

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: P331283-840

Luminaire Tested: **SA2XXDIP-C290D1080U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331283-840  
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-C290D1080U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

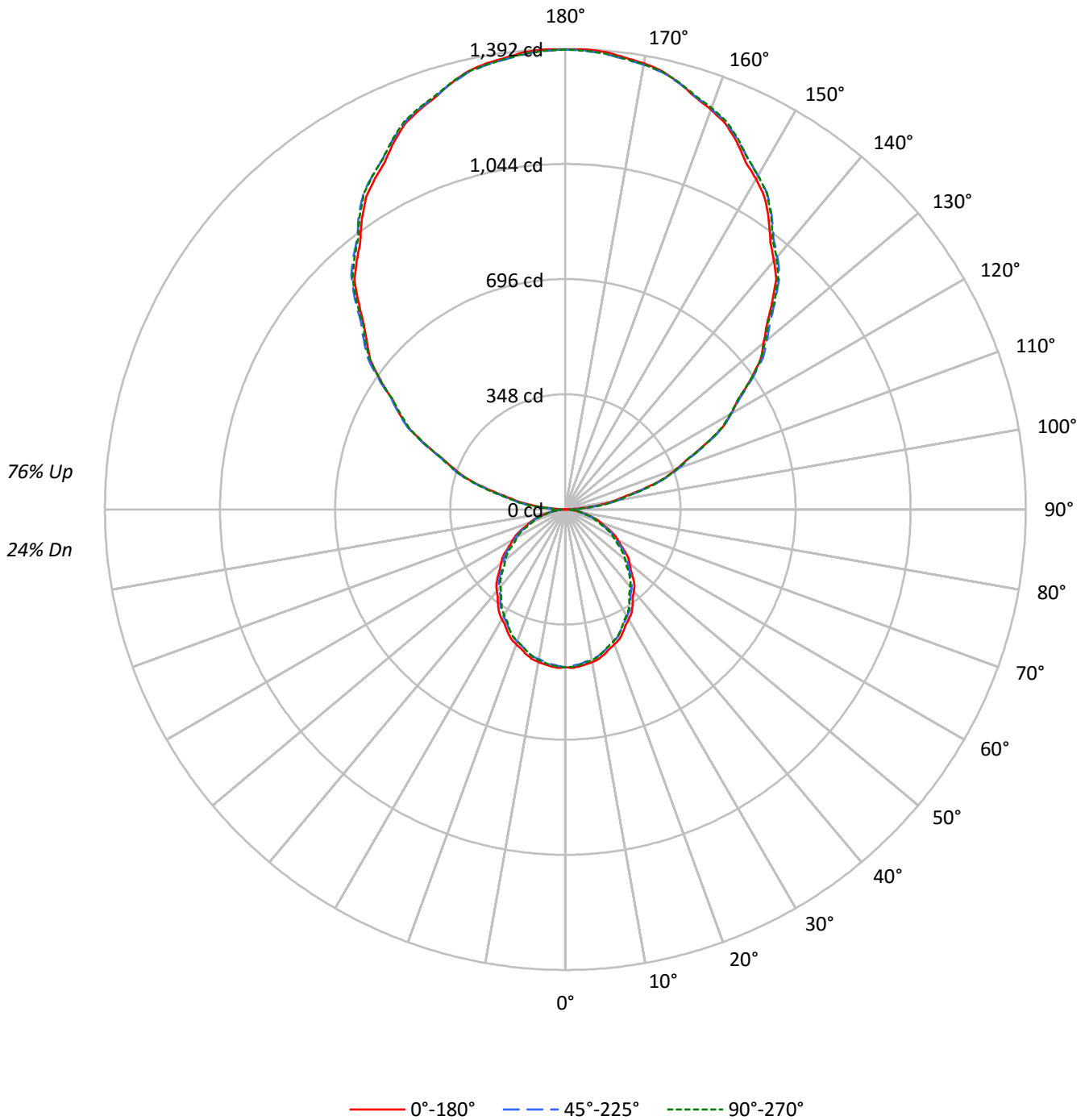
Lumens per Lamp: N/A  
Luminaire Lumens: 5106.2 lumens  
Efficiency: N/A  
Efficacy: 121.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 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: P331283-840  
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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24				24
1	92	88	84	81	82	78	75	72	60	58	56	44	42	41	28	28	27	20				20
2	84	77	71	66	74	68	63	59	53	49	46	38	36	34	25	24	23	17				17
3	76	67	60	55	67	60	54	49	46	42	39	34	31	29	22	21	19	14				14
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	12				12
5	64	53	45	39	56	47	41	36	37	32	28	27	24	21	18	16	14	11				11
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	9				9
7	54	42	35	29	48	38	31	27	30	25	21	22	19	16	15	13	11	8				8
8	50	38	31	26	44	34	28	23	27	22	19	20	17	14	13	11	10	7				7
9	46	35	28	23	41	31	25	21	25	20	17	18	15	13	12	10	9	7				7
10	43	32	25	20	38	29	23	18	23	18	15	17	14	12	11	10	8	6				6

