

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: P332067-830

Luminaire Tested: **S123DIP-S1165D805U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332067-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
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-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7172.5 lumens
Efficiency: N/A
Efficacy: 118.2 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

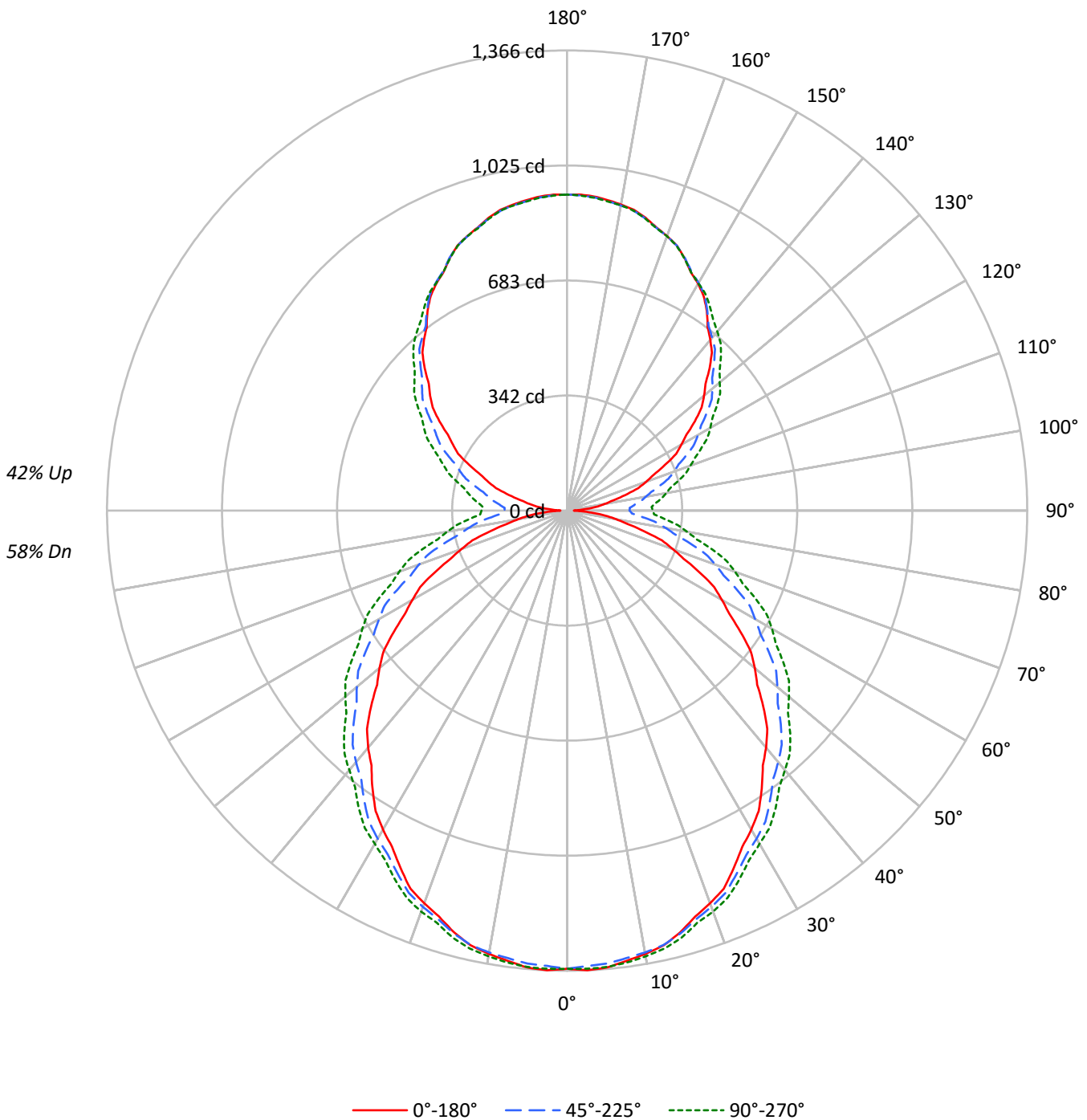
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58				
1	98	94	89	85	91	87	83	80	75	72	70	65	62	60	54	53	51	47				
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	45	42	38				
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	36	32				
4	74	62	54	48	69	58	51	45	51	45	40	44	39	35	37	33	30	27				
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23				
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20				
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18				
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16				
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14				
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	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	5.1
20°-30°	549.7	7.7
30°-40°	656.5	9.2
40°-50°	686.9	9.6
50°-60°	644.6	9.0
60°-70°	538.3	7.5
70°-80°	385.2	5.4
80°-90°	232.5	3.2
90°-100°	205.2	2.9
100°-110°	288.8	4.0
110°-120°	381.8	5.3
120°-130°	449.6	6.3
130°-140°	478.1	6.7
140°-150°	456.0	6.4
150°-160°	380.6	5.3
160°-170°	253.4	3.5
170°-180°	88.7	1.2
0°-30°	1046.2	14.6
0°-40°	1702.7	23.7
0°-60°	3034.1	42.3
0°-90°	4190.1	58.4
90°-120°	875.9	12.2
90°-150°	2259.6	31.5
90°-180°	2982.0	41.6
0°-180°	7172.5	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°	20	100	185	236	255	16
95°	60	124	201	248	265	62
105°	178	217	285	325	341	190
115°	321	342	392	427	440	317
125°	463	467	506	534	542	413
135°	598	601	616	639	646	460
145°	723	723	725	736	739	451
155°	826	826	827	829	825	380
165°	900	898	898	901	897	254
175°	936	933	933	937	932	89
180°	938	938	938	938	938	



