

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: P642284

Luminaire Tested: ML5612LSWW97FS1E - 592SC WW - 1200LM - 4000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642284
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 - 1200LM - 4000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH SPECULAR CLEAR TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 973.4 lumens
Efficiency: N/A
Efficacy: 59.0 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

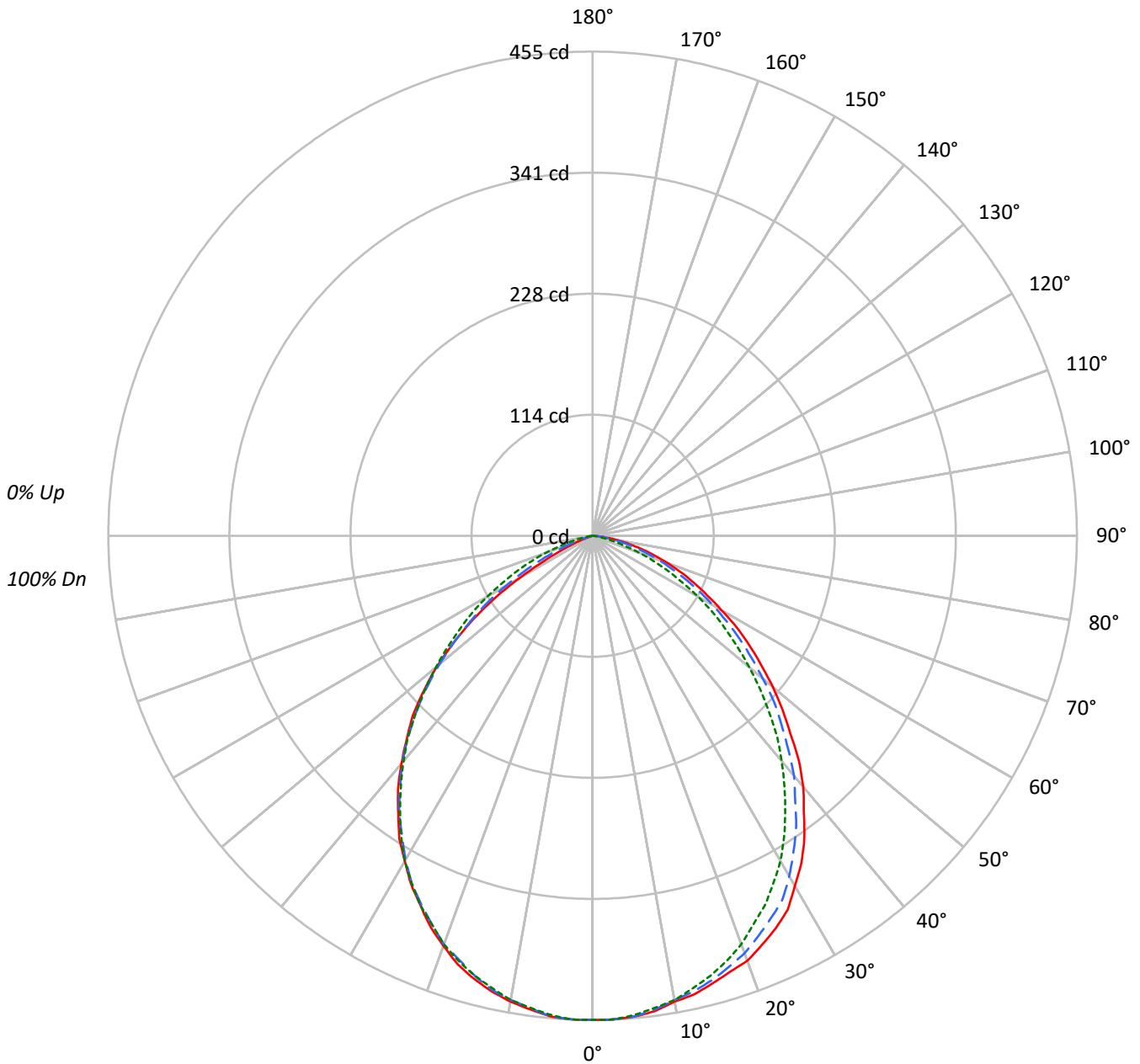
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
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	100	100	100	100		
	1	111	107	103	100	108	105	101	98	100	98	95	97	94	93	93	91	90	88	88	88	88	88	88		
	2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76	76	76	76	76	76		
	3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66	66	66	66	66	66		
	4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58	58	58	58	58	58		
	5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	51	51	51	51	51	51		
	6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45	45	45	45	45	45		
	7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40	40	40	40	40	40		
	8	65	52	44	39	63	52	44	39	50	43	38	49	43	38	48	42	38	36	36	36	36	36	36		
	9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33	33	33	33	33	33		
	10	57	45	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	35918	35918	35918	35918	35918
5°	35936	35936	35818	35936	35936
10°	35631	35510	35510	35510	35631
15°	35592	35346	34979	34979	35224
20°	35703	35073	34317	34317	34443
25°	35450	34536	33360	33229	33360
30°	34638	33672	32168	32031	32168
35°	33430	32129	30395	30539	30684
40°	31729	30338	28473	28627	28782
45°	29339	27999	26157	26157	26659
50°	27117	25631	23604	23051	23420
55°	24801	23149	20878	19227	18814
60°	22056	20635	18014	14936	12331
65°	19632	17951	14588	9825	5884
70°	17334	15256	10756	4847	1731
75°	14213	11895	6405	1373	458
80°	10910	8183	2728	0	0
85°	5434	4076	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 29506 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.9	4.4
10°-20°	121.3	12.5
20°-30°	179.0	18.4
30°-40°	202.6	20.8
40°-50°	187.1	19.2
50°-60°	138.2	14.2
60°-70°	74.3	7.6
70°-80°	24.9	2.6
80°-90°	3.2	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°	343.2	35.3
0°-40°	545.8	56.1
0°-60°	871.1	89.5
