

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: P332077-927

Luminaire Tested: **S123DIP-S1165D1025U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332077-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1025U927-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6783.3 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

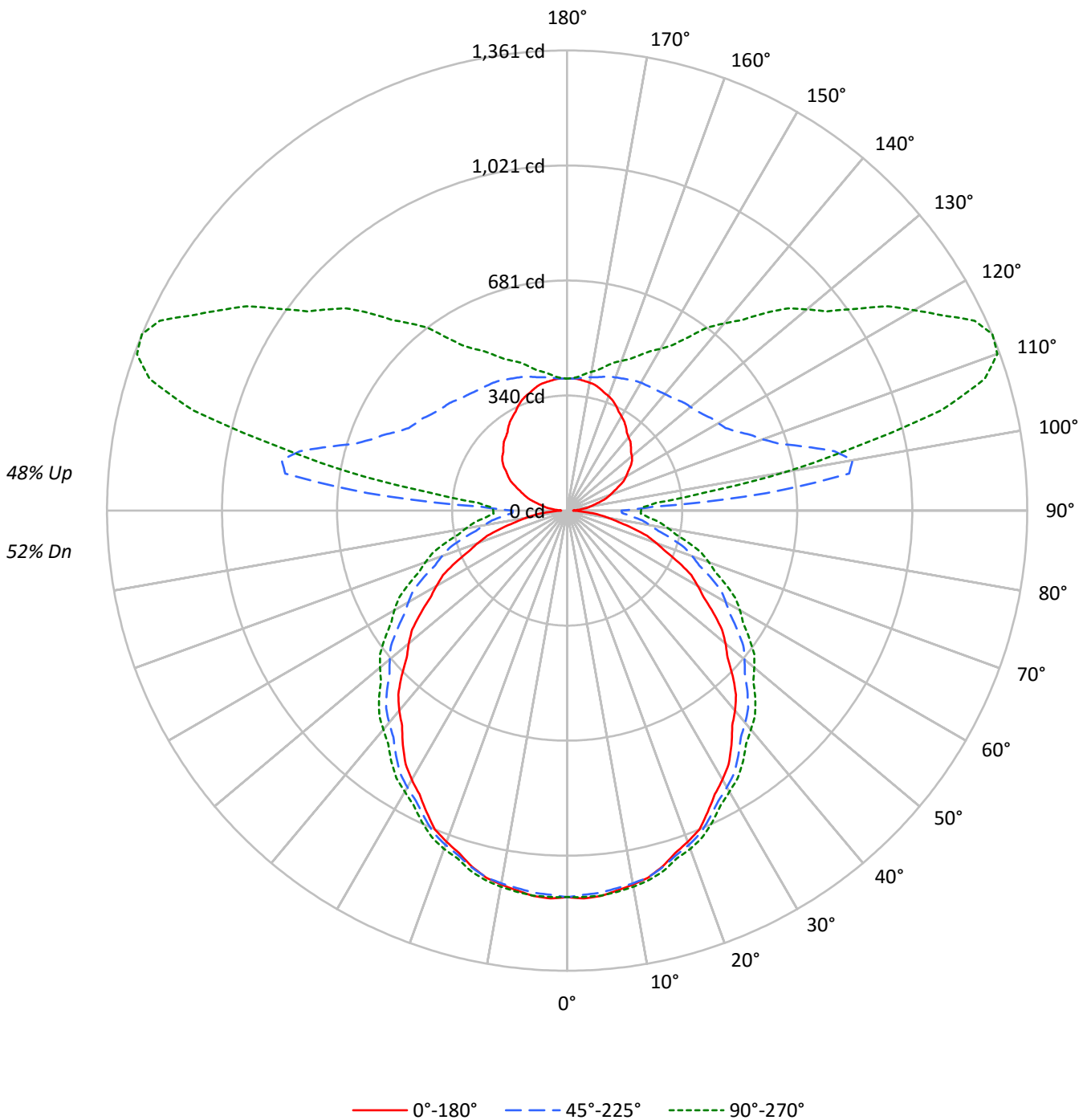
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	84	84	84		71	71	71		58	58	58	52
1	97	92	88	84	90	85	82	78	72	70	67		60	58	57		49	48	47	41
2	88	80	73	68	81	74	68	63	63	58	55		52	49	46		43	41	38	34
3	80	70	62	56	74	65	58	52	55	50	45		46	42	39		38	35	32	28
4	73	62	53	47	67	57	50	44	49	43	38		41	36	33		33	30	28	24
5	67	55	46	40	61	51	43	38	43	38	33		36	32	28		30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29		33	28	25		27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25		30	25	22		25	21	18	16
8	53	40	32	27	49	37	30	25	32	26	22		27	23	19		23	19	16	14
9	49	37	29	24	45	34	27	22	29	24	20		25	21	17		21	17	15	13
10	46	34	26	21	42	31	25	20	27	22	18		23	19	16		19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12304	12304	12304
5°	12343	11994	12001
10°	12232	11718	11659
15°	12075	11405	11287
20°	11849	11047	10876
25°	11571	10634	10444
30°	11287	10264	10006
35°	10967	9871	9658
40°	10663	9514	9284
45°	10325	9172	8985
50°	9990	8832	8655
55°	9622	8486	8359
60°	9263	8134	8056
65°	8896	7758	7694
70°	8341	7336	7323
75°	7640	6853	6946
80°	6835	6380	6515
85°	6085	6053	6268



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.4	1.6
10°-20°	308.9	4.6
20°-30°	462.0	6.8
30°-40°	551.8	8.1
40°-50°	577.3	8.5
50°-60°	541.7	8.0
60°-70°	452.5	6.7
70°-80°	323.7	4.8
80°-90°	196.1	2.9
90°-100°	338.5	5.0
100°-110°	704.6	10.4
110°-120°	665.0	9.8
120°-130°	517.0	7.6
130°-140°	396.1	5.8
140°-150°	287.5	4.2
150°-160°	198.1	2.9
160°-170°	116.4	1.7
170°-180°	37.9	0.6
0°-30°	879.3	13.0
0°-40°	1431.1	21.1
0°-60°	2550.1	37.6
0°-90°	3522.4	51.9
90°-120°	1708.1	25.2
90°-150°	2908.6	42.9
90°-180°	3261.0	48.1
0°-180°	6783.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1144	1142	1134	1144	1143	108
15°	1090	1093	1092	1104	1103	307
25°	984	996	1000	1015	1016	453
35°	847	866	883	901	906	529
45°	692	722	753	776	787	534
55°	528	569	614	646	658	473
65°	365	414	468	504	518	360
75°	198	257	319	358	375	212
85°	61	124	189	230	244	64
90°	18	87	160	204	218	13
95°	41	150	592	297	266	40
105°	102	177	729	1239	1145	108
