

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: P642274

Luminaire Tested: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642274
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-130)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 612.7 lumens
Efficiency: N/A
Efficacy: 59.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.25
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

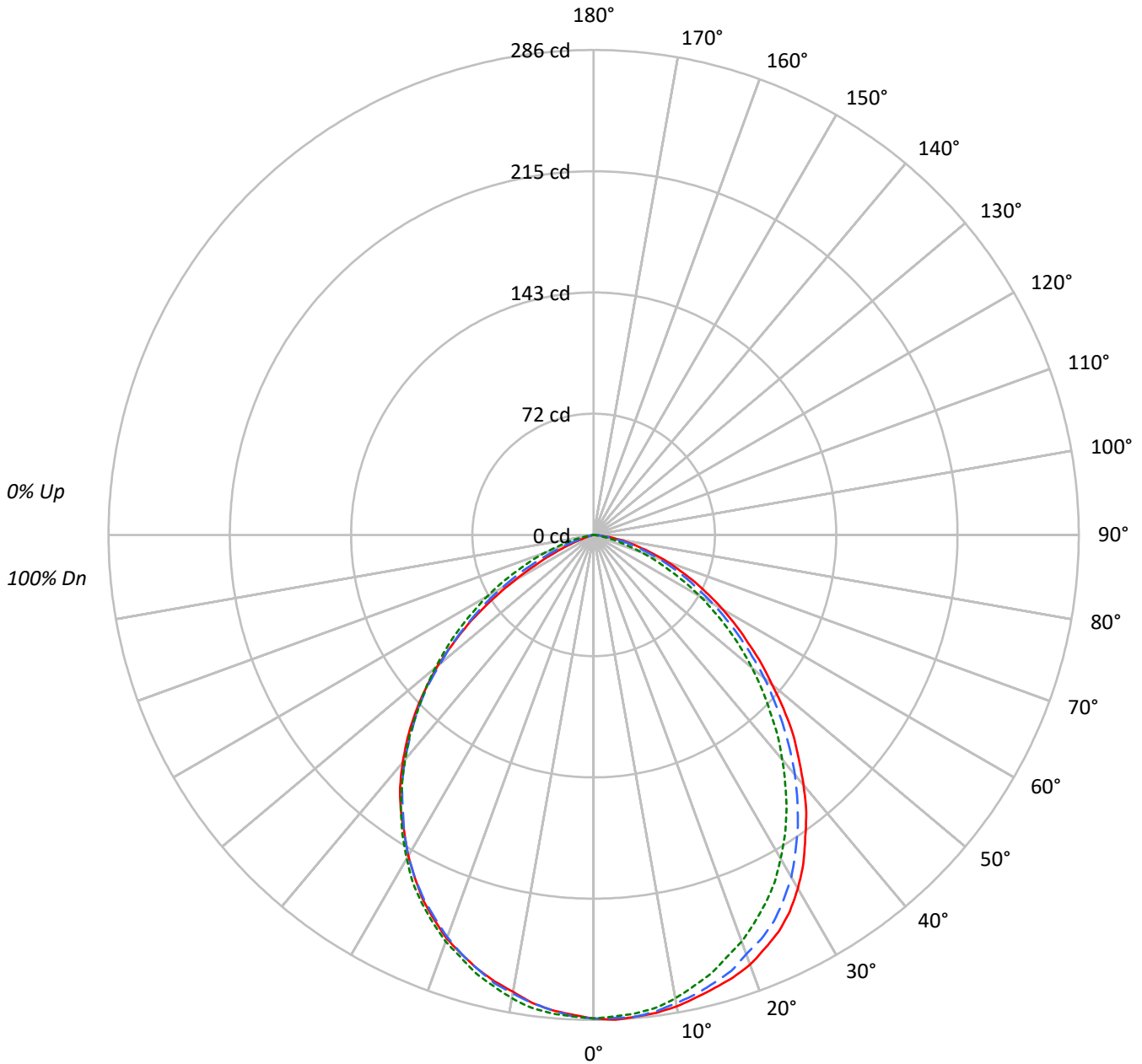
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P642274

