

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: P642311

Luminaire Tested: ML5612LSWW97FS1E - 692H WW - 1200LM - 2700K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642311
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-132)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 692H WW - 1200LM - 2700K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 855.6 lumens
Efficiency: N/A
Efficacy: 51.9 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.12 / 1.23
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

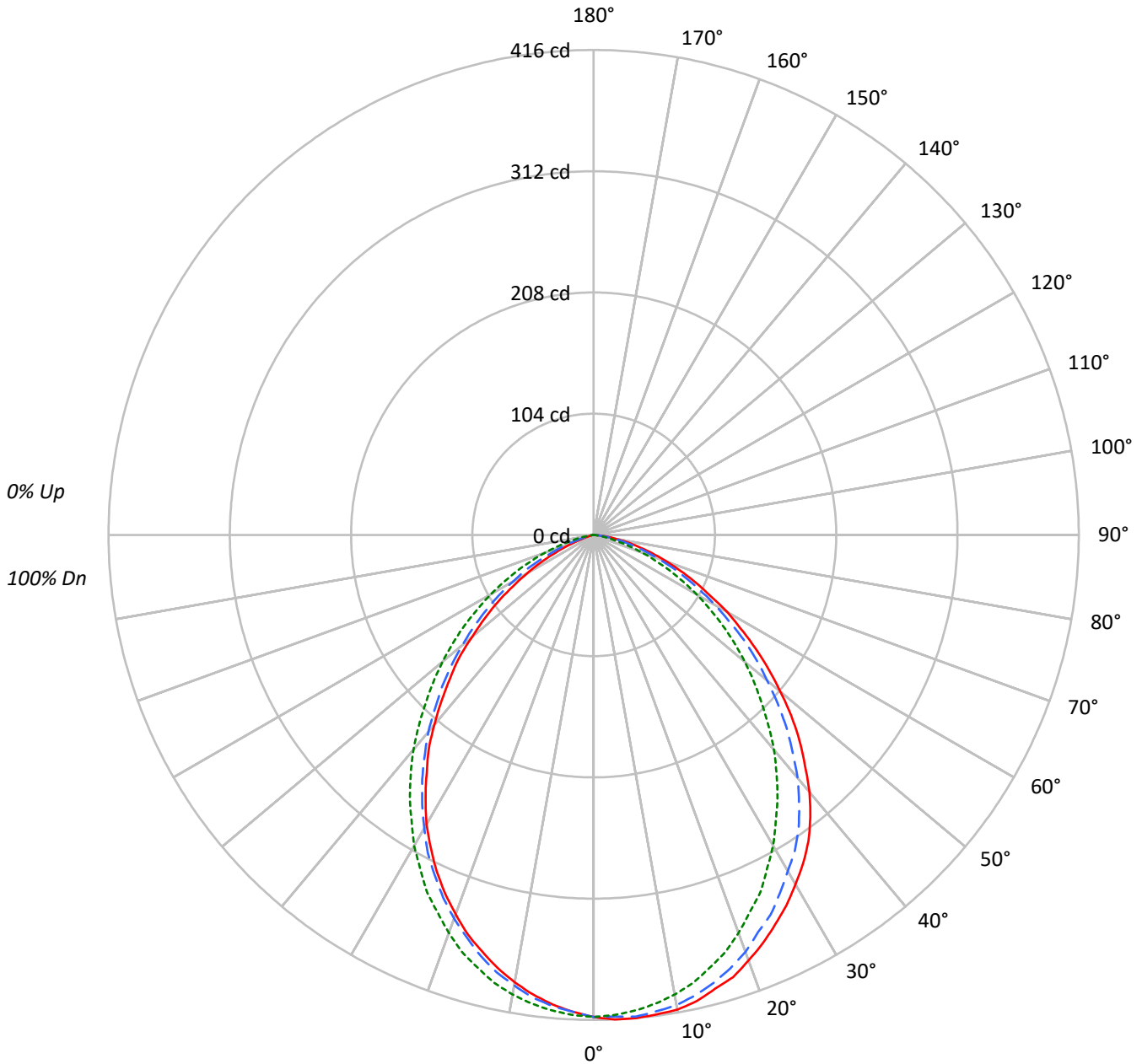
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88					88			
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78	76					76			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	68	62	85	75	67	62	72	66	61	70	65	60	68	63	59	57					57			
5	80	69	60	54	78	68	60	54	66	59	54	64	58	53	62	57	53	51					51			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40					40			
8	65	52	44	39	63	52	44	39	50	43	38	49	43	38	48	42	38	36					36			
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33					33			
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	22668	22668	22668	22668	22668
5°	22898	22826	22535	22320	22248
10°	23018	22795	22283	21843	21693
15°	22866	22571	21816	21220	20993
20°	22659	22198	21194	20424	20191
25°	22296	21733	20457	19495	19259
30°	21908	21073	19484	18395	18148
35°	21482	20512	18390	17152	16711
40°	20610	19472	17204	15787	15221
45°	19359	18126	15769	14234	13521
50°	17799	16562	14422	12503	11607
55°	16162	15025	12884	10733	9596
60°	14483	13179	11150	8694	7247
65°	12505	11311	9249	6512	4631
70°	10595	9312	6988	4023	2116
75°	8684	7265	4469	1398	847
80°	6251	5020	2084	410	410
85°	3334	2516	818	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19359 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	4.5
10°-20°	108.6	12.7
20°-30°	156.5	18.3
30°-40°	174.9	20.4
40°-50°	160.4	18.7
50°-60°	120.5	14.1
60°-70°	68.8	8.0
70°-80°	24.0	2.8
80°-90°	3.1	0.4
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°	303.9	35.5
0°-40°	478.8	56.0
0°-60°	759.7	88.8
0°-90°	855.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	855.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	414	414	414	414	414	
5°	416	415	410	406	404	40
