

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: P642306

Luminaire Tested: ML5612LSWW97FS1E - 592W WW - 900LM - 2700K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642306
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 - 900LM - 2700K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 685.5 lumens
Efficiency: N/A
Efficacy: 51.5 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

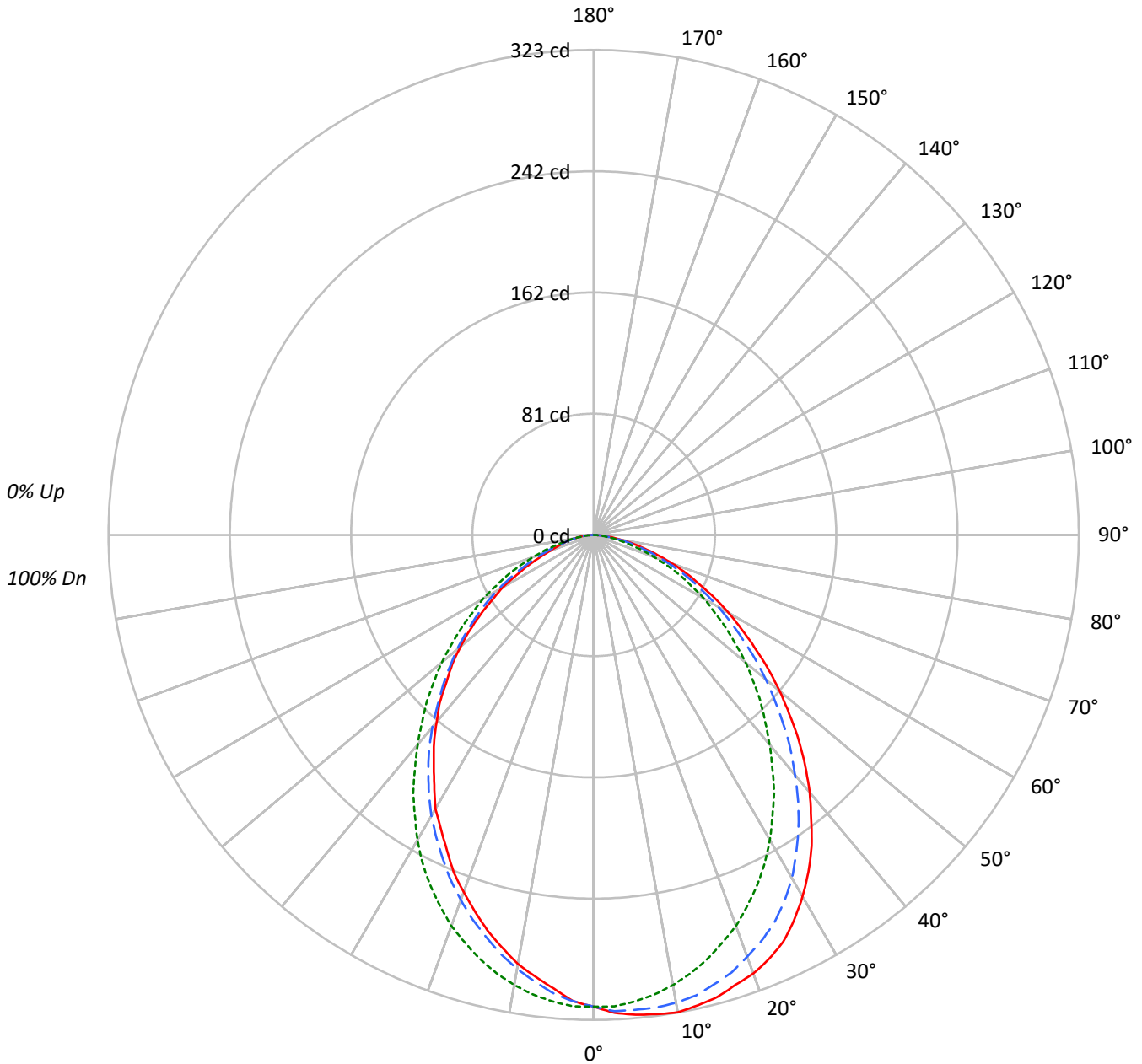
Input Watts (W): 13.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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°	24803	24803	24803	24803	24803
5°	25421	25159	24724	24296	24034
10°	25883	25362	24400	23527	23262
15°	26038	25327	23897	22646	22295
20°	26118	25110	23278	21724	21262
25°	26035	24807	22429	20713	20147
30°	25359	24064	21385	19689	19197
35°	24391	22917	20189	18503	17876
40°	23052	21476	18776	17199	16756
45°	21558	19972	17539	15830	15473
50°	19834	18360	16211	14602	14209
55°	18016	16667	14713	13212	12607
60°	16357	15157	13436	11715	11020
65°	14476	13449	11824	9993	8966
70°	12833	11587	9832	8055	7040
75°	10645	9638	7656	6314	6314
80°	8410	7455	5955	5455	5455
85°	4982	4982	3985	4982	4982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 21558 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.6	4.3
10°-20°	82.8	12.1
20°-30°	120.1	17.5
30°-40°	133.9	19.5
40°-50°	124.2	18.1
50°-60°	97.6	14.2
60°-70°	62.5	9.1
70°-80°	28.7	4.2
80°-90°	6.2	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°	232.4	33.9
0°-40°	366.3	53.4
0°-60°	588.2	85.8
0°-90°	685.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	685.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	314	314	314	314	314	
5°	321	318	312	307	303	31
15°	319	310	292	277	273	90
25°	299	285	258	238	231	137
35°	253	238	210	192	186	158
45°	193	179	157	142	139	149
55°	131	121	107	96	92	118
65°	78	72	63	54	48	78
75°	35	32	25	21	21	38
85°	6	6	4	6	6	8
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°	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2
2.5°	318.6	318.6	318.6	318.6	318.6	318.6	317.5	317.5	317.5	317.5	317.5
5°	320.8	320.8	320.8	320.8	319.7	319.7	319.7	319.7	318.6	318.6	317.5
7.5°	321.9	321.9	321.9	320.8	320.8	320.8	319.7	319.7	319.7	318.6	317.5
10°	322.9	321.9	321.9	320.8	320.8	320.8	319.7	319.7	318.6	317.5	316.4
