

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: P644142

Luminaire Tested: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P644142
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 - 1200LM - 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: 862.6 lumens
Efficiency: N/A
Efficacy: 64.4 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

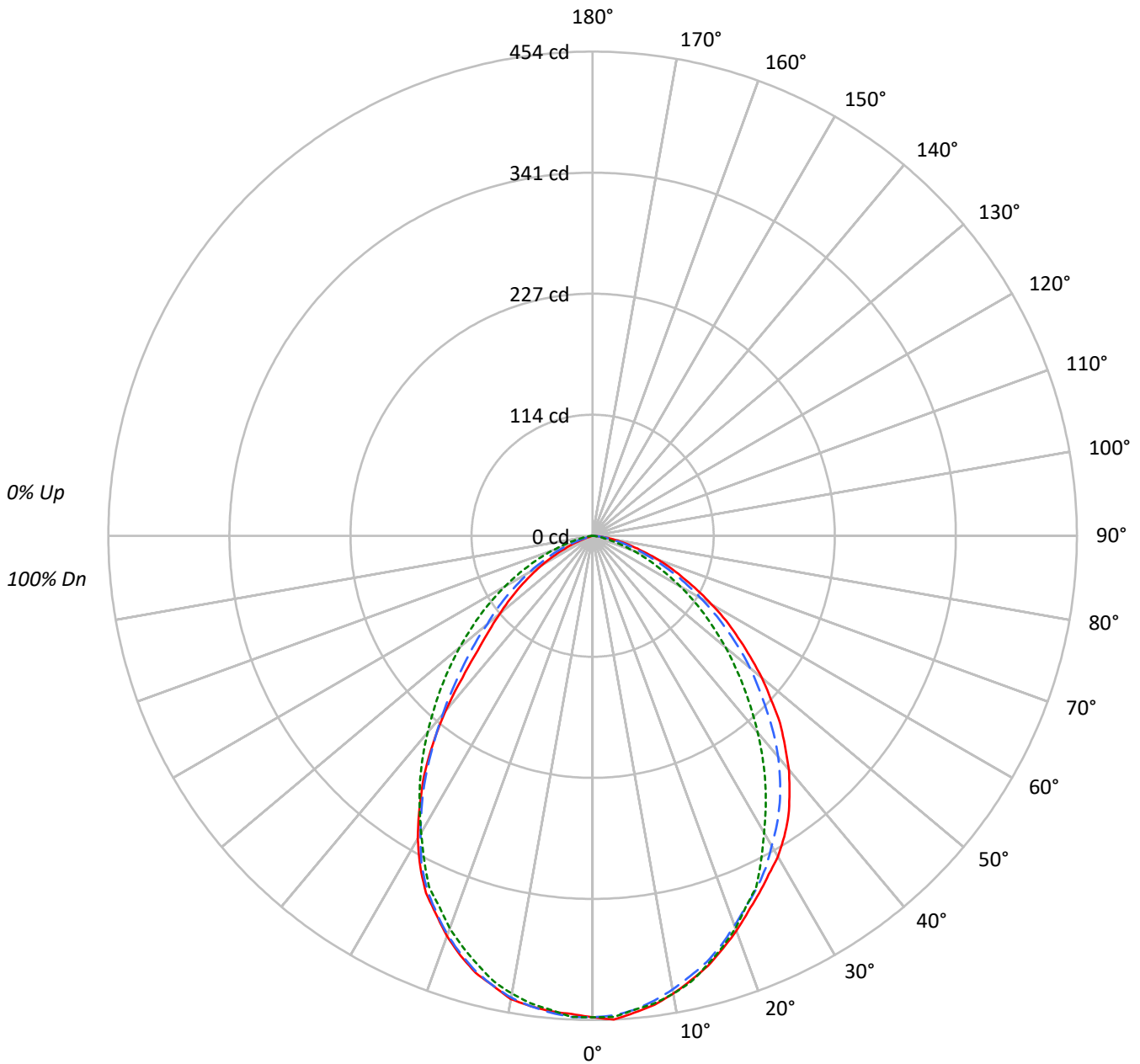
Input Watts (W): 13.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P644142

