

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: P642299

Luminaire Tested: ML5612LSWW97FS1E - 592W WW - 1200LM - 4000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642299
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-116)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592W WW - 1200LM - 4000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 943.3 lumens
Efficiency: N/A
Efficacy: 57.2 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.13 / 1.23
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

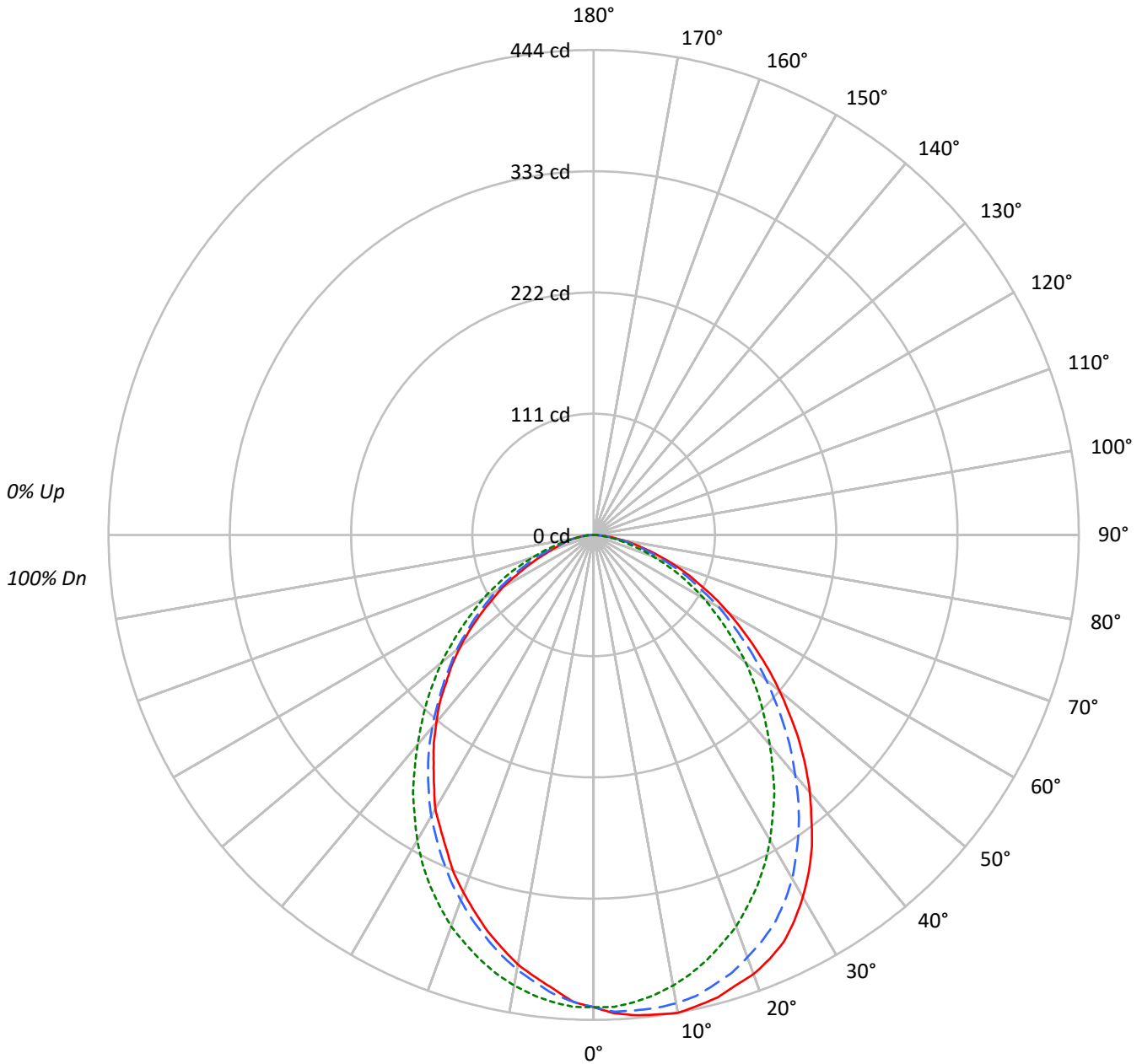
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86								
2	101	94	88	82	99	92	86	81	88	84	80	85	81	78	82	79	76	74								
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64								
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55								
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49								
6	73	61	53	46	72	60	52	46	58	51	46	57	50	45	55	49	45	43								
7	68	56	47	41	67	55	47	41	53	46	41	52	45	41	51	45	40	39								
8	64	51	43	37	62	50	43	37	49	42	37	48	41	37	47	41	37	35								
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	43	37	33	32								
10	56	43	36	31	55	43	36	31	42	35	31	41	35	31	40	35	30	29								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	34134	34134	34134	34134	34134
5°	34978	34621	34027	33432	33076
10°	35623	34901	33578	32376	32015
15°	35829	34848	32886	31170	30680
20°	35947	34561	32040	29898	29260
25°	35834	34135	30860	28508	27724
30°	34903	33125	29424	27100	26416
35°	33565	31542	27783	25470	24603
40°	31719	29555	25835	23671	23052
45°	29674	27486	24136	21792	21290
50°	27288	25262	22315	20104	19551
55°	24801	22943	20245	18181	17355
60°	22514	20856	18488	16120	15172
65°	19912	18511	16269	13748	12347
70°	17680	15949	13525	11079	9694
75°	14640	13268	10523	8693	8693
80°	11592	10229	8183	7501	7501
85°	6793	6793	5434	6793	6793

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 29674 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.7	4.3
10°-20°	113.9	12.1
20°-30°	165.2	17.5
30°-40°	184.3	19.5
40°-50°	170.9	18.1
50°-60°	134.4	14.2
60°-70°	86.0	9.1
70°-80°	39.4	4.2
80°-90°	8.5	0.9
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°	319.8	33.9
0°-40°	504.1	53.4
0°-60°	809.4	85.8
0°-90°	943.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	943.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	432	432	432	432	432	
5°	441	437	429	422	417	42
