

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: P331369-940

Luminaire Tested: **S122DIP-S675D1080U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331369-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S675D1080U940-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6238.6 lumens  
Efficiency: N/A  
Efficacy: 109.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

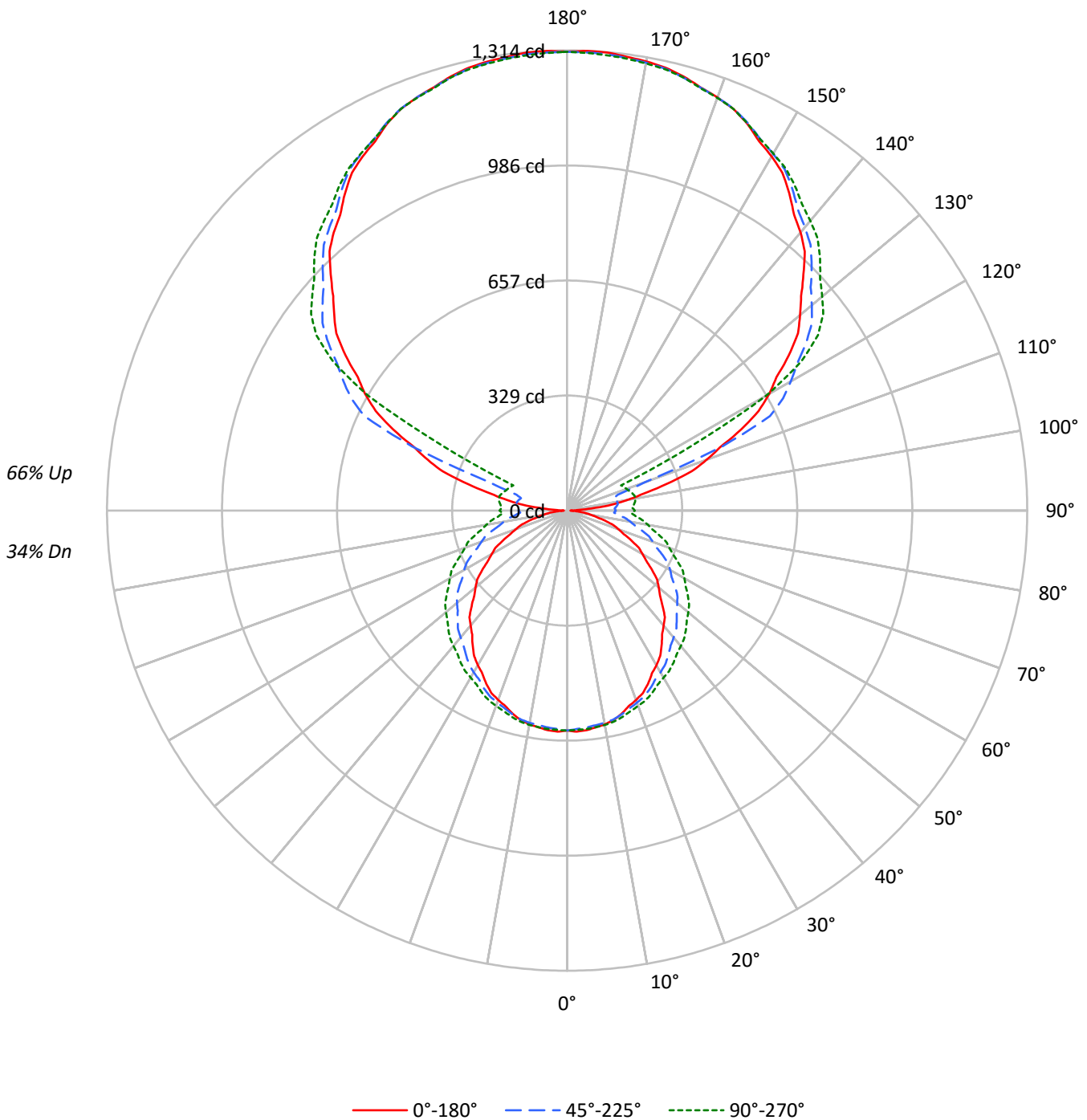
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	23	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	25	22	21	18	16	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	34	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8
10	43	32	24	20	39	29	22	18	23	18	15	18	15	12	13	11	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10141	10141	10141
5°	10191	9762	9724
10°	10126	9474	9367
15°	9987	9168	8990
20°	9810	8841	8627
25°	9637	8525	8298
30°	9392	8201	7967
35°	9142	7888	7735
40°	8880	7621	7501
45°	8632	7383	7302
50°	8365	7166	7106
55°	8089	6934	6906
60°	7745	6695	6695
65°	7391	6412	6445
70°	6992	6110	6173
75°	6483	5811	5925
80°	5680	5509	5672
85°	4908	5245	5473



