

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: P331783-935

Luminaire Tested: **S122RDIW-S290D1440U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331783-935
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-S290D1440U935-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5852.5 lumens
Efficiency: N/A
Efficacy: 109.6 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

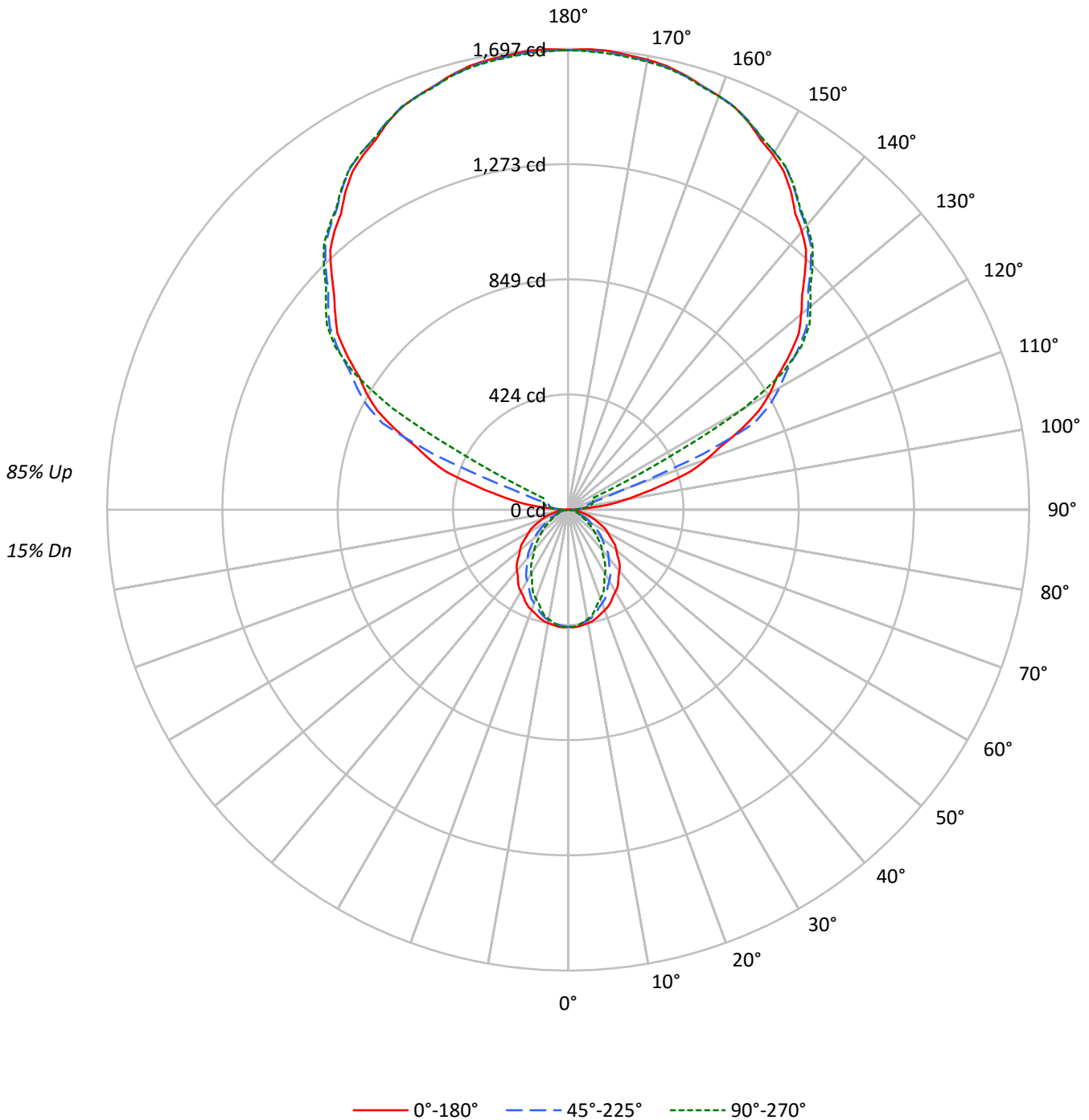
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	0														
RCR																																						
0	99	99	99	99	87	87	87	87	64	64	64	43	43	43	24	24	24	15																				
1	90	86	82	79	79	76	73	70	56	54	52	38	37	36	22	21	21	13																				
2	82	75	70	65	72	66	62	58	49	46	44	34	32	30	19	18	18	11																				
3	75	66	59	54	65	58	53	48	43	40	37	30	28	26	17	16	15	10																				
4	68	58	51	46	60	52	45	41	39	34	31	27	24	22	15	14	13	8																				
5	63	52	44	39	55	46	40	35	34	30	27	24	21	19	14	12	11	7																				
6	58	46	39	33	50	41	35	30	31	27	23	21	19	17	13	11	10	7																				
7	53	42	34	29	47	37	31	26	28	24	20	19	17	15	11	10	9	6																				
8	49	38	30	25	43	33	27	23	25	21	18	18	15	13	10	9	8	5																				
9	46	34	27	22	40	30	24	20	23	19	16	16	13	12	10	8	7	5																				
10	42	31	24	20	37	28	22	18	21	17	14	15	12	10	9	8	7	4																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6978	6978	6978
5°	7005	6891	6929
10°	6951	6779	6720
15°	6870	6578	6387
20°	6761	6290	5976
25°	6649	5964	5574
30°	6490	5630	5062
35°	6337	5267	4610
40°	6182	4890	4089
45°	6003	4464	3617
50°	5815	4037	3152
55°	5624	3578	2711
60°	5406	3094	2251
65°	5154	2598	2048
70°	4858	2143	1884
75°	4492	1953	1759
80°	3961	1748	1599
85°	3112	1371	1371



