

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: P332075-830

Luminaire Tested: **S123DIP-S1165D1025U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332075-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1025U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8435.8 lumens
Efficiency: N/A
Efficacy: 126.3 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

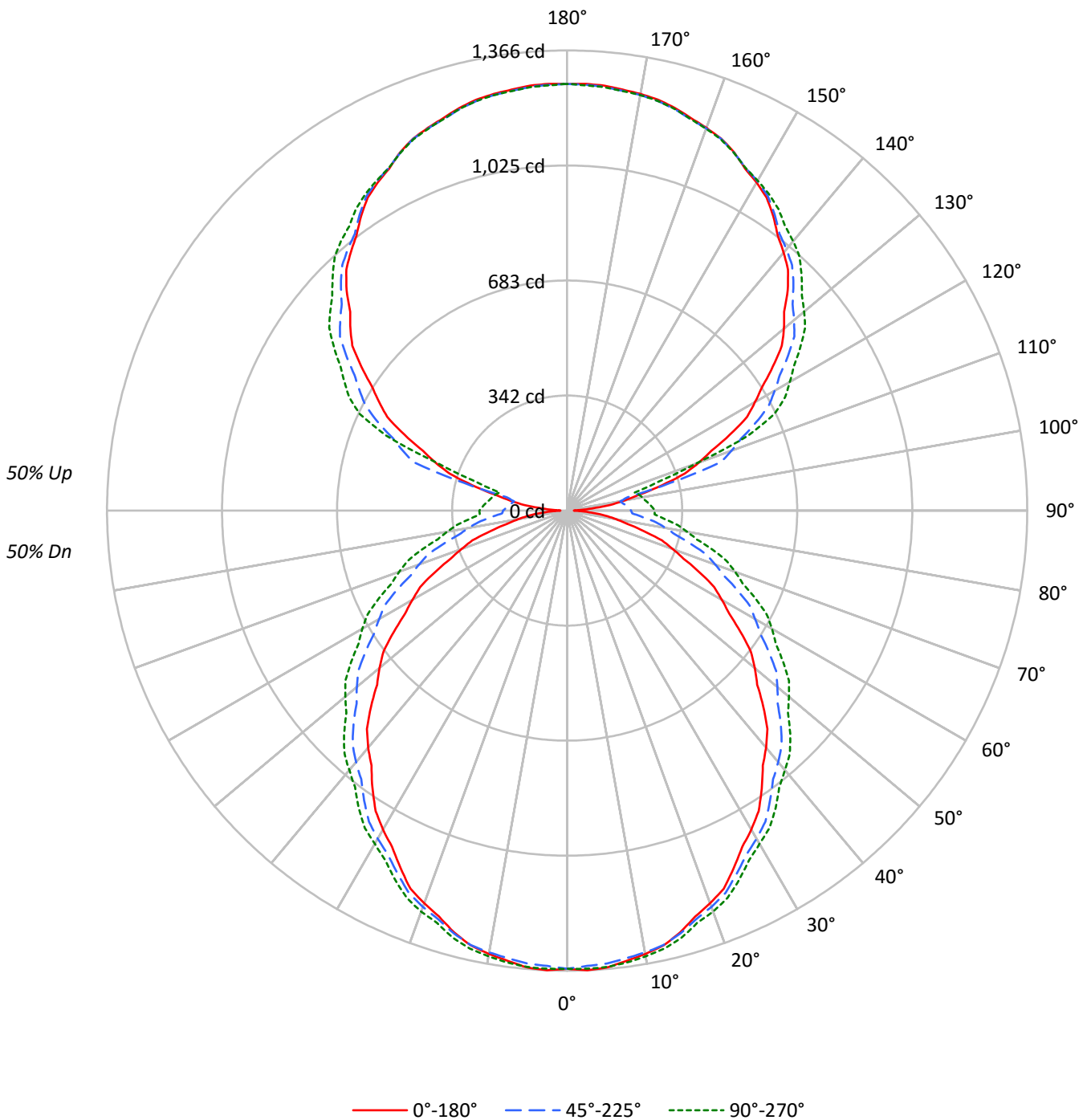
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332075-830

