

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: P642296

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

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642296
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-116)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592W WW - 1200LM - 2700K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

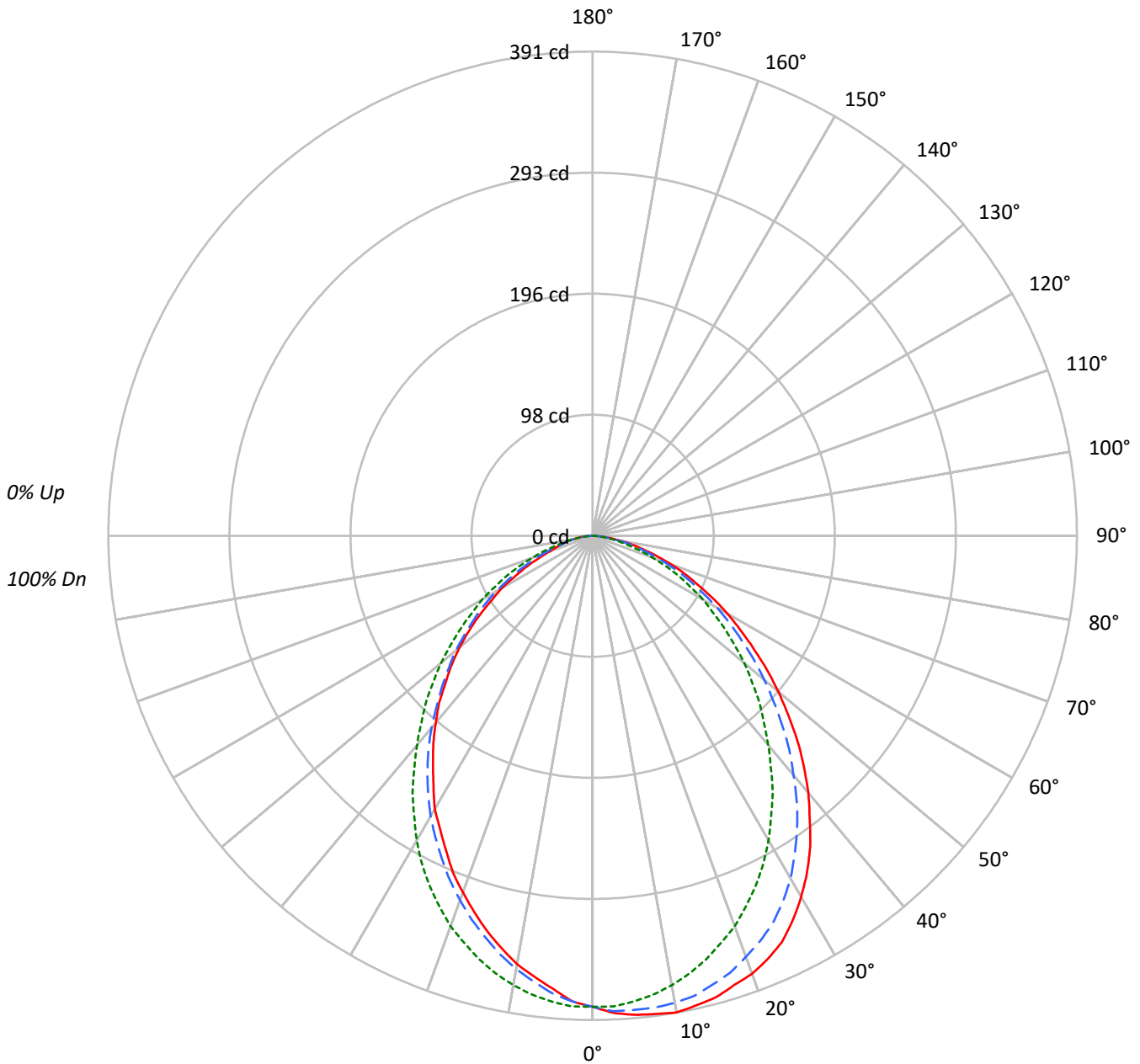
Lumens per Lamp: N/A
Luminaire Lumens: 829.8 lumens
Efficiency: N/A
Efficacy: 50.3 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.13 / 1.23
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

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				
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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86		
2	101	94	88	82	99	92	86	81	88	84	80	85	81	78	82	79	76	74		
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64		
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55		
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49		
6	73	61	53	46	72	60	52	46	58	51	46	57	50	45	55	49	45	43		
7	68	56	47	41	67	55	47	41	53	46	41	52	45	41	51	45	40	39		
8	64	51	43	37	62	50	43	37	49	42	37	48	41	37	47	41	37	35		
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	43	37	33	32		
10	56	43	36	31	55	43	36	31	42	35	31	41	35	31	40	35	30	29		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	30029	30029	30029	30029	30029
5°	30770	30453	29930	29407	29098
10°	31334	30701	29538	28480	28160
15°	31522	30655	28931	27419	26986
20°	31620	30402	28184	26294	25740
25°	31522	30024	27150	25077	24388
30°	30700	29133	25887	23837	23235
35°	29527	27745	24439	22406	21635
40°	27906	26000	22733	20826	20280
45°	26101	24181	21234	19168	18722
50°	24009	22216	19625	17685	17193
55°	21814	20176	17809	15993	15263
60°	19814	18346	16262	14178	13341
65°	17521	16288	14308	12085	10853
70°	15556	14033	11887	9763	8540
75°	12902	11682	9272	7656	7656
80°	10229	9001	7183	6592	6592
85°	5978	5978	4800	5978	5978

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 26101 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.8	4.3
10°-20°	100.2	12.1
20°-30°	145.3	17.5
30°-40°	162.1	19.5
40°-50°	150.3	18.1
50°-60°	118.2	14.2
60°-70°	75.7	9.1
70°-80°	34.7	4.2
80°-90°	7.5	0.9
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°	281.3	33.9
0°-40°	443.4	53.4
0°-60°	712.0	85.8
0°-90°	829.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	829.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	380	380	380	380	380	
