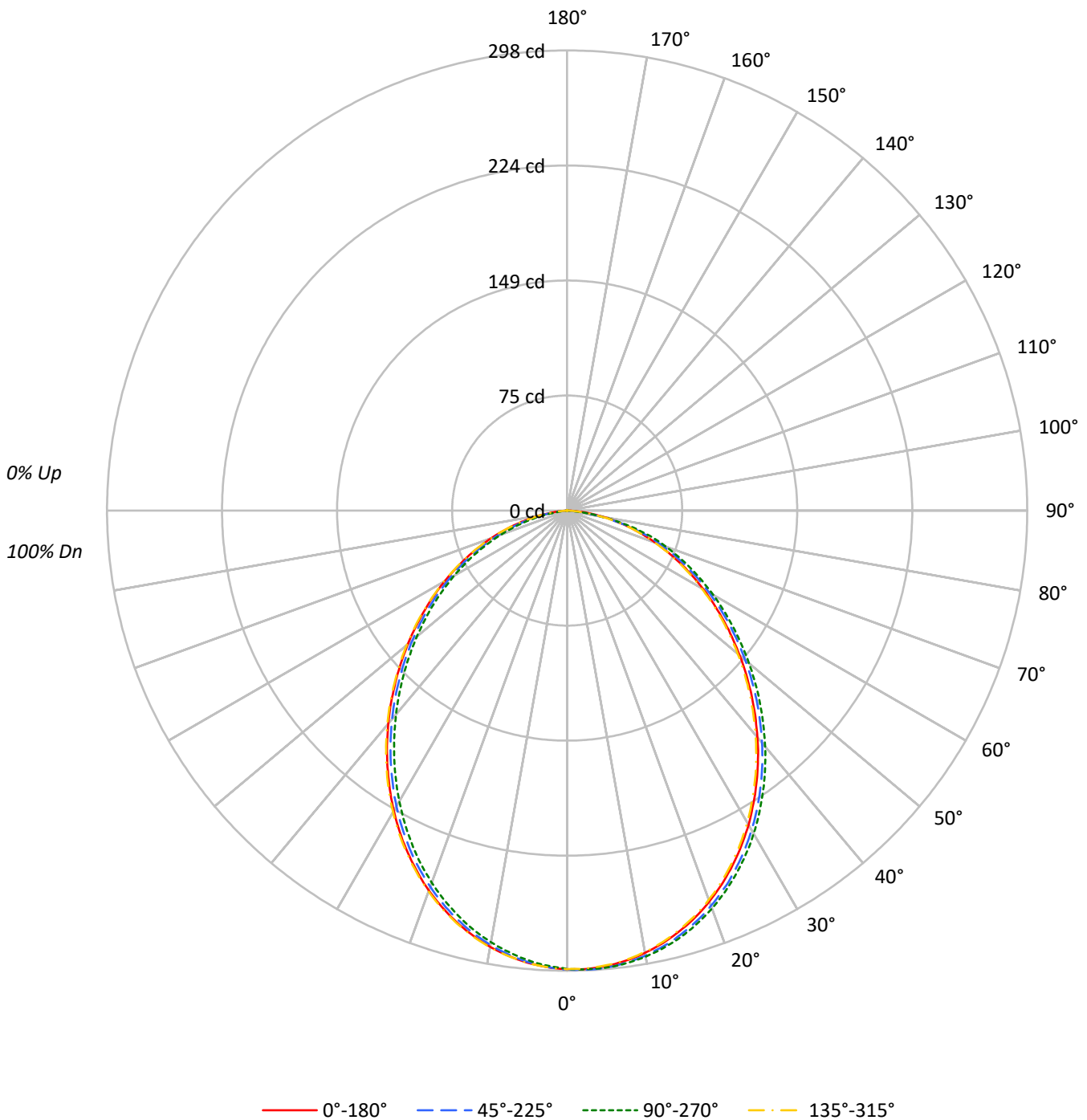
Input Watts (W): 10.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	124	124	124	124	121	121	121	121	115	115	115	110	110	110	106	106	106	104	104	104	104	104	104	104		
1	114	109	105	101	111	107	103	100	102	99	97	98	96	94	95	93	91	89	89	89	89	89	89	89		
2	104	96	89	84	101	94	88	83	90	85	81	87	83	79	84	80	77	75	75	75	75	75	75	75		
3	95	85	77	70	93	83	76	70	80	74	68	77	72	67	75	70	66	64	64	64	64	64	64	64		
4	87	76	67	60	85	74	66	60	72	65	59	69	63	58	67	62	57	55	55	55	55	55	55	55		
5	81	68	59	52	79	67	58	52	65	57	51	63	56	51	61	55	50	48	48	48	48	48	48	48		
6	75	61	52	46	73	60	52	46	59	51	45	57	50	45	55	49	45	42	42	42	42	42	42	42		
7	69	56	47	41	68	55	47	41	53	46	40	52	45	40	51	44	40	38	38	38	38	38	38	38		
8	65	51	43	37	63	50	42	37	49	42	36	48	41	36	47	40	36	34	34	34	34	34	34	34		
9	61	47	39	33	59	46	38	33	45	38	33	44	37	33	43	37	33	31	31	31	31	31	31	31		
10	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28	28	28	28	28	28	28		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	6050	6050	6050	6050
5°	6053	6074	6010	5975
10°	6016	6067	5933	5871
15°	5943	6023	5823	5734
20°	5840	5947	5676	5559
25°	5698	5831	5494	5347
30°	5528	5683	5281	5112
35°	5322	5504	5046	4857
40°	5098	5303	4792	4585
45°	4863	5088	4529	4307
50°	4624	4871	4269	4028
55°	4383	4656	4003	3744
60°	4148	4449	3736	3447
65°	3895	4252	3447	3114
70°	3621	4038	3109	2716
75°	3298	3668	2676	2188
80°	2827	2675	2053	1349
85°	2197	865	1005	70



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	28.0	4.0	4.1
10°-20°	78.5	11.2	11.6
20°-30°	114.5	16.3	16.9
30°-40°	130.2	18.5	19.2
40°-50°	125.8	17.9	18.5
50°-60°	105.7	15.0	15.6
60°-70°	75.6	10.7	11.1
70°-80°	39.6	5.6	5.8
80°-90°	6.5	0.9	1.0
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	221.0	31.4	32.6
0°-40°	351.2	49.9	51.7
0°-60°	582.7	82.7	85.9
0°-90°	704.4	100.0	103.8
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	704.4	100.0	103.8

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	297	297	297	297	297	
5°	296	297	294	292	296	28
15°	282	286	276	272	282	79
25°	254	259	244	238	254	117
35°	214	221	203	195	214	134
45°	169	177	157	150	169	130
55°	123	131	113	105	123	110
65°	81	88	72	65	81	80
75°	42	47	34	28	42	44
85°	9	4	4	0	9	11
90°	0	0	0	0	0	



TEST NUMBER: P303600

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	297.0	297.0	297.0	297.0	297.0	297.0	297.0	297.0	297.0	297.0	297.0
0.5°	297.1	297.3	297.4	297.4	297.0	296.9	296.9	296.9	296.9	297.0	297.1
1°	297.1	297.3	297.5	297.6	297.1	297.0	296.9	296.9	296.7	296.8	296.9
1.5°	297.2	297.3	297.5	297.6	297.3	297.0	296.9	296.7	296.5	296.5	296.5
2°	297.2	297.3	297.6	297.6	297.3	297.1	296.9	296.5	296.3	296.2	296.2
2.5°	297.1	297.2	297.6	297.6	297.3	297.1	296.7	296.4	295.9	295.8	295.8
