

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: P332843-940

Luminaire Tested: **S124DIW-S1195D770U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332843-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D770U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7074.5 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

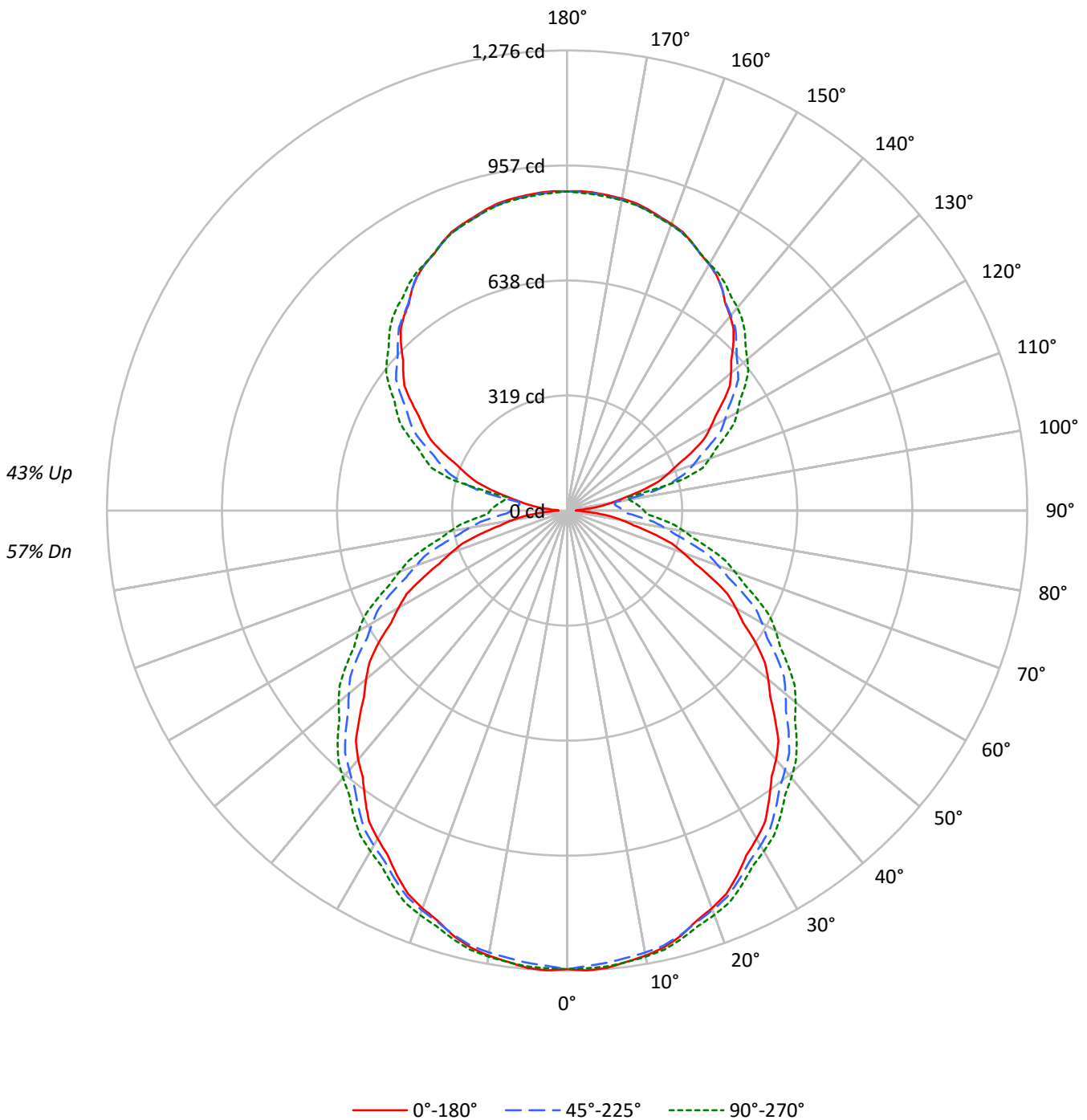
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332843-940

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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	50	30	10	0	
RCR																						
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57				
1	98	93	89	85	91	87	83	80	75	72	69	63	61	59	53	52	50	45				
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	41	37				
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31				
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	32	30	26				
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	29	26	22				
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	20				
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17				
8	53	40	32	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15				
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14				
10	46	34	26	21	43	32	25	20	28	22	18	24	20	16	21	17	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10266	10266	10266
5°	10297	10032	10061
10°	10234	9869	9861
15°	10142	9679	9625
20°	10004	9469	9396
25°	9848	9234	9144
30°	9679	9000	8885
35°	9488	8760	8658
40°	9335	8533	8422
45°	9109	8323	8219
50°	8917	8080	8004
55°	8719	7852	7753
60°	8410	7562	7524
65°	8071	7250	7242
70°	7660	6893	6914
75°	7091	6501	6617
80°	6453	6124	6326
85°	5641	5792	6154



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	1.7
10°-20°	345.0	4.9
20°-30°	521.7	7.4
30°-40°	631.2	8.9
40°-50°	667.3	9.4
50°-60°	628.0	8.9
60°-70°	521.0	7.4
70°-80°	366.0	5.2
80°-90°	209.5	3.0
90°-100°	153.1	2.2
100°-110°	283.9	4.0
110°-120°	430.2	6.1
120°-130°	503.1	7.1
130°-140°	516.3	7.3
140°-150°	471.9	6.7
150°-160°	378.1	5.3
160°-170°	243.9	3.4
170°-180°	84.1	1.2
0°-30°	987.1	14.0
0°-40°	1618.2	22.9
0°-60°	2913.5	41.2
0°-90°	4009.9	56.7
90°-120°	867.3	12.3
90°-150°	2358.5	33.3
90°-180°	3065.0	43.3
0°-180°	7074.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1273	1268	1259	1269	1269	121
15°	1220	1221	1218	1229	1229	344
25°	1116	1125	1129	1144	1146	514
35°	977	994	1008	1027	1032	611
45°	814	842	869	892	900	629
55°	638	668	710	738	748	568
65°	441	487	535	570	582	437
