

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: P331547-930

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331547-930  
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-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6244.8 lumens  
Efficiency: N/A  
Efficacy: 101.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

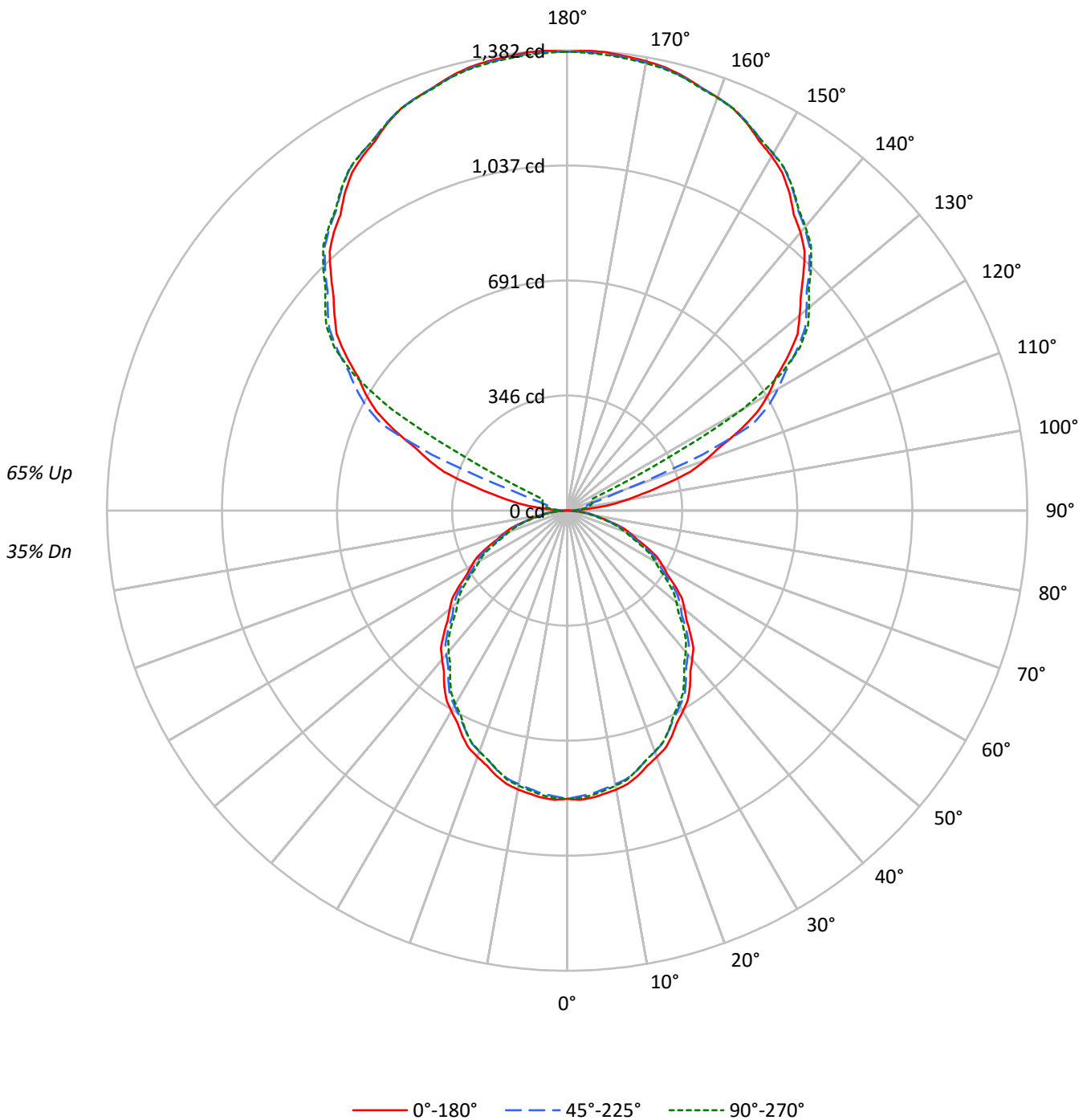
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	35				
1	94	90	86	83	85	82	79	76	66	64	62	51	50	48	38	37	36	30				
2	86	79	73	68	78	71	66	62	58	54	51	45	42	40	33	32	30	25				
3	78	69	62	56	71	63	57	52	51	46	43	40	37	34	29	27	26	21				
4	72	61	53	48	65	56	49	44	45	40	36	35	32	29	26	24	22	18				
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	19	16				
6	60	49	41	35	54	44	37	32	36	31	27	29	25	22	21	19	17	14				
7	56	44	36	31	50	40	33	28	33	28	24	26	22	19	20	17	15	12				
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	15	13	11				
9	48	36	29	24	43	33	27	22	27	22	19	22	18	15	17	14	12	10				
10	45	33	26	21	41	30	24	20	25	20	17	20	16	14	15	13	11	9				

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

	0°	45°	90°
0°	13976	13976	13976
5°	14029	13827	13908
10°	13946	13686	13754
15°	13772	13508	13494
20°	13527	13242	13228
25°	13286	12916	12916
30°	12972	12616	12506
35°	12682	12254	12073
40°	12313	11894	11666
45°	11953	11536	11250
50°	11560	11163	10766
55°	11153	10731	10331
60°	10698	10214	9836
65°	10208	9700	9253
70°	9588	9073	8644
75°	8721	8359	8153
80°	7736	7504	7122
85°	6336	6002	5391



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.4	1.3
10°-20°	229.0	3.7
20°-30°	336.6	5.4
30°-40°	391.0	6.3
40°-50°	390.6	6.3
50°-60°	340.6	5.5
60°-70°	251.9	4.0
70°-80°	142.7	2.3
80°-90°	41.8	0.7
90°-100°	46.0	0.7
100°-110°	168.6	2.7
110°-120°	450.7	7.2
120°-130°	744.0	11.9
130°-140°	791.2	12.7
140°-150°	735.4	11.8
150°-160°	591.2	9.5
160°-170°	381.0	6.1
170°-180°	131.1	2.1
0°-30°	647.0	10.4
0°-40°	1038.1	16.6
0°-60°	1769.3	28.3
0°-90°	2205.6	35.3
90°-120°	665.3	10.7
90°-150°	2935.8	47.0
90°-180°	4039.0	64.7
