

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: P642347

Luminaire Tested: ML5612LSWW97FS1E - 692W WW - 600LM - 3000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642347
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 - 600LM - 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: 573.4 lumens
Efficiency: N/A
Efficacy: 55.7 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

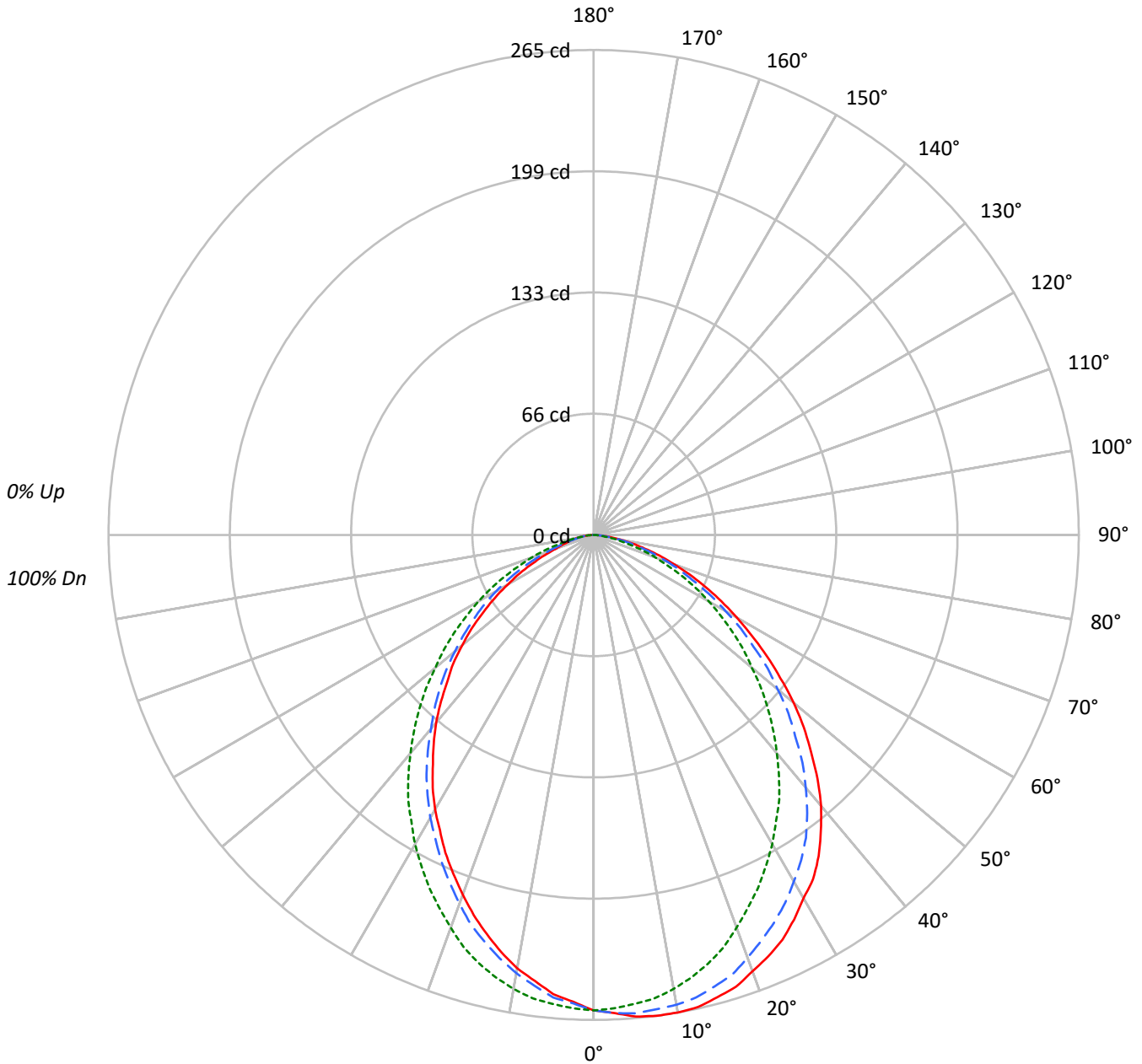
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	89	87							
	2	101	94	88	82	99	92	86	81	88	84	80	85	81	78	82	79	76	74							
	3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64							
	4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55							
	5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49							
	6	73	61	52	46	72	60	52	46	58	51	46	56	50	45	55	49	45	43							
	7	68	55	47	41	67	55	47	41	53	46	41	52	45	41	50	45	40	38							
	8	64	51	43	37	62	50	42	37	49	42	37	48	41	37	46	41	36	35							
	9	60	47	39	34	58	46	39	34	45	38	33	44	38	33	43	37	33	31							
	10	56	43	36	31	55	43	36	31	42	35	30	41	35	30	40	34	30	29							

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	14242	14242	14242	14242	14242
5°	14539	14440	14154	13961	13862
10°	14751	14512	14022	13538	13388
15°	14841	14495	13751	13059	12809
20°	14800	14340	13319	12502	12199
25°	14759	14124	12860	11904	11589
30°	14509	13844	12350	11293	10964
35°	14342	13525	11825	10654	10246
40°	13833	12896	11142	9890	9575
45°	13017	12071	10443	9226	8745
50°	12162	11189	9620	8426	7983
55°	11039	10198	8860	7608	7025
60°	9879	9111	7960	6710	5943
65°	8743	7939	6927	5669	4761
70°	7437	6876	5754	4344	3510
75°	6121	5549	4257	2965	2965
80°	4704	4136	3031	2494	2747
85°	3271	2768	2201	2201	2201

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13017 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.4	4.3
10°-20°	68.4	11.9
20°-30°	98.9	17.3
30°-40°	112.4	19.6
40°-50°	106.1	18.5
50°-60°	83.7	14.6
60°-70°	52.4	9.1
70°-80°	22.6	3.9
80°-90°	4.6	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°	191.7	33.4
0°-40°	304.1	53.0
0°-60°	493.8	86.1
0°-90°	573.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	573.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	260	260	260	260	260	
5°	264	262	257	254	252	25
15°	262	255	242	230	226	74
25°	244	234	213	197	192	112
35°	214	202	177	159	153	133
