

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: P331407

Luminaire Tested: **SA2XXDIP-C865D925U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331407
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-C865D925U835-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

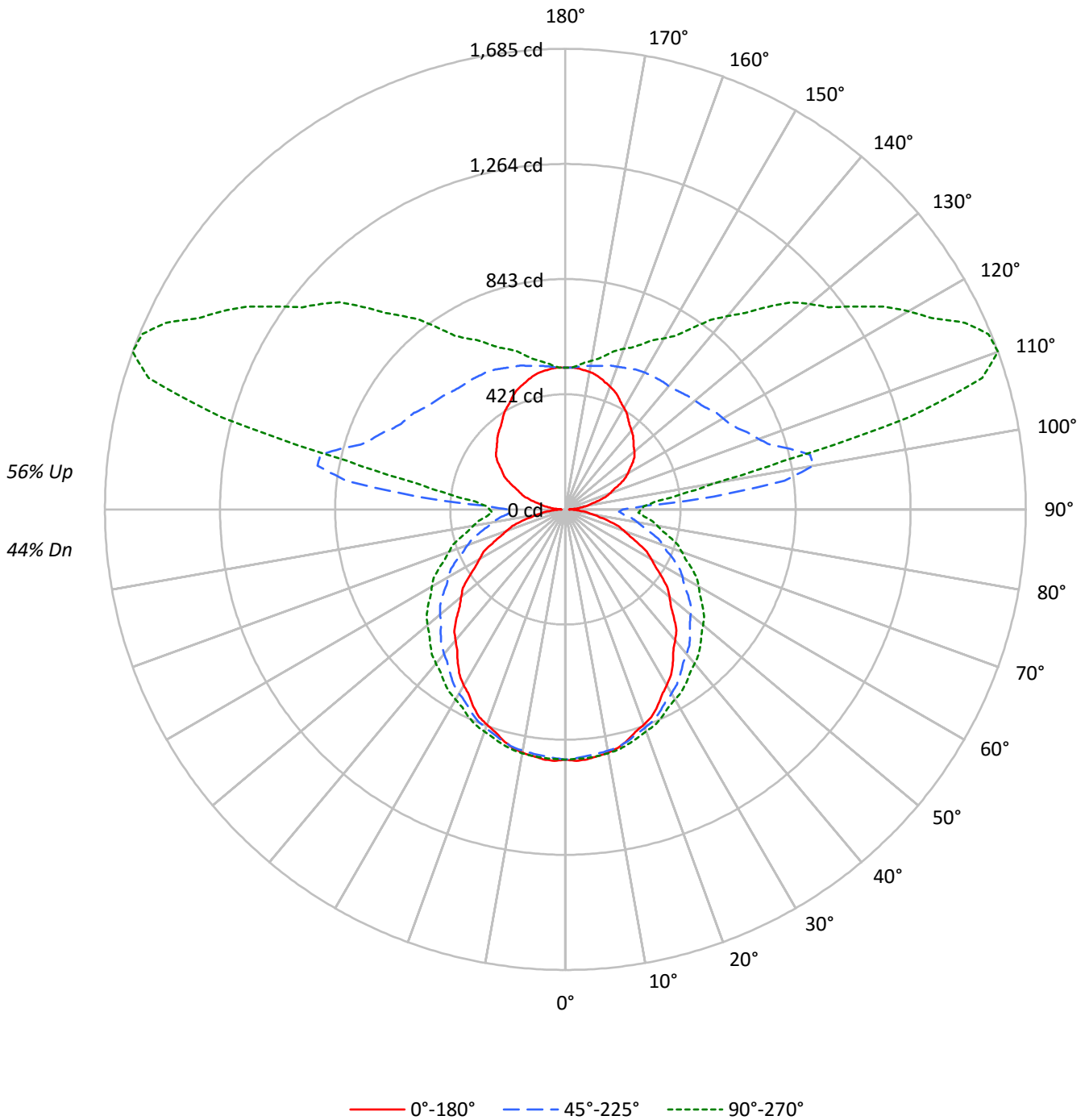
Lumens per Lamp: N/A
Luminaire Lumens: 7109.1 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 60.5
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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	90	86	82	87	82	79	75	68	65	63	55	53	51	42	41	40	34
2	86	78	71	66	78	71	66	61	59	55	51	47	44	42	37	34	33	28
3	78	68	60	54	71	62	56	50	51	46	42	41	38	35	32	29	27	23
4	71	60	52	45	65	55	48	42	45	40	36	37	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	33	28	25	25	22	20	16
6	60	48	39	33	54	44	36	31	36	31	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	27	22	19	21	18	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	14	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	18	14	12	10
10	44	32	25	20	41	30	23	19	25	20	16	21	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	1.2
10°-20°	248.8	3.5
20°-30°	377.0	5.3
30°-40°	459.2	6.5
40°-50°	494.0	6.9
50°-60°	479.7	6.7
60°-70°	418.9	5.9
70°-80°	322.5	4.5
80°-90°	221.1	3.1
90°-100°	356.6	5.0
100°-110°	813.0	11.4
110°-120°	820.0	11.5
120°-130°	656.0	9.2
130°-140°	511.4	7.2
140°-150°	376.6	5.3
150°-160°	262.6	3.7
160°-170°	154.6	2.2
170°-180°	50.3	0.7
0°-30°	712.5	10.0
0°-40°	1171.7	16.5
0°-60°	2145.5	30.2
0°-90°	3107.9	43.7
90°-120°	1989.6	28.0
90°-150°	3533.6	49.7
90°-180°	4001.0	56.3
0°-180°	7109.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	14	104	209	259	277	11
95°	46	160	544	349	333	45
105°	128	230	854	1481	1300	137
115°	220	293	698	1395	1614	218
125°	302	359	640	1114	1294	269
135°	353	421	602	911	1048	273
145°	401	461	585	734	809	252
155°	456	492	568	642	668	210
165°	497	512	544	577	586	140
175°	518	518	523	530	528	49
180°	519	519	519	519	519	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.2	44.4	62.8	80.7	98.7	117.5	137.4	157.7	177.7	196.8	208.6
90°	14.3	34.4	55.5	74.6	93.7	114.6	138.5	164.4	189.2	209.1	219.9
92.5°	24.4	45.7	68.8	89.1	111.8	138.3	179.0	228.9	275.4	295.3	286.7
95°	45.5	63.4	87.2	110.1	139.9	179.6	243.2	347.8	481.2	543.8	506.1
97.5°	66.2	83.9	106.8	132.7	163.4	205.2	279.9	417.8	627.2	809.1	852.7
100°	86.1	100.0	119.9	146.8	177.7	219.3	288.7	427.0	659.1	921.1	1075.8
102.5°	103.4	115.6	134.6	160.5	191.2	232.2	297.1	421.3	637.0	917.7	1154.3
105°	128.4	140.9	156.5	180.0	210.5	250.4	312.6	416.8	596.8	853.7	1129.5
107.5°	156.9	166.9	180.5	201.1	229.7	268.7	328.8	421.0	571.8	786.1	1030.5
