

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: P642343

Luminaire Tested: ML5612LSWW97FS1E - 692W WW - 1200LM - 3500K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642343
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 - 3500K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 914.9 lumens
Efficiency: N/A
Efficacy: 55.4 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

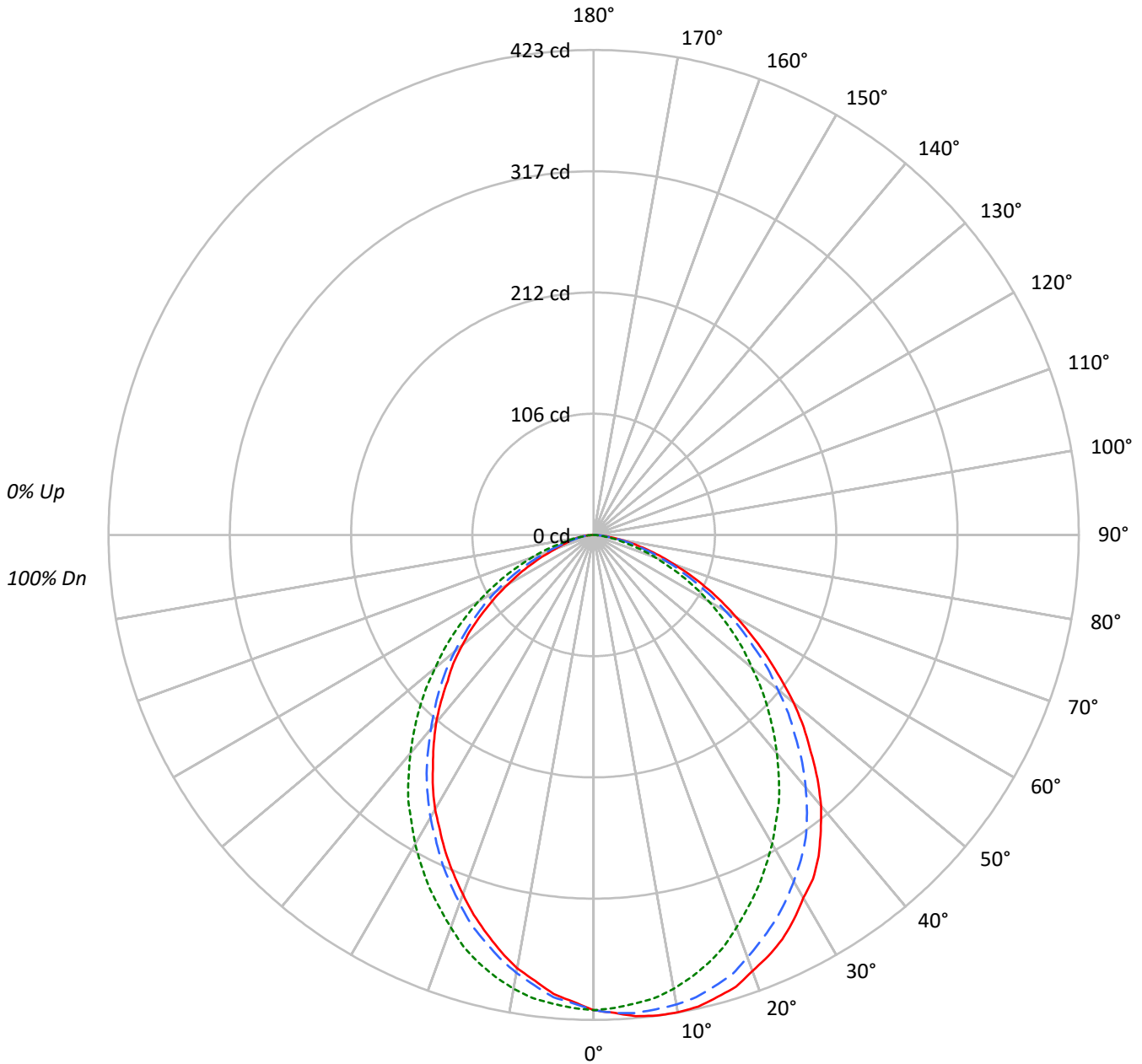
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	100	100	100	100		
	1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	89	87	87	87	87	87	87		
	2	101	94	88	82	99	92	86	81	88	84	80	85	81	78	82	79	76	74	74	74	74	74	74		
	3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64	64	64	64	64	64		
	4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55	55	55	55	55	55		
	5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49	49	49	49	49	49		
	6	73	61	52	46	72	60	52	46	58	51	46	56	50	45	55	49	45	43	43	43	43	43	43		
	7	68	55	47	41	67	55	47	41	53	46	41	52	45	41	50	45	40	38	38	38	38	38	38		
	8	64	51	43	37	62	50	42	37	49	42	37	48	41	37	46	41	36	35	35	35	35	35	35		
	9	60	47	39	34	58	46	39	34	45	38	33	44	38	33	43	37	33	31	31	31	31	31	31		
	10	56	43	36	31	55	43	36	31	42	35	30	41	35	30	40	34	30	29	29	29	29	29	29		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	22723	22723	22723	22723	22723
5°	23189	23035	22579	22270	22116
10°	23536	23151	22372	21593	21365
15°	23683	23127	21941	20829	20431
20°	23610	22874	21247	19946	19456
25°	23548	22538	20511	18993	18485
30°	23143	22086	19699	18022	17490
35°	22881	21576	18866	16998	16343
40°	22070	20574	17776	15780	15279
45°	20770	19258	16661	14715	13955
50°	19402	17850	15351	13449	12733
55°	17605	16277	14136	12138	11202
60°	15755	14538	12696	10712	9484
65°	13944	12673	11039	9054	7601
70°	11861	10963	9168	6940	5594
75°	9764	8875	6799	4723	4723
80°	7482	6598	4862	3978	4420
85°	5284	4403	3522	3522	3522

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 20770 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.9	4.3
10°-20°	109.1	11.9
20°-30°	157.8	17.3
30°-40°	179.3	19.6
40°-50°	169.2	18.5
50°-60°	133.5	14.6
60°-70°	83.5	9.1
70°-80°	36.1	3.9
80°-90°	7.4	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°	305.8	33.4
0°-40°	485.1	53.0
0°-60°	787.8	86.1
0°-90°	914.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	914.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	414	414	414	414	414	