15°	403	398	384	374	370	114
25°	369	359	338	322	318	170
35°	321	306	275	256	250	200
45°	250	234	203	184	174	192
55°	169	157	135	112	100	151
65°	96	87	71	50	36	96
75°	41	34	21	7	4	44
85°	5	4	1	0	0	8
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5
2.5°	416.1	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	413.5
5°	416.1	416.1	416.1	416.1	416.1	416.1	416.1	414.8	414.8	414.8	414.8
7.5°	414.8	414.8	414.8	414.8	414.8	414.8	414.8	413.5	413.5	412.2	412.2
10°	413.5	413.5	413.5	412.2	412.2	412.2	412.2	412.2	410.9	410.9	409.5
12.5°	409.5	409.5	409.5	409.5	408.2	408.2	408.2	406.9	405.6	405.6	404.3
15°	402.9	404.3	404.3	402.9	402.9	402.9	402.9	401.6	400.3	399.0	397.7
17.5°	397.7	397.7	397.7	396.3	395.0	396.3	395.0	393.7	392.4	391.0	389.7
20°	388.4	388.4	387.1	387.1	387.1	387.1	385.8	384.4	383.1	381.8	380.5
22.5°	379.2	379.2	379.2	376.5	376.5	376.5	375.2	375.2	372.6	371.2	368.6
25°	368.6	368.6	368.6	367.3	365.9	364.6	365.9	363.3	362.0	359.3	359.3
27.5°	358.0	358.0	356.7	356.7	355.4	355.4	354.1	351.4	350.1	348.8	346.1
30°	346.1	346.1	344.8	344.8	343.5	342.2	342.2	339.5	338.2	335.6	332.9
32.5°	334.2	334.2	332.9	332.9	331.6	330.3	330.3	327.6	325.0	322.3	321.0
35°	321.0	321.0	319.7	319.7	318.4	317.1	315.7	313.1	311.8	307.8	306.5
37.5°	305.2	306.5	303.9	303.9	302.5	301.2	299.9	298.6	295.9	293.3	289.3
40°	288.0	286.7	286.7	285.4	284.0	284.0	282.7	280.1	278.8	274.8	272.1
42.5°	268.2	268.2	268.2	266.9	265.5	265.5	262.9	261.6	258.9	256.3	252.3
45°	249.7	249.7	248.4	248.4	245.7	245.7	244.4	241.8	240.4	236.5	233.8
47.5°	229.9	228.6	228.6	227.2	225.9	225.9	224.6	223.3	220.6	216.7	214.0
50°	208.7	208.7	208.7	207.4	206.1	206.1	204.8	202.1	200.8	198.2	194.2
52.5°	188.9	188.9	188.9	187.6	186.3	186.3	185.0	183.6	181.0	178.3	175.7
55°	169.1	169.1	169.1	167.8	167.8	165.1	165.1	163.8	161.2	158.5	157.2
57.5°	149.3	149.3	149.3	149.3	148.0	148.0	146.6	145.3	142.7	141.4	137.4
60°	132.1	130.8	130.8	129.5	129.5	128.1	126.8	125.5	124.2	121.5	120.2
62.5°	112.3	113.6	112.3	112.3	111.0	111.0	111.0	108.3	107.0	104.4	103.0
65°	96.4	96.4	96.4	96.4	93.8	93.8	93.8	91.2	89.8	89.8	87.2
67.5°	80.6	80.6	80.6	79.3	79.3	79.3	77.9	76.6	75.3	74.0	72.7
70°	66.1	66.1	66.1	64.7	64.7	63.4	63.4	62.1	60.8	60.8	58.1
72.5°	52.8	52.8	52.8	52.8	51.5	51.5	50.2	50.2	48.9	47.6	46.2
