

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: P256762

Luminaire Tested: **HLB6099FS1EMW-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P256762
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A1806645B001)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HLB6099FS1EMW-3500K
Description: 6 IN HALO BLADE (900 LUMEN) - 3500K
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1078.9 lumens
Efficiency: N/A
Efficacy: 67.4 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.41
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

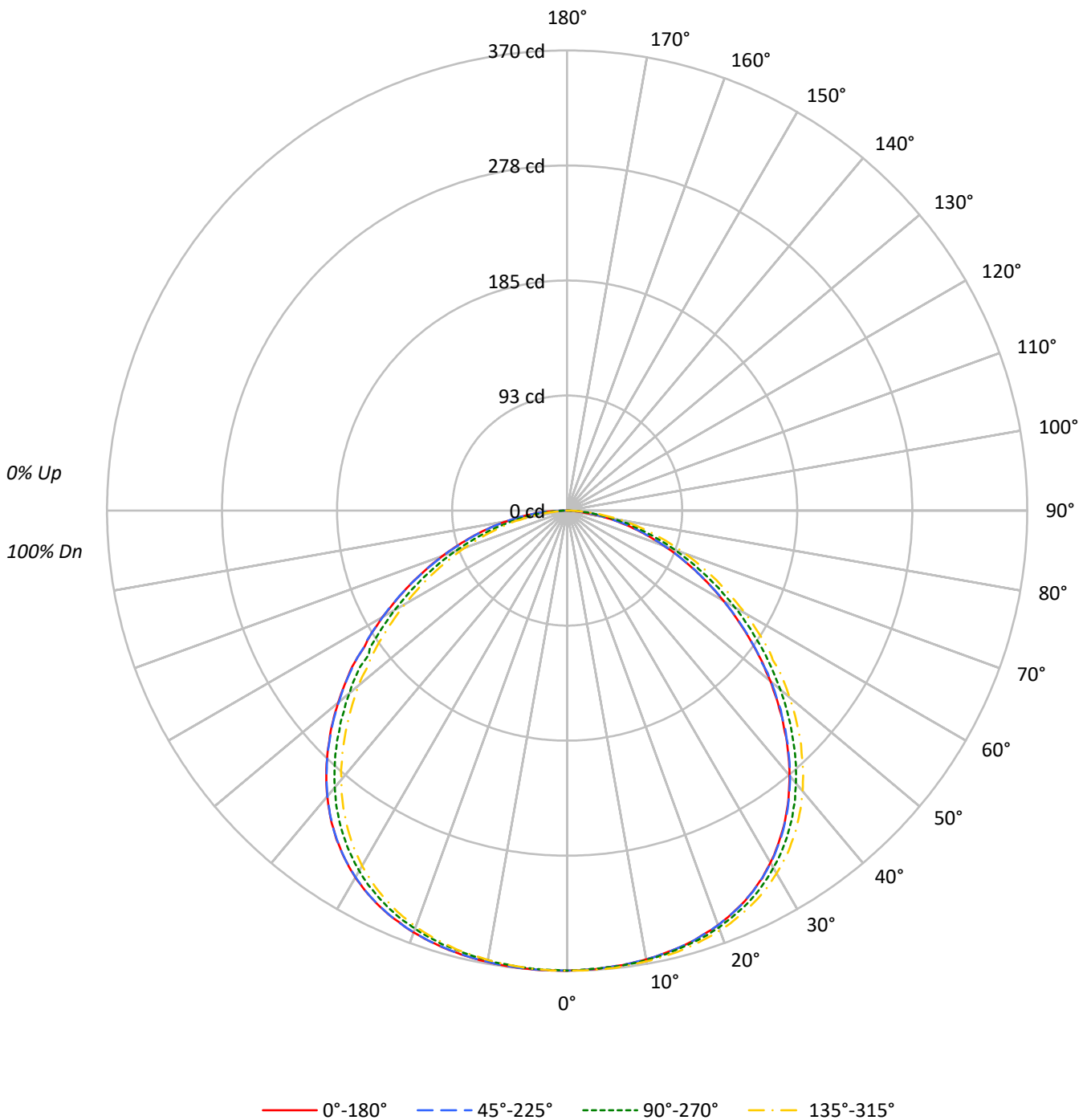
Input Watts (W): 16
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70					70			
3	90	80	72	65	88	78	71	65	75	69	64	73	67	63	70	65	61	59					59			
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51					51			
5	76	63	54	48	74	62	54	47	60	53	47	58	52	46	56	51	46	44					44			
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	38					38			
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	47	40	36	34					34			
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	30					30			
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27					27			
10	53	40	32	27	52	39	32	27	38	31	27	37	31	26	37	31	26	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	20278	20278	20278	20278
5°	20289	20295	20350	20311
10°	20396	20418	20518	20429
15°	20545	20596	20766	20630
20°	20693	20815	21054	20868
25°	20771	20965	21340	21074
30°	20693	20997	21560	21174
35°	20418	20853	21630	21094
40°	19902	20481	21469	20810
45°	19103	19855	21095	20281
50°	18208	19078	20503	19488
55°	17079	18159	19689	18532
60°	15920	17060	18814	17575
65°	14671	15916	17888	16513
70°	13271	14746	17070	15387
75°	11777	13471	16288	14085
80°	9597	11839	15627	12786
85°	4592	8806	15347	10567



