

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: P331980-840

Luminaire Tested: **S123DIP-S775D805U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331980-840  
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-S775D805U840-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

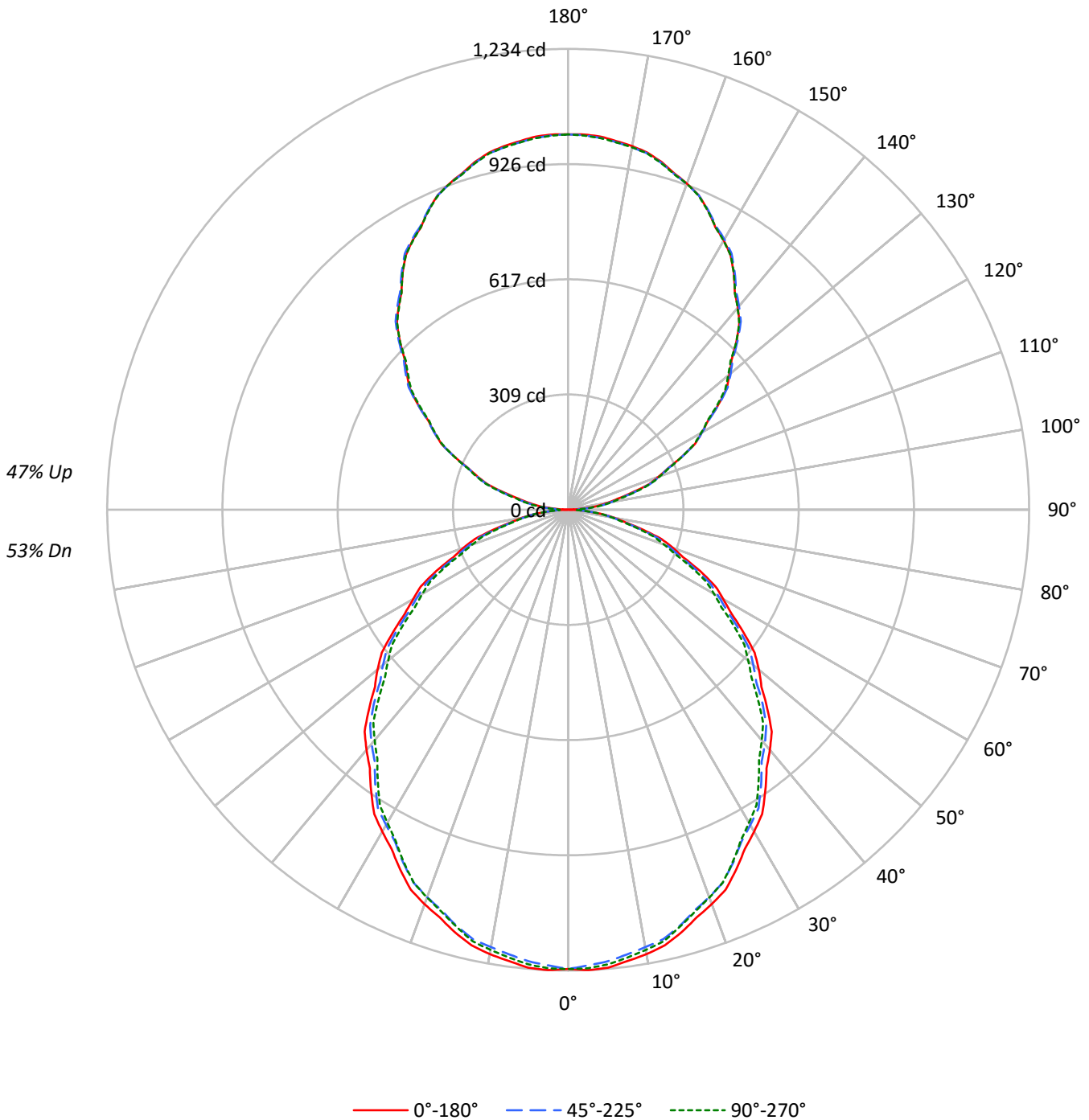
Lumens per Lamp: N/A  
Luminaire Lumens: 5987.7 lumens  
Efficiency: N/A  
Efficacy: 130.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (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	50	30	10	0		
RCR																										
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53								
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45								
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	38								
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	32								
4	75	64	56	50	69	60	52	47	51	46	41	44	39	36	36	33	31	27								
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	24								
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	30	26	24	21								
7	59	46	38	32	54	43	36	31	37	32	27	32	28	24	27	24	21	18								
8	54	42	34	29	50	39	32	27	34	28	24	29	25	22	25	21	19	16								
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15								
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	13								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13237	13237	13237
5°	13299	13116	13207
10°	13210	13002	13083
15°	13056	12856	12880
20°	12875	12645	12657
25°	12634	12396	12371
30°	12367	12117	12026
35°	12089	11825	11671
40°	11797	11500	11323
45°	11478	11204	10930
50°	11156	10836	10535
55°	10736	10457	10141
60°	10312	10015	9698
65°	9938	9536	9235
70°	9385	8985	8585
75°	8576	8268	7918
80°	7736	7407	7345
85°	6780	6533	6274



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.8	1.9
10°-20°	327.1	5.5
20°-30°	483.2	8.1
30°-40°	564.4	9.4
40°-50°	567.4	9.5
50°-60°	498.4	8.3
60°-70°	371.3	6.2
70°-80°	211.6	3.5
80°-90°	63.7	1.1
90°-100°	65.5	1.1
100°-110°	196.0	3.3
110°-120°	333.3	5.6
120°-130°	438.5	7.3
130°-140°	492.8	8.2
140°-150°	484.4	8.1
150°-160°	407.8	6.8
160°-170°	271.5	4.5
170°-180°	95.1	1.6
0°-30°	926.1	15.5
0°-40°	1490.5	24.9
0°-60°	2556.3	42.7
0°-90°	3202.9	53.5
90°-120°	594.8	9.9
90°-150°	2010.5	33.6
90°-180°	2785.0	46.5
0°-180°	5987.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1230	1230	1230	1230	1230	
5°	1231	1225	1214	1224	1222	117
15°	1172	1167	1154	1161	1156	330
25°	1064	1057	1044	1044	1042	490