115°	168	225	552	1161	1329	167
125°	229	272	494	887	1039	204
135°	267	317	462	714	826	206
145°	302	345	442	565	626	189
155°	342	369	428	486	507	157
165°	374	385	410	434	442	105
175°	390	390	393	398	398	37
180°	391	391	391	391	391	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1148.1	1147.5	1146.8	1146.1	1145.4	1144.2	1142.5	1140.7	1138.9	1137.2	1138.9
5°	1144.4	1143.8	1143.3	1142.7	1142.2	1141.1	1139.4	1137.7	1136.1	1134.4	1136.6
7.5°	1133.1	1133.3	1133.4	1133.5	1133.6	1132.9	1131.2	1129.7	1128.1	1126.4	1129.2
10°	1123.2	1123.8	1124.3	1124.9	1125.5	1125.0	1123.6	1122.2	1120.9	1119.4	1122.2
12.5°	1111.3	1112.0	1112.8	1113.6	1114.4	1114.3	1113.3	1112.4	1111.4	1110.5	1113.0
15°	1089.6	1090.4	1091.2	1092.1	1092.9	1093.2	1092.9	1092.7	1092.3	1092.1	1094.9
17.5°	1062.2	1063.8	1065.5	1067.1	1068.8	1069.6	1069.5	1069.4	1069.3	1069.1	1071.7
20°	1042.3	1043.9	1045.6	1047.3	1048.9	1050.0	1050.6	1051.1	1051.7	1052.3	1054.7
22.5°	1021.4	1023.0	1024.7	1026.4	1028.0	1029.2	1030.0	1030.8	1031.5	1032.3	1035.5
25°	983.7	986.5	989.3	992.0	994.8	996.6	997.4	998.2	999.1	999.9	1003.5
27.5°	945.9	949.0	952.2	955.4	958.5	961.0	962.7	964.5	966.3	968.0	971.1
30°	919.0	922.6	926.1	929.8	933.3	936.3	938.5	940.7	942.9	945.2	948.5
32.5°	889.1	893.1	897.1	901.2	905.2	908.7	911.6	914.5	917.3	920.2	923.8
35°	846.8	851.2	855.6	860.1	864.5	868.5	872.1	875.7	879.2	882.9	887.0
37.5°	801.9	806.9	811.9	816.9	821.9	826.6	831.0	835.4	839.9	844.3	849.0
40°	772.1	777.1	782.0	787.0	791.9	797.3	802.8	808.3	813.8	819.4	824.1
42.5°	739.2	745.3	751.4	757.4	763.5	769.4	775.2	780.9	786.7	792.5	797.6
45°	692.4	699.0	705.6	712.3	718.9	725.7	732.6	739.5	746.5	753.4	758.6
47.5°	643.3	650.8	658.3	665.9	673.4	681.1	689.0	697.0	704.9	712.8	718.7
50°	611.4	619.2	626.9	634.6	642.4	650.5	659.2	667.7	676.3	684.8	691.3
52.5°	577.6	585.7	593.9	602.1	610.3	619.2	628.6	638.0	647.5	657.0	663.6
55°	528.0	537.1	546.2	555.4	564.5	574.0	584.0	594.0	604.0	613.9	621.4
57.5°	479.7	489.2	498.7	508.2	517.8	528.0	538.8	549.8	560.6	571.6	579.1
60°	445.8	455.7	465.7	475.7	485.6	496.3	507.6	519.0	530.4	541.7	549.5
62.5°	413.9	424.1	434.3	444.5	454.6	465.7	477.8	489.7	501.8	513.8	521.5
65°	364.9	375.7	386.4	397.2	408.1	419.5	431.7	443.9	456.1	468.2	476.5
67.5°	315.1	326.5	337.9	349.4	360.8	372.8	385.2	397.6	410.0	422.4	431.4
70°	280.2	292.1	304.0	315.8	327.8	340.4	353.6	366.9	380.2	393.5	402.3
