

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: P331455-927

Luminaire Tested: **SA2XXDIP-C1005D925U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331455-927
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-C1005D925U927-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

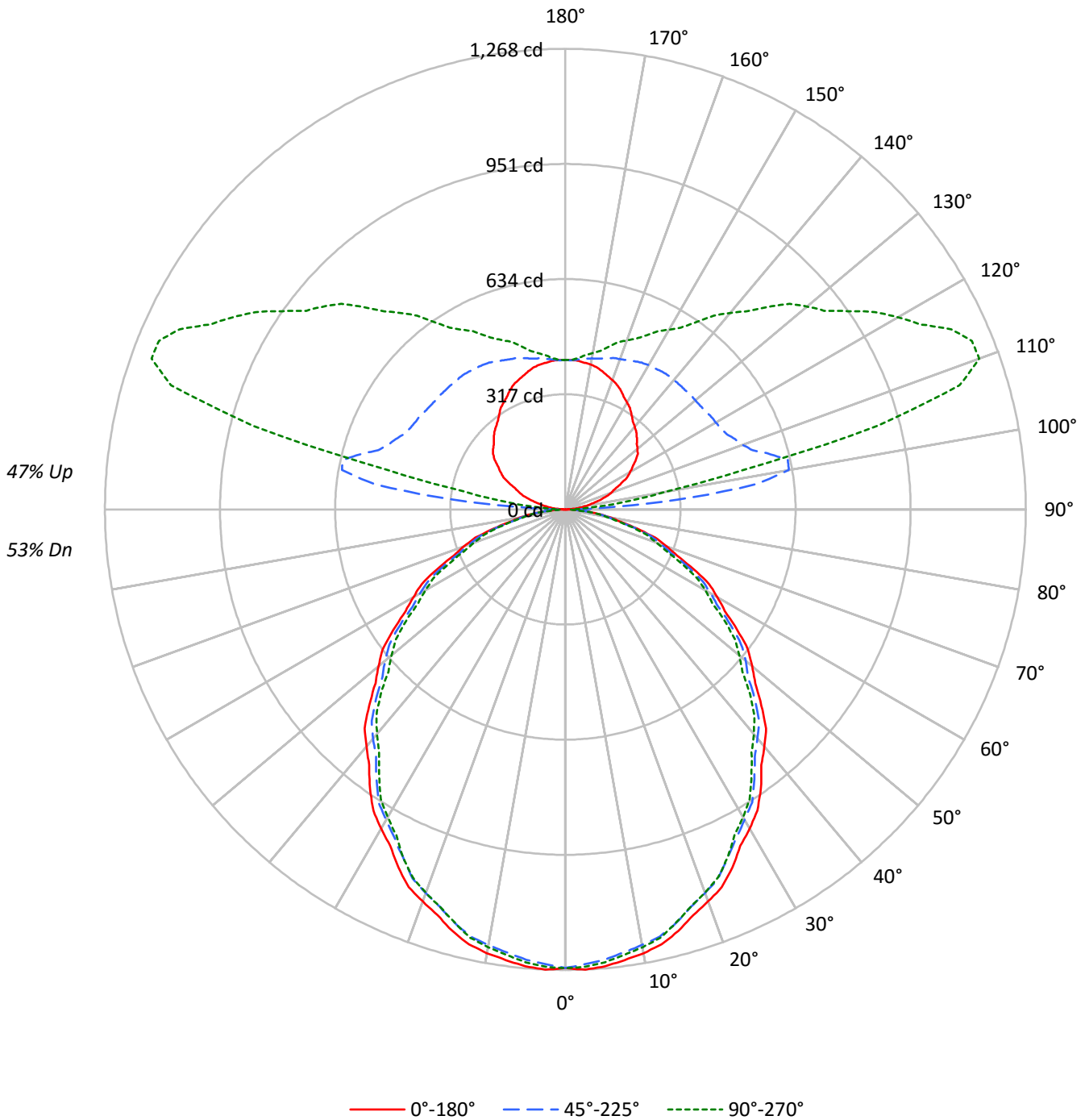
Lumens per Lamp: N/A
Luminaire Lumens: 6076.8 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 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	85	85	85	71	71	71	59	59	59	53
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50	45
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	37
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20386	20386	20386
5°	20464	20169	20285
10°	20341	19964	20064
15°	20090	19704	19686
20°	19734	19316	19295
25°	19379	18838	18838
30°	18921	18401	18243
35°	18496	17875	17611
40°	17962	17351	17015
45°	17438	16826	16411
50°	16865	16284	15707
55°	16268	15651	15071
60°	15603	14899	14347
65°	14888	14147	13498
70°	13983	13237	12609
75°	12726	12190	11890
80°	11288	10953	10386
85°	9207	8781	7873



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	2.0
10°-20°	334.1	5.5
20°-30°	491.0	8.1
30°-40°	570.4	9.4
40°-50°	569.8	9.4
50°-60°	496.9	8.2
60°-70°	367.4	6.0
70°-80°	208.1	3.4
80°-90°	59.7	1.0
90°-100°	164.4	2.7
100°-110°	557.8	9.2
110°-120°	592.6	9.8
120°-130°	487.8	8.0
130°-140°	391.8	6.4
140°-150°	296.0	4.9
150°-160°	208.1	3.4
160°-170°	122.5	2.0
170°-180°	39.9	0.7
0°-30°	943.8	15.5
0°-40°	1514.2	24.9
0°-60°	2580.8	42.5
0°-90°	3216.0	52.9
90°-120°	1314.8	21.6
90°-150°	2490.5	41.0
90°-180°	2861.0	47.1
0°-180°	6076.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1263	1257	1244	1253	1252	120
15°	1202	1194	1179	1183	1178	338
25°	1088	1078	1057	1060	1057	500
35°	938	926	907	900	894	586
45°	764	755	737	724	719	589
55°	578	570	556	542	535	517
65°	390	382	370	360	353	385
75°	204	201	195	189	191	218
85°	50	49	47	44	42	57
90°	1	11	27	26	26	4
95°	28	68	310	117	90	29
105°	96	145	586	1047	891	102
115°	170	215	490	1012	1172	169
125°	237	281	471	819	951	211
135°	278	332	466	689	788	215
145°	318	365	463	575	629	199
155°	361	390	450	509	529	166
165°	394	406	431	457	464	111
175°	410	411	414	420	418	39
180°	411	411	411	411	411	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1268.4	1267.3	1266.3	1265.2	1264.1	1262.4	1260.0	1257.7	1255.3	1252.9	1255.1
