

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: P642271

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

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642271
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 - 2700K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 539.0 lumens
Efficiency: N/A
Efficacy: 52.3 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

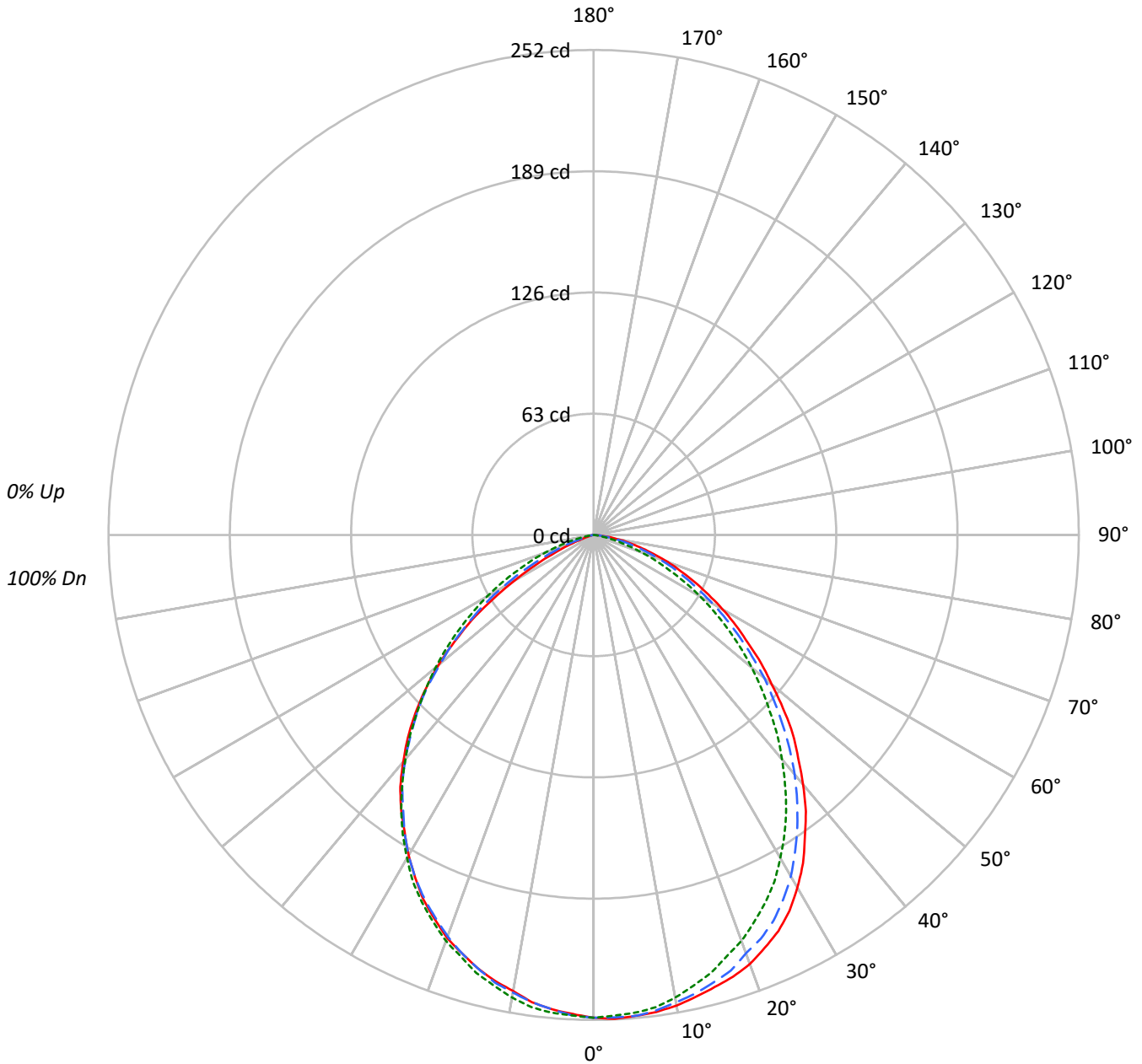
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P642271

