

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: P332701-930

Luminaire Tested: **S124DIP-S1195D1035U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332701-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1035U930-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

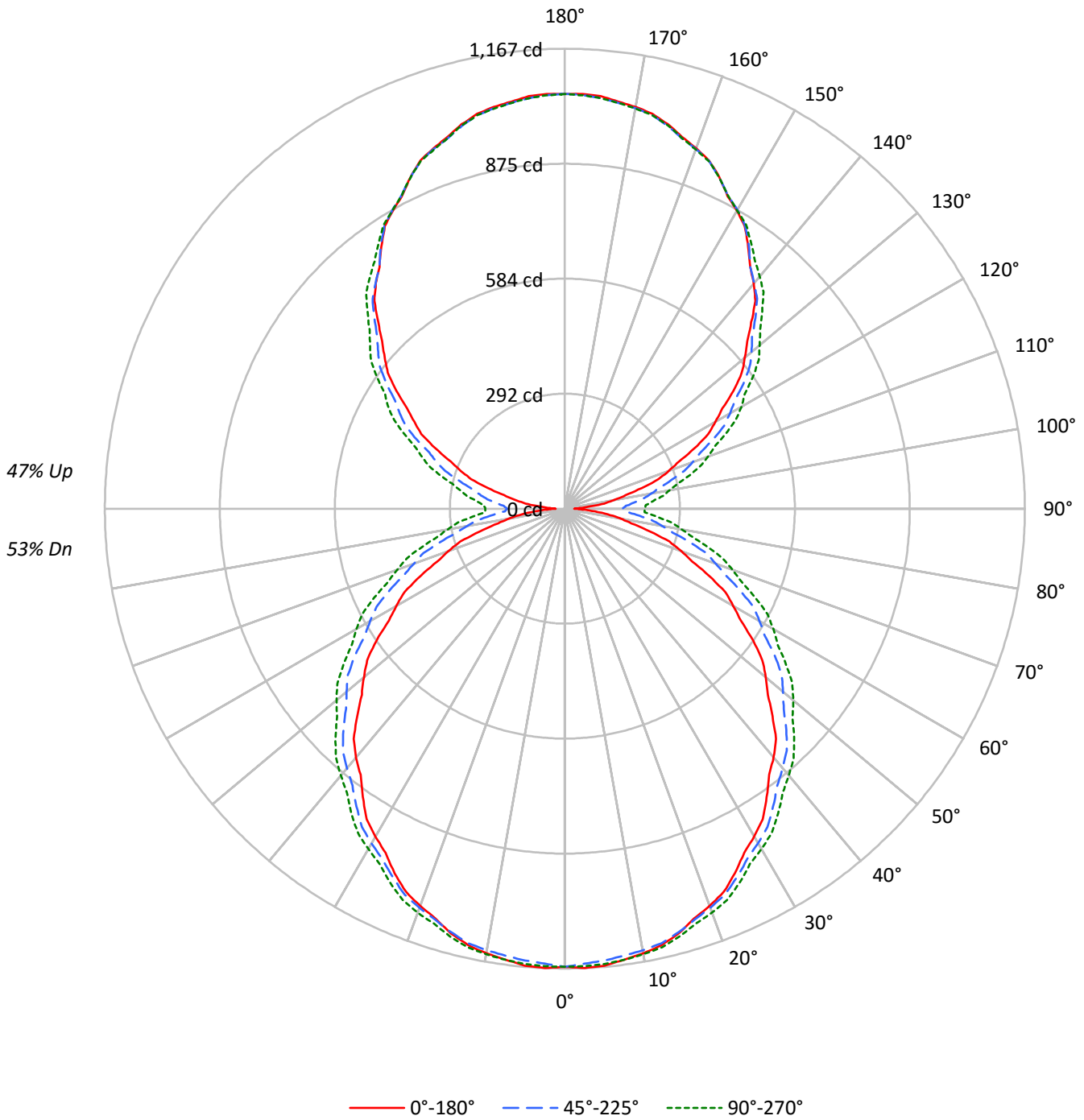
Lumens per Lamp: N/A  
Luminaire Lumens: 6885.5 lumens  
Efficiency: N/A  
Efficacy: 103.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 66.8  
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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	97	93	88	84	90	86	82	79	73	70	68	61	59	57	51	49	48	43
2	88	80	74	68	81	74	69	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	56	50	46	47	43	39	38	36	33	29
4	73	62	54	47	67	57	50	44	49	43	39	41	37	33	34	31	28	25
5	67	55	46	40	62	51	43	38	44	38	33	37	32	29	31	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	17	21	18	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	14	12

