

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: P642295

Luminaire Tested: ML5612LSWW97FS1E - 592SC WW - 900LM - 5000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642295
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 - 900LM - 5000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH SPECULAR CLEAR TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 804.4 lumens
Efficiency: N/A
Efficacy: 60.5 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

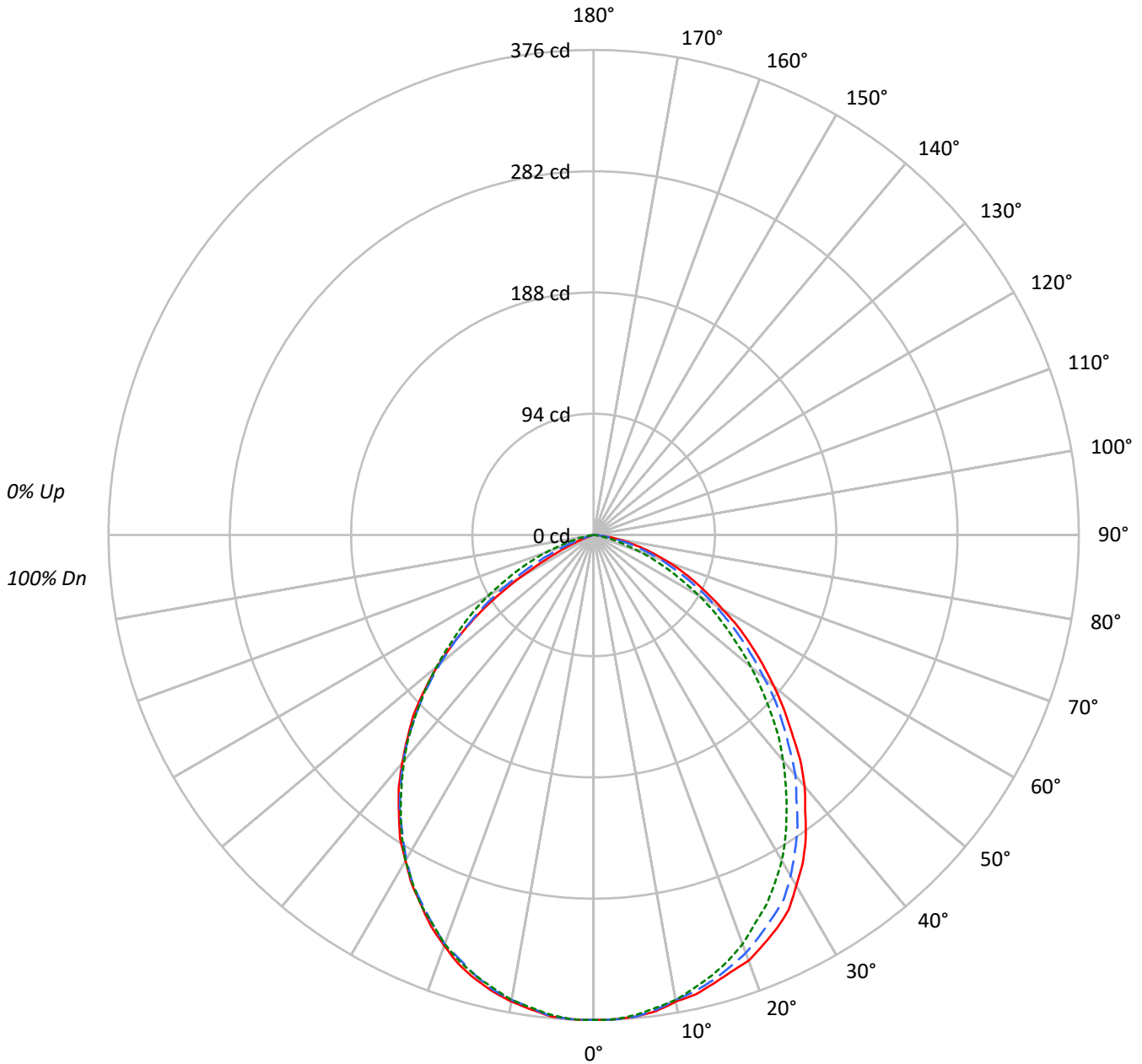
Input Watts (W): 13.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	29682	29682	29682	29682	29682
5°	29700	29700	29605	29700	29700
10°	29450	29346	29346	29346	29450
15°	29413	29209	28906	28906	29111
20°	29503	28982	28361	28361	28462
25°	29292	28535	27568	27454	27568
30°	28622	27829	26580	26471	26580
35°	27629	26550	25114	25239	25355
40°	26216	25062	23537	23660	23784
45°	24248	23143	21613	21613	22026
50°	22401	21185	19515	19048	19355
55°	20493	19130	17245	15882	15538
60°	18220	17051	14888	12346	10183
65°	16232	14831	12048	8107	4875
70°	14333	12602	8886	4016	1431
75°	11743	9852	5307	1129	366
80°	9047	6774	2273	0	0
85°	4529	3351	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 24382 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.5	4.4
10°-20°	100.3	12.5
20°-30°	147.9	18.4
30°-40°	167.4	20.8
40°-50°	154.6	19.2
50°-60°	114.2	14.2
60°-70°	61.4	7.6
70°-80°	20.5	2.6
80°-90°	2.6	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°	283.6	35.3
0°-40°	451.0	56.1
0°-60°	719.8	89.5
0°-90°	804.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	804.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	376	376	376	376	376	
5°	375	375	374	375	375	36
15°	360	357	354	354	356	102
25°	336	328	316	315	316	155
35°	287	276	261	262	263	179
45°	217	207	194	194	197	168
55°	149	139	125	115	113	133
65°	87	79	64	43	26	87
75°	38	32	17	4	1	42
85°	5	4	0	0	0	7
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°	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0
2.5°	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0
5°	374.8	374.8	373.6	374.8	374.8	374.8	374.8	373.6	374.8	374.8	374.8
7.5°	372.3	371.1	371.1	371.1	371.1	371.1	371.1	371.1	371.1	371.1	371.1
