

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: P642315

Luminaire Tested: ML5612LSWW97FS1E - 692H WW - 1200LM - 5000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642315
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-132)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 692H WW - 1200LM - 5000K
Description: ML56 RR, WW OPTIC, 6" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

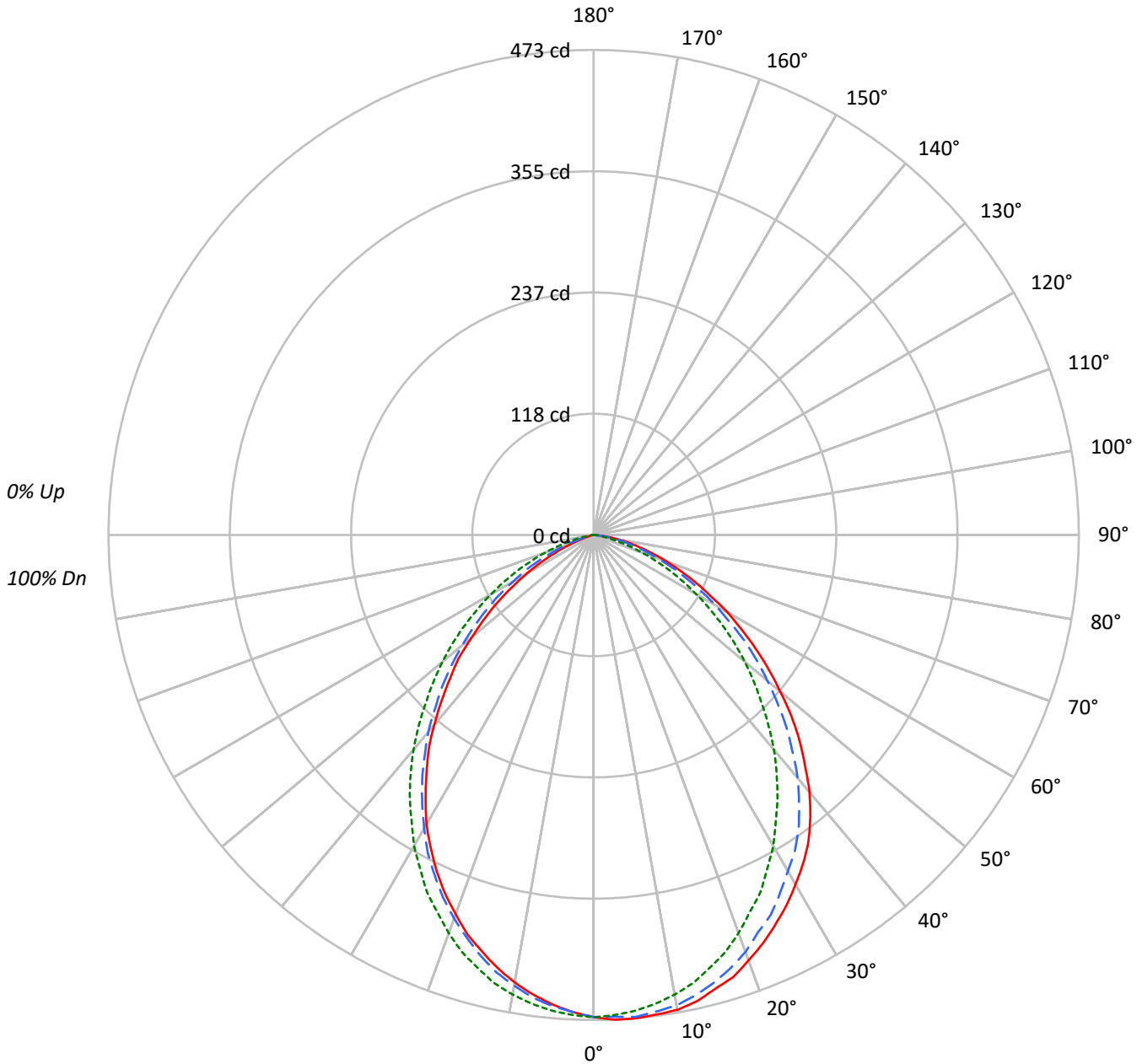
Lumens per Lamp: N/A
Luminaire Lumens: 973.0 lumens
Efficiency: N/A
Efficacy: 59.0 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.12 / 1.23
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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									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	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	104	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	86	83	79	84	80	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	68	60	54	66	59	54	64	58	53	62	57	53	51				51															
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45				45															
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40				40															
8	65	52	44	39	63	52	44	39	50	43	38	49	43	38	48	42	38	36				36															
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33				33															
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32	30				30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	25782	25782	25782	25782	25782
5°	26045	25963	25633	25380	25297
10°	26180	25929	25339	24838	24671
15°	26005	25664	24813	24132	23876
20°	25768	25243	24105	23225	22962
25°	25356	24721	23263	22175	21902
30°	24915	23966	22162	20921	20636
35°	24434	23329	20913	19508	19006
40°	23437	22149	19565	17955	17311
45°	22018	20615	17940	16188	15374
50°	20247	18839	16400	14226	13202
55°	18379	17089	14642	12205	10915
60°	16468	14988	12685	9879	8234
65°	14230	12868	10520	7407	5266
70°	12037	10595	7950	4568	2404
75°	9870	8282	5083	1589	953
80°	7103	5683	2368	474	474
85°	3774	2830	943	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 22018 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.2	4.5
10°-20°	123.5	12.7
20°-30°	178.0	18.3
30°-40°	198.9	20.4
40°-50°	182.4	18.7
50°-60°	137.0	14.1
60°-70°	78.2	8.0
70°-80°	27.3	2.8
80°-90°	3.5	0.4
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°	345.6	35.5
0°-40°	544.5	56.0
