

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: P331779-940

Luminaire Tested: **S122RDIW-S290D1240U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331779-940
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-S290D1240U940-4F0-1E-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: 5342.0 lumens
Efficiency: N/A
Efficacy: 114.6 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

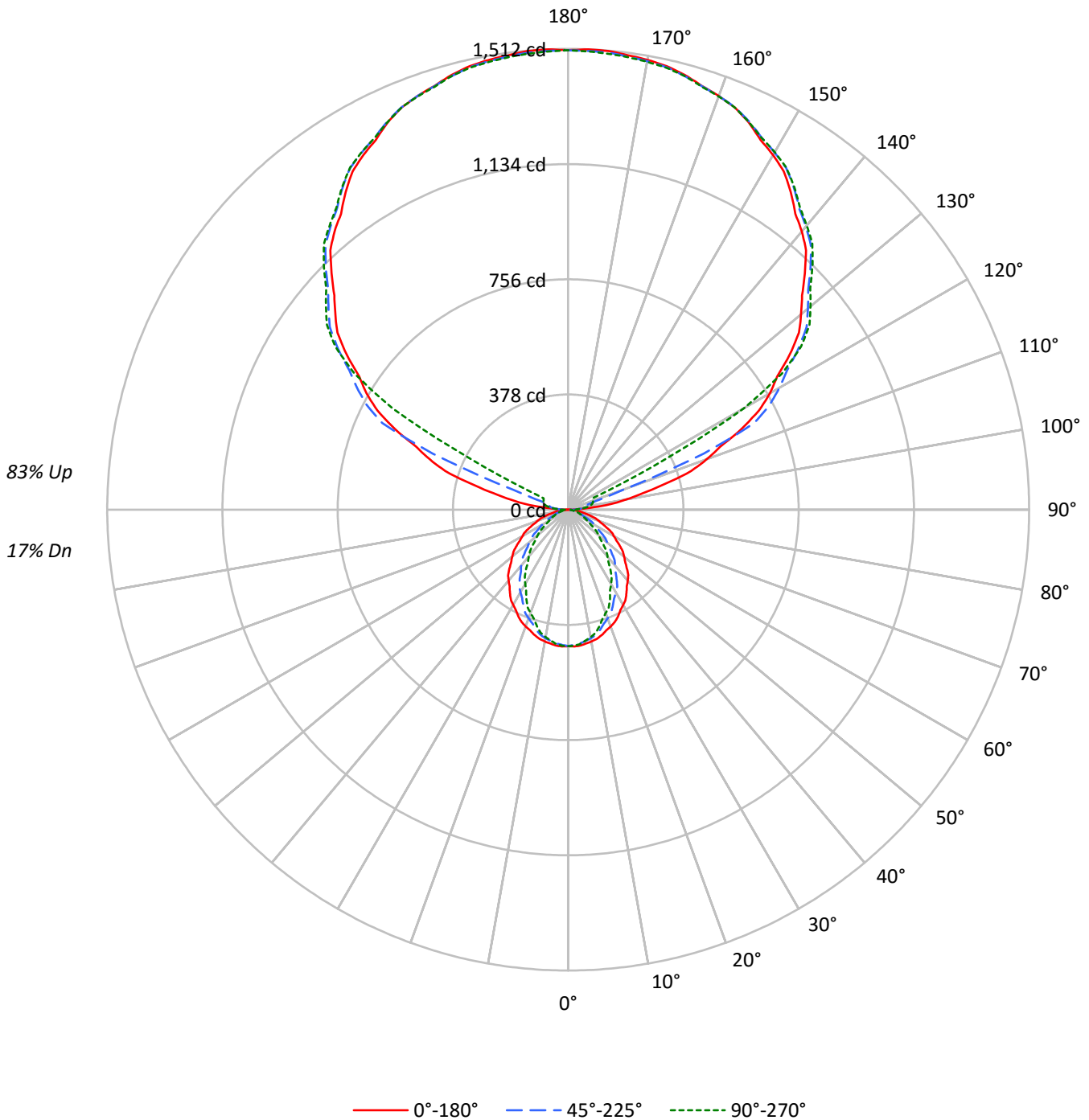
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	7227	7227	7227
5°	7254	7136	7175
10°	7199	7020	6960
15°	7116	6812	6614
20°	7002	6515	6189
25°	6885	6178	5772
30°	6721	5830	5243
35°	6564	5454	4776
40°	6403	5063	4234
45°	6215	4624	3747
50°	6023	4182	3265
55°	5827	3704	2806
60°	5596	3203	2328
65°	5337	2690	2120
70°	5032	2219	1950
75°	4648	2021	1822
80°	4100	1804	1655
85°	3223	1426	1426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	0.8
10°-20°	115.0	2.2
20°-30°	161.6	3.0
30°-40°	176.2	3.3
40°-50°	162.0	3.0
50°-60°	127.2	2.4
60°-70°	82.9	1.6
70°-80°	42.8	0.8
80°-90°	14.8	0.3
90°-100°	50.3	0.9
100°-110°	184.4	3.5
110°-120°	492.9	9.2
120°-130°	813.7	15.2
130°-140°	865.3	16.2
140°-150°	804.3	15.1
150°-160°	646.7	12.1
160°-170°	416.7	7.8
170°-180°	143.4	2.7
0°-30°	318.5	6.0
0°-40°	494.7	9.3
0°-60°	783.8	14.7
0°-90°	924.3	17.3
90°-120°	727.6	13.6
90°-150°	3210.9	60.1
90°-180°	4418.0	82.7
0°-180°	5342.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	448	448	448	448	448	
5°	448	445	440	444	443	42
15°	426	421	408	400	396	120
25°	386	373	347	331	324	178
35°	333	312	277	252	242	208
45°	272	244	202	175	164	210
55°	207	175	132	108	100	185
65°	140	107	70	57	56	138
75°	74	47	32	30	29	79
85°	17	9	8	8	8	21
90°	1	13	22	27	29	4
95°	71	37	42	48	47	87
105°	332	346	66	78	83	354
115°	627	646	673	192	89	617
125°	887	901	922	929	933	790
135°	1097	1114	1125	1135	1133	847
145°	1273	1273	1290	1297	1293	796
155°	1402	1393	1405	1411	1403	646
165°	1477	1471	1474	1480	1474	417
175°	1511	1504	1505	1512	1502	144
180°	1507	1507	1507	1507	1507	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	449.2	448.9	448.5	448.2	447.8	447.2	446.4	445.7	444.9	444.1	444.8
5°	447.6	447.2	446.7	446.3	445.9	445.0	443.8	442.6	441.5	440.3	441.1
7.5°	443.0	442.5	441.8	441.3	440.8	439.8	438.5	437.0	435.7	434.4	434.5