35°	920	913	900	894	888	575
45°	754	749	736	724	718	582
55°	572	570	557	546	540	512
65°	390	385	374	366	363	385
75°	206	202	199	194	190	221
85°	55	53	53	51	51	60
90°	1	9	19	22	24	6
95°	47	52	58	61	62	52
105°	178	180	186	186	188	190
115°	336	338	336	337	336	332
125°	491	493	492	489	486	438
135°	637	642	641	638	636	491
145°	773	775	777	776	773	483
155°	885	885	886	889	884	407
165°	964	962	962	966	961	272
175°	1003	1000	1000	1004	999	95
180°	1005	1005	1005	1005	1005	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1234.0	1233.2	1232.5	1231.7	1231.0	1229.6	1227.5	1225.5	1223.4	1221.3	1223.1
5°	1230.8	1229.6	1228.5	1227.3	1226.1	1224.3	1221.6	1219.1	1216.5	1213.9	1216.3
7.5°	1218.8	1217.6	1216.4	1215.3	1214.1	1212.1	1209.4	1206.8	1204.1	1201.4	1203.6
10°	1208.6	1207.4	1206.3	1205.1	1204.0	1201.8	1198.7	1195.7	1192.7	1189.6	1191.7
12.5°	1195.1	1194.1	1193.2	1192.1	1191.1	1189.2	1186.4	1183.5	1180.6	1177.7	1179.3
15°	1171.6	1170.6	1169.7	1168.8	1167.8	1165.9	1162.8	1159.7	1156.7	1153.7	1155.5
17.5°	1144.3	1143.1	1141.9	1140.6	1139.4	1137.3	1134.3	1131.1	1128.1	1125.1	1126.4
20°	1124.0	1122.6	1121.3	1119.8	1118.4	1116.1	1113.1	1110.0	1107.0	1103.9	1104.9
22.5°	1101.2	1099.7	1098.3	1096.9	1095.5	1093.3	1090.3	1087.2	1084.2	1081.1	1081.9
25°	1063.8	1062.4	1061.0	1059.6	1058.1	1055.9	1052.8	1049.8	1046.7	1043.7	1043.9
27.5°	1023.8	1022.4	1021.1	1019.7	1018.3	1016.0	1012.7	1009.5	1006.1	1002.8	1003.0
30°	995.0	993.8	992.7	991.5	990.3	988.1	984.8	981.5	978.3	974.9	974.9
32.5°	966.2	964.7	963.1	961.6	960.1	958.1	955.4	952.9	950.4	947.9	946.5
35°	920.0	918.6	917.2	915.7	914.3	912.1	909.0	905.9	902.9	899.9	898.5
37.5°	872.5	870.8	869.0	867.2	865.5	863.0	859.9	856.8	853.6	850.6	848.9
40°	839.6	838.2	836.8	835.4	833.9	831.6	828.3	825.1	821.7	818.4	816.6
42.5°	806.6	805.0	803.3	801.8	800.2	797.8	794.5	791.1	787.9	784.6	782.7
45°	754.0	753.0	752.0	751.1	750.1	748.2	745.1	742.0	739.0	736.0	733.2
47.5°	701.7	700.3	698.9	697.6	696.2	694.1	691.3	688.4	685.5	682.7	679.8
50°	666.2	665.0	663.8	662.7	661.5	659.3	656.3	653.3	650.2	647.1	644.6
52.5°	628.9	628.1	627.3	626.5	625.7	623.7	620.5	617.2	614.0	610.8	608.5
55°	572.1	571.8	571.6	571.4	571.1	569.5	566.4	563.4	560.3	557.2	554.7
57.5°	518.0	517.2	516.3	515.5	514.7	513.1	510.7	508.2	505.7	503.3	501.0
60°	479.0	478.8	478.6	478.3	478.1	476.6	473.7	470.9	468.1	465.2	463.1
62.5°	444.3	443.7	443.1	442.5	441.9	440.2	437.4	434.5	431.7	428.9	426.8