0°-60°	863.9	88.8
0°-90°	973.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	973.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	470	470	470	470	470	
5°	473	472	466	461	460	45
15°	458	452	437	425	421	129
25°	419	409	385	367	362	193
35°	365	349	312	292	284	227
45°	284	266	231	209	198	218
55°	192	179	153	128	114	172
65°	110	99	81	57	41	109
75°	47	39	24	8	4	50
85°	6	4	2	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°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3
2.5°	473.3	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8	470.3
5°	473.3	473.3	473.3	473.3	473.3	473.3	473.3	471.8	471.8	471.8	471.8
7.5°	471.8	471.8	471.8	471.8	471.8	471.8	471.8	470.3	470.3	468.8	468.8
10°	470.3	470.3	470.3	468.8	468.8	468.8	468.8	468.8	467.3	467.3	465.8
12.5°	465.8	465.8	465.8	465.8	464.3	464.3	464.3	462.7	461.2	461.2	459.7
15°	458.2	459.7	459.7	458.2	458.2	458.2	458.2	456.7	455.2	453.7	452.2
17.5°	452.2	452.2	452.2	450.7	449.2	450.7	449.2	447.7	446.2	444.7	443.2
20°	441.7	441.7	440.2	440.2	440.2	440.2	438.7	437.2	435.7	434.2	432.7
22.5°	431.2	431.2	431.2	428.2	428.2	428.2	426.7	426.7	423.7	422.2	419.2
25°	419.2	419.2	419.2	417.7	416.2	414.7	416.2	413.2	411.7	408.7	408.7
27.5°	407.2	407.2	405.7	405.7	404.2	404.2	402.7	399.6	398.1	396.6	393.6
30°	393.6	393.6	392.1	392.1	390.6	389.1	389.1	386.1	384.6	381.6	378.6
32.5°	380.1	380.1	378.6	378.6	377.1	375.6	375.6	372.6	369.6	366.6	365.1
35°	365.1	365.1	363.6	363.6	362.1	360.6	359.1	356.1	354.6	350.1	348.6
37.5°	347.1	348.6	345.6	345.6	344.1	342.6	341.1	339.5	336.5	333.5	329.0
40°	327.5	326.0	326.0	324.5	323.0	323.0	321.5	318.5	317.0	312.5	309.5
42.5°	305.0	305.0	305.0	303.5	302.0	302.0	299.0	297.5	294.5	291.5	287.0
45°	284.0	284.0	282.5	282.5	279.5	279.5	278.0	274.9	273.4	268.9	265.9
47.5°	261.4	259.9	259.9	258.4	256.9	256.9	255.4	253.9	250.9	246.4	243.4
50°	237.4	237.4	237.4	235.9	234.4	234.4	232.9	229.9	228.4	225.4	220.9
52.5°	214.8	214.8	214.8	213.3	211.8	211.8	210.3	208.8	205.8	202.8	199.8
55°	192.3	192.3	192.3	190.8	190.8	187.8	187.8	186.3	183.3	180.3	178.8
57.5°	169.8	169.8	169.8	169.8	168.3	168.3	166.8	165.3	162.3	160.8	156.3
60°	150.2	148.7	148.7	147.2	147.2	145.7	144.2	142.7	141.2	138.2	136.7
62.5°	127.7	129.2	127.7	127.7	126.2	126.2	126.2	123.2	121.7	118.7	117.2
65°	109.7	109.7	109.7	109.7	106.7	106.7	106.7	103.7	102.2	102.2	99.2
