

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: P331270-830

Luminaire Tested: **S122DIP-S290D925U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331270-830  
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: S122DIP-S290D925U830-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4616.4 lumens  
Efficiency: N/A  
Efficacy: 123.8 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

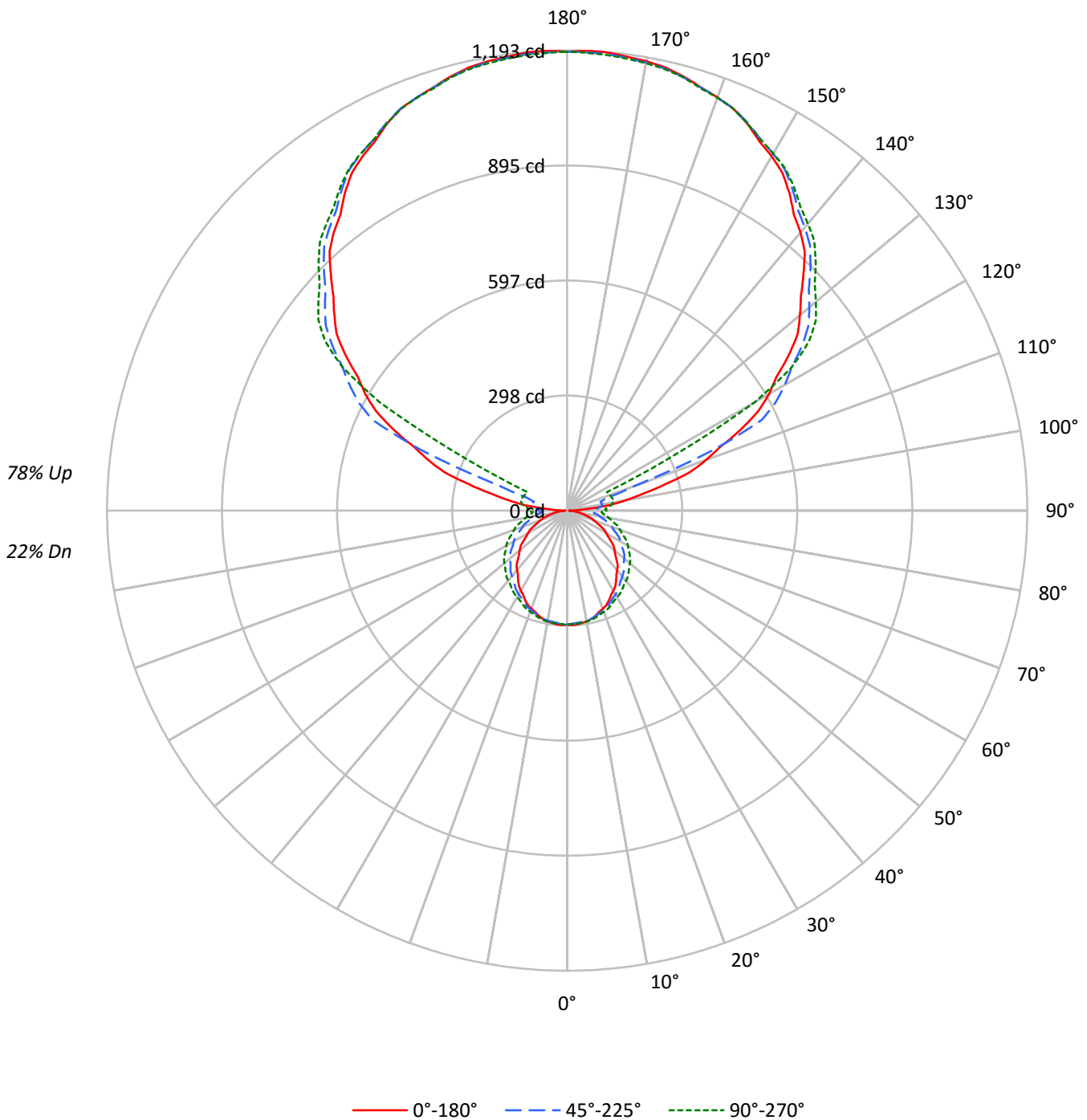
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331270-830

