

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: P331273-940

Luminaire Tested: **SA2XXDIP-C290D925U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331273-940  
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: SA2XXDIP-C290D925U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4372.8 lumens  
Efficiency: N/A  
Efficacy: 117.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

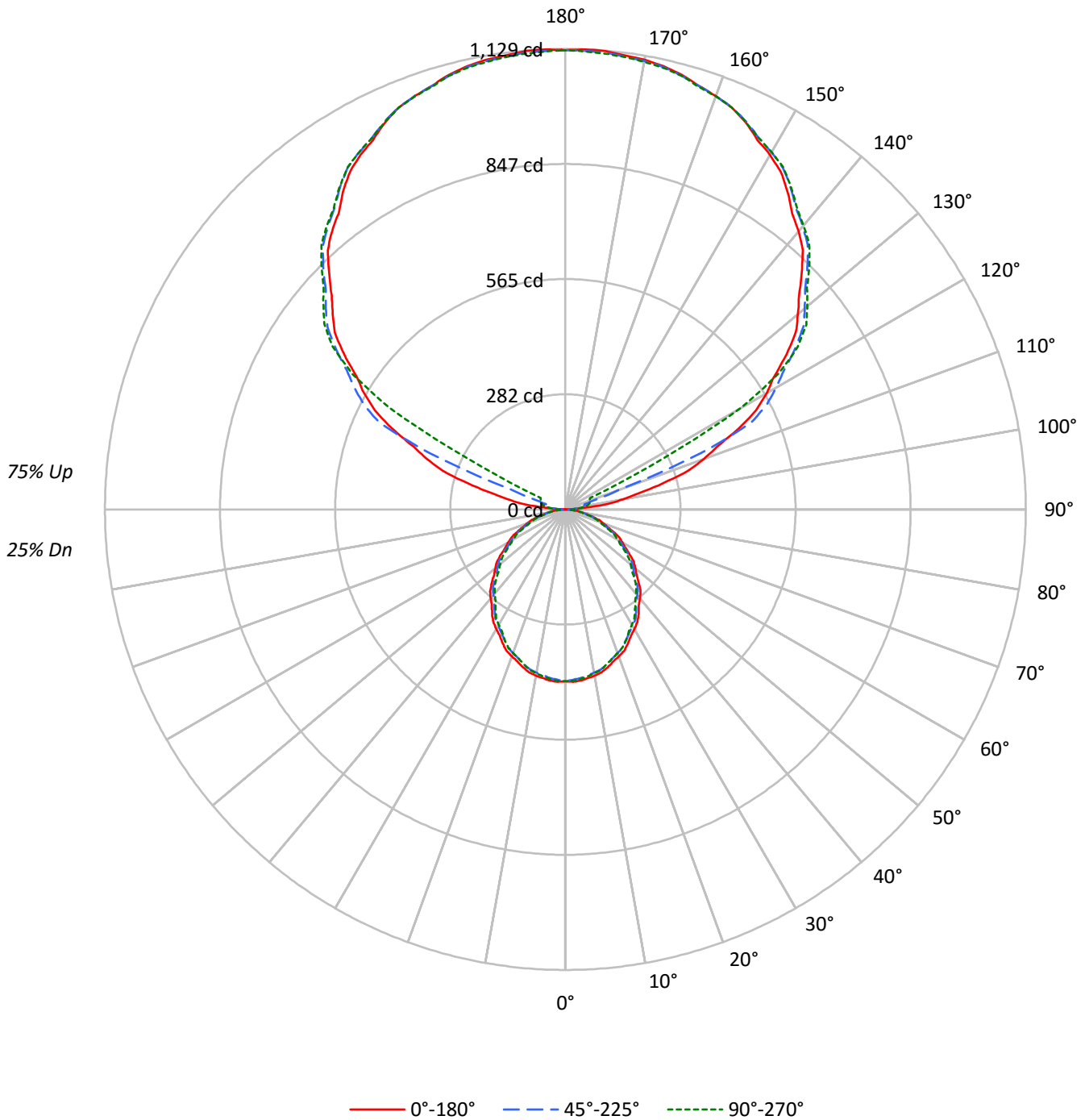
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331273-940

CATALOG NUMBER: SA2XXDIP-C290D925U940-4F0-1E-UDD-F

### 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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33	25
1	92	88	84	81	82	78	75	72	60	58	57	44	43	42	29	28	28	21
2	84	77	71	66	74	68	64	59	53	50	47	39	37	35	25	24	23	17
3	76	67	60	55	68	60	54	50	47	43	39	34	31	29	22	21	20	15
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	13
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15	11
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	10
7	54	42	35	30	48	38	32	27	30	25	22	22	19	17	15	13	11	9
8	50	38	31	26	45	34	28	24	27	22	19	20	17	15	14	12	10	8
9	47	35	28	23	41	31	25	21	25	20	17	18	15	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6

