

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

Luminaire Tested: **SA2XXDIP-C1005D330U835-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331424  
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-C1005D330U835-4F0-1E-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

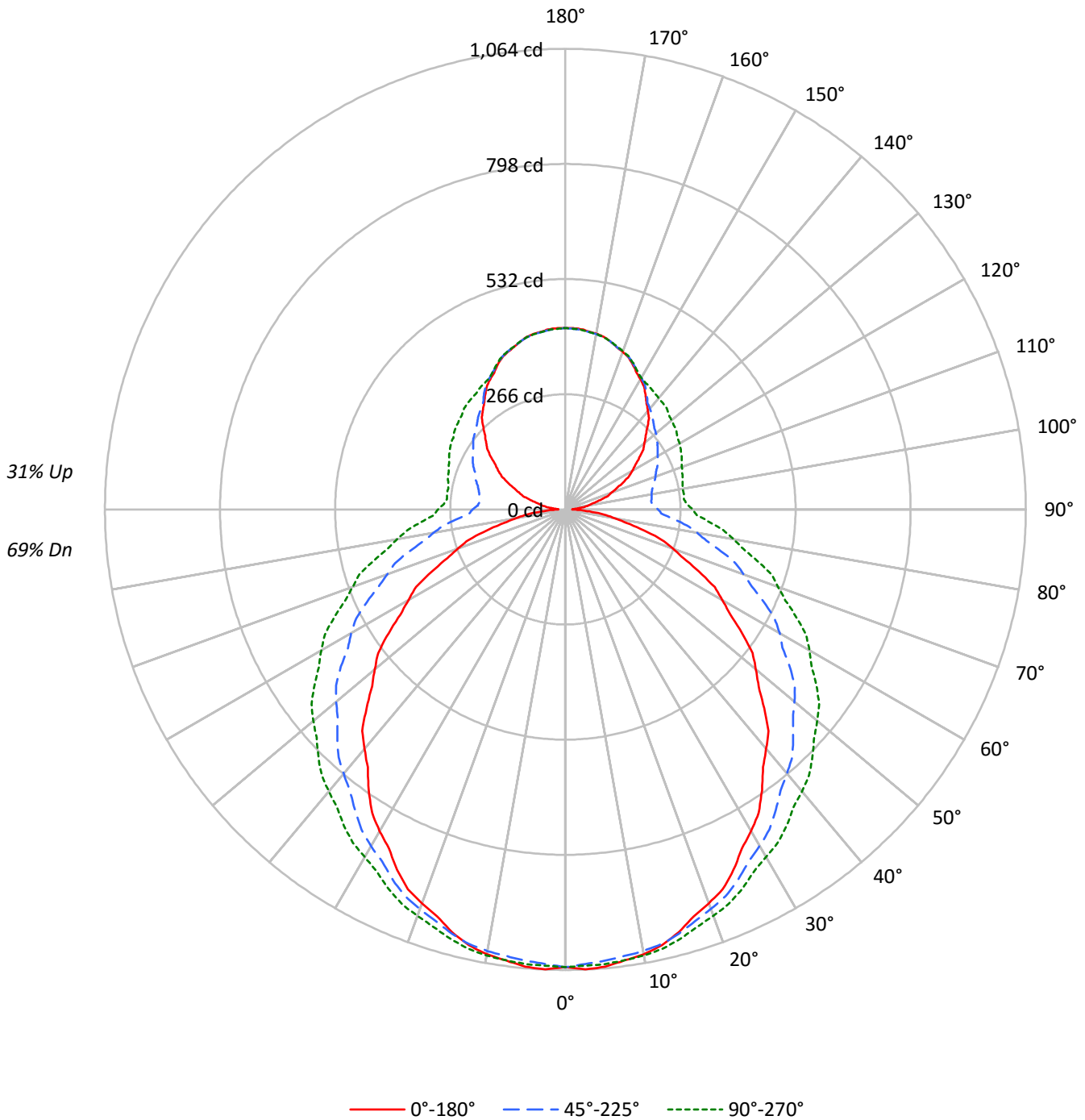
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5206.6 lumens  
Efficiency: N/A  
Efficacy: 104.5 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



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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	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°	17073	17073	17073
5°	17157	16435	16373
10°	17049	15949	15770
15°	16814	15435	15136
20°	16517	14884	14525
25°	16223	14353	13970
30°	15810	13808	13414
35°	15392	13280	13021
40°	14952	12831	12629
45°	14535	12429	12294
50°	14086	12066	11964
55°	13616	11675	11627
60°	13040	11269	11271
65°	12441	10795	10850
70°	11770	10285	10393
75°	10911	9784	9973
80°	9555	9272	9549
85°	8259	8830	9217



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.2	1.9
10°-20°	287.3	5.5
20°-30°	435.4	8.4
30°-40°	530.3	10.2
40°-50°	570.5	11.0
50°-60°	554.1	10.6
60°-70°	483.8	9.3
70°-80°	372.4	7.2
80°-90°	251.6	4.8
90°-100°	198.7	3.8
100°-110°	208.1	4.0
110°-120°	223.9	4.3
120°-130°	231.6	4.4
130°-140°	227.3	4.4
140°-150°	207.2	4.0
150°-160°	171.0	3.3
160°-170°	113.4	2.2
170°-180°	39.6	0.8
0°-30°	822.9	15.8
0°-40°	1353.3	26.0
0°-60°	2477.9	47.6
0°-90°	3585.7	68.9
90°-120°	630.8	12.1
90°-150°	1296.9	24.9
90°-180°	1621.0	31.1
0°-180°	5206.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1060	1056	1047	1055	1054	101
15°	1012	1014	1014	1028	1027	285
25°	920	930	944	962	967	423
35°	792	819	848	880	892	495
45°	650	692	745	790	808	501
55°	498	555	633	686	708	445
65°	340	416	506	566	588	338
75°	188	275	372	436	458	199
85°	55	150	248	310	334	59
90°	16	110	215	273	294	11
95°	31	107	199	255	275	31
105°	84	131	210	262	281	89
115°	148	169	235	279	296	145
125°	209	214	260	299	314	187
135°	268	272	288	318	330	207
145°	323	325	328	337	343	202
155°	369	370	371	373	372	170
165°	402	401	401	404	402	113
175°	418	417	416	418	416	40
180°	419	419	419	419	419	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1063.6	1062.8	1061.9	1061.1	1060.3	1058.9	1057.0	1055.1	1053.2	1051.3	1052.7