CATALOG NUMBER: S122DIP-S290D925U830-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





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CATALOG NUMBER: S122DIP-S290D925U830-4F0-1E-UDD-D

**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	0	
RCR																						
0	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22				
1	91	86	82	79	80	77	73	70	58	56	54	41	40	39	26	25	24	17				
2	82	75	69	64	73	66	61	57	50	47	44	36	34	32	22	21	20	14				
3	75	66	58	53	66	58	52	47	44	40	37	31	29	26	19	18	17	11				
4	68	58	50	44	60	51	45	40	39	34	31	28	25	22	17	15	14	9				
5	62	51	43	37	55	45	39	34	35	30	26	25	22	19	15	14	12	8				
6	57	46	38	32	50	41	34	29	31	26	23	22	19	17	14	12	10	7				
7	53	41	33	28	47	37	30	25	28	23	20	20	17	14	13	11	9	6				
8	49	37	29	24	43	33	26	22	25	21	17	18	15	13	11	10	8	6				
9	45	34	26	21	40	30	24	19	23	19	15	17	14	11	11	9	7	5				
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	10	8	7	4				

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

	0°	45°	90°
0°	4771	4771	4771
5°	4794	4593	4573
10°	4763	4457	4407
15°	4698	4312	4229
20°	4614	4159	4059
25°	4533	4009	3902
30°	4418	3857	3747
35°	4301	3711	3638
40°	4178	3584	3528
45°	4060	3473	3434
50°	3936	3371	3343
55°	3802	3261	3248
60°	3643	3149	3150
65°	3474	3016	3031
70°	3286	2872	2904
75°	3050	2735	2786
80°	2669	2592	2667
85°	2319	2468	2574



TEST NUMBER: P331270-830

CATALOG NUMBER: S122DIP-S290D925U830-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.0	0.6
10°-20°	80.3	1.7
20°-30°	121.6	2.6
30°-40°	148.2	3.2
40°-50°	159.4	3.5
50°-60°	154.8	3.4
60°-70°	135.2	2.9
70°-80°	104.1	2.3
80°-90°	72.8	1.6
90°-100°	87.8	1.9
100°-110°	180.7	3.9
110°-120°	412.2	8.9
120°-130°	655.1	14.2
130°-140°	688.3	14.9
140°-150°	635.7	13.8
150°-160°	510.3	11.1
160°-170°	328.8	7.1
170°-180°	113.2	2.5
0°-30°	229.9	5.0
0°-40°	378.1	8.2
0°-60°	692.3	15.0
0°-90°	1004.3	21.8
90°-120°	680.7	14.7
90°-150°	2659.7	57.6
90°-180°	3612.0	78.2
0°-180°	4616.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	296	296	296	296	296	
5°	296	295	292	295	294	28
15°	283	283	283	287	287	80
25°	257	260	264	269	270	118
35°	221	229	237	246	249	138
45°	182	193	208	221	226	140
55°	139	155	177	192	198	124
65°	95	116	141	158	164	94
75°	53	77	104	122	128	56
85°	16	42	69	87	93	17
90°	5	39	74	94	102	6
95°	59	53	83	102	108	71
105°	264	288	89	113	122	282
115°	497	517	557	189	114	489
125°	701	713	742	759	766	625
135°	866	880	892	909	912	669
145°	1005	1005	1018	1026	1025	628
155°	1106	1099	1109	1113	1107	509
165°	1166	1161	1163	1168	1163	329
175°	1192	1187	1188	1193	1185	113
180°	1190	1190	1190	1190	1190	



