

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: P331401-935

Luminaire Tested: **SA2XXDIP-C865D725U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

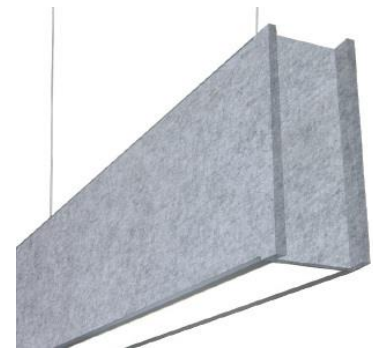
Test Information

Test Method: LM-79-08
Report Number: P331401-935
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-C865D725U935-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5461.5 lumens
Efficiency: N/A
Efficacy: 100.4 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

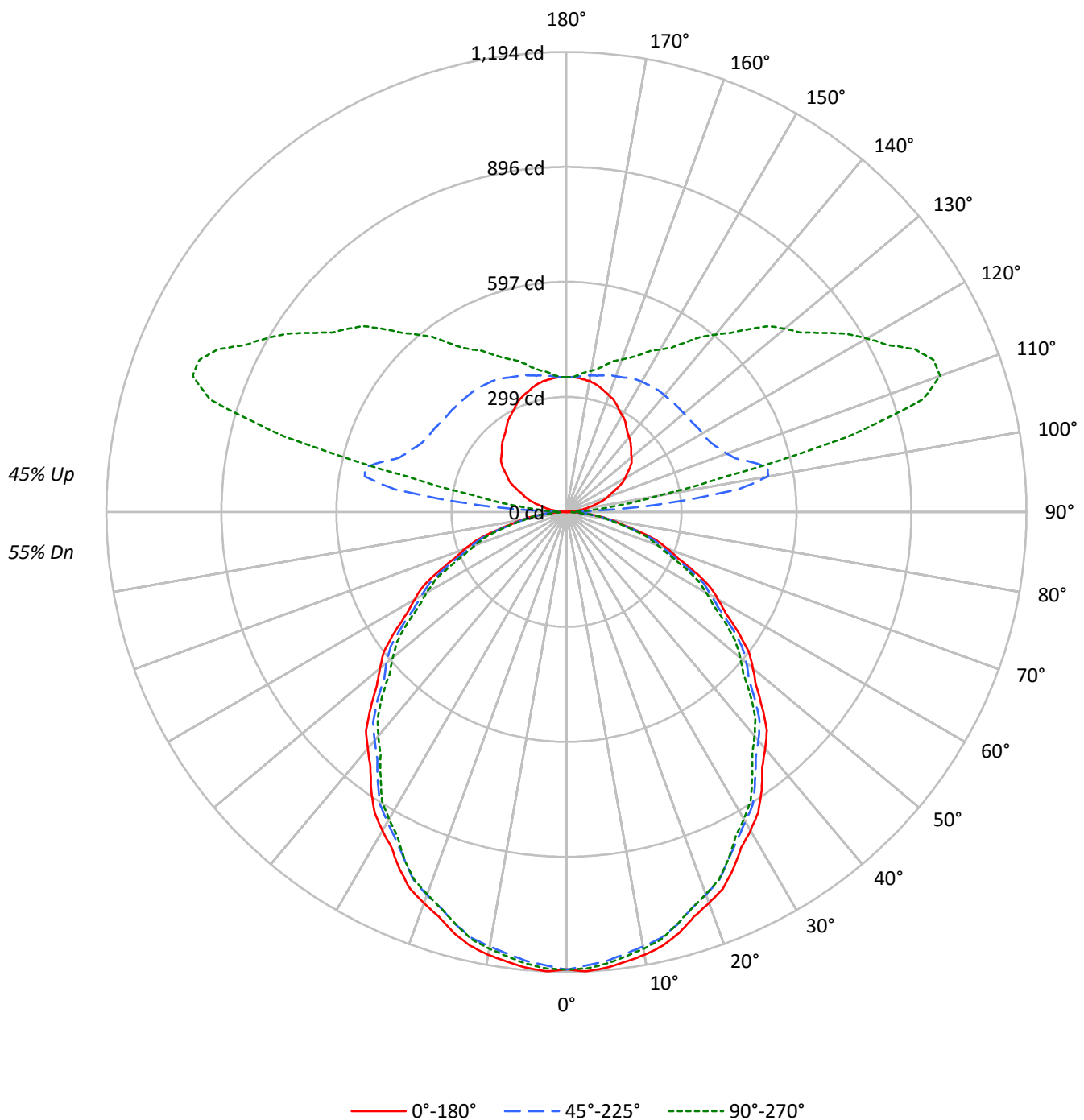
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331401-935

