

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: P331485

Luminaire Tested: **S122DIW-S290D1240U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331485  
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-S290D1240U835-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6154.2 lumens  
Efficiency: N/A  
Efficacy: 132.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

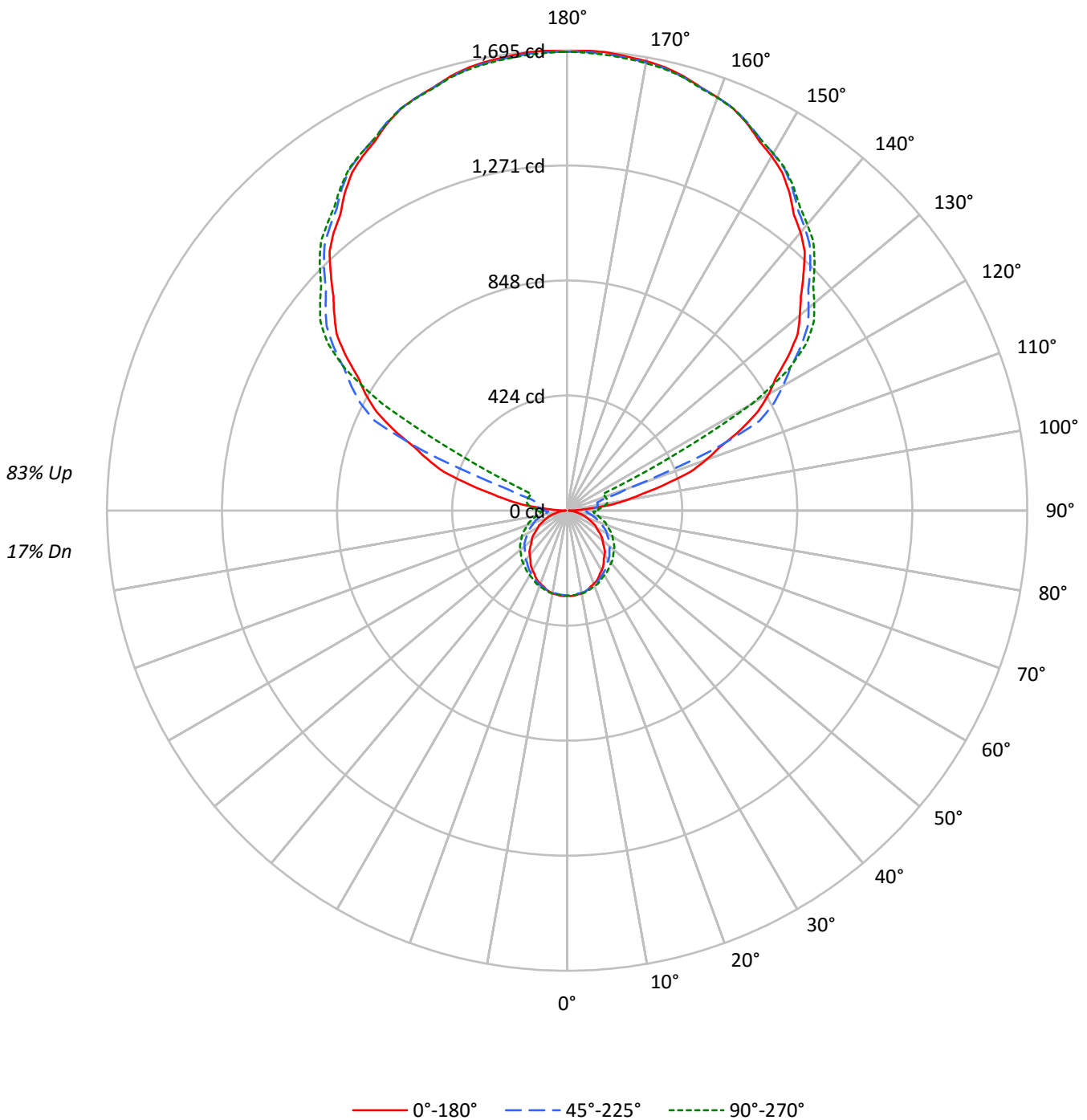
Input Watts (W): 46.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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CATALOG NUMBER: S122DIW-S290D1240U835-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331485