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

Luminous Intensity Polar Plot





TEST NUMBER: P644142

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20				
RC	80					70					50					30				
RW	70	50	30	10	70	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°	24751	24751	24751	24751	24751
5°	24703	24560	24560	24703	24631
10°	24265	24048	24265	24482	24554
15°	23700	23479	23627	24001	24075
20°	22997	22694	22845	23225	23300
25°	22350	22036	21957	22193	22350
30°	21991	21250	20345	20427	20756
35°	21422	20465	18892	18196	18457
40°	20481	19365	17225	15644	15365
45°	19266	17855	15536	13211	11800
50°	17645	16426	13867	10985	9654
55°	15913	14671	12186	9328	7837
60°	14122	12839	10416	7565	5986
65°	12154	10974	8444	5565	3710
70°	10434	8960	6251	3126	1459
75°	8261	6884	4130	826	0
80°	6156	4925	2052	0	0
85°	3271	2453	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19266 cd/sqm



TEST NUMBER: P644142

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.3	4.9
10°-20°	117.5	13.6
20°-30°	167.4	19.4
30°-40°	180.0	20.9
40°-50°	155.2	18.0
50°-60°	112.4	13.0
60°-70°	63.4	7.4
70°-80°	21.5	2.5
80°-90°	2.8	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°	327.2	37.9
0°-40°	507.3	58.8
0°-60°	774.9	89.8
0°-90°	862.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	862.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	452	452	452	452	452	
5°	449	446	446	449	448	42
15°	418	414	416	423	424	117
25°	370	364	363	367	370	171
35°	320	306	282	272	276	199
45°	248	230	200	170	152	190
55°	166	154	128	98	82	149
65°	94	85	65	43	29	94
75°	39	32	20	4	0	42
85°	5	4	0	0	0	8
90°	0	0	0	0	0	



TEST NUMBER: P644142

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5
2.5°	454.1	450.2	448.9	450.2	450.2	450.2	450.2	450.2	450.2	448.9	450.2
5°	448.9	445.0	445.0	445.0	445.0	445.0	443.7	445.0	445.0	445.0	446.3
7.5°	443.7	438.5	439.8	438.5	439.8	438.5	438.5	439.8	438.5	439.8	439.8
10°	435.9	432.0	432.0	432.0	432.0	432.0	432.0	432.0	432.0	432.0	432.0
12.5°	426.8	422.9	422.9	422.9	422.9	422.9	422.9	422.9	424.2	422.9	422.9
15°	417.6	412.4	413.7	412.4	412.4	412.4	412.4	412.4	412.4	412.4	413.7
17.5°	405.9	402.0	402.0	402.0	402.0	402.0	402.0	400.7	402.0	402.0	402.0
20°	394.2	390.3	390.3	389.0	390.3	389.0	389.0	389.0	390.3	389.0	389.0
22.5°	381.2	377.3	378.6	377.3	377.3	377.3	377.3	377.3	376.0	377.3	376.0
25°	369.5	368.2	366.9	368.2	366.9	366.9	366.9	365.6	365.6	365.6	364.3
27.5°	357.8	355.2	355.2	355.2	355.2	353.9	353.9	353.9	352.6	351.3	351.3
30°	347.4	343.5	343.5	343.5	342.2	342.2	340.9	340.9	338.3	337.0	335.7
32.5°	334.4	331.8	330.5	330.5	329.2	329.2	327.9	327.9	325.3	324.0	321.4
35°	320.1	318.8	318.8	317.5	316.2	314.9	313.6	312.3	311.0	308.4	305.8
37.5°	303.2	301.9	300.6	300.6	299.3	297.9	297.9	295.3	294.0	291.4	288.8
40°	286.2	283.6	283.6	282.3	281.0	279.7	279.7	277.1	275.8	273.2	270.6
42.5°	266.7	264.1	264.1	262.8	262.8	262.8	261.5	258.9	256.3	253.7	251.1
45°	248.5	245.9	245.9	243.3	243.3	242.0	240.7	239.4	236.8	234.2	230.3
47.5°	226.4	225.1	225.1	223.8	222.5	221.2	221.2	219.9	217.3	213.4	210.8
50°	206.9	205.6	205.6	204.3	203.0	201.7	200.4	199.1	197.8	195.2	192.6
52.5°	186.1	186.1	184.8	183.5	183.5	182.2	180.9	179.6	176.9	174.3	173.0
55°	166.5	165.2	165.2	163.9	163.9	162.6	161.3	160.0	158.7	156.1	153.5
57.5°	148.3	145.7	145.7	144.4	144.4	144.4	143.1	140.5	139.2	136.6	135.3
60°	128.8	127.5	127.5	127.5	126.2	124.9	124.9	122.3	121.0	119.7	117.1
62.5°	110.6	109.3	109.3	109.3	108.0	108.0	106.7	105.4	104.1	102.8	100.2
65°	93.7	93.7	93.7	92.4	92.4	91.1	89.8	89.8	88.5	87.2	84.6
67.5°	79.4	78.1	78.1	78.1	76.8	76.8	75.5	74.2	72.9	71.6	69.0
70°	65.1	63.8	63.8	62.5	62.5	62.5	62.5	61.2	58.5	58.5	55.9
72.5°	50.7	50.7	50.7	49.4	49.4	49.4	48.1	48.1	46.8	45.5	44.2
75°	39.0	39.0	39.0	37.7	37.7	37.7	36.4	36.4	35.1	33.8	32.5
77.5°	28.6	28.6	28.6	27.3	27.3	27.3	26.0	26.0	24.7	24.7	23.4
80°	19.5	19.5	19.5	18.2	18.2	18.2	18.2	16.9	16.9	15.6	15.6
82.5°	11.7	11.7	11.7	11.7	10.4	10.4	10.4	10.4	10.4	9.1	9.1
85°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.9	3.9
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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: P644142

