

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: P331779-927

Luminaire Tested: **S122RDIW-S290D1240U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331779-927
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: S122RDIW-S290D1240U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4745.8 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

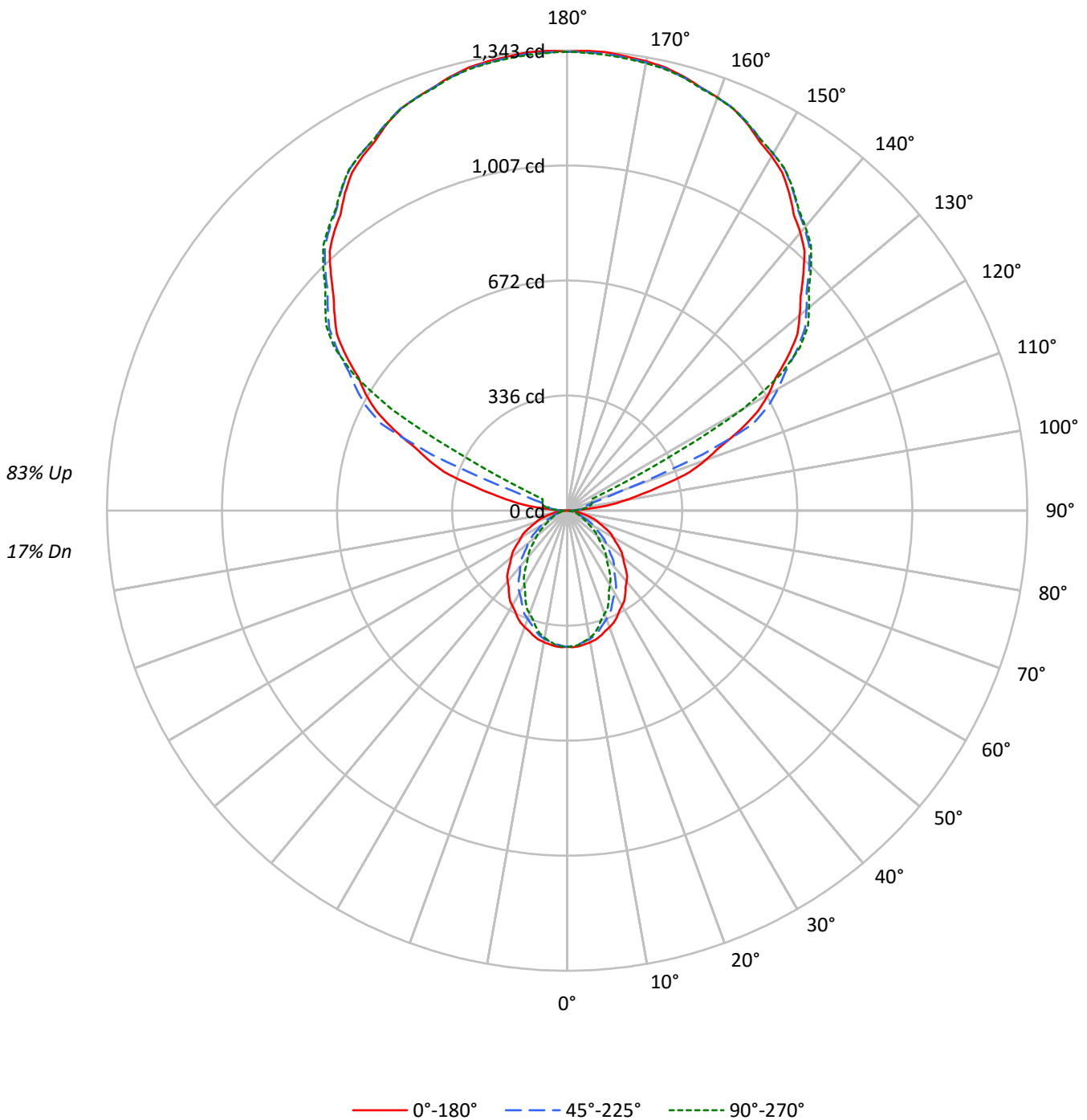
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331779-927

