

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: P331637-840

Luminaire Tested: **SA2XXRDIP-C290D925U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331637-840  
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: SA2XXRDIP-C290D925U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

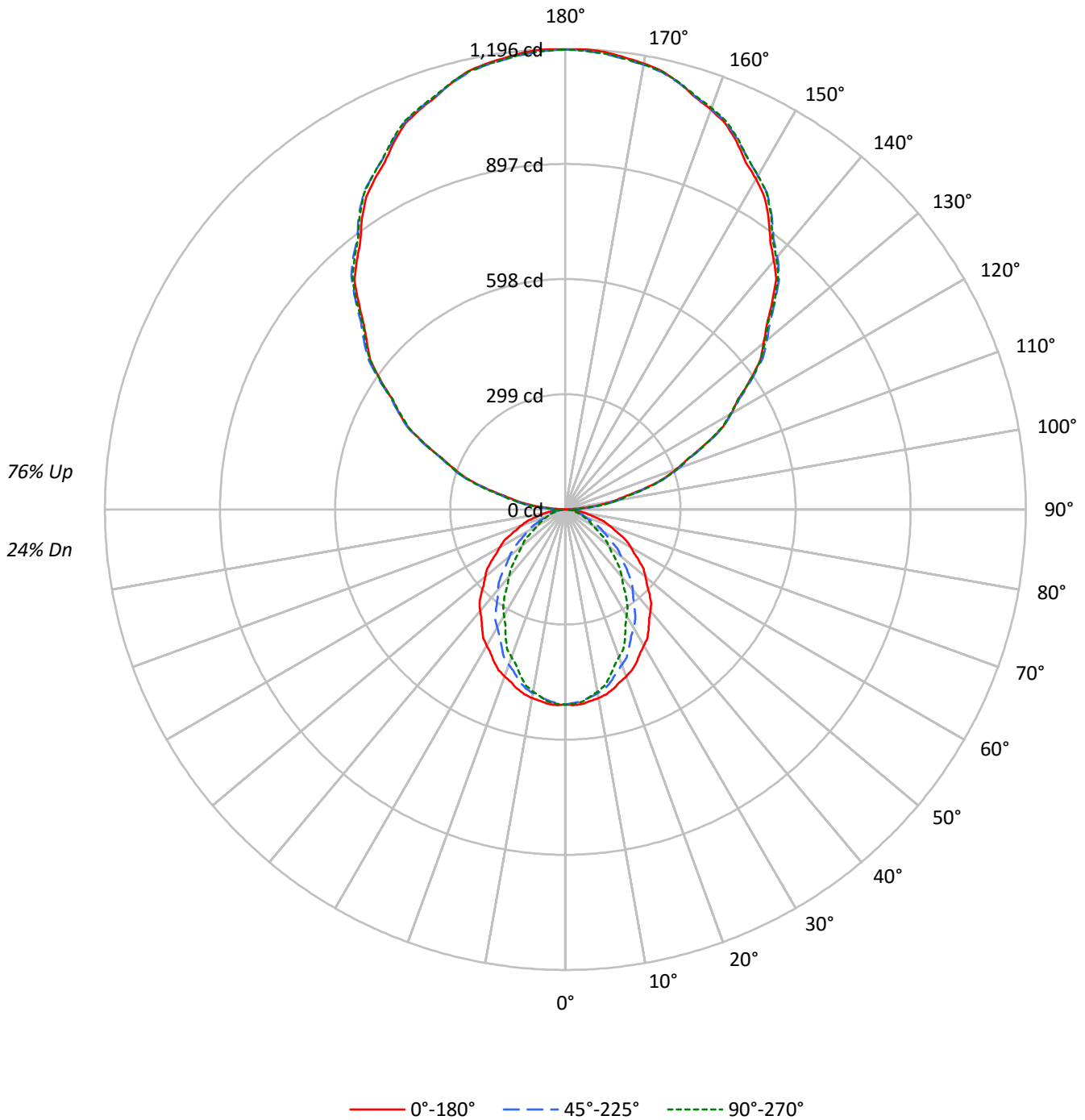
Lumens per Lamp: N/A  
Luminaire Lumens: 4386.7 lumens  
Efficiency: N/A  
Efficacy: 117.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	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	73	60	58	57	44	43	42	29	28	27				20	
2	84	77	71	67	75	69	64	60	53	50	47	39	37	35	25	24	23				18	
3	77	68	61	56	68	61	55	50	47	43	40	34	32	30	23	21	20				15	
4	70	60	53	47	62	54	47	43	42	37	34	31	28	26	20	19	18				13	
5	64	53	46	40	57	48	41	37	37	33	29	28	25	22	19	17	15				12	
6	59	48	40	35	53	43	36	32	34	29	26	25	22	20	17	15	14				10	
7	55	43	36	30	49	39	32	28	30	26	22	23	20	17	15	14	12				9	
8	51	39	32	27	45	35	29	24	28	23	20	21	18	15	14	12	11				8	
9	47	36	28	24	42	32	26	22	25	21	18	19	16	14	13	11	10				8	
10	44	32	26	21	39	29	23	19	23	19	16	18	15	12	12	10	9				7	