110°	175.0	184.9	196.7	215.6	242.5	281.6	340.0	426.3	562.5	752.6	968.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	192.5	201.5	213.2	230.4	255.5	294.6	350.6	432.2	556.5	727.6	922.8
115°	219.9	228.1	237.3	252.6	275.8	311.0	367.2	441.3	551.4	698.4	864.9
117.5°	246.9	253.0	261.1	273.8	295.1	330.3	382.2	451.6	548.7	678.1	824.0
120°	264.5	269.6	276.8	287.0	308.1	342.5	393.3	458.9	547.6	666.2	801.2
122.5°	281.2	284.9	291.4	301.6	322.0	356.6	404.2	465.2	547.5	656.6	781.0
125°	302.1	305.1	311.0	323.0	343.0	375.6	421.0	475.4	546.7	639.9	750.7
127.5°	319.6	323.3	331.4	344.3	363.2	395.6	438.1	486.0	547.5	627.0	722.5
130°	330.0	333.7	343.4	357.1	376.7	407.6	448.7	492.9	549.0	619.0	704.0
132.5°	339.6	344.1	354.6	369.0	389.5	419.7	457.8	499.7	550.4	611.9	687.8
135°	352.6	356.6	368.6	383.6	406.5	435.9	470.8	508.7	551.6	602.4	665.5
137.5°	366.2	370.9	382.9	398.8	421.5	448.0	480.9	514.7	552.3	594.5	647.7
140°	376.6	380.3	392.0	407.6	429.3	455.4	485.9	517.5	552.0	589.5	637.1
142.5°	387.0	389.9	400.7	416.4	437.3	461.5	490.8	521.1	552.7	587.4	628.5
145°	401.2	405.2	415.2	430.2	450.1	472.1	499.0	527.0	554.9	584.8	618.6
147.5°	418.0	421.0	430.5	444.3	460.9	480.5	505.8	530.4	555.7	581.3	609.4
150°	429.2	432.1	440.1	453.1	468.1	486.0	509.0	531.9	554.9	578.9	602.8
152.5°	440.3	441.7	449.7	461.1	475.3	491.6	512.2	532.7	553.3	574.9	597.2
155°	456.1	457.1	463.1	474.1	485.0	500.0	517.0	533.9	550.9	567.9	586.8
157.5°	469.3	470.3	475.1	484.6	493.4	506.0	520.4	533.9	546.3	560.7	577.1
160°	478.1	479.1	483.0	491.0	499.0	510.0	522.0	533.9	543.9	555.9	569.9
162.5°	486.8	486.2	490.2	496.6	503.8	512.4	522.8	533.1	541.5	551.9	563.5
165°	497.0	496.0	498.0	504.0	509.0	515.0	524.0	531.0	536.9	543.9	552.9
167.5°	505.4	504.2	506.0	509.8	513.4	517.2	523.8	529.6	532.3	536.9	542.5
170°	511.0	509.0	510.0	513.0	515.0	518.0	523.0	528.0	530.0	532.9	536.9
172.5°	514.2	513.0	512.4	515.4	516.6	518.8	522.2	525.6	526.8	528.2	531.4
175°	518.0	517.0	516.0	518.0	518.0	519.0	521.0	523.0	522.0	523.0	524.0
177.5°	519.8	518.2	517.4	519.0	519.0	519.0	519.8	521.4	519.8	519.0	519.8
180°	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	220.5	232.1	244.5	252.6	256.4	260.2	264.0	267.7
90°	230.7	240.5	254.3	262.9	266.5	270.0	273.6	277.1
92.5°	275.7	274.9	278.1	279.5	282.2	282.6	286.9	288.8
95°	436.5	386.8	356.1	341.5	332.1	327.6	328.2	332.7
97.5°	773.2	673.1	576.1	511.2	467.0	445.9	434.8	429.9
100°	1065.7	952.9	827.1	713.4	633.8	594.1	568.4	553.7
102.5°	1255.0	1237.8	1148.4	1027.4	940.7	870.6	837.8	816.7
105°	1347.4	1470.5	1493.8	1467.6	1409.0	1350.3	1310.7	1299.9
107.5°	1260.6	1440.4	1554.1	1609.0	1620.0	1619.8	1614.5	1599.2
110°	1188.6	1376.7	1513.9	1602.1	1648.2	1670.4	1682.7	1684.9



