

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: P644152

Luminaire Tested: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P644152
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: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH SPECULAR CLEAR TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

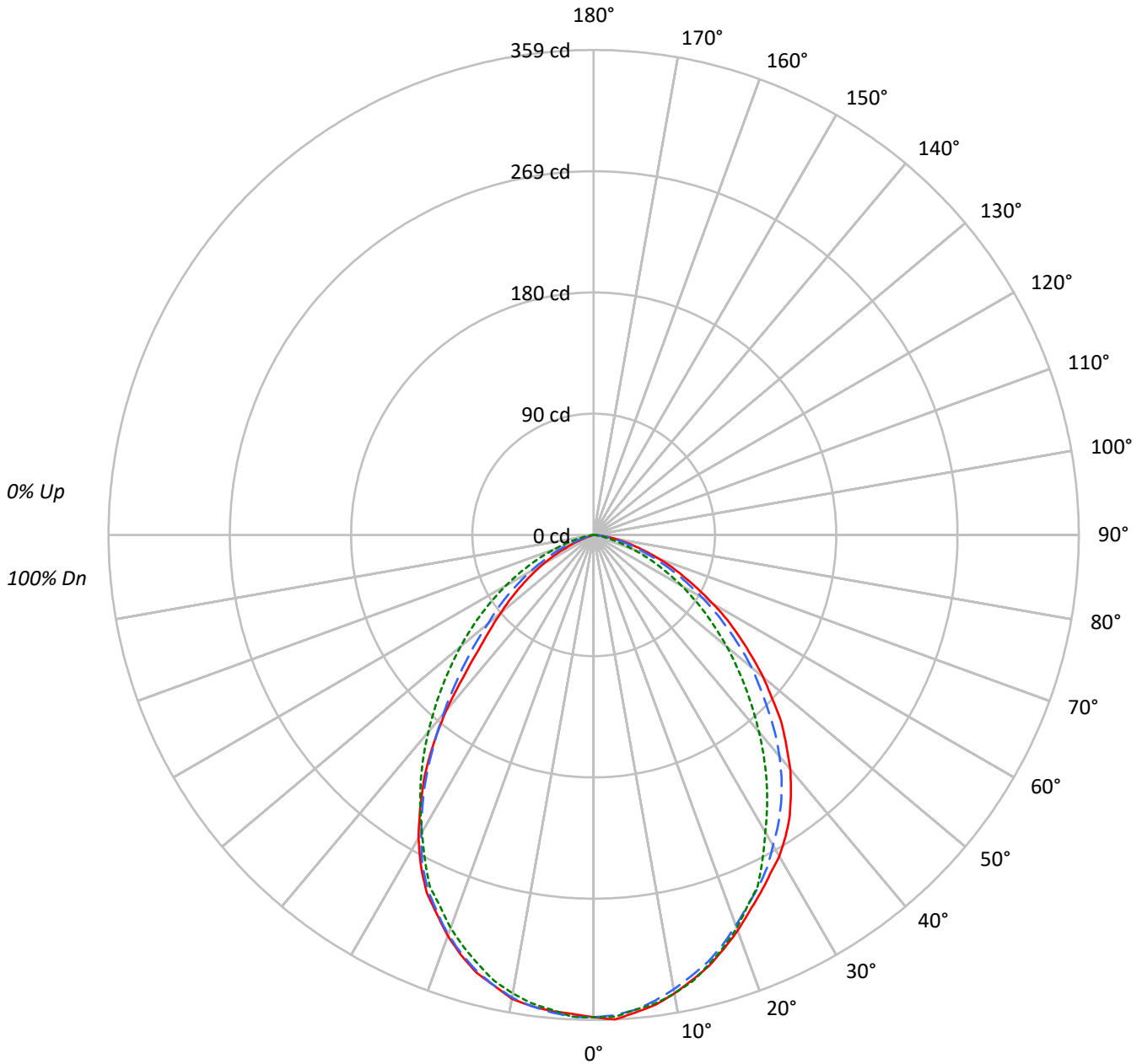
Lumens per Lamp: N/A
Luminaire Lumens: 682.0 lumens
Efficiency: N/A
Efficacy: 65.0 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.09 / 1.17
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 10.5
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