10°	367.4	367.4	367.4	367.4	367.4	367.4	367.4	367.4	367.4	367.4	366.1
12.5°	364.9	363.6	363.6	363.6	363.6	363.6	363.6	362.4	363.6	362.4	362.4
15°	359.9	359.9	359.9	359.9	359.9	359.9	358.7	358.7	358.7	358.7	357.4
17.5°	354.9	354.9	356.2	356.2	354.9	354.9	354.9	353.7	352.5	352.5	351.2
20°	351.2	351.2	350.0	350.0	348.7	350.0	348.7	347.5	347.5	346.3	345.0
22.5°	343.8	343.8	343.8	343.8	343.8	342.5	342.5	341.3	340.0	338.8	336.3
25°	336.3	336.3	336.3	336.3	335.1	335.1	335.1	332.6	331.4	330.1	327.6
27.5°	327.6	326.4	326.4	326.4	325.2	325.2	323.9	322.7	321.4	320.2	318.9
30°	314.0	314.0	314.0	314.0	312.7	311.5	311.5	310.3	309.0	306.5	305.3
32.5°	301.6	301.6	300.3	299.1	299.1	299.1	297.9	296.6	294.1	292.9	290.4
35°	286.7	285.4	285.4	284.2	284.2	284.2	283.0	280.5	279.2	278.0	275.5
37.5°	269.3	270.5	269.3	269.3	268.1	266.8	265.6	264.3	263.1	260.6	258.1
40°	254.4	254.4	253.2	251.9	250.7	250.7	249.5	248.2	247.0	245.7	243.2
42.5°	237.0	237.0	235.8	235.8	234.6	234.6	232.1	230.8	229.6	228.4	224.6
45°	217.2	217.2	218.4	217.2	215.9	214.7	214.7	213.5	211.0	209.7	207.3
47.5°	199.8	201.0	199.8	198.6	198.6	197.3	197.3	194.8	194.8	192.4	191.1
50°	182.4	182.4	182.4	182.4	181.2	180.0	180.0	178.7	176.2	175.0	172.5
52.5°	165.1	165.1	165.1	165.1	163.8	163.8	162.6	161.3	160.1	157.6	155.1
55°	148.9	147.7	147.7	147.7	146.4	146.4	145.2	144.0	142.7	141.5	139.0
57.5°	132.8	131.6	131.6	130.3	130.3	129.1	129.1	127.8	126.6	124.1	122.9
60°	115.4	116.7	115.4	115.4	114.2	114.2	114.2	112.9	110.5	109.2	108.0
62.5°	100.5	101.8	100.5	99.3	99.3	99.3	99.3	96.8	95.6	94.3	93.1
65°	86.9	86.9	86.9	85.6	85.6	85.6	83.2	83.2	81.9	80.7	79.4
67.5°	74.5	73.2	73.2	73.2	72.0	72.0	70.7	70.7	68.3	68.3	65.8
70°	62.1	60.8	60.8	60.8	59.6	58.3	59.6	57.1	55.8	54.6	54.6
72.5°	49.6	49.6	48.4	48.4	48.4	47.2	47.2	45.9	44.7	43.4	42.2
75°	38.5	38.5	38.5	37.2	37.2	36.0	36.0	34.7	34.7	32.3	32.3
77.5°	28.5	28.5	28.5	27.3	27.3	27.3	26.1	26.1	24.8	23.6	22.3
80°	19.9	18.6	18.6	18.6	18.6	17.4	17.4	17.4	16.1	16.1	14.9
82.5°	11.2	11.2	11.2	11.2	11.2	11.2	9.9	9.9	9.9	8.7	8.7
85°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.7	3.7	3.7