15°	438	426	402	381	375	124
25°	411	392	354	327	318	189
35°	348	327	288	264	255	217
45°	266	246	216	195	191	204
55°	180	167	147	132	126	162
65°	107	99	87	74	66	107
75°	48	44	34	28	28	52
85°	8	8	6	8	8	10
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°	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4
2.5°	438.4	438.4	438.4	438.4	438.4	438.4	436.9	436.9	436.9	436.9	436.9
5°	441.4	441.4	441.4	441.4	439.9	439.9	439.9	439.9	438.4	438.4	436.9
7.5°	442.9	442.9	442.9	441.4	441.4	441.4	439.9	439.9	439.9	438.4	436.9
10°	444.4	442.9	442.9	441.4	441.4	441.4	439.9	439.9	438.4	436.9	435.4
12.5°	441.4	441.4	441.4	441.4	439.9	439.9	438.4	436.9	435.4	433.9	432.4
15°	438.4	438.4	438.4	436.9	435.4	435.4	433.9	432.4	430.9	429.4	426.4
17.5°	432.4	433.9	432.4	432.4	430.9	430.9	429.4	427.9	424.9	423.4	420.4
20°	427.9	426.4	426.4	426.4	424.9	423.4	421.9	420.4	417.4	415.9	411.4
22.5°	420.4	420.4	418.9	417.4	415.9	415.9	414.4	411.4	409.9	406.9	402.4
25°	411.4	409.9	409.9	408.4	406.9	406.9	403.9	402.4	399.4	394.9	391.9
27.5°	397.9	397.9	397.9	396.4	394.9	393.4	391.9	388.9	387.4	381.4	378.4
30°	382.9	382.9	381.4	381.4	378.4	378.4	376.9	373.9	370.9	366.4	363.4
32.5°	366.4	366.4	366.4	363.4	361.9	360.4	358.9	357.4	352.8	348.3	345.3
35°	348.3	348.3	346.8	345.3	343.8	342.3	340.8	337.8	334.8	331.8	327.3
37.5°	327.3	328.8	327.3	325.8	324.3	322.8	321.3	319.8	315.3	312.3	307.8
40°	307.8	307.8	306.3	304.8	303.3	303.3	301.8	298.8	295.8	291.3	286.8
42.5°	286.8	286.8	285.3	283.8	283.8	282.3	279.3	277.8	274.8	271.8	267.3
45°	265.8	264.3	262.8	262.8	261.3	259.8	259.8	256.8	253.7	249.2	246.2
47.5°	243.2	243.2	241.7	241.7	240.2	238.7	238.7	235.7	231.2	228.2	225.2
50°	222.2	222.2	220.7	220.7	219.2	217.7	216.2	214.7	211.7	208.7	205.7
52.5°	201.2	201.2	201.2	198.2	196.7	196.7	196.7	193.7	192.2	189.2	186.2
55°	180.2	180.2	180.2	178.7	177.2	177.2	177.2	174.2	172.7	169.7	166.7
57.5°	160.7	160.7	160.7	159.2	159.2	157.7	156.2	154.7	153.2	151.6	148.6
60°	142.6	142.6	141.1	139.6	141.1	139.6	138.1	136.6	135.1	133.6	132.1
62.5°	124.6	124.6	124.6	123.1	121.6	121.6	121.6	120.1	117.1	115.6	114.1
65°	106.6	106.6	106.6	106.6	105.1	105.1	103.6	102.1	102.1	100.6	99.1
67.5°	91.6	91.6	90.1	90.1	88.6	88.6	88.6	87.1	85.6	85.6	84.1
70°	76.6	75.1	75.1	75.1	73.6	73.6	73.6	72.1	72.1	70.6	69.1
72.5°	61.6	61.6	61.6	61.6	60.1	60.1	58.6	58.6	57.1	57.1	55.6
75°	48.0	48.0	48.0	48.0	46.5	46.5	46.5	46.5	45.0	45.0	43.5
77.5°	36.0	36.0	36.0	36.0	36.0	36.0	34.5	34.5	34.5	33.0	33.0
