

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: P642269

Luminaire Tested: ML5612LSWW97FS1E - 592H WW - 1200LM - 4000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642269
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-130)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592H WW - 1200LM - 4000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 951.6 lumens
Efficiency: N/A
Efficacy: 57.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.25
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

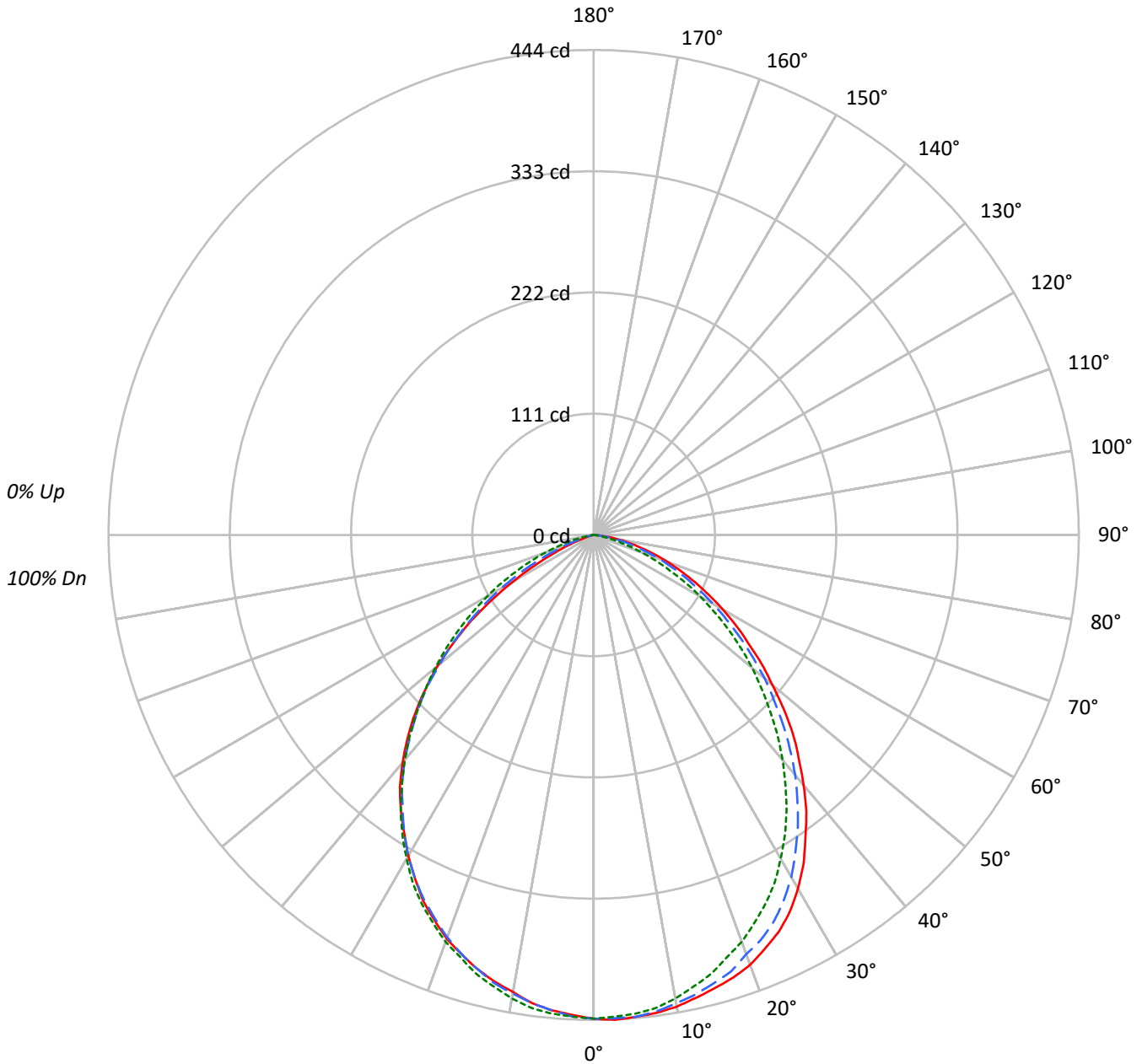
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	105	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	87	83	79	84	81	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	67	60	54	65	59	54	64	58	53	62	57	52	50				50				
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45				45				
7	69	57	49	43	68	56	48	43	54	48	42	53	47	42	52	46	42	40				40				
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30				30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	34963	34963	34963	34963	34963
5°	35096	35096	34859	34621	34621
10°	35142	34901	34540	34180	34059
15°	35093	34725	33990	33622	33622
20°	35191	34309	33300	32922	33048
25°	34919	34004	32437	32045	32175
30°	34082	32979	31202	30928	30928
35°	32553	31397	29662	29373	29662
40°	30791	29555	27700	27700	28009
45°	28825	27318	25476	25476	25811
50°	26183	25078	23236	22499	22867
55°	23769	22530	20658	19213	18800
60°	21567	19909	17777	15409	13278
65°	19071	17390	14308	10666	7845
70°	16641	14564	10733	5886	3116
75°	13268	11438	6863	1830	915
80°	10229	7501	2728	682	682
85°	5434	4076	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 28825 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.7	4.4
10°-20°	117.9	12.4
20°-30°	173.9	18.3
30°-40°	196.9	20.7
40°-50°	181.9	19.1
50°-60°	135.9	14.3
60°-70°	75.1	7.9
70°-80°	25.3	2.7
80°-90°	3.2	0.3
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°	333.5	35.0
0°-40°	530.4	55.7
0°-60°	848.1	89.1
0°-90°	951.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	951.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	443	443	443	443	443	
5°	443	443	440	437	437	42
15°	429	425	416	411	411	121
25°	401	390	372	368	369	184
35°	338	326	308	305	308	211
45°	258	245	228	228	231	198
55°	173	164	150	140	137	155
65°	102	93	77	57	42	101