65°	390.2	389.0	387.8	386.7	385.5	383.7	381.3	379.0	376.7	374.4	372.4
67.5°	332.9	331.8	330.8	329.7	328.7	327.3	325.6	323.8	321.9	320.2	318.5
70°	298.2	296.8	295.4	294.0	292.6	291.1	289.7	288.3	286.9	285.5	283.9
72.5°	261.9	260.7	259.7	258.7	257.7	256.4	254.8	253.2	251.6	249.9	248.5
75°	206.2	205.2	204.3	203.4	202.5	201.6	200.9	200.2	199.4	198.8	197.6
77.5°	156.9	156.4	155.9	155.4	154.8	154.2	153.3	152.5	151.7	150.8	150.0
80°	124.8	124.1	123.4	122.7	122.0	121.4	120.9	120.5	120.0	119.5	119.3
82.5°	93.5	93.3	93.2	93.0	92.9	92.8	92.7	92.6	92.5	92.4	92.0
85°	54.9	54.5	54.0	53.6	53.1	52.9	52.9	52.9	52.9	52.9	52.4
87.5°	22.1	21.9	21.7	21.5	21.3	21.3	21.6	21.9	22.1	22.4	22.3
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.3	16.7	19.0	19.7
92.5°	19.1	20.3	21.5	22.7	23.8	25.1	26.5	27.8	29.0	30.3	30.9
95°	46.6	47.8	49.1	50.3	51.5	52.8	54.2	55.6	57.1	58.5	59.2
97.5°	82.7	83.6	84.5	85.4	86.4	87.4	88.4	89.4	90.4	91.4	92.2
100°	107.3	108.5	109.5	110.6	111.6	112.6	113.4	114.3	115.2	116.0	116.6
102.5°	135.8	136.4	137.0	137.7	138.4	139.3	140.4	141.6	142.7	143.9	144.4
105°	177.6	178.0	178.3	178.7	179.0	180.1	181.6	183.2	184.8	186.3	186.3
107.5°	226.3	226.5	226.7	226.9	227.1	227.5	228.2	228.8	229.4	230.0	230.7
110°	256.6	256.9	257.3	257.6	258.0	258.3	258.7	259.0	259.4	259.7	260.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	288.2	288.4	288.6	288.8	289.0	289.1	289.2	289.3	289.4	289.4	290.3
115°	335.6	336.1	336.6	337.1	337.7	337.8	337.4	337.1	336.7	336.4	336.5
117.5°	383.2	383.6	384.0	384.3	384.7	384.6	384.2	383.6	383.2	382.7	382.7
120°	412.9	413.9	415.1	416.1	417.2	417.3	416.4	415.5	414.7	413.7	413.5
122.5°	443.9	444.6	445.5	446.2	447.0	447.2	446.7	446.3	445.8	445.4	444.8
125°	491.1	491.6	492.1	492.7	493.2	493.3	492.9	492.6	492.2	491.9	491.2
127.5°	534.7	535.8	536.9	538.1	539.2	539.6	539.2	538.8	538.4	538.0	537.0
130°	563.7	565.1	566.5	567.9	569.4	569.8	569.3	568.8	568.3	567.6	566.9
132.5°	592.8	594.2	595.6	597.0	598.4	599.0	598.5	598.1	597.7	597.3	596.5
135°	637.1	638.2	639.2	640.4	641.4	641.9	641.7	641.5	641.3	641.2	640.5
137.5°	678.2	679.1	679.9	680.9	681.8	682.4	682.9	683.3	683.8	684.2	683.5
140°	706.6	707.5	708.4	709.3	710.1	710.6	710.8	711.0	711.2	711.3	711.2
142.5°	732.6	733.5	734.3	735.2	736.1	736.7	737.0	737.3	737.6	737.9	737.7
145°	773.0	773.4	773.7	774.1	774.4	774.8	775.4	775.9	776.4	776.9	776.8
147.5°	808.4	809.0	809.6	810.2	810.9	811.4	811.9	812.4	812.9	813.4	813.4
