

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: P332171-930

Luminaire Tested: **S123DIW-S775D1320U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332171-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S775D1320U930-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6367.1 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

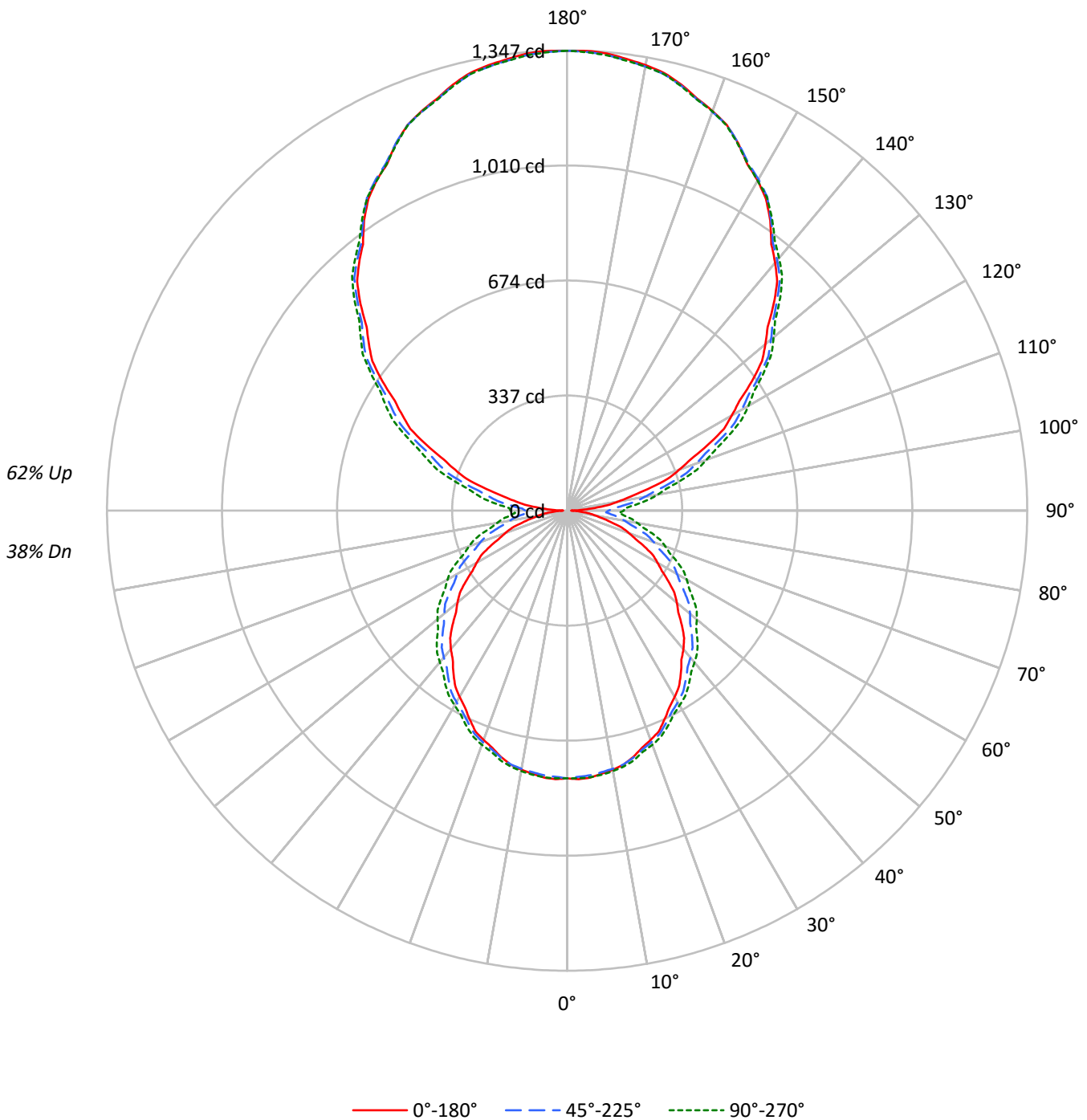
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	94	90	86	82	85	81	78	75	66	63	61	52	50	48	39	37	36	30
2	85	78	71	66	77	71	65	61	57	53	50	45	42	40	33	32	30	25
3	78	68	61	55	70	62	55	50	50	45	42	39	36	33	29	27	25	21
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	24	21	17
5	65	53	45	39	59	49	41	36	40	34	30	31	27	24	23	21	19	15
6	60	48	40	34	54	43	36	31	36	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	22	19	19	16	14	12
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	18	15	13	10
9	48	35	28	23	43	32	26	21	27	22	18	21	17	15	16	14	12	9
10	44	32	25	20	40	30	23	19	24	19	16	20	16	13	15	12	10	8

