

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: P332201-935

Luminaire Tested: **S123DIW-S1000D1320U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332201-935
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-S1000D1320U935-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 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: 7557.8 lumens
Efficiency: N/A
Efficacy: 108.3 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: General Diffuse

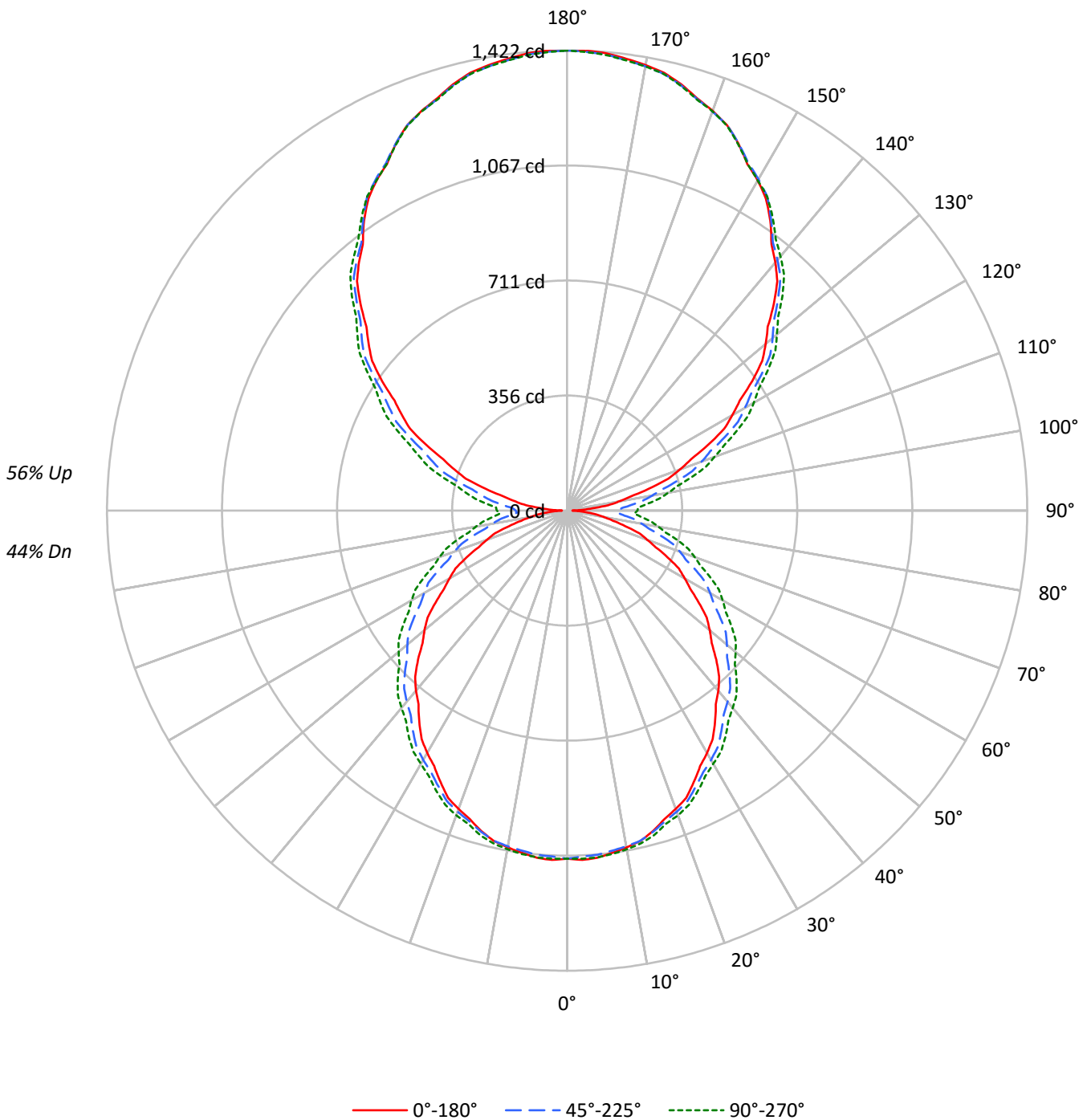
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332201-935

