

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: P642287

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

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642287
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 - 3000K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH SPECULAR CLEAR TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 567.0 lumens
Efficiency: N/A
Efficacy: 55.1 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

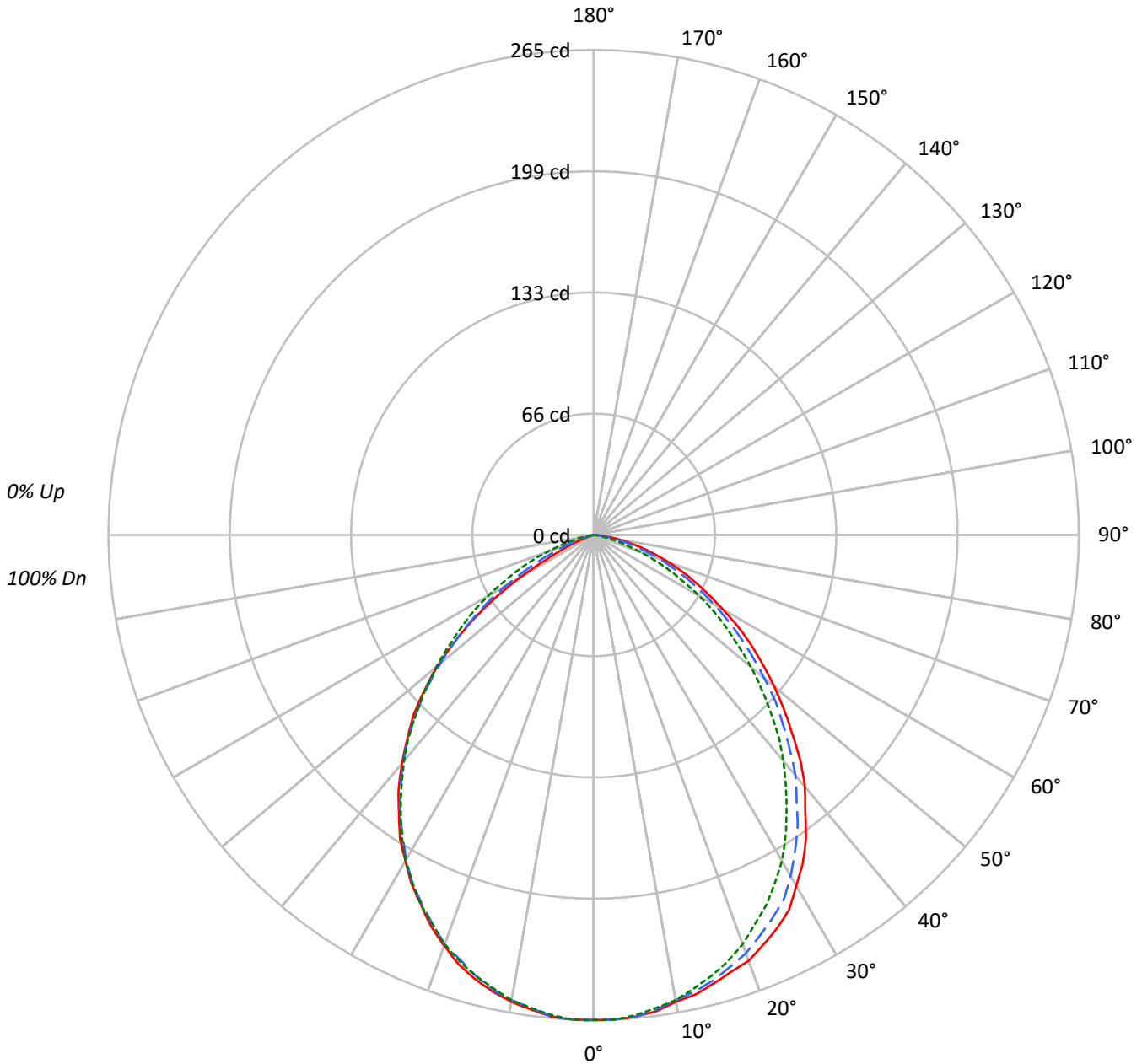
Input Watts (W): 10.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	20927	20927	20927	20927	20927
5°	20936	20936	20865	20936	20936
10°	20761	20689	20689	20689	20761
15°	20734	20595	20374	20374	20521
20°	20800	20431	19994	19994	20061
25°	20652	20120	19432	19354	19432
30°	20172	19616	18741	18659	18741
35°	19476	18715	17703	17790	17876
40°	18487	17673	16591	16684	16766
45°	17092	16311	15239	15239	15529
50°	15793	14934	13755	13435	13644
55°	14451	13488	12166	11203	10955
60°	12852	12015	10499	8699	7184
65°	11432	10460	8499	5716	3437
70°	10086	8886	6255	2816	1016
75°	8266	6924	3721	793	275
80°	6364	4773	1591	0	0
85°	3170	2355	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 17192 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.0	4.4
10°-20°	70.7	12.5
20°-30°	104.2	18.4
30°-40°	118.0	20.8
40°-50°	109.0	19.2
50°-60°	80.5	14.2
60°-70°	43.3	7.6
70°-80°	14.5	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°	199.9	35.3
0°-40°	317.9	56.1
0°-60°	507.4	89.5
0°-90°	567.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	567.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	265	265	265	265	265	
5°	264	264	263	264	264	25
15°	254	252	249	249	251	72
25°	237	231	223	222	223	109
35°	202	194	184	185	186	126
45°	153	146	136	136	139	119
55°	105	98	88	81	80	94
65°	61	56	46	31	18	61
75°	27	23	12	3	1	29
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°	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1
2.5°	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1
5°	264.2	264.2	263.3	264.2	264.2	264.2	264.2	263.3	264.2	264.2	264.2