12.5°	320.8	320.8	320.8	320.8	319.7	319.7	318.6	317.5	316.4	315.3	314.2
15°	318.6	318.6	318.6	317.5	316.4	316.4	315.3	314.2	313.1	312.0	309.9
17.5°	314.2	315.3	314.2	314.2	313.1	313.1	312.0	310.9	308.8	307.7	305.5
20°	310.9	309.9	309.9	309.9	308.8	307.7	306.6	305.5	303.3	302.2	298.9
22.5°	305.5	305.5	304.4	303.3	302.2	302.2	301.1	298.9	297.9	295.7	292.4
25°	298.9	297.9	297.9	296.8	295.7	295.7	293.5	292.4	290.2	286.9	284.8
27.5°	289.1	289.1	289.1	288.0	286.9	285.9	284.8	282.6	281.5	277.1	274.9
30°	278.2	278.2	277.1	277.1	274.9	274.9	273.9	271.7	269.5	266.2	264.0
32.5°	266.2	266.2	266.2	264.0	262.9	261.8	260.8	259.7	256.4	253.1	250.9
35°	253.1	253.1	252.0	250.9	249.8	248.8	247.7	245.5	243.3	241.1	237.8
37.5°	237.8	238.9	237.8	236.8	235.7	234.6	233.5	232.4	229.1	226.9	223.7
40°	223.7	223.7	222.6	221.5	220.4	220.4	219.3	217.1	214.9	211.7	208.4
42.5°	208.4	208.4	207.3	206.2	206.2	205.1	202.9	201.8	199.7	197.5	194.2
45°	193.1	192.0	190.9	190.9	189.8	188.7	188.7	186.6	184.4	181.1	178.9
47.5°	176.7	176.7	175.7	175.7	174.6	173.5	173.5	171.3	168.0	165.8	163.7
50°	161.5	161.5	160.4	160.4	159.3	158.2	157.1	156.0	153.8	151.7	149.5
52.5°	146.2	146.2	146.2	144.0	142.9	142.9	142.9	140.7	139.7	137.5	135.3
55°	130.9	130.9	130.9	129.8	128.7	128.7	128.7	126.6	125.5	123.3	121.1
57.5°	116.7	116.7	116.7	115.7	115.7	114.6	113.5	112.4	111.3	110.2	108.0
60°	103.6	103.6	102.6	101.5	102.6	101.5	100.4	99.3	98.2	97.1	96.0
62.5°	90.6	90.6	90.6	89.5	88.4	88.4	88.4	87.3	85.1	84.0	82.9
65°	77.5	77.5	77.5	77.5	76.4	76.4	75.3	74.2	74.2	73.1	72.0
67.5°	66.6	66.6	65.5	65.5	64.4	64.4	64.4	63.3	62.2	62.2	61.1
70°	55.6	54.6	54.6	54.6	53.5	53.5	53.5	52.4	52.4	51.3	50.2
72.5°	44.7	44.7	44.7	44.7	43.6	43.6	42.6	42.6	41.5	41.5	40.4
75°	34.9	34.9	34.9	34.9	33.8	33.8	33.8	33.8	32.7	32.7	31.6
77.5°	26.2	26.2	26.2	26.2	26.2	26.2	25.1	25.1	25.1	24.0	24.0
80°	18.5	18.5	18.5	18.5	17.5	17.5	17.5	17.5	17.5	16.4	16.4
82.5°	12.0	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	9.8
85°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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°	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2
2.5°	316.4	316.4	316.4	316.4	315.3	315.3	315.3	314.2	314.2	314.2	314.2
