

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: P642352

Luminaire Tested: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642352
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 - 900LM - 3000K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 735.7 lumens
Efficiency: N/A
Efficacy: 55.3 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

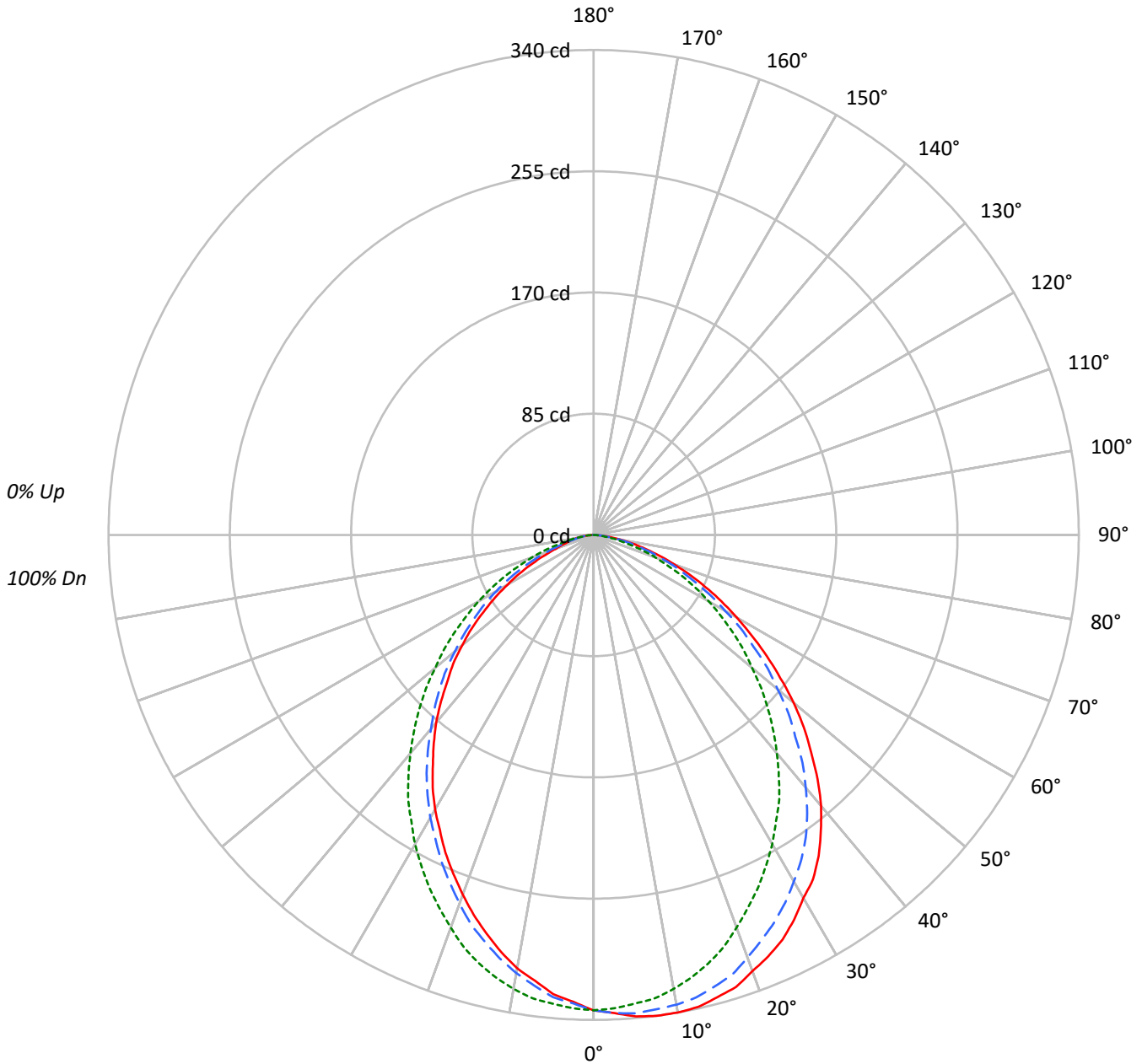
Input Watts (W): 13.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P642352