75°	41.0	41.0	41.0	39.6	39.6	39.6	38.3	38.3	37.0	35.7	34.3
77.5°	30.4	29.1	29.1	29.1	29.1	27.7	27.7	27.7	26.4	25.1	25.1
80°	19.8	19.8	19.8	19.8	19.8	18.5	18.5	18.5	17.2	17.2	15.9
82.5°	11.9	11.9	11.9	11.9	11.9	10.6	10.6	10.6	9.2	9.2	9.2
85°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.0	4.0	4.0
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5
2.5°	414.8	414.8	413.5	413.5	413.5	413.5	413.5	412.2	412.2	412.2	412.2
5°	414.8	413.5	412.2	412.2	412.2	412.2	410.9	410.9	410.9	409.5	409.5
7.5°	410.9	410.9	410.9	409.5	409.5	408.2	408.2	406.9	406.9	405.6	405.6
10°	408.2	406.9	406.9	405.6	405.6	404.3	404.3	401.6	400.3	400.3	399.0
12.5°	402.9	401.6	401.6	399.0	399.0	399.0	397.7	395.0	393.7	393.7	392.4
15°	396.3	395.0	393.7	391.0	391.0	389.7	388.4	387.1	385.8	384.4	383.1
17.5°	388.4	385.8	384.4	383.1	381.8	380.5	379.2	377.8	375.2	375.2	372.6
20°	379.2	376.5	375.2	372.6	371.2	371.2	368.6	365.9	364.6	363.3	360.7
22.5°	367.3	365.9	363.3	360.7	359.3	359.3	356.7	354.1	352.7	350.1	348.8
25°	356.7	352.7	351.4	348.8	347.4	347.4	344.8	342.2	339.5	338.2	335.6
27.5°	343.5	340.8	339.5	335.6	334.2	332.9	330.3	327.6	325.0	322.3	319.7
30°	330.3	327.6	325.0	321.0	321.0	318.4	315.7	311.8	310.5	307.8	303.9
32.5°	317.1	314.4	310.5	307.8	305.2	303.9	299.9	297.2	294.6	290.6	289.3
35°	302.5	298.6	295.9	292.0	290.6	288.0	285.4	281.4	278.8	274.8	270.8
37.5°	286.7	281.4	278.8	274.8	273.5	270.8	268.2	265.5	261.6	257.6	255.0
40°	269.5	264.2	260.3	257.6	255.0	252.3	251.0	245.7	243.1	240.4	237.8
42.5°	249.7	245.7	241.8	239.1	236.5	235.2	231.2	228.6	224.6	221.9	219.3
45°	231.2	227.2	223.3	219.3	218.0	216.7	214.0	210.1	206.1	203.4	200.8
47.5°	211.4	208.7	203.4	202.1	199.5	198.2	194.2	191.6	190.2	186.3	183.6
50°	191.6	188.9	186.3	182.3	181.0	179.7	177.0	174.4	171.7	169.1	166.5
52.5°	171.7	170.4	167.8	163.8	163.8	162.5	159.9	157.2	154.6	151.9	149.3
55°	154.6	151.9	149.3	146.6	145.3	144.0	141.4	140.0	137.4	134.8	132.1
57.5°	136.1	133.4	132.1	129.5	128.1	126.8	124.2	122.9	120.2	117.6	114.9
60°	118.9	116.3	114.9	112.3	111.0	111.0	108.3	105.7	104.4	101.7	99.1
62.5°	101.7	99.1	97.8	95.1	95.1	93.8	92.5	89.8	88.5	85.9	84.6
65°	85.9	84.6	81.9	80.6	79.3	77.9	76.6	75.3	72.7	71.3	68.7
67.5°	71.3	68.7	67.4	66.1	64.7	63.4	62.1	60.8	58.1	56.8	54.2
