

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: P331491-935

Luminaire Tested: **S122DIW-S290D1440U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331491-935
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: S122DIW-S290D1440U935-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5993.2 lumens
Efficiency: N/A
Efficacy: 112.2 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

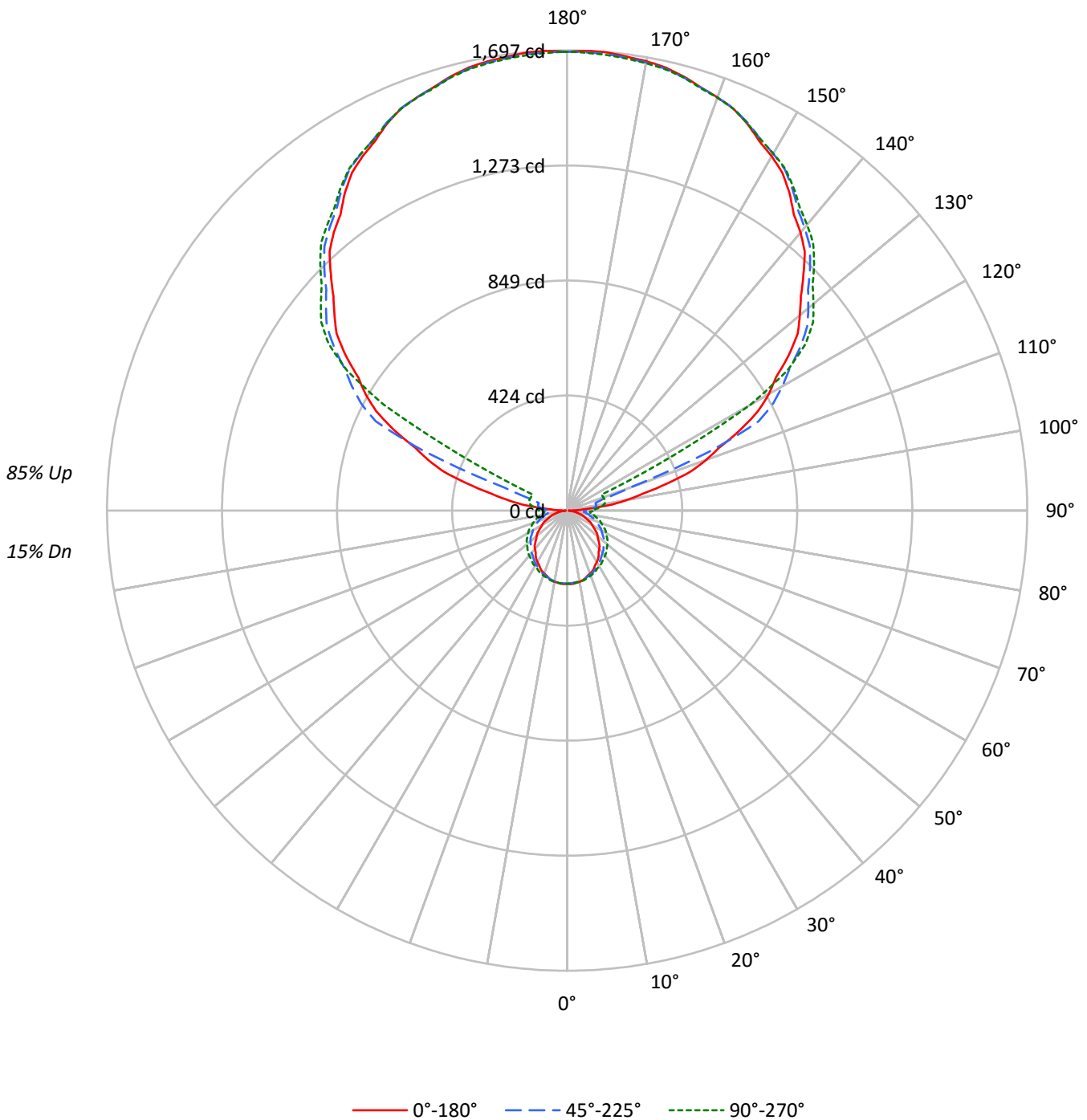
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331491-935

