

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: P332194-935

Luminaire Tested: **S123DIW-S1000D1030U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332194-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1030U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7168.0 lumens
Efficiency: N/A
Efficacy: 117.1 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

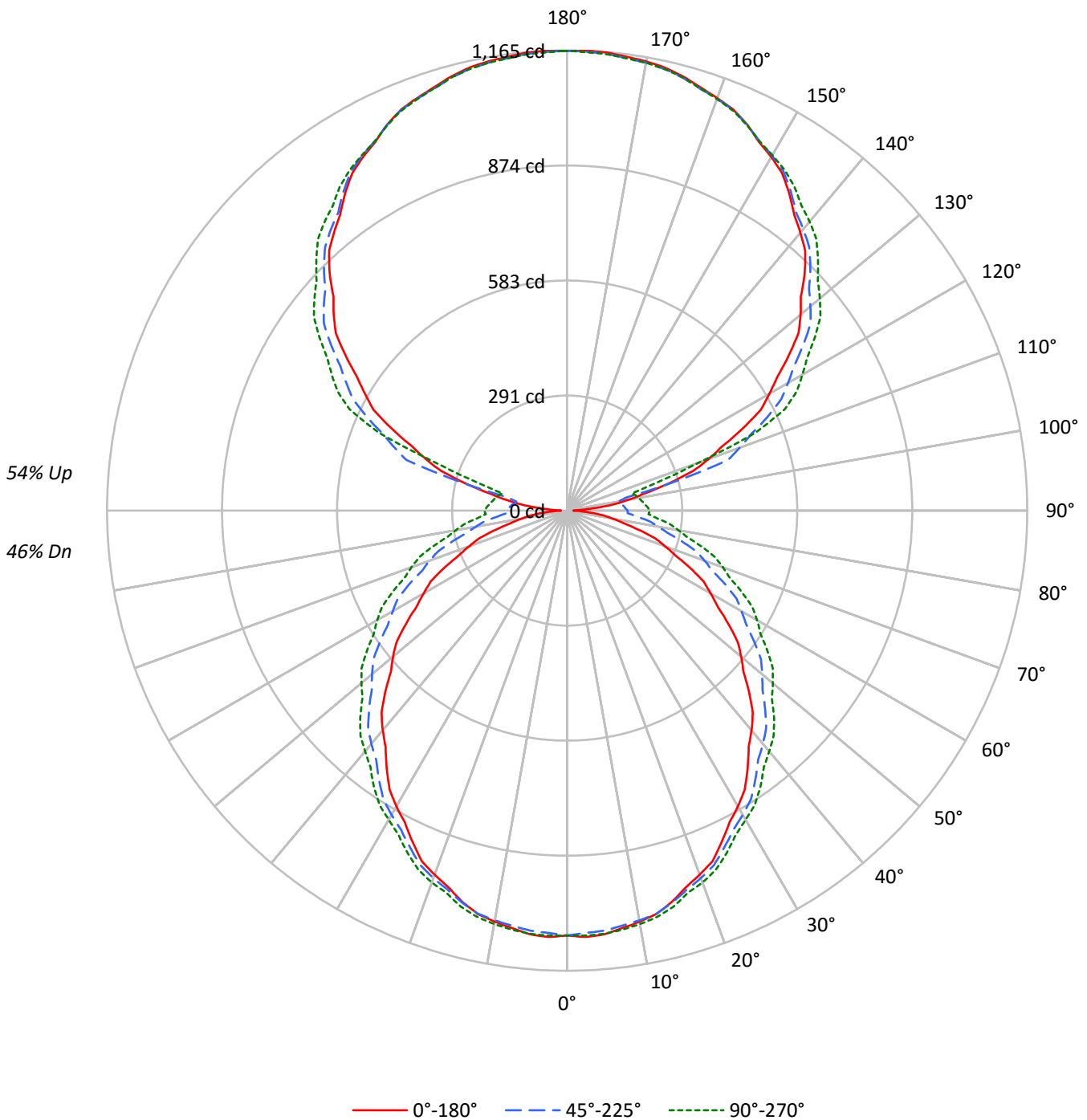
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332194-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	43	37
2	87	79	73	67	79	73	67	62	61	56	53	49	46	44	39	37	35	30
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18
6	61	49	40	34	56	45	37	32	38	32	28	31	27	23	25	21	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	13	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	1.4
10°-20°	290.7	4.1
20°-30°	434.8	6.1
30°-40°	519.2	7.2
40°-50°	543.3	7.6
50°-60°	509.8	7.1
60°-70°	425.8	5.9
70°-80°	304.6	4.3
80°-90°	184.9	2.6
90°-100°	156.3	2.2
100°-110°	285.5	4.0
110°-120°	540.4	7.5
120°-130°	648.9	9.1
130°-140°	673.5	9.4
140°-150°	619.5	8.6
150°-160°	497.2	6.9
160°-170°	320.9	4.5
170°-180°	110.6	1.5
0°-30°	827.5	11.5
0°-40°	1346.7	18.8
0°-60°	2399.8	33.5
0°-90°	3315.2	46.2
90°-120°	982.2	13.7
90°-150°	2924.1	40.8
90°-180°	3853.0	53.8
0°-180°	7168.0	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	82	153	195	210	13
95°	66	79	143	184	197	75
105°	267	301	277	164	169	283
115°	489	510	558	594	608	483
125°	685	694	729	755	766	612
135°	851	855	871	894	898	655
145°	980	985	987	997	1002	613
155°	1078	1077	1078	1081	1077	497
165°	1137	1135	1134	1140	1135	321
175°	1164	1160	1160	1166	1160	111
180°	1164	1164	1164	1164	1164	



