

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: P332200-930

Luminaire Tested: **S123DIW-S1000D1320U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332200-930
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-S1000D1320U930-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7730.2 lumens
Efficiency: N/A
Efficacy: 110.7 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: General Diffuse

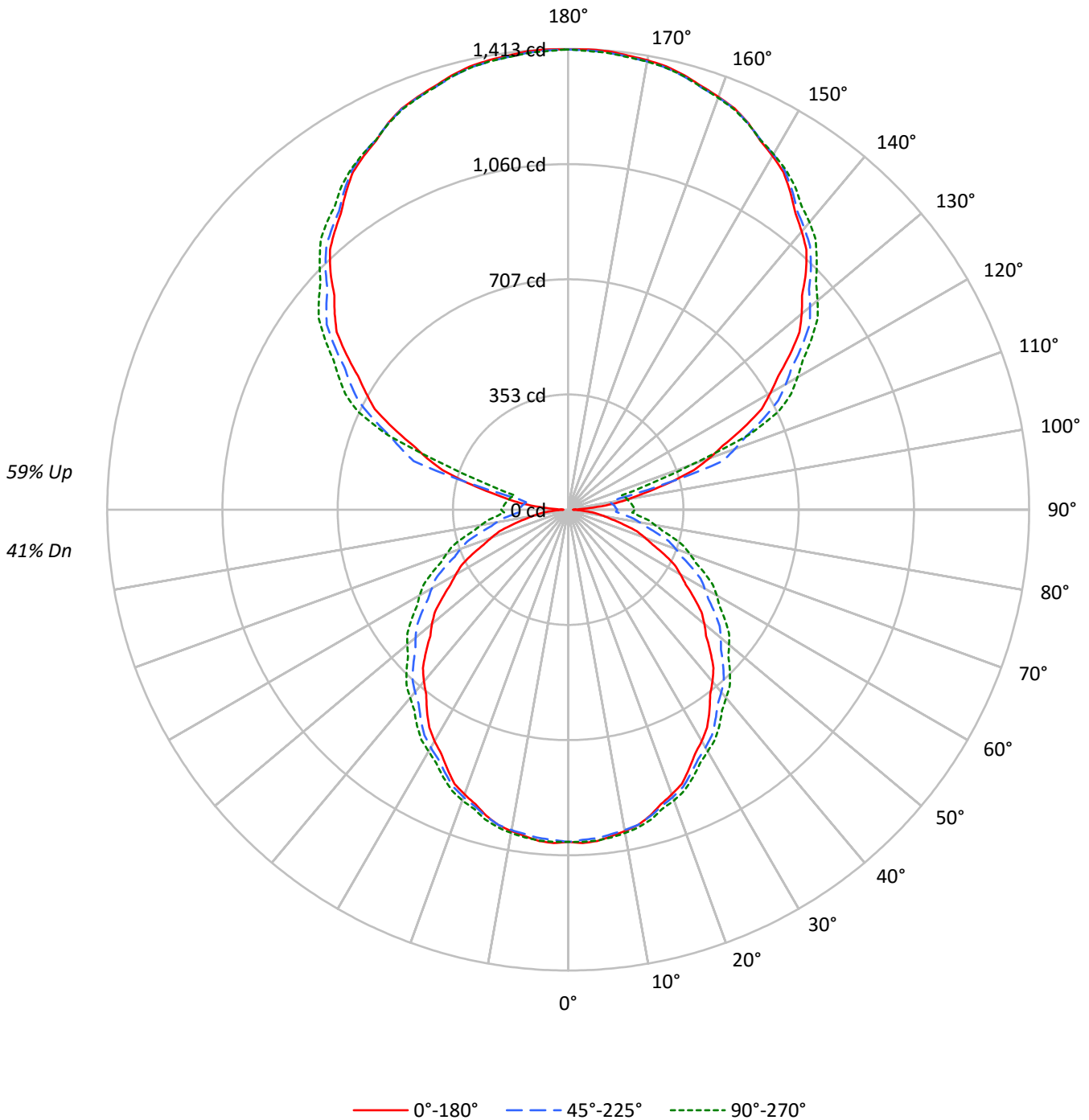
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332200-930

CATALOG NUMBER: S123DIW-S1000D1320U930-4F0-1E-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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	95	90	86	82	86	82	79	75	67	65	62	53	52	50	41	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	29	27	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	56	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10964	10964	10964
5°	10999	10689	10694
10°	10900	10443	10390
15°	10759	10162	10058
20°	10559	9844	9692
25°	10311	9476	9308
30°	10057	9145	8918
35°	9773	8796	8606
40°	9500	8479	8272
45°	9199	8172	8007
50°	8904	7871	7713
55°	8574	7562	7449
60°	8255	7248	7178
65°	7926	6915	6856
70°	7430	6538	6527
75°	6807	6107	6190
80°	6087	5683	5807
85°	5426	5394	5585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	1.2
10°-20°	275.3	3.6
20°-30°	411.7	5.3
30°-40°	491.7	6.4
40°-50°	514.4	6.7
50°-60°	482.8	6.2
60°-70°	403.2	5.2
70°-80°	288.5	3.7
80°-90°	176.0	2.3
90°-100°	159.2	2.1
100°-110°	323.8	4.2
110°-120°	640.3	8.3
120°-130°	778.1	10.1
130°-140°	812.7	10.5
140°-150°	750.1	9.7
150°-160°	602.8	7.8
160°-170°	389.0	5.0
170°-180°	134.1	1.7
0°-30°	783.6	10.1
0°-40°	1275.2	16.5
0°-60°	2272.4	29.4
0°-90°	3140.1	40.6
90°-120°	1123.3	14.5
90°-150°	3464.2	44.8
90°-180°	4590.0	59.4
0°-180°	7730.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1020	1017	1011	1019	1019	97
15°	971	974	973	984	983	273
25°	877	887	891	905	906	404
35°	755	772	787	803	808	472
45°	617	644	671	692	701	476
55°	470	507	547	576	586	421
65°	325	369	417	449	462	321
75°	176	229	284	319	334	188
85°	54	110	169	205	218	57
90°	16	81	151	191	206	13
95°	76	80	142	182	195	89
105°	321	355	313	168	170	340
115°	592	613	661	696	711	584
125°	829	839	874	899	910	741
135°	1031	1036	1052	1074	1078	793
145°	1188	1194	1196	1207	1212	743
155°	1307	1305	1306	1311	1305	602
165°	1379	1376	1374	1382	1375	389
175°	1411	1406	1407	1413	1406	134
