

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: P331783-927

Luminaire Tested: **S122RDIW-S290D1440U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331783-927  
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-S290D1440U927-4F0-1E-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: 5384.7 lumens  
Efficiency: N/A  
Efficacy: 100.8 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

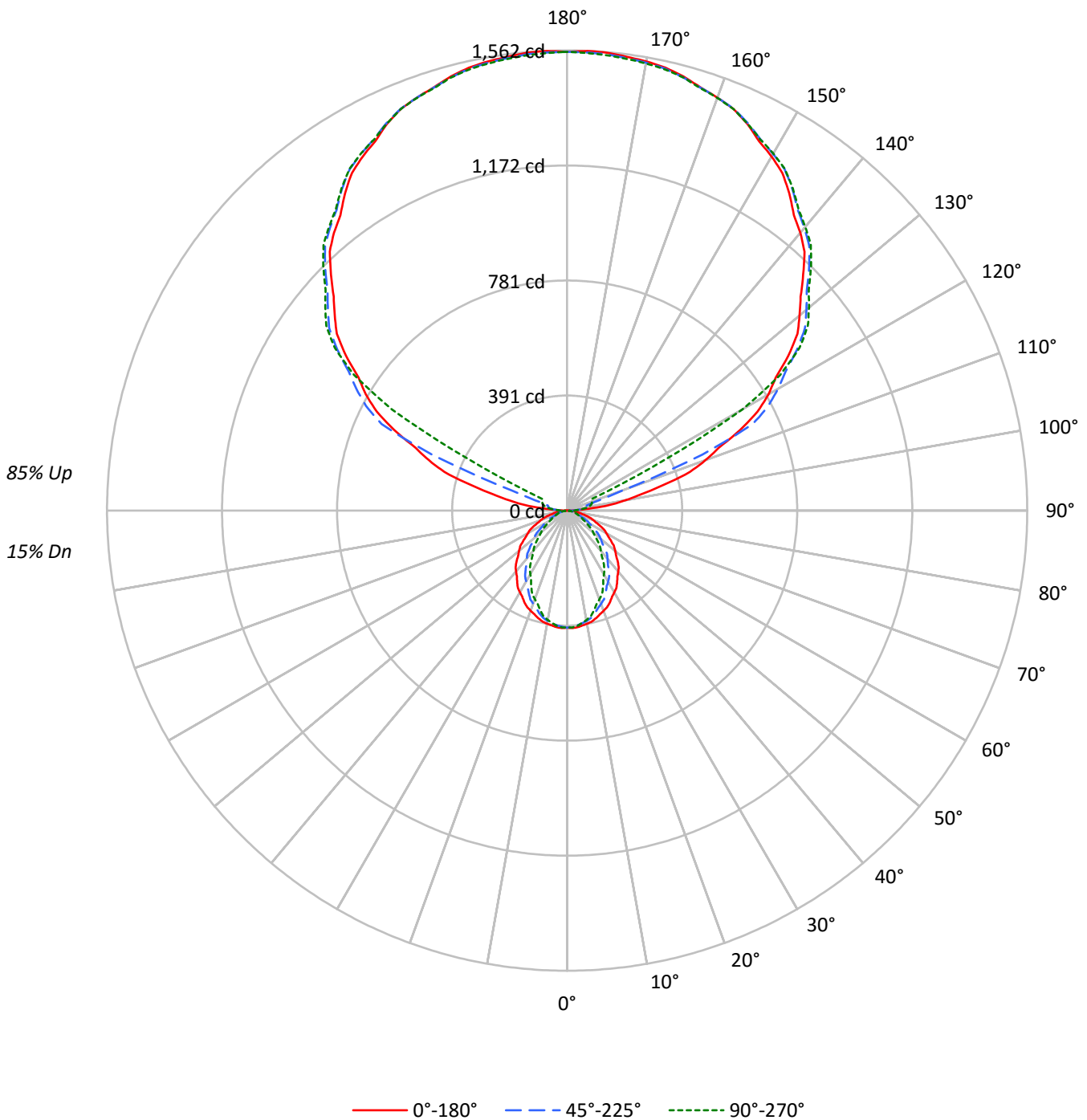
Input Watts (W): 53.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.2	0.7
10°-20°	102.2	1.9
20°-30°	143.5	2.7
30°-40°	156.5	2.9
40°-50°	143.9	2.7
50°-60°	113.0	2.1
60°-70°	73.7	1.4
70°-80°	38.0	0.7
80°-90°	13.7	0.3
90°-100°	51.9	1.0
100°-110°	190.5	3.5
110°-120°	509.1	9.5
120°-130°	840.4	15.6
130°-140°	893.8	16.6
140°-150°	830.7	15.4
150°-160°	667.9	12.4
160°-170°	430.4	8.0
170°-180°	148.2	2.8
0°-30°	282.9	5.3
0°-40°	439.4	8.2
0°-60°	696.4	12.9
0°-90°	821.7	15.3
90°-120°	751.5	14.0
90°-150°	3316.5	61.6
90°-180°	4563.0	84.7
0°-180°	5384.7	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	13	22	28	30	4
95°	73	39	44	49	48	90
105°	342	357	69	81	86	366
115°	648	668	695	198	92	638
125°	916	931	952	960	963	816
135°	1134	1151	1162	1172	1171	875
145°	1315	1315	1333	1340	1335	822
155°	1448	1439	1451	1457	1449	667
165°	1526	1519	1522	1529	1522	431
175°	1560	1553	1555	1562	1551	148
180°	1557	1557	1557	1557	1557	



