

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: P642270

Luminaire Tested: ML5612LSWW97FS1E - 592H WW - 1200LM - 5000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642270
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 - 5000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 952.0 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

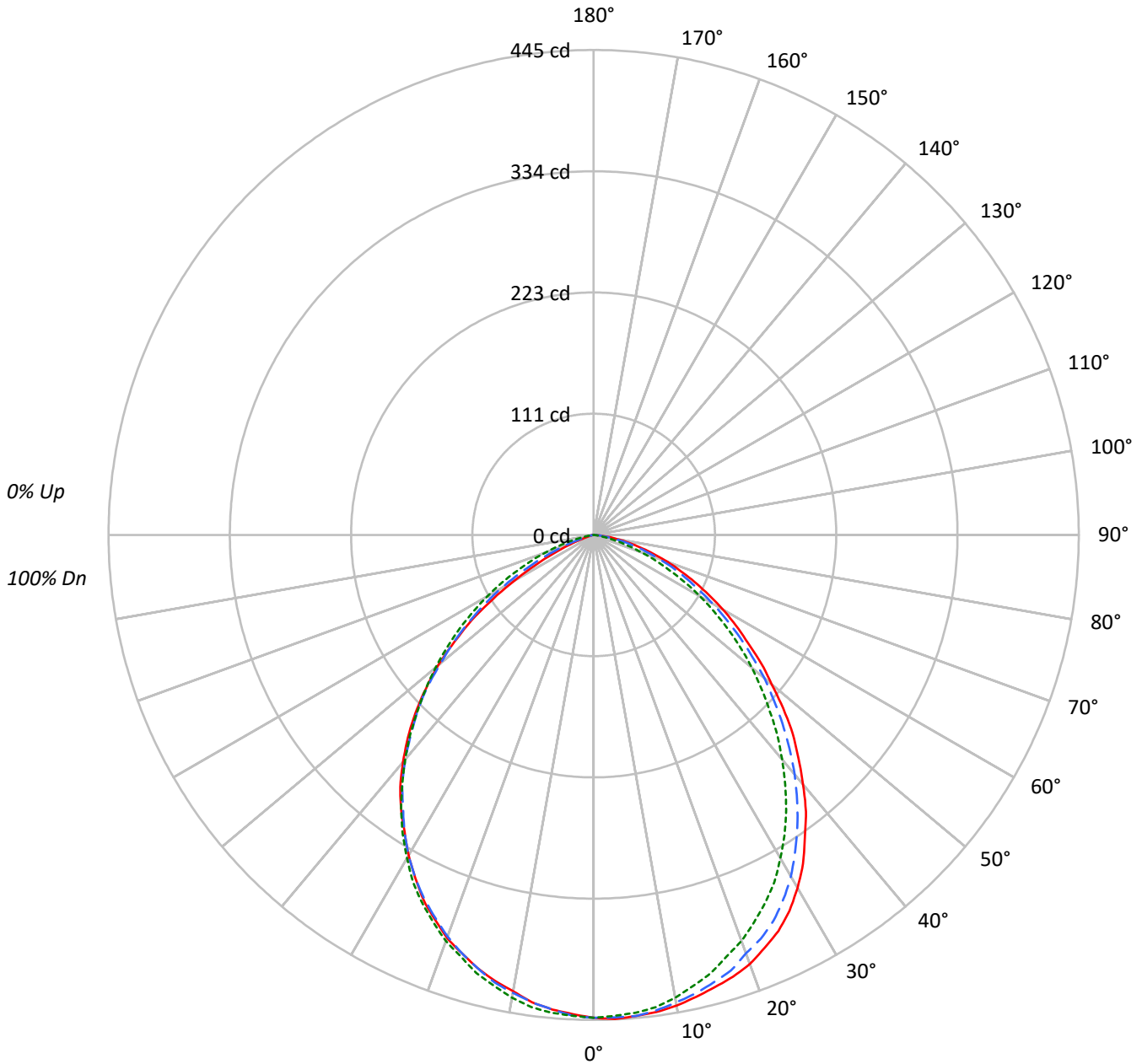
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	34979	34979	34979	34979	34979
5°	35112	35112	34875	34637	34637
10°	35158	34917	34556	34196	34075
15°	35109	34742	34006	33630	33630
20°	35207	34317	33309	32931	33057
25°	34928	34013	32445	32053	32184
30°	34091	32997	31220	30946	30946
35°	32563	31407	29672	29383	29672
40°	30802	29565	27710	27710	28019
45°	28836	27329	25487	25487	25822
50°	26195	25090	23248	22499	22867
55°	23769	22530	20672	19227	18814
60°	21582	19925	17777	15409	13278
65°	19071	17390	14308	10666	7864
70°	16641	14564	10756	5886	3116
75°	13298	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: 28836 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°	197.0	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°	333.6	35.0
0°-40°	530.5	55.7
0°-60°	848.4	89.1
0°-90°	952.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	952.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	443	443	443	443	443	
5°	443	443	440	437	437	42
15°	430	425	416	412	412	121
25°	401	390	372	368	370	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	102
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°	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1
2.5°	444.6	444.6	444.6	444.6	443.1	443.1	444.6	443.1	443.1	443.1	443.1
5°	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1
7.5°	441.6	441.6	441.6	441.6	441.6	441.6	441.6	441.6	440.1	440.1	440.1
10°	438.6	438.6	438.6	438.6	438.6	438.6	438.6	437.1	437.1	437.1	435.6
12.5°	434.1	435.6	434.1	435.6	434.1	434.1	432.6	432.6	432.6	431.1	431.1
15°	429.6	429.6	429.6	429.6	429.6	428.1	428.1	426.6	426.6	426.6	425.1
17.5°	425.1	423.6	423.6	423.6	422.1	422.1	422.1	422.1	420.6	419.1	419.1
20°	419.1	417.6	417.6	417.6	416.1	416.1	414.6	414.6	411.5	411.5	408.5
22.5°	410.0	410.0	410.0	408.5	408.5	407.0	407.0	405.5	404.0	402.5	401.0
25°	401.0	401.0	399.5	399.5	398.0	398.0	398.0	395.0	393.5	392.0	390.5
27.5°	389.0	389.0	387.5	387.5	386.0	384.5	384.5	381.5	381.5	378.5	377.0
30°	374.0	374.0	374.0	371.0	371.0	371.0	369.5	368.0	365.0	363.5	362.0
32.5°	357.5	356.0	356.0	356.0	354.5	353.0	353.0	350.0	348.5	347.0	344.0
35°	337.9	337.9	337.9	337.9	336.4	334.9	334.9	331.9	330.4	327.4	325.9
37.5°	319.9	319.9	318.4	318.4	315.4	316.9	315.4	313.9	312.4	307.9	306.4
40°	298.9	298.9	298.9	297.4	295.9	295.9	294.4	292.9	289.9	288.4	286.9
42.5°	277.9	277.9	277.9	276.4	274.9	274.9	274.9	271.9	270.4	268.9	265.9
45°	258.3	256.8	256.8	255.3	255.3	253.8	252.3	250.8	249.3	247.8	244.8