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CATALOG NUMBER: S122RDIW-S290D1440U935-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.7
10°-20°	111.1	1.9
20°-30°	156.0	2.7
30°-40°	170.1	2.9
40°-50°	156.4	2.7
50°-60°	122.8	2.1
60°-70°	80.1	1.4
70°-80°	41.3	0.7
80°-90°	14.9	0.3
90°-100°	56.5	1.0
100°-110°	207.0	3.5
110°-120°	553.4	9.5
120°-130°	913.5	15.6
130°-140°	971.4	16.6
140°-150°	902.9	15.4
150°-160°	726.0	12.4
160°-170°	467.8	8.0
170°-180°	161.0	2.8
0°-30°	307.5	5.3
0°-40°	477.6	8.2
0°-60°	756.8	12.9
0°-90°	893.1	15.3
90°-120°	816.8	14.0
90°-150°	3604.6	61.6
90°-180°	4959.0	84.7
0°-180°	5852.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	430	425	428	428	41
15°	411	406	394	386	382	116
25°	373	360	335	319	313	172
35°	322	301	267	243	234	201
45°	263	236	196	169	158	203
55°	200	169	127	104	96	179
65°	135	103	68	55	54	134
75°	72	45	31	29	28	76
85°	17	9	7	7	7	20
90°	1	14	24	30	33	4
95°	80	42	48	53	53	97
105°	372	388	75	88	93	398
115°	704	725	756	215	100	693
125°	996	1012	1035	1043	1047	887
135°	1232	1251	1262	1274	1272	951
145°	1429	1429	1449	1456	1451	893
155°	1574	1564	1577	1584	1575	725
165°	1658	1651	1654	1662	1654	468
175°	1696	1688	1690	1697	1686	161
180°	1692	1692	1692	1692	1692	



