

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: P642345

Luminaire Tested: ML5612LSWW97FS1E - 692W WW - 1200LM - 5000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642345
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-117)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 692W WW - 1200LM - 5000K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

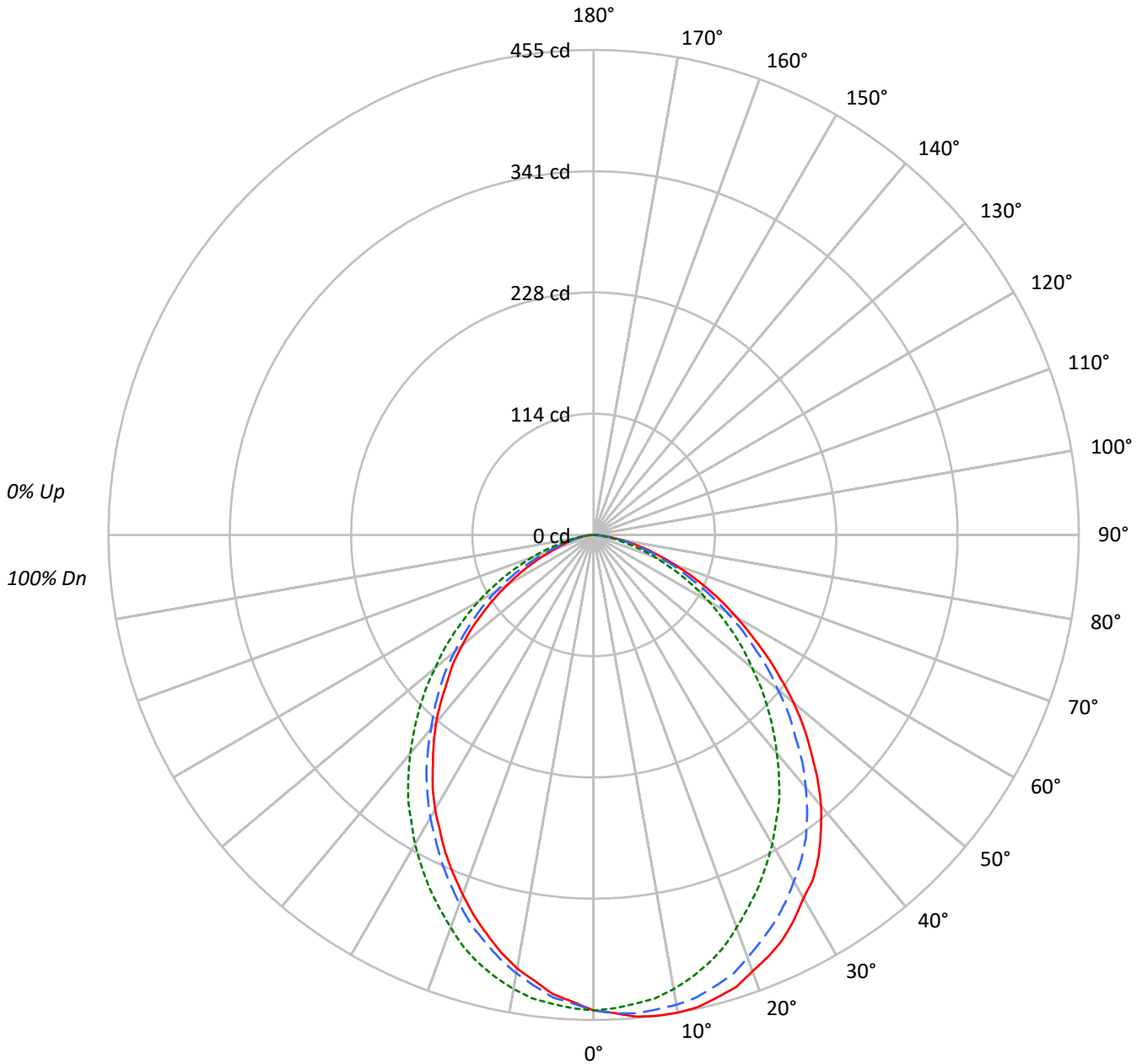
Lumens per Lamp: N/A
Luminaire Lumens: 984.7 lumens
Efficiency: N/A
Efficacy: 59.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.13 / 1.25
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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	89	87							
	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	52	46	72	60	52	46	58	51	46	56	50	45	55	49	45	43							
	7	68	55	47	41	67	55	47	41	53	46	41	52	45	41	50	45	40	38							
	8	64	51	43	37	62	50	42	37	49	42	37	48	41	37	46	41	36	35							
	9	60	47	39	34	58	46	39	34	45	38	33	44	38	33	43	37	33	31							
	10	56	43	36	31	55	43	36	31	42	35	30	41	35	30	40	34	30	29							

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	24455	24455	24455	24455	24455
5°	24961	24796	24301	23971	23806
10°	25334	24916	24081	23246	22996
15°	25488	24892	23615	22418	21992
20°	25412	24625	22869	21469	20943
25°	25350	24261	22078	20445	19900
30°	24909	23769	21206	19395	18826
35°	24628	23222	20304	18297	17594
40°	23759	22141	19136	16982	16445
45°	22359	20731	17932	15839	15025
50°	20878	19215	16528	14473	13705
55°	18953	17519	15216	13065	12062
60°	16961	15646	13672	11523	10208
65°	15008	13633	11882	9742	8185
70°	12759	11797	9873	7469	6027
75°	10506	9553	7307	5083	5083
80°	8050	7103	5209	4262	4735
85°	5661	4717	3774	3774	3774

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 22359 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	4.3
10°-20°	117.4	11.9
20°-30°	169.9	17.3
30°-40°	193.0	19.6
40°-50°	182.1	18.5
50°-60°	143.6	14.6
60°-70°	89.9	9.1
70°-80°	38.9	3.9
80°-90°	8.0	0.8
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°	329.2	33.4
0°-40°	522.2	53.0
0°-60°	848.0	86.1
0°-90°	984.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	984.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	446	446	446	446	446	
5°	454	451	442	436	433	43
15°	449	439	416	395	388	127
25°	419	401	365	338	329	193
35°	368	347	303	273	263	229
45°	288	267	231	204	194	223
55°	198	183	159	137	126	177