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

	0°	45°	90°
0°	6801	6801	6801
5°	6827	6729	6770
10°	6787	6661	6694
15°	6703	6574	6569
20°	6584	6445	6438
25°	6465	6285	6285
30°	6315	6139	6087
35°	6173	5964	5876
40°	5994	5788	5678
45°	5818	5613	5476
50°	5627	5433	5242
55°	5427	5225	5027
60°	5205	4970	4789
65°	4967	4722	4504
70°	4664	4414	4206
75°	4242	4067	3968
80°	3766	3654	3468
85°	3075	2927	2631



TEST NUMBER: P331273-940

CATALOG NUMBER: SA2XXDIP-C290D925U940-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.6	0.9
10°-20°	111.5	2.5
20°-30°	163.8	3.7
30°-40°	190.3	4.4
40°-50°	190.1	4.3
50°-60°	165.8	3.8
60°-70°	122.6	2.8
70°-80°	69.4	1.6
80°-90°	21.4	0.5
90°-100°	37.5	0.9
100°-110°	137.7	3.1
110°-120°	368.0	8.4
120°-130°	607.5	13.9
130°-140°	646.1	14.8
140°-150°	600.5	13.7
150°-160°	482.8	11.0
160°-170°	311.1	7.1
170°-180°	107.1	2.4
0°-30°	314.9	7.2
0°-40°	505.2	11.6
0°-60°	861.1	19.7
0°-90°	1074.6	24.6
90°-120°	543.2	12.4
90°-150°	2397.3	54.8
90°-180°	3298.0	75.4
0°-180°	4372.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	421	421	421	421	421	
5°	421	420	415	418	418	40
15°	401	398	393	395	393	113
25°	363	360	353	354	353	167
35°	313	309	303	300	298	195
45°	255	252	246	242	240	197
55°	193	190	186	181	179	172
65°	130	128	124	120	118	129
75°	68	67	65	63	64	73
85°	17	16	16	15	14	19
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: P331273-940

CATALOG NUMBER: SA2XXDIP-C290D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	423.2	422.8	422.5	422.1	421.8	421.2	420.4	419.6	418.8	418.0	418.7
5°	421.2	420.9	420.5	420.2	419.8	419.2	418.2	417.2	416.2	415.2	415.9
7.5°	417.6	417.0	416.4	415.9	415.4	414.6	413.6	412.5	411.5	410.5	411.3
10°	414.0	413.4	412.8	412.1	411.4	410.6	409.6	408.5	407.4	406.3	407.0
12.5°	409.1	408.6	408.0	407.4	406.9	406.1	405.0	403.9	402.9	401.8	402.3
15°	401.0	400.5	399.9	399.4	398.9	398.1	396.8	395.7	394.5	393.3	393.7
17.5°	390.7	390.1	389.6	389.1	388.5	387.6	386.5	385.2	384.1	382.9	383.3
20°	383.2	382.6	382.1	381.6	381.0	380.1	378.9	377.6	376.4	375.1	375.4
22.5°	375.8	375.0	374.3	373.4	372.7	371.8	370.6	369.3	368.2	367.0	367.0
25°	362.9	362.2	361.5	360.8	360.1	358.9	357.4	355.9	354.4	352.8	353.0
27.5°	348.4	347.8	347.1	346.4	345.8	344.8	343.7	342.4	341.3	340.0	339.7
30°	338.7	338.0	337.2	336.5	335.7	334.7	333.4	332.1	330.6	329.3	329.0
32.5°	328.2	327.7	327.2	326.5	326.0	324.9	323.5	322.2	320.7	319.3	318.8
35°	313.2	312.2	311.3	310.4	309.5	308.4	306.9	305.5	304.1	302.6	302.0
37.5°	296.0	295.2	294.4	293.6	292.8	291.8	290.3	288.9	287.4	286.0	285.3
40°	284.4	283.7	282.9	282.2	281.5	280.4	278.9	277.5	276.1	274.6	273.8
42.5°	273.0	272.3	271.6	270.9	270.2	269.0	267.6	266.2	264.7	263.3	262.4
45°	254.8	254.1	253.5	252.9	252.3	251.3	249.9	248.6	247.3	245.8	244.9
47.5°	236.7	236.0	235.5	234.9	234.3	233.3	231.8	230.5	229.1	227.7	226.6
50°	224.0	223.6	223.1	222.7	222.2	221.3	220.1	218.8	217.6	216.3	215.1
52.5°	211.7	211.1	210.5	209.9	209.3	208.4	207.2	206.1	204.8	203.7	202.6
55°	192.8	192.3	191.7	191.2	190.6	189.8	188.8	187.7	186.6	185.6	184.4
57.5°	173.9	173.4	173.0	172.5	172.1	171.3	170.1	169.0	167.7	166.6	165.5
60°	161.2	160.9	160.5	160.2	159.8	159.0	157.7	156.5	155.2	153.9	152.9
62.5°	148.9	148.3	147.8	147.2	146.6	145.8	144.8	143.9	142.9	142.0	141.0
65°	130.0	129.5	128.9	128.4	127.9	127.2	126.3	125.4	124.5	123.6	122.7
67.5°	110.8	110.4	109.9	109.5	109.1	108.5	107.6	106.8	106.0	105.2	104.6
70°	98.8	98.4	98.1	97.7	97.4	96.8	96.0	95.2	94.3	93.5	92.9
72.5°	86.5	86.1	85.8	85.4	85.1	84.6	84.1	83.6	83.1	82.6	81.9
75°	68.0	67.9	67.7	67.5	67.3	67.1	66.6	66.1	65.6	65.2	64.6
77.5°	51.5	51.2	50.9	50.6	50.3	50.0	49.8	49.7	49.5	49.3	49.0
80°	40.5	40.4	40.3	40.2	40.1	40.0	39.9	39.7	39.5	39.3	39.1
82.5°	30.1	30.1	30.1	30.1	30.1	30.0	29.9	29.8	29.7	29.6	29.2
85°	16.6	16.5	16.4	16.3	16.2	16.1	16.1	16.0	15.9	15.8	15.5
87.5°	6.0	6.2	6.5	6.8	7.0	7.2	7.4	7.5	7.7	7.8	7.8
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: P331273-940

