

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: P332844-940

Luminaire Tested: **S124DIW-S1195D770U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332844-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
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-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6711.2 lumens
Efficiency: N/A
Efficacy: 112.2 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

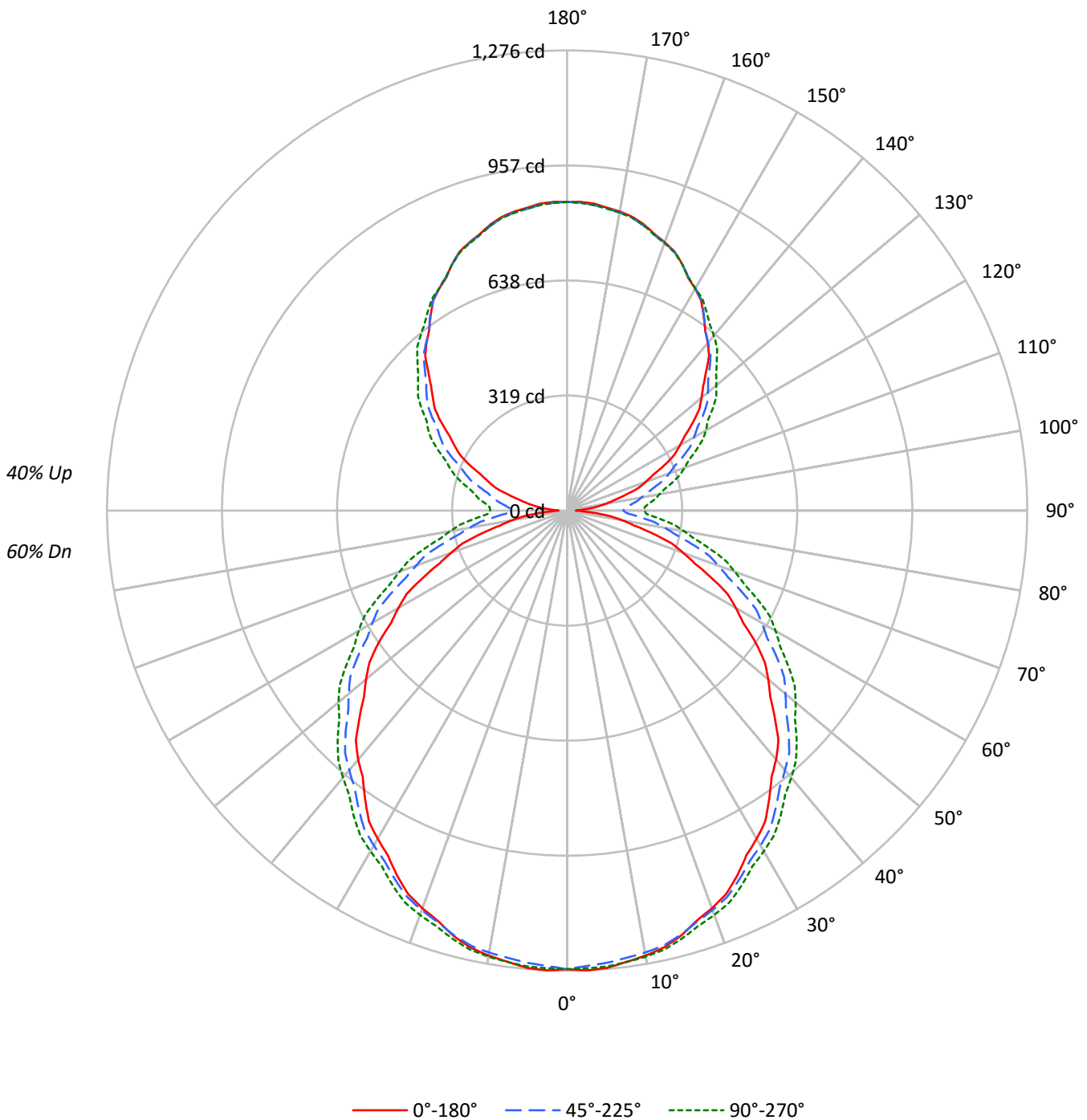
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65
1	99	94	89	85	92	88	84	80	76	73	70	65	63	61	56	54	53
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	46	43
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36
4	74	63	54	48	69	59	51	45	51	45	40	44	39	36	38	34	31
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27
6	63	50	41	35	58	47	39	33	41	35	30	36	31	27	30	26	23
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15

