

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331952-930

Luminaire Tested: **S123DIP-S560D1195U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331952-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D1195U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5781.6 lumens
Efficiency: N/A
Efficacy: 117.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

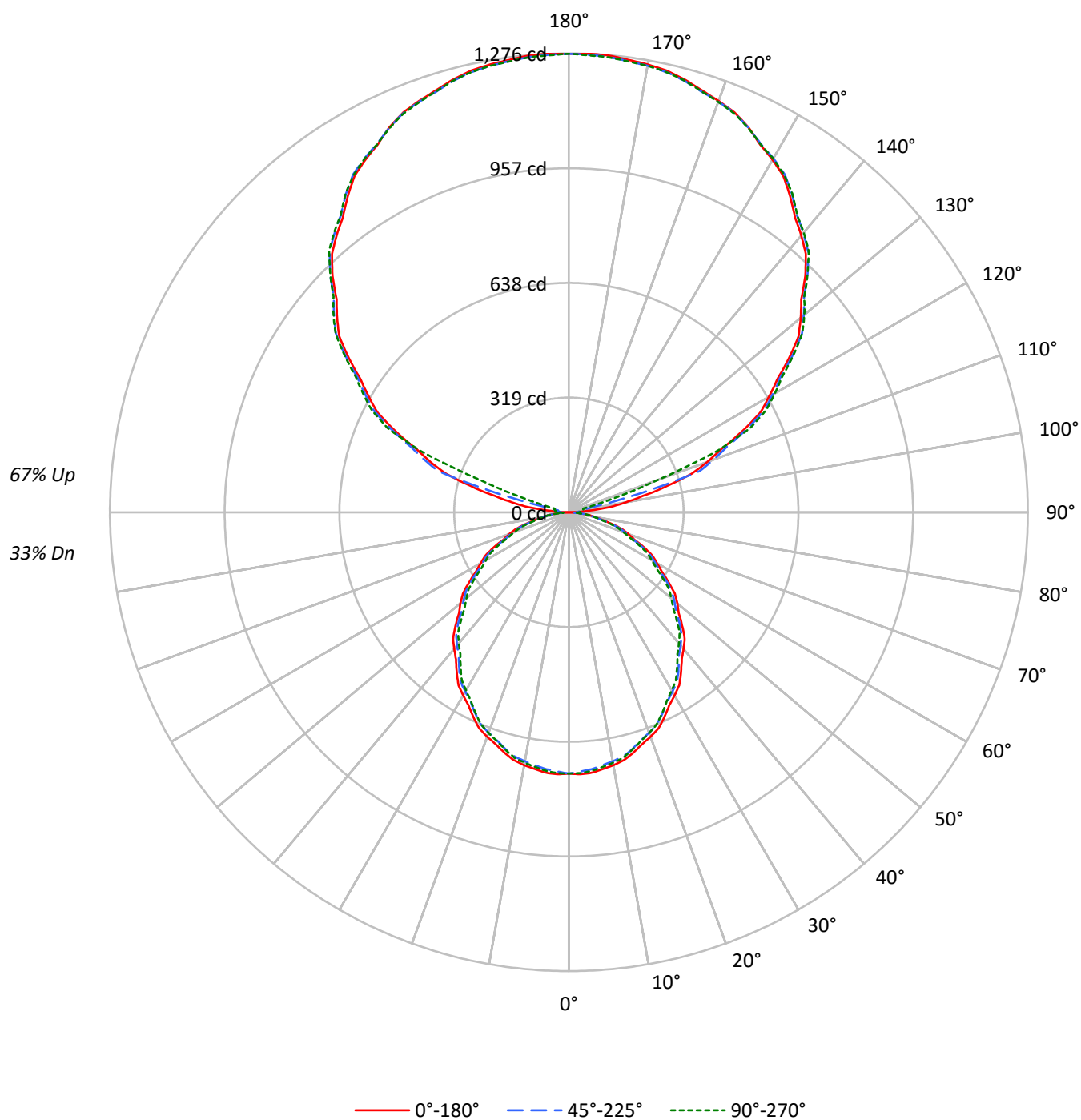
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33		
1	94	90	86	82	84	81	78	75	64	62	60	49	48	47	35	35	34	27		
2	85	78	72	67	77	71	66	61	56	53	50	43	41	39	31	30	28	23		
3	78	69	62	56	70	62	56	51	50	45	42	38	35	33	28	26	24	19		
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21	17		
5	65	54	46	40	58	49	42	37	39	34	31	30	27	24	22	20	18	14		
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	18	16	13		
7	55	43	36	30	50	39	33	28	32	27	23	25	21	19	18	16	14	11		
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	14	13	10		
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	15	13	11	9		
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7819	7819	7819
5°	7854	7747	7800
10°	7803	7679	7726
15°	7710	7592	7608
20°	7605	7468	7475
25°	7462	7321	7305
30°	7305	7157	7102
35°	7139	6984	6893
40°	6968	6792	6687
45°	6779	6616	6454
50°	6589	6400	6223
55°	6341	6176	5988
60°	6090	5916	5726
65°	5871	5631	5456
70°	5542	5306	5070
75°	5065	4882	4675
80°	4568	4376	4339
85°	4001	3853	3705

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.4	1.2
10°-20°	193.2	3.3
20°-30°	285.4	4.9
30°-40°	333.3	5.8
40°-50°	335.1	5.8
50°-60°	294.4	5.1
60°-70°	219.3	3.8
70°-80°	124.9	2.2
80°-90°	39.4	0.7
90°-100°	46.4	0.8
100°-110°	220.9	3.8
110°-120°	530.6	9.2
120°-130°	675.7	11.7
130°-140°	722.0	12.5
140°-150°	675.1	11.7
150°-160°	544.6	9.4
160°-170°	351.5	6.1
170°-180°	121.1	2.1
0°-30°	547.0	9.5
0°-40°	880.3	15.2
0°-60°	1509.9	26.1
0°-90°	1893.6	32.8
90°-120°	797.9	13.8
90°-150°	2870.8	49.7
90°-180°	3888.0	67.2
0°-180°	5781.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	726	726	726	726	726	
5°	727	724	717	723	722	69
15°	692	689	681	686	683	195
25°	628	624	616	617	615	289
35°	543	539	532	528	525	340
45°	445	442	435	427	424	344
55°	338	337	329	322	319	303
65°	230	227	221	216	214	227
75°	122	119	117	114	112	130
85°	32	31	31	30	30	36
90°	1	11	23	26	28	4
95°	58	22	29	36	36	71
105°	282	287	207	49	42	299
115°	530	535	544	553	557	522
