

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: P642266

Luminaire Tested: ML5612LSWW97FS1E - 592H WW - 1200LM - 2700K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642266
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 - 1200LM - 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

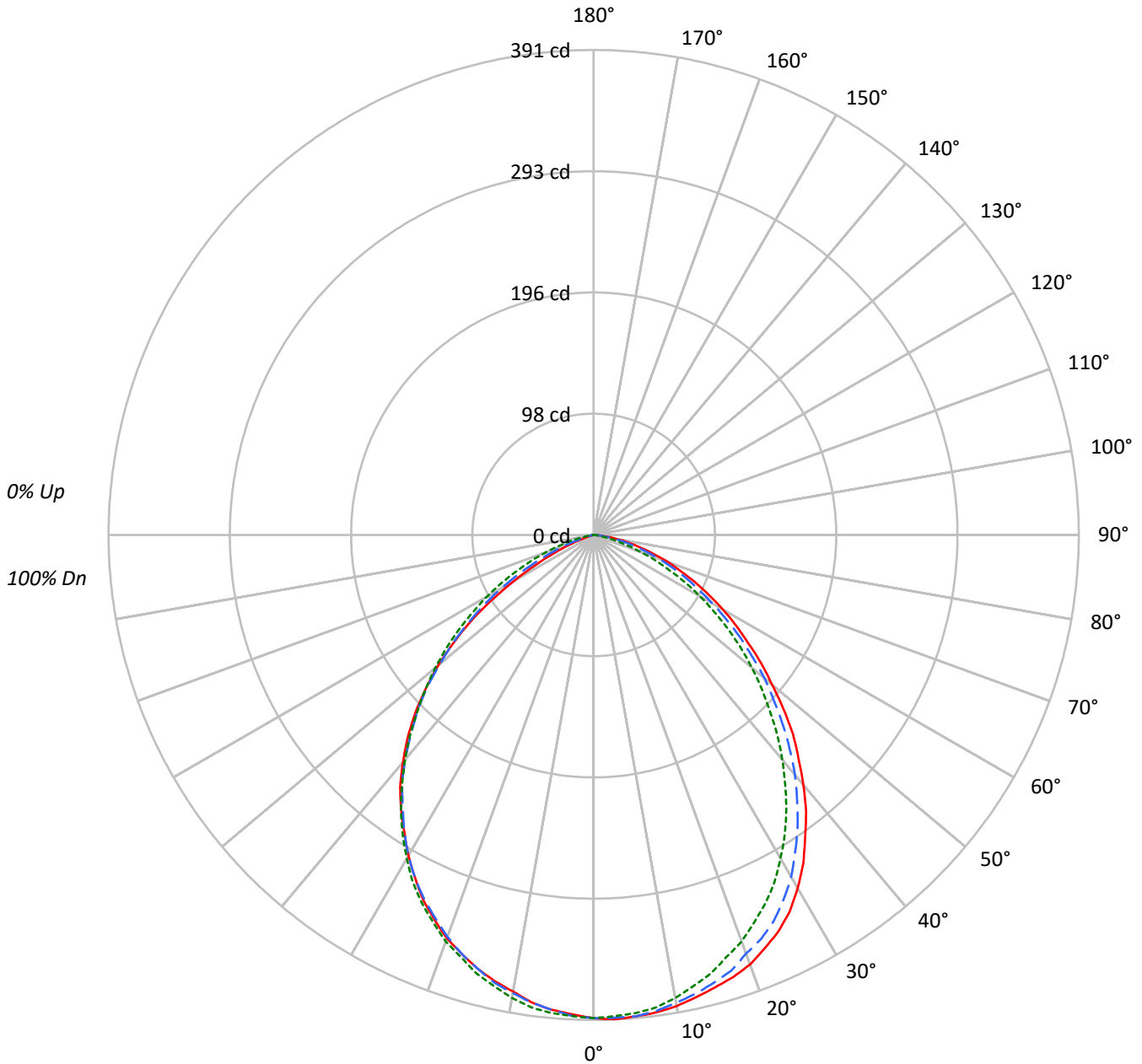
Lumens per Lamp: N/A
Luminaire Lumens: 837.1 lumens
Efficiency: N/A
Efficacy: 50.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.25
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

Input Watts (W): 16.5
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	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°	30755	30755	30755	30755	30755
5°	30873	30873	30667	30453	30453
10°	30917	30701	30380	30068	29963
15°	30868	30549	29895	29577	29577
20°	30957	30175	29293	28957	29066
25°	30712	29911	28526	28186	28299
30°	29980	29014	27446	27209	27209
35°	28641	27619	26087	25837	26087
40°	27082	26000	24361	24361	24639
45°	25364	24036	22406	22406	22707
50°	23027	22057	20436	19785	20116
55°	20906	19819	18181	16901	16543
60°	18977	17509	15646	13546	11683
65°	16774	15298	12590	9377	6911
70°	14633	12810	9440	5193	2747
75°	11682	10065	6039	1617	793
80°	9001	6592	2409	591	591
85°	4800	3623	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 25364 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.7	4.4
10°-20°	103.7	12.4
20°-30°	152.9	18.3
30°-40°	173.2	20.7
40°-50°	160.0	19.1
50°-60°	119.5	14.3
60°-70°	66.0	7.9
70°-80°	22.2	2.7
80°-90°	2.8	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°	293.3	35.0
0°-40°	466.5	55.7
0°-60°	746.0	89.1
0°-90°	837.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	837.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	390	390	390	390	390	
5°	390	390	387	384	384	37
15°	378	374	366	362	362	107
25°	353	343	328	324	325	162
35°	297	287	271	268	271	186
45°	227	215	201	201	203	174
55°	152	144	132	123	120	137
65°	90	82	67	50	37	89
75°	38	33	20	5	3	42
85°	5	4	0	0	0	8
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°	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6
2.5°	390.9	390.9	390.9	390.9	389.6	389.6	390.9	389.6	389.6	389.6	389.6
5°	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6
