

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: P331424-940

Luminaire Tested: **SA2XXDIP-C1005D330U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331424-940  
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-C1005D330U940-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

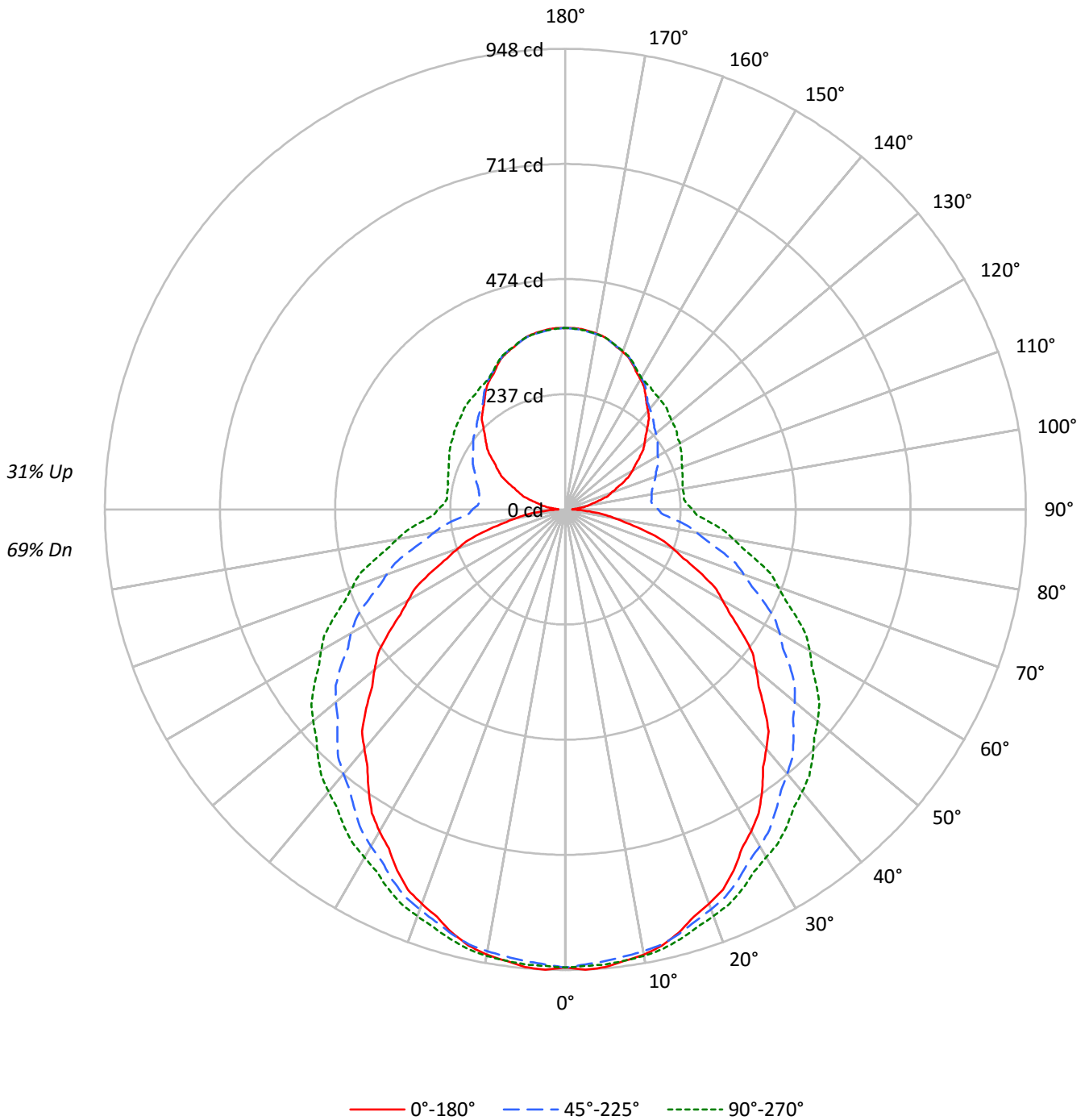
Lumens per Lamp: N/A  
Luminaire Lumens: 4642.8 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 49.8  
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: P331424-940  
CATALOG NUMBER: SA2XXDIP-C1005D330U940-4F0-1E-UDD-D1