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

	0°	45°	90°
0°	7703	7703	7703
5°	7733	7621	7666
10°	7688	7543	7581
15°	7590	7447	7438
20°	7455	7301	7290
25°	7322	7119	7119
30°	7150	6952	6893
35°	6991	6753	6654
40°	6787	6555	6431
45°	6588	6357	6202
50°	6373	6154	5935
55°	6145	5917	5695
60°	5896	5628	5422
65°	5624	5349	5100
70°	5282	4999	4763
75°	4810	4604	4492
80°	4258	4138	3924
85°	3483	3316	2983



TEST NUMBER: P331283-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.9	0.9
10°-20°	126.2	2.5
20°-30°	185.5	3.6
30°-40°	215.5	4.2
40°-50°	215.3	4.2
50°-60°	187.7	3.7
60°-70°	138.8	2.7
70°-80°	78.6	1.5
80°-90°	26.7	0.5
90°-100°	88.1	1.7
100°-110°	273.6	5.4
110°-120°	467.6	9.2
120°-130°	614.9	12.0
130°-140°	690.2	13.5
140°-150°	676.7	13.3
150°-160°	567.6	11.1
160°-170°	376.5	7.4
170°-180°	131.6	2.6
0°-30°	356.6	7.0
0°-40°	572.2	11.2
0°-60°	975.2	19.1
0°-90°	1219.3	23.9
90°-120°	829.3	16.2
90°-150°	2811.1	55.1
90°-180°	3887.0	76.1
0°-180°	5106.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	477	477	477	477	477	
5°	477	475	470	474	473	45
15°	454	451	446	447	445	128
25°	411	407	400	400	400	189
35°	355	350	343	340	338	221
45°	288	285	278	274	272	223
55°	218	215	210	205	202	195
65°	147	144	140	136	134	146
75°	77	76	74	71	72	82
85°	19	18	18	17	16	22
90°	1	16	41	39	40	4
95°	61	72	75	75	73	70
105°	252	256	258	260	260	266
115°	469	476	474	473	469	464
125°	683	692	690	686	685	610
135°	883	896	899	897	894	682
145°	1072	1080	1087	1088	1084	670
155°	1226	1229	1233	1238	1235	564
165°	1334	1333	1333	1340	1335	376
175°	1388	1384	1382	1389	1383	132
180°	1390	1390	1390	1390	1390	



