

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: P642346

Luminaire Tested: ML5612LSWW97FS1E - 692W WW - 600LM - 2700K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642346
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 - 2700K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 557.6 lumens
Efficiency: N/A
Efficacy: 54.1 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

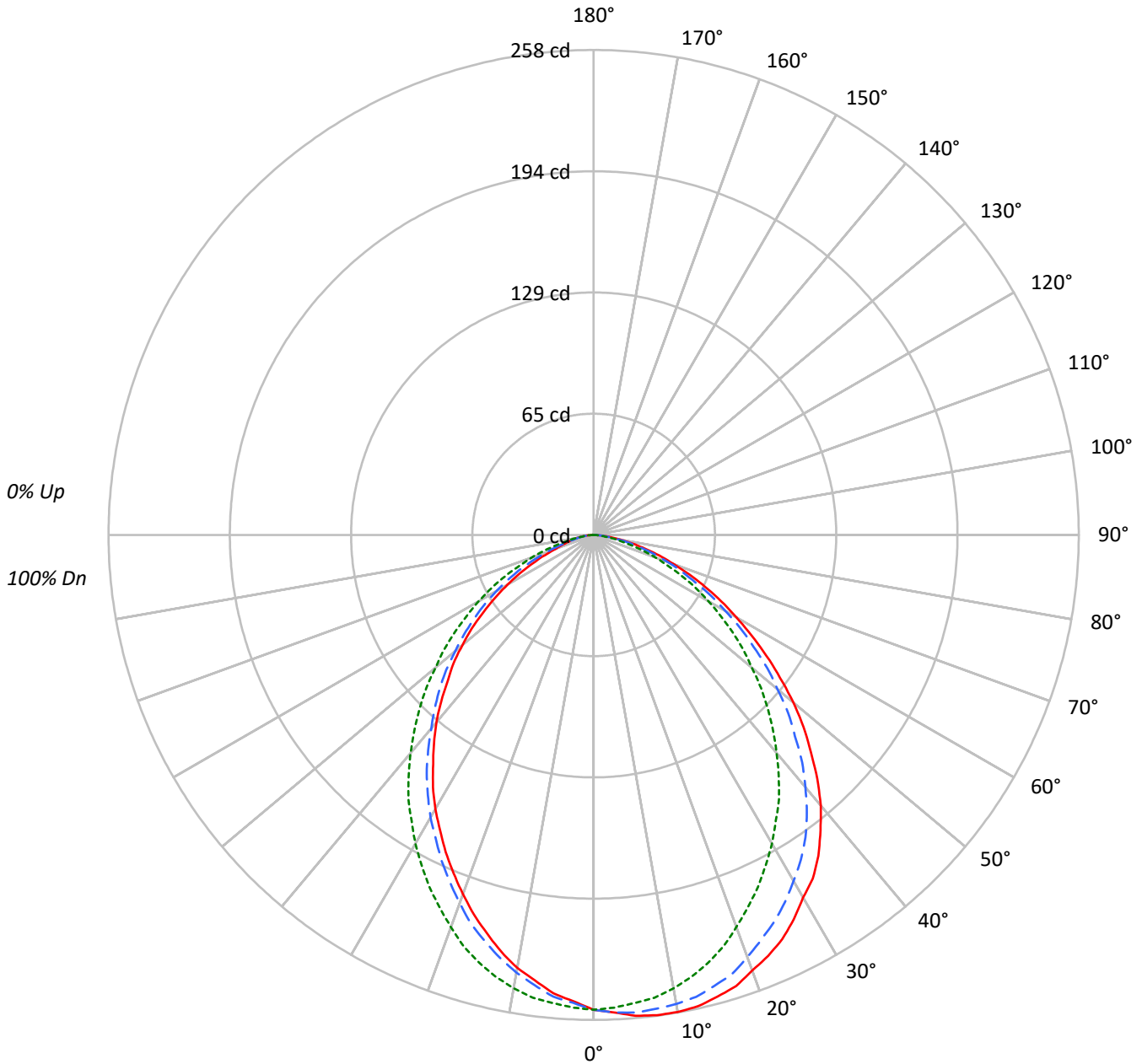
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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				100				
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	89	87				87				
2	101	94	88	82	99	92	86	81	88	84	80	85	81	78	82	79	76	74				74				
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64				64				
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55				55				
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49				49				
6	73	61	52	46	72	60	52	46	58	51	46	56	50	45	55	49	45	43				43				
7	68	55	47	41	67	55	47	41	53	46	41	52	45	41	50	45	40	38				38				
8	64	51	43	37	62	50	42	37	49	42	37	48	41	37	46	41	36	35				35				
9	60	47	39	34	58	46	39	34	45	38	33	44	38	33	43	37	33	31				31				
10	56	43	36	31	55	43	36	31	42	35	30	41	35	30	40	34	30	29				29				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	13848	13848	13848	13848	13848
5°	14132	14038	13757	13570	13477
10°	14345	14106	13633	13159	13020
15°	14433	14092	13371	12696	12452
20°	14386	13943	12951	12158	11860
25°	14354	13737	12503	11571	11263
30°	14103	13458	12002	10983	10660
35°	13947	13144	11497	10360	9958
40°	13447	12538	10835	9618	9310
45°	12660	11738	10156	8970	8505
50°	11821	10882	9356	8196	7761
55°	10733	9921	8611	7398	6824
60°	9604	8859	7741	6524	5778
65°	8496	7718	6732	5513	4631
70°	7229	6684	5594	4231	3414
75°	5952	5401	4151	2881	2881
80°	4578	4041	2968	2431	2683
85°	3208	2705	2139	2139	2139

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12660 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.7	4.3
10°-20°	66.5	11.9
20°-30°	96.2	17.3
30°-40°	109.3	19.6
40°-50°	103.1	18.5
50°-60°	81.3	14.6
60°-70°	50.9	9.1
70°-80°	22.0	3.9
80°-90°	4.5	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°	186.4	33.4
0°-40°	295.6	53.0
0°-60°	480.1	86.1
0°-90°	557.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	557.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	253	253	253	253	253	
5°	257	255	250	247	245	25
