

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: P331545-930

Luminaire Tested: **S122DIW-S675D1240U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331545-930  
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-S675D1240U930-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6233.5 lumens  
Efficiency: N/A  
Efficacy: 101.5 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

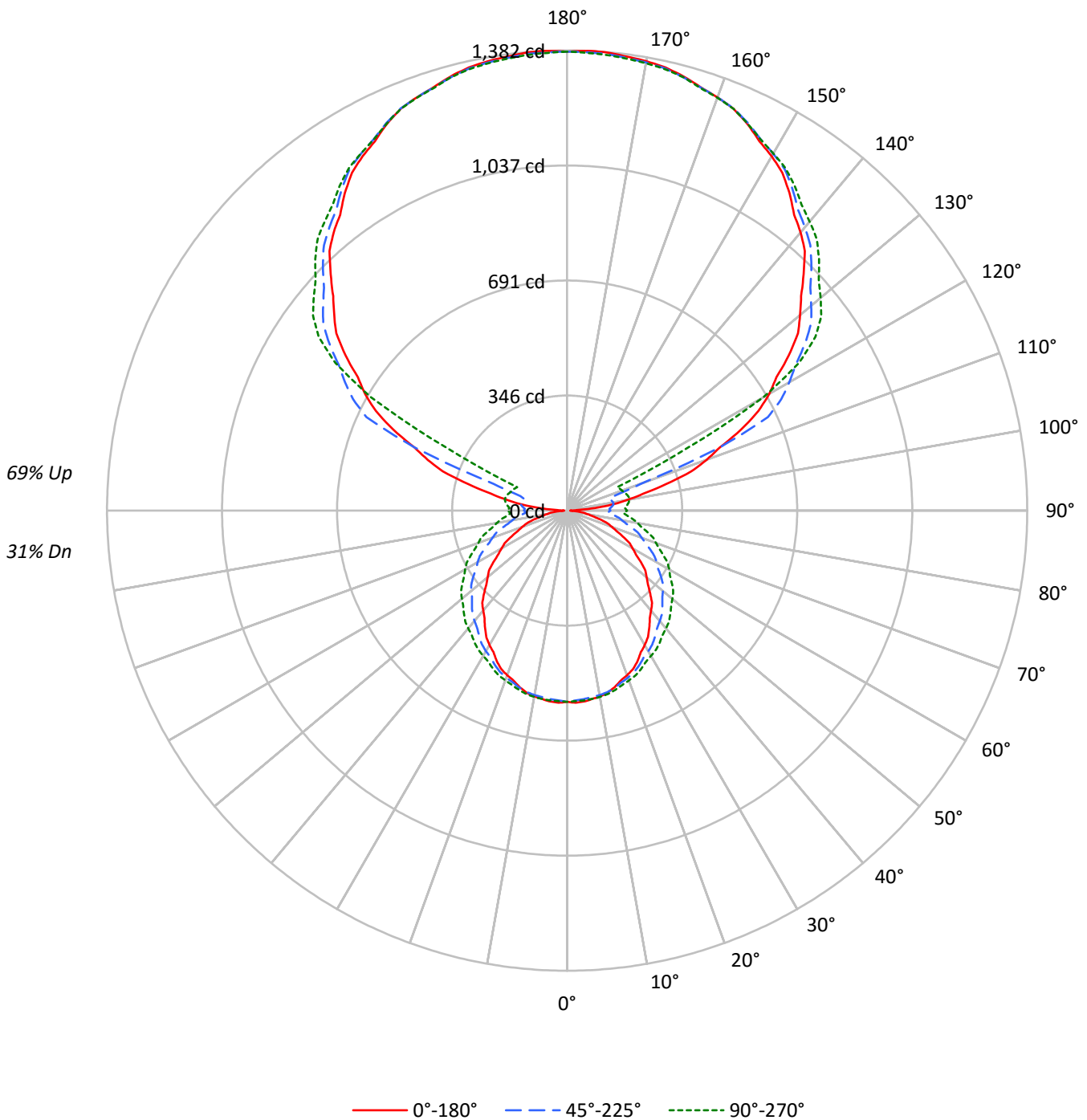
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331545-930

