

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: P642282

Luminaire Tested: ML5612LSWW97FS1E - 592SC WW - 1200LM - 3000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642282
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-129)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592SC WW - 1200LM - 3000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH SPECULAR CLEAR TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 880.7 lumens
Efficiency: N/A
Efficacy: 53.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.26
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

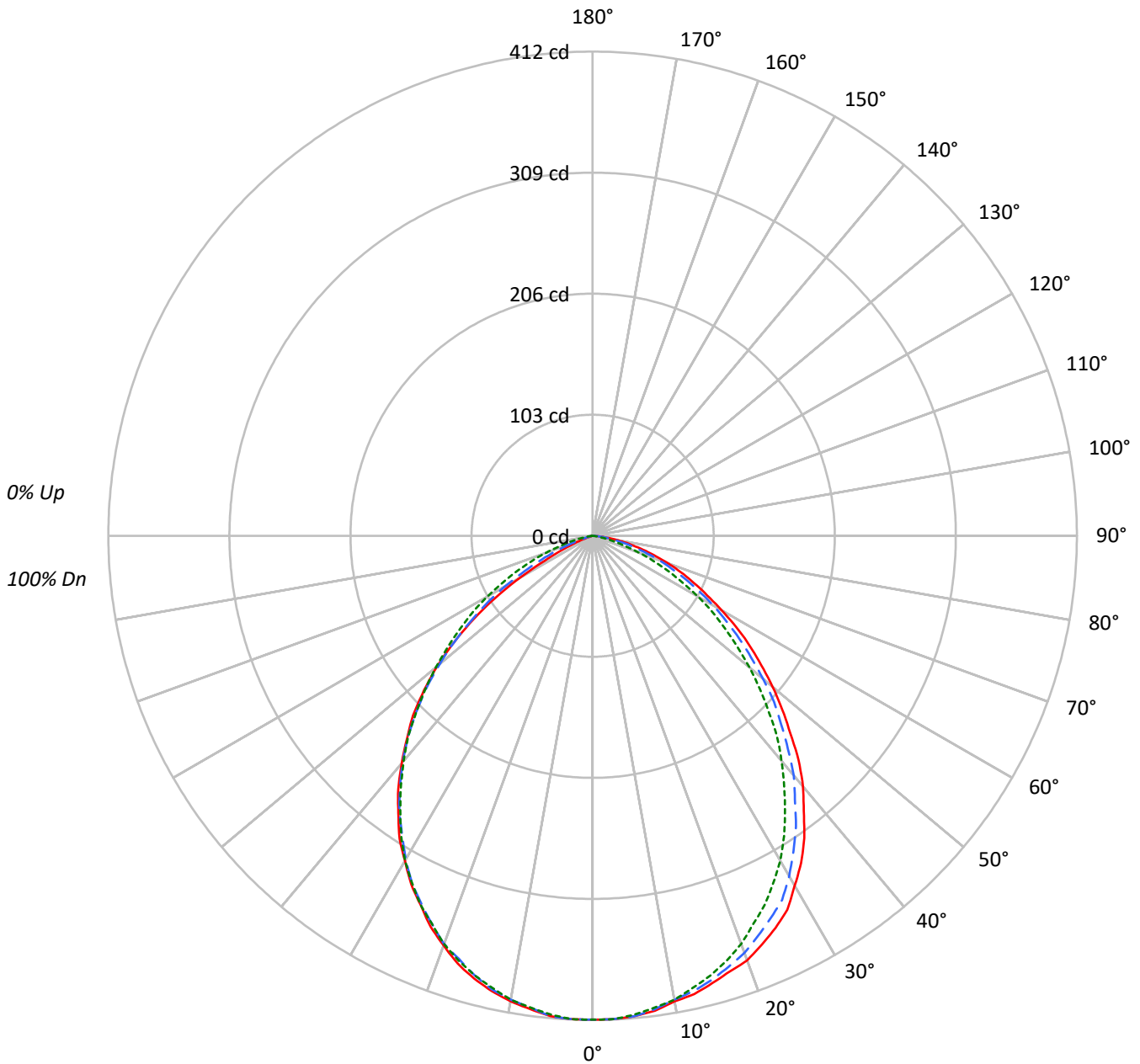
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	97	94	93	93	91	90	88					88			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76					76			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66					66			
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58					58			
5	80	69	61	55	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	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	32500	32500	32500	32500	32500
5°	32521	32521	32410	32521	32521
10°	32240	32128	32128	32128	32240
15°	32200	31979	31652	31652	31873
20°	32301	31730	31049	31049	31158
25°	32071	31243	30181	30059	30181
30°	31338	30472	29105	28987	29105
35°	30250	29065	27494	27629	27764
40°	28699	27442	25763	25907	26041
45°	26548	25331	23668	23668	24114
50°	24525	23199	21357	20853	21197
55°	22447	20947	18883	17396	17011
60°	19956	18662	16309	13515	11162
65°	17764	16251	13206	8891	5324
70°	15672	13802	9717	4385	1569
75°	12841	10767	5795	1251	427
80°	9865	7410	2455	0	0
85°	4891	3714	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 26693 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	4.4
10°-20°	109.8	12.5
20°-30°	161.9	18.4
30°-40°	183.3	20.8
40°-50°	169.3	19.2
50°-60°	125.0	14.2
60°-70°	67.2	7.6
70°-80°	22.5	2.6
80°-90°	2.9	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°	310.5	35.3
0°-40°	493.8	56.1
0°-60°	788.1	89.5
0°-90°	880.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	880.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	412	412	412	412	412	
5°	410	410	409	410	410	39
15°	394	391	387	387	390	111
25°	368	359	346	345	346	169
