

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: P331354

Luminaire Tested: **SA2XXDIP-C675D725U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331354  
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: SA2XXDIP-C675D725U835-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

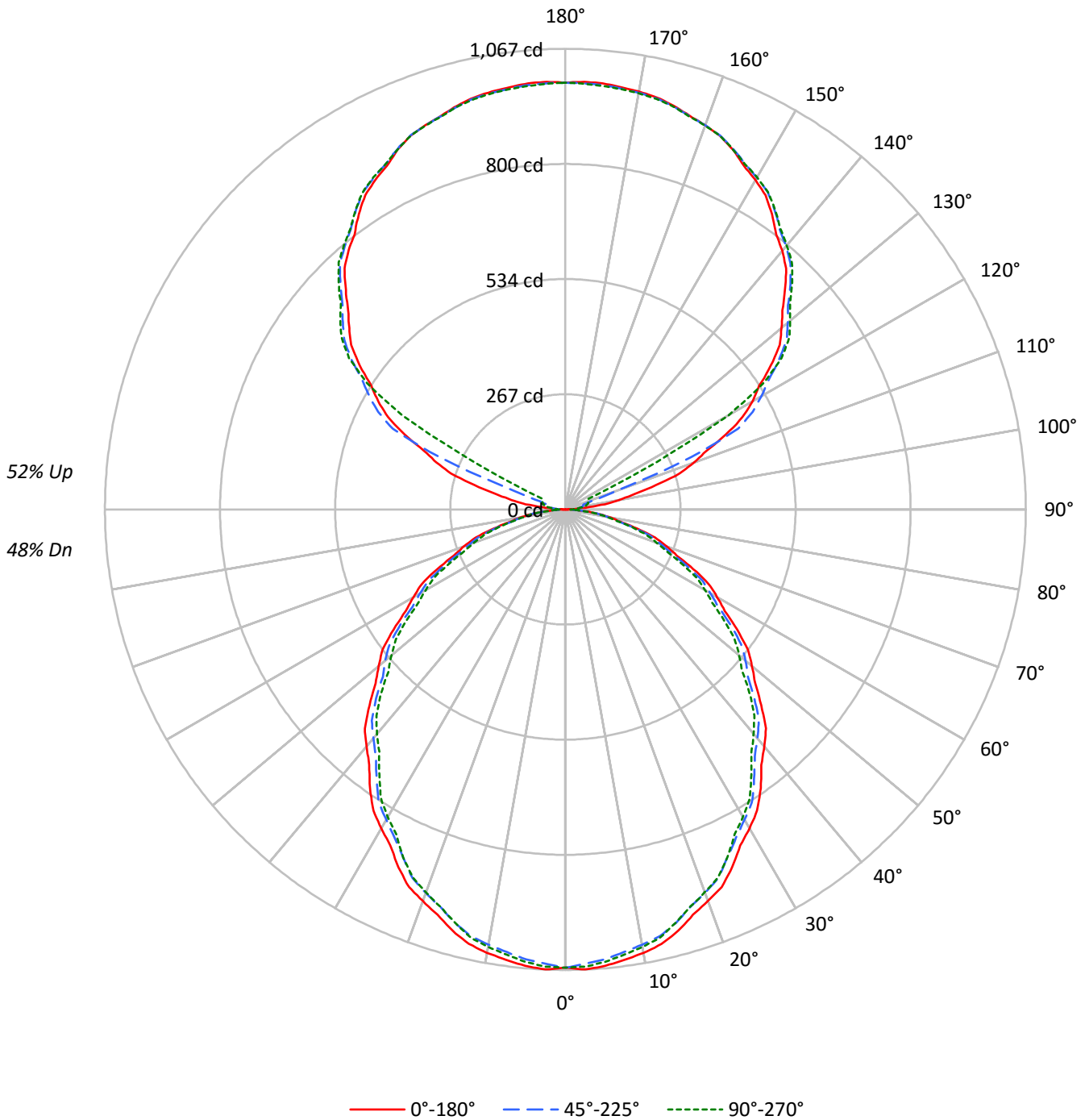
Lumens per Lamp: N/A  
Luminaire Lumens: 5600.6 lumens  
Efficiency: N/A  
Efficacy: 122.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	97	93	89	86	89	86	82	79	72	70	68	60	58	56	48	47	46	41
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	40	39	34
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33	29
4	74	63	55	49	68	58	52	46	50	44	40	41	37	34	34	31	28	25
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	27	24	22	19
7	58	46	38	32	53	42	35	30	36	31	27	30	26	23	25	22	19	17
8	54	41	34	28	49	38	32	27	33	28	24	28	24	20	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12