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

	0°	45°	90°
0°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.1	1.6
10°-20°	315.4	4.6
20°-30°	477.0	6.9
30°-40°	577.1	8.4
40°-50°	610.1	8.9
50°-60°	574.2	8.3
60°-70°	476.4	6.9
70°-80°	334.6	4.9
80°-90°	192.3	2.8
90°-100°	181.7	2.6
100°-110°	288.7	4.2
110°-120°	404.8	5.9
120°-130°	491.6	7.1
130°-140°	530.3	7.7
140°-150°	510.5	7.4
150°-160°	427.1	6.2
160°-170°	284.1	4.1
170°-180°	99.5	1.4
0°-30°	902.5	13.1
0°-40°	1479.6	21.5
0°-60°	2663.8	38.7
0°-90°	3667.1	53.3
90°-120°	875.2	12.7
90°-150°	2407.7	35.0
90°-180°	3218.0	46.7
0°-180°	6885.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	23	84	147	188	202	17
95°	66	117	175	211	224	68
105°	201	230	280	313	327	214
115°	363	376	414	441	450	358
125°	522	522	552	575	582	465
135°	669	674	683	702	708	518
145°	811	813	814	821	824	508
155°	928	928	927	930	927	427
165°	1010	1008	1006	1010	1008	285
175°	1051	1047	1046	1051	1046	100
180°	1052	1052	1052	1052	1052	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	39.1	51.2	63.4	75.7	87.8	100.4	113.4	126.4	139.3	152.2	160.9
90°	23.2	36.9	50.4	63.9	77.5	91.2	105.1	119.0	132.9	146.8	156.3
92.5°	37.2	49.9	62.6	75.3	88.0	101.0	114.5	127.9	141.4	154.8	163.7
95°	65.7	77.0	88.1	99.3	110.5	122.6	135.7	148.9	162.0	175.1	183.4
97.5°	100.6	110.1	119.7	129.2	138.7	150.1	163.3	176.5	189.8	203.0	211.2
100°	128.2	136.5	144.7	153.0	161.3	171.8	184.7	197.6	210.5	223.5	231.6
102.5°	158.2	165.1	171.9	178.9	185.7	195.4	208.0	220.5	233.0	245.6	253.6
105°	201.3	207.3	213.3	219.2	225.2	233.9	245.3	256.7	268.2	279.6	287.4
107.5°	249.1	254.0	259.0	264.0	269.0	276.5	286.7	297.0	307.2	317.5	325.1
110°	280.6	285.0	289.4	293.8	298.2	305.4	315.4	325.3	335.3	345.2	351.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	313.4	317.1	320.7	324.4	328.1	334.5	343.9	353.2	362.6	371.9	378.2
115°	362.6	365.3	367.9	370.4	373.0	378.8	387.7	396.6	405.4	414.3	420.5
117.5°	410.2	411.9	413.6	415.3	417.0	422.1	430.5	438.8	447.2	455.5	461.0
120°	441.1	442.6	444.3	445.8	447.4	452.2	460.0	467.8	475.7	483.6	488.4
122.5°	474.3	474.7	475.2	475.6	476.1	480.2	487.9	495.5	503.2	510.9	516.1
125°	522.0	521.6	521.4	521.1	520.8	524.2	531.2	538.3	545.4	552.4	557.5
127.5°	566.1	566.4	566.6	566.9	567.1	569.9	575.2	580.4	585.7	590.9	595.8
130°	596.3	596.6	596.9	597.1	597.4	599.8	604.4	609.0	613.7	618.3	623.1
132.5°	628.3	628.4	628.4	628.6	628.7	630.5	634.1	637.6	641.2	644.7	649.4
135°	669.1	670.2	671.2	672.4	673.4	675.0	677.0	679.1	681.0	683.1	687.4
137.5°	715.0	715.2	715.4	715.7	715.8	716.6	717.9	719.2	720.4	721.7	725.5
140°	745.6	745.7	745.8	745.8	745.8	746.1	746.3	746.7	746.9	747.2	750.8
142.5°	772.6	772.8	773.1	773.5	773.7	773.7	773.4	773.1	772.8	772.5	775.8
145°	811.0	811.5	811.9	812.3	812.8	813.0	813.3	813.4	813.6	813.8	815.3
147.5°	849.5	850.0	850.6	851.2	851.7	852.0	851.8	851.7	851.5	851.4	851.5
150°	872.9	873.3	873.8	874.2	874.6	874.8	874.8	874.8	874.8	874.8	874.8
152.5°	894.0	894.3	894.7	895.1	895.4	895.7	895.9	896.0	896.2	896.3	896.7
155°	927.7	927.7	927.7	927.7	927.7	927.6	927.4	927.2	927.1	926.9	927.6
157.5°	956.3	956.0	955.7	955.4	955.0	954.9	954.8	954.8	954.8	954.7	955.3
160°	973.3	973.1	972.9	972.7	972.6	972.4	972.2	972.0	971.8	971.7	972.2
162.5°	988.9	988.5	988.0	987.5	987.0	986.7	986.5	986.3	986.2	985.9	986.9
165°	1009.9	1009.3	1008.9	1008.3	1007.7	1007.3	1006.9	1006.6	1006.2	1005.8	1006.9
167.5°	1026.1	1025.2	1024.5	1023.8	1023.0	1022.6	1022.6	1022.7	1022.7	1022.8	1023.9
170°	1035.1	1034.2	1033.3	1032.4	1031.5	1031.1	1031.4	1031.5	1031.7	1031.8	1033.0
172.5°	1041.6	1040.9	1040.2	1039.3	1038.6	1038.2	1038.3	1038.3	1038.4	1038.4	1039.6
175°	1050.6	1049.7	1048.8	1047.9	1047.0	1046.4	1046.3	1046.0	1045.9	1045.7	1047.0
177.5°	1053.5	1052.8	1052.1	1051.3	1050.6	1050.3	1050.3	1050.3	1050.3	1050.3	1051.2
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	169.5	178.1	186.7	192.3	194.9	197.5	200.2	202.8
90°	165.8	175.2	184.7	190.8	193.5	196.1	198.8	201.5
92.5°	172.5	181.3	190.1	195.8	198.3	200.8	203.3	205.9
95°	191.8	200.2	208.6	214.0	216.6	219.2	221.8	224.5
97.5°	219.5	227.7	235.9	241.3	243.8	246.3	248.7	251.3
100°	239.8	247.9	256.2	261.2	263.3	265.3	267.3	269.4
102.5°	261.8	269.9	277.9	283.2	285.6	288.0	290.4	292.8
105°	295.1	303.0	310.7	316.0	318.9	321.7	324.6	327.4
107.5°	332.7	340.3	348.0	352.8	354.8	356.9	358.9	361.0
110°	357.8	364.1	370.4	375.0	377.8	380.7	383.5	386.4





