

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: P331425

Luminaire Tested: **SA2XXDIP-C1005D330U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331425
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D330U835-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

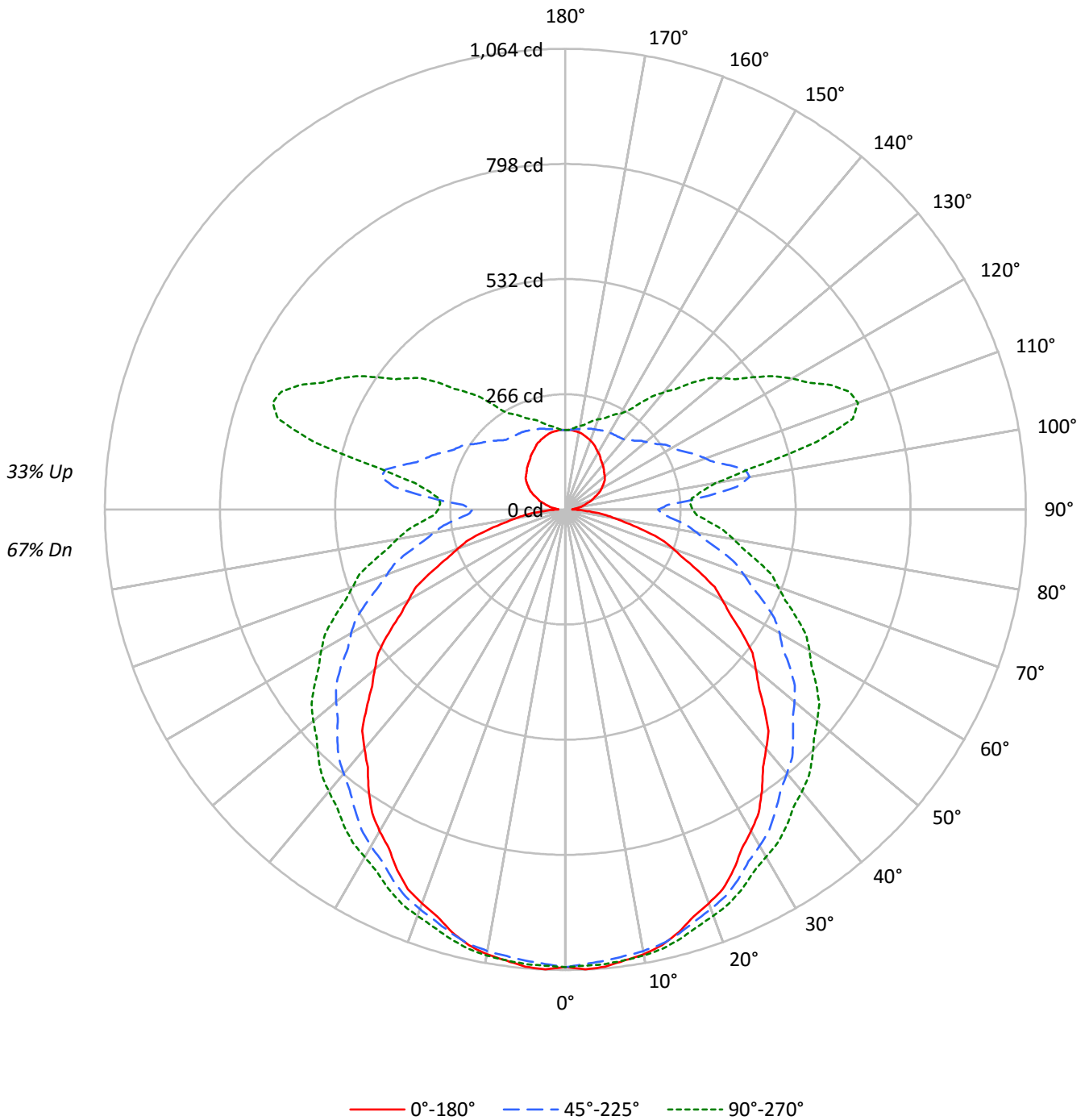
Lumens per Lamp: N/A
Luminaire Lumens: 5314.4 lumens
Efficiency: N/A
Efficacy: 106.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 49.8
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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	100	94	90	85	94	89	85	81	79	75	72	69	67	64	61	59	57	53
2	90	81	74	68	84	77	70	65	68	63	58	60	56	52	52	49	46	43
3	82	71	62	56	76	67	59	53	59	53	48	52	47	43	46	42	39	35
4	74	62	53	47	70	59	51	45	52	46	41	46	41	37	40	36	33	30
5	68	55	46	40	64	52	44	38	47	40	35	41	36	31	36	32	28	25
6	63	50	41	34	59	47	39	33	42	35	30	37	32	27	33	28	25	22
7	58	45	36	30	54	42	34	29	38	31	26	34	28	24	30	25	22	19
8	54	41	32	27	50	39	31	25	35	28	23	31	25	21	27	23	19	17
9	50	37	29	24	47	35	28	23	32	25	21	28	23	19	25	21	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17073	17073	17073
5°	17157	16435	16373
10°	17049	15949	15770
15°	16814	15435	15136
20°	16517	14884	14525
25°	16223	14353	13970
30°	15810	13808	13414
35°	15392	13280	13021
40°	14952	12831	12629
45°	14535	12429	12294
50°	14086	12066	11964
55°	13616	11675	11627
60°	13040	11269	11271
65°	12441	10795	10850
70°	11770	10285	10393
75°	10911	9784	9973
80°	9555	9272	9549
85°	8259	8830	9217



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.2	1.9
10°-20°	287.3	5.4
20°-30°	435.4	8.2
30°-40°	530.3	10.0
40°-50°	570.5	10.7
50°-60°	554.1	10.4
60°-70°	483.8	9.1
70°-80°	372.4	7.0
80°-90°	251.6	4.7
90°-100°	245.7	4.6
100°-110°	375.0	7.1
110°-120°	347.9	6.5
120°-130°	264.4	5.0
130°-140°	194.5	3.7
140°-150°	135.7	2.6
150°-160°	93.0	1.7
160°-170°	54.7	1.0
170°-180°	17.8	0.3
0°-30°	822.9	15.5
0°-40°	1353.3	25.5
0°-60°	2477.9	46.6
0°-90°	3585.7	67.5
90°-120°	968.6	18.2
90°-150°	1563.2	29.4
90°-180°	1729.0	32.5
0°-180°	5314.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1060	1056	1047	1055	1054	101
15°	1012	1014	1014	1028	1027	285
25°	920	930	944	962	967	423
35°	792	819	848	880	892	495
45°	650	692	745	790	808	501
55°	498	555	633	686	708	445
65°	340	416	506	566	588	338
75°	188	275	372	436	458	199
85°	55	150	248	310	334	59
90°	16	110	214	273	294	11