3°	296.9	297.2	297.6	297.6	297.3	297.0	296.5	296.0	295.6	295.4	295.4
3.5°	296.8	297.1	297.5	297.5	297.3	296.9	296.3	295.7	295.2	295.0	295.0
4°	296.5	296.9	297.4	297.4	297.3	296.8	296.1	295.4	294.8	294.6	294.5
4.5°	296.3	296.7	297.2	297.2	297.2	296.5	295.8	295.0	294.4	294.0	293.9
5°	296.0	296.4	297.0	297.1	297.0	296.3	295.5	294.6	293.9	293.5	293.4
5.5°	295.6	296.2	296.7	296.9	296.9	296.0	295.2	294.1	293.4	292.9	292.8
6°	295.3	295.8	296.4	296.5	296.6	295.6	294.8	293.6	292.8	292.3	292.1
6.5°	294.8	295.4	296.0	296.2	296.3	295.3	294.4	293.1	292.2	291.6	291.5
7°	294.4	295.0	295.6	295.8	296.0	294.9	293.9	292.5	291.5	291.0	290.7
7.5°	293.9	294.6	295.2	295.4	295.6	294.5	293.4	291.8	290.8	290.2	290.0
8°	293.4	294.1	294.8	295.0	295.2	294.0	292.8	291.1	290.1	289.4	289.1
8.5°	292.8	293.6	294.3	294.5	294.8	293.5	292.2	290.5	289.3	288.7	288.3
9°	292.2	293.0	293.7	294.0	294.3	292.9	291.6	289.8	288.5	288.0	287.5
9.5°	291.5	292.4	293.2	293.5	293.8	292.3	290.9	289.0	287.8	287.0	286.6
10°	290.8	291.8	292.6	292.9	293.3	291.7	290.3	288.2	286.8	286.1	285.7
10.5°	290.1	291.1	291.9	292.3	292.6	291.0	289.5	287.4	286.0	285.1	284.7
11°	289.3	290.5	291.1	291.6	292.0	290.2	288.7	286.5	285.0	284.1	283.6
11.5°	288.5	289.7	290.4	290.9	291.4	289.5	287.9	285.6	284.0	283.0	282.6
12°	287.7	288.9	289.7	290.1	290.7	288.7	287.0	284.6	283.0	282.0	281.5
12.5°	286.8	288.0	288.9	289.3	289.9	288.0	286.1	283.6	281.9	280.9	280.4
13°	285.9	287.2	288.1	288.5	289.1	287.0	285.2	282.6	280.8	279.8	279.2
13.5°	284.9	286.3	287.1	287.7	288.3	286.3	284.2	281.5	279.7	278.6	278.0
14°	284.0	285.4	286.3	286.7	287.5	285.2	283.2	280.4	278.5	277.4	276.8
14.5°	282.9	284.4	285.2	285.8	286.6	284.3	282.1	279.3	277.3	276.1	275.4
15°	281.8	283.4	284.3	284.8	285.6	283.2	281.0	278.1	276.1	274.8	274.2
15.5°	280.8	282.3	283.2	283.8	284.7	282.2	279.9	276.9	274.7	273.5	272.8
16°	279.7	281.2	282.2	282.7	283.6	281.1	278.7	275.6	273.5	272.1	271.5
16.5°	278.5	280.1	281.1	281.6	282.6	280.0	277.5	274.4	272.1	270.8	270.0
17°	277.3	279.0	280.0	280.5	281.5	278.9	276.3	273.1	270.7	269.4	268.6
17.5°	276.1	277.8	278.8	279.3	280.4	277.7	275.1	271.7	269.3	267.8	267.1
18°	274.8	276.5	277.6	278.1	279.2	276.5	273.8	270.3	267.9	266.4	265.6
18.5°	273.6	275.2	276.4	276.9	278.0	275.2	272.4	268.9	266.4	264.9	264.1
19°	272.2	274.0	275.1	275.6	276.8	273.8	271.0	267.4	264.9	263.3	262.5
19.5°	270.8	272.6	273.8	274.4	275.5	272.5	269.7	266.0	263.4	261.9	260.8
20°	269.4	271.4	272.4	273.1	274.3	271.2	268.1	264.4	261.8	260.2	259.2
20.5°	267.9	269.9	271.0	271.7	272.9	269.7	266.7	262.9	260.2	258.5	257.6
21°	266.5	268.4	269.6	270.2	271.6	268.3	265.3	261.2	258.6	256.8	255.9
21.5°	264.9	266.9	268.1	268.8	270.1	266.8	263.7	259.6	256.9	255.1	254.2
22°	263.4	265.4	266.6	267.3	268.7	265.3	262.1	258.0	255.2	253.3	252.4