125°	746	754	758	760	762	666
135°	929	935	939	941	939	715
145°	1072	1079	1081	1083	1083	671
155°	1181	1179	1180	1184	1179	544
165°	1246	1243	1242	1249	1243	352
175°	1275	1270	1271	1277	1270	121
180°	1275	1275	1275	1275	1275	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	728.8	728.4	728.0	727.5	727.1	726.2	725.0	723.7	722.6	721.4	722.4
5°	726.9	726.3	725.5	724.9	724.1	723.1	721.5	720.0	718.5	717.0	718.4
7.5°	719.8	719.2	718.4	717.8	717.1	715.9	714.4	712.7	711.2	709.6	710.9
10°	713.9	713.1	712.5	711.8	711.1	709.8	708.0	706.2	704.4	702.6	703.8
12.5°	705.9	705.2	704.7	704.1	703.5	702.4	700.7	699.0	697.3	695.6	696.5
15°	691.9	691.5	690.9	690.3	689.7	688.6	686.8	685.0	683.1	681.3	682.5
17.5°	675.9	675.1	674.4	673.7	672.9	671.7	669.9	668.1	666.3	664.5	665.3
20°	663.9	663.1	662.2	661.4	660.6	659.3	657.5	655.7	653.8	652.0	652.6
22.5°	650.4	649.5	648.7	647.9	647.0	645.7	643.9	642.1	640.3	638.5	639.0
25°	628.3	627.5	626.6	625.8	624.9	623.6	621.8	620.0	618.2	616.4	616.5
27.5°	604.7	603.9	603.1	602.3	601.4	600.1	598.1	596.2	594.3	592.3	592.4
30°	587.7	587.0	586.3	585.6	584.9	583.6	581.6	579.7	577.8	575.8	575.8
32.5°	570.7	569.8	568.8	567.9	567.0	565.8	564.4	562.8	561.3	559.9	559.1
35°	543.3	542.5	541.7	540.9	540.1	538.7	536.9	535.1	533.3	531.5	530.7
37.5°	515.4	514.3	513.2	512.2	511.1	509.7	507.8	506.1	504.2	502.4	501.4
40°	495.9	495.0	494.2	493.4	492.5	491.1	489.2	487.3	485.3	483.4	482.2
42.5°	476.4	475.5	474.5	473.5	472.6	471.2	469.2	467.3	465.4	463.4	462.3
45°	445.3	444.7	444.2	443.6	443.0	441.9	440.1	438.3	436.5	434.6	433.0
47.5°	414.4	413.6	412.9	412.1	411.2	409.9	408.3	406.6	404.9	403.2	401.5
50°	393.5	392.7	392.1	391.3	390.7	389.5	387.6	385.8	384.0	382.2	380.7
52.5°	371.5	371.0	370.6	370.1	369.6	368.4	366.5	364.6	362.6	360.8	359.5
55°	337.9	337.7	337.6	337.5	337.3	336.3	334.5	332.7	330.9	329.1	327.6
57.5°	305.9	305.4	304.9	304.5	304.0	303.0	301.6	300.2	298.7	297.3	296.0
60°	282.9	282.7	282.7	282.5	282.3	281.4	279.8	278.1	276.5	274.8	273.5
62.5°	262.4	262.0	261.7	261.4	261.0	260.0	258.3	256.7	254.9	253.3	252.1
65°	230.5	229.8	229.1	228.4	227.7	226.7	225.3	223.9	222.5	221.1	220.0
67.5°	196.6	196.0	195.3	194.8	194.1	193.3	192.2	191.2	190.1	189.1	188.2
70°	176.1	175.3	174.5	173.7	172.8	171.9	171.1	170.3	169.4	168.6	167.6
72.5°	154.7	154.0	153.4	152.8	152.2	151.4	150.5	149.5	148.5	147.7	146.8
