

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: P642272

Luminaire Tested: ML5612LSWW97FS1E - 592H WW - 600LM - 3000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642272
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-130)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592H WW - 600LM - 3000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 554.4 lumens
Efficiency: N/A
Efficacy: 53.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.25
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

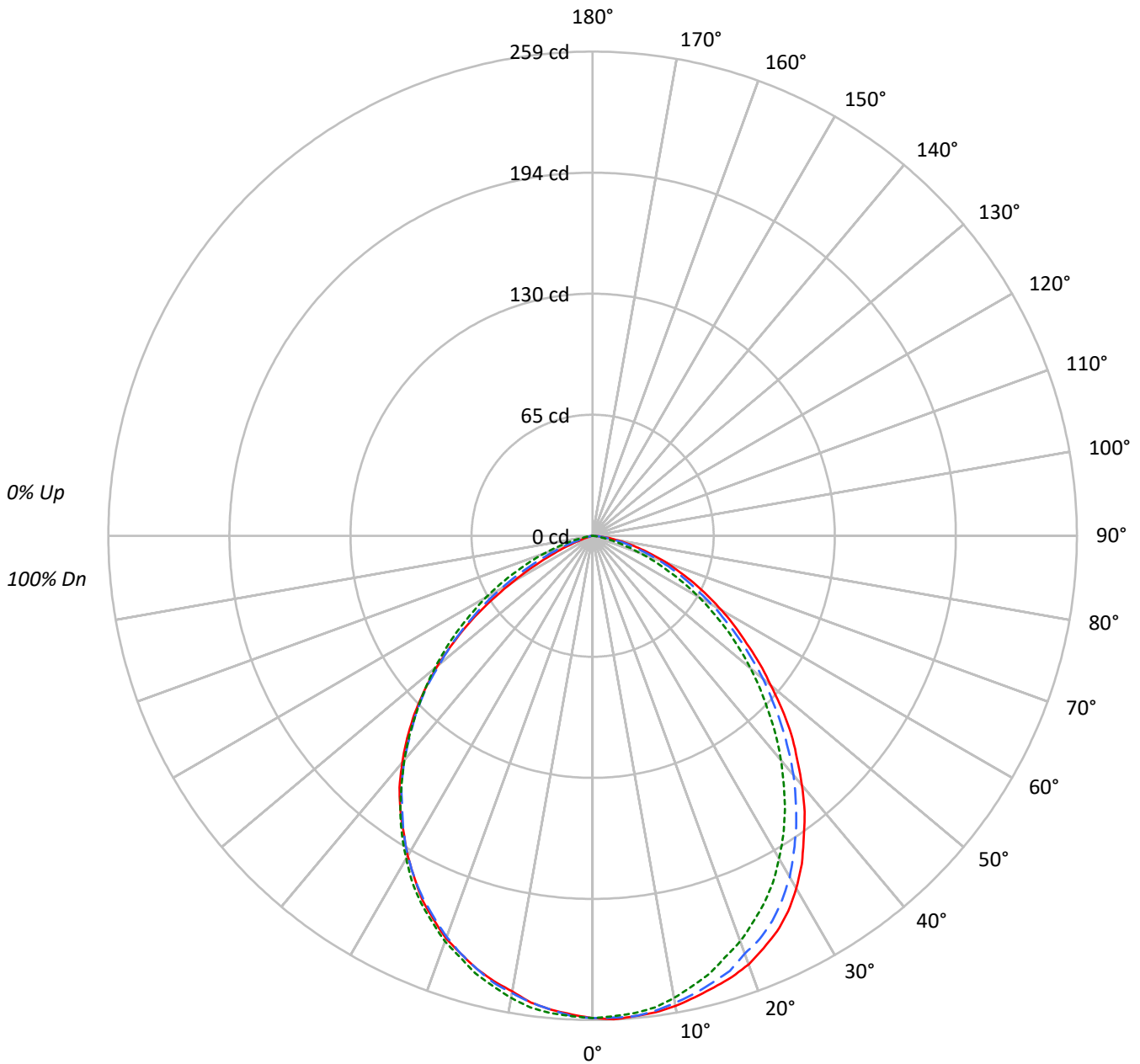
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	96	94	92	93	91	90	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	79	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	67	62	72	66	61	70	65	60	68	63	59	57				57				
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50				50				
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45				45				
7	69	57	49	43	68	56	48	43	54	48	42	53	47	42	52	46	42	40				40				
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30				30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	20367	20367	20367	20367	20367
5°	20445	20445	20310	20167	20167
10°	20473	20336	20120	19911	19839
15°	20448	20227	19802	19590	19590
20°	20498	19985	19397	19179	19254
25°	20338	19807	18892	18666	18744
30°	19853	19215	18176	18021	18021
35°	18965	18291	17279	17115	17279
40°	17941	17220	16138	16138	16313
45°	16791	15920	14848	14848	15038
50°	15253	14614	13534	13104	13325
55°	13846	13116	12043	11189	10955
60°	12567	11604	10357	8983	7736
65°	11114	10124	8331	6201	4576
70°	9694	8471	6255	3439	1823
75°	7747	6680	3996	1068	519
80°	5955	4364	1591	409	409
85°	3170	2355	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16791 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.3	4.4
10°-20°	68.7	12.4
20°-30°	101.3	18.3
30°-40°	114.7	20.7
40°-50°	106.0	19.1
50°-60°	79.1	14.3
60°-70°	43.7	7.9
70°-80°	14.7	2.7
80°-90°	1.9	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°	194.3	35.0
0°-40°	309.0	55.7
0°-60°	494.1	89.1
0°-90°	554.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	554.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	258	258	258	258	258	
5°	258	258	256	254	254	25
15°	250	248	242	240	240	71
