

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: P331539-830

Luminaire Tested: **S122DIW-S675D970U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331539-830
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: S122DIW-S675D970U830-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6183.5 lumens
Efficiency: N/A
Efficacy: 117.6 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

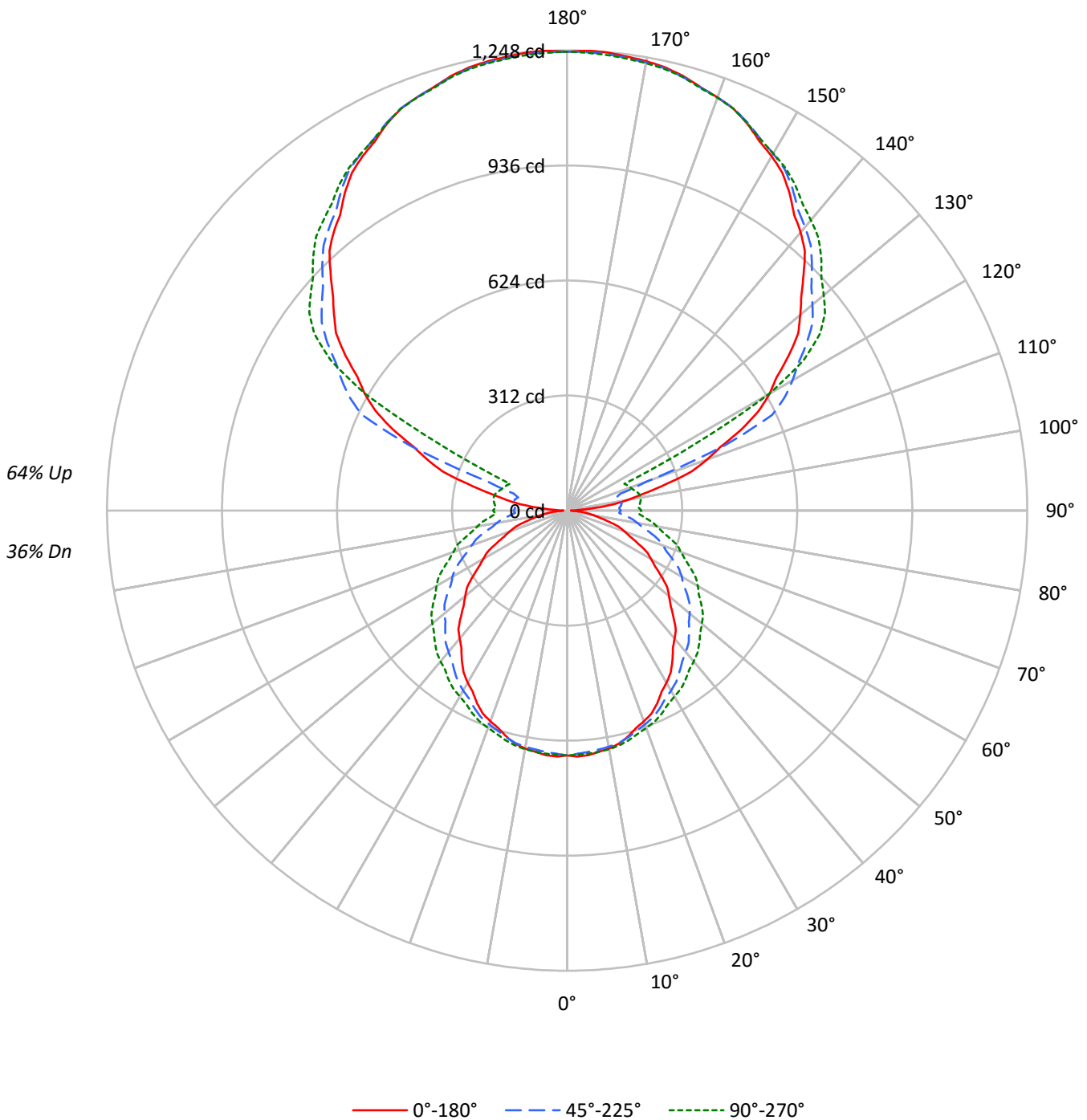
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331539-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-D