7.5°	388.3	388.3	388.3	388.3	388.3	388.3	388.3	388.3	387.0	387.0	387.0
10°	385.7	385.7	385.7	385.7	385.7	385.7	385.7	384.3	384.3	384.3	383.0
12.5°	381.7	383.0	381.7	383.0	381.7	381.7	380.4	380.4	380.4	379.0	379.0
15°	377.7	377.7	377.7	377.7	377.7	376.4	376.4	375.1	375.1	375.1	373.8
17.5°	373.8	372.4	372.4	372.4	371.1	371.1	371.1	371.1	369.8	368.5	368.5
20°	368.5	367.2	367.2	367.2	365.8	365.8	364.5	364.5	361.9	361.9	359.2
22.5°	360.6	360.6	360.6	359.2	359.2	357.9	357.9	356.6	355.3	354.0	352.6
25°	352.6	352.6	351.3	351.3	350.0	350.0	350.0	347.3	346.0	344.7	343.4
27.5°	342.1	342.1	340.7	340.7	339.4	338.1	338.1	335.5	335.5	332.8	331.5
30°	328.9	328.9	328.9	326.2	326.2	326.2	324.9	323.6	320.9	319.6	318.3
32.5°	314.3	313.0	313.0	313.0	311.7	310.4	310.4	307.7	306.4	305.1	302.4
35°	297.2	297.2	297.2	297.2	295.8	294.5	294.5	291.9	290.6	287.9	286.6
37.5°	281.3	281.3	280.0	280.0	277.4	278.7	277.4	276.0	274.7	270.7	269.4
40°	262.8	262.8	262.8	261.5	260.2	260.2	258.9	257.5	254.9	253.6	252.3
42.5°	244.3	244.3	244.3	243.0	241.7	241.7	241.7	239.1	237.7	236.4	233.8
45°	227.2	225.8	225.8	224.5	224.5	223.2	221.9	220.6	219.2	217.9	215.3
47.5°	207.4	207.4	206.0	206.0	204.7	204.7	203.4	202.1	200.7	199.4	196.8
50°	187.5	188.9	188.9	187.5	187.5	186.2	184.9	184.9	183.6	182.3	179.6
52.5°	170.4	170.4	170.4	169.1	169.1	167.7	167.7	166.4	165.1	162.4	161.1
55°	151.9	153.2	151.9	151.9	151.9	150.6	150.6	149.2	147.9	145.3	144.0
57.5°	136.0	136.0	134.7	134.7	133.4	133.4	133.4	132.1	130.8	129.4	126.8
60°	120.2	118.9	118.9	118.9	117.5	117.5	117.5	114.9	113.6	112.3	110.9
62.5°	104.3	104.3	104.3	103.0	103.0	101.7	100.4	100.4	99.1	97.7	95.1
65°	89.8	89.8	88.5	88.5	88.5	87.2	87.2	85.8	84.5	83.2	81.9
67.5°	75.3	75.3	75.3	74.0	74.0	74.0	72.6	71.3	71.3	70.0	68.7
70°	63.4	62.1	62.1	62.1	60.8	60.8	60.8	59.4	58.1	56.8	55.5
72.5°	50.2	50.2	50.2	50.2	48.9	48.9	47.5	47.5	46.2	44.9	43.6
75°	38.3	38.3	38.3	38.3	37.0	37.0	37.0	35.7	35.7	34.3	33.0
77.5°	29.1	29.1	29.1	27.7	27.7	26.4	26.4	26.4	25.1	25.1	23.8
80°	19.8	19.8	18.5	18.5	18.5	18.5	18.5	17.2	15.8	15.8	14.5
82.5°	11.9	11.9	11.9	10.6	10.6	10.6	10.6	10.6	9.2	9.2	7.9
85°	5.3	5.3	5.3	5.3	5.3	5.3	4.0	4.0	4.0	4.0	4.0
