

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: P332200-927

Luminaire Tested: **S123DIW-S1000D1320U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332200-927
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-S1000D1320U927-4F0-1E-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: 7511.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

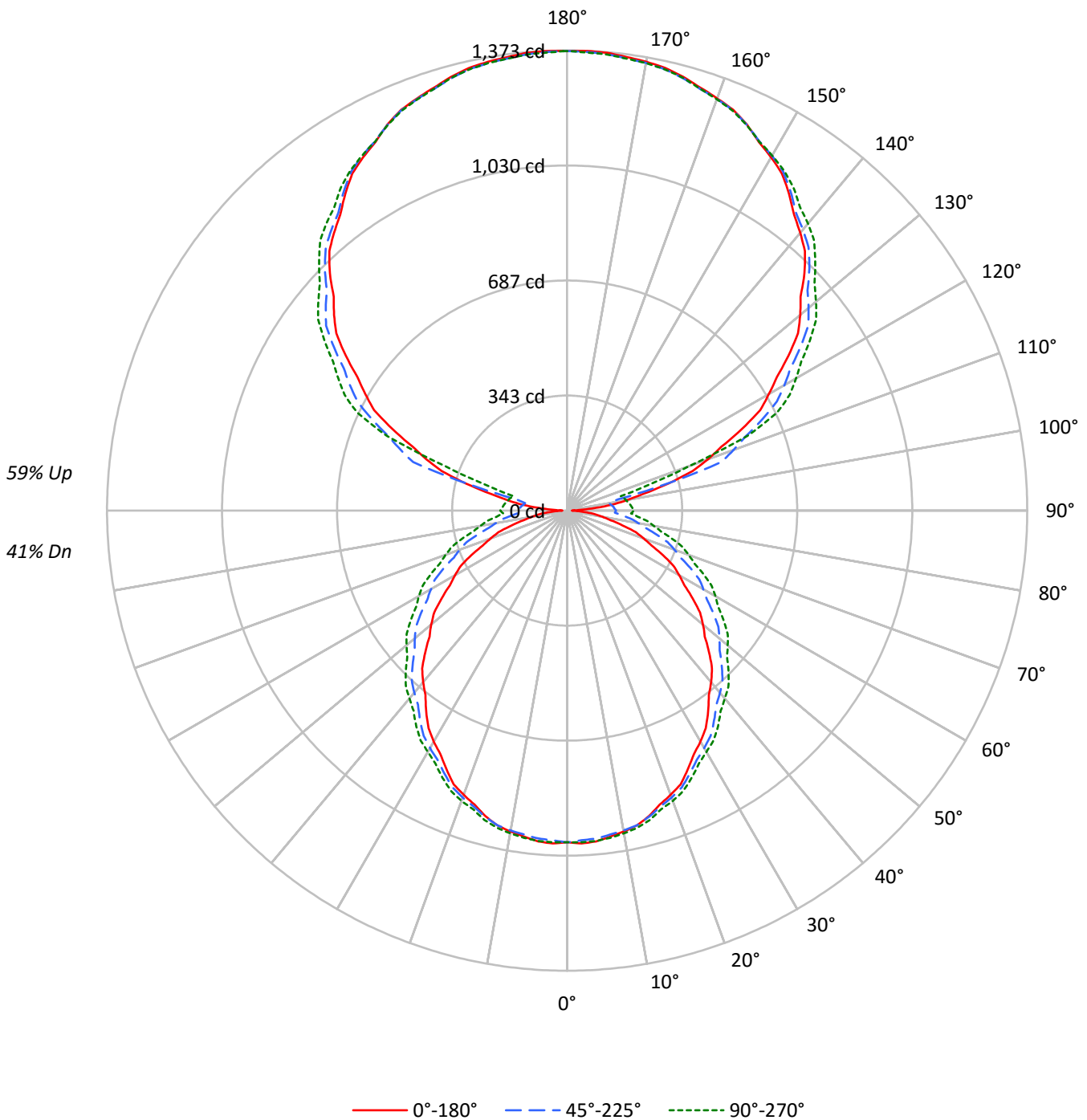
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	10654	10654	10654
5°	10687	10385	10392
10°	10592	10146	10095
15°	10455	9874	9773
20°	10260	9565	9418
25°	10019	9208	9043
30°	9772	8886	8665
35°	9496	8547	8362
40°	9231	8238	8039
45°	8938	7941	7779
50°	8650	7648	7494
55°	8332	7348	7238
60°	8020	7044	6974
65°	7702	6718	6661
70°	7222	6352	6341
75°	6614	5933	6016
80°	5915	5522	5642
85°	5267	5241	5428



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.8	1.2
10°-20°	267.5	3.6
20°-30°	400.0	5.3
30°-40°	477.7	6.4
40°-50°	499.9	6.7
50°-60°	469.1	6.2
60°-70°	391.8	5.2
70°-80°	280.3	3.7
80°-90°	171.0	2.3
90°-100°	154.7	2.1
100°-110°	314.6	4.2
110°-120°	622.1	8.3
120°-130°	756.1	10.1
130°-140°	789.6	10.5
140°-150°	728.9	9.7
150°-160°	585.7	7.8
160°-170°	378.0	5.0
170°-180°	130.3	1.7
0°-30°	761.3	10.1
0°-40°	1239.1	16.5
0°-60°	2208.0	29.4
0°-90°	3051.1	40.6
90°-120°	1091.5	14.5
90°-150°	3366.0	44.8
90°-180°	4460.0	59.4
0°-180°	7511.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	990	990	990	990	990	
5°	991	988	982	990	990	94
15°	943	946	946	956	955	266
25°	852	862	866	879	880	392
35°	733	750	764	780	785	458
45°	599	625	652	672	681	462
55°	457	493	532	560	569	409
65°	316	358	405	436	448	312
75°	171	222	276	310	325	183
85°	53	107	164	199	211	55
90°	15	78	146	186	200	12
95°	74	78	138	177	190	86
105°	312	345	304	163	166	331
115°	575	596	642	677	691	567
125°	806	816	849	873	884	720
135°	1001	1007	1022	1044	1047	771
145°	1154	1160	1162	1173	1177	722
155°	1270	1268	1269	1274	1268	585
165°	1340	1336	1335	1343	1336	378
175°	1371	1366	1367	1373	1366	130
180°	1371	1371	1371	1371	1371	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8
2.5°	994.1	993.6	992.9	992.4	991.8	990.7	989.2	987.7	986.1	984.6	986.1
5°	990.9	990.4	989.9	989.4	989.0	988.0	986.6	985.1	983.7	982.2	984.1
7.5°	981.1	981.3	981.4	981.4	981.5	980.9	979.5	978.1	976.7	975.3	977.7