75°	121.8	121.2	120.7	120.1	119.6	119.1	118.6	118.2	117.8	117.4	116.8
77.5°	92.7	92.4	92.0	91.8	91.5	91.1	90.6	90.1	89.5	89.0	88.6
80°	73.7	73.3	72.9	72.5	72.0	71.7	71.4	71.1	70.8	70.6	70.4
82.5°	55.2	55.1	55.0	55.0	54.9	54.8	54.8	54.7	54.6	54.6	54.3
85°	32.4	32.2	32.0	31.6	31.4	31.2	31.2	31.2	31.2	31.2	31.0
87.5°	13.2	13.3	13.4	13.5	13.5	13.8	14.3	14.7	15.1	15.6	15.6
90°	1.0	3.0	5.1	7.3	9.4	11.8	14.5	17.3	20.0	22.7	23.6
92.5°	17.6	17.0	16.5	15.8	15.2	16.0	18.1	20.1	22.2	24.2	25.6
95°	57.8	49.2	40.5	31.9	23.2	20.1	22.4	24.7	27.1	29.4	30.8
97.5°	116.1	112.3	108.4	104.5	100.6	91.2	76.0	60.8	45.7	30.5	32.2
100°	160.0	164.3	168.5	172.7	176.9	162.6	129.8	96.9	64.1	31.2	32.9
102.5°	210.1	213.1	216.1	219.2	222.3	205.8	169.9	134.0	98.2	62.3	57.1
105°	282.3	284.6	286.9	289.2	291.6	283.2	264.2	245.3	226.4	207.4	170.2
107.5°	358.4	360.3	362.2	363.9	365.8	368.3	371.3	374.2	377.2	380.3	352.9
110°	409.2	410.9	412.5	414.3	416.0	417.9	420.3	422.6	424.9	427.2	420.3

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	457.7	459.2	460.7	462.3	463.7	465.7	468.0	470.3	472.6	474.9	475.1
115°	529.5	530.8	532.0	533.3	534.5	536.1	538.0	539.9	541.8	543.7	545.8
117.5°	599.0	600.5	602.1	603.7	605.3	606.5	607.5	608.5	609.4	610.4	612.0
120°	642.2	644.1	646.0	647.9	649.8	651.1	651.7	652.3	653.0	653.5	655.3
122.5°	686.2	687.7	689.3	690.8	692.4	693.6	694.4	695.2	695.9	696.8	698.0
125°	746.4	748.1	749.7	751.5	753.2	754.4	755.2	756.1	756.9	757.7	758.2
127.5°	804.8	806.4	808.1	809.8	811.5	812.9	813.8	814.9	815.9	816.8	817.6
130°	841.1	842.9	844.5	846.2	847.8	849.1	849.9	850.8	851.7	852.5	853.4
132.5°	876.0	877.7	879.4	881.0	882.7	883.9	884.6	885.3	885.9	886.6	887.5
135°	929.2	930.5	931.7	933.0	934.3	935.3	936.2	937.0	937.8	938.7	939.3
137.5°	974.7	976.3	977.9	979.5	981.1	982.1	982.6	983.1	983.5	984.0	985.0
140°	1005.0	1006.2	1007.5	1008.8	1010.1	1011.0	1011.6	1012.3	1012.9	1013.5	1014.4
142.5°	1033.1	1034.3	1035.6	1036.8	1038.1	1039.0	1039.7	1040.3	1041.0	1041.5	1042.3
145°	1072.3	1073.7	1075.2	1076.7	1078.2	1079.1	1079.5	1079.9	1080.4	1080.8	1081.2
147.5°	1109.2	1110.2	1111.2	1112.1	1113.0	1113.8	1114.2	1114.6	1115.0	1115.4	1115.9
150°	1132.0	1132.5	1133.2	1133.8	1134.5	1135.0	1135.4	1135.8	1136.3	1136.7	1137.1
152.5°	1152.4	1152.7	1153.0	1153.2	1153.6	1153.8	1154.1	1154.4	1154.6	1154.9	1155.6
155°	1181.2	1180.8	1180.3	1179.9	1179.5	1179.4	1179.6	1179.8	1180.1	1180.2	1181.3