CATALOG NUMBER: S122RDIW-S290D1240U927-4F0-1E-UDD-F

Luminous Intensity Polar Plot





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CATALOG NUMBER: S122RDIW-S290D1240U927-4F0-1E-UDD-F

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	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17
1	91	87	83	80	80	76	73	71	57	55	53	39	38	37	23	23	22	15
2	83	76	70	65	72	67	62	58	50	47	44	35	33	31	21	20	19	13
3	75	67	60	54	66	59	53	49	44	41	37	31	29	27	18	17	16	11
4	69	59	52	46	60	52	46	41	39	35	32	28	25	23	17	15	14	10
5	63	52	45	39	55	46	40	35	35	31	27	25	22	20	15	13	12	8
6	58	47	39	34	51	42	35	30	32	27	24	22	19	17	14	12	11	7
7	54	42	35	29	47	37	31	27	29	24	21	20	17	15	12	11	10	7
8	50	38	31	26	44	34	28	23	26	21	18	18	16	13	11	10	9	6
9	46	35	28	23	40	31	25	21	24	19	16	17	14	12	10	9	8	5
10	43	32	25	20	38	28	22	18	22	17	15	15	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6421	6421	6421
5°	6446	6340	6374
10°	6396	6237	6184
15°	6322	6051	5877
20°	6220	5787	5498
25°	6116	5489	5129
30°	5972	5179	4657
35°	5830	4845	4242
40°	5689	4498	3762
45°	5523	4108	3329
50°	5350	3715	2901
55°	5177	3291	2494
60°	4973	2848	2070
65°	4741	2392	1883
70°	4471	1969	1733
75°	4130	1797	1616
80°	3645	1609	1469
85°	2853	1260	1260



TEST NUMBER: P331779-927

CATALOG NUMBER: S122RDIW-S290D1240U927-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.2	0.8
10°-20°	102.2	2.2
20°-30°	143.5	3.0
30°-40°	156.5	3.3
40°-50°	143.9	3.0
50°-60°	113.0	2.4
60°-70°	73.7	1.6
70°-80°	38.0	0.8
80°-90°	13.2	0.3
90°-100°	44.7	0.9
100°-110°	163.8	3.5
110°-120°	437.9	9.2
120°-130°	722.9	15.2
130°-140°	768.8	16.2
140°-150°	714.5	15.1
150°-160°	574.5	12.1
160°-170°	370.2	7.8
170°-180°	127.4	2.7
0°-30°	282.9	6.0
0°-40°	439.4	9.3
0°-60°	696.4	14.7
0°-90°	821.2	17.3
90°-120°	646.4	13.6
90°-150°	2852.5	60.1
90°-180°	3925.0	82.7
0°-180°	4745.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	398	396	391	394	393	38
15°	378	374	362	355	352	106
25°	343	331	308	294	288	158
35°	296	277	246	224	215	185
45°	242	217	180	155	146	187
55°	184	155	117	96	89	164
65°	124	95	63	51	49	123
75°	66	42	29	26	26	70
85°	15	8	7	7	7	18
90°	1	12	19	24	26	4
95°	63	33	38	42	42	77
105°	295	307	59	69	74	315
115°	557	574	598	170	80	548
125°	788	801	819	825	828	702
135°	975	990	999	1008	1007	753
145°	1131	1131	1146	1152	1148	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: P331779-927