5°	421	419	410	405	402	40
15°	417	408	387	367	360	118
25°	389	373	339	314	306	179
35°	342	322	282	254	244	213
45°	268	248	215	190	180	207
55°	184	170	148	127	117	165
65°	108	98	85	70	59	107
75°	46	42	32	22	22	50
85°	8	7	6	6	6	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°	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5
2.5°	417.3	417.3	418.6	418.6	417.3	417.3	417.3	417.3	417.3	417.3	417.3
5°	421.4	421.4	421.4	421.4	420.0	420.0	420.0	420.0	420.0	418.6	418.6
7.5°	422.8	422.8	422.8	422.8	421.4	421.4	420.0	420.0	420.0	418.6	417.3
10°	422.8	422.8	422.8	421.4	421.4	420.0	421.4	420.0	418.6	417.3	415.9
12.5°	421.4	420.0	420.0	420.0	418.6	418.6	418.6	417.3	415.9	414.5	413.1
15°	417.3	417.3	417.3	415.9	415.9	414.5	414.5	413.1	411.7	408.9	407.5
17.5°	413.1	413.1	411.7	411.7	410.3	408.9	408.9	407.5	406.1	403.3	401.9
20°	404.7	404.7	404.7	403.3	401.9	401.9	400.5	399.1	396.3	393.5	392.1
22.5°	397.7	396.3	396.3	394.9	393.5	393.5	392.1	389.3	387.9	385.2	382.4
25°	389.3	387.9	387.9	386.6	385.2	383.8	383.8	381.0	378.2	375.4	372.6
27.5°	378.2	378.2	376.8	375.4	374.0	374.0	372.6	371.2	367.0	364.2	361.4
30°	365.6	367.0	365.6	364.2	362.8	362.8	361.4	358.6	355.9	351.7	348.9
32.5°	355.9	355.9	354.5	353.1	350.3	350.3	350.3	346.1	343.3	340.5	336.3
35°	341.9	341.9	341.9	339.1	337.7	336.3	334.9	332.1	329.3	326.5	322.4
37.5°	325.2	326.5	325.2	323.8	322.4	321.0	319.6	316.8	312.6	309.8	305.6
40°	308.4	308.4	307.0	305.6	304.2	302.8	301.4	298.6	295.8	291.7	287.5
42.5°	288.9	288.9	287.5	286.1	284.7	283.3	283.3	280.5	276.3	273.5	269.3
45°	267.9	267.9	267.9	266.5	265.1	263.7	262.4	261.0	258.2	254.0	248.4
47.5°	248.4	248.4	248.4	245.6	245.6	242.8	241.4	238.6	237.2	233.0	230.3
50°	227.5	226.1	226.1	224.7	223.3	221.9	221.9	217.7	216.3	213.5	209.3
52.5°	205.1	205.1	205.1	203.7	202.3	201.0	201.0	198.2	195.4	192.6	191.2
55°	184.2	184.2	184.2	182.8	181.4	181.4	180.0	177.2	175.8	173.0	170.3
57.5°	163.3	164.7	163.3	161.9	161.9	160.5	160.5	159.1	156.3	153.5	152.1
60°	143.7	143.7	143.7	142.3	140.9	140.9	140.9	139.5	136.8	135.4	132.6
62.5°	125.6	125.6	124.2	124.2	122.8	122.8	121.4	120.0	118.6	117.2	115.8
65°	107.5	106.1	106.1	106.1	104.7	104.7	104.7	103.3	100.5	99.1	97.7
67.5°	90.7	90.7	89.3	89.3	87.9	87.9	87.9	86.5	85.1	83.7	82.3
70°	74.0	74.0	74.0	74.0	72.6	72.6	72.6	71.2	69.8	69.8	68.4
72.5°	60.0	60.0	60.0	60.0	58.6	58.6	58.6	57.2	55.8	54.4	54.4
75°	46.1	47.4	46.1	46.1	46.1	46.1	44.7	44.7	43.3	41.9	41.9