5°	1060.5	1059.5	1058.5	1057.4	1056.4	1054.9	1052.9	1050.8	1048.8	1046.7	1048.8
7.5°	1051.0	1050.3	1049.6	1049.0	1048.3	1047.2	1045.6	1044.0	1042.5	1040.9	1043.3
10°	1043.7	1043.0	1042.3	1041.6	1040.9	1040.1	1039.1	1038.0	1037.0	1036.0	1038.7
12.5°	1031.4	1031.5	1031.7	1031.8	1031.9	1031.6	1030.9	1030.1	1029.4	1028.6	1031.4
15°	1011.5	1012.2	1012.8	1013.5	1014.2	1014.5	1014.5	1014.5	1014.5	1014.5	1017.6
17.5°	985.7	987.2	988.6	990.0	991.4	992.7	993.8	994.9	996.0	997.1	1000.3
20°	968.6	970.3	972.0	973.7	975.4	976.9	978.3	979.6	981.0	982.4	986.1
22.5°	950.2	952.1	954.1	956.1	958.1	960.0	961.9	963.8	965.7	967.6	971.4
25°	919.5	921.9	924.3	926.7	929.1	931.8	934.8	937.9	941.0	944.0	948.1
27.5°	882.7	886.6	890.5	894.4	898.3	902.0	905.6	909.2	912.8	916.5	921.6
30°	858.2	862.6	867.1	871.5	875.9	880.4	884.8	889.2	893.6	898.1	903.5
32.5°	831.2	836.2	841.2	846.2	851.1	856.2	861.5	866.7	872.0	877.2	883.5
35°	792.3	798.1	803.9	809.7	815.5	821.6	828.1	834.5	841.0	847.5	855.0
37.5°	750.0	756.7	763.4	770.0	776.7	784.2	792.6	801.0	809.4	817.8	826.1
40°	721.8	729.3	736.8	744.3	751.8	760.1	769.3	778.5	787.7	796.9	805.8
42.5°	694.9	702.3	709.8	717.3	724.8	733.8	744.4	755.0	765.5	776.1	785.7
45°	649.8	659.0	668.2	677.4	686.6	697.1	709.1	721.0	732.9	744.8	755.4
47.5°	605.4	615.4	625.4	635.4	645.4	657.4	671.4	685.3	699.3	713.2	724.3
50°	574.7	585.3	595.8	606.4	616.9	629.9	645.2	660.5	675.8	691.2	702.8
52.5°	545.3	556.4	567.5	578.6	589.7	603.3	619.4	635.6	651.7	667.9	679.7
55°	498.1	510.3	522.6	534.9	547.1	562.1	579.8	597.5	615.2	632.9	645.2
57.5°	451.5	465.3	479.1	493.0	506.8	522.7	540.8	558.8	576.9	594.9	608.1
60°	418.4	433.0	447.7	462.3	477.0	494.0	513.4	532.8	552.2	571.6	584.6
62.5°	389.0	404.1	419.3	434.5	449.7	467.0	486.4	505.8	525.3	544.7	558.4
65°	340.2	356.9	373.6	390.3	407.0	425.4	445.5	465.5	485.6	505.7	519.7
67.5°	295.5	312.9	330.3	347.8	365.2	384.2	404.8	425.4	445.9	466.5	480.6
70°	263.6	281.3	299.0	316.7	334.4	353.8	375.0	396.1	417.2	438.3	452.9
72.5°	234.2	252.4	270.7	288.9	307.2	327.0	348.4	369.8	391.2	412.6	426.9
75°	188.5	207.6	226.6	245.7	264.8	285.2	307.0	328.8	350.6	372.4	387.0
77.5°	144.4	164.3	184.3	204.2	224.2	245.2	267.4	289.5	311.6	333.8	348.4
80°	114.9	135.7	156.5	177.3	198.0	219.5	241.6	263.8	285.9	308.0	322.3