180°	1411	1411	1411	1411	1411	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1023.1	1022.5	1021.9	1021.3	1020.8	1019.6	1018.1	1016.5	1014.9	1013.3	1014.9
5°	1019.8	1019.3	1018.8	1018.3	1017.8	1016.8	1015.4	1013.8	1012.4	1010.9	1012.8
7.5°	1009.7	1009.9	1010.0	1010.1	1010.2	1009.5	1008.1	1006.7	1005.2	1003.8	1006.2
10°	1000.9	1001.4	1001.9	1002.4	1002.9	1002.5	1001.3	1000.0	998.8	997.6	1000.0
12.5°	990.3	990.9	991.6	992.3	993.0	993.0	992.1	991.2	990.4	989.6	991.9
15°	970.9	971.7	972.4	973.1	973.9	974.1	973.9	973.6	973.4	973.1	975.7
17.5°	946.6	948.0	949.5	951.0	952.4	953.2	953.1	952.9	952.8	952.8	955.0
20°	928.8	930.3	931.7	933.2	934.7	935.7	936.2	936.7	937.2	937.7	939.9
22.5°	910.1	911.6	913.1	914.6	916.1	917.1	917.9	918.5	919.2	919.9	922.7
25°	876.6	879.1	881.6	884.0	886.5	888.1	888.8	889.6	890.3	891.0	894.2
27.5°	842.9	845.7	848.5	851.3	854.1	856.3	857.9	859.5	861.0	862.7	865.4
30°	818.9	822.1	825.3	828.5	831.8	834.3	836.3	838.3	840.2	842.2	845.2
32.5°	792.3	795.9	799.5	803.1	806.7	809.8	812.4	814.9	817.5	820.0	823.2
35°	754.6	758.5	762.5	766.4	770.4	773.9	777.1	780.3	783.5	786.8	790.4
37.5°	714.6	719.1	723.5	727.9	732.4	736.5	740.5	744.4	748.4	752.4	756.5
40°	687.9	692.4	696.8	701.3	705.7	710.5	715.3	720.3	725.2	730.2	734.3
42.5°	658.7	664.1	669.5	675.0	680.4	685.7	690.8	695.9	701.1	706.2	710.8
45°	616.9	622.9	628.8	634.7	640.7	646.7	652.8	659.0	665.2	671.3	676.0
47.5°	573.2	579.9	586.7	593.4	600.1	607.0	614.0	621.1	628.1	635.2	640.4
50°	544.9	551.7	558.6	565.6	572.4	579.8	587.3	595.0	602.7	610.3	616.0
52.5°	514.6	522.0	529.3	536.5	543.9	551.7	560.2	568.6	577.0	585.5	591.3
55°	470.5	478.7	486.7	494.9	503.0	511.5	520.4	529.3	538.2	547.1	553.8
57.5°	427.5	435.9	444.4	452.9	461.4	470.5	480.2	489.9	499.6	509.3	516.0
60°	397.3	406.1	415.0	423.9	432.8	442.2	452.3	462.5	472.6	482.7	489.6
62.5°	368.8	377.9	387.0	396.1	405.1	415.1	425.7	436.4	447.1	457.9	464.7
65°	325.1	334.8	344.4	354.0	363.6	373.8	384.7	395.5	406.3	417.3	424.6
67.5°	280.7	291.0	301.2	311.4	321.6	332.2	343.2	354.3	365.3	376.4	384.5
70°	249.6	260.2	270.8	281.5	292.1	303.3	315.1	327.0	338.8	350.7	358.6
72.5°	221.3	231.9	242.5	253.1	263.7	275.1	287.3	299.5	311.8	324.0	332.1
75°	176.4	188.0	199.6	211.2	222.8	234.7	247.1	259.4	271.7	284.1	292.2
77.5°	137.4	149.0	160.8	172.4	184.1	196.2	208.6	221.0	233.5	245.9	254.5
80°	109.8	122.0	134.0	146.1	158.2	170.6	183.4	196.3	209.1	221.9	230.3