5°	1262.6	1261.6	1260.4	1259.3	1258.3	1256.2	1253.3	1250.3	1247.4	1244.4	1246.6
7.5°	1251.4	1249.7	1248.1	1246.4	1244.8	1242.4	1239.4	1236.4	1233.3	1230.3	1232.5
10°	1240.7	1238.9	1237.0	1235.1	1233.2	1230.7	1227.4	1224.2	1220.9	1217.7	1219.9
12.5°	1226.2	1224.5	1222.8	1221.1	1219.5	1217.0	1213.8	1210.5	1207.4	1204.1	1205.6
15°	1201.9	1200.3	1198.7	1197.1	1195.4	1192.9	1189.4	1185.8	1182.3	1178.8	1180.0
17.5°	1170.8	1169.2	1167.6	1165.9	1164.3	1161.7	1158.2	1154.6	1151.0	1147.6	1148.7
20°	1148.5	1146.8	1145.3	1143.6	1142.0	1139.3	1135.5	1131.8	1128.0	1124.2	1125.0
22.5°	1126.2	1123.9	1121.7	1119.4	1117.1	1114.2	1110.6	1107.1	1103.5	1099.9	1100.1
25°	1087.8	1085.6	1083.5	1081.3	1079.2	1075.8	1071.2	1066.6	1062.0	1057.4	1058.0
27.5°	1044.1	1042.1	1040.2	1038.2	1036.3	1033.6	1029.9	1026.3	1022.7	1019.1	1018.3
30°	1014.9	1012.8	1010.6	1008.4	1006.3	1003.2	999.2	995.1	991.1	987.0	986.2
32.5°	983.9	982.1	980.4	978.7	976.9	974.0	969.7	965.4	961.2	956.9	955.5
35°	938.4	935.7	933.0	930.3	927.6	924.2	919.8	915.5	911.2	906.9	905.3
37.5°	887.2	884.9	882.5	880.1	877.7	874.4	870.1	865.8	861.4	857.1	855.1
40°	852.2	850.1	848.0	845.8	843.6	840.4	836.1	831.8	827.4	823.2	820.7
42.5°	818.2	816.1	814.0	811.8	809.6	806.4	802.1	797.7	793.4	789.1	786.5
45°	763.7	761.8	759.9	758.0	756.1	753.1	749.1	745.0	741.0	736.9	734.0
47.5°	709.2	707.5	705.7	703.9	702.1	699.1	694.9	690.7	686.5	682.3	679.1
50°	671.4	670.0	668.7	667.3	666.0	663.4	659.7	655.8	652.0	648.3	644.5
52.5°	634.5	632.7	630.9	629.2	627.3	624.6	621.1	617.5	614.0	610.5	607.3
55°	577.9	576.2	574.6	573.1	571.4	568.9	565.8	562.5	559.3	556.0	552.8
57.5°	521.1	519.8	518.5	517.2	515.9	513.5	509.9	506.4	502.8	499.2	496.1
60°	483.2	482.1	481.0	480.0	478.9	476.4	472.7	468.9	465.1	461.4	458.4
62.5°	446.3	444.6	442.8	441.1	439.3	437.0	434.1	431.3	428.3	425.4	422.6
65°	389.7	388.1	386.5	384.8	383.3	381.0	378.3	375.7	373.0	370.3	367.9
67.5°	332.2	330.9	329.5	328.3	327.0	325.1	322.7	320.3	317.8	315.4	313.5
70°	296.2	295.2	294.1	293.0	291.9	290.2	287.7	285.3	282.9	280.4	278.5
72.5°	259.3	258.3	257.1	256.1	255.0	253.7	252.2	250.6	249.0	247.4	245.5
75°	204.0	203.4	202.9	202.3	201.8	200.8	199.5	198.1	196.8	195.4	193.8
77.5°	154.4	153.5	152.6	151.7	150.8	150.0	149.5	148.9	148.4	147.9	147.0