TEST NUMBER: P331783-935

CATALOG NUMBER: S122RDIW-S290D1440U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	433.8	433.4	433.1	432.7	432.4	431.8	431.0	430.3	429.6	428.8	429.5
5°	432.2	431.8	431.4	430.9	430.5	429.6	428.5	427.4	426.3	425.2	425.9
7.5°	427.7	427.2	426.6	426.1	425.6	424.6	423.4	422.0	420.7	419.4	419.6
10°	424.0	423.4	422.8	422.1	421.5	420.3	418.6	416.9	415.2	413.5	413.2
12.5°	419.3	418.5	417.8	417.1	416.3	414.8	412.6	410.4	408.1	405.9	405.4
15°	411.0	410.1	409.1	408.2	407.3	405.3	402.3	399.4	396.4	393.5	391.8
17.5°	401.0	399.5	398.0	396.6	395.1	392.5	388.7	385.0	381.2	377.4	375.4
20°	393.5	391.8	390.0	388.2	386.5	383.5	379.1	374.8	370.5	366.1	363.9
22.5°	385.4	383.4	381.4	379.5	377.5	374.1	369.2	364.3	359.5	354.6	351.7
25°	373.2	370.3	367.6	364.8	362.1	357.7	352.0	346.3	340.5	334.8	331.2
27.5°	358.4	355.4	352.4	349.4	346.3	341.6	335.1	328.6	322.2	315.7	311.6
30°	348.1	344.8	341.5	338.2	334.9	329.8	322.8	315.9	308.9	302.0	297.6
32.5°	338.1	334.2	330.4	326.5	322.6	317.2	310.1	303.0	295.9	288.8	283.8
35°	321.5	317.1	312.6	308.2	303.8	297.7	290.1	282.4	274.8	267.2	261.7
37.5°	305.0	300.1	295.2	290.3	285.4	279.0	270.8	262.6	254.5	246.3	240.3
40°	293.3	288.2	282.9	277.7	272.5	265.7	257.3	248.8	240.4	232.0	225.8
42.5°	281.5	276.0	270.4	265.0	259.5	252.4	243.7	235.0	226.3	217.6	211.2
45°	262.9	257.0	251.2	245.4	239.5	232.0	222.9	213.8	204.7	195.5	189.4
47.5°	244.7	238.5	232.4	226.2	220.0	212.2	202.8	193.4	183.9	174.5	168.4
50°	231.5	225.4	219.2	213.0	206.9	199.0	189.4	179.9	170.3	160.7	154.7
52.5°	218.7	212.2	205.9	199.4	193.0	185.0	175.6	166.3	157.0	147.6	141.8
55°	199.8	193.1	186.3	179.5	172.7	164.7	155.2	145.9	136.5	127.1	121.9
57.5°	180.6	173.6	166.6	159.7	152.7	144.7	135.7	126.7	117.7	108.7	103.8
60°	167.4	160.5	153.5	146.5	139.6	131.6	122.7	113.7	104.8	95.8	91.4
62.5°	154.5	147.7	140.7	133.7	126.7	119.0	110.5	101.9	93.4	84.9	80.7
65°	134.9	127.9	120.9	113.8	106.8	99.4	91.5	83.7	75.9	68.0	65.1
67.5°	116.0	109.0	102.0	95.1	88.1	81.0	74.0	67.0	59.9	52.9	51.5
70°	102.9	96.1	89.3	82.6	75.8	69.4	63.4	57.3	51.4	45.4	44.5
72.5°	90.3	83.9	77.3	70.9	64.3	58.7	53.9	49.1	44.3	39.4	38.7
75°	72.0	65.9	59.8	53.7	47.6	43.1	40.1	37.2	34.3	31.3	30.7
77.5°	53.9	48.6	43.2	37.9	32.5	29.2	27.7	26.3	24.9	23.5	23.2
80°	42.6	38.2	33.8	29.4	24.9	22.2	21.4	20.5	19.6	18.8	18.4
82.5°	32.3	28.8	25.4	22.0	18.5	16.4	15.8	15.2	14.6	14.1	13.9
85°	16.8	15.0	13.2	11.4	9.6	8.4	8.2	7.9	7.7	7.4	7.4
87.5°	5.3	5.3	5.3	5.3	5.4	5.7	6.1	6.5	7.0	7.4	7.6
90°	1.2	4.2	7.2	10.2	13.2	15.8	18.0	20.1	22.3	24.5	25.8
92.5°	24.7	24.5	24.2	23.9	23.7	24.0	25.1	26.3	27.3	28.4	29.1
95°	79.6	70.6	61.6	52.7	43.7	40.1	42.0	43.9	45.9	47.8	49.1
97.5°	158.0	132.7	107.4	82.1	56.7	46.3	50.7	55.1	59.5	63.9	65.0
100°	216.7	179.4	142.2	104.9	67.6	51.3	55.9	60.5	65.2	69.8	72.0
102.5°	281.4	273.5	265.6	257.7	249.9	226.5	187.9	149.1	110.5	71.7	74.6
105°	372.3	380.4	388.6	396.7	404.9	371.9	297.6	223.3	149.0	74.7	77.7
107.5°	475.9	482.4	489.0	495.6	502.2	461.0	371.9	282.8	193.6	104.6	101.5
110°	542.5	548.2	553.9	559.6	565.3	528.8	450.2	371.6	292.9	214.3	187.1