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5
2.5°	450.2	450.2	450.2	450.2	450.2	450.2	450.2	450.2	450.2	451.5	450.2
5°	446.3	446.3	446.3	446.3	446.3	446.3	447.6	446.3	447.6	446.3	447.6
7.5°	439.8	439.8	441.1	441.1	439.8	441.1	441.1	441.1	441.1	442.4	442.4
10°	432.0	433.3	433.3	434.6	434.6	434.6	434.6	435.9	435.9	435.9	435.9
12.5°	424.2	424.2	424.2	424.2	425.5	424.2	425.5	425.5	426.8	428.1	426.8
15°	412.4	413.7	413.7	413.7	413.7	413.7	415.0	416.3	416.3	416.3	417.6
17.5°	402.0	402.0	402.0	403.3	402.0	403.3	403.3	403.3	404.6	404.6	405.9
20°	389.0	387.7	390.3	389.0	389.0	390.3	390.3	390.3	391.6	391.6	391.6
22.5°	374.7	376.0	374.7	374.7	376.0	376.0	376.0	374.7	376.0	376.0	377.3
25°	363.0	363.0	363.0	363.0	363.0	363.0	363.0	361.7	363.0	363.0	363.0
27.5°	350.0	347.4	347.4	346.1	346.1	344.8	343.5	343.5	343.5	342.2	343.5
30°	334.4	331.8	330.5	329.2	327.9	327.9	325.3	324.0	322.7	321.4	320.1
32.5°	318.8	316.2	314.9	313.6	311.0	309.7	307.1	305.8	304.5	301.9	299.3
35°	304.5	300.6	297.9	295.3	294.0	292.7	290.1	287.5	284.9	282.3	279.7
37.5°	284.9	282.3	279.7	277.1	275.8	274.5	271.9	266.7	264.1	261.5	258.9
40°	268.0	264.1	261.5	257.6	256.3	253.7	251.1	247.2	243.3	240.7	238.1
42.5°	247.2	244.6	242.0	238.1	236.8	234.2	230.3	227.7	225.1	219.9	217.3
45°	227.7	225.1	222.5	218.6	216.0	214.7	212.1	208.2	204.3	200.4	197.8
47.5°	208.2	205.6	201.7	199.1	196.5	195.2	192.6	188.7	184.8	180.9	178.2
50°	188.7	186.1	183.5	178.2	178.2	175.6	173.0	169.1	166.5	162.6	158.7
52.5°	170.4	166.5	163.9	160.0	160.0	158.7	154.8	150.9	148.3	144.4	141.8
55°	150.9	148.3	145.7	143.1	140.5	139.2	137.9	134.0	130.1	127.5	123.6
57.5°	132.7	128.8	127.5	124.9	123.6	122.3	119.7	115.8	113.2	110.6	108.0
60°	115.8	113.2	109.3	108.0	106.7	105.4	102.8	100.2	97.6	95.0	92.4
62.5°	98.9	96.3	93.7	91.1	89.8	88.5	87.2	84.6	82.0	79.4	76.8
65°	82.0	80.7	78.1	76.8	75.5	74.2	71.6	69.0	67.7	65.1	62.5
67.5°	67.7	66.4	63.8	62.5	61.2	61.2	57.2	55.9	53.3	52.0	49.4
70°	54.6	53.3	50.7	49.4	48.1	46.8	45.5	44.2	41.6	39.0	37.7
72.5°	42.9	40.3	39.0	37.7	36.4	36.4	33.8	32.5	29.9	28.6	26.0
75°	31.2	29.9	28.6	27.3	27.3	26.0	24.7	23.4	20.8	19.5	18.2
77.5°	22.1	20.8	19.5	18.2	18.2	16.9	15.6	14.3	13.0	11.7	10.4
80°	14.3	13.0	13.0	11.7	10.4	10.4	9.1	7.8	6.5	6.5	5.2
82.5°	7.8	7.8	6.5	6.5	5.2	5.2	3.9	3.9	2.6	2.6	1.3
85°	3.9	2.6	2.6	2.6	2.6	1.3	1.3	1.3	0.0	0.0	0.0
87.5°	1.3	1.3	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: P644142