TEST NUMBER: P331283-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	479.3	478.9	478.5	478.1	477.7	477.1	476.2	475.2	474.3	473.4	474.2
5°	477.1	476.7	476.3	475.8	475.4	474.7	473.6	472.5	471.3	470.2	471.0
7.5°	472.9	472.2	471.6	471.0	470.4	469.5	468.4	467.2	466.1	464.9	465.7
10°	468.9	468.2	467.5	466.8	466.0	465.0	463.8	462.6	461.4	460.1	460.9
12.5°	463.3	462.7	462.1	461.4	460.8	459.9	458.7	457.5	456.3	455.0	455.6
15°	454.1	453.5	452.9	452.3	451.7	450.8	449.4	448.1	446.8	445.5	445.9
17.5°	442.4	441.8	441.2	440.6	440.0	439.0	437.7	436.3	434.9	433.6	434.0
20°	433.9	433.3	432.7	432.1	431.5	430.5	429.1	427.7	426.3	424.9	425.2
22.5°	425.6	424.6	423.8	422.9	422.1	421.0	419.7	418.3	417.0	415.7	415.7
25°	411.0	410.2	409.4	408.6	407.8	406.5	404.8	403.0	401.3	399.6	399.8
27.5°	394.6	393.8	393.0	392.3	391.6	390.5	389.2	387.8	386.5	385.1	384.8
30°	383.5	382.7	381.9	381.1	380.2	379.1	377.6	376.1	374.5	372.9	372.6
32.5°	371.7	371.1	370.5	369.8	369.2	368.0	366.4	364.9	363.2	361.6	361.0
35°	354.7	353.6	352.5	351.5	350.5	349.2	347.6	346.0	344.4	342.6	342.0
37.5°	335.3	334.4	333.5	332.5	331.6	330.4	328.8	327.2	325.5	323.9	323.2
40°	322.0	321.2	320.4	319.6	318.8	317.6	315.9	314.3	312.7	311.0	310.1
42.5°	309.2	308.4	307.6	306.8	306.0	304.7	303.1	301.4	299.8	298.2	297.2
45°	288.5	287.8	287.1	286.4	285.7	284.6	283.1	281.6	280.0	278.4	277.3
47.5°	268.0	267.3	266.7	266.0	265.3	264.2	262.6	261.1	259.4	257.8	256.6
50°	253.7	253.2	252.7	252.2	251.7	250.6	249.2	247.8	246.4	245.0	243.6
52.5°	239.7	239.0	238.4	237.7	237.0	236.0	234.7	233.4	232.0	230.7	229.4
55°	218.3	217.7	217.1	216.5	215.9	215.0	213.8	212.6	211.4	210.2	208.8
57.5°	196.9	196.4	195.9	195.4	194.9	194.0	192.7	191.4	190.0	188.6	187.4
60°	182.6	182.2	181.8	181.4	181.0	180.1	178.6	177.2	175.7	174.3	173.2
62.5°	168.6	167.9	167.3	166.7	166.0	165.1	164.0	163.0	161.9	160.8	159.7
65°	147.2	146.6	146.0	145.4	144.8	144.0	143.0	142.0	141.0	140.0	139.0
67.5°	125.5	125.0	124.5	124.0	123.6	122.9	121.9	121.0	120.1	119.2	118.5
70°	111.9	111.5	111.1	110.7	110.3	109.7	108.8	107.9	106.8	105.9	105.2
72.5°	98.0	97.6	97.1	96.7	96.3	95.8	95.2	94.7	94.1	93.5	92.8
75°	77.1	76.9	76.6	76.4	76.2	75.9	75.4	74.8	74.3	73.8	73.2
77.5°	58.4	58.0	57.7	57.4	57.0	56.7	56.5	56.2	56.0	55.8	55.5
80°	45.8	45.7	45.6	45.5	45.4	45.3	45.1	44.9	44.7	44.5	44.2
82.5°	34.1	34.1	34.1	34.0	34.0	33.9	33.8	33.7	33.6	33.5	33.1
85°	18.8	18.7	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.6
87.5°	6.9	7.3	7.8	8.2	8.7	9.4	10.4	11.4	12.3	13.3	13.0
90°	1.2	4.3	7.5	10.6	13.7	18.1	23.8	29.6	35.3	41.1	40.5
92.5°	20.9	23.1	25.4	27.8	30.1	31.9	33.2	34.6	36.0	37.3	37.4
95°	61.0	63.6	66.2	68.8	71.4	73.0	73.5	74.0	74.5	75.0	75.0
97.5°	111.5	113.7	116.0	118.4	120.6	122.3	123.2	124.2	125.2	126.2	126.2
100°	149.0	151.1	153.2	155.2	157.3	158.8	159.6	160.3	161.1	161.9	161.9
102.5°	188.4	190.1	191.8	193.4	195.1	196.4	197.4	198.3	199.3	200.4	200.6
105°	252.2	253.0	253.8	254.6	255.3	256.0	256.5	257.0	257.5	258.0	258.6
107.5°	316.5	317.6	318.8	319.9	321.0	321.6	321.6	321.6	321.6	321.6	321.8
110°	357.8	359.3	360.9	362.4	364.1	364.9	364.9	364.9	364.9	364.9	364.9