0°-180°	6244.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	866	862	853	859	858	82
15°	824	819	808	811	807	232
25°	746	739	725	726	725	343
35°	643	635	622	617	612	402
45°	524	517	505	496	493	404
55°	396	391	381	372	367	354
65°	267	262	254	247	242	264
75°	140	138	134	129	131	149
85°	34	33	32	30	29	39
90°	1	12	20	25	27	5
95°	65	34	39	44	43	79
105°	303	316	61	71	76	324
115°	574	591	615	175	82	564
125°	811	824	843	850	853	723
135°	1003	1019	1028	1038	1036	775
145°	1164	1164	1180	1186	1182	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	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6
2.5°	869.6	868.9	868.1	867.4	866.7	865.4	863.8	862.2	860.5	858.9	860.4
5°	865.6	864.9	864.1	863.4	862.7	861.3	859.2	857.2	855.2	853.1	854.6
7.5°	857.9	856.8	855.7	854.5	853.4	851.7	849.7	847.6	845.5	843.4	844.9
10°	850.6	849.3	848.0	846.7	845.5	843.7	841.5	839.3	837.0	834.8	836.3
12.5°	840.7	839.5	838.3	837.1	836.0	834.4	832.1	829.9	827.7	825.5	826.6
15°	823.9	822.9	821.7	820.7	819.5	817.7	815.4	812.9	810.6	808.1	808.9
17.5°	802.7	801.5	800.5	799.3	798.3	796.5	794.0	791.6	789.1	786.7	787.6
20°	787.3	786.3	785.1	784.0	782.9	781.1	778.4	775.9	773.3	770.7	771.3
22.5°	772.0	770.5	768.9	767.4	765.8	763.9	761.4	759.0	756.5	754.1	754.2
25°	745.8	744.3	742.8	741.3	739.8	737.5	734.3	731.2	728.1	725.0	725.3
27.5°	715.8	714.4	713.1	711.8	710.5	708.6	706.0	703.6	701.1	698.6	698.1
30°	695.8	694.3	692.8	691.4	689.9	687.8	685.0	682.2	679.5	676.7	676.1
32.5°	674.5	673.3	672.1	670.9	669.8	667.7	664.8	661.9	658.9	656.0	655.0
35°	643.4	641.6	639.7	637.8	635.9	633.6	630.6	627.6	624.7	621.7	620.6
37.5°	608.2	606.6	605.0	603.3	601.8	599.4	596.5	593.5	590.6	587.6	586.2
40°	584.2	582.8	581.3	579.8	578.4	576.2	573.2	570.2	567.3	564.3	562.6
42.5°	561.0	559.5	558.0	556.5	555.1	552.9	549.8	546.9	544.0	541.0	539.2
45°	523.5	522.2	520.9	519.7	518.4	516.3	513.6	510.8	508.0	505.2	503.2
47.5°	486.2	485.0	483.8	482.6	481.4	479.3	476.4	473.5	470.7	467.7	465.6
50°	460.2	459.3	458.4	457.5	456.6	454.8	452.2	449.6	447.0	444.4	441.9