7.5°	262.5	261.6	261.6	261.6	261.6	261.6	261.6	261.6	261.6	261.6	261.6
10°	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	258.1
12.5°	257.2	256.3	256.3	256.3	256.3	256.3	256.3	255.5	256.3	255.5	255.5
15°	253.7	253.7	253.7	253.7	253.7	253.7	252.8	252.8	252.8	252.8	252.0
17.5°	250.2	250.2	251.1	251.1	250.2	250.2	250.2	249.3	248.5	248.5	247.6
20°	247.6	247.6	246.7	246.7	245.8	246.7	245.8	245.0	245.0	244.1	243.2
22.5°	242.3	242.3	242.3	242.3	242.3	241.5	241.5	240.6	239.7	238.8	237.1
25°	237.1	237.1	237.1	237.1	236.2	236.2	236.2	234.5	233.6	232.7	231.0
27.5°	231.0	230.1	230.1	230.1	229.2	229.2	228.3	227.5	226.6	225.7	224.8
30°	221.3	221.3	221.3	221.3	220.5	219.6	219.6	218.7	217.8	216.1	215.2
32.5°	212.6	212.6	211.7	210.8	210.8	210.8	210.0	209.1	207.3	206.5	204.7
35°	202.1	201.2	201.2	200.3	200.3	200.3	199.5	197.7	196.8	196.0	194.2
37.5°	189.8	190.7	189.8	189.8	189.0	188.1	187.2	186.3	185.5	183.7	182.0
40°	179.4	179.4	178.5	177.6	176.7	176.7	175.9	175.0	174.1	173.2	171.5
42.5°	167.1	167.1	166.2	166.2	165.4	165.4	163.6	162.7	161.9	161.0	158.4
45°	153.1	153.1	154.0	153.1	152.2	151.4	151.4	150.5	148.7	147.9	146.1
47.5°	140.9	141.7	140.9	140.0	140.0	139.1	139.1	137.4	137.4	135.6	134.7
50°	128.6	128.6	128.6	128.6	127.7	126.9	126.9	126.0	124.2	123.4	121.6
52.5°	116.4	116.4	116.4	116.4	115.5	115.5	114.6	113.7	112.9	111.1	109.4
55°	105.0	104.1	104.1	104.1	103.2	103.2	102.4	101.5	100.6	99.7	98.0
57.5°	93.6	92.7	92.7	91.9	91.9	91.0	91.0	90.1	89.2	87.5	86.6
60°	81.4	82.2	81.4	81.4	80.5	80.5	80.5	79.6	77.9	77.0	76.1
62.5°	70.9	71.7	70.9	70.0	70.0	70.0	70.0	68.2	67.4	66.5	65.6
65°	61.2	61.2	61.2	60.4	60.4	60.4	58.6	58.6	57.7	56.9	56.0
67.5°	52.5	51.6	51.6	51.6	50.7	50.7	49.9	49.9	48.1	48.1	46.4
70°	43.7	42.9	42.9	42.9	42.0	41.1	42.0	40.2	39.4	38.5	38.5
72.5°	35.0	35.0	34.1	34.1	34.1	33.2	33.2	32.4	31.5	30.6	29.7
75°	27.1	27.1	27.1	26.2	26.2	25.4	25.4	24.5	24.5	22.7	22.7
77.5°	20.1	20.1	20.1	19.2	19.2	19.2	18.4	18.4	17.5	16.6	15.7
80°	14.0	13.1	13.1	13.1	13.1	12.2	12.2	12.2	11.4	11.4	10.5
