

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: P332086-927

Luminaire Tested: **S123DIP-S1165D1195U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332086-927
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-S1165D1195U927-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7265.7 lumens
Efficiency: N/A
Efficacy: 101.3 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

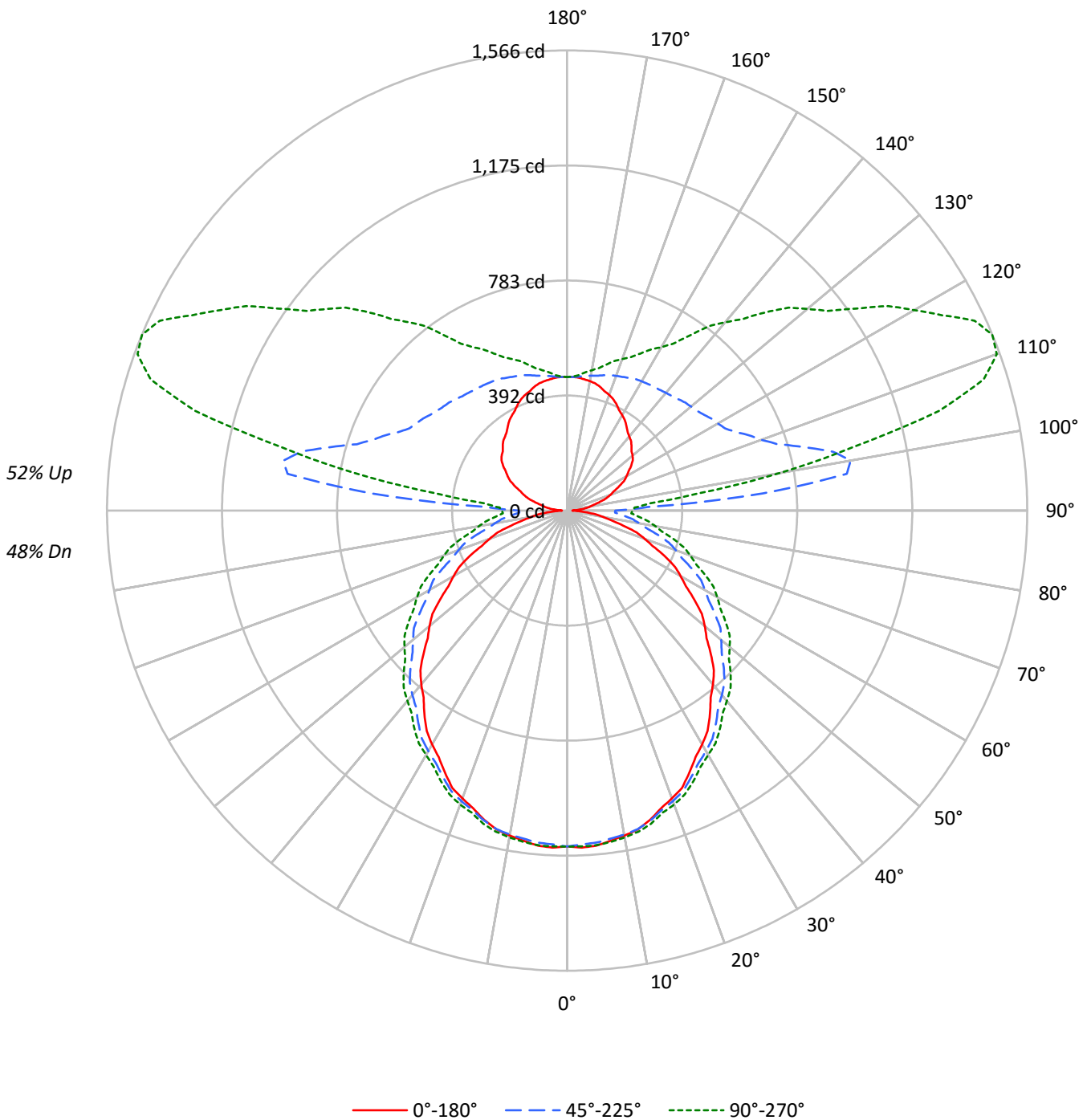
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	96	92	87	84	88	84	81	77	71	68	66	58	56	55	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	51	47	45	41	38	36	32
3	79	69	62	56	73	64	57	52	54	49	45	44	41	37	36	33	31	26
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	29	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	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	1.5
10°-20°	308.9	4.3
20°-30°	462.0	6.4
30°-40°	551.8	7.6
40°-50°	577.3	7.9
50°-60°	541.7	7.5
60°-70°	452.5	6.2
70°-80°	323.7	4.5
80°-90°	196.6	2.7
90°-100°	374.2	5.1
100°-110°	805.5	11.1
110°-120°	764.3	10.5
120°-130°	596.2	8.2
130°-140°	458.5	6.3
140°-150°	334.1	4.6
150°-160°	230.6	3.2
160°-170°	135.5	1.9
170°-180°	44.1	0.6
0°-30°	879.3	12.1
0°-40°	1431.1	19.7
0°-60°	2550.1	35.1
0°-90°	3522.9	48.5
90°-120°	1943.9	26.8
90°-150°	3332.7	45.9
90°-180°	3743.0	51.5
0°-180°	7265.7	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	88	164	207	222	13
95°	45	165	669	320	281	44
105°	117	199	833	1421	1310	124
115°	195	258	632	1336	1530	193
125°	266	315	568	1022	1198	236
135°	310	369	536	825	954	239
145°	352	402	514	656	726	220
155°	398	430	498	566	590	183
165°	435	448	477	506	514	123
175°	454	454	457	464	463	43
180°	455	455	455	455	455	