75°	44	38	22	6	3	48
85°	6	4	0	0	0	9
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°	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9
2.5°	444.4	444.4	444.4	444.4	442.9	442.9	444.4	442.9	442.9	442.9	442.9
5°	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9
7.5°	441.4	441.4	441.4	441.4	441.4	441.4	441.4	441.4	439.9	439.9	439.9
10°	438.4	438.4	438.4	438.4	438.4	438.4	438.4	436.9	436.9	436.9	435.4
12.5°	433.9	435.4	433.9	435.4	433.9	433.9	432.4	432.4	432.4	430.9	430.9
15°	429.4	429.4	429.4	429.4	429.4	427.9	427.9	426.4	426.4	426.4	424.9
17.5°	424.9	423.4	423.4	423.4	421.9	421.9	421.9	421.9	420.4	418.9	418.9
20°	418.9	417.4	417.4	417.4	415.9	415.9	414.4	414.4	411.4	411.4	408.4
22.5°	409.9	409.9	409.9	408.4	408.4	406.9	406.9	405.4	403.9	402.4	400.9
25°	400.9	400.9	399.4	399.4	397.9	397.9	397.9	394.9	393.4	391.9	390.4
27.5°	388.9	388.9	387.4	387.4	385.9	384.4	384.4	381.4	381.4	378.4	376.9
30°	373.9	373.9	373.9	370.9	370.9	370.9	369.4	367.9	364.8	363.3	361.8
32.5°	357.3	355.8	355.8	355.8	354.3	352.8	352.8	349.8	348.3	346.8	343.8
35°	337.8	337.8	337.8	337.8	336.3	334.8	334.8	331.8	330.3	327.3	325.8
37.5°	319.8	319.8	318.3	318.3	315.3	316.8	315.3	313.8	312.3	307.8	306.3
40°	298.8	298.8	298.8	297.3	295.8	295.8	294.3	292.8	289.8	288.3	286.8
42.5°	277.8	277.8	277.8	276.3	274.8	274.8	274.8	271.8	270.3	268.8	265.8
45°	258.2	256.7	256.7	255.2	255.2	253.7	252.2	250.7	249.2	247.7	244.7
47.5°	235.7	235.7	234.2	234.2	232.7	232.7	231.2	229.7	228.2	226.7	223.7
50°	213.2	214.7	214.7	213.2	213.2	211.7	210.2	210.2	208.7	207.2	204.2
52.5°	193.7	193.7	193.7	192.2	192.2	190.7	190.7	189.2	187.7	184.7	183.2
55°	172.7	174.2	172.7	172.7	172.7	171.2	171.2	169.7	168.2	165.2	163.7
57.5°	154.6	154.6	153.1	153.1	151.6	151.6	151.6	150.1	148.6	147.1	144.1
60°	136.6	135.1	135.1	135.1	133.6	133.6	133.6	130.6	129.1	127.6	126.1
62.5°	118.6	118.6	118.6	117.1	117.1	115.6	114.1	114.1	112.6	111.1	108.1
65°	102.1	102.1	100.6	100.6	100.6	99.1	99.1	97.6	96.1	94.6	93.1
67.5°	85.6	85.6	85.6	84.1	84.1	84.1	82.6	81.1	81.1	79.6	78.1
70°	72.1	70.6	70.6	70.6	69.1	69.1	69.1	67.6	66.1	64.6	63.1
72.5°	57.1	57.1	57.1	57.1	55.6	55.6	54.1	54.1	52.6	51.0	49.5
75°	43.5	43.5	43.5	43.5	42.0	42.0	42.0	40.5	40.5	39.0	37.5
77.5°	33.0	33.0	33.0	31.5	31.5	30.0	30.0	30.0	28.5	28.5	27.0
80°	22.5	22.5	21.0	21.0	21.0	21.0	21.0	19.5	18.0	18.0	16.5