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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	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	90	86	82	78	79	75	72	69	56	54	52	38	37	36	22	22	21	13																												
2	82	74	68	63	71	65	60	56	49	45	43	33	31	30	19	18	17	11																												
3	74	65	58	52	65	57	51	47	43	39	35	29	27	25	17	15	14	9																												
4	68	57	50	44	59	51	44	39	38	33	30	26	23	21	15	13	12	8																												
5	62	51	43	37	54	45	38	33	34	29	25	23	20	18	13	12	10	6																												
6	57	45	37	32	50	40	33	29	30	25	22	21	18	15	12	10	9	6																												
7	52	41	33	28	46	36	29	25	27	22	19	19	16	14	11	9	8	5																												
8	48	37	29	24	42	32	26	22	24	20	17	17	14	12	10	8	7	4																												
9	45	33	26	21	39	29	23	19	22	18	15	16	13	11	9	8	6	4																												
10	42	30	23	19	37	27	21	17	20	16	13	14	11	9	8	7	6	4																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.7	0.5
10°-20°	85.2	1.4
20°-30°	129.1	2.1
30°-40°	157.2	2.6
40°-50°	169.1	2.7
50°-60°	164.2	2.7
60°-70°	143.4	2.3
70°-80°	110.4	1.8
80°-90°	78.3	1.3
90°-100°	107.4	1.7
100°-110°	244.1	4.0
110°-120°	577.4	9.4
120°-130°	926.2	15.1
130°-140°	976.2	15.9
140°-150°	903.0	14.7
150°-160°	725.2	11.8
160°-170°	467.3	7.6
170°-180°	160.9	2.6
0°-30°	243.9	4.0
0°-40°	401.1	6.5
0°-60°	734.5	11.9
0°-90°	1066.6	17.3
90°-120°	928.9	15.1
90°-150°	3734.3	60.7
90°-180°	5088.0	82.7
0°-180°	6154.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	6	46	84	108	117	7
95°	83	67	100	122	128	100
105°	374	404	114	142	153	400
115°	705	732	782	255	146	694
125°	995	1013	1049	1069	1078	887
135°	1231	1250	1266	1287	1289	951
145°	1428	1428	1447	1458	1455	893
155°	1572	1562	1576	1582	1573	724
165°	1656	1650	1653	1660	1653	468
175°	1694	1686	1688	1696	1684	161
180°	1690	1690	1690	1690	1690	



