

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: P331511-830

Luminaire Tested: **S122DIW-S485D970U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331511-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D970U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5513.1 lumens
Efficiency: N/A
Efficacy: 122.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

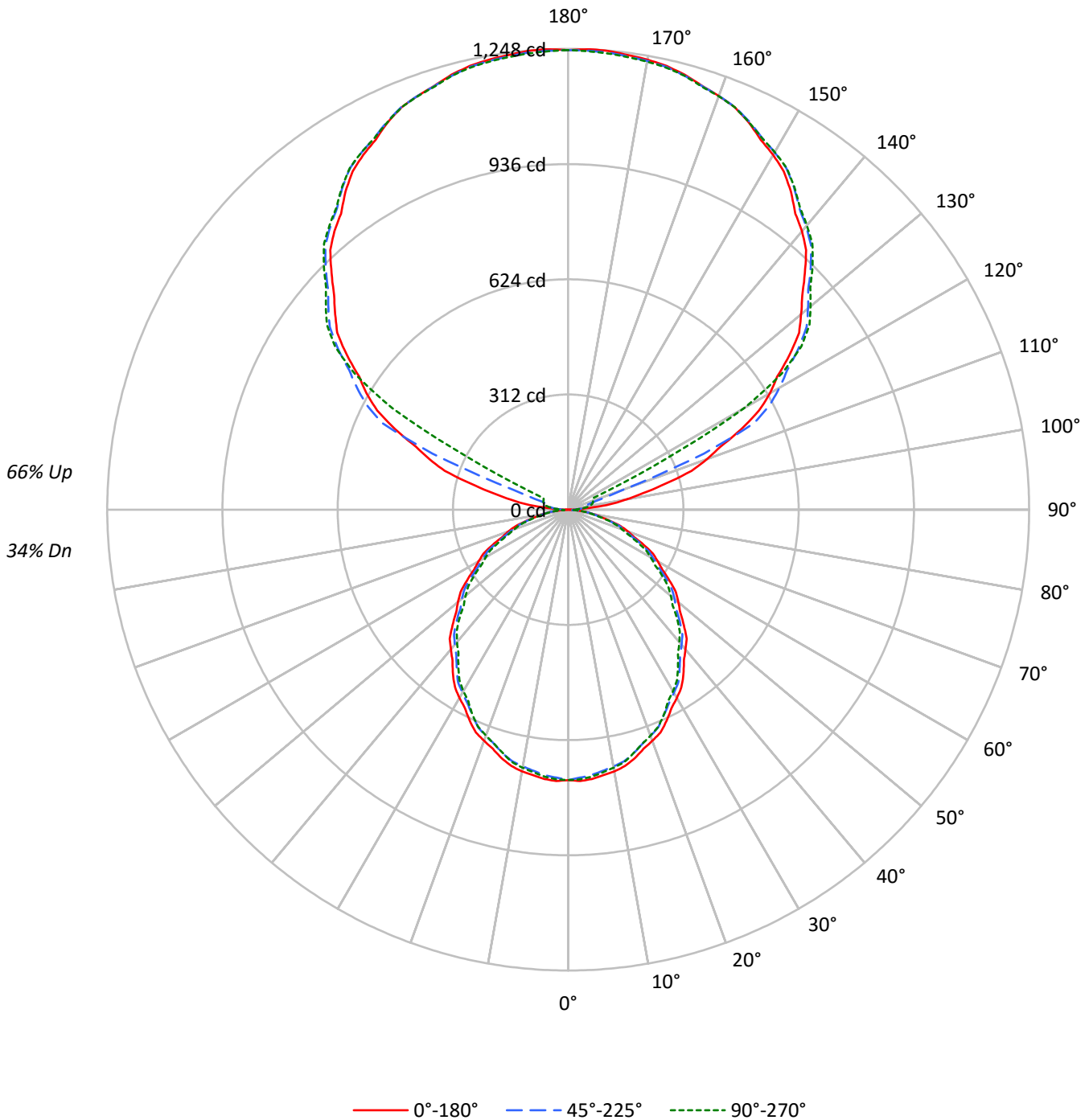
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	83	85	81	78	75	65	63	61	50	49	47	36	36	35	28
2	86	78	73	67	77	71	66	62	57	53	50	44	42	40	32	31	29	24
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	27	25	20
4	71	61	53	47	64	55	49	44	45	40	36	35	31	29	25	23	21	17
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	21	19	15
6	60	48	41	35	54	44	37	32	36	31	27	28	24	22	21	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15	12
8	52	40	32	27	46	36	29	25	29	24	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	14	12	9
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11820	11820	11820
5°	11866	11694	11763
10°	11795	11576	11632
15°	11649	11425	11413
20°	11442	11201	11187
25°	11236	10922	10922
30°	10972	10670	10577
35°	10724	10364	10212
40°	10416	10060	9866
45°	10111	9757	9515
50°	9779	9442	9105
55°	9433	9073	8740
60°	9045	8638	8318
65°	8630	8202	7824
70°	8105	7676	7312
75°	7380	7068	6900
80°	6546	6341	6025
85°	5335	5076	4557



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.8	1.2
10°-20°	193.7	3.5
20°-30°	284.7	5.2
30°-40°	330.7	6.0
40°-50°	330.4	6.0
50°-60°	288.1	5.2
60°-70°	213.0	3.9
70°-80°	120.7	2.2
80°-90°	35.5	0.6
90°-100°	41.5	0.8
100°-110°	152.3	2.8
110°-120°	407.0	7.4
120°-130°	671.8	12.2
130°-140°	714.5	13.0
140°-150°	664.1	12.0
150°-160°	533.9	9.7
160°-170°	344.1	6.2
170°-180°	118.4	2.1
0°-30°	547.2	9.9
0°-40°	878.0	15.9
0°-60°	1496.4	27.1
0°-90°	1865.6	33.8
90°-120°	600.8	10.9
90°-150°	2651.1	48.1
90°-180°	3648.0	66.2
0°-180°	5513.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	732	732	732	732	732	
5°	732	729	722	727	726	69
15°	697	692	684	686	683	196
25°	631	625	613	614	613	290
35°	544	537	526	522	518	340
45°	443	438	427	420	417	342
55°	335	331	322	314	310	299
65°	226	222	215	208	205	223
75°	118	117	113	109	111	126
85°	29	28	27	25	25	33
90°	1	11	18	22	24	4
95°	58	31	35	39	39	72
105°	274	286	55	64	68	293
115°	518	534	556	158	74	510
125°	732	744	761	767	770	653
