

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: P644143

Luminaire Tested: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P644143
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 - 3500K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH SPECULAR CLEAR TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 886.1 lumens
Efficiency: N/A
Efficacy: 66.1 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

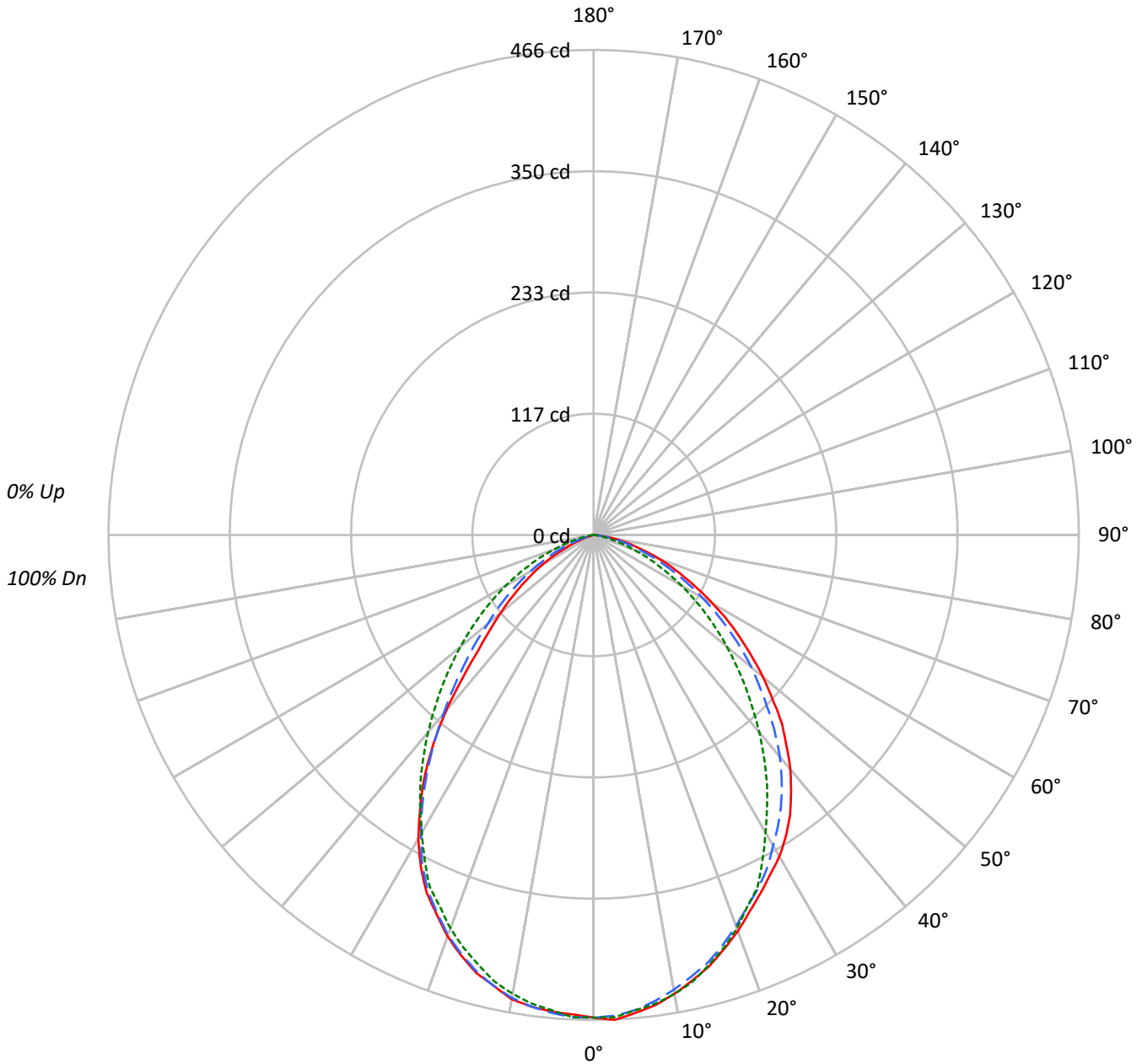
Input Watts (W): 13.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P644143