TEST NUMBER: P331485

CATALOG NUMBER: S122DIW-S290D1240U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.1	15.8	22.4	29.0	35.6	42.4	49.3	56.2	63.0	69.9	74.3
90°	5.8	14.6	23.5	32.3	41.1	49.9	58.5	67.2	75.8	84.4	89.8
92.5°	28.9	34.1	39.2	44.4	49.6	55.8	63.2	70.5	77.8	85.1	89.7
95°	83.1	78.9	74.7	70.5	66.2	68.1	76.1	84.0	92.0	99.9	105.1
97.5°	161.0	139.9	118.9	97.8	76.7	71.3	81.5	91.8	102.0	112.2	117.0
100°	219.7	186.2	152.7	119.2	85.7	74.1	84.3	94.6	104.9	115.2	121.1
102.5°	283.9	279.5	275.0	270.5	266.0	247.2	214.1	180.9	147.7	114.6	121.0
105°	374.1	385.2	396.3	407.4	418.5	389.5	320.6	251.6	182.6	113.7	120.2
107.5°	477.5	486.5	495.4	504.3	513.2	475.7	391.7	307.8	223.8	139.8	140.2
110°	543.7	551.4	559.2	566.9	574.6	541.7	468.1	394.5	320.8	247.2	223.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	606.4	613.1	619.9	626.6	633.4	629.4	614.7	600.0	585.3	570.6	474.6
115°	705.2	710.9	716.7	722.4	728.1	736.7	748.0	759.3	770.7	782.0	659.2
117.5°	793.1	798.9	804.8	810.7	816.6	824.0	832.9	841.8	850.6	859.5	832.0
120°	857.6	862.1	866.6	871.1	875.6	882.3	891.2	900.1	909.1	918.0	924.1
122.5°	912.4	916.9	921.4	925.8	930.3	937.1	946.2	955.3	964.4	973.6	978.3
125°	995.4	999.0	1002.5	1006.0	1009.6	1015.5	1023.9	1032.3	1040.7	1049.1	1053.7
127.5°	1071.0	1074.8	1078.6	1082.5	1086.3	1091.4	1097.9	1104.3	1110.8	1117.3	1122.5
130°	1119.0	1123.2	1127.5	1131.7	1136.0	1140.6	1145.8	1150.9	1156.0	1161.1	1166.5
132.5°	1167.9	1171.5	1175.1	1178.7	1182.3	1186.4	1191.0	1195.6	1200.3	1204.9	1209.8
135°	1231.1	1235.4	1239.8	1244.1	1248.5	1252.4	1255.8	1259.3	1262.7	1266.2	1271.0
137.5°	1295.4	1298.4	1301.4	1304.5	1307.5	1310.6	1313.8	1317.0	1320.3	1323.5	1328.0
140°	1337.5	1339.6	1341.6	1343.7	1345.8	1348.4	1351.6	1354.8	1358.0	1361.2	1365.2
142.5°	1372.7	1374.6	1376.4	1378.3	1380.1	1382.8	1386.3	1389.7	1393.2	1396.7	1400.2
145°	1427.5	1427.3	1427.0	1426.7	1426.5	1428.6	1433.3	1437.9	1442.5	1447.1	1449.6
147.5°	1475.7	1474.7	1473.7	1472.6	1471.6	1473.4	1477.9	1482.5	1487.1	1491.6	1493.1
150°	1507.1	1505.2	1503.3	1501.3	1499.4	1500.7	1505.0	1509.4	1513.7	1518.1	1519.7
152.5°	1533.5	1531.4	1529.2	1527.1	1525.0	1526.0	1530.1	1534.3	1538.4	1542.5	1544.2
155°	1571.9	1569.4	1567.0	1564.5	1562.1	1562.5	1565.8	1569.0	1572.3	1575.6	1577.2
157.5°	1602.0	1599.9	1597.8	1595.8	1593.7	1593.8	1596.1	1598.4	1600.7	1603.0	1604.8
160°	1619.6	1618.0	1616.3	1614.7	1613.1	1613.1	1614.7	1616.3	1618.0	1619.6	1621.2
162.5°	1635.3	1633.6	1632.0	1630.4	1628.7	1628.6	1630.0	1631.4	1632.9	1634.3	1636.1
165°	1656.3	1654.7	1653.0	1651.4	1649.8	1649.4	1650.2	1651.0	1651.8	1652.6	1654.5
167.5°	1672.0	1670.3	1668.7	1667.1	1665.4	1665.0	1665.8	1666.5	1667.3	1668.0	1669.9
170°	1680.8	1679.1	1677.5	1675.9	1674.2	1673.7	1674.2	1674.8	1675.3	1675.9	1677.8
172.5°	1686.6	1685.0	1683.4	1681.7	1680.1	1679.6	1680.1	1680.6	1681.2	1681.7	1683.6
175°	1694.2	1692.3	1690.4	1688.5	1686.6	1685.9	1686.5	1687.0	1687.6	1688.1	1690.0
177.5°	1695.4	1693.9	1692.4	1690.9	1689.3	1688.7	1688.9	1689.1	1689.3	1689.6	1691.1
180°	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	78.7	83.1	87.5	90.4	91.8	93.2	94.6	96.0
90°	95.2	100.6	106.0	109.6	111.3	113.1	114.9	116.6
92.5°	94.4	99.1	103.7	106.8	108.4	109.9	111.4	113.0
95°	110.3	115.5	120.7	123.8	124.7	125.7	126.6	127.6
97.5°	121.8	126.7	131.5	134.6	136.2	137.7	139.2	140.7
100°	127.0	132.9	138.8	142.6	144.2	145.9	147.5	149.2
102.5°	127.5	134.0	140.5	144.7	146.5	148.4	150.3	152.2
105°	126.7	133.3	139.8	144.1	146.3	148.5	150.7	152.9
107.5°	140.5	140.9	141.2	142.5	144.7	146.9	149.1	151.3
110°	199.3	175.4	151.4	140.5	142.7	144.9	147.1	149.3