80°	121.4	121.1	120.9	120.6	120.3	119.9	119.4	118.8	118.3	117.8	116.9
82.5°	90.3	90.3	90.2	90.2	90.1	89.9	89.6	89.3	89.0	88.6	87.6
85°	49.7	49.5	49.3	49.0	48.7	48.4	48.2	47.8	47.6	47.4	46.5
87.5°	17.7	17.7	17.9	17.7	17.7	17.7	18.1	18.7	19.3	19.0	18.1
90°	0.8	3.2	6.3	7.9	9.5	11.9	15.8	21.3	26.1	26.9	26.1
92.5°	9.7	13.9	19.6	23.1	28.4	35.9	53.8	78.9	101.3	102.7	86.8
95°	27.6	30.8	38.7	45.9	58.5	77.5	113.8	182.6	274.3	309.9	271.2
97.5°	45.1	49.4	57.8	68.4	83.0	104.5	150.2	246.1	398.5	529.1	555.0
100°	60.8	63.2	70.3	83.0	98.9	121.0	162.9	259.4	430.1	624.6	738.5
102.5°	75.4	77.2	84.3	97.0	113.4	135.5	174.3	260.0	418.1	627.7	806.8
105°	96.5	99.7	105.1	117.0	134.4	156.5	193.7	264.0	394.5	585.8	796.1
107.5°	119.2	121.8	127.1	138.1	155.3	177.6	213.7	275.0	382.8	541.0	726.7
110°	134.4	137.6	142.3	152.6	169.2	192.1	226.9	283.8	380.3	519.4	683.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.3	151.5	156.9	166.5	182.4	206.0	239.6	293.3	380.9	505.5	652.8
115°	170.0	174.0	178.7	188.1	204.0	225.3	259.4	307.5	384.2	490.2	615.1
117.5°	192.4	195.6	200.3	208.7	223.9	246.1	277.5	322.7	389.9	482.8	591.4
120°	206.4	209.5	214.3	221.3	237.2	259.4	290.2	332.9	393.7	478.3	578.8
122.5°	219.7	222.1	226.9	234.6	250.5	273.2	302.1	341.7	398.2	475.8	568.0
125°	237.2	239.6	244.3	253.8	269.6	291.8	320.2	355.8	404.8	471.2	552.6
127.5°	251.1	254.3	260.9	271.3	286.5	309.3	337.0	368.9	411.6	468.5	538.4
130°	259.4	262.4	270.4	281.5	297.3	319.4	347.1	377.2	416.7	467.2	528.9
132.5°	266.9	270.7	279.2	291.0	307.4	329.5	355.9	385.3	421.7	466.6	521.3
135°	278.3	281.5	291.0	302.8	321.0	343.1	368.4	396.1	427.7	465.6	510.7
137.5°	289.1	292.9	302.3	315.0	333.0	353.6	378.6	404.3	433.1	465.5	503.3
140°	297.3	300.5	309.9	322.6	340.0	360.5	384.2	408.8	435.6	464.9	498.9
142.5°	305.5	308.0	316.9	329.5	346.3	365.6	388.6	412.6	437.5	464.9	494.5
145°	317.8	321.0	328.9	340.8	356.6	374.0	395.3	417.5	439.6	463.3	488.6
147.5°	331.1	333.5	341.0	352.0	365.1	380.6	400.7	420.2	440.2	460.5	482.6
150°	340.0	342.3	348.6	358.9	370.8	385.0	403.2	421.4	439.6	458.6	477.5
152.5°	348.8	349.9	356.2	365.3	376.5	389.4	405.8	422.0	438.3	455.4	473.1
155°	361.3	362.1	366.9	375.6	384.2	396.1	409.6	422.9	436.4	449.9	464.9
157.5°	371.8	372.6	376.4	383.9	390.9	400.8	412.3	422.9	432.8	444.2	457.2
160°	378.7	379.5	382.6	389.0	395.3	404.0	413.5	422.9	430.9	440.4	451.5