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Luminous Intensity Polar Plot





TEST NUMBER: P331491-935

CATALOG NUMBER: S122DIW-S290D1440U935-4F0-1E-UDD-D

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	85	81	78	78	75	72	69	55	53	51	37	36	35	21	20	19	12																				
2	81	74	68	63	71	65	60	56	48	45	42	32	30	29	18	17	16	10																				
3	74	65	58	52	64	57	51	46	42	38	35	28	26	24	16	14	13	8																				
4	67	57	50	44	59	50	44	39	37	33	30	25	22	20	14	13	11	7																				
5	62	51	43	37	54	45	38	33	33	29	25	22	20	17	12	11	10	6																				
6	57	45	37	32	49	40	33	28	30	25	22	20	17	15	11	10	8	5																				
7	52	40	33	28	45	36	29	25	27	22	19	18	15	13	10	9	7	4																				
8	48	36	29	24	42	32	26	22	24	20	16	16	14	11	9	8	7	4																				
9	45	33	26	21	39	29	23	19	22	18	15	15	12	10	8	7	6	3																				
10	42	30	23	19	36	27	21	17	20	16	13	14	11	9	8	6	5	3																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4358	4358	4358
5°	4379	4195	4179
10°	4352	4070	4026
15°	4290	3939	3863
20°	4215	3798	3707
25°	4141	3663	3565
30°	4034	3524	3423
35°	3928	3389	3323
40°	3818	3275	3223
45°	3709	3172	3137
50°	3596	3079	3053
55°	3474	2979	2968
60°	3329	2876	2878
65°	3174	2756	2769
70°	3001	2623	2653
75°	2784	2499	2544
80°	2445	2366	2436
85°	2110	2255	2350



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.6	0.4
10°-20°	73.3	1.2
20°-30°	111.1	1.9
30°-40°	135.3	2.3
40°-50°	145.6	2.4
50°-60°	141.4	2.4
60°-70°	123.5	2.1
70°-80°	95.1	1.6
80°-90°	68.0	1.1
90°-100°	100.4	1.7
100°-110°	239.1	4.0
110°-120°	574.6	9.6
120°-130°	925.3	15.4
130°-140°	976.4	16.3
140°-150°	903.8	15.1
150°-160°	726.0	12.1
160°-170°	467.8	7.8
170°-180°	161.0	2.7
0°-30°	210.0	3.5
0°-40°	345.4	5.8
0°-60°	632.4	10.6
0°-90°	918.9	15.3
90°-120°	914.1	15.3
90°-150°	3719.6	62.1
90°-180°	5074.0	84.7
0°-180°	5993.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	270	270	270	270	270	
5°	271	269	267	269	269	26
15°	258	259	259	262	262	73
25°	235	237	241	245	247	108
35°	202	209	216	225	228	126
45°	166	177	190	202	206	128
55°	127	142	162	175	181	114
65°	87	106	129	145	150	86
75°	48	70	95	111	117	51
85°	14	38	63	79	85	15
90°	5	41	76	97	105	6
95°	83	64	93	113	117	100
105°	374	402	108	135	145	400
115°	706	732	779	250	140	695
125°	996	1013	1048	1067	1074	888
135°	1232	1252	1267	1286	1288	952
145°	1429	1429	1449	1459	1455	894
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: P331491-935