52.5°	435.0	433.7	432.5	431.3	430.1	428.3	425.8	423.4	420.9	418.5	416.4
55°	396.2	395.1	394.0	392.8	391.8	390.0	387.8	385.6	383.4	381.2	379.0
57.5°	357.2	356.4	355.5	354.6	353.7	352.0	349.6	347.2	344.7	342.3	340.1
60°	331.3	330.5	329.8	329.1	328.3	326.6	324.1	321.5	318.9	316.3	314.2
62.5°	306.0	304.8	303.6	302.4	301.3	299.6	297.7	295.6	293.7	291.6	289.8
65°	267.2	266.0	265.0	263.8	262.7	261.2	259.4	257.6	255.7	253.9	252.2
67.5°	227.7	226.8	225.9	225.0	224.1	222.9	221.2	219.6	217.9	216.2	214.9
70°	203.1	202.4	201.6	200.9	200.2	198.9	197.2	195.6	194.0	192.2	190.9
72.5°	177.8	177.0	176.3	175.5	174.8	173.9	172.8	171.8	170.7	169.6	168.4
75°	139.8	139.4	139.1	138.7	138.4	137.7	136.8	135.8	134.9	134.0	132.9
77.5°	105.9	105.3	104.6	104.0	103.4	102.9	102.5	102.1	101.7	101.3	100.9
80°	83.2	83.1	82.8	82.7	82.5	82.2	81.9	81.4	81.1	80.7	80.1
82.5°	62.0	61.9	61.9	61.8	61.8	61.6	61.4	61.2	61.0	60.7	60.1
85°	34.2	33.9	33.8	33.6	33.3	33.2	33.0	32.9	32.6	32.4	31.9
87.5°	12.1	12.4	12.6	12.8	13.0	13.0	13.1	13.2	13.3	13.3	13.1
90°	1.0	3.4	5.9	8.3	10.8	12.9	14.6	16.4	18.2	20.0	21.0
92.5°	20.1	19.9	19.7	19.5	19.2	19.6	20.5	21.4	22.3	23.2	23.7
95°	64.8	57.5	50.2	42.9	35.5	32.7	34.2	35.8	37.3	38.9	40.0
97.5°	128.7	108.0	87.4	66.9	46.2	37.7	41.3	44.8	48.5	52.1	52.9
100°	176.5	146.2	115.8	85.4	55.1	41.7	45.6	49.3	53.1	56.8	58.6
102.5°	229.2	222.7	216.3	209.9	203.5	184.5	153.0	121.5	89.9	58.5	60.7
105°	303.2	309.8	316.5	323.1	329.8	302.9	242.4	181.8	121.3	60.8	63.3
107.5°	387.6	392.9	398.3	403.7	409.0	375.4	302.9	230.3	157.8	85.2	82.7
110°	441.8	446.5	451.1	455.8	460.4	430.7	366.7	302.6	238.6	174.6	152.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	492.8	497.0	501.1	505.2	509.4	503.5	487.7	471.9	456.1	440.2	359.4
115°	573.5	577.2	581.0	584.7	588.6	593.2	598.8	604.3	609.8	615.4	512.7
117.5°	645.5	649.7	653.9	658.1	662.3	666.3	670.1	673.9	677.8	681.6	656.7
120°	698.1	701.5	704.7	708.1	711.4	715.1	719.1	723.1	727.1	731.0	733.7
122.5°	742.8	746.3	749.8	753.3	756.8	760.8	765.1	769.4	773.8	778.1	779.7
125°	810.8	813.7	816.6	819.5	822.3	825.9	830.1	834.3	838.5	842.8	844.3