70°	56.8	55.5	54.2	52.8	51.5	51.5	48.9	47.6	44.9	43.6	41.0
72.5°	44.9	43.6	42.3	39.6	39.6	38.3	37.0	35.7	33.0	31.7	29.1
75°	33.0	33.0	30.4	29.1	29.1	27.7	26.4	25.1	23.8	21.1	19.8
77.5°	23.8	22.5	21.1	19.8	18.5	18.5	17.2	15.9	14.5	13.2	10.6
80°	15.9	14.5	13.2	11.9	11.9	10.6	9.2	9.2	7.9	6.6	5.3
82.5°	7.9	7.9	6.6	6.6	5.3	5.3	5.3	4.0	4.0	2.6	2.6
85°	4.0	2.6	2.6	2.6	2.6	2.6	1.3	1.3	1.3	1.3	0.0
87.5°	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5
2.5°	412.2	410.9	412.2	412.2	410.9	410.9	410.9	410.9	409.5	410.9	409.5
5°	409.5	408.2	408.2	408.2	408.2	406.9	406.9	405.6	405.6	405.6	405.6
7.5°	404.3	402.9	402.9	401.6	401.6	401.6	401.6	400.3	400.3	399.0	399.0
10°	399.0	397.7	396.3	396.3	395.0	395.0	395.0	393.7	392.4	392.4	391.0
12.5°	389.7	389.7	388.4	388.4	387.1	387.1	385.8	384.4	384.4	383.1	383.1
15°	381.8	380.5	379.2	379.2	377.8	376.5	375.2	375.2	373.9	373.9	372.6
17.5°	371.2	368.6	368.6	367.3	365.9	365.9	364.6	363.3	362.0	362.0	362.0
20°	359.3	358.0	356.7	355.4	354.1	354.1	352.7	351.4	350.1	348.8	348.8
22.5°	346.1	344.8	343.5	342.2	342.2	340.8	339.5	338.2	336.9	335.6	335.6
25°	332.9	331.6	330.3	329.0	327.6	326.3	325.0	323.7	322.3	321.0	321.0
27.5°	318.4	315.7	314.4	313.1	311.8	310.5	310.5	307.8	307.8	306.5	305.2
30°	302.5	299.9	297.2	297.2	295.9	294.6	292.0	292.0	290.6	289.3	288.0
32.5°	285.4	284.0	281.4	281.4	278.8	277.4	276.1	274.8	273.5	272.1	272.1
35°	269.5	265.5	264.2	264.2	261.6	260.3	258.9	256.3	256.3	253.7	253.7
37.5°	252.3	249.7	248.4	245.7	244.4	243.1	241.8	239.1	237.8	236.5	235.2
40°	235.2	232.5	229.9	228.6	227.2	224.6	223.3	220.6	220.6	218.0	216.7
42.5°	216.7	214.0	211.4	210.1	208.7	206.1	204.8	202.1	200.8	199.5	198.2
45°	198.2	195.5	194.2	192.9	191.6	190.2	186.3	185.0	183.6	181.0	179.7
47.5°	181.0	178.3	175.7	175.7	173.1	171.7	169.1	166.5	165.1	162.5	161.2
50°	163.8	161.2	158.5	157.2	157.2	153.2	151.9	149.3	146.6	144.0	142.7
52.5°	146.6	144.0	141.4	140.0	138.7	136.1	133.4	132.1	129.5	126.8	125.5
55°	129.5	126.8	124.2	122.9	121.5	118.9	117.6	113.6	112.3	109.7	107.0
57.5°	113.6	111.0	108.3	107.0	105.7	103.0	100.4	97.8	96.4	93.8	91.2
60°	96.4	95.1	92.5	91.2	89.8	88.5	84.6	81.9	79.3	77.9	75.3
62.5°	81.9	79.3	76.6	75.3	74.0	72.7	70.0	67.4	66.1	62.1	59.4
65°	67.4	64.7	62.1	60.8	59.4	58.1	55.5	52.8	50.2	47.6	46.2