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CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	261.9	263.9	265.1	265.8	267.2	263.8	260.5	256.3	253.4	251.6	250.7
23°	260.2	262.3	263.7	264.3	265.7	262.1	258.9	254.7	251.6	249.8	248.9
23.5°	258.6	260.7	262.1	262.7	264.1	260.5	257.2	252.9	249.9	248.0	247.1
24°	256.9	259.1	260.4	261.2	262.6	258.9	255.5	251.2	248.1	246.1	245.3
24.5°	255.2	257.4	258.8	259.7	261.0	257.3	253.8	249.4	246.2	244.3	243.3
25°	253.5	255.7	257.1	257.8	259.4	255.6	252.1	247.6	244.4	242.4	241.4
25.5°	251.7	254.1	255.4	256.2	257.7	253.8	250.3	245.8	242.5	240.6	239.4
26°	249.9	252.3	253.6	254.5	256.0	252.1	248.5	243.8	240.6	238.6	237.4
26.5°	248.2	250.6	251.9	252.7	254.3	250.3	246.8	241.9	238.7	236.7	235.5
27°	246.4	248.8	250.2	251.0	252.6	248.5	244.9	240.1	236.7	234.7	233.5
27.5°	244.5	247.0	248.3	249.2	250.8	246.7	243.0	238.1	234.7	232.7	231.5
28°	242.6	245.2	246.5	247.4	249.1	244.8	241.1	236.1	232.8	230.6	229.5
28.5°	240.7	243.2	244.6	245.6	247.3	243.0	239.2	234.1	230.8	228.5	227.4
29°	238.8	241.4	242.7	243.7	245.4	241.0	237.2	232.1	228.7	226.4	225.3
29.5°	236.9	239.4	240.8	241.8	243.5	239.1	235.2	230.0	226.6	224.3	223.2
30°	235.0	237.4	238.9	239.9	241.6	237.1	233.2	228.0	224.5	222.2	221.1
30.5°	233.0	235.4	237.0	237.9	239.7	235.2	231.2	226.0	222.4	220.2	218.9
31°	230.9	233.5	235.0	236.0	237.7	233.3	229.2	223.9	220.3	218.0	216.8
31.5°	228.8	231.5	233.0	233.9	235.7	231.2	227.2	221.7	218.2	215.8	214.7
32°	226.7	229.5	231.0	231.9	233.7	229.2	225.1	219.6	216.0	213.6	212.5
32.5°	224.6	227.4	228.9	229.9	231.7	227.0	222.9	217.5	213.8	211.5	210.2
33°	222.5	225.4	226.8	227.8	229.6	224.9	220.8	215.4	211.6	209.3	208.0
33.5°	220.4	223.2	224.7	225.7	227.5	222.8	218.6	213.3	209.4	207.1	205.8
34°	218.3	221.1	222.6	223.6	225.5	220.8	216.5	211.1	207.3	204.9	203.6
34.5°	216.1	219.0	220.5	221.5	223.4	218.7	214.4	208.9	205.0	202.8	201.3
35°	214.0	216.9	218.4	219.4	221.3	216.5	212.2	206.6	202.9	200.6	199.1
35.5°	211.8	214.7	216.2	217.3	219.2	214.4	210.1	204.4	200.6	198.3	196.9
36°	209.7	212.6	214.1	215.2	217.0	212.1	207.9	202.2	198.4	195.9	194.6
36.5°	207.4	210.4	211.9	213.0	214.9	209.9	205.6	199.9	196.1	193.7	192.4
37°	205.2	208.2	209.7	210.8	212.8	207.8	203.4	197.7	193.8	191.5	190.1
37.5°	203.0	206.0	207.5	208.6	210.6	205.6	201.1	195.5	191.6	189.2	187.8
38°	200.9	203.7	205.3	206.4	208.3	203.4	198.9	193.2	189.3	186.9	185.6
38.5°	198.6	201.5	203.1	204.2	206.2	201.1	196.7	190.9	187.0	184.7	183.2
39°	196.3	199.3	200.9	202.0	203.9	199.0	194.4	188.6	184.7	182.3	180.9
39.5°	194.0	197.0	198.6	199.8	201.7	196.6	192.2	186.4	182.5	180.0	178.7
40°	191.7	194.8	196.3	197.4	199.4	194.3	189.9	184.1	180.2	177.7	176.3
40.5°	189.4	192.5	194.0	195.2	197.2	192.1	187.6	181.8	177.9	175.4	174.0
