

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: P331485-927

Luminaire Tested: **S122DIW-S290D1240U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331485-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D1240U927-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4875.2 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

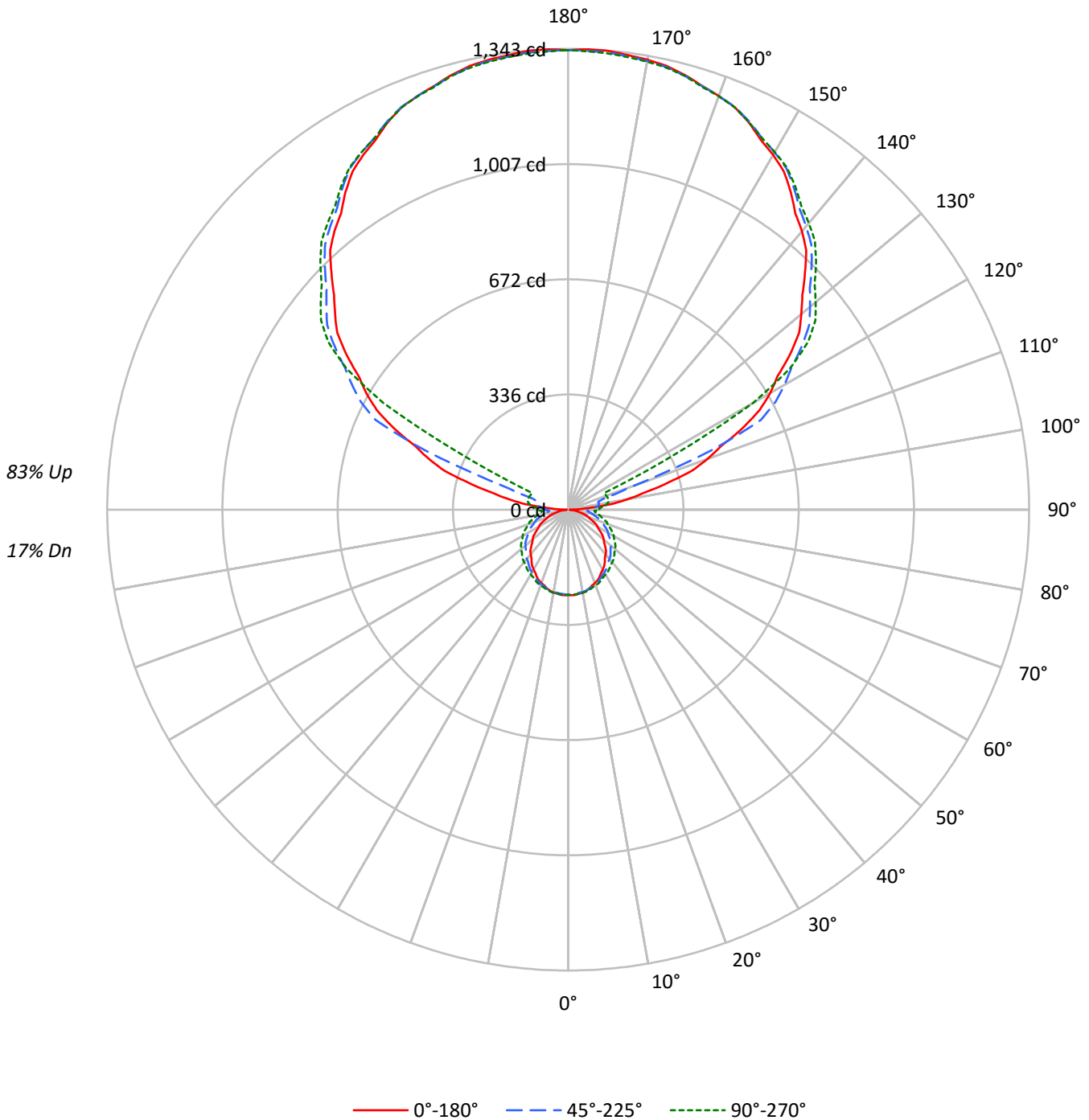
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331485-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-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	50	30	10	50	30	10	50	30	10	0																			
RCR																																														
0	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17																												
1	90	86	82	78	79	75	72	69	56	54	52	38	37	36	22	22	21	13																												
2	82	74	68	63	71	65	60	56	49	45	43	33	31	30	19	18	17	11																												
3	74	65	58	52	65	57	51	47	43	39	35	29	27	25	17	15	14	9																												
4	68	57	50	44	59	51	44	39	38	33	30	26	23	21	15	13	12	8																												
5	62	51	43	37	54	45	38	33	34	29	25	23	20	18	13	12	10	6																												
6	57	45	37	32	50	40	33	29	30	25	22	21	18	15	12	10	9	6																												
7	52	41	33	28	46	36	29	25	27	22	19	19	16	14	11	9	8	5																												
8	48	37	29	24	42	32	26	22	24	20	17	17	14	12	10	8	7	4																												
9	45	33	26	21	39	29	23	19	22	18	15	16	13	11	9	8	6	4																												
10	42	30	23	19	37	27	21	17	20	16	13	14	11	9	8	7	6	4																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4009	4009	4009
5°	4030	3859	3845
10°	4004	3746	3703
15°	3948	3624	3554
20°	3878	3495	3410
25°	3809	3371	3279
30°	3712	3242	3150
35°	3615	3118	3059
40°	3511	3013	2965
45°	3413	2919	2886
50°	3309	2833	2810
55°	3196	2741	2731
60°	3061	2646	2648
65°	2922	2534	2548
70°	2764	2415	2440
75°	2564	2299	2342
80°	2245	2177	2240
85°	1945	2073	2163



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CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	0.5
10°-20°	67.5	1.4
