

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

Luminaire Tested: **SA2XXDIP-C290D925U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331270
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-C290D925U835-4F0-1E-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

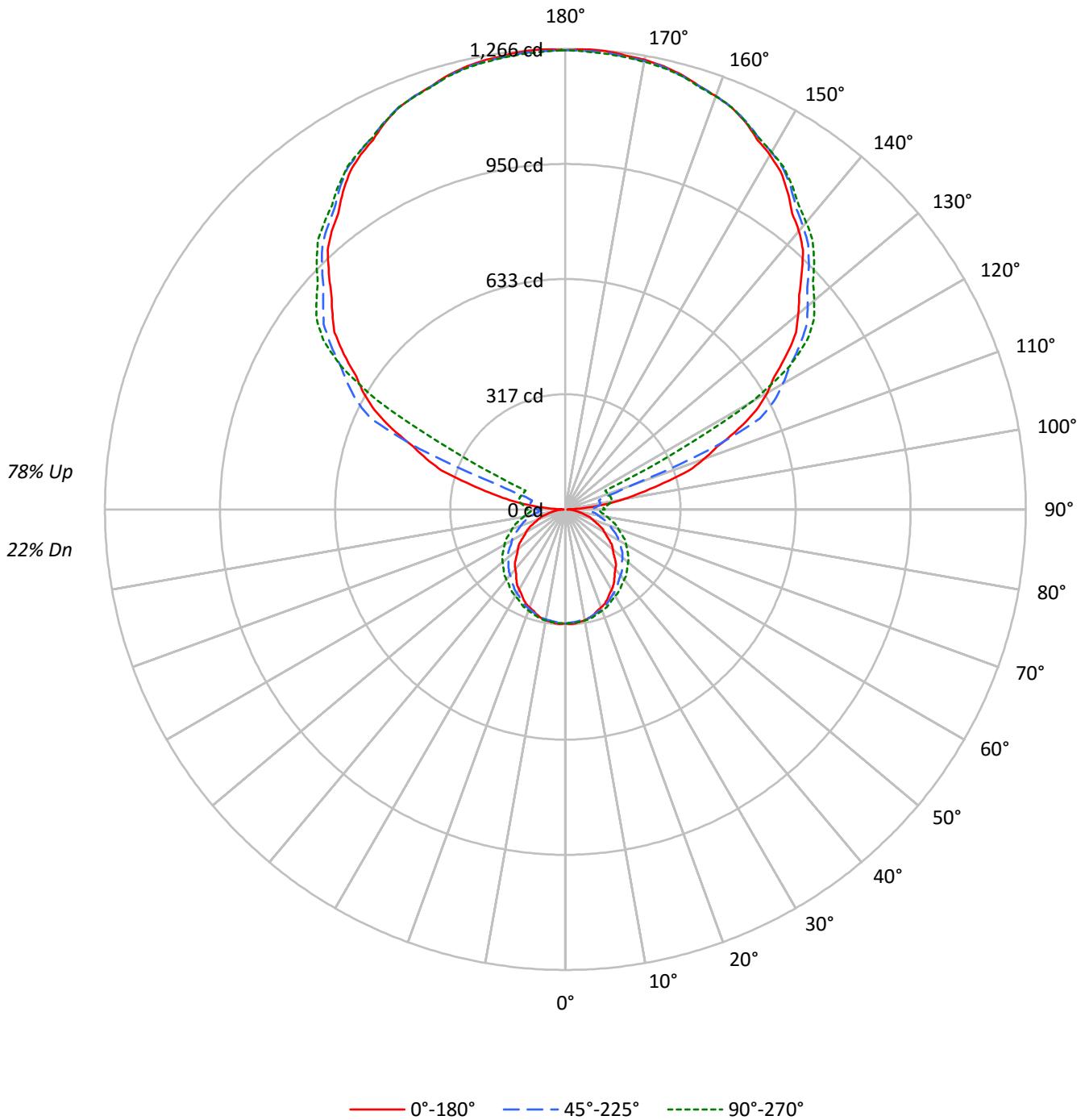
Lumens per Lamp: N/A
Luminaire Lumens: 4897.8 lumens
Efficiency: N/A
Efficacy: 131.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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



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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	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°	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