TEST NUMBER: P331283-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	402.8	404.3	406.0	407.5	409.1	409.8	409.5	409.3	409.1	408.9	408.3
115°	469.2	470.8	472.3	473.9	475.4	475.9	475.4	474.9	474.4	473.9	473.6
117.5°	535.3	537.5	539.6	541.6	543.7	544.0	542.6	541.1	539.7	538.2	537.6
120°	579.5	581.6	583.7	585.7	587.8	587.8	585.7	583.7	581.6	579.5	579.5
122.5°	619.9	622.4	624.8	627.3	629.9	630.4	628.9	627.4	626.0	624.5	623.9
125°	682.7	685.1	687.4	689.7	692.1	692.9	692.1	691.4	690.5	689.7	688.9
127.5°	744.0	746.9	749.9	752.9	755.8	756.9	755.9	755.0	754.1	753.1	752.1
130°	782.4	785.8	789.2	792.5	796.0	797.4	796.9	796.4	795.9	795.4	794.8
132.5°	825.6	828.4	831.1	833.8	836.7	838.1	838.2	838.3	838.4	838.5	837.4
135°	883.3	886.2	889.1	891.9	894.7	896.5	897.0	897.5	898.1	898.6	898.3
137.5°	944.0	946.4	948.8	951.1	953.4	954.9	955.6	956.3	956.9	957.7	957.5
140°	980.7	983.0	985.3	987.7	990.1	991.9	993.2	994.5	995.8	997.0	997.0
142.5°	1018.2	1020.6	1022.9	1025.2	1027.5	1029.2	1030.1	1031.0	1031.9	1032.8	1033.0
145°	1072.2	1074.0	1075.8	1077.6	1079.4	1081.2	1082.7	1084.3	1085.8	1087.4	1087.6
147.5°	1120.2	1122.5	1124.6	1126.8	1129.0	1130.6	1131.7	1132.8	1133.8	1134.8	1135.4
150°	1153.1	1154.7	1156.2	1157.8	1159.3	1160.6	1161.7	1162.8	1163.8	1164.9	1165.6
152.5°	1182.1	1183.8	1185.3	1186.9	1188.4	1189.8	1191.1	1192.3	1193.7	1194.9	1195.9
155°	1225.9	1226.6	1227.4	1228.2	1229.0	1229.7	1230.5	1231.3	1232.1	1232.8	1234.2
157.5°	1263.1	1263.6	1264.1	1264.7	1265.3	1265.7	1266.2	1266.7	1267.1	1267.6	1269.4
160°	1285.7	1286.2	1286.7	1287.2	1287.8	1288.1	1288.4	1288.7	1288.9	1289.2	1290.7
162.5°	1306.3	1306.4	1306.5	1306.6	1306.8	1306.9	1307.2	1307.4	1307.7	1308.0	1309.7
165°	1333.7	1333.5	1333.2	1332.9	1332.7	1332.6	1332.6	1332.6	1332.6	1332.6	1334.4
167.5°	1356.8	1355.9	1355.1	1354.4	1353.6	1353.2	1353.1	1353.1	1353.0	1353.0	1354.8
170°	1369.0	1368.2	1367.4	1366.5	1365.8	1365.3	1365.0	1364.7	1364.5	1364.2	1366.0
172.5°	1377.4	1376.6	1375.8	1375.0	1374.2	1373.7	1373.5	1373.2	1372.9	1372.7	1374.5
175°	1387.8	1386.9	1386.1	1385.3	1384.6	1383.9	1383.4	1382.9	1382.4	1381.8	1383.7
177.5°	1391.9	1391.3	1390.7	1390.1	1389.5	1388.9	1388.5	1388.1	1387.7	1387.3	1388.5
180°	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1