10°	439.1	438.5	437.8	437.2	436.6	435.3	433.5	431.8	430.0	428.2	427.9
12.5°	434.3	433.5	432.7	431.9	431.1	429.6	427.3	425.0	422.7	420.4	419.9
15°	425.7	424.7	423.7	422.8	421.8	419.7	416.7	413.7	410.5	407.5	405.8
17.5°	415.3	413.8	412.2	410.7	409.2	406.5	402.6	398.7	394.8	390.8	388.8
20°	407.5	405.7	403.9	402.1	400.3	397.2	392.6	388.2	383.7	379.2	376.9
22.5°	399.1	397.1	395.0	393.1	391.0	387.4	382.4	377.3	372.3	367.2	364.3
25°	386.5	383.5	380.7	377.8	375.0	370.5	364.5	358.6	352.7	346.8	343.0
27.5°	371.2	368.1	365.0	361.9	358.6	353.7	347.1	340.4	333.7	327.0	322.7
30°	360.5	357.1	353.7	350.3	346.9	341.5	334.3	327.2	319.9	312.7	308.2
32.5°	350.2	346.2	342.1	338.1	334.1	328.5	321.2	313.8	306.5	299.1	293.9
35°	333.0	328.4	323.8	319.2	314.6	308.4	300.4	292.5	284.6	276.7	271.0
37.5°	315.8	310.8	305.7	300.7	295.6	288.9	280.4	272.0	263.6	255.1	248.9
40°	303.8	298.5	293.0	287.6	282.2	275.2	266.4	257.7	249.0	240.2	233.8
42.5°	291.5	285.8	280.1	274.5	268.8	261.4	252.4	243.3	234.3	225.3	218.7
45°	272.2	266.2	260.1	254.1	248.1	240.3	230.9	221.4	212.0	202.5	196.2
47.5°	253.4	247.0	240.7	234.3	227.8	219.8	210.0	200.3	190.5	180.7	174.4
50°	239.8	233.4	227.0	220.6	214.3	206.1	196.2	186.3	176.4	166.5	160.2
52.5°	226.5	219.8	213.2	206.5	199.8	191.6	181.9	172.3	162.6	152.8	146.9
55°	207.0	200.0	193.0	185.9	178.9	170.6	160.8	151.1	141.3	131.6	126.3
57.5°	187.0	179.8	172.5	165.4	158.2	149.9	140.5	131.3	121.9	112.5	107.5
60°	173.3	166.2	159.0	151.8	144.5	136.3	127.1	117.8	108.5	99.2	94.6
62.5°	160.1	152.9	145.7	138.5	131.3	123.2	114.4	105.6	96.8	87.9	83.6
65°	139.7	132.4	125.2	117.9	110.6	102.9	94.8	86.7	78.6	70.4	67.4
67.5°	120.1	112.9	105.7	98.4	91.2	83.9	76.6	69.4	62.1	54.8	53.3
70°	106.6	99.5	92.5	85.5	78.5	71.9	65.6	59.4	53.2	47.0	46.1
72.5°	93.5	86.9	80.1	73.4	66.6	60.8	55.8	50.8	45.8	40.8	40.0
75°	74.5	68.2	62.0	55.6	49.3	44.7	41.6	38.5	35.5	32.4	31.7
77.5°	55.8	50.3	44.8	39.2	33.7	30.2	28.7	27.3	25.8	24.3	24.0
80°	44.1	39.6	35.0	30.4	25.8	23.0	22.1	21.2	20.3	19.4	19.1
82.5°	33.4	29.9	26.3	22.7	19.2	17.0	16.4	15.8	15.2	14.6	14.4
85°	17.4	15.5	13.6	11.8	9.9	8.7	8.5	8.2	7.9	7.7	7.7
87.5°	5.4	5.4	5.4	5.3	5.3	5.4	5.8	6.2	6.6	7.0	7.1
90°	1.1	3.7	6.4	9.1	11.8	14.1	16.0	17.9	19.9	21.8	23.0