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

	0°	45°	90°
0°	8436	8436	8436
5°	8462	8223	8228
10°	8386	8033	7993
15°	8278	7819	7738
20°	8123	7573	7456
25°	7933	7290	7160
30°	7737	7036	6861
35°	7518	6767	6621
40°	7310	6522	6365
45°	7079	6288	6161
50°	6848	6055	5934
55°	6597	5818	5731
60°	6352	5577	5522
65°	6098	5319	5274
70°	5718	5030	5022
75°	5236	4699	4763
80°	4684	4372	4467
85°	4170	4150	4296



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.3	1.2
10°-20°	211.8	3.3
20°-30°	316.7	5.0
30°-40°	378.3	5.9
40°-50°	395.8	6.2
50°-60°	371.4	5.8
60°-70°	310.2	4.9
70°-80°	221.9	3.5
80°-90°	136.3	2.1
90°-100°	170.7	2.7
100°-110°	323.5	5.1
110°-120°	487.2	7.7
120°-130°	610.5	9.6
130°-140°	670.4	10.5
140°-150°	651.0	10.2
150°-160°	546.2	8.6
160°-170°	363.6	5.7
170°-180°	127.3	2.0
0°-30°	602.8	9.5
0°-40°	981.1	15.4
0°-60°	1748.2	27.5
0°-90°	2416.7	38.0
90°-120°	981.4	15.4
90°-150°	2913.3	45.8
90°-180°	3950.0	62.0
0°-180°	6367.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	784	784	784	784	784	
5°	785	783	778	784	784	74
15°	747	749	749	757	756	210
25°	674	683	686	696	697	311
35°	580	594	605	618	622	363
45°	475	495	516	532	540	366
55°	362	390	421	443	451	324
65°	250	284	321	346	355	247
75°	136	176	219	246	257	145
85°	42	85	130	158	167	44
90°	12	65	122	154	166	11
95°	72	113	163	192	202	77
105°	245	269	314	337	347	262
115°	454	468	496	516	523	449
125°	660	664	686	699	702	589
135°	855	861	869	880	882	659
145°	1036	1037	1040	1046	1046	647
155°	1185	1185	1186	1190	1183	545
165°	1291	1288	1288	1294	1287	364
175°	1343	1339	1339	1344	1338	128
180°	1346	1346	1346	1346	1346	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7
2.5°	787.1	786.6	786.2	785.7	785.3	784.4	783.3	782.0	780.8	779.6	780.8
5°	784.6	784.2	783.7	783.4	783.0	782.3	781.1	780.0	778.9	777.7	779.3
7.5°	776.8	776.9	777.0	777.1	777.1	776.7	775.5	774.5	773.3	772.3	774.1
10°	770.1	770.4	770.8	771.2	771.5	771.3	770.3	769.4	768.4	767.4	769.4
12.5°	761.8	762.4	762.9	763.4	763.9	763.9	763.3	762.6	762.0	761.3	763.0
15°	747.0	747.5	748.1	748.7	749.3	749.4	749.3	749.1	748.9	748.7	750.6
17.5°	728.2	729.4	730.5	731.6	732.7	733.3	733.2	733.1	733.0	733.0	734.7
20°	714.5	715.7	716.8	718.0	719.1	719.8	720.2	720.6	721.0	721.4	723.1
22.5°	700.2	701.3	702.5	703.6	704.7	705.6	706.1	706.6	707.2	707.7	709.9
25°	674.4	676.3	678.2	680.1	682.0	683.2	683.8	684.4	684.9	685.5	687.9
27.5°	648.5	650.6	652.8	654.9	657.1	658.8	660.0	661.2	662.4	663.7	665.8
30°	630.0	632.5	635.0	637.4	639.8	641.9	643.4	644.9	646.5	647.9	650.2
32.5°	609.5	612.3	615.1	617.8	620.6	623.0	624.9	627.0	628.9	630.9	633.3
35°	580.5	583.5	586.6	589.6	592.6	595.4	597.9	600.3	602.8	605.3	608.1
37.5°	549.8	553.2	556.6	560.0	563.5	566.6	569.7	572.7	575.8	578.8	582.0
40°	529.3	532.7	536.1	539.6	542.9	546.6	550.3	554.2	557.9	561.7	564.9
42.5°	506.7	510.9	515.1	519.3	523.4	527.5	531.4	535.4	539.3	543.3	546.8
45°	474.7	479.2	483.7	488.3	492.8	497.5	502.2	507.0	511.8	516.5	520.1
47.5°	441.0	446.2	451.3	456.5	461.6	466.9	472.4	477.8	483.2	488.6	492.7
50°	419.1	424.4	429.7	435.1	440.4	446.0	451.9	457.8	463.7	469.5	473.9