20°-30°	102.2	2.1
30°-40°	124.5	2.6
40°-50°	134.0	2.7
50°-60°	130.1	2.7
60°-70°	113.6	2.3
70°-80°	87.5	1.8
80°-90°	62.0	1.3
90°-100°	85.1	1.7
100°-110°	193.3	4.0
110°-120°	457.4	9.4
120°-130°	733.7	15.1
130°-140°	773.3	15.9
140°-150°	715.3	14.7
150°-160°	574.5	11.8
160°-170°	370.2	7.6
170°-180°	127.4	2.6
0°-30°	193.2	4.0
0°-40°	317.8	6.5
0°-60°	581.9	11.9
0°-90°	844.9	17.3
90°-120°	735.9	15.1
90°-150°	2958.2	60.7
90°-180°	4030.0	82.7
0°-180°	4875.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	248	248	248	248	248	
5°	249	248	246	248	248	24
15°	238	238	238	241	241	67
25°	216	218	222	226	227	99
35°	186	192	199	207	210	116
45°	153	162	175	186	190	118
55°	117	130	149	161	166	105
65°	80	98	119	133	138	79
75°	44	65	88	102	108	47
85°	13	35	58	73	78	14
90°	5	36	67	85	92	5
95°	66	53	79	97	101	79
105°	296	320	90	112	121	317
115°	559	580	620	202	116	550
125°	788	802	831	847	854	703
135°	975	991	1003	1019	1021	753
145°	1131	1131	1146	1155	1152	707
155°	1245	1238	1248	1253	1246	574
165°	1312	1307	1309	1315	1309	371
175°	1342	1336	1337	1343	1334	128
180°	1339	1339	1339	1339	1339	



TEST NUMBER: P331485-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	249.8	249.5	249.4	249.1	249.0	248.7	248.2	247.8	247.3	246.8	247.2
5°	249.1	248.8	248.6	248.3	248.0	247.7	247.2	246.8	246.3	245.8	246.3
7.5°	246.8	246.6	246.4	246.3	246.1	245.9	245.5	245.2	244.8	244.4	245.0
10°	245.1	244.9	244.8	244.6	244.5	244.2	244.0	243.8	243.5	243.3	243.9
12.5°	242.2	242.2	242.2	242.3	242.3	242.2	242.1	241.9	241.7	241.5	242.2
15°	237.5	237.7	237.8	238.0	238.1	238.2	238.2	238.2	238.2	238.2	238.9
17.5°	231.5	231.8	232.1	232.5	232.8	233.1	233.4	233.6	233.9	234.2	234.9
20°	227.4	227.8	228.2	228.6	229.0	229.4	229.7	230.0	230.4	230.7	231.6
22.5°	223.2	223.6	224.0	224.5	225.0	225.5	225.9	226.3	226.8	227.2	228.1
25°	215.9	216.5	217.1	217.6	218.2	218.8	219.5	220.2	220.9	221.7	222.6
27.5°	207.3	208.2	209.1	210.0	211.0	211.8	212.6	213.5	214.4	215.2	216.4
30°	201.5	202.6	203.6	204.6	205.7	206.8	207.8	208.8	209.8	210.9	212.1
32.5°	195.2	196.4	197.5	198.7	199.9	201.1	202.3	203.5	204.8	206.0	207.5