72.5°	248.3	260.2	272.1	284.0	295.9	308.7	322.4	336.1	349.9	363.6	372.7
75°	198.0	211.0	224.0	237.0	250.0	263.4	277.3	291.1	304.9	318.8	327.9
77.5°	154.2	167.3	180.4	193.5	206.6	220.1	234.1	248.0	262.0	275.9	285.6
80°	123.3	136.8	150.4	164.0	177.5	191.5	205.9	220.3	234.6	249.1	258.5
82.5°	96.4	110.2	124.0	137.8	151.5	165.7	180.3	195.0	209.5	224.1	233.5
85°	61.0	74.9	88.7	102.5	116.4	130.6	145.3	159.9	174.6	189.3	198.7
87.5°	33.4	47.5	61.6	75.9	90.0	104.3	118.8	133.4	148.0	162.6	171.8
90°	17.7	32.9	48.1	64.0	79.1	94.5	111.1	127.5	144.0	160.5	169.1
92.5°	25.0	42.0	60.8	79.2	98.2	122.9	157.5	205.4	252.6	254.4	233.7
95°	40.6	53.7	73.2	97.4	128.8	171.8	252.6	384.0	527.2	592.2	512.2
97.5°	58.1	68.6	85.2	106.5	136.6	181.3	258.4	404.3	633.3	841.0	900.0
100°	69.7	79.4	93.8	113.7	141.5	183.2	251.2	381.0	601.7	857.1	1021.0
102.5°	82.0	91.4	104.3	122.7	147.7	186.2	248.4	360.3	557.9	810.1	1021.1
105°	101.7	110.7	122.1	138.2	159.9	193.7	248.3	341.6	503.0	729.1	963.8
107.5°	121.4	129.4	139.7	154.6	174.4	205.6	254.4	333.4	465.1	656.9	870.4
110°	135.5	142.9	151.9	165.6	183.9	214.1	260.8	331.9	449.0	615.8	812.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	149.5	156.0	164.0	176.8	194.3	223.2	266.9	333.2	437.1	585.8	759.6
115°	168.3	174.8	182.9	194.1	210.9	238.8	278.8	337.1	427.7	552.3	695.8
117.5°	188.1	193.8	199.9	209.1	226.2	251.7	290.8	343.2	421.0	528.4	653.3
120°	201.1	204.9	210.2	219.4	235.9	260.9	298.5	348.7	418.7	516.5	630.3
122.5°	213.1	216.2	220.9	230.1	245.3	271.0	307.5	354.1	418.7	507.1	610.6
125°	229.1	230.7	235.4	244.2	259.1	284.5	320.2	363.1	418.5	493.8	584.2
127.5°	242.2	244.3	249.9	258.5	274.8	299.4	332.7	370.7	420.0	483.4	559.9
130°	250.4	252.5	259.4	268.6	284.9	308.9	340.6	376.1	421.2	476.5	545.8
132.5°	255.8	258.7	266.4	277.7	294.3	317.2	347.1	381.0	421.1	471.0	532.4
135°	266.6	269.5	277.9	289.5	305.8	328.5	356.1	386.0	420.7	462.5	514.1
137.5°	276.8	279.9	288.2	300.6	316.9	337.4	362.7	390.0	419.9	454.8	498.2
140°	282.7	286.7	294.6	307.3	323.1	343.3	367.0	391.6	419.3	450.2	488.3
142.5°	290.3	293.4	301.7	312.9	328.5	347.0	369.5	392.7	417.9	444.9	478.8
145°	302.5	304.6	311.5	323.1	336.2	354.3	374.8	396.2	418.3	442.0	469.5
147.5°	313.6	315.1	322.0	332.2	345.2	360.8	379.5	398.7	418.3	439.0	461.4
150°	321.9	322.7	328.9	339.2	350.3	364.6	382.7	399.3	418.3	436.5	456.2
152.5°	330.0	330.2	336.5	345.5	355.4	369.0	384.6	400.6	416.4	433.3	451.2
155°	342.4	342.4	347.1	355.1	363.8	374.8	388.2	400.9	414.3	427.8	443.6