CATALOG NUMBER: S122DIW-S675D1240U930-4F0-1E-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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	93	88	84	80	83	79	76	72	62	60	58	47	45	44	33	32	31	24
2	84	76	70	65	75	69	63	59	54	50	47	41	38	36	28	27	25	20
3	76	67	59	53	68	60	54	48	47	43	39	36	33	30	25	23	21	16
4	70	59	51	45	62	53	46	41	42	37	33	32	28	25	22	20	18	14
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	20	17	15	12
6	58	46	38	33	52	42	35	30	33	28	24	25	22	19	18	15	13	10
7	54	42	34	28	48	38	31	26	30	25	21	23	19	16	16	14	12	9
8	50	38	30	25	45	34	27	23	27	22	19	21	17	15	15	12	11	8
9	46	34	27	22	41	31	25	20	25	20	16	19	15	13	14	11	9	7
10	43	31	24	19	39	28	22	18	23	18	15	18	14	12	13	10	8	6

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

	0°	45°	90°
0°	9273	9273	9273
5°	9317	8925	8891
10°	9259	8661	8564
15°	9131	8383	8221
20°	8970	8083	7889
25°	8811	7795	7587
30°	8587	7498	7284
35°	8359	7211	7072
40°	8120	6969	6858
45°	7894	6750	6677
50°	7650	6553	6497
55°	7394	6340	6314
60°	7081	6122	6123
65°	6755	5864	5892
70°	6394	5587	5644
75°	5927	5315	5415
80°	5197	5036	5185
85°	4489	4797	5004



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.4	0.9
10°-20°	156.0	2.5
20°-30°	236.5	3.8
30°-40°	288.0	4.6
40°-50°	309.9	5.0
50°-60°	300.9	4.8
60°-70°	262.7	4.2
70°-80°	202.3	3.2
80°-90°	139.1	2.2
90°-100°	139.5	2.2
100°-110°	236.9	3.8
110°-120°	495.8	8.0
120°-130°	769.1	12.3
130°-140°	801.8	12.9
140°-150°	737.2	11.8
150°-160°	591.2	9.5
160°-170°	381.0	6.1
170°-180°	131.1	2.1
0°-30°	446.9	7.2
0°-40°	734.9	11.8
0°-60°	1345.7	21.6
0°-90°	1949.8	31.3
90°-120°	872.2	14.0
90°-150°	3180.3	51.0
90°-180°	4284.0	68.7
0°-180°	6233.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	576	573	568	573	573	55
15°	549	551	551	558	558	155
25°	499	505	513	522	525	229
35°	430	445	460	478	484	269
45°	353	376	404	429	439	272
55°	270	301	344	373	384	242
65°	185	226	275	308	320	183
75°	102	149	202	237	249	108
85°	30	82	135	168	181	32
90°	9	69	130	167	180	9
95°	72	80	135	170	180	85
105°	307	346	132	171	186	329
115°	577	605	665	249	166	568
125°	812	827	871	899	911	724
135°	1004	1020	1037	1064	1070	776
145°	1164	1164	1180	1191	1191	728
155°	1282	1274	1285	1290	1282	590
165°	1350	1345	1347	1354	1347	381
175°	1381	1375	1376	1382	1373	131
180°	1378	1378	1378	1378	1378	