0°-90°	973.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	973.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	455	455	455	455	455	
5°	454	454	452	454	454	43
15°	436	432	428	428	431	123
25°	407	396	383	382	383	187
35°	347	333	315	317	318	216
45°	263	251	234	234	239	203
55°	180	168	152	140	137	161
65°	105	96	78	53	32	105
75°	47	39	21	4	2	50
85°	6	4	0	0	0	9
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°	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0
2.5°	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0
5°	453.5	453.5	452.0	453.5	453.5	453.5	453.5	452.0	453.5	453.5	453.5
7.5°	450.5	449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0
10°	444.5	444.5	444.5	444.5	444.5	444.5	444.5	444.5	444.5	444.5	443.0
12.5°	441.5	440.0	440.0	440.0	440.0	440.0	440.0	438.5	440.0	438.5	438.5
15°	435.5	435.5	435.5	435.5	435.5	435.5	434.0	434.0	434.0	434.0	432.5
17.5°	429.5	429.5	431.0	431.0	429.5	429.5	429.5	428.0	426.5	426.5	425.0
20°	425.0	425.0	423.5	423.5	422.0	423.5	422.0	420.5	420.5	419.0	417.5
22.5°	416.0	416.0	416.0	416.0	416.0	414.5	414.5	413.0	411.5	410.0	407.0
25°	407.0	407.0	407.0	407.0	405.5	405.5	405.5	402.5	401.0	399.5	396.5
27.5°	396.5	395.0	395.0	395.0	393.5	393.5	392.0	390.5	389.0	387.5	386.0
30°	380.0	380.0	380.0	380.0	378.5	376.9	376.9	375.4	373.9	370.9	369.4
32.5°	364.9	364.9	363.4	361.9	361.9	361.9	360.4	358.9	355.9	354.4	351.4
35°	346.9	345.4	345.4	343.9	343.9	343.9	342.4	339.4	337.9	336.4	333.4
37.5°	325.9	327.4	325.9	325.9	324.4	322.9	321.4	319.9	318.4	315.4	312.4
40°	307.9	307.9	306.4	304.9	303.4	303.4	301.9	300.4	298.9	297.4	294.4
42.5°	286.8	286.8	285.3	285.3	283.8	283.8	280.8	279.3	277.8	276.3	271.8
45°	262.8	262.8	264.3	262.8	261.3	259.8	259.8	258.3	255.3	253.8	250.8
47.5°	241.8	243.3	241.8	240.3	240.3	238.8	238.8	235.8	235.8	232.8	231.3
50°	220.8	220.8	220.8	220.8	219.3	217.8	217.8	216.3	213.3	211.8	208.7
52.5°	199.7	199.7	199.7	199.7	198.2	198.2	196.7	195.2	193.7	190.7	187.7
55°	180.2	178.7	178.7	178.7	177.2	177.2	175.7	174.2	172.7	171.2	168.2
57.5°	160.7	159.2	159.2	157.7	157.7	156.2	156.2	154.7	153.2	150.2	148.7
60°	139.7	141.2	139.7	139.7	138.2	138.2	138.2	136.7	133.7	132.2	130.7
62.5°	121.6	123.1	121.6	120.1	120.1	120.1	120.1	117.1	115.6	114.1	112.6
65°	105.1	105.1	105.1	103.6	103.6	103.6	100.6	100.6	99.1	97.6	96.1
67.5°	90.1	88.6	88.6	88.6	87.1	87.1	85.6	85.6	82.6	82.6	79.6