95°	25	116	315	285	293	23
105°	51	119	394	651	600	55
115°	82	122	311	588	679	81
125°	109	131	263	458	532	97
135°	126	151	225	356	414	98
145°	142	163	207	266	298	89
155°	162	174	201	227	236	74
165°	176	181	193	204	207	50
175°	183	184	185	187	187	17
180°	184	184	184	184	184	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1063.6	1062.8	1061.9	1061.1	1060.3	1058.9	1057.0	1055.1	1053.2	1051.3	1052.7
5°	1060.5	1059.5	1058.5	1057.4	1056.4	1054.9	1052.9	1050.8	1048.8	1046.7	1048.8
7.5°	1051.0	1050.3	1049.6	1049.0	1048.3	1047.2	1045.6	1044.0	1042.5	1040.9	1043.3
10°	1043.7	1043.0	1042.3	1041.6	1040.9	1040.1	1039.1	1038.0	1037.0	1036.0	1038.7
12.5°	1031.4	1031.5	1031.7	1031.8	1031.9	1031.6	1030.9	1030.1	1029.4	1028.6	1031.4
15°	1011.5	1012.2	1012.8	1013.5	1014.2	1014.5	1014.5	1014.5	1014.5	1014.5	1017.6
17.5°	985.7	987.2	988.6	990.0	991.4	992.7	993.8	994.9	996.0	997.1	1000.3
20°	968.6	970.3	972.0	973.7	975.4	976.9	978.3	979.6	981.0	982.4	986.1
22.5°	950.2	952.1	954.1	956.1	958.1	960.0	961.9	963.8	965.7	967.6	971.4
25°	919.5	921.9	924.3	926.7	929.1	931.8	934.8	937.9	941.0	944.0	948.1
27.5°	882.7	886.6	890.5	894.4	898.3	902.0	905.6	909.2	912.8	916.5	921.6
30°	858.2	862.6	867.1	871.5	875.9	880.4	884.8	889.2	893.6	898.1	903.5
32.5°	831.2	836.2	841.2	846.2	851.1	856.2	861.5	866.7	872.0	877.2	883.5
35°	792.3	798.1	803.9	809.7	815.5	821.6	828.1	834.5	841.0	847.5	855.0
37.5°	750.0	756.7	763.4	770.0	776.7	784.2	792.6	801.0	809.4	817.8	826.1
40°	721.8	729.3	736.8	744.3	751.8	760.1	769.3	778.5	787.7	796.9	805.8
42.5°	694.9	702.3	709.8	717.3	724.8	733.8	744.4	755.0	765.5	776.1	785.7
45°	649.8	659.0	668.2	677.4	686.6	697.1	709.1	721.0	732.9	744.8	755.4
47.5°	605.4	615.4	625.4	635.4	645.4	657.4	671.4	685.3	699.3	713.2	724.3
50°	574.7	585.3	595.8	606.4	616.9	629.9	645.2	660.5	675.8	691.2	702.8
52.5°	545.3	556.4	567.5	578.6	589.7	603.3	619.4	635.6	651.7	667.9	679.7
55°	498.1	510.3	522.6	534.9	547.1	562.1	579.8	597.5	615.2	632.9	645.2
57.5°	451.5	465.3	479.1	493.0	506.8	522.7	540.8	558.8	576.9	594.9	608.1
60°	418.4	433.0	447.7	462.3	477.0	494.0	513.4	532.8	552.2	571.6	584.6
62.5°	389.0	404.1	419.3	434.5	449.7	467.0	486.4	505.8	525.3	544.7	558.4
65°	340.2	356.9	373.6	390.3	407.0	425.4	445.5	465.5	485.6	505.7	519.7
67.5°	295.5	312.9	330.3	347.8	365.2	384.2	404.8	425.4	445.9	466.5	480.6
70°	263.6	281.3	299.0	316.7	334.4	353.8	375.0	396.1	417.2	438.3	452.9
