

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: P331784-930

Luminaire Tested: **S122RDIW-S290D1440U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331784-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S290D1440U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4920.2 lumens
Efficiency: N/A
Efficacy: 92.1 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

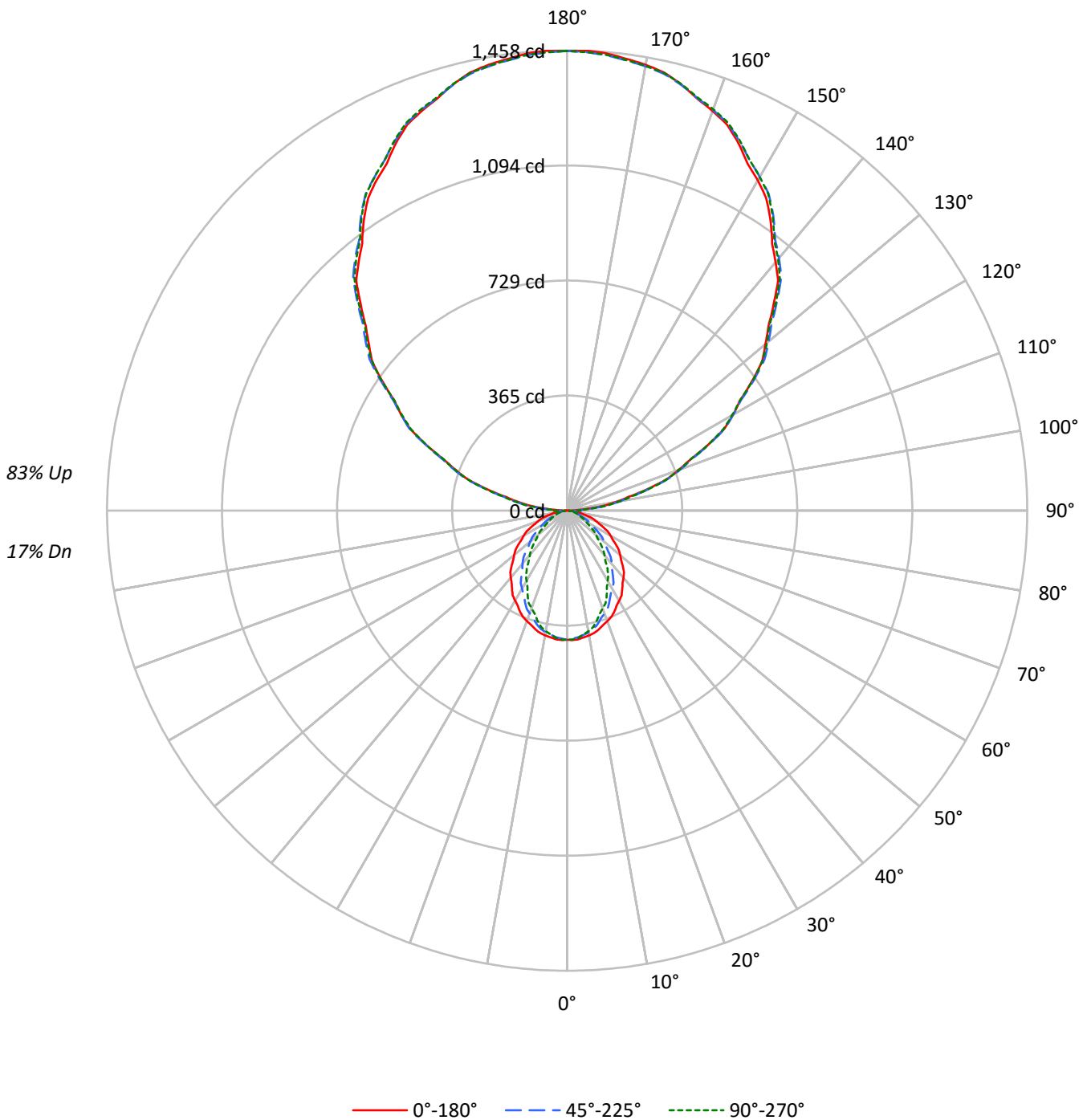
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331784-930