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

	0°	45°	90°
0°	8186	8186	8186
5°	8217	8083	8126
10°	8153	7950	7883
15°	8058	7714	7492
20°	7930	7378	7009
25°	7798	6996	6538
30°	7612	6604	5936
35°	7433	6177	5409
40°	7253	5735	4795
45°	7040	5236	4242
50°	6822	4735	3697
55°	6598	4197	3178
60°	6339	3630	2638
65°	6044	3049	2399
70°	5698	2511	2209
75°	5265	2289	2059
80°	4649	2046	1878
85°	3649	1612	1612



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.4	1.1
10°-20°	130.3	3.0
20°-30°	183.0	4.2
30°-40°	199.5	4.5
40°-50°	183.4	4.2
50°-60°	144.1	3.3
60°-70°	93.9	2.1
70°-80°	48.4	1.1
80°-90°	17.3	0.4
90°-100°	75.7	1.7
100°-110°	235.0	5.4
110°-120°	401.8	9.2
120°-130°	528.3	12.0
130°-140°	593.0	13.5
140°-150°	581.4	13.3
150°-160°	487.7	11.1
160°-170°	323.5	7.4
170°-180°	113.0	2.6
0°-30°	360.7	8.2
0°-40°	560.2	12.8
0°-60°	887.7	20.2
0°-90°	1047.4	23.9
90°-120°	712.5	16.2
90°-150°	2415.2	55.1
90°-180°	3339.0	76.1
0°-180°	4386.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	507	507	507	507	507	
5°	507	504	499	502	501	48
15°	482	476	462	453	448	136
25°	438	422	393	375	367	201
35°	377	353	313	285	274	236
45°	308	277	229	198	186	238
55°	234	198	149	123	113	209
65°	158	121	80	65	63	157
75°	84	53	37	34	33	89
85°	20	11	9	9	9	23
90°	1	14	35	33	34	4
95°	52	62	64	64	62	60
105°	217	220	222	224	224	229
115°	403	409	407	406	403	399
125°	586	595	593	590	588	524
135°	759	769	772	771	768	586
145°	921	928	934	935	931	575
155°	1053	1056	1059	1064	1061	485
165°	1146	1145	1145	1151	1147	323
175°	1192	1189	1187	1194	1188	113
180°	1194	1194	1194	1194	1194	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	508.8	508.4	508.0	507.6	507.2	506.4	505.5	504.7	503.8	502.9	503.7
5°	507.0	506.4	505.9	505.4	504.9	503.9	502.6	501.3	500.0	498.7	499.6
7.5°	501.7	501.1	500.4	499.8	499.2	498.1	496.6	494.9	493.4	491.9	492.1
10°	497.3	496.6	495.8	495.1	494.4	493.0	491.0	489.0	487.0	484.9	484.6
12.5°	491.8	490.9	490.0	489.2	488.3	486.6	483.9	481.3	478.7	476.1	475.5
15°	482.1	481.0	479.9	478.8	477.7	475.3	471.9	468.5	464.9	461.5	459.6
17.5°	470.3	468.6	466.9	465.1	463.4	460.4	456.0	451.5	447.1	442.6	440.3
20°	461.5	459.5	457.5	455.3	453.3	449.8	444.6	439.6	434.5	429.4	426.9
22.5°	452.0	449.7	447.4	445.1	442.8	438.8	433.0	427.3	421.6	415.9	412.5
25°	437.7	434.3	431.1	427.9	424.6	419.6	412.8	406.2	399.4	392.7	388.5
27.5°	420.4	416.9	413.3	409.8	406.2	400.6	393.0	385.5	377.9	370.3	365.5
30°	408.3	404.5	400.5	396.7	392.8	386.8	378.6	370.5	362.3	354.2	349.0
32.5°	396.6	392.0	387.5	382.9	378.4	372.0	363.8	355.4	347.1	338.7	332.9
35°	377.1	371.9	366.7	361.5	356.3	349.2	340.2	331.2	322.3	313.4	306.9
37.5°	357.7	351.9	346.2	340.5	334.8	327.2	317.6	308.0	298.5	288.9	281.9
40°	344.1	338.0	331.8	325.7	319.6	311.6	301.7	291.9	282.0	272.1	264.8
42.5°	330.1	323.7	317.2	310.8	304.4	296.0	285.8	275.6	265.4	255.2	247.7
45°	308.3	301.4	294.6	287.8	280.9	272.2	261.5	250.7	240.0	229.3	222.2
47.5°	287.0	279.7	272.6	265.3	258.0	248.9	237.8	226.8	215.7	204.7	197.5