10°	972.6	973.0	973.5	974.0	974.5	974.1	972.9	971.7	970.5	969.3	971.7
12.5°	962.2	962.8	963.5	964.2	964.9	964.8	964.0	963.1	962.3	961.6	963.8
15°	943.4	944.1	944.8	945.5	946.3	946.5	946.3	946.0	945.8	945.5	948.0
17.5°	919.7	921.1	922.6	924.0	925.4	926.1	926.1	925.9	925.8	925.7	927.9
20°	902.5	903.9	905.3	906.7	908.2	909.2	909.7	910.1	910.6	911.1	913.2
22.5°	884.3	885.7	887.2	888.7	890.1	891.1	891.8	892.5	893.2	893.8	896.5
25°	851.8	854.1	856.6	859.0	861.3	862.9	863.6	864.4	865.1	865.8	868.9
27.5°	819.0	821.7	824.4	827.2	829.9	832.0	833.6	835.1	836.6	838.2	840.9
30°	795.7	798.8	801.9	805.0	808.2	810.6	812.6	814.5	816.4	818.3	821.3
32.5°	769.8	773.3	776.8	780.3	783.8	786.8	789.3	791.8	794.3	796.8	799.9
35°	733.2	737.0	740.8	744.7	748.5	751.9	755.1	758.2	761.3	764.5	768.0
37.5°	694.3	698.7	703.0	707.3	711.6	715.7	719.5	723.3	727.1	731.0	735.1
40°	668.4	672.8	677.1	681.4	685.7	690.3	695.1	699.9	704.6	709.5	713.5
42.5°	640.0	645.3	650.5	655.8	661.1	666.2	671.2	676.2	681.2	686.2	690.6
45°	599.4	605.2	611.0	616.7	622.5	628.4	634.3	640.3	646.3	652.3	656.9
47.5°	557.0	563.5	570.1	576.6	583.0	589.8	596.6	603.5	610.3	617.2	622.3
50°	529.4	536.1	542.8	549.5	556.2	563.3	570.7	578.1	585.6	593.0	598.5
52.5°	500.0	507.2	514.3	521.3	528.5	536.1	544.3	552.5	560.6	568.9	574.6
55°	457.2	465.1	472.9	480.9	488.8	497.0	505.6	514.3	522.9	531.6	538.1
57.5°	415.3	423.6	431.8	440.1	448.3	457.2	466.6	476.0	485.4	494.9	501.4
60°	386.0	394.6	403.2	411.9	420.5	429.7	439.5	449.4	459.2	469.1	475.7
62.5°	358.4	367.2	376.0	384.8	393.6	403.3	413.7	424.1	434.4	444.9	451.5
65°	315.9	325.3	334.6	344.0	353.3	363.2	373.8	384.3	394.8	405.4	412.6
67.5°	272.7	282.7	292.6	302.5	312.4	322.8	333.5	344.3	355.0	365.8	373.6
70°	242.6	252.9	263.2	273.5	283.8	294.7	306.2	317.7	329.2	340.7	348.4
72.5°	215.0	225.3	235.6	245.9	256.2	267.3	279.2	291.0	302.9	314.8	322.7
75°	171.4	182.7	193.9	205.3	216.5	228.1	240.1	252.1	264.0	276.0	283.9
77.5°	133.5	144.8	156.2	167.5	178.9	190.6	202.7	214.8	226.9	238.9	247.2
80°	106.7	118.5	130.2	142.0	153.7	165.8	178.2	190.8	203.2	215.6	223.8
82.5°	83.4	95.4	107.3	119.2	131.2	143.5	156.1	168.7	181.4	194.1	202.2
85°	52.8	64.8	76.8	88.8	100.8	113.1	125.8	138.5	151.1	163.9	172.1
87.5°	28.9	41.3	53.6	66.1	78.4	91.0	103.9	116.6	129.4	142.3	150.6
90°	15.1	29.1	43.0	57.0	71.1	85.6	100.8	116.0	131.1	146.3	155.3