45°	168	156	135	119	113	130
55°	116	107	93	80	74	103
65°	67	61	53	44	37	67
75°	29	26	20	14	14	31
85°	5	4	4	4	4	6
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8
2.5°	261.5	261.5	262.4	262.4	261.5	261.5	261.5	261.5	261.5	261.5	261.5
5°	264.2	264.2	264.2	264.2	263.3	263.3	263.3	263.3	263.3	262.4	262.4
7.5°	265.0	265.0	265.0	265.0	264.2	264.2	263.3	263.3	263.3	262.4	261.5
10°	265.0	265.0	265.0	264.2	264.2	263.3	264.2	263.3	262.4	261.5	260.7
12.5°	264.2	263.3	263.3	263.3	262.4	262.4	262.4	261.5	260.7	259.8	258.9
15°	261.5	261.5	261.5	260.7	260.7	259.8	259.8	258.9	258.0	256.3	255.4
17.5°	258.9	258.9	258.0	258.0	257.2	256.3	256.3	255.4	254.5	252.8	251.9
20°	253.7	253.7	253.7	252.8	251.9	251.9	251.0	250.2	248.4	246.7	245.8
22.5°	249.3	248.4	248.4	247.5	246.7	246.7	245.8	244.0	243.2	241.4	239.7
25°	244.0	243.2	243.2	242.3	241.4	240.5	240.5	238.8	237.0	235.3	233.5
27.5°	237.0	237.0	236.2	235.3	234.4	234.4	233.5	232.7	230.1	228.3	226.6
30°	229.2	230.1	229.2	228.3	227.4	227.4	226.6	224.8	223.1	220.4	218.7
32.5°	223.1	223.1	222.2	221.3	219.6	219.6	219.6	216.9	215.2	213.4	210.8
35°	214.3	214.3	214.3	212.6	211.7	210.8	209.9	208.2	206.4	204.7	202.1
37.5°	203.8	204.7	203.8	202.9	202.1	201.2	200.3	198.6	195.9	194.2	191.6
40°	193.3	193.3	192.4	191.6	190.7	189.8	188.9	187.2	185.4	182.8	180.2
42.5°	181.1	181.1	180.2	179.3	178.4	177.6	177.6	175.8	173.2	171.4	168.8
45°	167.9	167.9	167.9	167.1	166.2	165.3	164.4	163.6	161.8	159.2	155.7
47.5°	155.7	155.7	155.7	154.0	154.0	152.2	151.3	149.6	148.7	146.1	144.3
50°	142.6	141.7	141.7	140.8	140.0	139.1	139.1	136.5	135.6	133.8	131.2
52.5°	128.6	128.6	128.6	127.7	126.8	126.0	126.0	124.2	122.5	120.7	119.8
55°	115.5	115.5	115.5	114.6	113.7	113.7	112.8	111.1	110.2	108.5	106.7
57.5°	102.3	103.2	102.3	101.5	101.5	100.6	100.6	99.7	98.0	96.2	95.3
60°	90.1	90.1	90.1	89.2	88.3	88.3	88.3	87.5	85.7	84.8	83.1
62.5°	78.7	78.7	77.8	77.8	77.0	77.0	76.1	75.2	74.4	73.5	72.6
65°	67.4	66.5	66.5	66.5	65.6	65.6	65.6	64.7	63.0	62.1	61.2
67.5°	56.9	56.9	56.0	56.0	55.1	55.1	55.1	54.2	53.4	52.5	51.6
70°	46.4	46.4	46.4	46.4	45.5	45.5	45.5	44.6	43.7	43.7	42.9
72.5°	37.6	37.6	37.6	37.6	36.7	36.7	36.7	35.9	35.0	34.1	34.1
75°	28.9	29.7	28.9	28.9	28.9	28.9	28.0	28.0	27.1	26.2	26.2
77.5°	21.9	21.9	21.9	21.9	21.0	21.0	21.0	21.0	20.1	19.2	19.2
80°	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.0	14.0	13.1
