

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: P331636-940

Luminaire Tested: **SA2XXRDIP-C290D925U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331636-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4221.7 lumens  
Efficiency: N/A  
Efficacy: 113.2 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

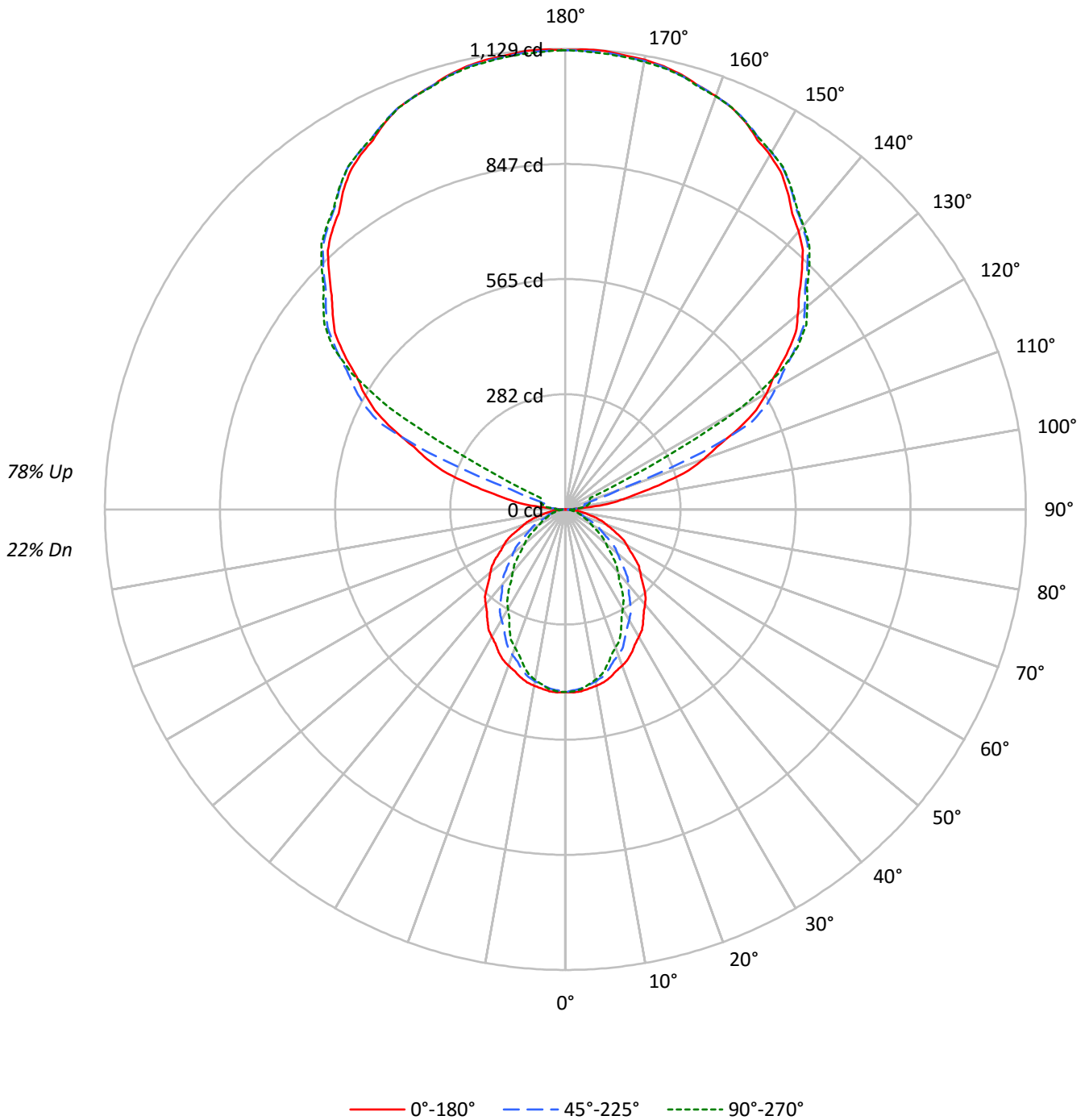
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331636-940

CATALOG NUMBER: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P331636-940

CATALOG NUMBER: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F

**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	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	92	88	84	81	81	78	75	72	59	57	56	43	41	40	27	26	26	19																												
2	84	77	71	66	74	68	63	59	52	49	46	38	36	34	24	23	22	16																												
3	76	67	61	55	67	60	54	50	46	42	39	33	31	29	21	20	19	14																												
4	70	60	52	47	62	53	47	42	41	37	33	30	27	25	19	18	17	12																												
5	64	53	46	40	57	47	41	36	37	32	29	27	24	22	17	16	14	11																												
6	59	48	40	34	52	43	36	31	33	28	25	24	21	19	16	14	13	9																												
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	14	13	11	8																												
8	50	39	31	26	45	35	28	24	27	23	19	20	17	15	13	12	10	8																												
9	47	35	28	23	41	32	26	21	25	20	17	18	15	13	12	11	9	7																												
10	44	32	25	21	39	29	23	19	23	18	15	17	14	12	11	10	8	6																												