41°	187.1	190.2	191.8	192.9	194.9	189.9	185.3	179.4	175.5	173.1	171.7
41.5°	184.8	187.9	189.5	190.6	192.6	187.6	183.0	177.2	173.3	170.8	169.5
42°	182.6	185.7	187.2	188.4	190.4	185.2	180.7	174.9	171.1	168.6	167.1
42.5°	180.3	183.3	184.9	186.1	188.1	182.9	178.5	172.5	168.7	166.2	164.8
43°	178.0	181.1	182.7	183.9	185.9	180.7	176.2	170.3	166.4	164.0	162.5
43.5°	175.7	178.8	180.3	181.6	183.6	178.4	173.8	168.0	164.1	161.6	160.3
44°	173.4	176.5	178.1	179.2	181.2	176.1	171.6	165.7	161.8	159.4	158.0
44.5°	171.1	174.1	175.8	176.9	178.9	173.8	169.4	163.4	159.5	157.2	155.7



TEST NUMBER: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	168.8	171.8	173.5	174.7	176.6	171.6	167.0	161.2	157.2	154.8	153.4
45.5°	166.6	169.7	171.2	172.3	174.3	169.3	164.7	158.9	155.1	152.5	151.1
46°	164.2	167.3	168.9	170.1	172.1	166.9	162.4	156.6	152.7	150.3	148.9
46.5°	161.9	165.0	166.6	167.8	169.8	164.6	160.1	154.3	150.4	148.0	146.6
47°	159.6	162.7	164.2	165.5	167.5	162.3	157.8	152.0	148.2	145.7	144.4
47.5°	157.4	160.4	162.0	163.2	165.1	160.0	155.5	149.7	145.9	143.4	142.1
48°	155.0	158.0	159.7	160.8	162.9	157.8	153.3	147.5	143.6	141.3	139.8
48.5°	152.7	155.7	157.5	158.6	160.6	155.6	150.9	145.2	141.3	139.0	137.5
49°	150.4	153.4	155.2	156.2	158.3	153.2	148.7	143.1	139.1	136.7	135.3
49.5°	148.2	151.2	152.8	154.0	155.9	150.9	146.4	140.7	136.9	134.4	133.1
50°	145.9	148.9	150.5	151.7	153.7	148.6	144.2	138.4	134.7	132.2	130.9
50.5°	143.5	146.6	148.2	149.4	151.4	146.3	141.9	136.1	132.4	130.0	128.6
51°	141.4	144.3	145.9	147.1	149.1	144.0	139.6	133.9	130.2	127.8	126.4
51.5°	139.0	142.0	143.6	144.8	146.8	141.8	137.3	131.8	128.1	125.5	124.2
52°	136.8	139.7	141.4	142.6	144.5	139.6	135.1	129.6	125.8	123.4	121.9
52.5°	134.5	137.4	139.1	140.4	142.4	137.4	132.9	127.3	123.6	121.3	119.8
53°	132.3	135.2	136.9	138.0	140.0	135.2	130.8	125.2	121.4	119.0	117.7
53.5°	130.2	133.0	134.7	135.8	137.7	132.8	128.5	123.0	119.2	116.8	115.6
54°	127.9	130.8	132.4	133.6	135.5	130.6	126.4	120.8	117.1	114.6	113.5
54.5°	125.6	128.5	130.2	131.4	133.3	128.4	124.1	118.5	115.0	112.6	111.2
55°	123.4	126.4	127.9	129.1	131.1	126.2	121.9	116.3	112.7	110.4	109.1
55.5°	121.3	124.0	125.8	126.8	128.8	124.0	119.7	114.3	110.6	108.3	106.9
56°	119.1	121.8	123.5	124.6	126.6	121.8	117.5	112.1	108.4	106.2	104.7
56.5°	116.9	119.6	121.3	122.5	124.5	119.6	115.5	110.0	106.4	104.1	102.6
57°	114.6	117.4	119.1	120.3	122.3	117.5	113.4	107.8	104.2	101.9	100.5
57.5°	112.5	115.3	116.9	118.0	120.1	115.2	111.1	105.7	102.1	99.9	98.4
58°	110.3	113.1	114.6	115.8	117.8	113.1	108.9	103.6	99.9	97.7	96.3
58.5°	108.1	110.9	112.5	113.8	115.7	110.9	106.8	101.5	97.8	95.6	94.2
59°	106.1	108.7	110.4	111.5	113.6	108.8	104.6	99.4	95.7	93.5	92.1