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

Luminous Intensity Polar Plot





TEST NUMBER: P642274

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

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	103	100	108	105	101	98	100	98	95	96	94	92	93	91	90	88					88			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	79	84	80	78	76					76			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	68	62	85	75	67	62	72	66	61	70	65	60	68	63	59	57					57			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50					50			
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45					45			
7	69	57	49	43	68	56	48	43	54	48	42	53	47	42	52	46	42	40					40			
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	22514	22514	22514	22514	22514
5°	22600	22600	22449	22291	22291
10°	22629	22477	22244	22012	21931
15°	22597	22360	21886	21649	21649
20°	22657	22094	21439	21195	21279
25°	22481	21897	20878	20626	20713
30°	21941	21239	20090	19917	19917
35°	20960	20218	19100	18908	19100
40°	19827	19023	17828	17828	18034
45°	18566	17594	16400	16400	16623
50°	16862	16150	14958	14479	14725
55°	15304	14506	13309	12373	12111
60°	13894	12820	11446	9915	8541
65°	12272	11189	9209	6855	5062
70°	10709	9371	6924	3785	2008
75°	8540	7381	4423	1190	580
80°	6592	4819	1773	455	455
85°	3532	2627	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 18566 cd/sqm



TEST NUMBER: P642274

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.9	4.4
10°-20°	75.9	12.4
20°-30°	111.9	18.3
30°-40°	126.8	20.7
40°-50°	117.1	19.1
50°-60°	87.5	14.3
60°-70°	48.3	7.9
70°-80°	16.3	2.7
80°-90°	2.1	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°	214.7	35.0
0°-40°	341.5	55.7
0°-60°	546.0	89.1
0°-90°	612.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	612.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	285	285	285	285	285	
5°	285	285	283	281	281	27
15°	276	274	268	265	265	78
25°	258	251	240	237	238	119
35°	218	210	198	196	198	136
45°	166	158	147	147	149	128
55°	111	105	97	90	88	100
65°	66	60	49	37	27	65
75°	28	24	14	4	2	31
85°	4	3	0	0	0	6
90°	0	0	0	0	0	



TEST NUMBER: P642274

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2
2.5°	286.2	286.2	286.2	286.2	285.2	285.2	286.2	285.2	285.2	285.2	285.2
5°	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2
7.5°	284.2	284.2	284.2	284.2	284.2	284.2	284.2	284.2	283.3	283.3	283.3
10°	282.3	282.3	282.3	282.3	282.3	282.3	282.3	281.3	281.3	281.3	280.4
12.5°	279.4	280.4	279.4	280.4	279.4	279.4	278.4	278.4	278.4	277.5	277.5
15°	276.5	276.5	276.5	276.5	276.5	275.5	275.5	274.6	274.6	274.6	273.6
17.5°	273.6	272.6	272.6	272.6	271.7	271.7	271.7	271.7	270.7	269.7	269.7
20°	269.7	268.8	268.8	268.8	267.8	267.8	266.8	266.8	264.9	264.9	263.0
22.5°	263.9	263.9	263.9	263.0	263.0	262.0	262.0	261.0	260.1	259.1	258.1
25°	258.1	258.1	257.2	257.2	256.2	256.2	256.2	254.3	253.3	252.3	251.4
27.5°	250.4	250.4	249.4	249.4	248.5	247.5	247.5	245.6	245.6	243.6	242.6
30°	240.7	240.7	240.7	238.8	238.8	238.8	237.8	236.8	234.9	233.9	233.0
32.5°	230.1	229.1	229.1	229.1	228.1	227.2	227.2	225.2	224.3	223.3	221.4
35°	217.5	217.5	217.5	217.5	216.5	215.6	215.6	213.6	212.7	210.7	209.8
37.5°	205.9	205.9	204.9	204.9	203.0	204.0	203.0	202.0	201.1	198.2	197.2
40°	192.4	192.4	192.4	191.4	190.4	190.4	189.5	188.5	186.6	185.6	184.6
42.5°	178.8	178.8	178.8	177.9	176.9	176.9	176.9	175.0	174.0	173.0	171.1
45°	166.3	165.3	165.3	164.3	164.3	163.4	162.4	161.4	160.5	159.5	157.6
47.5°	151.8	151.8	150.8	150.8	149.8	149.8	148.9	147.9	146.9	146.0	144.0
50°	137.3	138.2	138.2	137.3	137.3	136.3	135.3	135.3	134.4	133.4	131.5
52.5°	124.7	124.7	124.7	123.7	123.7	122.8	122.8	121.8	120.8	118.9	117.9
55°	111.2	112.1	111.2	111.2	111.2	110.2	110.2	109.2	108.3	106.3	105.4
57.5°	99.6	99.6	98.6	98.6	97.6	97.6	97.6	96.7	95.7	94.7	92.8
60°	88.0	87.0	87.0	87.0	86.0	86.0	86.0	84.1	83.1	82.2	81.2
62.5°	76.4	76.4	76.4	75.4	75.4	74.4	73.5	73.5	72.5	71.5	69.6
65°	65.7	65.7	64.8	64.8	64.8	63.8	63.8	62.8	61.9	60.9	59.9
67.5°	55.1	55.1	55.1	54.1	54.1	54.1	53.2	52.2	52.2	51.2	50.3
70°	46.4	45.4	45.4	45.4	44.5	44.5	44.5	43.5	42.5	41.6	40.6
72.5°	36.7	36.7	36.7	36.7	35.8	35.8	34.8	34.8	33.8	32.9	31.9
75°	28.0	28.0	28.0	28.0	27.1	27.1	27.1	26.1	26.1	25.1	24.2
77.5°	21.3	21.3	21.3	20.3	20.3	19.3	19.3	19.3	18.4	18.4	17.4
80°	14.5	14.5	13.5	13.5	13.5	13.5	13.5	12.6	11.6	11.6	10.6
82.5°	8.7	8.7	8.7	7.7	7.7	7.7	7.7	7.7	6.8	6.8	5.8
85°	3.9	3.9	3.9	3.9	3.9	3.9	2.9	2.9	2.9	2.9	2.9
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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: P642274

