

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: P642285

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

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642285
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 - 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: 973.8 lumens
Efficiency: N/A
Efficacy: 59.0 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

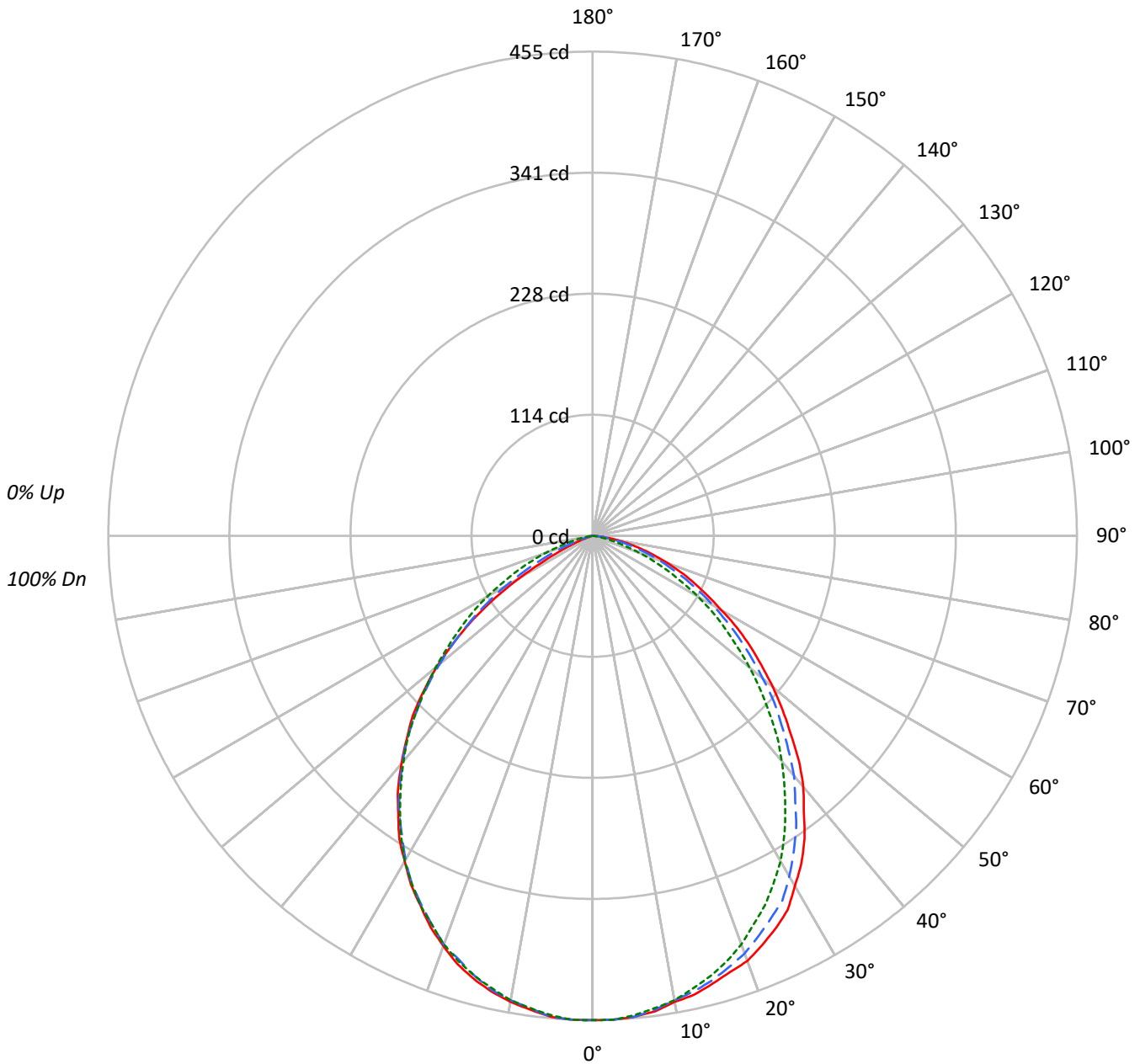
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	35934	35934	35934	35934	35934
5°	35952	35952	35833	35952	35952
10°	35647	35526	35526	35526	35647
15°	35608	35363	34995	34995	35240
20°	35720	35090	34325	34325	34451
25°	35459	34545	33369	33238	33369
30°	34647	33690	32186	32049	32186
35°	33440	32139	30404	30549	30694
40°	31739	30348	28483	28638	28792
45°	29350	28010	26168	26168	26671
50°	27117	25643	23616	23064	23432
55°	24815	23163	20878	19227	18814
60°	22056	20635	18030	14936	12331
65°	19650	17969	14588	9825	5884
70°	17334	15256	10756	4847	1731
75°	14213	11926	6405	1373	458
80°	10910	8183	2728	0	0
85°	5434	4076	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 29517 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.9	4.4
10°-20°	121.4	12.5
20°-30°	179.0	18.4
30°-40°	202.7	20.8
40°-50°	187.1	19.2
50°-60°	138.3	14.2
60°-70°	74.3	7.6
70°-80°	24.9	2.6
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°	343.3	35.3
0°-40°	546.0	56.1
0°-60°	871.4	89.5
0°-90°	973.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	973.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	455	455	455	455	455	
5°	454	454	452	454	454	43
15°	436	433	428	428	431	123
25°	407	397	383	382	383	187
35°	347	334	316	317	318	216
45°	263	251	234	234	239	204
55°	180	168	152	140	137	161
65°	105	96	78	53	32	105
75°	47	39	21	4	2	50
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°	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2
2.5°	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2
5°	453.7	453.7	452.2	453.7	453.7	453.7	453.7	452.2	453.7	453.7	453.7
7.5°	450.7	449.2	449.2	449.2	449.2	449.2	449.2	449.2	449.2	449.2	449.2
10°	444.7	444.7	444.7	444.7	444.7	444.7	444.7	444.7	444.7	444.7	443.2