50°	271.6	264.4	257.1	249.8	242.7	233.4	222.2	211.0	199.8	188.5	181.5
52.5°	256.5	248.9	241.5	233.9	226.3	217.0	206.0	195.1	184.1	173.1	166.3
55°	234.4	226.5	218.5	210.6	202.6	193.2	182.1	171.1	160.1	149.1	143.0
57.5°	211.8	203.6	195.4	187.3	179.2	169.8	159.2	148.7	138.0	127.4	121.8
60°	196.3	188.2	180.1	171.9	163.7	154.4	143.9	133.4	122.9	112.4	107.1
62.5°	181.3	173.2	165.0	156.8	148.7	139.6	129.6	119.6	109.6	99.6	94.6
65°	158.2	150.0	141.8	133.5	125.2	116.5	107.3	98.2	89.0	79.8	76.3
67.5°	136.0	127.8	119.7	111.5	103.3	95.0	86.7	78.6	70.3	62.0	60.4
70°	120.7	112.7	104.7	96.8	88.9	81.4	74.3	67.3	60.3	53.2	52.2
72.5°	105.9	98.4	90.7	83.1	75.4	68.9	63.2	57.6	51.9	46.3	45.3
75°	84.4	77.3	70.2	63.0	55.8	50.6	47.1	43.6	40.2	36.7	36.0
77.5°	63.2	57.0	50.7	44.4	38.2	34.2	32.5	30.9	29.2	27.6	27.2
80°	50.0	44.8	39.6	34.4	29.2	26.1	25.0	24.0	23.0	22.0	21.6
82.5°	37.9	33.8	29.8	25.8	21.7	19.3	18.6	17.9	17.2	16.6	16.3
85°	19.7	17.6	15.5	13.3	11.2	9.9	9.6	9.3	9.0	8.7	8.7
87.5°	6.1	6.0	5.9	5.8	5.7	6.1	7.1	8.0	9.0	10.0	9.8
90°	1.0	3.7	6.4	9.1	11.7	15.6	20.5	25.4	30.3	35.2	34.8
92.5°	18.0	19.9	21.9	23.8	25.9	27.4	28.6	29.7	30.9	32.0	32.1
95°	52.4	54.6	56.9	59.1	61.4	62.7	63.1	63.6	64.0	64.5	64.5
97.5°	95.7	97.8	99.7	101.7	103.6	105.0	105.9	106.7	107.6	108.5	108.5
100°	127.9	129.8	131.6	133.4	135.1	136.4	137.0	137.7	138.5	139.1	139.1
102.5°	161.9	163.3	164.7	166.1	167.5	168.7	169.6	170.5	171.3	172.2	172.3
105°	216.7	217.3	218.0	218.7	219.3	219.9	220.4	220.9	221.3	221.7	222.2
107.5°	271.9	272.9	273.9	274.9	275.9	276.3	276.3	276.3	276.3	276.3	276.5
110°	307.4	308.7	310.0	311.4	312.8	313.5	313.5	313.5	313.5	313.5	313.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	346.1	347.4	348.8	350.1	351.4	352.0	351.8	351.6	351.5	351.3	350.8
115°	403.1	404.5	405.8	407.2	408.5	408.9	408.5	408.1	407.6	407.2	407.0
117.5°	460.0	461.7	463.5	465.3	467.2	467.4	466.2	464.8	463.6	462.4	461.8
120°	497.9	499.7	501.4	503.2	505.0	505.0	503.2	501.4	499.7	497.9	497.9
122.5°	532.5	534.6	536.8	539.0	541.1	541.6	540.3	539.1	537.9	536.5	536.0
125°	586.5	588.5	590.6	592.6	594.6	595.3	594.6	593.9	593.3	592.6	591.9
127.5°	639.1	641.7	644.3	646.8	649.3	650.3	649.4	648.6	647.8	647.0	646.2
130°	672.2	675.1	678.0	681.0	683.9	685.1	684.6	684.2	683.8	683.3	682.9
132.5°	709.3	711.7	714.1	716.4	718.8	720.0	720.1	720.2	720.2	720.3	719.4
135°	758.9	761.3	763.8	766.3	768.7	770.2	770.6	771.0	771.5	771.9	771.7
137.5°	811.1	813.0	815.1	817.1	819.1	820.4	821.0	821.6	822.2	822.7	822.6
140°	842.5	844.6	846.6	848.6	850.6	852.1	853.2	854.3	855.6	856.7	856.7
142.5°	874.7	876.8	878.8	880.8	882.8	884.2	884.9	885.8	886.5	887.3	887.5
145°	921.1	922.7	924.2	925.8	927.4	928.9	930.2	931.5	932.9	934.2	934.4
147.5°	962.4	964.3	966.2	968.1	970.0	971.4	972.3	973.1	974.0	974.9	975.4
150°	990.7	992.0	993.3	994.7	996.0	997.1	998.0	999.0	999.9	1000.8	1001.4
152.5°	1015.6	1017.0	1018.3	1019.7	1021.1	1022.3	1023.3	1024.4	1025.4	1026.5	1027.4
155°	1053.2	1053.8	1054.5	1055.2	1055.8	1056.5	1057.2	1057.8	1058.5	1059.1	1060.4