TEST NUMBER: P331270-830

CATALOG NUMBER: S122DIP-S290D925U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	297.2	296.9	296.7	296.4	296.2	295.9	295.3	294.8	294.3	293.7	294.1
5°	296.3	296.1	295.8	295.5	295.1	294.7	294.2	293.6	293.0	292.5	293.0
7.5°	293.6	293.4	293.2	293.0	292.8	292.6	292.1	291.7	291.2	290.8	291.5
10°	291.6	291.4	291.2	291.1	290.9	290.6	290.3	290.0	289.7	289.5	290.2
12.5°	288.1	288.2	288.2	288.3	288.3	288.2	288.0	287.9	287.6	287.4	288.1
15°	282.6	282.8	283.0	283.1	283.3	283.4	283.4	283.4	283.4	283.4	284.3
17.5°	275.4	275.8	276.2	276.6	277.0	277.4	277.7	278.0	278.2	278.6	279.5
20°	270.6	271.1	271.5	272.0	272.5	273.0	273.3	273.7	274.1	274.5	275.5
22.5°	265.5	266.0	266.6	267.1	267.7	268.2	268.7	269.3	269.8	270.3	271.4
25°	256.9	257.6	258.3	258.9	259.6	260.3	261.2	262.0	262.9	263.7	264.9
27.5°	246.7	247.7	248.8	249.9	251.0	252.0	253.0	254.0	255.1	256.1	257.5
30°	239.8	241.0	242.2	243.5	244.7	246.0	247.2	248.5	249.7	250.9	252.4
32.5°	232.2	233.7	235.0	236.4	237.8	239.2	240.7	242.1	243.6	245.1	246.9
35°	221.4	223.0	224.6	226.2	227.8	229.5	231.4	233.2	235.0	236.8	238.8
37.5°	209.5	211.4	213.3	215.2	217.0	219.1	221.5	223.8	226.1	228.5	230.8
40°	201.7	203.8	205.9	207.9	210.0	212.4	214.9	217.5	220.1	222.6	225.1
42.5°	194.2	196.2	198.3	200.4	202.6	205.0	208.0	210.9	213.9	216.8	219.5
45°	181.5	184.1	186.7	189.3	191.8	194.7	198.1	201.4	204.7	208.1	211.0
47.5°	169.1	171.9	174.7	177.5	180.3	183.7	187.6	191.4	195.4	199.3	202.4
50°	160.6	163.5	166.5	169.4	172.4	176.0	180.3	184.5	188.8	193.1	196.3
52.5°	152.3	155.4	158.5	161.6	164.8	168.5	173.1	177.6	182.1	186.6	189.9
55°	139.1	142.6	146.0	149.4	152.9	157.0	162.0	166.9	171.9	176.8	180.3
57.5°	126.1	130.0	133.8	137.7	141.6	146.0	151.1	156.1	161.2	166.3	169.9
60°	116.9	121.0	125.1	129.1	133.3	138.0	143.5	148.8	154.3	159.7	163.3
62.5°	108.7	112.9	117.2	121.4	125.6	130.4	135.9	141.3	146.8	152.2	156.0
65°	95.0	99.7	104.3	109.1	113.7	118.9	124.4	130.1	135.7	141.3	145.2
67.5°	82.6	87.5	92.3	97.2	102.1	107.4	113.1	118.9	124.6	130.4	134.3
70°	73.6	78.6	83.5	88.5	93.4	98.9	104.7	110.7	116.6	122.4	126.6
72.5°	65.4	70.5	75.6	80.7	85.9	91.3	97.4	103.3	109.3	115.3	119.3
75°	52.7	58.0	63.3	68.6	74.0	79.6	85.8	91.9	97.9	104.1	108.1
77.5°	40.3	45.9	51.5	57.0	62.7	68.5	74.7	80.9	87.1	93.2	97.4
80°	32.1	37.9	43.7	49.5	55.3	61.4	67.5	73.7	79.8	86.1	90.0
82.5°	25.3	31.0	36.8	42.4	48.2	54.2	60.4	66.7	73.0	79.2	83.2
85°	15.5	21.3	27.2	33.1	39.0	45.0	51.1	57.2	63.2	69.4	73.3
87.5°	8.6	14.6	20.7	26.9	32.9	39.2	45.5	51.9	58.3	64.8	68.8
90°	5.2	12.7	20.4	28.0	35.6	43.3	50.9	58.5	66.1	73.7	78.5
92.5°	21.3	26.3	31.2	36.2	41.1	46.9	53.5	60.1	66.8	73.4	77.7
95°	59.4	57.5	55.7	53.8	52.0	54.6	61.6	68.7	75.8	82.8	87.4
97.5°	114.0	100.2	86.4	72.6	58.8	56.2	64.8	73.3	81.9	90.5	94.8
100°	155.3	132.7	110.0	87.3	64.7	57.6	66.2	74.7	83.3	91.9	96.9
102.5°	200.5	198.1	195.8	193.5	191.1	179.0	156.9	134.9	112.9	90.9	96.3
105°	263.8	272.3	280.8	289.4	297.8	278.4	231.2	183.9	136.6	89.4	94.7
107.5°	336.6	343.4	350.2	357.0	363.9	338.4	280.5	222.6	164.8	106.8	107.9
110°	383.0	389.0	394.9	400.8	406.7	384.4	333.8	283.1	232.5	181.9	165.8