12.5°	441.7	440.2	440.2	440.2	440.2	440.2	440.2	438.7	440.2	438.7	438.7
15°	435.7	435.7	435.7	435.7	435.7	435.7	434.2	434.2	434.2	434.2	432.7
17.5°	429.7	429.7	431.2	431.2	429.7	429.7	429.7	428.2	426.7	426.7	425.2
20°	425.2	425.2	423.7	423.7	422.2	423.7	422.2	420.7	420.7	419.2	417.7
22.5°	416.2	416.2	416.2	416.2	416.2	414.7	414.7	413.1	411.6	410.1	407.1
25°	407.1	407.1	407.1	407.1	405.6	405.6	405.6	402.6	401.1	399.6	396.6
27.5°	396.6	395.1	395.1	395.1	393.6	393.6	392.1	390.6	389.1	387.6	386.1
30°	380.1	380.1	380.1	380.1	378.6	377.1	377.1	375.6	374.1	371.1	369.6
32.5°	365.1	365.1	363.6	362.1	362.1	362.1	360.6	359.1	356.1	354.6	351.6
35°	347.0	345.5	345.5	344.0	344.0	344.0	342.5	339.5	338.0	336.5	333.5
37.5°	326.0	327.5	326.0	326.0	324.5	323.0	321.5	320.0	318.5	315.5	312.5
40°	308.0	308.0	306.5	305.0	303.5	303.5	302.0	300.5	299.0	297.5	294.5
42.5°	286.9	286.9	285.4	285.4	283.9	283.9	280.9	279.4	277.9	276.4	271.9
45°	262.9	262.9	264.4	262.9	261.4	259.9	259.9	258.4	255.4	253.9	250.9
47.5°	241.9	243.4	241.9	240.4	240.4	238.9	238.9	235.9	235.9	232.9	231.4
50°	220.8	220.8	220.8	220.8	219.3	217.8	217.8	216.3	213.3	211.8	208.8
52.5°	199.8	199.8	199.8	199.8	198.3	198.3	196.8	195.3	193.8	190.8	187.8
55°	180.3	178.8	178.8	178.8	177.3	177.3	175.8	174.3	172.8	171.3	168.3
57.5°	160.8	159.2	159.2	157.7	157.7	156.2	156.2	154.7	153.2	150.2	148.7
60°	139.7	141.2	139.7	139.7	138.2	138.2	138.2	136.7	133.7	132.2	130.7
62.5°	121.7	123.2	121.7	120.2	120.2	120.2	120.2	117.2	115.7	114.2	112.7
65°	105.2	105.2	105.2	103.7	103.7	103.7	100.7	100.7	99.2	97.7	96.2
67.5°	90.1	88.6	88.6	88.6	87.1	87.1	85.6	85.6	82.6	82.6	79.6
70°	75.1	73.6	73.6	73.6	72.1	70.6	72.1	69.1	67.6	66.1	66.1
72.5°	60.1	60.1	58.6	58.6	58.6	57.1	57.1	55.6	54.1	52.6	51.1
75°	46.6	46.6	46.6	45.1	45.1	43.6	43.6	42.1	42.1	39.1	39.1
77.5°	34.6	34.6	34.6	33.1	33.1	33.1	31.5	31.5	30.0	28.5	27.0
80°	24.0	22.5	22.5	22.5	22.5	21.0	21.0	21.0	19.5	19.5	18.0
82.5°	13.5	13.5	13.5	13.5	13.5	13.5	12.0	12.0	12.0	10.5	10.5
85°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.5	4.5	4.5
87.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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°	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2