CATALOG NUMBER: S122RDIW-S290D1440U930-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P331784-930

CATALOG NUMBER: S122RDIW-S290D1440U930-4F0-1E-UDD-F1

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	51	46	60	52	46	41	39	35	32	27	25	23	16	15	14	9
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	41	35	30	32	27	24	22	19	17	13	12	11	7
7	54	42	35	29	47	37	31	26	28	24	21	20	17	15	12	11	10	7
8	50	38	31	26	43	34	28	23	26	21	18	18	16	13	11	10	9	6
9	46	35	27	23	40	31	25	21	24	19	16	17	14	12	10	9	8	5
10	43	31	25	20	38	28	22	18	22	17	15	15	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6608	6608	6608
5°	6634	6525	6561
10°	6583	6419	6365
15°	6506	6228	6048
20°	6402	5957	5658
25°	6296	5649	5279
30°	6145	5330	4793
35°	6000	4987	4366
40°	5855	4628	3872
45°	5683	4229	3425
50°	5506	3823	2987
55°	5326	3386	2567
60°	5118	2929	2131
65°	4883	2460	1937
70°	4598	2030	1780
75°	4255	1847	1666
80°	3756	1655	1516
85°	2946	1297	1297



TEST NUMBER: P331784-930

CATALOG NUMBER: S122RDIW-S290D1440U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	0.8
10°-20°	105.2	2.1
20°-30°	147.7	3.0
30°-40°	161.1	3.3
40°-50°	148.1	3.0
50°-60°	116.3	2.4
60°-70°	75.8	1.5
70°-80°	39.1	0.8
80°-90°	16.0	0.3
90°-100°	92.3	1.9
100°-110°	286.6	5.8
110°-120°	490.0	10.0
120°-130°	644.3	13.1
130°-140°	723.2	14.7
140°-150°	709.1	14.4
150°-160°	594.8	12.1
160°-170°	394.5	8.0
170°-180°	137.9	2.8
0°-30°	291.2	5.9
0°-40°	452.3	9.2
0°-60°	716.7	14.6
0°-90°	847.5	17.2
90°-120°	868.9	17.7
90°-150°	2945.5	59.9
90°-180°	4073.0	82.8
0°-180°	4920.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	409	409	409	409	409	
5°	409	407	403	406	405	39
15°	389	385	373	366	362	110
25°	353	341	317	302	296	162
35°	304	285	253	230	222	190
45°	249	223	185	160	150	192
55°	189	160	120	99	91	169
65°	128	98	64	52	51	127
75°	68	43	30	27	27	72
85°	16	8	7	7	7	19
90°	1	17	43	41	42	4
95°	64	76	79	79	76	73
105°	264	268	270	273	273	279
115°	492	498	497	495	492	486
125°	715	726	723	719	718	639
135°	926	938	942	940	937	715
145°	1123	1132	1139	1140	1136	702
155°	1284	1288	1292	1297	1294	591
165°	1398	1396	1396	1404	1399	394
175°	1454	1450	1448	1456	1449	138
180°	1456	1456	1456	1456	1456	