65°	116	105	92	75	63	115
75°	50	45	34	24	24	54
85°	9	8	6	6	6	11
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°	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1
2.5°	449.1	449.1	450.6	450.6	449.1	449.1	449.1	449.1	449.1	449.1	449.1
5°	453.6	453.6	453.6	453.6	452.1	452.1	452.1	452.1	452.1	450.6	450.6
7.5°	455.1	455.1	455.1	455.1	453.6	453.6	452.1	452.1	452.1	450.6	449.1
10°	455.1	455.1	455.1	453.6	453.6	452.1	453.6	452.1	450.6	449.1	447.6
12.5°	453.6	452.1	452.1	452.1	450.6	450.6	450.6	449.1	447.6	446.1	444.6
15°	449.1	449.1	449.1	447.6	447.6	446.1	446.1	444.6	443.1	440.1	438.6
17.5°	444.6	444.6	443.1	443.1	441.6	440.1	440.1	438.6	437.1	434.1	432.6
20°	435.6	435.6	435.6	434.1	432.6	432.6	431.1	429.6	426.6	423.6	422.1
22.5°	428.1	426.6	426.6	425.1	423.6	423.6	422.1	419.1	417.6	414.6	411.6
25°	419.1	417.6	417.6	416.1	414.6	413.1	413.1	410.1	407.1	404.1	401.1
27.5°	407.1	407.1	405.6	404.1	402.6	402.6	401.1	399.6	395.0	392.0	389.0
30°	393.5	395.0	393.5	392.0	390.5	390.5	389.0	386.0	383.0	378.5	375.5
32.5°	383.0	383.0	381.5	380.0	377.0	377.0	377.0	372.5	369.5	366.5	362.0
35°	368.0	368.0	368.0	365.0	363.5	362.0	360.5	357.5	354.5	351.5	347.0
37.5°	350.0	351.5	350.0	348.5	347.0	345.5	344.0	341.0	336.5	333.5	329.0
40°	332.0	332.0	330.5	329.0	327.5	325.9	324.4	321.4	318.4	313.9	309.4
42.5°	310.9	310.9	309.4	307.9	306.4	304.9	304.9	301.9	297.4	294.4	289.9
45°	288.4	288.4	288.4	286.9	285.4	283.9	282.4	280.9	277.9	273.4	267.4
47.5°	267.4	267.4	267.4	264.4	264.4	261.4	259.9	256.9	255.4	250.8	247.8
50°	244.8	243.3	243.3	241.8	240.3	238.8	238.8	234.3	232.8	229.8	225.3
52.5°	220.8	220.8	220.8	219.3	217.8	216.3	216.3	213.3	210.3	207.3	205.8
55°	198.3	198.3	198.3	196.8	195.3	195.3	193.8	190.8	189.3	186.3	183.3
57.5°	175.7	177.2	175.7	174.2	174.2	172.7	172.7	171.2	168.2	165.2	163.7
60°	154.7	154.7	154.7	153.2	151.7	151.7	151.7	150.2	147.2	145.7	142.7
62.5°	135.2	135.2	133.7	133.7	132.2	132.2	130.7	129.2	127.7	126.2	124.7
65°	115.7	114.2	114.2	114.2	112.7	112.7	112.7	111.2	108.1	106.6	105.1
67.5°	97.6	97.6	96.1	96.1	94.6	94.6	94.6	93.1	91.6	90.1	88.6
70°	79.6	79.6	79.6	79.6	78.1	78.1	78.1	76.6	75.1	75.1	73.6
72.5°	64.6	64.6	64.6	64.6	63.1	63.1	63.1	61.6	60.1	58.6	58.6
75°	49.6	51.1	49.6	49.6	49.6	49.6	48.1	48.1	46.6	45.1	45.1
77.5°	37.6	37.6	37.6	37.6	36.0	36.0	36.0	36.0	34.5	33.0	33.0
80°	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	24.0	24.0	22.5