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	1.0
10°-20°	170.7	2.7
20°-30°	258.6	4.1
30°-40°	315.0	5.0
40°-50°	338.9	5.4
50°-60°	329.1	5.3
60°-70°	287.4	4.6
70°-80°	221.2	3.5
80°-90°	151.7	2.4
90°-100°	146.0	2.3
100°-110°	234.9	3.8
110°-120°	477.7	7.7
120°-130°	734.6	11.8
130°-140°	763.6	12.2
140°-150°	701.0	11.2
150°-160°	562.0	9.0
160°-170°	362.1	5.8
170°-180°	124.6	2.0
0°-30°	488.8	7.8
0°-40°	803.8	12.9
0°-60°	1471.8	23.6
0°-90°	2132.1	34.2
90°-120°	858.6	13.8
90°-150°	3057.8	49.0
90°-180°	4107.0	65.8
0°-180°	6238.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	628	628	628	628	628	
5°	630	627	622	627	626	60
15°	601	602	603	610	610	169
25°	546	553	561	571	574	251
35°	471	486	503	523	530	294
45°	386	411	442	470	480	298
55°	296	329	376	408	420	264
65°	202	247	300	336	350	201
75°	112	163	221	259	272	118
85°	33	89	148	184	198	35
90°	10	73	139	179	193	9
95°	69	83	142	179	191	81
105°	293	333	136	177	192	313
115°	549	577	639	248	170	540
125°	772	787	832	862	874	689
135°	954	970	987	1015	1021	737
145°	1106	1106	1121	1133	1133	692
155°	1218	1211	1221	1226	1219	561
165°	1284	1278	1281	1287	1281	362
175°	1313	1307	1308	1314	1305	125
180°	1310	1310	1310	1310	1310	