TEST NUMBER: P644152
CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

Luminous Intensity Polar Plot





TEST NUMBER: P644152

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77								
3	95	86	79	73	92	84	78	72	81	76	71	79	74	70	76	72	69	67								
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61	59								
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	46								
7	70	58	50	45	69	57	50	44	56	49	44	55	48	44	53	48	44	42								
8	66	53	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	19571	19571	19571	19571	19571
5°	19530	19420	19420	19530	19475
10°	19182	19010	19182	19355	19411
15°	18740	18564	18683	18973	19035
20°	18184	17945	18062	18365	18423
25°	17674	17420	17360	17547	17674
30°	17389	16800	16085	16148	16408
35°	16938	16182	14937	14388	14596
40°	16195	15314	13618	12366	12144
45°	15234	14118	12280	10451	9334
50°	13953	12989	10968	8682	7633
55°	12587	11603	9634	7378	6193
60°	11161	10153	8234	5975	4736
65°	9612	8678	6667	4397	2932
70°	8239	7085	4953	2468	1154
75°	6545	5443	3262	657	0
80°	4862	3883	1610	0	0
85°	2579	1950	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15234 cd/sqm



TEST NUMBER: P644152

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.5	4.9
10°-20°	92.9	13.6
20°-30°	132.4	19.4
30°-40°	142.4	20.9
40°-50°	122.7	18.0
50°-60°	88.9	13.0
60°-70°	50.1	7.4
70°-80°	17.0	2.5
80°-90°	2.2	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°	258.7	37.9
0°-40°	401.1	58.8
0°-60°	612.7	89.8
0°-90°	682.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	682.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	357	357	357	357	357	
5°	355	353	353	355	354	34
15°	330	327	329	334	335	93
25°	292	288	287	290	292	135
35°	253	242	223	215	218	158
45°	196	182	158	135	120	151
55°	132	121	101	77	65	118
65°	74	67	51	34	23	74
75°	31	26	15	3	0	33
85°	4	3	0	0	0	6
90°	0	0	0	0	0	



TEST NUMBER: P644152

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0
2.5°	359.0	355.9	354.9	355.9	355.9	355.9	355.9	355.9	355.9	354.9	355.9
5°	354.9	351.8	351.8	351.8	351.8	351.8	350.8	351.8	351.8	351.8	352.9
7.5°	350.8	346.7	347.7	346.7	347.7	346.7	346.7	347.7	346.7	347.7	347.7
10°	344.6	341.5	341.5	341.5	341.5	341.5	341.5	341.5	341.5	341.5	341.5
12.5°	337.4	334.3	334.3	334.3	334.3	334.3	334.3	334.3	335.4	334.3	334.3
15°	330.2	326.1	327.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	327.1
17.5°	321.0	317.9	317.9	317.9	317.9	317.9	317.9	316.8	317.9	317.9	317.9
20°	311.7	308.6	308.6	307.6	308.6	307.6	307.6	307.6	308.6	307.6	307.6
22.5°	301.4	298.3	299.4	298.3	298.3	298.3	298.3	298.3	297.3	298.3	297.3
25°	292.2	291.1	290.1	291.1	290.1	290.1	290.1	289.1	289.1	289.1	288.0
27.5°	282.9	280.8	280.8	280.8	280.8	279.8	279.8	279.8	278.8	277.8	277.8
30°	274.7	271.6	271.6	271.6	270.6	270.6	269.5	269.5	267.5	266.4	265.4
32.5°	264.4	262.3	261.3	261.3	260.3	260.3	259.2	259.2	257.2	256.2	254.1
35°	253.1	252.0	252.0	251.0	250.0	249.0	247.9	246.9	245.9	243.8	241.8
37.5°	239.7	238.7	237.6	237.6	236.6	235.6	235.6	233.5	232.5	230.4	228.4
40°	226.3	224.3	224.3	223.2	222.2	221.2	221.2	219.1	218.1	216.0	214.0
42.5°	210.9	208.8	208.8	207.8	207.8	207.8	206.8	204.7	202.7	200.6	198.5
45°	196.5	194.4	194.4	192.4	192.4	191.3	190.3	189.3	187.2	185.2	182.1
47.5°	179.0	178.0	178.0	176.9	175.9	174.9	174.9	173.9	171.8	168.7	166.7
50°	163.6	162.5	162.5	161.5	160.5	159.5	158.4	157.4	156.4	154.3	152.3
52.5°	147.1	147.1	146.1	145.1	145.1	144.0	143.0	142.0	139.9	137.8	136.8
55°	131.7	130.6	130.6	129.6	129.6	128.6	127.6	126.5	125.5	123.4	121.4
57.5°	117.3	115.2	115.2	114.2	114.2	114.2	113.2	111.1	110.1	108.0	107.0
60°	101.8	100.8	100.8	100.8	99.8	98.8	98.8	96.7	95.7	94.6	92.6
62.5°	87.4	86.4	86.4	86.4	85.4	85.4	84.4	83.3	82.3	81.3	79.2
65°	74.1	74.1	74.1	73.0	73.0	72.0	71.0	71.0	70.0	68.9	66.9
67.5°	62.8	61.7	61.7	61.7	60.7	60.7	59.7	58.6	57.6	56.6	54.5
70°	51.4	50.4	50.4	49.4	49.4	49.4	49.4	48.4	46.3	46.3	44.2
72.5°	40.1	40.1	40.1	39.1	39.1	39.1	38.1	38.1	37.0	36.0	35.0
75°	30.9	30.9	30.9	29.8	29.8	29.8	28.8	28.8	27.8	26.7	25.7
77.5°	22.6	22.6	22.6	21.6	21.6	21.6	20.6	20.6	19.5	19.5	18.5
80°	15.4	15.4	15.4	14.4	14.4	14.4	14.4	13.4	13.4	12.3	12.3
82.5°	9.3	9.3	9.3	9.3	8.2	8.2	8.2	8.2	8.2	7.2	7.2
85°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.1	3.1
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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: P644152