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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°	31.3	44.7	58.0	71.4	84.7	98.3	112.1	125.9	139.7	153.4	162.5
90°	16.1	30.8	45.5	60.2	74.8	90.1	105.8	121.6	137.4	153.2	162.8
92.5°	30.4	41.3	52.3	63.3	74.3	87.2	102.2	117.2	132.1	147.1	157.0
95°	65.6	67.9	70.2	72.5	74.7	83.3	98.2	113.0	127.9	142.8	152.2
97.5°	117.5	123.1	128.8	134.4	140.0	142.0	140.3	138.7	137.1	135.4	144.7
100°	156.7	168.8	181.1	193.2	205.4	202.5	184.5	166.5	148.5	130.5	139.6
102.5°	201.4	211.7	222.0	232.2	242.5	237.1	216.2	195.2	174.2	153.3	155.8
105°	267.1	275.4	283.8	292.1	300.6	301.7	295.6	289.5	283.4	277.2	250.6
107.5°	335.2	342.2	349.2	356.2	363.3	373.4	386.8	400.1	413.5	426.8	408.9
110°	380.6	386.8	393.0	399.3	405.5	414.9	427.4	440.0	452.5	465.0	465.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	424.9	430.2	435.4	440.6	445.8	454.5	466.7	478.7	490.9	503.0	509.6
115°	489.3	493.5	497.8	502.1	506.4	514.1	525.2	536.3	547.4	558.5	566.7
117.5°	552.5	555.9	559.2	562.6	565.9	572.4	582.1	591.8	601.5	611.1	618.9
120°	591.0	594.1	597.1	600.1	603.1	609.2	618.5	627.6	636.8	645.9	653.4
122.5°	631.1	633.3	635.3	637.4	639.6	645.1	653.9	662.9	671.8	680.7	687.5
125°	685.0	686.5	688.0	689.6	691.1	696.0	704.4	712.6	721.0	729.4	735.2
127.5°	738.2	739.5	740.8	742.1	743.4	747.6	754.8	761.9	769.1	776.3	782.0
130°	771.5	772.7	774.0	775.2	776.5	780.2	786.2	792.1	798.1	804.1	809.8
132.5°	802.4	803.8	805.3	806.8	808.3	811.4	816.2	821.0	825.8	830.5	836.0
135°	850.7	851.6	852.5	853.4	854.3	856.5	860.1	863.8	867.5	871.1	876.3
137.5°	892.0	893.2	894.5	895.7	897.0	898.6	900.7	902.7	904.7	906.8	911.8
140°	918.7	919.9	921.0	922.2	923.3	924.6	925.9	927.3	928.7	930.1	934.7
142.5°	944.3	945.3	946.2	947.2	948.1	948.9	949.7	950.4	951.1	951.8	956.0
145°	980.1	981.2	982.3	983.3	984.5	985.2	985.6	985.9	986.4	986.7	989.2
147.5°	1012.7	1013.6	1014.4	1015.3	1016.2	1016.8	1017.2	1017.6	1018.0	1018.4	1019.4
150°	1033.5	1034.0	1034.6	1035.2	1035.7	1036.2	1036.6	1037.0	1037.3	1037.8	1038.1
152.5°	1052.1	1052.4	1052.7	1052.9	1053.2	1053.4	1053.7	1053.9	1054.1	1054.4	1055.1
155°	1078.4	1078.0	1077.6	1077.3	1076.9	1076.8	1076.9	1077.1	1077.4	1077.5	1078.5
157.5°	1098.8	1098.8	1098.7	1098.7	1098.6	1098.5	1098.4	1098.1	1097.9	1097.8	1098.9
160°	1111.3	1111.0	1110.9	1110.7	1110.5	1110.3	1110.1	1109.9	1109.7	1109.6	1110.7
162.5°	1123.0	1122.5	1122.1	1121.5	1121.0	1120.7	1120.5	1120.3	1120.1	1119.9	1121.2
165°	1137.2	1136.6	1136.1	1135.5	1134.9	1134.5	1134.3	1134.1	1133.9	1133.8	1135.3
167.5°	1148.2	1147.5	1146.8	1146.0	1145.2	1144.8	1144.8	1144.8	1144.8	1144.8	1146.3
170°	1154.5	1153.7	1153.0	1152.2	1151.4	1151.1	1151.1	1151.1	1151.1	1151.1	1152.5
172.5°	1158.6	1157.7	1156.8	1155.9	1154.9	1154.6	1154.7	1154.9	1155.0	1155.2	1156.8
175°	1164.0	1163.0	1162.1	1161.1	1160.2	1159.8	1159.9	1160.2	1160.4	1160.5	1161.9
177.5°	1165.4	1164.6	1163.9	1163.1	1162.4	1162.0	1162.2	1162.4	1162.4	1162.6	1163.9
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0