TEST NUMBER: P331783-935

CATALOG NUMBER: S122RDIW-S290D1440U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	605.2	610.2	615.3	620.4	625.4	618.2	598.8	579.4	559.9	540.5	441.3
115°	704.1	708.8	713.3	718.0	722.6	728.3	735.1	741.9	748.7	755.5	629.6
117.5°	792.6	797.7	802.9	808.0	813.2	818.1	822.8	827.5	832.2	836.9	806.4
120°	857.2	861.3	865.3	869.4	873.5	878.0	882.9	887.8	892.7	897.6	900.9
122.5°	912.1	916.4	920.7	925.0	929.3	934.1	939.4	944.7	950.0	955.4	957.3
125°	995.6	999.1	1002.6	1006.2	1009.7	1014.1	1019.3	1024.4	1029.6	1034.7	1036.6
127.5°	1071.3	1075.1	1079.1	1083.0	1086.9	1090.8	1094.7	1098.5	1102.4	1106.3	1109.1
130°	1119.2	1123.6	1127.9	1132.3	1136.7	1140.3	1143.3	1146.3	1149.3	1152.3	1155.3
132.5°	1168.2	1171.9	1175.6	1179.3	1183.0	1186.4	1189.4	1192.3	1195.3	1198.3	1200.9
135°	1231.9	1236.2	1240.6	1244.9	1249.3	1252.7	1255.2	1257.6	1260.1	1262.5	1265.2
137.5°	1296.3	1299.3	1302.4	1305.4	1308.5	1311.4	1314.1	1317.0	1319.7	1322.5	1325.2
140°	1338.4	1340.6	1342.8	1345.0	1347.1	1349.7	1352.7	1355.7	1358.7	1361.7	1364.2
142.5°	1373.7	1375.6	1377.6	1379.6	1381.6	1384.2	1387.7	1391.1	1394.5	1397.9	1400.2
145°	1429.1	1428.7	1428.5	1428.2	1428.0	1430.1	1434.8	1439.4	1444.0	1448.6	1450.5
147.5°	1477.3	1476.3	1475.2	1474.2	1473.2	1474.9	1479.5	1484.1	1488.7	1493.2	1494.6
150°	1508.6	1506.8	1504.9	1503.0	1501.0	1502.3	1506.6	1511.0	1515.3	1519.7	1521.3
152.5°	1535.1	1533.0	1530.9	1528.7	1526.6	1527.6	1531.7	1535.9	1540.0	1544.1	1545.8
155°	1573.6	1571.1	1568.7	1566.2	1563.7	1564.2	1567.5	1570.7	1574.0	1577.2	1578.8
157.5°	1603.7	1601.6	1599.6	1597.5	1595.4	1595.5	1597.8	1600.1	1602.3	1604.6	1606.5
160°	1621.3	1619.6	1618.1	1616.4	1614.8	1614.8	1616.4	1618.1	1619.6	1621.3	1622.9
162.5°	1636.9	1635.4	1633.7	1632.1	1630.5	1630.3	1631.8	1633.1	1634.6	1636.0	1637.9
165°	1658.0	1656.4	1654.8	1653.1	1651.5	1651.1	1651.9	1652.7	1653.6	1654.3	1656.3
167.5°	1673.7	1672.1	1670.4	1668.8	1667.2	1666.7	1667.5	1668.3	1669.0	1669.8	1671.7
170°	1682.6	1680.9	1679.3	1677.7	1676.0	1675.4	1676.0	1676.5	1677.1	1677.7	1679.6
172.5°	1688.4	1686.8	1685.1	1683.5	1681.9	1681.4	1681.9	1682.4	1683.0	1683.5	1685.4
175°	1696.0	1694.1	1692.2	1690.3	1688.4	1687.7	1688.2	1688.8	1689.4	1689.9	1691.8
177.5°	1697.2	1695.7	1694.2	1692.6	1691.1	1690.5	1690.7	1690.9	1691.1	1691.3	1692.9
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3