67.5°	91.6	91.6	91.6	90.1	90.1	90.1	88.6	87.1	85.6	84.1	82.6
70°	75.1	75.1	75.1	73.6	73.6	72.1	72.1	70.6	69.1	69.1	66.1
72.5°	60.1	60.1	60.1	60.1	58.6	58.6	57.1	57.1	55.6	54.1	52.6
75°	46.6	46.6	46.6	45.1	45.1	45.1	43.6	43.6	42.1	40.6	39.1
77.5°	34.6	33.1	33.1	33.1	33.1	31.6	31.6	31.6	30.0	28.5	28.5
80°	22.5	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	12.0	12.0	12.0	10.5	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°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3
2.5°	471.8	471.8	470.3	470.3	470.3	470.3	470.3	468.8	468.8	468.8	468.8
5°	471.8	470.3	468.8	468.8	468.8	468.8	467.3	467.3	467.3	465.8	465.8
7.5°	467.3	467.3	467.3	465.8	465.8	464.3	464.3	462.7	462.7	461.2	461.2
10°	464.3	462.7	462.7	461.2	461.2	459.7	459.7	456.7	455.2	455.2	453.7
12.5°	458.2	456.7	456.7	453.7	453.7	453.7	452.2	449.2	447.7	447.7	446.2
15°	450.7	449.2	447.7	444.7	444.7	443.2	441.7	440.2	438.7	437.2	435.7
17.5°	441.7	438.7	437.2	435.7	434.2	432.7	431.2	429.7	426.7	426.7	423.7
20°	431.2	428.2	426.7	423.7	422.2	422.2	419.2	416.2	414.7	413.2	410.2
22.5°	417.7	416.2	413.2	410.2	408.7	408.7	405.7	402.7	401.1	398.1	396.6
25°	405.7	401.1	399.6	396.6	395.1	395.1	392.1	389.1	386.1	384.6	381.6
27.5°	390.6	387.6	386.1	381.6	380.1	378.6	375.6	372.6	369.6	366.6	363.6
30°	375.6	372.6	369.6	365.1	365.1	362.1	359.1	354.6	353.1	350.1	345.6
32.5°	360.6	357.6	353.1	350.1	347.1	345.6	341.1	338.0	335.0	330.5	329.0
35°	344.1	339.5	336.5	332.0	330.5	327.5	324.5	320.0	317.0	312.5	308.0
37.5°	326.0	320.0	317.0	312.5	311.0	308.0	305.0	302.0	297.5	293.0	290.0
40°	306.5	300.5	296.0	293.0	290.0	287.0	285.5	279.5	276.4	273.4	270.4
42.5°	284.0	279.5	274.9	271.9	268.9	267.4	262.9	259.9	255.4	252.4	249.4
45°	262.9	258.4	253.9	249.4	247.9	246.4	243.4	238.9	234.4	231.4	228.4
47.5°	240.4	237.4	231.4	229.9	226.9	225.4	220.9	217.9	216.4	211.8	208.8
50°	217.9	214.8	211.8	207.3	205.8	204.3	201.3	198.3	195.3	192.3	189.3
52.5°	195.3	193.8	190.8	186.3	186.3	184.8	181.8	178.8	175.8	172.8	169.8
55°	175.8	172.8	169.8	166.8	165.3	163.8	160.8	159.3	156.3	153.2	150.2
57.5°	154.8	151.7	150.2	147.2	145.7	144.2	141.2	139.7	136.7	133.7	130.7
60°	135.2	132.2	130.7	127.7	126.2	126.2	123.2	120.2	118.7	115.7	112.7
62.5°	115.7	112.7	111.2	108.2	108.2	106.7	105.2	102.2	100.7	97.7	96.2
65°	97.7	96.2	93.2	91.6	90.1	88.6	87.1	85.6	82.6	81.1	78.1
67.5°	81.1	78.1	76.6	75.1	73.6	72.1	70.6	69.1	66.1	64.6	61.6