70°	75.1	73.6	73.6	73.6	72.1	70.6	72.1	69.1	67.6	66.1	66.1
72.5°	60.1	60.1	58.6	58.6	58.6	57.1	57.1	55.6	54.1	52.6	51.1
75°	46.6	46.6	46.6	45.1	45.1	43.6	43.6	42.1	42.1	39.0	39.0
77.5°	34.5	34.5	34.5	33.0	33.0	33.0	31.5	31.5	30.0	28.5	27.0
80°	24.0	22.5	22.5	22.5	22.5	21.0	21.0	21.0	19.5	19.5	18.0
82.5°	13.5	13.5	13.5	13.5	13.5	13.5	12.0	12.0	12.0	10.5	10.5
85°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.5	4.5	4.5
87.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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°	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0
2.5°	455.0	455.0	455.0	455.0	453.5	455.0	453.5	455.0	455.0	455.0	455.0
5°	453.5	452.0	452.0	452.0	453.5	453.5	452.0	452.0	452.0	452.0	452.0
7.5°	449.0	449.0	449.0	447.5	449.0	449.0	447.5	449.0	449.0	447.5	449.0
10°	444.5	444.5	443.0	443.0	443.0	443.0	443.0	443.0	441.5	443.0	443.0
12.5°	438.5	438.5	438.5	437.0	437.0	437.0	437.0	437.0	435.5	435.5	437.0
15°	432.5	432.5	431.0	431.0	431.0	429.5	429.5	429.5	429.5	428.0	428.0
17.5°	425.0	423.5	423.5	422.0	422.0	420.5	420.5	419.0	419.0	419.0	417.5
20°	416.0	414.5	413.0	413.0	411.5	411.5	410.0	410.0	408.5	408.5	407.0
22.5°	405.5	404.0	402.5	401.0	401.0	399.5	399.5	398.0	396.5	395.0	395.0
25°	396.5	393.5	392.0	390.5	387.5	387.5	386.0	386.0	384.5	383.0	381.5
27.5°	383.0	380.0	378.5	376.9	375.4	373.9	370.9	370.9	369.4	367.9	366.4
30°	366.4	364.9	361.9	360.4	358.9	358.9	355.9	352.9	352.9	352.9	351.4
32.5°	349.9	346.9	345.4	342.4	340.9	340.9	339.4	336.4	334.9	334.9	333.4
35°	331.9	328.9	325.9	324.4	322.9	321.4	319.9	318.4	316.9	315.4	313.9
37.5°	310.9	307.9	306.4	304.9	303.4	301.9	300.4	298.9	297.4	295.9	297.4
40°	291.3	288.3	285.3	283.8	282.3	282.3	280.8	279.3	277.8	276.3	276.3
42.5°	270.3	267.3	265.8	264.3	262.8	261.3	259.8	258.3	256.8	256.8	255.3
45°	247.8	246.3	243.3	241.8	240.3	240.3	237.3	235.8	235.8	234.3	234.3
47.5°	228.3	225.3	222.3	220.8	219.3	217.8	216.3	214.8	213.3	213.3	213.3
50°	205.7	204.2	201.2	199.7	198.2	198.2	196.7	195.2	193.7	192.2	192.2
52.5°	184.7	183.2	183.2	180.2	178.7	178.7	175.7	175.7	172.7	171.2	169.7
55°	166.7	163.7	162.2	159.2	159.2	157.7	156.2	154.7	153.2	151.7	150.2
57.5°	145.7	144.2	142.7	141.2	141.2	139.7	138.2	136.7	133.7	133.7	130.7
60°	129.2	126.2	124.6	123.1	121.6	121.6	120.1	118.6	115.6	114.1	112.6
62.5°	111.1	108.1	108.1	106.6	103.6	103.6	102.1	99.1	97.6	94.6	93.1