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

	0°	45°	90°
0°	17142	17142	17142
5°	17208	16960	17058
10°	17105	16787	16870
15°	16893	16568	16552
20°	16593	16242	16225
25°	16295	15841	15841
30°	15910	15474	15340
35°	15554	15031	14808
40°	15104	14587	14309
45°	14661	14150	13798
50°	14179	13692	13205
55°	13678	13163	12673
60°	13120	12526	12064
65°	12520	11897	11351
70°	11759	11131	10603
75°	10699	10256	10000
80°	9493	9205	8731
85°	7762	7373	6614



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.8	1.8
10°-20°	280.9	5.0
20°-30°	412.9	7.4
30°-40°	479.6	8.6
40°-50°	479.1	8.6
50°-60°	417.8	7.5
60°-70°	308.9	5.5
70°-80°	175.0	3.1
80°-90°	49.5	0.9
90°-100°	33.0	0.6
100°-110°	120.9	2.2
110°-120°	323.3	5.8
120°-130°	533.6	9.5
130°-140°	567.5	10.1
140°-150°	527.5	9.4
150°-160°	424.1	7.6
160°-170°	273.3	4.9
170°-180°	94.1	1.7
0°-30°	793.6	14.2
0°-40°	1273.2	22.7
0°-60°	2170.1	38.7
0°-90°	2703.5	48.3
90°-120°	477.2	8.5
90°-150°	2105.7	37.6
90°-180°	2897.0	51.7
0°-180°	5600.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1062	1057	1046	1054	1052	101
15°	1011	1004	991	995	990	284
25°	915	906	889	891	889	421
35°	789	779	763	756	751	492
45°	642	635	620	609	604	495
55°	486	479	468	456	450	434
65°	328	321	311	302	297	324
75°	172	169	164	159	160	183
85°	42	41	40	37	36	48
90°	1	8	14	18	19	4
95°	46	24	28	31	31	57
105°	218	227	44	51	54	232
115°	411	424	441	126	59	405
125°	582	591	604	609	612	518
135°	720	731	738	744	743	556
145°	835	835	846	851	848	522
155°	919	914	921	925	920	423
165°	969	965	966	971	966	274
175°	991	986	987	992	985	94
180°	989	989	989	989	989	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1066.6	1065.7	1064.8	1063.9	1063.0	1061.5	1059.5	1057.5	1055.5	1053.5	1055.3
5°	1061.7	1060.8	1059.9	1059.0	1058.1	1056.4	1053.9	1051.4	1048.9	1046.4	1048.2
7.5°	1052.3	1050.9	1049.5	1048.1	1046.7	1044.7	1042.2	1039.6	1037.1	1034.5	1036.3
10°	1043.3	1041.7	1040.1	1038.5	1037.0	1034.8	1032.1	1029.4	1026.6	1023.9	1025.7
12.5°	1031.1	1029.7	1028.2	1026.8	1025.4	1023.4	1020.6	1017.9	1015.2	1012.5	1013.8
15°	1010.6	1009.3	1007.9	1006.6	1005.2	1003.0	1000.1	997.1	994.2	991.2	992.2
17.5°	984.5	983.1	981.8	980.4	979.1	976.9	973.9	970.9	967.9	964.9	966.0
20°	965.7	964.4	963.0	961.6	960.3	958.0	954.8	951.7	948.5	945.3	946.0
22.5°	946.9	945.0	943.1	941.2	939.3	936.9	933.9	930.9	927.9	924.9	925.0
25°	914.7	912.9	911.1	909.2	907.4	904.6	900.7	896.9	893.0	889.2	889.6
27.5°	877.9	876.3	874.7	873.0	871.4	869.1	866.0	863.0	859.9	856.9	856.2
30°	853.4	851.6	849.8	848.0	846.2	843.6	840.2	836.8	833.4	830.0	829.3
32.5°	827.3	825.8	824.4	822.9	821.5	819.0	815.4	811.8	808.2	804.6	803.4
35°	789.1	786.9	784.6	782.3	780.0	777.1	773.5	769.8	766.2	762.6	761.2
37.5°	746.0	744.0	742.0	740.0	738.1	735.2	731.6	728.0	724.4	720.7	719.0
40°	716.6	714.8	713.0	711.2	709.4	706.7	703.0	699.4	695.8	692.1	690.1
42.5°	688.1	686.2	684.4	682.6	680.8	678.1	674.4	670.8	667.2	663.6	661.3
45°	642.1	640.5	638.9	637.4	635.8	633.3	629.9	626.5	623.1	619.7	617.2
47.5°	596.4	594.9	593.4	591.9	590.4	587.9	584.3	580.8	577.3	573.7	571.1
