

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: P642331

Luminaire Tested: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P642331  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-131)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 2/17/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K  
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH SPECULAR CLEAR TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 563.9 lumens  
Efficiency: N/A  
Efficacy: 54.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.09 / 1.17  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

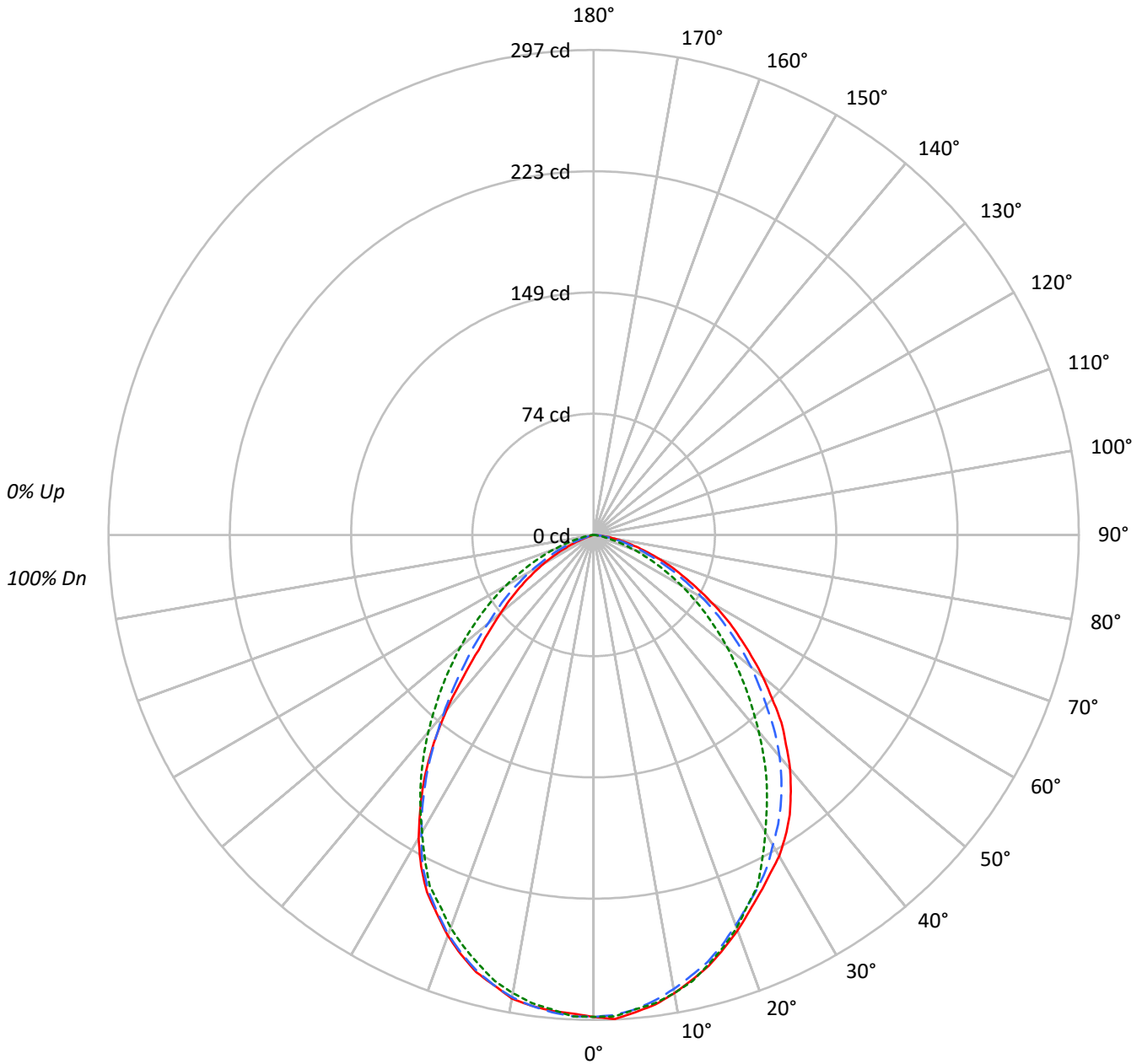
Input Watts (W): 10.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P642331

CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

### Luminous Intensity Polar Plot





TEST NUMBER: P642331

CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

**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	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88					88			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77					77			
3	95	86	79	73	92	84	78	72	81	76	71	79	74	70	76	72	69	67					67			
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61	59					59			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52					52			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	46					46			
7	70	58	50	45	69	57	50	44	56	49	44	55	48	44	53	48	44	42					42			
8	66	53	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38					38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32					32			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	16177	16177	16177	16177	16177
5°	16146	16052	16052	16146	16102
10°	15859	15720	15859	16004	16048
15°	15494	15352	15448	15687	15738
20°	15034	14835	14935	15185	15232
25°	14608	14402	14354	14505	14608
30°	14376	13888	13300	13350	13565
35°	14000	13378	12354	11899	12066
40°	13389	12659	11257	10226	10040
45°	12598	11668	10156	8637	7714
50°	11531	10737	9066	7181	6311
55°	10408	9596	7971	6098	5123
60°	9232	8387	6809	4945	3914
65°	7939	7173	5513	3645	2426
70°	6812	5866	4087	2052	962
75°	5401	4512	2711	551	0
80°	4041	3220	1357	0	0
85°	2139	1635	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12598 cd/sqm



TEST NUMBER: P642331

CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	27.7	4.9
10°-20°	76.8	13.6
20°-30°	109.4	19.4
30°-40°	117.7	20.9
40°-50°	101.4	18.0
50°-60°	73.5	13.0
60°-70°	41.5	7.4
70°-80°	14.1	2.5
80°-90°	1.8	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°	213.9	37.9
0°-40°	331.6	58.8
0°-60°	506.5	89.8
0°-90°	563.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	563.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	295	295	295	295	295	
5°	293	292	292	293	293	28
15°	273	270	272	276	277	77
25°	242	238	237	240	242	111
35°	209	200	185	178	180	130
45°	162	150	131	111	100	125
55°	109	100	83	64	54	98
65°	61	55	42	28	19	61
75°	26	21	13	3	0	28
85°	3	3	0	0	0	5
90°	0	0	0	0	0	



TEST NUMBER: P642331

CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1
2.5°	296.8	294.3	293.4	294.3	294.3	294.3	294.3	294.3	294.3	293.4	294.3
5°	293.4	290.9	290.9	290.9	290.9	290.9	290.0	290.9	290.9	290.9	291.7
7.5°	290.0	286.6	287.5	286.6	287.5	286.6	286.6	287.5	286.6	287.5	287.5
10°	284.9	282.4	282.4	282.4	282.4	282.4	282.4	282.4	282.4	282.4	282.4
12.5°	279.0	276.4	276.4	276.4	276.4	276.4	276.4	276.4	277.3	276.4	276.4
15°	273.0	269.6	270.5	269.6	269.6	269.6	269.6	269.6	269.6	269.6	270.5
17.5°	265.4	262.8	262.8	262.8	262.8	262.8	262.8	262.0	262.8	262.8	262.8
20°	257.7	255.2	255.2	254.3	255.2	254.3	254.3	254.3	255.2	254.3	254.3
22.5°	249.2	246.7	247.5	246.7	246.7	246.7	246.7	246.7	245.8	246.7	245.8
25°	241.5	240.7	239.8	240.7	239.8	239.8	239.8	239.0	239.0	239.0	238.1
27.5°	233.9	232.2	232.2	232.2	232.2	231.3	231.3	231.3	230.5	229.6	229.6
30°	227.1	224.5	224.5	224.5	223.7	223.7	222.8	222.8	221.1	220.3	219.4
32.5°	218.6	216.9	216.0	216.0	215.2	215.2	214.3	214.3	212.6	211.8	210.1
35°	209.2	208.4	208.4	207.5	206.7	205.8	205.0	204.1	203.3	201.6	199.9
37.5°	198.2	197.3	196.5	196.5	195.6	194.8	194.8	193.1	192.2	190.5	188.8
40°	187.1	185.4	185.4	184.6	183.7	182.9	182.9	181.2	180.3	178.6	176.9
42.5°	174.4	172.7	172.7	171.8	171.8	171.8	171.0	169.3	167.6	165.9	164.2
45°	162.5	160.7	160.7	159.0	159.0	158.2	157.3	156.5	154.8	153.1	150.5
47.5°	148.0	147.1	147.1	146.3	145.4	144.6	144.6	143.7	142.0	139.5	137.8
50°	135.2	134.4	134.4	133.5	132.7	131.8	131.0	130.1	129.3	127.6	125.9
52.5°	121.6	121.6	120.8	119.9	119.9	119.1	118.2	117.4	115.7	114.0	113.1
55°	108.9	108.0	108.0	107.2	107.2	106.3	105.5	104.6	103.8	102.1	100.4
57.5°	97.0	95.3	95.3	94.4	94.4	94.4	93.6	91.9	91.0	89.3	88.5
60°	84.2	83.4	83.4	83.4	82.5	81.7	81.7	79.9	79.1	78.2	76.5
62.5°	72.3	71.4	71.4	71.4	70.6	70.6	69.7	68.9	68.0	67.2	65.5
65°	61.2	61.2	61.2	60.4	60.4	59.5	58.7	58.7	57.8	57.0	55.3
67.5°	51.9	51.0	51.0	51.0	50.2	50.2	49.3	48.5	47.6	46.8	45.1
70°	42.5	41.7	41.7	40.8	40.8	40.8	40.8	40.0	38.3	38.3	36.6
72.5°	33.2	33.2	33.2	32.3	32.3	32.3	31.5	31.5	30.6	29.8	28.9
75°	25.5	25.5	25.5	24.7	24.7	24.7	23.8	23.8	23.0	22.1	21.3
77.5°	18.7	18.7	18.7	17.9	17.9	17.9	17.0	17.0	16.2	16.2	15.3
80°	12.8	12.8	12.8	11.9	11.9	11.9	11.9	11.1	11.1	10.2	10.2
82.5°	7.7	7.7	7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.0	6.0
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.6	2.6
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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: P642331

CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1
2.5°	294.3	294.3	294.3	294.3	294.3	294.3	294.3	294.3	294.3	295.1	294.3
5°	291.7	291.7	291.7	291.7	291.7	291.7	292.6	291.7	292.6	291.7	292.6
7.5°	287.5	287.5	288.3	288.3	287.5	288.3	288.3	288.3	288.3	289.2	289.2
10°	282.4	283.2	283.2	284.1	284.1	284.1	284.1	284.9	284.9	284.9	284.9
12.5°	277.3	277.3	277.3	277.3	278.1	277.3	278.1	278.1	279.0	279.8	279.0
15°	269.6	270.5	270.5	270.5	270.5	270.5	271.3	272.2	272.2	272.2	273.0
17.5°	262.8	262.8	262.8	263.7	262.8	263.7	263.7	263.7	264.5	264.5	265.4
20°	254.3	253.5	255.2	254.3	254.3	255.2	255.2	255.2	256.0	256.0	256.0
22.5°	245.0	245.8	245.0	245.0	245.8	245.8	245.8	245.0	245.8	245.8	246.7
25°	237.3	237.3	237.3	237.3	237.3	237.3	237.3	236.4	237.3	237.3	237.3
27.5°	228.8	227.1	227.1	226.2	226.2	225.4	224.5	224.5	224.5	223.7	224.5
30°	218.6	216.9	216.0	215.2	214.3	214.3	212.6	211.8	210.9	210.1	209.2
32.5°	208.4	206.7	205.8	205.0	203.3	202.4	200.7	199.9	199.0	197.3	195.6
35°	199.0	196.5	194.8	193.1	192.2	191.4	189.7	188.0	186.3	184.6	182.9
37.5°	186.3	184.6	182.9	181.2	180.3	179.5	177.8	174.4	172.7	171.0	169.3
40°	175.2	172.7	171.0	168.4	167.6	165.9	164.2	161.6	159.0	157.3	155.6
42.5°	161.6	159.9	158.2	155.6	154.8	153.1	150.5	148.8	147.1	143.7	142.0
45°	148.8	147.1	145.4	142.9	141.2	140.3	138.6	136.1	133.5	131.0	129.3
47.5°	136.1	134.4	131.8	130.1	128.4	127.6	125.9	123.3	120.8	118.2	116.5
50°	123.3	121.6	119.9	116.5	116.5	114.8	113.1	110.6	108.9	106.3	103.8
52.5°	111.4	108.9	107.2	104.6	104.6	103.8	101.2	98.7	97.0	94.4	92.7
55°	98.7	97.0	95.3	93.6	91.9	91.0	90.2	87.6	85.1	83.4	80.8
57.5°	86.8	84.2	83.4	81.7	80.8	79.9	78.2	75.7	74.0	72.3	70.6
60°	75.7	74.0	71.4	70.6	69.7	68.9	67.2	65.5	63.8	62.1	60.4
62.5°	64.6	62.9	61.2	59.5	58.7	57.8	57.0	55.3	53.6	51.9	50.2
65°	53.6	52.7	51.0	50.2	49.3	48.5	46.8	45.1	44.2	42.5	40.8
67.5°	44.2	43.4	41.7	40.8	40.0	40.0	37.4	36.6	34.9	34.0	32.3
70°	35.7	34.9	33.2	32.3	31.5	30.6	29.8	28.9	27.2	25.5	24.7
72.5°	28.1	26.4	25.5	24.7	23.8	23.8	22.1	21.3	19.6	18.7	17.0
75°	20.4	19.6	18.7	17.9	17.9	17.0	16.2	15.3	13.6	12.8	11.9
77.5°	14.5	13.6	12.8	11.9	11.9	11.1	10.2	9.4	8.5	7.7	6.8
80°	9.4	8.5	8.5	7.7	6.8	6.8	6.0	5.1	4.3	4.3	3.4
82.5°	5.1	5.1	4.3	4.3	3.4	3.4	2.6	2.6	1.7	1.7	0.9
85°	2.6	1.7	1.7	1.7	1.7	0.9	0.9	0.9	0.0	0.0	0.0
87.5°	0.9	0.9	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: P642331

CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1
2.5°	294.3	294.3	294.3	294.3	294.3	294.3	294.3	294.3	295.1	294.3	294.3
5°	292.6	292.6	293.4	292.6	293.4	293.4	292.6	292.6	293.4	294.3	293.4
7.5°	289.2	289.2	290.0	290.0	290.0	290.0	290.0	290.9	290.9	291.7	291.7
10°	285.8	285.8	285.8	285.8	286.6	286.6	287.5	287.5	287.5	287.5	287.5
12.5°	279.8	280.7	280.7	280.7	280.7	281.5	281.5	282.4	282.4	282.4	283.2
15°	273.0	273.9	274.7	274.7	273.9	274.7	275.6	275.6	276.4	276.4	276.4
17.5°	265.4	266.2	266.2	267.1	266.2	267.9	267.9	268.8	268.8	269.6	269.6
20°	256.9	257.7	257.7	257.7	258.6	258.6	259.4	259.4	260.3	260.3	260.3
22.5°	246.7	247.5	247.5	247.5	247.5	248.4	248.4	249.2	250.1	250.9	250.1
25°	237.3	238.1	239.0	238.1	239.0	239.0	239.0	239.8	239.8	240.7	239.8
27.5°	224.5	224.5	224.5	225.4	226.2	226.2	226.2	227.1	227.1	227.1	227.9
30°	209.2	208.4	209.2	209.2	209.2	209.2	210.9	210.9	210.9	211.8	212.6
32.5°	194.8	194.8	194.8	193.9	193.9	193.9	193.9	194.8	194.8	195.6	196.5
35°	181.2	180.3	178.6	178.6	178.6	177.8	176.9	176.9	177.8	177.8	177.8
37.5°	166.7	165.9	165.0	163.3	163.3	161.6	160.7	159.9	159.9	159.0	159.0
40°	153.1	151.4	149.7	149.7	148.0	147.1	145.4	144.6	142.9	141.2	141.2
42.5°	139.5	137.8	136.1	135.2	133.5	132.7	130.1	128.4	126.7	125.9	124.2
45°	126.7	125.0	122.5	121.6	119.9	118.2	116.5	114.0	111.4	109.7	108.9
47.5°	114.0	112.3	109.7	108.0	107.2	104.6	102.9	100.4	97.8	95.3	92.7
50°	102.1	99.5	97.0	95.3	94.4	91.9	90.2	87.6	84.2	83.4	80.8
52.5°	90.2	87.6	85.1	84.2	83.4	80.8	78.2	75.7	74.0	71.4	69.7
55°	78.2	76.5	74.0	73.1	72.3	69.7	67.2	65.5	63.8	61.2	59.5
57.5°	68.0	66.3	63.8	62.9	62.1	59.5	57.8	55.3	53.6	51.9	50.2
60°	58.7	56.1	54.4	53.6	52.7	50.2	48.5	46.8	45.1	43.4	40.8
62.5°	48.5	46.8	45.1	44.2	42.5	41.7	39.1	38.3	35.7	34.9	33.2
65°	39.1	37.4	35.7	35.7	34.9	32.3	31.5	29.8	28.1	26.4	25.5
67.5°	31.5	29.8	28.1	27.2	26.4	24.7	23.8	22.1	20.4	19.6	17.9
70°	23.8	22.1	20.4	19.6	18.7	17.9	16.2	14.5	12.8	11.9	10.2
72.5°	16.2	14.5	13.6	13.6	12.8	11.1	9.4	8.5	6.8	6.0	5.1
75°	10.2	8.5	7.7	6.8	6.8	6.0	4.3	3.4	2.6	1.7	0.9
77.5°	6.0	5.1	4.3	3.4	3.4	2.6	1.7	0.9	0.9	0.0	0.0
80°	2.6	1.7	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.9	0.9	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: P642331