157.5°	352.2	352.8	356.6	363.6	371.0	379.5	390.3	401.7	411.7	422.9	435.1
160°	359.8	359.8	363.0	369.2	374.8	382.7	392.2	401.7	410.4	419.1	429.4
162.5°	365.5	365.5	368.0	373.0	378.0	384.6	392.8	401.1	407.9	415.3	423.7
165°	374.0	373.2	374.8	378.7	381.9	387.5	393.8	399.3	404.1	409.6	415.9
167.5°	380.5	379.5	380.3	383.3	385.6	389.0	393.6	398.1	400.3	403.9	408.5
170°	384.3	382.7	383.5	385.9	387.5	389.0	393.0	396.2	397.8	400.1	404.1
172.5°	386.8	385.9	386.0	387.8	388.7	389.7	393.0	395.5	395.9	397.0	399.7
175°	389.8	389.0	388.2	389.8	389.8	390.6	392.2	393.8	393.0	393.0	394.6
177.5°	391.3	390.6	390.0	390.6	390.6	390.6	391.3	392.5	391.3	390.6	391.3
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1140.7	1142.5	1144.2	1145.0	1144.8	1144.5	1144.3	1144.1
5°	1138.8	1141.1	1143.3	1144.2	1144.0	1143.7	1143.4	1143.1
7.5°	1131.9	1134.7	1137.5	1138.8	1138.4	1138.0	1137.7	1137.4
10°	1125.0	1127.8	1130.5	1131.6	1131.1	1130.5	1130.0	1129.4
12.5°	1115.6	1118.2	1120.7	1121.7	1121.1	1120.5	1120.0	1119.4
15°	1097.6	1100.3	1103.1	1104.4	1104.1	1103.8	1103.6	1103.3
17.5°	1074.1	1076.7	1079.1	1080.1	1079.8	1079.4	1079.0	1078.6
20°	1057.2	1059.7	1062.2	1063.6	1063.8	1064.1	1064.4	1064.7
22.5°	1038.6	1041.8	1044.9	1046.4	1046.2	1046.1	1045.9	1045.8
25°	1007.1	1010.7	1014.3	1016.1	1016.1	1016.1	1016.1	1016.1
27.5°	974.2	977.3	980.4	982.1	982.3	982.5	982.8	983.0
30°	951.8	955.1	958.4	960.0	960.0	960.0	960.0	960.0
32.5°	927.3	930.9	934.4	936.5	937.2	937.9	938.5	939.1
35°	891.2	895.3	899.4	902.1	903.2	904.4	905.5	906.5
37.5°	853.7	858.4	863.1	865.9	866.8	867.7	868.5	869.4
40°	828.8	833.5	838.2	841.1	842.2	843.3	844.4	845.5
42.5°	802.8	807.9	813.1	816.4	817.9	819.5	821.0	822.6
45°	763.9	769.1	774.4	778.2	780.4	782.6	784.8	787.0
47.5°	724.6	730.6	736.5	740.3	742.0	743.7	745.4	747.1
50°	697.6	704.0	710.3	714.5	716.4	718.4	720.3	722.2
52.5°	670.2	676.8	683.3	687.9	690.2	692.6	695.0	697.4
55°	628.8	636.3	643.8	648.6	650.9	653.1	655.3	657.5
57.5°	586.6	594.1	601.7	606.7	609.3	612.0	614.6	617.1
60°	557.1	564.9	572.7	578.1	581.1	584.2	587.2	590.3
62.5°	529.3	537.0	544.8	550.1	552.9	555.7	558.6	561.3
65°	484.8	493.1	501.5	506.9	509.7	512.5	515.2	518.0
67.5°	440.5	449.6	458.7	464.4	466.8	469.1	471.3	473.7
70°	411.2	420.1	428.9	434.7	437.5	440.3	443.0	445.8
72.5°	381.8	390.9	399.9	405.8	408.6	411.4	414.2	416.9
75°	337.1	346.2	355.3	361.6	364.9	368.2	371.5	374.8
