

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: P331696-935

Luminaire Tested: **SA2XXRDIP-C675D925U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331696-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C675D925U935-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

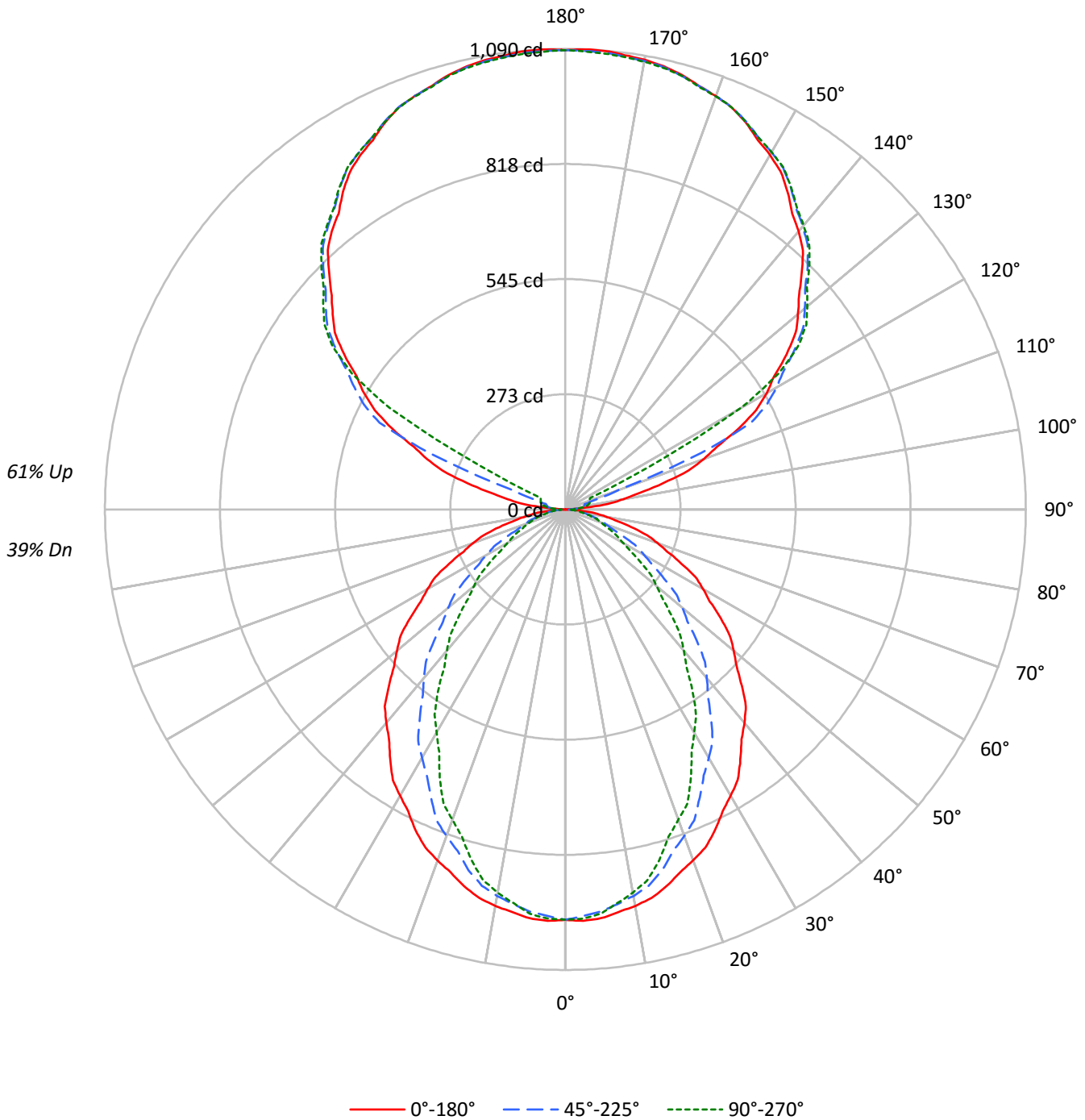
Lumens per Lamp: N/A
Luminaire Lumens: 5185.0 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 52
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	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46	39				
1	96	91	88	84	87	83	80	77	68	66	64	54	52	51	41	40	39	33				
2	87	80	74	70	79	73	68	64	60	56	53	48	45	43	36	35	34	28				
3	80	71	64	58	72	65	59	54	53	49	45	42	40	37	33	31	29	25				
4	73	63	55	50	66	58	51	46	47	43	39	38	35	32	29	27	25	21				
5	67	56	48	43	61	51	45	40	43	38	34	34	31	28	27	24	22	19				
6	62	50	43	37	56	46	39	35	38	33	30	31	27	25	24	22	20	17				
7	57	46	38	33	52	42	35	30	35	30	26	28	25	22	22	20	18	15				
8	53	41	34	29	48	38	32	27	32	27	23	26	22	20	20	18	16	13				
9	50	38	31	26	45	35	28	24	29	24	21	24	20	18	19	16	14	12				
10	46	35	28	23	42	32	26	22	27	22	19	22	19	16	18	15	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15681	15681	15681
5°	15741	15486	15571
10°	15621	15231	15101
15°	15442	14780	14355
20°	15192	14136	13426
25°	14938	13402	12527
30°	14585	12652	11373
35°	14241	11832	10360
40°	13894	10985	9187
45°	13486	10035	8127
50°	13069	9075	7086
55°	12645	8042	6086
60°	12148	6952	5050
65°	11584	5841	4604
70°	10914	4810	4230
75°	10087	4386	3949
80°	8908	3924	3598
85°	7003	3094	3094



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.9	1.8
10°-20°	249.6	4.8
20°-30°	350.5	6.8
30°-40°	382.2	7.4
40°-50°	351.5	6.8
50°-60°	276.0	5.3
60°-70°	180.0	3.5
70°-80°	92.8	1.8
80°-90°	26.7	0.5
90°-100°	36.2	0.7
100°-110°	132.9	2.6
110°-120°	355.3	6.9
120°-130°	586.6	11.3
130°-140°	623.8	12.0
140°-150°	579.8	11.2
150°-160°	466.2	9.0
160°-170°	300.4	5.8
170°-180°	103.4	2.0
0°-30°	691.1	13.3
0°-40°	1073.3	20.7
0°-60°	1700.8	32.8
0°-90°	2000.3	38.6
90°-120°	524.5	10.1
90°-150°	2314.7	44.6
90°-180°	3185.0	61.4
0°-180°	5185.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	971	966	956	963	961	92
15°	924	913	884	868	859	260
25°	838	809	752	718	703	385
35°	722	676	600	547	526	452
45°	591	530	440	379	356	456
55°	449	379	286	235	216	401
65°	303	232	153	125	120	300