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

Luminous Intensity Polar Plot





TEST NUMBER: P642271

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

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20				
RC	80					70					50					30				
RW	70	50	30	10	70	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	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88		
2	102	95	89	84	100	93	88	83	90	85	81	87	83	79	84	80	78	76		
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66		
4	87	76	68	62	85	75	67	62	72	66	61	70	65	60	68	63	59	57		
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50		
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45		
7	69	57	49	43	68	56	48	43	54	48	42	53	47	42	52	46	42	40		
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	19806	19806	19806	19806	19806
5°	19882	19882	19747	19613	19613
10°	19903	19767	19567	19358	19294
15°	19876	19671	19255	19042	19042
20°	19935	19431	18860	18641	18717
25°	19781	19258	18370	18143	18222
30°	19297	18677	17675	17520	17520
35°	18435	17780	16797	16633	16797
40°	17436	16735	15684	15684	15859
45°	16333	15473	14435	14435	14625
50°	14835	14209	13153	12735	12944
55°	13460	12758	11698	10886	10653
60°	12220	11273	10073	8731	7515
65°	10796	9844	8107	6033	4446
70°	9417	8240	6093	3347	1777
75°	7534	6497	3904	1037	519
80°	5819	4273	1546	409	409
85°	3080	2355	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16333 cd/sqm



TEST NUMBER: P642271

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.6	4.4
10°-20°	66.8	12.4
20°-30°	98.5	18.3
30°-40°	111.5	20.7
40°-50°	103.0	19.1
50°-60°	76.9	14.3
60°-70°	42.5	7.9
70°-80°	14.3	2.7
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°	188.9	35.0
0°-40°	300.4	55.7
0°-60°	480.3	89.1
0°-90°	539.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	539.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	251	251	251	251	251	
5°	251	251	249	248	248	24
15°	243	241	236	233	233	69
25°	227	221	211	208	209	104
35°	191	184	174	173	174	120
45°	146	139	129	129	131	112
55°	98	93	85	79	77	88
65°	58	53	43	32	24	57
75°	25	21	13	3	2	27
85°	3	3	0	0	0	5
90°	0	0	0	0	0	