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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55		
1	99	95	91	87	92	88	85	82	76	73	71	64	63	61	54	53	52	47		
2	90	83	76	71	83	77	72	67	66	62	59	57	54	51	48	45	43	39		
3	82	73	65	59	76	68	61	56	59	54	49	50	46	43	42	39	37	33		
4	75	64	56	50	70	60	53	47	52	47	42	45	40	37	38	34	32	28		
5	69	57	49	43	64	54	46	41	47	41	36	40	36	32	34	31	28	25		
6	64	51	43	37	59	48	41	36	42	36	32	36	32	28	31	27	24	22		
7	59	47	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19		
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17		
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	16		
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19184	19184	19184
5°	19258	18979	19091
10°	19143	18787	18882
15°	18907	18544	18524
20°	18570	18179	18158
25°	18235	17728	17728
30°	17807	17316	17167
35°	17406	16821	16575
40°	16904	16326	16012
45°	16408	15835	15445
50°	15870	15325	14780
55°	15308	14728	14184
60°	14683	14018	13504
65°	14013	13310	12699
70°	13161	12458	11863
75°	11971	11472	11185
80°	10628	10302	9772
85°	8670	8262	7410

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.7	2.0
10°-20°	314.4	5.8
20°-30°	462.1	8.5
30°-40°	536.8	9.8
40°-50°	536.2	9.8
50°-60°	467.6	8.6
60°-70°	345.7	6.3
70°-80°	195.8	3.6
80°-90°	55.8	1.0
90°-100°	139.9	2.6
100°-110°	474.9	8.7
110°-120°	504.5	9.2
120°-130°	415.3	7.6
130°-140°	333.5	6.1
140°-150°	252.0	4.6
150°-160°	177.1	3.2
160°-170°	104.3	1.9
170°-180°	33.9	0.6
0°-30°	888.2	16.3
0°-40°	1425.0	26.1
0°-60°	2428.7	44.5
0°-90°	3026.1	55.4
90°-120°	1119.3	20.5
90°-150°	2120.1	38.8
90°-180°	2435.0	44.6
0°-180°	5461.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1188	1188	1188	1188	1188	
5°	1188	1183	1171	1180	1178	113
15°	1131	1124	1109	1113	1108	318
25°	1024	1014	995	997	995	471
35°	883	871	853	847	841	551
45°	719	710	694	681	676	554
55°	544	537	523	510	504	486
65°	367	360	348	338	332	363
75°	192	189	184	178	179	205
85°	47	46	45	41	40	54
90°	1	9	23	22	22	4
95°	24	58	264	100	77	25
105°	82	124	499	892	758	87
115°	145	183	417	861	998	143
125°	202	239	401	698	810	179
135°	237	283	396	586	671	183
145°	270	311	394	490	536	170
155°	308	332	383	433	450	141
165°	335	345	367	389	395	94
175°	349	350	353	357	356	33
180°	350	350	350	350	350	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2
2.5°	1193.7	1192.7	1191.6	1190.7	1189.6	1188.0	1185.8	1183.5	1181.3	1179.1	1181.1
5°	1188.2	1187.1	1186.2	1185.2	1184.1	1182.2	1179.5	1176.6	1173.9	1171.0	1173.1
7.5°	1177.7	1176.1	1174.6	1172.9	1171.4	1169.2	1166.3	1163.5	1160.6	1157.8	1159.9
10°	1167.6	1165.9	1164.1	1162.3	1160.5	1158.1	1155.0	1152.0	1149.0	1145.9	1148.0
12.5°	1153.9	1152.4	1150.8	1149.2	1147.6	1145.3	1142.3	1139.2	1136.2	1133.2	1134.5