CATALOG NUMBER: SA2XXDIP-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: P331273-940

CATALOG NUMBER: SA2XXDIP-C290D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	419.5	420.2	420.9	421.2	421.1	420.9	420.8	420.6
5°	416.7	417.4	418.1	418.4	418.2	418.0	417.9	417.7
7.5°	412.0	412.7	413.4	413.7	413.5	413.2	413.0	412.9
10°	407.8	408.5	409.2	409.4	409.1	408.8	408.6	408.3
12.5°	402.8	403.2	403.8	403.9	403.8	403.5	403.3	403.1
15°	394.0	394.4	394.8	394.8	394.3	393.9	393.4	393.0
17.5°	383.7	384.1	384.5	384.5	384.1	383.7	383.3	382.8
20°	375.7	375.9	376.2	376.1	375.8	375.4	375.1	374.7
22.5°	367.1	367.2	367.2	367.1	366.9	366.7	366.5	366.3
25°	353.2	353.4	353.6	353.6	353.4	353.2	353.0	352.8
27.5°	339.5	339.2	338.9	338.6	338.1	337.7	337.3	336.9
30°	328.8	328.5	328.2	328.0	327.6	327.3	326.9	326.5
32.5°	318.3	317.8	317.4	316.9	316.6	316.2	315.8	315.5
35°	301.5	301.0	300.4	300.0	299.5	299.1	298.6	298.1
37.5°	284.6	284.0	283.3	282.8	282.3	281.9	281.5	281.1
40°	273.0	272.2	271.4	270.8	270.5	270.1	269.7	269.4
42.5°	261.5	260.6	259.8	259.0	258.6	258.1	257.6	257.1
45°	243.9	242.9	241.9	241.2	240.9	240.5	240.1	239.8
47.5°	225.6	224.5	223.5	222.7	222.2	221.7	221.1	220.6
50°	213.8	212.5	211.2	210.4	210.0	209.6	209.1	208.7
52.5°	201.6	200.5	199.5	198.7	198.0	197.5	196.9	196.3
55°	183.3	182.3	181.2	180.5	180.0	179.5	179.1	178.6
57.5°	164.4	163.4	162.3	161.6	161.3	161.0	160.6	160.2
60°	151.9	151.0	150.0	149.4	149.1	148.8	148.6	148.3
62.5°	140.1	139.2	138.3	137.7	137.3	137.0	136.6	136.3
65°	121.9	121.1	120.3	119.7	119.2	118.8	118.3	117.9
67.5°	104.0	103.3	102.7	102.2	101.8	101.5	101.1	100.8
70°	92.3	91.7	91.0	90.6	90.2	89.8	89.4	89.1
72.5°	81.3	80.7	80.1	79.5	79.3	79.0	78.7	78.4
75°	64.1	63.6	63.0	62.9	63.0	63.2	63.4	63.6
77.5°	48.8	48.5	48.2	48.0	47.7	47.5	47.3	47.0
80°	38.8	38.5	38.3	38.0	37.8	37.6	37.5	37.3
82.5°	28.9	28.5	28.2	28.0	28.0	27.9	27.9	27.9
85°	15.2	15.0	14.7	14.5	14.4	14.4	14.3	14.2
87.5°	7.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7
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: P331273-940

CATALOG NUMBER: SA2XXDIP-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)