25°	234	227	217	214	215	107
35°	197	190	179	178	179	123
45°	150	143	133	133	135	115
55°	101	95	88	81	80	91
65°	60	54	45	33	24	59
75°	25	22	13	4	2	28
85°	4	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°	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0
2.5°	258.9	258.9	258.9	258.9	258.0	258.0	258.9	258.0	258.0	258.0	258.0
5°	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0
7.5°	257.2	257.2	257.2	257.2	257.2	257.2	257.2	257.2	256.3	256.3	256.3
10°	255.4	255.4	255.4	255.4	255.4	255.4	255.4	254.5	254.5	254.5	253.7
12.5°	252.8	253.7	252.8	253.7	252.8	252.8	251.9	251.9	251.9	251.0	251.0
15°	250.2	250.2	250.2	250.2	250.2	249.3	249.3	248.4	248.4	248.4	247.5
17.5°	247.5	246.7	246.7	246.7	245.8	245.8	245.8	245.8	244.9	244.0	244.0
20°	244.0	243.2	243.2	243.2	242.3	242.3	241.4	241.4	239.7	239.7	237.9
22.5°	238.8	238.8	238.8	237.9	237.9	237.0	237.0	236.2	235.3	234.4	233.5
25°	233.5	233.5	232.7	232.7	231.8	231.8	231.8	230.0	229.2	228.3	227.4
27.5°	226.5	226.5	225.7	225.7	224.8	223.9	223.9	222.2	222.2	220.4	219.5
30°	217.8	217.8	217.8	216.0	216.0	216.0	215.2	214.3	212.5	211.7	210.8
32.5°	208.2	207.3	207.3	207.3	206.4	205.5	205.5	203.8	202.9	202.0	200.3
35°	196.8	196.8	196.8	196.8	195.9	195.1	195.1	193.3	192.4	190.7	189.8
37.5°	186.3	186.3	185.4	185.4	183.7	184.6	183.7	182.8	181.9	179.3	178.4
40°	174.1	174.1	174.1	173.2	172.3	172.3	171.4	170.6	168.8	167.9	167.1
42.5°	161.8	161.8	161.8	160.9	160.1	160.1	160.1	158.3	157.4	156.6	154.8
45°	150.4	149.6	149.6	148.7	148.7	147.8	146.9	146.1	145.2	144.3	142.6
47.5°	137.3	137.3	136.4	136.4	135.6	135.6	134.7	133.8	133.0	132.1	130.3
50°	124.2	125.1	125.1	124.2	124.2	123.3	122.5	122.5	121.6	120.7	119.0
52.5°	112.8	112.8	112.8	112.0	112.0	111.1	111.1	110.2	109.3	107.6	106.7
55°	100.6	101.5	100.6	100.6	100.6	99.7	99.7	98.8	98.0	96.2	95.3
57.5°	90.1	90.1	89.2	89.2	88.3	88.3	88.3	87.5	86.6	85.7	84.0
60°	79.6	78.7	78.7	78.7	77.8	77.8	77.8	76.1	75.2	74.3	73.5
62.5°	69.1	69.1	69.1	68.2	68.2	67.3	66.5	66.5	65.6	64.7	63.0
65°	59.5	59.5	58.6	58.6	58.6	57.7	57.7	56.9	56.0	55.1	54.2
67.5°	49.9	49.9	49.9	49.0	49.0	49.0	48.1	47.2	47.2	46.4	45.5
70°	42.0	41.1	41.1	41.1	40.2	40.2	40.2	39.4	38.5	37.6	36.7
72.5°	33.2	33.2	33.2	33.2	32.4	32.4	31.5	31.5	30.6	29.7	28.9