TEST NUMBER: P331545-930

CATALOG NUMBER: S122DIW-S675D1240U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	577.6	577.2	576.7	576.3	575.8	575.1	574.1	573.0	572.0	571.0	571.7
5°	575.9	575.4	574.9	574.3	573.7	572.9	571.8	570.7	569.6	568.4	569.6
7.5°	570.8	570.4	570.1	569.6	569.3	568.7	567.9	567.0	566.1	565.3	566.6
10°	566.8	566.4	566.1	565.7	565.3	564.8	564.3	563.8	563.2	562.6	564.1
12.5°	560.1	560.2	560.3	560.4	560.4	560.3	559.9	559.5	559.1	558.6	560.1
15°	549.3	549.7	550.1	550.4	550.8	551.0	551.0	551.0	551.0	551.0	552.6
17.5°	535.3	536.1	536.9	537.7	538.4	539.2	539.7	540.3	540.9	541.5	543.2
20°	526.0	526.9	527.8	528.8	529.7	530.5	531.2	532.1	532.8	533.5	535.6
22.5°	516.0	517.1	518.2	519.3	520.3	521.4	522.4	523.4	524.5	525.5	527.6
25°	499.4	500.7	502.0	503.3	504.6	506.1	507.7	509.4	511.0	512.7	514.9
27.5°	479.4	481.5	483.6	485.8	487.9	489.9	491.9	493.8	495.8	497.7	500.5
30°	466.1	468.5	470.9	473.3	475.7	478.1	480.5	482.9	485.3	487.7	490.6
32.5°	451.4	454.1	456.8	459.5	462.3	465.0	467.9	470.7	473.5	476.4	479.8
35°	430.3	433.4	436.6	439.7	442.9	446.2	449.7	453.2	456.7	460.2	464.3
37.5°	407.3	411.0	414.6	418.2	421.8	425.9	430.5	435.0	439.5	444.1	448.7
40°	392.0	396.1	400.1	404.2	408.3	412.8	417.8	422.8	427.8	432.8	437.6
42.5°	377.4	381.4	385.5	389.6	393.6	398.5	404.3	410.0	415.7	421.5	426.7
45°	352.9	357.9	362.9	367.9	372.8	378.6	385.1	391.6	398.0	404.5	410.3
47.5°	328.7	334.2	339.7	345.0	350.5	357.0	364.6	372.2	379.8	387.3	393.4
50°	312.1	317.9	323.6	329.3	335.0	342.1	350.4	358.7	367.0	375.4	381.6
52.5°	296.1	302.1	308.2	314.2	320.2	327.7	336.4	345.2	353.9	362.7	369.2
55°	270.5	277.1	283.8	290.5	297.1	305.2	314.9	324.5	334.1	343.7	350.4
57.5°	245.2	252.7	260.2	267.7	275.2	283.9	293.7	303.5	313.3	323.1	330.3
60°	227.2	235.1	243.1	251.1	259.0	268.3	278.8	289.3	299.9	310.5	317.5
62.5°	211.2	219.5	227.7	235.9	244.3	253.6	264.2	274.7	285.3	295.8	303.3
65°	184.7	193.8	202.9	212.0	221.0	231.0	241.9	252.8	263.7	274.7	282.3
67.5°	160.5	169.9	179.4	188.9	198.4	208.6	219.8	231.0	242.1	253.3	261.0
70°	143.2	152.8	162.4	172.0	181.6	192.2	203.7	215.1	226.6	238.1	246.0
72.5°	127.2	137.1	147.0	156.9	166.8	177.6	189.2	200.8	212.5	224.0	231.9
75°	102.4	112.8	123.1	133.5	143.8	154.9	166.7	178.6	190.4	202.3	210.2
77.5°	78.4	89.3	100.1	110.9	121.7	133.2	145.2	157.3	169.3	181.2	189.2
80°	62.5	73.7	85.0	96.3	107.5	119.2	131.3	143.2	155.2	167.3	175.0
82.5°	49.1	60.3	71.3	82.5	93.7	105.3	117.5	129.6	141.8	154.0	161.8
85°	30.0	41.4	52.9	64.3	75.8	87.5	99.3	111.1	123.0	134.9	142.6
87.5°	16.6	28.0	39.5	51.0	62.5	74.4	86.6	98.8	111.0	123.2	130.9