82.5°	15.0	16.5	16.5	16.5	15.0	15.0	15.0	15.0	15.0	15.0	13.5
85°	9.0	7.5	7.5	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	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°	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1
2.5°	447.6	447.6	447.6	447.6	446.1	446.1	446.1	444.6	444.6	444.6	444.6
5°	449.1	447.6	447.6	446.1	446.1	446.1	444.6	444.6	443.1	441.6	441.6
7.5°	447.6	447.6	446.1	444.6	444.6	443.1	441.6	440.1	438.6	438.6	435.6
10°	446.1	444.6	443.1	441.6	440.1	440.1	437.1	435.6	434.1	432.6	431.1
12.5°	441.6	440.1	438.6	435.6	435.6	434.1	431.1	429.6	426.6	425.1	422.1
15°	435.6	434.1	432.6	429.6	428.1	426.6	423.6	420.6	417.6	416.1	413.1
17.5°	429.6	426.6	423.6	420.6	419.1	417.6	414.6	411.6	408.6	405.6	402.6
20°	419.1	416.1	413.1	408.6	407.1	405.6	401.1	398.0	395.0	392.0	389.0
22.5°	408.6	405.6	401.1	398.0	396.5	393.5	390.5	386.0	383.0	378.5	375.5
25°	398.0	393.5	389.0	386.0	383.0	381.5	377.0	374.0	368.0	365.0	362.0
27.5°	384.5	381.5	377.0	372.5	369.5	366.5	363.5	359.0	354.5	350.0	347.0
30°	371.0	366.5	362.0	359.0	354.5	353.0	348.5	344.0	339.5	335.0	332.0
32.5°	357.5	353.0	348.5	344.0	341.0	338.0	333.5	329.0	322.9	318.4	315.4
35°	342.5	338.0	332.0	327.5	324.4	321.4	316.9	312.4	307.9	303.4	298.9
37.5°	324.4	318.4	315.4	310.9	306.4	303.4	298.9	292.9	289.9	285.4	280.9
40°	304.9	300.4	295.9	291.4	286.9	285.4	279.4	274.9	271.9	267.4	262.9
42.5°	285.4	280.9	274.9	270.4	267.4	265.9	261.4	256.9	252.3	249.3	244.8
45°	264.4	259.9	255.4	250.8	247.8	246.3	241.8	238.8	234.3	231.3	226.8
47.5°	243.3	238.8	235.8	231.3	228.3	226.8	223.8	219.3	214.8	213.3	210.3
50°	222.3	217.8	214.8	210.3	208.8	207.3	204.3	201.3	198.3	193.8	192.3
52.5°	201.3	196.8	193.8	190.8	190.8	187.8	184.8	183.3	180.2	177.2	174.2
55°	180.2	178.7	175.7	171.2	171.2	169.7	166.7	163.7	160.7	159.2	156.2
57.5°	159.2	157.7	154.7	153.2	151.7	150.2	148.7	145.7	144.2	141.2	139.7
60°	141.2	139.7	136.7	135.2	133.7	132.2	130.7	127.7	126.2	124.7	123.2
62.5°	121.7	120.2	118.7	117.2	115.7	114.2	114.2	111.2	109.7	108.1	106.6
65°	105.1	102.1	100.6	99.1	99.1	97.6	96.1	94.6	93.1	91.6	90.1
67.5°	87.1	85.6	85.6	82.6	82.6	81.1	79.6	79.6	76.6	75.1	73.6
70°	72.1	70.6	69.1	67.6	67.6	66.1	64.6	63.1	61.6	61.6	60.1
72.5°	57.1	55.6	55.6	54.1	52.6	52.6	51.1	49.6	48.1	48.1	46.6
75°	43.6	42.1	42.1	40.6	40.6	39.1	37.6	37.6	36.0	34.5	33.0
77.5°	31.5	31.5	30.0	30.0	28.5	28.5	27.0	27.0	25.5	24.0	24.0