15°	1131.1	1129.5	1128.0	1126.5	1125.0	1122.6	1119.3	1115.9	1112.7	1109.4	1110.3
17.5°	1101.8	1100.3	1098.8	1097.3	1095.7	1093.3	1089.9	1086.6	1083.2	1079.9	1081.1
20°	1080.8	1079.3	1077.8	1076.2	1074.7	1072.2	1068.6	1065.1	1061.5	1058.0	1058.7
22.5°	1059.8	1057.7	1055.5	1053.3	1051.3	1048.5	1045.2	1041.8	1038.5	1035.1	1035.3
25°	1023.6	1021.7	1019.6	1017.6	1015.5	1012.4	1008.1	1003.8	999.4	995.1	995.7
27.5°	982.6	980.8	978.9	977.1	975.3	972.6	969.2	965.8	962.4	959.0	958.3
30°	955.1	953.1	951.1	949.1	947.0	944.1	940.3	936.5	932.6	928.8	928.1
32.5°	925.9	924.3	922.6	921.0	919.4	916.5	912.6	908.5	904.6	900.5	899.1
35°	883.1	880.6	878.0	875.6	873.0	869.7	865.6	861.6	857.5	853.4	852.0
37.5°	834.9	832.7	830.4	828.2	826.0	822.9	818.8	814.8	810.6	806.6	804.7
40°	802.0	800.0	798.0	795.9	793.9	790.8	786.8	782.7	778.7	774.6	772.3
42.5°	770.1	768.0	765.9	764.0	761.9	758.9	754.8	750.8	746.7	742.6	740.1
45°	718.6	716.9	715.1	713.3	711.5	708.7	704.9	701.1	697.3	693.5	690.7
47.5°	667.4	665.8	664.1	662.5	660.7	657.9	653.9	650.0	646.0	642.0	639.1
50°	631.8	630.5	629.3	628.0	626.7	624.3	620.8	617.2	613.6	610.1	606.6
52.5°	597.1	595.4	593.7	592.0	590.4	587.9	584.5	581.2	577.8	574.5	571.5
55°	543.8	542.3	540.8	539.2	537.7	535.5	532.4	529.3	526.3	523.2	520.2
57.5°	490.3	489.1	487.9	486.7	485.5	483.2	479.8	476.5	473.1	469.8	466.8
60°	454.7	453.7	452.7	451.7	450.6	448.4	444.8	441.3	437.7	434.1	431.4
62.5°	420.0	418.4	416.7	415.1	413.5	411.3	408.5	405.8	403.0	400.4	397.8
65°	366.8	365.2	363.7	362.1	360.7	358.6	356.1	353.5	351.0	348.4	346.2
67.5°	312.6	311.3	310.1	308.9	307.7	306.0	303.7	301.4	299.1	296.8	295.1
70°	278.8	277.8	276.7	275.7	274.7	273.0	270.8	268.5	266.2	263.9	262.2
72.5°	244.0	243.1	242.0	241.0	240.0	238.8	237.3	235.8	234.3	232.8	231.1
75°	191.9	191.4	190.9	190.5	189.9	189.0	187.8	186.5	185.2	183.9	182.4
77.5°	145.3	144.5	143.6	142.8	141.9	141.2	140.7	140.2	139.7	139.1	138.4
80°	114.3	114.0	113.7	113.5	113.2	112.9	112.4	111.8	111.3	110.8	110.0
82.5°	85.0	85.0	84.9	84.8	84.8	84.6	84.3	84.0	83.7	83.4	82.4
85°	46.8	46.6	46.3	46.1	45.8	45.5	45.3	45.0	44.8	44.6	43.8
87.5°	16.6	16.6	16.7	16.6	16.4	16.4	16.7	17.2	17.7	17.4	16.6
90°	0.7	2.7	5.4	6.7	8.1	10.1	13.4	18.2	22.2	22.9	22.2
92.5°	8.2	11.9	16.7	19.6	24.2	30.6	45.8	67.2	86.3	87.5	73.9
95°	23.6	26.3	33.0	39.0	49.8	66.0	96.9	155.5	233.6	263.8	230.8
97.5°	38.4	42.0	49.2	58.3	70.7	88.9	127.9	209.5	339.2	450.4	472.5
100°	51.8	53.8	59.9	70.7	84.1	103.0	138.6	220.8	366.1	531.7	628.6
102.5°	64.2	65.7	71.7	82.5	96.5	115.4	148.4	221.3	355.9	534.4	686.7
105°	82.1	84.8	89.5	99.6	114.4	133.3	164.9	224.8	335.9	498.7	677.8
107.5°	101.5	103.7	108.2	117.5	132.2	151.2	181.8	234.1	325.9	460.5	618.6
110°	114.4	117.1	121.1	129.9	144.0	163.6	193.1	241.6	323.7	442.2	581.5