2.5°	455.2	455.2	455.2	455.2	453.7	455.2	453.7	455.2	455.2	455.2	455.2
5°	453.7	452.2	452.2	452.2	453.7	453.7	452.2	452.2	452.2	452.2	452.2
7.5°	449.2	449.2	449.2	447.7	449.2	449.2	447.7	449.2	449.2	447.7	449.2
10°	444.7	444.7	443.2	443.2	443.2	443.2	443.2	443.2	441.7	443.2	443.2
12.5°	438.7	438.7	438.7	437.2	437.2	437.2	437.2	437.2	435.7	435.7	437.2
15°	432.7	432.7	431.2	431.2	431.2	429.7	429.7	429.7	429.7	428.2	428.2
17.5°	425.2	423.7	423.7	422.2	422.2	420.7	420.7	419.2	419.2	419.2	417.7
20°	416.2	414.7	413.1	413.1	411.6	411.6	410.1	410.1	408.6	408.6	407.1
22.5°	405.6	404.1	402.6	401.1	401.1	399.6	399.6	398.1	396.6	395.1	395.1
25°	396.6	393.6	392.1	390.6	387.6	387.6	386.1	386.1	384.6	383.1	381.6
27.5°	383.1	380.1	378.6	377.1	375.6	374.1	371.1	371.1	369.6	368.1	366.6
30°	366.6	365.1	362.1	360.6	359.1	359.1	356.1	353.1	353.1	353.1	351.6
32.5°	350.0	347.0	345.5	342.5	341.0	341.0	339.5	336.5	335.0	335.0	333.5
35°	332.0	329.0	326.0	324.5	323.0	321.5	320.0	318.5	317.0	315.5	314.0
37.5°	311.0	308.0	306.5	305.0	303.5	302.0	300.5	299.0	297.5	296.0	297.5
40°	291.5	288.5	285.4	283.9	282.4	282.4	280.9	279.4	277.9	276.4	276.4
42.5°	270.4	267.4	265.9	264.4	262.9	261.4	259.9	258.4	256.9	256.9	255.4
45°	247.9	246.4	243.4	241.9	240.4	240.4	237.4	235.9	235.9	234.4	234.4
47.5°	228.4	225.4	222.3	220.8	219.3	217.8	216.3	214.8	213.3	213.3	213.3
50°	205.8	204.3	201.3	199.8	198.3	198.3	196.8	195.3	193.8	192.3	192.3
52.5°	184.8	183.3	183.3	180.3	178.8	178.8	175.8	175.8	172.8	171.3	169.8
55°	166.8	163.8	162.3	159.2	159.2	157.7	156.2	154.7	153.2	151.7	150.2
57.5°	145.7	144.2	142.7	141.2	141.2	139.7	138.2	136.7	133.7	133.7	130.7
60°	129.2	126.2	124.7	123.2	121.7	121.7	120.2	118.7	115.7	114.2	112.7
62.5°	111.2	108.2	108.2	106.7	103.7	103.7	102.2	99.2	97.7	94.6	93.1
65°	94.6	93.1	90.1	88.6	88.6	87.1	84.1	82.6	81.1	78.1	75.1
67.5°	78.1	76.6	75.1	72.1	72.1	70.6	67.6	66.1	63.1	61.6	58.6
70°	63.1	61.6	60.1	57.1	57.1	55.6	54.1	51.1	48.1	46.6	43.6
72.5°	49.6	48.1	46.6	43.6	43.6	42.1	39.1	37.6	34.6	31.5	30.0
75°	37.6	36.1	33.1	31.5	30.0	30.0	27.0	25.5	24.0	21.0	19.5