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

Luminous Intensity Polar Plot





TEST NUMBER: P644143

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

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°	25426	25426	25426	25426	25426
5°	25374	25226	25226	25374	25303
10°	24922	24699	24922	25144	25222
15°	24347	24120	24274	24654	24728
20°	23627	23312	23470	23860	23936
25°	22961	22634	22556	22798	22961
30°	22586	21826	20896	20984	21320
35°	22004	21021	19408	18692	18959
40°	21039	19894	17697	16066	15780
45°	19793	18343	15955	13575	12125
50°	18123	16869	14251	11283	9919
55°	16353	15072	12520	9577	8048
60°	14505	13190	10701	7763	6151
65°	12479	11272	8665	5720	3814
70°	10707	9216	6427	3206	1507
75°	8494	7074	4236	847	0
80°	6314	5051	2115	0	0
85°	3334	2516	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19793 cd/sqm



TEST NUMBER: P644143

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.5	4.9
10°-20°	120.7	13.6
20°-30°	172.0	19.4
30°-40°	184.9	20.9
40°-50°	159.4	18.0
50°-60°	115.5	13.0
60°-70°	65.2	7.4
70°-80°	22.1	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°	336.1	37.9
0°-40°	521.1	58.8
0°-60°	796.0	89.8
0°-90°	886.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	886.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	464	464	464	464	464	
5°	461	458	458	461	460	44
15°	429	425	428	434	436	121
25°	380	374	373	377	380	175
35°	329	314	290	279	283	205
45°	255	237	206	175	156	196
55°	171	158	131	100	84	153
65°	96	87	67	44	29	97
75°	40	33	20	4	0	43
85°	5	4	0	0	0	8
90°	0	0	0	0	0	



TEST NUMBER: P644143

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8
2.5°	466.4	462.4	461.1	462.4	462.4	462.4	462.4	462.4	462.4	461.1	462.4
5°	461.1	457.1	457.1	457.1	457.1	457.1	455.7	457.1	457.1	457.1	458.4
7.5°	455.7	450.4	451.7	450.4	451.7	450.4	450.4	451.7	450.4	451.7	451.7
10°	447.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
12.5°	438.4	434.4	434.4	434.4	434.4	434.4	434.4	434.4	435.7	434.4	434.4
15°	429.0	423.7	425.0	423.7	423.7	423.7	423.7	423.7	423.7	423.7	425.0
17.5°	417.0	413.0	413.0	413.0	413.0	413.0	413.0	411.6	413.0	413.0	413.0
20°	405.0	401.0	401.0	399.6	401.0	399.6	399.6	399.6	401.0	399.6	399.6
22.5°	391.6	387.6	388.9	387.6	387.6	387.6	387.6	387.6	386.2	387.6	386.2
25°	379.6	378.2	376.9	378.2	376.9	376.9	376.9	375.6	375.6	375.6	374.2
27.5°	367.5	364.9	364.9	364.9	364.9	363.5	363.5	363.5	362.2	360.9	360.9
30°	356.8	352.8	352.8	352.8	351.5	351.5	350.2	350.2	347.5	346.2	344.8
32.5°	343.5	340.8	339.5	339.5	338.1	338.1	336.8	336.8	334.1	332.8	330.1
35°	328.8	327.4	327.4	326.1	324.8	323.4	322.1	320.8	319.4	316.8	314.1
37.5°	311.4	310.1	308.7	308.7	307.4	306.1	306.1	303.4	302.0	299.4	296.7
40°	294.0	291.4	291.4	290.0	288.7	287.3	287.3	284.7	283.3	280.7	278.0
42.5°	274.0	271.3	271.3	270.0	270.0	270.0	268.6	266.0	263.3	260.6	257.9
45°	255.3	252.6	252.6	249.9	249.9	248.6	247.3	245.9	243.2	240.6	236.6
47.5°	232.6	231.2	231.2	229.9	228.5	227.2	227.2	225.9	223.2	219.2	216.5
50°	212.5	211.2	211.2	209.8	208.5	207.2	205.8	204.5	203.1	200.5	197.8
52.5°	191.1	191.1	189.8	188.4	188.4	187.1	185.8	184.4	181.8	179.1	177.8
55°	171.1	169.7	169.7	168.4	168.4	167.1	165.7	164.4	163.1	160.4	157.7
57.5°	152.4	149.7	149.7	148.4	148.4	148.4	147.0	144.3	143.0	140.3	139.0
60°	132.3	131.0	131.0	131.0	129.6	128.3	128.3	125.6	124.3	123.0	120.3
62.5°	113.6	112.3	112.3	112.3	110.9	110.9	109.6	108.3	106.9	105.6	102.9
65°	96.2	96.2	96.2	94.9	94.9	93.6	92.2	92.2	90.9	89.5	86.9
67.5°	81.5	80.2	80.2	80.2	78.9	78.9	77.5	76.2	74.8	73.5	70.8
70°	66.8	65.5	65.5	64.2	64.2	64.2	64.2	62.8	60.1	60.1	57.5
72.5°	52.1	52.1	52.1	50.8	50.8	50.8	49.5	49.5	48.1	46.8	45.4
75°	40.1	40.1	40.1	38.8	38.8	38.8	37.4	37.4	36.1	34.7	33.4
77.5°	29.4	29.4	29.4	28.1	28.1	28.1	26.7	26.7	25.4	25.4	24.1
80°	20.0	20.0	20.0	18.7	18.7	18.7	18.7	17.4	17.4	16.0	16.0
82.5°	12.0	12.0	12.0	12.0	10.7	10.7	10.7	10.7	10.7	9.4	9.4
85°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.0	4.0
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: P644143