52.5°	395.9	401.5	407.2	412.8	418.4	424.4	431.0	437.4	443.9	450.4	454.9
55°	362.0	368.2	374.5	380.7	387.0	393.5	400.4	407.2	414.0	420.9	426.0
57.5°	328.8	335.3	341.9	348.4	355.0	361.9	369.4	376.9	384.3	391.8	397.0
60°	305.7	312.4	319.3	326.1	333.0	340.2	348.1	355.8	363.5	371.4	376.7
62.5°	283.7	290.7	297.7	304.7	311.7	319.3	327.5	335.7	344.0	352.2	357.5
65°	250.1	257.6	264.9	272.3	279.7	287.6	296.0	304.3	312.7	321.0	326.7
67.5°	216.0	223.8	231.7	239.5	247.4	255.6	264.1	272.6	281.0	289.6	295.8
70°	192.1	200.2	208.4	216.5	224.7	233.3	242.5	251.5	260.7	269.8	275.8
72.5°	170.2	178.4	186.5	194.7	202.8	211.7	221.0	230.5	239.9	249.2	255.5
75°	135.7	144.6	153.6	162.5	171.4	180.6	190.0	199.6	209.0	218.6	224.8
77.5°	105.7	114.7	123.7	132.6	141.6	150.9	160.5	170.1	179.6	189.1	195.8
80°	84.5	93.8	103.1	112.4	121.7	131.3	141.1	151.0	160.9	170.7	177.2
82.5°	66.0	75.5	85.0	94.4	103.9	113.6	123.6	133.6	143.7	153.7	160.1
85°	41.8	51.3	60.8	70.3	79.7	89.5	99.6	109.7	119.7	129.8	136.2
87.5°	22.9	32.9	42.7	52.7	62.6	72.7	83.0	93.3	103.5	113.8	120.5
90°	12.1	23.8	35.5	47.1	58.7	70.9	83.6	96.4	109.1	121.8	129.2
92.5°	36.0	46.0	56.0	66.0	75.9	86.6	97.8	109.1	120.3	131.6	138.7
95°	71.7	80.8	89.8	98.9	107.9	118.1	129.2	140.4	151.6	162.7	169.6
97.5°	119.2	127.1	135.0	142.9	150.7	159.9	170.1	180.3	190.6	200.8	207.6
100°	151.5	159.0	166.5	173.9	181.4	190.1	200.0	209.9	219.8	229.8	235.9
102.5°	188.9	195.2	201.5	207.8	214.1	222.3	232.4	242.6	252.7	262.9	268.9
105°	244.8	249.8	254.8	259.8	264.8	272.5	282.7	293.0	303.3	313.6	318.9
107.5°	308.8	313.0	317.2	321.3	325.5	331.8	340.4	349.0	357.6	366.2	372.0
110°	348.8	352.7	356.5	360.4	364.4	370.3	378.4	386.5	394.4	402.5	408.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	391.1	394.2	397.3	400.3	403.4	408.7	416.0	423.5	430.8	438.2	444.1
115°	453.7	456.6	459.7	462.6	465.6	470.3	476.6	483.0	489.3	495.7	500.5
117.5°	517.4	519.3	521.1	523.0	524.9	528.7	534.5	540.3	546.1	551.9	556.4
120°	556.4	558.8	561.2	563.5	565.9	569.6	574.7	579.8	584.9	590.0	594.1
122.5°	597.9	599.4	601.0	602.5	604.0	607.5	612.8	618.2	623.5	628.8	632.4
125°	660.3	661.0	661.7	662.4	663.1	665.9	671.0	676.0	681.1	686.1	689.2
127.5°	718.7	720.0	721.3	722.6	723.9	726.6	730.6	734.7	738.7	742.7	745.2
130°	757.6	759.3	760.9	762.6	764.3	766.7	769.8	772.9	776.0	779.1	781.7
132.5°	795.8	797.6	799.5	801.4	803.2	805.4	807.9	810.4	812.9	815.4	817.7
135°	855.1	856.3	857.5	858.7	859.9	861.4	863.3	865.2	867.0	868.9	871.3
137.5°	909.9	910.9	911.9	913.0	914.0	915.3	917.1	918.9	920.7	922.5	924.5
140°	947.2	948.4	949.6	950.8	951.9	952.9	953.7	954.6	955.4	956.2	958.8
142.5°	981.9	982.9	984.0	985.0	986.0	986.8	987.3	987.9	988.4	989.0	991.2
145°	1036.1	1036.3	1036.7	1036.9	1037.2	1037.7	1038.4	1039.1	1039.8	1040.5	1041.8
147.5°	1082.6	1083.5	1084.3	1085.2	1086.0	1086.7	1087.4	1088.0	1088.7	1089.3	1089.8
150°	1115.6	1116.1	1116.6	1117.0	1117.4	1117.9	1118.4	1118.8	1119.3	1119.8	1119.8
152.5°	1142.6	1143.3	1143.9	1144.6	1145.3	1145.7	1146.1	1146.3	1146.6	1146.9	1147.3
155°	1185.4	1185.4	1185.4	1185.4	1185.4	1185.5	1185.7	1185.9	1186.2	1186.4	1187.4
157.5°	1221.7	1221.5	1221.2	1220.9	1220.6	1220.6	1220.7	1220.9	1221.2	1221.3	1222.3