65°	94.6	93.1	90.1	88.6	88.6	87.1	84.1	82.6	81.1	78.1	75.1
67.5°	78.1	76.6	75.1	72.1	72.1	70.6	67.6	66.1	63.1	61.6	58.6
70°	63.1	61.6	60.1	57.1	57.1	55.6	54.1	51.1	48.1	46.6	43.6
72.5°	49.6	48.1	46.6	43.6	43.6	42.1	39.0	37.5	34.5	31.5	30.0
75°	37.5	36.0	33.0	31.5	30.0	30.0	27.0	25.5	24.0	21.0	19.5
77.5°	25.5	24.0	22.5	21.0	21.0	19.5	18.0	16.5	15.0	13.5	10.5
80°	16.5	15.0	13.5	13.5	12.0	12.0	10.5	9.0	7.5	6.0	4.5
82.5°	9.0	9.0	7.5	6.0	6.0	6.0	4.5	4.5	3.0	1.5	1.5
85°	3.0	3.0	3.0	3.0	1.5	1.5	1.5	1.5	1.5	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°	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0
2.5°	455.0	455.0	455.0	455.0	455.0	455.0	453.5	455.0	455.0	455.0	453.5
5°	453.5	452.0	452.0	453.5	452.0	452.0	453.5	453.5	453.5	452.0	452.0
7.5°	447.5	449.0	447.5	447.5	449.0	449.0	449.0	449.0	447.5	447.5	449.0
10°	443.0	443.0	441.5	443.0	441.5	443.0	443.0	443.0	443.0	443.0	443.0
12.5°	435.5	435.5	435.5	437.0	435.5	435.5	437.0	437.0	437.0	437.0	437.0
15°	426.5	426.5	428.0	426.5	428.0	428.0	428.0	428.0	428.0	428.0	429.5
17.5°	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	419.0	419.0
20°	407.0	407.0	407.0	407.0	407.0	405.5	407.0	407.0	408.5	408.5	408.5
22.5°	393.5	393.5	393.5	393.5	393.5	393.5	393.5	393.5	395.0	396.5	395.0
25°	380.0	380.0	380.0	380.0	380.0	380.0	380.0	381.5	381.5	381.5	383.0
27.5°	366.4	366.4	366.4	364.9	366.4	364.9	366.4	366.4	367.9	366.4	367.9
30°	351.4	349.9	349.9	349.9	349.9	351.4	349.9	349.9	351.4	352.9	351.4
32.5°	331.9	331.9	331.9	333.4	333.4	333.4	334.9	333.4	333.4	334.9	334.9
35°	313.9	313.9	313.9	315.4	315.4	315.4	315.4	316.9	316.9	316.9	318.4
37.5°	294.4	295.9	294.4	295.9	295.9	297.4	297.4	297.4	297.4	298.9	298.9
40°	276.3	274.8	276.3	276.3	276.3	276.3	276.3	276.3	277.8	279.3	279.3
42.5°	255.3	255.3	255.3	255.3	255.3	255.3	256.8	256.8	256.8	258.3	258.3
45°	234.3	232.8	232.8	232.8	232.8	234.3	232.8	234.3	234.3	235.8	235.8
47.5°	211.8	211.8	211.8	211.8	211.8	211.8	211.8	211.8	211.8	213.3	211.8
50°	192.2	190.7	189.2	189.2	187.7	189.2	187.7	187.7	187.7	189.2	187.7
52.5°	169.7	168.2	166.7	166.7	166.7	165.2	163.7	163.7	163.7	162.2	162.2
55°	150.2	148.7	145.7	147.2	144.2	142.7	142.7	141.2	139.7	139.7	138.2
57.5°	129.2	127.7	126.2	124.6	124.6	121.6	120.1	118.6	117.1	115.6	112.6
60°	111.1	108.1	105.1	105.1	103.6	102.1	99.1	96.1	94.6	91.6	90.1