77.5°	34.9	34.9	34.9	34.9	33.5	33.5	33.5	33.5	32.1	30.7	30.7
80°	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.3	22.3	20.9
82.5°	14.0	15.4	15.4	15.4	14.0	14.0	14.0	14.0	14.0	14.0	12.6
85°	8.4	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	2.8	2.8	2.8	2.8	2.8	1.4	1.4	1.4	1.4	1.4	1.4
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°	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5
2.5°	415.9	415.9	415.9	415.9	414.5	414.5	414.5	413.1	413.1	413.1	413.1
5°	417.3	415.9	415.9	414.5	414.5	414.5	413.1	413.1	411.7	410.3	410.3
7.5°	415.9	415.9	414.5	413.1	413.1	411.7	410.3	408.9	407.5	407.5	404.7
10°	414.5	413.1	411.7	410.3	408.9	408.9	406.1	404.7	403.3	401.9	400.5
12.5°	410.3	408.9	407.5	404.7	404.7	403.3	400.5	399.1	396.3	394.9	392.1
15°	404.7	403.3	401.9	399.1	397.7	396.3	393.5	390.7	387.9	386.6	383.8
17.5°	399.1	396.3	393.5	390.7	389.3	387.9	385.2	382.4	379.6	376.8	374.0
20°	389.3	386.6	383.8	379.6	378.2	376.8	372.6	369.8	367.0	364.2	361.4
22.5°	379.6	376.8	372.6	369.8	368.4	365.6	362.8	358.6	355.9	351.7	348.9
25°	369.8	365.6	361.4	358.6	355.9	354.5	350.3	347.5	341.9	339.1	336.3
27.5°	357.2	354.5	350.3	346.1	343.3	340.5	337.7	333.5	329.3	325.2	322.4
30°	344.7	340.5	336.3	333.5	329.3	327.9	323.8	319.6	315.4	311.2	308.4
32.5°	332.1	327.9	323.8	319.6	316.8	314.0	309.8	305.6	300.0	295.8	293.1
35°	318.2	314.0	308.4	304.2	301.4	298.6	294.5	290.3	286.1	281.9	277.7
37.5°	301.4	295.8	293.1	288.9	284.7	281.9	277.7	272.1	269.3	265.1	261.0
40°	283.3	279.1	274.9	270.7	266.5	265.1	259.6	255.4	252.6	248.4	244.2
42.5°	265.1	261.0	255.4	251.2	248.4	247.0	242.8	238.6	234.4	231.7	227.5
45°	245.6	241.4	237.2	233.0	230.3	228.9	224.7	221.9	217.7	214.9	210.7
47.5°	226.1	221.9	219.1	214.9	212.1	210.7	207.9	203.7	199.6	198.2	195.4
50°	206.5	202.3	199.6	195.4	194.0	192.6	189.8	187.0	184.2	180.0	178.6
52.5°	187.0	182.8	180.0	177.2	177.2	174.4	171.6	170.3	167.5	164.7	161.9
55°	167.5	166.1	163.3	159.1	159.1	157.7	154.9	152.1	149.3	147.9	145.1
57.5°	147.9	146.5	143.7	142.3	140.9	139.5	138.2	135.4	134.0	131.2	129.8
60°	131.2	129.8	127.0	125.6	124.2	122.8	121.4	118.6	117.2	115.8	114.4
62.5°	113.0	111.6	110.2	108.8	107.5	106.1	106.1	103.3	101.9	100.5	99.1
65°	97.7	94.9	93.5	92.1	92.1	90.7	89.3	87.9	86.5	85.1	83.7
67.5°	80.9	79.5	79.5	76.8	76.8	75.4	74.0	74.0	71.2	69.8	68.4
70°	67.0	65.6	64.2	62.8	62.8	61.4	60.0	58.6	57.2	57.2	55.8
72.5°	53.0	51.6	51.6	50.2	48.8	48.8	47.4	46.1	44.7	44.7	43.3