70°	64.6	63.1	61.6	60.1	58.6	58.6	55.6	54.1	51.1	49.6	46.6
72.5°	51.1	49.6	48.1	45.1	45.1	43.6	42.1	40.6	37.6	36.1	33.1
75°	37.6	37.6	34.6	33.1	33.1	31.6	30.0	28.5	27.0	24.0	22.5
77.5°	27.0	25.5	24.0	22.5	21.0	21.0	19.5	18.0	16.5	15.0	12.0
80°	18.0	16.5	15.0	13.5	13.5	12.0	10.5	10.5	9.0	7.5	6.0
82.5°	9.0	9.0	7.5	7.5	6.0	6.0	6.0	4.5	4.5	3.0	3.0
85°	4.5	3.0	3.0	3.0	3.0	3.0	1.5	1.5	1.5	1.5	0.0
87.5°	1.5	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°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3
2.5°	468.8	467.3	468.8	468.8	467.3	467.3	467.3	467.3	465.8	467.3	465.8
5°	465.8	464.3	464.3	464.3	464.3	462.7	462.7	461.2	461.2	461.2	461.2
7.5°	459.7	458.2	458.2	456.7	456.7	456.7	456.7	455.2	455.2	453.7	453.7
10°	453.7	452.2	450.7	450.7	449.2	449.2	449.2	447.7	446.2	446.2	444.7
12.5°	443.2	443.2	441.7	441.7	440.2	440.2	438.7	437.2	437.2	435.7	435.7
15°	434.2	432.7	431.2	431.2	429.7	428.2	426.7	426.7	425.2	425.2	423.7
17.5°	422.2	419.2	419.2	417.7	416.2	416.2	414.7	413.2	411.7	411.7	411.7
20°	408.7	407.2	405.7	404.2	402.7	402.7	401.1	399.6	398.1	396.6	396.6
22.5°	393.6	392.1	390.6	389.1	389.1	387.6	386.1	384.6	383.1	381.6	381.6
25°	378.6	377.1	375.6	374.1	372.6	371.1	369.6	368.1	366.6	365.1	365.1
27.5°	362.1	359.1	357.6	356.1	354.6	353.1	353.1	350.1	350.1	348.6	347.1
30°	344.1	341.1	338.0	338.0	336.5	335.0	332.0	332.0	330.5	329.0	327.5
32.5°	324.5	323.0	320.0	320.0	317.0	315.5	314.0	312.5	311.0	309.5	309.5
35°	306.5	302.0	300.5	300.5	297.5	296.0	294.5	291.5	291.5	288.5	288.5
37.5°	287.0	284.0	282.5	279.5	278.0	276.4	274.9	271.9	270.4	268.9	267.4
40°	267.4	264.4	261.4	259.9	258.4	255.4	253.9	250.9	250.9	247.9	246.4
42.5°	246.4	243.4	240.4	238.9	237.4	234.4	232.9	229.9	228.4	226.9	225.4
45°	225.4	222.4	220.9	219.4	217.9	216.4	211.8	210.3	208.8	205.8	204.3
47.5°	205.8	202.8	199.8	199.8	196.8	195.3	192.3	189.3	187.8	184.8	183.3
50°	186.3	183.3	180.3	178.8	178.8	174.3	172.8	169.8	166.8	163.8	162.3
52.5°	166.8	163.8	160.8	159.3	157.8	154.8	151.7	150.2	147.2	144.2	142.7
55°	147.2	144.2	141.2	139.7	138.2	135.2	133.7	129.2	127.7	124.7	121.7
57.5°	129.2	126.2	123.2	121.7	120.2	117.2	114.2	111.2	109.7	106.7	103.7
60°	109.7	108.2	105.2	103.7	102.2	100.7	96.2	93.2	90.1	88.6	85.6
62.5°	93.2	90.1	87.1	85.6	84.1	82.6	79.6	76.6	75.1	70.6	67.6
65°	76.6	73.6	70.6	69.1	67.6	66.1	63.1	60.1	57.1	54.1	52.6