80°	25.5	25.5	25.5	25.5	24.0	24.0	24.0	24.0	24.0	22.5	22.5
82.5°	16.5	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	13.5
85°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
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°	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4
2.5°	435.4	435.4	435.4	435.4	433.9	433.9	433.9	432.4	432.4	432.4	432.4
5°	436.9	436.9	433.9	433.9	433.9	433.9	432.4	432.4	430.9	429.4	427.9
7.5°	435.4	435.4	433.9	432.4	430.9	430.9	429.4	427.9	426.4	424.9	423.4
10°	433.9	432.4	430.9	429.4	427.9	426.4	424.9	423.4	420.4	418.9	417.4
12.5°	430.9	427.9	426.4	423.4	423.4	421.9	418.9	417.4	414.4	411.4	409.9
15°	424.9	421.9	418.9	415.9	415.9	412.9	409.9	408.4	405.4	402.4	399.4
17.5°	417.4	414.4	411.4	408.4	406.9	403.9	400.9	397.9	394.9	391.9	388.9
20°	409.9	405.4	402.4	397.9	396.4	394.9	390.4	387.4	384.4	381.4	376.9
22.5°	399.4	396.4	390.4	387.4	385.9	382.9	379.9	375.4	370.9	367.9	364.9
25°	387.4	384.4	379.9	375.4	372.4	370.9	366.4	361.9	358.9	354.3	351.3
27.5°	373.9	369.4	366.4	360.4	358.9	355.9	351.3	346.8	343.8	339.3	334.8
30°	358.9	354.3	349.8	345.3	342.3	340.8	336.3	331.8	327.3	322.8	319.8
32.5°	340.8	336.3	331.8	328.8	324.3	321.3	318.3	313.8	309.3	304.8	301.8
35°	322.8	318.3	313.8	309.3	306.3	306.3	300.3	295.8	291.3	288.3	283.8
37.5°	303.3	298.8	294.3	289.8	288.3	285.3	280.8	276.3	273.3	268.8	265.8
40°	283.8	277.8	274.8	270.3	268.8	265.8	262.8	258.3	255.3	250.7	247.7
42.5°	262.8	259.8	255.3	252.2	249.2	247.7	243.2	238.7	235.7	232.7	231.2
45°	243.2	238.7	234.2	231.2	229.7	226.7	225.2	220.7	217.7	216.2	213.2
47.5°	222.2	219.2	216.2	211.7	210.2	208.7	205.7	204.2	201.2	198.2	195.2
50°	202.7	199.7	196.7	193.7	192.2	192.2	187.7	184.7	183.2	181.7	178.7
52.5°	183.2	180.2	177.2	174.2	174.2	172.7	169.7	168.2	166.7	163.7	160.7
55°	165.2	162.2	159.2	157.7	156.2	156.2	153.2	151.6	148.6	147.1	145.6
57.5°	147.1	144.1	142.6	141.1	139.6	139.6	136.6	135.1	133.6	130.6	130.6
60°	130.6	127.6	126.1	124.6	123.1	121.6	121.6	118.6	117.1	117.1	114.1
62.5°	112.6	111.1	109.6	108.1	106.6	106.6	105.1	103.6	102.1	100.6	99.1
65°	97.6	96.1	94.6	93.1	91.6	91.6	90.1	88.6	87.1	87.1	84.1
67.5°	82.6	81.1	79.6	78.1	78.1	76.6	75.1	75.1	73.6	72.1	70.6
70°	67.6	67.6	66.1	64.6	64.6	63.1	61.6	61.6	60.1	58.6	57.1
72.5°	55.6	54.1	52.6	52.6	51.1	51.1	49.5	49.5	48.0	46.5	45.0
75°	42.0	40.5	40.5	40.5	39.0	39.0	39.0	37.5	36.0	34.5	34.5