### 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	0
RCR																		
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	69
1	100	95	90	85	94	89	85	81	79	76	73	70	68	65	62	60	58	54
2	90	81	74	68	85	77	70	65	68	63	59	60	56	53	53	50	47	43
3	82	71	63	56	77	67	59	53	60	54	49	53	48	44	46	43	39	36
4	75	62	54	47	70	59	51	45	53	46	41	47	41	37	41	37	33	30
5	68	55	46	40	64	53	44	38	47	40	35	42	36	32	37	32	29	26
6	63	50	41	34	59	47	39	33	42	35	30	38	32	28	33	29	25	22
7	58	45	36	30	55	43	35	29	38	31	27	34	29	24	30	26	22	20
8	54	41	32	27	51	39	31	26	35	28	24	31	26	22	28	23	20	17
9	50	37	29	24	47	35	28	23	32	26	21	29	23	19	26	21	18	16
10	47	34	26	21	44	33	25	21	29	23	19	27	21	18	24	19	16	14

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

	0°	45°	90°
0°	15224	15224	15224
5°	15300	14656	14600
10°	15203	14222	14063
15°	14994	13763	13496
20°	14728	13272	12952
25°	14466	12799	12457
30°	14098	12312	11962
35°	13725	11842	11611
40°	13332	11442	11262
45°	12960	11082	10962
50°	12561	10760	10668
55°	12143	10411	10368
60°	11628	10049	10051
65°	11095	9625	9675
70°	10498	9170	9268
75°	9730	8725	8894
80°	8523	8267	8514
85°	7361	7873	8218



TEST NUMBER: P331424-940

CATALOG NUMBER: SA2XXDIP-C1005D330U940-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.3	1.9
10°-20°	256.2	5.5
20°-30°	388.3	8.4
30°-40°	472.9	10.2
40°-50°	508.8	11.0
50°-60°	494.1	10.6
60°-70°	431.4	9.3
70°-80°	332.1	7.2
80°-90°	224.4	4.8
90°-100°	177.2	3.8
100°-110°	185.6	4.0
110°-120°	199.7	4.3
120°-130°	206.5	4.4
130°-140°	202.7	4.4
140°-150°	184.8	4.0
150°-160°	152.4	3.3
160°-170°	101.1	2.2
170°-180°	35.3	0.8
0°-30°	733.8	15.8
0°-40°	1206.7	26.0
0°-60°	2209.5	47.6
0°-90°	3197.4	68.9
90°-120°	562.5	12.1
90°-150°	1156.4	24.9
90°-180°	1445.0	31.1
0°-180°	4642.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	946	941	933	941	940	90
15°	902	904	905	916	916	254
25°	820	830	842	858	862	377
35°	706	730	756	785	795	441
45°	579	617	664	705	720	447
55°	444	495	564	612	631	397
65°	303	371	451	505	525	301
75°	168	245	332	389	409	178
85°	49	134	221	277	298	53
90°	14	98	192	243	262	10
95°	27	96	177	227	245	27
105°	74	117	187	233	250	79
115°	132	151	209	248	264	130
125°	186	191	232	266	280	167
135°	239	243	256	284	295	185
145°	288	290	292	300	306	180
155°	329	330	331	333	332	151
165°	358	358	358	360	359	101
175°	373	372	371	373	371	35
180°	373	373	373	373	373	