59.5°	103.9	106.5	108.2	109.3	111.3	106.7	102.6	97.3	93.7	91.6	90.1
60°	101.8	104.5	106.2	107.2	109.2	104.6	100.4	95.2	91.7	89.4	88.1
60.5°	99.7	102.3	103.9	105.1	107.1	102.6	98.4	93.1	89.6	87.4	86.0
61°	97.5	100.1	101.8	102.9	104.9	100.3	96.2	91.1	87.6	85.5	83.9
61.5°	95.3	98.0	99.8	100.9	102.8	98.2	94.2	89.1	85.5	83.4	81.9
62°	93.3	95.9	97.5	98.7	100.6	96.1	92.1	87.0	83.4	81.3	79.9
62.5°	91.2	93.8	95.5	96.6	98.5	94.0	90.1	85.1	81.4	79.2	77.9
63°	89.1	91.8	93.4	94.5	96.4	92.0	88.0	82.9	79.4	77.3	75.9
63.5°	87.1	89.7	91.3	92.4	94.3	90.0	85.9	80.9	77.5	75.4	74.0
64°	85.2	87.7	89.2	90.4	92.3	87.9	83.9	78.9	75.5	73.3	72.0
64.5°	82.9	85.5	87.1	88.3	90.2	85.7	81.9	76.9	73.5	71.2	70.0
65°	80.8	83.4	85.2	86.2	88.2	83.7	79.9	74.9	71.5	69.2	68.0
65.5°	78.8	81.4	82.9	84.1	86.0	81.7	77.9	72.9	69.5	67.4	66.0
66°	76.8	79.3	80.9	82.0	84.0	79.7	75.9	71.0	67.5	65.4	64.0
66.5°	74.8	77.3	78.9	80.0	81.9	77.7	73.9	69.1	65.5	63.5	62.2
67°	72.8	75.3	76.8	77.9	79.8	75.7	71.9	67.0	63.6	61.5	60.1





TEST NUMBER: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	70.9	73.3	74.8	75.9	77.9	73.8	70.1	65.0	61.7	59.6	58.3
68°	68.8	71.2	72.8	74.0	75.9	71.7	68.0	63.1	59.8	57.7	56.3
68.5°	66.7	69.2	70.9	72.0	73.9	69.6	66.0	61.2	58.0	55.8	54.5
69°	64.7	67.2	68.8	70.0	71.9	67.7	64.1	59.3	56.1	53.9	52.6
69.5°	62.8	65.2	66.7	67.8	69.9	65.8	62.2	57.4	54.2	52.0	50.7
70°	60.8	63.3	64.8	65.7	67.8	63.8	60.2	55.5	52.2	50.1	48.8
70.5°	58.9	61.4	62.8	63.6	65.9	62.0	58.3	53.6	50.4	48.4	47.0
71°	56.9	59.5	60.8	61.5	63.9	60.1	56.4	51.8	48.6	46.5	45.2
71.5°	55.0	57.6	58.7	59.4	62.0	58.1	54.5	49.8	46.7	44.6	43.4
72°	53.1	55.6	56.6	57.2	60.0	56.2	52.6	48.0	44.8	42.7	41.6
72.5°	51.2	53.5	54.5	54.8	58.0	54.2	50.7	46.1	43.0	40.9	39.8
73°	49.3	51.7	52.3	52.5	55.9	52.1	48.8	44.2	41.3	39.0	37.9
73.5°	47.4	49.7	50.0	50.2	53.4	50.1	47.0	42.4	39.3	37.3	36.1
74°	45.6	47.9	47.9	47.9	51.2	48.1	45.2	40.6	37.6	35.5	34.3
74.5°	43.8	46.0	45.7	45.5	48.9	46.0	43.4	38.8	35.7	33.8	32.6
75°	41.9	44.1	43.4	43.3	46.6	43.9	41.6	36.9	34.0	32.0	30.9
75.5°	40.0	42.2	41.2	40.8	44.2	41.8	39.8	35.2	32.3	30.4	29.2
76°	38.1	40.2	38.8	38.2	41.7	39.5	37.8	33.4	30.6	28.5	27.3
76.5°	36.3	38.3	36.6	35.9	39.4	37.2	35.8	31.7	28.9	27.0	25.7
77°	34.5	36.4	34.4	33.4	37.0	35.1	33.9	30.1	27.2	25.3	24.0
77.5°	32.8	34.5	32.2	30.9	34.5	33.0	32.0	28.3	25.5	23.6	22.3
78°	31.0	32.7	30.0	28.6	32.2	30.8	30.2	26.7	23.8	22.0	20.7
78.5°	29.4	30.9	27.8	26.2	29.9	28.6	28.4	25.0	22.1	20.4	19.2
79°	27.5	29.0	25.7	23.7	27.5	26.3	26.5	23.4	20.6	18.8	17.7
79.5°	26.0	27.2	23.6	21.4	25.2	24.3	24.5	21.7	19.1	17.2	16.3
80°	24.1	25.5	21.4	19.2	22.8	22.2	22.6	20.3	17.5	15.9	14.8
80.5°	22.4	23.7	19.5	16.9	20.5	20.0	20.8	18.7	16.1	14.5	13.2
81°	20.8	21.9	17.4	14.8	18.3	17.9	19.0	17.1	14.7	12.9	11.8