TEST NUMBER: P331270-830

CATALOG NUMBER: S122DIP-S290D925U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	427.2	432.3	437.4	442.6	447.8	445.7	436.5	427.3	418.0	408.8	342.0
115°	496.7	501.0	505.3	509.5	513.9	520.6	529.6	538.7	547.7	556.9	471.1
117.5°	558.4	562.7	567.0	571.4	575.7	581.5	588.7	596.0	603.2	610.5	591.8
120°	603.9	607.1	610.4	613.6	616.9	622.1	629.3	636.6	643.9	651.1	656.1
122.5°	642.4	645.6	648.8	652.0	655.2	660.3	667.7	675.0	682.3	689.7	693.6
125°	700.7	703.2	705.7	708.1	710.7	715.2	721.9	728.6	735.3	742.0	745.8
127.5°	753.9	756.6	759.2	761.9	764.5	768.5	773.6	778.8	784.0	789.1	793.4
130°	787.7	790.6	793.6	796.5	799.5	803.0	807.1	811.2	815.4	819.4	823.9
132.5°	822.1	824.6	827.1	829.6	832.1	835.2	838.9	842.4	846.1	849.8	853.8
135°	866.4	869.5	872.5	875.6	878.6	881.6	884.2	886.8	889.6	892.2	896.2
137.5°	911.7	913.8	916.0	918.0	920.2	922.5	924.8	927.2	929.5	931.9	935.6
140°	941.3	942.7	944.1	945.7	947.1	949.0	951.2	953.5	955.8	958.1	961.3
142.5°	966.1	967.3	968.7	970.0	971.2	973.1	975.5	978.0	980.4	982.9	985.7
145°	1004.6	1004.4	1004.2	1004.0	1003.8	1005.3	1008.6	1011.8	1015.1	1018.3	1020.3
147.5°	1038.5	1037.7	1037.1	1036.3	1035.6	1036.8	1040.0	1043.3	1046.5	1049.7	1050.7
150°	1060.5	1059.2	1057.8	1056.5	1055.2	1056.0	1059.1	1062.2	1065.3	1068.3	1069.4
152.5°	1079.1	1077.6	1076.1	1074.7	1073.2	1073.8	1076.8	1079.7	1082.6	1085.5	1086.7
155°	1106.2	1104.5	1102.7	1101.0	1099.3	1099.6	1101.8	1104.2	1106.5	1108.7	1109.8
157.5°	1127.3	1125.9	1124.5	1122.9	1121.5	1121.6	1123.2	1124.8	1126.4	1128.0	1129.4
160°	1139.7	1138.6	1137.5	1136.2	1135.1	1135.1	1136.2	1137.5	1138.6	1139.7	1140.9
162.5°	1150.8	1149.6	1148.5	1147.3	1146.1	1146.0	1147.1	1148.0	1149.1	1150.1	1151.3
165°	1165.5	1164.4	1163.3	1162.1	1160.9	1160.6	1161.2	1161.8	1162.4	1163.0	1164.3
167.5°	1176.6	1175.4	1174.3	1173.1	1172.0	1171.7	1172.2	1172.7	1173.3	1173.8	1175.2
170°	1182.8	1181.6	1180.4	1179.3	1178.2	1177.8	1178.2	1178.6	1178.9	1179.3	1180.6
172.5°	1186.8	1185.7	1184.6	1183.5	1182.3	1181.9	1182.3	1182.7	1183.1	1183.5	1184.8
175°	1192.2	1190.9	1189.6	1188.2	1186.8	1186.4	1186.8	1187.1	1187.5	1187.9	1189.3
177.5°	1193.1	1192.0	1191.0	1189.9	1188.8	1188.4	1188.5	1188.6	1188.8	1188.9	1190.1
180°	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7



