

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: P331279-927

Luminaire Tested: **SA2XXDIP-C290D1080U927-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331279-927  
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-C290D1080U927-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4360.8 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

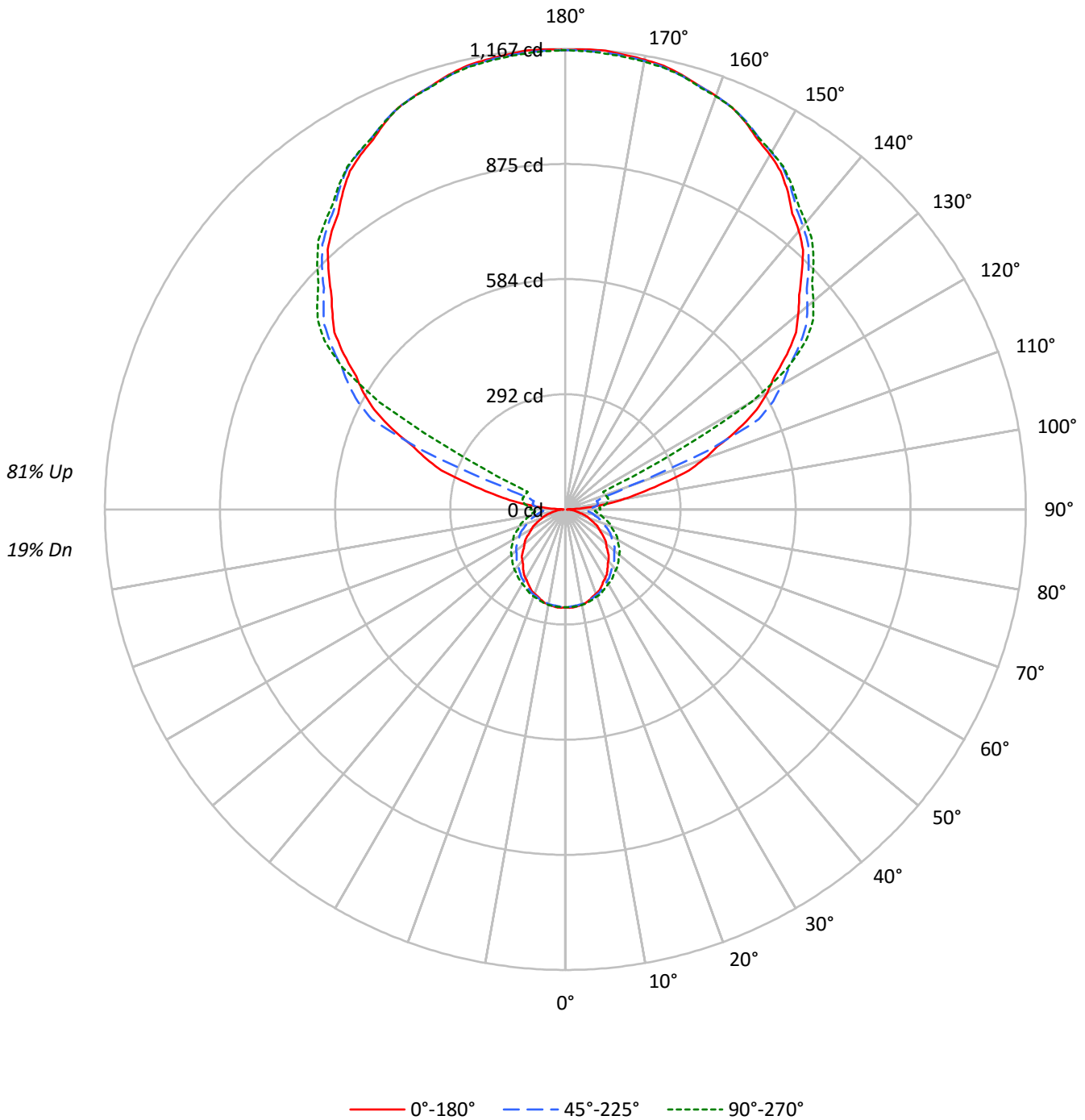
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331279-927

