

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: P331572-935

Luminaire Tested: **S122DIW-S865D970U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331572-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D970U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5916.6 lumens
Efficiency: N/A
Efficacy: 96.7 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: General Diffuse

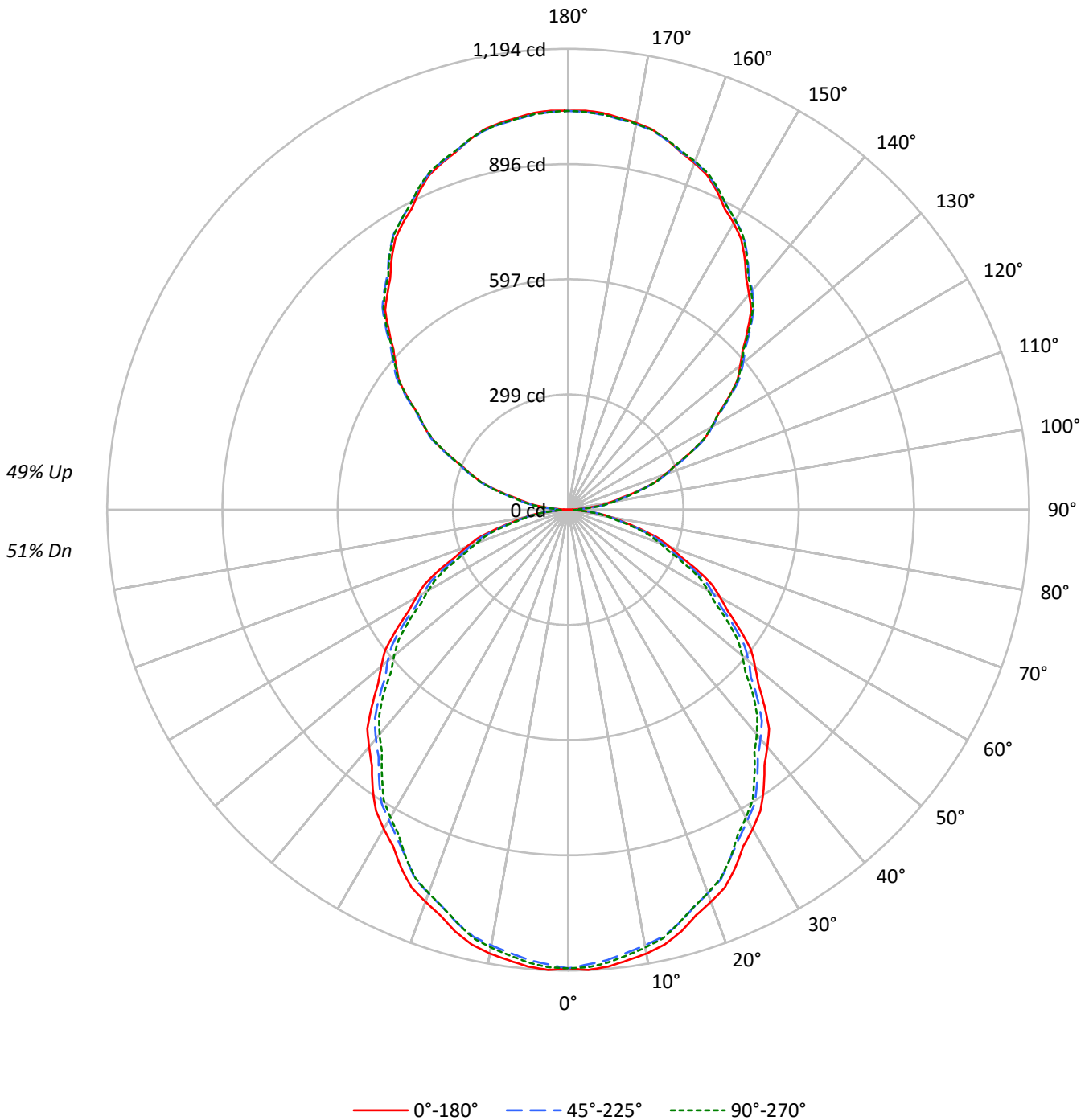
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	90	87	83	80	74	71	69	62	60	58	51	49	48	43
2	89	82	76	70	82	76	70	66	65	61	57	54	51	49	44	42	41	36
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	39	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	25	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	26	47	36	29	24	31	25	22	27	22	19	22	19	16	14
10	47	35	28	23	44	33	26	22	29	23	19	24	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19184	19184	19184
5°	19258	18979	19091
10°	19143	18787	18882
15°	18907	18544	18524
20°	18570	18179	18158
25°	18235	17728	17728
30°	17807	17316	17167
35°	17406	16821	16575
40°	16904	16326	16012
45°	16408	15835	15445
50°	15870	15325	14780
55°	15308	14728	14184
60°	14683	14018	13504
65°	14013	13310	12699
70°	13161	12458	11863
75°	11971	11472	11185
80°	10628	10302	9772
85°	8670	8262	7410



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.7	1.9
10°-20°	314.4	5.3
20°-30°	462.1	7.8
30°-40°	536.8	9.1
40°-50°	536.2	9.1
50°-60°	467.6	7.9
60°-70°	345.7	5.8
70°-80°	195.8	3.3
80°-90°	56.8	1.0
90°-100°	65.5	1.1
100°-110°	203.4	3.4
110°-120°	347.6	5.9
120°-130°	457.2	7.7
130°-140°	513.1	8.7
140°-150°	503.1	8.5
150°-160°	422.0	7.1
160°-170°	279.9	4.7
170°-180°	97.8	1.7
0°-30°	888.2	15.0
0°-40°	1425.0	24.1
0°-60°	2428.7	41.0
0°-90°	3027.1	51.2
90°-120°	616.5	10.4
90°-150°	2089.9	35.3
90°-180°	2890.0	48.8
0°-180°	5916.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1188	1188	1188	1188	1188	
5°	1188	1183	1171	1180	1178	113
15°	1131	1124	1109	1113	1108	318
25°	1024	1014	995	997	995	471
35°	883	871	853	847	841	551
45°	719	710	694	681	676	554
55°	544	537	523	510	504	486
65°	367	360	348	338	332	363
75°	192	189	184	178	179	205
85°	47	46	45	41	40	54
90°	1	12	30	29	30	5
95°	45	54	56	56	54	52
105°	188	190	192	194	194	198
115°	349	354	352	351	349	345
125°	508	515	513	510	509	453
135°	657	666	668	667	664	507
145°	797	803	808	809	806	498