TEST NUMBER: P331784-930

CATALOG NUMBER: S122RDIW-S290D1440U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	410.7	410.4	410.1	409.8	409.4	408.9	408.1	407.5	406.8	406.0	406.7
5°	409.3	408.9	408.5	408.1	407.6	406.8	405.8	404.7	403.7	402.6	403.3
7.5°	405.0	404.6	404.0	403.5	403.0	402.1	400.9	399.6	398.4	397.1	397.3
10°	401.5	400.9	400.3	399.7	399.2	398.0	396.4	394.8	393.1	391.5	391.3
12.5°	397.1	396.3	395.6	394.9	394.2	392.8	390.7	388.6	386.5	384.3	383.9
15°	389.2	388.3	387.4	386.5	385.6	383.8	381.0	378.2	375.4	372.6	371.0
17.5°	379.7	378.3	376.9	375.5	374.1	371.7	368.1	364.5	360.9	357.3	355.5
20°	372.6	371.0	369.3	367.6	366.0	363.1	359.0	354.9	350.8	346.7	344.6
22.5°	364.9	363.1	361.2	359.4	357.5	354.2	349.6	345.0	340.4	335.7	333.0
25°	353.4	350.7	348.1	345.4	342.8	338.8	333.3	327.9	322.5	317.1	313.6
27.5°	339.4	336.6	333.7	330.8	327.9	323.4	317.3	311.2	305.1	299.0	295.1
30°	329.6	326.5	323.3	320.2	317.2	312.3	305.7	299.1	292.5	285.9	281.8
32.5°	320.2	316.5	312.8	309.2	305.5	300.4	293.7	286.9	280.2	273.5	268.7
35°	304.4	300.3	296.0	291.9	287.6	281.9	274.7	267.4	260.2	253.0	247.8
37.5°	288.8	284.1	279.5	274.9	270.3	264.2	256.4	248.7	241.0	233.3	227.6
40°	277.8	272.9	267.9	262.9	258.0	251.6	243.6	235.6	227.6	219.6	213.8
42.5°	266.5	261.3	256.1	250.9	245.7	239.0	230.7	222.5	214.3	206.0	200.0
45°	248.9	243.4	237.8	232.4	226.8	219.7	211.1	202.4	193.8	185.2	179.4
47.5°	231.7	225.8	220.0	214.2	208.3	201.0	192.0	183.1	174.1	165.3	159.5
50°	219.2	213.4	207.6	201.7	195.9	188.4	179.4	170.3	161.3	152.2	146.5
52.5°	207.1	201.0	194.9	188.8	182.7	175.2	166.3	157.5	148.6	139.7	134.3
55°	189.2	182.9	176.4	170.0	163.5	156.0	147.0	138.1	129.2	120.3	115.4
57.5°	171.0	164.4	157.8	151.2	144.6	137.1	128.5	120.0	111.5	102.9	98.3
60°	158.5	152.0	145.4	138.8	132.2	124.7	116.2	107.7	99.2	90.7	86.5
62.5°	146.3	139.8	133.2	126.6	120.0	112.7	104.6	96.5	88.5	80.4	76.4
65°	127.8	121.1	114.5	107.8	101.1	94.1	86.7	79.2	71.8	64.4	61.6
67.5°	109.8	103.2	96.6	90.0	83.4	76.7	70.0	63.4	56.7	50.1	48.8
70°	97.4	91.0	84.5	78.2	71.7	65.7	60.0	54.3	48.7	43.0	42.2
72.5°	85.5	79.4	73.2	67.1	60.9	55.6	51.0	46.5	41.9	37.3	36.6
75°	68.2	62.4	56.7	50.9	45.1	40.8	38.0	35.2	32.4	29.6	29.0
77.5°	51.0	46.0	40.9	35.9	30.8	27.6	26.3	24.9	23.6	22.3	21.9
80°	40.4	36.2	32.0	27.8	23.6	21.0	20.2	19.4	18.6	17.8	17.4
82.5°	30.6	27.3	24.1	20.8	17.5	15.6	15.0	14.4	13.9	13.4	13.1
85°	15.9	14.2	12.5	10.8	9.0	8.0	7.7	7.5	7.3	7.0	7.0
87.5°	5.0	5.1	5.2	5.4	5.5	6.2	7.3	8.6	9.8	11.0	10.8
90°	1.2	4.5	7.7	11.1	14.3	19.0	25.0	31.0	37.0	43.0	42.5
92.5°	21.9	24.3	26.7	29.1	31.5	33.4	34.8	36.3	37.7	39.1	39.2
95°	63.9	66.6	69.4	72.1	74.8	76.5	77.0	77.5	78.1	78.7	78.7
97.5°	116.8	119.2	121.6	124.0	126.4	128.1	129.1	130.2	131.2	132.2	132.2
100°	156.1	158.2	160.5	162.7	164.9	166.3	167.1	168.0	168.8	169.6	169.6
102.5°	197.4	199.2	200.9	202.6	204.4	205.8	206.8	207.8	208.9	209.9	210.2
105°	264.2	265.1	265.9	266.7	267.5	268.2	268.8	269.3	269.9	270.4	270.9
107.5°	331.6	332.8	334.0	335.3	336.4	337.0	337.0	337.0	337.0	337.0	337.2
110°	374.9	376.5	378.1	379.8	381.4	382.3	382.3	382.3	382.3	382.3	382.3