77.5°	25.5	24.0	22.5	21.0	21.0	19.5	18.0	16.5	15.0	13.5	10.5
80°	16.5	15.0	13.5	13.5	12.0	12.0	10.5	9.0	7.5	6.0	4.5
82.5°	9.0	9.0	7.5	6.0	6.0	6.0	4.5	4.5	3.0	1.5	1.5
85°	3.0	3.0	3.0	3.0	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°	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2
2.5°	455.2	455.2	455.2	455.2	455.2	455.2	453.7	455.2	455.2	455.2	453.7
5°	453.7	452.2	452.2	453.7	452.2	452.2	453.7	453.7	453.7	452.2	452.2
7.5°	447.7	449.2	447.7	447.7	449.2	449.2	449.2	449.2	447.7	447.7	449.2
10°	443.2	443.2	441.7	443.2	441.7	443.2	443.2	443.2	443.2	443.2	443.2
12.5°	435.7	435.7	435.7	437.2	435.7	435.7	437.2	437.2	437.2	437.2	437.2
15°	426.7	426.7	428.2	426.7	428.2	428.2	428.2	428.2	428.2	428.2	429.7
17.5°	417.7	417.7	417.7	417.7	417.7	417.7	417.7	417.7	417.7	419.2	419.2
20°	407.1	407.1	407.1	407.1	407.1	405.6	407.1	407.1	408.6	408.6	408.6
22.5°	393.6	393.6	393.6	393.6	393.6	393.6	393.6	393.6	395.1	396.6	395.1
25°	380.1	380.1	380.1	380.1	380.1	380.1	380.1	381.6	381.6	381.6	383.1
27.5°	366.6	366.6	366.6	365.1	366.6	365.1	366.6	366.6	368.1	366.6	368.1
30°	351.6	350.0	350.0	350.0	350.0	351.6	350.0	350.0	351.6	353.1	351.6
32.5°	332.0	332.0	332.0	333.5	333.5	333.5	335.0	333.5	333.5	335.0	335.0
35°	314.0	314.0	314.0	315.5	315.5	315.5	315.5	317.0	317.0	317.0	318.5
37.5°	294.5	296.0	294.5	296.0	296.0	297.5	297.5	297.5	297.5	299.0	299.0
40°	276.4	274.9	276.4	276.4	276.4	276.4	276.4	276.4	277.9	279.4	279.4
42.5°	255.4	255.4	255.4	255.4	255.4	255.4	256.9	256.9	256.9	258.4	258.4
45°	234.4	232.9	232.9	232.9	232.9	234.4	232.9	234.4	234.4	235.9	235.9
47.5°	211.8	211.8	211.8	211.8	211.8	211.8	211.8	211.8	211.8	213.3	211.8
50°	192.3	190.8	189.3	189.3	187.8	189.3	187.8	187.8	187.8	189.3	187.8
52.5°	169.8	168.3	166.8	166.8	166.8	165.3	163.8	163.8	163.8	162.3	162.3
55°	150.2	148.7	145.7	147.2	144.2	142.7	142.7	141.2	139.7	139.7	138.2
57.5°	129.2	127.7	126.2	124.7	124.7	121.7	120.2	118.7	117.2	115.7	112.7
60°	111.2	108.2	105.2	105.2	103.7	102.2	99.2	96.2	94.6	91.6	90.1
62.5°	91.6	88.6	85.6	84.1	82.6	81.1	78.1	75.1	72.1	70.6	67.6
65°	73.6	70.6	67.6	66.1	64.6	61.6	58.6	55.6	52.6	49.6	48.1
67.5°	55.6	52.6	51.1	48.1	46.6	43.6	40.6	39.1	36.1	33.1	28.5