90°	9.3	22.5	35.6	48.8	62.0	75.3	88.9	102.6	116.2	129.8	138.4
92.5°	27.8	37.6	47.4	57.1	66.9	77.9	90.2	102.5	114.7	127.0	134.9
95°	71.5	72.9	74.3	75.7	77.0	84.0	96.7	109.3	122.0	134.6	142.8
97.5°	134.4	121.6	108.8	95.9	83.0	83.6	97.9	112.1	126.4	140.6	148.4
100°	182.4	158.8	135.3	111.8	88.3	83.6	97.7	111.9	126.0	140.1	148.7
102.5°	234.3	234.2	234.0	233.8	233.7	222.8	201.4	179.9	158.5	137.1	146.0
105°	307.4	319.4	331.3	343.4	355.4	336.0	285.1	234.2	183.3	132.4	141.3
107.5°	391.6	401.2	410.8	420.5	430.2	403.3	340.0	276.6	213.3	149.9	153.7
110°	445.2	453.5	461.9	470.2	478.6	455.3	400.2	345.3	290.2	235.3	219.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	496.2	503.4	510.7	517.9	525.1	525.1	518.0	510.7	503.5	496.4	421.3
115°	576.8	582.6	588.4	594.2	600.0	609.8	623.7	637.6	651.4	665.3	568.2
117.5°	648.0	653.5	659.1	664.6	670.1	678.7	690.2	701.6	713.1	724.7	705.3
120°	700.6	704.7	708.7	712.8	716.9	724.6	736.0	747.4	758.8	770.1	778.0
122.5°	745.3	749.1	752.9	756.7	760.5	768.0	779.3	790.7	801.9	813.3	819.9
125°	812.5	815.4	818.2	821.2	824.0	830.5	840.7	850.8	860.9	871.1	877.6
127.5°	874.1	877.1	880.1	883.1	886.1	891.6	899.5	907.4	915.3	923.3	930.2
130°	913.2	916.6	919.9	923.3	926.7	931.5	937.8	944.1	950.5	956.8	963.7
132.5°	953.1	955.9	958.8	961.6	964.4	968.6	974.0	979.4	984.9	990.3	996.7
135°	1004.1	1007.7	1011.2	1014.8	1018.3	1022.0	1025.9	1029.7	1033.6	1037.4	1043.5
137.5°	1056.6	1059.1	1061.5	1064.0	1066.4	1069.1	1072.2	1075.3	1078.4	1081.4	1087.0
140°	1090.9	1092.5	1094.1	1095.7	1097.2	1099.4	1102.3	1105.1	1107.9	1110.7	1115.7
142.5°	1119.7	1121.0	1122.4	1123.9	1125.3	1127.4	1130.2	1133.1	1136.0	1138.9	1143.0
145°	1163.8	1163.7	1163.4	1163.2	1163.0	1164.7	1168.6	1172.3	1176.1	1179.8	1182.5
147.5°	1203.1	1202.3	1201.5	1200.6	1199.8	1201.3	1204.9	1208.7	1212.4	1216.1	1217.4
150°	1228.7	1227.2	1225.6	1224.0	1222.5	1223.5	1227.0	1230.6	1234.1	1237.7	1239.0
152.5°	1250.3	1248.5	1246.8	1245.0	1243.3	1244.1	1247.5	1250.9	1254.3	1257.6	1259.0
155°	1281.6	1279.5	1277.6	1275.5	1273.6	1273.9	1276.6	1279.2	1281.9	1284.6	1285.9
157.5°	1306.1	1304.4	1302.7	1301.1	1299.3	1299.4	1301.3	1303.2	1305.0	1306.9	1308.4
160°	1320.5	1319.2	1317.8	1316.5	1315.2	1315.2	1316.5	1317.8	1319.2	1320.5	1321.8
162.5°	1333.3	1331.9	1330.6	1329.3	1327.9	1327.8	1328.9	1330.1	1331.3	1332.4	1333.9
165°	1350.4	1349.1	1347.7	1346.4	1345.1	1344.8	1345.4	1346.1	1346.7	1347.4	1348.9
167.5°	1363.2	1361.8	1360.5	1359.2	1357.8	1357.5	1358.1	1358.7	1359.3	1359.9	1361.5
170°	1370.4	1369.0	1367.7	1366.4	1365.0	1364.6	1365.0	1365.5	1365.9	1366.4	1367.9
172.5°	1375.1	1373.8	1372.5	1371.1	1369.8	1369.4	1369.8	1370.2	1370.7	1371.1	1372.6