5°	317.5	317.5	315.3	315.3	315.3	315.3	314.2	314.2	313.1	312.0	310.9
7.5°	316.4	316.4	315.3	314.2	313.1	313.1	312.0	310.9	309.9	308.8	307.7
10°	315.3	314.2	313.1	312.0	310.9	309.9	308.8	307.7	305.5	304.4	303.3
12.5°	313.1	310.9	309.9	307.7	307.7	306.6	304.4	303.3	301.1	298.9	297.9
15°	308.8	306.6	304.4	302.2	302.2	300.0	297.9	296.8	294.6	292.4	290.2
17.5°	303.3	301.1	298.9	296.8	295.7	293.5	291.3	289.1	286.9	284.8	282.6
20°	297.9	294.6	292.4	289.1	288.0	286.9	283.7	281.5	279.3	277.1	273.9
22.5°	290.2	288.0	283.7	281.5	280.4	278.2	276.0	272.8	269.5	267.3	265.1
25°	281.5	279.3	276.0	272.8	270.6	269.5	266.2	262.9	260.8	257.5	255.3
27.5°	271.7	268.4	266.2	261.8	260.8	258.6	255.3	252.0	249.8	246.6	243.3
30°	260.8	257.5	254.2	250.9	248.8	247.7	244.4	241.1	237.8	234.6	232.4
32.5°	247.7	244.4	241.1	238.9	235.7	233.5	231.3	228.0	224.8	221.5	219.3
35°	234.6	231.3	228.0	224.8	222.6	222.6	218.2	214.9	211.7	209.5	206.2
37.5°	220.4	217.1	213.8	210.6	209.5	207.3	204.0	200.8	198.6	195.3	193.1
40°	206.2	201.8	199.7	196.4	195.3	193.1	190.9	187.7	185.5	182.2	180.0
42.5°	190.9	188.7	185.5	183.3	181.1	180.0	176.7	173.5	171.3	169.1	168.0
45°	176.7	173.5	170.2	168.0	166.9	164.7	163.7	160.4	158.2	157.1	154.9
47.5°	161.5	159.3	157.1	153.8	152.7	151.7	149.5	148.4	146.2	144.0	141.8
50°	147.3	145.1	142.9	140.7	139.7	139.7	136.4	134.2	133.1	132.0	129.8
52.5°	133.1	130.9	128.7	126.6	126.6	125.5	123.3	122.2	121.1	118.9	116.7
55°	120.0	117.8	115.7	114.6	113.5	113.5	111.3	110.2	108.0	106.9	105.8
57.5°	106.9	104.7	103.6	102.6	101.5	101.5	99.3	98.2	97.1	94.9	94.9
60°	94.9	92.7	91.6	90.6	89.5	88.4	88.4	86.2	85.1	85.1	82.9
62.5°	81.8	80.7	79.6	78.6	77.5	77.5	76.4	75.3	74.2	73.1	72.0
65°	70.9	69.8	68.7	67.6	66.6	66.6	65.5	64.4	63.3	63.3	61.1
67.5°	60.0	58.9	57.8	56.7	56.7	55.6	54.6	54.6	53.5	52.4	51.3
70°	49.1	49.1	48.0	46.9	46.9	45.8	44.7	44.7	43.6	42.6	41.5
72.5°	40.4	39.3	38.2	38.2	37.1	37.1	36.0	36.0	34.9	33.8	32.7
75°	30.5	29.5	29.5	29.5	28.4	28.4	28.4	27.3	26.2	25.1	25.1
77.5°	22.9	22.9	21.8	20.7	20.7	20.7	19.6	19.6	19.6	18.5	18.5
80°	16.4	15.3	15.3	14.2	14.2	14.2	14.2	13.1	13.1	13.1	12.0
82.5°	9.8	9.8	9.8	8.7	8.7	8.7	8.7	8.7	7.6	7.6	7.6
85°	5.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2
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°	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2