Luminous Intensity Polar Plot





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CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36
1	94	89	85	81	84	80	77	74	65	62	60	50	48	47	37	36	35	28
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	20	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10719	10719	10719
5°	10771	10318	10278
10°	10704	10013	9900
15°	10557	9691	9503
20°	10370	9345	9120
25°	10186	9011	8772
30°	9928	8668	8421
35°	9665	8338	8176
40°	9388	8055	7929
45°	9124	7803	7719
50°	8843	7574	7511
55°	8548	7331	7300
60°	8188	7076	7078
65°	7811	6777	6812
70°	7390	6457	6525
75°	6853	6143	6262
80°	6004	5822	5995
85°	5192	5544	5785



TEST NUMBER: P331539-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.9	1.0
10°-20°	180.4	2.9
20°-30°	273.4	4.4
30°-40°	333.0	5.4
40°-50°	358.2	5.8
50°-60°	347.9	5.6
60°-70°	303.7	4.9
70°-80°	233.8	3.8
80°-90°	160.0	2.6
90°-100°	149.6	2.4
100°-110°	231.2	3.7
110°-120°	459.1	7.4
120°-130°	700.9	11.3
130°-140°	726.7	11.8
140°-150°	666.2	10.8
150°-160°	533.9	8.6
160°-170°	344.1	5.6
170°-180°	118.4	1.9
0°-30°	516.7	8.4
0°-40°	849.6	13.7
0°-60°	1555.7	25.2
0°-90°	2253.3	36.4
90°-120°	840.0	13.6
90°-150°	2933.8	47.4
90°-180°	3930.0	63.6
0°-180°	6183.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	666	663	657	663	662	63
15°	635	637	637	645	645	179
25°	577	584	593	604	607	265
35°	498	514	532	552	560	311
45°	408	434	468	496	507	315
55°	313	348	397	431	444	279
65°	214	261	318	356	370	212
75°	118	173	234	274	288	125
85°	35	94	156	195	210	37
90°	11	76	145	186	201	9
95°	66	84	146	185	198	78
105°	279	320	138	180	196	298
115°	522	550	613	244	171	513
125°	734	748	794	825	837	655
135°	907	922	939	967	974	701
145°	1051	1051	1066	1077	1078	657
155°	1157	1150	1160	1165	1158	533
165°	1220	1215	1217	1222	1217	344
175°	1247	1242	1243	1248	1240	119
180°	1245	1245	1245	1245	1245	