TEST NUMBER: P331784-930

CATALOG NUMBER: S122RDIW-S290D1440U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	422.1	423.7	425.3	427.0	428.6	429.3	429.1	428.9	428.7	428.4	427.8
115°	491.6	493.3	494.9	496.6	498.2	498.7	498.2	497.7	497.1	496.6	496.3
117.5°	561.0	563.1	565.3	567.5	569.7	570.1	568.5	567.0	565.4	563.9	563.3
120°	607.2	609.4	611.6	613.8	616.0	616.0	613.8	611.6	609.4	607.2	607.2
122.5°	649.5	652.1	654.7	657.3	660.0	660.5	659.0	657.5	655.9	654.4	653.7
125°	715.3	717.8	720.2	722.7	725.2	726.0	725.2	724.4	723.6	722.7	721.9
127.5°	779.5	782.6	785.7	788.9	792.0	793.0	792.1	791.1	790.1	789.1	788.1
130°	819.8	823.4	827.0	830.5	834.1	835.5	834.9	834.5	833.9	833.3	832.8
132.5°	865.0	868.0	870.8	873.8	876.6	878.2	878.2	878.3	878.5	878.6	877.3
135°	925.5	928.5	931.6	934.5	937.5	939.3	939.9	940.4	940.9	941.5	941.3
137.5°	989.2	991.6	994.1	996.5	999.0	1000.6	1001.4	1002.0	1002.7	1003.5	1003.2
140°	1027.5	1030.0	1032.5	1034.9	1037.4	1039.3	1040.6	1042.0	1043.4	1044.7	1044.7
142.5°	1066.9	1069.3	1071.8	1074.2	1076.7	1078.4	1079.3	1080.3	1081.2	1082.1	1082.3
145°	1123.4	1125.4	1127.2	1129.1	1131.1	1132.9	1134.5	1136.1	1137.8	1139.4	1139.6
147.5°	1173.8	1176.1	1178.4	1180.7	1183.0	1184.7	1185.8	1186.8	1188.0	1189.0	1189.7
150°	1208.2	1209.8	1211.5	1213.2	1214.8	1216.1	1217.2	1218.3	1219.4	1220.5	1221.3
152.5°	1238.7	1240.3	1241.9	1243.6	1245.3	1246.8	1248.1	1249.4	1250.7	1252.0	1253.0
155°	1284.4	1285.2	1286.1	1286.9	1287.7	1288.5	1289.3	1290.1	1290.9	1291.8	1293.1
157.5°	1323.5	1324.0	1324.6	1325.2	1325.7	1326.2	1326.7	1327.2	1327.7	1328.2	1330.0
160°	1347.1	1347.7	1348.2	1348.7	1349.3	1349.7	1350.0	1350.2	1350.5	1350.8	1352.4
162.5°	1368.7	1368.9	1369.0	1369.1	1369.2	1369.4	1369.6	1369.9	1370.2	1370.4	1372.3
165°	1397.5	1397.3	1396.9	1396.7	1396.4	1396.3	1396.3	1396.3	1396.3	1396.3	1398.2
167.5°	1421.6	1420.7	1419.9	1419.1	1418.3	1417.9	1417.8	1417.8	1417.7	1417.6	1419.6
170°	1434.4	1433.5	1432.7	1431.9	1431.1	1430.5	1430.3	1430.0	1429.7	1429.5	1431.3
172.5°	1443.2	1442.4	1441.6	1440.8	1440.0	1439.4	1439.2	1438.8	1438.6	1438.3	1440.2
175°	1454.0	1453.2	1452.4	1451.6	1450.7	1450.1	1449.5	1448.9	1448.5	1447.9	1449.8
177.5°	1458.5	1457.8	1457.2	1456.5	1455.9	1455.3	1454.8	1454.4	1454.0	1453.5	1454.8
180°	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5