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2
2.5°	285.2	285.2	285.2	285.2	285.2	285.2	285.2	284.2	284.2	284.2	284.2
5°	284.2	284.2	284.2	284.2	284.2	283.3	284.2	283.3	283.3	283.3	283.3
7.5°	282.3	282.3	282.3	282.3	281.3	282.3	281.3	281.3	281.3	281.3	280.4
10°	280.4	279.4	279.4	279.4	279.4	278.4	278.4	277.5	277.5	277.5	276.5
12.5°	277.5	276.5	276.5	275.5	275.5	275.5	274.6	274.6	273.6	272.6	272.6
15°	272.6	272.6	271.7	270.7	270.7	269.7	269.7	268.8	268.8	267.8	266.8
17.5°	268.8	267.8	266.8	265.9	264.9	264.9	263.9	263.0	263.0	261.0	261.0
20°	262.0	261.0	260.1	259.1	259.1	259.1	257.2	257.2	256.2	255.2	254.3
22.5°	256.2	255.2	253.3	252.3	252.3	251.4	250.4	249.4	248.5	247.5	246.5
25°	249.4	248.5	246.5	245.6	244.6	243.6	242.6	241.7	240.7	239.7	238.8
27.5°	240.7	238.8	238.8	236.8	235.9	234.9	233.9	233.0	232.0	231.0	230.1
30°	231.0	230.1	228.1	226.2	225.2	225.2	223.3	222.3	222.3	220.4	219.4
32.5°	220.4	218.5	216.5	215.6	214.6	213.6	212.7	211.7	210.7	209.8	208.8
35°	208.8	205.9	204.9	203.0	203.0	202.0	201.1	199.1	199.1	198.2	196.2
37.5°	196.2	194.3	193.3	191.4	190.4	189.5	188.5	187.5	186.6	185.6	184.6
40°	182.7	180.8	179.8	178.8	177.9	176.9	175.9	175.0	174.0	173.0	172.1
42.5°	169.2	168.2	166.3	164.3	164.3	163.4	162.4	161.4	160.5	160.5	159.5
45°	155.6	154.7	152.7	151.8	150.8	150.8	148.9	148.9	147.9	146.9	146.9
47.5°	143.1	141.1	139.2	139.2	137.3	138.2	136.3	136.3	134.4	134.4	133.4
50°	129.5	128.6	126.6	125.7	125.7	124.7	123.7	123.7	122.8	121.8	120.8
52.5°	117.0	115.0	114.1	113.1	112.1	112.1	111.2	111.2	109.2	109.2	108.3
55°	104.4	103.4	101.5	100.5	100.5	100.5	98.6	97.6	97.6	96.7	95.7
57.5°	91.8	90.9	89.9	88.9	88.0	88.0	87.0	86.0	85.1	84.1	82.2
60°	80.2	79.3	78.3	77.3	76.4	76.4	75.4	74.4	73.5	72.5	71.5
62.5°	68.6	68.6	66.7	65.7	64.8	64.8	63.8	62.8	61.9	60.9	59.9
65°	59.0	58.0	56.1	55.1	55.1	55.1	53.2	52.2	51.2	49.3	48.3
67.5°	49.3	47.4	46.4	46.4	45.4	44.5	43.5	42.5	40.6	39.6	37.7
70°	39.6	38.7	37.7	36.7	35.8	34.8	33.8	32.9	30.9	30.0	29.0
72.5°	30.9	30.0	29.0	28.0	27.1	27.1	25.1	24.2	23.2	21.3	20.3
75°	23.2	22.2	21.3	20.3	19.3	18.4	18.4	16.4	15.5	14.5	12.6
77.5°	16.4	15.5	14.5	13.5	13.5	12.6	11.6	10.6	9.7	8.7	7.7
80°	10.6	9.7	8.7	8.7	7.7	7.7	6.8	5.8	4.8	3.9	3.9
82.5°	5.8	4.8	4.8	3.9	3.9	3.9	2.9	1.9	1.9	1.9	1.0
85°	1.9	1.9	1.9	1.0	1.0	1.0	1.0	1.0	1.0	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: P642274