CATALOG NUMBER: S123DIW-S1000D1320U935-4F0-1E-UDD-D1

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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44				
1	95	91	87	83	87	83	79	76	69	66	64	55	54	52	43	42	41	35				
2	87	79	72	67	79	72	66	62	60	55	52	48	45	43	37	35	34	29				
3	79	69	61	55	72	63	56	51	52	47	43	42	39	36	33	30	28	24				
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20				
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17				
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15				
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13				
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12				
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11				
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11579	11579	11579
5°	11615	11288	11294
10°	11511	11028	10973
15°	11363	10732	10622
20°	11151	10395	10235
25°	10888	10007	9829
30°	10621	9658	9417
35°	10321	9289	9089
40°	10033	8953	8737
45°	9715	8630	8455
50°	9402	8312	8146
55°	9056	7985	7866
60°	8718	7655	7580
65°	8372	7303	7241
70°	7847	6904	6893
75°	7189	6449	6538
80°	6431	6003	6131
85°	5726	5695	5898



TEST NUMBER: P332201-935

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	1.3
10°-20°	290.7	3.8
20°-30°	434.8	5.8
30°-40°	519.2	6.9
40°-50°	543.3	7.2
50°-60°	509.8	6.7
60°-70°	425.8	5.6
70°-80°	304.6	4.0
80°-90°	185.9	2.5
90°-100°	206.6	2.7
100°-110°	360.9	4.8
110°-120°	527.4	7.0
120°-130°	652.1	8.6
130°-140°	711.3	9.4
140°-150°	688.2	9.1
150°-160°	576.8	7.6
160°-170°	383.9	5.1
170°-180°	134.4	1.8
0°-30°	827.5	10.9
0°-40°	1346.7	17.8
0°-60°	2399.8	31.8
0°-90°	3316.1	43.9
90°-120°	1094.9	14.5
90°-150°	3146.5	41.6
90°-180°	4242.0	56.1
0°-180°	7557.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1077	1074	1068	1076	1076	102
15°	1025	1029	1028	1039	1038	289
25°	926	937	941	955	956	426
35°	797	815	831	848	853	498
45°	652	680	709	731	741	502
55°	497	536	578	608	619	445
65°	343	389	441	474	488	339
75°	186	242	300	337	353	199
85°	57	116	178	216	230	60
90°	16	85	159	202	218	14
95°	79	133	199	238	251	84
105°	261	293	352	383	397	279
115°	480	499	538	566	575	476
125°	698	703	733	752	757	623
135°	904	909	921	937	941	696
145°	1094	1096	1099	1107	1107	683
155°	1252	1252	1253	1257	1250	576
165°	1364	1360	1360	1366	1359	384
175°	1418	1414	1414	1420	1413	135
180°	1422	1422	1422	1422	1422	