157.5°	1085.2	1085.6	1086.1	1086.5	1087.0	1087.4	1087.8	1088.2	1088.6	1089.0	1090.6
160°	1104.6	1105.0	1105.4	1105.9	1106.3	1106.7	1106.9	1107.1	1107.3	1107.5	1108.9
162.5°	1122.3	1122.4	1122.5	1122.6	1122.7	1122.8	1123.1	1123.3	1123.5	1123.7	1125.2
165°	1145.9	1145.7	1145.4	1145.2	1145.0	1144.9	1144.9	1144.9	1144.9	1144.9	1146.4
167.5°	1165.6	1165.0	1164.3	1163.6	1163.0	1162.6	1162.6	1162.5	1162.5	1162.4	1164.0
170°	1176.1	1175.4	1174.8	1174.1	1173.4	1173.0	1172.8	1172.6	1172.3	1172.0	1173.7
172.5°	1183.4	1182.7	1182.0	1181.3	1180.6	1180.2	1180.0	1179.7	1179.5	1179.3	1180.9
175°	1192.2	1191.5	1190.8	1190.2	1189.5	1189.0	1188.5	1188.1	1187.6	1187.2	1188.7
177.5°	1195.9	1195.3	1194.8	1194.3	1193.7	1193.3	1192.9	1192.5	1192.1	1191.8	1192.9
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	504.5	505.3	506.1	506.4	506.3	506.1	505.9	505.8
5°	500.5	501.4	502.3	502.6	502.3	502.0	501.7	501.4
7.5°	492.4	492.7	492.9	492.8	492.3	491.7	491.2	490.7
10°	484.3	484.0	483.7	483.2	482.6	482.0	481.4	480.8
12.5°	475.0	474.4	473.9	473.1	472.1	471.1	470.1	469.1
15°	457.7	455.7	453.7	452.3	451.3	450.2	449.2	448.2
17.5°	438.0	435.7	433.4	431.4	429.6	427.9	426.1	424.3
20°	424.3	421.7	419.2	416.8	414.5	412.3	410.1	407.9
22.5°	409.3	406.0	402.7	400.2	398.5	396.9	395.2	393.5
25°	384.4	380.1	376.0	373.1	371.6	370.0	368.5	367.0
27.5°	360.5	355.7	350.8	347.2	344.8	342.3	339.9	337.5
30°	343.8	338.6	333.4	329.4	326.6	323.9	321.1	318.4
32.5°	326.9	320.9	315.0	310.7	308.2	305.6	303.0	300.4
35°	300.5	294.1	287.6	283.3	281.0	278.8	276.6	274.4
37.5°	274.8	267.7	260.6	255.8	253.3	250.6	248.1	245.5
40°	257.6	250.3	243.1	238.1	235.5	232.9	230.1	227.5
42.5°	240.1	232.7	225.2	220.3	217.6	215.1	212.5	210.0
45°	214.9	207.6	200.5	195.6	193.2	190.7	188.2	185.8
47.5°	190.3	183.1	175.9	171.2	169.0	166.7	164.5	162.3
50°	174.5	167.4	160.4	155.8	153.7	151.6	149.4	147.2
52.5°	159.6	152.8	146.0	141.6	139.7	137.6	135.6	133.7
55°	136.8	130.8	124.6	120.6	118.7	116.7	114.8	112.9
57.5°	116.2	110.6	105.0	101.4	99.8	98.2	96.5	94.8
60°	102.0	96.8	91.6	88.2	86.5	84.9	83.3	81.7
62.5°	89.7	84.7	79.8	76.7	75.7	74.8	73.8	72.8
65°	72.9	69.4	65.9	64.0	63.7	63.4	63.1	62.8
67.5°	58.9	57.3	55.6	54.7	54.3	54.0	53.7	53.4
70°	51.2	50.2	49.2	48.5	48.0	47.6	47.2	46.8
72.5°	44.5	43.6	42.8	42.3	42.0	41.8	41.5	41.3
75°	35.2	34.5	33.8	33.4	33.3	33.2	33.1	33.0
77.5°	26.7	26.3	25.9	25.7	25.4	25.2	25.1	24.9
80°	21.2	20.8	20.4	20.2	20.2	20.2	20.2	20.2
82.5°	16.1	15.8	15.6	15.5	15.5	15.5	15.5	15.5
85°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
87.5°	9.7	9.5	9.3	9.3	9.3	9.3	9.4	9.4
90°	34.3	33.9	33.5	33.3	33.6	33.8	34.0	34.2
92.5°	32.2	32.3	32.4	32.5	32.5	32.5	32.6	32.6
95°	64.5	64.5	64.5	64.2	63.8	63.4	62.9	62.5
97.5°	108.5	108.5	108.5	108.5	108.4	108.4	108.3	108.3
100°	139.1	139.1	139.1	139.0	138.8	138.6	138.3	138.0
102.5°	172.5	172.7	172.9	172.8	172.6	172.4	172.2	172.0
105°	222.6	223.1	223.5	223.7	223.7	223.7	223.7	223.7
107.5°	276.7	276.9	277.0	276.6	275.6	274.6	273.6	272.5
110°	313.5	313.5	313.5	313.1	312.5	311.7	311.0	310.4