75°	245	298	357	396	410	260
85°	75	136	199	240	256	80
90°	25	89	156	199	214	17
95°	55	81	138	179	194	61
105°	212	246	300	339	330	223
115°	380	397	440	472	483	375
125°	529	532	564	592	602	472
135°	652	652	663	687	697	502
145°	749	750	750	759	766	468
155°	820	821	819	821	820	378
165°	865	862	862	866	861	244
175°	885	881	882	887	880	84
180°	885	885	885	885	885	



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CATALOG NUMBER: S124DIW-S1195D770U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1276.1	1275.3	1274.6	1273.8	1273.1	1271.7	1269.6	1267.7	1265.6	1263.6	1265.3
5°	1272.9	1272.0	1271.0	1270.2	1269.2	1267.6	1265.3	1263.1	1261.0	1258.7	1261.2
7.5°	1262.1	1261.6	1261.0	1260.4	1259.9	1258.6	1256.9	1255.0	1253.1	1251.3	1254.2
10°	1253.0	1252.7	1252.4	1252.1	1251.8	1250.8	1249.2	1247.7	1246.1	1244.5	1247.3
12.5°	1240.5	1240.5	1240.4	1240.3	1240.3	1239.7	1238.6	1237.5	1236.4	1235.4	1238.0
15°	1220.3	1220.6	1220.9	1221.2	1221.6	1221.2	1220.3	1219.3	1218.3	1217.5	1220.3
17.5°	1192.7	1193.6	1194.5	1195.5	1196.4	1196.9	1196.7	1196.4	1196.2	1196.1	1199.0
20°	1173.3	1174.2	1175.2	1176.2	1177.1	1177.7	1178.0	1178.4	1178.7	1179.0	1182.1
22.5°	1151.6	1152.8	1154.1	1155.2	1156.5	1157.4	1157.9	1158.5	1159.0	1159.6	1162.8
25°	1116.3	1118.2	1120.2	1122.0	1123.9	1125.3	1126.3	1127.2	1128.2	1129.2	1132.7
27.5°	1077.0	1079.9	1082.6	1085.4	1088.2	1090.3	1091.7	1093.2	1094.7	1096.1	1099.3
30°	1050.8	1053.4	1055.9	1058.5	1061.0	1063.4	1065.5	1067.7	1070.0	1072.2	1075.7
32.5°	1022.3	1025.4	1028.4	1031.4	1034.5	1037.2	1039.7	1042.2	1044.6	1047.1	1051.1
35°	976.8	980.6	984.4	988.2	991.9	995.4	998.6	1001.7	1005.0	1008.1	1012.5
37.5°	930.9	935.3	939.7	944.1	948.4	952.5	956.4	960.4	964.3	968.2	972.8
40°	901.3	905.4	909.5	913.6	917.7	922.0	926.5	930.9	935.3	939.8	944.5
42.5°	867.2	871.7	876.4	881.0	885.6	890.6	895.7	900.9	906.1	911.3	916.6
45°	814.5	820.5	826.5	832.5	838.5	844.5	850.5	856.6	862.6	868.6	874.0
47.5°	764.0	770.3	776.5	782.7	788.9	795.5	802.5	809.4	816.4	823.3	828.8
50°	727.6	734.6	741.5	748.5	755.5	762.4	769.4	776.3	783.3	790.2	796.6
52.5°	691.2	698.1	705.1	712.0	719.0	726.5	734.4	742.4	750.4	758.4	764.7
55°	637.9	644.5	651.2	657.8	664.5	672.5	682.1	691.5	701.1	710.5	716.8
57.5°	578.4	586.7	594.9	603.1	611.3	620.1	629.5	639.0	648.5	657.8	665.4
60°	539.7	547.9	556.1	564.4	572.6	581.9	592.4	602.8	613.2	623.7	631.0
62.5°	502.0	511.0	520.0	529.1	538.0	547.7	558.2	568.6	579.1	589.5	596.7
65°	441.4	451.6	461.6	471.8	481.9	492.3	503.1	513.9	524.6	535.4	543.3