150°	832.9	833.3	833.6	834.0	834.4	834.8	835.1	835.5	835.8	836.2	836.2
152.5°	853.2	853.6	854.1	854.6	855.2	855.6	855.8	856.0	856.2	856.4	856.7
155°	885.0	885.0	885.0	885.0	885.0	885.1	885.3	885.6	885.8	885.9	886.6
157.5°	912.2	912.0	911.8	911.6	911.4	911.4	911.5	911.7	911.8	911.9	912.7
160°	929.3	929.0	928.6	928.3	927.9	927.8	927.8	927.8	927.8	927.8	928.6
162.5°	944.4	944.0	943.5	943.0	942.5	942.3	942.5	942.6	942.7	942.9	943.7
165°	964.0	963.5	963.0	962.5	961.9	961.7	961.7	961.7	961.7	961.7	962.7
167.5°	979.7	979.0	978.3	977.5	976.8	976.6	976.7	976.8	977.0	977.1	978.3
170°	988.6	987.8	987.1	986.4	985.7	985.3	985.3	985.3	985.3	985.3	986.6
172.5°	995.4	994.8	994.1	993.4	992.7	992.3	992.3	992.3	992.3	992.3	993.4
175°	1002.7	1002.0	1001.4	1000.7	1000.0	999.6	999.6	999.6	999.6	999.6	1000.7
177.5°	1005.7	1005.2	1004.6	1004.0	1003.5	1003.2	1003.2	1003.2	1003.2	1003.2	1004.0
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1225.1	1227.0	1228.8	1229.7	1229.5	1229.3	1229.1	1228.9
5°	1218.6	1220.9	1223.4	1224.3	1223.8	1223.4	1222.8	1222.3
7.5°	1205.7	1207.8	1209.9	1210.8	1210.5	1210.2	1209.9	1209.7
10°	1193.9	1195.9	1198.0	1198.9	1198.4	1197.9	1197.5	1197.0
12.5°	1180.8	1182.3	1184.0	1184.6	1184.3	1184.0	1183.8	1183.5
15°	1157.4	1159.2	1161.1	1161.3	1159.9	1158.5	1157.2	1155.8
17.5°	1127.7	1129.0	1130.3	1130.7	1130.2	1129.7	1129.2	1128.7
20°	1105.8	1106.7	1107.7	1107.8	1107.1	1106.4	1105.7	1105.0
22.5°	1082.6	1083.4	1084.1	1084.0	1083.2	1082.3	1081.4	1080.5
25°	1044.1	1044.4	1044.6	1044.4	1043.7	1043.0	1042.3	1041.6
27.5°	1003.2	1003.4	1003.6	1003.2	1002.4	1001.5	1000.6	999.7
30°	974.9	974.9	974.9	974.1	972.5	970.8	969.2	967.6
32.5°	945.2	943.9	942.6	941.5	940.6	939.7	938.8	938.0
35°	897.1	895.6	894.2	892.9	891.7	890.6	889.4	888.2
37.5°	847.2	845.5	843.8	842.6	841.8	841.1	840.3	839.6
40°	814.7	812.8	810.9	809.5	808.6	807.6	806.7	805.8
42.5°	780.8	778.9	777.1	775.7	774.8	773.8	772.8	771.9
45°	730.3	727.5	724.7	722.7	721.5	720.3	719.1	718.0
47.5°	677.1	674.4	671.6	669.6	668.6	667.6	666.6	665.5
50°	642.0	639.3	636.8	634.8	633.4	632.0	630.6	629.1
52.5°	606.3	604.1	601.9	600.2	598.7	597.3	595.9	594.5
55°	552.1	549.5	546.9	545.0	543.8	542.7	541.5	540.4
57.5°	498.7	496.4	494.1	492.3	490.9	489.6	488.2	486.9
60°	461.0	458.9	456.8	455.1	453.9	452.8	451.6	450.5
62.5°	424.6	422.5	420.4	419.0	418.2	417.4	416.6	415.8
65°	370.5	368.7	366.8	365.5	364.8	364.1	363.3	362.6
67.5°	316.9	315.3	313.6	312.3	311.3	310.3	309.3	308.3