82.5°	90.4	110.9	131.4	151.9	172.4	193.9	216.3	238.7	261.1	283.5	297.8
85°	55.2	76.3	97.4	118.5	139.6	161.1	182.9	204.7	226.5	248.3	262.6
87.5°	30.1	50.6	71.1	91.6	112.1	133.4	155.5	177.6	199.8	221.9	235.8
90°	15.7	36.4	57.1	77.8	98.5	120.6	144.1	167.6	191.1	214.7	228.1
92.5°	20.4	39.5	58.6	77.6	96.7	116.9	138.3	159.7	181.1	202.5	215.9
95°	30.6	47.4	64.2	81.0	97.8	116.5	137.1	157.7	178.3	198.9	211.8
97.5°	44.3	59.2	74.1	89.1	104.0	121.4	141.3	161.2	181.2	201.1	213.7
100°	55.6	68.8	82.1	95.3	108.5	124.8	144.1	163.4	182.7	202.0	214.6
102.5°	66.2	78.3	90.3	102.3	114.3	129.7	148.5	167.4	186.2	205.0	217.4
105°	83.6	93.7	103.8	114.0	124.1	138.1	155.9	173.8	191.7	209.5	221.6
107.5°	102.7	110.9	119.2	127.4	135.7	148.3	165.2	182.2	199.1	216.1	227.6
110°	113.9	121.2	128.5	135.7	143.0	155.0	171.7	188.4	205.1	221.8	232.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	127.5	133.6	139.8	146.0	152.2	163.2	179.0	194.8	210.6	226.5	237.2
115°	147.5	151.7	155.9	160.1	164.3	174.0	189.2	204.3	219.5	234.7	244.8
117.5°	165.8	168.9	172.0	175.1	178.2	186.6	200.3	214.0	227.8	241.5	251.4
120°	179.1	181.1	183.1	185.1	187.1	194.6	207.6	220.6	233.6	246.6	256.1
122.5°	191.3	192.6	193.9	195.2	196.5	203.3	215.7	228.0	240.4	252.8	261.8
125°	208.7	209.4	210.1	210.8	211.5	217.2	227.9	238.5	249.2	259.8	268.8
127.5°	227.1	227.7	228.2	228.8	229.3	233.9	242.4	250.9	259.4	267.9	276.1
130°	238.7	239.4	240.1	240.8	241.4	245.3	252.3	259.3	266.3	273.3	281.3
132.5°	251.7	252.2	252.7	253.2	253.7	256.7	262.3	267.8	273.4	278.9	286.5
135°	267.6	268.4	269.3	270.2	271.0	273.2	276.8	280.4	283.9	287.5	294.6
137.5°	285.9	286.5	287.1	287.8	288.4	289.6	291.3	293.0	294.7	296.4	302.6
140°	296.9	297.3	297.6	298.0	298.4	299.1	300.1	301.2	302.3	303.4	308.8
142.5°	308.2	308.6	308.9	309.3	309.7	310.0	310.4	310.9	311.3	311.7	316.1
145°	322.9	323.5	324.0	324.6	325.1	325.6	326.1	326.6	327.0	327.5	329.6
147.5°	337.4	338.1	338.7	339.4	340.0	340.5	340.8	341.2	341.5	341.8	342.2
150°	347.3	347.8	348.2	348.7	349.2	349.6	349.9	350.2	350.5	350.8	351.1
152.5°	356.1	356.5	357.0	357.5	357.9	358.4	358.7	359.1	359.5	359.9	360.2
155°	369.2	369.4	369.7	369.9	370.1	370.4	370.6	370.8	371.1	371.3	371.7
157.5°	380.4	380.6	380.7	380.9	381.1	381.2	381.4	381.5	381.6	381.8	382.3
160°	387.2	387.4	387.5	387.7	387.8	388.0	388.0	388.1	388.2	388.3	388.7