CATALOG NUMBER: SA2XXDIP-C290D1080U927-4F0-1E-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	88	88	88	88	66	66	66	46	46	46	28	28	28	19				19
1	90	86	82	78	79	76	73	70	57	55	53	40	38	37	24	23	22				15	
2	82	75	69	64	72	66	61	57	50	46	43	34	32	31	21	19	18				12	
3	75	65	58	53	65	58	52	47	43	39	36	30	28	25	18	17	15				10	
4	68	58	50	44	60	51	44	39	38	34	30	27	24	22	16	14	13				8	
5	62	51	43	37	55	45	38	33	34	29	26	24	21	18	14	13	11				7	
6	57	45	38	32	50	40	34	29	31	26	22	21	18	16	13	11	10				6	
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	12	10	9				6	
8	49	37	29	24	43	33	26	22	25	20	17	18	14	12	11	9	8				5	
9	45	33	26	21	40	30	23	19	23	18	15	16	13	11	10	8	7				4	
10	42	30	23	19	37	27	21	17	21	16	13	15	12	10	9	7	6				4	

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

	0°	45°	90°
0°	4009	4009	4009
5°	4030	3859	3845
10°	4004	3746	3703
15°	3948	3624	3554
20°	3878	3495	3410
25°	3809	3371	3279
30°	3712	3242	3150
35°	3615	3118	3059
40°	3511	3013	2965
45°	3413	2919	2886
50°	3309	2833	2810
55°	3196	2741	2731
60°	3061	2646	2648
65°	2922	2534	2548
70°	2764	2415	2440
75°	2564	2299	2342
80°	2245	2177	2240
85°	1945	2073	2163



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	23.5	0.5
10°-20°	67.5	1.5
20°-30°	102.2	2.3
30°-40°	124.5	2.9
40°-50°	134.0	3.1
50°-60°	130.1	3.0
60°-70°	113.6	2.6
70°-80°	87.5	2.0
80°-90°	61.6	1.4
90°-100°	79.3	1.8
100°-110°	171.9	3.9
110°-120°	400.1	9.2
120°-130°	639.1	14.7
130°-140°	672.6	15.4
140°-150°	621.7	14.3
150°-160°	499.2	11.4
160°-170°	321.7	7.4
170°-180°	110.7	2.5
0°-30°	193.2	4.4
0°-40°	317.8	7.3
0°-60°	581.9	13.3
0°-90°	844.5	19.4
90°-120°	651.2	14.9
90°-150°	2584.6	59.3
90°-180°	3516.0	80.6
0°-180°	4360.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	248	248	248	248	248	
5°	249	248	246	248	248	24
15°	238	238	238	241	241	67
25°	216	218	222	226	227	99
35°	186	192	199	207	210	116
45°	153	162	175	186	190	118
55°	117	130	149	161	166	105
65°	80	98	119	133	138	79
75°	44	65	88	102	108	47
85°	13	35	58	73	78	14
90°	4	35	64	82	89	5
95°	58	49	74	91	96	69
105°	258	280	82	103	112	276
115°	486	505	541	180	105	478
125°	685	697	724	739	745	611
135°	848	861	872	887	889	654
145°	983	983	996	1004	1002	615
155°	1082	1076	1085	1089	1083	498
165°	1140	1136	1138	1143	1138	322
175°	1166	1161	1162	1167	1160	111
180°	1164	1164	1164	1164	1164	