77.5°	31.5	31.5	30.0	28.5	28.5	28.5	27.0	27.0	27.0	25.5	25.5
80°	22.5	21.0	21.0	19.5	19.5	19.5	19.5	18.0	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	10.5
85°	7.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
87.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0
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°	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4
2.5°	430.9	430.9	429.4	429.4	429.4	429.4	429.4	427.9	427.9	427.9	427.9
5°	427.9	426.4	424.9	424.9	424.9	423.4	423.4	421.9	421.9	420.4	420.4
7.5°	421.9	420.4	418.9	418.9	417.4	417.4	414.4	414.4	412.9	411.4	411.4
10°	414.4	412.9	411.4	409.9	409.9	406.9	406.9	405.4	403.9	402.4	402.4
12.5°	406.9	405.4	402.4	400.9	400.9	399.4	396.4	394.9	393.4	391.9	390.4
15°	396.4	394.9	391.9	390.4	388.9	387.4	385.9	384.4	381.4	379.9	379.9
17.5°	385.9	384.4	379.9	378.4	378.4	375.4	373.9	370.9	369.4	367.9	366.4
20°	373.9	370.9	367.9	366.4	364.9	361.9	360.4	358.9	355.9	354.3	352.8
22.5°	360.4	357.4	354.3	352.8	351.3	348.3	346.8	343.8	342.3	340.8	339.3
25°	346.8	343.8	340.8	339.3	336.3	334.8	331.8	328.8	327.3	325.8	324.3
27.5°	331.8	328.8	324.3	322.8	321.3	319.8	316.8	313.8	312.3	309.3	309.3
30°	315.3	312.3	309.3	307.8	306.3	303.3	301.8	298.8	297.3	294.3	294.3
32.5°	298.8	294.3	291.3	289.8	288.3	286.8	283.8	282.3	280.8	279.3	277.8
35°	280.8	277.8	274.8	273.3	271.8	268.8	267.3	265.8	264.3	261.3	261.3
37.5°	262.8	259.8	256.8	255.3	255.3	252.2	250.7	247.7	247.7	244.7	244.7
40°	244.7	241.7	238.7	238.7	237.2	234.2	232.7	231.2	229.7	228.2	228.2
42.5°	228.2	223.7	222.2	222.2	219.2	217.7	216.2	214.7	211.7	211.7	211.7
45°	210.2	207.2	205.7	204.2	202.7	201.2	199.7	196.7	195.2	193.7	193.7
47.5°	193.7	190.7	189.2	187.7	186.2	184.7	183.2	181.7	178.7	178.7	177.2
50°	177.2	174.2	172.7	171.2	169.7	168.2	166.7	165.2	163.7	162.2	160.7
52.5°	159.2	157.7	156.2	154.7	154.7	151.6	150.1	148.6	147.1	147.1	144.1
55°	144.1	142.6	141.1	139.6	138.1	136.6	135.1	133.6	132.1	130.6	129.1
57.5°	127.6	126.1	124.6	124.6	123.1	121.6	120.1	118.6	117.1	115.6	114.1
60°	112.6	111.1	109.6	109.6	108.1	106.6	105.1	105.1	102.1	100.6	99.1
62.5°	97.6	96.1	94.6	94.6	93.1	93.1	91.6	90.1	87.1	87.1	85.6
65°	84.1	82.6	81.1	79.6	79.6	78.1	76.6	75.1	73.6	73.6	72.1
67.5°	70.6	69.1	67.6	67.6	66.1	64.6	63.1	61.6	60.1	60.1	58.6
70°	57.1	55.6	54.1	54.1	52.6	51.1	51.1	49.5	48.0	46.5	46.5
72.5°	43.5	43.5	42.0	42.0	40.5	40.5	39.0	37.5	37.5	36.0	34.5
75°	33.0	33.0	31.5	31.5	30.0	30.0	28.5	28.5	28.5	27.0	28.5