92.5°	22.0	21.8	21.6	21.3	21.0	21.4	22.4	23.4	24.3	25.3	25.9
95°	70.9	62.9	54.9	46.9	38.9	35.8	37.5	39.1	40.8	42.5	43.8
97.5°	140.7	118.2	95.6	73.1	50.6	41.2	45.1	49.0	53.1	57.0	57.9
100°	193.1	159.9	126.6	93.5	60.3	45.7	49.8	53.9	58.1	62.2	64.1
102.5°	250.7	243.6	236.6	229.6	222.6	201.8	167.3	132.9	98.4	63.9	66.4
105°	331.6	338.9	346.2	353.4	360.7	331.3	265.1	198.9	132.7	66.5	69.2
107.5°	423.9	429.7	435.6	441.5	447.4	410.6	331.3	251.9	172.5	93.2	90.4
110°	483.2	488.3	493.4	498.5	503.5	471.1	401.1	331.0	260.9	190.9	166.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	539.0	543.6	548.0	552.6	557.1	550.7	533.4	516.1	498.8	481.4	393.1
115°	627.2	631.3	635.4	639.5	643.7	648.8	654.9	660.9	667.0	673.1	560.8
117.5°	706.0	710.6	715.2	719.8	724.4	728.8	732.9	737.1	741.3	745.5	718.3
120°	763.6	767.2	770.8	774.5	778.1	782.1	786.5	790.9	795.2	799.5	802.5
122.5°	812.4	816.3	820.1	823.9	827.8	832.1	836.8	841.5	846.3	851.0	852.7
125°	886.8	889.9	893.1	896.3	899.4	903.3	907.9	912.5	917.1	921.8	923.5
127.5°	954.2	957.7	961.2	964.7	968.2	971.7	975.1	978.6	982.0	985.4	987.9
130°	997.0	1000.9	1004.8	1008.6	1012.5	1015.7	1018.4	1021.1	1023.8	1026.4	1029.1
132.5°	1040.6	1043.9	1047.2	1050.5	1053.8	1056.8	1059.4	1062.1	1064.8	1067.5	1069.7
135°	1097.3	1101.2	1105.1	1108.9	1112.9	1115.9	1118.0	1120.3	1122.4	1124.6	1127.0
137.5°	1154.7	1157.4	1160.1	1162.9	1165.6	1168.1	1170.6	1173.1	1175.5	1178.0	1180.4
140°	1192.2	1194.2	1196.1	1198.0	1200.0	1202.3	1205.0	1207.6	1210.3	1213.0	1215.1
142.5°	1223.7	1225.4	1227.2	1228.9	1230.7	1233.1	1236.1	1239.1	1242.2	1245.3	1247.2
145°	1272.9	1272.7	1272.5	1272.2	1272.0	1273.9	1278.1	1282.2	1286.3	1290.4	1292.1
147.5°	1315.9	1315.0	1314.1	1313.1	1312.2	1313.8	1317.9	1322.0	1326.1	1330.1	1331.4
150°	1343.9	1342.2	1340.5	1338.7	1337.0	1338.2	1342.0	1345.9	1349.8	1353.7	1355.1
152.5°	1367.4	1365.6	1363.6	1361.7	1359.9	1360.8	1364.4	1368.2	1371.8	1375.5	1377.0
155°	1401.7	1399.5	1397.3	1395.1	1392.9	1393.3	1396.2	1399.1	1402.0	1405.0	1406.4
157.5°	1428.5	1426.6	1424.8	1423.0	1421.1	1421.2	1423.3	1425.3	1427.4	1429.4	1431.0
160°	1444.2	1442.8	1441.3	1439.8	1438.4	1438.4	1439.8	1441.3	1442.8	1444.2	1445.6
162.5°	1458.2	1456.7	1455.3	1453.8	1452.3	1452.2	1453.5	1454.7	1456.1	1457.3	1458.9