15°	254	248	236	224	219	72
25°	237	227	207	191	186	109
35°	208	196	172	155	149	130
45°	163	151	131	116	110	126
55°	112	104	90	77	71	100
65°	66	60	52	42	36	65
75°	28	26	20	14	14	31
85°	5	4	3	3	3	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°	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6
2.5°	254.3	254.3	255.1	255.1	254.3	254.3	254.3	254.3	254.3	254.3	254.3
5°	256.8	256.8	256.8	256.8	256.0	256.0	256.0	256.0	256.0	255.1	255.1
7.5°	257.7	257.7	257.7	257.7	256.8	256.8	256.0	256.0	256.0	255.1	254.3
10°	257.7	257.7	257.7	256.8	256.8	256.0	256.8	256.0	255.1	254.3	253.4
12.5°	256.8	256.0	256.0	256.0	255.1	255.1	255.1	254.3	253.4	252.6	251.7
15°	254.3	254.3	254.3	253.4	253.4	252.6	252.6	251.7	250.9	249.2	248.3
17.5°	251.7	251.7	250.9	250.9	250.0	249.2	249.2	248.3	247.5	245.8	244.9
20°	246.6	246.6	246.6	245.8	244.9	244.9	244.1	243.2	241.5	239.8	239.0
22.5°	242.4	241.5	241.5	240.7	239.8	239.8	239.0	237.3	236.4	234.7	233.0
25°	237.3	236.4	236.4	235.6	234.7	233.9	233.9	232.2	230.5	228.8	227.1
27.5°	230.5	230.5	229.6	228.8	227.9	227.9	227.1	226.2	223.7	222.0	220.3
30°	222.8	223.7	222.8	222.0	221.1	221.1	220.3	218.6	216.9	214.3	212.6
32.5°	216.9	216.9	216.0	215.2	213.5	213.5	213.5	210.9	209.2	207.5	205.0
35°	208.4	208.4	208.4	206.7	205.8	205.0	204.1	202.4	200.7	199.0	196.4
37.5°	198.1	199.0	198.1	197.3	196.4	195.6	194.7	193.0	190.5	188.8	186.2
40°	187.9	187.9	187.1	186.2	185.4	184.5	183.7	182.0	180.3	177.7	175.2
42.5°	176.0	176.0	175.2	174.3	173.5	172.6	172.6	170.9	168.4	166.7	164.1
45°	163.3	163.3	163.3	162.4	161.6	160.7	159.9	159.0	157.3	154.8	151.4
47.5°	151.4	151.4	151.4	149.7	149.7	148.0	147.1	145.4	144.6	142.0	140.3
50°	138.6	137.8	137.8	136.9	136.1	135.2	135.2	132.7	131.8	130.1	127.6
52.5°	125.0	125.0	125.0	124.2	123.3	122.5	122.5	120.8	119.1	117.4	116.5
55°	112.3	112.3	112.3	111.4	110.6	110.6	109.7	108.0	107.2	105.5	103.8
57.5°	99.5	100.3	99.5	98.6	98.6	97.8	97.8	96.9	95.2	93.5	92.7
60°	87.6	87.6	87.6	86.7	85.9	85.9	85.9	85.0	83.3	82.5	80.8
62.5°	76.5	76.5	75.7	75.7	74.8	74.8	74.0	73.1	72.3	71.4	70.6
65°	65.5	64.6	64.6	64.6	63.8	63.8	63.8	62.9	61.2	60.4	59.5
67.5°	55.3	55.3	54.4	54.4	53.6	53.6	53.6	52.7	51.9	51.0	50.2
70°	45.1	45.1	45.1	45.1	44.2	44.2	44.2	43.4	42.5	42.5	41.7
72.5°	36.6	36.6	36.6	36.6	35.7	35.7	35.7	34.9	34.0	33.2	33.2
75°	28.1	28.9	28.1	28.1	28.1	28.1	27.2	27.2	26.4	25.5	25.5