75°	25.4	25.4	25.4	25.4	24.5	24.5	24.5	23.6	23.6	22.7	21.9
77.5°	19.2	19.2	19.2	18.4	18.4	17.5	17.5	17.5	16.6	16.6	15.7
80°	13.1	13.1	12.2	12.2	12.2	12.2	12.2	11.4	10.5	10.5	9.6
82.5°	7.9	7.9	7.9	7.0	7.0	7.0	7.0	7.0	6.1	6.1	5.2
85°	3.5	3.5	3.5	3.5	3.5	3.5	2.6	2.6	2.6	2.6	2.6
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0
2.5°	258.0	258.0	258.0	258.0	258.0	258.0	258.0	257.2	257.2	257.2	257.2
5°	257.2	257.2	257.2	257.2	257.2	256.3	257.2	256.3	256.3	256.3	256.3
7.5°	255.4	255.4	255.4	255.4	254.5	255.4	254.5	254.5	254.5	254.5	253.7
10°	253.7	252.8	252.8	252.8	252.8	251.9	251.9	251.0	251.0	251.0	250.2
12.5°	251.0	250.2	250.2	249.3	249.3	249.3	248.4	248.4	247.5	246.7	246.7
15°	246.7	246.7	245.8	244.9	244.9	244.0	244.0	243.2	243.2	242.3	241.4
17.5°	243.2	242.3	241.4	240.5	239.7	239.7	238.8	237.9	237.9	236.2	236.2
20°	237.0	236.2	235.3	234.4	234.4	234.4	232.7	232.7	231.8	230.9	230.0
22.5°	231.8	230.9	229.2	228.3	228.3	227.4	226.5	225.7	224.8	223.9	223.0
25°	225.7	224.8	223.0	222.2	221.3	220.4	219.5	218.7	217.8	216.9	216.0
27.5°	217.8	216.0	216.0	214.3	213.4	212.5	211.7	210.8	209.9	209.0	208.2
30°	209.0	208.2	206.4	204.7	203.8	203.8	202.0	201.2	201.2	199.4	198.6
32.5°	199.4	197.7	195.9	195.1	194.2	193.3	192.4	191.6	190.7	189.8	188.9
35°	188.9	186.3	185.4	183.7	183.7	182.8	181.9	180.2	180.2	179.3	177.6
37.5°	177.6	175.8	174.9	173.2	172.3	171.4	170.6	169.7	168.8	167.9	167.1
40°	165.3	163.6	162.7	161.8	160.9	160.1	159.2	158.3	157.4	156.6	155.7
42.5°	153.1	152.2	150.4	148.7	148.7	147.8	146.9	146.1	145.2	145.2	144.3
45°	140.8	139.9	138.2	137.3	136.4	136.4	134.7	134.7	133.8	133.0	133.0
47.5°	129.5	127.7	126.0	126.0	124.2	125.1	123.3	123.3	121.6	121.6	120.7
50°	117.2	116.3	114.6	113.7	113.7	112.8	112.0	112.0	111.1	110.2	109.3
52.5°	105.8	104.1	103.2	102.3	101.5	101.5	100.6	100.6	98.8	98.8	98.0
55°	94.5	93.6	91.8	91.0	91.0	91.0	89.2	88.3	88.3	87.5	86.6
57.5°	83.1	82.2	81.3	80.5	79.6	79.6	78.7	77.8	77.0	76.1	74.3
60°	72.6	71.7	70.8	70.0	69.1	69.1	68.2	67.3	66.5	65.6	64.7
62.5°	62.1	62.1	60.4	59.5	58.6	58.6	57.7	56.9	56.0	55.1	54.2
65°	53.4	52.5	50.7	49.9	49.9	49.9	48.1	47.2	46.4	44.6	43.7
67.5°	44.6	42.9	42.0	42.0	41.1	40.2	39.4	38.5	36.7	35.9	34.1
70°	35.9	35.0	34.1	33.2	32.4	31.5	30.6	29.7	28.0	27.1	26.2