81.5°	19.4	20.2	15.4	12.8	16.2	16.0	17.2	15.7	13.1	11.5	10.4
82°	17.8	18.4	13.3	10.8	14.2	13.9	15.6	14.3	11.6	10.1	9.0
82.5°	16.3	16.7	11.5	9.0	12.0	12.0	13.9	12.7	10.5	9.1	7.6
83°	14.8	15.0	9.5	7.2	10.0	10.1	12.2	11.4	9.2	7.8	6.1
83.5°	13.2	13.4	7.8	5.7	8.2	8.4	10.6	9.8	7.7	6.5	4.9
84°	11.8	11.9	6.0	4.0	6.5	6.7	9.0	8.7	6.6	5.4	3.7
84.5°	10.6	10.3	4.4	2.8	5.0	5.2	7.6	7.5	5.7	4.3	2.4
85°	9.4	8.9	3.2	1.9	3.7	3.9	5.9	6.2	4.3	3.3	1.5
85.5°	7.9	7.6	2.3	1.1	2.4	2.5	4.6	5.1	3.4	2.4	0.6
86°	6.8	6.1	1.6	0.5	1.6	1.6	3.2	4.1	2.5	1.8	0.0
86.5°	5.8	5.1	0.6	0.0	0.6	0.6	2.2	3.1	2.0	1.1	0.3
87°	4.5	4.0	0.5	0.3	0.4	0.0	1.4	2.3	1.3	0.6	0.0
87.5°	3.4	3.1	0.0	0.3	0.0	0.4	0.7	1.7	0.5	0.0	0.0
88°	2.5	2.3	0.0	0.3	0.3	0.0	0.5	1.0	0.3	0.3	0.0
88.5°	1.7	1.3	0.3	0.3	0.0	0.0	0.0	0.6	0.3	0.0	0.0
89°	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0



TEST NUMBER: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-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: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	297.0	297.0	297.0	297.0	297.0	297.0
0.5°	297.0	296.4	296.6	296.8	296.9	297.1
1°	296.8	296.1	296.3	296.7	296.9	297.1
1.5°	296.5	295.8	296.0	296.5	296.9	297.2
2°	296.1	295.4	295.7	296.3	296.7	297.2
2.5°	295.7	295.0	295.4	296.0	296.5	297.1
3°	295.3	294.5	295.0	295.6	296.3	296.9
3.5°	294.8	294.0	294.6	295.3	296.0	296.8
4°	294.3	293.5	294.2	294.9	295.7	296.5
4.5°	293.8	292.9	293.6	294.5	295.3	296.3
5°	293.2	292.2	293.1	294.0	295.1	296.0
5.5°	292.6	291.6	292.5	293.5	294.6	295.6
6°	291.9	290.9	291.9	292.9	294.2	295.3
6.5°	291.1	290.1	291.2	292.3	293.7	294.8
7°	290.4	289.3	290.6	291.7	293.3	294.4
7.5°	289.6	288.4	289.8	291.0	292.6	293.9
8°	288.8	287.6	289.0	290.3	292.1	293.4
8.5°	288.1	286.7	288.2	289.6	291.4	292.8
9°	287.0	285.9	287.3	288.9	290.7	292.2
9.5°	286.2	284.8	286.4	288.1	290.0	291.5
10°	285.1	283.8	285.5	287.1	289.3	290.8
10.5°	284.2	282.8	284.6	286.3	288.5	290.1
11°	283.1	281.7	283.6	285.3	287.8	289.3
11.5°	282.0	280.6	282.6	284.4	286.8	288.5
12°	280.9	279.4	281.5	283.4	285.9	287.7
12.5°	279.8	278.3	280.4	282.4	284.9	286.8
13°	278.7	277.1	279.2	281.2	284.0	285.9
13.5°	277.4	275.8	278.1	280.1	283.0	284.9
14°	276.2	274.5	276.8	279.0	281.9	284.0
14.5°	274.9	273.1	275.5	277.8	280.9	282.9
15°	273.6	271.9	274.3	276.6	279.7	281.8
15.5°	272.2	270.4	272.9	275.3	278.6	280.8
16°	270.8	268.9	271.6	274.0	277.3	279.7
16.5°	269.4	267.5	270.1	272.7	276.1	278.5
17°	267.9	266.0	268.7	271.4	274.9	277.3
17.5°	266.4	264.5	267.2	270.0	273.5	276.1
18°	264.9	262.9	265.8	268.6	272.2	274.8
18.5°	263.4	261.3	264.2	267.0	270.8	273.6
19°	261.8	259.7	262.7	265.6	269.5	272.2
19.5°	260.2	258.0	261.1	264.0	268.0	270.8
20°	258.5	256.4	259.6	262.5	266.5	269.4
20.5°	256.8	254.6	257.8	260.9	265.1	267.9
21°	255.1	252.9	256.2	259.2	263.6	266.5