TEST NUMBER: P642271

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
2.5°	251.7	251.7	251.7	251.7	250.9	250.9	251.7	250.9	250.9	250.9	250.9
5°	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
7.5°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	249.2	249.2	249.2
10°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	247.5	247.5	247.5	246.6
12.5°	245.8	246.6	245.8	246.6	245.8	245.8	244.9	244.9	244.9	244.1	244.1
15°	243.2	243.2	243.2	243.2	243.2	242.4	242.4	241.5	241.5	241.5	240.7
17.5°	240.7	239.8	239.8	239.8	239.0	239.0	239.0	239.0	238.1	237.3	237.3
20°	237.3	236.4	236.4	236.4	235.6	235.6	234.7	234.7	233.0	233.0	231.3
22.5°	232.2	232.2	232.2	231.3	231.3	230.5	230.5	229.6	228.8	227.9	227.1
25°	227.1	227.1	226.2	226.2	225.4	225.4	225.4	223.6	222.8	221.9	221.1
27.5°	220.2	220.2	219.4	219.4	218.5	217.7	217.7	216.0	216.0	214.3	213.4
30°	211.7	211.7	211.7	210.0	210.0	210.0	209.2	208.3	206.6	205.8	204.9
32.5°	202.4	201.5	201.5	201.5	200.7	199.8	199.8	198.1	197.3	196.4	194.7
35°	191.3	191.3	191.3	191.3	190.5	189.6	189.6	187.9	187.1	185.4	184.5
37.5°	181.1	181.1	180.3	180.3	178.6	179.4	178.6	177.7	176.9	174.3	173.5
40°	169.2	169.2	169.2	168.4	167.5	167.5	166.7	165.8	164.1	163.3	162.4
42.5°	157.3	157.3	157.3	156.5	155.6	155.6	155.6	153.9	153.1	152.2	150.5
45°	146.3	145.4	145.4	144.6	144.6	143.7	142.9	142.0	141.2	140.3	138.6
47.5°	133.5	133.5	132.7	132.7	131.8	131.8	131.0	130.1	129.3	128.4	126.7
50°	120.8	121.6	121.6	120.8	120.8	119.9	119.1	119.1	118.2	117.4	115.7
52.5°	109.7	109.7	109.7	108.8	108.8	108.0	108.0	107.1	106.3	104.6	103.7
55°	97.8	98.6	97.8	97.8	97.8	96.9	96.9	96.1	95.2	93.5	92.7
57.5°	87.6	87.6	86.7	86.7	85.9	85.9	85.9	85.0	84.2	83.3	81.6
60°	77.4	76.5	76.5	76.5	75.7	75.7	75.7	74.0	73.1	72.3	71.4
62.5°	67.2	67.2	67.2	66.3	66.3	65.5	64.6	64.6	63.8	62.9	61.2
65°	57.8	57.8	57.0	57.0	57.0	56.1	56.1	55.3	54.4	53.6	52.7
67.5°	48.5	48.5	48.5	47.6	47.6	47.6	46.8	45.9	45.9	45.1	44.2
70°	40.8	40.0	40.0	40.0	39.1	39.1	39.1	38.3	37.4	36.6	35.7
72.5°	32.3	32.3	32.3	32.3	31.5	31.5	30.6	30.6	29.8	28.9	28.1
75°	24.7	24.7	24.7	24.7	23.8	23.8	23.8	23.0	23.0	22.1	21.3
77.5°	18.7	18.7	18.7	17.9	17.9	17.0	17.0	17.0	16.2	16.2	15.3
80°	12.8	12.8	11.9	11.9	11.9	11.9	11.9	11.1	10.2	10.2	9.4
82.5°	7.7	7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.0	6.0	5.1
85°	3.4	3.4	3.4	3.4	3.4	3.4	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



TEST NUMBER: P642271

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
2.5°	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.0	250.0	250.0	250.0
5°	250.0	250.0	250.0	250.0	250.0	249.2	250.0	249.2	249.2	249.2	249.2
7.5°	248.3	248.3	248.3	248.3	247.5	248.3	247.5	247.5	247.5	247.5	246.6
10°	246.6	245.8	245.8	245.8	245.8	244.9	244.9	244.1	244.1	244.1	243.2
12.5°	244.1	243.2	243.2	242.4	242.4	242.4	241.5	241.5	240.7	239.8	239.8
15°	239.8	239.8	239.0	238.1	238.1	237.3	237.3	236.4	236.4	235.6	234.7
17.5°	236.4	235.6	234.7	233.9	233.0	233.0	232.2	231.3	231.3	229.6	229.6
20°	230.5	229.6	228.8	227.9	227.9	227.9	226.2	226.2	225.4	224.5	223.6
22.5°	225.4	224.5	222.8	221.9	221.9	221.1	220.2	219.4	218.5	217.7	216.8
25°	219.4	218.5	216.8	216.0	215.1	214.3	213.4	212.6	211.7	210.9	210.0
27.5°	211.7	210.0	210.0	208.3	207.5	206.6	205.8	204.9	204.1	203.2	202.4
30°	203.2	202.4	200.7	199.0	198.1	198.1	196.4	195.6	195.6	193.9	193.0
32.5°	193.9	192.2	190.5	189.6	188.8	187.9	187.1	186.2	185.4	184.5	183.7
35°	183.7	181.1	180.3	178.6	178.6	177.7	176.9	175.2	175.2	174.3	172.6
37.5°	172.6	170.9	170.1	168.4	167.5	166.7	165.8	165.0	164.1	163.3	162.4
40°	160.7	159.0	158.2	157.3	156.5	155.6	154.8	153.9	153.1	152.2	151.4
42.5°	148.8	148.0	146.3	144.6	144.6	143.7	142.9	142.0	141.2	141.2	140.3
45°	136.9	136.1	134.4	133.5	132.7	132.7	131.0	131.0	130.1	129.3	129.3
47.5°	125.9	124.2	122.5	122.5	120.8	121.6	119.9	119.9	118.2	118.2	117.4
50°	114.0	113.1	111.4	110.5	110.5	109.7	108.8	108.8	108.0	107.1	106.3
52.5°	102.9	101.2	100.3	99.5	98.6	98.6	97.8	97.8	96.1	96.1	95.2
55°	91.8	91.0	89.3	88.4	88.4	88.4	86.7	85.9	85.9	85.0	84.2
57.5°	80.8	79.9	79.1	78.2	77.4	77.4	76.5	75.7	74.8	74.0	72.3
60°	70.6	69.7	68.9	68.0	67.2	67.2	66.3	65.5	64.6	63.8	62.9
62.5°	60.4	60.4	58.7	57.8	57.0	57.0	56.1	55.3	54.4	53.6	52.7
65°	51.9	51.0	49.3	48.5	48.5	48.5	46.8	45.9	45.1	43.4	42.5
67.5°	43.4	41.7	40.8	40.8	40.0	39.1	38.3	37.4	35.7	34.9	33.2
70°	34.9	34.0	33.2	32.3	31.5	30.6	29.8	28.9	27.2	26.4	25.5
72.5°	27.2	26.4	25.5	24.7	23.8	23.8	22.1	21.3	20.4	18.7	17.9
75°	20.4	19.6	18.7	17.9	17.0	16.2	16.2	14.5	13.6	12.8	11.1
77.5°	14.5	13.6	12.8	11.9	11.9	11.1	10.2	9.4	8.5	7.7	6.8
80°	9.4	8.5	7.7	7.7	6.8	6.8	6.0	5.1	4.3	3.4	3.4
82.5°	5.1	4.3	4.3	3.4	3.4	3.4	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