CATALOG NUMBER: S122RDIW-S290D1240U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	399.1	398.8	398.5	398.2	397.8	397.3	396.6	395.9	395.2	394.5	395.1
5°	397.7	397.3	396.9	396.5	396.1	395.3	394.3	393.2	392.2	391.2	391.9
7.5°	393.6	393.1	392.5	392.1	391.6	390.7	389.5	388.2	387.1	385.9	386.0
10°	390.1	389.5	389.0	388.4	387.9	386.7	385.2	383.6	382.0	380.4	380.2
12.5°	385.8	385.1	384.4	383.7	383.0	381.7	379.6	377.6	375.5	373.4	373.0
15°	378.2	377.3	376.4	375.6	374.7	372.9	370.2	367.5	364.7	362.0	360.5
17.5°	368.9	367.6	366.2	364.9	363.5	361.2	357.7	354.2	350.7	347.2	345.4
20°	362.0	360.4	358.9	357.2	355.6	352.8	348.8	344.8	340.9	336.8	334.9
22.5°	354.6	352.8	350.9	349.2	347.4	344.2	339.7	335.2	330.7	326.2	323.6
25°	343.3	340.7	338.2	335.6	333.1	329.2	323.8	318.6	313.3	308.1	304.8
27.5°	329.8	327.0	324.2	321.5	318.6	314.3	308.3	302.4	296.4	290.5	286.7
30°	320.3	317.3	314.2	311.2	308.2	303.4	297.0	290.7	284.2	277.8	273.8
32.5°	311.1	307.5	304.0	300.4	296.8	291.8	285.3	278.8	272.3	265.7	261.1
35°	295.8	291.8	287.6	283.6	279.5	273.9	266.9	259.8	252.9	245.8	240.7
37.5°	280.6	276.1	271.6	267.1	262.6	256.7	249.1	241.6	234.2	226.6	221.1
40°	269.9	265.1	260.3	255.5	250.7	244.5	236.7	228.9	221.2	213.4	207.7
42.5°	259.0	253.9	248.8	243.8	238.8	232.2	224.2	216.2	208.2	200.2	194.3
45°	241.9	236.5	231.1	225.8	220.4	213.5	205.1	196.7	188.3	179.9	174.3
47.5°	225.1	219.4	213.8	208.1	202.4	195.3	186.6	177.9	169.2	160.6	155.0
50°	213.0	207.4	201.7	196.0	190.4	183.1	174.3	165.5	156.7	147.9	142.4
52.5°	201.2	195.3	189.4	183.5	177.5	170.2	161.6	153.0	144.4	135.8	130.5
55°	183.9	177.7	171.4	165.2	158.9	151.5	142.8	134.2	125.6	116.9	112.2
57.5°	166.1	159.7	153.3	146.9	140.5	133.2	124.8	116.6	108.3	100.0	95.5
60°	154.0	147.7	141.2	134.8	128.4	121.1	112.9	104.6	96.4	88.2	84.1
62.5°	142.2	135.9	129.4	123.0	116.6	109.5	101.6	93.8	86.0	78.1	74.2
65°	124.1	117.6	111.2	104.7	98.2	91.4	84.2	77.0	69.8	62.6	59.9
67.5°	106.7	100.3	93.9	87.5	81.0	74.5	68.0	61.6	55.1	48.6	47.4
70°	94.7	88.4	82.1	76.0	69.7	63.8	58.3	52.8	47.3	41.7	41.0
72.5°	83.1	77.2	71.1	65.2	59.2	54.0	49.6	45.2	40.7	36.3	35.6
75°	66.2	60.6	55.1	49.4	43.8	39.7	36.9	34.2	31.5	28.8	28.2
77.5°	49.6	44.7	39.8	34.9	29.9	26.9	25.5	24.2	22.9	21.6	21.3
80°	39.2	35.2	31.1	27.0	22.9	20.4	19.6	18.9	18.1	17.3	17.0
82.5°	29.7	26.5	23.4	20.2	17.0	15.1	14.6	14.0	13.5	13.0	12.8
85°	15.4	13.8	12.1	10.5	8.8	7.8	7.5	7.3	7.1	6.8	6.8
87.5°	4.8	4.8	4.8	4.7	4.7	4.8	5.1	5.5	5.9	6.2	6.3
90°	1.0	3.3	5.7	8.1	10.5	12.5	14.2	15.9	17.7	19.4	20.4
92.5°	19.6	19.3	19.2	18.9	18.7	19.0	19.9	20.8	21.6	22.5	23.1
95°	63.0	55.8	48.8	41.7	34.5	31.8	33.3	34.8	36.3	37.8	38.9
97.5°	125.0	105.0	84.9	65.0	44.9	36.6	40.1	43.6	47.1	50.6	51.4
100°	171.5	142.0	112.5	83.0	53.6	40.6	44.3	47.9	51.6	55.2	57.0
102.5°	222.7	216.4	210.2	204.0	197.7	179.3	148.6	118.0	87.4	56.8	59.0
105°	294.6	301.0	307.5	313.9	320.4	294.3	235.5	176.7	117.9	59.1	61.5
107.5°	376.6	381.8	387.0	392.2	397.4	364.8	294.3	223.8	153.3	82.8	80.3
110°	429.3	433.8	438.3	442.8	447.3	418.5	356.3	294.1	231.8	169.6	148.1