87.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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°	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0
2.5°	376.0	376.0	376.0	376.0	374.8	376.0	374.8	376.0	376.0	376.0	376.0
5°	374.8	373.6	373.6	373.6	374.8	374.8	373.6	373.6	373.6	373.6	373.6
7.5°	371.1	371.1	371.1	369.8	371.1	371.1	369.8	371.1	371.1	369.8	371.1
10°	367.4	367.4	366.1	366.1	366.1	366.1	366.1	366.1	364.9	366.1	366.1
12.5°	362.4	362.4	362.4	361.1	361.1	361.1	361.1	361.1	359.9	359.9	361.1
15°	357.4	357.4	356.2	356.2	356.2	354.9	354.9	354.9	354.9	353.7	353.7
17.5°	351.2	350.0	350.0	348.7	348.7	347.5	347.5	346.3	346.3	346.3	345.0
20°	343.8	342.5	341.3	341.3	340.0	340.0	338.8	338.8	337.6	337.6	336.3
22.5°	335.1	333.8	332.6	331.4	331.4	330.1	330.1	328.9	327.6	326.4	326.4
25°	327.6	325.2	323.9	322.7	320.2	320.2	318.9	318.9	317.7	316.5	315.2
27.5°	316.5	314.0	312.7	311.5	310.3	309.0	306.5	306.5	305.3	304.1	302.8
30°	302.8	301.6	299.1	297.9	296.6	296.6	294.1	291.6	291.6	291.6	290.4
32.5°	289.2	286.7	285.4	283.0	281.7	281.7	280.5	278.0	276.8	276.8	275.5
35°	274.3	271.8	269.3	268.1	266.8	265.6	264.3	263.1	261.9	260.6	259.4
37.5°	256.9	254.4	253.2	251.9	250.7	249.5	248.2	247.0	245.7	244.5	245.7
40°	240.8	238.3	235.8	234.6	233.3	233.3	232.1	230.8	229.6	228.4	228.4
42.5°	223.4	220.9	219.7	218.4	217.2	215.9	214.7	213.5	212.2	212.2	211.0
45°	204.8	203.5	201.0	199.8	198.6	198.6	196.1	194.8	194.8	193.6	193.6
47.5°	188.6	186.2	183.7	182.4	181.2	180.0	178.7	177.5	176.2	176.2	176.2
50°	170.0	168.8	166.3	165.1	163.8	163.8	162.6	161.3	160.1	158.9	158.9
52.5°	152.6	151.4	151.4	148.9	147.7	147.7	145.2	145.2	142.7	141.5	140.2
55°	137.8	135.3	134.0	131.6	131.6	130.3	129.1	127.8	126.6	125.3	124.1
57.5°	120.4	119.1	117.9	116.7	116.7	115.4	114.2	112.9	110.5	110.5	108.0
60°	106.7	104.2	103.0	101.8	100.5	100.5	99.3	98.0	95.6	94.3	93.1
62.5°	91.8	89.4	89.4	88.1	85.6	85.6	84.4	81.9	80.7	78.2	76.9
65°	78.2	76.9	74.5	73.2	73.2	72.0	69.5	68.3	67.0	64.5	62.1
67.5°	64.5	63.3	62.1	59.6	59.6	58.3	55.8	54.6	52.1	50.9	48.4
70°	52.1	50.9	49.6	47.2	47.2	45.9	44.7	42.2	39.7	38.5	36.0
72.5°	41.0	39.7	38.5	36.0	36.0	34.7	32.3	31.0	28.5	26.1	24.8
75°	31.0	29.8	27.3	26.1	24.8	24.8	22.3	21.1	19.9	17.4	16.1