TEST NUMBER: P331539-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	667.8	667.2	666.8	666.2	665.7	664.9	663.6	662.4	661.3	660.1	660.9
5°	665.8	665.2	664.6	663.9	663.3	662.3	661.0	659.8	658.5	657.1	658.5
7.5°	659.9	659.4	659.0	658.6	658.2	657.4	656.5	655.4	654.5	653.6	655.1
10°	655.3	654.8	654.4	653.9	653.6	653.0	652.3	651.8	651.1	650.4	652.1
12.5°	647.5	647.6	647.7	647.8	647.9	647.7	647.2	646.8	646.3	645.8	647.5
15°	635.1	635.5	635.9	636.3	636.8	637.0	637.0	637.0	637.0	637.0	638.9
17.5°	618.9	619.8	620.7	621.6	622.5	623.3	624.0	624.6	625.3	626.0	628.0
20°	608.1	609.2	610.2	611.3	612.4	613.3	614.2	615.1	616.0	616.8	619.2
22.5°	596.5	597.8	599.1	600.3	601.5	602.8	604.0	605.1	606.3	607.6	609.9
25°	577.3	578.8	580.3	581.8	583.3	585.0	586.9	588.9	590.8	592.7	595.3
27.5°	554.2	556.7	559.1	561.6	564.0	566.4	568.6	570.9	573.2	575.4	578.6
30°	538.9	541.6	544.4	547.1	550.0	552.7	555.5	558.3	561.1	563.8	567.2
32.5°	521.9	525.0	528.1	531.2	534.4	537.6	540.9	544.1	547.4	550.7	554.7
35°	497.5	501.1	504.7	508.3	512.0	515.9	519.9	524.0	528.0	532.1	536.8
37.5°	470.9	475.1	479.3	483.4	487.7	492.4	497.7	502.9	508.1	513.4	518.7
40°	453.2	457.9	462.6	467.3	472.0	477.2	483.1	488.8	494.6	500.3	505.9
42.5°	436.3	440.9	445.6	450.3	455.1	460.7	467.4	474.0	480.6	487.3	493.3
45°	407.9	413.8	419.5	425.3	431.0	437.7	445.2	452.7	460.1	467.6	474.3
47.5°	380.0	386.3	392.7	398.9	405.2	412.7	421.5	430.3	439.0	447.8	454.8
50°	360.8	367.5	374.1	380.7	387.3	395.5	405.1	414.7	424.3	433.9	441.2
52.5°	342.3	349.3	356.3	363.3	370.2	378.8	388.9	399.1	409.2	419.3	426.8
55°	312.7	320.4	328.1	335.8	343.5	352.9	364.0	375.1	386.3	397.4	405.1
57.5°	283.4	292.2	300.9	309.5	318.2	328.2	339.5	350.8	362.2	373.5	381.8
60°	262.7	271.8	281.1	290.3	299.4	310.2	322.3	334.5	346.7	358.9	367.0
62.5°	244.2	253.7	263.3	272.8	282.4	293.2	305.4	317.5	329.8	342.0	350.6
65°	213.6	224.0	234.6	245.1	255.5	267.0	279.7	292.3	304.9	317.5	326.3
67.5°	185.5	196.4	207.5	218.4	229.3	241.2	254.1	267.0	279.9	292.8	301.7
70°	165.5	176.6	187.8	198.9	210.0	222.2	235.4	248.6	261.9	275.2	284.4
72.5°	147.0	158.4	169.9	181.4	192.8	205.3	218.8	232.1	245.6	259.0	268.1
75°	118.4	130.4	142.3	154.3	166.3	179.1	192.7	206.4	220.1	233.8	243.0
77.5°	90.7	103.2	115.7	128.2	140.7	154.0	167.9	181.8	195.7	209.5	218.8
80°	72.2	85.2	98.2	111.3	124.3	137.8	151.7	165.6	179.5	193.4	202.4
82.5°	56.7	69.7	82.5	95.4	108.3	121.7	135.8	149.9	163.9	178.0	187.0
85°	34.7	47.9	61.2	74.4	87.7	101.1	114.8	128.5	142.2	155.9	164.9
87.5°	19.0	32.2	45.4	58.6	71.8	85.4	99.3	113.4	127.3	141.4	150.3
90°	10.6	25.2	39.8	54.3	68.9	83.9	99.2	114.4	129.7	145.1	154.6
92.5°	27.1	38.4	49.8	61.1	72.4	85.1	99.1	113.0	127.0	141.0	149.9
95°	66.3	69.7	73.1	76.5	80.0	88.9	103.1	117.3	131.6	145.8	154.9
97.5°	122.9	113.2	103.6	93.9	84.2	87.2	102.7	118.3	133.8	149.4	158.1
100°	166.2	146.7	127.1	107.6	88.1	86.1	101.4	116.8	132.1	147.6	157.0
102.5°	212.9	214.3	215.7	217.2	218.6	210.9	194.1	177.3	160.4	143.6	153.4
105°	278.6	290.8	303.0	315.2	327.4	311.8	268.2	224.7	181.3	137.7	147.4
107.5°	354.6	364.4	374.2	384.0	393.8	371.3	316.4	261.6	206.6	151.7	156.7
110°	402.8	411.3	419.8	428.3	436.8	417.3	369.9	322.5	275.2	227.8	214.7