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	126.2	129.0	133.5	141.7	155.3	175.4	204.0	249.7	324.3	430.3	555.7
115°	144.7	148.1	152.1	160.1	173.7	191.8	220.8	261.8	327.1	417.3	523.7
117.5°	163.8	166.5	170.6	177.7	190.6	209.5	236.3	274.7	331.9	411.0	503.4
120°	175.6	178.4	182.4	188.5	201.9	220.8	247.0	283.4	335.2	407.2	492.7
122.5°	187.0	189.2	193.1	199.8	213.2	232.6	257.3	290.9	339.0	405.0	483.5
125°	201.9	204.0	207.9	216.0	229.5	248.3	272.6	302.9	344.6	401.1	470.5
127.5°	213.8	216.5	222.1	231.0	243.9	263.3	286.9	314.0	350.4	398.8	458.3
130°	220.8	223.4	230.1	239.6	253.0	271.9	295.5	321.1	354.7	397.8	450.3
132.5°	227.2	230.5	237.7	247.7	261.7	280.5	303.0	328.0	359.0	397.3	443.8
135°	236.9	239.6	247.7	257.8	273.3	292.1	313.7	337.2	364.1	396.4	434.8
137.5°	246.1	249.3	257.4	268.1	283.5	301.0	322.3	344.2	368.7	396.3	428.4
140°	253.0	255.7	263.8	274.6	289.4	306.9	327.1	347.9	370.8	395.7	424.7
142.5°	260.0	262.3	269.8	280.5	294.8	311.3	330.9	351.2	372.5	395.7	420.9
145°	270.5	273.3	280.0	290.1	303.5	318.3	336.6	355.3	374.2	394.4	415.9
147.5°	281.9	283.9	290.3	299.6	310.8	324.0	341.1	357.7	374.8	392.0	410.9
150°	289.4	291.4	296.8	305.6	315.6	327.8	343.3	358.7	374.2	390.4	406.5
152.5°	297.0	297.9	303.2	310.9	320.5	331.6	345.4	359.3	373.2	387.7	402.8
155°	307.5	308.2	312.3	319.7	327.1	337.2	348.6	360.1	371.5	383.0	395.7
157.5°	316.5	317.1	320.4	326.8	332.8	341.2	350.9	360.1	368.4	378.2	389.2
160°	322.4	323.0	325.7	331.1	336.6	343.9	352.0	360.1	366.8	374.9	384.4
162.5°	328.3	327.9	330.6	334.9	339.8	345.5	352.6	359.6	365.2	372.2	380.0
165°	335.2	334.5	335.9	339.9	343.3	347.3	353.4	358.1	362.1	366.8	372.9
167.5°	340.9	340.0	341.2	343.8	346.2	348.8	353.2	357.1	359.0	362.1	365.8
170°	344.6	343.3	343.9	345.9	347.3	349.3	352.7	356.0	357.4	359.4	362.1
172.5°	346.7	345.9	345.5	347.6	348.4	349.8	352.1	354.4	355.2	356.2	358.3
175°	349.3	348.6	347.9	349.3	349.3	350.0	351.3	352.7	352.0	352.7	353.4
177.5°	350.5	349.5	348.9	350.0	350.0	350.0	350.5	351.6	350.5	350.0	350.5
180°	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2
2.5°	1183.1	1185.2	1187.1	1188.0	1187.6	1187.1	1186.8	1186.4
5°	1175.1	1177.2	1179.2	1179.9	1179.5	1179.0	1178.5	1177.9
7.5°	1161.8	1163.9	1166.0	1166.7	1166.1	1165.5	1165.0	1164.4
10°	1150.0	1152.0	1154.1	1154.7	1153.9	1153.1	1152.4	1151.7
12.5°	1136.0	1137.4	1138.8	1139.3	1138.7	1138.2	1137.6	1137.0
15°	1111.4	1112.4	1113.4	1113.3	1112.1	1110.8	1109.5	1108.2
17.5°	1082.2	1083.4	1084.6	1084.5	1083.3	1082.1	1080.9	1079.7
20°	1059.5	1060.2	1061.0	1060.8	1059.9	1058.9	1057.8	1056.8
22.5°	1035.4	1035.5	1035.7	1035.5	1034.8	1034.2	1033.6	1033.0
25°	996.2	996.6	997.1	997.1	996.6	996.2	995.7	995.1
27.5°	957.5	956.7	956.0	955.0	953.7	952.5	951.3	950.1
30°	927.3	926.6	925.8	924.9	923.9	922.9	921.9	920.8
32.5°	897.8	896.4	895.0	893.8	892.9	891.8	890.8	889.8
35°	850.4	848.9	847.4	845.9	844.7	843.4	842.1	840.9
37.5°	802.9	801.0	799.1	797.5	796.3	795.1	793.9	792.6
40°	770.1	767.8	765.5	763.8	762.8	761.8	760.8	759.7
42.5°	737.6	735.1	732.7	730.7	729.3	727.9	726.4	725.0
45°	687.9	685.1	682.3	680.4	679.4	678.4	677.3	676.4
47.5°	636.2	633.3	630.3	628.1	626.6	625.2	623.7	622.2
50°	603.0	599.4	595.9	593.5	592.2	590.9	589.7	588.4
52.5°	568.5	565.6	562.7	560.3	558.7	557.0	555.3	553.6
55°	517.2	514.1	511.1	508.9	507.6	506.4	505.1	503.9
57.5°	463.8	460.8	457.8	455.8	454.9	453.9	453.0	451.9
60°	428.6	425.8	423.0	421.2	420.4	419.7	418.9	418.2
62.5°	395.1	392.5	389.9	388.2	387.2	386.2	385.3	384.4
65°	343.9	341.6	339.3	337.5	336.3	335.0	333.7	332.4
67.5°	293.3	291.4	289.7	288.3	287.3	286.3	285.2	284.2
70°	260.4	258.6	256.8	255.4	254.4	253.4	252.4	251.3
72.5°	229.3	227.5	225.8	224.5	223.6	222.8	222.0	221.2
75°	180.9	179.3	177.9	177.4	177.9	178.4	178.8	179.3
77.5°	137.7	136.9	136.1	135.3	134.7	134.0	133.3	132.5
80°	109.3	108.6	107.8	107.1	106.6	106.2	105.6	105.1
82.5°	81.5	80.5	79.6	79.0	78.9	78.8	78.7	78.6
85°	43.0	42.3	41.5	41.0	40.7	40.5	40.2	40.0
87.5°	15.8	15.0	14.6	14.4	14.2	13.9	13.8	13.6
90°	21.5	20.2	21.5	22.2	22.2	22.2	22.2	22.2
92.5°	58.7	50.4	44.7	40.6	40.0	37.8	38.4	37.3
95°	176.3	135.3	107.0	92.2	83.4	78.1	76.0	76.7
97.5°	411.5	336.7	263.8	215.2	183.0	166.5	156.7	151.0
100°	614.5	531.1	438.9	357.4	301.5	272.6	253.0	240.9
102.5°	747.5	728.7	661.2	574.9	514.2	464.8	440.4	424.0
105°	817.8	893.8	902.6	880.4	838.6	796.9	767.9	758.5
107.5°	767.2	881.7	951.7	984.3	989.5	987.2	981.5	968.9
110°	723.5	844.0	930.1	985.3	1014.3	1027.1	1033.1	1032.4