47.5°	235.8	235.8	234.3	234.3	232.8	232.8	231.3	229.8	228.3	226.8	223.8
50°	213.3	214.8	214.8	213.3	213.3	211.8	210.3	210.3	208.8	207.3	204.3
52.5°	193.8	193.8	193.8	192.3	192.3	190.8	190.8	189.3	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°	154.7	154.7	153.2	153.2	151.7	151.7	151.7	150.2	148.7	147.2	144.2
60°	136.7	135.2	135.2	135.2	133.7	133.7	133.7	130.7	129.2	127.7	126.2
62.5°	118.7	118.7	118.7	117.2	117.2	115.7	114.2	114.2	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	51.1	49.6
75°	43.6	43.6	43.6	43.6	42.1	42.1	42.1	40.6	40.6	39.1	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°	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1
2.5°	443.1	443.1	443.1	443.1	443.1	443.1	443.1	441.6	441.6	441.6	441.6
5°	441.6	441.6	441.6	441.6	441.6	440.1	441.6	440.1	440.1	440.1	440.1
7.5°	438.6	438.6	438.6	438.6	437.1	438.6	437.1	437.1	437.1	437.1	435.6
10°	435.6	434.1	434.1	434.1	434.1	432.6	432.6	431.1	431.1	431.1	429.6
12.5°	431.1	429.6	429.6	428.1	428.1	428.1	426.6	426.6	425.1	423.6	423.6
15°	423.6	423.6	422.1	420.6	420.6	419.1	419.1	417.6	417.6	416.1	414.6
17.5°	417.6	416.1	414.6	413.0	411.5	411.5	410.0	408.5	408.5	405.5	405.5
20°	407.0	405.5	404.0	402.5	402.5	402.5	399.5	399.5	398.0	396.5	395.0
22.5°	398.0	396.5	393.5	392.0	392.0	390.5	389.0	387.5	386.0	384.5	383.0
25°	387.5	386.0	383.0	381.5	380.0	378.5	377.0	375.5	374.0	372.5	371.0
27.5°	374.0	371.0	371.0	368.0	366.5	365.0	363.5	362.0	360.5	359.0	357.5
30°	359.0	357.5	354.5	351.5	350.0	350.0	347.0	345.5	345.5	342.5	341.0
32.5°	342.5	339.5	336.4	334.9	333.4	331.9	330.4	328.9	327.4	325.9	324.4
35°	324.4	319.9	318.4	315.4	315.4	313.9	312.4	309.4	309.4	307.9	304.9
37.5°	304.9	301.9	300.4	297.4	295.9	294.4	292.9	291.4	289.9	288.4	286.9
40°	283.9	280.9	279.4	277.9	276.4	274.9	273.4	271.9	270.4	268.9	267.4
42.5°	262.8	261.3	258.3	255.3	255.3	253.8	252.3	250.8	249.3	249.3	247.8
45°	241.8	240.3	237.3	235.8	234.3	234.3	231.3	231.3	229.8	228.3	228.3
47.5°	222.3	219.3	216.3	216.3	213.3	214.8	211.8	211.8	208.8	208.8	207.3
50°	201.3	199.8	196.8	195.3	195.3	193.8	192.3	192.3	190.8	189.3	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	156.2	156.2	156.2	153.2	151.7	151.7	150.2	148.7
57.5°	142.7	141.2	139.7	138.2	136.7	136.7	135.2	133.7	132.2	130.7	127.7
60°	124.7	123.2	121.7	120.2	118.7	118.7	117.2	115.7	114.2	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	51.1	48.1	46.6	45.1
72.5°	48.1	46.6	45.1	43.6	42.1	42.1	39.1	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°	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1
2.5°	441.6	441.6	441.6	441.6	441.6	441.6	441.6	441.6	441.6	440.1	440.1
5°	438.6	438.6	438.6	438.6	438.6	438.6	437.1	437.1	437.1	437.1	437.1
7.5°	435.6	435.6	435.6	434.1	434.1	434.1	434.1	432.6	432.6	432.6	432.6
10°	429.6	429.6	429.6	428.1	428.1	428.1	428.1	428.1	426.6	426.6	426.6