TEST NUMBER: P332201-935

CATALOG NUMBER: S123DIW-S1000D1320U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1080.5	1079.9	1079.2	1078.6	1078.0	1076.8	1075.1	1073.5	1071.8	1070.1	1071.8
5°	1076.9	1076.4	1075.9	1075.4	1074.9	1073.8	1072.3	1070.7	1069.1	1067.6	1069.6
7.5°	1066.3	1066.5	1066.6	1066.7	1066.8	1066.1	1064.6	1063.1	1061.5	1060.1	1062.6
10°	1057.0	1057.6	1058.1	1058.6	1059.1	1058.7	1057.4	1056.1	1054.8	1053.5	1056.1
12.5°	1045.8	1046.5	1047.2	1047.9	1048.7	1048.6	1047.8	1046.8	1045.9	1045.1	1047.5
15°	1025.4	1026.1	1026.9	1027.7	1028.5	1028.7	1028.5	1028.2	1027.9	1027.7	1030.4
17.5°	999.6	1001.2	1002.7	1004.3	1005.8	1006.6	1006.5	1006.3	1006.3	1006.2	1008.5
20°	980.9	982.4	984.0	985.5	987.1	988.2	988.7	989.2	989.7	990.2	992.6
22.5°	961.1	962.7	964.3	965.9	967.4	968.5	969.3	970.0	970.8	971.5	974.4
25°	925.7	928.3	931.0	933.6	936.2	937.9	938.7	939.4	940.2	941.0	944.3
27.5°	890.1	893.1	896.0	899.1	902.0	904.3	906.0	907.7	909.3	911.0	914.0
30°	864.8	868.2	871.6	874.9	878.4	881.1	883.2	885.3	887.3	889.4	892.6
32.5°	836.7	840.5	844.3	848.1	851.9	855.1	857.9	860.6	863.3	866.0	869.4
35°	796.9	801.0	805.2	809.3	813.6	817.3	820.7	824.1	827.4	830.9	834.7
37.5°	754.7	759.4	764.1	768.7	773.4	777.8	782.0	786.2	790.3	794.5	798.9
40°	726.5	731.2	735.9	740.6	745.3	750.3	755.4	760.7	765.9	771.1	775.5
42.5°	695.6	701.4	707.1	712.8	718.5	724.1	729.5	734.9	740.4	745.8	750.6
45°	651.5	657.8	664.1	670.3	676.6	682.9	689.4	695.9	702.5	708.9	713.9
47.5°	605.4	612.4	619.6	626.6	633.7	641.0	648.4	655.9	663.3	670.8	676.3
50°	575.4	582.6	590.0	597.3	604.5	612.3	620.3	628.4	636.5	644.5	650.5
52.5°	543.5	551.2	559.0	566.6	574.4	582.6	591.6	600.5	609.3	618.3	624.5
55°	496.9	505.5	514.0	522.6	531.2	540.2	549.6	559.0	568.3	577.7	584.8
57.5°	451.4	460.4	469.3	478.3	487.2	496.9	507.1	517.4	527.6	537.9	544.9
60°	419.6	428.9	438.2	447.6	457.0	467.0	477.7	488.4	499.1	509.8	517.0
62.5°	389.5	399.1	408.7	418.3	427.8	438.3	449.6	460.9	472.2	483.5	490.8
65°	343.4	353.5	363.7	373.8	384.0	394.8	406.2	417.7	429.1	440.7	448.4
67.5°	296.4	307.3	318.1	328.8	339.6	350.9	362.5	374.2	385.8	397.5	406.0
70°	263.6	274.8	286.0	297.3	308.5	320.3	332.8	345.3	357.8	370.3	378.7
72.5°	233.7	244.9	256.1	267.3	278.4	290.5	303.4	316.3	329.2	342.2	350.7
75°	186.3	198.5	210.8	223.1	235.3	247.9	261.0	274.0	287.0	300.0	308.6
77.5°	145.1	157.4	169.8	182.1	194.4	207.2	220.3	233.4	246.6	259.7	268.7
80°	116.0	128.8	141.5	154.3	167.0	180.2	193.7	207.3	220.8	234.4	243.2
82.5°	90.7	103.7	116.7	129.6	142.6	155.9	169.7	183.4	197.2	210.9	219.8
85°	57.4	70.4	83.4	96.5	109.5	123.0	136.7	150.5	164.3	178.1	187.0
87.5°	31.4	44.9	58.3	71.8	85.2	98.9	112.9	126.8	140.7	154.6	163.7
90°	16.4	31.6	46.8	62.1	77.3	93.2	109.7	126.2	142.8	159.2	169.1
92.5°	41.3	54.5	67.7	80.9	94.1	108.1	123.0	138.0	152.9	167.8	177.3
95°	78.8	90.7	102.5	114.4	126.3	139.7	154.4	169.2	183.9	198.6	207.7
97.5°	128.5	139.0	149.5	159.9	170.3	182.4	196.0	209.7	223.3	236.9	245.8
100°	162.4	172.2	182.1	191.9	201.7	213.3	226.4	239.7	252.9	266.1	274.4
102.5°	201.6	210.1	218.4	226.9	235.2	246.2	259.6	272.9	286.4	299.8	307.9
105°	260.6	267.3	274.1	280.9	287.6	297.7	311.2	324.6	338.0	351.5	358.7
107.5°	328.0	333.6	339.2	344.8	350.4	359.0	370.6	382.0	393.6	405.1	412.8
110°	370.0	375.1	380.3	385.5	390.7	398.7	409.7	420.6	431.4	442.4	450.1