135°	906	920	929	937	936	700
145°	1051	1051	1066	1071	1067	657
155°	1157	1150	1160	1165	1158	533
165°	1220	1215	1217	1222	1217	344
175°	1247	1242	1243	1248	1240	119
180°	1245	1245	1245	1245	1245	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	735.5	734.8	734.2	733.6	732.9	732.0	730.6	729.2	727.8	726.4	727.7
5°	732.1	731.4	730.8	730.2	729.6	728.4	726.7	725.0	723.2	721.5	722.7
7.5°	725.6	724.6	723.7	722.6	721.7	720.4	718.6	716.9	715.1	713.3	714.6
10°	719.4	718.3	717.2	716.1	715.0	713.5	711.6	709.8	707.9	706.1	707.3
12.5°	711.0	710.0	709.0	708.0	707.1	705.7	703.8	701.9	700.0	698.1	699.0
15°	696.9	696.0	695.0	694.1	693.1	691.6	689.6	687.6	685.5	683.5	684.1
17.5°	678.8	678.0	677.0	676.1	675.1	673.6	671.6	669.5	667.4	665.3	666.1
20°	665.9	665.0	664.0	663.1	662.1	660.6	658.4	656.2	654.0	651.9	652.3
22.5°	653.0	651.7	650.4	649.0	647.7	646.0	643.9	641.9	639.8	637.7	637.8
25°	630.7	629.4	628.2	627.0	625.8	623.8	621.1	618.4	615.8	613.1	613.4
27.5°	605.4	604.3	603.1	602.0	600.9	599.3	597.2	595.0	593.0	590.9	590.4
30°	588.5	587.2	586.0	584.8	583.4	581.6	579.3	577.0	574.7	572.3	571.8
32.5°	570.4	569.5	568.4	567.4	566.5	564.7	562.2	559.8	557.3	554.9	554.0
35°	544.1	542.5	541.0	539.4	537.9	535.8	533.4	530.8	528.3	525.8	524.9
37.5°	514.4	513.0	511.7	510.3	508.9	507.0	504.4	502.0	499.5	497.0	495.8
40°	494.2	492.9	491.6	490.4	489.2	487.3	484.7	482.3	479.8	477.3	475.9
42.5°	474.5	473.2	471.9	470.7	469.5	467.6	465.1	462.6	460.1	457.5	456.0
45°	442.8	441.7	440.5	439.5	438.4	436.7	434.3	432.0	429.6	427.3	425.6
47.5°	411.2	410.2	409.2	408.1	407.1	405.4	402.9	400.5	398.0	395.6	393.8
50°	389.3	388.5	387.7	386.9	386.2	384.7	382.5	380.3	378.1	375.9	373.7
52.5°	367.9	366.8	365.8	364.8	363.7	362.2	360.1	358.1	356.0	353.9	352.1
55°	335.1	334.1	333.2	332.2	331.3	329.9	328.0	326.1	324.2	322.3	320.6
57.5°	302.1	301.3	300.6	299.9	299.2	297.7	295.7	293.6	291.5	289.5	287.6
60°	280.1	279.6	278.9	278.2	277.7	276.3	274.1	271.8	269.7	267.5	265.8
62.5°	258.7	257.8	256.7	255.7	254.8	253.4	251.8	250.1	248.4	246.7	245.1
65°	225.9	225.0	224.0	223.1	222.3	220.9	219.4	217.8	216.2	214.7	213.3
67.5°	192.6	191.8	191.1	190.3	189.5	188.5	187.1	185.7	184.3	182.9	181.8
70°	171.7	171.2	170.5	169.8	169.3	168.2	166.8	165.4	164.0	162.6	161.6
72.5°	150.3	149.8	149.1	148.5	147.9	147.1	146.2	145.2	144.4	143.5	142.3
75°	118.3	117.9	117.6	117.3	117.0	116.5	115.6	114.9	114.1	113.3	112.4