TEST NUMBER: P331783-935

CATALOG NUMBER: S122RDIW-S290D1440U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	430.2	430.8	431.5	431.8	431.7	431.5	431.4	431.3
5°	426.7	427.5	428.3	428.5	428.3	428.0	427.7	427.5
7.5°	419.8	420.1	420.3	420.2	419.7	419.2	418.8	418.4
10°	412.9	412.7	412.4	412.0	411.5	411.0	410.4	409.9
12.5°	405.0	404.5	404.1	403.4	402.5	401.7	400.8	399.9
15°	390.2	388.5	386.8	385.6	384.8	383.8	383.0	382.1
17.5°	373.4	371.4	369.5	367.8	366.3	364.8	363.3	361.8
20°	361.8	359.6	357.4	355.3	353.4	351.5	349.7	347.8
22.5°	349.0	346.1	343.4	341.2	339.8	338.4	336.9	335.5
25°	327.7	324.1	320.6	318.1	316.8	315.5	314.2	312.9
27.5°	307.4	303.2	299.1	296.0	293.9	291.9	289.8	287.7
30°	293.1	288.7	284.2	280.9	278.4	276.1	273.8	271.5
32.5°	278.7	273.6	268.5	264.9	262.8	260.5	258.3	256.1
35°	256.2	250.7	245.2	241.5	239.6	237.7	235.8	233.9
37.5°	234.3	228.3	222.2	218.1	215.9	213.7	211.5	209.3
40°	219.6	213.4	207.2	203.0	200.8	198.5	196.2	194.0
42.5°	204.7	198.4	192.0	187.8	185.5	183.4	181.2	179.0
45°	183.2	177.0	170.9	166.8	164.7	162.6	160.5	158.4
47.5°	162.2	156.1	150.0	145.9	144.0	142.2	140.3	138.4
50°	148.8	142.8	136.7	132.9	131.0	129.2	127.3	125.5
52.5°	136.0	130.3	124.5	120.7	119.1	117.4	115.6	114.0
55°	116.7	111.5	106.2	102.8	101.2	99.5	97.9	96.3
57.5°	99.1	94.3	89.5	86.4	85.1	83.7	82.3	80.8
60°	87.0	82.6	78.1	75.2	73.8	72.4	71.0	69.7
62.5°	76.5	72.2	68.0	65.4	64.6	63.8	62.9	62.1
65°	62.2	59.2	56.2	54.6	54.3	54.1	53.8	53.6
67.5°	50.2	48.8	47.4	46.7	46.3	46.1	45.8	45.5
70°	43.7	42.8	41.9	41.3	40.9	40.6	40.2	39.9
72.5°	38.0	37.2	36.5	36.1	35.8	35.6	35.4	35.2
75°	30.0	29.4	28.8	28.5	28.4	28.3	28.2	28.2
77.5°	22.7	22.4	22.0	21.9	21.7	21.5	21.4	21.3
80°	18.1	17.7	17.4	17.2	17.2	17.2	17.2	17.2
82.5°	13.7	13.4	13.3	13.2	13.2	13.2	13.2	13.2
85°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
87.5°	7.8	8.0	8.2	8.4	8.4	8.6	8.7	8.8
90°	27.2	28.6	30.0	30.9	31.4	31.9	32.5	33.1
92.5°	29.8	30.6	31.3	31.8	32.1	32.4	32.7	33.1
95°	50.5	51.8	53.2	53.7	53.5	53.2	53.0	52.7
97.5°	66.1	67.2	68.3	69.0	69.3	69.7	70.0	70.3
100°	74.1	76.4	78.5	79.9	80.4	80.9	81.5	82.1
102.5°	77.4	80.2	83.1	84.9	85.7	86.4	87.1	87.9
105°	80.7	83.7	86.7	88.7	89.8	90.9	92.0	93.1
107.5°	98.5	95.4	92.4	91.4	92.5	93.6	94.7	95.7
110°	159.9	132.7	105.5	92.4	93.5	94.5	95.7	96.8



