

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: P642286

Luminaire Tested: ML5612LSWW97FS1E - 592SC WW - 600LM - 2700K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642286
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-129)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592SC WW - 600LM - 2700K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH SPECULAR CLEAR TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 551.3 lumens
Efficiency: N/A
Efficacy: 53.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.26
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

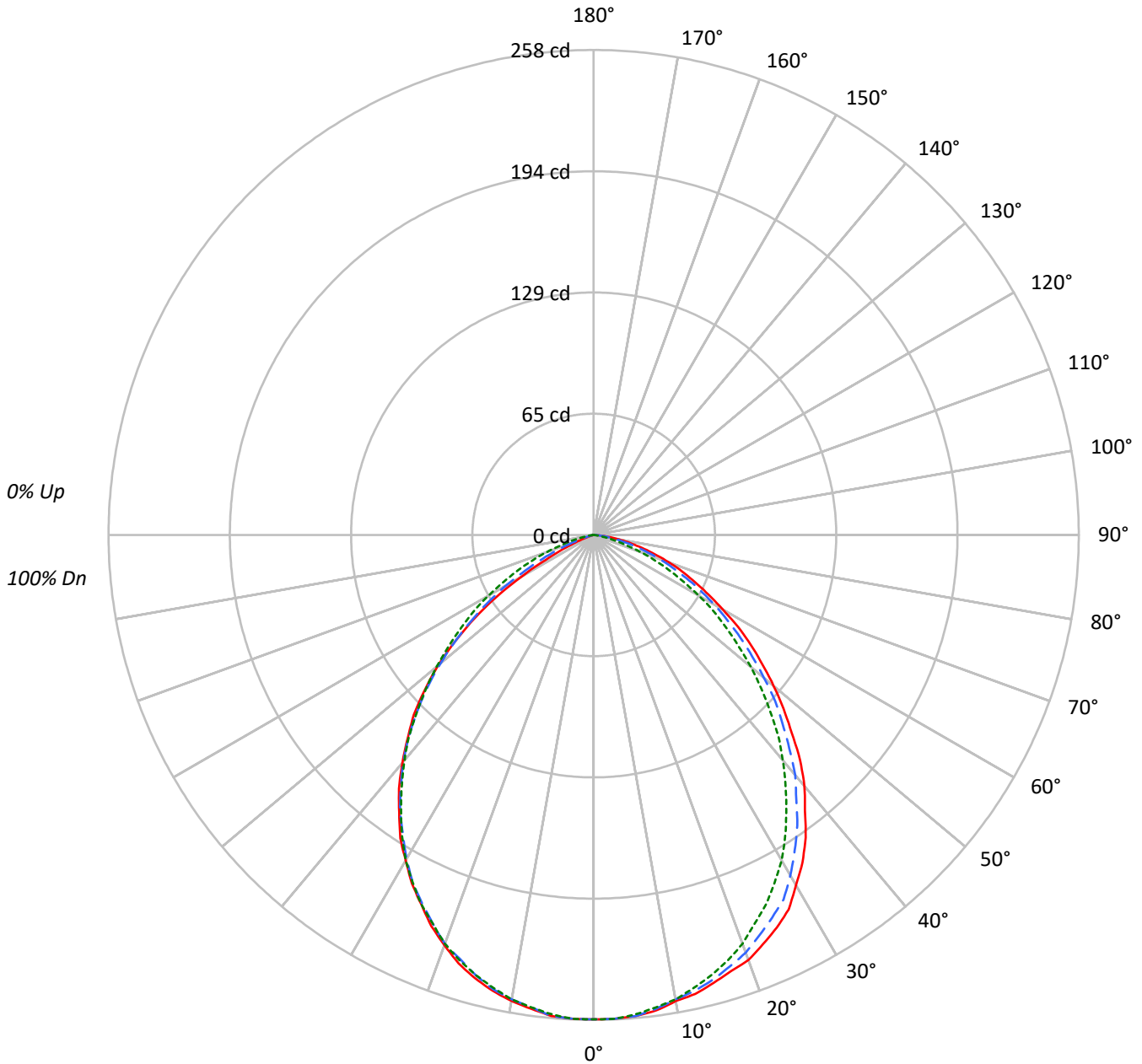
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	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	111	107	103	100	108	105	101	98	100	98	95	97	94	93	93	91	90	88					88			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76					76			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58					58			
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	51					51			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40					40			
8	65	52	44	39	63	52	44	39	50	43	38	49	43	38	48	42	38	36					36			
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33					33			
10	57	45	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	20343	20343	20343	20343	20343
5°	20357	20357	20286	20357	20357
10°	20184	20112	20112	20112	20184
15°	20162	20023	19810	19810	19949
20°	20221	19868	19439	19439	19506
25°	20077	19563	18892	18814	18892
30°	19616	19069	18222	18139	18222
35°	18937	18194	17212	17298	17375
40°	17972	17178	16127	16220	16303
45°	16623	15853	14815	14815	15094
50°	15351	14516	13374	13055	13264
55°	14052	13116	11822	10886	10653
60°	12488	11683	10199	8462	6978
65°	11114	10161	8256	5566	3344
70°	9809	8632	6093	2747	992
75°	8052	6741	3630	793	275
80°	6183	4637	1546	0	0
85°	3080	2355	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 16712 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.3	4.4
10°-20°	68.7	12.5
20°-30°	101.4	18.4
30°-40°	114.7	20.8
40°-50°	106.0	19.2
50°-60°	78.3	14.2
60°-70°	42.1	7.6
70°-80°	14.1	2.6
80°-90°	1.8	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°	194.4	35.3
0°-40°	309.1	56.1
0°-60°	493.4	89.5