TEST NUMBER: P331424-940

CATALOG NUMBER: SA2XXDIP-C1005D330U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	948.4	947.7	946.9	946.2	945.5	944.2	942.5	940.8	939.1	937.5	938.7
5°	945.7	944.8	943.9	942.9	942.0	940.7	938.9	937.0	935.2	933.4	935.2
7.5°	937.2	936.6	935.9	935.4	934.8	933.8	932.4	930.9	929.6	928.2	930.3
10°	930.7	930.1	929.4	928.8	928.2	927.5	926.6	925.6	924.7	923.8	926.2
12.5°	919.7	919.8	920.0	920.1	920.2	919.9	919.3	918.6	917.9	917.2	919.7
15°	902.0	902.6	903.1	903.7	904.4	904.6	904.6	904.6	904.6	904.6	907.4
17.5°	879.0	880.3	881.5	882.8	884.0	885.2	886.2	887.2	888.1	889.1	892.0
20°	863.7	865.2	866.7	868.3	869.8	871.1	872.4	873.5	874.8	876.0	879.3
22.5°	847.3	849.0	850.8	852.6	854.3	856.0	857.7	859.4	861.1	862.8	866.2
25°	819.9	822.1	824.2	826.3	828.5	830.9	833.6	836.3	839.1	841.8	845.4
27.5°	787.1	790.6	794.1	797.5	801.0	804.3	807.5	810.7	814.0	817.3	821.8
30°	765.3	769.2	773.2	777.1	781.0	785.1	789.0	792.9	796.8	800.8	805.7
32.5°	741.2	745.6	750.1	754.6	758.9	763.5	768.2	772.8	777.6	782.2	787.8
35°	706.5	711.7	716.8	722.0	727.2	732.6	738.4	744.1	749.9	755.7	762.4
37.5°	668.8	674.8	680.7	686.6	692.6	699.3	706.8	714.3	721.8	729.2	736.6
40°	643.6	650.3	657.0	663.7	670.4	677.8	686.0	694.2	702.4	710.6	718.5
42.5°	619.6	626.2	632.9	639.6	646.3	654.3	663.8	673.2	682.6	692.1	700.6
45°	579.4	587.6	595.8	604.0	612.2	621.6	632.3	642.9	653.5	664.1	673.6
47.5°	539.8	548.8	557.7	566.6	575.5	586.2	598.7	611.1	623.6	636.0	645.9
50°	512.5	521.9	531.3	540.7	550.1	561.7	575.3	589.0	602.6	616.4	626.7
52.5°	486.2	496.1	506.0	515.9	525.8	538.0	552.3	566.8	581.1	595.6	606.1
55°	444.2	455.0	466.0	477.0	487.9	501.2	517.0	532.8	548.6	564.4	575.3
57.5°	402.6	414.9	427.2	439.6	451.9	466.1	482.2	498.3	514.4	530.5	542.2
60°	373.1	386.1	399.2	412.2	425.3	440.5	457.8	475.1	492.4	509.7	521.3
62.5°	346.9	360.3	373.9	387.4	401.0	416.4	433.7	451.0	468.4	485.7	497.9
65°	303.4	318.3	333.1	348.0	362.9	379.3	397.3	415.1	433.0	450.9	463.4
67.5°	263.5	279.0	294.5	310.1	325.7	342.6	361.0	379.3	397.6	416.0	428.6
70°	235.1	250.8	266.6	282.4	298.2	315.5	334.4	353.2	372.0	390.8	403.9
72.5°	208.8	225.1	241.4	257.6	273.9	291.6	310.7	329.8	348.8	367.9	380.7
75°	168.1	185.1	202.1	219.1	236.1	254.3	273.8	293.2	312.6	332.1	345.1
77.5°	128.8	146.5	164.3	182.1	199.9	218.6	238.4	258.2	277.9	297.7	310.7
80°	102.5	121.0	139.6	158.1	176.6	195.7	215.4	235.2	254.9	274.6	287.4
82.5°	80.6	98.9	117.2	135.5	153.7	172.9	192.9	212.9	232.8	252.8	265.6
85°	49.2	68.0	86.9	105.7	124.5	143.7	163.1	182.5	202.0	221.4	234.2
87.5°	26.8	45.1	63.4	81.7	100.0	119.0	138.7	158.4	178.2	197.9	210.3
90°	14.0	32.5	50.9	69.4	87.8	107.5	128.5	149.5	170.4	191.5	203.4
92.5°	18.2	35.2	52.3	69.2	86.2	104.2	123.3	142.4	161.5	180.6	192.5
95°	27.3	42.3	57.2	72.2	87.2	103.9	122.3	140.6	159.0	177.4	188.9
97.5°	39.5	52.8	66.1	79.5	92.7	108.3	126.0	143.7	161.6	179.3	190.6
100°	49.6	61.3	73.2	85.0	96.8	111.3	128.5	145.7	162.9	180.1	191.4
102.5°	59.0	69.8	80.5	91.2	101.9	115.7	132.4	149.3	166.0	182.8	193.9
105°	74.5	83.6	92.6	101.7	110.7	123.1	139.0	155.0	170.9	186.8	197.6
107.5°	91.6	98.9	106.3	113.6	121.0	132.2	147.3	162.5	177.5	192.7	203.0
110°	101.6	108.1	114.6	121.0	127.5	138.2	153.1	168.0	182.9	197.8	207.4