TEST NUMBER: P331369-940

CATALOG NUMBER: S122DIP-S675D1080U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	631.8	631.2	630.8	630.3	629.8	629.0	627.9	626.7	625.6	624.5	625.3
5°	629.9	629.3	628.7	628.1	627.5	626.6	625.4	624.2	622.9	621.7	622.9
7.5°	624.3	623.8	623.5	623.0	622.7	622.0	621.1	620.1	619.2	618.3	619.7
10°	619.9	619.5	619.1	618.7	618.3	617.8	617.2	616.6	616.0	615.4	617.0
12.5°	612.6	612.7	612.8	612.9	613.0	612.8	612.3	611.9	611.4	611.0	612.6
15°	600.8	601.2	601.6	602.0	602.4	602.6	602.6	602.6	602.6	602.6	604.4
17.5°	585.5	586.4	587.2	588.1	588.9	589.7	590.3	590.9	591.6	592.3	594.1
20°	575.3	576.3	577.3	578.4	579.3	580.2	581.0	581.9	582.7	583.5	585.8
22.5°	564.4	565.5	566.8	567.9	569.1	570.2	571.4	572.5	573.6	574.8	577.0
25°	546.2	547.6	549.0	550.5	551.9	553.5	555.3	557.1	558.9	560.7	563.2
27.5°	524.3	526.6	529.0	531.3	533.6	535.8	538.0	540.1	542.2	544.4	547.4
30°	509.8	512.4	515.1	517.6	520.3	522.9	525.6	528.2	530.8	533.4	536.6
32.5°	493.7	496.7	499.6	502.6	505.6	508.6	511.8	514.8	517.9	521.0	524.8
35°	470.6	474.0	477.5	480.9	484.4	488.0	491.9	495.7	499.5	503.4	507.8
37.5°	445.5	449.5	453.4	457.4	461.4	465.8	470.8	475.8	480.7	485.7	490.7
40°	428.7	433.2	437.7	442.1	446.6	451.5	457.0	462.4	467.9	473.3	478.6
42.5°	412.8	417.1	421.6	426.1	430.5	435.9	442.2	448.4	454.7	461.0	466.7
45°	385.9	391.5	396.9	402.3	407.8	414.1	421.2	428.3	435.3	442.4	448.7
47.5°	359.5	365.5	371.5	377.4	383.3	390.5	398.8	407.1	415.4	423.7	430.3
50°	341.3	347.7	353.9	360.2	366.4	374.2	383.3	392.4	401.4	410.5	417.4
52.5°	323.9	330.5	337.1	343.7	350.3	358.4	367.9	377.6	387.1	396.7	403.8
55°	295.9	303.1	310.4	317.7	324.9	333.9	344.4	354.9	365.4	375.9	383.3
57.5°	268.1	276.4	284.6	292.8	301.0	310.5	321.2	331.9	342.7	353.4	361.2
60°	248.5	257.2	265.9	274.6	283.3	293.5	305.0	316.5	328.0	339.6	347.2
62.5°	231.0	240.0	249.1	258.1	267.2	277.4	288.9	300.4	312.0	323.5	331.7
65°	202.1	212.0	221.9	231.8	241.7	252.6	264.6	276.5	288.5	300.4	308.7
67.5°	175.5	185.8	196.3	206.6	217.0	228.2	240.4	252.6	264.8	277.1	285.4
70°	156.6	167.1	177.6	188.2	198.7	210.2	222.7	235.2	247.8	260.4	269.0
72.5°	139.1	149.9	160.8	171.7	182.4	194.2	207.0	219.6	232.4	245.0	253.6
75°	112.0	123.3	134.6	146.0	157.3	169.4	182.4	195.3	208.2	221.2	229.9
77.5°	85.8	97.6	109.5	121.3	133.1	145.7	158.8	172.0	185.1	198.2	207.0
80°	68.3	80.6	92.9	105.3	117.6	130.4	143.6	156.7	169.8	183.0	191.5
82.5°	53.7	65.9	78.0	90.2	102.5	115.1	128.5	141.8	155.1	168.4	176.9
85°	32.8	45.3	57.9	70.4	82.9	95.7	108.6	121.5	134.6	147.5	156.0
87.5°	18.0	30.6	43.1	55.6	68.1	81.1	94.3	107.5	120.8	134.1	142.6
90°	10.1	24.1	38.2	52.2	66.3	80.6	95.2	109.9	124.5	139.1	148.3
92.5°	27.6	38.3	49.0	59.7	70.4	82.4	95.7	109.0	122.3	135.6	144.1
95°	68.9	71.4	74.0	76.6	79.1	87.2	100.9	114.4	128.0	141.7	150.4
97.5°	128.7	117.5	106.4	95.2	84.1	86.1	101.1	116.2	131.3	146.3	154.6
100°	174.2	152.8	131.4	110.0	88.6	85.4	100.3	115.2	130.2	145.1	154.3
102.5°	223.5	224.2	225.0	225.7	226.4	217.3	198.3	179.4	160.4	141.5	151.0
105°	292.7	304.9	317.1	329.3	341.4	324.0	277.1	230.1	183.1	136.1	145.5
107.5°	372.7	382.5	392.4	402.1	411.9	387.4	328.4	269.6	210.7	151.8	156.2
110°	423.6	432.0	440.5	449.0	457.4	436.2	385.2	334.3	283.3	232.4	217.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	472.1	479.4	486.7	494.1	501.4	502.2	496.6	491.0	485.4	479.7	409.4
115°	548.7	554.5	560.4	566.1	571.9	582.0	596.4	610.7	625.1	639.4	548.0
117.5°	616.3	621.7	627.1	632.6	638.1	646.8	658.9	670.9	683.0	695.0	677.3
120°	666.3	670.2	674.2	678.1	682.2	690.1	702.0	713.8	725.8	737.6	745.8
122.5°	708.7	712.4	716.0	719.7	723.4	731.0	742.8	754.5	766.2	778.0	785.0
125°	772.5	775.3	777.9	780.7	783.5	790.1	800.5	811.0	821.4	832.0	838.9
127.5°	831.1	833.9	836.7	839.5	842.4	847.9	856.1	864.3	872.5	880.7	887.9
130°	868.3	871.4	874.6	877.7	880.9	885.7	892.3	898.9	905.4	912.0	919.2
132.5°	906.2	908.8	911.5	914.1	916.8	921.0	926.5	932.1	937.7	943.3	949.9