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8
2.5°	462.4	462.4	462.4	462.4	462.4	462.4	462.4	462.4	462.4	463.8	462.4
5°	458.4	458.4	458.4	458.4	458.4	458.4	459.8	458.4	459.8	458.4	459.8
7.5°	451.7	451.7	453.1	453.1	451.7	453.1	453.1	453.1	453.1	454.4	454.4
10°	443.7	445.1	445.1	446.4	446.4	446.4	446.4	447.7	447.7	447.7	447.7
12.5°	435.7	435.7	435.7	435.7	437.0	435.7	437.0	437.0	438.4	439.7	438.4
15°	423.7	425.0	425.0	425.0	425.0	425.0	426.3	427.7	427.7	427.7	429.0
17.5°	413.0	413.0	413.0	414.3	413.0	414.3	414.3	414.3	415.7	415.7	417.0
20°	399.6	398.3	401.0	399.6	399.6	401.0	401.0	401.0	402.3	402.3	402.3
22.5°	384.9	386.2	384.9	384.9	386.2	386.2	386.2	384.9	386.2	386.2	387.6
25°	372.9	372.9	372.9	372.9	372.9	372.9	372.9	371.5	372.9	372.9	372.9
27.5°	359.5	356.8	356.8	355.5	355.5	354.2	352.8	352.8	352.8	351.5	352.8
30°	343.5	340.8	339.5	338.1	336.8	336.8	334.1	332.8	331.5	330.1	328.8
32.5°	327.4	324.8	323.4	322.1	319.4	318.1	315.4	314.1	312.7	310.1	307.4
35°	312.7	308.7	306.1	303.4	302.0	300.7	298.0	295.4	292.7	290.0	287.3
37.5°	292.7	290.0	287.3	284.7	283.3	282.0	279.3	274.0	271.3	268.6	266.0
40°	275.3	271.3	268.6	264.6	263.3	260.6	257.9	253.9	249.9	247.3	244.6
42.5°	253.9	251.3	248.6	244.6	243.2	240.6	236.6	233.9	231.2	225.9	223.2
45°	233.9	231.2	228.5	224.5	221.9	220.5	217.8	213.8	209.8	205.8	203.1
47.5°	213.8	211.2	207.2	204.5	201.8	200.5	197.8	193.8	189.8	185.8	183.1
50°	193.8	191.1	188.4	183.1	183.1	180.4	177.8	173.7	171.1	167.1	163.1
52.5°	175.1	171.1	168.4	164.4	164.4	163.1	159.0	155.0	152.4	148.4	145.7
55°	155.0	152.4	149.7	147.0	144.3	143.0	141.7	137.7	133.7	131.0	127.0
57.5°	136.3	132.3	131.0	128.3	127.0	125.6	123.0	118.9	116.3	113.6	110.9
60°	118.9	116.3	112.3	110.9	109.6	108.3	105.6	102.9	100.2	97.6	94.9
62.5°	101.6	98.9	96.2	93.6	92.2	90.9	89.5	86.9	84.2	81.5	78.9
65°	84.2	82.9	80.2	78.9	77.5	76.2	73.5	70.8	69.5	66.8	64.2
67.5°	69.5	68.2	65.5	64.2	62.8	62.8	58.8	57.5	54.8	53.5	50.8
70°	56.1	54.8	52.1	50.8	49.5	48.1	46.8	45.4	42.8	40.1	38.8
72.5°	44.1	41.4	40.1	38.8	37.4	37.4	34.7	33.4	30.7	29.4	26.7
75°	32.1	30.7	29.4	28.1	28.1	26.7	25.4	24.1	21.4	20.0	18.7
77.5°	22.7	21.4	20.0	18.7	18.7	17.4	16.0	14.7	13.4	12.0	10.7
80°	14.7	13.4	13.4	12.0	10.7	10.7	9.4	8.0	6.7	6.7	5.3
82.5°	8.0	8.0	6.7	6.7	5.3	5.3	4.0	4.0	2.7	2.7	1.3
85°	4.0	2.7	2.7	2.7	2.7	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: P644143