162.5°	393.4	393.5	393.5	393.5	393.6	393.6	393.7	393.8	393.9	393.9	394.5
165°	401.7	401.6	401.5	401.5	401.4	401.3	401.3	401.3	401.3	401.3	401.9
167.5°	408.6	408.4	408.2	407.9	407.7	407.6	407.5	407.5	407.5	407.5	408.0
170°	412.3	412.1	411.8	411.6	411.4	411.2	411.1	411.0	411.0	410.9	411.4
172.5°	414.8	414.6	414.4	414.1	413.9	413.7	413.7	413.6	413.5	413.4	414.0
175°	418.0	417.7	417.5	417.2	417.0	416.8	416.7	416.5	416.3	416.2	416.7
177.5°	419.2	419.0	418.8	418.7	418.5	418.3	418.2	418.1	417.9	417.8	418.2
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1054.0	1055.4	1056.8	1057.2	1056.6	1056.1	1055.5	1055.0
5°	1050.8	1052.9	1054.9	1055.7	1055.4	1055.1	1054.7	1054.4
7.5°	1045.8	1048.3	1050.7	1051.8	1051.4	1051.1	1050.7	1050.4
10°	1041.4	1044.2	1046.9	1048.1	1047.7	1047.4	1047.1	1046.7
12.5°	1034.1	1036.8	1039.5	1040.7	1040.4	1040.0	1039.7	1039.4
15°	1020.7	1023.7	1026.8	1028.2	1027.8	1027.5	1027.1	1026.8
17.5°	1003.5	1006.7	1009.9	1011.5	1011.5	1011.5	1011.5	1011.5
20°	989.8	993.6	997.3	999.2	999.2	999.2	999.2	999.2
22.5°	975.1	978.9	982.6	984.8	985.3	985.9	986.4	987.0
25°	952.2	956.3	960.4	962.9	964.0	965.0	966.0	967.0
27.5°	926.8	932.0	937.2	940.1	940.9	941.6	942.4	943.1
30°	909.0	914.4	919.9	923.1	924.1	925.1	926.2	927.2
32.5°	889.8	896.0	902.3	906.3	908.2	910.0	911.9	913.7
35°	862.5	870.0	877.5	882.4	884.8	887.2	889.6	891.9
37.5°	834.4	842.7	851.0	856.4	858.9	861.5	864.0	866.5
40°	814.6	823.5	832.3	838.3	841.4	844.4	847.5	850.6
42.5°	795.4	805.1	814.8	821.1	824.2	827.3	830.3	833.4
45°	765.9	776.5	787.0	794.0	797.4	800.8	804.2	807.6
47.5°	735.3	746.3	757.4	764.8	768.5	772.3	776.0	779.8
50°	714.3	725.9	737.5	745.2	748.9	752.6	756.4	760.1
52.5°	691.6	703.4	715.3	723.2	727.2	731.3	735.3	739.3
55°	657.5	669.7	682.0	690.3	694.7	699.2	703.6	708.0
57.5°	621.4	634.6	647.8	656.6	661.1	665.6	670.1	674.6
60°	597.5	610.5	623.4	632.3	637.0	641.8	646.6	651.3
62.5°	572.2	585.9	599.7	608.8	613.3	617.8	622.3	626.8
65°	533.7	547.6	561.6	570.8	575.2	579.6	584.1	588.5
67.5°	494.7	508.8	522.9	532.3	536.9	541.5	546.2	550.8
70°	467.6	482.2	496.9	506.2	510.3	514.4	518.5	522.6
72.5°	441.3	455.7	470.0	479.7	484.6	489.5	494.4	499.3
75°	401.7	416.3	431.0	440.5	444.9	449.4	453.8	458.2
77.5°	362.9	377.5	392.1	401.8	406.5	411.3	416.1	420.8
80°	336.6	351.0	365.3	374.8	379.6	384.3	389.1	393.9