127.5°	872.5	875.6	878.8	882.1	885.3	888.4	891.5	894.7	897.8	901.0	903.3
130°	911.6	915.1	918.7	922.2	925.8	928.7	931.2	933.6	936.0	938.5	940.9
132.5°	951.5	954.5	957.5	960.5	963.5	966.2	968.7	971.1	973.5	976.0	978.0
135°	1003.3	1006.8	1010.4	1013.9	1017.5	1020.3	1022.2	1024.3	1026.2	1028.3	1030.5
137.5°	1055.7	1058.3	1060.7	1063.2	1065.7	1068.0	1070.3	1072.6	1074.8	1077.1	1079.3
140°	1090.1	1091.8	1093.6	1095.4	1097.1	1099.3	1101.7	1104.2	1106.6	1109.1	1111.0
142.5°	1118.8	1120.4	1122.0	1123.6	1125.2	1127.4	1130.2	1132.9	1135.7	1138.6	1140.4
145°	1163.8	1163.7	1163.4	1163.2	1163.0	1164.7	1168.6	1172.3	1176.1	1179.8	1181.4
147.5°	1203.1	1202.3	1201.5	1200.6	1199.8	1201.3	1204.9	1208.7	1212.4	1216.1	1217.3
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°	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6
2.5°	861.9	863.4	864.9	865.4	865.1	864.9	864.5	864.3
5°	856.1	857.5	859.0	859.6	859.2	858.8	858.5	858.1
7.5°	846.4	847.9	849.4	849.9	849.5	849.1	848.7	848.3
10°	837.7	839.3	840.7	841.1	840.7	840.1	839.5	838.9
12.5°	827.5	828.6	829.6	829.9	829.5	829.2	828.8	828.3
15°	809.7	810.4	811.1	811.1	810.1	809.2	808.3	807.3
17.5°	788.4	789.2	790.1	790.1	789.2	788.3	787.4	786.5
20°	771.8	772.4	772.9	772.8	772.1	771.4	770.6	769.9
22.5°	754.3	754.4	754.5	754.3	753.9	753.4	753.0	752.6
25°	725.7	726.0	726.4	726.4	726.0	725.7	725.3	725.0
27.5°	697.5	697.0	696.4	695.7	694.8	693.9	693.0	692.1
30°	675.6	675.0	674.4	673.8	673.0	672.3	671.6	670.8
32.5°	654.0	653.1	652.0	651.2	650.4	649.7	648.9	648.2
35°	619.5	618.4	617.3	616.3	615.4	614.4	613.5	612.5
37.5°	584.9	583.5	582.1	581.0	580.1	579.2	578.4	577.5
40°	561.0	559.3	557.7	556.4	555.7	555.0	554.2	553.5
42.5°	537.4	535.6	533.8	532.3	531.2	530.3	529.2	528.2
45°	501.2	499.1	497.1	495.7	495.0	494.2	493.5	492.7
47.5°	463.5	461.3	459.2	457.5	456.5	455.4	454.4	453.3
50°	439.3	436.7	434.1	432.4	431.4	430.5	429.6	428.6
52.5°	414.2	412.1	409.9	408.2	407.0	405.8	404.6	403.3
55°	376.7	374.5	372.3	370.7	369.8	368.9	367.9	367.0
