

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: P642335

Luminaire Tested: ML5612LSWW97FS1E - 692SC WW - 600LM - 5000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642335
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-131)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 692SC WW - 600LM - 5000K
Description: ML56 RR, WW OPTIC, 6" 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: 641.3 lumens
Efficiency: N/A
Efficacy: 62.3 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.09 / 1.17
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

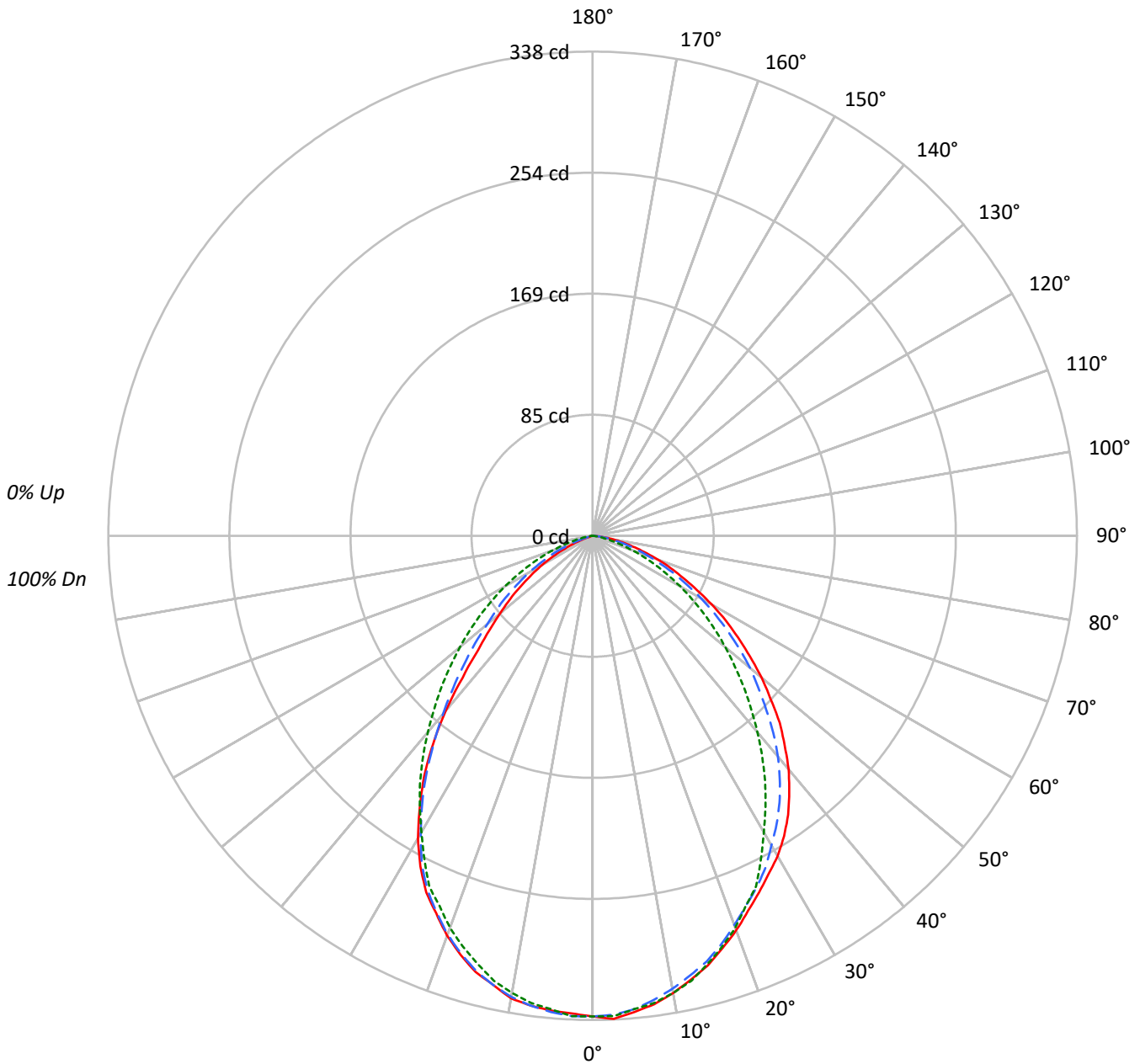
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
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								
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77								
3	95	86	79	73	92	84	78	72	81	76	71	79	74	70	76	72	69	67								
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61	59								
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	46								
7	70	58	50	45	69	57	50	44	56	49	44	55	48	44	53	48	44	42								
8	66	53	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	18398	18398	18398	18398	18398
5°	18363	18259	18259	18363	18308
10°	18036	17874	18036	18197	18253
15°	17622	17458	17565	17843	17895
20°	17099	16871	16982	17268	17327
25°	16616	16380	16326	16501	16616
30°	16351	15800	15123	15186	15433
35°	15921	15212	14047	13532	13726
40°	15229	14398	12803	11629	11421
45°	14319	13273	11552	9823	8776
50°	13117	12213	10311	8170	7181
55°	11832	10905	9061	6929	5821
60°	10504	9550	7741	5625	4451
65°	9028	8159	6278	4138	2763
70°	7758	6668	4648	2324	1090
75°	6142	5126	3071	614	0
80°	4578	3662	1515	0	0
85°	2453	1824	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14319 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.5	4.9
10°-20°	87.3	13.6
20°-30°	124.5	19.4
30°-40°	133.9	20.9
40°-50°	115.4	18.0
50°-60°	83.6	13.0
60°-70°	47.2	7.4
70°-80°	16.0	2.5
80°-90°	2.1	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°	243.3	37.9
0°-40°	377.1	58.8
0°-60°	576.1	89.8
0°-90°	641.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	641.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	336	336	336	336	336	
5°	334	332	332	334	333	32
15°	310	308	310	314	315	87
25°	275	271	270	273	275	127