162.5°	385.6	385.2	388.3	393.4	399.1	405.9	414.2	422.3	429.0	437.2	446.4
165°	393.7	392.9	394.5	399.3	403.2	408.0	415.1	420.6	425.3	430.9	438.0
167.5°	400.4	399.4	400.8	403.9	406.7	409.7	414.9	419.5	421.7	425.3	429.8
170°	404.8	403.2	404.0	406.4	408.0	410.4	414.3	418.3	419.9	422.2	425.3
172.5°	407.3	406.4	405.9	408.3	409.2	411.0	413.7	416.4	417.3	418.4	421.0
175°	410.4	409.6	408.8	410.4	410.4	411.1	412.7	414.3	413.5	414.3	415.1
177.5°	411.8	410.5	409.9	411.1	411.1	411.1	411.8	413.0	411.8	411.1	411.8
180°	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1257.2	1259.3	1261.6	1262.4	1261.9	1261.6	1261.1	1260.7
5°	1248.7	1250.9	1253.0	1253.9	1253.3	1252.8	1252.2	1251.6
7.5°	1234.6	1236.8	1239.0	1239.8	1239.1	1238.6	1237.9	1237.4
10°	1222.0	1224.2	1226.3	1227.0	1226.2	1225.3	1224.6	1223.8
12.5°	1207.1	1208.6	1210.1	1210.6	1210.0	1209.4	1208.8	1208.2
15°	1181.0	1182.1	1183.1	1183.0	1181.7	1180.4	1179.0	1177.7
17.5°	1150.0	1151.3	1152.5	1152.5	1151.1	1149.9	1148.6	1147.2
20°	1125.8	1126.6	1127.4	1127.3	1126.2	1125.1	1124.1	1123.0
22.5°	1100.3	1100.4	1100.6	1100.3	1099.7	1099.1	1098.4	1097.7
25°	1058.5	1059.1	1059.6	1059.6	1059.1	1058.5	1058.0	1057.4
27.5°	1017.5	1016.6	1015.8	1014.8	1013.5	1012.2	1010.9	1009.6
30°	985.4	984.6	983.8	982.9	981.8	980.6	979.6	978.5
32.5°	954.0	952.5	951.1	949.8	948.7	947.7	946.6	945.5
35°	903.6	902.1	900.4	899.0	897.6	896.3	894.8	893.5
37.5°	853.1	851.1	849.1	847.5	846.2	844.9	843.6	842.3
40°	818.2	815.9	813.4	811.7	810.6	809.5	808.4	807.3
42.5°	783.9	781.2	778.6	776.5	775.0	773.5	772.0	770.4
45°	731.0	728.0	725.1	723.0	721.9	720.9	719.8	718.7
47.5°	676.0	672.9	669.8	667.4	665.8	664.3	662.7	661.2
50°	640.7	637.0	633.2	630.7	629.3	628.0	626.6	625.3
52.5°	604.2	601.0	597.9	595.5	593.7	591.9	590.1	588.4
55°	549.5	546.3	543.1	540.8	539.5	538.1	536.8	535.4
57.5°	492.8	489.6	486.5	484.3	483.4	482.4	481.3	480.3
60°	455.4	452.4	449.5	447.6	446.8	446.0	445.1	444.3
62.5°	419.9	417.2	414.4	412.5	411.5	410.4	409.4	408.4
65°	365.4	363.0	360.6	358.7	357.4	356.0	354.7	353.3
67.5°	311.6	309.7	307.8	306.3	305.3	304.2	303.2	302.1
70°	276.6	274.8	272.9	271.4	270.3	269.3	268.2	267.1
72.5°	243.7	241.8	239.9	238.5	237.7	236.8	235.9	235.0
75°	192.3	190.6	189.0	188.5	189.0	189.5	190.0	190.6
77.5°	146.2	145.4	144.7	143.9	143.1	142.4	141.6	140.9