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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°	171.4	180.5	189.5	195.4	198.0	200.7	203.4	206.0
90°	172.5	182.0	191.7	197.9	201.0	204.0	206.9	209.9
92.5°	166.8	176.7	186.6	192.8	195.4	198.0	200.7	203.3
95°	161.7	171.1	180.5	186.5	189.1	191.7	194.3	196.9
97.5°	154.0	163.3	172.6	178.7	181.5	184.3	187.0	189.9
100°	148.7	157.7	166.9	172.8	175.6	178.4	181.2	184.0
102.5°	158.4	160.9	163.5	166.3	169.3	172.2	175.1	178.1
105°	223.9	197.1	170.4	158.4	161.1	163.8	166.6	169.3
107.5°	390.9	372.9	355.0	334.3	311.0	287.6	264.2	240.9
110°	465.9	466.3	466.7	454.3	428.9	403.5	378.1	352.7



TEST NUMBER: P332194-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	516.3	523.0	529.7	531.2	527.8	524.3	520.7	517.2
115°	574.8	583.0	591.2	596.7	599.5	602.4	605.3	608.1
117.5°	626.6	634.4	642.1	647.0	649.3	651.4	653.7	655.8
120°	661.0	668.5	676.1	680.7	682.5	684.3	686.2	688.0
122.5°	694.4	701.3	708.1	712.5	714.5	716.4	718.4	720.4
125°	741.1	746.9	752.8	756.8	759.0	761.2	763.4	765.6
127.5°	787.8	793.6	799.4	803.0	804.3	805.7	807.1	808.5
130°	815.5	821.2	827.0	830.4	831.6	832.8	834.0	835.1
132.5°	841.5	847.1	852.6	855.9	857.2	858.4	859.6	860.9
135°	881.6	886.8	892.2	895.1	895.9	896.6	897.3	898.0
137.5°	916.9	921.9	927.0	929.9	930.8	931.8	932.6	933.6
140°	939.4	944.0	948.7	951.5	952.4	953.4	954.2	955.2
142.5°	960.1	964.1	968.3	970.7	971.5	972.2	973.0	973.8
145°	991.7	994.1	996.6	998.3	999.4	1000.4	1001.5	1002.5
147.5°	1020.4	1021.4	1022.4	1023.0	1023.0	1023.0	1023.1	1023.1
150°	1038.5	1038.9	1039.3	1039.5	1039.4	1039.3	1039.3	1039.2
152.5°	1055.8	1056.4	1057.1	1057.0	1056.3	1055.5	1054.7	1054.0
155°	1079.4	1080.4	1081.4	1081.2	1080.1	1079.0	1077.8	1076.7
157.5°	1100.1	1101.2	1102.3	1102.2	1100.7	1099.2	1097.7	1096.2
160°	1111.8	1113.0	1114.1	1114.0	1112.7	1111.4	1110.0	1108.6
162.5°	1122.5	1123.9	1125.2	1125.2	1124.0	1122.8	1121.6	1120.4
165°	1136.8	1138.3	1139.9	1140.0	1138.7	1137.3	1135.9	1134.6
167.5°	1147.9	1149.4	1151.0	1151.0	1149.4	1147.9	1146.3	1144.8
170°	1154.1	1155.6	1157.2	1157.2	1155.6	1154.1	1152.5	1151.1
172.5°	1158.3	1159.8	1161.3	1161.2	1159.6	1157.9	1156.2	1154.5
175°	1163.2	1164.6	1166.0	1165.9	1164.3	1162.8	1161.2	1159.7
177.5°	1165.1	1166.3	1167.5	1167.4	1165.9	1164.3	1162.8	1161.2
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0

(END OF REPORT)