TEST NUMBER: P331401-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	683.7	799.3	891.4	954.7	994.9	1016.3	1027.8	1031.4
115°	634.6	738.3	826.5	895.8	943.6	974.6	992.0	998.2
117.5°	597.8	688.8	768.8	833.8	882.5	915.2	933.7	938.7
120°	579.5	663.0	734.3	795.6	842.7	874.3	893.8	900.5
122.5°	565.0	641.4	708.9	764.3	806.6	837.7	855.1	860.7
125°	543.8	613.1	672.4	722.8	761.9	787.5	804.3	809.7
127.5°	523.0	585.7	641.5	688.1	722.2	746.1	760.7	765.0
130°	509.5	567.4	620.5	665.0	697.9	720.8	734.3	739.7
132.5°	496.5	550.2	599.0	640.8	673.2	696.0	708.4	713.3
135°	478.5	523.0	567.4	605.0	634.0	656.3	668.3	671.1
137.5°	464.2	501.3	536.6	569.4	595.8	614.9	625.5	629.6
140°	455.0	487.3	518.2	547.9	569.4	586.9	597.0	601.1
142.5°	447.5	474.9	501.5	526.3	546.8	562.7	571.7	572.5
145°	436.8	459.0	479.9	499.4	515.6	527.0	533.7	535.7
147.5°	428.6	446.1	462.4	476.6	490.0	499.1	503.7	504.9
150°	422.7	437.5	451.6	463.7	473.8	481.9	485.9	486.6
152.5°	416.7	430.5	442.5	453.0	460.9	467.9	470.9	471.0
155°	408.5	419.3	429.4	436.8	444.2	448.9	451.6	450.3
157.5°	399.0	408.0	416.5	422.2	427.5	431.4	432.7	432.7
160°	393.0	400.5	407.9	412.6	417.3	420.7	421.3	421.3
162.5°	387.1	393.5	399.8	403.5	408.1	410.4	411.1	410.5
165°	378.2	383.0	387.7	390.4	393.0	395.7	395.7	395.1
167.5°	369.8	373.4	376.6	379.1	380.3	381.8	381.6	380.8
170°	365.5	367.5	370.1	371.5	372.2	374.2	373.5	372.2
172.5°	360.6	362.1	364.3	365.1	365.8	366.7	366.0	365.2
175°	355.3	356.0	356.7	357.4	357.4	358.1	357.4	356.0
177.5°	351.6	351.6	352.1	352.1	352.1	352.1	351.6	350.5
180°	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0

(END OF REPORT)