80°	116.1	115.3	114.5	113.8	113.3	112.8	112.3	111.7
82.5°	86.6	85.6	84.5	84.0	83.8	83.7	83.7	83.5
85°	45.7	44.9	44.1	43.6	43.3	43.0	42.8	42.5
87.5°	17.3	16.4	16.1	15.8	15.6	15.4	15.1	14.9
90°	25.3	23.7	25.3	26.1	26.1	26.1	26.1	26.1
92.5°	68.9	59.2	52.5	47.6	47.0	44.4	45.1	43.8
95°	207.2	158.9	125.7	108.3	98.1	91.7	89.4	90.2
97.5°	483.4	395.5	309.9	252.9	215.1	195.6	184.0	177.4
100°	721.8	623.8	515.5	419.9	354.2	320.2	297.3	283.0
102.5°	878.1	856.0	776.7	675.3	604.0	546.0	517.4	498.1
105°	960.6	1050.0	1060.3	1034.1	985.1	936.1	902.1	891.0
107.5°	901.2	1035.7	1117.9	1156.2	1162.4	1159.7	1152.9	1138.2
110°	849.9	991.4	1092.7	1157.5	1191.4	1206.5	1213.6	1212.8



TEST NUMBER: P331455-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	803.1	939.0	1047.1	1121.4	1168.7	1193.8	1207.3	1211.6
115°	745.5	867.3	970.9	1052.3	1108.4	1144.8	1165.4	1172.5
117.5°	702.2	809.1	903.0	979.5	1036.6	1075.1	1096.8	1102.7
120°	680.7	778.8	862.5	934.5	989.8	1027.0	1050.0	1057.9
122.5°	663.6	753.4	832.8	897.9	947.5	984.0	1004.4	1011.1
125°	638.8	720.3	789.8	849.1	895.0	925.0	944.8	951.1
127.5°	614.3	688.0	753.6	808.3	848.3	876.5	893.6	898.7
130°	598.5	666.5	729.0	781.2	819.9	846.8	862.5	868.9
132.5°	583.3	646.3	703.6	752.7	790.8	817.7	832.2	837.9
135°	562.1	614.3	666.5	710.7	744.7	770.9	785.1	788.2
137.5°	545.2	588.8	630.3	668.8	699.9	722.3	734.8	739.6
140°	534.5	572.4	608.8	643.6	668.8	689.4	701.3	706.0
142.5°	525.6	557.9	589.1	618.3	642.3	661.0	671.5	672.5
145°	513.1	539.2	563.7	586.6	605.6	619.1	626.9	629.3
147.5°	503.4	524.0	543.1	559.9	575.6	586.3	591.7	593.1
150°	496.5	513.9	530.5	544.7	556.6	566.1	570.8	571.6
152.5°	489.6	505.6	519.8	532.1	541.4	549.6	553.1	553.3
155°	479.9	492.6	504.4	513.1	521.8	527.4	530.5	528.9
157.5°	468.7	479.3	489.3	496.1	502.2	506.8	508.2	508.2
160°	461.7	470.4	479.1	484.7	490.2	494.2	495.0	495.0
162.5°	454.8	462.2	469.6	473.9	479.4	482.1	482.9	482.3
165°	444.3	449.9	455.4	458.6	461.7	464.9	464.9	464.1
167.5°	434.4	438.6	442.4	445.3	446.7	448.5	448.3	447.3
170°	429.3	431.7	434.8	436.4	437.2	439.6	438.8	437.2
172.5°	423.6	425.3	427.9	428.8	429.6	430.7	429.9	429.0
175°	417.5	418.3	419.1	419.9	419.9	420.6	419.9	418.3
177.5°	413.0	413.0	413.7	413.7	413.7	413.7	413.0	411.8
180°	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1

(END OF REPORT)