82.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1	6.1
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	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°	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1
2.5°	265.1	265.1	265.1	265.1	264.2	265.1	264.2	265.1	265.1	265.1	265.1
5°	264.2	263.3	263.3	263.3	264.2	264.2	263.3	263.3	263.3	263.3	263.3
7.5°	261.6	261.6	261.6	260.7	261.6	261.6	260.7	261.6	261.6	260.7	261.6
10°	259.0	259.0	258.1	258.1	258.1	258.1	258.1	258.1	257.2	258.1	258.1
12.5°	255.5	255.5	255.5	254.6	254.6	254.6	254.6	254.6	253.7	253.7	254.6
15°	252.0	252.0	251.1	251.1	251.1	250.2	250.2	250.2	250.2	249.3	249.3
17.5°	247.6	246.7	246.7	245.8	245.8	245.0	245.0	244.1	244.1	244.1	243.2
20°	242.3	241.5	240.6	240.6	239.7	239.7	238.8	238.8	238.0	238.0	237.1
22.5°	236.2	235.3	234.5	233.6	233.6	232.7	232.7	231.8	231.0	230.1	230.1
25°	231.0	229.2	228.3	227.5	225.7	225.7	224.8	224.8	224.0	223.1	222.2
27.5°	223.1	221.3	220.5	219.6	218.7	217.8	216.1	216.1	215.2	214.3	213.5
30°	213.5	212.6	210.8	210.0	209.1	209.1	207.3	205.6	205.6	205.6	204.7
32.5°	203.8	202.1	201.2	199.5	198.6	198.6	197.7	196.0	195.1	195.1	194.2
35°	193.3	191.6	189.8	189.0	188.1	187.2	186.3	185.5	184.6	183.7	182.9
37.5°	181.1	179.4	178.5	177.6	176.7	175.9	175.0	174.1	173.2	172.4	173.2
40°	169.7	168.0	166.2	165.4	164.5	164.5	163.6	162.7	161.9	161.0	161.0
42.5°	157.5	155.7	154.9	154.0	153.1	152.2	151.4	150.5	149.6	149.6	148.7
45°	144.4	143.5	141.7	140.9	140.0	140.0	138.2	137.4	137.4	136.5	136.5
47.5°	133.0	131.2	129.5	128.6	127.7	126.9	126.0	125.1	124.2	124.2	124.2
50°	119.9	119.0	117.2	116.4	115.5	115.5	114.6	113.7	112.9	112.0	112.0
52.5°	107.6	106.7	106.7	105.0	104.1	104.1	102.4	102.4	100.6	99.7	98.9
55°	97.1	95.4	94.5	92.7	92.7	91.9	91.0	90.1	89.2	88.4	87.5
57.5°	84.9	84.0	83.1	82.2	82.2	81.4	80.5	79.6	77.9	77.9	76.1
60°	75.2	73.5	72.6	71.7	70.9	70.9	70.0	69.1	67.4	66.5	65.6
62.5°	64.7	63.0	63.0	62.1	60.4	60.4	59.5	57.7	56.9	55.1	54.2
65°	55.1	54.2	52.5	51.6	51.6	50.7	49.0	48.1	47.2	45.5	43.7