TEST NUMBER: P331283-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	475.0	475.8	476.7	477.1	476.9	476.7	476.6	476.4
5°	471.9	472.7	473.5	473.8	473.6	473.4	473.2	473.0
7.5°	466.6	467.4	468.2	468.5	468.3	468.0	467.8	467.6
10°	461.8	462.6	463.4	463.6	463.3	463.0	462.7	462.4
12.5°	456.2	456.7	457.3	457.5	457.3	457.0	456.8	456.6
15°	446.3	446.7	447.1	447.1	446.6	446.1	445.6	445.0
17.5°	434.5	435.0	435.5	435.5	434.9	434.5	434.0	433.5
20°	425.5	425.8	426.1	426.0	425.6	425.2	424.7	424.3
22.5°	415.8	415.9	415.9	415.8	415.6	415.3	415.1	414.9
25°	400.0	400.2	400.4	400.4	400.2	400.0	399.8	399.6
27.5°	384.5	384.2	383.8	383.4	382.9	382.4	382.0	381.5
30°	372.3	372.0	371.7	371.4	371.0	370.6	370.2	369.7
32.5°	360.5	359.9	359.4	358.9	358.5	358.1	357.7	357.3
35°	341.4	340.8	340.2	339.7	339.2	338.7	338.2	337.6
37.5°	322.3	321.6	320.8	320.2	319.7	319.2	318.8	318.3
40°	309.2	308.3	307.4	306.7	306.3	305.9	305.5	305.1
42.5°	296.2	295.2	294.2	293.4	292.9	292.3	291.8	291.1
45°	276.2	275.1	274.0	273.2	272.8	272.4	272.0	271.6
47.5°	255.5	254.3	253.1	252.2	251.7	251.1	250.4	249.8
50°	242.2	240.7	239.2	238.3	237.8	237.3	236.8	236.3
52.5°	228.3	227.1	225.9	225.0	224.3	223.7	223.0	222.3
55°	207.6	206.4	205.2	204.4	203.9	203.3	202.8	202.3
57.5°	186.2	185.0	183.8	183.0	182.7	182.3	181.9	181.5
60°	172.1	171.0	169.9	169.2	168.8	168.5	168.2	167.9
62.5°	158.6	157.6	156.6	155.9	155.5	155.1	154.7	154.3
65°	138.0	137.1	136.2	135.5	135.0	134.5	134.0	133.5
67.5°	117.8	117.0	116.3	115.7	115.3	114.9	114.5	114.1
70°	104.5	103.8	103.1	102.6	102.2	101.7	101.3	100.9
72.5°	92.1	91.4	90.7	90.1	89.8	89.5	89.2	88.8
75°	72.6	72.0	71.4	71.2	71.4	71.6	71.8	72.0
77.5°	55.2	54.9	54.6	54.3	54.0	53.8	53.5	53.2
80°	43.9	43.6	43.3	43.0	42.8	42.6	42.4	42.2
82.5°	32.7	32.3	31.9	31.7	31.7	31.6	31.6	31.6
85°	17.3	17.0	16.7	16.5	16.4	16.3	16.2	16.1
87.5°	12.6	12.3	11.9	11.7	11.7	11.7	11.7	11.6
90°	40.0	39.5	39.0	38.9	39.1	39.4	39.6	39.9
92.5°	37.5	37.6	37.8	37.8	37.9	37.9	38.0	38.0
95°	75.0	75.0	75.0	74.8	74.3	73.8	73.2	72.7
97.5°	126.2	126.2	126.2	126.2	126.1	126.1	126.0	126.0
100°	161.9	161.9	161.9	161.8	161.5	161.3	161.0	160.7
102.5°	200.8	201.0	201.2	201.2	200.9	200.7	200.4	200.2
105°	259.1	259.6	260.1	260.4	260.4	260.4	260.4	260.4
107.5°	322.0	322.2	322.4	321.9	320.8	319.6	318.4	317.2
110°	364.9	364.9	364.9	364.5	363.7	362.8	362.0	361.3