72.5°	234.2	252.4	270.7	288.9	307.2	327.0	348.4	369.8	391.2	412.6	426.9
75°	188.5	207.6	226.6	245.7	264.8	285.2	307.0	328.8	350.6	372.4	387.0
77.5°	144.4	164.3	184.3	204.2	224.2	245.2	267.4	289.5	311.6	333.8	348.4
80°	114.9	135.7	156.5	177.3	198.0	219.5	241.6	263.8	285.9	308.0	322.3
82.5°	90.4	110.9	131.4	151.9	172.4	193.9	216.3	238.7	261.1	283.5	297.8
85°	55.2	76.3	97.4	118.5	139.6	161.1	182.9	204.7	226.5	248.3	262.6
87.5°	30.1	50.6	71.2	91.6	112.1	133.3	155.5	177.8	200.0	221.9	235.7
90°	15.7	36.5	57.7	78.1	98.6	120.4	144.0	168.2	192.2	214.3	227.6
92.5°	18.4	38.7	59.6	79.6	100.4	123.4	152.4	184.6	215.6	237.2	243.4
95°	24.6	42.0	61.6	80.8	102.4	129.1	165.8	217.0	278.4	314.7	310.4
97.5°	30.9	47.0	65.0	84.0	104.8	131.3	171.3	233.8	321.5	399.5	423.7
100°	37.9	51.6	67.4	85.6	105.3	131.0	168.8	231.0	326.4	432.4	495.9
102.5°	43.2	55.5	70.2	87.4	106.2	131.1	167.0	223.8	313.0	425.2	517.5
105°	50.8	62.1	74.4	89.6	107.2	130.9	165.2	214.4	290.4	393.6	499.5
107.5°	60.6	69.7	80.0	92.8	108.4	130.7	163.8	208.2	273.4	361.0	455.5
110°	66.2	74.4	83.4	94.8	109.0	131.0	163.2	205.3	265.1	344.0	428.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	72.4	79.5	87.7	97.7	110.6	131.9	162.7	202.6	257.7	329.2	405.9
115°	82.1	87.6	93.5	101.5	112.3	131.3	161.9	198.7	248.3	311.0	377.1
117.5°	90.6	94.5	99.0	105.2	114.5	132.7	160.9	195.3	239.5	295.1	353.8
120°	96.8	99.6	103.1	107.6	116.0	133.4	160.8	193.5	234.4	285.8	340.2
122.5°	102.8	104.4	107.1	111.1	118.7	135.6	161.3	191.8	229.8	277.3	327.8
125°	109.1	110.1	112.2	116.5	123.5	138.9	162.5	189.3	222.1	262.7	308.3
127.5°	115.3	116.4	119.0	123.3	129.7	144.1	165.3	188.4	216.2	250.5	290.1
130°	119.0	120.0	123.2	127.8	134.6	147.9	167.4	187.9	212.8	242.5	278.3
132.5°	122.3	123.7	127.2	132.1	139.1	151.6	168.9	187.5	209.3	234.9	267.2
135°	125.9	127.3	131.6	136.9	145.0	156.6	171.3	187.1	204.6	225.0	252.3
137.5°	130.7	132.3	136.5	142.1	150.1	160.0	172.6	185.7	200.0	216.0	239.2
140°	134.4	135.5	139.4	144.7	152.1	161.5	172.7	184.4	197.1	210.8	231.5
142.5°	138.1	138.8	142.5	147.8	154.9	163.4	173.9	184.7	196.0	208.4	225.9
145°	142.0	143.5	147.0	152.3	159.4	167.1	176.7	186.6	196.4	207.0	220.4
147.5°	148.0	149.0	152.4	157.3	163.2	170.1	179.1	187.8	196.7	205.8	215.9
150°	151.9	153.0	155.8	160.4	165.7	172.1	180.2	188.3	196.4	204.9	213.4
152.5°	155.9	156.4	159.2	163.2	168.3	174.0	181.3	188.6	195.9	203.5	211.4