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

Luminous Intensity Polar Plot





TEST NUMBER: P642352

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

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°	18272	18272	18272	18272	18272
5°	18650	18528	18154	17907	17786
10°	18926	18615	17991	17368	17178
15°	19041	18598	17645	16748	16430
20°	18983	18394	17087	16037	15646
25°	18939	18122	16495	15273	14868
30°	18610	17762	15844	14490	14065
35°	18397	17346	15171	13666	13144
40°	17748	16545	14298	12688	12287
45°	16707	15490	13397	11831	11226
50°	15599	14353	12349	10814	10243
55°	14155	13084	11374	9758	9013
60°	12674	11688	10208	8618	7631
65°	11207	10196	8886	7277	6110
70°	9537	8816	7373	5578	4504
75°	7837	7138	5465	3813	3813
80°	6030	5304	3883	3189	3536
85°	4214	3522	2830	2830	2830

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16707 cd/sqm



TEST NUMBER: P642352

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.3	4.3
10°-20°	87.7	11.9
20°-30°	126.9	17.3
30°-40°	144.2	19.6
40°-50°	136.1	18.5
50°-60°	107.3	14.6
60°-70°	67.2	9.1
70°-80°	29.0	3.9
80°-90°	6.0	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°	245.9	33.4
0°-40°	390.1	53.0
0°-60°	633.5	86.1
0°-90°	735.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	735.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	333	333	333	333	333	
5°	339	337	330	325	323	32
15°	336	328	311	295	290	95
25°	313	300	273	252	246	144
35°	275	259	227	204	196	171
45°	216	200	173	153	145	166
55°	148	137	119	102	94	133
65°	86	79	68	56	47	86
75°	37	34	26	18	18	40
85°	7	6	4	4	4	8
90°	0	0	0	0	0	



TEST NUMBER: P642352

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3
2.5°	335.5	335.5	336.7	336.7	335.5	335.5	335.5	335.5	335.5	335.5	335.5
5°	338.9	338.9	338.9	338.9	337.8	337.8	337.8	337.8	337.8	336.7	336.7
7.5°	340.0	340.0	340.0	340.0	338.9	338.9	337.8	337.8	337.8	336.7	335.5
10°	340.0	340.0	340.0	338.9	338.9	337.8	338.9	337.8	336.7	335.5	334.4
12.5°	338.9	337.8	337.8	337.8	336.7	336.7	336.7	335.5	334.4	333.3	332.2
15°	335.5	335.5	335.5	334.4	334.4	333.3	333.3	332.2	331.1	328.8	327.7
17.5°	332.2	332.2	331.1	331.1	329.9	328.8	328.8	327.7	326.6	324.3	323.2
20°	325.4	325.4	325.4	324.3	323.2	323.2	322.1	321.0	318.7	316.5	315.3
22.5°	319.8	318.7	318.7	317.6	316.5	316.5	315.3	313.1	312.0	309.7	307.5
25°	313.1	312.0	312.0	310.9	309.7	308.6	308.6	306.4	304.1	301.9	299.6
27.5°	304.1	304.1	303.0	301.9	300.8	300.8	299.6	298.5	295.1	292.9	290.7
30°	294.0	295.1	294.0	292.9	291.8	291.8	290.7	288.4	286.2	282.8	280.6
32.5°	286.2	286.2	285.0	283.9	281.7	281.7	281.7	278.3	276.1	273.8	270.5
35°	274.9	274.9	274.9	272.7	271.6	270.5	269.3	267.1	264.8	262.6	259.2
37.5°	261.5	262.6	261.5	260.4	259.2	258.1	257.0	254.7	251.4	249.1	245.8
40°	248.0	248.0	246.9	245.8	244.6	243.5	242.4	240.2	237.9	234.5	231.2
42.5°	232.3	232.3	231.2	230.1	228.9	227.8	227.8	225.6	222.2	220.0	216.6
45°	215.5	215.5	215.5	214.3	213.2	212.1	211.0	209.9	207.6	204.2	199.8
47.5°	199.8	199.8	199.8	197.5	197.5	195.3	194.1	191.9	190.8	187.4	185.2
50°	182.9	181.8	181.8	180.7	179.6	178.4	178.4	175.1	173.9	171.7	168.3
52.5°	165.0	165.0	165.0	163.8	162.7	161.6	161.6	159.4	157.1	154.9	153.7
55°	148.1	148.1	148.1	147.0	145.9	145.9	144.8	142.5	141.4	139.2	136.9
57.5°	131.3	132.4	131.3	130.2	130.2	129.1	129.1	127.9	125.7	123.4	122.3
60°	115.6	115.6	115.6	114.5	113.3	113.3	113.3	112.2	110.0	108.9	106.6
62.5°	101.0	101.0	99.9	99.9	98.8	98.8	97.6	96.5	95.4	94.3	93.1
65°	86.4	85.3	85.3	85.3	84.2	84.2	84.2	83.0	80.8	79.7	78.6
67.5°	72.9	72.9	71.8	71.8	70.7	70.7	70.7	69.6	68.5	67.3	66.2
70°	59.5	59.5	59.5	59.5	58.4	58.4	58.4	57.2	56.1	56.1	55.0
72.5°	48.3	48.3	48.3	48.3	47.1	47.1	47.1	46.0	44.9	43.8	43.8
75°	37.0	38.2	37.0	37.0	37.0	37.0	35.9	35.9	34.8	33.7	33.7
77.5°	28.1	28.1	28.1	28.1	26.9	26.9	26.9	26.9	25.8	24.7	24.7
80°	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	18.0	18.0	16.8
82.5°	11.2	12.3	12.3	12.3	11.2	11.2	11.2	11.2	11.2	11.2	10.1
85°	6.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
87.5°	2.2	2.2	2.2	2.2	2.2	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