TEST NUMBER: P331279-927

CATALOG NUMBER: SA2XXDIP-C290D1080U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	249.8	249.5	249.4	249.1	249.0	248.7	248.2	247.8	247.3	246.8	247.2
5°	249.1	248.8	248.6	248.3	248.0	247.7	247.2	246.8	246.3	245.8	246.3
7.5°	246.8	246.6	246.4	246.3	246.1	245.9	245.5	245.2	244.8	244.4	245.0
10°	245.1	244.9	244.8	244.6	244.5	244.2	244.0	243.8	243.5	243.3	243.9
12.5°	242.2	242.2	242.2	242.3	242.3	242.2	242.1	241.9	241.7	241.5	242.2
15°	237.5	237.7	237.8	238.0	238.1	238.2	238.2	238.2	238.2	238.2	238.9
17.5°	231.5	231.8	232.1	232.5	232.8	233.1	233.4	233.6	233.9	234.2	234.9
20°	227.4	227.8	228.2	228.6	229.0	229.4	229.7	230.0	230.4	230.7	231.6
22.5°	223.2	223.6	224.0	224.5	225.0	225.5	225.9	226.3	226.8	227.2	228.1
25°	215.9	216.5	217.1	217.6	218.2	218.8	219.5	220.2	220.9	221.7	222.6
27.5°	207.3	208.2	209.1	210.0	211.0	211.8	212.6	213.5	214.4	215.2	216.4
30°	201.5	202.6	203.6	204.6	205.7	206.8	207.8	208.8	209.8	210.9	212.1
32.5°	195.2	196.4	197.5	198.7	199.9	201.1	202.3	203.5	204.8	206.0	207.5
35°	186.1	187.4	188.8	190.1	191.5	192.9	194.5	196.0	197.5	199.0	200.7
37.5°	176.1	177.7	179.3	180.9	182.4	184.2	186.2	188.1	190.0	192.0	194.0
40°	169.5	171.3	173.0	174.8	176.5	178.5	180.6	182.8	185.0	187.1	189.2
42.5°	163.2	164.9	166.7	168.4	170.2	172.3	174.8	177.3	179.7	182.2	184.5
45°	152.6	154.7	156.9	159.1	161.2	163.7	166.5	169.3	172.1	174.9	177.4
47.5°	142.1	144.5	146.9	149.2	151.5	154.4	157.6	160.9	164.2	167.5	170.1
50°	135.0	137.4	139.9	142.4	144.9	147.9	151.5	155.1	158.7	162.3	165.0
52.5°	128.0	130.6	133.2	135.9	138.5	141.6	145.4	149.2	153.0	156.9	159.6
55°	116.9	119.9	122.7	125.6	128.5	132.0	136.2	140.3	144.5	148.6	151.5
57.5°	106.0	109.2	112.5	115.7	119.0	122.7	127.0	131.2	135.5	139.7	142.8
60°	98.2	101.7	105.1	108.5	112.0	116.0	120.6	125.1	129.7	134.2	137.3
62.5°	91.3	94.9	98.5	102.0	105.6	109.6	114.2	118.7	123.3	127.9	131.1
65°	79.9	83.8	87.7	91.7	95.5	99.9	104.6	109.3	114.1	118.7	122.1
67.5°	69.4	73.5	77.6	81.7	85.8	90.2	95.1	99.9	104.7	109.6	112.9
70°	61.9	66.1	70.2	74.4	78.5	83.1	88.0	93.0	98.0	102.9	106.4
72.5°	55.0	59.3	63.5	67.8	72.2	76.8	81.8	86.8	91.9	96.9	100.3
75°	44.3	48.7	53.2	57.7	62.2	66.9	72.1	77.2	82.3	87.5	90.9
77.5°	33.9	38.6	43.3	47.9	52.7	57.6	62.8	68.0	73.2	78.3	81.8
80°	27.0	31.8	36.8	41.6	46.5	51.6	56.7	61.9	67.1	72.3	75.7
82.5°	21.2	26.1	30.9	35.6	40.5	45.6	50.8	56.1	61.3	66.5	69.9
85°	13.0	17.9	22.9	27.8	32.8	37.8	42.9	48.1	53.2	58.3	61.6
87.5°	7.2	12.4	17.6	22.7	28.0	33.2	38.7	44.0	49.5	54.9	58.4