TEST NUMBER: P331270-830

CATALOG NUMBER: S122DIP-S290D925U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	294.5	294.8	295.2	295.4	295.2	295.0	294.9	294.7
5°	293.6	294.2	294.7	294.9	294.8	294.7	294.6	294.5
7.5°	292.2	292.8	293.6	293.9	293.8	293.7	293.6	293.5
10°	291.0	291.7	292.5	292.8	292.8	292.7	292.6	292.5
12.5°	288.9	289.6	290.4	290.8	290.7	290.6	290.5	290.4
15°	285.1	286.1	286.9	287.3	287.2	287.1	287.0	286.9
17.5°	280.4	281.3	282.1	282.6	282.6	282.6	282.6	282.6
20°	276.5	277.6	278.6	279.2	279.2	279.2	279.2	279.2
22.5°	272.5	273.5	274.6	275.1	275.3	275.4	275.6	275.8
25°	266.1	267.2	268.3	269.0	269.3	269.6	269.8	270.1
27.5°	258.9	260.4	261.8	262.7	262.9	263.1	263.3	263.5
30°	253.9	255.5	257.0	257.9	258.2	258.4	258.7	259.0
32.5°	248.5	250.3	252.1	253.3	253.7	254.3	254.8	255.2
35°	241.0	243.1	245.2	246.6	247.2	247.9	248.5	249.2
37.5°	233.1	235.4	237.8	239.3	240.0	240.7	241.4	242.0
40°	227.6	230.1	232.5	234.2	235.1	235.9	236.8	237.6
42.5°	222.3	224.9	227.6	229.4	230.3	231.1	232.0	232.8
45°	214.0	217.0	219.9	221.9	222.8	223.8	224.7	225.6
47.5°	205.5	208.5	211.6	213.7	214.7	215.7	216.8	217.8
50°	199.5	202.8	206.0	208.2	209.2	210.3	211.3	212.4
52.5°	193.2	196.5	199.8	202.1	203.2	204.3	205.5	206.5
55°	183.7	187.1	190.6	192.8	194.1	195.4	196.6	197.8
57.5°	173.6	177.3	181.0	183.4	184.7	186.0	187.2	188.5
60°	166.9	170.6	174.2	176.6	178.0	179.3	180.7	182.0
62.5°	159.9	163.7	167.6	170.1	171.4	172.6	173.9	175.1
65°	149.1	153.0	156.9	159.5	160.7	161.9	163.2	164.4
67.5°	138.2	142.1	146.1	148.7	150.0	151.3	152.6	153.9
70°	130.6	134.7	138.8	141.5	142.6	143.7	144.9	146.0
72.5°	123.3	127.3	131.3	134.0	135.3	136.8	138.2	139.5
75°	112.3	116.3	120.5	123.1	124.3	125.5	126.8	128.0
77.5°	101.4	105.5	109.5	112.3	113.6	114.9	116.2	117.5
80°	94.1	98.0	102.1	104.7	106.0	107.4	108.7	110.0
82.5°	87.2	91.2	95.2	97.8	99.1	100.4	101.6	102.8
85°	77.4	81.3	85.4	88.0	89.4	90.7	92.0	93.3
87.5°	72.9	77.0	81.1	83.7	85.0	86.3	87.7	88.9
90°	83.2	88.0	92.7	96.0	97.5	99.0	100.5	102.0
92.5°	81.9	86.1	90.3	93.1	94.4	95.9	97.3	98.6
95°	92.0	96.5	101.1	103.9	104.8	105.8	106.7	107.6
97.5°	99.1	103.4	107.6	110.5	111.8	113.2	114.5	115.8
100°	102.0	107.1	112.1	115.4	116.8	118.2	119.6	121.0
102.5°	101.7	107.2	112.6	116.1	117.7	119.2	120.8	122.4
105°	100.2	105.7	111.0	114.7	116.5	118.3	120.2	122.0
107.5°	109.0	110.0	111.0	112.4	114.3	116.1	117.9	119.7
110°	149.8	133.7	117.5	110.5	112.3	114.0	115.8	117.6