50°	564.5	563.4	562.3	561.1	560.0	557.8	554.7	551.5	548.3	545.1	542.0
52.5°	533.5	532.0	530.5	529.0	527.5	525.3	522.3	519.3	516.3	513.3	510.7
55°	485.9	484.6	483.2	481.8	480.5	478.4	475.7	473.0	470.3	467.6	464.8
57.5°	438.1	437.1	436.0	434.9	433.8	431.8	428.8	425.8	422.8	419.8	417.1
60°	406.3	405.4	404.5	403.6	402.7	400.6	397.5	394.3	391.1	387.9	385.4
62.5°	375.3	373.8	372.4	370.9	369.5	367.5	365.1	362.6	360.2	357.7	355.4
65°	327.7	326.3	325.0	323.6	322.2	320.4	318.2	315.9	313.6	311.4	309.3
67.5°	279.3	278.2	277.1	276.0	274.9	273.4	271.3	269.3	267.3	265.2	263.6
70°	249.1	248.2	247.3	246.4	245.5	244.0	241.9	239.9	237.9	235.8	234.2
72.5°	218.1	217.1	216.2	215.3	214.4	213.3	212.0	210.7	209.4	208.0	206.5
75°	171.5	171.0	170.6	170.1	169.7	168.9	167.8	166.6	165.5	164.4	163.0
77.5°	129.9	129.1	128.3	127.5	126.8	126.2	125.7	125.2	124.8	124.3	123.7
80°	102.1	101.9	101.6	101.4	101.2	100.8	100.4	99.9	99.5	99.0	98.3
82.5°	76.0	75.9	75.9	75.8	75.8	75.6	75.3	75.1	74.8	74.5	73.7
85°	41.9	41.6	41.4	41.2	40.9	40.7	40.5	40.3	40.0	39.8	39.1
87.5°	14.8	14.8	14.8	14.8	14.8	14.7	14.6	14.5	14.4	14.3	13.9
90°	0.7	2.5	4.2	6.0	7.7	9.2	10.5	11.8	13.0	14.3	15.1
92.5°	14.4	14.3	14.1	14.0	13.8	14.1	14.7	15.3	16.0	16.6	17.0
95°	46.5	41.3	36.0	30.8	25.5	23.4	24.6	25.7	26.8	27.9	28.7
97.5°	92.3	77.5	62.7	47.9	33.1	27.0	29.6	32.2	34.8	37.3	38.0
100°	126.6	104.8	83.1	61.3	39.5	30.0	32.7	35.4	38.1	40.8	42.0
102.5°	164.4	159.8	155.2	150.6	145.9	132.3	109.7	87.1	64.5	41.9	43.6
105°	217.5	222.2	227.0	231.8	236.5	217.2	173.8	130.4	87.0	43.6	45.4
107.5°	278.0	281.8	285.7	289.5	293.4	269.3	217.2	165.2	113.1	61.1	59.3
110°	316.9	320.2	323.6	326.9	330.2	308.9	263.0	217.1	171.1	125.2	109.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	353.5	356.5	359.4	362.4	365.3	361.1	349.8	338.4	327.1	315.7	257.8
115°	411.3	414.0	416.7	419.4	422.1	425.5	429.4	433.4	437.4	441.4	367.8
117.5°	463.0	466.0	469.0	472.0	475.0	477.9	480.7	483.4	486.1	488.9	471.1
120°	500.7	503.1	505.5	507.9	510.3	512.9	515.8	518.6	521.5	524.3	526.2
122.5°	532.8	535.3	537.8	540.3	542.8	545.6	548.8	551.9	555.0	558.1	559.2
125°	581.6	583.6	585.7	587.8	589.8	592.4	595.4	598.4	601.4	604.5	605.6
127.5°	625.8	628.1	630.4	632.6	634.9	637.2	639.5	641.7	644.0	646.2	647.9
130°	653.8	656.4	658.9	661.4	664.0	666.1	667.9	669.6	671.4	673.1	674.9
132.5°	682.4	684.6	686.8	688.9	691.1	693.0	694.8	696.5	698.3	700.0	701.5
135°	719.6	722.2	724.7	727.3	729.8	731.8	733.2	734.6	736.1	737.5	739.1
137.5°	757.3	759.0	760.8	762.6	764.4	766.1	767.7	769.3	770.9	772.6	774.1
140°	781.9	783.1	784.4	785.7	786.9	788.5	790.2	792.0	793.7	795.5	796.9
142.5°	802.5	803.6	804.8	805.9	807.0	808.6	810.6	812.6	814.6	816.6	817.9
145°	834.8	834.6	834.5	834.3	834.2	835.4	838.1	840.8	843.5	846.2	847.4
147.5°	863.0	862.4	861.8	861.2	860.6	861.6	864.3	866.9	869.6	872.3	873.1
150°	881.3	880.2	879.1	878.0	876.8	877.6	880.1	882.6	885.2	887.7	888.7
152.5°	896.7	895.5	894.3	893.0	891.8	892.4	894.8	897.2	899.6	902.0	903.0