77.5°	21.3	21.3	21.3	21.3	20.4	20.4	20.4	20.4	19.6	18.7	18.7
80°	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	13.6	13.6	12.8
82.5°	8.5	9.4	9.4	9.4	8.5	8.5	8.5	8.5	8.5	8.5	7.7
85°	5.1	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
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°	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6
2.5°	253.4	253.4	253.4	253.4	252.6	252.6	252.6	251.7	251.7	251.7	251.7
5°	254.3	253.4	253.4	252.6	252.6	252.6	251.7	251.7	250.9	250.0	250.0
7.5°	253.4	253.4	252.6	251.7	251.7	250.9	250.0	249.2	248.3	248.3	246.6
10°	252.6	251.7	250.9	250.0	249.2	249.2	247.5	246.6	245.8	244.9	244.1
12.5°	250.0	249.2	248.3	246.6	246.6	245.8	244.1	243.2	241.5	240.7	239.0
15°	246.6	245.8	244.9	243.2	242.4	241.5	239.8	238.1	236.4	235.6	233.9
17.5°	243.2	241.5	239.8	238.1	237.3	236.4	234.7	233.0	231.3	229.6	227.9
20°	237.3	235.6	233.9	231.3	230.5	229.6	227.1	225.4	223.7	222.0	220.3
22.5°	231.3	229.6	227.1	225.4	224.5	222.8	221.1	218.6	216.9	214.3	212.6
25°	225.4	222.8	220.3	218.6	216.9	216.0	213.5	211.8	208.4	206.7	205.0
27.5°	217.7	216.0	213.5	210.9	209.2	207.5	205.8	203.3	200.7	198.1	196.4
30°	210.1	207.5	205.0	203.3	200.7	199.8	197.3	194.7	192.2	189.6	187.9
32.5°	202.4	199.8	197.3	194.7	193.0	191.3	188.8	186.2	182.8	180.3	178.6
35°	193.9	191.3	187.9	185.4	183.7	182.0	179.4	176.9	174.3	171.8	169.2
37.5°	183.7	180.3	178.6	176.0	173.5	171.8	169.2	165.8	164.1	161.6	159.0
40°	172.6	170.1	167.5	165.0	162.4	161.6	158.2	155.6	153.9	151.4	148.8
42.5°	161.6	159.0	155.6	153.1	151.4	150.5	148.0	145.4	142.9	141.2	138.6
45°	149.7	147.1	144.6	142.0	140.3	139.5	136.9	135.2	132.7	131.0	128.4
47.5°	137.8	135.2	133.5	131.0	129.3	128.4	126.7	124.2	121.6	120.8	119.1
50°	125.9	123.3	121.6	119.1	118.2	117.4	115.7	114.0	112.3	109.7	108.9
52.5°	114.0	111.4	109.7	108.0	108.0	106.3	104.6	103.8	102.1	100.3	98.6
55°	102.1	101.2	99.5	96.9	96.9	96.1	94.4	92.7	91.0	90.1	88.4
57.5°	90.1	89.3	87.6	86.7	85.9	85.0	84.2	82.5	81.6	79.9	79.1
60°	79.9	79.1	77.4	76.5	75.7	74.8	74.0	72.3	71.4	70.6	69.7
62.5°	68.9	68.0	67.2	66.3	65.5	64.6	64.6	62.9	62.1	61.2	60.4
65°	59.5	57.8	57.0	56.1	56.1	55.3	54.4	53.6	52.7	51.9	51.0
67.5°	49.3	48.5	48.5	46.8	46.8	45.9	45.1	45.1	43.4	42.5	41.7
70°	40.8	40.0	39.1	38.3	38.3	37.4	36.6	35.7	34.9	34.9	34.0
72.5°	32.3	31.5	31.5	30.6	29.8	29.8	28.9	28.1	27.2	27.2	26.4
75°	24.7	23.8	23.8	23.0	23.0	22.1	21.3	21.3	20.4	19.6	18.7