35°	238	227	210	202	205	148
45°	185	171	149	127	113	142
55°	124	114	95	72	61	111
65°	70	63	48	32	21	70
75°	29	24	14	3	0	31
85°	4	3	0	0	0	6
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°	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6
2.5°	337.6	334.7	333.7	334.7	334.7	334.7	334.7	334.7	334.7	333.7	334.7
5°	333.7	330.8	330.8	330.8	330.8	330.8	329.8	330.8	330.8	330.8	331.8
7.5°	329.8	326.0	326.9	326.0	326.9	326.0	326.0	326.9	326.0	326.9	326.9
10°	324.0	321.1	321.1	321.1	321.1	321.1	321.1	321.1	321.1	321.1	321.1
12.5°	317.3	314.4	314.4	314.4	314.4	314.4	314.4	314.4	315.3	314.4	314.4
15°	310.5	306.6	307.6	306.6	306.6	306.6	306.6	306.6	306.6	306.6	307.6
17.5°	301.8	298.9	298.9	298.9	298.9	298.9	298.9	297.9	298.9	298.9	298.9
20°	293.1	290.2	290.2	289.2	290.2	289.2	289.2	289.2	290.2	289.2	289.2
22.5°	283.4	280.5	281.5	280.5	280.5	280.5	280.5	280.5	279.5	280.5	279.5
25°	274.7	273.7	272.8	273.7	272.8	272.8	272.8	271.8	271.8	271.8	270.8
27.5°	266.0	264.1	264.1	264.1	264.1	263.1	263.1	263.1	262.1	261.2	261.2
30°	258.3	255.4	255.4	255.4	254.4	254.4	253.4	253.4	251.5	250.5	249.6
32.5°	248.6	246.7	245.7	245.7	244.7	244.7	243.8	243.8	241.8	240.8	238.9
35°	237.9	237.0	237.0	236.0	235.0	234.1	233.1	232.1	231.2	229.2	227.3
37.5°	225.4	224.4	223.4	223.4	222.5	221.5	221.5	219.6	218.6	216.7	214.7
40°	212.8	210.9	210.9	209.9	208.9	208.0	208.0	206.0	205.1	203.1	201.2
42.5°	198.3	196.4	196.4	195.4	195.4	195.4	194.4	192.5	190.6	188.6	186.7
45°	184.7	182.8	182.8	180.9	180.9	179.9	178.9	178.0	176.0	174.1	171.2
47.5°	168.3	167.3	167.3	166.4	165.4	164.4	164.4	163.5	161.5	158.6	156.7
50°	153.8	152.8	152.8	151.9	150.9	149.9	149.0	148.0	147.0	145.1	143.2
52.5°	138.3	138.3	137.4	136.4	136.4	135.4	134.4	133.5	131.5	129.6	128.6
55°	123.8	122.8	122.8	121.9	121.9	120.9	119.9	119.0	118.0	116.1	114.1
57.5°	110.3	108.3	108.3	107.4	107.4	107.4	106.4	104.5	103.5	101.6	100.6
60°	95.8	94.8	94.8	94.8	93.8	92.9	92.9	90.9	90.0	89.0	87.1
62.5°	82.2	81.3	81.3	81.3	80.3	80.3	79.3	78.3	77.4	76.4	74.5
65°	69.6	69.6	69.6	68.7	68.7	67.7	66.7	66.7	65.8	64.8	62.9
67.5°	59.0	58.0	58.0	58.0	57.1	57.1	56.1	55.1	54.2	53.2	51.3
70°	48.4	47.4	47.4	46.4	46.4	46.4	46.4	45.5	43.5	43.5	41.6
72.5°	37.7	37.7	37.7	36.8	36.8	36.8	35.8	35.8	34.8	33.9	32.9
75°	29.0	29.0	29.0	28.1	28.1	28.1	27.1	27.1	26.1	25.1	24.2