155°	919.2	917.8	916.3	914.9	913.5	913.7	915.6	917.5	919.4	921.3	922.3
157.5°	936.8	935.6	934.4	933.2	932.0	932.0	933.4	934.7	936.0	937.4	938.5
160°	947.1	946.1	945.2	944.2	943.3	943.3	944.2	945.2	946.1	947.1	948.1
162.5°	956.3	955.3	954.4	953.4	952.4	952.4	953.2	954.0	954.9	955.7	956.8
165°	968.6	967.6	966.7	965.7	964.7	964.5	965.0	965.5	965.9	966.4	967.5
167.5°	977.7	976.8	975.8	974.9	973.9	973.6	974.1	974.5	975.0	975.4	976.5
170°	982.9	981.9	981.0	980.0	979.1	978.7	979.1	979.4	979.7	980.0	981.1
172.5°	986.3	985.3	984.4	983.4	982.5	982.2	982.5	982.8	983.1	983.4	984.6
175°	990.7	989.6	988.5	987.4	986.3	985.9	986.2	986.5	986.8	987.2	988.3
177.5°	991.5	990.6	989.7	988.8	987.9	987.5	987.6	987.8	987.9	988.0	988.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1057.1	1059.0	1060.8	1061.5	1061.1	1060.8	1060.4	1060.1
5°	1050.0	1051.8	1053.6	1054.3	1053.9	1053.4	1053.0	1052.5
7.5°	1038.2	1040.0	1041.8	1042.4	1041.9	1041.5	1041.0	1040.5
10°	1027.5	1029.4	1031.2	1031.7	1031.1	1030.4	1029.7	1029.0
12.5°	1015.0	1016.3	1017.6	1017.9	1017.4	1017.0	1016.5	1016.0
15°	993.1	994.0	994.9	994.8	993.6	992.5	991.4	990.2
17.5°	967.0	968.0	969.1	969.1	968.0	966.9	965.8	964.7
20°	946.7	947.4	948.0	947.9	947.0	946.1	945.2	944.3
22.5°	925.2	925.3	925.4	925.2	924.7	924.1	923.6	923.1
25°	890.1	890.5	891.0	891.0	890.5	890.1	889.6	889.2
27.5°	855.5	854.9	854.2	853.3	852.2	851.1	850.0	848.9
30°	828.6	827.9	827.2	826.4	825.5	824.6	823.7	822.8
32.5°	802.2	801.0	799.7	798.7	797.8	796.9	795.9	795.0
35°	759.9	758.5	757.1	755.9	754.8	753.6	752.5	751.3
37.5°	717.4	715.7	714.0	712.6	711.5	710.4	709.4	708.3
40°	688.1	686.0	684.0	682.5	681.6	680.7	679.8	678.9
42.5°	659.1	656.9	654.7	652.9	651.6	650.4	649.1	647.8
45°	614.7	612.2	609.7	608.0	607.1	606.2	605.3	604.3
47.5°	568.5	565.8	563.2	561.2	559.9	558.6	557.3	556.0
50°	538.8	535.6	532.4	530.3	529.1	528.0	526.9	525.7
52.5°	508.0	505.4	502.8	500.7	499.2	497.7	496.2	494.7
55°	462.1	459.4	456.7	454.7	453.6	452.5	451.3	450.2
57.5°	414.4	411.7	409.1	407.3	406.4	405.6	404.7	403.8
60°	382.9	380.4	377.9	376.4	375.7	375.0	374.3	373.6
62.5°	353.1	350.8	348.5	346.9	346.0	345.1	344.3	343.4
65°	307.3	305.2	303.2	301.6	300.5	299.3	298.2	297.1
67.5°	262.0	260.5	258.9	257.6	256.7	255.8	254.9	254.0
70°	232.6	231.1	229.5	228.2	227.3	226.4	225.5	224.6
72.5°	204.9	203.3	201.7	200.5	199.8	199.1	198.4	197.6
75°	161.6	160.3	158.9	158.5	158.9	159.4	159.8	160.3
77.5°	123.0	122.3	121.6	121.0	120.3	119.7	119.1	118.4
80°	97.7	97.0	96.3	95.7	95.3	94.8	94.4	93.9
82.5°	72.8	71.9	71.1	70.6	70.5	70.4	70.3	70.2
85°	38.5	37.8	37.1	36.6	36.4	36.2	36.0	35.7
87.5°	13.5	13.1	12.8	12.5	12.4	12.3	12.1	12.0
90°	15.9	16.7	17.5	18.0	18.4	18.7	19.0	19.3
92.5°	17.4	17.8	18.2	18.6	18.7	18.9	19.1	19.3
95°	29.5	30.3	31.1	31.4	31.2	31.1	30.9	30.8
97.5°	38.6	39.2	39.9	40.3	40.5	40.7	40.9	41.1
100°	43.3	44.6	45.9	46.7	47.0	47.3	47.6	47.9
102.5°	45.2	46.9	48.5	49.6	50.0	50.5	50.9	51.4
105°	47.1	48.9	50.6	51.8	52.5	53.1	53.7	54.4
107.5°	57.5	55.7	54.0	53.4	54.0	54.7	55.3	55.9
110°	93.4	77.5	61.6	54.0	54.6	55.2	55.9	56.5