155°	911	914	916	920	918	419
165°	992	991	991	996	992	280
175°	1032	1029	1027	1033	1028	98
180°	1033	1033	1033	1033	1033	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2
2.5°	1193.7	1192.7	1191.6	1190.7	1189.6	1188.0	1185.8	1183.5	1181.3	1179.1	1181.1
5°	1188.2	1187.1	1186.2	1185.2	1184.1	1182.2	1179.5	1176.6	1173.9	1171.0	1173.1
7.5°	1177.7	1176.1	1174.6	1172.9	1171.4	1169.2	1166.3	1163.5	1160.6	1157.8	1159.9
10°	1167.6	1165.9	1164.1	1162.3	1160.5	1158.1	1155.0	1152.0	1149.0	1145.9	1148.0
12.5°	1153.9	1152.4	1150.8	1149.2	1147.6	1145.3	1142.3	1139.2	1136.2	1133.2	1134.5
15°	1131.1	1129.5	1128.0	1126.5	1125.0	1122.6	1119.3	1115.9	1112.7	1109.4	1110.3
17.5°	1101.8	1100.3	1098.8	1097.3	1095.7	1093.3	1089.9	1086.6	1083.2	1079.9	1081.1
20°	1080.8	1079.3	1077.8	1076.2	1074.7	1072.2	1068.6	1065.1	1061.5	1058.0	1058.7
22.5°	1059.8	1057.7	1055.5	1053.3	1051.3	1048.5	1045.2	1041.8	1038.5	1035.1	1035.3
25°	1023.6	1021.7	1019.6	1017.6	1015.5	1012.4	1008.1	1003.8	999.4	995.1	995.7
27.5°	982.6	980.8	978.9	977.1	975.3	972.6	969.2	965.8	962.4	959.0	958.3
30°	955.1	953.1	951.1	949.1	947.0	944.1	940.3	936.5	932.6	928.8	928.1
32.5°	925.9	924.3	922.6	921.0	919.4	916.5	912.6	908.5	904.6	900.5	899.1
35°	883.1	880.6	878.0	875.6	873.0	869.7	865.6	861.6	857.5	853.4	852.0
37.5°	834.9	832.7	830.4	828.2	826.0	822.9	818.8	814.8	810.6	806.6	804.7
40°	802.0	800.0	798.0	795.9	793.9	790.8	786.8	782.7	778.7	774.6	772.3
42.5°	770.1	768.0	765.9	764.0	761.9	758.9	754.8	750.8	746.7	742.6	740.1
45°	718.6	716.9	715.1	713.3	711.5	708.7	704.9	701.1	697.3	693.5	690.7
47.5°	667.4	665.8	664.1	662.5	660.7	657.9	653.9	650.0	646.0	642.0	639.1
50°	631.8	630.5	629.3	628.0	626.7	624.3	620.8	617.2	613.6	610.1	606.6
52.5°	597.1	595.4	593.7	592.0	590.4	587.9	584.5	581.2	577.8	574.5	571.5
55°	543.8	542.3	540.8	539.2	537.7	535.5	532.4	529.3	526.3	523.2	520.2
57.5°	490.3	489.1	487.9	486.7	485.5	483.2	479.8	476.5	473.1	469.8	466.8
60°	454.7	453.7	452.7	451.7	450.6	448.4	444.8	441.3	437.7	434.1	431.4
62.5°	420.0	418.4	416.7	415.1	413.5	411.3	408.5	405.8	403.0	400.4	397.8
65°	366.8	365.2	363.7	362.1	360.7	358.6	356.1	353.5	351.0	348.4	346.2
67.5°	312.6	311.3	310.1	308.9	307.7	306.0	303.7	301.4	299.1	296.8	295.1
70°	278.8	277.8	276.7	275.7	274.7	273.0	270.8	268.5	266.2	263.9	262.2
72.5°	244.0	243.1	242.0	241.0	240.0	238.8	237.3	235.8	234.3	232.8	231.1