165°	1476.9	1475.5	1474.0	1472.6	1471.1	1470.8	1471.5	1472.2	1472.9	1473.6	1475.3
167.5°	1490.9	1489.4	1488.0	1486.6	1485.1	1484.7	1485.4	1486.0	1486.7	1487.4	1489.1
170°	1498.8	1497.3	1495.8	1494.4	1492.9	1492.5	1492.9	1493.4	1493.9	1494.4	1496.1
172.5°	1504.0	1502.5	1501.1	1499.6	1498.2	1497.7	1498.2	1498.6	1499.1	1499.6	1501.3
175°	1510.7	1509.0	1507.3	1505.7	1504.0	1503.3	1503.9	1504.3	1504.9	1505.3	1507.0
177.5°	1511.8	1510.5	1509.1	1507.8	1506.4	1505.8	1506.0	1506.2	1506.4	1506.6	1508.0
180°	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	445.5	446.2	446.9	447.2	447.1	446.9	446.7	446.7
5°	441.9	442.7	443.5	443.8	443.5	443.3	443.0	442.7
7.5°	434.8	435.1	435.2	435.2	434.7	434.2	433.7	433.3
10°	427.7	427.4	427.1	426.7	426.1	425.6	425.1	424.5
12.5°	419.5	418.9	418.5	417.8	416.9	416.0	415.1	414.2
15°	404.1	402.3	400.6	399.4	398.5	397.5	396.6	395.7
17.5°	386.7	384.7	382.7	380.9	379.3	377.8	376.2	374.7
20°	374.7	372.4	370.1	368.0	366.0	364.1	362.1	360.2
22.5°	361.4	358.5	355.6	353.4	351.9	350.4	348.9	347.5
25°	339.4	335.6	332.0	329.5	328.1	326.7	325.4	324.0
27.5°	318.3	314.1	309.8	306.6	304.4	302.3	300.1	298.0
30°	303.5	299.0	294.4	290.9	288.4	286.0	283.6	281.2
32.5°	288.6	283.4	278.1	274.4	272.2	269.8	267.5	265.3
35°	265.4	259.7	254.0	250.1	248.2	246.2	244.2	242.3
37.5°	242.6	236.4	230.2	225.9	223.6	221.3	219.1	216.8
40°	227.5	221.1	214.6	210.3	207.9	205.6	203.2	200.9
42.5°	212.0	205.5	198.9	194.5	192.2	189.9	187.6	185.4
45°	189.8	183.3	177.0	172.7	170.6	168.4	166.2	164.1
47.5°	168.0	161.7	155.3	151.1	149.2	147.2	145.3	143.3
50°	154.1	147.8	141.6	137.6	135.7	133.8	131.9	130.0
52.5°	140.9	134.9	128.9	125.0	123.3	121.5	119.8	118.1
55°	120.8	115.5	110.0	106.5	104.8	103.1	101.4	99.7
57.5°	102.6	97.6	92.7	89.5	88.1	86.7	85.2	83.7
60°	90.1	85.5	80.9	77.8	76.4	75.0	73.6	72.1
62.5°	79.2	74.8	70.4	67.8	66.9	66.1	65.2	64.3
65°	64.4	61.3	58.2	56.5	56.3	56.0	55.7	55.5
67.5°	52.0	50.6	49.1	48.3	48.0	47.7	47.4	47.2
70°	45.2	44.3	43.4	42.8	42.4	42.0	41.6	41.3
72.5°	39.3	38.5	37.8	37.4	37.1	36.9	36.6	36.5
75°	31.1	30.5	29.9	29.5	29.4	29.3	29.2	29.2
77.5°	23.5	23.2	22.8	22.6	22.5	22.3	22.2	22.0
80°	18.7	18.4	18.0	17.8	17.8	17.8	17.8	17.8
82.5°	14.2	13.9	13.7	13.6	13.6	13.6	13.6	13.6
85°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	7.3	7.5	7.7	7.8	7.8	7.9	8.0	8.1