TEST NUMBER: P331539-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	448.9	456.3	463.5	470.9	478.2	479.7	475.3	471.1	466.7	462.4	396.2
115°	521.7	527.4	533.2	538.9	544.7	554.9	569.6	584.2	598.8	613.4	527.2
117.5°	585.8	591.2	596.4	601.8	607.2	616.0	628.3	640.6	653.0	665.3	649.2
120°	633.3	637.2	641.0	644.9	648.8	656.8	668.9	681.1	693.2	705.4	713.8
122.5°	673.6	677.2	680.7	684.2	687.7	695.4	707.4	719.3	731.3	743.3	750.5
125°	734.1	736.7	739.3	742.0	744.5	751.2	761.9	772.4	783.1	793.7	800.9
127.5°	789.8	792.5	795.1	797.8	800.5	806.0	814.4	822.7	831.0	839.4	846.8
130°	825.1	828.1	831.0	834.1	837.1	841.9	848.6	855.3	862.0	868.6	876.0
132.5°	861.1	863.7	866.1	868.6	871.2	875.2	880.9	886.6	892.2	897.9	904.7
135°	907.0	910.2	913.4	916.6	919.8	923.4	927.3	931.2	935.2	939.1	945.7
137.5°	954.3	956.6	958.8	960.9	963.2	965.7	968.7	971.8	974.7	977.7	983.5
140°	985.3	986.7	988.2	989.5	990.9	992.9	995.5	998.2	1000.8	1003.4	1008.6
142.5°	1011.3	1012.5	1013.7	1014.9	1016.2	1018.1	1020.7	1023.3	1026.0	1028.5	1032.9
145°	1051.0	1050.8	1050.7	1050.5	1050.3	1051.9	1055.3	1058.7	1062.1	1065.5	1068.1
147.5°	1086.6	1085.7	1085.0	1084.2	1083.5	1084.8	1088.2	1091.5	1094.9	1098.3	1099.5
150°	1109.6	1108.1	1106.7	1105.4	1104.0	1104.8	1108.1	1111.3	1114.5	1117.7	1118.9
152.5°	1129.1	1127.5	1125.9	1124.4	1122.8	1123.5	1126.5	1129.6	1132.7	1135.7	1136.9
155°	1157.3	1155.5	1153.7	1151.9	1150.1	1150.4	1152.8	1155.2	1157.6	1160.0	1161.2
157.5°	1179.5	1178.0	1176.4	1174.9	1173.4	1173.5	1175.2	1176.9	1178.5	1180.2	1181.6
160°	1192.4	1191.3	1190.1	1188.8	1187.6	1187.6	1188.8	1190.1	1191.3	1192.4	1193.6
162.5°	1204.0	1202.8	1201.6	1200.3	1199.2	1199.1	1200.1	1201.2	1202.2	1203.2	1204.6
165°	1219.5	1218.2	1217.0	1215.9	1214.7	1214.4	1214.9	1215.5	1216.2	1216.7	1218.1
167.5°	1231.0	1229.7	1228.6	1227.4	1226.2	1225.9	1226.4	1227.0	1227.6	1228.1	1229.5
170°	1237.5	1236.2	1235.1	1233.9	1232.7	1232.3	1232.7	1233.0	1233.5	1233.9	1235.3
172.5°	1241.8	1240.6	1239.3	1238.2	1237.0	1236.6	1237.0	1237.4	1237.7	1238.2	1239.6
175°	1247.4	1245.9	1244.5	1243.2	1241.8	1241.2	1241.7	1242.1	1242.5	1242.8	1244.3
177.5°	1248.3	1247.2	1246.0	1244.9	1243.8	1243.3	1243.5	1243.6	1243.8	1244.0	1245.1
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6



TEST NUMBER: P331539-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	661.8	662.6	663.5	663.7	663.4	663.1	662.7	662.4
5°	659.8	661.0	662.3	662.9	662.6	662.4	662.2	661.9
7.5°	656.6	658.2	659.7	660.3	660.2	659.9	659.7	659.5
10°	653.8	655.5	657.3	658.0	657.8	657.6	657.4	657.1
12.5°	649.2	650.9	652.7	653.4	653.2	653.0	652.8	652.5
15°	640.8	642.7	644.7	645.5	645.4	645.1	644.9	644.7
17.5°	630.0	632.1	634.0	635.1	635.1	635.1	635.1	635.1
20°	621.5	623.9	626.1	627.4	627.4	627.4	627.4	627.4
22.5°	612.3	614.6	616.9	618.3	618.6	619.0	619.3	619.6
25°	597.9	600.4	602.9	604.5	605.2	605.9	606.5	607.2
27.5°	581.9	585.1	588.4	590.2	590.7	591.2	591.6	592.1
30°	570.7	574.1	577.5	579.6	580.2	580.9	581.5	582.1
32.5°	558.6	562.6	566.5	569.0	570.2	571.4	572.5	573.6
35°	541.5	546.2	550.9	554.0	555.5	557.0	558.5	560.0
37.5°	523.9	529.0	534.3	537.7	539.3	540.8	542.4	544.0
40°	511.4	517.0	522.5	526.3	528.2	530.2	532.1	534.0
42.5°	499.4	505.5	511.5	515.6	517.5	519.4	521.3	523.2
45°	480.9	487.5	494.2	498.5	500.7	502.8	504.9	507.1
47.5°	461.7	468.6	475.5	480.1	482.5	484.8	487.2	489.6
50°	448.5	455.7	463.1	467.9	470.2	472.6	474.9	477.2
52.5°	434.2	441.7	449.1	454.1	456.6	459.1	461.7	464.2
55°	412.7	420.5	428.2	433.4	436.2	438.9	441.8	444.5
57.5°	390.1	398.4	406.7	412.3	415.1	417.9	420.8	423.6
60°	375.1	383.2	391.4	397.0	399.9	402.9	406.0	409.0
62.5°	359.2	367.9	376.5	382.3	385.0	387.9	390.7	393.5
65°	335.1	343.8	352.6	358.4	361.2	363.9	366.7	369.5
67.5°	310.6	319.4	328.3	334.2	337.1	340.0	342.9	345.8
70°	293.6	302.7	312.0	317.8	320.4	323.0	325.6	328.1
72.5°	277.1	286.1	295.1	301.1	304.3	307.4	310.4	313.5
75°	252.2	261.4	270.6	276.5	279.4	282.1	284.9	287.7
77.5°	227.9	237.0	246.2	252.2	255.2	258.3	261.2	264.2
80°	211.3	220.4	229.3	235.4	238.3	241.3	244.3	247.3
82.5°	196.0	204.9	214.0	219.8	222.6	225.5	228.3	231.1
85°	173.8	182.9	191.8	197.7	200.8	203.8	206.8	209.7
87.5°	159.2	168.1	177.1	182.9	185.8	188.6	191.4	194.3
90°	164.1	173.7	183.2	189.5	192.5	195.4	198.4	201.3
92.5°	158.8	167.7	176.5	182.5	185.2	188.0	190.9	193.7
95°	164.0	173.1	182.3	188.0	190.4	192.7	195.1	197.5
97.5°	166.8	175.5	184.3	190.0	192.7	195.5	198.3	201.0
100°	166.5	176.1	185.6	191.7	194.4	197.3	200.0	202.7
102.5°	163.2	173.1	182.9	189.3	192.2	195.1	198.0	201.0
105°	157.0	166.7	176.4	182.9	186.0	189.2	192.3	195.5
107.5°	161.6	166.6	171.5	175.6	178.7	181.9	185.0	188.2
110°	201.5	188.3	175.1	170.1	173.3	176.4	179.6	182.8