82.5°	85.9	98.2	110.5	122.7	135.0	147.7	160.7	173.7	186.7	199.7	208.1
85°	54.4	66.7	79.0	91.4	103.7	116.4	129.5	142.5	155.6	168.7	177.1
87.5°	29.8	42.5	55.2	68.0	80.7	93.7	106.9	120.0	133.2	146.4	155.0
90°	15.5	29.9	44.3	58.7	73.1	88.1	103.7	119.4	134.9	150.6	159.9
92.5°	33.0	43.3	53.6	63.8	74.0	86.5	101.2	115.8	130.4	145.1	154.8
95°	76.1	76.2	76.3	76.3	76.4	83.8	98.4	113.1	127.7	142.4	151.6
97.5°	139.4	143.8	148.2	152.5	156.9	156.5	151.3	146.1	140.9	135.6	144.8
100°	187.2	199.7	212.2	224.8	237.3	231.1	206.1	181.2	156.1	131.1	140.1
102.5°	241.7	252.1	262.5	273.0	283.5	274.4	245.8	217.3	188.7	160.2	161.3
105°	321.3	329.8	338.3	346.7	355.2	354.2	343.9	333.5	323.2	312.8	278.5
107.5°	404.2	411.3	418.4	425.5	432.6	442.8	456.2	469.5	482.9	496.3	472.6
110°	459.5	465.9	472.1	478.4	484.8	494.1	506.5	518.9	531.4	543.8	542.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	513.2	518.5	523.8	529.2	534.5	543.2	555.2	567.3	579.3	591.3	597.7
115°	591.6	595.9	600.3	604.6	609.0	616.7	627.6	638.6	649.5	660.6	668.8
117.5°	668.3	671.8	675.4	678.9	682.5	688.9	698.4	707.8	717.2	726.6	734.3
120°	715.2	718.5	721.9	725.2	728.6	734.6	743.5	752.3	761.1	770.0	777.5
122.5°	763.9	766.2	768.6	770.9	773.3	778.8	787.4	796.1	804.7	813.3	820.1
125°	829.4	831.3	833.2	835.0	836.9	841.9	849.9	858.0	866.1	874.2	879.8
127.5°	894.0	895.6	897.2	898.9	900.5	904.8	911.8	918.8	925.9	932.9	938.6
130°	934.3	935.9	937.5	939.1	940.7	944.4	950.3	956.2	962.1	967.9	973.5
132.5°	971.9	973.8	975.6	977.4	979.2	982.4	987.2	991.8	996.5	1001.2	1006.7
135°	1030.6	1031.8	1032.9	1034.1	1035.3	1037.6	1041.3	1044.9	1048.6	1052.2	1057.4
137.5°	1080.8	1082.3	1083.9	1085.5	1087.0	1088.8	1090.9	1092.9	1094.9	1097.0	1102.0
140°	1113.4	1114.8	1116.2	1117.6	1119.0	1120.4	1121.9	1123.3	1124.7	1126.2	1130.8
142.5°	1144.4	1145.7	1146.8	1148.0	1149.2	1150.2	1151.1	1151.9	1152.8	1153.6	1157.7
145°	1187.8	1189.2	1190.6	1192.0	1193.4	1194.3	1194.7	1195.2	1195.7	1196.1	1198.6
147.5°	1227.6	1228.7	1229.7	1230.8	1231.9	1232.7	1233.1	1233.5	1234.0	1234.5	1235.6
150°	1252.8	1253.4	1254.2	1254.8	1255.6	1256.1	1256.6	1257.0	1257.5	1258.0	1258.5
152.5°	1275.4	1275.7	1276.0	1276.4	1276.7	1277.0	1277.3	1277.6	1277.8	1278.1	1279.0
155°	1307.3	1306.8	1306.4	1305.9	1305.4	1305.3	1305.5	1305.8	1306.0	1306.2	1307.4
157.5°	1332.0	1332.0	1332.0	1331.9	1331.8	1331.7	1331.5	1331.2	1331.0	1330.7	1332.1
160°	1347.1	1346.9	1346.6	1346.4	1346.1	1346.0	1345.7	1345.5	1345.2	1345.0	1346.4