67.5°	45.5	44.6	43.7	42.0	42.0	41.1	39.4	38.5	36.7	35.9	34.1
70°	36.7	35.9	35.0	33.2	33.2	32.4	31.5	29.7	28.0	27.1	25.4
72.5°	28.9	28.0	27.1	25.4	25.4	24.5	22.7	21.9	20.1	18.4	17.5
75°	21.9	21.0	19.2	18.4	17.5	17.5	15.7	14.9	14.0	12.2	11.4
77.5°	14.9	14.0	13.1	12.2	12.2	11.4	10.5	9.6	8.7	7.9	6.1
80°	9.6	8.7	7.9	7.9	7.0	7.0	6.1	5.2	4.4	3.5	2.6
82.5°	5.2	5.2	4.4	3.5	3.5	3.5	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°	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1
2.5°	265.1	265.1	265.1	265.1	265.1	265.1	264.2	265.1	265.1	265.1	264.2
5°	264.2	263.3	263.3	264.2	263.3	263.3	264.2	264.2	264.2	263.3	263.3
7.5°	260.7	261.6	260.7	260.7	261.6	261.6	261.6	261.6	260.7	260.7	261.6
10°	258.1	258.1	257.2	258.1	257.2	258.1	258.1	258.1	258.1	258.1	258.1
12.5°	253.7	253.7	253.7	254.6	253.7	253.7	254.6	254.6	254.6	254.6	254.6
15°	248.5	248.5	249.3	248.5	249.3	249.3	249.3	249.3	249.3	249.3	250.2
17.5°	243.2	243.2	243.2	243.2	243.2	243.2	243.2	243.2	243.2	244.1	244.1
20°	237.1	237.1	237.1	237.1	237.1	236.2	237.1	237.1	238.0	238.0	238.0
22.5°	229.2	229.2	229.2	229.2	229.2	229.2	229.2	229.2	230.1	231.0	230.1
25°	221.3	221.3	221.3	221.3	221.3	221.3	221.3	222.2	222.2	222.2	223.1
27.5°	213.5	213.5	213.5	212.6	213.5	212.6	213.5	213.5	214.3	213.5	214.3
30°	204.7	203.8	203.8	203.8	203.8	204.7	203.8	203.8	204.7	205.6	204.7
32.5°	193.3	193.3	193.3	194.2	194.2	194.2	195.1	194.2	194.2	195.1	195.1
35°	182.9	182.9	182.9	183.7	183.7	183.7	183.7	184.6	184.6	184.6	185.5
37.5°	171.5	172.4	171.5	172.4	172.4	173.2	173.2	173.2	173.2	174.1	174.1
40°	161.0	160.1	161.0	161.0	161.0	161.0	161.0	161.0	161.9	162.7	162.7
42.5°	148.7	148.7	148.7	148.7	148.7	148.7	149.6	149.6	149.6	150.5	150.5
45°	136.5	135.6	135.6	135.6	135.6	135.6	135.6	136.5	136.5	137.4	137.4
47.5°	123.4	123.4	123.4	123.4	123.4	123.4	123.4	123.4	123.4	124.2	123.4
50°	112.0	111.1	110.2	110.2	109.4	110.2	109.4	109.4	109.4	110.2	109.4
52.5°	98.9	98.0	97.1	97.1	97.1	96.2	95.4	95.4	95.4	94.5	94.5
55°	87.5	86.6	84.9	85.7	84.0	83.1	83.1	82.2	81.4	81.4	80.5
57.5°	75.2	74.4	73.5	72.6	72.6	70.9	70.0	69.1	68.2	67.4	65.6