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5
2.5°	450.2	450.2	450.2	450.2	450.2	450.2	450.2	450.2	451.5	450.2	450.2
5°	447.6	447.6	448.9	447.6	448.9	448.9	447.6	447.6	448.9	450.2	448.9
7.5°	442.4	442.4	443.7	443.7	443.7	443.7	443.7	445.0	445.0	446.3	446.3
10°	437.2	437.2	437.2	437.2	438.5	438.5	439.8	439.8	439.8	439.8	439.8
12.5°	428.1	429.4	429.4	429.4	429.4	430.7	430.7	432.0	432.0	432.0	433.3
15°	417.6	419.0	420.3	420.3	419.0	420.3	421.6	421.6	422.9	422.9	422.9
17.5°	405.9	407.2	407.2	408.5	407.2	409.8	409.8	411.1	411.1	412.4	412.4
20°	392.9	394.2	394.2	394.2	395.5	395.5	396.8	396.8	398.1	398.1	398.1
22.5°	377.3	378.6	378.6	378.6	378.6	379.9	379.9	381.2	382.5	383.8	382.5
25°	363.0	364.3	365.6	364.3	365.6	365.6	365.6	366.9	366.9	368.2	366.9
27.5°	343.5	343.5	343.5	344.8	346.1	346.1	346.1	347.4	347.4	347.4	348.7
30°	320.1	318.8	320.1	320.1	320.1	320.1	322.7	322.7	322.7	324.0	325.3
32.5°	297.9	297.9	297.9	296.6	296.6	296.6	296.6	297.9	297.9	299.3	300.6
35°	277.1	275.8	273.2	273.2	273.2	271.9	270.6	270.6	271.9	271.9	271.9
37.5°	255.0	253.7	252.4	249.8	249.8	247.2	245.9	244.6	244.6	243.3	243.3
40°	234.2	231.6	229.0	229.0	226.4	225.1	222.5	221.2	218.6	216.0	216.0
42.5°	213.4	210.8	208.2	206.9	204.3	203.0	199.1	196.5	193.9	192.6	190.0
45°	193.9	191.3	187.4	186.1	183.5	180.9	178.2	174.3	170.4	167.8	166.5
47.5°	174.3	171.7	167.8	165.2	163.9	160.0	157.4	153.5	149.6	145.7	141.8
50°	156.1	152.2	148.3	145.7	144.4	140.5	137.9	134.0	128.8	127.5	123.6
52.5°	137.9	134.0	130.1	128.8	127.5	123.6	119.7	115.8	113.2	109.3	106.7
55°	119.7	117.1	113.2	111.9	110.6	106.7	102.8	100.2	97.6	93.7	91.1
57.5°	104.1	101.5	97.6	96.3	95.0	91.1	88.5	84.6	82.0	79.4	76.8
60°	89.8	85.9	83.3	82.0	80.7	76.8	74.2	71.6	69.0	66.4	62.5
62.5°	74.2	71.6	69.0	67.7	65.1	63.8	59.9	58.5	54.6	53.3	50.7
65°	59.9	57.2	54.6	54.6	53.3	49.4	48.1	45.5	42.9	40.3	39.0
67.5°	48.1	45.5	42.9	41.6	40.3	37.7	36.4	33.8	31.2	29.9	27.3
70°	36.4	33.8	31.2	29.9	28.6	27.3	24.7	22.1	19.5	18.2	15.6
72.5°	24.7	22.1	20.8	20.8	19.5	16.9	14.3	13.0	10.4	9.1	7.8
75°	15.6	13.0	11.7	10.4	10.4	9.1	6.5	5.2	3.9	2.6	1.3
77.5°	9.1	7.8	6.5	5.2	5.2	3.9	2.6	1.3	1.3	0.0	0.0
80°	3.9	2.6	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.3	1.3	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: P644142