TEST NUMBER: P331283-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	407.7	407.1	406.5	405.9	405.3	404.7	404.1	403.5
115°	473.4	473.1	472.8	472.3	471.6	470.8	470.0	469.2
117.5°	536.9	536.3	535.7	535.0	534.2	533.4	532.6	531.9
120°	579.5	579.5	579.5	579.1	578.3	577.5	576.7	575.9
122.5°	623.3	622.7	622.0	621.5	620.9	620.3	619.8	619.1
125°	688.2	687.4	686.6	686.1	685.8	685.6	685.3	685.1
127.5°	751.2	750.2	749.3	748.4	747.6	746.8	746.0	745.1
130°	794.3	793.8	793.2	792.4	791.4	790.3	789.3	788.3
132.5°	836.2	835.1	833.9	832.9	832.1	831.2	830.4	829.6
135°	898.1	897.8	897.5	897.0	896.2	895.4	894.6	893.8
137.5°	957.3	957.0	956.8	956.2	955.1	954.1	953.1	952.0
140°	997.0	997.0	997.0	996.5	995.5	994.5	993.4	992.4
142.5°	1033.2	1033.4	1033.6	1033.2	1032.1	1031.1	1030.1	1029.0
145°	1087.9	1088.2	1088.4	1088.0	1087.0	1086.0	1084.9	1083.9
147.5°	1136.0	1136.5	1137.1	1136.9	1135.9	1134.9	1133.9	1133.0
150°	1166.4	1167.2	1168.0	1168.0	1167.2	1166.4	1165.6	1164.9
152.5°	1196.9	1197.8	1198.8	1198.8	1197.8	1196.9	1195.9	1194.9
155°	1235.5	1236.8	1238.1	1238.3	1237.6	1236.8	1236.0	1235.2
157.5°	1271.1	1272.9	1274.7	1275.0	1273.6	1272.4	1271.2	1269.9
160°	1292.3	1293.8	1295.5	1295.7	1294.6	1293.6	1292.5	1291.5
162.5°	1311.5	1313.2	1315.0	1315.2	1314.0	1312.8	1311.5	1310.3
165°	1336.3	1338.1	1339.9	1340.1	1338.9	1337.6	1336.3	1334.9
167.5°	1356.7	1358.5	1360.3	1360.5	1359.2	1357.8	1356.5	1355.1
170°	1367.9	1369.7	1371.5	1371.7	1370.1	1368.6	1367.0	1365.4
172.5°	1376.3	1378.2	1380.0	1380.1	1378.6	1377.0	1375.4	1373.8
175°	1385.5	1387.4	1389.2	1389.3	1387.8	1386.1	1384.6	1383.0
177.5°	1389.8	1391.0	1392.2	1392.2	1391.0	1389.8	1388.5	1387.3
180°	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1

(END OF REPORT)