77.5°	17.9	17.9	17.0	17.0	16.2	16.2	15.3	15.3	14.5	13.6	13.6
80°	12.8	11.9	11.9	11.1	11.1	11.1	10.2	10.2	9.4	9.4	8.5
82.5°	7.7	7.7	6.8	6.8	6.8	6.8	6.0	6.0	6.0	5.1	5.1
85°	4.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	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°	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6
2.5°	250.9	250.9	250.0	250.9	250.0	250.0	250.0	250.0	249.2	249.2	249.2
5°	249.2	248.3	248.3	247.5	248.3	247.5	246.6	246.6	246.6	246.6	245.8
7.5°	245.8	245.8	244.9	244.1	244.1	243.2	242.4	242.4	241.5	241.5	240.7
10°	243.2	241.5	240.7	239.8	239.8	239.0	238.1	237.3	236.4	235.6	235.6
12.5°	237.3	236.4	235.6	234.7	234.7	233.0	232.2	231.3	230.5	229.6	228.8
15°	233.0	231.3	229.6	228.8	228.8	227.1	226.2	225.4	223.7	223.7	222.0
17.5°	226.2	224.5	222.8	222.0	221.1	220.3	219.4	217.7	216.9	215.2	215.2
20°	217.7	216.9	214.3	213.5	212.6	211.8	210.1	209.2	208.4	206.7	205.8
22.5°	210.9	208.4	206.7	205.8	205.8	203.3	202.4	200.7	199.8	199.0	197.3
25°	202.4	200.7	199.0	197.3	197.3	195.6	194.7	193.0	191.3	190.5	189.6
27.5°	193.9	192.2	189.6	188.8	187.9	187.1	185.4	183.7	182.0	181.1	180.3
30°	184.5	182.8	181.1	180.3	178.6	176.9	175.2	174.3	173.5	171.8	170.9
32.5°	176.0	173.5	171.8	170.1	170.1	167.5	166.7	165.0	164.1	163.3	161.6
35°	166.7	164.1	162.4	161.6	160.7	158.2	156.5	154.8	154.8	153.1	152.2
37.5°	156.5	153.9	153.1	151.4	150.5	148.8	147.1	146.3	144.6	142.9	142.9
40°	147.1	144.6	142.0	142.0	140.3	139.5	136.9	136.1	134.4	133.5	132.7
42.5°	136.9	134.4	132.7	131.8	131.0	129.3	127.6	125.9	125.0	124.2	123.3
45°	125.9	124.2	123.3	121.6	120.8	119.1	118.2	116.5	115.7	114.0	113.1
47.5°	116.5	114.8	113.1	112.3	111.4	109.7	108.9	107.2	106.3	104.6	103.8
50°	107.2	105.5	103.8	102.9	102.1	100.3	98.6	97.8	96.1	95.2	93.5
52.5°	96.9	95.2	93.5	93.5	92.7	91.0	90.1	88.4	86.7	85.0	84.2
55°	87.6	85.9	84.2	83.3	83.3	81.6	79.9	79.1	77.4	76.5	74.8
57.5°	77.4	75.7	74.8	74.0	74.0	72.3	71.4	69.7	68.9	67.2	66.3
60°	68.0	67.2	65.5	65.5	64.6	62.9	62.1	60.4	59.5	58.7	57.8
62.5°	58.7	57.8	56.1	56.1	55.3	54.4	53.6	51.9	51.0	49.3	48.5
65°	49.3	48.5	47.6	46.8	46.8	45.1	44.2	43.4	42.5	41.7	40.8
67.5°	40.8	40.0	39.1	39.1	38.3	37.4	35.7	34.9	34.0	33.2	32.3
70°	33.2	31.5	30.6	30.6	29.8	28.9	28.1	27.2	26.4	25.5	24.7
72.5°	25.5	23.8	23.8	23.0	22.1	21.3	21.3	20.4	19.6	19.6	17.9
75°	18.7	17.9	17.0	17.0	16.2	15.3	14.5	14.5	13.6	13.6	13.6
77.5°	12.8	11.9	11.9	11.1	11.1	11.1	10.2	10.2	10.2	10.2	11.1