2.5°	313.1	313.1	312.0	312.0	312.0	312.0	312.0	310.9	310.9	310.9	310.9
5°	310.9	309.9	308.8	308.8	308.8	307.7	307.7	306.6	306.6	305.5	305.5
7.5°	306.6	305.5	304.4	304.4	303.3	303.3	301.1	301.1	300.0	298.9	298.9
10°	301.1	300.0	298.9	297.9	297.9	295.7	295.7	294.6	293.5	292.4	292.4
12.5°	295.7	294.6	292.4	291.3	291.3	290.2	288.0	286.9	285.9	284.8	283.7
15°	288.0	286.9	284.8	283.7	282.6	281.5	280.4	279.3	277.1	276.0	276.0
17.5°	280.4	279.3	276.0	274.9	274.9	272.8	271.7	269.5	268.4	267.3	266.2
20°	271.7	269.5	267.3	266.2	265.1	262.9	261.8	260.8	258.6	257.5	256.4
22.5°	261.8	259.7	257.5	256.4	255.3	253.1	252.0	249.8	248.8	247.7	246.6
25°	252.0	249.8	247.7	246.6	244.4	243.3	241.1	238.9	237.8	236.8	235.7
27.5°	241.1	238.9	235.7	234.6	233.5	232.4	230.2	228.0	226.9	224.8	224.8
30°	229.1	226.9	224.8	223.7	222.6	220.4	219.3	217.1	216.0	213.8	213.8
32.5°	217.1	213.8	211.7	210.6	209.5	208.4	206.2	205.1	204.0	202.9	201.8
35°	204.0	201.8	199.7	198.6	197.5	195.3	194.2	193.1	192.0	189.8	189.8
37.5°	190.9	188.7	186.6	185.5	185.5	183.3	182.2	180.0	180.0	177.8	177.8
40°	177.8	175.7	173.5	173.5	172.4	170.2	169.1	168.0	166.9	165.8	165.8
42.5°	165.8	162.6	161.5	161.5	159.3	158.2	157.1	156.0	153.8	153.8	153.8
45°	152.7	150.6	149.5	148.4	147.3	146.2	145.1	142.9	141.8	140.7	140.7
47.5°	140.7	138.6	137.5	136.4	135.3	134.2	133.1	132.0	129.8	129.8	128.7
50°	128.7	126.6	125.5	124.4	123.3	122.2	121.1	120.0	118.9	117.8	116.7
52.5°	115.7	114.6	113.5	112.4	112.4	110.2	109.1	108.0	106.9	106.9	104.7
55°	104.7	103.6	102.6	101.5	100.4	99.3	98.2	97.1	96.0	94.9	93.8
57.5°	92.7	91.6	90.6	90.6	89.5	88.4	87.3	86.2	85.1	84.0	82.9
60°	81.8	80.7	79.6	79.6	78.6	77.5	76.4	76.4	74.2	73.1	72.0
62.5°	70.9	69.8	68.7	68.7	67.6	67.6	66.6	65.5	63.3	63.3	62.2
65°	61.1	60.0	58.9	57.8	57.8	56.7	55.6	54.6	53.5	53.5	52.4
67.5°	51.3	50.2	49.1	49.1	48.0	46.9	45.8	44.7	43.6	43.6	42.6
70°	41.5	40.4	39.3	39.3	38.2	37.1	37.1	36.0	34.9	33.8	33.8
72.5°	31.6	31.6	30.5	30.5	29.5	29.5	28.4	27.3	27.3	26.2	25.1
75°	24.0	24.0	22.9	22.9	21.8	21.8	20.7	20.7	20.7	19.6	20.7
77.5°	17.5	17.5	16.4	16.4	16.4	15.3	15.3	15.3	16.4	16.4	16.4
80°	12.0	12.0	12.0	12.0	10.9	10.9	12.0	12.0	12.0	12.0	12.0
82.5°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	8.7	8.7	8.7