82.5°	13.5	13.5	13.5	12.0	12.0	12.0	12.0	12.0	10.5	10.5	9.0
85°	6.0	6.0	6.0	6.0	6.0	6.0	4.5	4.5	4.5	4.5	4.5
87.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9
2.5°	442.9	442.9	442.9	442.9	442.9	442.9	442.9	441.4	441.4	441.4	441.4
5°	441.4	441.4	441.4	441.4	441.4	439.9	441.4	439.9	439.9	439.9	439.9
7.5°	438.4	438.4	438.4	438.4	436.9	438.4	436.9	436.9	436.9	436.9	435.4
10°	435.4	433.9	433.9	433.9	433.9	432.4	432.4	430.9	430.9	430.9	429.4
12.5°	430.9	429.4	429.4	427.9	427.9	427.9	426.4	426.4	424.9	423.4	423.4
15°	423.4	423.4	421.9	420.4	420.4	418.9	418.9	417.4	417.4	415.9	414.4
17.5°	417.4	415.9	414.4	412.9	411.4	411.4	409.9	408.4	408.4	405.4	405.4
20°	406.9	405.4	403.9	402.4	402.4	402.4	399.4	399.4	397.9	396.4	394.9
22.5°	397.9	396.4	393.4	391.9	391.9	390.4	388.9	387.4	385.9	384.4	382.9
25°	387.4	385.9	382.9	381.4	379.9	378.4	376.9	375.4	373.9	372.4	370.9
27.5°	373.9	370.9	370.9	367.9	366.3	364.8	363.3	361.8	360.3	358.8	357.3
30°	358.8	357.3	354.3	351.3	349.8	349.8	346.8	345.3	345.3	342.3	340.8
32.5°	342.3	339.3	336.3	334.8	333.3	331.8	330.3	328.8	327.3	325.8	324.3
35°	324.3	319.8	318.3	315.3	315.3	313.8	312.3	309.3	309.3	307.8	304.8
37.5°	304.8	301.8	300.3	297.3	295.8	294.3	292.8	291.3	289.8	288.3	286.8
40°	283.8	280.8	279.3	277.8	276.3	274.8	273.3	271.8	270.3	268.8	267.3
42.5°	262.8	261.2	258.2	255.2	255.2	253.7	252.2	250.7	249.2	249.2	247.7
45°	241.7	240.2	237.2	235.7	234.2	234.2	231.2	231.2	229.7	228.2	228.2
47.5°	222.2	219.2	216.2	216.2	213.2	214.7	211.7	211.7	208.7	208.7	207.2
50°	201.2	199.7	196.7	195.2	195.2	193.7	192.2	192.2	190.7	189.2	187.7
52.5°	181.7	178.7	177.2	175.7	174.2	174.2	172.7	172.7	169.7	169.7	168.2
55°	162.2	160.7	157.7	156.1	156.1	156.1	153.1	151.6	151.6	150.1	148.6
57.5°	142.6	141.1	139.6	138.1	136.6	136.6	135.1	133.6	132.1	130.6	127.6
60°	124.6	123.1	121.6	120.1	118.6	118.6	117.1	115.6	114.1	112.6	111.1
62.5°	106.6	106.6	103.6	102.1	100.6	100.6	99.1	97.6	96.1	94.6	93.1
65°	91.6	90.1	87.1	85.6	85.6	85.6	82.6	81.1	79.6	76.6	75.1
67.5°	76.6	73.6	72.1	72.1	70.6	69.1	67.6	66.1	63.1	61.6	58.6
70°	61.6	60.1	58.6	57.1	55.6	54.1	52.6	51.0	48.0	46.5	45.0
72.5°	48.0	46.5	45.0	43.5	42.0	42.0	39.0	37.5	36.0	33.0	31.5
75°	36.0	34.5	33.0	31.5	30.0	28.5	28.5	25.5	24.0	22.5	19.5
77.5°	25.5	24.0	22.5	21.0	21.0	19.5	18.0	16.5	15.0	13.5	12.0