155°	161.5	161.8	163.9	167.8	171.7	177.0	183.0	189.0	195.0	201.0	207.8
157.5°	166.1	166.5	168.2	171.6	174.7	179.1	184.2	189.0	193.4	198.5	204.3
160°	169.2	169.6	171.0	173.8	176.7	180.6	184.8	189.0	192.6	196.8	201.7
162.5°	172.4	172.1	173.6	175.8	178.4	181.4	185.1	188.7	191.7	195.4	199.5
165°	176.0	175.6	176.3	178.4	180.2	182.3	185.5	188.0	190.1	192.6	195.7
167.5°	178.9	178.5	179.1	180.5	181.8	183.1	185.4	187.5	188.5	190.1	192.1
170°	180.9	180.2	180.6	181.6	182.3	183.4	185.1	186.9	187.6	188.7	190.1
172.5°	182.0	181.6	181.4	182.5	182.9	183.7	184.9	186.1	186.5	187.0	188.1
175°	183.4	183.0	182.7	183.4	183.4	183.7	184.4	185.1	184.8	185.1	185.5
177.5°	184.0	183.4	183.2	183.7	183.7	183.7	184.0	184.6	184.0	183.7	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1054.0	1055.4	1056.8	1057.2	1056.6	1056.1	1055.5	1055.0
5°	1050.8	1052.9	1054.9	1055.7	1055.4	1055.1	1054.7	1054.4
7.5°	1045.8	1048.3	1050.7	1051.8	1051.4	1051.1	1050.7	1050.4
10°	1041.4	1044.2	1046.9	1048.1	1047.7	1047.4	1047.1	1046.7
12.5°	1034.1	1036.8	1039.5	1040.7	1040.4	1040.0	1039.7	1039.4
15°	1020.7	1023.7	1026.8	1028.2	1027.8	1027.5	1027.1	1026.8
17.5°	1003.5	1006.7	1009.9	1011.5	1011.5	1011.5	1011.5	1011.5
20°	989.8	993.6	997.3	999.2	999.2	999.2	999.2	999.2
22.5°	975.1	978.9	982.6	984.8	985.3	985.9	986.4	987.0
25°	952.2	956.3	960.4	962.9	964.0	965.0	966.0	967.0
27.5°	926.8	932.0	937.2	940.1	940.9	941.6	942.4	943.1
30°	909.0	914.4	919.9	923.1	924.1	925.1	926.2	927.2
32.5°	889.8	896.0	902.3	906.3	908.2	910.0	911.9	913.7
35°	862.5	870.0	877.5	882.4	884.8	887.2	889.6	891.9
37.5°	834.4	842.7	851.0	856.4	858.9	861.5	864.0	866.5
40°	814.6	823.5	832.3	838.3	841.4	844.4	847.5	850.6
42.5°	795.4	805.1	814.8	821.1	824.2	827.3	830.3	833.4
45°	765.9	776.5	787.0	794.0	797.4	800.8	804.2	807.6
47.5°	735.3	746.3	757.4	764.8	768.5	772.3	776.0	779.8
50°	714.3	725.9	737.5	745.2	748.9	752.6	756.4	760.1
52.5°	691.6	703.4	715.3	723.2	727.2	731.3	735.3	739.3
55°	657.5	669.7	682.0	690.3	694.7	699.2	703.6	708.0
57.5°	621.4	634.6	647.8	656.6	661.1	665.6	670.1	674.6
60°	597.5	610.5	623.4	632.3	637.0	641.8	646.6	651.3
62.5°	572.2	585.9	599.7	608.8	613.3	617.8	622.3	626.8
65°	533.7	547.6	561.6	570.8	575.2	579.6	584.1	588.5
67.5°	494.7	508.8	522.9	532.3	536.9	541.5	546.2	550.8
70°	467.6	482.2	496.9	506.2	510.3	514.4	518.5	522.6
72.5°	441.3	455.7	470.0	479.7	484.6	489.5	494.4	499.3