35°	186.1	187.4	188.8	190.1	191.5	192.9	194.5	196.0	197.5	199.0	200.7
37.5°	176.1	177.7	179.3	180.9	182.4	184.2	186.2	188.1	190.0	192.0	194.0
40°	169.5	171.3	173.0	174.8	176.5	178.5	180.6	182.8	185.0	187.1	189.2
42.5°	163.2	164.9	166.7	168.4	170.2	172.3	174.8	177.3	179.7	182.2	184.5
45°	152.6	154.7	156.9	159.1	161.2	163.7	166.5	169.3	172.1	174.9	177.4
47.5°	142.1	144.5	146.9	149.2	151.5	154.4	157.6	160.9	164.2	167.5	170.1
50°	135.0	137.4	139.9	142.4	144.9	147.9	151.5	155.1	158.7	162.3	165.0
52.5°	128.0	130.6	133.2	135.9	138.5	141.6	145.4	149.2	153.0	156.9	159.6
55°	116.9	119.9	122.7	125.6	128.5	132.0	136.2	140.3	144.5	148.6	151.5
57.5°	106.0	109.2	112.5	115.7	119.0	122.7	127.0	131.2	135.5	139.7	142.8
60°	98.2	101.7	105.1	108.5	112.0	116.0	120.6	125.1	129.7	134.2	137.3
62.5°	91.3	94.9	98.5	102.0	105.6	109.6	114.2	118.7	123.3	127.9	131.1
65°	79.9	83.8	87.7	91.7	95.5	99.9	104.6	109.3	114.1	118.7	122.1
67.5°	69.4	73.5	77.6	81.7	85.8	90.2	95.1	99.9	104.7	109.6	112.9
70°	61.9	66.1	70.2	74.4	78.5	83.1	88.0	93.0	98.0	102.9	106.4
72.5°	55.0	59.3	63.5	67.8	72.2	76.8	81.8	86.8	91.9	96.9	100.3
75°	44.3	48.7	53.2	57.7	62.2	66.9	72.1	77.2	82.3	87.5	90.9
77.5°	33.9	38.6	43.3	47.9	52.7	57.6	62.8	68.0	73.2	78.3	81.8
80°	27.0	31.8	36.8	41.6	46.5	51.6	56.7	61.9	67.1	72.3	75.7
82.5°	21.2	26.1	30.9	35.6	40.5	45.6	50.8	56.1	61.3	66.5	69.9
85°	13.0	17.9	22.9	27.8	32.8	37.8	42.9	48.1	53.2	58.3	61.6
87.5°	7.2	12.5	17.7	23.0	28.2	33.6	39.1	44.5	49.9	55.4	58.9
90°	4.6	11.6	18.6	25.6	32.6	39.5	46.3	53.2	60.0	66.9	71.1
92.5°	22.9	27.0	31.1	35.2	39.3	44.2	50.1	55.8	61.6	67.4	71.1
95°	65.8	62.5	59.2	55.8	52.4	53.9	60.3	66.5	72.9	79.1	83.3
97.5°	127.5	110.8	94.2	77.5	60.8	56.5	64.6	72.7	80.8	88.9	92.7
100°	174.0	147.5	121.0	94.4	67.9	58.7	66.8	74.9	83.1	91.3	95.9
102.5°	224.9	221.4	217.9	214.3	210.7	195.8	169.6	143.3	117.0	90.8	95.9
105°	296.4	305.1	313.9	322.7	331.5	308.6	254.0	199.3	144.7	90.1	95.2
107.5°	378.3	385.4	392.4	399.5	406.5	376.8	310.3	243.8	177.3	110.7	111.1
110°	430.7	436.8	443.0	449.1	455.2	429.1	370.8	312.5	254.1	195.8	176.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	480.4	485.7	491.1	496.4	501.8	498.6	487.0	475.3	463.7	452.0	376.0