TEST NUMBER: P331424-940

CATALOG NUMBER: SA2XXDIP-C1005D330U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	113.7	119.1	124.7	130.2	135.7	145.5	159.6	173.7	187.8	202.0	211.5
115°	131.5	135.3	139.0	142.8	146.5	155.2	168.7	182.2	195.7	209.3	218.3
117.5°	147.8	150.6	153.4	156.1	158.9	166.4	178.6	190.8	203.1	215.3	224.2
120°	159.7	161.5	163.3	165.1	166.8	173.5	185.1	196.7	208.3	219.9	228.4
122.5°	170.6	171.7	172.9	174.1	175.2	181.3	192.3	203.3	214.4	225.4	233.4
125°	186.1	186.7	187.3	188.0	188.6	193.7	203.2	212.7	222.2	231.7	239.7
127.5°	202.5	203.0	203.5	204.0	204.5	208.6	216.2	223.7	231.3	238.9	246.2
130°	212.9	213.5	214.1	214.7	215.3	218.7	225.0	231.2	237.5	243.7	250.8
132.5°	224.4	224.9	225.3	225.8	226.2	228.9	233.9	238.8	243.8	248.7	255.5
135°	238.6	239.3	240.1	240.9	241.7	243.6	246.8	250.0	253.2	256.4	262.7
137.5°	254.9	255.5	256.0	256.6	257.2	258.2	259.8	261.3	262.8	264.3	269.8
140°	264.7	265.1	265.4	265.7	266.1	266.7	267.6	268.6	269.6	270.5	275.4
142.5°	274.8	275.2	275.4	275.8	276.2	276.4	276.8	277.2	277.6	277.9	281.9
145°	287.9	288.5	288.9	289.4	289.9	290.3	290.8	291.2	291.6	292.0	293.9
147.5°	300.9	301.5	302.0	302.6	303.2	303.6	303.9	304.3	304.5	304.8	305.1
150°	309.7	310.1	310.5	310.9	311.4	311.7	312.0	312.3	312.5	312.8	313.1
152.5°	317.5	317.9	318.3	318.8	319.1	319.6	319.9	320.2	320.6	320.9	321.2
155°	329.2	329.4	329.7	329.8	330.0	330.3	330.5	330.6	330.9	331.1	331.4
157.5°	339.2	339.4	339.5	339.7	339.8	339.9	340.1	340.2	340.3	340.5	340.9
160°	345.3	345.4	345.5	345.7	345.8	346.0	346.0	346.1	346.2	346.3	346.6
162.5°	350.8	350.9	350.9	350.9	351.0	351.0	351.1	351.2	351.2	351.2	351.8
165°	358.2	358.1	358.0	358.0	357.9	357.8	357.8	357.8	357.8	357.8	358.4
167.5°	364.4	364.2	364.0	363.7	363.6	363.5	363.4	363.4	363.4	363.4	363.8
170°	367.7	367.5	367.2	367.0	366.8	366.7	366.6	366.5	366.5	366.4	366.8
172.5°	369.9	369.7	369.5	369.3	369.1	368.9	368.9	368.8	368.7	368.6	369.2
175°	372.7	372.5	372.3	372.0	371.8	371.7	371.6	371.4	371.2	371.1	371.6
177.5°	373.8	373.6	373.4	373.4	373.2	373.0	372.9	372.8	372.6	372.6	372.9
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4