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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°	39.6	56.3	73.0	89.7	106.4	123.4	140.6	157.9	175.0	192.3	203.6
90°	20.0	37.8	55.5	73.3	91.0	109.4	128.4	147.2	166.2	185.1	197.0
92.5°	35.9	51.6	67.2	82.9	98.6	115.3	133.0	150.7	168.5	186.2	197.7
95°	59.8	73.8	87.8	101.7	115.7	131.5	148.9	166.4	183.8	201.2	212.1
97.5°	91.7	104.2	116.6	129.0	141.5	155.9	172.3	188.6	205.0	221.3	231.9
100°	113.6	125.1	136.6	148.1	159.7	173.3	189.4	205.3	221.2	237.2	247.2
102.5°	138.9	149.0	159.0	169.1	179.2	192.2	208.2	224.1	240.1	256.1	265.8
105°	177.7	185.9	194.2	202.4	210.6	222.5	238.2	253.7	269.4	285.0	294.3
107.5°	221.3	228.2	235.1	242.0	248.9	259.4	273.4	287.5	301.4	315.5	324.8
110°	248.4	254.7	260.9	267.1	273.4	283.2	296.8	310.3	323.8	337.2	346.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	277.9	283.0	288.0	293.0	298.1	307.0	319.7	332.4	345.2	357.9	366.9
115°	320.6	325.1	329.5	333.9	338.4	346.4	357.9	369.4	380.9	392.5	400.5
117.5°	364.9	367.6	370.3	373.1	375.9	382.6	393.3	404.0	414.7	425.4	433.2
120°	391.3	394.0	396.6	399.3	401.8	408.2	418.2	428.3	438.3	448.4	455.8
122.5°	420.2	421.8	423.4	425.0	426.5	432.3	442.1	452.1	462.0	471.9	478.8
125°	462.8	463.3	463.8	464.3	464.8	469.7	478.8	488.0	497.3	506.5	512.7
127.5°	503.5	504.2	504.9	505.7	506.3	510.5	518.0	525.6	533.1	540.6	546.3
130°	530.7	531.6	532.5	533.6	534.5	538.1	544.1	550.3	556.4	562.4	568.1
132.5°	556.6	557.8	559.0	560.2	561.5	564.6	569.5	574.4	579.3	584.2	589.5
135°	597.7	598.3	599.0	599.6	600.3	602.3	605.8	609.3	612.7	616.1	621.4
137.5°	635.7	636.2	636.8	637.3	637.9	639.4	641.9	644.3	646.8	649.3	653.8
140°	661.0	661.9	662.7	663.5	664.3	665.2	666.5	667.6	668.7	669.9	674.7
142.5°	685.2	685.8	686.3	686.8	687.4	688.0	688.4	688.9	689.4	689.9	694.2
145°	722.9	722.9	722.9	722.9	722.9	723.1	723.7	724.2	724.6	725.1	727.6
147.5°	754.5	755.1	755.6	756.2	756.9	757.3	757.8	758.3	758.7	759.2	760.0
150°	777.4	777.8	778.1	778.4	778.7	779.1	779.4	779.8	780.0	780.4	780.4
152.5°	796.4	796.7	797.2	797.7	798.1	798.5	798.7	798.9	799.1	799.3	799.6
155°	826.0	826.0	826.0	826.0	826.0	826.1	826.3	826.5	826.7	826.8	827.5
157.5°	851.4	851.2	851.0	850.8	850.6	850.6	850.7	850.9	851.0	851.1	851.9
160°	867.3	867.0	866.7	866.4	866.0	865.9	865.9	865.9	865.9	865.9	866.7
162.5°	881.5	881.1	880.6	880.1	879.7	879.5	879.7	879.8	879.9	880.1	880.8
165°	899.8	899.3	898.8	898.3	897.8	897.6	897.6	897.6	897.6	897.6	898.5
167.5°	914.4	913.7	913.0	912.4	911.7	911.5	911.6	911.7	911.9	912.0	913.0
170°	922.7	922.0	921.3	920.7	920.0	919.6	919.6	919.6	919.6	919.6	920.9
172.5°	929.1	928.5	927.8	927.2	926.5	926.1	926.1	926.1	926.1	926.1	927.2
175°	935.9	935.2	934.6	934.0	933.3	932.9	932.9	932.9	932.9	932.9	934.0
177.5°	938.7	938.2	937.6	937.1	936.6	936.3	936.3	936.3	936.3	936.3	937.1
180°	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1