135°	954.5	957.9	961.3	964.7	968.0	971.6	975.5	979.5	983.4	987.3	993.7
137.5°	1004.4	1006.7	1009.1	1011.4	1013.7	1016.4	1019.4	1022.4	1025.5	1028.5	1034.3
140°	1037.0	1038.5	1040.0	1041.4	1042.9	1045.0	1047.8	1050.4	1053.2	1055.9	1061.0
142.5°	1064.3	1065.6	1066.9	1068.3	1069.5	1071.6	1074.3	1077.0	1079.8	1082.5	1086.8
145°	1106.3	1106.0	1105.8	1105.6	1105.4	1107.1	1110.6	1114.2	1117.8	1121.4	1124.1
147.5°	1143.6	1142.8	1142.0	1141.2	1140.4	1141.7	1145.3	1148.8	1152.4	1155.9	1157.2
150°	1167.9	1166.4	1164.9	1163.4	1162.0	1162.9	1166.3	1169.7	1173.0	1176.3	1177.7
152.5°	1188.3	1186.7	1185.0	1183.4	1181.8	1182.5	1185.7	1188.9	1192.1	1195.3	1196.6
155°	1218.1	1216.2	1214.3	1212.4	1210.5	1210.9	1213.4	1215.8	1218.4	1220.9	1222.2
157.5°	1241.4	1239.8	1238.2	1236.6	1235.0	1235.1	1236.9	1238.6	1240.4	1242.2	1243.6
160°	1255.1	1253.8	1252.5	1251.2	1250.0	1250.0	1251.2	1252.5	1253.8	1255.1	1256.3
162.5°	1267.2	1266.0	1264.6	1263.4	1262.1	1262.0	1263.1	1264.3	1265.3	1266.4	1267.8
165°	1283.5	1282.2	1280.9	1279.7	1278.4	1278.1	1278.7	1279.4	1280.1	1280.7	1282.1
167.5°	1295.7	1294.4	1293.1	1291.8	1290.6	1290.2	1290.8	1291.4	1292.0	1292.6	1294.1
170°	1302.4	1301.2	1299.9	1298.7	1297.4	1297.0	1297.4	1297.8	1298.2	1298.7	1300.1
172.5°	1307.0	1305.7	1304.5	1303.2	1302.0	1301.5	1302.0	1302.3	1302.8	1303.2	1304.7
175°	1312.9	1311.4	1309.9	1308.5	1307.0	1306.4	1306.9	1307.3	1307.7	1308.1	1309.7
177.5°	1313.8	1312.7	1311.4	1310.3	1309.1	1308.6	1308.8	1308.9	1309.1	1309.3	1310.5
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	626.1	626.9	627.7	627.9	627.6	627.3	627.0	626.7
5°	624.2	625.4	626.6	627.1	626.9	626.7	626.5	626.2
7.5°	621.2	622.7	624.1	624.7	624.6	624.3	624.1	623.9
10°	618.6	620.2	621.9	622.5	622.3	622.1	622.0	621.7
12.5°	614.2	615.8	617.5	618.1	618.0	617.8	617.6	617.3
15°	606.3	608.1	609.9	610.7	610.6	610.3	610.1	609.9
17.5°	596.0	598.0	599.9	600.8	600.8	600.8	600.8	600.8
20°	588.0	590.2	592.4	593.5	593.5	593.5	593.5	593.5
22.5°	579.3	581.5	583.6	585.0	585.2	585.6	585.9	586.2
25°	565.6	568.0	570.4	571.9	572.6	573.2	573.8	574.4
27.5°	550.5	553.6	556.7	558.4	558.8	559.3	559.7	560.2
30°	539.9	543.1	546.4	548.3	548.9	549.6	550.1	550.7
32.5°	528.5	532.3	535.9	538.3	539.5	540.6	541.6	542.7
35°	512.3	516.7	521.2	524.1	525.6	527.0	528.3	529.8
37.5°	495.6	500.5	505.5	508.7	510.2	511.7	513.2	514.7
40°	483.8	489.1	494.4	497.9	499.7	501.6	503.4	505.2
42.5°	472.4	478.2	483.9	487.8	489.5	491.4	493.2	495.0
45°	455.0	461.2	467.5	471.6	473.7	475.7	477.7	479.7
47.5°	436.8	443.4	449.9	454.2	456.5	458.7	460.9	463.2
50°	424.3	431.1	438.1	442.6	444.9	447.1	449.2	451.5
52.5°	410.8	417.9	424.9	429.6	431.9	434.4	436.8	439.2
55°	390.5	397.8	405.1	410.0	412.7	415.3	417.9	420.5
57.5°	369.1	376.9	384.8	390.0	392.7	395.4	398.1	400.7
60°	354.9	362.6	370.3	375.6	378.4	381.2	384.1	386.9
62.5°	339.8	348.0	356.2	361.7	364.3	366.9	369.6	372.3
65°	317.0	325.3	333.6	339.0	341.7	344.3	347.0	349.6
67.5°	293.8	302.2	310.6	316.2	318.9	321.6	324.4	327.2
70°	277.8	286.4	295.2	300.7	303.1	305.6	308.0	310.4
72.5°	262.2	270.6	279.2	284.9	287.8	290.8	293.6	296.6
75°	238.6	247.3	256.0	261.6	264.3	266.9	269.6	272.2
77.5°	215.6	224.3	232.9	238.6	241.5	244.3	247.1	249.9
80°	199.9	208.5	217.0	222.7	225.4	228.3	231.1	234.0
82.5°	185.4	193.9	202.4	207.9	210.6	213.3	216.0	218.6
85°	164.4	173.0	181.5	187.1	189.9	192.8	195.6	198.4
87.5°	151.1	159.5	168.0	173.6	176.2	178.9	181.6	184.2
90°	157.4	166.6	175.7	181.7	184.6	187.3	190.2	193.1
92.5°	152.6	161.0	169.5	175.0	177.8	180.5	183.2	185.8
95°	159.2	167.9	176.6	182.1	184.3	186.5	188.8	191.0
97.5°	163.0	171.3	179.7	185.1	187.8	190.4	193.1	195.7
100°	163.4	172.5	181.7	187.6	190.3	193.0	195.6	198.2
102.5°	160.5	170.0	179.5	185.7	188.5	191.4	194.1	197.0
105°	154.9	164.3	173.7	179.9	183.0	186.1	189.1	192.2
107.5°	160.7	165.1	169.5	173.3	176.4	179.4	182.4	185.6
110°	203.1	188.6	174.0	168.2	171.3	174.3	177.5	180.5