TEST NUMBER: P332201-935

CATALOG NUMBER: S123DIW-S1000D1320U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	414.7	418.8	422.9	427.1	431.3	438.3	448.5	458.6	468.6	478.7	486.6
115°	480.4	484.3	488.2	492.1	495.9	502.3	511.2	520.0	528.9	537.8	544.3
117.5°	547.7	550.1	552.5	554.9	557.3	562.7	570.8	578.9	587.1	595.3	601.4
120°	588.8	591.5	594.3	597.1	599.9	604.9	612.3	619.7	627.0	634.4	640.1
122.5°	632.5	634.3	636.0	637.8	639.6	644.2	651.8	659.3	666.8	674.3	679.5
125°	698.1	698.9	699.6	700.3	701.1	705.0	712.0	719.1	726.2	733.2	737.7
127.5°	759.7	761.0	762.4	763.7	765.1	768.5	774.3	780.0	785.7	791.3	795.1
130°	800.8	802.5	804.3	806.0	807.7	810.8	815.3	819.8	824.2	828.7	832.7
132.5°	841.0	842.9	844.9	846.8	848.7	851.5	855.1	858.8	862.4	866.0	869.5
135°	903.5	904.7	905.9	907.2	908.4	910.3	913.0	915.6	918.2	920.8	924.5
137.5°	961.4	962.4	963.5	964.5	965.4	967.2	969.4	971.6	973.9	976.2	979.2
140°	1000.7	1001.9	1003.1	1004.4	1005.6	1006.7	1007.7	1008.7	1009.8	1010.8	1014.5
142.5°	1037.2	1038.3	1039.3	1040.3	1041.4	1042.2	1042.8	1043.4	1044.0	1044.6	1047.8
145°	1094.4	1094.7	1094.8	1095.1	1095.4	1095.9	1096.6	1097.3	1098.1	1098.8	1100.7
147.5°	1143.2	1144.2	1145.0	1146.0	1146.9	1147.6	1148.3	1149.0	1149.7	1150.4	1151.1
150°	1178.1	1178.6	1179.1	1179.6	1180.1	1180.6	1181.1	1181.6	1182.1	1182.6	1182.6
152.5°	1206.7	1207.4	1208.1	1208.8	1209.4	1210.0	1210.3	1210.6	1210.9	1211.2	1211.6
155°	1251.8	1251.8	1251.8	1251.8	1251.8	1252.0	1252.2	1252.4	1252.7	1252.9	1254.0
157.5°	1290.2	1290.0	1289.6	1289.3	1289.0	1289.0	1289.2	1289.3	1289.6	1289.8	1290.8
160°	1314.3	1313.9	1313.4	1312.9	1312.3	1312.1	1312.1	1312.1	1312.1	1312.1	1313.4
162.5°	1335.8	1335.1	1334.4	1333.7	1333.0	1332.7	1333.0	1333.2	1333.3	1333.5	1334.8
165°	1363.5	1362.7	1362.0	1361.2	1360.6	1360.1	1360.1	1360.1	1360.1	1360.1	1361.6
167.5°	1385.6	1384.6	1383.6	1382.6	1381.6	1381.2	1381.4	1381.6	1381.8	1382.0	1383.5
170°	1398.1	1397.1	1396.1	1395.2	1394.1	1393.6	1393.6	1393.6	1393.6	1393.6	1395.3
172.5°	1407.9	1407.0	1405.9	1405.0	1403.9	1403.4	1403.4	1403.4	1403.4	1403.4	1405.0
175°	1418.2	1417.2	1416.3	1415.2	1414.2	1413.8	1413.8	1413.8	1413.8	1413.8	1415.2
177.5°	1422.5	1421.7	1420.8	1420.0	1419.3	1418.8	1418.8	1418.8	1418.8	1418.8	1420.0
180°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6