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.2	3.3
10°-20°	102.8	9.5
20°-30°	160.3	14.9
30°-40°	196.0	18.2
40°-50°	199.7	18.5
50°-60°	171.8	15.9
60°-70°	124.3	11.5
70°-80°	69.9	6.5
80°-90°	18.9	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°	298.3	27.7
0°-40°	494.4	45.8
0°-60°	865.8	80.2
0°-90°	1078.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1078.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	370	370	370	370	370	
5°	369	369	370	369	369	35
15°	362	363	366	364	362	102
25°	343	347	353	348	343	158
35°	305	312	323	315	305	190
45°	246	256	272	262	246	190
55°	179	190	206	194	179	160
65°	113	123	138	127	113	112
75°	56	64	77	66	56	59
85°	7	14	24	17	7	11
90°	0	0	4	0	0	



TEST NUMBER: P256762

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CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9
1°	369.8	369.9	369.5	369.7	369.8	370.1	370.0	370.0	369.8	369.6	369.9
2°	369.6	369.6	369.5	369.5	370.0	370.1	370.0	370.1	369.9	369.6	370.3
3°	369.5	369.4	369.3	369.1	369.6	370.1	370.0	370.0	369.8	369.4	369.8
4°	369.2	369.1	369.1	369.1	369.9	370.0	370.0	370.0	369.7	369.4	369.7
5°	368.7	368.8	368.7	368.8	369.6	369.9	369.8	369.9	369.7	369.1	369.7
6°	368.4	368.4	368.4	368.8	369.6	369.8	369.7	369.8	369.5	368.9	368.9
7°	368.1	368.0	367.9	368.4	368.9	369.6	369.5	369.5	369.4	368.4	368.6
8°	367.5	367.5	367.5	367.9	368.7	369.3	369.2	369.4	369.0	368.1	368.3
9°	367.1	367.0	366.9	367.7	367.8	369.0	369.0	369.1	368.7	367.9	367.9
10°	366.4	366.5	366.3	366.8	367.5	368.6	368.6	368.7	368.2	367.0	367.4
11°	365.8	365.7	365.7	366.3	367.1	368.0	368.2	368.3	367.8	366.7	366.3
12°	364.8	364.9	364.7	365.7	366.1	367.7	367.7	367.9	367.3	366.1	365.6
13°	363.9	364.0	364.0	365.0	365.6	367.0	367.2	367.4	366.7	365.4	365.2
14°	363.1	363.1	363.0	363.9	365.0	366.5	366.5	366.7	366.2	364.4	364.7
15°	362.0	362.0	361.9	362.9	364.2	365.7	365.9	366.1	365.4	363.5	363.3
16°	360.8	360.8	360.8	362.0	363.1	364.7	365.1	365.3	364.6	363.0	362.3