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	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°	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6
2.5°	389.6	389.6	389.6	389.6	389.6	389.6	389.6	388.3	388.3	388.3	388.3
5°	388.3	388.3	388.3	388.3	388.3	387.0	388.3	387.0	387.0	387.0	387.0
7.5°	385.7	385.7	385.7	385.7	384.3	385.7	384.3	384.3	384.3	384.3	383.0
10°	383.0	381.7	381.7	381.7	381.7	380.4	380.4	379.0	379.0	379.0	377.7
12.5°	379.0	377.7	377.7	376.4	376.4	376.4	375.1	375.1	373.8	372.4	372.4
15°	372.4	372.4	371.1	369.8	369.8	368.5	368.5	367.2	367.2	365.8	364.5
17.5°	367.2	365.8	364.5	363.2	361.9	361.9	360.6	359.2	359.2	356.6	356.6
20°	357.9	356.6	355.3	354.0	354.0	354.0	351.3	351.3	350.0	348.7	347.3
22.5°	350.0	348.7	346.0	344.7	344.7	343.4	342.1	340.7	339.4	338.1	336.8
25°	340.7	339.4	336.8	335.5	334.1	332.8	331.5	330.2	328.9	327.5	326.2
27.5°	328.9	326.2	326.2	323.6	322.3	320.9	319.6	318.3	317.0	315.7	314.3
30°	315.7	314.3	311.7	309.0	307.7	307.7	305.1	303.8	303.8	301.1	299.8
32.5°	301.1	298.5	295.8	294.5	293.2	291.9	290.6	289.2	287.9	286.6	285.3
35°	285.3	281.3	280.0	277.4	277.4	276.0	274.7	272.1	272.1	270.7	268.1
37.5°	268.1	265.5	264.1	261.5	260.2	258.9	257.5	256.2	254.9	253.6	252.3
40°	249.6	247.0	245.7	244.3	243.0	241.7	240.4	239.1	237.7	236.4	235.1
42.5°	231.1	229.8	227.2	224.5	224.5	223.2	221.9	220.6	219.2	219.2	217.9
45°	212.6	211.3	208.7	207.4	206.0	206.0	203.4	203.4	202.1	200.7	200.7
47.5°	195.5	192.8	190.2	190.2	187.5	188.9	186.2	186.2	183.6	183.6	182.3
50°	177.0	175.7	173.0	171.7	171.7	170.4	169.1	169.1	167.7	166.4	165.1
52.5°	159.8	157.2	155.8	154.5	153.2	153.2	151.9	151.9	149.2	149.2	147.9
55°	142.6	141.3	138.7	137.4	137.4	137.4	134.7	133.4	133.4	132.1	130.8
57.5°	125.5	124.1	122.8	121.5	120.2	120.2	118.9	117.5	116.2	114.9	112.3
60°	109.6	108.3	107.0	105.7	104.3	104.3	103.0	101.7	100.4	99.1	97.7
62.5°	93.8	93.8	91.1	89.8	88.5	88.5	87.2	85.8	84.5	83.2	81.9
65°	80.6	79.2	76.6	75.3	75.3	75.3	72.6	71.3	70.0	67.4	66.0
67.5°	67.4	64.7	63.4	63.4	62.1	60.8	59.4	58.1	55.5	54.1	51.5
70°	54.1	52.8	51.5	50.2	48.9	47.5	46.2	44.9	42.3	40.9	39.6
72.5°	42.3	40.9	39.6	38.3	37.0	37.0	34.3	33.0	31.7	29.1	27.7
75°	31.7	30.4	29.1	27.7	26.4	25.1	25.1	22.5	21.1	19.8	17.2