160°	1244.6	1244.1	1243.7	1243.2	1242.7	1242.4	1242.4	1242.4	1242.4	1242.4	1243.7
162.5°	1264.9	1264.2	1263.6	1262.9	1262.2	1262.0	1262.2	1262.4	1262.6	1262.7	1264.0
165°	1291.1	1290.4	1289.7	1289.0	1288.3	1287.9	1287.9	1287.9	1287.9	1287.9	1289.3
167.5°	1312.1	1311.1	1310.2	1309.2	1308.3	1307.9	1308.1	1308.3	1308.5	1308.6	1310.1
170°	1323.9	1323.0	1322.0	1321.1	1320.1	1319.6	1319.6	1319.6	1319.6	1319.6	1321.3
172.5°	1333.2	1332.3	1331.3	1330.4	1329.4	1328.9	1328.9	1328.9	1328.9	1328.9	1330.4
175°	1343.0	1342.0	1341.1	1340.1	1339.1	1338.7	1338.7	1338.7	1338.7	1338.7	1340.1
177.5°	1347.0	1346.2	1345.4	1344.7	1343.9	1343.5	1343.5	1343.5	1343.5	1343.5	1344.7
180°	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7
2.5°	782.0	783.3	784.4	785.0	784.8	784.6	784.5	784.4
5°	780.7	782.3	783.7	784.4	784.2	784.1	783.9	783.7
7.5°	776.0	778.0	779.8	780.6	780.4	780.2	780.0	779.8
10°	771.3	773.1	775.0	775.8	775.4	775.0	774.7	774.3
12.5°	764.8	766.5	768.3	769.0	768.6	768.3	767.8	767.4
15°	752.4	754.4	756.3	757.1	756.9	756.8	756.5	756.4
17.5°	736.4	738.1	739.8	740.5	740.3	740.0	739.7	739.5
20°	724.8	726.5	728.2	729.1	729.4	729.5	729.7	729.9
22.5°	712.0	714.2	716.3	717.4	717.3	717.1	717.1	716.9
25°	690.5	692.9	695.4	696.6	696.6	696.6	696.6	696.6
27.5°	667.9	670.0	672.1	673.3	673.4	673.6	673.8	673.9
30°	652.5	654.8	657.0	658.2	658.2	658.2	658.2	658.2
32.5°	635.7	638.1	640.6	642.0	642.5	642.9	643.4	643.8
35°	611.0	613.8	616.6	618.5	619.2	620.0	620.7	621.5
37.5°	585.2	588.5	591.7	593.6	594.2	594.8	595.4	596.1
40°	568.2	571.4	574.6	576.6	577.4	578.1	578.9	579.7
42.5°	550.3	553.8	557.4	559.7	560.8	561.8	562.9	563.9
45°	523.7	527.3	530.9	533.5	535.0	536.5	538.0	539.6
47.5°	496.8	500.8	504.9	507.5	508.7	509.9	511.0	512.2
50°	478.3	482.6	487.0	489.8	491.1	492.4	493.8	495.1
52.5°	459.4	464.0	468.5	471.6	473.2	474.8	476.5	478.1
55°	431.1	436.3	441.3	444.7	446.2	447.7	449.2	450.8
57.5°	402.2	407.3	412.5	416.0	417.8	419.6	421.3	423.1
60°	382.0	387.3	392.6	396.3	398.4	400.5	402.6	404.6
62.5°	362.9	368.2	373.5	377.1	379.0	381.0	382.9	384.8
65°	332.4	338.0	343.7	347.6	349.4	351.3	353.3	355.1
67.5°	302.0	308.3	314.5	318.4	319.9	321.6	323.2	324.7
70°	281.9	288.0	294.1	298.0	299.9	301.8	303.7	305.7
72.5°	261.7	267.9	274.2	278.3	280.1	282.0	283.9	285.8
75°	231.1	237.3	243.6	247.9	250.1	252.4	254.7	257.0
77.5°	202.4	209.0	215.6	219.7	221.5	223.2	225.0	226.7
80°	183.6	190.0	196.6	200.7	202.6	204.5	206.4	208.3
82.5°	166.6	173.0	179.4	183.6	185.6	187.4	189.3	191.2
85°	142.7	149.1	155.6	159.7	161.6	163.5	165.4	167.3
87.5°	127.1	133.7	140.4	144.7	146.7	148.7	150.7	152.7
90°	136.6	144.0	151.4	156.3	158.7	161.0	163.4	165.8
92.5°	145.7	152.8	159.8	164.0	165.5	167.0	168.4	169.9
95°	176.4	183.2	190.0	194.4	196.3	198.2	200.1	202.0
97.5°	214.3	221.0	227.8	232.0	233.8	235.6	237.4	239.2
100°	242.1	248.3	254.5	258.9	261.2	263.6	266.0	268.3
102.5°	274.9	281.0	287.1	291.0	292.8	294.6	296.4	298.2
105°	324.2	329.5	334.8	338.6	340.7	342.9	345.1	347.3
107.5°	377.9	383.7	389.6	393.1	394.5	395.9	397.3	398.7
110°	414.3	420.1	426.0	429.5	430.6	431.5	432.6	433.7





