

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: P331423-840

Luminaire Tested: **SA2XXDIP-C1005D330U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331423-840
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-C1005D330U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

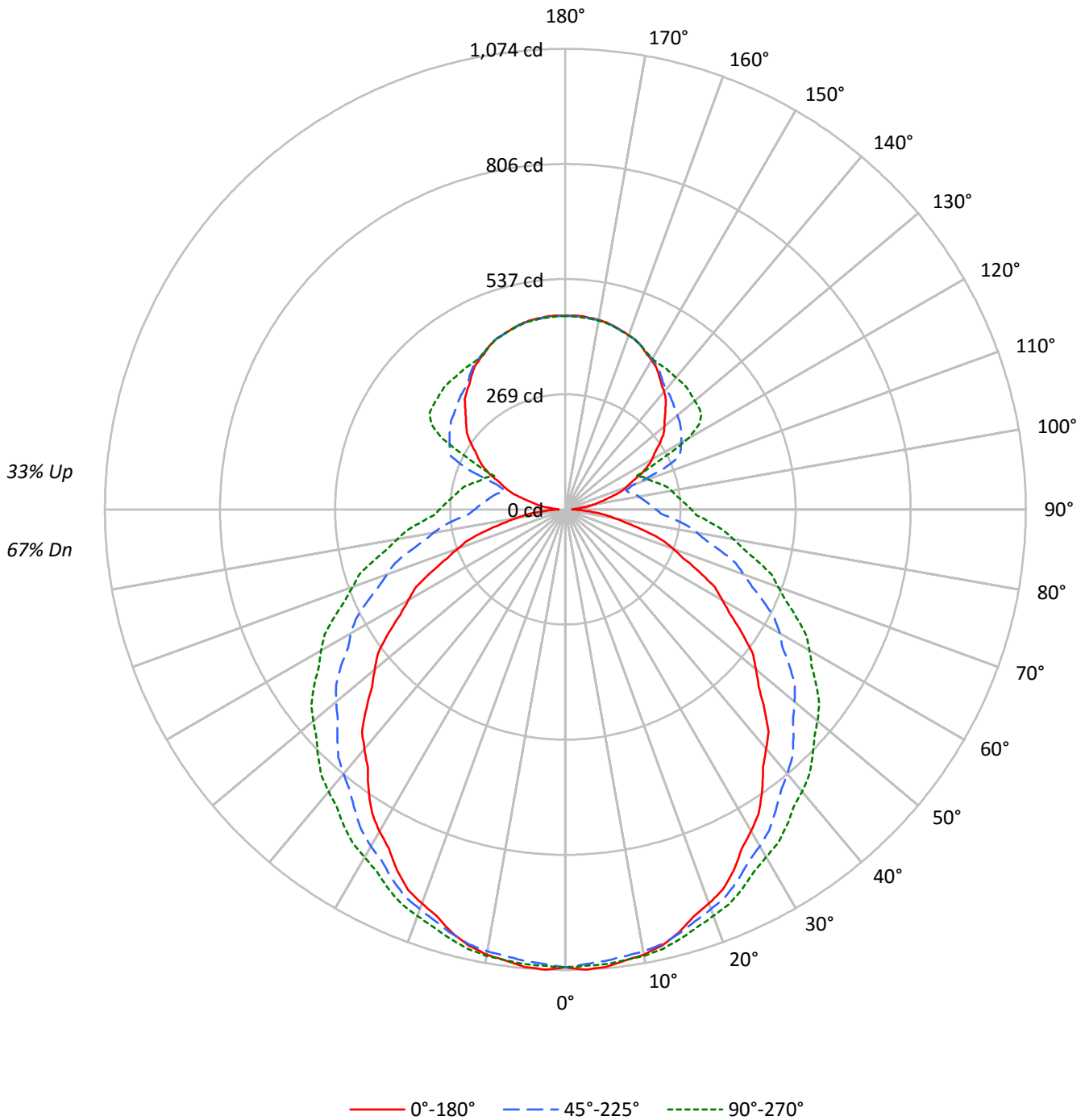
Lumens per Lamp: N/A
Luminaire Lumens: 5397.6 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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: P331423-840
CATALOG NUMBER: SA2XXDIP-C1005D330U840-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331423-840