115°	558.6	563.2	567.8	572.3	576.8	583.6	592.6	601.5	610.5	619.5	522.2
117.5°	628.3	632.9	637.5	642.2	646.9	652.8	659.8	666.9	673.8	680.9	659.1
120°	679.4	682.9	686.5	690.1	693.6	698.9	706.0	713.0	720.2	727.2	732.1
122.5°	722.8	726.4	729.9	733.4	737.0	742.4	749.6	756.8	764.0	771.3	775.0
125°	788.5	791.4	794.2	796.9	799.8	804.5	811.1	817.8	824.4	831.1	834.7
127.5°	848.4	851.4	854.4	857.5	860.5	864.6	869.7	874.8	880.0	885.1	889.2
130°	886.5	889.8	893.2	896.5	899.9	903.6	907.7	911.7	915.8	919.8	924.1
132.5°	925.2	928.0	930.9	933.7	936.6	939.8	943.5	947.1	950.9	954.5	958.4
135°	975.3	978.7	982.1	985.6	989.0	992.1	994.8	997.6	1000.3	1003.1	1006.9
137.5°	1026.2	1028.6	1030.9	1033.4	1035.8	1038.2	1040.8	1043.3	1045.9	1048.5	1052.0
140°	1059.5	1061.2	1062.8	1064.5	1066.1	1068.2	1070.7	1073.2	1075.8	1078.3	1081.5
142.5°	1087.4	1088.9	1090.4	1091.9	1093.3	1095.4	1098.2	1100.9	1103.7	1106.4	1109.2
145°	1130.8	1130.7	1130.4	1130.2	1130.0	1131.7	1135.4	1139.1	1142.7	1146.4	1148.3
147.5°	1169.0	1168.2	1167.4	1166.6	1165.8	1167.2	1170.8	1174.4	1178.1	1181.6	1182.8
150°	1193.9	1192.4	1190.9	1189.3	1187.8	1188.8	1192.2	1195.7	1199.1	1202.6	1203.9
152.5°	1214.8	1213.1	1211.4	1209.7	1208.1	1208.9	1212.1	1215.4	1218.7	1221.9	1223.3
155°	1245.2	1243.3	1241.3	1239.4	1237.5	1237.8	1240.4	1242.9	1245.5	1248.2	1249.4
157.5°	1269.1	1267.4	1265.7	1264.2	1262.5	1262.6	1264.4	1266.2	1268.0	1269.9	1271.3
160°	1283.0	1281.8	1280.4	1279.1	1277.9	1277.9	1279.1	1280.4	1281.8	1283.0	1284.3
162.5°	1295.5	1294.1	1292.8	1291.6	1290.2	1290.1	1291.3	1292.4	1293.6	1294.7	1296.1
165°	1312.1	1310.8	1309.5	1308.2	1306.9	1306.6	1307.3	1307.9	1308.5	1309.2	1310.7
167.5°	1324.5	1323.2	1321.9	1320.6	1319.3	1319.0	1319.6	1320.2	1320.8	1321.4	1322.9
170°	1331.5	1330.2	1328.9	1327.6	1326.3	1325.9	1326.3	1326.7	1327.1	1327.6	1329.1
172.5°	1336.1	1334.8	1333.6	1332.2	1330.9	1330.5	1330.9	1331.3	1331.8	1332.2	1333.7
175°	1342.1	1340.6	1339.1	1337.6	1336.1	1335.5	1336.0	1336.4	1336.9	1337.3	1338.8