77.5°	89.5	89.0	88.5	87.9	87.4	87.0	86.7	86.3	86.1	85.8	85.3
80°	70.4	70.2	70.1	69.9	69.7	69.6	69.2	68.9	68.6	68.2	67.8
82.5°	52.4	52.3	52.3	52.3	52.2	52.1	51.9	51.7	51.6	51.4	50.8
85°	28.8	28.7	28.6	28.4	28.3	28.1	27.9	27.8	27.6	27.4	27.0
87.5°	10.3	10.5	10.7	10.9	11.1	11.2	11.3	11.3	11.4	11.5	11.3
90°	0.9	3.1	5.3	7.5	9.7	11.6	13.2	14.8	16.4	18.0	19.0
92.5°	18.2	18.0	17.8	17.6	17.4	17.7	18.5	19.3	20.1	20.9	21.4
95°	58.5	51.9	45.3	38.7	32.1	29.5	30.9	32.3	33.7	35.2	36.1
97.5°	116.2	97.6	79.0	60.3	41.8	34.0	37.3	40.5	43.7	47.0	47.8
100°	159.4	132.0	104.5	77.2	49.8	37.7	41.1	44.5	48.0	51.4	53.0
102.5°	207.0	201.1	195.4	189.5	183.7	166.6	138.2	109.7	81.2	52.8	54.9
105°	273.8	279.8	285.8	291.8	297.8	273.5	218.9	164.2	109.6	55.0	57.1
107.5°	350.0	354.9	359.7	364.5	369.4	339.0	273.5	207.9	142.4	76.9	74.6
110°	399.0	403.2	407.4	411.6	415.8	389.0	331.1	273.3	215.5	157.6	137.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	445.1	448.8	452.5	456.3	460.0	454.7	440.5	426.1	411.8	397.6	324.5
115°	517.8	521.2	524.7	528.1	531.5	535.6	540.6	545.6	550.7	555.7	463.0
117.5°	582.9	586.7	590.5	594.3	598.1	601.7	605.2	608.6	612.1	615.5	593.0
120°	630.5	633.5	636.4	639.4	642.4	645.7	649.3	653.0	656.6	660.2	662.6
122.5°	670.8	673.9	677.1	680.2	683.4	687.0	690.9	694.8	698.7	702.7	704.1
125°	732.2	734.8	737.4	740.0	742.6	745.8	749.6	753.5	757.2	761.0	762.4
127.5°	787.9	790.8	793.6	796.5	799.4	802.3	805.1	807.9	810.8	813.6	815.7
130°	823.2	826.4	829.6	832.7	835.9	838.7	840.8	843.1	845.3	847.5	849.7
132.5°	859.2	862.0	864.7	867.3	870.1	872.5	874.8	876.9	879.1	881.4	883.3
135°	906.1	909.3	912.5	915.7	918.9	921.3	923.1	924.9	926.7	928.6	930.6
137.5°	953.4	955.6	957.9	960.2	962.3	964.5	966.6	968.6	970.6	972.7	974.7
140°	984.4	986.0	987.6	989.2	990.8	992.7	994.9	997.1	999.3	1001.5	1003.3
142.5°	1010.3	1011.7	1013.2	1014.6	1016.1	1018.0	1020.6	1023.1	1025.7	1028.1	1029.8
145°	1051.0	1050.8	1050.7	1050.5	1050.3	1051.9	1055.3	1058.7	1062.1	1065.5	1066.9
147.5°	1086.6	1085.7	1085.0	1084.2	1083.5	1084.8	1088.2	1091.5	1094.9	1098.3	1099.3
150°	1109.6	1108.1	1106.7	1105.4	1104.0	1104.8	1108.1	1111.3	1114.5	1117.7	1118.9
152.5°	1129.1	1127.5	1125.9	1124.4	1122.8	1123.5	1126.5	1129.6	1132.7	1135.7	1136.9
155°	1157.3	1155.5	1153.7	1151.9	1150.1	1150.4	1152.8	1155.2	1157.6	1160.0	1161.2