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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°	214.9	226.3	237.6	245.0	248.3	251.7	255.1	258.4
90°	208.8	220.6	232.5	240.3	243.8	247.5	251.1	254.7
92.5°	209.2	220.6	232.1	239.2	242.0	244.9	247.7	250.5
95°	222.9	233.8	244.7	251.8	255.1	258.4	261.6	264.9
97.5°	242.5	253.1	263.6	270.5	273.7	276.9	280.2	283.4
100°	257.3	267.3	277.4	284.2	287.9	291.4	295.1	298.7
102.5°	275.6	285.4	295.1	301.6	304.9	308.1	311.3	314.5
105°	303.5	312.7	321.9	328.2	331.5	334.7	338.0	341.3
107.5°	334.2	343.6	352.9	358.9	361.6	364.3	367.0	369.7
110°	355.7	365.0	374.1	379.8	382.2	384.5	386.8	389.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	376.1	385.1	394.2	400.1	403.0	405.9	408.7	411.5
115°	408.6	416.6	424.7	430.0	432.4	434.9	437.4	439.9
117.5°	441.0	448.8	456.7	461.6	463.7	465.8	467.9	470.0
120°	463.2	470.6	478.0	482.7	484.7	486.6	488.6	490.6
122.5°	485.7	492.6	499.5	503.8	505.7	507.6	509.3	511.2
125°	519.1	525.3	531.6	535.5	537.2	538.8	540.5	542.1
127.5°	551.9	557.4	563.1	566.7	568.1	569.6	571.1	572.6
130°	573.6	579.3	584.8	588.1	588.9	589.7	590.5	591.4
132.5°	594.7	599.8	605.0	608.3	609.6	611.1	612.4	613.8
135°	626.7	632.0	637.3	640.6	641.9	643.2	644.5	645.8
137.5°	658.3	662.8	667.3	670.1	671.1	672.1	673.2	674.2
140°	679.5	684.2	689.0	691.6	692.1	692.7	693.1	693.6
142.5°	698.4	702.7	706.9	709.5	710.2	711.0	711.7	712.5
145°	730.1	732.5	735.0	736.6	737.3	737.9	738.6	739.2
147.5°	760.7	761.6	762.3	762.8	763.0	763.3	763.5	763.6
150°	780.4	780.4	780.4	780.2	780.0	779.6	779.3	778.9
152.5°	799.7	800.0	800.3	800.1	799.4	798.6	798.0	797.2
155°	828.1	828.8	829.4	829.2	828.0	826.9	825.8	824.6
157.5°	852.5	853.2	853.8	853.8	852.9	852.0	851.0	850.1
160°	867.5	868.4	869.1	869.2	868.6	867.9	867.2	866.6
162.5°	881.7	882.5	883.4	883.2	882.1	881.1	880.1	879.0
165°	899.6	900.5	901.5	901.4	900.3	899.1	898.0	896.8
167.5°	914.1	915.0	916.1	916.1	915.0	914.1	913.0	912.0
170°	922.0	923.1	924.3	924.3	923.1	922.0	920.9	919.6
172.5°	928.2	929.3	930.2	930.2	929.0	927.8	926.7	925.6
175°	934.9	935.9	936.9	936.8	935.7	934.5	933.3	932.2
177.5°	937.9	938.7	939.4	939.4	938.5	937.5	936.7	935.8
180°	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1

(END OF REPORT)