90°	4.4	11.2	17.8	24.6	31.2	37.9	44.5	51.1	57.8	64.3	68.4
92.5°	20.4	24.5	28.6	32.7	36.8	41.7	47.5	53.1	58.8	64.5	68.0
95°	57.6	55.2	52.8	50.4	47.9	49.8	55.9	62.0	68.1	74.2	78.2
97.5°	111.1	97.1	83.0	69.0	54.9	51.7	59.3	66.9	74.6	82.2	86.0
100°	151.5	128.9	106.2	83.6	60.8	53.3	61.0	68.7	76.4	84.0	88.4
102.5°	195.7	193.1	190.3	187.6	184.8	172.4	150.1	127.9	105.6	83.3	88.2
105°	257.8	265.8	273.7	281.6	289.5	270.1	223.1	176.2	129.3	82.3	87.1
107.5°	329.0	335.3	341.7	348.2	354.5	329.1	271.8	214.5	157.2	99.9	100.5
110°	374.5	380.0	385.6	391.1	396.6	374.3	324.2	273.9	223.8	173.6	157.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	417.6	422.5	427.3	432.1	436.9	434.5	424.8	415.3	405.6	395.9	330.3
115°	485.7	489.7	493.8	497.8	501.9	508.1	516.3	524.7	532.9	541.2	456.9
117.5°	546.1	550.2	554.4	558.5	562.6	568.0	574.5	581.1	587.6	594.1	575.5
120°	590.6	593.7	596.8	599.9	603.1	607.9	614.5	621.1	627.6	634.2	638.7
122.5°	628.3	631.4	634.5	637.5	640.6	645.5	652.2	658.9	665.5	672.2	675.7
125°	685.4	687.8	690.2	692.7	695.1	699.3	705.5	711.6	717.7	723.8	727.3
127.5°	737.4	740.1	742.7	745.3	747.9	751.5	756.3	761.0	765.7	770.4	774.3
130°	770.4	773.3	776.3	779.2	782.0	785.4	789.2	792.9	796.6	800.3	804.3
132.5°	804.1	806.6	809.1	811.5	814.0	816.9	820.2	823.6	827.0	830.3	833.9
135°	847.6	850.6	853.5	856.5	859.5	862.3	864.7	867.2	869.7	872.2	875.8
137.5°	891.8	893.9	896.0	898.1	900.2	902.3	904.6	906.8	909.1	911.3	914.7
140°	920.8	922.3	923.6	925.0	926.5	928.3	930.5	932.7	934.9	937.2	940.2
142.5°	945.1	946.3	947.6	948.9	950.1	952.0	954.3	956.7	959.1	961.6	964.1
145°	982.8	982.5	982.4	982.2	982.0	983.5	986.7	989.8	993.1	996.2	998.0
147.5°	1016.0	1015.3	1014.5	1013.8	1013.1	1014.3	1017.5	1020.6	1023.7	1026.9	1027.9
150°	1037.5	1036.2	1034.9	1033.6	1032.3	1033.1	1036.1	1039.1	1042.1	1045.0	1046.2
152.5°	1055.7	1054.2	1052.7	1051.3	1049.9	1050.5	1053.4	1056.2	1059.1	1061.9	1063.0
155°	1082.1	1080.5	1078.8	1077.1	1075.4	1075.7	1077.9	1080.1	1082.4	1084.7	1085.8
157.5°	1102.9	1101.5	1100.0	1098.6	1097.2	1097.3	1098.8	1100.3	1101.9	1103.5	1104.8
160°	1115.0	1113.9	1112.7	1111.6	1110.5	1110.5	1111.6	1112.7	1113.9	1115.0	1116.1
162.5°	1125.8	1124.7	1123.5	1122.4	1121.3	1121.2	1122.1	1123.2	1124.1	1125.1	1126.3
165°	1140.3	1139.1	1138.0	1136.9	1135.8	1135.4	1136.0	1136.6	1137.2	1137.7	1139.0
167.5°	1151.0	1149.9	1148.7	1147.6	1146.5	1146.2	1146.8	1147.2	1147.8	1148.3	1149.6
170°	1157.1	1156.0	1154.8	1153.7	1152.6	1152.2	1152.6	1152.9	1153.3	1153.7	1155.0
172.5°	1161.1	1160.0	1158.9	1157.8	1156.7	1156.3	1156.7	1157.0	1157.4	1157.8	1159.0