TEST NUMBER: P331637-840

CATALOG NUMBER: SA2XXRDIP-C290D925U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	350.2	349.7	349.2	348.6	348.2	347.7	347.2	346.7
115°	406.7	406.5	406.3	405.8	405.2	404.5	403.7	403.1
117.5°	461.3	460.8	460.2	459.6	459.0	458.3	457.6	457.0
120°	497.9	497.9	497.9	497.6	496.9	496.1	495.5	494.8
122.5°	535.4	534.9	534.4	533.9	533.4	532.9	532.4	531.9
125°	591.3	590.6	589.9	589.5	589.3	589.0	588.8	588.5
127.5°	645.4	644.6	643.8	643.0	642.3	641.6	640.9	640.2
130°	682.4	682.0	681.5	680.9	679.9	679.0	678.1	677.2
132.5°	718.4	717.4	716.4	715.6	714.9	714.2	713.5	712.8
135°	771.5	771.3	771.0	770.6	769.9	769.3	768.6	767.9
137.5°	822.4	822.2	822.0	821.5	820.6	819.7	818.8	817.9
140°	856.7	856.7	856.7	856.2	855.3	854.3	853.5	852.6
142.5°	887.7	887.8	888.0	887.7	886.8	885.9	884.9	884.0
145°	934.6	934.9	935.1	934.8	933.9	933.0	932.1	931.2
147.5°	975.9	976.4	976.9	976.7	975.9	975.0	974.2	973.3
150°	1002.1	1002.8	1003.4	1003.4	1002.8	1002.1	1001.4	1000.8
152.5°	1028.2	1029.1	1030.0	1030.0	1029.1	1028.2	1027.4	1026.5
155°	1061.5	1062.6	1063.7	1063.9	1063.2	1062.6	1061.9	1061.2
157.5°	1092.1	1093.6	1095.1	1095.3	1094.3	1093.2	1092.1	1091.1
160°	1110.2	1111.6	1113.0	1113.2	1112.3	1111.4	1110.4	1109.5
162.5°	1126.7	1128.2	1129.7	1130.0	1128.9	1127.8	1126.8	1125.7
165°	1148.0	1149.5	1151.1	1151.3	1150.2	1149.1	1148.0	1146.9
167.5°	1165.5	1167.1	1168.6	1168.8	1167.7	1166.5	1165.4	1164.2
170°	1175.2	1176.8	1178.3	1178.4	1177.1	1175.8	1174.4	1173.1
172.5°	1182.5	1184.1	1185.6	1185.7	1184.4	1183.1	1181.6	1180.3
175°	1190.3	1191.8	1193.5	1193.6	1192.2	1190.8	1189.5	1188.2
177.5°	1194.0	1195.1	1196.1	1196.1	1195.1	1194.0	1192.9	1191.8
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3

(END OF REPORT)