77.5°	21.3	21.3	21.3	20.3	20.3	20.3	19.3	19.3	18.4	18.4	17.4
80°	14.5	14.5	14.5	13.5	13.5	13.5	13.5	12.6	12.6	11.6	11.6
82.5°	8.7	8.7	8.7	8.7	7.7	7.7	7.7	7.7	7.7	6.8	6.8
85°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	2.9	2.9
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6
2.5°	334.7	334.7	334.7	334.7	334.7	334.7	334.7	334.7	334.7	335.6	334.7
5°	331.8	331.8	331.8	331.8	331.8	331.8	332.7	331.8	332.7	331.8	332.7
7.5°	326.9	326.9	327.9	327.9	326.9	327.9	327.9	327.9	327.9	328.9	328.9
10°	321.1	322.1	322.1	323.1	323.1	323.1	323.1	324.0	324.0	324.0	324.0
12.5°	315.3	315.3	315.3	315.3	316.3	315.3	316.3	316.3	317.3	318.2	317.3
15°	306.6	307.6	307.6	307.6	307.6	307.6	308.6	309.5	309.5	309.5	310.5
17.5°	298.9	298.9	298.9	299.9	298.9	299.9	299.9	299.9	300.8	300.8	301.8
20°	289.2	288.2	290.2	289.2	289.2	290.2	290.2	290.2	291.1	291.1	291.1
22.5°	278.6	279.5	278.6	278.6	279.5	279.5	279.5	278.6	279.5	279.5	280.5
25°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	268.9	269.9	269.9	269.9
27.5°	260.2	258.3	258.3	257.3	257.3	256.3	255.4	255.4	255.4	254.4	255.4
30°	248.6	246.7	245.7	244.7	243.8	243.8	241.8	240.8	239.9	238.9	237.9
32.5°	237.0	235.0	234.1	233.1	231.2	230.2	228.3	227.3	226.3	224.4	222.5
35°	226.3	223.4	221.5	219.6	218.6	217.6	215.7	213.8	211.8	209.9	208.0
37.5°	211.8	209.9	208.0	206.0	205.1	204.1	202.2	198.3	196.4	194.4	192.5
40°	199.3	196.4	194.4	191.5	190.6	188.6	186.7	183.8	180.9	178.9	177.0
42.5°	183.8	181.8	179.9	177.0	176.0	174.1	171.2	169.3	167.3	163.5	161.5
45°	169.3	167.3	165.4	162.5	160.6	159.6	157.7	154.8	151.9	149.0	147.0
47.5°	154.8	152.8	149.9	148.0	146.1	145.1	143.2	140.3	137.4	134.4	132.5
50°	140.3	138.3	136.4	132.5	132.5	130.6	128.6	125.7	123.8	120.9	118.0
52.5°	126.7	123.8	121.9	119.0	119.0	118.0	115.1	112.2	110.3	107.4	105.4
55°	112.2	110.3	108.3	106.4	104.5	103.5	102.5	99.6	96.7	94.8	91.9
57.5°	98.7	95.8	94.8	92.9	91.9	90.9	89.0	86.1	84.2	82.2	80.3
60°	86.1	84.2	81.3	80.3	79.3	78.3	76.4	74.5	72.5	70.6	68.7
62.5°	73.5	71.6	69.6	67.7	66.7	65.8	64.8	62.9	60.9	59.0	57.1
65°	60.9	60.0	58.0	57.1	56.1	55.1	53.2	51.3	50.3	48.4	46.4
67.5°	50.3	49.3	47.4	46.4	45.5	45.5	42.6	41.6	39.7	38.7	36.8
70°	40.6	39.7	37.7	36.8	35.8	34.8	33.9	32.9	31.0	29.0	28.1