80°	22.5	21.0	21.0	19.5	19.5	19.5	18.0	18.0	16.5	16.5	15.0
82.5°	13.5	13.5	12.0	12.0	12.0	12.0	10.5	10.5	10.5	9.0	9.0
85°	7.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1
2.5°	443.1	443.1	441.6	443.1	441.6	441.6	441.6	441.6	440.1	440.1	440.1
5°	440.1	438.6	438.6	437.1	438.6	437.1	435.6	435.6	435.6	435.6	434.1
7.5°	434.1	434.1	432.6	431.1	431.1	429.6	428.1	428.1	426.6	426.6	425.1
10°	429.6	426.6	425.1	423.6	423.6	422.1	420.6	419.1	417.6	416.1	416.1
12.5°	419.1	417.6	416.1	414.6	414.6	411.6	410.1	408.6	407.1	405.6	404.1
15°	411.6	408.6	405.6	404.1	404.1	401.1	399.6	398.0	395.0	395.0	392.0
17.5°	399.6	396.5	393.5	392.0	390.5	389.0	387.5	384.5	383.0	380.0	380.0
20°	384.5	383.0	378.5	377.0	375.5	374.0	371.0	369.5	368.0	365.0	363.5
22.5°	372.5	368.0	365.0	363.5	363.5	359.0	357.5	354.5	353.0	351.5	348.5
25°	357.5	354.5	351.5	348.5	348.5	345.5	344.0	341.0	338.0	336.5	335.0
27.5°	342.5	339.5	335.0	333.5	332.0	330.5	327.5	324.4	321.4	319.9	318.4
30°	325.9	322.9	319.9	318.4	315.4	312.4	309.4	307.9	306.4	303.4	301.9
32.5°	310.9	306.4	303.4	300.4	300.4	295.9	294.4	291.4	289.9	288.4	285.4
35°	294.4	289.9	286.9	285.4	283.9	279.4	276.4	273.4	273.4	270.4	268.9
37.5°	276.4	271.9	270.4	267.4	265.9	262.9	259.9	258.4	255.4	252.3	252.3
40°	259.9	255.4	250.8	250.8	247.8	246.3	241.8	240.3	237.3	235.8	234.3
42.5°	241.8	237.3	234.3	232.8	231.3	228.3	225.3	222.3	220.8	219.3	217.8
45°	222.3	219.3	217.8	214.8	213.3	210.3	208.8	205.8	204.3	201.3	199.8
47.5°	205.8	202.8	199.8	198.3	196.8	193.8	192.3	189.3	187.8	184.8	183.3
50°	189.3	186.3	183.3	181.8	180.2	177.2	174.2	172.7	169.7	168.2	165.2
52.5°	171.2	168.2	165.2	165.2	163.7	160.7	159.2	156.2	153.2	150.2	148.7
55°	154.7	151.7	148.7	147.2	147.2	144.2	141.2	139.7	136.7	135.2	132.2
57.5°	136.7	133.7	132.2	130.7	130.7	127.7	126.2	123.2	121.7	118.7	117.2
60°	120.2	118.7	115.7	115.7	114.2	111.2	109.7	106.6	105.1	103.6	102.1
62.5°	103.6	102.1	99.1	99.1	97.6	96.1	94.6	91.6	90.1	87.1	85.6
65°	87.1	85.6	84.1	82.6	82.6	79.6	78.1	76.6	75.1	73.6	72.1
67.5°	72.1	70.6	69.1	69.1	67.6	66.1	63.1	61.6	60.1	58.6	57.1
70°	58.6	55.6	54.1	54.1	52.6	51.1	49.6	48.1	46.6	45.1	43.6
72.5°	45.1	42.1	42.1	40.6	39.1	37.6	37.6	36.0	34.5	34.5	31.5
75°	33.0	31.5	30.0	30.0	28.5	27.0	25.5	25.5	24.0	24.0	24.0
77.5°	22.5	21.0	21.0	19.5	19.5	19.5	18.0	18.0	18.0	18.0	19.5
80°	15.0	15.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	15.0	15.0