CATALOG NUMBER: S122DIW-S290D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	271.5	271.2	271.0	270.8	270.6	270.3	269.8	269.3	268.8	268.3	268.6
5°	270.7	270.4	270.2	269.9	269.6	269.2	268.7	268.2	267.7	267.2	267.7
7.5°	268.2	268.0	267.9	267.7	267.5	267.3	266.8	266.5	266.0	265.6	266.3
10°	266.4	266.2	266.0	265.9	265.7	265.4	265.2	264.9	264.7	264.4	265.1
12.5°	263.2	263.3	263.3	263.4	263.4	263.3	263.1	262.9	262.7	262.5	263.2
15°	258.1	258.3	258.5	258.6	258.8	258.9	258.9	258.9	258.9	258.9	259.7
17.5°	251.6	251.9	252.3	252.7	253.0	253.4	253.7	253.9	254.2	254.5	255.3
20°	247.2	247.6	248.1	248.5	248.9	249.3	249.7	250.0	250.4	250.7	251.7
22.5°	242.5	243.0	243.5	244.0	244.5	245.0	245.5	246.0	246.5	246.9	247.9
25°	234.7	235.3	235.9	236.5	237.1	237.8	238.6	239.4	240.1	240.9	241.9
27.5°	225.3	226.3	227.3	228.3	229.3	230.2	231.1	232.0	233.0	233.9	235.2
30°	219.0	220.2	221.3	222.4	223.5	224.7	225.8	227.0	228.1	229.2	230.6
32.5°	212.2	213.4	214.6	215.9	217.2	218.5	219.9	221.2	222.6	223.9	225.5
35°	202.2	203.7	205.2	206.6	208.1	209.7	211.4	213.0	214.6	216.3	218.2
37.5°	191.4	193.1	194.8	196.6	198.2	200.2	202.3	204.4	206.6	208.7	210.9
40°	184.3	186.1	188.0	189.9	191.8	194.0	196.3	198.7	201.0	203.4	205.6
42.5°	177.4	179.3	181.2	183.0	185.0	187.3	190.0	192.7	195.4	198.0	200.5
45°	165.8	168.2	170.6	172.9	175.2	177.9	181.0	184.0	187.0	190.1	192.8
47.5°	154.5	157.0	159.6	162.1	164.7	167.8	171.3	174.9	178.5	182.0	184.9
50°	146.7	149.4	152.1	154.7	157.5	160.7	164.7	168.6	172.5	176.4	179.3
52.5°	139.1	142.0	144.8	147.7	150.5	153.9	158.1	162.2	166.3	170.5	173.5
55°	127.1	130.3	133.4	136.5	139.7	143.4	148.0	152.5	157.0	161.5	164.7
57.5°	115.2	118.7	122.3	125.8	129.3	133.4	138.0	142.6	147.2	151.9	155.2
60°	106.8	110.6	114.3	118.0	121.7	126.1	131.0	136.0	140.9	145.9	149.2
62.5°	99.3	103.1	107.0	110.9	114.8	119.2	124.2	129.1	134.1	139.1	142.5
65°	86.8	91.1	95.3	99.6	103.8	108.6	113.7	118.8	124.0	129.1	132.7
67.5°	75.4	79.9	84.3	88.8	93.2	98.1	103.3	108.6	113.8	119.1	122.7
70°	67.2	71.8	76.3	80.8	85.3	90.3	95.7	101.1	106.5	111.8	115.6
72.5°	59.8	64.4	69.1	73.7	78.4	83.4	88.9	94.4	99.9	105.3	109.0
75°	48.1	53.0	57.9	62.7	67.6	72.8	78.4	83.9	89.5	95.1	98.8
77.5°	36.9	41.9	47.0	52.1	57.3	62.6	68.3	73.9	79.6	85.2	88.9
80°	29.4	34.6	40.0	45.2	50.5	56.1	61.6	67.3	72.9	78.6	82.2
82.5°	23.1	28.3	33.6	38.7	44.0	49.5	55.2	61.0	66.6	72.3	76.0
85°	14.1	19.5	24.9	30.2	35.6	41.1	46.7	52.3	57.8	63.4	67.0
87.5°	7.9	13.7	19.5	25.2	31.0	36.9	42.9	48.9	54.9	60.9	64.7
90°	5.2	13.2	21.2	29.3	37.3	45.2	52.9	60.6	68.4	76.1	80.9
92.5°	28.3	32.7	37.2	41.6	46.0	51.5	57.9	64.3	70.8	77.2	81.4
95°	82.7	77.8	72.9	68.0	63.1	64.2	71.4	78.5	85.6	92.7	97.4
97.5°	160.7	139.1	117.4	95.7	74.0	67.8	77.3	86.7	96.1	105.6	109.9
100°	219.5	185.5	151.4	117.3	83.3	70.9	80.4	89.9	99.4	108.9	114.3
102.5°	283.8	278.9	273.9	269.0	264.0	244.5	210.6	176.6	142.7	108.7	114.7
105°	374.2	384.9	395.6	406.3	417.0	387.4	317.6	247.9	178.1	108.3	114.3
107.5°	477.8	486.4	494.9	503.5	512.1	474.1	389.3	304.5	219.8	135.0	134.9
110°	544.1	551.5	559.0	566.4	573.9	540.4	466.0	391.6	317.2	242.9	218.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	606.7	613.3	619.7	626.3	632.8	628.4	613.0	597.6	582.3	566.9	470.4
115°	705.7	711.3	716.9	722.5	728.0	736.2	746.8	757.6	768.3	779.0	655.7
117.5°	793.7	799.5	805.3	811.1	816.9	823.9	832.2	840.5	848.9	857.1	829.2
