

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: P331280

Luminaire Tested: **SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331280
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

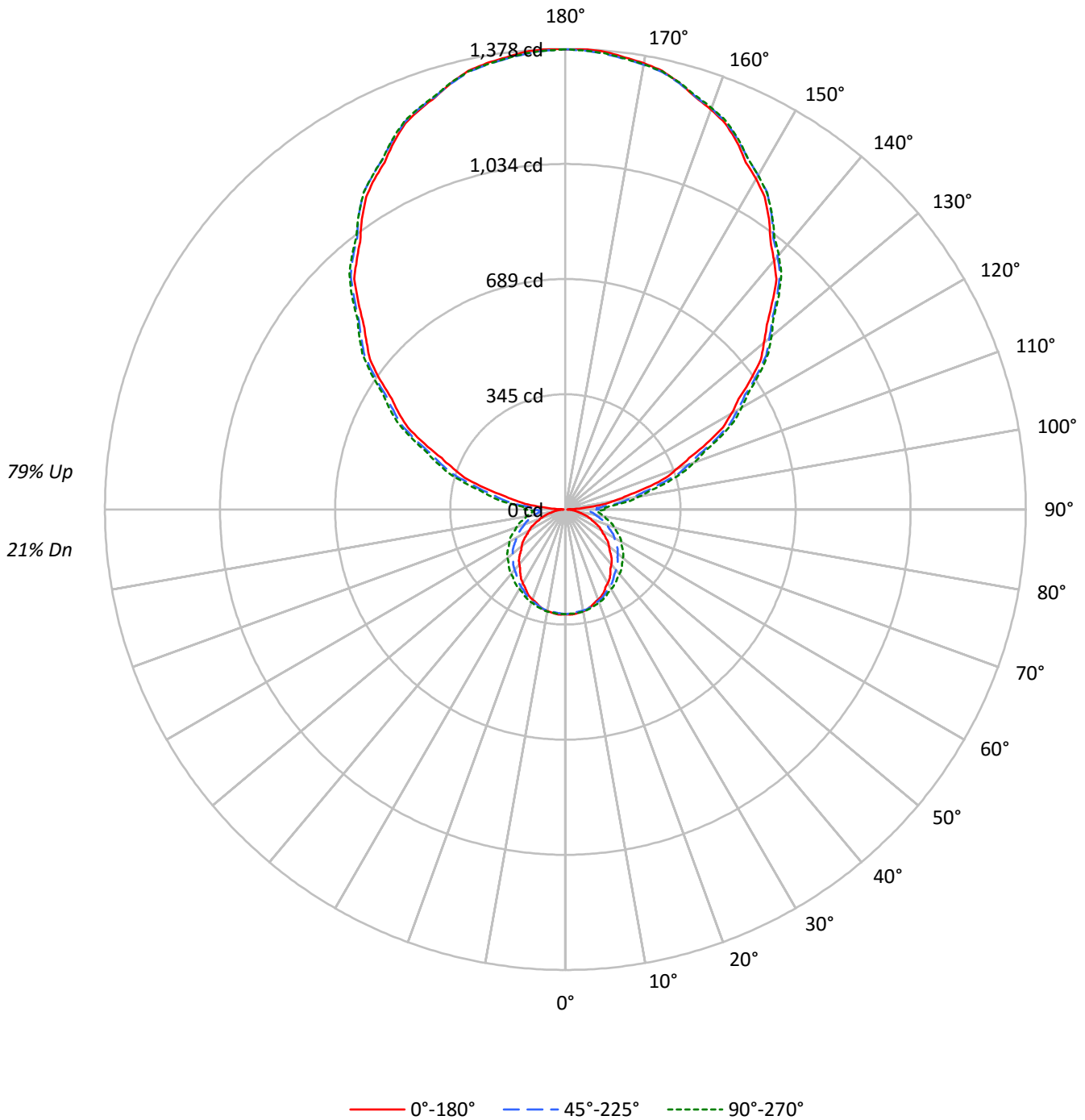
Lumens per Lamp: N/A
Luminaire Lumens: 5050.2 lumens
Efficiency: N/A
Efficacy: 119.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 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



TEST NUMBER: P331280
CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





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CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1

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	100	100	100	100	89	89	89	89	67	67	67	48	48	48	30	30	30	21
1	91	86	82	79	80	76	73	70	58	56	54	41	39	38	25	24	24	16
2	82	75	69	64	72	66	61	57	50	47	44	35	33	31	22	20	19	13
3	75	66	58	53	66	58	52	47	44	40	36	31	28	26	19	17	16	11
4	68	58	50	44	60	51	45	40	39	34	31	27	24	22	17	15	14	9
5	62	51	43	37	55	45	39	34	35	30	26	24	21	19	15	13	12	8
6	57	46	38	32	50	41	34	29	31	26	23	22	19	16	14	12	10	7
7	53	41	33	28	46	36	30	25	28	23	20	20	17	14	12	10	9	6
8	49	37	29	24	43	33	26	22	25	21	17	18	15	13	11	9	8	5
9	45	34	26	21	40	30	24	19	23	18	15	16	13	11	10	9	7	5
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	10	8	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