CATALOG NUMBER: S123DIP-S1165D1025U830-4F0-1E-UDD-D

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	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	51	43	37	43	37	33	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	53	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.5
10°-20°	367.5	4.4
20°-30°	549.7	6.5
30°-40°	656.5	7.8
40°-50°	686.9	8.1
50°-60°	644.6	7.6
60°-70°	538.3	6.4
70°-80°	385.2	4.6
80°-90°	233.2	2.8
90°-100°	190.2	2.3
100°-110°	325.3	3.9
110°-120°	597.8	7.1
120°-130°	711.6	8.4
130°-140°	735.2	8.7
140°-150°	674.5	8.0
150°-160°	540.9	6.4
160°-170°	349.1	4.1
170°-180°	120.3	1.4
0°-30°	1046.2	12.4
0°-40°	1702.7	20.2
0°-60°	3034.1	36.0
0°-90°	4190.9	49.7
90°-120°	1113.3	13.2
90°-150°	3234.5	38.3
90°-180°	4245.0	50.3
0°-180°	8435.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	20	103	190	242	261	16
95°	74	96	176	226	243	84
105°	292	334	317	200	207	309
115°	533	559	618	662	679	527
125°	746	756	800	832	845	666
135°	926	931	950	978	984	713
145°	1066	1071	1074	1087	1093	667
155°	1173	1171	1172	1176	1171	540
165°	1237	1234	1233	1240	1234	349
175°	1266	1262	1262	1268	1262	120
180°	1266	1266	1266	1266	1266	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.6	56.5	73.2	90.0	106.9	123.9	141.3	158.6	176.0	193.3	204.6
90°	20.2	38.5	56.6	74.8	93.1	112.0	131.5	151.0	170.5	190.0	202.0
92.5°	35.5	49.6	63.5	77.5	91.4	107.7	126.3	144.9	163.4	182.0	194.3
95°	73.7	77.9	82.2	86.5	90.8	102.1	120.6	138.9	157.4	175.9	187.5
97.5°	129.9	137.6	145.3	153.1	160.8	164.9	165.2	165.6	166.0	166.3	177.8
100°	172.3	187.0	201.8	216.5	231.2	229.8	212.4	194.9	177.4	159.9	171.2
102.5°	220.8	233.3	245.8	258.3	270.8	266.6	245.9	225.2	204.4	183.7	187.8
105°	292.2	302.4	312.6	322.8	333.0	335.8	331.1	326.5	321.8	317.2	289.4
107.5°	366.1	374.7	383.1	391.7	400.3	412.7	429.1	445.5	461.9	478.3	460.1
110°	415.3	422.9	430.6	438.1	445.7	457.2	472.7	488.1	503.7	519.2	520.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	463.4	469.9	476.3	482.6	489.0	499.6	514.6	529.5	544.5	559.4	567.9
115°	533.3	538.5	543.8	548.9	554.1	563.6	577.3	591.1	604.8	618.5	628.5
117.5°	602.1	606.1	610.0	614.1	618.0	626.0	638.1	650.3	662.3	674.4	683.9
120°	643.8	647.3	650.8	654.4	657.9	665.4	676.9	688.4	699.8	711.3	720.7
122.5°	687.4	689.8	692.2	694.7	697.0	703.8	714.9	726.0	737.3	748.4	756.9
125°	745.8	747.4	749.1	750.8	752.5	758.5	768.9	779.3	789.7	800.0	807.4
127.5°	803.7	805.1	806.4	807.8	809.1	814.3	823.1	832.1	840.9	849.9	857.1
130°	839.9	841.2	842.5	843.9	845.3	849.6	857.1	864.5	871.9	879.3	886.4
132.5°	873.3	874.9	876.6	878.2	879.8	883.5	889.5	895.4	901.4	907.3	914.1
135°	925.9	926.8	927.7	928.7	929.6	932.3	936.7	941.2	945.7	950.1	956.7
137.5°	970.7	972.0	973.4	974.7	976.0	978.0	980.4	983.0	985.4	988.0	994.2
140°	999.7	1000.9	1002.2	1003.4	1004.7	1006.2	1007.8	1009.4	1011.0	1012.6	1018.3
142.5°	1027.6	1028.5	1029.5	1030.5	1031.5	1032.4	1033.2	1034.1	1034.8	1035.7	1040.8
145°	1066.5	1067.6	1068.7	1069.9	1071.0	1071.8	1072.2	1072.6	1073.0	1073.5	1076.5
147.5°	1101.6	1102.7	1103.6	1104.6	1105.5	1106.2	1106.6	1107.0	1107.5	1107.9	1109.1
150°	1124.3	1124.9	1125.5	1126.1	1126.7	1127.3	1127.7	1128.1	1128.5	1129.0	1129.4
152.5°	1144.5	1144.9	1145.2	1145.5	1145.8	1146.0	1146.2	1146.5	1146.8	1147.0	1147.7
155°	1173.2	1172.7	1172.3	1172.0	1171.5	1171.4	1171.6	1171.8	1172.1	1172.2	1173.3
157.5°	1195.3	1195.3	1195.3	1195.2	1195.2	1195.0	1194.9	1194.7	1194.5	1194.2	1195.5
160°	1208.9	1208.7	1208.5	1208.3	1208.1	1207.9	1207.7	1207.5	1207.2	1207.0	1208.3
162.5°	1221.7	1221.2	1220.6	1220.1	1219.6	1219.2	1219.0	1218.7	1218.5	1218.3	1219.7
165°	1237.2	1236.5	1235.9	1235.3	1234.6	1234.3	1234.0	1233.8	1233.6	1233.4	1235.0
167.5°	1249.2	1248.4	1247.5	1246.7	1245.9	1245.4	1245.4	1245.4	1245.4	1245.4	1247.1
170°	1255.9	1255.1	1254.3	1253.5	1252.6	1252.2	1252.2	1252.2	1252.2	1252.2	1253.9
172.5°	1260.5	1259.5	1258.5	1257.4	1256.5	1256.0	1256.2	1256.4	1256.5	1256.7	1258.4
175°	1266.3	1265.3	1264.2	1263.2	1262.2	1261.7	1261.9	1262.2	1262.3	1262.5	1264.0
177.5°	1267.8	1267.0	1266.1	1265.3	1264.5	1264.1	1264.3	1264.5	1264.6	1264.8	1266.1
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	216.0	227.3	238.7	246.1	249.5	252.9	256.2	259.6
90°	214.1	226.1	238.1	246.0	249.7	253.4	257.1	260.8
92.5°	206.6	218.9	231.1	238.8	242.1	245.4	248.7	252.0
95°	199.2	210.8	222.5	230.0	233.3	236.6	239.9	243.2
97.5°	189.3	200.8	212.3	219.7	223.2	226.8	230.3	233.8
100°	182.4	193.6	204.8	212.2	215.7	219.2	222.7	226.2
102.5°	191.9	196.0	200.1	204.0	207.6	211.3	215.0	218.7
105°	261.6	233.8	206.0	193.8	197.2	200.6	204.0	207.4
107.5°	441.8	423.5	405.1	383.5	358.4	333.5	308.5	283.5
110°	522.5	524.1	525.8	512.9	485.7	458.5	431.2	403.9