157.5°	1179.5	1178.0	1176.4	1174.9	1173.4	1173.5	1175.2	1176.9	1178.5	1180.2	1181.6
160°	1192.4	1191.3	1190.1	1188.8	1187.6	1187.6	1188.8	1190.1	1191.3	1192.4	1193.6
162.5°	1204.0	1202.8	1201.6	1200.3	1199.2	1199.1	1200.1	1201.2	1202.2	1203.2	1204.6
165°	1219.5	1218.2	1217.0	1215.9	1214.7	1214.4	1214.9	1215.5	1216.2	1216.7	1218.1
167.5°	1231.0	1229.7	1228.6	1227.4	1226.2	1225.9	1226.4	1227.0	1227.6	1228.1	1229.5
170°	1237.5	1236.2	1235.1	1233.9	1232.7	1232.3	1232.7	1233.0	1233.5	1233.9	1235.3
172.5°	1241.8	1240.6	1239.3	1238.2	1237.0	1236.6	1237.0	1237.4	1237.7	1238.2	1239.6
175°	1247.4	1245.9	1244.5	1243.2	1241.8	1241.2	1241.7	1242.1	1242.5	1242.8	1244.3
177.5°	1248.3	1247.2	1246.0	1244.9	1243.8	1243.3	1243.5	1243.6	1243.8	1244.0	1245.1
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	729.0	730.2	731.4	732.0	731.7	731.4	731.2	730.9
5°	724.1	725.3	726.5	727.0	726.7	726.3	726.0	725.8
7.5°	715.9	717.1	718.4	718.8	718.5	718.1	717.7	717.5
10°	708.5	709.8	711.1	711.4	711.0	710.5	710.0	709.5
12.5°	699.9	700.8	701.6	701.9	701.5	701.3	700.9	700.5
15°	684.8	685.4	686.0	685.9	685.1	684.4	683.6	682.8
17.5°	666.8	667.5	668.3	668.2	667.4	666.8	666.0	665.2
20°	652.8	653.3	653.7	653.7	653.0	652.3	651.8	651.1
22.5°	637.9	638.0	638.1	638.0	637.6	637.3	636.9	636.5
25°	613.8	614.1	614.3	614.3	614.1	613.8	613.4	613.1
27.5°	589.9	589.5	589.0	588.4	587.7	586.9	586.2	585.4
30°	571.4	570.9	570.4	569.9	569.2	568.6	568.0	567.3
32.5°	553.2	552.3	551.5	550.7	550.1	549.5	548.8	548.2
35°	524.0	523.0	522.1	521.2	520.5	519.6	518.9	518.1
37.5°	494.6	493.5	492.4	491.3	490.6	489.8	489.1	488.4
40°	474.5	473.1	471.6	470.6	470.0	469.4	468.7	468.1
42.5°	454.5	453.0	451.4	450.3	449.3	448.5	447.6	446.7
45°	423.9	422.2	420.4	419.2	418.6	418.0	417.4	416.7
47.5°	392.0	390.1	388.3	387.0	386.1	385.2	384.3	383.3
50°	371.6	369.3	367.1	365.6	364.9	364.1	363.3	362.5
52.5°	350.3	348.5	346.7	345.3	344.2	343.2	342.1	341.1
55°	318.7	316.8	314.9	313.6	312.7	312.0	311.2	310.5
57.5°	285.8	283.9	282.1	280.9	280.2	279.7	279.1	278.4
60°	264.0	262.3	260.6	259.5	259.0	258.5	258.1	257.6
62.5°	243.5	241.9	240.3	239.2	238.6	238.0	237.4	236.8
65°	211.9	210.5	209.1	207.9	207.2	206.4	205.7	204.8
67.5°	180.7	179.6	178.5	177.7	177.0	176.3	175.8	175.1
70°	160.4	159.3	158.3	157.4	156.7	156.1	155.5	154.9
72.5°	141.3	140.2	139.1	138.3	137.8	137.2	136.8	136.3
75°	111.4	110.6	109.6	109.2	109.6	109.9	110.2	110.6