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**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	4.9	4.9	5.0	5.2	5.6	6.0	6.4	6.8	7.0
90°	1.1	3.9	6.7	9.4	12.1	14.5	16.6	18.5	20.5	22.5	23.8
92.5°	22.7	22.5	22.3	22.0	21.8	22.1	23.1	24.2	25.1	26.1	26.8
95°	73.2	65.0	56.7	48.5	40.2	36.9	38.7	40.4	42.2	44.0	45.2
97.5°	145.4	122.1	98.8	75.5	52.2	42.6	46.7	50.7	54.7	58.8	59.8
100°	199.4	165.1	130.8	96.5	62.2	47.2	51.4	55.7	60.0	64.2	66.2
102.5°	258.9	251.7	244.4	237.1	229.9	208.4	172.9	137.2	101.6	66.0	68.6
105°	342.5	350.0	357.5	365.0	372.6	342.1	273.8	205.4	137.0	68.8	71.5
107.5°	437.8	443.9	450.0	456.0	462.1	424.1	342.1	260.2	178.2	96.3	93.4
110°	499.2	504.4	509.6	514.9	520.1	486.6	414.2	341.9	269.5	197.2	172.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	556.8	561.4	566.1	570.8	575.4	568.8	551.0	533.1	515.2	497.3	406.0
115°	647.8	652.1	656.3	660.6	664.9	670.1	676.4	682.6	688.9	695.1	579.2
117.5°	729.2	734.0	738.7	743.5	748.2	752.7	757.0	761.4	765.6	770.0	742.0
120°	788.7	792.4	796.1	799.9	803.7	807.8	812.3	816.8	821.3	825.9	828.9
122.5°	839.2	843.1	847.1	851.0	855.0	859.4	864.3	869.2	874.1	879.0	880.8
125°	916.0	919.2	922.5	925.7	929.0	933.0	937.8	942.5	947.3	952.0	953.8
127.5°	985.6	989.2	992.8	996.4	1000.1	1003.6	1007.2	1010.7	1014.3	1017.9	1020.4
130°	1029.8	1033.8	1037.8	1041.8	1045.8	1049.2	1051.9	1054.7	1057.4	1060.2	1063.0
132.5°	1074.8	1078.2	1081.6	1085.1	1088.5	1091.5	1094.3	1097.0	1099.8	1102.6	1104.9
135°	1133.5	1137.4	1141.5	1145.4	1149.5	1152.5	1154.8	1157.1	1159.4	1161.6	1164.1
137.5°	1192.7	1195.5	1198.3	1201.1	1203.9	1206.6	1209.1	1211.7	1214.3	1216.8	1219.2
140°	1231.4	1233.4	1235.5	1237.5	1239.4	1241.8	1244.6	1247.4	1250.1	1252.8	1255.1
142.5°	1263.9	1265.7	1267.5	1269.3	1271.1	1273.6	1276.8	1279.9	1283.0	1286.2	1288.2
145°	1314.9	1314.5	1314.3	1314.1	1313.8	1315.8	1320.1	1324.4	1328.6	1332.8	1334.6
147.5°	1359.2	1358.3	1357.3	1356.4	1355.4	1357.0	1361.2	1365.5	1369.7	1373.9	1375.1
150°	1388.1	1386.3	1384.6	1382.8	1381.0	1382.2	1386.2	1390.2	1394.2	1398.2	1399.7
152.5°	1412.4	1410.5	1408.5	1406.5	1404.6	1405.5	1409.3	1413.1	1416.9	1420.7	1422.2
155°	1447.8	1445.5	1443.3	1441.0	1438.8	1439.2	1442.2	1445.2	1448.2	1451.1	1452.6
157.5°	1475.5	1473.6	1471.7	1469.8	1467.9	1468.0	1470.1	1472.2	1474.3	1476.4	1478.1
160°	1491.7	1490.2	1488.7	1487.2	1485.7	1485.7	1487.2	1488.7	1490.2	1491.7	1493.2
162.5°	1506.1	1504.7	1503.2	1501.7	1500.2	1500.0	1501.3	1502.6	1504.0	1505.2	1507.0
165°	1525.5	1524.0	1522.5	1521.0	1519.5	1519.2	1519.9	1520.6	1521.4	1522.1	1523.9
167.5°	1539.9	1538.4	1536.9	1535.4	1533.9	1533.5	1534.2	1534.9	1535.6	1536.4	1538.1
170°	1548.1	1546.6	1545.1	1543.6	1542.1	1541.5	1542.1	1542.5	1543.0	1543.6	1545.3
172.5°	1553.5	1552.0	1550.5	1549.0	1547.4	1547.0	1547.4	1547.9	1548.5	1549.0	1550.7
175°	1560.4	1558.7	1557.0	1555.2	1553.5	1552.8	1553.3	1553.8	1554.3	1554.8	1556.6
177.5°	1561.5	1560.2	1558.8	1557.4	1555.9	1555.4	1555.5	1555.8	1555.9	1556.2	1557.6
180°	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0