75°	162	102	70	64	63	171
85°	38	20	17	17	17	45
90°	1	9	16	20	21	4
95°	51	27	31	34	34	63
105°	239	249	48	56	60	255
115°	452	466	485	138	64	445
125°	639	650	664	670	672	570
135°	791	803	811	818	817	611
145°	918	918	930	935	932	574
155°	1010	1004	1013	1017	1011	465
165°	1065	1060	1062	1067	1062	301
175°	1089	1084	1085	1090	1083	104
180°	1087	1087	1087	1087	1087	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2
2.5°	974.7	974.0	973.2	972.4	971.6	970.3	968.6	966.9	965.3	963.5	965.1
5°	971.2	970.3	969.3	968.3	967.3	965.6	963.0	960.5	957.9	955.5	957.2
7.5°	961.2	960.0	958.8	957.6	956.4	954.2	951.3	948.4	945.4	942.5	942.9
10°	952.8	951.4	950.0	948.6	947.3	944.7	940.7	936.9	933.0	929.0	928.5
12.5°	942.2	940.6	938.8	937.2	935.5	932.2	927.2	922.2	917.1	912.1	911.1
15°	923.8	921.6	919.5	917.3	915.2	910.8	904.1	897.5	890.9	884.2	880.5
17.5°	901.1	897.9	894.6	891.2	887.9	882.1	873.6	865.0	856.5	848.0	843.6
20°	884.2	880.3	876.4	872.5	868.6	861.8	852.0	842.2	832.5	822.7	817.8
22.5°	865.9	861.6	857.2	852.8	848.4	840.8	829.7	818.7	807.7	796.7	790.4
25°	838.5	832.2	826.0	819.8	813.6	803.9	791.1	778.2	765.3	752.3	744.3
27.5°	805.5	798.7	791.9	785.1	778.3	767.6	753.1	738.6	724.0	709.5	700.2
30°	782.3	774.8	767.4	760.0	752.6	741.1	725.4	709.8	694.1	678.6	668.6
32.5°	759.7	751.1	742.4	733.7	725.0	712.7	696.8	680.9	665.0	649.0	637.7
35°	722.5	712.6	702.6	692.6	682.7	669.1	651.9	634.7	617.5	600.3	588.0
37.5°	685.3	674.2	663.3	652.4	641.4	626.8	608.6	590.2	571.9	553.5	540.0
40°	659.2	647.5	635.8	624.1	612.3	597.0	578.1	559.1	540.2	521.2	507.4
42.5°	632.5	620.2	607.8	595.5	583.2	567.1	547.6	528.1	508.4	488.9	474.5
45°	590.6	577.6	564.5	551.4	538.3	521.5	501.0	480.5	459.9	439.5	425.6
47.5°	549.8	536.0	522.1	508.2	494.4	476.9	455.7	434.5	413.4	392.2	378.4
50°	520.3	506.4	492.6	478.7	464.9	447.2	425.7	404.2	382.7	361.3	347.8
52.5°	491.5	477.0	462.5	448.1	433.5	415.8	394.8	373.8	352.8	331.7	318.7
55°	449.2	433.9	418.7	403.5	388.2	370.1	349.0	327.9	306.8	285.7	274.0
57.5°	405.7	390.1	374.4	358.9	343.2	325.3	305.0	284.7	264.4	244.2	233.4
60°	376.2	360.6	344.9	329.3	313.7	295.8	275.7	255.5	235.5	215.3	205.3
62.5°	347.3	331.7	316.1	300.5	284.8	267.4	248.3	229.1	209.9	190.7	181.2
65°	303.2	287.4	271.6	255.8	240.0	223.3	205.7	188.1	170.5	152.9	146.3
67.5°	260.7	245.0	229.3	213.6	197.9	182.1	166.3	150.5	134.7	118.8	115.8
70°	231.2	215.9	200.7	185.5	170.2	155.8	142.4	128.9	115.5	101.9	100.0