21.5°	253.3	251.2	254.5	257.6	262.0	264.9
22°	251.5	249.4	252.7	255.9	260.3	263.4



TEST NUMBER: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	249.7	247.6	251.0	254.2	258.7	261.9
23°	247.9	245.8	249.2	252.4	257.1	260.2
23.5°	246.1	243.8	247.3	250.7	255.4	258.6
24°	244.2	241.9	245.5	249.0	253.6	256.9
24.5°	242.3	240.0	243.7	247.1	251.9	255.2
25°	240.5	237.9	241.8	245.2	250.1	253.5
25.5°	238.5	236.0	239.9	243.3	248.3	251.7
26°	236.6	234.0	238.0	241.4	246.5	249.9
26.5°	234.6	232.0	235.9	239.6	244.6	248.2
27°	232.5	230.0	233.9	237.6	242.7	246.4
27.5°	230.5	227.9	231.9	235.7	240.9	244.5
28°	228.4	225.9	229.9	233.6	238.9	242.6
28.5°	226.3	223.8	227.9	231.6	237.0	240.7
29°	224.2	221.6	225.8	229.6	235.0	238.8
29.5°	222.1	219.5	223.7	227.6	233.0	236.9
30°	220.0	217.3	221.6	225.4	231.0	235.0
30.5°	217.9	215.2	219.5	223.4	229.0	233.0
31°	215.7	213.1	217.3	221.3	226.9	230.9
31.5°	213.6	210.9	215.2	219.1	224.8	228.8
32°	211.4	208.6	213.0	217.0	222.7	226.7
32.5°	209.1	206.4	210.9	214.9	220.6	224.6
33°	206.9	204.2	208.6	212.7	218.5	222.5
33.5°	204.7	202.0	206.5	210.5	216.3	220.4
34°	202.5	199.8	204.2	208.3	214.3	218.3
34.5°	200.3	197.5	202.0	206.1	212.0	216.1
35°	198.0	195.3	199.8	203.9	209.8	214.0
35.5°	195.7	193.0	197.5	201.7	207.7	211.8
36°	193.5	190.7	195.2	199.4	205.5	209.7
36.5°	191.2	188.4	193.0	197.2	203.3	207.4
37°	188.9	186.3	190.7	194.9	201.0	205.2
37.5°	186.6	183.9	188.4	192.7	198.8	203.0
38°	184.5	181.6	186.1	190.4	196.5	200.9
38.5°	182.1	179.3	184.0	188.1	194.3	198.6
39°	179.7	177.0	181.6	185.8	192.0	196.3
39.5°	177.4	174.7	179.3	183.5	189.7	194.0
40°	175.1	172.4	177.0	181.2	187.5	191.7
40.5°	172.8	170.2	174.7	178.9	185.2	189.4
41°	170.5	167.8	172.4	176.6	182.8	187.1
41.5°	168.3	165.5	170.1	174.4	180.5	184.8
42°	165.9	163.2	167.8	172.1	178.3	182.6
42.5°	163.6	160.9	165.5	169.8	176.0	180.3
43°	161.3	158.7	163.2	167.4	173.7	178.0
43.5°	159.1	156.3	160.9	165.1	171.4	175.7
44°	156.8	154.1	158.6	162.8	169.1	173.4
44.5°	154.5	151.9	156.3	160.6	166.7	171.1



TEST NUMBER: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	152.2	149.5	154.0	158.3	164.4	168.8
45.5°	150.0	147.3	151.8	156.0	162.2	166.6
46°	147.7	145.0	149.6	153.8	159.9	164.2
46.5°	145.4	142.7	147.3	151.4	157.6	161.9
47°	143.2	140.5	145.0	149.1	155.4	159.6
47.5°	141.0	138.1	142.7	146.8	153.0	157.4
48°	138.6	136.0	140.5	144.6	150.6	155.0
48.5°	136.4	133.8	138.1	142.4	148.4	152.7
49°	134.1	131.6	135.9	140.1	146.1	150.4
49.5°	131.9	129.2	133.7	137.9	143.9	148.2
50°	129.7	127.1	131.5	135.6	141.6	145.9
50.5°	127.4	124.9	129.3	133.3	139.3	143.5
51°	125.2	122.6	127.0	131.1	137.1	141.4
51.5°	123.0	120.5	124.7	128.9	134.8	139.0
52°	120.9	118.3	122.6	126.8	132.6	136.8
52.5°	118.7	116.1	120.4	124.5	130.3	134.5
53°	116.5	114.1	118.2	122.3	128.2	132.3