80°	16.5	15.0	13.5	13.5	12.0	12.0	10.5	9.0	7.5	6.0	6.0
82.5°	9.0	7.5	7.5	6.0	6.0	6.0	4.5	3.0	3.0	3.0	1.5
85°	3.0	3.0	3.0	1.5	1.5	1.5	1.5	1.5	1.5	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9
2.5°	441.4	441.4	441.4	441.4	441.4	441.4	441.4	441.4	441.4	439.9	439.9
5°	438.4	438.4	438.4	438.4	438.4	438.4	436.9	436.9	436.9	436.9	436.9
7.5°	435.4	435.4	435.4	433.9	433.9	433.9	433.9	432.4	432.4	432.4	432.4
10°	429.4	429.4	429.4	427.9	427.9	427.9	427.9	427.9	426.4	426.4	426.4
12.5°	421.9	421.9	421.9	421.9	421.9	420.4	420.4	420.4	420.4	418.9	420.4
15°	414.4	414.4	412.9	412.9	412.9	411.4	411.4	411.4	411.4	411.4	411.4
17.5°	405.4	403.9	403.9	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4
20°	394.9	393.4	393.4	393.4	393.4	391.9	391.9	390.4	391.9	391.9	391.9
22.5°	382.9	381.4	381.4	381.4	379.9	379.9	379.9	379.9	379.9	379.9	379.9
25°	370.9	369.4	367.9	367.9	367.9	366.3	366.3	367.9	367.9	367.9	367.9
27.5°	355.8	355.8	354.3	354.3	354.3	352.8	352.8	352.8	354.3	354.3	354.3
30°	339.3	339.3	339.3	339.3	337.8	337.8	339.3	337.8	339.3	337.8	339.3
32.5°	324.3	324.3	322.8	321.3	321.3	322.8	321.3	321.3	322.8	322.8	322.8
35°	304.8	304.8	304.8	304.8	304.8	304.8	304.8	304.8	304.8	306.3	307.8
37.5°	286.8	286.8	286.8	286.8	286.8	286.8	286.8	288.3	288.3	288.3	288.3
40°	267.3	267.3	267.3	267.3	267.3	267.3	267.3	267.3	268.8	268.8	270.3
42.5°	246.2	247.7	247.7	247.7	246.2	246.2	247.7	247.7	247.7	249.2	249.2
45°	226.7	226.7	226.7	226.7	228.2	226.7	226.7	226.7	228.2	228.2	228.2
47.5°	207.2	205.7	205.7	207.2	205.7	205.7	205.7	205.7	207.2	207.2	205.7
50°	187.7	186.2	186.2	186.2	184.7	184.7	186.2	183.2	183.2	183.2	184.7
52.5°	168.2	166.7	165.2	165.2	165.2	163.7	162.2	162.2	162.2	160.7	160.7
55°	147.1	145.6	144.1	144.1	144.1	142.6	142.6	139.6	139.6	138.1	138.1
57.5°	127.6	126.1	124.6	124.6	123.1	121.6	121.6	118.6	118.6	117.1	114.1
60°	108.1	106.6	105.1	105.1	105.1	102.1	100.6	97.6	97.6	94.6	93.1
62.5°	90.1	88.6	87.1	85.6	85.6	82.6	81.1	78.1	76.6	75.1	72.1
65°	73.6	70.6	69.1	67.6	67.6	64.6	63.1	60.1	57.1	55.6	52.6
67.5°	57.1	55.6	52.6	51.0	51.0	48.0	45.0	43.5	40.5	37.5	36.0
70°	42.0	40.5	37.5	36.0	34.5	33.0	30.0	28.5	25.5	24.0	21.0
72.5°	28.5	27.0	24.0	24.0	22.5	19.5	18.0	16.5	13.5	12.0	10.5
75°	18.0	16.5	15.0	13.5	12.0	10.5	9.0	7.5	6.0	4.5	4.5
77.5°	10.5	9.0	7.5	6.0	6.0	4.5	3.0	3.0	3.0	1.5	1.5