CATALOG NUMBER: ML5612LSWW97FS1E - 692SC WW - 600LM - 2700K

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1
2.5°	294.3	294.3	294.3	294.3	293.4	293.4	293.4	293.4
5°	293.4	293.4	293.4	293.4	292.6	292.6	293.4	292.6
7.5°	291.7	291.7	290.9	290.9	290.9	290.9	290.9	290.9
10°	288.3	288.3	288.3	287.5	288.3	288.3	287.5	288.3
12.5°	283.2	283.2	283.2	283.2	282.4	282.4	283.2	282.4
15°	277.3	277.3	277.3	277.3	277.3	276.4	277.3	277.3
17.5°	270.5	270.5	269.6	269.6	269.6	270.5	270.5	269.6
20°	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1
22.5°	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
25°	240.7	240.7	240.7	240.7	240.7	240.7	240.7	241.5
27.5°	227.9	227.9	227.9	227.9	227.9	227.1	227.1	228.8
30°	212.6	213.5	213.5	213.5	213.5	213.5	213.5	214.3
32.5°	197.3	197.3	197.3	198.2	197.3	198.2	197.3	197.3
35°	179.5	179.5	179.5	179.5	179.5	180.3	180.3	180.3
37.5°	159.0	159.9	159.9	160.7	160.7	160.7	161.6	160.7
40°	140.3	140.3	140.3	139.5	140.3	139.5	140.3	140.3
42.5°	122.5	120.8	120.8	119.9	119.9	119.1	118.2	118.2
45°	106.3	103.8	103.8	102.9	102.1	100.4	99.5	99.5
47.5°	91.0	90.2	89.3	88.5	87.6	85.9	85.1	85.9
50°	78.2	77.4	76.5	76.5	75.7	74.8	74.0	74.0
52.5°	68.0	66.3	65.5	65.5	64.6	63.8	63.8	63.8
55°	57.8	56.1	56.1	56.1	55.3	54.4	54.4	53.6
57.5°	48.5	46.8	46.8	45.9	45.1	45.1	45.1	44.2
60°	40.0	38.3	37.4	37.4	36.6	35.7	35.7	35.7
62.5°	31.5	30.6	28.9	28.9	28.1	27.2	26.4	27.2
65°	23.8	22.1	21.3	21.3	20.4	19.6	18.7	18.7
67.5°	16.2	15.3	14.5	14.5	12.8	12.8	11.9	11.9
70°	9.4	8.5	8.5	7.7	6.8	6.8	6.0	6.0
72.5°	4.3	3.4	3.4	2.6	2.6	1.7	1.7	1.7
75°	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.0	0.0
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  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





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

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)