72.5°	203.0	188.4	173.8	159.2	144.6	131.9	121.1	110.2	99.4	88.6	87.0
75°	161.7	148.1	134.4	120.7	107.0	96.9	90.2	83.6	77.0	70.3	69.0
77.5°	121.1	109.1	97.1	85.2	73.2	65.5	62.3	59.2	56.0	52.8	51.9
80°	95.8	85.8	75.9	66.0	56.0	50.0	48.0	46.1	44.2	42.2	41.4
82.5°	72.6	64.8	57.1	49.2	41.5	36.9	35.6	34.3	33.0	31.7	31.2
85°	37.8	33.7	29.6	25.5	21.4	19.0	18.4	17.9	17.3	16.7	16.7
87.5°	11.4	10.5	9.6	8.8	7.9	7.7	7.9	8.2	8.5	8.8	8.8
90°	0.8	2.7	4.6	6.5	8.4	10.2	11.5	12.9	14.3	15.8	16.6
92.5°	15.8	15.7	15.5	15.3	15.2	15.4	16.2	16.9	17.6	18.3	18.7
95°	51.1	45.4	39.6	33.8	28.1	25.7	27.0	28.2	29.4	30.7	31.5
97.5°	101.4	85.2	69.0	52.7	36.4	29.7	32.5	35.4	38.2	41.1	41.8
100°	139.2	115.2	91.3	67.3	43.4	33.0	35.9	38.9	41.8	44.9	46.2
102.5°	180.7	175.6	170.6	165.5	160.4	145.5	120.6	95.7	70.9	46.1	47.9
105°	239.0	244.3	249.5	254.8	260.0	238.8	191.1	143.4	95.7	48.0	49.9
107.5°	305.6	309.8	314.0	318.2	322.5	296.0	238.8	181.6	124.3	67.2	65.2
110°	348.4	352.1	355.7	359.4	363.0	339.6	289.1	238.6	188.1	137.6	120.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	388.6	391.8	395.1	398.4	401.6	397.0	384.5	372.0	359.6	347.1	283.4
115°	452.1	455.1	458.1	461.1	464.0	467.7	472.1	476.5	480.8	485.2	404.2
117.5°	508.9	512.2	515.6	518.9	522.2	525.4	528.4	531.4	534.4	537.4	517.8
120°	550.4	553.0	555.7	558.3	560.9	563.8	567.0	570.1	573.3	576.4	578.5
122.5°	585.7	588.4	591.2	593.9	596.7	599.8	603.2	606.7	610.1	613.5	614.8
125°	639.3	641.5	643.9	646.1	648.4	651.2	654.5	657.8	661.2	664.4	665.7
127.5°	687.9	690.4	692.9	695.4	697.9	700.4	702.9	705.4	707.9	710.4	712.1
130°	718.8	721.5	724.3	727.1	729.9	732.3	734.2	736.1	738.0	739.9	741.8
132.5°	750.2	752.5	754.9	757.3	759.7	761.8	763.8	765.7	767.6	769.5	771.2
135°	791.1	793.8	796.7	799.4	802.3	804.4	806.0	807.6	809.2	810.7	812.4
137.5°	832.4	834.4	836.4	838.3	840.2	842.1	843.9	845.7	847.5	849.3	850.9
140°	859.5	860.9	862.3	863.7	865.0	866.8	868.7	870.6	872.5	874.4	876.0
142.5°	882.1	883.4	884.7	885.9	887.2	888.9	891.0	893.3	895.5	897.7	899.1
145°	917.7	917.5	917.3	917.1	917.0	918.3	921.4	924.3	927.3	930.2	931.4
147.5°	948.6	948.0	947.4	946.7	946.0	947.1	950.0	953.0	956.0	958.9	959.8
150°	968.8	967.6	966.3	965.1	963.9	964.7	967.5	970.3	973.1	975.9	976.9
152.5°	985.8	984.4	983.0	981.7	980.3	980.9	983.6	986.3	988.9	991.6	992.6
155°	1010.5	1008.9	1007.3	1005.7	1004.2	1004.4	1006.5	1008.7	1010.7	1012.8	1013.8