35°	314	302	285	287	288	196
45°	238	227	212	212	216	184
55°	163	152	137	126	124	146
65°	95	87	71	48	28	95
75°	42	35	19	4	1	45
85°	5	4	0	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°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
5°	410.4	410.4	409.0	410.4	410.4	410.4	410.4	409.0	410.4	410.4	410.4
7.5°	407.6	406.3	406.3	406.3	406.3	406.3	406.3	406.3	406.3	406.3	406.3
10°	402.2	402.2	402.2	402.2	402.2	402.2	402.2	402.2	402.2	402.2	400.8
12.5°	399.5	398.1	398.1	398.1	398.1	398.1	398.1	396.8	398.1	396.8	396.8
15°	394.0	394.0	394.0	394.0	394.0	394.0	392.7	392.7	392.7	392.7	391.3
17.5°	388.6	388.6	390.0	390.0	388.6	388.6	388.6	387.3	385.9	385.9	384.5
20°	384.5	384.5	383.2	383.2	381.8	383.2	381.8	380.5	380.5	379.1	377.7
22.5°	376.4	376.4	376.4	376.4	376.4	375.0	375.0	373.7	372.3	370.9	368.2
25°	368.2	368.2	368.2	368.2	366.9	366.9	366.9	364.2	362.8	361.4	358.7
27.5°	358.7	357.4	357.4	357.4	356.0	356.0	354.6	353.3	351.9	350.6	349.2
30°	343.8	343.8	343.8	343.8	342.4	341.1	341.1	339.7	338.3	335.6	334.3
32.5°	330.2	330.2	328.8	327.5	327.5	327.5	326.1	324.7	322.0	320.7	318.0
35°	313.9	312.5	312.5	311.2	311.2	311.2	309.8	307.1	305.7	304.4	301.6
37.5°	294.9	296.2	294.9	294.9	293.5	292.1	290.8	289.4	288.1	285.3	282.6
40°	278.5	278.5	277.2	275.8	274.5	274.5	273.1	271.8	270.4	269.0	266.3
42.5°	259.5	259.5	258.2	258.2	256.8	256.8	254.1	252.7	251.4	250.0	245.9
45°	237.8	237.8	239.1	237.8	236.4	235.1	235.1	233.7	231.0	229.6	226.9
47.5°	218.8	220.1	218.8	217.4	217.4	216.0	216.0	213.3	213.3	210.6	209.3
50°	199.7	199.7	199.7	199.7	198.4	197.0	197.0	195.7	192.9	191.6	188.9
52.5°	180.7	180.7	180.7	180.7	179.4	179.4	178.0	176.6	175.3	172.6	169.8
55°	163.1	161.7	161.7	161.7	160.3	160.3	159.0	157.6	156.3	154.9	152.2
57.5°	145.4	144.0	144.0	142.7	142.7	141.3	141.3	140.0	138.6	135.9	134.5
60°	126.4	127.7	126.4	126.4	125.0	125.0	125.0	123.6	120.9	119.6	118.2
62.5°	110.1	111.4	110.1	108.7	108.7	108.7	108.7	106.0	104.6	103.3	101.9
65°	95.1	95.1	95.1	93.8	93.8	93.8	91.0	91.0	89.7	88.3	87.0
67.5°	81.5	80.2	80.2	80.2	78.8	78.8	77.5	77.5	74.7	74.7	72.0
70°	67.9	66.6	66.6	66.6	65.2	63.9	65.2	62.5	61.1	59.8	59.8
72.5°	54.4	54.4	53.0	53.0	53.0	51.6	51.6	50.3	48.9	47.6	46.2