67.5°	383.0	393.8	404.6	415.3	426.1	437.2	448.7	460.2	471.7	483.3	491.3
70°	343.1	353.9	364.7	375.4	386.2	397.6	409.6	421.6	433.6	445.7	454.2
72.5°	304.4	315.4	326.5	337.4	348.5	360.3	373.2	385.9	398.7	411.5	419.8
75°	245.0	256.6	268.3	280.0	291.8	304.3	317.5	330.8	344.1	357.4	366.2
77.5°	189.4	201.8	214.2	226.6	239.0	252.2	266.1	280.0	293.9	307.8	316.8
80°	155.2	167.8	180.5	193.1	205.8	219.1	233.0	247.0	260.9	274.8	284.3
82.5°	121.0	134.2	147.4	160.5	173.7	187.3	201.2	215.1	229.0	242.9	252.6
85°	75.4	88.7	102.0	115.3	128.6	142.4	156.6	170.9	185.1	199.4	208.8
87.5°	42.5	55.8	69.0	82.2	95.5	109.1	123.2	137.3	151.4	165.5	174.9
90°	24.8	39.1	53.3	67.6	81.9	96.4	111.2	126.0	140.7	155.5	165.6
92.5°	30.0	41.5	53.0	64.4	75.9	89.0	103.8	118.6	133.4	148.2	158.0
95°	54.9	60.4	65.8	71.2	76.7	86.0	99.1	112.2	125.3	138.5	147.8
97.5°	94.1	106.2	118.3	130.5	142.5	146.8	143.2	139.6	136.1	132.5	140.9
100°	124.2	135.1	146.0	156.9	167.7	169.2	161.2	153.3	145.3	137.3	143.4
102.5°	159.2	168.4	177.5	186.6	195.8	205.1	214.5	224.0	233.4	242.8	224.2
105°	212.0	219.3	226.5	233.7	240.9	250.7	263.1	275.6	288.0	300.5	309.7
107.5°	263.5	269.1	274.8	280.4	286.1	294.9	307.0	319.1	331.1	343.2	351.6
110°	297.3	302.2	307.1	311.9	316.8	325.2	337.2	349.1	361.1	373.1	380.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	330.1	334.8	339.6	344.2	348.9	356.8	367.7	378.8	389.8	400.7	407.7
115°	380.5	383.8	387.1	390.4	393.7	400.3	410.3	420.3	430.3	440.2	447.5
117.5°	427.2	429.5	431.9	434.2	436.4	442.5	452.2	462.0	471.7	481.4	488.0
120°	457.9	459.4	460.9	462.5	464.0	469.3	478.3	487.4	496.4	505.4	512.0
122.5°	487.5	488.0	488.7	489.2	489.7	494.5	503.3	512.2	521.0	529.9	536.5
125°	528.6	528.9	529.1	529.4	529.7	533.6	541.3	548.8	556.5	564.1	570.5
127.5°	568.6	568.4	568.2	568.0	567.8	571.1	577.9	584.7	591.5	598.2	603.8
130°	593.3	593.2	593.0	592.9	592.7	595.4	600.8	606.4	611.9	617.3	623.2
132.5°	617.2	617.2	617.1	617.1	617.0	619.3	623.8	628.5	633.1	637.7	643.3
135°	651.5	651.4	651.2	651.0	650.9	652.3	655.1	657.9	660.7	663.4	668.8
137.5°	683.1	682.9	682.6	682.3	682.2	682.9	684.6	686.3	688.0	689.7	694.7
140°	703.8	703.7	703.7	703.7	703.7	704.0	704.6	705.3	705.9	706.4	711.1
142.5°	721.2	721.7	722.1	722.6	723.1	723.3	723.3	723.3	723.3	723.3	727.2
145°	749.4	749.5	749.7	749.8	749.8	749.9	749.9	749.9	749.9	749.9	752.0
147.5°	772.0	772.5	773.0	773.6	774.0	774.2	774.1	773.9	773.7	773.6	774.0
150°	788.5	788.7	789.0	789.3	789.5	789.6	789.4	789.3	789.2	789.0	789.0