TEST NUMBER: P331354

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.8	141.8	83.8	55.0	55.6	56.1	56.6	57.1
115°	294.2	220.6	147.0	104.4	93.0	81.5	70.1	58.7
117.5°	453.3	435.4	417.6	389.9	352.3	314.7	277.1	239.5
120°	528.2	530.1	532.0	522.2	500.7	479.3	457.8	436.4
122.5°	560.4	561.5	562.7	561.2	557.0	552.8	548.7	544.5
125°	606.7	607.8	608.9	609.7	610.2	610.7	611.1	611.6
127.5°	649.5	651.1	652.7	653.6	653.7	653.8	653.9	654.0
130°	676.6	678.4	680.1	680.9	680.8	680.6	680.4	680.3
132.5°	703.0	704.5	706.0	706.7	706.5	706.4	706.2	706.0
135°	740.7	742.3	743.9	744.5	744.2	743.9	743.5	743.2
137.5°	775.7	777.2	778.8	779.3	778.8	778.2	777.7	777.1
140°	798.3	799.7	801.2	801.5	800.7	799.9	799.1	798.3
142.5°	819.2	820.5	821.8	822.1	821.3	820.5	819.7	818.9
145°	848.5	849.6	850.7	850.8	850.1	849.3	848.5	847.7
147.5°	873.9	874.8	875.6	875.7	875.0	874.3	873.7	873.0
150°	889.6	890.6	891.5	891.6	890.8	890.0	889.2	888.4
152.5°	903.9	904.9	905.9	905.8	904.8	903.7	902.7	901.6
155°	923.3	924.2	925.2	925.0	923.7	922.5	921.2	919.9
157.5°	939.5	940.6	941.7	941.6	940.4	939.1	937.9	936.7
160°	949.0	950.0	950.9	950.8	949.7	948.6	947.5	946.4
162.5°	957.8	958.9	960.0	959.9	958.5	957.1	955.8	954.4
165°	968.6	969.8	970.9	970.9	969.8	968.6	967.5	966.4
167.5°	977.7	978.8	979.9	979.7	978.3	976.9	975.4	974.0
170°	982.2	983.3	984.5	984.3	982.9	981.4	980.0	978.6
172.5°	985.7	986.8	987.9	987.7	986.3	984.9	983.4	982.0
175°	989.4	990.5	991.6	991.4	989.8	988.2	986.6	985.0
177.5°	989.8	990.7	991.6	991.5	990.3	989.2	988.0	986.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6

(END OF REPORT)