75°	191.9	191.4	190.9	190.5	189.9	189.0	187.8	186.5	185.2	183.9	182.4
77.5°	145.3	144.5	143.6	142.8	141.9	141.2	140.7	140.2	139.7	139.1	138.4
80°	114.3	114.0	113.7	113.5	113.2	112.9	112.4	111.8	111.3	110.8	110.0
82.5°	85.0	85.0	84.9	84.8	84.8	84.6	84.3	84.0	83.7	83.4	82.4
85°	46.8	46.6	46.3	46.1	45.8	45.5	45.3	45.0	44.8	44.6	43.8
87.5°	16.6	16.7	16.7	16.8	16.9	17.1	17.6	18.0	18.4	18.9	18.3
90°	0.9	3.2	5.5	7.8	10.2	13.4	17.7	22.0	26.3	30.5	30.1
92.5°	15.5	17.2	18.9	20.7	22.4	23.7	24.7	25.7	26.7	27.7	27.8
95°	45.4	47.3	49.2	51.1	53.1	54.2	54.7	55.0	55.4	55.8	55.8
97.5°	82.8	84.6	86.3	88.0	89.6	90.9	91.6	92.4	93.1	93.8	93.8
100°	110.7	112.3	113.8	115.4	116.9	118.0	118.6	119.2	119.8	120.4	120.4
102.5°	140.1	141.3	142.5	143.8	145.0	146.0	146.7	147.5	148.2	149.0	149.1
105°	187.5	188.0	188.6	189.2	189.9	190.3	190.7	191.1	191.5	191.8	192.3
107.5°	235.3	236.2	236.9	237.8	238.7	239.1	239.1	239.1	239.1	239.1	239.3
110°	266.0	267.2	268.3	269.5	270.6	271.2	271.2	271.2	271.2	271.2	271.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.5	300.7	301.8	303.0	304.1	304.6	304.4	304.3	304.2	304.0	303.5
115°	348.8	350.0	351.1	352.3	353.4	353.9	353.4	353.1	352.7	352.3	352.1
117.5°	398.0	399.6	401.1	402.7	404.2	404.4	403.4	402.3	401.2	400.1	399.7
120°	430.8	432.4	433.9	435.5	437.0	437.0	435.5	433.9	432.4	430.8	430.8
122.5°	460.8	462.7	464.5	466.4	468.2	468.6	467.5	466.5	465.4	464.3	463.8
125°	507.6	509.3	511.0	512.8	514.5	515.1	514.5	513.9	513.3	512.8	512.2
127.5°	553.1	555.3	557.5	559.7	561.9	562.7	562.0	561.3	560.6	559.9	559.1
130°	581.7	584.2	586.7	589.3	591.8	592.8	592.5	592.0	591.7	591.2	590.9
132.5°	613.7	615.8	617.9	619.9	622.0	623.0	623.1	623.2	623.3	623.4	622.5
135°	656.7	658.8	660.9	663.1	665.2	666.4	666.8	667.2	667.6	668.0	667.8
137.5°	701.8	703.6	705.3	707.1	708.8	710.0	710.4	710.9	711.4	712.0	711.8
140°	729.0	730.8	732.5	734.3	736.0	737.4	738.4	739.3	740.3	741.2	741.2
142.5°	757.0	758.7	760.4	762.2	764.0	765.2	765.8	766.5	767.2	767.8	767.9
145°	797.0	798.4	799.8	801.2	802.5	803.7	804.9	806.1	807.3	808.4	808.6
147.5°	832.8	834.5	836.1	837.7	839.3	840.5	841.3	842.1	842.8	843.6	844.0
150°	857.2	858.4	859.5	860.7	861.9	862.9	863.7	864.4	865.2	866.0	866.5
152.5°	878.9	880.0	881.2	882.4	883.6	884.6	885.5	886.4	887.3	888.3	889.0
155°	911.3	911.9	912.5	913.1	913.6	914.2	914.8	915.4	915.9	916.5	917.5