72.5°	28.0	27.1	26.2	25.4	24.5	24.5	22.7	21.9	21.0	19.2	18.4
75°	21.0	20.1	19.2	18.4	17.5	16.6	16.6	14.9	14.0	13.1	11.4
77.5°	14.9	14.0	13.1	12.2	12.2	11.4	10.5	9.6	8.7	7.9	7.0
80°	9.6	8.7	7.9	7.9	7.0	7.0	6.1	5.2	4.4	3.5	3.5
82.5°	5.2	4.4	4.4	3.5	3.5	3.5	2.6	1.7	1.7	1.7	0.9
85°	1.7	1.7	1.7	0.9	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°	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0
2.5°	257.2	257.2	257.2	257.2	257.2	257.2	257.2	257.2	257.2	256.3	256.3
5°	255.4	255.4	255.4	255.4	255.4	255.4	254.5	254.5	254.5	254.5	254.5
7.5°	253.7	253.7	253.7	252.8	252.8	252.8	252.8	251.9	251.9	251.9	251.9
10°	250.2	250.2	250.2	249.3	249.3	249.3	249.3	249.3	248.4	248.4	248.4
12.5°	245.8	245.8	245.8	245.8	245.8	244.9	244.9	244.9	244.9	244.0	244.9
15°	241.4	241.4	240.5	240.5	240.5	239.7	239.7	239.7	239.7	239.7	239.7
17.5°	236.2	235.3	235.3	234.4	234.4	234.4	234.4	234.4	234.4	234.4	234.4
20°	230.0	229.2	229.2	229.2	229.2	228.3	228.3	227.4	228.3	228.3	228.3
22.5°	223.0	222.2	222.2	222.2	221.3	221.3	221.3	221.3	221.3	221.3	221.3
25°	216.0	215.2	214.3	214.3	214.3	213.4	213.4	214.3	214.3	214.3	214.3
27.5°	207.3	207.3	206.4	206.4	206.4	205.5	205.5	205.5	206.4	206.4	206.4
30°	197.7	197.7	197.7	197.7	196.8	196.8	197.7	196.8	197.7	196.8	197.7
32.5°	188.9	188.9	188.1	187.2	187.2	188.1	187.2	187.2	188.1	188.1	188.1
35°	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	178.4	179.3
37.5°	167.1	167.1	167.1	167.1	167.1	167.1	167.1	167.9	167.9	167.9	167.9
40°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	156.6	156.6	157.4
42.5°	143.4	144.3	144.3	144.3	143.4	143.4	144.3	144.3	144.3	145.2	145.2
45°	132.1	132.1	132.1	132.1	133.0	132.1	132.1	132.1	133.0	133.0	133.0
47.5°	120.7	119.8	119.8	120.7	119.8	119.8	119.8	119.8	120.7	120.7	119.8
50°	109.3	108.5	108.5	108.5	107.6	107.6	108.5	106.7	106.7	106.7	107.6
52.5°	98.0	97.1	96.2	96.2	96.2	95.3	94.5	94.5	94.5	93.6	93.6
55°	85.7	84.8	84.0	84.0	84.0	83.1	83.1	81.3	81.3	80.5	80.5
57.5°	74.3	73.5	72.6	72.6	71.7	70.8	70.8	69.1	69.1	68.2	66.5
60°	63.0	62.1	61.2	61.2	61.2	59.5	58.6	56.9	56.9	55.1	54.2
62.5°	52.5	51.6	50.7	49.9	49.9	48.1	47.2	45.5	44.6	43.7	42.0
65°	42.9	41.1	40.2	39.4	39.4	37.6	36.7	35.0	33.2	32.4	30.6