53.5°	114.4	111.8	116.0	120.1	126.0	130.2
54°	112.2	109.7	113.8	117.9	123.7	127.9
54.5°	110.0	107.5	111.8	115.8	121.5	125.6
55°	107.9	105.4	109.6	113.6	119.3	123.4
55.5°	105.9	103.3	107.4	111.4	117.1	121.3
56°	103.7	101.2	105.3	109.2	115.0	119.1
56.5°	101.6	99.1	103.1	107.1	112.7	116.9
57°	99.5	97.0	101.1	105.0	110.6	114.6
57.5°	97.3	94.8	99.1	102.8	108.4	112.5
58°	95.2	92.7	96.8	100.6	106.3	110.3
58.5°	93.1	90.7	94.7	98.6	104.1	108.1
59°	91.0	88.7	92.6	96.5	102.0	106.1
59.5°	89.0	86.6	90.5	94.4	99.8	103.9
60°	86.9	84.6	88.5	92.3	97.7	101.8
60.5°	84.9	82.6	86.5	90.3	95.6	99.7
61°	82.9	80.5	84.5	88.3	93.5	97.5
61.5°	80.9	78.4	82.3	86.0	91.5	95.3
62°	78.8	76.4	80.3	84.0	89.4	93.3
62.5°	76.8	74.5	78.3	82.0	87.3	91.2
63°	74.8	72.6	76.3	80.0	85.2	89.1
63.5°	72.9	70.6	74.3	78.0	83.2	87.1
64°	70.9	68.5	72.4	75.9	81.2	85.2
64.5°	68.9	66.6	70.5	73.9	79.2	82.9
65°	66.8	64.6	68.5	71.9	77.1	80.8
65.5°	64.9	62.6	66.4	69.9	75.2	78.8
66°	63.0	60.7	64.3	67.9	73.1	76.8
66.5°	61.1	58.7	62.4	65.9	71.0	74.8
67°	59.1	56.8	60.6	64.0	69.1	72.8



TEST NUMBER: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	57.2	54.9	58.6	62.0	67.0	70.9
68°	55.2	53.0	56.6	60.1	65.1	68.8
68.5°	53.2	51.2	54.7	58.2	63.2	66.7
69°	51.4	49.3	52.8	56.3	61.3	64.7
69.5°	49.5	47.5	50.9	54.4	59.3	62.8
70°	47.8	45.6	49.0	52.4	57.3	60.8
70.5°	45.9	43.9	47.1	50.5	55.5	58.9
71°	44.1	42.0	45.3	48.6	53.4	56.9
71.5°	42.3	40.2	43.6	46.8	51.6	55.0
72°	40.5	38.3	41.8	44.9	49.7	53.1
72.5°	38.6	36.5	39.9	43.1	47.8	51.2
73°	36.8	34.7	38.1	41.2	46.0	49.3
73.5°	35.0	33.0	36.3	39.4	44.1	47.4
74°	33.2	31.3	34.5	37.6	42.1	45.6
74.5°	31.5	29.6	32.7	35.8	40.3	43.8
75°	29.7	27.8	31.0	34.0	38.5	41.9
75.5°	27.9	26.0	29.2	32.2	36.7	40.0
76°	26.2	24.3	27.5	30.5	34.8	38.1
76.5°	24.6	22.7	25.8	28.8	33.1	36.3
77°	23.1	21.1	24.1	27.2	31.3	34.5
77.5°	21.4	19.6	22.4	25.4	29.6	32.8
78°	19.8	18.0	20.8	23.8	27.8	31.0
78.5°	18.3	16.5	19.2	22.2	26.2	29.4
79°	16.8	14.9	17.6	20.5	24.5	27.5
79.5°	15.2	13.1	15.9	18.8	22.9	26.0
80°	13.6	11.5	14.2	17.3	21.2	24.1
80.5°	12.1	9.7	12.5	15.9	19.7	22.4
81°	10.6	8.0	10.9	14.3	18.1	20.8
81.5°	9.0	6.4	9.2	12.6	16.6	19.4
82°	7.4	5.1	7.6	11.1	14.9	17.8
82.5°	6.0	3.6	5.9	9.6	13.6	16.3
83°	4.4	2.4	4.3	7.9	12.2	14.8
83.5°	3.2	1.5	2.9	6.5	10.8	13.2
84°	2.3	0.6	1.7	5.2	9.4	11.8
84.5°	1.3	0.0	0.6	4.0	8.0	10.6
85°	0.6	0.3	0.3	2.5	6.9	9.4
85.5°	0.0	0.0	0.3	1.6	5.8	7.9
86°	0.0	0.0	0.0	0.7	4.6	6.8
86.5°	0.0	0.0	0.0	0.5	3.5	5.8
87°	0.0	0.0	0.0	0.0	2.5	4.5
87.5°	0.0	0.0	0.0	0.3	1.8	3.4
88°	0.0	0.0	0.0	0.0	1.2	2.5
88.5°	0.0	0.0	0.0	0.0	0.5	1.7
89°	0.0	0.0	0.0	0.0	0.0	0.7
89.5°	0.0	0.0	0.0	0.0	0.0	0.3



TEST NUMBER: P303600

CATALOG NUMBER: HLA4S06VWFL9FS1EMWR-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

(END OF REPORT)