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0
2.5°	355.9	355.9	355.9	355.9	355.9	355.9	355.9	355.9	355.9	357.0	355.9
5°	352.9	352.9	352.9	352.9	352.9	352.9	353.9	352.9	353.9	352.9	353.9
7.5°	347.7	347.7	348.7	348.7	347.7	348.7	348.7	348.7	348.7	349.8	349.8
10°	341.5	342.6	342.6	343.6	343.6	343.6	343.6	344.6	344.6	344.6	344.6
12.5°	335.4	335.4	335.4	335.4	336.4	335.4	336.4	336.4	337.4	338.5	337.4
15°	326.1	327.1	327.1	327.1	327.1	327.1	328.2	329.2	329.2	329.2	330.2
17.5°	317.9	317.9	317.9	318.9	317.9	318.9	318.9	318.9	319.9	319.9	321.0
20°	307.6	306.6	308.6	307.6	307.6	308.6	308.6	308.6	309.6	309.6	309.6
22.5°	296.3	297.3	296.3	296.3	297.3	297.3	297.3	296.3	297.3	297.3	298.3
25°	287.0	287.0	287.0	287.0	287.0	287.0	287.0	286.0	287.0	287.0	287.0
27.5°	276.7	274.7	274.7	273.6	273.6	272.6	271.6	271.6	271.6	270.6	271.6
30°	264.4	262.3	261.3	260.3	259.2	259.2	257.2	256.2	255.1	254.1	253.1
32.5°	252.0	250.0	249.0	247.9	245.9	244.8	242.8	241.8	240.7	238.7	236.6
35°	240.7	237.6	235.6	233.5	232.5	231.5	229.4	227.3	225.3	223.2	221.2
37.5°	225.3	223.2	221.2	219.1	218.1	217.1	215.0	210.9	208.8	206.8	204.7
40°	211.9	208.8	206.8	203.7	202.7	200.6	198.5	195.5	192.4	190.3	188.3
42.5°	195.5	193.4	191.3	188.3	187.2	185.2	182.1	180.0	178.0	173.9	171.8
45°	180.0	178.0	175.9	172.8	170.8	169.7	167.7	164.6	161.5	158.4	156.4
47.5°	164.6	162.5	159.5	157.4	155.3	154.3	152.3	149.2	146.1	143.0	140.9
50°	149.2	147.1	145.1	140.9	140.9	138.9	136.8	133.7	131.7	128.6	125.5
52.5°	134.8	131.7	129.6	126.5	126.5	125.5	122.4	119.3	117.3	114.2	112.1
55°	119.3	117.3	115.2	113.2	111.1	110.1	109.0	106.0	102.9	100.8	97.7
57.5°	104.9	101.8	100.8	98.8	97.7	96.7	94.6	91.6	89.5	87.4	85.4
60°	91.6	89.5	86.4	85.4	84.4	83.3	81.3	79.2	77.2	75.1	73.0
62.5°	78.2	76.1	74.1	72.0	71.0	70.0	68.9	66.9	64.8	62.8	60.7
65°	64.8	63.8	61.7	60.7	59.7	58.6	56.6	54.5	53.5	51.4	49.4
67.5°	53.5	52.5	50.4	49.4	48.4	48.4	45.3	44.2	42.2	41.1	39.1
70°	43.2	42.2	40.1	39.1	38.1	37.0	36.0	35.0	32.9	30.9	29.8
72.5°	33.9	31.9	30.9	29.8	28.8	28.8	26.7	25.7	23.7	22.6	20.6
75°	24.7	23.7	22.6	21.6	21.6	20.6	19.5	18.5	16.5	15.4	14.4
77.5°	17.5	16.5	15.4	14.4	14.4	13.4	12.3	11.3	10.3	9.3	8.2
80°	11.3	10.3	10.3	9.3	8.2	8.2	7.2	6.2	5.1	5.1	4.1
82.5°	6.2	6.2	5.1	5.1	4.1	4.1	3.1	3.1	2.1	2.1	1.0
85°	3.1	2.1	2.1	2.1	2.1	1.0	1.0	1.0	0.0	0.0	0.0
87.5°	1.0	1.0	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: P644152