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	451.5	451.5	451.5	451.5	451.5	451.5	451.5	451.5
2.5°	450.2	450.2	450.2	450.2	448.9	448.9	448.9	448.9
5°	448.9	448.9	448.9	448.9	447.6	447.6	448.9	447.6
7.5°	446.3	446.3	445.0	445.0	445.0	445.0	445.0	445.0
10°	441.1	441.1	441.1	439.8	441.1	441.1	439.8	441.1
12.5°	433.3	433.3	433.3	433.3	432.0	432.0	433.3	432.0
15°	424.2	424.2	424.2	424.2	424.2	422.9	424.2	424.2
17.5°	413.7	413.7	412.4	412.4	412.4	413.7	413.7	412.4
20°	399.4	399.4	399.4	399.4	399.4	399.4	399.4	399.4
22.5°	383.8	383.8	383.8	383.8	383.8	383.8	383.8	383.8
25°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	369.5
27.5°	348.7	348.7	348.7	348.7	348.7	347.4	347.4	350.0
30°	325.3	326.6	326.6	326.6	326.6	326.6	326.6	327.9
32.5°	301.9	301.9	301.9	303.2	301.9	303.2	301.9	301.9
35°	274.5	274.5	274.5	274.5	274.5	275.8	275.8	275.8
37.5°	243.3	244.6	244.6	245.9	245.9	245.9	247.2	245.9
40°	214.7	214.7	214.7	213.4	214.7	213.4	214.7	214.7
42.5°	187.4	184.8	184.8	183.5	183.5	182.2	180.9	180.9
45°	162.6	158.7	158.7	157.4	156.1	153.5	152.2	152.2
47.5°	139.2	137.9	136.6	135.3	134.0	131.4	130.1	131.4
50°	119.7	118.4	117.1	117.1	115.8	114.5	113.2	113.2
52.5°	104.1	101.5	100.2	100.2	98.9	97.6	97.6	97.6
55°	88.5	85.9	85.9	85.9	84.6	83.3	83.3	82.0
57.5°	74.2	71.6	71.6	70.3	69.0	69.0	69.0	67.7
60°	61.2	58.5	57.2	57.2	55.9	54.6	54.6	54.6
62.5°	48.1	46.8	44.2	44.2	42.9	41.6	40.3	41.6
65°	36.4	33.8	32.5	32.5	31.2	29.9	28.6	28.6
67.5°	24.7	23.4	22.1	22.1	19.5	19.5	18.2	18.2
70°	14.3	13.0	13.0	11.7	10.4	10.4	9.1	9.1
72.5°	6.5	5.2	5.2	3.9	3.9	2.6	2.6	2.6
75°	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	1.3	1.3	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)