157.5°	1203.5	1203.5	1203.5	1203.4	1203.4	1203.2	1203.1	1202.8	1202.6	1202.4	1203.7
160°	1217.2	1217.0	1216.8	1216.6	1216.3	1216.1	1215.9	1215.7	1215.5	1215.3	1216.6
162.5°	1230.0	1229.6	1229.0	1228.4	1227.8	1227.5	1227.3	1227.1	1226.9	1226.6	1228.1
165°	1245.6	1245.0	1244.3	1243.7	1243.1	1242.7	1242.4	1242.2	1242.0	1241.8	1243.5
167.5°	1257.8	1256.9	1256.1	1255.2	1254.3	1253.9	1253.9	1253.9	1253.9	1253.9	1255.6
170°	1264.5	1263.7	1262.9	1262.0	1261.2	1260.8	1260.8	1260.8	1260.8	1260.8	1262.4
172.5°	1269.1	1268.1	1267.1	1266.1	1265.0	1264.6	1264.8	1264.9	1265.1	1265.3	1267.0
175°	1275.0	1273.9	1272.8	1271.8	1270.7	1270.3	1270.6	1270.7	1271.0	1271.1	1272.7
177.5°	1276.5	1275.6	1274.8	1274.0	1273.1	1272.8	1272.9	1273.1	1273.3	1273.4	1274.8
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	723.6	724.6	725.8	726.3	726.2	726.0	725.9	725.9
5°	719.7	721.1	722.5	723.1	722.8	722.5	722.3	721.9
7.5°	712.1	713.3	714.6	715.1	714.9	714.8	714.6	714.4
10°	705.1	706.4	707.6	708.1	707.8	707.5	707.3	706.9
12.5°	697.4	698.4	699.3	699.6	699.4	699.3	699.1	699.0
15°	683.6	684.7	685.8	685.9	685.1	684.3	683.5	682.7
17.5°	666.1	666.8	667.6	667.8	667.6	667.2	666.9	666.6
20°	653.1	653.7	654.2	654.3	653.9	653.5	653.1	652.6
22.5°	639.4	639.8	640.3	640.3	639.8	639.2	638.7	638.1
25°	616.7	616.9	616.9	616.9	616.4	616.0	615.6	615.1
27.5°	592.6	592.6	592.7	592.6	592.0	591.5	590.9	590.4
30°	575.8	575.8	575.8	575.4	574.4	573.4	572.4	571.4
32.5°	558.3	557.5	556.7	556.0	555.5	555.1	554.5	554.0
35°	529.8	529.0	528.2	527.4	526.7	526.0	525.3	524.6
37.5°	500.3	499.4	498.4	497.7	497.3	496.8	496.4	495.9
40°	481.2	480.0	479.0	478.1	477.5	477.0	476.5	475.9
42.5°	461.2	460.1	458.9	458.1	457.5	457.1	456.5	455.9
45°	431.4	429.7	428.0	426.8	426.2	425.4	424.8	424.0
47.5°	399.9	398.3	396.6	395.5	394.9	394.3	393.7	393.1
50°	379.2	377.6	376.1	375.0	374.1	373.2	372.4	371.6
52.5°	358.2	356.9	355.6	354.4	353.6	352.8	352.0	351.1
55°	326.0	324.6	323.0	321.9	321.2	320.5	319.8	319.1
57.5°	294.6	293.2	291.9	290.7	289.9	289.2	288.4	287.6
60°	272.3	271.1	269.8	268.8	268.2	267.4	266.8	266.0
62.5°	250.8	249.6	248.3	247.4	247.0	246.5	246.1	245.6
65°	218.8	217.8	216.6	215.9	215.5	215.1	214.7	214.2
67.5°	187.2	186.2	185.2	184.4	183.8	183.3	182.7	182.1
70°	166.6	165.8	164.8	163.9	163.2	162.5	161.8	161.1
72.5°	145.9	145.0	144.2	143.6	143.2	142.8	142.5	142.1
75°	116.0	115.4	114.6	114.1	113.7	113.2	112.8	112.4