5°	388	384	378	371	367	37
15°	386	375	354	336	330	109
25°	362	345	312	288	280	166
35°	306	288	254	232	224	191
45°	234	217	190	172	168	180
55°	158	147	129	116	111	142
65°	94	87	77	65	58	94
75°	42	38	30	25	25	46
85°	7	7	5	7	7	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°	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4
2.5°	385.7	385.7	385.7	385.7	385.7	385.7	384.3	384.3	384.3	384.3	384.3
5°	388.3	388.3	388.3	388.3	387.0	387.0	387.0	387.0	385.7	385.7	384.3
7.5°	389.6	389.6	389.6	388.3	388.3	388.3	387.0	387.0	387.0	385.7	384.3
10°	390.9	389.6	389.6	388.3	388.3	388.3	387.0	387.0	385.7	384.3	383.0
12.5°	388.3	388.3	388.3	388.3	387.0	387.0	385.7	384.3	383.0	381.7	380.4
15°	385.7	385.7	385.7	384.3	383.0	383.0	381.7	380.4	379.1	377.7	375.1
17.5°	380.4	381.7	380.4	380.4	379.1	379.1	377.7	376.4	373.8	372.5	369.8
20°	376.4	375.1	375.1	375.1	373.8	372.5	371.1	369.8	367.2	365.9	361.9
22.5°	369.8	369.8	368.5	367.2	365.9	365.9	364.5	361.9	360.6	357.9	354.0
25°	361.9	360.6	360.6	359.2	357.9	357.9	355.3	354.0	351.3	347.4	344.7
27.5°	350.0	350.0	350.0	348.7	347.4	346.0	344.7	342.1	340.8	335.5	332.8
30°	336.8	336.8	335.5	335.5	332.8	332.8	331.5	328.9	326.2	322.3	319.6
32.5°	322.3	322.3	322.3	319.6	318.3	317.0	315.7	314.3	310.4	306.4	303.8
35°	306.4	306.4	305.1	303.8	302.5	301.1	299.8	297.2	294.5	291.9	287.9
37.5°	287.9	289.2	287.9	286.6	285.3	284.0	282.6	281.3	277.4	274.7	270.8
40°	270.8	270.8	269.4	268.1	266.8	266.8	265.5	262.8	260.2	256.2	252.3
42.5°	252.3	252.3	250.9	249.6	249.6	248.3	245.7	244.3	241.7	239.1	235.1
45°	233.8	232.5	231.1	231.1	229.8	228.5	228.5	225.9	223.2	219.2	216.6
47.5°	214.0	214.0	212.6	212.6	211.3	210.0	210.0	207.4	203.4	200.8	198.1
50°	195.5	195.5	194.2	194.2	192.8	191.5	190.2	188.9	186.2	183.6	180.9
52.5°	177.0	177.0	177.0	174.3	173.0	173.0	173.0	170.4	169.1	166.4	163.8
55°	158.5	158.5	158.5	157.2	155.8	155.8	155.8	153.2	151.9	149.2	146.6
57.5°	141.3	141.3	141.3	140.0	140.0	138.7	137.4	136.0	134.7	133.4	130.8
60°	125.5	125.5	124.2	122.8	124.2	122.8	121.5	120.2	118.9	117.5	116.2
62.5°	109.6	109.6	109.6	108.3	107.0	107.0	107.0	105.7	103.0	101.7	100.4
65°	93.8	93.8	93.8	93.8	92.5	92.5	91.1	89.8	89.8	88.5	87.2
67.5°	80.6	80.6	79.2	79.2	77.9	77.9	77.9	76.6	75.3	75.3	74.0
70°	67.4	66.0	66.0	66.0	64.7	64.7	64.7	63.4	63.4	62.1	60.8
72.5°	54.2	54.2	54.2	54.2	52.8	52.8	51.5	51.5	50.2	50.2	48.9