120°	858.3	862.8	867.2	871.7	876.1	882.4	890.9	899.2	907.6	916.0	921.7
122.5°	913.2	917.7	922.1	926.5	931.0	937.5	946.1	954.7	963.3	971.9	976.2
125°	996.3	999.9	1003.4	1006.9	1010.5	1016.2	1024.2	1032.2	1040.1	1048.0	1052.3
127.5°	1072.0	1075.8	1079.7	1083.5	1087.4	1092.4	1098.4	1104.5	1110.6	1116.7	1121.7
130°	1120.0	1124.3	1128.5	1132.8	1137.1	1141.6	1146.4	1151.2	1156.1	1160.9	1166.0
132.5°	1169.0	1172.6	1176.2	1179.8	1183.4	1187.5	1191.9	1196.3	1200.7	1205.1	1209.6
135°	1232.3	1236.7	1241.0	1245.4	1249.7	1253.5	1256.9	1260.2	1263.5	1266.8	1271.4
137.5°	1296.7	1299.8	1302.8	1305.8	1308.8	1311.9	1315.1	1318.2	1321.4	1324.6	1328.8
140°	1338.9	1340.9	1343.0	1345.1	1347.2	1349.8	1353.0	1356.2	1359.3	1362.4	1366.3
142.5°	1374.1	1376.0	1377.9	1379.7	1381.6	1384.2	1387.7	1391.2	1394.6	1398.1	1401.4
145°	1429.1	1428.7	1428.5	1428.2	1428.0	1430.1	1434.8	1439.4	1444.0	1448.6	1451.0
147.5°	1477.3	1476.3	1475.2	1474.2	1473.2	1474.9	1479.5	1484.1	1488.7	1493.2	1494.7
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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	269.0	269.3	269.7	269.8	269.7	269.5	269.4	269.2
5°	268.2	268.7	269.2	269.4	269.3	269.2	269.1	269.1
7.5°	266.9	267.5	268.2	268.5	268.4	268.3	268.2	268.1
10°	265.8	266.5	267.2	267.5	267.4	267.3	267.3	267.2
12.5°	263.9	264.6	265.3	265.6	265.5	265.4	265.4	265.3
15°	260.5	261.3	262.1	262.4	262.3	262.3	262.2	262.1
17.5°	256.1	256.9	257.7	258.1	258.1	258.1	258.1	258.1
20°	252.6	253.6	254.5	255.0	255.0	255.0	255.0	255.0
22.5°	248.9	249.9	250.8	251.3	251.5	251.6	251.8	251.9
25°	243.1	244.1	245.1	245.7	246.0	246.2	246.5	246.8
27.5°	236.5	237.9	239.2	240.0	240.1	240.3	240.5	240.7
30°	232.0	233.4	234.8	235.6	235.8	236.1	236.3	236.6
32.5°	227.0	228.7	230.3	231.4	231.8	232.3	232.7	233.2
35°	220.2	222.1	223.9	225.2	225.8	226.4	227.0	227.6
37.5°	212.9	215.1	217.2	218.6	219.2	219.9	220.5	221.1
40°	207.9	210.2	212.4	214.0	214.7	215.5	216.3	217.1
42.5°	203.0	205.4	207.9	209.6	210.3	211.1	211.9	212.7
45°	195.4	198.2	200.9	202.7	203.5	204.4	205.3	206.1
47.5°	187.7	190.5	193.3	195.2	196.1	197.1	198.0	199.0
50°	182.3	185.3	188.2	190.2	191.1	192.1	193.0	194.0
52.5°	176.5	179.5	182.5	184.6	185.6	186.7	187.7	188.6
55°	167.8	170.9	174.1	176.2	177.3	178.5	179.6	180.7
57.5°	158.6	162.0	165.3	167.6	168.8	169.9	171.0	172.2
60°	152.5	155.8	159.1	161.4	162.6	163.8	165.1	166.3
62.5°	146.0	149.6	153.1	155.4	156.5	157.6	158.9	160.0
65°	136.2	139.7	143.4	145.7	146.8	147.9	149.0	150.2
67.5°	126.2	129.8	133.5	135.9	137.0	138.2	139.4	140.6
70°	119.3	123.0	126.8	129.2	130.3	131.3	132.3	133.4
72.5°	112.6	116.3	119.9	122.4	123.6	124.9	126.2	127.4
75°	102.5	106.2	110.0	112.4	113.6	114.7	115.8	116.9
77.5°	92.6	96.3	100.0	102.5	103.8	105.0	106.2	107.4
80°	85.9	89.5	93.2	95.7	96.9	98.1	99.3	100.5
82.5°	79.6	83.3	87.0	89.4	90.5	91.7	92.8	93.9
85°	70.7	74.3	78.0	80.4	81.6	82.8	84.0	85.2
87.5°	68.5	72.3	76.2	78.7	79.9	81.1	82.4	83.6
90°	85.8	90.7	95.5	98.7	100.3	101.9	103.4	105.0
92.5°	85.4	89.5	93.7	96.4	97.8	99.2	100.6	101.9
95°	102.0	106.8	111.4	114.1	114.9	115.6	116.4	117.2
97.5°	114.2	118.5	122.8	125.6	126.9	128.3	129.7	131.0
100°	119.7	125.1	130.4	134.0	135.4	136.9	138.4	139.9
102.5°	120.6	126.7	132.6	136.5	138.2	139.9	141.5	143.3
105°	120.4	126.5	132.5	136.6	138.5	140.6	142.7	144.7
107.5°	134.7	134.7	134.5	135.4	137.5	139.6	141.5	143.6
110°	194.0	169.5	145.2	134.0	136.0	138.0	140.1	142.2