175°	1381.3	1379.7	1378.2	1376.6	1375.1	1374.5	1375.0	1375.4	1375.9	1376.3	1377.9
177.5°	1382.3	1381.0	1379.8	1378.6	1377.3	1376.8	1377.0	1377.1	1377.3	1377.5	1378.8
180°	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	572.4	573.2	573.9	574.1	573.8	573.6	573.2	573.0
5°	570.7	571.8	572.9	573.4	573.2	573.0	572.8	572.6
7.5°	567.9	569.3	570.6	571.2	571.0	570.8	570.6	570.5
10°	565.6	567.0	568.6	569.2	569.0	568.8	568.7	568.4
12.5°	561.6	563.0	564.6	565.2	565.0	564.8	564.7	564.4
15°	554.3	556.0	557.7	558.4	558.2	558.0	557.8	557.7
17.5°	544.9	546.7	548.5	549.3	549.3	549.3	549.3	549.3
20°	537.6	539.6	541.6	542.7	542.7	542.7	542.7	542.7
22.5°	529.6	531.7	533.6	534.8	535.1	535.4	535.7	536.0
25°	517.1	519.3	521.5	522.9	523.5	524.1	524.6	525.2
27.5°	503.4	506.1	509.0	510.5	510.9	511.4	511.8	512.2
30°	493.7	496.6	499.5	501.3	501.9	502.5	503.0	503.5
32.5°	483.2	486.7	490.0	492.2	493.3	494.2	495.2	496.2
35°	468.4	472.5	476.5	479.2	480.5	481.8	483.1	484.4
37.5°	453.1	457.6	462.2	465.1	466.5	467.8	469.2	470.6
40°	442.4	447.2	452.0	455.3	456.9	458.6	460.2	461.9
42.5°	431.9	437.2	442.5	446.0	447.6	449.3	450.9	452.6
45°	416.0	421.7	427.5	431.2	433.1	435.0	436.8	438.6
47.5°	399.3	405.4	411.3	415.3	417.4	419.4	421.4	423.5
50°	387.9	394.2	400.6	404.7	406.8	408.8	410.7	412.8
52.5°	375.6	382.0	388.5	392.8	394.9	397.1	399.3	401.5
55°	357.0	363.7	370.4	374.9	377.3	379.7	382.1	384.5
57.5°	337.5	344.6	351.8	356.6	359.1	361.5	363.9	366.4
60°	324.5	331.5	338.6	343.4	345.9	348.5	351.1	353.8
62.5°	310.7	318.2	325.7	330.7	333.0	335.5	337.9	340.4
65°	289.8	297.4	305.0	310.0	312.4	314.8	317.2	319.6
67.5°	268.6	276.3	284.0	289.1	291.6	294.1	296.6	299.1
70°	254.0	261.9	269.9	274.9	277.1	279.4	281.6	283.8
72.5°	239.7	247.4	255.3	260.5	263.2	265.9	268.5	271.2
75°	218.2	226.1	234.1	239.2	241.7	244.0	246.5	248.8
77.5°	197.1	205.0	213.0	218.2	220.8	223.4	225.9	228.5
80°	182.8	190.6	198.4	203.6	206.1	208.7	211.3	213.9
82.5°	169.5	177.2	185.1	190.1	192.6	195.0	197.5	199.9
85°	150.3	158.2	165.9	171.0	173.7	176.3	178.9	181.4
87.5°	138.7	146.5	154.3	159.4	161.8	164.3	166.7	169.2
90°	146.8	155.3	163.9	169.4	172.1	174.7	177.4	180.1
92.5°	142.7	150.5	158.3	163.5	166.0	168.4	170.9	173.4
95°	150.9	159.0	167.1	172.2	174.2	176.2	178.2	180.2
97.5°	156.0	163.8	171.5	176.6	179.0	181.5	183.9	186.5
100°	157.3	165.9	174.6	180.1	182.5	185.1	187.5	190.0
102.5°	155.0	164.0	173.0	178.9	181.5	184.2	186.8	189.5
105°	150.3	159.1	168.0	174.0	176.9	179.9	182.7	185.6
107.5°	157.4	161.1	164.9	168.2	171.1	174.0	176.9	179.9
110°	202.8	186.5	170.3	163.6	166.6	169.5	172.4	175.4