77.5°	24.0	24.0	22.5	22.5	22.5	21.0	21.0	21.0	22.5	22.5	22.5
80°	16.5	16.5	16.5	16.5	15.0	15.0	16.5	16.5	16.5	16.5	16.5
82.5°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	12.0	12.0	12.0
85°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.5	7.5	7.5	7.5
87.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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: P642299

CATALOG NUMBER: ML5612LSWW97FS1E - 592W WW - 1200LM - 4000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4
2.5°	426.4	426.4	426.4	426.4	426.4	426.4	426.4	427.9
5°	418.9	418.9	418.9	418.9	418.9	418.9	418.9	417.4
7.5°	411.4	409.9	409.9	409.9	409.9	408.4	408.4	408.4
10°	400.9	400.9	399.4	399.4	399.4	399.4	397.9	399.4
12.5°	390.4	388.9	388.9	388.9	387.4	387.4	387.4	387.4
15°	378.4	376.9	376.9	376.9	375.4	375.4	375.4	375.4
17.5°	364.9	364.9	363.4	363.4	361.9	361.9	361.9	361.9
20°	351.3	351.3	351.3	349.8	349.8	349.8	348.3	348.3
22.5°	337.8	336.3	334.8	336.3	334.8	333.3	334.8	334.8
25°	322.8	321.3	319.8	319.8	319.8	319.8	318.3	318.3
27.5°	307.8	304.8	304.8	304.8	304.8	303.3	303.3	303.3
30°	292.8	291.3	291.3	289.8	288.3	288.3	288.3	289.8
32.5°	276.3	274.8	273.3	273.3	273.3	273.3	271.8	271.8
35°	259.8	259.8	258.3	258.3	258.3	256.8	256.8	255.3
37.5°	243.2	243.2	241.7	241.7	241.7	240.2	240.2	240.2
40°	226.7	225.2	225.2	226.7	225.2	225.2	223.7	223.7
42.5°	210.2	210.2	208.7	208.7	208.7	208.7	207.2	208.7
45°	192.2	192.2	192.2	192.2	192.2	192.2	190.7	190.7
47.5°	177.2	175.7	175.7	175.7	175.7	175.7	175.7	175.7
50°	160.7	159.2	159.2	159.2	159.2	159.2	159.2	159.2
52.5°	144.1	142.6	142.6	142.6	142.6	142.6	142.6	142.6
55°	129.1	127.6	127.6	126.1	127.6	126.1	126.1	126.1
57.5°	114.1	112.6	111.1	112.6	111.1	111.1	111.1	109.6
60°	99.1	97.6	97.6	97.6	96.1	94.6	94.6	96.1
62.5°	84.1	84.1	82.6	82.6	81.1	79.6	79.6	79.6
65°	70.6	69.1	69.1	67.6	67.6	66.1	66.1	66.1
67.5°	57.1	57.1	55.6	55.6	54.1	54.1	54.1	52.6
70°	45.0	45.0	43.5	43.5	43.5	42.0	42.0	42.0
72.5°	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
75°	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
77.5°	22.5	22.5	22.5	22.5	22.5	22.5	22.5	24.0
80°	16.5	16.5	18.0	16.5	18.0	16.5	16.5	16.5
82.5°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
85°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
87.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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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