70°	282.3	280.5	278.9	277.5	276.3	275.2	274.0	272.8
72.5°	247.0	245.6	244.2	243.1	242.5	241.9	241.3	240.7
75°	196.4	195.3	194.1	193.2	192.5	191.8	191.1	190.4
77.5°	149.2	148.3	147.5	147.2	147.2	147.2	147.2	147.2
80°	119.1	118.8	118.6	118.5	118.5	118.5	118.5	118.5
82.5°	91.6	91.2	90.7	90.4	90.3	90.1	89.9	89.7
85°	51.9	51.5	51.0	50.8	50.8	50.8	50.8	50.8
87.5°	22.3	22.2	22.2	22.2	22.3	22.3	22.4	22.5
90°	20.4	21.0	21.7	22.3	22.6	23.0	23.3	23.7
92.5°	31.4	32.0	32.5	32.7	32.5	32.3	32.1	31.9
95°	59.8	60.5	61.2	61.6	61.6	61.6	61.6	61.6
97.5°	93.0	93.8	94.6	95.0	94.9	94.9	94.8	94.7
100°	117.1	117.6	118.2	118.7	119.0	119.3	119.7	120.0
102.5°	144.9	145.4	145.9	146.2	146.1	146.0	146.0	145.9
105°	186.3	186.3	186.3	186.5	186.8	187.2	187.5	187.9
107.5°	231.2	231.8	232.4	232.5	232.3	232.1	231.9	231.7
110°	261.2	261.9	262.6	262.8	262.4	262.1	261.7	261.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	291.1	292.0	292.9	293.2	293.2	293.1	293.0	293.0
115°	336.7	336.9	337.1	337.1	336.9	336.7	336.5	336.4
117.5°	382.7	382.6	382.6	382.3	381.9	381.4	380.9	380.4
120°	413.3	413.2	413.0	412.7	412.4	412.0	411.7	411.3
122.5°	444.4	443.9	443.5	443.0	442.5	442.0	441.5	441.0
125°	490.5	489.8	489.1	488.4	487.7	487.0	486.3	485.5
127.5°	536.0	535.0	534.1	533.2	532.4	531.6	530.8	530.0
130°	566.3	565.6	564.9	563.9	562.7	561.5	560.3	559.0
132.5°	595.7	594.8	594.0	593.1	592.2	591.2	590.3	589.4
135°	639.7	639.0	638.3	637.8	637.4	637.1	636.7	636.4
137.5°	682.8	682.1	681.3	680.5	679.9	679.2	678.6	677.9
140°	711.0	710.8	710.6	710.0	708.7	707.5	706.3	705.1
142.5°	737.6	737.4	737.2	736.7	735.7	734.8	733.8	732.9
145°	776.6	776.4	776.2	775.8	775.1	774.4	773.7	773.0
147.5°	813.4	813.4	813.4	812.8	811.8	810.7	809.7	808.7
150°	836.2	836.2	836.2	835.7	834.6	833.5	832.4	831.4
152.5°	856.9	857.2	857.5	857.2	856.3	855.4	854.4	853.5
155°	887.3	888.0	888.7	888.4	887.2	886.0	884.7	883.5
157.5°	913.4	914.1	914.8	914.7	913.8	912.8	911.8	910.8
160°	929.5	930.4	931.2	931.3	930.6	929.9	929.2	928.5
162.5°	944.6	945.5	946.4	946.2	945.1	944.0	942.9	941.8
165°	963.8	964.8	965.9	965.8	964.6	963.3	962.1	960.9
167.5°	979.4	980.4	981.5	981.5	980.4	979.4	978.3	977.1
170°	987.8	989.1	990.3	990.3	989.1	987.8	986.6	985.3
172.5°	994.5	995.6	996.6	996.6	995.3	994.1	992.9	991.7
175°	1001.7	1002.7	1003.8	1003.7	1002.5	1001.3	1000.0	998.8
177.5°	1004.9	1005.7	1006.5	1006.5	1005.5	1004.5	1003.6	1002.6
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1

(END OF REPORT)