TEST NUMBER: P331270-830

CATALOG NUMBER: S122DIP-S290D925U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	275.3	208.6	141.9	109.3	111.0	112.6	114.3	115.9
115°	385.4	299.6	214.0	164.8	152.0	139.3	126.6	113.9
117.5°	573.3	554.6	536.0	504.5	460.3	416.0	371.7	327.4
120°	661.0	666.0	670.9	661.0	636.2	611.5	586.7	561.9
122.5°	697.6	701.5	705.6	705.5	701.3	697.2	693.1	689.0
125°	749.8	753.7	757.6	760.3	761.7	763.1	764.5	766.0
127.5°	797.8	802.1	806.3	809.0	809.9	811.0	811.9	812.8
130°	828.2	832.6	837.0	839.5	840.1	840.7	841.2	841.8
132.5°	857.8	861.8	865.8	868.1	868.6	869.2	869.8	870.3
135°	900.0	904.0	907.9	910.0	910.4	910.8	911.2	911.5
137.5°	939.1	942.8	946.4	948.2	948.2	948.2	948.2	948.2
140°	964.6	967.8	971.1	972.5	972.1	971.8	971.3	970.9
142.5°	988.4	991.3	994.0	995.2	994.8	994.3	993.8	993.3
145°	1022.2	1024.1	1026.0	1026.7	1026.2	1025.8	1025.3	1024.8
147.5°	1051.8	1052.9	1054.0	1054.2	1053.7	1053.1	1052.4	1051.9
150°	1070.5	1071.8	1072.9	1073.0	1072.0	1071.0	1070.1	1069.1
152.5°	1087.8	1088.9	1090.1	1090.1	1088.7	1087.5	1086.3	1085.0
155°	1111.1	1112.2	1113.3	1113.1	1111.6	1110.0	1108.5	1107.0
157.5°	1130.6	1131.9	1133.2	1133.1	1131.6	1130.1	1128.6	1127.2
160°	1142.0	1143.2	1144.3	1144.2	1142.8	1141.5	1140.2	1138.9
162.5°	1152.6	1154.0	1155.3	1155.1	1153.5	1151.8	1150.2	1148.5
165°	1165.6	1167.0	1168.3	1168.3	1167.0	1165.6	1164.3	1163.0
167.5°	1176.5	1177.8	1179.2	1178.9	1177.2	1175.5	1173.8	1172.1
170°	1182.0	1183.4	1184.7	1184.5	1182.8	1181.0	1179.3	1177.6
172.5°	1186.1	1187.5	1188.8	1188.6	1186.8	1185.2	1183.5	1181.8
175°	1190.6	1191.9	1193.3	1193.0	1191.1	1189.2	1187.2	1185.3
177.5°	1191.1	1192.2	1193.3	1193.1	1191.8	1190.3	1188.9	1187.6
180°	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7

(END OF REPORT)