57.5°	337.9	335.7	333.5	332.1	331.3	330.7	330.0	329.2
60°	312.2	310.1	308.1	306.9	306.3	305.7	305.2	304.6
62.5°	287.9	286.0	284.1	282.8	282.1	281.4	280.7	280.0
65°	250.5	248.8	247.2	245.9	245.0	244.0	243.1	242.2
67.5°	213.6	212.4	211.1	210.0	209.3	208.6	207.8	207.1
70°	189.6	188.4	187.1	186.1	185.3	184.6	183.8	183.1
72.5°	167.1	165.8	164.4	163.5	162.9	162.3	161.8	161.1
75°	131.8	130.7	129.6	129.2	129.6	130.0	130.3	130.7
77.5°	100.3	99.7	99.1	98.7	98.1	97.6	97.1	96.5
80°	79.7	79.1	78.5	78.0	77.7	77.3	77.0	76.6
82.5°	59.4	58.6	58.0	57.6	57.5	57.4	57.3	57.2
85°	31.4	30.8	30.2	29.8	29.7	29.5	29.4	29.1
87.5°	12.9	12.6	12.4	12.3	12.2	12.1	12.1	12.1
90°	22.2	23.2	24.4	25.2	25.6	26.0	26.5	26.9
92.5°	24.3	24.9	25.4	25.8	26.1	26.4	26.7	26.9
95°	41.1	42.2	43.3	43.8	43.5	43.3	43.1	42.9
97.5°	53.8	54.7	55.6	56.2	56.4	56.7	57.0	57.2
100°	60.4	62.1	63.9	65.1	65.5	66.0	66.4	66.9
102.5°	63.0	65.4	67.7	69.1	69.7	70.4	71.0	71.6
105°	65.7	68.2	70.6	72.2	73.1	74.0	74.9	75.8
107.5°	80.2	77.7	75.3	74.4	75.3	76.2	77.1	78.0
110°	130.2	108.0	85.9	75.3	76.1	77.0	77.9	78.8





TEST NUMBER: P331547-930

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	278.5	197.7	116.8	76.7	77.5	78.2	78.8	79.6
115°	410.1	307.5	204.9	145.6	129.6	113.7	97.8	81.8
117.5°	631.9	607.1	582.3	543.6	491.2	438.8	386.4	333.9
120°	736.4	739.0	741.7	728.1	698.1	668.2	638.3	608.4
122.5°	781.3	782.9	784.5	782.4	776.6	770.8	765.0	759.1
125°	845.9	847.4	849.0	850.0	850.7	851.4	852.1	852.7
127.5°	905.5	907.8	910.0	911.3	911.3	911.5	911.6	911.7
130°	943.4	945.8	948.2	949.3	949.1	948.9	948.7	948.4
132.5°	980.2	982.2	984.3	985.2	985.0	984.8	984.6	984.4
135°	1032.7	1034.9	1037.1	1038.0	1037.5	1037.1	1036.7	1036.2
137.5°	1081.4	1083.6	1085.8	1086.5	1085.7	1085.0	1084.3	1083.5
140°	1113.0	1115.0	1117.0	1117.4	1116.3	1115.2	1114.1	1113.0
142.5°	1142.2	1144.0	1145.8	1146.1	1145.1	1143.9	1142.8	1141.7
145°	1182.9	1184.5	1186.0	1186.3	1185.1	1184.1	1182.9	1181.9
147.5°	1218.5	1219.6	1220.7	1220.8	1219.9	1219.0	1218.1	1217.2
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)