

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: P332068-830

Luminaire Tested: **S123DIP-S1165D805U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332068-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D805U830-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7312.1 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

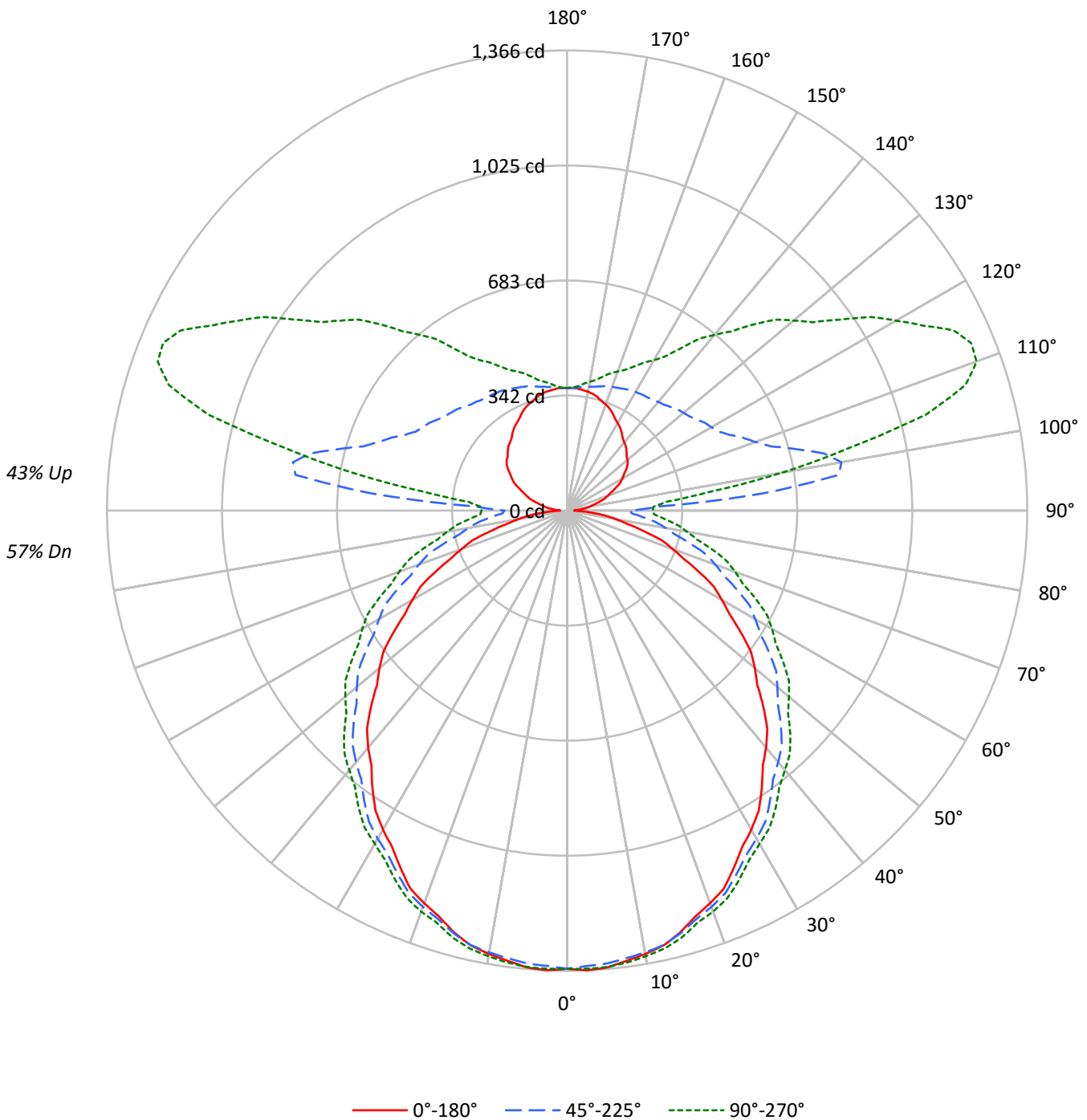
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57
1	98	93	89	85	91	87	83	80	75	72	69	64	62	60	54	52	51	46
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	42	37
3	81	71	63	56	75	66	59	53	57	51	47	49	44	41	41	38	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	33	30	26
5	68	55	47	40	63	52	44	38	45	39	34	39	34	30	33	29	26	23
6	62	50	41	35	58	46	39	33	40	34	30	35	30	26	29	26	23	20
7	58	45	36	31	53	42	34	29	37	30	26	32	27	23	27	23	20	17
8	53	41	33	27	50	38	31	26	33	27	23	29	24	20	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14
10	46	34	27	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.8
10°-20°	367.5	5.0
20°-30°	549.7	7.5
30°-40°	656.5	9.0
40°-50°	686.9	9.4
50°-60°	644.6	8.8
60°-70°	538.3	7.4
70°-80°	385.2	5.3
80°-90°	232.5	3.2
90°-100°	346.7	4.7
100°-110°	679.6	9.3
110°-120°	635.0	8.7
120°-130°	490.5	6.7
130°-140°	373.0	5.1
140°-150°	268.8	3.7
150°-160°	184.7	2.5
160°-170°	108.5	1.5
170°-180°	35.3	0.5
0°-30°	1046.2	14.3
0°-40°	1702.7	23.3
0°-60°	3034.1	41.5
0°-90°	4190.2	57.3
90°-120°	1661.3	22.7
90°-150°	2793.6	38.2
90°-180°	3122.0	42.7
0°-180°	7312.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	21	101	186	236	254	15
95°	41	156	584	318	293	40
105°	97	175	704	1187	1103	103
115°	158	215	532	1106	1266	157
125°	214	255	470	844	988	191
135°	249	296	435	675	781	192
145°	282	322	412	529	587	177
155°	319	344	399	453	472	147
165°	349	358	382	405	412	98
175°	363	364	366	371	371	34
180°	364	364	364	364	364	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.7	56.4	73.0	89.9	106.6	123.5	140.7	158.0	175.2	192.5	203.5
90°	20.7	38.4	56.0	74.3	91.9	109.8	128.8	147.9	166.8	185.9	196.3
92.5°	27.2	46.2	66.9	87.2	108.0	134.4	170.2	218.5	266.1	271.3	254.4
95°	41.4	56.4	77.4	102.7	134.7	178.0	256.7	382.7	519.6	583.6	511.3
97.5°	57.3	69.6	87.5	110.0	140.4	185.0	260.3	399.5	616.4	813.2	870.3
100°	67.9	79.2	94.8	115.6	143.9	185.5	252.2	376.5	585.4	826.7	981.5