75°	42.1	42.1	42.1	40.8	40.8	39.4	39.4	38.0	38.0	35.3	35.3
77.5°	31.3	31.3	31.3	29.9	29.9	29.9	28.5	28.5	27.2	25.8	24.5
80°	21.7	20.4	20.4	20.4	20.4	19.0	19.0	19.0	17.7	17.7	16.3
82.5°	12.2	12.2	12.2	12.2	12.2	12.2	10.9	10.9	10.9	9.5	9.5
85°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.1	4.1	4.1
87.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	411.7	411.7	411.7	411.7	410.4	411.7	410.4	411.7	411.7	411.7	411.7
5°	410.4	409.0	409.0	409.0	410.4	410.4	409.0	409.0	409.0	409.0	409.0
7.5°	406.3	406.3	406.3	404.9	406.3	406.3	404.9	406.3	406.3	404.9	406.3
10°	402.2	402.2	400.8	400.8	400.8	400.8	400.8	400.8	399.5	400.8	400.8
12.5°	396.8	396.8	396.8	395.4	395.4	395.4	395.4	395.4	394.0	394.0	395.4
15°	391.3	391.3	390.0	390.0	390.0	388.6	388.6	388.6	388.6	387.3	387.3
17.5°	384.5	383.2	383.2	381.8	381.8	380.5	380.5	379.1	379.1	379.1	377.7
20°	376.4	375.0	373.7	373.7	372.3	372.3	370.9	370.9	369.6	369.6	368.2
22.5°	366.9	365.5	364.2	362.8	362.8	361.4	361.4	360.1	358.7	357.4	357.4
25°	358.7	356.0	354.6	353.3	350.6	350.6	349.2	349.2	347.8	346.5	345.1
27.5°	346.5	343.8	342.4	341.1	339.7	338.3	335.6	335.6	334.3	332.9	331.5
30°	331.5	330.2	327.5	326.1	324.7	324.7	322.0	319.3	319.3	319.3	318.0
32.5°	316.6	313.9	312.5	309.8	308.4	308.4	307.1	304.4	303.0	303.0	301.6
35°	300.3	297.6	294.9	293.5	292.1	290.8	289.4	288.1	286.7	285.3	284.0
37.5°	281.3	278.5	277.2	275.8	274.5	273.1	271.8	270.4	269.0	267.7	269.0
40°	263.6	260.9	258.2	256.8	255.5	255.5	254.1	252.7	251.4	250.0	250.0
42.5°	244.6	241.9	240.5	239.1	237.8	236.4	235.1	233.7	232.4	232.4	231.0
45°	224.2	222.8	220.1	218.8	217.4	217.4	214.7	213.3	213.3	212.0	212.0
47.5°	206.5	203.8	201.1	199.7	198.4	197.0	195.7	194.3	192.9	192.9	192.9
50°	186.2	184.8	182.1	180.7	179.4	179.4	178.0	176.6	175.3	173.9	173.9
52.5°	167.1	165.8	165.8	163.1	161.7	161.7	159.0	159.0	156.3	154.9	153.5
55°	150.8	148.1	146.7	144.0	144.0	142.7	141.3	140.0	138.6	137.2	135.9
57.5°	131.8	130.4	129.1	127.7	127.7	126.4	125.0	123.6	120.9	120.9	118.2
60°	116.9	114.1	112.8	111.4	110.1	110.1	108.7	107.3	104.6	103.3	101.9
62.5°	100.5	97.8	97.8	96.5	93.8	93.8	92.4	89.7	88.3	85.6	84.2
65°	85.6	84.2	81.5	80.2	80.2	78.8	76.1	74.7	73.4	70.7	67.9
67.5°	70.7	69.3	67.9	65.2	65.2	63.9	61.1	59.8	57.1	55.7	53.0