72.5°	31.9	30.0	29.0	28.1	27.1	27.1	25.1	24.2	22.2	21.3	19.3
75°	23.2	22.2	21.3	20.3	20.3	19.3	18.4	17.4	15.5	14.5	13.5
77.5°	16.4	15.5	14.5	13.5	13.5	12.6	11.6	10.6	9.7	8.7	7.7
80°	10.6	9.7	9.7	8.7	7.7	7.7	6.8	5.8	4.8	4.8	3.9
82.5°	5.8	5.8	4.8	4.8	3.9	3.9	2.9	2.9	1.9	1.9	1.0
85°	2.9	1.9	1.9	1.9	1.9	1.0	1.0	1.0	0.0	0.0	0.0
87.5°	1.0	1.0	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°	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6
2.5°	334.7	334.7	334.7	334.7	334.7	334.7	334.7	334.7	335.6	334.7	334.7
5°	332.7	332.7	333.7	332.7	333.7	333.7	332.7	332.7	333.7	334.7	333.7
7.5°	328.9	328.9	329.8	329.8	329.8	329.8	329.8	330.8	330.8	331.8	331.8
10°	325.0	325.0	325.0	325.0	326.0	326.0	326.9	326.9	326.9	326.9	326.9
12.5°	318.2	319.2	319.2	319.2	319.2	320.2	320.2	321.1	321.1	321.1	322.1
15°	310.5	311.5	312.4	312.4	311.5	312.4	313.4	313.4	314.4	314.4	314.4
17.5°	301.8	302.8	302.8	303.7	302.8	304.7	304.7	305.7	305.7	306.6	306.6
20°	292.1	293.1	293.1	293.1	294.0	294.0	295.0	295.0	296.0	296.0	296.0
22.5°	280.5	281.5	281.5	281.5	281.5	282.4	282.4	283.4	284.4	285.3	284.4
25°	269.9	270.8	271.8	270.8	271.8	271.8	271.8	272.8	272.8	273.7	272.8
27.5°	255.4	255.4	255.4	256.3	257.3	257.3	257.3	258.3	258.3	258.3	259.2
30°	237.9	237.0	237.9	237.9	237.9	237.9	239.9	239.9	239.9	240.8	241.8
32.5°	221.5	221.5	221.5	220.5	220.5	220.5	220.5	221.5	221.5	222.5	223.4
35°	206.0	205.1	203.1	203.1	203.1	202.2	201.2	201.2	202.2	202.2	202.2
37.5°	189.6	188.6	187.6	185.7	185.7	183.8	182.8	181.8	181.8	180.9	180.9
40°	174.1	172.2	170.2	170.2	168.3	167.3	165.4	164.4	162.5	160.6	160.6
42.5°	158.6	156.7	154.8	153.8	151.9	150.9	148.0	146.1	144.1	143.2	141.2
45°	144.1	142.2	139.3	138.3	136.4	134.4	132.5	129.6	126.7	124.8	123.8
47.5°	129.6	127.7	124.8	122.8	121.9	119.0	117.0	114.1	111.2	108.3	105.4
50°	116.1	113.2	110.3	108.3	107.4	104.5	102.5	99.6	95.8	94.8	91.9
52.5°	102.5	99.6	96.7	95.8	94.8	91.9	89.0	86.1	84.2	81.3	79.3
55°	89.0	87.1	84.2	83.2	82.2	79.3	76.4	74.5	72.5	69.6	67.7
57.5°	77.4	75.4	72.5	71.6	70.6	67.7	65.8	62.9	60.9	59.0	57.1
60°	66.7	63.8	61.9	60.9	60.0	57.1	55.1	53.2	51.3	49.3	46.4
62.5°	55.1	53.2	51.3	50.3	48.4	47.4	44.5	43.5	40.6	39.7	37.7
65°	44.5	42.6	40.6	40.6	39.7	36.8	35.8	33.9	31.9	30.0	29.0
67.5°	35.8	33.9	31.9	31.0	30.0	28.1	27.1	25.1	23.2	22.2	20.3