17°	359.5	359.6	359.5	360.9	361.8	363.9	364.1	364.5	363.7	361.7	361.1
18°	357.7	357.7	357.7	359.7	360.7	362.7	363.3	363.6	362.8	360.5	360.1
19°	356.5	356.3	356.4	358.2	359.6	361.7	362.1	362.4	361.6	359.4	358.7
20°	354.7	354.8	354.7	356.8	357.8	360.6	360.9	361.3	360.5	357.7	357.3
21°	352.8	352.6	352.8	354.7	356.4	359.2	359.7	359.9	359.1	356.1	355.0
22°	350.7	350.7	350.7	353.0	354.8	357.5	357.8	358.6	357.6	354.7	353.7
23°	348.4	348.4	348.5	350.9	352.6	355.8	356.4	356.8	356.0	352.7	351.4
24°	346.1	346.2	346.2	349.0	350.5	354.1	354.8	355.2	354.1	350.7	349.0
25°	343.4	343.2	343.6	346.6	348.5	351.9	352.8	353.1	352.2	348.4	346.7
26°	340.6	340.8	340.8	344.1	346.3	349.9	350.7	351.1	350.1	346.0	344.3
27°	337.3	337.5	337.7	341.4	343.5	347.6	348.4	348.9	347.9	343.2	341.5
28°	334.5	334.2	334.3	338.3	340.7	345.2	346.0	346.5	345.3	340.9	338.5
29°	330.5	330.7	331.2	335.2	337.4	342.3	343.3	343.8	342.6	337.7	335.3
30°	326.9	326.9	327.2	331.7	334.3	339.4	340.6	341.1	339.7	334.5	332.2
31°	323.1	323.2	323.8	328.3	331.1	336.3	337.4	337.9	336.3	331.1	328.4
32°	318.7	319.0	319.2	324.5	327.4	333.0	334.0	334.8	333.4	327.4	324.8
33°	314.4	314.6	315.3	320.5	323.9	329.6	330.7	331.2	329.6	323.7	320.6
34°	309.9	310.1	310.6	316.3	319.2	325.7	326.7	327.6	326.1	319.4	316.4
35°	305.1	305.3	305.7	311.6	315.4	321.9	323.2	323.7	322.0	315.2	311.9
36°	300.1	300.4	300.8	307.3	310.6	317.7	318.7	319.6	318.0	311.0	307.5
37°	295.0	295.3	295.7	301.9	305.6	313.1	314.7	314.9	313.2	306.1	302.5
38°	289.4	289.9	290.3	297.4	300.7	308.7	309.8	310.8	308.7	301.4	297.6
39°	283.9	284.3	284.9	291.5	296.0	303.4	305.0	305.5	303.9	296.0	292.2
40°	278.1	278.5	279.0	286.2	290.4	298.9	300.0	301.0	298.9	290.8	286.1
41°	272.3	272.6	273.2	280.6	284.8	293.2	294.9	295.4	293.6	285.3	281.1
42°	266.0	265.9	267.1	274.9	279.3	288.2	289.4	290.4	288.1	279.6	274.7
43°	259.9	260.3	260.9	268.8	273.0	282.0	283.9	284.3	282.6	273.8	269.0
44°	253.4	253.3	254.5	262.6	266.2	276.7	278.0	279.1	276.6	267.6	262.4