70°	57.1	55.7	54.4	51.6	51.6	50.3	48.9	46.2	43.5	42.1	39.4
72.5°	44.8	43.5	42.1	39.4	39.4	38.0	35.3	34.0	31.3	28.5	27.2
75°	34.0	32.6	29.9	28.5	27.2	27.2	24.5	23.1	21.7	19.0	17.7
77.5°	23.1	21.7	20.4	19.0	19.0	17.7	16.3	14.9	13.6	12.2	9.5
80°	14.9	13.6	12.2	12.2	10.9	10.9	9.5	8.2	6.8	5.4	4.1
82.5°	8.2	8.2	6.8	5.4	5.4	5.4	4.1	4.1	2.7	1.4	1.4
85°	2.7	2.7	2.7	2.7	1.4	1.4	1.4	1.4	1.4	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°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	411.7	411.7	411.7	411.7	411.7	411.7	410.4	411.7	411.7	411.7	410.4
5°	410.4	409.0	409.0	410.4	409.0	409.0	410.4	410.4	410.4	409.0	409.0
7.5°	404.9	406.3	404.9	404.9	406.3	406.3	406.3	406.3	404.9	404.9	406.3
10°	400.8	400.8	399.5	400.8	399.5	400.8	400.8	400.8	400.8	400.8	400.8
12.5°	394.0	394.0	394.0	395.4	394.0	394.0	395.4	395.4	395.4	395.4	395.4
15°	385.9	385.9	387.3	385.9	387.3	387.3	387.3	387.3	387.3	387.3	388.6
17.5°	377.7	377.7	377.7	377.7	377.7	377.7	377.7	377.7	377.7	379.1	379.1
20°	368.2	368.2	368.2	368.2	368.2	366.9	368.2	368.2	369.6	369.6	369.6
22.5°	356.0	356.0	356.0	356.0	356.0	356.0	356.0	356.0	357.4	358.7	357.4
25°	343.8	343.8	343.8	343.8	343.8	343.8	343.8	345.1	345.1	345.1	346.5
27.5°	331.5	331.5	331.5	330.2	331.5	330.2	331.5	331.5	332.9	331.5	332.9
30°	318.0	316.6	316.6	316.6	316.6	318.0	316.6	316.6	318.0	319.3	318.0
32.5°	300.3	300.3	300.3	301.6	301.6	301.6	303.0	301.6	301.6	303.0	303.0
35°	284.0	284.0	284.0	285.3	285.3	285.3	285.3	286.7	286.7	286.7	288.1
37.5°	266.3	267.7	266.3	267.7	267.7	269.0	269.0	269.0	269.0	270.4	270.4
40°	250.0	248.7	250.0	250.0	250.0	250.0	250.0	250.0	251.4	252.7	252.7
42.5°	231.0	231.0	231.0	231.0	231.0	231.0	232.4	232.4	232.4	233.7	233.7
45°	212.0	210.6	210.6	210.6	210.6	212.0	210.6	212.0	212.0	213.3	213.3
47.5°	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	192.9	191.6
50°	173.9	172.6	171.2	171.2	169.8	171.2	169.8	169.8	169.8	171.2	169.8
52.5°	153.5	152.2	150.8	150.8	150.8	149.5	148.1	148.1	148.1	146.7	146.7
55°	135.9	134.5	131.8	133.2	130.4	129.1	129.1	127.7	126.4	126.4	125.0
57.5°	116.9	115.5	114.1	112.8	112.8	110.1	108.7	107.3	106.0	104.6	101.9
60°	100.5	97.8	95.1	95.1	93.8	92.4	89.7	87.0	85.6	82.9	81.5