82.5°	8.7	9.6	9.6	9.6	8.7	8.7	8.7	8.7	8.7	8.7	7.9
85°	5.2	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
87.5°	1.7	1.7	1.7	1.7	1.7	0.9	0.9	0.9	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8
2.5°	260.7	260.7	260.7	260.7	259.8	259.8	259.8	258.9	258.9	258.9	258.9
5°	261.5	260.7	260.7	259.8	259.8	259.8	258.9	258.9	258.0	257.2	257.2
7.5°	260.7	260.7	259.8	258.9	258.9	258.0	257.2	256.3	255.4	255.4	253.7
10°	259.8	258.9	258.0	257.2	256.3	256.3	254.5	253.7	252.8	251.9	251.0
12.5°	257.2	256.3	255.4	253.7	253.7	252.8	251.0	250.2	248.4	247.5	245.8
15°	253.7	252.8	251.9	250.2	249.3	248.4	246.7	244.9	243.2	242.3	240.5
17.5°	250.2	248.4	246.7	244.9	244.0	243.2	241.4	239.7	237.9	236.2	234.4
20°	244.0	242.3	240.5	237.9	237.0	236.2	233.5	231.8	230.1	228.3	226.6
22.5°	237.9	236.2	233.5	231.8	230.9	229.2	227.4	224.8	223.1	220.4	218.7
25°	231.8	229.2	226.6	224.8	223.1	222.2	219.6	217.8	214.3	212.6	210.8
27.5°	223.9	222.2	219.6	216.9	215.2	213.4	211.7	209.1	206.4	203.8	202.1
30°	216.1	213.4	210.8	209.1	206.4	205.6	202.9	200.3	197.7	195.1	193.3
32.5°	208.2	205.6	202.9	200.3	198.6	196.8	194.2	191.6	188.1	185.4	183.7
35°	199.4	196.8	193.3	190.7	188.9	187.2	184.6	181.9	179.3	176.7	174.1
37.5°	188.9	185.4	183.7	181.1	178.4	176.7	174.1	170.6	168.8	166.2	163.6
40°	177.6	174.9	172.3	169.7	167.1	166.2	162.7	160.1	158.3	155.7	153.1
42.5°	166.2	163.6	160.1	157.4	155.7	154.8	152.2	149.6	147.0	145.2	142.6
45°	154.0	151.3	148.7	146.1	144.3	143.5	140.8	139.1	136.5	134.7	132.1
47.5°	141.7	139.1	137.3	134.7	133.0	132.1	130.3	127.7	125.1	124.2	122.5
50°	129.5	126.8	125.1	122.5	121.6	120.7	119.0	117.2	115.5	112.8	112.0
52.5°	117.2	114.6	112.8	111.1	111.1	109.3	107.6	106.7	105.0	103.2	101.5
55°	105.0	104.1	102.3	99.7	99.7	98.8	97.1	95.3	93.6	92.7	91.0
57.5°	92.7	91.8	90.1	89.2	88.3	87.5	86.6	84.8	84.0	82.2	81.3
60°	82.2	81.3	79.6	78.7	77.8	77.0	76.1	74.4	73.5	72.6	71.7
62.5°	70.9	70.0	69.1	68.2	67.4	66.5	66.5	64.7	63.9	63.0	62.1
65°	61.2	59.5	58.6	57.7	57.7	56.9	56.0	55.1	54.2	53.4	52.5
67.5°	50.7	49.9	49.9	48.1	48.1	47.2	46.4	46.4	44.6	43.7	42.9
70°	42.0	41.1	40.2	39.4	39.4	38.5	37.6	36.7	35.9	35.9	35.0
72.5°	33.2	32.4	32.4	31.5	30.6	30.6	29.7	28.9	28.0	28.0	27.1
75°	25.4	24.5	24.5	23.6	23.6	22.7	21.9	21.9	21.0	20.1	19.2
77.5°	18.4	18.4	17.5	17.5	16.6	16.6	15.7	15.7	14.9	14.0	14.0