75°	42.3	42.3	42.3	42.3	40.9	40.9	40.9	40.9	39.6	39.6	38.3
77.5°	31.7	31.7	31.7	31.7	31.7	31.7	30.4	30.4	30.4	29.1	29.1
80°	22.5	22.5	22.5	22.5	21.1	21.1	21.1	21.1	21.1	19.8	19.8
82.5°	14.5	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	11.9
85°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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°	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4
2.5°	383.0	383.0	383.0	383.0	381.7	381.7	381.7	380.4	380.4	380.4	380.4
5°	384.3	384.3	381.7	381.7	381.7	381.7	380.4	380.4	379.1	377.7	376.4
7.5°	383.0	383.0	381.7	380.4	379.1	379.1	377.7	376.4	375.1	373.8	372.5
10°	381.7	380.4	379.1	377.7	376.4	375.1	373.8	372.5	369.8	368.5	367.2
12.5°	379.1	376.4	375.1	372.5	372.5	371.1	368.5	367.2	364.5	361.9	360.6
15°	373.8	371.1	368.5	365.9	365.9	363.2	360.6	359.2	356.6	354.0	351.3
17.5°	367.2	364.5	361.9	359.2	357.9	355.3	352.6	350.0	347.4	344.7	342.1
20°	360.6	356.6	354.0	350.0	348.7	347.4	343.4	340.8	338.1	335.5	331.5
22.5°	351.3	348.7	343.4	340.8	339.4	336.8	334.2	330.2	326.2	323.6	320.9
25°	340.8	338.1	334.2	330.2	327.5	326.2	322.3	318.3	315.7	311.7	309.1
27.5°	328.9	324.9	322.3	317.0	315.7	313.0	309.1	305.1	302.5	298.5	294.5
30°	315.7	311.7	307.7	303.8	301.1	299.8	295.9	291.9	287.9	284.0	281.3
32.5°	299.8	295.9	291.9	289.2	285.3	282.6	280.0	276.0	272.1	268.1	265.5
35°	284.0	280.0	276.0	272.1	269.4	269.4	264.2	260.2	256.2	253.6	249.6
37.5°	266.8	262.8	258.9	254.9	253.6	250.9	247.0	243.0	240.4	236.4	233.8
40°	249.6	244.3	241.7	237.7	236.4	233.8	231.1	227.2	224.5	220.6	217.9
42.5°	231.1	228.5	224.5	221.9	219.2	217.9	214.0	210.0	207.4	204.7	203.4
45°	214.0	210.0	206.0	203.4	202.1	199.4	198.1	194.2	191.5	190.2	187.5
47.5°	195.5	192.8	190.2	186.2	184.9	183.6	180.9	179.6	177.0	174.3	171.7
50°	178.3	175.7	173.0	170.4	169.1	169.1	165.1	162.5	161.1	159.8	157.2
52.5°	161.1	158.5	155.8	153.2	153.2	151.9	149.2	147.9	146.6	144.0	141.3
55°	145.3	142.6	140.0	138.7	137.4	137.4	134.7	133.4	130.8	129.4	128.1
57.5°	129.4	126.8	125.5	124.2	122.8	122.8	120.2	118.9	117.5	114.9	114.9
60°	114.9	112.3	110.9	109.6	108.3	107.0	107.0	104.3	103.0	103.0	100.4
62.5°	99.1	97.7	96.4	95.1	93.8	93.8	92.5	91.1	89.8	88.5	87.2
65°	85.8	84.5	83.2	81.9	80.6	80.6	79.2	77.9	76.6	76.6	74.0
67.5°	72.6	71.3	70.0	68.7	68.7	67.4	66.0	66.0	64.7	63.4	62.1
70°	59.4	59.4	58.1	56.8	56.8	55.5	54.2	54.2	52.8	51.5	50.2
72.5°	48.9	47.5	46.2	46.2	44.9	44.9	43.6	43.6	42.3	40.9	39.6