60°	64.7	63.0	61.2	61.2	60.4	59.5	57.7	56.0	55.1	53.4	52.5
62.5°	53.4	51.6	49.9	49.0	48.1	47.2	45.5	43.7	42.0	41.1	39.4
65°	42.9	41.1	39.4	38.5	37.6	35.9	34.1	32.4	30.6	28.9	28.0
67.5°	32.4	30.6	29.7	28.0	27.1	25.4	23.6	22.7	21.0	19.2	16.6
70°	23.6	21.9	20.1	19.2	18.4	16.6	15.7	14.0	12.2	11.4	9.6
72.5°	15.7	14.0	13.1	12.2	11.4	10.5	8.7	7.9	6.1	5.2	4.4
75°	9.6	8.7	7.9	7.0	6.1	5.2	4.4	3.5	2.6	1.7	0.9
77.5°	5.2	4.4	3.5	3.5	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: P642287

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1
2.5°	265.1	265.1	265.1	265.1	265.1	265.1	265.1	265.1
5°	264.2	264.2	263.3	264.2	263.3	263.3	263.3	264.2
7.5°	261.6	261.6	261.6	261.6	261.6	261.6	261.6	261.6
10°	258.1	258.1	258.1	259.0	259.0	259.0	258.1	259.0
12.5°	254.6	254.6	254.6	255.5	254.6	255.5	254.6	255.5
15°	250.2	250.2	251.1	251.1	250.2	250.2	251.1	251.1
17.5°	244.1	245.0	245.0	245.0	245.0	245.0	245.0	245.8
20°	238.8	238.8	238.0	238.8	238.8	239.7	239.7	238.8
22.5°	230.1	231.8	231.8	231.8	231.8	231.8	231.8	231.8
25°	223.1	223.1	223.1	224.0	223.1	223.1	224.0	223.1
27.5°	214.3	215.2	214.3	215.2	215.2	215.2	215.2	215.2
30°	205.6	205.6	205.6	205.6	205.6	206.5	205.6	205.6
32.5°	195.1	196.0	196.0	196.0	196.8	196.0	196.0	196.8
35°	185.5	185.5	185.5	186.3	185.5	186.3	186.3	185.5
37.5°	174.1	175.0	174.1	175.0	175.0	175.0	175.0	175.0
40°	163.6	162.7	163.6	162.7	163.6	163.6	163.6	162.7
42.5°	150.5	151.4	151.4	151.4	151.4	151.4	151.4	150.5
45°	137.4	138.2	138.2	138.2	138.2	138.2	139.1	139.1
47.5°	123.4	125.1	125.1	125.1	124.2	126.0	125.1	125.1
50°	109.4	109.4	110.2	110.2	111.1	111.1	111.1	111.1
52.5°	95.4	94.5	95.4	95.4	96.2	95.4	96.2	95.4
55°	79.6	79.6	79.6	78.7	79.6	79.6	79.6	79.6
57.5°	65.6	64.7	63.9	63.0	63.0	63.0	62.1	63.0
60°	50.7	49.0	49.9	48.1	47.2	46.4	46.4	45.5
62.5°	37.6	35.9	35.0	34.1	32.4	30.6	30.6	29.7
65°	25.4	23.6	22.7	21.0	20.1	19.2	18.4	18.4
67.5°	15.7	14.0	14.0	13.1	12.2	11.4	10.5	10.5
70°	8.7	7.9	7.0	6.1	6.1	5.2	4.4	4.4
72.5°	3.5	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)