0°-90°	551.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	551.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	258	258	258	258	258	
5°	257	257	256	257	257	24
15°	247	245	242	242	244	70
25°	230	225	217	216	217	106
35°	196	189	179	180	180	122
45°	149	142	133	133	135	115
55°	102	95	86	79	77	91
65°	60	54	44	30	18	59
75°	26	22	12	3	1	28
85°	3	3	0	0	0	5
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°	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7
2.5°	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7
5°	256.9	256.9	256.0	256.9	256.9	256.9	256.9	256.0	256.9	256.9	256.9
7.5°	255.2	254.3	254.3	254.3	254.3	254.3	254.3	254.3	254.3	254.3	254.3
10°	251.8	251.8	251.8	251.8	251.8	251.8	251.8	251.8	251.8	251.8	250.9
12.5°	250.1	249.2	249.2	249.2	249.2	249.2	249.2	248.4	249.2	248.4	248.4
15°	246.7	246.7	246.7	246.7	246.7	246.7	245.8	245.8	245.8	245.8	245.0
17.5°	243.3	243.3	244.1	244.1	243.3	243.3	243.3	242.4	241.6	241.6	240.7
20°	240.7	240.7	239.9	239.9	239.0	239.9	239.0	238.2	238.2	237.3	236.5
22.5°	235.6	235.6	235.6	235.6	235.6	234.8	234.8	233.9	233.1	232.2	230.5
25°	230.5	230.5	230.5	230.5	229.7	229.7	229.7	228.0	227.1	226.3	224.6
27.5°	224.6	223.7	223.7	223.7	222.9	222.9	222.0	221.2	220.3	219.4	218.6
30°	215.2	215.2	215.2	215.2	214.3	213.5	213.5	212.6	211.8	210.1	209.2
32.5°	206.7	206.7	205.8	205.0	205.0	205.0	204.1	203.3	201.6	200.7	199.0
35°	196.5	195.6	195.6	194.8	194.8	194.8	193.9	192.2	191.4	190.5	188.8
37.5°	184.6	185.4	184.6	184.6	183.7	182.9	182.0	181.2	180.3	178.6	176.9
40°	174.4	174.4	173.5	172.7	171.8	171.8	171.0	170.1	169.3	168.4	166.7
42.5°	162.5	162.5	161.6	161.6	160.8	160.8	159.1	158.2	157.4	156.5	154.0
45°	148.9	148.9	149.7	148.9	148.0	147.2	147.2	146.3	144.6	143.7	142.0
47.5°	136.9	137.8	136.9	136.1	136.1	135.2	135.2	133.5	133.5	131.8	131.0
50°	125.0	125.0	125.0	125.0	124.2	123.3	123.3	122.5	120.8	119.9	118.2
52.5°	113.1	113.1	113.1	113.1	112.3	112.3	111.4	110.6	109.7	108.0	106.3
55°	102.1	101.2	101.2	101.2	100.4	100.4	99.5	98.7	97.8	97.0	95.3
57.5°	91.0	90.2	90.2	89.3	89.3	88.5	88.5	87.6	86.8	85.1	84.2
60°	79.1	80.0	79.1	79.1	78.3	78.3	78.3	77.4	75.7	74.9	74.0
62.5°	68.9	69.7	68.9	68.0	68.0	68.0	68.0	66.3	65.5	64.6	63.8
65°	59.5	59.5	59.5	58.7	58.7	58.7	57.0	57.0	56.1	55.3	54.4
67.5°	51.0	50.2	50.2	50.2	49.3	49.3	48.5	48.5	46.8	46.8	45.1