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8
2.5°	462.4	462.4	462.4	462.4	462.4	462.4	462.4	462.4	463.8	462.4	462.4
5°	459.8	459.8	461.1	459.8	461.1	461.1	459.8	459.8	461.1	462.4	461.1
7.5°	454.4	454.4	455.7	455.7	455.7	455.7	455.7	457.1	457.1	458.4	458.4
10°	449.1	449.1	449.1	449.1	450.4	450.4	451.7	451.7	451.7	451.7	451.7
12.5°	439.7	441.0	441.0	441.0	441.0	442.4	442.4	443.7	443.7	443.7	445.1
15°	429.0	430.4	431.7	431.7	430.4	431.7	433.0	433.0	434.4	434.4	434.4
17.5°	417.0	418.3	418.3	419.7	418.3	421.0	421.0	422.3	422.3	423.7	423.7
20°	403.6	405.0	405.0	405.0	406.3	406.3	407.6	407.6	409.0	409.0	409.0
22.5°	387.6	388.9	388.9	388.9	388.9	390.3	390.3	391.6	392.9	394.3	392.9
25°	372.9	374.2	375.6	374.2	375.6	375.6	375.6	376.9	376.9	378.2	376.9
27.5°	352.8	352.8	352.8	354.2	355.5	355.5	355.5	356.8	356.8	356.8	358.2
30°	328.8	327.4	328.8	328.8	328.8	328.8	331.5	331.5	331.5	332.8	334.1
32.5°	306.1	306.1	306.1	304.7	304.7	304.7	304.7	306.1	306.1	307.4	308.7
35°	284.7	283.3	280.7	280.7	280.7	279.3	278.0	278.0	279.3	279.3	279.3
37.5°	262.0	260.6	259.3	256.6	256.6	253.9	252.6	251.3	251.3	249.9	249.9
40°	240.6	237.9	235.2	235.2	232.6	231.2	228.5	227.2	224.5	221.9	221.9
42.5°	219.2	216.5	213.8	212.5	209.8	208.5	204.5	201.8	199.1	197.8	195.1
45°	199.1	196.5	192.5	191.1	188.4	185.8	183.1	179.1	175.1	172.4	171.1
47.5°	179.1	176.4	172.4	169.7	168.4	164.4	161.7	157.7	153.7	149.7	145.7
50°	160.4	156.4	152.4	149.7	148.4	144.3	141.7	137.7	132.3	131.0	127.0
52.5°	141.7	137.7	133.7	132.3	131.0	127.0	123.0	118.9	116.3	112.3	109.6
55°	123.0	120.3	116.3	114.9	113.6	109.6	105.6	102.9	100.2	96.2	93.6
57.5°	106.9	104.2	100.2	98.9	97.6	93.6	90.9	86.9	84.2	81.5	78.9
60°	92.2	88.2	85.5	84.2	82.9	78.9	76.2	73.5	70.8	68.2	64.2
62.5°	76.2	73.5	70.8	69.5	66.8	65.5	61.5	60.1	56.1	54.8	52.1
65°	61.5	58.8	56.1	56.1	54.8	50.8	49.5	46.8	44.1	41.4	40.1
67.5°	49.5	46.8	44.1	42.8	41.4	38.8	37.4	34.7	32.1	30.7	28.1
70°	37.4	34.7	32.1	30.7	29.4	28.1	25.4	22.7	20.0	18.7	16.0
72.5°	25.4	22.7	21.4	21.4	20.0	17.4	14.7	13.4	10.7	9.4	8.0
75°	16.0	13.4	12.0	10.7	10.7	9.4	6.7	5.3	4.0	2.7	1.3
77.5°	9.4	8.0	6.7	5.3	5.3	4.0	2.7	1.3	1.3	0.0	0.0
80°	4.0	2.7	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: P644143