62.5°	91.6	88.6	85.6	84.1	82.6	81.1	78.1	75.1	72.1	70.6	67.6
65°	73.6	70.6	67.6	66.1	64.6	61.6	58.6	55.6	52.6	49.6	48.1
67.5°	55.6	52.6	51.1	48.1	46.6	43.6	40.5	39.0	36.0	33.0	28.5
70°	40.5	37.5	34.5	33.0	31.5	28.5	27.0	24.0	21.0	19.5	16.5
72.5°	27.0	24.0	22.5	21.0	19.5	18.0	15.0	13.5	10.5	9.0	7.5
75°	16.5	15.0	13.5	12.0	10.5	9.0	7.5	6.0	4.5	3.0	1.5
77.5°	9.0	7.5	6.0	6.0	4.5	3.0	3.0	1.5	1.5	1.5	1.5
80°	4.5	3.0	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	1.5
82.5°	1.5	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: P642284

CATALOG NUMBER: ML5612LSWW97FS1E - 592SC WW - 1200LM - 4000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0
2.5°	455.0	455.0	455.0	455.0	455.0	455.0	455.0	455.0
5°	453.5	453.5	452.0	453.5	452.0	452.0	452.0	453.5
7.5°	449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0
10°	443.0	443.0	443.0	444.5	444.5	444.5	443.0	444.5
12.5°	437.0	437.0	437.0	438.5	437.0	438.5	437.0	438.5
15°	429.5	429.5	431.0	431.0	429.5	429.5	431.0	431.0
17.5°	419.0	420.5	420.5	420.5	420.5	420.5	420.5	422.0
20°	410.0	410.0	408.5	410.0	410.0	411.5	411.5	410.0
22.5°	395.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0
25°	383.0	383.0	383.0	384.5	383.0	383.0	384.5	383.0
27.5°	367.9	369.4	367.9	369.4	369.4	369.4	369.4	369.4
30°	352.9	352.9	352.9	352.9	352.9	354.4	352.9	352.9
32.5°	334.9	336.4	336.4	336.4	337.9	336.4	336.4	337.9
35°	318.4	318.4	318.4	319.9	318.4	319.9	319.9	318.4
37.5°	298.9	300.4	298.9	300.4	300.4	300.4	300.4	300.4
40°	280.8	279.3	280.8	279.3	280.8	280.8	280.8	279.3
42.5°	258.3	259.8	259.8	259.8	259.8	259.8	259.8	258.3
45°	235.8	237.3	237.3	237.3	237.3	237.3	238.8	238.8
47.5°	211.8	214.8	214.8	214.8	213.3	216.3	214.8	214.8
50°	187.7	187.7	189.2	189.2	190.7	190.7	190.7	190.7
52.5°	163.7	162.2	163.7	163.7	165.2	163.7	165.2	163.7
55°	136.7	136.7	136.7	135.2	136.7	136.7	136.7	136.7
57.5°	112.6	111.1	109.6	108.1	108.1	108.1	106.6	108.1
60°	87.1	84.1	85.6	82.6	81.1	79.6	79.6	78.1
62.5°	64.6	61.6	60.1	58.6	55.6	52.6	52.6	51.1
65°	43.6	40.5	39.0	36.0	34.5	33.0	31.5	31.5
67.5°	27.0	24.0	24.0	22.5	21.0	19.5	18.0	18.0
70°	15.0	13.5	12.0	10.5	10.5	9.0	7.5	7.5
72.5°	6.0	4.5	4.5	3.0	3.0	3.0	3.0	1.5
75°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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

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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)