77.5°	21.1	19.9	18.6	17.4	17.4	16.1	14.9	13.7	12.4	11.2	8.7
80°	13.7	12.4	11.2	11.2	9.9	9.9	8.7	7.4	6.2	5.0	3.7
82.5°	7.4	7.4	6.2	5.0	5.0	5.0	3.7	3.7	2.5	1.2	1.2
85°	2.5	2.5	2.5	2.5	1.2	1.2	1.2	1.2	1.2	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°	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0
2.5°	376.0	376.0	376.0	376.0	376.0	376.0	374.8	376.0	376.0	376.0	374.8
5°	374.8	373.6	373.6	374.8	373.6	373.6	374.8	374.8	374.8	373.6	373.6
7.5°	369.8	371.1	369.8	369.8	371.1	371.1	371.1	371.1	369.8	369.8	371.1
10°	366.1	366.1	364.9	366.1	364.9	366.1	366.1	366.1	366.1	366.1	366.1
12.5°	359.9	359.9	359.9	361.1	359.9	359.9	361.1	361.1	361.1	361.1	361.1
15°	352.5	352.5	353.7	352.5	353.7	353.7	353.7	353.7	353.7	353.7	354.9
17.5°	345.0	345.0	345.0	345.0	345.0	345.0	345.0	345.0	345.0	346.3	346.3
20°	336.3	336.3	336.3	336.3	336.3	335.1	336.3	336.3	337.6	337.6	337.6
22.5°	325.2	325.2	325.2	325.2	325.2	325.2	325.2	325.2	326.4	327.6	326.4
25°	314.0	314.0	314.0	314.0	314.0	314.0	314.0	315.2	315.2	315.2	316.5
27.5°	302.8	302.8	302.8	301.6	302.8	301.6	302.8	302.8	304.1	302.8	304.1
30°	290.4	289.2	289.2	289.2	289.2	290.4	289.2	289.2	290.4	291.6	290.4
32.5°	274.3	274.3	274.3	275.5	275.5	275.5	276.8	275.5	275.5	276.8	276.8
35°	259.4	259.4	259.4	260.6	260.6	260.6	260.6	261.9	261.9	261.9	263.1
37.5°	243.2	244.5	243.2	244.5	244.5	245.7	245.7	245.7	245.7	247.0	247.0
40°	228.4	227.1	228.4	228.4	228.4	228.4	228.4	228.4	229.6	230.8	230.8
42.5°	211.0	211.0	211.0	211.0	211.0	211.0	212.2	212.2	212.2	213.5	213.5
45°	193.6	192.4	192.4	192.4	192.4	193.6	192.4	193.6	193.6	194.8	194.8
47.5°	175.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0	176.2	175.0
50°	158.9	157.6	156.4	156.4	155.1	156.4	155.1	155.1	155.1	156.4	155.1
52.5°	140.2	139.0	137.8	137.8	137.8	136.5	135.3	135.3	135.3	134.0	134.0
55°	124.1	122.9	120.4	121.6	119.1	117.9	117.9	116.7	115.4	115.4	114.2
57.5°	106.7	105.5	104.2	103.0	103.0	100.5	99.3	98.0	96.8	95.6	93.1
60°	91.8	89.4	86.9	86.9	85.6	84.4	81.9	79.4	78.2	75.7	74.5
62.5°	75.7	73.2	70.7	69.5	68.3	67.0	64.5	62.1	59.6	58.3	55.8
65°	60.8	58.3	55.8	54.6	53.4	50.9	48.4	45.9	43.4	41.0	39.7
67.5°	45.9	43.4	42.2	39.7	38.5	36.0	33.5	32.3	29.8	27.3	23.6