TEST NUMBER: P331779-927

CATALOG NUMBER: S122RDIW-S290D1240U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	478.9	482.9	486.9	490.9	495.0	489.3	473.9	458.5	443.1	427.7	349.2
115°	557.2	560.9	564.5	568.2	571.9	576.4	581.8	587.2	592.6	597.9	498.2
117.5°	627.2	631.3	635.3	639.4	643.6	647.5	651.1	654.8	658.5	662.3	638.1
120°	678.3	681.6	684.8	688.0	691.3	694.8	698.7	702.6	706.5	710.3	712.9
122.5°	721.8	725.2	728.6	732.0	735.4	739.2	743.4	747.6	751.9	756.1	757.6
125°	787.8	790.6	793.4	796.2	799.0	802.5	806.6	810.6	814.8	818.9	820.4
127.5°	847.7	850.8	853.9	857.1	860.2	863.2	866.3	869.3	872.4	875.4	877.7
130°	885.7	889.1	892.6	896.0	899.5	902.4	904.8	907.1	909.5	911.9	914.3
132.5°	924.5	927.4	930.3	933.3	936.2	938.8	941.2	943.6	945.9	948.3	950.3
135°	974.9	978.3	981.8	985.2	988.6	991.3	993.2	995.2	997.1	999.1	1001.2
137.5°	1025.8	1028.3	1030.6	1033.1	1035.5	1037.8	1040.0	1042.2	1044.3	1046.6	1048.7
140°	1059.1	1060.9	1062.6	1064.3	1066.0	1068.1	1070.5	1072.9	1075.2	1077.6	1079.5
142.5°	1087.1	1088.6	1090.2	1091.7	1093.3	1095.4	1098.1	1100.8	1103.5	1106.3	1108.0
145°	1130.8	1130.7	1130.4	1130.2	1130.0	1131.7	1135.4	1139.1	1142.7	1146.4	1147.9
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