92.5°	32.1	42.1	52.0	61.9	71.9	84.1	98.3	112.5	126.7	141.0	150.4
95°	74.0	74.1	74.1	74.1	74.2	81.4	95.6	109.9	124.1	138.3	147.3
97.5°	135.5	139.7	144.0	148.2	152.5	152.1	147.0	142.0	136.9	131.7	140.7
100°	181.9	194.0	206.2	218.4	230.6	224.6	200.3	176.0	151.7	127.4	136.2
102.5°	234.8	244.9	255.1	265.2	275.4	266.6	238.8	211.1	183.4	155.7	156.8
105°	312.2	320.4	328.7	336.9	345.2	344.2	334.1	324.1	314.0	304.0	270.6
107.5°	392.8	399.7	406.5	413.4	420.3	430.2	443.2	456.2	469.2	482.2	459.2
110°	446.5	452.7	458.8	464.9	471.0	480.1	492.2	504.2	516.3	528.4	527.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	498.7	503.8	509.0	514.2	519.4	527.8	539.5	551.2	562.8	574.6	580.7
115°	574.8	579.0	583.3	587.5	591.8	599.2	609.8	620.5	631.1	641.8	649.8
117.5°	649.4	652.8	656.2	659.7	663.1	669.4	678.6	687.7	696.9	706.0	713.5
120°	694.9	698.2	701.4	704.6	707.9	713.8	722.4	730.9	739.5	748.1	755.4
122.5°	742.2	744.5	746.8	749.1	751.4	756.7	765.1	773.5	781.9	790.3	796.9
125°	805.9	807.7	809.5	811.4	813.2	818.0	825.9	833.7	841.5	849.4	854.8
127.5°	868.6	870.2	871.8	873.4	875.0	879.2	886.0	892.8	899.7	906.5	912.0
130°	907.8	909.3	910.9	912.4	914.0	917.7	923.4	929.1	934.8	940.5	945.9
132.5°	944.4	946.2	947.9	949.7	951.4	954.6	959.2	963.7	968.3	972.8	978.1
135°	1001.4	1002.5	1003.6	1004.8	1005.9	1008.2	1011.8	1015.3	1018.8	1022.4	1027.4
137.5°	1050.1	1051.6	1053.1	1054.7	1056.2	1058.0	1059.9	1061.9	1063.9	1065.9	1070.8
140°	1081.8	1083.2	1084.6	1085.9	1087.3	1088.6	1090.0	1091.5	1092.8	1094.2	1098.8
142.5°	1112.0	1113.2	1114.3	1115.5	1116.7	1117.6	1118.5	1119.3	1120.1	1120.9	1124.9
145°	1154.1	1155.5	1156.8	1158.2	1159.5	1160.4	1160.9	1161.3	1161.8	1162.2	1164.6
147.5°	1192.8	1193.8	1194.8	1195.9	1197.0	1197.7	1198.2	1198.6	1199.0	1199.5	1200.6
150°	1217.3	1217.9	1218.6	1219.2	1220.0	1220.5	1221.0	1221.4	1221.9	1222.3	1222.8
152.5°	1239.2	1239.5	1239.8	1240.2	1240.5	1240.8	1241.1	1241.3	1241.6	1241.9	1242.7
155°	1270.2	1269.8	1269.3	1268.8	1268.4	1268.3	1268.5	1268.8	1269.0	1269.2	1270.3
157.5°	1294.3	1294.2	1294.2	1294.1	1294.0	1294.0	1293.7	1293.5	1293.2	1293.0	1294.3
160°	1308.9	1308.7	1308.4	1308.2	1308.0	1307.8	1307.6	1307.3	1307.1	1306.9	1308.2
162.5°	1322.8	1322.2	1321.6	1321.0	1320.4	1320.0	1319.8	1319.5	1319.3	1319.1	1320.6
165°	1339.5	1338.8	1338.1	1337.4	1336.7	1336.3	1336.1	1335.9	1335.6	1335.4	1337.2