67.5°	58.6	57.1	54.1	54.1	52.6	49.6	46.6	45.1	42.1	40.6	37.6
70°	45.1	43.6	40.6	39.1	37.6	34.6	33.1	30.0	28.5	27.0	24.0
72.5°	31.6	30.0	27.0	25.5	24.0	22.5	19.5	18.0	16.5	15.0	13.5
75°	21.0	18.0	16.5	15.0	15.0	12.0	10.5	9.0	7.5	6.0	6.0
77.5°	12.0	10.5	7.5	7.5	7.5	6.0	4.5	4.5	3.0	3.0	3.0
80°	6.0	4.5	3.0	3.0	3.0	3.0	1.5	1.5	1.5	1.5	1.5
82.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
85°	0.0	0.0	0.0	0.0	0.0	1.5	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3
2.5°	465.8	465.8	465.8	465.8	465.8	465.8	465.8	465.8
5°	461.2	459.7	459.7	459.7	459.7	459.7	459.7	459.7
7.5°	453.7	453.7	452.2	453.7	452.2	452.2	452.2	452.2
10°	444.7	444.7	444.7	444.7	443.2	443.2	443.2	443.2
12.5°	435.7	434.2	434.2	434.2	432.7	434.2	432.7	432.7
15°	423.7	422.2	422.2	422.2	422.2	420.7	422.2	420.7
17.5°	410.2	410.2	408.7	410.2	408.7	408.7	408.7	408.7
20°	395.1	395.1	395.1	393.6	395.1	393.6	393.6	393.6
22.5°	380.1	380.1	378.6	378.6	378.6	378.6	378.6	378.6
25°	363.6	363.6	363.6	363.6	362.1	362.1	362.1	362.1
27.5°	347.1	345.6	345.6	345.6	344.1	345.6	344.1	344.1
30°	327.5	327.5	326.0	326.0	326.0	324.5	324.5	326.0
32.5°	306.5	306.5	306.5	306.5	305.0	305.0	305.0	305.0
35°	287.0	287.0	285.5	285.5	285.5	284.0	284.0	284.0
37.5°	265.9	265.9	264.4	264.4	264.4	262.9	262.9	264.4
40°	244.9	244.9	243.4	243.4	243.4	241.9	241.9	241.9
42.5°	223.9	222.4	222.4	220.9	220.9	220.9	219.4	219.4
45°	202.8	201.3	201.3	201.3	199.8	198.3	198.3	198.3
47.5°	181.8	180.3	178.8	178.8	177.3	177.3	177.3	178.8
50°	160.8	159.3	159.3	157.8	156.3	156.3	156.3	154.8
52.5°	139.7	138.2	138.2	136.7	136.7	135.2	133.7	133.7
55°	120.2	118.7	117.2	115.7	115.7	114.2	114.2	114.2
57.5°	100.7	99.2	97.7	97.7	96.2	96.2	94.7	93.2
60°	82.6	81.1	79.6	79.6	78.1	76.6	75.1	75.1
62.5°	66.1	64.6	63.1	61.6	60.1	58.6	57.1	58.6
65°	51.1	48.1	46.6	45.1	45.1	43.6	42.1	40.6
67.5°	36.1	34.6	33.1	31.6	30.0	28.5	27.0	27.0
70°	22.5	19.5	19.5	19.5	18.0	16.5	15.0	15.0
72.5°	12.0	10.5	9.0	9.0	7.5	7.5	7.5	7.5
75°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
77.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
80°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
82.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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
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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)