TEST NUMBER: P331779-927

CATALOG NUMBER: S122RDIW-S290D1240U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	395.8	396.4	397.0	397.3	397.2	397.0	396.9	396.8
5°	392.6	393.3	394.0	394.3	394.0	393.8	393.6	393.3
7.5°	386.3	386.5	386.7	386.6	386.2	385.7	385.3	384.9
10°	379.9	379.7	379.5	379.1	378.6	378.1	377.6	377.2
12.5°	372.6	372.2	371.8	371.1	370.3	369.6	368.8	368.0
15°	359.0	357.4	355.9	354.8	354.0	353.2	352.4	351.6
17.5°	343.6	341.7	340.0	338.4	337.0	335.6	334.2	332.9
20°	332.9	330.8	328.8	326.9	325.2	323.4	321.7	320.0
22.5°	321.1	318.5	315.9	313.9	312.6	311.3	310.0	308.7
25°	301.5	298.2	294.9	292.7	291.5	290.3	289.1	287.9
27.5°	282.8	279.0	275.2	272.4	270.5	268.5	266.6	264.7
30°	269.7	265.6	261.5	258.4	256.2	254.1	251.9	249.8
32.5°	256.4	251.8	247.1	243.8	241.8	239.7	237.7	235.7
35°	235.8	230.7	225.6	222.2	220.5	218.7	217.0	215.2
37.5°	215.6	210.0	204.5	200.7	198.7	196.6	194.6	192.6
40°	202.1	196.4	190.7	186.8	184.7	182.7	180.5	178.5
42.5°	188.4	182.5	176.7	172.8	170.7	168.7	166.7	164.7
45°	168.6	162.9	157.2	153.4	151.5	149.6	147.7	145.8
47.5°	149.2	143.6	138.0	134.3	132.5	130.8	129.0	127.3
50°	136.9	131.3	125.8	122.2	120.6	118.9	117.2	115.5
52.5°	125.2	119.9	114.5	111.1	109.6	108.0	106.4	104.9
55°	107.3	102.6	97.8	94.6	93.1	91.6	90.1	88.6
57.5°	91.2	86.7	82.4	79.5	78.3	77.0	75.7	74.4
60°	80.0	76.0	71.9	69.2	67.9	66.6	65.4	64.1
62.5°	70.3	66.5	62.6	60.2	59.4	58.7	57.9	57.1
65°	57.2	54.4	51.7	50.2	50.0	49.7	49.5	49.3
67.5°	46.2	44.9	43.6	42.9	42.6	42.4	42.1	41.9
70°	40.2	39.4	38.6	38.0	37.6	37.3	37.0	36.7
72.5°	34.9	34.2	33.6	33.2	33.0	32.8	32.6	32.4
75°	27.6	27.1	26.5	26.2	26.1	26.1	26.0	25.9
77.5°	20.9	20.6	20.3	20.1	20.0	19.8	19.7	19.6
80°	16.6	16.3	16.0	15.8	15.8	15.8	15.8	15.8
82.5°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
85°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
87.5°	6.5	6.7	6.8	6.9	7.0	7.1	7.1	7.2
90°	21.5	22.6	23.7	24.5	24.9	25.3	25.7	26.1
92.5°	23.6	24.2	24.7	25.1	25.3	25.7	25.9	26.1
95°	39.9	41.0	42.1	42.5	42.3	42.1	41.9	41.7
97.5°	52.3	53.2	54.0	54.6	54.8	55.1	55.4	55.6
100°	58.7	60.4	62.1	63.2	63.6	64.1	64.5	65.0
102.5°	61.2	63.5	65.8	67.2	67.7	68.4	69.0	69.6
105°	63.8	66.2	68.6	70.2	71.1	71.9	72.8	73.7
107.5°	78.0	75.5	73.1	72.3	73.2	74.1	74.9	75.8
110°	126.5	105.0	83.4	73.1	74.0	74.9	75.7	76.5



TEST NUMBER: P331779-927

CATALOG NUMBER: S122RDIW-S290D1240U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	270.6	192.1	113.5	74.5	75.3	76.0	76.6	77.3
115°	398.5	298.8	199.1	141.5	126.0	110.5	95.0	79.5
117.5°	614.0	589.9	565.8	528.2	477.3	426.4	375.4	324.4
120°	715.5	718.0	720.6	707.4	678.3	649.3	620.2	591.1
122.5°	759.1	760.7	762.2	760.2	754.6	748.9	743.3	737.6
125°	821.9	823.4	824.9	825.9	826.6	827.3	827.9	828.5
127.5°	879.8	882.0	884.2	885.4	885.5	885.7	885.7	885.9
130°	916.6	919.0	921.3	922.4	922.2	922.0	921.8	921.5
132.5°	952.4	954.3	956.4	957.3	957.1	956.9	956.6	956.5
135°	1003.4	1005.5	1007.7	1008.5	1008.1	1007.7	1007.3	1006.9
137.5°	1050.8	1052.9	1055.0	1055.7	1054.9	1054.2	1053.5	1052.7
140°	1081.5	1083.4	1085.4	1085.8	1084.7	1083.6	1082.5	1081.5
142.5°	1109.8	1111.6	1113.3	1113.6	1112.6	1111.5	1110.4	1109.4
145°	1149.4	1150.9	1152.4	1152.6	1151.5	1150.5	1149.4	1148.3
147.5°	1183.9	1185.0	1186.1	1186.2	1185.3	1184.4	1183.5	1182.6
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)