77.5°	88.1	87.6	87.2	86.9	86.9	86.9	86.9	86.9
80°	70.3	70.1	70.0	70.0	70.0	70.0	70.0	70.0
82.5°	54.1	53.8	53.6	53.4	53.3	53.2	53.1	53.0
85°	30.7	30.4	30.1	30.0	30.0	30.0	30.0	30.0
87.5°	15.7	15.7	15.7	15.8	15.9	16.0	16.1	16.1
90°	24.4	25.3	26.1	26.7	27.1	27.6	28.0	28.5
92.5°	26.9	28.3	29.7	30.4	30.7	31.0	31.2	31.5
95°	32.3	33.8	35.2	36.0	36.0	36.0	36.0	36.0
97.5°	33.8	35.5	37.3	38.2	38.4	38.6	38.8	39.1
100°	34.7	36.3	38.0	39.0	39.1	39.4	39.5	39.8
102.5°	51.9	46.6	41.4	39.1	39.4	39.8	40.2	40.5
105°	132.9	95.6	58.4	40.0	40.4	40.8	41.3	41.7
107.5°	325.5	298.2	270.9	243.2	215.2	187.0	159.0	130.9
110°	413.3	406.3	399.4	380.9	350.8	320.7	290.6	260.5

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	475.2	475.3	475.5	472.3	465.9	459.6	453.2	446.9
115°	547.9	550.0	552.1	553.6	554.4	555.3	556.1	556.9
117.5°	613.8	615.5	617.1	618.1	618.2	618.4	618.6	618.7
120°	657.0	658.6	660.3	661.1	661.1	661.1	661.1	661.1
122.5°	699.1	700.3	701.5	702.1	702.3	702.5	702.7	702.9
125°	758.6	759.0	759.5	759.9	760.3	760.8	761.2	761.6
127.5°	818.2	818.9	819.5	819.7	819.3	818.9	818.5	818.0
130°	854.2	855.0	855.9	856.1	855.7	855.2	854.8	854.4
132.5°	888.3	889.2	890.0	890.1	889.5	888.9	888.4	887.7
135°	940.0	940.6	941.3	941.3	940.6	940.0	939.3	938.7
137.5°	986.0	987.0	988.0	988.3	987.9	987.5	987.1	986.6
140°	1015.2	1016.0	1016.9	1017.1	1016.7	1016.3	1015.9	1015.5
142.5°	1042.9	1043.6	1044.2	1044.3	1043.7	1043.1	1042.5	1042.0
145°	1081.7	1082.1	1082.5	1082.6	1082.6	1082.6	1082.6	1082.6
147.5°	1116.3	1116.7	1117.1	1116.9	1115.9	1114.9	1113.9	1113.0
150°	1137.5	1137.9	1138.3	1138.2	1137.6	1137.0	1136.4	1135.7
152.5°	1156.3	1157.2	1157.9	1157.8	1156.8	1155.8	1154.9	1153.9
155°	1182.3	1183.4	1184.5	1184.3	1183.1	1181.9	1180.6	1179.3
157.5°	1204.9	1206.2	1207.5	1207.3	1205.7	1204.0	1202.3	1200.7
160°	1217.8	1219.0	1220.3	1220.3	1218.8	1217.3	1215.8	1214.3
162.5°	1229.6	1230.9	1232.4	1232.4	1231.1	1229.8	1228.5	1227.2
165°	1245.2	1246.8	1248.5	1248.6	1247.2	1245.7	1244.2	1242.8
167.5°	1257.3	1259.0	1260.7	1260.7	1259.0	1257.3	1255.6	1253.9
170°	1264.1	1265.8	1267.5	1267.5	1265.8	1264.1	1262.4	1260.8
172.5°	1268.7	1270.3	1272.0	1271.9	1270.1	1268.3	1266.4	1264.5
175°	1274.1	1275.6	1277.1	1276.9	1275.3	1273.6	1271.9	1270.2
177.5°	1276.1	1277.5	1278.8	1278.6	1277.0	1275.3	1273.6	1271.9
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0

(END OF REPORT)