CATALOG NUMBER: SA2XXDIP-C1005D330U840-4F0-1E-UDD-D

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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67				
1	100	94	90	85	93	89	85	81	78	75	72	69	67	64	60	58	57	52				
2	90	81	74	68	84	77	70	65	68	63	58	59	56	52	52	49	46	42				
3	82	71	62	56	76	67	59	53	59	53	48	52	47	43	45	42	38	35				
4	74	62	53	47	70	59	51	45	52	46	40	46	41	36	40	36	33	29				
5	68	55	46	40	64	52	44	38	46	40	35	41	36	31	36	32	28	25				
6	63	50	41	34	59	47	39	33	42	35	30	37	31	27	33	28	25	22				
7	58	45	36	30	54	42	34	29	38	31	26	34	28	24	30	25	22	19				
8	54	41	32	26	50	38	31	25	34	28	23	31	25	21	27	23	19	17				
9	50	37	29	24	47	35	28	23	32	25	21	28	23	19	25	21	17	15				
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17241	17241	17241
5°	17327	16597	16534
10°	17217	16106	15925
15°	16980	15587	15284
20°	16681	15031	14669
25°	16384	14494	14107
30°	15966	13945	13546
35°	15544	13412	13150
40°	15099	12958	12754
45°	14678	12551	12415
50°	14226	12185	12082
55°	13750	11789	11742
60°	13168	11380	11382
65°	12566	10901	10957
70°	11886	10385	10497
75°	11021	9881	10071
80°	9646	9362	9643
85°	8334	8915	9308



TEST NUMBER: P331423-840

CATALOG NUMBER: SA2XXDIP-C1005D330U840-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.2	1.9
10°-20°	290.2	5.4
20°-30°	439.7	8.1
30°-40°	535.6	9.9
40°-50°	576.2	10.7
50°-60°	559.5	10.4
60°-70°	488.6	9.1
70°-80°	376.1	7.0
80°-90°	253.5	4.7
90°-100°	189.0	3.5
100°-110°	182.2	3.4
110°-120°	231.4	4.3
120°-130°	290.4	5.4
130°-140°	278.7	5.2
140°-150°	244.2	4.5
150°-160°	193.6	3.6
160°-170°	124.7	2.3
170°-180°	42.9	0.8
0°-30°	831.1	15.4
0°-40°	1366.6	25.3
0°-60°	2502.3	46.4
0°-90°	3620.5	67.1
90°-120°	602.6	11.2
90°-150°	1415.8	26.2
90°-180°	1777.0	32.9
0°-180°	5397.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1071	1066	1057	1066	1065	102
15°	1022	1024	1024	1038	1037	288
25°	929	940	953	971	976	427
35°	800	827	856	889	901	500
45°	656	699	752	798	816	506
55°	503	560	639	693	715	450
65°	344	420	511	572	594	341
75°	190	278	376	440	463	201
85°	56	152	251	313	337	60
90°	16	110	211	272	294	11
95°	34	97	191	249	269	36
105°	107	158	153	209	229	115
115°	194	220	294	195	183	190
125°	268	276	328	371	388	240
135°	330	336	354	388	401	255
145°	381	381	386	398	404	239
155°	420	417	420	422	420	193
165°	442	440	441	443	441	125
175°	452	450	451	453	450	43
180°	451	451	451	451	451	