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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	3.2
40°-50°	169.1	3.5
50°-60°	164.2	3.4
60°-70°	143.4	2.9
70°-80°	110.4	2.3
80°-90°	77.2	1.6
90°-100°	93.1	1.9
100°-110°	191.7	3.9
110°-120°	437.3	8.9
120°-130°	695.0	14.2
130°-140°	730.3	14.9
140°-150°	674.4	13.8
150°-160°	541.4	11.1
160°-170°	348.9	7.1
170°-180°	120.1	2.5
0°-30°	243.9	5.0
0°-40°	401.1	8.2
0°-60°	734.5	15.0
0°-90°	1065.5	21.8
90°-120°	722.1	14.7
90°-150°	2821.9	57.6
90°-180°	3832.0	78.2
0°-180°	4897.8	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	42	78	100	108	6
95°	63	57	88	109	114	75
105°	280	306	95	120	129	299
115°	527	549	591	201	121	519
125°	743	756	787	805	813	663
135°	919	934	947	964	967	710
145°	1066	1066	1080	1089	1087	666
155°	1174	1166	1176	1181	1174	541
165°	1237	1232	1234	1240	1234	349
175°	1265	1259	1260	1266	1258	120
180°	1262	1262	1262	1262	1262	



TEST NUMBER: P331270

CATALOG NUMBER: SA2XXDIP-C290D925U835-4F0-1E-UDD-D

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	15.5	22.0	28.5	34.9	41.6	48.3	55.1	61.9	68.7	73.0
90°	5.5	13.5	21.6	29.7	37.8	45.9	54.0	62.1	70.1	78.2	83.3
92.5°	22.6	27.9	33.1	38.4	43.6	49.8	56.8	63.8	70.9	77.9	82.4
95°	63.0	61.0	59.1	57.1	55.2	57.9	65.4	72.9	80.4	87.9	92.7
97.5°	121.0	106.3	91.7	77.0	62.4	59.6	68.7	77.8	86.9	96.0	100.6
100°	164.8	140.8	116.7	92.6	68.6	61.1	70.2	79.3	88.4	97.5	102.8
102.5°	212.7	210.2	207.7	205.3	202.8	189.9	166.5	143.1	119.8	96.4	102.2
105°	279.9	288.9	297.9	307.0	316.0	295.4	245.3	195.1	144.9	94.8	100.5
107.5°	357.1	364.3	371.6	378.8	386.1	359.0	297.6	236.2	174.8	113.3	114.5
110°	406.4	412.7	419.0	425.2	431.5	407.8	354.1	300.4	246.7	193.0	175.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	453.2	458.6	464.1	469.6	475.1	472.9	463.1	453.3	443.5	433.7	362.9
115°	527.0	531.5	536.1	540.6	545.2	552.3	561.9	571.5	581.1	590.8	499.8
117.5°	592.4	597.0	601.6	606.2	610.8	616.9	624.6	632.3	640.0	647.7	627.9
120°	640.7	644.1	647.6	651.0	654.5	660.0	667.7	675.4	683.1	690.8	696.1
122.5°	681.6	685.0	688.3	691.7	695.1	700.6	708.4	716.2	723.9	731.7	735.9
125°	743.4	746.1	748.7	751.3	754.0	758.8	765.9	773.0	780.1	787.2	791.3
127.5°	799.9	802.7	805.5	808.3	811.1	815.3	820.8	826.3	831.8	837.2	841.8
130°	835.7	838.8	842.0	845.1	848.2	852.0	856.3	860.7	865.1	869.4	874.1
132.5°	872.2	874.9	877.5	880.2	882.8	886.1	890.0	893.8	897.7	901.6	905.8
135°	919.2	922.5	925.7	929.0	932.2	935.3	938.1	940.9	943.8	946.6	950.8
137.5°	967.3	969.5	971.8	974.0	976.3	978.7	981.2	983.7	986.2	988.7	992.6
140°	998.7	1000.2	1001.7	1003.3	1004.8	1006.8	1009.2	1011.6	1014.1	1016.5	1019.9
142.5°	1025.0	1026.3	1027.7	1029.1	1030.4	1032.4	1035.0	1037.6	1040.2	1042.8	1045.8
145°	1065.8	1065.6	1065.4	1065.2	1065.0	1066.6	1070.1	1073.5	1077.0	1080.4	1082.5
147.5°	1101.8	1101.0	1100.3	1099.5	1098.7	1100.0	1103.4	1106.9	1110.3	1113.7	1114.8
150°	1125.2	1123.8	1122.3	1120.9	1119.5	1120.4	1123.7	1126.9	1130.2	1133.4	1134.6
152.5°	1144.9	1143.3	1141.7	1140.2	1138.6	1139.3	1142.4	1145.5	1148.6	1151.7	1152.9
155°	1173.6	1171.8	1169.9	1168.1	1166.3	1166.6	1169.0	1171.5	1173.9	1176.3	1177.5
157.5°	1196.0	1194.5	1193.0	1191.4	1189.9	1190.0	1191.7	1193.4	1195.1	1196.8	1198.2
160°	1209.2	1208.0	1206.8	1205.5	1204.3	1204.3	1205.5	1206.8	1208.0	1209.2	1210.4
162.5°	1220.9	1219.7	1218.5	1217.2	1216.0	1215.9	1217.0	1218.0	1219.1	1220.2	1221.5
165°	1236.6	1235.4	1234.2	1232.9	1231.7	1231.4	1232.0	1232.6	1233.3	1233.9	1235.3
167.5°	1248.3	1247.1	1245.9	1244.6	1243.4	1243.1	1243.7	1244.2	1244.8	1245.4	1246.8
170°	1254.9	1253.6	1252.4	1251.2	1250.0	1249.6	1250.0	1250.4	1250.8	1251.2	1252.6
172.5°	1259.2	1258.0	1256.8	1255.6	1254.4	1254.0	1254.4	1254.8	1255.2	1255.6	1257.0
175°	1264.9	1263.5	1262.1	1260.6	1259.2	1258.7	1259.1	1259.5	1259.9	1260.3	1261.8
177.5°	1265.8	1264.7	1263.6	1262.4	1261.3	1260.8	1261.0	1261.1	1261.3	1261.4	1262.6
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2