75°	40.5	39.1	39.1	37.7	37.7	36.3	34.9	34.9	33.5	32.1	30.7
77.5°	29.3	29.3	27.9	27.9	26.5	26.5	25.1	25.1	23.7	22.3	22.3
80°	20.9	19.5	19.5	18.1	18.1	18.1	16.7	16.7	15.4	15.4	14.0
82.5°	12.6	12.6	11.2	11.2	11.2	11.2	9.8	9.8	9.8	8.4	8.4
85°	7.0	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.2
87.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5
2.5°	411.7	411.7	410.3	411.7	410.3	410.3	410.3	410.3	408.9	408.9	408.9
5°	408.9	407.5	407.5	406.1	407.5	406.1	404.7	404.7	404.7	404.7	403.3
7.5°	403.3	403.3	401.9	400.5	400.5	399.1	397.7	397.7	396.3	396.3	394.9
10°	399.1	396.3	394.9	393.5	393.5	392.1	390.7	389.3	387.9	386.6	386.6
12.5°	389.3	387.9	386.6	385.2	385.2	382.4	381.0	379.6	378.2	376.8	375.4
15°	382.4	379.6	376.8	375.4	375.4	372.6	371.2	369.8	367.0	367.0	364.2
17.5°	371.2	368.4	365.6	364.2	362.8	361.4	360.0	357.2	355.9	353.1	353.1
20°	357.2	355.9	351.7	350.3	348.9	347.5	344.7	343.3	341.9	339.1	337.7
22.5°	346.1	341.9	339.1	337.7	337.7	333.5	332.1	329.3	327.9	326.5	323.8
25°	332.1	329.3	326.5	323.8	323.8	321.0	319.6	316.8	314.0	312.6	311.2
27.5°	318.2	315.4	311.2	309.8	308.4	307.0	304.2	301.4	298.6	297.2	295.8
30°	302.8	300.0	297.2	295.8	293.1	290.3	287.5	286.1	284.7	281.9	280.5
32.5°	288.9	284.7	281.9	279.1	279.1	274.9	273.5	270.7	269.3	267.9	265.1
35°	273.5	269.3	266.5	265.1	263.7	259.6	256.8	254.0	254.0	251.2	249.8
37.5°	256.8	252.6	251.2	248.4	247.0	244.2	241.4	240.0	237.2	234.4	234.4
40°	241.4	237.2	233.0	233.0	230.3	228.9	224.7	223.3	220.5	219.1	217.7
42.5°	224.7	220.5	217.7	216.3	214.9	212.1	209.3	206.5	205.1	203.7	202.3
45°	206.5	203.7	202.3	199.6	198.2	195.4	194.0	191.2	189.8	187.0	185.6
47.5°	191.2	188.4	185.6	184.2	182.8	180.0	178.6	175.8	174.4	171.6	170.3
50°	175.8	173.0	170.3	168.9	167.5	164.7	161.9	160.5	157.7	156.3	153.5
52.5°	159.1	156.3	153.5	153.5	152.1	149.3	147.9	145.1	142.3	139.5	138.2
55°	143.7	140.9	138.2	136.8	136.8	134.0	131.2	129.8	127.0	125.6	122.8
57.5°	127.0	124.2	122.8	121.4	121.4	118.6	117.2	114.4	113.0	110.2	108.8
60°	111.6	110.2	107.5	107.5	106.1	103.3	101.9	99.1	97.7	96.3	94.9
62.5°	96.3	94.9	92.1	92.1	90.7	89.3	87.9	85.1	83.7	80.9	79.5
65°	80.9	79.5	78.1	76.8	76.8	74.0	72.6	71.2	69.8	68.4	67.0
67.5°	67.0	65.6	64.2	64.2	62.8	61.4	58.6	57.2	55.8	54.4	53.0
70°	54.4	51.6	50.2	50.2	48.8	47.4	46.1	44.7	43.3	41.9	40.5
72.5°	41.9	39.1	39.1	37.7	36.3	34.9	34.9	33.5	32.1	32.1	29.3
75°	30.7	29.3	27.9	27.9	26.5	25.1	23.7	23.7	22.3	22.3	22.3