167.5°	1352.5	1351.6	1350.7	1349.8	1348.8	1348.5	1348.5	1348.5	1348.5	1348.5	1350.3
170°	1359.9	1358.9	1358.0	1357.2	1356.2	1355.7	1355.7	1355.7	1355.7	1355.7	1357.6
172.5°	1364.8	1363.7	1362.6	1361.4	1360.4	1359.9	1360.1	1360.3	1360.5	1360.7	1362.5
175°	1371.0	1369.9	1368.8	1367.6	1366.5	1366.0	1366.3	1366.5	1366.8	1367.0	1368.6
177.5°	1372.7	1371.7	1370.9	1370.0	1369.0	1368.7	1368.9	1369.0	1369.2	1369.4	1370.9
180°	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8
2.5°	987.7	989.2	990.7	991.4	991.2	991.0	990.9	990.6
5°	986.0	988.0	989.9	990.7	990.5	990.2	990.0	989.8
7.5°	980.1	982.5	984.9	986.0	985.7	985.4	985.1	984.8
10°	974.1	976.4	978.9	979.9	979.4	978.9	978.4	977.9
12.5°	965.9	968.1	970.3	971.2	970.7	970.3	969.8	969.3
15°	950.4	952.8	955.1	956.2	956.0	955.8	955.5	955.3
17.5°	930.0	932.2	934.4	935.3	934.9	934.6	934.3	933.9
20°	915.4	917.5	919.7	920.9	921.1	921.4	921.6	921.9
22.5°	899.3	902.0	904.8	906.0	905.9	905.8	905.6	905.5
25°	872.0	875.1	878.2	879.8	879.8	879.8	879.8	879.8
27.5°	843.5	846.2	848.9	850.3	850.6	850.7	851.0	851.1
30°	824.1	827.0	829.8	831.3	831.3	831.3	831.3	831.3
32.5°	803.0	806.0	809.1	810.9	811.4	812.0	812.6	813.2
35°	771.6	775.2	778.8	781.1	782.0	783.0	783.9	784.9
37.5°	739.2	743.2	747.3	749.7	750.5	751.2	752.0	752.8
40°	717.6	721.7	725.7	728.3	729.2	730.2	731.1	732.1
42.5°	695.1	699.5	704.0	706.9	708.2	709.6	710.9	712.3
45°	661.4	666.0	670.5	673.8	675.7	677.6	679.5	681.4
47.5°	627.4	632.6	637.6	641.0	642.5	644.0	645.4	646.9
50°	604.0	609.5	615.1	618.6	620.4	622.0	623.7	625.3
52.5°	580.3	586.0	591.7	595.6	597.6	599.7	601.7	603.8
55°	544.5	551.0	557.5	561.6	563.6	565.5	567.4	569.3
57.5°	507.9	514.4	520.9	525.4	527.6	529.8	532.1	534.3
60°	482.4	489.2	495.8	500.5	503.2	505.8	508.4	511.0
62.5°	458.3	465.0	471.7	476.3	478.7	481.2	483.6	486.1
65°	419.8	427.0	434.1	438.9	441.3	443.7	446.2	448.5
67.5°	381.4	389.3	397.1	402.1	404.1	406.2	408.1	410.1
70°	356.0	363.7	371.4	376.4	378.8	381.2	383.6	386.0
72.5°	330.6	338.4	346.3	351.4	353.8	356.2	358.6	361.0
75°	291.8	299.8	307.6	313.1	315.9	318.8	321.6	324.6
77.5°	255.6	264.0	272.3	277.6	279.7	281.9	284.2	286.4
80°	232.0	240.1	248.2	253.5	255.9	258.3	260.7	263.1
82.5°	210.4	218.5	226.6	232.0	234.3	236.7	239.1	241.5
85°	180.1	188.3	196.5	201.8	204.1	206.5	208.9	211.4