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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°	77.3	81.7	86.0	88.8	90.2	91.6	93.0	94.3
90°	88.3	93.4	98.4	101.8	103.4	105.0	106.6	108.2
92.5°	86.9	91.3	95.8	98.8	100.2	101.7	103.2	104.6
95°	97.6	102.4	107.3	110.2	111.2	112.2	113.2	114.2
97.5°	105.1	109.7	114.2	117.2	118.6	120.1	121.5	122.9
100°	108.2	113.6	118.9	122.4	123.9	125.4	126.9	128.4
102.5°	107.9	113.7	119.5	123.2	124.9	126.5	128.2	129.9
105°	106.3	112.1	117.8	121.7	123.6	125.5	127.5	129.4
107.5°	115.6	116.7	117.8	119.3	121.3	123.2	125.1	127.0
110°	158.9	141.8	124.7	117.2	119.1	121.0	122.9	124.8



TEST NUMBER: P331270

CATALOG NUMBER: SA2XXDIP-C290D925U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	292.1	221.3	150.5	116.0	117.8	119.5	121.3	123.0
115°	408.9	317.9	227.0	174.8	161.3	147.8	134.3	120.8
117.5°	608.2	588.4	568.7	535.3	488.4	441.4	394.4	347.4
120°	701.3	706.6	711.8	701.3	675.0	648.8	622.5	596.2
122.5°	740.1	744.3	748.6	748.5	744.1	739.7	735.4	731.0
125°	795.5	799.6	803.8	806.6	808.1	809.6	811.1	812.7
127.5°	846.4	851.0	855.5	858.3	859.3	860.4	861.4	862.4
130°	878.7	883.4	888.0	890.7	891.3	891.9	892.5	893.1
132.5°	910.1	914.3	918.6	921.0	921.6	922.2	922.8	923.4
135°	954.9	959.1	963.2	965.5	965.9	966.3	966.7	967.1
137.5°	996.4	1000.3	1004.1	1006.0	1006.0	1006.0	1006.0	1006.0
140°	1023.4	1026.8	1030.3	1031.8	1031.4	1031.0	1030.5	1030.1
142.5°	1048.7	1051.7	1054.6	1055.9	1055.4	1054.9	1054.4	1053.9
145°	1084.5	1086.5	1088.5	1089.3	1088.8	1088.3	1087.8	1087.3
147.5°	1115.9	1117.1	1118.2	1118.5	1117.9	1117.3	1116.6	1116.0
150°	1135.8	1137.1	1138.3	1138.4	1137.4	1136.3	1135.3	1134.3
152.5°	1154.1	1155.3	1156.5	1156.5	1155.1	1153.8	1152.5	1151.1
155°	1178.8	1180.0	1181.2	1181.0	1179.4	1177.7	1176.1	1174.5
157.5°	1199.5	1200.9	1202.3	1202.2	1200.6	1199.0	1197.4	1195.9
160°	1211.6	1212.9	1214.1	1214.0	1212.5	1211.1	1209.7	1208.3
162.5°	1222.9	1224.3	1225.7	1225.5	1223.8	1222.0	1220.3	1218.5
165°	1236.7	1238.1	1239.5	1239.5	1238.1	1236.7	1235.3	1233.9
167.5°	1248.2	1249.6	1251.1	1250.8	1249.0	1247.2	1245.4	1243.5
170°	1254.1	1255.5	1256.9	1256.7	1254.9	1253.0	1251.2	1249.4
172.5°	1258.4	1259.9	1261.3	1261.1	1259.2	1257.4	1255.6	1253.8
175°	1263.2	1264.6	1266.0	1265.7	1263.7	1261.7	1259.6	1257.6
177.5°	1263.7	1264.9	1266.0	1265.8	1264.4	1262.9	1261.4	1260.0
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2

(END OF REPORT)