177.5°	1343.1	1341.9	1340.7	1339.5	1338.2	1337.8	1337.9	1338.1	1338.2	1338.5	1339.7
180°	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	247.5	247.8	248.1	248.3	248.1	248.0	247.9	247.7
5°	246.8	247.2	247.7	247.9	247.8	247.7	247.6	247.6
7.5°	245.6	246.1	246.8	247.0	246.9	246.8	246.8	246.7
10°	244.5	245.2	245.8	246.1	246.1	246.0	245.9	245.8
12.5°	242.8	243.4	244.1	244.4	244.3	244.2	244.2	244.1
15°	239.6	240.4	241.1	241.5	241.4	241.3	241.2	241.1
17.5°	235.7	236.4	237.1	237.5	237.5	237.5	237.5	237.5
20°	232.4	233.3	234.2	234.6	234.6	234.6	234.6	234.6
22.5°	229.0	229.9	230.8	231.2	231.4	231.5	231.6	231.8
25°	223.6	224.6	225.5	226.1	226.3	226.6	226.8	227.0
27.5°	217.6	218.9	220.1	220.8	220.9	221.1	221.3	221.5
30°	213.4	214.8	216.0	216.7	217.0	217.2	217.5	217.7
32.5°	208.9	210.4	211.9	212.9	213.3	213.7	214.1	214.5
35°	202.6	204.3	206.0	207.2	207.8	208.3	208.9	209.5
37.5°	195.9	197.9	199.9	201.1	201.7	202.3	202.9	203.4
40°	191.3	193.4	195.4	196.9	197.6	198.3	199.0	199.7
42.5°	186.8	189.0	191.3	192.8	193.5	194.2	195.0	195.7
45°	179.8	182.4	184.8	186.5	187.3	188.1	188.9	189.6
47.5°	172.7	175.2	177.8	179.6	180.5	181.3	182.2	183.1
50°	167.7	170.5	173.2	175.0	175.9	176.7	177.6	178.5
52.5°	162.4	165.2	167.9	169.8	170.8	171.7	172.7	173.6
55°	154.4	157.2	160.2	162.1	163.1	164.2	165.2	166.3
57.5°	145.9	149.0	152.1	154.2	155.3	156.3	157.3	158.4
60°	140.3	143.4	146.4	148.5	149.6	150.7	151.9	153.0
62.5°	134.4	137.6	140.9	143.0	144.0	145.0	146.2	147.2
65°	125.3	128.6	131.9	134.0	135.1	136.1	137.1	138.2
67.5°	116.1	119.5	122.8	125.0	126.0	127.1	128.3	129.4
70°	109.8	113.2	116.7	118.9	119.9	120.8	121.8	122.7
72.5°	103.6	107.0	110.4	112.6	113.8	114.9	116.1	117.2
75°	94.3	97.8	101.2	103.5	104.5	105.5	106.5	107.6
77.5°	85.2	88.6	92.1	94.3	95.5	96.6	97.7	98.8
80°	79.1	82.4	85.8	88.0	89.1	90.2	91.3	92.4
82.5°	73.3	76.7	80.0	82.2	83.3	84.4	85.4	86.4
85°	65.0	68.4	71.8	74.0	75.1	76.2	77.3	78.4
87.5°	62.3	65.8	69.3	71.6	72.7	73.8	74.9	76.0
90°	75.4	79.7	84.0	86.8	88.2	89.6	91.0	92.4
92.5°	74.8	78.5	82.1	84.6	85.9	87.1	88.2	89.5
95°	87.4	91.5	95.6	98.1	98.8	99.6	100.3	101.1