85°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	5.5	5.5	5.5	5.5
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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: P642306

CATALOG NUMBER: ML5612LSWW97FS1E - 592W WW - 900LM - 2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2
2.5°	309.9	309.9	309.9	309.9	309.9	309.9	309.9	310.9
5°	304.4	304.4	304.4	304.4	304.4	304.4	304.4	303.3
7.5°	298.9	297.9	297.9	297.9	297.9	296.8	296.8	296.8
10°	291.3	291.3	290.2	290.2	290.2	290.2	289.1	290.2
12.5°	283.7	282.6	282.6	282.6	281.5	281.5	281.5	281.5
15°	274.9	273.9	273.9	273.9	272.8	272.8	272.8	272.8
17.5°	265.1	265.1	264.0	264.0	262.9	262.9	262.9	262.9
20°	255.3	255.3	255.3	254.2	254.2	254.2	253.1	253.1
22.5°	245.5	244.4	243.3	244.4	243.3	242.2	243.3	243.3
25°	234.6	233.5	232.4	232.4	232.4	232.4	231.3	231.3
27.5°	223.7	221.5	221.5	221.5	221.5	220.4	220.4	220.4
30°	212.8	211.7	211.7	210.6	209.5	209.5	209.5	210.6
32.5°	200.8	199.7	198.6	198.6	198.6	198.6	197.5	197.5
35°	188.7	188.7	187.7	187.7	187.7	186.6	186.6	185.5
37.5°	176.7	176.7	175.7	175.7	175.7	174.6	174.6	174.6
40°	164.7	163.7	163.7	164.7	163.7	163.7	162.6	162.6
42.5°	152.7	152.7	151.7	151.7	151.7	151.7	150.6	151.7
45°	139.7	139.7	139.7	139.7	139.7	139.7	138.6	138.6
47.5°	128.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7
50°	116.7	115.7	115.7	115.7	115.7	115.7	115.7	115.7
52.5°	104.7	103.6	103.6	103.6	103.6	103.6	103.6	103.6
55°	93.8	92.7	92.7	91.6	92.7	91.6	91.6	91.6
57.5°	82.9	81.8	80.7	81.8	80.7	80.7	80.7	79.6
60°	72.0	70.9	70.9	70.9	69.8	68.7	68.7	69.8
62.5°	61.1	61.1	60.0	60.0	58.9	57.8	57.8	57.8
65°	51.3	50.2	50.2	49.1	49.1	48.0	48.0	48.0
67.5°	41.5	41.5	40.4	40.4	39.3	39.3	39.3	38.2
70°	32.7	32.7	31.6	31.6	31.6	30.5	30.5	30.5
72.5°	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
75°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
77.5°	16.4	16.4	16.4	16.4	16.4	16.4	16.4	17.5
80°	12.0	12.0	13.1	12.0	13.1	12.0	12.0	12.0
82.5°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
85°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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

Scaled Data Report



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

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(END OF REPORT)