TEST NUMBER: P332201-935

CATALOG NUMBER: S123DIW-S1000D1320U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1073.5	1075.1	1076.8	1077.5	1077.3	1077.1	1076.9	1076.7
5°	1071.7	1073.8	1075.9	1076.8	1076.5	1076.2	1076.0	1075.7
7.5°	1065.2	1067.9	1070.5	1071.6	1071.3	1071.0	1070.7	1070.4
10°	1058.7	1061.3	1063.9	1065.0	1064.5	1063.9	1063.4	1062.9
12.5°	1049.8	1052.2	1054.6	1055.6	1055.1	1054.6	1054.0	1053.5
15°	1032.9	1035.5	1038.1	1039.3	1039.1	1038.8	1038.5	1038.3
17.5°	1010.8	1013.2	1015.5	1016.5	1016.2	1015.8	1015.5	1015.0
20°	994.9	997.2	999.6	1000.9	1001.2	1001.4	1001.7	1001.9
22.5°	977.4	980.3	983.3	984.7	984.6	984.5	984.3	984.1
25°	947.8	951.1	954.5	956.2	956.2	956.2	956.2	956.2
27.5°	916.8	919.7	922.6	924.2	924.5	924.6	924.9	925.1
30°	895.7	898.8	901.9	903.5	903.5	903.5	903.5	903.5
32.5°	872.7	876.0	879.3	881.3	881.9	882.5	883.2	883.8
35°	838.6	842.6	846.4	848.9	850.0	851.0	852.0	853.1
37.5°	803.4	807.8	812.3	814.9	815.7	816.5	817.3	818.2
40°	779.9	784.4	788.8	791.5	792.6	793.6	794.6	795.7
42.5°	755.4	760.3	765.2	768.3	769.7	771.2	772.7	774.1
45°	718.8	723.8	728.8	732.3	734.3	736.4	738.6	740.6
47.5°	681.9	687.5	693.0	696.6	698.3	699.9	701.5	703.1
50°	656.5	662.5	668.5	672.4	674.2	676.1	677.9	679.7
52.5°	630.7	636.9	643.1	647.3	649.5	651.8	654.0	656.3
55°	591.8	598.8	605.9	610.4	612.5	614.6	616.6	618.7
57.5°	552.1	559.1	566.2	571.0	573.4	575.8	578.3	580.7
60°	524.3	531.7	538.9	544.0	546.9	549.7	552.6	555.4
62.5°	498.1	505.4	512.6	517.6	520.3	523.0	525.6	528.3
65°	456.2	464.1	471.8	477.1	479.7	482.2	484.9	487.5
67.5°	414.6	423.1	431.6	437.0	439.2	441.4	443.6	445.7
70°	386.9	395.3	403.6	409.1	411.7	414.3	416.9	419.6
72.5°	359.3	367.8	376.3	381.9	384.5	387.1	389.8	392.4
75°	317.2	325.8	334.3	340.3	343.4	346.5	349.6	352.8
77.5°	277.8	286.9	295.9	301.7	304.0	306.4	308.8	311.3
80°	252.1	261.0	269.8	275.5	278.1	280.7	283.4	285.9
82.5°	228.7	237.5	246.3	252.1	254.7	257.3	259.8	262.5
85°	195.8	204.7	213.5	219.3	221.9	224.5	227.0	229.7
87.5°	172.7	181.8	190.9	196.7	199.4	202.2	204.8	207.6
90°	178.9	188.7	198.6	205.1	208.2	211.3	214.4	217.5
92.5°	186.7	196.1	205.5	211.3	213.4	215.5	217.7	219.7
95°	216.8	225.8	234.9	240.7	243.3	246.0	248.6	251.2
97.5°	254.7	263.6	272.5	278.2	280.7	283.2	285.7	288.2
100°	282.7	291.0	299.3	305.0	308.1	311.2	314.3	317.4
102.5°	316.0	324.1	332.2	337.4	339.9	342.4	344.9	347.5
105°	366.0	373.3	380.6	385.6	388.5	391.3	394.2	397.0
107.5°	420.6	428.4	436.2	441.1	443.1	445.1	447.0	449.0
110°	457.9	465.7	473.5	478.1	479.7	481.3	482.8	484.5