97.5°	96.5	100.4	104.2	106.6	107.9	109.1	110.3	111.5
100°	100.6	105.3	110.0	113.0	114.2	115.6	116.8	118.2
102.5°	101.0	106.2	111.3	114.6	116.1	117.6	119.1	120.6
105°	100.4	105.6	110.7	114.2	115.9	117.6	119.4	121.1
107.5°	111.3	111.6	111.9	112.9	114.6	116.4	118.1	119.9
110°	157.9	138.9	119.9	111.3	113.0	114.8	116.5	118.3



TEST NUMBER: P331485-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	300.0	224.0	148.0	110.7	112.3	113.9	115.5	117.1
115°	424.8	327.6	230.3	174.3	159.7	145.0	130.5	115.8
117.5°	637.4	615.6	593.9	557.9	507.8	457.6	407.5	357.4
120°	736.9	741.7	746.6	734.8	706.6	678.4	650.2	622.1
122.5°	778.7	782.4	786.2	785.5	780.7	775.8	770.9	766.0
125°	838.4	842.1	845.7	848.3	849.6	851.0	852.4	853.7
127.5°	893.4	897.6	901.8	904.3	905.1	905.9	906.8	907.6
130°	928.4	932.6	936.9	939.3	939.7	940.2	940.6	941.0
132.5°	962.3	966.1	970.0	972.2	972.6	973.0	973.4	973.8
135°	1010.7	1014.5	1018.4	1020.4	1020.6	1020.8	1021.0	1021.2
137.5°	1055.6	1059.1	1062.8	1064.5	1064.3	1064.1	1063.9	1063.7
140°	1084.7	1088.0	1091.2	1092.5	1091.9	1091.3	1090.7	1090.1
142.5°	1112.0	1114.8	1117.5	1118.6	1117.9	1117.3	1116.7	1115.9
145°	1150.3	1152.3	1154.4	1155.0	1154.3	1153.7	1152.9	1152.3
147.5°	1184.0	1185.2	1186.4	1186.6	1185.9	1185.2	1184.5	1183.8
150°	1205.1	1206.5	1207.8	1207.8	1206.8	1205.7	1204.6	1203.6
152.5°	1224.6	1225.8	1227.2	1227.1	1225.7	1224.2	1222.8	1221.4
155°	1250.7	1252.0	1253.3	1253.1	1251.3	1249.7	1247.9	1246.2
157.5°	1272.8	1274.2	1275.7	1275.6	1273.9	1272.2	1270.6	1268.8
160°	1285.6	1286.9	1288.2	1288.1	1286.6	1285.1	1283.6	1282.1
162.5°	1297.6	1299.0	1300.5	1300.3	1298.5	1296.6	1294.7	1292.9
165°	1312.2	1313.7	1315.2	1315.2	1313.7	1312.2	1310.7	1309.2
167.5°	1324.4	1325.9	1327.4	1327.2	1325.2	1323.3	1321.4	1319.5
170°	1330.6	1332.1	1333.6	1333.4	1331.5	1329.5	1327.6	1325.6
172.5°	1335.2	1336.7	1338.2	1338.1	1336.1	1334.2	1332.2	1330.3
175°	1340.3	1341.8	1343.3	1343.0	1340.8	1338.7	1336.5	1334.4
177.5°	1340.8	1342.0	1343.3	1343.1	1341.6	1340.0	1338.5	1336.9
180°	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2	1339.2

(END OF REPORT)