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	1.8
10°-20°	345.0	5.1
20°-30°	521.7	7.8
30°-40°	631.2	9.4
40°-50°	667.3	9.9
50°-60°	628.0	9.4
60°-70°	521.0	7.8
70°-80°	366.0	5.5
80°-90°	209.5	3.1
90°-100°	179.3	2.7
100°-110°	258.1	3.8
110°-120°	344.8	5.1
120°-130°	408.6	6.1
130°-140°	435.1	6.5
140°-150°	416.0	6.2
150°-160°	347.3	5.2
160°-170°	231.1	3.4
170°-180°	80.9	1.2
0°-30°	987.1	14.7
0°-40°	1618.2	24.1
0°-60°	2913.5	43.4
0°-90°	4009.9	59.7
90°-120°	782.2	11.7
90°-150°	2042.0	30.4
90°-180°	2701.0	40.2
0°-180°	6711.2	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	18
95°	58	112	174	213	227	59
105°	167	198	252	288	302	178
115°	297	312	354	384	394	293
125°	426	427	460	484	492	380
135°	545	549	559	579	587	422
145°	660	661	662	669	673	413
155°	754	754	754	756	754	347
165°	821	819	818	822	819	231
175°	854	851	850	854	850	81
180°	856	856	856	856	856	



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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°	35.8	49.0	62.3	75.5	88.8	102.6	117.1	131.4	145.9	160.3	169.8
95°	58.2	70.0	81.8	93.5	105.3	118.2	132.2	146.2	160.2	174.2	183.2
97.5°	86.1	96.2	106.3	116.3	126.4	138.4	152.5	166.5	180.6	194.6	203.4
100°	108.3	117.2	125.9	134.7	143.6	154.8	168.4	182.2	195.8	209.5	218.3
102.5°	132.7	140.1	147.6	155.0	162.5	172.8	186.1	199.4	212.8	226.0	234.7
105°	167.0	173.5	179.9	186.5	192.9	202.3	214.6	226.9	239.2	251.5	259.8
107.5°	205.8	211.2	216.5	221.9	227.2	235.5	246.6	257.8	269.0	280.2	288.4
110°	231.1	235.9	240.6	245.3	250.0	257.8	268.8	279.7	290.6	301.6	308.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	257.5	261.4	265.5	269.5	273.4	280.6	290.9	301.2	311.5	321.8	328.8
115°	297.1	300.0	302.8	305.7	308.4	314.9	324.7	334.5	344.3	354.2	361.0
117.5°	335.7	337.5	339.4	341.2	343.0	348.6	357.8	367.0	376.2	385.5	391.6
120°	360.5	362.0	363.6	365.2	366.7	371.8	380.6	389.3	398.1	406.8	412.3
122.5°	387.5	388.0	388.3	388.8	389.2	393.7	402.2	410.6	419.1	427.6	433.4
125°	426.0	425.6	425.3	425.0	424.7	428.4	436.1	443.9	451.7	459.5	465.2
127.5°	461.8	461.9	462.1	462.2	462.3	465.3	471.1	477.0	482.8	488.7	494.0
130°	486.1	486.2	486.3	486.4	486.6	489.2	494.2	499.3	504.4	509.4	514.8
132.5°	512.0	512.0	512.0	512.0	512.0	514.0	517.9	521.9	525.8	529.8	534.9
135°	544.8	545.7	546.6	547.5	548.4	549.9	552.1	554.4	556.6	558.8	563.6
137.5°	582.2	582.3	582.4	582.5	582.6	583.3	584.6	585.9	587.2	588.5	592.8
140°	607.1	607.1	607.1	607.0	607.0	607.2	607.4	607.8	608.1	608.4	612.3
142.5°	628.7	628.9	629.2	629.4	629.6	629.6	629.3	629.0	628.7	628.4	632.0
145°	660.0	660.2	660.5	660.8	661.0	661.2	661.4	661.6	661.6	661.8	663.6
147.5°	691.2	691.5	692.0	692.3	692.8	692.9	692.8	692.6	692.5	692.4	692.5
150°	710.2	710.5	710.8	711.1	711.3	711.5	711.5	711.5	711.5	711.5	711.5
152.5°	727.1	727.4	727.6	728.0	728.3	728.4	728.5	728.7	728.8	728.9	729.2
155°	754.5	754.5	754.5	754.5	754.5	754.4	754.2	754.1	753.9	753.9	754.4
157.5°	777.8	777.5	777.2	776.9	776.7	776.6	776.5	776.5	776.5	776.4	776.9
160°	791.6	791.4	791.2	791.1	790.9	790.8	790.7	790.5	790.3	790.2	790.7
162.5°	804.2	803.9	803.4	803.1	802.7	802.5	802.3	802.2	802.0	801.8	802.6
165°	821.4	820.9	820.5	820.0	819.6	819.2	818.9	818.6	818.3	818.0	818.9
167.5°	834.4	833.8	833.2	832.6	832.0	831.6	831.7	831.7	831.7	831.8	832.7
170°	841.9	841.1	840.3	839.6	838.9	838.6	838.7	838.9	839.0	839.2	840.1
172.5°	847.1	846.5	845.9	845.3	844.6	844.4	844.4	844.5	844.5	844.5	845.5
175°	854.4	853.6	852.9	852.2	851.5	851.0	850.9	850.7	850.6	850.4	851.5
177.5°	856.8	856.2	855.6	855.1	854.4	854.2	854.2	854.2	854.2	854.2	855.0
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7