CATALOG NUMBER: ML5615LSWW9FS1E - 692SC WW - 1200LM - 3500K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	463.8	463.8	463.8	463.8	463.8	463.8	463.8	463.8
2.5°	462.4	462.4	462.4	462.4	461.1	461.1	461.1	461.1
5°	461.1	461.1	461.1	461.1	459.8	459.8	461.1	459.8
7.5°	458.4	458.4	457.1	457.1	457.1	457.1	457.1	457.1
10°	453.1	453.1	453.1	451.7	453.1	453.1	451.7	453.1
12.5°	445.1	445.1	445.1	445.1	443.7	443.7	445.1	443.7
15°	435.7	435.7	435.7	435.7	435.7	434.4	435.7	435.7
17.5°	425.0	425.0	423.7	423.7	423.7	425.0	425.0	423.7
20°	410.3	410.3	410.3	410.3	410.3	410.3	410.3	410.3
22.5°	394.3	394.3	394.3	394.3	394.3	394.3	394.3	394.3
25°	378.2	378.2	378.2	378.2	378.2	378.2	378.2	379.6
27.5°	358.2	358.2	358.2	358.2	358.2	356.8	356.8	359.5
30°	334.1	335.5	335.5	335.5	335.5	335.5	335.5	336.8
32.5°	310.1	310.1	310.1	311.4	310.1	311.4	310.1	310.1
35°	282.0	282.0	282.0	282.0	282.0	283.3	283.3	283.3
37.5°	249.9	251.3	251.3	252.6	252.6	252.6	253.9	252.6
40°	220.5	220.5	220.5	219.2	220.5	219.2	220.5	220.5
42.5°	192.5	189.8	189.8	188.4	188.4	187.1	185.8	185.8
45°	167.1	163.1	163.1	161.7	160.4	157.7	156.4	156.4
47.5°	143.0	141.7	140.3	139.0	137.7	135.0	133.7	135.0
50°	123.0	121.6	120.3	120.3	118.9	117.6	116.3	116.3
52.5°	106.9	104.2	102.9	102.9	101.6	100.2	100.2	100.2
55°	90.9	88.2	88.2	88.2	86.9	85.5	85.5	84.2
57.5°	76.2	73.5	73.5	72.2	70.8	70.8	70.8	69.5
60°	62.8	60.1	58.8	58.8	57.5	56.1	56.1	56.1
62.5°	49.5	48.1	45.4	45.4	44.1	42.8	41.4	42.8
65°	37.4	34.7	33.4	33.4	32.1	30.7	29.4	29.4
67.5°	25.4	24.1	22.7	22.7	20.0	20.0	18.7	18.7
70°	14.7	13.4	13.4	12.0	10.7	10.7	9.4	9.4
72.5°	6.7	5.3	5.3	4.0	4.0	2.7	2.7	2.7
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)