157.5°	1029.8	1028.5	1027.2	1025.8	1024.5	1024.6	1026.1	1027.5	1029.0	1030.4	1031.7
160°	1041.1	1040.1	1039.1	1037.9	1036.9	1036.9	1037.9	1039.1	1040.1	1041.1	1042.2
162.5°	1051.2	1050.2	1049.1	1048.0	1047.0	1046.9	1047.8	1048.7	1049.6	1050.6	1051.7
165°	1064.7	1063.7	1062.6	1061.5	1060.5	1060.2	1060.8	1061.3	1061.9	1062.4	1063.6
167.5°	1074.8	1073.8	1072.7	1071.6	1070.6	1070.3	1070.8	1071.3	1071.8	1072.3	1073.5
170°	1080.5	1079.3	1078.3	1077.3	1076.2	1075.9	1076.2	1076.6	1076.9	1077.3	1078.5
172.5°	1084.2	1083.1	1082.1	1081.1	1080.0	1079.7	1080.0	1080.4	1080.7	1081.1	1082.3
175°	1089.1	1087.9	1086.7	1085.4	1084.2	1083.7	1084.1	1084.4	1084.8	1085.1	1086.4
177.5°	1089.9	1088.9	1088.0	1086.9	1086.0	1085.5	1085.7	1085.8	1086.0	1086.1	1087.1
180°	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2
2.5°	966.6	968.2	969.7	970.3	970.1	969.7	969.5	969.1
5°	958.9	960.7	962.4	963.0	962.4	961.8	961.3	960.7
7.5°	943.4	943.9	944.4	944.2	943.1	942.2	941.2	940.1
10°	927.9	927.3	926.7	925.8	924.6	923.5	922.3	921.1
12.5°	910.1	909.0	907.9	906.5	904.5	902.6	900.6	898.6
15°	876.8	873.1	869.4	866.5	864.6	862.6	860.7	858.8
17.5°	839.2	834.7	830.3	826.5	823.1	819.8	816.4	813.0
20°	813.0	808.0	803.1	798.6	794.3	790.0	785.7	781.4
22.5°	784.1	777.8	771.5	766.8	763.5	760.3	757.2	754.0
25°	736.3	728.3	720.3	714.9	712.0	709.0	706.1	703.2
27.5°	690.8	681.5	672.2	665.1	660.5	655.8	651.2	646.5
30°	658.7	648.7	638.7	631.1	625.8	620.5	615.3	610.0
32.5°	626.3	614.9	603.6	595.4	590.4	585.5	580.5	575.6
35°	575.8	563.4	551.1	542.8	538.5	534.2	529.9	525.6
37.5°	526.4	512.9	499.4	490.1	485.2	480.3	475.4	470.5
40°	493.4	479.6	465.7	456.2	451.2	446.1	441.0	435.9
42.5°	460.2	445.8	431.5	421.9	417.0	412.1	407.2	402.2
45°	411.7	397.9	384.0	374.7	370.1	365.3	360.7	355.9
47.5°	364.6	350.9	337.0	328.0	323.7	319.5	315.2	311.0
50°	334.3	320.8	307.4	298.5	294.5	290.3	286.3	282.1
52.5°	305.7	292.7	279.7	271.3	267.5	263.7	259.9	256.1
55°	262.3	250.5	238.8	231.1	227.4	223.6	219.9	216.2
57.5°	222.7	212.0	201.2	194.2	191.1	188.0	184.9	181.8
60°	195.4	185.5	175.5	168.9	165.8	162.7	159.5	156.4
62.5°	171.8	162.2	152.7	147.1	145.2	143.4	141.5	139.6
65°	139.7	133.0	126.4	122.8	122.2	121.6	121.0	120.5
67.5°	112.7	109.7	106.7	104.8	104.2	103.6	103.0	102.3
70°	98.1	96.1	94.1	92.8	92.0	91.2	90.4	89.6
72.5°	85.3	83.7	82.1	81.0	80.5	80.1	79.6	79.1