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0
2.5°	355.9	355.9	355.9	355.9	355.9	355.9	355.9	355.9	357.0	355.9	355.9
5°	353.9	353.9	354.9	353.9	354.9	354.9	353.9	353.9	354.9	355.9	354.9
7.5°	349.8	349.8	350.8	350.8	350.8	350.8	350.8	351.8	351.8	352.9	352.9
10°	345.7	345.7	345.7	345.7	346.7	346.7	347.7	347.7	347.7	347.7	347.7
12.5°	338.5	339.5	339.5	339.5	339.5	340.5	340.5	341.5	341.5	341.5	342.6
15°	330.2	331.3	332.3	332.3	331.3	332.3	333.3	333.3	334.3	334.3	334.3
17.5°	321.0	322.0	322.0	323.0	322.0	324.0	324.0	325.1	325.1	326.1	326.1
20°	310.7	311.7	311.7	311.7	312.7	312.7	313.8	313.8	314.8	314.8	314.8
22.5°	298.3	299.4	299.4	299.4	299.4	300.4	300.4	301.4	302.4	303.5	302.4
25°	287.0	288.0	289.1	288.0	289.1	289.1	289.1	290.1	290.1	291.1	290.1
27.5°	271.6	271.6	271.6	272.6	273.6	273.6	273.6	274.7	274.7	274.7	275.7
30°	253.1	252.0	253.1	253.1	253.1	253.1	255.1	255.1	255.1	256.2	257.2
32.5°	235.6	235.6	235.6	234.6	234.6	234.6	234.6	235.6	235.6	236.6	237.6
35°	219.1	218.1	216.0	216.0	216.0	215.0	214.0	214.0	215.0	215.0	215.0
37.5°	201.6	200.6	199.6	197.5	197.5	195.5	194.4	193.4	193.4	192.4	192.4
40°	185.2	183.1	181.1	181.1	179.0	178.0	175.9	174.9	172.8	170.8	170.8
42.5°	168.7	166.7	164.6	163.6	161.5	160.5	157.4	155.3	153.3	152.3	150.2
45°	153.3	151.2	148.1	147.1	145.1	143.0	140.9	137.8	134.8	132.7	131.7
47.5°	137.8	135.8	132.7	130.6	129.6	126.5	124.5	121.4	118.3	115.2	112.1
50°	123.4	120.4	117.3	115.2	114.2	111.1	109.0	106.0	101.8	100.8	97.7
52.5°	109.0	106.0	102.9	101.8	100.8	97.7	94.6	91.6	89.5	86.4	84.4
55°	94.6	92.6	89.5	88.5	87.4	84.4	81.3	79.2	77.2	74.1	72.0
57.5°	82.3	80.2	77.2	76.1	75.1	72.0	70.0	66.9	64.8	62.8	60.7
60°	71.0	67.9	65.8	64.8	63.8	60.7	58.6	56.6	54.5	52.5	49.4
62.5°	58.6	56.6	54.5	53.5	51.4	50.4	47.3	46.3	43.2	42.2	40.1
65°	47.3	45.3	43.2	43.2	42.2	39.1	38.1	36.0	33.9	31.9	30.9
67.5°	38.1	36.0	33.9	32.9	31.9	29.8	28.8	26.7	24.7	23.7	21.6
70°	28.8	26.7	24.7	23.7	22.6	21.6	19.5	17.5	15.4	14.4	12.3
72.5°	19.5	17.5	16.5	16.5	15.4	13.4	11.3	10.3	8.2	7.2	6.2
75°	12.3	10.3	9.3	8.2	8.2	7.2	5.1	4.1	3.1	2.1	1.0
77.5°	7.2	6.2	5.1	4.1	4.1	3.1	2.1	1.0	1.0	0.0	0.0
80°	3.1	2.1	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.0	1.0	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: P644152