102.5°	79.1	89.8	104.0	123.1	148.5	187.1	248.3	355.7	543.2	781.3	980.0
105°	97.4	107.4	119.8	136.5	158.4	192.3	246.3	336.3	489.7	703.6	924.3
107.5°	115.3	124.2	135.3	150.6	170.5	201.8	250.2	326.6	452.4	634.0	834.8
110°	128.3	136.4	146.0	160.0	178.5	208.7	255.1	324.1	436.1	594.5	779.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	141.2	148.4	156.8	169.8	187.3	216.0	259.5	324.0	423.6	565.0	728.7
115°	158.4	165.4	173.7	185.0	201.5	229.3	269.2	326.0	413.0	531.7	667.1
117.5°	176.9	182.8	188.9	198.0	214.5	239.7	278.5	329.8	404.7	507.2	625.3
120°	188.7	192.6	197.8	206.9	222.5	247.2	284.6	333.8	401.4	494.7	602.6
122.5°	199.9	202.9	207.5	216.3	230.5	255.8	292.0	337.7	400.1	484.7	582.9
125°	214.4	215.9	220.4	228.5	242.4	267.1	302.5	344.4	398.2	470.4	556.2
127.5°	226.7	228.6	233.7	241.7	256.7	280.4	313.3	350.3	398.0	458.8	531.5
130°	234.3	236.2	242.5	251.1	266.2	289.3	320.1	354.7	398.1	451.2	517.1
132.5°	239.0	241.8	248.9	259.5	274.9	296.8	325.8	358.4	397.1	444.6	503.2
135°	249.1	251.7	259.5	270.2	285.3	306.9	333.4	362.0	395.1	434.9	484.3
137.5°	258.5	261.4	269.0	280.6	295.7	314.9	338.9	364.9	393.1	426.1	467.7
140°	263.8	267.5	274.8	286.6	301.4	320.3	342.7	365.8	391.8	420.8	457.4
142.5°	270.9	273.7	281.4	291.8	306.2	323.5	344.4	366.2	389.6	414.9	447.4
145°	282.2	284.1	290.4	301.1	313.3	330.2	349.3	369.2	389.8	411.9	438.2
147.5°	292.3	293.6	300.1	309.6	321.7	336.2	353.7	371.6	389.8	409.2	430.1
150°	299.9	300.7	306.5	316.1	326.4	339.7	356.7	372.1	389.8	406.8	425.2
152.5°	307.6	307.7	313.6	322.1	331.1	343.8	358.4	373.3	388.0	403.8	420.5
155°	319.1	319.1	323.5	330.8	338.9	349.3	361.8	373.6	386.2	398.7	413.4
157.5°	328.2	328.8	332.3	338.8	345.7	353.7	363.7	374.4	383.6	394.1	405.5
160°	335.3	335.3	338.3	344.1	349.3	356.7	365.5	374.4	382.5	390.6	400.1
162.5°	340.6	340.6	343.0	347.7	352.2	358.4	366.1	373.7	380.1	387.0	394.8
165°	348.6	347.8	349.3	353.0	355.9	361.1	366.9	372.1	376.5	381.7	387.6
167.5°	354.6	353.7	354.5	357.2	359.3	362.6	366.8	371.0	373.1	376.5	380.7
170°	358.2	356.7	357.4	359.6	361.1	362.6	366.3	369.2	370.7	372.9	376.5
172.5°	360.5	359.6	359.8	361.4	362.2	363.2	366.3	368.6	368.9	369.9	372.4
175°	363.3	362.6	361.8	363.3	363.3	364.0	365.5	366.9	366.3	366.3	367.7