82.5°	312.1	326.4	340.7	350.1	354.6	359.1	363.6	368.1
85°	276.9	291.2	305.5	315.0	319.8	324.6	329.3	334.1
87.5°	249.7	263.5	277.4	286.5	290.9	295.3	299.6	304.0
90°	241.6	255.1	268.5	277.3	281.5	285.7	289.8	294.0
92.5°	229.3	242.6	256.0	264.8	268.9	273.0	277.1	281.2
95°	224.7	237.7	250.6	259.1	263.0	266.9	270.8	274.8
97.5°	226.3	238.9	251.5	259.8	263.8	267.8	271.8	275.8
100°	227.2	239.8	252.4	260.5	264.2	267.9	271.5	275.2
102.5°	229.8	242.2	254.6	262.6	266.3	269.9	273.6	277.3
105°	233.7	245.8	257.8	265.7	269.5	273.2	277.0	280.7
107.5°	239.1	250.6	262.1	269.6	273.0	276.3	279.7	283.1
110°	243.5	254.4	265.3	272.5	276.1	279.6	283.1	286.6





TEST NUMBER: P331424

CATALOG NUMBER: SA2XXDIP-C1005D330U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	247.9	258.6	269.3	276.4	280.0	283.6	287.2	290.7
115°	255.0	265.1	275.2	282.1	285.6	289.1	292.6	296.1
117.5°	261.3	271.2	281.0	287.6	290.9	294.1	297.3	300.6
120°	265.6	275.2	284.7	291.2	294.7	298.2	301.8	305.3
122.5°	270.9	280.0	289.1	295.1	298.1	301.2	304.2	307.2
125°	277.8	286.7	295.7	301.7	304.6	307.6	310.6	313.6
127.5°	284.2	292.4	300.5	306.0	308.7	311.5	314.2	317.0
130°	289.3	297.3	305.3	310.5	312.9	315.4	317.8	320.2
132.5°	294.0	301.6	309.1	314.1	316.6	319.1	321.6	324.0
135°	301.6	308.7	315.8	320.6	323.0	325.5	328.0	330.5
137.5°	308.8	315.0	321.2	325.3	327.3	329.3	331.3	333.3
140°	314.3	319.7	325.2	328.8	330.5	332.2	333.9	335.7
142.5°	320.5	324.9	329.3	332.3	333.7	335.2	336.7	338.1
145°	331.8	333.9	336.0	337.8	339.1	340.5	341.9	343.3
147.5°	342.7	343.1	343.6	344.0	344.6	345.1	345.6	346.1
150°	351.3	351.5	351.8	351.8	351.5	351.3	351.1	350.8
152.5°	360.5	360.8	361.1	361.1	360.8	360.5	360.2	359.9
155°	372.1	372.5	372.9	373.0	372.7	372.5	372.3	372.0
157.5°	382.8	383.4	383.9	384.0	383.6	383.2	382.9	382.5
160°	389.2	389.7	390.2	390.2	389.9	389.6	389.3	389.0
162.5°	395.0	395.5	396.1	396.1	395.8	395.4	395.0	394.6
165°	402.4	403.0	403.5	403.6	403.2	402.8	402.4	402.1
167.5°	408.6	409.1	409.7	409.8	409.4	408.9	408.5	408.1
170°	412.0	412.5	413.1	413.1	412.7	412.2	411.7	411.2
172.5°	414.5	415.1	415.6	415.7	415.2	414.7	414.3	413.8
175°	417.3	417.8	418.4	418.4	418.0	417.5	417.0	416.5
177.5°	418.6	418.9	419.3	419.3	418.9	418.6	418.2	417.8
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7

(END OF REPORT)