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**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°	7.2	7.4	7.5	7.7	7.8	7.9	8.0	8.1
90°	25.0	26.3	27.6	28.4	28.9	29.4	29.9	30.4
92.5°	27.4	28.1	28.8	29.2	29.5	29.8	30.1	30.4
95°	46.4	47.7	49.0	49.4	49.2	49.0	48.7	48.5
97.5°	60.8	61.8	62.8	63.5	63.8	64.1	64.4	64.6
100°	68.2	70.3	72.2	73.5	74.0	74.5	75.0	75.5
102.5°	71.2	73.8	76.4	78.1	78.8	79.5	80.2	80.9
105°	74.2	77.0	79.8	81.6	82.6	83.7	84.6	85.6
107.5°	90.6	87.8	85.0	84.1	85.1	86.1	87.1	88.1
110°	147.1	122.1	97.0	85.0	86.0	87.0	88.0	89.0





TEST NUMBER: P331783-927

CATALOG NUMBER: S122RDIW-S290D1440U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	314.7	223.3	132.0	86.7	87.5	88.3	89.1	89.9
115°	463.3	347.4	231.5	164.5	146.5	128.4	110.4	92.4
117.5°	713.9	685.9	657.8	614.2	554.9	495.7	436.4	377.2
120°	831.9	834.9	837.9	822.4	788.7	754.9	721.0	687.3
122.5°	882.6	884.5	886.2	883.8	877.3	870.8	864.2	857.6
125°	955.5	957.3	959.0	960.3	961.1	961.8	962.6	963.3
127.5°	1022.9	1025.5	1028.0	1029.4	1029.5	1029.7	1029.8	1030.0
130°	1065.7	1068.5	1071.2	1072.5	1072.2	1072.0	1071.7	1071.4
132.5°	1107.2	1109.6	1112.0	1113.0	1112.8	1112.5	1112.3	1112.0
135°	1166.6	1169.1	1171.6	1172.6	1172.1	1171.6	1171.1	1170.6
137.5°	1221.7	1224.2	1226.6	1227.4	1226.5	1225.7	1224.9	1224.0
140°	1257.4	1259.6	1261.9	1262.3	1261.2	1259.9	1258.6	1257.4
142.5°	1290.3	1292.4	1294.4	1294.8	1293.6	1292.3	1291.1	1289.8
145°	1336.3	1338.1	1339.9	1340.1	1338.9	1337.6	1336.3	1335.1
147.5°	1376.5	1377.8	1379.1	1379.2	1378.2	1377.1	1376.0	1375.0
150°	1401.2	1402.7	1404.2	1404.3	1403.1	1401.8	1400.6	1399.3
152.5°	1423.7	1425.2	1426.7	1426.6	1425.0	1423.4	1421.7	1420.1
155°	1454.1	1455.6	1457.1	1456.9	1454.9	1452.9	1450.9	1448.9
157.5°	1479.8	1481.5	1483.2	1483.0	1481.1	1479.2	1477.2	1475.3
160°	1494.7	1496.2	1497.7	1497.6	1495.9	1494.1	1492.3	1490.6
162.5°	1508.6	1510.4	1512.0	1511.8	1509.7	1507.5	1505.4	1503.2
165°	1525.7	1527.4	1529.1	1529.1	1527.4	1525.7	1523.9	1522.1
167.5°	1539.8	1541.6	1543.3	1543.1	1540.9	1538.6	1536.4	1534.1
170°	1547.1	1548.8	1550.5	1550.3	1548.1	1545.8	1543.6	1541.3
172.5°	1552.4	1554.2	1555.9	1555.7	1553.5	1551.2	1549.0	1546.7
175°	1558.3	1560.0	1561.8	1561.5	1558.9	1556.4	1553.9	1551.4
177.5°	1558.9	1560.4	1561.8	1561.5	1559.7	1558.0	1556.2	1554.3
180°	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0

(END OF REPORT)