177.5°	364.6	364.0	363.4	364.0	364.0	364.0	364.6	365.8	364.6	364.0	364.6
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	214.8	226.2	237.5	245.1	248.2	251.7	255.1	258.3
90°	208.2	220.2	232.1	240.8	243.4	247.4	251.5	254.0
92.5°	241.9	240.0	245.2	248.3	250.0	250.8	254.6	256.3
95°	432.3	357.1	328.3	308.5	297.7	294.5	292.6	292.9
97.5°	816.9	695.1	609.9	528.3	477.2	447.3	430.7	427.7
100°	1016.8	966.7	889.9	791.7	720.7	670.1	644.7	648.8
102.5°	1078.2	1085.5	1044.5	984.5	929.9	890.6	869.9	856.2
105°	1087.5	1170.4	1193.6	1180.6	1149.6	1124.6	1104.0	1103.2
107.5°	1018.3	1146.8	1220.1	1252.3	1255.7	1249.2	1244.2	1240.3
110°	956.4	1100.6	1202.0	1259.1	1282.4	1291.0	1292.1	1293.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	894.0	1040.8	1153.1	1225.0	1265.6	1286.9	1295.3	1298.5
115°	811.3	947.4	1063.7	1149.2	1207.2	1242.3	1259.6	1265.9
117.5°	748.2	866.8	971.9	1058.6	1118.7	1158.5	1182.2	1189.8
120°	714.1	821.1	917.1	996.5	1057.0	1100.6	1120.6	1127.3
122.5°	685.8	783.2	872.4	946.3	1000.3	1039.8	1061.6	1069.5
125°	647.1	734.3	812.0	875.5	925.0	959.7	980.4	987.9
127.5°	612.1	690.2	760.5	818.5	862.8	892.8	911.6	918.6
130°	589.7	662.2	728.2	782.4	823.4	852.0	869.4	877.3
132.5°	568.4	635.5	697.0	748.9	787.9	816.6	832.5	839.0
135°	539.6	597.9	651.7	697.4	735.2	758.9	773.8	780.6
137.5°	512.8	561.0	607.5	647.2	679.3	703.3	716.1	721.2
140°	497.0	539.5	579.9	614.8	644.4	666.8	680.1	681.1
142.5°	481.2	517.8	552.9	583.5	609.1	629.0	641.2	642.2
145°	464.4	491.3	517.6	540.8	560.6	577.4	584.6	587.4
147.5°	450.8	470.9	490.7	506.9	522.1	533.7	540.5	542.2
150°	442.1	459.1	474.6	488.9	500.6	509.3	514.4	515.1
152.5°	435.6	450.3	463.9	475.7	484.5	492.1	494.9	495.0
155°	425.9	437.7	448.7	457.6	464.2	470.1	471.6	472.3
157.5°	415.6	425.5	434.0	440.9	446.7	451.1	452.3	452.1
160°	409.7	417.8	425.2	430.4	435.5	439.9	439.9	439.2
162.5°	402.7	409.5	416.3	420.9	424.3	428.1	428.1	427.4
165°	393.5	397.9	403.1	406.8	409.7	412.6	411.9	411.9
167.5°	385.5	388.9	391.9	394.5	395.9	397.9	397.2	397.2
170°	380.2	382.5	385.4	386.9	387.6	389.1	388.3	388.3
172.5°	375.5	377.1	379.5	380.4	380.5	382.0	380.7	380.1
175°	369.2	369.9	371.4	371.4	371.4	372.1	371.4	370.7
177.5°	365.2	365.8	366.4	366.4	365.8	366.4	365.2	365.2
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0

(END OF REPORT)