12.5°	422.1	422.1	422.1	422.1	422.1	420.6	420.6	420.6	420.6	419.1	420.6
15°	414.6	414.6	413.0	413.0	413.0	411.5	411.5	411.5	411.5	411.5	411.5
17.5°	405.5	404.0	404.0	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5
20°	395.0	393.5	393.5	393.5	393.5	392.0	392.0	390.5	392.0	392.0	392.0
22.5°	383.0	381.5	381.5	381.5	380.0	380.0	380.0	380.0	380.0	380.0	380.0
25°	371.0	369.5	368.0	368.0	368.0	366.5	366.5	368.0	368.0	368.0	368.0
27.5°	356.0	356.0	354.5	354.5	354.5	353.0	353.0	353.0	354.5	354.5	354.5
30°	339.5	339.5	339.5	339.5	337.9	337.9	339.5	337.9	339.5	337.9	339.5
32.5°	324.4	324.4	322.9	321.4	321.4	322.9	321.4	321.4	322.9	322.9	322.9
35°	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9	306.4	307.9
37.5°	286.9	286.9	286.9	286.9	286.9	286.9	286.9	288.4	288.4	288.4	288.4
40°	267.4	267.4	267.4	267.4	267.4	267.4	267.4	267.4	268.9	268.9	270.4
42.5°	246.3	247.8	247.8	247.8	246.3	246.3	247.8	247.8	247.8	249.3	249.3
45°	226.8	226.8	226.8	226.8	228.3	226.8	226.8	226.8	228.3	228.3	228.3
47.5°	207.3	205.8	205.8	207.3	205.8	205.8	205.8	205.8	207.3	207.3	205.8
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°	147.2	145.7	144.2	144.2	144.2	142.7	142.7	139.7	139.7	138.2	138.2
57.5°	127.7	126.2	124.7	124.7	123.2	121.7	121.7	118.7	118.7	117.2	114.2
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	51.1	51.1	48.1	45.1	43.6	40.6	37.5	36.0
70°	42.1	40.6	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: P642270

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 1200LM - 5000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	443.1	443.1	443.1	443.1	443.1	443.1	443.1	443.1
2.5°	441.6	440.1	441.6	441.6	440.1	440.1	440.1	440.1
5°	437.1	437.1	437.1	437.1	437.1	437.1	437.1	437.1
7.5°	434.1	432.6	432.6	432.6	432.6	432.6	432.6	432.6
10°	426.6	426.6	426.6	426.6	426.6	426.6	426.6	425.1
12.5°	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1
15°	411.5	411.5	411.5	411.5	411.5	411.5	411.5	411.5
17.5°	402.5	402.5	402.5	402.5	402.5	401.0	402.5	402.5
20°	392.0	392.0	392.0	392.0	392.0	392.0	392.0	393.5
22.5°	380.0	380.0	380.0	380.0	380.0	380.0	380.0	381.5
25°	368.0	368.0	368.0	368.0	368.0	368.0	368.0	369.5
27.5°	354.5	354.5	354.5	354.5	354.5	354.5	354.5	354.5
30°	339.5	339.5	341.0	339.5	339.5	339.5	341.0	339.5
32.5°	324.4	324.4	324.4	324.4	324.4	324.4	324.4	322.9
35°	307.9	306.4	307.9	307.9	307.9	307.9	307.9	307.9
37.5°	289.9	289.9	289.9	289.9	289.9	289.9	291.4	291.4
40°	271.9	270.4	270.4	271.9	271.9	271.9	270.4	271.9
42.5°	249.3	250.8	250.8	250.8	252.3	250.8	252.3	252.3
45°	228.3	229.8	229.8	229.8	229.8	229.8	231.3	231.3
47.5°	207.3	207.3	207.3	207.3	208.8	208.8	208.8	208.8
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°	136.7	136.7	136.7	136.7	135.2	135.2	135.2	136.7
57.5°	114.2	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°	51.1	48.1	46.6	46.6	45.1	43.6	42.1	42.1
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)