77.5°	20.9	19.5	19.5	18.1	18.1	18.1	16.7	16.7	16.7	16.7	18.1
80°	14.0	14.0	12.6	12.6	12.6	12.6	12.6	12.6	12.6	14.0	14.0
82.5°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	9.8
85°	4.2	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
87.5°	1.4	1.4	2.8	1.4	2.8	1.4	2.8	2.8	2.8	2.8	2.8
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: P642343

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 1200LM - 3500K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5
2.5°	407.5	408.9	408.9	407.5	408.9	407.5	407.5	407.5
5°	403.3	401.9	401.9	401.9	400.5	401.9	401.9	401.9
7.5°	394.9	394.9	393.5	393.5	392.1	392.1	393.5	392.1
10°	385.2	383.8	385.2	383.8	383.8	383.8	382.4	383.8
12.5°	375.4	374.0	374.0	372.6	372.6	372.6	372.6	372.6
15°	364.2	362.8	362.8	361.4	361.4	360.0	361.4	360.0
17.5°	351.7	351.7	348.9	348.9	348.9	348.9	348.9	347.5
20°	336.3	336.3	334.9	336.3	333.5	333.5	333.5	333.5
22.5°	323.8	322.4	321.0	321.0	321.0	319.6	319.6	319.6
25°	308.4	308.4	307.0	307.0	305.6	305.6	305.6	305.6
27.5°	294.5	293.1	293.1	293.1	291.7	290.3	290.3	290.3
30°	279.1	279.1	277.7	277.7	276.3	276.3	276.3	276.3
32.5°	263.7	263.7	262.4	261.0	261.0	261.0	259.6	261.0
35°	248.4	247.0	247.0	245.6	245.6	245.6	244.2	244.2
37.5°	233.0	231.7	230.3	231.7	230.3	228.9	228.9	228.9
40°	216.3	214.9	214.9	213.5	213.5	213.5	212.1	213.5
42.5°	201.0	201.0	199.6	198.2	198.2	198.2	196.8	196.8
45°	185.6	182.8	184.2	182.8	182.8	181.4	181.4	180.0
47.5°	168.9	167.5	167.5	167.5	166.1	166.1	166.1	166.1
50°	152.1	150.7	152.1	150.7	150.7	149.3	149.3	149.3
52.5°	136.8	135.4	135.4	135.4	135.4	134.0	134.0	134.0
55°	121.4	120.0	120.0	120.0	118.6	118.6	117.2	117.2
57.5°	107.5	106.1	104.7	103.3	103.3	103.3	101.9	101.9
60°	92.1	90.7	89.3	89.3	87.9	87.9	87.9	86.5
62.5°	78.1	76.8	75.4	75.4	74.0	72.6	72.6	72.6
65°	64.2	62.8	62.8	61.4	60.0	60.0	58.6	58.6
67.5°	51.6	50.2	50.2	48.8	47.4	46.1	46.1	46.1
70°	40.5	39.1	37.7	37.7	37.7	36.3	34.9	34.9
72.5°	29.3	27.9	27.9	27.9	27.9	27.9	27.9	27.9
75°	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
77.5°	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
80°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
82.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
85°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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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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(END OF REPORT)