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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°	33.5	47.6	61.8	76.1	90.3	104.6	119.2	133.9	148.6	163.3	172.5
90°	18.1	33.4	48.8	65.1	80.6	96.3	113.1	130.0	146.9	163.7	172.2
92.5°	26.6	44.4	64.3	83.7	103.7	130.4	168.4	221.8	274.6	274.3	248.7
95°	45.0	58.5	79.5	105.9	140.6	188.7	280.5	431.2	595.7	669.1	574.6
97.5°	65.6	76.2	93.9	117.2	150.6	200.7	288.4	456.0	720.6	960.1	1027.5
100°	79.3	89.1	104.4	126.1	157.1	203.7	280.9	429.8	684.7	979.9	1169.3
102.5°	93.8	103.4	117.1	137.2	165.1	208.3	278.5	406.6	634.7	926.1	1170.4
105°	116.7	126.1	138.3	156.0	180.1	217.9	279.5	386.2	572.0	833.4	1105.3
107.5°	139.9	148.3	159.3	175.8	197.8	232.8	287.7	377.8	529.3	750.7	997.9
110°	156.6	164.3	173.9	189.0	209.6	243.4	295.9	376.9	511.4	703.7	930.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.8	179.7	188.3	202.6	222.3	254.7	303.8	379.2	498.4	669.8	870.9
115°	194.9	201.9	210.7	223.3	242.2	273.7	318.7	384.8	488.6	632.0	797.9
117.5°	218.0	224.3	231.0	241.5	261.0	289.7	333.7	393.1	482.2	605.6	750.0
120°	233.2	237.4	243.4	254.0	272.8	301.1	343.3	400.4	480.4	592.6	724.1
122.5°	247.2	250.7	256.0	266.7	284.2	313.4	354.4	407.3	480.9	582.4	702.0
125°	266.0	267.9	273.4	283.5	301.0	329.9	370.1	418.7	481.9	568.2	672.5
127.5°	281.3	283.8	290.3	300.4	319.4	347.5	385.2	428.3	484.7	557.4	645.5
130°	290.9	293.3	301.4	312.1	331.2	358.7	394.6	435.1	486.6	550.2	630.0
132.5°	297.2	300.7	309.7	322.9	342.1	368.4	402.5	441.2	487.2	544.5	615.2
135°	309.9	313.3	323.1	336.7	355.8	382.0	413.5	447.9	487.7	535.9	595.2
137.5°	321.8	325.4	335.2	349.7	368.6	392.4	421.5	453.0	487.5	527.9	577.7
140°	328.9	333.5	342.7	357.4	375.8	399.3	426.8	455.3	487.4	523.2	566.9
142.5°	337.7	341.4	351.1	364.2	382.3	403.9	429.9	457.0	486.2	517.7	556.6
145°	351.9	354.4	362.4	376.0	391.3	412.3	436.3	461.1	486.9	514.5	546.1
147.5°	365.0	366.7	374.8	386.7	401.9	419.9	441.8	464.1	486.9	511.0	536.9
150°	374.6	375.5	382.9	394.8	407.7	424.3	445.4	464.8	486.9	508.0	531.1
152.5°	384.2	384.4	391.7	402.2	413.6	429.4	447.7	466.3	484.7	504.4	525.2
155°	398.5	398.5	404.1	413.3	423.3	436.3	451.9	466.7	482.3	498.0	516.3
157.5°	410.0	410.7	415.1	423.2	431.8	441.8	454.3	467.5	479.2	492.3	506.4
160°	418.7	418.7	422.5	429.8	436.3	445.4	456.5	467.5	477.7	487.8	499.8
162.5°	425.4	425.4	428.3	434.3	440.0	447.7	457.2	466.8	474.8	483.4	493.1
165°	435.4	434.4	436.3	440.8	444.6	451.0	458.4	464.8	470.3	476.7	484.1
167.5°	442.9	441.8	442.7	446.2	448.8	452.8	458.2	463.3	465.9	470.2	475.5
170°	447.3	445.4	446.4	449.2	451.0	452.8	457.4	461.1	463.0	465.7	470.3
172.5°	450.3	449.2	449.3	451.4	452.5	453.6	457.4	460.4	460.7	462.0	465.2
175°	453.8	452.8	451.9	453.8	453.8	454.7	456.5	458.4	457.4	457.4	459.3
177.5°	455.4	454.7	453.9	454.7	454.7	454.7	455.4	456.9	455.4	454.7	455.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