TEST NUMBER: P331539-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	330.1	263.9	197.7	166.2	169.1	172.1	175.1	178.1
115°	440.9	354.7	268.4	219.2	207.2	195.1	183.1	171.1
117.5°	633.2	617.1	601.0	570.3	525.2	480.0	434.8	389.6
120°	722.2	730.6	739.0	730.8	706.2	681.5	656.8	632.2
122.5°	757.8	765.1	772.3	774.3	771.1	767.9	764.6	761.4
125°	808.1	815.3	822.5	827.3	829.8	832.4	834.9	837.4
127.5°	854.1	861.5	868.8	873.5	875.4	877.5	879.5	881.5
130°	883.4	890.7	898.0	902.4	903.9	905.4	906.9	908.4
132.5°	911.6	918.4	925.3	929.4	930.9	932.5	934.0	935.5
135°	952.2	958.6	965.1	969.0	970.3	971.7	972.9	974.2
137.5°	989.5	995.3	1001.3	1004.6	1005.4	1006.2	1006.9	1007.7
140°	1013.9	1019.1	1024.4	1027.1	1027.4	1027.7	1027.9	1028.2
142.5°	1037.3	1041.7	1046.0	1048.3	1048.4	1048.5	1048.7	1048.8
145°	1070.8	1073.5	1076.2	1077.5	1077.6	1077.7	1077.8	1077.8
147.5°	1100.6	1101.8	1103.1	1103.5	1103.2	1102.9	1102.5	1102.2
150°	1120.1	1121.2	1122.5	1122.6	1121.6	1120.6	1119.6	1118.6
152.5°	1138.1	1139.3	1140.5	1140.5	1139.2	1137.8	1136.5	1135.2
155°	1162.4	1163.6	1164.8	1164.6	1163.0	1161.4	1159.8	1158.2
157.5°	1182.9	1184.3	1185.6	1185.5	1183.9	1182.4	1180.8	1179.3
160°	1194.9	1196.0	1197.2	1197.1	1195.7	1194.3	1193.0	1191.6
162.5°	1206.0	1207.3	1208.7	1208.5	1206.7	1205.0	1203.3	1201.6
165°	1219.6	1221.0	1222.4	1222.4	1221.0	1219.6	1218.1	1216.7
167.5°	1230.9	1232.3	1233.7	1233.5	1231.7	1229.9	1228.1	1226.3
170°	1236.7	1238.0	1239.4	1239.3	1237.5	1235.7	1233.9	1232.1
172.5°	1241.0	1242.4	1243.8	1243.6	1241.8	1240.0	1238.2	1236.4
175°	1245.7	1247.1	1248.5	1248.2	1246.1	1244.2	1242.2	1240.2
177.5°	1246.2	1247.3	1248.4	1248.3	1246.8	1245.4	1244.0	1242.6
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6

(END OF REPORT)