70°	42.5	41.7	41.7	41.7	40.8	40.0	40.8	39.1	38.3	37.4	37.4
72.5°	34.0	34.0	33.2	33.2	33.2	32.3	32.3	31.5	30.6	29.8	28.9
75°	26.4	26.4	26.4	25.5	25.5	24.7	24.7	23.8	23.8	22.1	22.1
77.5°	19.6	19.6	19.6	18.7	18.7	18.7	17.9	17.9	17.0	16.2	15.3
80°	13.6	12.8	12.8	12.8	12.8	11.9	11.9	11.9	11.1	11.1	10.2
82.5°	7.7	7.7	7.7	7.7	7.7	7.7	6.8	6.8	6.8	6.0	6.0
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.6	2.6	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7
2.5°	257.7	257.7	257.7	257.7	256.9	257.7	256.9	257.7	257.7	257.7	257.7
5°	256.9	256.0	256.0	256.0	256.9	256.9	256.0	256.0	256.0	256.0	256.0
7.5°	254.3	254.3	254.3	253.5	254.3	254.3	253.5	254.3	254.3	253.5	254.3
10°	251.8	251.8	250.9	250.9	250.9	250.9	250.9	250.9	250.1	250.9	250.9
12.5°	248.4	248.4	248.4	247.5	247.5	247.5	247.5	247.5	246.7	246.7	247.5
15°	245.0	245.0	244.1	244.1	244.1	243.3	243.3	243.3	243.3	242.4	242.4
17.5°	240.7	239.9	239.9	239.0	239.0	238.2	238.2	237.3	237.3	237.3	236.5
20°	235.6	234.8	233.9	233.9	233.1	233.1	232.2	232.2	231.4	231.4	230.5
22.5°	229.7	228.8	228.0	227.1	227.1	226.3	226.3	225.4	224.6	223.7	223.7
25°	224.6	222.9	222.0	221.2	219.4	219.4	218.6	218.6	217.7	216.9	216.0
27.5°	216.9	215.2	214.3	213.5	212.6	211.8	210.1	210.1	209.2	208.4	207.5
30°	207.5	206.7	205.0	204.1	203.3	203.3	201.6	199.9	199.9	199.9	199.0
32.5°	198.2	196.5	195.6	193.9	193.1	193.1	192.2	190.5	189.7	189.7	188.8
35°	188.0	186.3	184.6	183.7	182.9	182.0	181.2	180.3	179.5	178.6	177.8
37.5°	176.1	174.4	173.5	172.7	171.8	171.0	170.1	169.3	168.4	167.6	168.4
40°	165.0	163.3	161.6	160.8	159.9	159.9	159.1	158.2	157.4	156.5	156.5
42.5°	153.1	151.4	150.6	149.7	148.9	148.0	147.2	146.3	145.4	145.4	144.6
45°	140.3	139.5	137.8	136.9	136.1	136.1	134.4	133.5	133.5	132.7	132.7
47.5°	129.3	127.6	125.9	125.0	124.2	123.3	122.5	121.6	120.8	120.8	120.8
50°	116.5	115.7	114.0	113.1	112.3	112.3	111.4	110.6	109.7	108.9	108.9
52.5°	104.6	103.8	103.8	102.1	101.2	101.2	99.5	99.5	97.8	97.0	96.1
55°	94.4	92.7	91.9	90.2	90.2	89.3	88.5	87.6	86.8	85.9	85.1
57.5°	82.5	81.7	80.8	80.0	80.0	79.1	78.3	77.4	75.7	75.7	74.0
60°	73.1	71.4	70.6	69.7	68.9	68.9	68.0	67.2	65.5	64.6	63.8
62.5°	62.9	61.2	61.2	60.4	58.7	58.7	57.8	56.1	55.3	53.6	52.7
65°	53.6	52.7	51.0	50.2	50.2	49.3	47.6	46.8	45.9	44.2	42.5