75°	401.7	416.3	431.0	440.5	444.9	449.4	453.8	458.2
77.5°	362.9	377.5	392.1	401.8	406.5	411.3	416.1	420.8
80°	336.6	351.0	365.3	374.8	379.6	384.3	389.1	393.9
82.5°	312.1	326.4	340.7	350.1	354.6	359.1	363.6	368.1
85°	276.9	291.2	305.5	315.0	319.8	324.6	329.3	334.1
87.5°	249.5	263.3	277.3	286.5	290.9	295.2	299.6	303.9
90°	240.8	253.8	268.1	277.3	281.4	285.5	289.6	293.6
92.5°	248.8	257.7	268.1	274.6	278.5	281.4	285.8	289.3
95°	294.7	286.1	284.2	284.9	284.4	285.7	288.7	293.1
97.5°	404.3	377.6	352.0	334.8	321.9	317.2	316.1	317.1
100°	501.0	469.8	434.0	399.4	373.9	362.4	355.9	353.3
102.5°	561.7	564.2	541.1	503.8	475.7	453.5	444.5	439.6
105°	584.9	636.8	653.3	649.5	631.3	613.1	601.7	600.5
107.5°	544.8	616.4	664.6	689.3	695.8	698.4	699.1	696.2
110°	513.5	587.6	643.8	680.1	699.0	709.5	716.4	719.8



TEST NUMBER: P331425

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	484.0	555.6	614.8	655.4	680.2	695.2	705.0	710.6
115°	445.6	510.2	566.7	610.1	638.9	658.9	671.8	678.8
117.5°	413.4	471.2	523.3	564.2	593.2	613.9	627.0	633.2
120°	395.3	448.7	495.7	534.4	562.9	583.3	597.3	604.5
122.5°	379.8	429.2	473.9	509.2	534.6	554.1	566.4	572.6
125°	356.0	401.6	441.9	474.5	498.0	514.5	526.4	532.3
127.5°	332.5	373.9	411.6	441.8	462.7	478.3	488.9	494.2
130°	317.5	356.1	392.2	420.9	441.0	455.7	465.5	471.1
132.5°	302.8	338.9	372.4	399.6	419.4	434.1	443.4	448.6
135°	282.4	312.8	343.3	368.0	386.0	400.3	409.4	413.6
137.5°	264.2	289.9	314.7	336.2	352.4	364.8	372.7	377.1
140°	252.8	275.2	296.9	316.2	329.6	340.8	348.1	352.3
142.5°	244.2	263.0	281.3	297.4	309.9	320.0	326.5	328.7
145°	233.4	247.1	260.1	272.2	282.4	290.1	295.3	298.1
147.5°	225.5	235.0	243.8	251.9	259.7	265.3	268.5	270.0
150°	221.9	229.7	237.1	243.4	248.7	253.0	255.1	255.5
152.5°	218.8	226.0	232.3	237.8	242.0	245.6	247.2	247.3
155°	214.5	220.1	225.4	229.3	233.2	235.7	237.1	236.4
157.5°	209.5	214.2	218.6	221.7	224.4	226.5	227.1	227.1
160°	206.3	210.2	214.1	216.6	219.1	220.8	221.2	221.2
162.5°	203.2	206.6	209.9	211.8	214.3	215.5	215.8	215.5
165°	198.6	201.0	203.5	204.9	206.3	207.8	207.8	207.4
167.5°	194.1	196.0	197.7	199.0	199.6	200.4	200.3	199.9
170°	191.9	192.9	194.3	195.0	195.4	196.4	196.1	195.4
172.5°	189.3	190.1	191.2	191.6	192.0	192.5	192.1	191.7
175°	186.6	186.9	187.3	187.6	187.6	188.0	187.6	186.9
177.5°	184.6	184.6	184.9	184.9	184.9	184.9	184.6	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7

(END OF REPORT)