82.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	10.5
85°	4.5	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	3.0	1.5	3.0	1.5	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: P642345

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 1200LM - 5000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	446.1	446.1	446.1	446.1	446.1	446.1	446.1	446.1
2.5°	438.6	440.1	440.1	438.6	440.1	438.6	438.6	438.6
5°	434.1	432.6	432.6	432.6	431.1	432.6	432.6	432.6
7.5°	425.1	425.1	423.6	423.6	422.1	422.1	423.6	422.1
10°	414.6	413.1	414.6	413.1	413.1	413.1	411.6	413.1
12.5°	404.1	402.6	402.6	401.1	401.1	401.1	401.1	401.1
15°	392.0	390.5	390.5	389.0	389.0	387.5	389.0	387.5
17.5°	378.5	378.5	375.5	375.5	375.5	375.5	375.5	374.0
20°	362.0	362.0	360.5	362.0	359.0	359.0	359.0	359.0
22.5°	348.5	347.0	345.5	345.5	345.5	344.0	344.0	344.0
25°	332.0	332.0	330.5	330.5	329.0	329.0	329.0	329.0
27.5°	316.9	315.4	315.4	315.4	313.9	312.4	312.4	312.4
30°	300.4	300.4	298.9	298.9	297.4	297.4	297.4	297.4
32.5°	283.9	283.9	282.4	280.9	280.9	280.9	279.4	280.9
35°	267.4	265.9	265.9	264.4	264.4	264.4	262.9	262.9
37.5°	250.8	249.3	247.8	249.3	247.8	246.3	246.3	246.3
40°	232.8	231.3	231.3	229.8	229.8	229.8	228.3	229.8
42.5°	216.3	216.3	214.8	213.3	213.3	213.3	211.8	211.8
45°	199.8	196.8	198.3	196.8	196.8	195.3	195.3	193.8
47.5°	181.8	180.2	180.2	180.2	178.7	178.7	178.7	178.7
50°	163.7	162.2	163.7	162.2	162.2	160.7	160.7	160.7
52.5°	147.2	145.7	145.7	145.7	145.7	144.2	144.2	144.2
55°	130.7	129.2	129.2	129.2	127.7	127.7	126.2	126.2
57.5°	115.7	114.2	112.7	111.2	111.2	111.2	109.7	109.7
60°	99.1	97.6	96.1	96.1	94.6	94.6	94.6	93.1
62.5°	84.1	82.6	81.1	81.1	79.6	78.1	78.1	78.1
65°	69.1	67.6	67.6	66.1	64.6	64.6	63.1	63.1
67.5°	55.6	54.1	54.1	52.6	51.1	49.6	49.6	49.6
70°	43.6	42.1	40.6	40.6	40.6	39.1	37.6	37.6
72.5°	31.5	30.0	30.0	30.0	30.0	30.0	30.0	30.0
75°	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
77.5°	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
80°	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
82.5°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
85°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
87.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.5
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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(END OF REPORT)