80°	13.1	12.2	12.2	11.4	11.4	11.4	10.5	10.5	9.6	9.6	8.7
82.5°	7.9	7.9	7.0	7.0	7.0	7.0	6.1	6.1	6.1	5.2	5.2
85°	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.6
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8
2.5°	258.0	258.0	257.2	258.0	257.2	257.2	257.2	257.2	256.3	256.3	256.3
5°	256.3	255.4	255.4	254.5	255.4	254.5	253.7	253.7	253.7	253.7	252.8
7.5°	252.8	252.8	251.9	251.0	251.0	250.2	249.3	249.3	248.4	248.4	247.5
10°	250.2	248.4	247.5	246.7	246.7	245.8	244.9	244.0	243.2	242.3	242.3
12.5°	244.0	243.2	242.3	241.4	241.4	239.7	238.8	237.9	237.0	236.2	235.3
15°	239.7	237.9	236.2	235.3	235.3	233.5	232.7	231.8	230.1	230.1	228.3
17.5°	232.7	230.9	229.2	228.3	227.4	226.6	225.7	223.9	223.1	221.3	221.3
20°	223.9	223.1	220.4	219.6	218.7	217.8	216.1	215.2	214.3	212.6	211.7
22.5°	216.9	214.3	212.6	211.7	211.7	209.1	208.2	206.4	205.6	204.7	202.9
25°	208.2	206.4	204.7	202.9	202.9	201.2	200.3	198.6	196.8	195.9	195.1
27.5°	199.4	197.7	195.1	194.2	193.3	192.4	190.7	188.9	187.2	186.3	185.4
30°	189.8	188.1	186.3	185.4	183.7	181.9	180.2	179.3	178.4	176.7	175.8
32.5°	181.1	178.4	176.7	174.9	174.9	172.3	171.4	169.7	168.8	167.9	166.2
35°	171.4	168.8	167.1	166.2	165.3	162.7	160.9	159.2	159.2	157.4	156.6
37.5°	160.9	158.3	157.4	155.7	154.8	153.1	151.3	150.5	148.7	147.0	147.0
40°	151.3	148.7	146.1	146.1	144.3	143.5	140.8	140.0	138.2	137.3	136.5
42.5°	140.8	138.2	136.5	135.6	134.7	133.0	131.2	129.5	128.6	127.7	126.8
45°	129.5	127.7	126.8	125.1	124.2	122.5	121.6	119.8	119.0	117.2	116.3
47.5°	119.8	118.1	116.3	115.5	114.6	112.8	112.0	110.2	109.3	107.6	106.7
50°	110.2	108.5	106.7	105.8	105.0	103.2	101.5	100.6	98.8	98.0	96.2
52.5°	99.7	98.0	96.2	96.2	95.3	93.6	92.7	91.0	89.2	87.5	86.6
55°	90.1	88.3	86.6	85.7	85.7	84.0	82.2	81.3	79.6	78.7	77.0
57.5°	79.6	77.8	77.0	76.1	76.1	74.4	73.5	71.7	70.9	69.1	68.2
60°	70.0	69.1	67.4	67.4	66.5	64.7	63.9	62.1	61.2	60.4	59.5
62.5°	60.4	59.5	57.7	57.7	56.9	56.0	55.1	53.4	52.5	50.7	49.9
65°	50.7	49.9	49.0	48.1	48.1	46.4	45.5	44.6	43.7	42.9	42.0
67.5°	42.0	41.1	40.2	40.2	39.4	38.5	36.7	35.9	35.0	34.1	33.2
70°	34.1	32.4	31.5	31.5	30.6	29.7	28.9	28.0	27.1	26.2	25.4
72.5°	26.2	24.5	24.5	23.6	22.7	21.9	21.9	21.0	20.1	20.1	18.4
75°	19.2	18.4	17.5	17.5	16.6	15.7	14.9	14.9	14.0	14.0	14.0
77.5°	13.1	12.2	12.2	11.4	11.4	11.4	10.5	10.5	10.5	10.5	11.4
80°	8.7	8.7	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.7	8.7