162.5°	1361.4	1360.7	1360.2	1359.5	1358.9	1358.5	1358.3	1358.0	1357.8	1357.6	1359.2
165°	1378.6	1377.9	1377.1	1376.5	1375.7	1375.3	1375.1	1374.8	1374.6	1374.4	1376.2
167.5°	1392.0	1391.1	1390.1	1389.2	1388.2	1387.8	1387.8	1387.8	1387.8	1387.8	1389.7
170°	1399.5	1398.6	1397.7	1396.8	1395.8	1395.3	1395.3	1395.3	1395.3	1395.3	1397.2
172.5°	1404.6	1403.5	1402.3	1401.2	1400.1	1399.6	1399.8	1400.0	1400.2	1400.4	1402.2
175°	1411.0	1409.9	1408.8	1407.5	1406.4	1405.9	1406.1	1406.4	1406.6	1406.9	1408.5
177.5°	1412.8	1411.8	1410.9	1410.0	1409.0	1408.7	1408.8	1409.0	1409.2	1409.4	1410.9
180°	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.5	1018.1	1019.6	1020.3	1020.1	1019.9	1019.8	1019.5
5°	1014.8	1016.8	1018.8	1019.6	1019.4	1019.1	1018.9	1018.6
7.5°	1008.7	1011.2	1013.7	1014.7	1014.5	1014.2	1013.8	1013.6
10°	1002.5	1004.9	1007.5	1008.4	1008.0	1007.5	1007.0	1006.5
12.5°	994.1	996.4	998.7	999.6	999.1	998.6	998.1	997.6
15°	978.1	980.6	983.0	984.1	983.9	983.7	983.4	983.2
17.5°	957.2	959.4	961.6	962.5	962.2	961.9	961.6	961.2
20°	942.1	944.3	946.6	947.8	948.0	948.3	948.5	948.8
22.5°	925.5	928.3	931.2	932.5	932.3	932.2	932.1	931.9
25°	897.5	900.7	903.8	905.5	905.5	905.5	905.5	905.5
27.5°	868.1	870.9	873.7	875.1	875.4	875.5	875.8	876.0
30°	848.2	851.1	854.0	855.6	855.6	855.6	855.6	855.6
32.5°	826.4	829.5	832.7	834.5	835.1	835.7	836.3	836.9
35°	794.1	797.9	801.5	803.9	804.9	805.8	806.8	807.8
37.5°	760.8	764.9	769.2	771.6	772.4	773.1	774.0	774.8
40°	738.5	742.7	746.9	749.5	750.5	751.5	752.4	753.4
42.5°	715.3	719.9	724.6	727.5	728.9	730.3	731.6	733.0
45°	680.7	685.4	690.1	693.4	695.4	697.3	699.4	701.3
47.5°	645.7	651.0	656.2	659.7	661.2	662.8	664.2	665.8
50°	621.7	627.3	633.0	636.7	638.5	640.2	641.9	643.6
52.5°	597.2	603.1	608.9	612.9	615.1	617.2	619.3	621.4
55°	560.4	567.0	573.7	578.0	580.0	582.0	583.9	585.9
57.5°	522.8	529.5	536.1	540.7	543.0	545.3	547.6	549.9
60°	496.5	503.4	510.3	515.1	517.9	520.6	523.3	525.9
62.5°	471.7	478.6	485.4	490.2	492.7	495.2	497.7	500.3
65°	432.0	439.4	446.8	451.8	454.2	456.6	459.2	461.6
67.5°	392.6	400.6	408.7	413.8	415.9	418.0	420.0	422.1
70°	366.4	374.3	382.2	387.4	389.9	392.3	394.8	397.3
72.5°	340.2	348.3	356.4	361.7	364.1	366.6	369.1	371.5
75°	300.4	308.5	316.6	322.2	325.1	328.1	331.0	334.0
77.5°	263.1	271.7	280.2	285.7	287.9	290.2	292.4	294.7
80°	238.7	247.1	255.4	260.9	263.3	265.8	268.3	270.8
82.5°	216.5	224.9	233.3	238.7	241.2	243.6	246.1	248.6