TEST NUMBER: P331491-935

CATALOG NUMBER: S122DIW-S290D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	373.9	277.4	180.9	133.6	135.4	137.2	139.1	140.9
115°	532.3	408.9	285.5	214.5	195.8	177.2	158.6	139.9
117.5°	801.3	773.4	745.5	699.8	636.3	572.8	509.3	445.8
120°	927.4	933.1	938.7	923.8	887.9	852.1	816.4	780.6
122.5°	980.5	984.9	989.2	988.2	981.9	975.6	969.2	962.9
125°	1056.5	1060.8	1065.1	1068.0	1069.5	1071.2	1072.8	1074.4
127.5°	1126.6	1131.5	1136.4	1139.4	1140.3	1141.3	1142.2	1143.1
130°	1171.0	1176.1	1181.2	1184.0	1184.4	1184.8	1185.3	1185.7
132.5°	1214.2	1218.8	1223.4	1225.9	1226.3	1226.8	1227.1	1227.5
135°	1275.9	1280.5	1285.0	1287.4	1287.5	1287.6	1287.8	1288.0
137.5°	1333.1	1337.3	1341.6	1343.6	1343.2	1342.9	1342.6	1342.2
140°	1370.2	1374.0	1377.9	1379.3	1378.5	1377.7	1376.8	1376.0
142.5°	1404.8	1408.2	1411.4	1412.7	1411.8	1410.8	1410.0	1409.0
145°	1453.5	1456.0	1458.4	1459.1	1458.2	1457.2	1456.3	1455.3
147.5°	1496.2	1497.7	1499.2	1499.4	1498.5	1497.5	1496.6	1495.7
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)