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 900LM - 3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0
2.5°	355.9	355.9	355.9	355.9	354.9	354.9	354.9	354.9
5°	354.9	354.9	354.9	354.9	353.9	353.9	354.9	353.9
7.5°	352.9	352.9	351.8	351.8	351.8	351.8	351.8	351.8
10°	348.7	348.7	348.7	347.7	348.7	348.7	347.7	348.7
12.5°	342.6	342.6	342.6	342.6	341.5	341.5	342.6	341.5
15°	335.4	335.4	335.4	335.4	335.4	334.3	335.4	335.4
17.5°	327.1	327.1	326.1	326.1	326.1	327.1	327.1	326.1
20°	315.8	315.8	315.8	315.8	315.8	315.8	315.8	315.8
22.5°	303.5	303.5	303.5	303.5	303.5	303.5	303.5	303.5
25°	291.1	291.1	291.1	291.1	291.1	291.1	291.1	292.2
27.5°	275.7	275.7	275.7	275.7	275.7	274.7	274.7	276.7
30°	257.2	258.2	258.2	258.2	258.2	258.2	258.2	259.2
32.5°	238.7	238.7	238.7	239.7	238.7	239.7	238.7	238.7
35°	217.1	217.1	217.1	217.1	217.1	218.1	218.1	218.1
37.5°	192.4	193.4	193.4	194.4	194.4	194.4	195.5	194.4
40°	169.7	169.7	169.7	168.7	169.7	168.7	169.7	169.7
42.5°	148.1	146.1	146.1	145.1	145.1	144.0	143.0	143.0
45°	128.6	125.5	125.5	124.5	123.4	121.4	120.4	120.4
47.5°	110.1	109.0	108.0	107.0	106.0	103.9	102.9	103.9
50°	94.6	93.6	92.6	92.6	91.6	90.5	89.5	89.5
52.5°	82.3	80.2	79.2	79.2	78.2	77.2	77.2	77.2
55°	70.0	67.9	67.9	67.9	66.9	65.8	65.8	64.8
57.5°	58.6	56.6	56.6	55.6	54.5	54.5	54.5	53.5
60°	48.4	46.3	45.3	45.3	44.2	43.2	43.2	43.2
62.5°	38.1	37.0	35.0	35.0	33.9	32.9	31.9	32.9
65°	28.8	26.7	25.7	25.7	24.7	23.7	22.6	22.6
67.5°	19.5	18.5	17.5	17.5	15.4	15.4	14.4	14.4
70°	11.3	10.3	10.3	9.3	8.2	8.2	7.2	7.2
72.5°	5.1	4.1	4.1	3.1	3.1	2.1	2.1	2.1
75°	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	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)