75°	67.6	66.2	64.8	64.1	63.9	63.7	63.5	63.3
77.5°	51.1	50.4	49.6	49.1	48.7	48.5	48.1	47.8
80°	40.6	39.9	39.1	38.7	38.7	38.7	38.7	38.7
82.5°	30.7	30.2	29.8	29.5	29.5	29.5	29.5	29.5
85°	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
87.5°	8.8	8.9	8.9	8.9	9.0	9.0	9.1	9.1
90°	17.5	18.3	19.2	19.8	20.1	20.5	20.9	21.3
92.5°	19.1	19.6	20.1	20.4	20.6	20.8	21.0	21.3
95°	32.4	33.3	34.2	34.5	34.4	34.2	34.0	33.8
97.5°	42.4	43.1	43.8	44.3	44.5	44.7	44.9	45.1
100°	47.6	49.0	50.5	51.3	51.7	52.0	52.3	52.7
102.5°	49.7	51.6	53.4	54.5	55.0	55.4	56.0	56.5
105°	51.8	53.7	55.6	57.0	57.7	58.4	59.1	59.8
107.5°	63.2	61.3	59.3	58.7	59.4	60.1	60.8	61.5
110°	102.6	85.2	67.7	59.3	60.0	60.7	61.4	62.2



TEST NUMBER: P331696-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	219.6	155.8	92.1	60.5	61.0	61.6	62.2	62.8
115°	323.4	242.5	161.5	114.8	102.2	89.6	77.1	64.5
117.5°	498.3	478.7	459.1	428.6	387.3	345.9	304.6	263.3
120°	580.6	582.7	584.8	574.0	550.4	526.8	503.3	479.7
122.5°	616.0	617.3	618.5	616.9	612.3	607.7	603.1	598.6
125°	666.9	668.1	669.3	670.2	670.7	671.2	671.8	672.4
127.5°	713.9	715.7	717.6	718.4	718.6	718.7	718.8	718.8
130°	743.8	745.7	747.6	748.6	748.4	748.1	748.0	747.8
132.5°	772.8	774.5	776.1	776.8	776.6	776.4	776.3	776.1
135°	814.2	816.0	817.7	818.4	818.0	817.7	817.3	817.0
137.5°	852.6	854.4	856.1	856.7	856.1	855.5	854.9	854.3
140°	877.5	879.2	880.7	881.1	880.2	879.3	878.5	877.5
142.5°	900.5	902.0	903.4	903.7	902.8	902.0	901.1	900.2
145°	932.7	933.9	935.1	935.3	934.4	933.6	932.7	931.9
147.5°	960.7	961.6	962.5	962.6	961.8	961.1	960.4	959.7
150°	977.9	979.0	980.1	980.2	979.3	978.4	977.5	976.6
152.5°	993.7	994.7	995.7	995.7	994.5	993.4	992.3	991.1
155°	1014.9	1016.0	1017.0	1016.8	1015.5	1014.0	1012.6	1011.2
157.5°	1032.8	1034.0	1035.2	1035.1	1033.7	1032.3	1031.0	1029.7
160°	1043.2	1044.3	1045.3	1045.3	1044.0	1042.8	1041.6	1040.3
162.5°	1052.9	1054.1	1055.3	1055.2	1053.7	1052.1	1050.7	1049.1
165°	1064.8	1066.0	1067.2	1067.2	1066.0	1064.8	1063.6	1062.4
167.5°	1074.7	1075.9	1077.2	1076.9	1075.4	1073.8	1072.3	1070.7
170°	1079.8	1081.0	1082.2	1082.0	1080.5	1078.8	1077.3	1075.7
172.5°	1083.5	1084.8	1086.0	1085.8	1084.2	1082.6	1081.1	1079.5
175°	1087.6	1088.8	1090.0	1089.8	1088.0	1086.3	1084.5	1082.8
177.5°	1088.0	1089.1	1090.0	1089.9	1088.6	1087.4	1086.1	1084.9
180°	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8

(END OF REPORT)