TEST NUMBER: P642271

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
2.5°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	249.2	249.2
5°	248.3	248.3	248.3	248.3	248.3	248.3	247.5	247.5	247.5	247.5	247.5
7.5°	246.6	246.6	246.6	245.8	245.8	245.8	245.8	244.9	244.9	244.9	244.9
10°	243.2	243.2	243.2	242.4	242.4	242.4	242.4	242.4	241.5	241.5	241.5
12.5°	239.0	239.0	239.0	239.0	239.0	238.1	238.1	238.1	238.1	237.3	238.1
15°	234.7	234.7	233.9	233.9	233.9	233.0	233.0	233.0	233.0	233.0	233.0
17.5°	229.6	228.8	228.8	227.9	227.9	227.9	227.9	227.9	227.9	227.9	227.9
20°	223.6	222.8	222.8	222.8	222.8	221.9	221.9	221.1	221.9	221.9	221.9
22.5°	216.8	216.0	216.0	216.0	215.1	215.1	215.1	215.1	215.1	215.1	215.1
25°	210.0	209.2	208.3	208.3	208.3	207.5	207.5	208.3	208.3	208.3	208.3
27.5°	201.5	201.5	200.7	200.7	200.7	199.8	199.8	199.8	200.7	200.7	200.7
30°	192.2	192.2	192.2	192.2	191.3	191.3	192.2	191.3	192.2	191.3	192.2
32.5°	183.7	183.7	182.8	182.0	182.0	182.8	182.0	182.0	182.8	182.8	182.8
35°	172.6	172.6	172.6	172.6	172.6	172.6	172.6	172.6	172.6	173.5	174.3
37.5°	162.4	162.4	162.4	162.4	162.4	162.4	162.4	163.3	163.3	163.3	163.3
40°	151.4	151.4	151.4	151.4	151.4	151.4	151.4	151.4	152.2	152.2	153.1
42.5°	139.5	140.3	140.3	140.3	139.5	139.5	140.3	140.3	140.3	141.2	141.2
45°	128.4	128.4	128.4	128.4	129.3	128.4	128.4	128.4	129.3	129.3	129.3
47.5°	117.4	116.5	116.5	117.4	116.5	116.5	116.5	116.5	117.4	117.4	116.5
50°	106.3	105.4	105.4	105.4	104.6	104.6	105.4	103.7	103.7	103.7	104.6
52.5°	95.2	94.4	93.5	93.5	93.5	92.7	91.8	91.8	91.8	91.0	91.0
55°	83.3	82.5	81.6	81.6	81.6	80.8	80.8	79.1	79.1	78.2	78.2
57.5°	72.3	71.4	70.6	70.6	69.7	68.9	68.9	67.2	67.2	66.3	64.6
60°	61.2	60.4	59.5	59.5	59.5	57.8	57.0	55.3	55.3	53.6	52.7
62.5°	51.0	50.2	49.3	48.5	48.5	46.8	45.9	44.2	43.4	42.5	40.8
65°	41.7	40.0	39.1	38.3	38.3	36.6	35.7	34.0	32.3	31.5	29.8
67.5°	32.3	31.5	29.8	28.9	28.9	27.2	25.5	24.7	23.0	21.3	20.4
70°	23.8	23.0	21.3	20.4	19.6	18.7	17.0	16.2	14.5	13.6	11.9
72.5°	16.2	15.3	13.6	13.6	12.8	11.1	10.2	9.4	7.7	6.8	6.0
75°	10.2	9.4	8.5	7.7	6.8	6.0	5.1	4.3	3.4	2.6	2.6
77.5°	6.0	5.1	4.3	3.4	3.4	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: P642271