TEST NUMBER: P332171-930

CATALOG NUMBER: S123DIW-S775D1320U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	450.0	455.9	461.8	465.5	467.2	468.7	470.3	471.9
115°	505.3	510.1	514.9	517.9	519.2	520.5	521.7	523.0
117.5°	560.8	565.3	569.8	572.4	573.2	574.1	574.9	575.7
120°	598.2	602.3	606.4	608.9	609.8	610.7	611.6	612.4
122.5°	636.0	639.6	643.2	645.4	646.0	646.7	647.3	648.1
125°	692.2	695.2	698.3	700.0	700.3	700.7	701.2	701.6
127.5°	747.6	750.1	752.5	753.8	754.0	754.2	754.5	754.6
130°	784.4	787.1	789.7	790.8	790.3	789.8	789.3	788.8
132.5°	820.0	822.4	824.7	825.9	825.9	825.9	826.0	826.0
135°	873.8	876.3	878.8	880.3	880.8	881.2	881.7	882.2
137.5°	926.5	928.5	930.6	931.6	931.6	931.7	931.7	931.8
140°	961.4	964.0	966.6	967.5	966.9	966.1	965.5	964.7
142.5°	993.6	995.9	998.2	999.1	998.8	998.5	998.3	997.9
145°	1043.1	1044.3	1045.6	1046.2	1046.0	1045.8	1045.6	1045.5
147.5°	1090.3	1090.7	1091.2	1091.0	1090.3	1089.6	1088.8	1088.1
150°	1119.8	1119.8	1119.8	1119.3	1118.3	1117.2	1116.2	1115.2
152.5°	1147.6	1148.0	1148.3	1148.0	1146.9	1145.7	1144.6	1143.5
155°	1188.3	1189.3	1190.2	1189.8	1188.2	1186.6	1184.9	1183.2
157.5°	1223.3	1224.3	1225.3	1225.1	1223.8	1222.5	1221.2	1219.9
160°	1244.8	1246.0	1247.2	1247.3	1246.3	1245.5	1244.5	1243.5
162.5°	1265.1	1266.3	1267.5	1267.3	1265.8	1264.3	1262.8	1261.3
165°	1290.8	1292.2	1293.6	1293.5	1291.8	1290.2	1288.5	1286.9
167.5°	1311.6	1313.0	1314.5	1314.5	1313.0	1311.6	1310.1	1308.6
170°	1323.0	1324.6	1326.2	1326.2	1324.6	1323.0	1321.3	1319.6
172.5°	1331.9	1333.3	1334.8	1334.7	1333.1	1331.4	1329.8	1328.1
175°	1341.5	1343.0	1344.3	1344.2	1342.6	1340.9	1339.3	1337.7
177.5°	1345.8	1347.0	1348.1	1348.0	1346.6	1345.3	1344.0	1342.7
180°	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1

(END OF REPORT)