TEST NUMBER: P331485

CATALOG NUMBER: S122DIW-S290D1240U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.7	282.8	186.8	139.8	141.8	143.8	145.8	147.8
115°	536.3	413.5	290.7	220.0	201.6	183.1	164.7	146.2
117.5°	804.6	777.1	749.7	704.3	641.0	577.7	514.4	451.2
120°	930.2	936.3	942.4	927.6	892.0	856.4	820.8	785.3
122.5°	983.0	987.7	992.4	991.6	985.5	979.3	973.1	966.9
125°	1058.4	1063.0	1067.6	1070.8	1072.5	1074.2	1076.0	1077.7
127.5°	1127.8	1133.1	1138.4	1141.5	1142.6	1143.6	1144.7	1145.7
130°	1171.9	1177.3	1182.7	1185.7	1186.2	1186.8	1187.3	1187.9
132.5°	1214.7	1219.6	1224.5	1227.2	1227.7	1228.3	1228.8	1229.3
135°	1275.9	1280.7	1285.5	1288.1	1288.3	1288.6	1288.9	1289.1
137.5°	1332.5	1337.0	1341.6	1343.7	1343.5	1343.2	1343.0	1342.8
140°	1369.3	1373.4	1377.4	1379.1	1378.3	1377.6	1376.8	1376.1
142.5°	1403.7	1407.2	1410.7	1412.1	1411.2	1410.4	1409.6	1408.7
145°	1452.1	1454.6	1457.2	1458.0	1457.1	1456.3	1455.4	1454.6
147.5°	1494.6	1496.1	1497.6	1497.9	1497.0	1496.1	1495.2	1494.3
150°	1521.3	1523.0	1524.6	1524.7	1523.4	1522.0	1520.6	1519.3
152.5°	1545.8	1547.4	1549.1	1549.0	1547.2	1545.4	1543.6	1541.8
155°	1578.8	1580.5	1582.1	1581.8	1579.6	1577.5	1575.3	1573.1
157.5°	1606.7	1608.5	1610.4	1610.2	1608.1	1606.0	1603.9	1601.7
160°	1622.9	1624.5	1626.1	1626.0	1624.1	1622.2	1620.3	1618.4
162.5°	1638.0	1639.8	1641.7	1641.4	1639.1	1636.7	1634.4	1632.1
165°	1656.4	1658.3	1660.2	1660.2	1658.3	1656.4	1654.5	1652.6
167.5°	1671.8	1673.7	1675.6	1675.4	1672.9	1670.5	1668.0	1665.6
170°	1679.7	1681.6	1683.5	1683.2	1680.8	1678.3	1675.9	1673.4
172.5°	1685.5	1687.4	1689.3	1689.1	1686.6	1684.2	1681.7	1679.3
175°	1691.9	1693.8	1695.7	1695.3	1692.6	1689.9	1687.1	1684.4
177.5°	1692.6	1694.1	1695.7	1695.4	1693.5	1691.5	1689.6	1687.6
180°	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5	1690.5

(END OF REPORT)