82.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	6.1
85°	2.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
87.5°	0.9	0.9	1.7	0.9	1.7	0.9	1.7	1.7	1.7	1.7	1.7
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: P642347

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 600LM - 3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8
2.5°	255.4	256.3	256.3	255.4	256.3	255.4	255.4	255.4
5°	252.8	251.9	251.9	251.9	251.0	251.9	251.9	251.9
7.5°	247.5	247.5	246.7	246.7	245.8	245.8	246.7	245.8
10°	241.4	240.5	241.4	240.5	240.5	240.5	239.7	240.5
12.5°	235.3	234.4	234.4	233.5	233.5	233.5	233.5	233.5
15°	228.3	227.4	227.4	226.6	226.6	225.7	226.6	225.7
17.5°	220.4	220.4	218.7	218.7	218.7	218.7	218.7	217.8
20°	210.8	210.8	209.9	210.8	209.1	209.1	209.1	209.1
22.5°	202.9	202.1	201.2	201.2	201.2	200.3	200.3	200.3
25°	193.3	193.3	192.4	192.4	191.6	191.6	191.6	191.6
27.5°	184.6	183.7	183.7	183.7	182.8	181.9	181.9	181.9
30°	174.9	174.9	174.1	174.1	173.2	173.2	173.2	173.2
32.5°	165.3	165.3	164.4	163.6	163.6	163.6	162.7	163.6
35°	155.7	154.8	154.8	154.0	154.0	154.0	153.1	153.1
37.5°	146.1	145.2	144.3	145.2	144.3	143.5	143.5	143.5
40°	135.6	134.7	134.7	133.8	133.8	133.8	133.0	133.8
42.5°	126.0	126.0	125.1	124.2	124.2	124.2	123.3	123.3
45°	116.3	114.6	115.5	114.6	114.6	113.7	113.7	112.8
47.5°	105.8	105.0	105.0	105.0	104.1	104.1	104.1	104.1
50°	95.3	94.5	95.3	94.5	94.5	93.6	93.6	93.6
52.5°	85.7	84.8	84.8	84.8	84.8	84.0	84.0	84.0
55°	76.1	75.2	75.2	75.2	74.4	74.4	73.5	73.5
57.5°	67.4	66.5	65.6	64.7	64.7	64.7	63.9	63.9
60°	57.7	56.9	56.0	56.0	55.1	55.1	55.1	54.2
62.5°	49.0	48.1	47.2	47.2	46.4	45.5	45.5	45.5
65°	40.2	39.4	39.4	38.5	37.6	37.6	36.7	36.7
67.5°	32.4	31.5	31.5	30.6	29.7	28.9	28.9	28.9
70°	25.4	24.5	23.6	23.6	23.6	22.7	21.9	21.9
72.5°	18.4	17.5	17.5	17.5	17.5	17.5	17.5	17.5
75°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
77.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
80°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
82.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
87.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.9
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



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— 0°-180° - - 45°-225° - - - - 90°-270°

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(END OF REPORT)