85°	185.4	193.8	202.2	207.7	210.1	212.5	215.0	217.5
87.5°	163.5	172.1	180.7	186.2	188.8	191.4	194.0	196.5
90°	169.2	178.5	187.8	194.0	196.9	199.8	202.8	205.7
92.5°	164.4	174.1	183.8	190.0	192.5	195.0	197.6	200.2
95°	160.9	170.2	179.4	185.3	187.8	190.3	192.7	195.2
97.5°	154.0	163.2	172.4	178.4	181.2	183.8	186.5	189.2
100°	149.2	158.2	167.2	173.1	175.8	178.5	181.2	183.8
102.5°	162.6	163.7	164.9	166.9	169.8	172.7	175.6	178.5
105°	244.2	209.9	175.5	159.6	162.3	165.0	167.7	170.4
107.5°	449.0	425.3	401.7	375.4	346.6	317.6	288.8	259.8
110°	541.3	540.0	538.7	522.4	491.1	459.7	428.4	397.1



TEST NUMBER: P332200-930

CATALOG NUMBER: S123DIW-S1000D1320U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	604.1	610.4	616.8	617.5	612.6	607.7	602.9	598.0
115°	677.0	685.3	693.6	699.1	702.1	704.9	707.8	710.8
117.5°	742.1	749.7	757.5	762.5	764.6	766.6	768.7	770.9
120°	785.1	792.6	800.1	804.7	806.5	808.2	809.9	811.6
122.5°	826.9	833.6	840.4	844.8	846.7	848.6	850.5	852.4
125°	885.5	891.1	896.7	900.7	902.9	905.1	907.3	909.5
127.5°	944.2	949.8	955.4	958.9	960.1	961.3	962.5	963.7
130°	979.2	984.8	990.3	993.7	994.7	995.7	996.7	997.8
132.5°	1012.0	1017.5	1022.9	1026.1	1027.1	1028.2	1029.2	1030.2
135°	1062.5	1067.6	1072.8	1075.6	1076.1	1076.7	1077.2	1077.7
137.5°	1107.0	1112.1	1117.0	1120.0	1120.7	1121.4	1122.3	1123.0
140°	1135.4	1140.0	1144.7	1147.4	1148.1	1148.9	1149.7	1150.5
142.5°	1161.7	1165.8	1169.9	1172.2	1172.7	1173.3	1173.9	1174.4
145°	1201.0	1203.5	1205.9	1207.6	1208.6	1209.6	1210.6	1211.5
147.5°	1236.6	1237.7	1238.8	1239.2	1239.0	1238.8	1238.6	1238.4
150°	1258.9	1259.4	1259.9	1260.0	1259.8	1259.6	1259.4	1259.1
152.5°	1279.8	1280.7	1281.5	1281.4	1280.4	1279.4	1278.5	1277.5
155°	1308.6	1309.7	1310.9	1310.8	1309.4	1308.0	1306.6	1305.2
157.5°	1333.6	1335.0	1336.4	1336.1	1334.3	1332.5	1330.6	1328.9
160°	1347.8	1349.2	1350.6	1350.5	1348.8	1347.2	1345.6	1343.9
162.5°	1360.7	1362.4	1363.9	1364.0	1362.5	1361.1	1359.7	1358.2
165°	1378.1	1380.0	1381.9	1381.9	1380.3	1378.7	1377.0	1375.4
167.5°	1391.6	1393.3	1395.2	1395.2	1393.3	1391.6	1389.7	1387.8
170°	1399.1	1400.9	1402.8	1402.8	1400.9	1399.1	1397.2	1395.3
172.5°	1404.1	1406.0	1407.9	1407.7	1405.7	1403.6	1401.6	1399.5
175°	1410.1	1411.8	1413.4	1413.2	1411.4	1409.6	1407.7	1405.8
177.5°	1412.3	1413.9	1415.4	1415.2	1413.3	1411.4	1409.6	1407.7
180°	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0

(END OF REPORT)