152.5°	801.0	801.5	801.9	802.3	802.7	802.7	802.5	802.3	802.0	801.7	801.9
155°	820.1	820.3	820.4	820.6	820.7	820.6	820.1	819.7	819.2	818.8	819.4
157.5°	836.4	836.3	836.2	836.2	836.1	835.7	835.3	834.7	834.2	833.7	834.5
160°	845.9	845.4	845.1	844.6	844.2	843.8	843.7	843.6	843.4	843.3	844.2
162.5°	854.3	853.8	853.3	852.7	852.1	851.8	851.7	851.5	851.3	851.2	852.1
165°	865.1	864.3	863.6	862.9	862.2	861.8	861.8	861.8	861.8	861.8	863.0
167.5°	873.6	872.8	872.1	871.3	870.5	870.1	870.0	870.0	869.9	869.8	871.0
170°	878.3	877.4	876.6	875.7	874.9	874.4	874.6	874.8	874.9	875.0	876.2
172.5°	881.5	880.7	879.8	878.9	878.0	877.6	877.8	877.9	878.1	878.2	879.4
175°	884.9	884.0	883.2	882.3	881.5	881.1	881.2	881.4	881.5	881.6	883.0
177.5°	886.5	885.7	884.9	884.0	883.2	883.0	883.2	883.4	883.7	883.9	884.8
180°	884.9	884.9	884.9	884.9	884.9	884.9	884.9	884.9	884.9	884.9	884.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1267.1	1268.9	1270.7	1271.4	1271.1	1270.9	1270.7	1270.4
5°	1263.8	1266.3	1268.8	1270.0	1269.6	1269.4	1269.0	1268.7
7.5°	1257.0	1259.9	1262.8	1264.0	1263.6	1263.4	1263.0	1262.8
10°	1250.2	1253.0	1255.9	1257.1	1256.9	1256.5	1256.2	1255.9
12.5°	1240.5	1243.1	1245.7	1247.1	1247.0	1246.9	1246.8	1246.8
15°	1223.2	1226.0	1228.8	1230.1	1229.8	1229.5	1229.1	1228.8
17.5°	1201.9	1204.8	1207.7	1209.1	1208.8	1208.5	1208.3	1208.0
20°	1185.4	1188.5	1191.7	1193.2	1193.2	1193.2	1193.2	1193.2
22.5°	1165.9	1169.1	1172.2	1174.1	1174.7	1175.1	1175.6	1176.2
25°	1136.1	1139.6	1143.1	1145.0	1145.3	1145.6	1145.9	1146.2
27.5°	1102.6	1105.8	1109.0	1110.8	1111.3	1111.6	1112.0	1112.3
30°	1079.1	1082.6	1086.1	1088.2	1088.8	1089.4	1090.0	1090.7
32.5°	1055.1	1059.1	1063.1	1065.4	1066.0	1066.7	1067.3	1067.9
35°	1017.0	1021.4	1025.8	1028.5	1029.5	1030.5	1031.4	1032.3
37.5°	977.2	981.7	986.2	989.0	990.0	991.0	992.0	993.0
40°	949.2	954.0	958.8	961.8	963.0	964.3	965.5	966.8
42.5°	921.8	927.0	932.3	935.4	936.5	937.5	938.4	939.5
45°	879.3	884.8	890.1	893.6	895.2	896.7	898.3	899.9
47.5°	834.5	840.0	845.6	849.3	851.2	853.1	855.0	856.9
50°	802.9	809.2	815.6	819.7	821.6	823.5	825.4	827.2
52.5°	771.1	777.4	783.6	787.8	789.7	791.6	793.4	795.4
55°	723.2	729.5	735.8	739.9	741.8	743.8	745.6	747.5
57.5°	672.9	680.5	688.0	692.6	694.4	696.2	697.9	699.7
60°	638.2	645.5	652.7	657.6	660.2	662.7	665.3	667.8
62.5°	604.0	611.4	618.6	623.5	626.1	628.6	631.1	633.6
65°	551.2	559.1	567.0	572.2	574.8	577.3	579.9	582.4
67.5°	499.4	507.4	515.4	520.7	523.2	525.6	528.1	530.6
70°	462.8	471.3	479.8	485.3	487.4	489.6	491.9	494.1