67.5°	44.2	43.4	42.5	40.8	40.8	40.0	38.3	37.4	35.7	34.9	33.2
70°	35.7	34.9	34.0	32.3	32.3	31.5	30.6	28.9	27.2	26.4	24.7
72.5°	28.1	27.2	26.4	24.7	24.7	23.8	22.1	21.3	19.6	17.9	17.0
75°	21.3	20.4	18.7	17.9	17.0	17.0	15.3	14.5	13.6	11.9	11.1
77.5°	14.5	13.6	12.8	11.9	11.9	11.1	10.2	9.4	8.5	7.7	6.0
80°	9.4	8.5	7.7	7.7	6.8	6.8	6.0	5.1	4.3	3.4	2.6
82.5°	5.1	5.1	4.3	3.4	3.4	3.4	2.6	2.6	1.7	0.9	0.9
85°	1.7	1.7	1.7	1.7	0.9	0.9	0.9	0.9	0.9	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7
2.5°	257.7	257.7	257.7	257.7	257.7	257.7	256.9	257.7	257.7	257.7	256.9
5°	256.9	256.0	256.0	256.9	256.0	256.0	256.9	256.9	256.9	256.0	256.0
7.5°	253.5	254.3	253.5	253.5	254.3	254.3	254.3	254.3	253.5	253.5	254.3
10°	250.9	250.9	250.1	250.9	250.1	250.9	250.9	250.9	250.9	250.9	250.9
12.5°	246.7	246.7	246.7	247.5	246.7	246.7	247.5	247.5	247.5	247.5	247.5
15°	241.6	241.6	242.4	241.6	242.4	242.4	242.4	242.4	242.4	242.4	243.3
17.5°	236.5	236.5	236.5	236.5	236.5	236.5	236.5	236.5	236.5	237.3	237.3
20°	230.5	230.5	230.5	230.5	230.5	229.7	230.5	230.5	231.4	231.4	231.4
22.5°	222.9	222.9	222.9	222.9	222.9	222.9	222.9	222.9	223.7	224.6	223.7
25°	215.2	215.2	215.2	215.2	215.2	215.2	215.2	216.0	216.0	216.0	216.9
27.5°	207.5	207.5	207.5	206.7	207.5	206.7	207.5	207.5	208.4	207.5	208.4
30°	199.0	198.2	198.2	198.2	198.2	199.0	198.2	198.2	199.0	199.9	199.0
32.5°	188.0	188.0	188.0	188.8	188.8	188.8	189.7	188.8	188.8	189.7	189.7
35°	177.8	177.8	177.8	178.6	178.6	178.6	178.6	179.5	179.5	179.5	180.3
37.5°	166.7	167.6	166.7	167.6	167.6	168.4	168.4	168.4	168.4	169.3	169.3
40°	156.5	155.7	156.5	156.5	156.5	156.5	156.5	156.5	157.4	158.2	158.2
42.5°	144.6	144.6	144.6	144.6	144.6	144.6	145.4	145.4	145.4	146.3	146.3
45°	132.7	131.8	131.8	131.8	131.8	132.7	131.8	132.7	132.7	133.5	133.5
47.5°	119.9	119.9	119.9	119.9	119.9	119.9	119.9	119.9	119.9	120.8	119.9
50°	108.9	108.0	107.2	107.2	106.3	107.2	106.3	106.3	106.3	107.2	106.3
52.5°	96.1	95.3	94.4	94.4	94.4	93.6	92.7	92.7	92.7	91.9	91.9
55°	85.1	84.2	82.5	83.4	81.7	80.8	80.8	80.0	79.1	79.1	78.3
57.5°	73.1	72.3	71.4	70.6	70.6	68.9	68.0	67.2	66.3	65.5	63.8
60°	62.9	61.2	59.5	59.5	58.7	57.8	56.1	54.4	53.6	51.9	51.0
62.5°	51.9	50.2	48.5	47.6	46.8	45.9	44.2	42.5	40.8	40.0	38.3