77.5°	22.5	21.1	19.8	18.5	18.5	17.2	15.8	14.5	13.2	11.9	10.6
80°	14.5	13.2	11.9	11.9	10.6	10.6	9.2	7.9	6.6	5.3	5.3
82.5°	7.9	6.6	6.6	5.3	5.3	5.3	4.0	2.6	2.6	2.6	1.3
85°	2.6	2.6	2.6	1.3	1.3	1.3	1.3	1.3	1.3	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°	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6
2.5°	388.3	388.3	388.3	388.3	388.3	388.3	388.3	388.3	388.3	387.0	387.0
5°	385.7	385.7	385.7	385.7	385.7	385.7	384.3	384.3	384.3	384.3	384.3
7.5°	383.0	383.0	383.0	381.7	381.7	381.7	381.7	380.4	380.4	380.4	380.4
10°	377.7	377.7	377.7	376.4	376.4	376.4	376.4	376.4	375.1	375.1	375.1
12.5°	371.1	371.1	371.1	371.1	371.1	369.8	369.8	369.8	369.8	368.5	369.8
15°	364.5	364.5	363.2	363.2	363.2	361.9	361.9	361.9	361.9	361.9	361.9
17.5°	356.6	355.3	355.3	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0
20°	347.3	346.0	346.0	346.0	346.0	344.7	344.7	343.4	344.7	344.7	344.7
22.5°	336.8	335.5	335.5	335.5	334.1	334.1	334.1	334.1	334.1	334.1	334.1
25°	326.2	324.9	323.6	323.6	323.6	322.3	322.3	323.6	323.6	323.6	323.6
27.5°	313.0	313.0	311.7	311.7	311.7	310.4	310.4	310.4	311.7	311.7	311.7
30°	298.5	298.5	298.5	298.5	297.2	297.2	298.5	297.2	298.5	297.2	298.5
32.5°	285.3	285.3	284.0	282.6	282.6	284.0	282.6	282.6	284.0	284.0	284.0
35°	268.1	268.1	268.1	268.1	268.1	268.1	268.1	268.1	268.1	269.4	270.7
37.5°	252.3	252.3	252.3	252.3	252.3	252.3	252.3	253.6	253.6	253.6	253.6
40°	235.1	235.1	235.1	235.1	235.1	235.1	235.1	235.1	236.4	236.4	237.7
42.5°	216.6	217.9	217.9	217.9	216.6	216.6	217.9	217.9	217.9	219.2	219.2
45°	199.4	199.4	199.4	199.4	200.7	199.4	199.4	199.4	200.7	200.7	200.7
47.5°	182.3	180.9	180.9	182.3	180.9	180.9	180.9	180.9	182.3	182.3	180.9
50°	165.1	163.8	163.8	163.8	162.4	162.4	163.8	161.1	161.1	161.1	162.4
52.5°	147.9	146.6	145.3	145.3	145.3	144.0	142.6	142.6	142.6	141.3	141.3
55°	129.4	128.1	126.8	126.8	126.8	125.5	125.5	122.8	122.8	121.5	121.5
57.5°	112.3	110.9	109.6	109.6	108.3	107.0	107.0	104.3	104.3	103.0	100.4
60°	95.1	93.8	92.5	92.5	92.5	89.8	88.5	85.8	85.8	83.2	81.9
62.5°	79.2	77.9	76.6	75.3	75.3	72.6	71.3	68.7	67.4	66.0	63.4
65°	64.7	62.1	60.8	59.4	59.4	56.8	55.5	52.8	50.2	48.9	46.2
67.5°	50.2	48.9	46.2	44.9	44.9	42.3	39.6	38.3	35.7	33.0	31.7
70°	37.0	35.7	33.0	31.7	30.4	29.1	26.4	25.1	22.5	21.1	18.5