TEST NUMBER: P332701-930

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	384.6	390.9	397.3	401.7	404.1	406.5	409.0	411.4
115°	426.7	432.9	439.1	443.1	445.0	446.8	448.7	450.5
117.5°	466.4	471.7	477.2	480.9	482.8	484.8	486.7	488.6
120°	493.3	498.1	503.0	506.9	509.6	512.2	514.9	517.6
122.5°	521.2	526.4	531.6	534.8	536.3	537.8	539.2	540.6
125°	562.6	567.8	572.9	576.2	577.6	578.9	580.3	581.7
127.5°	600.6	605.5	610.3	613.6	615.3	616.9	618.6	620.3
130°	628.0	632.8	637.7	640.6	641.6	642.6	643.7	644.7
132.5°	654.0	658.6	663.2	666.3	667.6	669.1	670.6	672.1
135°	691.6	695.9	700.2	702.9	704.1	705.2	706.5	707.7
137.5°	729.2	733.0	736.7	739.4	740.9	742.5	744.0	745.6
140°	754.4	758.0	761.6	763.9	765.2	766.5	767.8	769.0
142.5°	779.0	782.3	785.5	787.7	788.9	790.1	791.2	792.5
145°	816.9	818.5	820.0	821.1	821.7	822.3	823.0	823.5
147.5°	851.6	851.7	851.7	852.2	852.9	853.6	854.4	855.1
150°	874.8	874.8	874.8	874.7	874.6	874.3	874.2	874.0
152.5°	897.2	897.6	898.1	898.1	897.6	897.1	896.6	896.1
155°	928.4	929.0	929.8	929.8	929.0	928.4	927.6	926.9
157.5°	955.8	956.3	956.9	956.8	956.3	955.6	955.0	954.4
160°	972.7	973.3	973.8	973.6	972.7	971.8	970.9	970.0
162.5°	987.9	988.9	989.9	989.9	989.0	988.1	987.2	986.3
165°	1008.0	1009.1	1010.2	1010.3	1009.7	1008.9	1008.2	1007.5
167.5°	1024.9	1026.1	1027.1	1027.1	1026.0	1024.8	1023.7	1022.6
170°	1034.0	1035.1	1036.2	1036.1	1034.9	1033.6	1032.3	1031.0
172.5°	1040.8	1042.0	1043.3	1043.3	1042.0	1040.7	1039.5	1038.2
175°	1048.2	1049.5	1050.8	1050.8	1049.5	1048.2	1047.0	1045.7
177.5°	1052.3	1053.3	1054.3	1054.3	1053.1	1051.9	1050.8	1049.6
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2

(END OF REPORT)