75°	37.0	35.7	35.7	35.7	34.3	34.3	34.3	33.0	31.7	30.4	30.4
77.5°	27.7	27.7	26.4	25.1	25.1	25.1	23.8	23.8	23.8	22.5	22.5
80°	19.8	18.5	18.5	17.2	17.2	17.2	17.2	15.8	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	9.2
85°	6.6	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.6	2.6
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°	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4
2.5°	379.1	379.1	377.7	377.7	377.7	377.7	377.7	376.4	376.4	376.4	376.4
5°	376.4	375.1	373.8	373.8	373.8	372.5	372.5	371.1	371.1	369.8	369.8
7.5°	371.1	369.8	368.5	368.5	367.2	367.2	364.5	364.5	363.2	361.9	361.9
10°	364.5	363.2	361.9	360.6	360.6	357.9	357.9	356.6	355.3	354.0	354.0
12.5°	357.9	356.6	354.0	352.6	352.6	351.3	348.7	347.4	346.0	344.7	343.4
15°	348.7	347.4	344.7	343.4	342.1	340.8	339.4	338.1	335.5	334.2	334.2
17.5°	339.4	338.1	334.2	332.8	332.8	330.2	328.9	326.2	324.9	323.6	322.3
20°	328.9	326.2	323.6	322.3	320.9	318.3	317.0	315.7	313.0	311.7	310.4
22.5°	317.0	314.3	311.7	310.4	309.1	306.4	305.1	302.5	301.1	299.8	298.5
25°	305.1	302.5	299.8	298.5	295.9	294.5	291.9	289.2	287.9	286.6	285.3
27.5°	291.9	289.2	285.3	284.0	282.6	281.3	278.7	276.0	274.7	272.1	272.1
30°	277.4	274.7	272.1	270.8	269.4	266.8	265.5	262.8	261.5	258.9	258.9
32.5°	262.8	258.9	256.2	254.9	253.6	252.3	249.6	248.3	247.0	245.7	244.3
35°	247.0	244.3	241.7	240.4	239.1	236.4	235.1	233.8	232.5	229.8	229.8
37.5°	231.1	228.5	225.9	224.5	224.5	221.9	220.6	217.9	217.9	215.3	215.3
40°	215.3	212.6	210.0	210.0	208.7	206.0	204.7	203.4	202.1	200.8	200.8
42.5°	200.8	196.8	195.5	195.5	192.8	191.5	190.2	188.9	186.2	186.2	186.2
45°	184.9	182.3	180.9	179.6	178.3	177.0	175.7	173.0	171.7	170.4	170.4
47.5°	170.4	167.7	166.4	165.1	163.8	162.5	161.1	159.8	157.2	157.2	155.8
50°	155.8	153.2	151.9	150.6	149.2	147.9	146.6	145.3	144.0	142.6	141.3
52.5°	140.0	138.7	137.4	136.0	136.0	133.4	132.1	130.8	129.4	129.4	126.8
55°	126.8	125.5	124.2	122.8	121.5	120.2	118.9	117.5	116.2	114.9	113.6
57.5°	112.3	110.9	109.6	109.6	108.3	107.0	105.7	104.3	103.0	101.7	100.4
60°	99.1	97.7	96.4	96.4	95.1	93.8	92.5	92.5	89.8	88.5	87.2
62.5°	85.8	84.5	83.2	83.2	81.9	81.9	80.6	79.2	76.6	76.6	75.3
65°	74.0	72.6	71.3	70.0	70.0	68.7	67.4	66.0	64.7	64.7	63.4
67.5°	62.1	60.8	59.4	59.4	58.1	56.8	55.5	54.2	52.8	52.8	51.5
70°	50.2	48.9	47.5	47.5	46.2	44.9	44.9	43.6	42.3	40.9	40.9
72.5°	38.3	38.3	37.0	37.0	35.7	35.7	34.3	33.0	33.0	31.7	30.4
75°	29.1	29.1	27.7	27.7	26.4	26.4	25.1	25.1	25.1	23.8	25.1