TEST NUMBER: P331280

CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.6
10°-20°	85.2	1.7
20°-30°	129.1	2.6
30°-40°	157.2	3.1
40°-50°	169.1	3.3
50°-60°	164.2	3.3
60°-70°	143.4	2.8
70°-80°	110.4	2.2
80°-90°	79.6	1.6
90°-100°	138.3	2.7
100°-110°	308.2	6.1
110°-120°	487.7	9.7
120°-130°	622.7	12.3
130°-140°	689.2	13.6
140°-150°	671.1	13.3
150°-160°	562.1	11.1
160°-170°	372.8	7.4
170°-180°	130.3	2.6
0°-30°	243.9	4.8
0°-40°	401.1	7.9
0°-60°	734.5	14.5
0°-90°	1067.9	21.1
90°-120°	934.1	18.5
90°-150°	2917.1	57.8
90°-180°	3982.0	78.8
0°-180°	5050.2	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	47	101	116	123	6
95°	64	97	127	143	147	72
105°	252	269	295	312	318	266
115°	466	479	496	508	510	461
125°	677	687	698	707	710	605
135°	875	888	895	903	903	676
145°	1062	1070	1077	1080	1078	663
155°	1214	1217	1221	1226	1223	558
165°	1321	1320	1320	1327	1322	372
175°	1374	1371	1368	1376	1370	130
180°	1376	1376	1376	1376	1376	



TEST NUMBER: P331280

CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1

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	35.7	42.8	50.4	58.0	65.6	73.2	77.2
90°	5.7	14.7	23.6	32.6	41.5	52.1	64.2	76.3	88.5	100.6	104.1
92.5°	24.9	32.6	40.3	48.0	55.7	63.4	70.9	78.5	86.1	93.6	97.7
95°	64.0	71.4	78.7	86.0	93.3	100.3	106.9	113.4	120.0	126.6	130.4
97.5°	113.5	120.0	126.5	133.0	139.5	146.1	152.9	159.7	166.5	173.3	177.1
100°	150.7	156.5	162.3	168.1	173.9	180.0	186.4	192.9	199.3	205.7	209.5
102.5°	189.4	194.4	199.5	204.6	209.6	215.4	221.9	228.3	234.8	241.3	245.1
105°	252.0	255.7	259.4	263.1	266.8	271.6	277.3	283.1	288.9	294.6	298.7
107.5°	315.6	319.1	322.5	326.0	329.5	333.7	338.8	343.8	348.8	353.8	357.4
110°	356.1	359.7	363.2	366.8	370.4	374.6	379.6	384.5	389.5	394.4	397.6



TEST NUMBER: P331280

CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	400.7	403.9	407.2	410.4	413.7	417.6	422.1	426.6	431.0	435.5	438.2
115°	466.5	469.1	471.8	474.4	477.1	480.4	484.5	488.5	492.5	496.5	499.3
117.5°	531.5	534.3	537.1	539.9	542.7	545.5	548.2	551.0	553.7	556.5	558.8
120°	575.2	577.7	580.1	582.6	585.1	587.3	589.3	591.2	593.2	595.2	598.0
122.5°	615.1	617.8	620.4	623.1	625.7	628.2	630.5	632.9	635.2	637.6	639.7
125°	677.0	679.3	681.6	683.9	686.2	688.6	691.1	693.5	696.0	698.5	700.4
127.5°	737.6	740.4	743.3	746.1	749.0	751.2	752.9	754.6	756.2	757.9	759.5
130°	775.7	778.9	782.2	785.4	788.7	791.1	792.7	794.3	795.9	797.5	799.5
132.5°	818.4	821.1	823.7	826.3	829.0	831.2	832.9	834.6	836.4	838.1	839.3
135°	875.1	878.0	880.8	883.6	886.5	888.7	890.2	891.7	893.2	894.8	896.6
137.5°	935.3	937.6	939.9	942.2	944.5	946.2	947.3	948.4	949.6	950.7	952.3
140°	971.5	973.8	976.0	978.2	980.4	982.3	983.8	985.3	986.8	988.3	989.9
142.5°	1008.7	1010.9	1013.2	1015.4	1017.6	1019.2	1020.1	1021.0	1021.9	1022.8	1024.3
145°	1061.7	1063.5	1065.3	1067.1	1068.9	1070.6	1072.1	1073.7	1075.2	1076.8	1077.7
147.5°	1109.3	1111.5	1113.6	1115.8	1118.0	1119.6	1120.6	1121.7	1122.7	1123.7	1124.4
150°	1141.8	1143.4	1144.9	1146.5	1148.0	1149.3	1150.4	1151.4	1152.4	1153.5	1154.2
152.5°	1170.6	1172.2	1173.7	1175.3	1176.8	1178.2	1179.5	1180.7	1182.0	1183.2	1184.2
155°	1213.9	1214.6	1215.4	1216.2	1217.0	1217.7	1218.5	1219.3	1220.1	1220.8	1222.1
157.5°	1250.8	1251.3	1251.8	1252.3	1252.9	1253.3	1253.8	1254.3	1254.7	1255.2	1257.0
160°	1273.1	1273.6	1274.1	1274.6	1275.2	1275.5	1275.8	1276.1	1276.3	1276.6	1278.1
162.5°	1293.5	1293.6	1293.7	1293.8	1294.0	1294.1	1294.4	1294.6	1294.9	1295.2	1296.9
165°	1320.7	1320.5	1320.2	1319.9	1319.7	1319.6	1319.6	1319.6	1319.6	1319.6	1321.4
167.5°	1343.5	1342.7	1341.9	1341.2	1340.4	1340.0	1339.9	1339.9	1339.8	1339.8	1341.6
170°	1355.6	1354.8	1354.0	1353.2	1352.5	1352.0	1351.7	1351.4	1351.2	1350.9	1352.7
172.5°	1363.9	1363.2	1362.4	1361.6	1360.8	1360.3	1360.1	1359.8	1359.5	1359.3	1361.1
175°	1374.2	1373.4	1372.6	1371.8	1371.1	1370.4	1369.9	1369.4	1368.9	1368.3	1370.2
177.5°	1378.3	1377.7	1377.1	1376.5	1375.9	1375.3	1374.9	1374.5	1374.1	1373.7	1374.9
180°	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5