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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°	179.2	188.7	198.1	204.2	207.0	209.6	212.3	215.1
95°	192.2	201.2	210.1	216.1	218.9	221.8	224.5	227.4
97.5°	212.2	221.1	229.9	235.7	238.4	241.1	243.8	246.6
100°	227.1	235.9	244.9	250.4	252.5	254.8	257.0	259.2
102.5°	243.4	252.1	260.8	266.4	269.0	271.6	274.2	276.8
105°	268.2	276.5	284.9	290.5	293.6	296.5	299.4	302.5
107.5°	296.6	304.8	312.9	318.2	320.4	322.6	324.9	327.2
110°	315.5	322.5	329.5	334.5	337.4	340.4	343.4	346.3



TEST NUMBER: P332844-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	335.7	342.7	349.6	354.5	357.0	359.7	362.3	364.9
115°	367.7	374.6	381.4	385.8	387.9	389.9	392.1	394.1
117.5°	397.6	403.7	409.7	413.9	416.2	418.4	420.6	422.8
120°	417.9	423.6	429.1	433.4	436.1	439.0	441.8	444.6
122.5°	439.2	445.1	450.8	454.6	456.4	458.2	459.9	461.6
125°	470.9	476.6	482.3	486.0	487.6	489.2	490.8	492.4
127.5°	499.4	504.9	510.2	513.9	515.9	517.7	519.7	521.6
130°	520.2	525.7	531.0	534.4	535.7	537.0	538.3	539.7
132.5°	540.0	545.2	550.4	553.8	555.4	557.1	558.7	560.4
135°	568.4	573.1	577.9	581.0	582.5	583.9	585.4	586.8
137.5°	597.0	601.3	605.5	608.4	610.1	611.8	613.4	615.1
140°	616.4	620.3	624.3	627.0	628.4	629.8	631.2	632.8
142.5°	635.5	639.1	642.7	645.2	646.4	647.7	649.0	650.3
145°	665.3	667.1	668.8	670.1	670.9	671.7	672.6	673.4
147.5°	692.7	692.8	692.9	693.4	694.3	695.2	696.1	696.9
150°	711.5	711.5	711.5	711.4	711.2	711.1	711.0	710.8
152.5°	729.6	730.0	730.3	730.3	730.0	729.6	729.2	728.8
155°	755.0	755.5	756.2	756.2	755.5	755.0	754.4	753.9
157.5°	777.3	777.8	778.2	778.2	777.7	777.2	776.7	776.1
160°	791.1	791.6	792.0	791.8	791.1	790.3	789.6	788.9
162.5°	803.4	804.2	805.0	805.0	804.3	803.6	802.9	802.1
165°	819.7	820.6	821.5	821.7	821.1	820.5	819.9	819.3
167.5°	833.6	834.4	835.3	835.3	834.4	833.5	832.6	831.6
170°	841.0	841.9	842.8	842.7	841.6	840.6	839.5	838.6
172.5°	846.5	847.5	848.5	848.5	847.4	846.4	845.3	844.4
175°	852.5	853.5	854.5	854.5	853.5	852.5	851.5	850.4
177.5°	855.8	856.6	857.5	857.4	856.4	855.5	854.5	853.6
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7

(END OF REPORT)