TEST NUMBER: P331784-930

CATALOG NUMBER: S122RDIW-S290D1440U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	407.3	408.0	408.6	408.9	408.8	408.6	408.5	408.4
5°	404.1	404.8	405.5	405.8	405.5	405.3	405.0	404.8
7.5°	397.5	397.8	397.9	397.9	397.5	397.0	396.6	396.2
10°	391.0	390.8	390.5	390.1	389.6	389.1	388.7	388.2
12.5°	383.5	383.0	382.6	382.0	381.2	380.3	379.5	378.7
15°	369.5	367.9	366.3	365.2	364.4	363.5	362.6	361.8
17.5°	353.6	351.7	349.9	348.3	346.8	345.4	344.0	342.6
20°	342.6	340.5	338.4	336.5	334.7	332.9	331.1	329.3
22.5°	330.4	327.8	325.1	323.1	321.7	320.4	319.0	317.7
25°	310.3	306.9	303.5	301.3	300.0	298.7	297.5	296.3
27.5°	291.1	287.1	283.2	280.3	278.3	276.4	274.4	272.5
30°	277.5	273.4	269.1	266.0	263.7	261.5	259.3	257.1
32.5°	263.9	259.1	254.3	250.9	248.8	246.7	244.6	242.6
35°	242.6	237.4	232.2	228.7	226.9	225.1	223.3	221.5
37.5°	221.8	216.1	210.4	206.5	204.5	202.4	200.3	198.2
40°	208.0	202.1	196.2	192.2	190.1	188.0	185.8	183.7
42.5°	193.9	187.8	181.8	177.8	175.7	173.7	171.5	169.5
45°	173.5	167.6	161.8	157.9	156.0	153.9	152.0	150.0
47.5°	153.6	147.8	142.0	138.2	136.4	134.6	132.8	131.0
50°	140.9	135.2	129.5	125.8	124.1	122.4	120.6	118.9
52.5°	128.8	123.4	117.9	114.3	112.8	111.1	109.5	107.9
55°	110.5	105.6	100.6	97.3	95.8	94.2	92.7	91.2
57.5°	93.8	89.3	84.8	81.9	80.6	79.2	77.9	76.6
60°	82.3	78.2	73.9	71.2	69.9	68.6	67.3	66.0
62.5°	72.4	68.4	64.4	62.0	61.1	60.4	59.6	58.8
65°	58.9	56.0	53.2	51.7	51.4	51.2	51.0	50.7
67.5°	47.5	46.2	44.9	44.2	43.9	43.6	43.4	43.1
70°	41.3	40.5	39.7	39.1	38.7	38.4	38.1	37.7
72.5°	36.0	35.2	34.6	34.2	33.9	33.8	33.5	33.3
75°	28.5	27.9	27.3	27.0	26.9	26.8	26.7	26.7
77.5°	21.5	21.2	20.9	20.7	20.5	20.4	20.3	20.1
80°	17.1	16.8	16.5	16.3	16.3	16.3	16.3	16.3
82.5°	13.0	12.7	12.6	12.5	12.5	12.5	12.5	12.5
85°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	10.6	10.4	10.3	10.2	10.3	10.4	10.4	10.4
90°	41.9	41.4	40.8	40.7	41.0	41.3	41.5	41.8
92.5°	39.3	39.4	39.5	39.6	39.6	39.7	39.8	39.8
95°	78.7	78.7	78.7	78.4	77.9	77.3	76.7	76.2
97.5°	132.2	132.2	132.2	132.2	132.2	132.1	132.1	132.0
100°	169.6	169.6	169.6	169.5	169.2	168.9	168.7	168.4
102.5°	210.3	210.6	210.8	210.8	210.5	210.3	209.9	209.7
105°	271.5	272.1	272.6	272.9	272.9	272.9	272.9	272.9
107.5°	337.5	337.7	337.9	337.4	336.1	334.8	333.6	332.3
110°	382.3	382.3	382.3	381.8	381.0	380.2	379.4	378.5