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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°	182.0	191.6	201.2	207.7	210.3	213.3	216.2	218.8
90°	182.5	192.9	203.2	211.1	212.9	216.7	220.4	222.2
92.5°	228.6	221.8	223.8	224.9	225.8	225.5	229.0	229.9
95°	471.7	373.6	333.4	305.9	291.2	285.7	282.0	281.1
97.5°	956.8	800.7	690.1	585.6	520.4	481.7	459.7	454.6
100°	1209.5	1143.0	1043.3	918.1	827.8	763.4	730.3	734.0
102.5°	1289.3	1294.7	1239.7	1162.1	1092.6	1042.1	1014.9	996.5
105°	1305.4	1405.2	1430.4	1411.6	1371.7	1339.3	1312.3	1310.2
107.5°	1223.5	1380.4	1468.4	1506.1	1509.3	1499.9	1492.5	1486.4
110°	1148.8	1325.4	1448.6	1517.7	1545.7	1555.3	1555.6	1556.0



TEST NUMBER: P332086-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1074.0	1253.9	1390.9	1478.4	1528.0	1553.2	1562.7	1565.5
115°	974.9	1141.6	1283.6	1388.3	1459.5	1502.3	1522.9	1529.7
117.5°	900.3	1045.1	1173.2	1279.4	1353.5	1402.0	1430.7	1439.2
120°	860.2	990.9	1107.7	1204.8	1279.5	1332.9	1356.9	1364.4
122.5°	827.6	946.2	1054.7	1145.1	1211.6	1260.0	1286.2	1295.1
125°	783.2	889.3	983.5	1061.0	1121.8	1164.3	1189.2	1197.6
127.5°	743.4	838.4	923.5	994.2	1048.5	1085.1	1107.7	1115.5
130°	718.1	806.2	886.0	952.0	1002.5	1037.3	1058.3	1067.3
132.5°	694.3	775.5	849.9	913.1	960.8	995.8	1014.8	1021.8
135°	661.8	732.1	796.9	852.6	899.0	928.0	946.0	953.9
137.5°	632.0	689.9	745.8	794.2	833.5	862.8	878.2	883.8
140°	614.3	665.4	713.8	756.1	792.4	819.6	835.7	836.1
142.5°	596.9	641.0	682.9	719.9	751.1	775.3	790.0	790.4
145°	577.8	610.5	642.1	670.4	694.6	715.0	723.5	726.4
147.5°	562.4	587.2	611.6	631.4	649.8	663.9	671.9	673.7
150°	552.2	573.4	592.7	610.5	624.9	635.6	641.6	642.1
152.5°	544.2	562.4	579.5	594.1	605.1	614.6	618.0	618.1
155°	532.0	546.7	560.5	571.6	579.9	587.2	589.1	589.9
157.5°	519.1	531.5	542.1	550.7	557.9	563.5	564.9	564.7
160°	511.7	521.9	531.1	537.5	544.0	549.5	549.5	548.6
162.5°	502.9	511.6	520.0	525.7	530.0	534.7	534.7	533.9
165°	491.5	497.0	503.4	508.0	511.7	515.4	514.5	514.5
167.5°	481.6	485.8	489.5	492.8	494.4	497.0	496.1	496.1
170°	474.9	477.7	481.3	483.2	484.1	486.0	485.1	485.1
172.5°	469.1	471.0	474.0	475.1	475.3	477.1	475.5	474.8
175°	461.1	462.0	463.9	463.9	463.9	464.8	463.9	463.0
177.5°	456.1	456.9	457.6	457.6	456.9	457.6	456.1	456.1
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7

(END OF REPORT)