TEST NUMBER: P331423-840

CATALOG NUMBER: SA2XXDIP-C1005D330U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1074.1	1073.3	1072.4	1071.6	1070.8	1069.3	1067.4	1065.5	1063.6	1061.7	1063.1
5°	1071.0	1070.0	1068.9	1067.8	1066.8	1065.3	1063.3	1061.2	1059.1	1057.0	1059.1
7.5°	1061.4	1060.7	1060.0	1059.3	1058.6	1057.5	1055.9	1054.3	1052.8	1051.2	1053.6
10°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.4	1049.4	1048.2	1047.2	1046.2	1048.9
12.5°	1041.6	1041.7	1041.9	1042.0	1042.1	1041.8	1041.1	1040.3	1039.6	1038.7	1041.6
15°	1021.5	1022.2	1022.8	1023.5	1024.2	1024.5	1024.5	1024.5	1024.5	1024.5	1027.6
17.5°	995.4	996.9	998.4	999.8	1001.2	1002.5	1003.6	1004.7	1005.8	1006.9	1010.2
20°	978.2	979.9	981.6	983.3	985.0	986.5	988.0	989.3	990.7	992.1	995.8
22.5°	959.6	961.5	963.5	965.5	967.6	969.5	971.4	973.3	975.2	977.1	981.0
25°	928.6	931.0	933.4	935.8	938.3	941.0	944.0	947.2	950.3	953.3	957.5
27.5°	891.4	895.3	899.3	903.2	907.2	910.9	914.5	918.2	921.8	925.5	930.7
30°	866.7	871.1	875.7	880.1	884.5	889.1	893.5	898.0	902.4	907.0	912.4
32.5°	839.4	844.4	849.5	854.5	859.5	864.6	870.0	875.3	880.6	885.9	892.2
35°	800.1	806.0	811.8	817.7	823.5	829.7	836.3	842.7	849.3	855.9	863.4
37.5°	757.4	764.2	770.9	777.6	784.4	791.9	800.4	808.9	817.4	825.9	834.2
40°	728.9	736.5	744.1	751.6	759.2	767.6	776.9	786.2	795.5	804.8	813.7
42.5°	701.8	709.2	716.8	724.4	732.0	741.0	751.7	762.4	773.1	783.8	793.5
45°	656.2	665.5	674.8	684.1	693.4	704.0	716.1	728.1	740.1	752.1	762.9
47.5°	611.4	621.5	631.6	641.7	651.8	663.9	678.0	692.1	706.2	720.2	731.4
50°	580.4	591.1	601.7	612.4	623.0	636.1	651.6	667.0	682.5	698.0	709.7
52.5°	550.7	561.9	573.1	584.3	595.5	609.3	625.5	641.9	658.1	674.5	686.4
55°	503.0	515.3	527.8	540.2	552.5	567.6	585.5	603.4	621.3	639.1	651.6
57.5°	456.0	469.9	483.8	497.9	511.8	527.9	546.1	564.3	582.6	600.8	614.1
60°	422.5	437.3	452.1	466.9	481.7	498.9	518.5	538.1	557.6	577.2	590.4
62.5°	392.8	408.1	423.4	438.8	454.1	471.6	491.2	510.8	530.5	550.1	563.9
65°	343.6	360.4	377.3	394.2	411.0	429.6	449.9	470.1	490.4	510.7	524.8
67.5°	298.4	316.0	333.6	351.2	368.8	388.0	408.8	429.6	450.3	471.1	485.3
70°	266.2	284.1	301.9	319.8	337.7	357.3	378.7	400.0	421.3	442.6	457.4
72.5°	236.5	254.9	273.4	291.8	310.2	330.2	351.8	373.4	395.1	416.7	431.1
75°	190.4	209.6	228.8	248.1	267.4	288.0	310.0	332.0	354.1	376.1	390.8
77.5°	145.8	165.9	186.1	206.2	226.4	247.6	270.0	292.4	314.7	337.1	351.8
80°	116.0	137.0	158.0	179.0	200.0	221.7	244.0	266.4	288.7	311.0	325.5
82.5°	91.3	112.0	132.7	153.4	174.1	195.8	218.4	241.1	263.7	286.3	300.7
85°	55.7	77.1	98.4	119.7	141.0	162.7	184.7	206.7	228.7	250.7	265.2
87.5°	30.4	51.1	71.7	92.4	113.0	134.4	156.5	178.6	200.8	223.0	237.0
90°	15.8	36.6	57.3	78.1	98.8	120.5	143.0	165.6	188.2	210.9	224.9
92.5°	20.8	39.3	57.9	76.3	94.8	114.8	136.3	157.7	179.3	200.8	214.4
95°	33.6	47.4	61.1	74.9	88.7	106.1	127.2	148.5	169.6	190.8	204.2
97.5°	52.9	60.6	68.2	75.8	83.5	97.8	118.8	139.8	160.8	181.7	194.7
100°	68.7	71.4	74.2	77.0	79.8	91.4	111.9	132.4	152.9	173.4	186.7
102.5°	84.6	94.1	103.7	113.2	122.7	131.7	140.1	148.5	156.8	165.2	178.4
105°	107.0	119.2	131.3	143.5	155.6	160.7	158.8	156.8	154.9	153.0	165.8
107.5°	134.3	144.0	153.8	163.5	173.3	174.8	168.1	161.6	154.9	148.2	159.1
110°	150.9	159.3	167.6	176.0	184.4	186.6	182.5	178.3	174.2	170.2	173.9