77.5°	84.8	84.4	83.9	83.4	82.9	82.6	82.1	81.6
80°	67.3	66.8	66.4	66.0	65.7	65.4	65.0	64.8
82.5°	50.2	49.6	49.0	48.6	48.6	48.5	48.4	48.4
85°	26.5	26.0	25.5	25.3	25.1	25.0	24.8	24.6
87.5°	11.1	10.9	10.7	10.7	10.7	10.6	10.6	10.5
90°	20.0	21.0	22.1	22.7	23.1	23.5	23.9	24.3
92.5°	22.0	22.4	23.0	23.4	23.6	23.8	24.0	24.3
95°	37.1	38.2	39.1	39.5	39.3	39.1	38.9	38.7
97.5°	48.6	49.4	50.2	50.7	51.0	51.2	51.5	51.7
100°	54.6	56.2	57.8	58.7	59.1	59.6	59.9	60.3
102.5°	56.9	59.0	61.1	62.4	63.0	63.5	64.1	64.7
105°	59.4	61.5	63.7	65.2	66.1	66.8	67.7	68.4
107.5°	72.4	70.2	68.0	67.2	68.1	68.8	69.7	70.4
110°	117.5	97.6	77.6	68.0	68.7	69.6	70.3	71.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	251.5	178.5	105.5	69.3	69.9	70.6	71.3	71.9
115°	370.3	277.7	185.0	131.5	117.1	102.6	88.2	73.9
117.5°	570.6	548.3	525.8	491.0	443.6	396.2	348.9	301.5
120°	665.0	667.3	669.8	657.4	630.5	603.4	576.4	549.4
122.5°	705.6	707.0	708.4	706.5	701.3	696.1	690.8	685.6
125°	763.8	765.3	766.7	767.6	768.3	768.8	769.4	770.1
127.5°	817.7	819.7	821.8	822.8	823.0	823.1	823.2	823.3
130°	851.9	854.1	856.3	857.3	857.1	856.9	856.7	856.5
132.5°	885.1	887.0	888.9	889.8	889.5	889.3	889.1	888.9
135°	932.6	934.5	936.5	937.4	937.0	936.5	936.1	935.8
137.5°	976.6	978.5	980.5	981.2	980.5	979.8	979.1	978.5
140°	1005.1	1006.9	1008.7	1009.1	1008.1	1007.1	1006.1	1005.1
142.5°	1031.4	1033.1	1034.7	1035.0	1034.1	1033.0	1032.1	1031.0
145°	1068.3	1069.7	1071.0	1071.3	1070.3	1069.2	1068.3	1067.2
147.5°	1100.3	1101.4	1102.4	1102.5	1101.6	1100.8	1099.9	1099.1
150°	1120.1	1121.2	1122.5	1122.6	1121.6	1120.6	1119.6	1118.6
152.5°	1138.1	1139.3	1140.5	1140.5	1139.2	1137.8	1136.5	1135.2
155°	1162.4	1163.6	1164.8	1164.6	1163.0	1161.4	1159.8	1158.2
157.5°	1182.9	1184.3	1185.6	1185.5	1183.9	1182.4	1180.8	1179.3
160°	1194.9	1196.0	1197.2	1197.1	1195.7	1194.3	1193.0	1191.6
162.5°	1206.0	1207.3	1208.7	1208.5	1206.7	1205.0	1203.3	1201.6
165°	1219.6	1221.0	1222.4	1222.4	1221.0	1219.6	1218.1	1216.7
167.5°	1230.9	1232.3	1233.7	1233.5	1231.7	1229.9	1228.1	1226.3
170°	1236.7	1238.0	1239.4	1239.3	1237.5	1235.7	1233.9	1232.1
172.5°	1241.0	1242.4	1243.8	1243.6	1241.8	1240.0	1238.2	1236.4
175°	1245.7	1247.1	1248.5	1248.2	1246.1	1244.2	1242.2	1240.2
177.5°	1246.2	1247.3	1248.4	1248.3	1246.8	1245.4	1244.0	1242.6
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6

(END OF REPORT)