72.5°	428.1	436.4	444.7	450.0	452.5	455.0	457.4	459.9
75°	375.1	384.0	392.8	398.7	401.5	404.4	407.2	410.1
77.5°	325.8	334.8	343.8	349.8	352.8	355.9	358.9	361.9
80°	293.8	303.3	312.8	318.8	321.3	323.9	326.4	329.0
82.5°	262.4	272.2	281.9	288.2	291.0	293.7	296.5	299.3
85°	218.3	227.8	237.3	243.6	246.8	249.9	253.2	256.3
87.5°	184.2	193.6	203.0	209.0	211.9	214.7	217.6	220.4
90°	175.7	185.7	195.7	202.2	205.0	207.9	210.7	213.5
92.5°	167.7	177.5	187.3	193.6	196.2	198.8	201.3	203.9
95°	157.3	166.7	176.1	182.4	185.4	188.3	191.4	194.3
97.5°	149.3	157.7	166.0	171.7	174.5	177.4	180.3	183.2
100°	149.5	155.4	161.5	165.7	168.1	170.4	172.8	175.1
102.5°	205.5	186.8	168.1	160.0	162.5	165.0	167.5	170.0
105°	319.0	328.2	337.4	340.6	337.9	335.1	332.3	329.6
107.5°	360.1	368.5	376.9	382.5	385.4	388.3	391.1	393.9
110°	388.2	395.7	403.3	408.6	411.6	414.6	417.5	420.5



TEST NUMBER: P332843-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	414.6	421.6	428.6	433.6	436.7	439.8	442.9	445.9
115°	454.8	462.0	469.2	474.0	476.2	478.4	480.6	482.9
117.5°	494.5	501.1	507.6	512.0	514.5	517.0	519.5	521.9
120°	518.7	525.3	531.9	536.4	538.6	540.8	543.1	545.3
122.5°	543.0	549.5	555.9	560.2	562.1	564.2	566.1	568.1
125°	577.0	583.4	589.9	594.1	596.2	598.2	600.3	602.4
127.5°	609.4	615.0	620.6	624.5	626.4	628.5	630.5	632.6
130°	629.1	634.9	640.8	644.6	646.5	648.5	650.3	652.2
132.5°	648.9	654.5	660.0	663.8	665.5	667.3	669.1	670.8
135°	674.2	679.6	684.9	688.7	690.9	693.0	695.3	697.4
137.5°	699.6	704.5	709.5	712.7	714.3	715.7	717.2	718.7
140°	715.6	720.1	724.7	727.8	729.5	731.3	733.0	734.8
142.5°	731.1	735.0	739.0	741.6	743.0	744.3	745.6	747.1
145°	754.0	756.1	758.1	759.9	761.5	763.0	764.6	766.2
147.5°	774.4	774.7	775.1	775.9	777.0	778.2	779.4	780.5
150°	789.0	789.0	789.0	789.1	789.3	789.3	789.5	789.6
152.5°	802.2	802.4	802.6	802.7	802.6	802.5	802.5	802.4
155°	819.9	820.6	821.1	821.2	820.7	820.3	819.8	819.5
157.5°	835.3	836.1	836.8	836.8	836.1	835.3	834.5	833.7
160°	845.1	845.9	846.8	846.8	845.9	845.1	844.2	843.3
162.5°	853.0	853.8	854.7	854.7	853.7	852.7	851.7	850.7
165°	864.2	865.3	866.5	866.5	865.1	863.8	862.5	861.1
167.5°	872.4	873.6	874.9	874.9	873.3	871.9	870.4	869.0
170°	877.4	878.6	879.8	879.6	878.2	876.6	875.2	873.7
172.5°	880.6	881.7	882.9	882.7	881.1	879.6	878.0	876.4
175°	884.3	885.6	887.0	886.7	884.9	883.2	881.5	879.7
177.5°	885.8	886.7	887.7	887.4	886.0	884.6	883.2	881.8
180°	884.9	884.9	884.9	884.9	884.9	884.9	884.9	884.9

(END OF REPORT)