TEST NUMBER: P331423-840

CATALOG NUMBER: SA2XXDIP-C1005D330U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	167.5	174.7	181.8	188.9	196.1	205.0	215.9	226.7	237.6	248.4	233.0
115°	193.9	198.9	204.0	208.9	214.0	225.2	242.5	259.7	277.0	294.3	271.0
117.5°	216.0	219.8	223.7	227.5	231.4	241.1	256.6	272.2	287.7	303.3	305.4
120°	233.2	235.7	238.1	240.5	243.1	251.9	266.9	282.0	297.0	312.0	322.6
122.5°	247.8	249.5	251.3	253.0	254.6	262.7	277.0	291.3	305.7	320.0	329.9
125°	268.5	269.5	270.4	271.4	272.4	279.0	291.3	303.8	316.2	328.5	338.3
127.5°	288.7	289.4	290.1	290.8	291.5	296.8	306.7	316.7	326.6	336.5	345.7
130°	301.5	302.4	303.2	304.0	304.8	309.2	317.2	325.3	333.3	341.3	350.3
132.5°	314.6	315.3	315.9	316.5	317.2	320.6	327.0	333.5	339.8	346.2	354.8
135°	330.0	331.2	332.3	333.6	334.7	337.3	341.4	345.5	349.6	353.7	361.6
137.5°	347.2	347.9	348.7	349.4	350.2	351.6	354.0	356.2	358.4	360.7	367.7
140°	358.4	358.7	358.9	359.1	359.4	360.2	361.7	363.2	364.7	366.2	372.3
142.5°	367.8	368.0	368.2	368.4	368.6	369.2	370.2	371.2	372.3	373.3	378.4
145°	381.0	381.0	380.9	380.8	380.7	381.3	382.5	383.8	385.1	386.3	388.8
147.5°	393.9	393.6	393.3	393.0	392.8	393.2	394.5	395.8	397.0	398.2	398.8
150°	402.2	401.7	401.2	400.7	400.2	400.6	401.7	402.9	404.0	405.3	405.7
152.5°	409.3	408.8	408.2	407.6	407.1	407.3	408.4	409.5	410.6	411.7	412.1
155°	419.6	418.9	418.3	417.6	417.0	417.1	418.0	418.8	419.7	420.5	421.0
157.5°	427.6	427.1	426.5	426.0	425.4	425.5	426.1	426.7	427.3	427.9	428.4
160°	432.3	431.9	431.4	431.0	430.6	430.6	431.0	431.4	431.9	432.3	432.7
162.5°	436.5	436.1	435.7	435.2	434.7	434.7	435.0	435.5	435.9	436.3	436.8
165°	442.1	441.7	441.2	440.8	440.4	440.3	440.5	440.7	440.9	441.1	441.6
167.5°	446.3	445.9	445.5	444.9	444.5	444.4	444.6	444.8	445.0	445.2	445.8
170°	448.7	448.2	447.8	447.4	446.9	446.8	446.9	447.1	447.2	447.4	447.9
172.5°	450.2	449.8	449.3	448.9	448.5	448.3	448.5	448.6	448.8	448.9	449.4
175°	452.2	451.7	451.2	450.7	450.2	450.0	450.2	450.3	450.5	450.6	451.1
177.5°	452.5	452.1	451.7	451.3	450.9	450.8	450.8	450.9	450.9	451.0	451.4
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2