TEST NUMBER: P331545-930

CATALOG NUMBER: S122DIW-S675D1240U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.4	271.5	196.6	160.5	163.2	166.0	168.8	171.5
115°	471.2	374.1	277.0	221.5	207.6	193.7	179.8	165.8
117.5°	686.0	666.7	647.3	612.4	561.8	511.3	460.7	410.2
120°	785.9	793.7	801.5	791.5	763.6	735.7	707.8	680.0
122.5°	826.5	833.2	839.8	841.0	837.0	832.9	828.8	824.8
125°	884.1	890.6	897.2	901.6	904.0	906.3	908.7	910.9
127.5°	936.9	943.8	950.6	955.0	956.8	958.5	960.3	962.1
130°	970.5	977.5	984.3	988.4	989.6	990.9	992.1	993.4
132.5°	1003.1	1009.4	1015.8	1019.6	1020.8	1022.1	1023.4	1024.7
135°	1049.6	1055.7	1061.8	1065.4	1066.4	1067.5	1068.4	1069.5
137.5°	1092.6	1098.1	1103.8	1106.8	1107.3	1107.7	1108.3	1108.8
140°	1120.6	1125.5	1130.5	1133.0	1133.0	1133.0	1133.0	1133.0
142.5°	1147.2	1151.4	1155.6	1157.6	1157.5	1157.3	1157.2	1157.1
145°	1185.1	1187.8	1190.5	1191.7	1191.6	1191.3	1191.2	1191.0
147.5°	1218.7	1220.0	1221.3	1221.7	1221.2	1220.7	1220.3	1219.8
150°	1240.3	1241.7	1243.0	1243.1	1242.0	1240.9	1239.7	1238.7
152.5°	1260.3	1261.6	1263.0	1262.9	1261.4	1260.0	1258.5	1257.0
155°	1287.2	1288.6	1289.9	1289.6	1287.8	1286.1	1284.3	1282.5
157.5°	1309.9	1311.4	1313.0	1312.8	1311.1	1309.4	1307.7	1305.9
160°	1323.1	1324.5	1325.8	1325.7	1324.1	1322.6	1321.0	1319.5
162.5°	1335.5	1336.9	1338.5	1338.2	1336.4	1334.4	1332.5	1330.6
165°	1350.5	1352.0	1353.6	1353.6	1352.0	1350.5	1348.9	1347.4
167.5°	1363.0	1364.6	1366.1	1366.0	1363.9	1362.0	1359.9	1358.0
170°	1369.5	1371.0	1372.6	1372.3	1370.4	1368.3	1366.4	1364.3
172.5°	1374.2	1375.7	1377.3	1377.1	1375.1	1373.1	1371.1	1369.1
175°	1379.4	1381.0	1382.5	1382.2	1380.0	1377.8	1375.5	1373.3
177.5°	1380.0	1381.2	1382.5	1382.3	1380.7	1379.1	1377.5	1375.9
180°	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3

(END OF REPORT)