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	246.4	247.5	248.1	256.1	261.8	270.3	272.1	272.7	270.8	261.6	256.1
46°	240.4	240.3	241.0	249.9	254.2	264.7	265.9	266.5	264.7	254.6	249.8
47°	233.2	234.5	235.0	243.4	248.1	258.0	259.9	260.3	258.5	249.1	243.1
48°	227.1	227.0	227.7	237.0	241.6	251.6	253.5	254.0	252.0	241.6	236.7
49°	219.7	220.3	221.6	230.3	235.3	245.1	246.9	247.5	245.5	235.9	230.1
50°	213.5	213.8	214.1	223.7	228.5	238.5	240.4	241.0	238.9	228.5	223.5
51°	206.0	206.8	208.0	216.9	221.6	232.0	233.8	234.3	232.3	222.7	216.6
52°	200.0	200.2	197.1	210.2	215.0	225.4	227.0	227.7	225.7	215.3	209.8
53°	192.4	193.3	192.6	203.5	208.0	218.5	220.3	220.9	218.8	208.4	202.9
54°	185.6	186.4	185.8	196.9	197.2	211.8	213.5	214.1	211.5	197.0	196.1
55°	178.7	179.7	178.9	190.0	193.4	205.0	206.0	207.4	204.5	193.9	189.4
56°	171.9	172.8	172.1	182.6	186.5	198.3	197.0	197.1	197.8	187.1	181.9
57°	165.0	165.9	165.4	176.4	179.4	191.6	191.4	192.7	191.5	180.4	175.7
58°	158.5	159.3	158.7	169.0	172.8	184.8	185.2	186.0	184.1	173.6	168.2
59°	151.8	152.5	152.0	163.1	166.5	178.0	177.7	179.1	177.3	167.0	162.3
60°	145.2	145.3	145.5	155.6	159.8	171.2	171.6	171.8	170.5	160.3	154.9
61°	138.6	139.3	139.0	149.4	152.5	164.4	164.3	165.5	163.8	153.4	148.9
62°	132.0	132.0	132.4	142.1	146.0	157.7	157.6	158.2	157.0	146.8	141.7
63°	125.7	126.2	126.1	136.3	140.0	151.1	151.0	152.2	150.4	140.3	135.3
64°	119.3	119.2	119.7	129.1	133.1	143.7	144.4	144.8	143.6	133.7	128.8
65°	113.1	113.6	113.5	122.7	127.1	137.8	137.9	138.9	137.1	127.3	122.5
66°	106.9	106.6	107.4	116.2	120.7	130.6	131.4	131.7	130.5	120.8	116.2
67°	100.9	100.7	101.4	110.1	114.5	124.3	125.1	125.9	124.1	114.6	110.0
68°	95.0	94.6	95.3	104.0	108.3	117.9	118.8	118.9	117.8	108.3	103.9
69°	89.2	88.9	89.1	98.0	101.9	111.6	112.6	113.2	111.6	102.2	98.0
70°	82.8	82.9	83.8	92.0	95.9	105.3	106.5	106.3	105.4	96.0	91.8
71°	77.7	77.4	77.7	86.2	90.0	99.3	100.4	100.3	99.5	89.5	86.1
72°	71.6	71.8	72.7	80.3	84.1	93.2	94.4	94.2	93.0	84.1	80.1
73°	66.2	66.7	66.9	74.6	78.3	87.3	88.4	88.4	87.7	77.8	74.5
74°	60.8	61.4	62.1	68.5	72.5	81.4	82.6	82.6	81.4	72.5	68.8
75°	55.6	56.2	56.5	63.6	66.9	75.6	76.9	77.0	76.3	66.5	63.3
76°	50.6	51.3	51.9	58.2	61.3	70.0	71.3	71.4	70.3	61.1	57.8
77°	44.8	47.2	46.6	52.9	55.9	64.6	65.9	66.0	65.4	55.8	52.5
78°	40.0	40.9	41.8	50.3	50.6	59.2	60.5	60.6	59.5	50.6	50.1
79°	35.1	36.1	37.1	42.4	45.2	53.9	54.7	55.3	54.4	45.5	41.3
80°	30.4	31.5	32.5	37.5	40.3	50.0	49.5	50.2	50.2	40.5	36.2
81°	25.8	26.7	28.3	32.3	35.5	42.2	44.6	45.3	43.6	35.8	30.9
82°	20.8	22.3	23.7	27.8	30.4	36.8	39.3	40.2	38.8	30.7	26.2
83°	16.4	18.1	19.2	23.2	25.4	31.6	34.2	35.1	33.7	25.9	21.4
84°	11.6	13.6	15.2	18.3	20.7	26.3	29.0	30.5	29.1	21.3	16.5
85°	7.3	9.5	11.2	14.0	16.2	21.4	24.4	25.9	24.5	16.8	11.7
86°	3.8	5.8	7.3	10.0	11.3	16.7	19.5	21.0	19.8	12.3	7.8
87°	1.1	2.1	3.4	6.8	7.9	12.2	15.0	16.9	15.5	8.6	4.5
88°	0.0	0.0	0.0	3.6	4.6	8.6	11.0	12.2	11.3	4.9	2.1
89°	0.0	0.0	0.0	0.3	2.0	5.0	6.8	7.9	7.1	2.0	0.1