TEST NUMBER: P642352

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3
2.5°	334.4	334.4	334.4	334.4	333.3	333.3	333.3	332.2	332.2	332.2	332.2
5°	335.5	334.4	334.4	333.3	333.3	333.3	332.2	332.2	331.1	329.9	329.9
7.5°	334.4	334.4	333.3	332.2	332.2	331.1	329.9	328.8	327.7	327.7	325.4
10°	333.3	332.2	331.1	329.9	328.8	328.8	326.6	325.4	324.3	323.2	322.1
12.5°	329.9	328.8	327.7	325.4	325.4	324.3	322.1	321.0	318.7	317.6	315.3
15°	325.4	324.3	323.2	321.0	319.8	318.7	316.5	314.2	312.0	310.9	308.6
17.5°	321.0	318.7	316.5	314.2	313.1	312.0	309.7	307.5	305.2	303.0	300.8
20°	313.1	310.9	308.6	305.2	304.1	303.0	299.6	297.4	295.1	292.9	290.7
22.5°	305.2	303.0	299.6	297.4	296.3	294.0	291.8	288.4	286.2	282.8	280.6
25°	297.4	294.0	290.7	288.4	286.2	285.0	281.7	279.4	274.9	272.7	270.5
27.5°	287.3	285.0	281.7	278.3	276.1	273.8	271.6	268.2	264.8	261.5	259.2
30°	277.2	273.8	270.5	268.2	264.8	263.7	260.4	257.0	253.6	250.3	248.0
32.5°	267.1	263.7	260.4	257.0	254.7	252.5	249.1	245.8	241.3	237.9	235.7
35°	255.9	252.5	248.0	244.6	242.4	240.2	236.8	233.4	230.1	226.7	223.3
37.5°	242.4	237.9	235.7	232.3	228.9	226.7	223.3	218.8	216.6	213.2	209.9
40°	227.8	224.4	221.1	217.7	214.3	213.2	208.7	205.4	203.1	199.8	196.4
42.5°	213.2	209.9	205.4	202.0	199.8	198.6	195.3	191.9	188.5	186.3	182.9
45°	197.5	194.1	190.8	187.4	185.2	184.0	180.7	178.4	175.1	172.8	169.5
47.5°	181.8	178.4	176.2	172.8	170.6	169.5	167.2	163.8	160.5	159.4	157.1
50°	166.1	162.7	160.5	157.1	156.0	154.9	152.6	150.4	148.1	144.8	143.6
52.5°	150.4	147.0	144.8	142.5	142.5	140.3	138.0	136.9	134.7	132.4	130.2
55°	134.7	133.5	131.3	127.9	127.9	126.8	124.6	122.3	120.1	119.0	116.7
57.5°	119.0	117.8	115.6	114.5	113.3	112.2	111.1	108.9	107.7	105.5	104.4
60°	105.5	104.4	102.1	101.0	99.9	98.8	97.6	95.4	94.3	93.1	92.0
62.5°	90.9	89.8	88.7	87.5	86.4	85.3	85.3	83.0	81.9	80.8	79.7
65°	78.6	76.3	75.2	74.1	74.1	72.9	71.8	70.7	69.6	68.5	67.3
67.5°	65.1	64.0	64.0	61.7	61.7	60.6	59.5	59.5	57.2	56.1	55.0
70°	53.9	52.7	51.6	50.5	50.5	49.4	48.3	47.1	46.0	46.0	44.9
72.5°	42.6	41.5	41.5	40.4	39.3	39.3	38.2	37.0	35.9	35.9	34.8
75°	32.5	31.4	31.4	30.3	30.3	29.2	28.1	28.1	26.9	25.8	24.7
77.5°	23.6	23.6	22.4	22.4	21.3	21.3	20.2	20.2	19.1	18.0	18.0
80°	16.8	15.7	15.7	14.6	14.6	14.6	13.5	13.5	12.3	12.3	11.2
82.5°	10.1	10.1	9.0	9.0	9.0	9.0	7.9	7.9	7.9	6.7	6.7
85°	5.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.4
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