TEST NUMBER: P331783-935

CATALOG NUMBER: S122RDIW-S290D1440U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	342.0	242.7	143.4	94.2	95.1	96.0	96.9	97.7
115°	503.6	377.5	251.6	178.7	159.2	139.6	120.0	100.4
117.5°	775.9	745.5	715.0	667.5	603.1	538.7	474.3	410.0
120°	904.1	907.4	910.7	893.9	857.2	820.4	783.7	747.0
122.5°	959.3	961.3	963.2	960.6	953.5	946.4	939.3	932.1
125°	1038.5	1040.4	1042.3	1043.7	1044.6	1045.3	1046.2	1047.0
127.5°	1111.8	1114.6	1117.3	1118.9	1119.0	1119.1	1119.3	1119.5
130°	1158.3	1161.3	1164.2	1165.6	1165.4	1165.1	1164.8	1164.5
132.5°	1203.4	1206.0	1208.6	1209.7	1209.4	1209.2	1208.9	1208.6
135°	1267.9	1270.7	1273.4	1274.5	1273.9	1273.4	1272.8	1272.3
137.5°	1327.8	1330.5	1333.2	1334.0	1333.1	1332.2	1331.3	1330.3
140°	1366.6	1369.1	1371.5	1372.0	1370.7	1369.3	1368.0	1366.6
142.5°	1402.4	1404.6	1406.9	1407.3	1405.9	1404.5	1403.3	1401.9
145°	1452.4	1454.3	1456.3	1456.6	1455.2	1453.8	1452.4	1451.1
147.5°	1496.1	1497.5	1498.9	1499.0	1497.9	1496.8	1495.6	1494.4
150°	1522.9	1524.6	1526.2	1526.3	1525.0	1523.6	1522.2	1520.9
152.5°	1547.4	1549.0	1550.7	1550.6	1548.8	1547.0	1545.2	1543.4
155°	1580.5	1582.1	1583.7	1583.5	1581.3	1579.2	1576.9	1574.8
157.5°	1608.3	1610.2	1612.1	1611.9	1609.8	1607.7	1605.5	1603.4
160°	1624.5	1626.2	1627.8	1627.7	1625.8	1623.8	1622.0	1620.1
162.5°	1639.7	1641.6	1643.4	1643.1	1640.8	1638.5	1636.2	1633.8
165°	1658.2	1660.1	1662.0	1662.0	1660.1	1658.2	1656.3	1654.3
167.5°	1673.6	1675.5	1677.4	1677.1	1674.7	1672.2	1669.8	1667.3
170°	1681.4	1683.3	1685.2	1685.0	1682.6	1680.1	1677.7	1675.2
172.5°	1687.3	1689.2	1691.1	1690.8	1688.4	1685.9	1683.5	1681.0
175°	1693.7	1695.6	1697.5	1697.1	1694.4	1691.6	1688.9	1686.2
177.5°	1694.4	1695.9	1697.5	1697.2	1695.2	1693.3	1691.3	1689.4
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3

(END OF REPORT)