175°	1166.3	1165.1	1163.7	1162.4	1161.1	1160.6	1161.0	1161.4	1161.7	1162.1	1163.5
177.5°	1167.2	1166.2	1165.1	1164.0	1163.0	1162.5	1162.7	1162.8	1163.0	1163.2	1164.2
180°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	247.5	247.8	248.1	248.3	248.1	248.0	247.9	247.7
5°	246.8	247.2	247.7	247.9	247.8	247.7	247.6	247.6
7.5°	245.6	246.1	246.8	247.0	246.9	246.8	246.8	246.7
10°	244.5	245.2	245.8	246.1	246.1	246.0	245.9	245.8
12.5°	242.8	243.4	244.1	244.4	244.3	244.2	244.2	244.1
15°	239.6	240.4	241.1	241.5	241.4	241.3	241.2	241.1
17.5°	235.7	236.4	237.1	237.5	237.5	237.5	237.5	237.5
20°	232.4	233.3	234.2	234.6	234.6	234.6	234.6	234.6
22.5°	229.0	229.9	230.8	231.2	231.4	231.5	231.6	231.8
25°	223.6	224.6	225.5	226.1	226.3	226.6	226.8	227.0
27.5°	217.6	218.9	220.1	220.8	220.9	221.1	221.3	221.5
30°	213.4	214.8	216.0	216.7	217.0	217.2	217.5	217.7
32.5°	208.9	210.4	211.9	212.9	213.3	213.7	214.1	214.5
35°	202.6	204.3	206.0	207.2	207.8	208.3	208.9	209.5
37.5°	195.9	197.9	199.9	201.1	201.7	202.3	202.9	203.4
40°	191.3	193.4	195.4	196.9	197.6	198.3	199.0	199.7
42.5°	186.8	189.0	191.3	192.8	193.5	194.2	195.0	195.7
45°	179.8	182.4	184.8	186.5	187.3	188.1	188.9	189.6
47.5°	172.7	175.2	177.8	179.6	180.5	181.3	182.2	183.1
50°	167.7	170.5	173.2	175.0	175.9	176.7	177.6	178.5
52.5°	162.4	165.2	167.9	169.8	170.8	171.7	172.7	173.6
55°	154.4	157.2	160.2	162.1	163.1	164.2	165.2	166.3
57.5°	145.9	149.0	152.1	154.2	155.3	156.3	157.3	158.4
60°	140.3	143.4	146.4	148.5	149.6	150.7	151.9	153.0
62.5°	134.4	137.6	140.9	143.0	144.0	145.0	146.2	147.2
65°	125.3	128.6	131.9	134.0	135.1	136.1	137.1	138.2
67.5°	116.1	119.5	122.8	125.0	126.0	127.1	128.3	129.4
70°	109.8	113.2	116.7	118.9	119.9	120.8	121.8	122.7
72.5°	103.6	107.0	110.4	112.6	113.8	114.9	116.1	117.2
75°	94.3	97.8	101.2	103.5	104.5	105.5	106.5	107.6
77.5°	85.2	88.6	92.1	94.3	95.5	96.6	97.7	98.8
80°	79.1	82.4	85.8	88.0	89.1	90.2	91.3	92.4
82.5°	73.3	76.7	80.0	82.2	83.3	84.4	85.4	86.4
85°	65.0	68.4	71.8	74.0	75.1	76.2	77.3	78.4
87.5°	61.8	65.3	68.7	71.0	72.1	73.2	74.3	75.3
90°	72.6	76.8	80.9	83.7	84.9	86.3	87.6	89.0
92.5°	71.7	75.3	78.9	81.4	82.5	83.7	84.9	86.1
95°	82.1	86.2	90.2	92.5	93.2	94.0	94.8	95.6
97.5°	89.7	93.4	97.0	99.5	100.7	101.9	103.0	104.2
100°	92.9	97.4	101.8	104.6	105.9	107.2	108.4	109.7
102.5°	93.0	97.8	102.7	105.8	107.2	108.6	110.0	111.5
105°	92.1	96.9	101.7	105.0	106.6	108.2	109.9	111.5
107.5°	101.1	101.7	102.3	103.4	105.0	106.6	108.3	109.9
110°	141.3	125.2	109.0	101.8	103.4	105.0	106.6	108.3