65°	41.7	40.0	38.3	37.4	36.6	34.9	33.2	31.5	29.8	28.1	27.2
67.5°	31.5	29.8	28.9	27.2	26.4	24.7	23.0	22.1	20.4	18.7	16.2
70°	23.0	21.3	19.6	18.7	17.9	16.2	15.3	13.6	11.9	11.1	9.4
72.5°	15.3	13.6	12.8	11.9	11.1	10.2	8.5	7.7	6.0	5.1	4.3
75°	9.4	8.5	7.7	6.8	6.0	5.1	4.3	3.4	2.6	1.7	0.9
77.5°	5.1	4.3	3.4	3.4	2.6	1.7	1.7	0.9	0.9	0.9	0.9
80°	2.6	1.7	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.9
82.5°	0.9	0.0	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: P642286

CATALOG NUMBER: ML5612LSWW97FS1E - 592SC WW - 600LM - 2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7
2.5°	257.7	257.7	257.7	257.7	257.7	257.7	257.7	257.7
5°	256.9	256.9	256.0	256.9	256.0	256.0	256.0	256.9
7.5°	254.3	254.3	254.3	254.3	254.3	254.3	254.3	254.3
10°	250.9	250.9	250.9	251.8	251.8	251.8	250.9	251.8
12.5°	247.5	247.5	247.5	248.4	247.5	248.4	247.5	248.4
15°	243.3	243.3	244.1	244.1	243.3	243.3	244.1	244.1
17.5°	237.3	238.2	238.2	238.2	238.2	238.2	238.2	239.0
20°	232.2	232.2	231.4	232.2	232.2	233.1	233.1	232.2
22.5°	223.7	225.4	225.4	225.4	225.4	225.4	225.4	225.4
25°	216.9	216.9	216.9	217.7	216.9	216.9	217.7	216.9
27.5°	208.4	209.2	208.4	209.2	209.2	209.2	209.2	209.2
30°	199.9	199.9	199.9	199.9	199.9	200.7	199.9	199.9
32.5°	189.7	190.5	190.5	190.5	191.4	190.5	190.5	191.4
35°	180.3	180.3	180.3	181.2	180.3	181.2	181.2	180.3
37.5°	169.3	170.1	169.3	170.1	170.1	170.1	170.1	170.1
40°	159.1	158.2	159.1	158.2	159.1	159.1	159.1	158.2
42.5°	146.3	147.2	147.2	147.2	147.2	147.2	147.2	146.3
45°	133.5	134.4	134.4	134.4	134.4	134.4	135.2	135.2
47.5°	119.9	121.6	121.6	121.6	120.8	122.5	121.6	121.6
50°	106.3	106.3	107.2	107.2	108.0	108.0	108.0	108.0
52.5°	92.7	91.9	92.7	92.7	93.6	92.7	93.6	92.7
55°	77.4	77.4	77.4	76.6	77.4	77.4	77.4	77.4
57.5°	63.8	62.9	62.1	61.2	61.2	61.2	60.4	61.2
60°	49.3	47.6	48.5	46.8	45.9	45.1	45.1	44.2
62.5°	36.6	34.9	34.0	33.2	31.5	29.8	29.8	28.9
65°	24.7	23.0	22.1	20.4	19.6	18.7	17.9	17.9
67.5°	15.3	13.6	13.6	12.8	11.9	11.1	10.2	10.2
70°	8.5	7.7	6.8	6.0	6.0	5.1	4.3	4.3
72.5°	3.4	2.6	2.6	1.7	1.7	1.7	1.7	0.9
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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



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

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(END OF REPORT)