87.5°	158.9	167.2	175.5	180.9	183.5	185.9	188.5	190.9
90°	164.4	173.4	182.5	188.5	191.3	194.2	197.0	199.9
92.5°	159.8	169.2	178.6	184.6	187.0	189.5	192.0	194.5
95°	156.4	165.3	174.4	180.1	182.4	184.9	187.3	189.6
97.5°	149.6	158.6	167.5	173.3	176.0	178.6	181.3	183.9
100°	145.0	153.7	162.5	168.2	170.8	173.4	176.0	178.6
102.5°	158.0	159.1	160.3	162.2	165.0	167.8	170.6	173.4
105°	237.3	203.9	170.5	155.1	157.7	160.3	163.0	165.6
107.5°	436.3	413.3	390.3	364.8	336.8	308.6	280.6	252.5
110°	525.9	524.7	523.5	507.6	477.1	446.7	416.2	385.8



TEST NUMBER: P332200-927

CATALOG NUMBER: S123DIW-S1000D1320U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	586.9	593.1	599.3	600.0	595.2	590.5	585.8	581.1
115°	657.8	665.8	673.9	679.3	682.1	684.9	687.8	690.6
117.5°	721.0	728.5	736.0	740.8	742.9	744.9	746.9	749.0
120°	762.8	770.1	777.4	781.9	783.6	785.3	787.0	788.6
122.5°	803.4	810.0	816.6	820.9	822.7	824.6	826.4	828.2
125°	860.4	865.9	871.3	875.1	877.3	879.4	881.5	883.7
127.5°	917.4	922.9	928.4	931.7	932.9	934.1	935.2	936.4
130°	951.4	956.9	962.3	965.5	966.5	967.5	968.4	969.5
132.5°	983.3	988.6	993.9	997.0	998.0	999.0	1000.0	1001.0
135°	1032.4	1037.4	1042.4	1045.1	1045.6	1046.2	1046.6	1047.2
137.5°	1075.6	1080.5	1085.4	1088.2	1088.9	1089.6	1090.4	1091.2
140°	1103.2	1107.7	1112.2	1114.8	1115.6	1116.3	1117.1	1117.8
142.5°	1128.8	1132.7	1136.7	1138.9	1139.5	1140.0	1140.6	1141.1
145°	1167.0	1169.3	1171.7	1173.4	1174.3	1175.3	1176.2	1177.2
147.5°	1201.6	1202.6	1203.6	1204.0	1203.9	1203.7	1203.5	1203.3
150°	1223.2	1223.7	1224.2	1224.2	1224.1	1223.8	1223.7	1223.4
152.5°	1243.5	1244.4	1245.2	1245.1	1244.1	1243.2	1242.2	1241.3
155°	1271.5	1272.6	1273.7	1273.6	1272.2	1270.9	1269.6	1268.2
157.5°	1295.8	1297.1	1298.5	1298.2	1296.5	1294.7	1292.9	1291.2
160°	1309.6	1311.0	1312.3	1312.2	1310.6	1309.0	1307.4	1305.8
162.5°	1322.2	1323.7	1325.2	1325.3	1323.9	1322.5	1321.1	1319.7
165°	1339.0	1340.8	1342.7	1342.7	1341.2	1339.6	1338.0	1336.4
167.5°	1352.1	1353.8	1355.7	1355.7	1353.8	1352.1	1350.3	1348.5
170°	1359.4	1361.2	1363.0	1363.0	1361.2	1359.4	1357.6	1355.7
172.5°	1364.3	1366.1	1367.9	1367.8	1365.8	1363.8	1361.8	1359.9
175°	1370.2	1371.7	1373.3	1373.2	1371.4	1369.6	1367.8	1366.0
177.5°	1372.3	1373.8	1375.2	1375.1	1373.2	1371.4	1369.6	1367.8
180°	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0

(END OF REPORT)