TEST NUMBER: P331407

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1122.1	1303.0	1449.0	1549.1	1612.0	1647.0	1667.2	1675.9
115°	1038.4	1201.0	1340.6	1449.4	1523.5	1572.7	1601.9	1614.1
117.5°	972.6	1116.3	1243.6	1345.9	1421.1	1472.7	1503.0	1513.6
120°	938.2	1070.2	1184.2	1280.8	1353.9	1404.1	1436.3	1449.5
122.5°	909.8	1031.2	1139.4	1226.8	1292.3	1341.2	1369.7	1380.8
125°	867.4	978.2	1074.0	1154.2	1214.7	1255.3	1282.9	1293.5
127.5°	825.7	926.0	1016.1	1090.2	1143.2	1181.4	1205.5	1214.5
130°	798.9	891.8	977.7	1048.3	1099.5	1135.8	1158.1	1168.5
132.5°	772.9	859.1	938.4	1004.9	1055.4	1091.7	1112.4	1121.9
135°	736.6	808.6	880.7	940.9	986.1	1021.4	1041.8	1048.1
137.5°	706.0	766.5	824.2	876.7	917.8	948.1	965.9	973.9
140°	686.8	739.4	790.0	837.2	870.9	898.6	915.3	923.1
142.5°	671.6	716.1	759.4	798.7	830.6	855.7	870.6	873.3
145°	651.3	686.0	718.7	749.2	774.7	793.1	804.6	809.0
147.5°	636.0	662.2	686.6	708.2	728.7	743.0	750.5	753.0
150°	626.8	648.7	669.7	687.6	702.6	714.6	720.6	721.6
152.5°	618.0	638.3	656.1	671.7	683.4	693.8	698.2	698.4
155°	605.8	621.8	636.7	647.7	658.7	665.7	669.7	667.7
157.5°	591.6	605.0	617.6	626.2	633.9	639.7	641.5	641.5
160°	582.8	593.8	604.8	611.8	618.8	623.8	624.8	624.8
162.5°	574.1	583.4	592.8	598.2	605.2	608.6	609.6	608.8
165°	560.9	567.9	574.9	578.9	582.8	586.8	586.8	585.8
167.5°	548.3	553.7	558.5	562.1	563.9	566.1	565.9	564.7
170°	541.9	544.9	548.9	550.9	551.9	554.9	553.9	551.9
172.5°	534.7	536.9	540.1	541.3	542.3	543.7	542.7	541.5
175°	527.0	528.0	529.0	530.0	530.0	531.0	530.0	528.0
177.5°	521.4	521.4	522.2	522.2	522.2	522.2	521.4	519.8
180°	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0

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