67.5°	33.2	32.4	30.6	29.7	29.7	28.0	26.2	25.4	23.6	21.9	21.0
70°	24.5	23.6	21.9	21.0	20.1	19.2	17.5	16.6	14.9	14.0	12.2
72.5°	16.6	15.7	14.0	14.0	13.1	11.4	10.5	9.6	7.9	7.0	6.1
75°	10.5	9.6	8.7	7.9	7.0	6.1	5.2	4.4	3.5	2.6	2.6
77.5°	6.1	5.2	4.4	3.5	3.5	2.6	1.7	1.7	1.7	0.9	0.9
80°	2.6	1.7	1.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.9	0.9
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: P642272

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 600LM - 3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	258.0	258.0	258.0	258.0	258.0	258.0	258.0	258.0
2.5°	257.2	256.3	257.2	257.2	256.3	256.3	256.3	256.3
5°	254.5	254.5	254.5	254.5	254.5	254.5	254.5	254.5
7.5°	252.8	251.9	251.9	251.9	251.9	251.9	251.9	251.9
10°	248.4	248.4	248.4	248.4	248.4	248.4	248.4	247.5
12.5°	244.0	244.0	244.0	244.0	244.0	244.0	244.0	244.0
15°	239.7	239.7	239.7	239.7	239.7	239.7	239.7	239.7
17.5°	234.4	234.4	234.4	234.4	234.4	233.5	234.4	234.4
20°	228.3	228.3	228.3	228.3	228.3	228.3	228.3	229.2
22.5°	221.3	221.3	221.3	221.3	221.3	221.3	221.3	222.2
25°	214.3	214.3	214.3	214.3	214.3	214.3	214.3	215.2
27.5°	206.4	206.4	206.4	206.4	206.4	206.4	206.4	206.4
30°	197.7	197.7	198.6	197.7	197.7	197.7	198.6	197.7
32.5°	188.9	188.9	188.9	188.9	188.9	188.9	188.9	188.1
35°	179.3	178.4	179.3	179.3	179.3	179.3	179.3	179.3
37.5°	168.8	168.8	168.8	168.8	168.8	168.8	169.7	169.7
40°	158.3	157.4	157.4	158.3	158.3	158.3	157.4	158.3
42.5°	145.2	146.1	146.1	146.1	146.9	146.1	146.9	146.9
45°	133.0	133.8	133.8	133.8	133.8	133.8	134.7	134.7
47.5°	120.7	120.7	120.7	120.7	121.6	121.6	121.6	121.6
50°	107.6	107.6	107.6	107.6	108.5	107.6	108.5	108.5
52.5°	93.6	93.6	93.6	93.6	93.6	93.6	94.5	93.6
55°	79.6	79.6	79.6	79.6	78.7	78.7	78.7	79.6
57.5°	66.5	65.6	64.7	65.6	63.9	63.9	63.9	63.9
60°	52.5	51.6	51.6	50.7	49.9	49.0	49.9	49.0
62.5°	40.2	39.4	39.4	37.6	36.7	36.7	35.9	35.9
65°	29.7	28.0	27.1	27.1	26.2	25.4	24.5	24.5
67.5°	19.2	18.4	17.5	17.5	16.6	15.7	15.7	14.9
70°	11.4	10.5	9.6	10.5	8.7	7.9	7.9	7.9
72.5°	5.2	4.4	4.4	4.4	3.5	3.5	3.5	3.5
75°	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	0.9	0.9	1.7	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.9	0.0	0.0	0.0	0.9	0.9	0.0	0.9
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)