77.5°	295.2	304.8	314.5	320.5	323.1	325.7	328.2	330.7
80°	267.8	277.3	286.7	292.8	295.6	298.3	301.1	303.8
82.5°	243.0	252.4	261.7	267.8	270.6	273.4	276.2	278.9
85°	208.1	217.5	226.9	233.0	235.8	238.5	241.3	244.1
87.5°	181.4	191.0	200.6	206.9	209.5	212.5	215.4	218.0
90°	179.3	189.5	199.7	207.4	209.4	212.9	216.4	218.4
92.5°	217.7	213.1	216.1	217.9	219.0	219.2	222.5	223.6
95°	425.1	342.0	308.6	285.8	273.5	269.2	266.5	266.1
97.5°	840.4	707.4	613.7	524.6	469.1	436.2	417.6	413.6
100°	1056.7	1000.6	916.2	809.3	732.1	677.2	649.1	652.7
102.5°	1124.3	1130.0	1083.9	1018.0	958.6	915.7	892.6	877.3
105°	1136.9	1223.7	1246.4	1231.0	1197.1	1169.6	1146.8	1145.3
107.5°	1065.2	1201.0	1277.7	1310.7	1313.8	1306.2	1300.1	1295.2
110°	1000.3	1152.9	1259.8	1319.9	1344.2	1352.7	1353.4	1354.0



TEST NUMBER: P332077-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	935.0	1090.7	1209.3	1285.2	1328.1	1350.1	1358.6	1361.3
115°	848.7	992.9	1115.8	1206.4	1267.9	1305.0	1322.9	1329.1
117.5°	783.4	908.7	1019.7	1111.5	1175.5	1217.5	1242.5	1250.0
120°	748.2	861.3	962.6	1046.6	1111.0	1157.2	1178.1	1184.9
122.5°	719.4	822.2	916.2	994.4	1051.9	1093.7	1116.5	1124.4
125°	680.1	772.1	853.8	921.0	973.5	1010.3	1032.0	1039.4
127.5°	644.8	727.1	801.1	862.3	909.3	940.9	960.6	967.6
130°	622.3	698.7	768.0	825.2	868.8	898.9	917.2	925.2
132.5°	601.0	671.5	736.2	790.9	832.2	862.5	879.1	885.4
135°	572.1	633.2	689.6	737.8	778.0	803.1	818.7	825.6
137.5°	545.4	595.9	644.5	686.4	720.4	745.8	759.2	764.2
140°	529.7	574.1	616.2	653.0	684.4	708.0	722.0	722.5
142.5°	514.0	552.4	589.0	621.1	648.1	669.1	681.8	682.5
145°	497.1	525.4	552.9	577.5	598.3	616.1	623.5	626.2
147.5°	483.4	504.8	525.8	543.0	559.0	571.2	578.2	579.8
150°	474.4	492.7	509.2	524.5	536.9	546.2	551.5	552.1
152.5°	467.5	483.2	497.9	510.4	519.8	528.0	531.0	531.1
155°	457.0	469.7	481.6	491.1	498.2	504.5	506.0	506.8
157.5°	446.0	456.5	465.7	473.2	479.3	484.1	485.4	485.2
160°	439.7	448.4	456.2	461.8	467.3	472.1	472.1	471.3
162.5°	432.1	439.5	446.8	451.7	455.3	459.4	459.4	458.6
165°	422.2	427.0	432.5	436.5	439.7	442.8	442.0	442.0
167.5°	413.7	417.3	420.5	423.3	424.8	427.0	426.2	426.2
170°	408.1	410.4	413.5	415.1	415.9	417.5	416.7	416.7
172.5°	403.0	404.7	407.3	408.2	408.4	410.0	408.5	407.9
175°	396.2	397.0	398.5	398.5	398.5	399.3	398.5	397.8
177.5°	391.9	392.5	393.2	393.2	392.5	393.2	391.9	391.9
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6

(END OF REPORT)