TEST NUMBER: P331424-940

CATALOG NUMBER: SA2XXDIP-C1005D330U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	939.9	941.1	942.4	942.7	942.2	941.7	941.2	940.8
5°	937.0	938.9	940.7	941.4	941.1	940.8	940.5	940.2
7.5°	932.6	934.8	936.9	937.9	937.5	937.3	936.9	936.7
10°	928.6	931.1	933.5	934.6	934.2	934.0	933.7	933.4
12.5°	922.1	924.5	926.9	928.0	927.7	927.4	927.1	926.8
15°	910.2	912.8	915.6	916.9	916.5	916.2	915.9	915.6
17.5°	894.8	897.7	900.5	902.0	902.0	902.0	902.0	902.0
20°	882.6	886.0	889.3	891.0	891.0	891.0	891.0	891.0
22.5°	869.5	872.9	876.2	878.2	878.6	879.1	879.6	880.1
25°	849.1	852.7	856.4	858.6	859.6	860.5	861.4	862.3
27.5°	826.4	831.1	835.7	838.3	839.0	839.6	840.3	841.0
30°	810.6	815.4	820.3	823.1	824.0	824.9	825.9	826.8
32.5°	793.4	799.0	804.6	808.2	809.9	811.5	813.2	814.8
35°	769.1	775.8	782.5	786.8	789.0	791.1	793.3	795.3
37.5°	744.0	751.4	758.8	763.7	765.9	768.2	770.4	772.7
40°	726.4	734.3	742.2	747.5	750.3	753.0	755.7	758.5
42.5°	709.3	717.9	726.6	732.2	734.9	737.7	740.4	743.2
45°	683.0	692.4	701.8	708.0	711.1	714.1	717.1	720.1
47.5°	655.7	665.5	675.4	682.0	685.3	688.7	692.0	695.4
50°	636.9	647.3	657.6	664.5	667.8	671.1	674.5	677.8
52.5°	616.7	627.2	637.8	644.9	648.5	652.1	655.7	659.2
55°	586.3	597.2	608.1	615.5	619.5	623.5	627.4	631.3
57.5°	554.1	565.9	577.7	585.5	589.5	593.5	597.5	601.5
60°	532.8	544.4	555.9	563.8	568.0	572.3	576.6	580.8
62.5°	510.2	522.5	534.8	542.9	546.9	550.9	554.9	558.9
65°	475.9	488.3	500.8	509.0	512.9	516.8	520.8	524.8
67.5°	441.1	453.7	466.3	474.7	478.8	482.9	487.1	491.2
70°	417.0	430.0	443.1	451.4	455.0	458.7	462.4	466.0
72.5°	393.5	406.4	419.1	427.8	432.1	436.5	440.9	445.2
75°	358.2	371.2	384.3	392.8	396.7	400.7	404.7	408.6
77.5°	323.6	336.6	349.6	358.3	362.5	366.8	371.0	375.2
80°	300.1	313.0	325.7	334.2	338.5	342.7	347.0	351.2
82.5°	278.3	291.1	303.8	312.2	316.2	320.2	324.2	328.2
85°	246.9	259.7	272.4	280.9	285.2	289.4	293.6	297.9
87.5°	222.7	235.0	247.4	255.5	259.4	263.3	267.2	271.1
90°	215.4	227.5	239.4	247.3	251.0	254.8	258.4	262.2
92.5°	204.5	216.3	228.3	236.1	239.8	243.4	247.1	250.7
95°	200.4	212.0	223.5	231.0	234.5	238.0	241.5	245.0
97.5°	201.8	213.0	224.3	231.7	235.2	238.8	242.4	245.9
100°	202.6	213.8	225.1	232.3	235.6	238.9	242.1	245.4
102.5°	204.9	216.0	227.0	234.2	237.5	240.7	244.0	247.3
105°	208.4	219.2	229.9	236.9	240.3	243.6	247.0	250.3
107.5°	213.2	223.5	233.7	240.4	243.4	246.4	249.4	252.4
110°	217.1	226.9	236.6	243.0	246.2	249.3	252.4	255.6





TEST NUMBER: P331424-940

CATALOG NUMBER: SA2XXDIP-C1005D330U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	221.1	230.6	240.1	246.5	249.7	252.9	256.1	259.2
115°	227.4	236.4	245.4	251.6	254.7	257.8	260.9	264.0
117.5°	233.0	241.8	250.6	256.5	259.4	262.3	265.1	268.0
120°	236.8	245.4	253.9	259.7	262.8	265.9	269.1	272.2
122.5°	241.6	249.7	257.8	263.1	265.8	268.6	271.3	273.9
125°	247.7	255.7	263.7	269.0	271.6	274.3	277.0	279.6
127.5°	253.4	260.7	268.0	272.9	275.3	277.8	280.2	282.7
130°	258.0	265.1	272.2	276.9	279.0	281.2	283.4	285.5
132.5°	262.2	268.9	275.6	280.1	282.3	284.5	286.8	288.9
135°	268.9	275.3	281.6	285.9	288.0	290.3	292.5	294.7
137.5°	275.4	280.9	286.4	290.1	291.9	293.6	295.4	297.2
140°	280.3	285.1	290.0	293.2	294.7	296.2	297.7	299.3
142.5°	285.8	289.7	293.6	296.3	297.6	298.9	300.2	301.5
145°	295.9	297.7	299.6	301.2	302.4	303.6	304.9	306.1
147.5°	305.6	305.9	306.4	306.7	307.3	307.7	308.2	308.6
150°	313.3	313.4	313.7	313.7	313.4	313.3	313.1	312.8
152.5°	321.5	321.7	322.0	322.0	321.7	321.5	321.2	320.9
155°	331.8	332.2	332.5	332.6	332.3	332.2	332.0	331.7
157.5°	341.3	341.9	342.3	342.4	342.1	341.7	341.4	341.1
160°	347.1	347.5	347.9	347.9	347.7	347.4	347.1	346.9
162.5°	352.2	352.7	353.2	353.2	352.9	352.6	352.2	351.9
165°	358.8	359.4	359.8	359.9	359.5	359.2	358.8	358.6
167.5°	364.4	364.8	365.3	365.4	365.1	364.6	364.3	363.9
170°	367.4	367.8	368.4	368.4	368.0	367.6	367.1	366.7
172.5°	369.6	370.1	370.6	370.7	370.2	369.8	369.4	369.0
175°	372.1	372.6	373.1	373.1	372.7	372.3	371.8	371.4
177.5°	373.3	373.5	373.9	373.9	373.5	373.3	372.9	372.6
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4

(END OF REPORT)