TEST NUMBER: P331280

CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1

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°	81.2	85.2	89.2	91.9	93.3	94.6	96.0	97.3
90°	107.7	111.2	114.7	117.2	118.7	120.1	121.6	123.1
92.5°	101.8	105.8	109.9	112.5	113.8	115.1	116.3	117.6
95°	134.3	138.1	141.9	144.2	144.9	145.6	146.3	147.0
97.5°	180.8	184.5	188.3	190.7	191.8	193.0	194.1	195.3
100°	213.2	216.9	220.7	223.0	223.8	224.7	225.5	226.4
102.5°	249.0	252.9	256.7	259.1	259.9	260.8	261.6	262.5
105°	302.7	306.8	310.8	313.4	314.5	315.6	316.7	317.8
107.5°	361.0	364.6	368.2	370.0	369.9	369.8	369.8	369.7
110°	400.9	404.1	407.3	409.1	409.5	409.8	410.1	410.5



TEST NUMBER: P331280

CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	440.8	443.4	446.0	447.6	448.1	448.7	449.2	449.7
115°	502.1	504.8	507.6	509.2	509.5	509.8	510.2	510.5
117.5°	561.2	563.6	565.9	567.3	567.5	567.8	568.0	568.3
120°	600.8	603.7	606.5	608.1	608.4	608.7	609.1	609.4
122.5°	641.9	644.0	646.1	647.4	647.7	648.1	648.5	648.9
125°	702.4	704.3	706.3	707.6	708.2	708.9	709.5	710.2
127.5°	761.1	762.6	764.2	765.0	765.1	765.2	765.2	765.3
130°	801.4	803.3	805.2	806.0	805.8	805.6	805.3	805.1
132.5°	840.5	841.7	842.9	843.5	843.5	843.5	843.5	843.5
135°	898.5	900.4	902.2	903.2	903.2	903.2	903.3	903.3
137.5°	954.0	955.6	957.3	957.9	957.6	957.2	956.9	956.6
140°	991.5	993.1	994.7	995.3	994.9	994.5	994.0	993.6
142.5°	1025.8	1027.3	1028.8	1029.3	1028.8	1028.3	1027.8	1027.3
145°	1078.5	1079.4	1080.2	1080.4	1079.9	1079.4	1078.8	1078.3
147.5°	1125.0	1125.7	1126.3	1126.3	1125.5	1124.8	1124.0	1123.3
150°	1155.0	1155.8	1156.6	1156.6	1155.8	1155.0	1154.2	1153.5
152.5°	1185.2	1186.1	1187.1	1187.1	1186.1	1185.2	1184.2	1183.2
155°	1223.4	1224.7	1226.0	1226.2	1225.5	1224.7	1223.9	1223.1
157.5°	1258.7	1260.5	1262.2	1262.5	1261.2	1260.0	1258.8	1257.5
160°	1279.7	1281.2	1282.8	1283.0	1282.0	1281.0	1279.9	1278.9
162.5°	1298.7	1300.4	1302.2	1302.4	1301.2	1300.0	1298.7	1297.5
165°	1323.2	1325.0	1326.8	1327.0	1325.8	1324.5	1323.2	1321.9
167.5°	1343.4	1345.2	1347.0	1347.2	1345.9	1344.5	1343.2	1341.9
170°	1354.5	1356.3	1358.1	1358.3	1356.7	1355.2	1353.6	1352.1
172.5°	1362.9	1364.7	1366.5	1366.6	1365.1	1363.5	1362.0	1360.4
175°	1372.0	1373.8	1375.6	1375.7	1374.2	1372.6	1371.1	1369.5
177.5°	1376.2	1377.4	1378.6	1378.6	1377.4	1376.2	1374.9	1373.7
180°	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5

(END OF REPORT)