70°	40.6	37.6	34.6	33.1	31.5	28.5	27.0	24.0	21.0	19.5	16.5
72.5°	27.0	24.0	22.5	21.0	19.5	18.0	15.0	13.5	10.5	9.0	7.5
75°	16.5	15.0	13.5	12.0	10.5	9.0	7.5	6.0	4.5	3.0	1.5
77.5°	9.0	7.5	6.0	6.0	4.5	3.0	3.0	1.5	1.5	1.5	1.5
80°	4.5	3.0	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	1.5
82.5°	1.5	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: P642285

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2
2.5°	455.2	455.2	455.2	455.2	455.2	455.2	455.2	455.2
5°	453.7	453.7	452.2	453.7	452.2	452.2	452.2	453.7
7.5°	449.2	449.2	449.2	449.2	449.2	449.2	449.2	449.2
10°	443.2	443.2	443.2	444.7	444.7	444.7	443.2	444.7
12.5°	437.2	437.2	437.2	438.7	437.2	438.7	437.2	438.7
15°	429.7	429.7	431.2	431.2	429.7	429.7	431.2	431.2
17.5°	419.2	420.7	420.7	420.7	420.7	420.7	420.7	422.2
20°	410.1	410.1	408.6	410.1	410.1	411.6	411.6	410.1
22.5°	395.1	398.1	398.1	398.1	398.1	398.1	398.1	398.1
25°	383.1	383.1	383.1	384.6	383.1	383.1	384.6	383.1
27.5°	368.1	369.6	368.1	369.6	369.6	369.6	369.6	369.6
30°	353.1	353.1	353.1	353.1	353.1	354.6	353.1	353.1
32.5°	335.0	336.5	336.5	336.5	338.0	336.5	336.5	338.0
35°	318.5	318.5	318.5	320.0	318.5	320.0	320.0	318.5
37.5°	299.0	300.5	299.0	300.5	300.5	300.5	300.5	300.5
40°	280.9	279.4	280.9	279.4	280.9	280.9	280.9	279.4
42.5°	258.4	259.9	259.9	259.9	259.9	259.9	259.9	258.4
45°	235.9	237.4	237.4	237.4	237.4	237.4	238.9	238.9
47.5°	211.8	214.8	214.8	214.8	213.3	216.3	214.8	214.8
50°	187.8	187.8	189.3	189.3	190.8	190.8	190.8	190.8
52.5°	163.8	162.3	163.8	163.8	165.3	163.8	165.3	163.8
55°	136.7	136.7	136.7	135.2	136.7	136.7	136.7	136.7
57.5°	112.7	111.2	109.7	108.2	108.2	108.2	106.7	108.2
60°	87.1	84.1	85.6	82.6	81.1	79.6	79.6	78.1
62.5°	64.6	61.6	60.1	58.6	55.6	52.6	52.6	51.1
65°	43.6	40.6	39.1	36.1	34.6	33.1	31.5	31.5
67.5°	27.0	24.0	24.0	22.5	21.0	19.5	18.0	18.0
70°	15.0	13.5	12.0	10.5	10.5	9.0	7.5	7.5
72.5°	6.0	4.5	4.5	3.0	3.0	3.0	3.0	1.5
75°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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

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

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