157.5°	939.0	939.4	939.8	940.2	940.6	941.0	941.3	941.7	942.0	942.4	943.7
160°	955.8	956.1	956.6	956.9	957.3	957.6	957.9	958.0	958.2	958.4	959.6
162.5°	971.1	971.2	971.3	971.4	971.5	971.6	971.8	972.0	972.2	972.3	973.7
165°	991.5	991.4	991.2	990.9	990.8	990.7	990.7	990.7	990.7	990.7	992.0
167.5°	1008.7	1008.1	1007.5	1006.9	1006.3	1006.0	1006.0	1005.9	1005.9	1005.8	1007.2
170°	1017.7	1017.1	1016.6	1016.0	1015.4	1015.0	1014.8	1014.6	1014.4	1014.3	1015.5
172.5°	1024.0	1023.4	1022.8	1022.3	1021.7	1021.2	1021.1	1020.9	1020.7	1020.5	1021.8
175°	1031.7	1031.0	1030.5	1029.9	1029.3	1028.8	1028.5	1028.0	1027.7	1027.3	1028.6
177.5°	1034.8	1034.3	1033.9	1033.4	1032.9	1032.5	1032.3	1031.9	1031.7	1031.3	1032.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2
2.5°	1183.1	1185.2	1187.1	1188.0	1187.6	1187.1	1186.8	1186.4
5°	1175.1	1177.2	1179.2	1179.9	1179.5	1179.0	1178.5	1177.9
7.5°	1161.8	1163.9	1166.0	1166.7	1166.1	1165.5	1165.0	1164.4
10°	1150.0	1152.0	1154.1	1154.7	1153.9	1153.1	1152.4	1151.7
12.5°	1136.0	1137.4	1138.8	1139.3	1138.7	1138.2	1137.6	1137.0
15°	1111.4	1112.4	1113.4	1113.3	1112.1	1110.8	1109.5	1108.2
17.5°	1082.2	1083.4	1084.6	1084.5	1083.3	1082.1	1080.9	1079.7
20°	1059.5	1060.2	1061.0	1060.8	1059.9	1058.9	1057.8	1056.8
22.5°	1035.4	1035.5	1035.7	1035.5	1034.8	1034.2	1033.6	1033.0
25°	996.2	996.6	997.1	997.1	996.6	996.2	995.7	995.1
27.5°	957.5	956.7	956.0	955.0	953.7	952.5	951.3	950.1
30°	927.3	926.6	925.8	924.9	923.9	922.9	921.9	920.8
32.5°	897.8	896.4	895.0	893.8	892.9	891.8	890.8	889.8
35°	850.4	848.9	847.4	845.9	844.7	843.4	842.1	840.9
37.5°	802.9	801.0	799.1	797.5	796.3	795.1	793.9	792.6
40°	770.1	767.8	765.5	763.8	762.8	761.8	760.8	759.7
42.5°	737.6	735.1	732.7	730.7	729.3	727.9	726.4	725.0
45°	687.9	685.1	682.3	680.4	679.4	678.4	677.3	676.4
47.5°	636.2	633.3	630.3	628.1	626.6	625.2	623.7	622.2
50°	603.0	599.4	595.9	593.5	592.2	590.9	589.7	588.4
52.5°	568.5	565.6	562.7	560.3	558.7	557.0	555.3	553.6
55°	517.2	514.1	511.1	508.9	507.6	506.4	505.1	503.9
57.5°	463.8	460.8	457.8	455.8	454.9	453.9	453.0	451.9
60°	428.6	425.8	423.0	421.2	420.4	419.7	418.9	418.2
62.5°	395.1	392.5	389.9	388.2	387.2	386.2	385.3	384.4
65°	343.9	341.6	339.3	337.5	336.3	335.0	333.7	332.4
67.5°	293.3	291.4	289.7	288.3	287.3	286.3	285.2	284.2
70°	260.4	258.6	256.8	255.4	254.4	253.4	252.4	251.3
72.5°	229.3	227.5	225.8	224.5	223.6	222.8	222.0	221.2