77.5°	21.1	21.1	19.8	19.8	19.8	18.5	18.5	18.5	19.8	19.8	19.8
80°	14.5	14.5	14.5	14.5	13.2	13.2	14.5	14.5	14.5	14.5	14.5
82.5°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	10.6	10.6	10.6
85°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	6.6	6.6	6.6	6.6
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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: P642296

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	380.4	380.4	380.4	380.4	380.4	380.4	380.4	380.4
2.5°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	376.4
5°	368.5	368.5	368.5	368.5	368.5	368.5	368.5	367.2
7.5°	361.9	360.6	360.6	360.6	360.6	359.2	359.2	359.2
10°	352.6	352.6	351.3	351.3	351.3	351.3	350.0	351.3
12.5°	343.4	342.1	342.1	342.1	340.8	340.8	340.8	340.8
15°	332.8	331.5	331.5	331.5	330.2	330.2	330.2	330.2
17.5°	320.9	320.9	319.6	319.6	318.3	318.3	318.3	318.3
20°	309.1	309.1	309.1	307.7	307.7	307.7	306.4	306.4
22.5°	297.2	295.9	294.5	295.9	294.5	293.2	294.5	294.5
25°	284.0	282.6	281.3	281.3	281.3	281.3	280.0	280.0
27.5°	270.8	268.1	268.1	268.1	268.1	266.8	266.8	266.8
30°	257.5	256.2	256.2	254.9	253.6	253.6	253.6	254.9
32.5°	243.0	241.7	240.4	240.4	240.4	240.4	239.1	239.1
35°	228.5	228.5	227.2	227.2	227.2	225.9	225.9	224.5
37.5°	214.0	214.0	212.6	212.6	212.6	211.3	211.3	211.3
40°	199.4	198.1	198.1	199.4	198.1	198.1	196.8	196.8
42.5°	184.9	184.9	183.6	183.6	183.6	183.6	182.3	183.6
45°	169.1	169.1	169.1	169.1	169.1	169.1	167.7	167.7
47.5°	155.8	154.5	154.5	154.5	154.5	154.5	154.5	154.5
50°	141.3	140.0	140.0	140.0	140.0	140.0	140.0	140.0
52.5°	126.8	125.5	125.5	125.5	125.5	125.5	125.5	125.5
55°	113.6	112.3	112.3	110.9	112.3	110.9	110.9	110.9
57.5°	100.4	99.1	97.7	99.1	97.7	97.7	97.7	96.4
60°	87.2	85.8	85.8	85.8	84.5	83.2	83.2	84.5
62.5°	74.0	74.0	72.6	72.6	71.3	70.0	70.0	70.0
65°	62.1	60.8	60.8	59.4	59.4	58.1	58.1	58.1
67.5°	50.2	50.2	48.9	48.9	47.5	47.5	47.5	46.2
70°	39.6	39.6	38.3	38.3	38.3	37.0	37.0	37.0
72.5°	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
75°	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
77.5°	19.8	19.8	19.8	19.8	19.8	19.8	19.8	21.1
80°	14.5	14.5	15.8	14.5	15.8	14.5	14.5	14.5
82.5°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
85°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Signify Classified - Internal
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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)