TEST NUMBER: P331423-840

CATALOG NUMBER: SA2XXDIP-C1005D330U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1064.4	1065.8	1067.2	1067.6	1067.0	1066.5	1065.9	1065.4
5°	1061.2	1063.3	1065.3	1066.1	1065.8	1065.5	1065.1	1064.8
7.5°	1056.1	1058.6	1061.1	1062.2	1061.8	1061.5	1061.1	1060.8
10°	1051.7	1054.5	1057.2	1058.4	1058.0	1057.7	1057.4	1057.0
12.5°	1044.3	1047.0	1049.8	1051.0	1050.7	1050.3	1050.0	1049.7
15°	1030.8	1033.8	1036.9	1038.3	1037.9	1037.6	1037.2	1036.9
17.5°	1013.4	1016.6	1019.9	1021.5	1021.5	1021.5	1021.5	1021.5
20°	999.6	1003.4	1007.1	1009.1	1009.1	1009.1	1009.1	1009.1
22.5°	984.7	988.6	992.3	994.5	995.0	995.6	996.1	996.7
25°	961.6	965.7	969.9	972.4	973.5	974.5	975.5	976.5
27.5°	935.9	941.2	946.4	949.4	950.2	950.9	951.7	952.4
30°	918.0	923.4	929.0	932.2	933.2	934.2	935.3	936.3
32.5°	898.6	904.8	911.2	915.2	917.2	919.0	920.9	922.7
35°	871.0	878.6	886.2	891.1	893.5	896.0	898.4	900.7
37.5°	842.6	851.0	859.4	864.8	867.4	870.0	872.5	875.0
40°	822.6	831.6	840.5	846.6	849.7	852.7	855.9	859.0
42.5°	803.2	813.0	822.8	829.2	832.3	835.5	838.5	841.6
45°	773.5	784.2	794.8	801.8	805.3	808.7	812.1	815.6
47.5°	742.6	753.7	764.9	772.3	776.1	779.9	783.7	787.5
50°	721.3	733.1	744.8	752.6	756.3	760.0	763.9	767.6
52.5°	698.4	710.3	722.4	730.3	734.4	738.5	742.6	746.6
55°	664.0	676.3	688.7	697.1	701.6	706.1	710.5	715.0
57.5°	627.5	640.9	654.2	663.1	667.6	672.2	676.7	681.3
60°	603.4	616.5	629.5	638.5	643.3	648.1	653.0	657.7
62.5°	577.8	591.7	605.6	614.8	619.4	623.9	628.4	633.0
65°	539.0	553.0	567.1	576.4	580.9	585.3	589.9	594.3
67.5°	499.6	513.8	528.1	537.6	542.2	546.8	551.6	556.2
70°	472.2	487.0	501.8	511.2	515.3	519.5	523.6	527.8
72.5°	445.7	460.2	474.6	484.4	489.4	494.3	499.3	504.2
75°	405.7	420.4	435.3	444.8	449.3	453.8	458.3	462.7
77.5°	366.5	381.2	396.0	405.8	410.5	415.4	420.2	425.0
80°	339.9	354.5	368.9	378.5	383.3	388.1	392.9	397.8
82.5°	315.2	329.6	344.1	353.6	358.1	362.6	367.2	371.7
85°	279.6	294.1	308.5	318.1	323.0	327.8	332.5	337.4
87.5°	251.2	265.3	279.3	288.6	293.1	297.5	301.9	306.3
90°	239.0	253.2	267.3	276.5	280.7	285.1	289.3	293.6
92.5°	228.0	241.8	255.4	264.4	268.5	272.8	277.0	281.2
95°	217.6	231.1	244.5	253.2	257.2	261.3	265.4	269.4
97.5°	207.7	220.8	233.8	242.4	246.5	250.6	254.8	258.9
100°	200.0	213.3	226.6	235.2	239.1	243.1	247.0	251.0
102.5°	191.7	204.8	218.0	226.6	230.7	234.6	238.6	242.6
105°	178.6	191.6	204.4	212.8	216.9	221.0	225.0	229.1
107.5°	169.8	180.6	191.3	198.6	202.8	206.8	210.9	215.0
110°	177.6	181.4	185.1	189.0	193.1	197.1	201.3	205.3