TEST NUMBER: P331369-940

CATALOG NUMBER: S122DIP-S675D1080U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	339.0	268.7	198.3	164.5	167.5	170.3	173.3	176.1
115°	456.6	365.1	273.7	221.4	208.5	195.6	182.6	169.7
117.5°	659.8	642.1	624.6	591.8	544.1	496.3	448.5	400.7
120°	754.0	762.2	770.3	761.3	735.1	708.9	682.7	656.6
122.5°	792.0	799.1	806.1	807.8	804.1	800.5	796.9	793.3
125°	845.8	852.7	859.7	864.4	866.8	869.3	871.7	874.2
127.5°	895.1	902.2	909.5	913.9	915.9	917.7	919.7	921.6
130°	926.4	933.5	940.8	945.0	946.4	947.8	949.2	950.7
132.5°	956.6	963.3	970.0	974.0	975.4	976.9	978.3	979.6
135°	1000.1	1006.4	1012.7	1016.6	1017.7	1019.0	1020.1	1021.3
137.5°	1040.1	1045.9	1051.7	1054.9	1055.5	1056.1	1056.9	1057.5
140°	1066.2	1071.3	1076.5	1079.1	1079.2	1079.4	1079.6	1079.8
142.5°	1091.2	1095.5	1099.7	1102.0	1102.0	1102.0	1102.0	1102.0
145°	1126.8	1129.4	1132.1	1133.5	1133.5	1133.4	1133.4	1133.3
147.5°	1158.4	1159.7	1160.9	1161.4	1160.9	1160.6	1160.2	1159.8
150°	1178.9	1180.2	1181.4	1181.5	1180.4	1179.5	1178.4	1177.3
152.5°	1197.8	1199.2	1200.4	1200.3	1198.9	1197.6	1196.1	1194.8
155°	1223.4	1224.8	1226.0	1225.7	1224.1	1222.4	1220.8	1219.1
157.5°	1245.0	1246.4	1247.9	1247.8	1246.2	1244.5	1242.9	1241.2
160°	1257.6	1258.8	1260.1	1260.0	1258.6	1257.0	1255.6	1254.1
162.5°	1269.3	1270.7	1272.2	1271.9	1270.2	1268.4	1266.5	1264.7
165°	1283.6	1285.0	1286.6	1286.6	1285.0	1283.6	1282.1	1280.7
167.5°	1295.6	1297.0	1298.5	1298.2	1296.4	1294.5	1292.6	1290.7
170°	1301.6	1303.1	1304.6	1304.3	1302.4	1300.6	1298.7	1296.7
172.5°	1306.2	1307.6	1309.1	1308.9	1307.0	1305.1	1303.2	1301.3
175°	1311.1	1312.6	1314.0	1313.8	1311.6	1309.5	1307.4	1305.3
177.5°	1311.6	1312.8	1314.0	1313.8	1312.3	1310.8	1309.3	1307.8
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0

(END OF REPORT)