67.5°	51.5	50.2	47.6	47.6	46.2	43.6	41.0	39.6	37.0	35.7	33.0
70°	39.6	38.3	35.7	34.3	33.0	30.4	29.1	26.4	25.1	23.8	21.1
72.5°	27.7	26.4	23.8	22.5	21.1	19.8	17.2	15.9	14.5	13.2	11.9
75°	18.5	15.9	14.5	13.2	13.2	10.6	9.2	7.9	6.6	5.3	5.3
77.5°	10.6	9.2	6.6	6.6	6.6	5.3	4.0	4.0	2.6	2.6	2.6
80°	5.3	4.0	2.6	2.6	2.6	2.6	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
85°	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P642311

CATALOG NUMBER: ML5612LSWW97FS1E - 692H WW - 1200LM - 2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	413.5	413.5	413.5	413.5	413.5	413.5	413.5	413.5
2.5°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5
5°	405.6	404.3	404.3	404.3	404.3	404.3	404.3	404.3
7.5°	399.0	399.0	397.7	399.0	397.7	397.7	397.7	397.7
10°	391.0	391.0	391.0	391.0	389.7	389.7	389.7	389.7
12.5°	383.1	381.8	381.8	381.8	380.5	381.8	380.5	380.5
15°	372.6	371.2	371.2	371.2	371.2	369.9	371.2	369.9
17.5°	360.7	360.7	359.3	360.7	359.3	359.3	359.3	359.3
20°	347.4	347.4	347.4	346.1	347.4	346.1	346.1	346.1
22.5°	334.2	334.2	332.9	332.9	332.9	332.9	332.9	332.9
25°	319.7	319.7	319.7	319.7	318.4	318.4	318.4	318.4
27.5°	305.2	303.9	303.9	303.9	302.5	303.9	302.5	302.5
30°	288.0	288.0	286.7	286.7	286.7	285.4	285.4	286.7
32.5°	269.5	269.5	269.5	269.5	268.2	268.2	268.2	268.2
35°	252.3	252.3	251.0	251.0	251.0	249.7	249.7	249.7
37.5°	233.8	233.8	232.5	232.5	232.5	231.2	231.2	232.5
40°	215.3	215.3	214.0	214.0	214.0	212.7	212.7	212.7
42.5°	196.8	195.5	195.5	194.2	194.2	194.2	192.9	192.9
45°	178.3	177.0	177.0	177.0	175.7	174.4	174.4	174.4
47.5°	159.9	158.5	157.2	157.2	155.9	155.9	155.9	157.2
50°	141.4	140.0	140.0	138.7	137.4	137.4	137.4	136.1
52.5°	122.9	121.5	121.5	120.2	120.2	118.9	117.6	117.6
55°	105.7	104.4	103.0	101.7	101.7	100.4	100.4	100.4
57.5°	88.5	87.2	85.9	85.9	84.6	84.6	83.2	81.9
60°	72.7	71.3	70.0	70.0	68.7	67.4	66.1	66.1
62.5°	58.1	56.8	55.5	54.2	52.8	51.5	50.2	51.5
65°	44.9	42.3	41.0	39.6	39.6	38.3	37.0	35.7
67.5°	31.7	30.4	29.1	27.7	26.4	25.1	23.8	23.8
70°	19.8	17.2	17.2	17.2	15.9	14.5	13.2	13.2
72.5°	10.6	9.2	7.9	7.9	6.6	6.6	6.6	6.6
75°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



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— 0°-180° - - 45°-225° - - - - 90°-270°

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