**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



TEST NUMBER: P331636-940

CATALOG NUMBER: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.9	1.0
10°-20°	115.0	2.7
20°-30°	161.6	3.8
30°-40°	176.2	4.2
40°-50°	162.0	3.8
50°-60°	127.2	3.0
60°-70°	82.9	2.0
70°-80°	42.8	1.0
80°-90°	13.9	0.3
90°-100°	37.5	0.9
100°-110°	137.7	3.3
110°-120°	368.0	8.7
120°-130°	607.5	14.4
130°-140°	646.1	15.3
140°-150°	600.5	14.2
150°-160°	482.8	11.4
160°-170°	311.1	7.4
170°-180°	107.1	2.5
0°-30°	318.5	7.5
0°-40°	494.7	11.7
0°-60°	783.8	18.6
0°-90°	923.4	21.9
90°-120°	543.2	12.9
90°-150°	2397.3	56.8
90°-180°	3298.0	78.1
0°-180°	4221.7	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	10	16	20	22	3
95°	53	28	32	36	35	65
105°	248	258	50	58	62	265
115°	468	482	502	143	67	461
125°	662	673	688	694	696	590
135°	819	832	840	847	846	633
145°	950	950	963	969	965	594
155°	1046	1040	1049	1053	1047	482
165°	1103	1098	1100	1105	1100	311
175°	1128	1123	1124	1129	1121	107
180°	1126	1126	1126	1126	1126	



TEST NUMBER: P331636-940

CATALOG NUMBER: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F

**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	5.2	5.0	4.8	4.6	4.7	5.0	5.3	5.5	5.9	6.0
90°	0.8	2.8	4.8	6.8	8.7	10.5	11.9	13.4	14.8	16.3	17.2
92.5°	16.4	16.2	16.1	15.9	15.7	16.0	16.8	17.5	18.2	18.9	19.4
95°	53.0	47.0	41.0	35.0	29.1	26.7	28.0	29.2	30.5	31.7	32.6
97.5°	105.0	88.2	71.4	54.6	37.7	30.8	33.7	36.6	39.6	42.5	43.2
100°	144.2	119.3	94.5	69.7	44.9	34.2	37.2	40.3	43.3	46.5	47.9
102.5°	187.2	181.9	176.6	171.4	166.1	150.7	124.9	99.2	73.5	47.7	49.6
105°	247.5	253.0	258.4	263.9	269.3	247.3	197.9	148.5	99.1	49.7	51.6
107.5°	316.5	320.8	325.2	329.6	334.0	306.6	247.3	188.1	128.8	69.6	67.5
110°	360.8	364.6	368.4	372.2	375.9	351.7	299.4	247.1	194.8	142.5	124.4



TEST NUMBER: P331636-940

CATALOG NUMBER: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	402.4	405.8	409.2	412.6	415.9	411.2	398.2	385.3	372.4	359.4	293.5
115°	468.2	471.4	474.4	477.5	480.5	484.4	488.9	493.5	497.9	502.5	418.7
117.5°	527.1	530.5	534.0	537.4	540.8	544.1	547.2	550.4	553.5	556.5	536.3
120°	570.1	572.7	575.5	578.2	580.9	583.9	587.2	590.4	593.7	596.9	599.1
122.5°	606.5	609.4	612.2	615.1	618.0	621.2	624.7	628.3	631.9	635.4	636.7
125°	662.1	664.4	666.8	669.1	671.5	674.4	677.9	681.3	684.7	688.1	689.5
127.5°	712.4	715.1	717.6	720.2	722.8	725.4	728.0	730.6	733.2	735.8	737.5
130°	744.4	747.3	750.1	753.0	755.9	758.4	760.4	762.3	764.4	766.3	768.3
132.5°	776.9	779.4	781.9	784.3	786.8	789.0	791.0	793.0	795.0	796.9	798.7
135°	819.3	822.2	825.1	828.0	830.9	833.1	834.7	836.4	838.0	839.6	841.4
137.5°	862.1	864.2	866.2	868.2	870.2	872.2	874.0	875.8	877.7	879.6	881.3
140°	890.1	891.6	893.0	894.5	895.9	897.7	899.6	901.6	903.7	905.6	907.2
142.5°	913.6	914.9	916.2	917.5	918.8	920.6	922.8	925.1	927.5	929.7	931.2
145°	950.4	950.2	950.0	949.9	949.7	951.1	954.2	957.3	960.4	963.4	964.7
147.5°	982.5	981.8	981.1	980.4	979.7	980.9	983.9	987.0	990.1	993.1	994.0
150°	1003.4	1002.1	1000.8	999.5	998.3	999.1	1002.0	1004.9	1007.8	1010.7	1011.7
152.5°	1020.9	1019.5	1018.1	1016.7	1015.3	1015.9	1018.7	1021.5	1024.2	1027.0	1028.1
155°	1046.5	1044.9	1043.2	1041.6	1040.0	1040.3	1042.4	1044.6	1046.8	1048.9	1050.0
157.5°	1066.5	1065.1	1063.8	1062.4	1061.0	1061.1	1062.7	1064.2	1065.7	1067.2	1068.4
160°	1078.3	1077.2	1076.1	1075.0	1073.9	1073.9	1075.0	1076.1	1077.2	1078.3	1079.3
162.5°	1088.7	1087.6	1086.5	1085.4	1084.3	1084.2	1085.2	1086.1	1087.1	1088.1	1089.2
165°	1102.7	1101.6	1100.5	1099.4	1098.3	1098.1	1098.6	1099.1	1099.7	1100.3	1101.5
167.5°	1113.1	1112.1	1111.0	1109.8	1108.8	1108.5	1109.0	1109.5	1110.0	1110.5	1111.8
170°	1119.0	1117.8	1116.8	1115.7	1114.6	1114.3	1114.6	1115.0	1115.4	1115.7	1117.0
172.5°	1122.8	1121.8	1120.7	1119.6	1118.6	1118.2	1118.6	1118.9	1119.3	1119.6	1120.9
175°	1127.9	1126.7	1125.4	1124.1	1122.8	1122.4	1122.8	1123.1	1123.5	1123.8	1125.2
177.5°	1128.7	1127.7	1126.8	1125.7	1124.7	1124.3	1124.4	1124.5	1124.7	1124.8	1125.9
180°	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5