72.5°	25.1	23.8	21.1	21.1	19.8	17.2	15.8	14.5	11.9	10.6	9.2
75°	15.8	14.5	13.2	11.9	10.6	9.2	7.9	6.6	5.3	4.0	4.0
77.5°	9.2	7.9	6.6	5.3	5.3	4.0	2.6	2.6	2.6	1.3	1.3
80°	4.0	2.6	2.6	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	1.3	1.3
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: P642266

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 1200LM - 2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	389.6	389.6	389.6	389.6	389.6	389.6	389.6	389.6
2.5°	388.3	387.0	388.3	388.3	387.0	387.0	387.0	387.0
5°	384.3	384.3	384.3	384.3	384.3	384.3	384.3	384.3
7.5°	381.7	380.4	380.4	380.4	380.4	380.4	380.4	380.4
10°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	373.8
12.5°	368.5	368.5	368.5	368.5	368.5	368.5	368.5	368.5
15°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9
17.5°	354.0	354.0	354.0	354.0	354.0	352.6	354.0	354.0
20°	344.7	344.7	344.7	344.7	344.7	344.7	344.7	346.0
22.5°	334.1	334.1	334.1	334.1	334.1	334.1	334.1	335.5
25°	323.6	323.6	323.6	323.6	323.6	323.6	323.6	324.9
27.5°	311.7	311.7	311.7	311.7	311.7	311.7	311.7	311.7
30°	298.5	298.5	299.8	298.5	298.5	298.5	299.8	298.5
32.5°	285.3	285.3	285.3	285.3	285.3	285.3	285.3	284.0
35°	270.7	269.4	270.7	270.7	270.7	270.7	270.7	270.7
37.5°	254.9	254.9	254.9	254.9	254.9	254.9	256.2	256.2
40°	239.1	237.7	237.7	239.1	239.1	239.1	237.7	239.1
42.5°	219.2	220.6	220.6	220.6	221.9	220.6	221.9	221.9
45°	200.7	202.1	202.1	202.1	202.1	202.1	203.4	203.4
47.5°	182.3	182.3	182.3	182.3	183.6	183.6	183.6	183.6
50°	162.4	162.4	162.4	162.4	163.8	162.4	163.8	163.8
52.5°	141.3	141.3	141.3	141.3	141.3	141.3	142.6	141.3
55°	120.2	120.2	120.2	120.2	118.9	118.9	118.9	120.2
57.5°	100.4	99.1	97.7	99.1	96.4	96.4	96.4	96.4
60°	79.2	77.9	77.9	76.6	75.3	74.0	75.3	74.0
62.5°	60.8	59.4	59.4	56.8	55.5	55.5	54.1	54.1
65°	44.9	42.3	40.9	40.9	39.6	38.3	37.0	37.0
67.5°	29.1	27.7	26.4	26.4	25.1	23.8	23.8	22.5
70°	17.2	15.8	14.5	15.8	13.2	11.9	11.9	11.9
72.5°	7.9	6.6	6.6	6.6	5.3	5.3	5.3	5.3
75°	4.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6
77.5°	1.3	1.3	2.6	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	0.0	0.0	0.0	1.3	1.3	0.0	1.3
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)