80°	8.5	8.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7	8.5	8.5
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	6.0
85°	2.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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: P642346

CATALOG NUMBER: ML5612LSWW97FS1E - 692W WW - 600LM - 2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	252.6	252.6	252.6	252.6	252.6	252.6	252.6	252.6
2.5°	248.3	249.2	249.2	248.3	249.2	248.3	248.3	248.3
5°	245.8	244.9	244.9	244.9	244.1	244.9	244.9	244.9
7.5°	240.7	240.7	239.8	239.8	239.0	239.0	239.8	239.0
10°	234.7	233.9	234.7	233.9	233.9	233.9	233.0	233.9
12.5°	228.8	227.9	227.9	227.1	227.1	227.1	227.1	227.1
15°	222.0	221.1	221.1	220.3	220.3	219.4	220.3	219.4
17.5°	214.3	214.3	212.6	212.6	212.6	212.6	212.6	211.8
20°	205.0	205.0	204.1	205.0	203.3	203.3	203.3	203.3
22.5°	197.3	196.4	195.6	195.6	195.6	194.7	194.7	194.7
25°	187.9	187.9	187.1	187.1	186.2	186.2	186.2	186.2
27.5°	179.4	178.6	178.6	178.6	177.7	176.9	176.9	176.9
30°	170.1	170.1	169.2	169.2	168.4	168.4	168.4	168.4
32.5°	160.7	160.7	159.9	159.0	159.0	159.0	158.2	159.0
35°	151.4	150.5	150.5	149.7	149.7	149.7	148.8	148.8
37.5°	142.0	141.2	140.3	141.2	140.3	139.5	139.5	139.5
40°	131.8	131.0	131.0	130.1	130.1	130.1	129.3	130.1
42.5°	122.5	122.5	121.6	120.8	120.8	120.8	119.9	119.9
45°	113.1	111.4	112.3	111.4	111.4	110.6	110.6	109.7
47.5°	102.9	102.1	102.1	102.1	101.2	101.2	101.2	101.2
50°	92.7	91.8	92.7	91.8	91.8	91.0	91.0	91.0
52.5°	83.3	82.5	82.5	82.5	82.5	81.6	81.6	81.6
55°	74.0	73.1	73.1	73.1	72.3	72.3	71.4	71.4
57.5°	65.5	64.6	63.8	62.9	62.9	62.9	62.1	62.1
60°	56.1	55.3	54.4	54.4	53.6	53.6	53.6	52.7
62.5°	47.6	46.8	45.9	45.9	45.1	44.2	44.2	44.2
65°	39.1	38.3	38.3	37.4	36.6	36.6	35.7	35.7
67.5°	31.5	30.6	30.6	29.8	28.9	28.1	28.1	28.1
70°	24.7	23.8	23.0	23.0	23.0	22.1	21.3	21.3
72.5°	17.9	17.0	17.0	17.0	17.0	17.0	17.0	17.0
75°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
77.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
80°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
82.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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
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Peachtree City, GA 30269

Scaled Data Report



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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)