TEST NUMBER: P331279-927

CATALOG NUMBER: SA2XXDIP-C290D1080U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	264.6	198.8	133.2	101.0	102.5	104.0	105.4	106.9
115°	372.7	288.4	204.2	155.7	143.1	130.6	118.0	105.4
117.5°	557.0	538.4	519.8	488.8	445.3	401.8	358.4	314.9
120°	643.2	647.6	652.1	642.1	617.8	593.4	569.0	544.6
122.5°	679.3	682.8	686.3	686.0	681.8	677.7	673.5	669.4
125°	730.8	734.3	737.7	740.1	741.4	742.7	743.9	745.2
127.5°	778.2	782.1	786.0	788.4	789.2	790.0	790.8	791.6
130°	808.3	812.3	816.3	818.5	819.0	819.4	819.8	820.3
132.5°	837.5	841.1	844.8	846.8	847.2	847.7	848.1	848.6
135°	879.3	882.8	886.4	888.3	888.6	888.8	889.1	889.4
137.5°	918.0	921.3	924.6	926.2	926.1	926.0	925.9	925.8
140°	943.1	946.0	949.0	950.3	949.8	949.4	948.9	948.5
142.5°	966.6	969.2	971.8	972.8	972.2	971.7	971.2	970.7
145°	999.8	1001.6	1003.4	1004.0	1003.5	1003.0	1002.4	1001.9
147.5°	1029.0	1030.0	1031.0	1031.3	1030.6	1030.1	1029.4	1028.9
150°	1047.3	1048.5	1049.6	1049.6	1048.7	1047.8	1046.9	1045.9
152.5°	1064.1	1065.3	1066.4	1066.4	1065.1	1063.9	1062.6	1061.4
155°	1086.9	1088.1	1089.2	1088.9	1087.4	1086.0	1084.5	1083.0
157.5°	1106.0	1107.3	1108.6	1108.5	1107.1	1105.6	1104.1	1102.6
160°	1117.2	1118.3	1119.4	1119.4	1118.1	1116.7	1115.5	1114.1
162.5°	1127.6	1128.9	1130.2	1130.0	1128.4	1126.8	1125.1	1123.6
165°	1140.3	1141.6	1143.0	1143.0	1141.6	1140.3	1139.0	1137.7
167.5°	1151.0	1152.2	1153.6	1153.3	1151.7	1150.0	1148.3	1146.6
170°	1156.3	1157.6	1159.0	1158.7	1157.1	1155.4	1153.7	1152.0
172.5°	1160.4	1161.7	1163.0	1162.8	1161.1	1159.4	1157.8	1156.0
175°	1164.7	1166.1	1167.4	1167.1	1165.2	1163.3	1161.5	1159.6
177.5°	1165.2	1166.3	1167.4	1167.2	1165.9	1164.5	1163.2	1161.8
180°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8

(END OF REPORT)