80°	4.5	3.0	3.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
82.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.0	0.0	1.5	1.5
85°	0.0	0.0	0.0	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	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: P642269

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 1200LM - 4000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9
2.5°	441.4	439.9	441.4	441.4	439.9	439.9	439.9	439.9
5°	436.9	436.9	436.9	436.9	436.9	436.9	436.9	436.9
7.5°	433.9	432.4	432.4	432.4	432.4	432.4	432.4	432.4
10°	426.4	426.4	426.4	426.4	426.4	426.4	426.4	424.9
12.5°	418.9	418.9	418.9	418.9	418.9	418.9	418.9	418.9
15°	411.4	411.4	411.4	411.4	411.4	411.4	411.4	411.4
17.5°	402.4	402.4	402.4	402.4	402.4	400.9	402.4	402.4
20°	391.9	391.9	391.9	391.9	391.9	391.9	391.9	393.4
22.5°	379.9	379.9	379.9	379.9	379.9	379.9	379.9	381.4
25°	367.9	367.9	367.9	367.9	367.9	367.9	367.9	369.4
27.5°	354.3	354.3	354.3	354.3	354.3	354.3	354.3	354.3
30°	339.3	339.3	340.8	339.3	339.3	339.3	340.8	339.3
32.5°	324.3	324.3	324.3	324.3	324.3	324.3	324.3	322.8
35°	307.8	306.3	307.8	307.8	307.8	307.8	307.8	307.8
37.5°	289.8	289.8	289.8	289.8	289.8	289.8	291.3	291.3
40°	271.8	270.3	270.3	271.8	271.8	271.8	270.3	271.8
42.5°	249.2	250.7	250.7	250.7	252.2	250.7	252.2	252.2
45°	228.2	229.7	229.7	229.7	229.7	229.7	231.2	231.2
47.5°	207.2	207.2	207.2	207.2	208.7	208.7	208.7	208.7
50°	184.7	184.7	184.7	184.7	186.2	184.7	186.2	186.2
52.5°	160.7	160.7	160.7	160.7	160.7	160.7	162.2	160.7
55°	136.6	136.6	136.6	136.6	135.1	135.1	135.1	136.6
57.5°	114.1	112.6	111.1	112.6	109.6	109.6	109.6	109.6
60°	90.1	88.6	88.6	87.1	85.6	84.1	85.6	84.1
62.5°	69.1	67.6	67.6	64.6	63.1	63.1	61.6	61.6
65°	51.0	48.0	46.5	46.5	45.0	43.5	42.0	42.0
67.5°	33.0	31.5	30.0	30.0	28.5	27.0	27.0	25.5
70°	19.5	18.0	16.5	18.0	15.0	13.5	13.5	13.5
72.5°	9.0	7.5	7.5	7.5	6.0	6.0	6.0	6.0
75°	4.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	1.5	1.5	3.0	1.5	1.5	1.5	1.5	1.5
80°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
82.5°	1.5	0.0	0.0	0.0	1.5	1.5	0.0	1.5
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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Peachtree City, GA 30269

Scaled Data Report



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

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(END OF REPORT)