TEST NUMBER: P331784-930

CATALOG NUMBER: S122RDIW-S290D1440U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	427.1	426.5	425.8	425.2	424.6	424.0	423.4	422.8
115°	496.0	495.7	495.5	494.9	494.1	493.3	492.4	491.6
117.5°	562.6	562.0	561.3	560.5	559.7	558.9	558.1	557.3
120°	607.2	607.2	607.2	606.7	605.9	605.1	604.3	603.5
122.5°	653.1	652.4	651.8	651.1	650.5	650.0	649.3	648.7
125°	721.1	720.2	719.4	718.9	718.6	718.4	718.1	717.8
127.5°	787.1	786.1	785.1	784.2	783.3	782.4	781.6	780.7
130°	832.3	831.7	831.1	830.3	829.2	828.2	827.0	826.0
132.5°	876.2	875.0	873.8	872.7	871.9	871.0	870.1	869.2
135°	940.9	940.7	940.4	939.9	939.1	938.2	937.4	936.6
137.5°	1003.0	1002.8	1002.6	1001.9	1000.9	999.7	998.7	997.5
140°	1044.7	1044.7	1044.7	1044.2	1043.1	1042.0	1040.9	1039.8
142.5°	1082.6	1082.8	1083.0	1082.6	1081.5	1080.4	1079.3	1078.2
145°	1140.0	1140.2	1140.4	1140.0	1139.0	1137.9	1136.8	1135.7
147.5°	1190.3	1190.8	1191.5	1191.2	1190.2	1189.1	1188.1	1187.1
150°	1222.1	1222.9	1223.8	1223.8	1222.9	1222.1	1221.3	1220.5
152.5°	1254.0	1255.1	1256.1	1256.1	1255.1	1254.0	1253.0	1252.0
155°	1294.5	1295.9	1297.2	1297.5	1296.7	1295.9	1295.1	1294.3
157.5°	1331.9	1333.7	1335.6	1335.9	1334.6	1333.3	1332.0	1330.6
160°	1354.0	1355.7	1357.3	1357.6	1356.5	1355.4	1354.4	1353.2
162.5°	1374.2	1376.1	1377.9	1378.2	1376.9	1375.6	1374.3	1372.9
165°	1400.1	1402.0	1403.9	1404.2	1402.8	1401.5	1400.1	1398.7
167.5°	1421.5	1423.4	1425.3	1425.6	1424.2	1422.7	1421.3	1419.8
170°	1433.3	1435.2	1437.1	1437.2	1435.6	1433.9	1432.3	1430.7
172.5°	1442.1	1444.1	1445.9	1446.1	1444.5	1442.8	1441.2	1439.6
175°	1451.7	1453.6	1455.6	1455.7	1454.0	1452.4	1450.7	1449.1
177.5°	1456.2	1457.5	1458.8	1458.8	1457.5	1456.2	1454.8	1453.5
180°	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5

(END OF REPORT)