75°	180.9	179.3	177.9	177.4	177.9	178.4	178.8	179.3
77.5°	137.7	136.9	136.1	135.3	134.7	134.0	133.3	132.5
80°	109.3	108.6	107.8	107.1	106.6	106.2	105.6	105.1
82.5°	81.5	80.5	79.6	79.0	78.9	78.8	78.7	78.6
85°	43.0	42.3	41.5	41.0	40.7	40.5	40.2	40.0
87.5°	17.6	16.9	16.2	15.8	15.6	15.4	15.2	15.1
90°	29.7	29.4	28.9	28.8	29.1	29.3	29.4	29.6
92.5°	27.9	28.0	28.1	28.1	28.2	28.2	28.2	28.2
95°	55.8	55.8	55.8	55.6	55.2	54.8	54.4	54.1
97.5°	93.8	93.8	93.8	93.8	93.8	93.8	93.7	93.7
100°	120.4	120.4	120.4	120.3	120.0	119.9	119.7	119.5
102.5°	149.3	149.4	149.6	149.6	149.4	149.1	149.0	148.8
105°	192.6	193.0	193.4	193.6	193.6	193.6	193.6	193.6
107.5°	239.4	239.6	239.7	239.4	238.5	237.5	236.7	235.8
110°	271.2	271.2	271.2	271.0	270.4	269.8	269.1	268.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	303.1	302.6	302.1	301.7	301.3	300.8	300.4	300.0
115°	351.9	351.7	351.5	351.1	350.6	350.0	349.4	348.8
117.5°	399.2	398.7	398.2	397.7	397.2	396.6	396.0	395.4
120°	430.8	430.8	430.8	430.5	429.9	429.4	428.8	428.2
122.5°	463.4	462.9	462.4	462.0	461.6	461.2	460.7	460.3
125°	511.6	511.0	510.5	510.1	509.9	509.7	509.5	509.3
127.5°	558.4	557.8	557.1	556.4	555.8	555.2	554.6	554.0
130°	590.5	590.1	589.7	589.1	588.3	587.5	586.8	586.0
132.5°	621.6	620.8	619.9	619.2	618.6	617.9	617.3	616.7
135°	667.6	667.4	667.2	666.8	666.2	665.6	665.1	664.5
137.5°	711.6	711.5	711.4	710.8	710.1	709.3	708.5	707.7
140°	741.2	741.2	741.2	740.9	740.1	739.3	738.6	737.8
142.5°	768.1	768.3	768.4	768.1	767.3	766.5	765.8	765.0
145°	808.8	809.0	809.2	808.9	808.1	807.4	806.6	805.8
147.5°	844.5	844.9	845.3	845.2	844.5	843.7	843.0	842.2
150°	867.1	867.7	868.3	868.3	867.7	867.1	866.5	866.0
152.5°	889.8	890.5	891.2	891.2	890.5	889.8	889.0	888.3
155°	918.5	919.5	920.4	920.6	920.1	919.5	918.9	918.3
157.5°	945.0	946.3	947.6	947.8	946.9	946.0	945.0	944.1
160°	960.7	961.9	963.0	963.3	962.5	961.7	961.0	960.2
162.5°	975.0	976.3	977.7	977.8	976.9	975.9	975.0	974.1
165°	993.4	994.7	996.1	996.3	995.3	994.4	993.4	992.4
167.5°	1008.6	1010.0	1011.2	1011.4	1010.5	1009.4	1008.4	1007.5
170°	1016.9	1018.3	1019.7	1019.8	1018.6	1017.4	1016.2	1015.1
172.5°	1023.2	1024.6	1025.9	1026.1	1024.8	1023.7	1022.5	1021.4
175°	1030.0	1031.4	1032.7	1032.9	1031.7	1030.5	1029.3	1028.2
177.5°	1033.2	1034.1	1035.0	1035.0	1034.1	1033.2	1032.3	1031.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4

(END OF REPORT)