70°	33.5	31.0	28.5	27.3	26.1	23.6	22.3	19.9	17.4	16.1	13.7
72.5°	22.3	19.9	18.6	17.4	16.1	14.9	12.4	11.2	8.7	7.4	6.2
75°	13.7	12.4	11.2	9.9	8.7	7.4	6.2	5.0	3.7	2.5	1.2
77.5°	7.4	6.2	5.0	5.0	3.7	2.5	2.5	1.2	1.2	1.2	1.2
80°	3.7	2.5	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	1.2
82.5°	1.2	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: P642295

CATALOG NUMBER: ML5612LSWW97FS1E - 592SC WW - 900LM - 5000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0
2.5°	376.0	376.0	376.0	376.0	376.0	376.0	376.0	376.0
5°	374.8	374.8	373.6	374.8	373.6	373.6	373.6	374.8
7.5°	371.1	371.1	371.1	371.1	371.1	371.1	371.1	371.1
10°	366.1	366.1	366.1	367.4	367.4	367.4	366.1	367.4
12.5°	361.1	361.1	361.1	362.4	361.1	362.4	361.1	362.4
15°	354.9	354.9	356.2	356.2	354.9	354.9	356.2	356.2
17.5°	346.3	347.5	347.5	347.5	347.5	347.5	347.5	348.7
20°	338.8	338.8	337.6	338.8	338.8	340.0	340.0	338.8
22.5°	326.4	328.9	328.9	328.9	328.9	328.9	328.9	328.9
25°	316.5	316.5	316.5	317.7	316.5	316.5	317.7	316.5
27.5°	304.1	305.3	304.1	305.3	305.3	305.3	305.3	305.3
30°	291.6	291.6	291.6	291.6	291.6	292.9	291.6	291.6
32.5°	276.8	278.0	278.0	278.0	279.2	278.0	278.0	279.2
35°	263.1	263.1	263.1	264.3	263.1	264.3	264.3	263.1
37.5°	247.0	248.2	247.0	248.2	248.2	248.2	248.2	248.2
40°	232.1	230.8	232.1	230.8	232.1	232.1	232.1	230.8
42.5°	213.5	214.7	214.7	214.7	214.7	214.7	214.7	213.5
45°	194.8	196.1	196.1	196.1	196.1	196.1	197.3	197.3
47.5°	175.0	177.5	177.5	177.5	176.2	178.7	177.5	177.5
50°	155.1	155.1	156.4	156.4	157.6	157.6	157.6	157.6
52.5°	135.3	134.0	135.3	135.3	136.5	135.3	136.5	135.3
55°	112.9	112.9	112.9	111.7	112.9	112.9	112.9	112.9
57.5°	93.1	91.8	90.6	89.4	89.4	89.4	88.1	89.4
60°	72.0	69.5	70.7	68.3	67.0	65.8	65.8	64.5
62.5°	53.4	50.9	49.6	48.4	45.9	43.4	43.4	42.2
65°	36.0	33.5	32.3	29.8	28.5	27.3	26.1	26.1
67.5°	22.3	19.9	19.9	18.6	17.4	16.1	14.9	14.9
70°	12.4	11.2	9.9	8.7	8.7	7.4	6.2	6.2
72.5°	5.0	3.7	3.7	2.5	2.5	2.5	2.5	1.2
75°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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

Signify Classified - Internal
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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)