TEST NUMBER: P642352

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3
2.5°	331.1	331.1	329.9	331.1	329.9	329.9	329.9	329.9	328.8	328.8	328.8
5°	328.8	327.7	327.7	326.6	327.7	326.6	325.4	325.4	325.4	325.4	324.3
7.5°	324.3	324.3	323.2	322.1	322.1	321.0	319.8	319.8	318.7	318.7	317.6
10°	321.0	318.7	317.6	316.5	316.5	315.3	314.2	313.1	312.0	310.9	310.9
12.5°	313.1	312.0	310.9	309.7	309.7	307.5	306.4	305.2	304.1	303.0	301.9
15°	307.5	305.2	303.0	301.9	301.9	299.6	298.5	297.4	295.1	295.1	292.9
17.5°	298.5	296.3	294.0	292.9	291.8	290.7	289.5	287.3	286.2	283.9	283.9
20°	287.3	286.2	282.8	281.7	280.6	279.4	277.2	276.1	274.9	272.7	271.6
22.5°	278.3	274.9	272.7	271.6	271.6	268.2	267.1	264.8	263.7	262.6	260.4
25°	267.1	264.8	262.6	260.4	260.4	258.1	257.0	254.7	252.5	251.4	250.3
27.5°	255.9	253.6	250.3	249.1	248.0	246.9	244.6	242.4	240.2	239.0	237.9
30°	243.5	241.3	239.0	237.9	235.7	233.4	231.2	230.1	228.9	226.7	225.6
32.5°	232.3	228.9	226.7	224.4	224.4	221.1	220.0	217.7	216.6	215.5	213.2
35°	220.0	216.6	214.3	213.2	212.1	208.7	206.5	204.2	204.2	202.0	200.9
37.5°	206.5	203.1	202.0	199.8	198.6	196.4	194.1	193.0	190.8	188.5	188.5
40°	194.1	190.8	187.4	187.4	185.2	184.0	180.7	179.6	177.3	176.2	175.1
42.5°	180.7	177.3	175.1	173.9	172.8	170.6	168.3	166.1	165.0	163.8	162.7
45°	166.1	163.8	162.7	160.5	159.4	157.1	156.0	153.7	152.6	150.4	149.3
47.5°	153.7	151.5	149.3	148.1	147.0	144.8	143.6	141.4	140.3	138.0	136.9
50°	141.4	139.2	136.9	135.8	134.7	132.4	130.2	129.1	126.8	125.7	123.4
52.5°	127.9	125.7	123.4	123.4	122.3	120.1	119.0	116.7	114.5	112.2	111.1
55°	115.6	113.3	111.1	110.0	110.0	107.7	105.5	104.4	102.1	101.0	98.8
57.5°	102.1	99.9	98.8	97.6	97.6	95.4	94.3	92.0	90.9	88.7	87.5
60°	89.8	88.7	86.4	86.4	85.3	83.0	81.9	79.7	78.6	77.4	76.3
62.5°	77.4	76.3	74.1	74.1	72.9	71.8	70.7	68.5	67.3	65.1	64.0
65°	65.1	64.0	62.8	61.7	61.7	59.5	58.4	57.2	56.1	55.0	53.9
67.5°	53.9	52.7	51.6	51.6	50.5	49.4	47.1	46.0	44.9	43.8	42.6
70°	43.8	41.5	40.4	40.4	39.3	38.2	37.0	35.9	34.8	33.7	32.5
72.5°	33.7	31.4	31.4	30.3	29.2	28.1	28.1	26.9	25.8	25.8	23.6
75°	24.7	23.6	22.4	22.4	21.3	20.2	19.1	19.1	18.0	18.0	18.0
77.5°	16.8	15.7	15.7	14.6	14.6	14.6	13.5	13.5	13.5	13.5	14.6
80°	11.2	11.2	10.1	10.1	10.1	10.1	10.1	10.1	10.1	11.2	11.2
82.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	7.9
85°	3.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
87.5°	1.1	1.1	2.2	1.1	2.2	1.1	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: P642352