TEST NUMBER: P331423-840

CATALOG NUMBER: SA2XXDIP-C1005D330U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	217.5	202.1	186.6	180.9	184.9	188.8	192.9	196.9
115°	247.7	224.5	201.2	188.8	187.4	186.0	184.5	183.1
117.5°	307.4	309.4	311.5	305.7	292.1	278.4	264.8	251.1
120°	333.1	343.6	354.1	356.3	350.3	344.3	338.3	332.2
122.5°	339.8	349.7	359.6	365.2	366.5	367.8	369.2	370.5
125°	348.1	357.9	367.7	374.3	377.6	380.9	384.2	387.5
127.5°	355.0	364.3	373.5	379.7	382.7	385.9	388.9	392.0
130°	359.4	368.5	377.5	383.3	386.1	388.7	391.4	394.0
132.5°	363.5	372.1	380.8	386.5	389.1	391.8	394.5	397.2
135°	369.6	377.5	385.5	390.7	393.3	396.0	398.6	401.1
137.5°	374.8	381.8	388.8	393.4	395.5	397.6	399.7	401.8
140°	378.5	384.7	390.8	394.8	396.5	398.1	399.8	401.5
142.5°	383.3	388.4	393.3	396.6	398.0	399.4	400.8	402.2
145°	391.4	393.9	396.6	398.5	399.9	401.2	402.6	403.9
147.5°	399.5	400.1	400.8	401.3	401.8	402.4	402.9	403.4
150°	406.1	406.5	407.0	407.0	406.7	406.3	405.9	405.6
152.5°	412.6	413.0	413.4	413.4	412.9	412.5	412.0	411.5
155°	421.4	421.8	422.3	422.2	421.6	421.1	420.5	419.9
157.5°	428.9	429.4	429.8	429.8	429.2	428.7	428.1	427.6
160°	433.2	433.6	434.0	434.0	433.5	433.0	432.5	432.0
162.5°	437.2	437.7	438.2	438.2	437.5	436.9	436.3	435.7
165°	442.1	442.6	443.1	443.1	442.6	442.1	441.6	441.1
167.5°	446.3	446.8	447.3	447.2	446.6	445.9	445.2	444.5
170°	448.4	448.9	449.4	449.3	448.7	448.0	447.4	446.7
172.5°	449.9	450.4	450.9	450.9	450.2	449.6	448.9	448.3
175°	451.6	452.1	452.6	452.5	451.8	451.1	450.3	449.6
177.5°	451.8	452.2	452.6	452.5	452.0	451.5	451.0	450.5
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2

(END OF REPORT)