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
2.5°	250.0	249.2	250.0	250.0	249.2	249.2	249.2	249.2
5°	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5
7.5°	245.8	244.9	244.9	244.9	244.9	244.9	244.9	244.9
10°	241.5	241.5	241.5	241.5	241.5	241.5	241.5	240.7
12.5°	237.3	237.3	237.3	237.3	237.3	237.3	237.3	237.3
15°	233.0	233.0	233.0	233.0	233.0	233.0	233.0	233.0
17.5°	227.9	227.9	227.9	227.9	227.9	227.1	227.9	227.9
20°	221.9	221.9	221.9	221.9	221.9	221.9	221.9	222.8
22.5°	215.1	215.1	215.1	215.1	215.1	215.1	215.1	216.0
25°	208.3	208.3	208.3	208.3	208.3	208.3	208.3	209.2
27.5°	200.7	200.7	200.7	200.7	200.7	200.7	200.7	200.7
30°	192.2	192.2	193.0	192.2	192.2	192.2	193.0	192.2
32.5°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	182.8
35°	174.3	173.5	174.3	174.3	174.3	174.3	174.3	174.3
37.5°	164.1	164.1	164.1	164.1	164.1	164.1	165.0	165.0
40°	153.9	153.1	153.1	153.9	153.9	153.9	153.1	153.9
42.5°	141.2	142.0	142.0	142.0	142.9	142.0	142.9	142.9
45°	129.3	130.1	130.1	130.1	130.1	130.1	131.0	131.0
47.5°	117.4	117.4	117.4	117.4	118.2	118.2	118.2	118.2
50°	104.6	104.6	104.6	104.6	105.4	104.6	105.4	105.4
52.5°	91.0	91.0	91.0	91.0	91.0	91.0	91.8	91.0
55°	77.4	77.4	77.4	77.4	76.5	76.5	76.5	77.4
57.5°	64.6	63.8	62.9	63.8	62.1	62.1	62.1	62.1
60°	51.0	50.2	50.2	49.3	48.5	47.6	48.5	47.6
62.5°	39.1	38.3	38.3	36.6	35.7	35.7	34.9	34.9
65°	28.9	27.2	26.4	26.4	25.5	24.7	23.8	23.8
67.5°	18.7	17.9	17.0	17.0	16.2	15.3	15.3	14.5
70°	11.1	10.2	9.4	10.2	8.5	7.7	7.7	7.7
72.5°	5.1	4.3	4.3	4.3	3.4	3.4	3.4	3.4
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



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)