62.5°	82.9	80.2	77.5	76.1	74.7	73.4	70.7	67.9	65.2	63.9	61.1
65°	66.6	63.9	61.1	59.8	58.4	55.7	53.0	50.3	47.6	44.8	43.5
67.5°	50.3	47.6	46.2	43.5	42.1	39.4	36.7	35.3	32.6	29.9	25.8
70°	36.7	34.0	31.3	29.9	28.5	25.8	24.5	21.7	19.0	17.7	14.9
72.5°	24.5	21.7	20.4	19.0	17.7	16.3	13.6	12.2	9.5	8.2	6.8
75°	14.9	13.6	12.2	10.9	9.5	8.2	6.8	5.4	4.1	2.7	1.4
77.5°	8.2	6.8	5.4	5.4	4.1	2.7	2.7	1.4	1.4	1.4	1.4
80°	4.1	2.7	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	1.4
82.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P642282

CATALOG NUMBER: ML5612LSWW97FS1E - 592SC WW - 1200LM - 3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
5°	410.4	410.4	409.0	410.4	409.0	409.0	409.0	410.4
7.5°	406.3	406.3	406.3	406.3	406.3	406.3	406.3	406.3
10°	400.8	400.8	400.8	402.2	402.2	402.2	400.8	402.2
12.5°	395.4	395.4	395.4	396.8	395.4	396.8	395.4	396.8
15°	388.6	388.6	390.0	390.0	388.6	388.6	390.0	390.0
17.5°	379.1	380.5	380.5	380.5	380.5	380.5	380.5	381.8
20°	370.9	370.9	369.6	370.9	370.9	372.3	372.3	370.9
22.5°	357.4	360.1	360.1	360.1	360.1	360.1	360.1	360.1
25°	346.5	346.5	346.5	347.8	346.5	346.5	347.8	346.5
27.5°	332.9	334.3	332.9	334.3	334.3	334.3	334.3	334.3
30°	319.3	319.3	319.3	319.3	319.3	320.7	319.3	319.3
32.5°	303.0	304.4	304.4	304.4	305.7	304.4	304.4	305.7
35°	288.1	288.1	288.1	289.4	288.1	289.4	289.4	288.1
37.5°	270.4	271.8	270.4	271.8	271.8	271.8	271.8	271.8
40°	254.1	252.7	254.1	252.7	254.1	254.1	254.1	252.7
42.5°	233.7	235.1	235.1	235.1	235.1	235.1	235.1	233.7
45°	213.3	214.7	214.7	214.7	214.7	214.7	216.0	216.0
47.5°	191.6	194.3	194.3	194.3	192.9	195.7	194.3	194.3
50°	169.8	169.8	171.2	171.2	172.6	172.6	172.6	172.6
52.5°	148.1	146.7	148.1	148.1	149.5	148.1	149.5	148.1
55°	123.6	123.6	123.6	122.3	123.6	123.6	123.6	123.6
57.5°	101.9	100.5	99.2	97.8	97.8	97.8	96.5	97.8
60°	78.8	76.1	77.5	74.7	73.4	72.0	72.0	70.7
62.5°	58.4	55.7	54.4	53.0	50.3	47.6	47.6	46.2
65°	39.4	36.7	35.3	32.6	31.3	29.9	28.5	28.5
67.5°	24.5	21.7	21.7	20.4	19.0	17.7	16.3	16.3
70°	13.6	12.2	10.9	9.5	9.5	8.2	6.8	6.8
72.5°	5.4	4.1	4.1	2.7	2.7	2.7	2.7	1.4
75°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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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