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 900LM - 3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	333.3	333.3	333.3	333.3	333.3	333.3	333.3	333.3
2.5°	327.7	328.8	328.8	327.7	328.8	327.7	327.7	327.7
5°	324.3	323.2	323.2	323.2	322.1	323.2	323.2	323.2
7.5°	317.6	317.6	316.5	316.5	315.3	315.3	316.5	315.3
10°	309.7	308.6	309.7	308.6	308.6	308.6	307.5	308.6
12.5°	301.9	300.8	300.8	299.6	299.6	299.6	299.6	299.6
15°	292.9	291.8	291.8	290.7	290.7	289.5	290.7	289.5
17.5°	282.8	282.8	280.6	280.6	280.6	280.6	280.6	279.4
20°	270.5	270.5	269.3	270.5	268.2	268.2	268.2	268.2
22.5°	260.4	259.2	258.1	258.1	258.1	257.0	257.0	257.0
25°	248.0	248.0	246.9	246.9	245.8	245.8	245.8	245.8
27.5°	236.8	235.7	235.7	235.7	234.5	233.4	233.4	233.4
30°	224.4	224.4	223.3	223.3	222.2	222.2	222.2	222.2
32.5°	212.1	212.1	211.0	209.9	209.9	209.9	208.7	209.9
35°	199.8	198.6	198.6	197.5	197.5	197.5	196.4	196.4
37.5°	187.4	186.3	185.2	186.3	185.2	184.0	184.0	184.0
40°	173.9	172.8	172.8	171.7	171.7	171.7	170.6	171.7
42.5°	161.6	161.6	160.5	159.4	159.4	159.4	158.2	158.2
45°	149.3	147.0	148.1	147.0	147.0	145.9	145.9	144.8
47.5°	135.8	134.7	134.7	134.7	133.5	133.5	133.5	133.5
50°	122.3	121.2	122.3	121.2	121.2	120.1	120.1	120.1
52.5°	110.0	108.9	108.9	108.9	108.9	107.7	107.7	107.7
55°	97.6	96.5	96.5	96.5	95.4	95.4	94.3	94.3
57.5°	86.4	85.3	84.2	83.0	83.0	83.0	81.9	81.9
60°	74.1	72.9	71.8	71.8	70.7	70.7	70.7	69.6
62.5°	62.8	61.7	60.6	60.6	59.5	58.4	58.4	58.4
65°	51.6	50.5	50.5	49.4	48.3	48.3	47.1	47.1
67.5°	41.5	40.4	40.4	39.3	38.2	37.0	37.0	37.0
70°	32.5	31.4	30.3	30.3	30.3	29.2	28.1	28.1
72.5°	23.6	22.4	22.4	22.4	22.4	22.4	22.4	22.4
75°	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
77.5°	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
80°	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
82.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
85°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.1
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)