70°	27.1	25.1	23.2	22.2	21.3	20.3	18.4	16.4	14.5	13.5	11.6
72.5°	18.4	16.4	15.5	15.5	14.5	12.6	10.6	9.7	7.7	6.8	5.8
75°	11.6	9.7	8.7	7.7	7.7	6.8	4.8	3.9	2.9	1.9	1.0
77.5°	6.8	5.8	4.8	3.9	3.9	2.9	1.9	1.0	1.0	0.0	0.0
80°	2.9	1.9	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.0	1.0	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



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CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 5000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	335.6	335.6	335.6	335.6	335.6	335.6	335.6	335.6
2.5°	334.7	334.7	334.7	334.7	333.7	333.7	333.7	333.7
5°	333.7	333.7	333.7	333.7	332.7	332.7	333.7	332.7
7.5°	331.8	331.8	330.8	330.8	330.8	330.8	330.8	330.8
10°	327.9	327.9	327.9	326.9	327.9	327.9	326.9	327.9
12.5°	322.1	322.1	322.1	322.1	321.1	321.1	322.1	321.1
15°	315.3	315.3	315.3	315.3	315.3	314.4	315.3	315.3
17.5°	307.6	307.6	306.6	306.6	306.6	307.6	307.6	306.6
20°	297.0	297.0	297.0	297.0	297.0	297.0	297.0	297.0
22.5°	285.3	285.3	285.3	285.3	285.3	285.3	285.3	285.3
25°	273.7	273.7	273.7	273.7	273.7	273.7	273.7	274.7
27.5°	259.2	259.2	259.2	259.2	259.2	258.3	258.3	260.2
30°	241.8	242.8	242.8	242.8	242.8	242.8	242.8	243.8
32.5°	224.4	224.4	224.4	225.4	224.4	225.4	224.4	224.4
35°	204.1	204.1	204.1	204.1	204.1	205.1	205.1	205.1
37.5°	180.9	181.8	181.8	182.8	182.8	182.8	183.8	182.8
40°	159.6	159.6	159.6	158.6	159.6	158.6	159.6	159.6
42.5°	139.3	137.4	137.4	136.4	136.4	135.4	134.4	134.4
45°	120.9	118.0	118.0	117.0	116.1	114.1	113.2	113.2
47.5°	103.5	102.5	101.6	100.6	99.6	97.7	96.7	97.7
50°	89.0	88.0	87.1	87.1	86.1	85.1	84.2	84.2
52.5°	77.4	75.4	74.5	74.5	73.5	72.5	72.5	72.5
55°	65.8	63.8	63.8	63.8	62.9	61.9	61.9	60.9
57.5°	55.1	53.2	53.2	52.2	51.3	51.3	51.3	50.3
60°	45.5	43.5	42.6	42.6	41.6	40.6	40.6	40.6
62.5°	35.8	34.8	32.9	32.9	31.9	31.0	30.0	31.0
65°	27.1	25.1	24.2	24.2	23.2	22.2	21.3	21.3
67.5°	18.4	17.4	16.4	16.4	14.5	14.5	13.5	13.5
70°	10.6	9.7	9.7	8.7	7.7	7.7	6.8	6.8
72.5°	4.8	3.9	3.9	2.9	2.9	1.9	1.9	1.9
75°	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0
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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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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