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2
2.5°	284.2	284.2	284.2	284.2	284.2	284.2	284.2	284.2	284.2	283.3	283.3
5°	282.3	282.3	282.3	282.3	282.3	282.3	281.3	281.3	281.3	281.3	281.3
7.5°	280.4	280.4	280.4	279.4	279.4	279.4	279.4	278.4	278.4	278.4	278.4
10°	276.5	276.5	276.5	275.5	275.5	275.5	275.5	275.5	274.6	274.6	274.6
12.5°	271.7	271.7	271.7	271.7	271.7	270.7	270.7	270.7	270.7	269.7	270.7
15°	266.8	266.8	265.9	265.9	265.9	264.9	264.9	264.9	264.9	264.9	264.9
17.5°	261.0	260.1	260.1	259.1	259.1	259.1	259.1	259.1	259.1	259.1	259.1
20°	254.3	253.3	253.3	253.3	253.3	252.3	252.3	251.4	252.3	252.3	252.3
22.5°	246.5	245.6	245.6	245.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6
25°	238.8	237.8	236.8	236.8	236.8	235.9	235.9	236.8	236.8	236.8	236.8
27.5°	229.1	229.1	228.1	228.1	228.1	227.2	227.2	227.2	228.1	228.1	228.1
30°	218.5	218.5	218.5	218.5	217.5	217.5	218.5	217.5	218.5	217.5	218.5
32.5°	208.8	208.8	207.8	206.9	206.9	207.8	206.9	206.9	207.8	207.8	207.8
35°	196.2	196.2	196.2	196.2	196.2	196.2	196.2	196.2	196.2	197.2	198.2
37.5°	184.6	184.6	184.6	184.6	184.6	184.6	184.6	185.6	185.6	185.6	185.6
40°	172.1	172.1	172.1	172.1	172.1	172.1	172.1	172.1	173.0	173.0	174.0
42.5°	158.5	159.5	159.5	159.5	158.5	158.5	159.5	159.5	159.5	160.5	160.5
45°	146.0	146.0	146.0	146.0	146.9	146.0	146.0	146.0	146.9	146.9	146.9
47.5°	133.4	132.4	132.4	133.4	132.4	132.4	132.4	132.4	133.4	133.4	132.4
50°	120.8	119.9	119.9	119.9	118.9	118.9	119.9	117.9	117.9	117.9	118.9
52.5°	108.3	107.3	106.3	106.3	106.3	105.4	104.4	104.4	104.4	103.4	103.4
55°	94.7	93.8	92.8	92.8	92.8	91.8	91.8	89.9	89.9	88.9	88.9
57.5°	82.2	81.2	80.2	80.2	79.3	78.3	78.3	76.4	76.4	75.4	73.5
60°	69.6	68.6	67.7	67.7	67.7	65.7	64.8	62.8	62.8	60.9	59.9
62.5°	58.0	57.0	56.1	55.1	55.1	53.2	52.2	50.3	49.3	48.3	46.4
65°	47.4	45.4	44.5	43.5	43.5	41.6	40.6	38.7	36.7	35.8	33.8
67.5°	36.7	35.8	33.8	32.9	32.9	30.9	29.0	28.0	26.1	24.2	23.2
70°	27.1	26.1	24.2	23.2	22.2	21.3	19.3	18.4	16.4	15.5	13.5
72.5°	18.4	17.4	15.5	15.5	14.5	12.6	11.6	10.6	8.7	7.7	6.8
75°	11.6	10.6	9.7	8.7	7.7	6.8	5.8	4.8	3.9	2.9	2.9
77.5°	6.8	5.8	4.8	3.9	3.9	2.9	1.9	1.9	1.9	1.0	1.0
80°	2.9	1.9	1.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
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: P642274