TEST NUMBER: P332075-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	576.3	584.7	593.1	595.6	592.2	588.8	585.4	581.9
115°	638.6	648.6	658.6	665.2	668.7	672.2	675.6	679.1
117.5°	693.4	702.9	712.5	718.6	721.3	724.1	726.8	729.5
120°	729.9	739.1	748.4	754.1	756.4	758.7	761.0	763.4
122.5°	765.3	773.8	782.3	787.8	790.2	792.7	795.1	797.7
125°	814.7	822.1	829.3	834.4	837.2	839.8	842.5	845.3
127.5°	864.2	871.4	878.6	883.2	885.0	886.7	888.6	890.4
130°	893.5	900.6	907.7	912.0	913.6	915.1	916.7	918.2
132.5°	920.9	927.7	934.5	938.8	940.5	942.1	943.8	945.5
135°	963.2	969.8	976.3	980.1	981.1	982.1	983.2	984.2
137.5°	1000.4	1006.5	1012.8	1016.5	1017.8	1019.0	1020.2	1021.4
140°	1024.2	1029.9	1035.7	1039.2	1040.4	1041.6	1042.8	1044.1
142.5°	1045.8	1050.9	1056.0	1059.0	1060.2	1061.2	1062.2	1063.3
145°	1079.6	1082.6	1085.6	1087.9	1089.2	1090.5	1091.7	1093.1
147.5°	1110.3	1111.5	1112.7	1113.4	1113.6	1113.9	1114.1	1114.4
150°	1129.8	1130.2	1130.7	1130.9	1130.9	1131.0	1131.0	1131.0
152.5°	1148.5	1149.2	1150.0	1150.0	1149.1	1148.3	1147.5	1146.7
155°	1174.3	1175.4	1176.4	1176.3	1175.1	1173.8	1172.5	1171.3
157.5°	1196.7	1198.0	1199.3	1199.1	1197.4	1195.8	1194.2	1192.6
160°	1209.6	1210.8	1212.0	1211.9	1210.5	1209.0	1207.6	1206.1
162.5°	1221.2	1222.6	1224.0	1224.1	1222.8	1221.4	1220.2	1218.9
165°	1236.7	1238.4	1240.1	1240.2	1238.7	1237.3	1235.8	1234.4
167.5°	1248.8	1250.5	1252.1	1252.1	1250.5	1248.8	1247.1	1245.4
170°	1255.6	1257.3	1258.9	1258.9	1257.3	1255.6	1253.9	1252.2
172.5°	1260.1	1261.7	1263.4	1263.3	1261.5	1259.6	1257.8	1255.9
175°	1265.5	1267.0	1268.4	1268.3	1266.6	1265.0	1263.3	1261.6
177.5°	1267.4	1268.9	1270.2	1270.0	1268.3	1266.7	1265.0	1263.3
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3

(END OF REPORT)