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	0.0	0.0	0.0	0.0	0.3	2.1	3.8	4.7	3.1	0.3	0.0



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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	369.9	369.9
1°	369.9	369.8
2°	369.8	369.6
3°	369.4	369.5
4°	369.3	369.2
5°	369.1	368.7
6°	368.6	368.4
7°	368.2	368.1
8°	367.7	367.5
9°	367.1	367.1
10°	366.6	366.4
11°	365.8	365.8
12°	365.2	364.8
13°	364.3	363.9
14°	363.3	363.1
15°	362.1	362.0
16°	360.9	360.8
17°	359.6	359.5
18°	358.0	357.7
19°	356.7	356.5
20°	354.7	354.7
21°	353.0	352.8
22°	350.7	350.7
23°	348.6	348.4
24°	346.2	346.1
25°	343.4	343.4
26°	340.8	340.6
27°	337.9	337.3
28°	334.4	334.5
29°	330.9	330.5
30°	327.4	326.9
31°	323.5	323.1
32°	319.3	318.7
33°	315.2	314.4
34°	310.5	309.9
35°	305.8	305.1
36°	300.4	300.1
37°	295.7	295.0
38°	289.9	289.4
39°	284.8	283.9
40°	278.5	278.1
41°	273.3	272.3
42°	266.6	266.0
43°	260.8	259.9
44°	254.0	253.4



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CANDELA DISTRIBUTION (continued):

	330°	360°
45°	247.6	246.4
46°	240.9	240.4
47°	234.4	233.2
48°	227.8	227.1
49°	221.1	219.7
50°	214.4	213.5
51°	207.6	206.0
52°	196.8	200.0
53°	193.0	192.4
54°	186.3	185.6
55°	179.4	178.7
56°	172.7	171.9
57°	165.9	165.0
58°	159.3	158.5
59°	152.7	151.8
60°	146.0	145.2
61°	138.9	138.6
62°	132.8	132.0
63°	125.9	125.7
64°	120.0	119.3
65°	113.2	113.1
66°	107.6	106.9
67°	101.0	100.9
68°	94.9	95.0
69°	89.1	89.2
70°	83.2	82.8
71°	77.6	77.7
72°	72.0	71.6
73°	66.6	66.2
74°	61.3	60.8
75°	56.0	55.6
76°	50.9	50.6
77°	45.7	44.8
78°	40.7	40.0
79°	35.7	35.1
80°	30.7	30.4
81°	25.8	25.8
82°	21.3	20.8
83°	16.7	16.4
84°	12.4	11.6
85°	8.0	7.3
86°	4.0	3.8
87°	1.4	1.1
88°	0.0	0.0
89°	0.0	0.0



TEST NUMBER: P256762

CATALOG NUMBER: HLB6099FS1EMW-3500K

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	0.0	0.0

(END OF REPORT)