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 4000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	285.2	285.2	285.2	285.2	285.2	285.2	285.2	285.2
2.5°	284.2	283.3	284.2	284.2	283.3	283.3	283.3	283.3
5°	281.3	281.3	281.3	281.3	281.3	281.3	281.3	281.3
7.5°	279.4	278.4	278.4	278.4	278.4	278.4	278.4	278.4
10°	274.6	274.6	274.6	274.6	274.6	274.6	274.6	273.6
12.5°	269.7	269.7	269.7	269.7	269.7	269.7	269.7	269.7
15°	264.9	264.9	264.9	264.9	264.9	264.9	264.9	264.9
17.5°	259.1	259.1	259.1	259.1	259.1	258.1	259.1	259.1
20°	252.3	252.3	252.3	252.3	252.3	252.3	252.3	253.3
22.5°	244.6	244.6	244.6	244.6	244.6	244.6	244.6	245.6
25°	236.8	236.8	236.8	236.8	236.8	236.8	236.8	237.8
27.5°	228.1	228.1	228.1	228.1	228.1	228.1	228.1	228.1
30°	218.5	218.5	219.4	218.5	218.5	218.5	219.4	218.5
32.5°	208.8	208.8	208.8	208.8	208.8	208.8	208.8	207.8
35°	198.2	197.2	198.2	198.2	198.2	198.2	198.2	198.2
37.5°	186.6	186.6	186.6	186.6	186.6	186.6	187.5	187.5
40°	175.0	174.0	174.0	175.0	175.0	175.0	174.0	175.0
42.5°	160.5	161.4	161.4	161.4	162.4	161.4	162.4	162.4
45°	146.9	147.9	147.9	147.9	147.9	147.9	148.9	148.9
47.5°	133.4	133.4	133.4	133.4	134.4	134.4	134.4	134.4
50°	118.9	118.9	118.9	118.9	119.9	118.9	119.9	119.9
52.5°	103.4	103.4	103.4	103.4	103.4	103.4	104.4	103.4
55°	88.0	88.0	88.0	88.0	87.0	87.0	87.0	88.0
57.5°	73.5	72.5	71.5	72.5	70.6	70.6	70.6	70.6
60°	58.0	57.0	57.0	56.1	55.1	54.1	55.1	54.1
62.5°	44.5	43.5	43.5	41.6	40.6	40.6	39.6	39.6
65°	32.9	30.9	30.0	30.0	29.0	28.0	27.1	27.1
67.5°	21.3	20.3	19.3	19.3	18.4	17.4	17.4	16.4
70°	12.6	11.6	10.6	11.6	9.7	8.7	8.7	8.7
72.5°	5.8	4.8	4.8	4.8	3.9	3.9	3.9	3.9
75°	2.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.0	1.0	1.9	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0
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)