TEST NUMBER: P331636-940

CATALOG NUMBER: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F

**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°	6.1	6.2	6.2	6.4	6.4	6.5	6.6	6.7
90°	18.1	19.0	19.9	20.5	20.9	21.2	21.7	22.0
92.5°	19.8	20.3	20.8	21.1	21.3	21.6	21.8	22.0
95°	33.5	34.5	35.4	35.8	35.6	35.4	35.2	35.0
97.5°	44.0	44.7	45.4	45.8	46.1	46.3	46.5	46.7
100°	49.3	50.7	52.3	53.1	53.5	53.9	54.2	54.6
102.5°	51.5	53.4	55.3	56.4	57.0	57.4	58.0	58.5
105°	53.7	55.6	57.6	59.0	59.7	60.5	61.2	61.9
107.5°	65.5	63.5	61.4	60.8	61.5	62.2	63.0	63.7
110°	106.3	88.2	70.1	61.4	62.2	62.9	63.6	64.4





TEST NUMBER: P331636-940

CATALOG NUMBER: SA2XXRDIP-C290D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	227.5	161.4	95.4	62.7	63.2	63.8	64.4	65.0
115°	334.9	251.1	167.3	118.9	105.8	92.8	79.8	66.8
117.5°	516.0	495.8	475.5	443.9	401.1	358.3	315.5	272.7
120°	601.3	603.5	605.6	594.5	570.1	545.6	521.2	496.8
122.5°	638.0	639.3	640.6	638.9	634.2	629.4	624.6	619.9
125°	690.7	692.0	693.2	694.1	694.6	695.2	695.8	696.3
127.5°	739.4	741.3	743.2	744.0	744.2	744.3	744.4	744.5
130°	770.3	772.3	774.3	775.3	775.1	774.8	774.6	774.5
132.5°	800.4	802.1	803.8	804.5	804.3	804.1	804.0	803.8
135°	843.3	845.1	846.9	847.6	847.2	846.9	846.5	846.1
137.5°	883.1	884.8	886.6	887.3	886.6	886.0	885.4	884.8
140°	908.8	910.5	912.1	912.5	911.6	910.7	909.8	908.8
142.5°	932.6	934.2	935.7	935.9	935.0	934.2	933.3	932.3
145°	966.0	967.2	968.5	968.7	967.8	966.9	966.0	965.1
147.5°	995.0	995.9	996.8	996.9	996.1	995.4	994.6	993.9
150°	1012.8	1014.0	1015.0	1015.1	1014.2	1013.3	1012.4	1011.5
152.5°	1029.1	1030.2	1031.3	1031.3	1030.0	1028.9	1027.7	1026.4
155°	1051.1	1052.2	1053.3	1053.1	1051.7	1050.2	1048.7	1047.3
157.5°	1069.6	1070.9	1072.1	1072.0	1070.6	1069.2	1067.7	1066.4
160°	1080.4	1081.6	1082.6	1082.5	1081.2	1080.0	1078.7	1077.5
162.5°	1090.5	1091.7	1093.0	1092.8	1091.3	1089.7	1088.2	1086.5
165°	1102.8	1104.0	1105.3	1105.3	1104.0	1102.8	1101.5	1100.3
167.5°	1113.0	1114.3	1115.6	1115.4	1113.7	1112.1	1110.5	1108.8
170°	1118.3	1119.5	1120.8	1120.6	1119.0	1117.3	1115.7	1114.1
172.5°	1122.1	1123.5	1124.7	1124.5	1122.8	1121.2	1119.6	1118.0
175°	1126.4	1127.7	1128.9	1128.6	1126.9	1125.1	1123.2	1121.4
177.5°	1126.9	1127.9	1128.9	1128.7	1127.5	1126.1	1124.8	1123.6
180°	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5

(END OF REPORT)