90°	24.3	25.4	26.7	27.6	28.0	28.4	29.0	29.4
92.5°	26.6	27.2	27.8	28.3	28.5	28.9	29.2	29.4
95°	44.9	46.2	47.3	47.9	47.6	47.3	47.2	46.9
97.5°	58.9	59.8	60.8	61.4	61.7	62.1	62.3	62.6
100°	66.1	67.9	69.9	71.2	71.6	72.1	72.6	73.1
102.5°	68.9	71.5	74.0	75.6	76.2	77.0	77.7	78.3
105°	71.9	74.5	77.2	79.0	80.0	81.0	81.9	82.9
107.5°	87.7	85.0	82.3	81.4	82.4	83.4	84.4	85.3
110°	142.4	118.2	93.9	82.3	83.3	84.3	85.2	86.1



TEST NUMBER: P331779-940

CATALOG NUMBER: S122RDIW-S290D1240U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	304.6	216.2	127.8	83.9	84.7	85.5	86.2	87.0
115°	448.5	336.4	224.1	159.3	141.8	124.4	106.9	89.4
117.5°	691.2	664.0	636.9	594.6	537.3	479.9	422.6	365.2
120°	805.4	808.2	811.2	796.3	763.6	730.8	698.1	665.4
122.5°	854.5	856.3	858.0	855.7	849.4	843.0	836.7	830.3
125°	925.1	926.8	928.5	929.7	930.4	931.2	931.9	932.6
127.5°	990.3	992.8	995.3	996.7	996.8	996.9	997.0	997.2
130°	1031.8	1034.5	1037.1	1038.3	1038.0	1037.9	1037.6	1037.3
132.5°	1072.0	1074.2	1076.6	1077.5	1077.4	1077.1	1076.8	1076.7
135°	1129.4	1131.8	1134.3	1135.2	1134.8	1134.3	1133.8	1133.4
137.5°	1182.8	1185.2	1187.6	1188.3	1187.5	1186.7	1185.9	1185.0
140°	1217.4	1219.5	1221.7	1222.2	1220.9	1219.8	1218.5	1217.4
142.5°	1249.2	1251.2	1253.2	1253.6	1252.4	1251.2	1249.9	1248.8
145°	1293.8	1295.5	1297.2	1297.4	1296.2	1295.0	1293.8	1292.6
147.5°	1332.7	1333.9	1335.2	1335.2	1334.3	1333.2	1332.2	1331.2
150°	1356.6	1358.1	1359.5	1359.6	1358.4	1357.2	1355.9	1354.8
152.5°	1378.4	1379.8	1381.3	1381.3	1379.7	1378.0	1376.4	1374.8
155°	1407.8	1409.3	1410.8	1410.5	1408.5	1406.7	1404.7	1402.8
157.5°	1432.7	1434.3	1436.0	1435.8	1434.0	1432.1	1430.2	1428.3
160°	1447.2	1448.6	1450.0	1449.9	1448.2	1446.5	1444.8	1443.1
162.5°	1460.6	1462.2	1463.9	1463.7	1461.6	1459.5	1457.4	1455.4
165°	1477.0	1478.7	1480.4	1480.4	1478.7	1477.0	1475.3	1473.6
167.5°	1490.8	1492.5	1494.2	1494.0	1491.7	1489.6	1487.4	1485.2
170°	1497.8	1499.5	1501.2	1500.9	1498.8	1496.6	1494.4	1492.2
172.5°	1503.0	1504.7	1506.4	1506.2	1504.0	1501.8	1499.6	1497.4
175°	1508.7	1510.4	1512.1	1511.7	1509.3	1506.9	1504.4	1502.0
177.5°	1509.3	1510.6	1512.1	1511.8	1510.1	1508.3	1506.6	1504.9
180°	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4

(END OF REPORT)