TEST NUMBER: P332201-935

CATALOG NUMBER: S123DIW-S1000D1320U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	494.3	502.0	509.8	514.7	516.9	519.1	521.3	523.5
115°	550.8	557.3	563.8	568.0	569.8	571.6	573.5	575.3
117.5°	607.6	613.7	619.8	623.6	624.9	626.3	627.6	629.0
120°	645.8	651.6	657.4	660.9	662.2	663.5	664.9	666.2
122.5°	684.6	689.7	694.9	698.0	699.1	700.3	701.4	702.6
125°	742.2	746.7	751.1	753.7	754.6	755.4	756.2	757.1
127.5°	798.9	802.7	806.4	808.7	809.3	809.9	810.5	811.1
130°	836.6	840.6	844.5	846.4	846.2	846.0	845.8	845.7
132.5°	873.1	876.7	880.2	882.2	882.6	883.0	883.5	883.9
135°	928.2	931.9	935.6	937.9	938.7	939.4	940.3	941.1
137.5°	982.3	985.4	988.4	990.2	990.5	990.9	991.3	991.6
140°	1018.1	1021.8	1025.5	1027.1	1026.7	1026.2	1025.8	1025.4
142.5°	1051.1	1054.3	1057.6	1059.2	1059.1	1059.1	1059.0	1059.0
145°	1102.5	1104.3	1106.2	1107.1	1107.2	1107.2	1107.2	1107.3
147.5°	1151.7	1152.3	1152.9	1153.0	1152.4	1151.8	1151.3	1150.7
150°	1182.6	1182.6	1182.6	1182.1	1181.1	1180.2	1179.2	1178.2
152.5°	1211.9	1212.4	1212.7	1212.4	1211.2	1210.0	1208.8	1207.6
155°	1254.9	1255.9	1256.9	1256.5	1254.8	1253.1	1251.3	1249.6
157.5°	1291.8	1292.9	1294.0	1293.7	1292.4	1291.0	1289.6	1288.2
160°	1314.6	1315.9	1317.1	1317.2	1316.2	1315.3	1314.2	1313.2
162.5°	1336.0	1337.3	1338.5	1338.3	1336.8	1335.2	1333.6	1332.0
165°	1363.1	1364.6	1366.1	1366.0	1364.3	1362.5	1360.7	1359.0
167.5°	1385.1	1386.6	1388.2	1388.2	1386.6	1385.1	1383.5	1382.0
170°	1397.1	1398.9	1400.6	1400.6	1398.9	1397.1	1395.3	1393.6
172.5°	1406.5	1408.1	1409.6	1409.5	1407.8	1406.0	1404.3	1402.6
175°	1416.7	1418.2	1419.7	1419.5	1417.8	1416.1	1414.4	1412.6
177.5°	1421.3	1422.5	1423.7	1423.6	1422.1	1420.7	1419.4	1418.0
180°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6

(END OF REPORT)