

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: P331460-927

Luminaire Tested: **SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331460-927  
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-C1005D1080U927-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

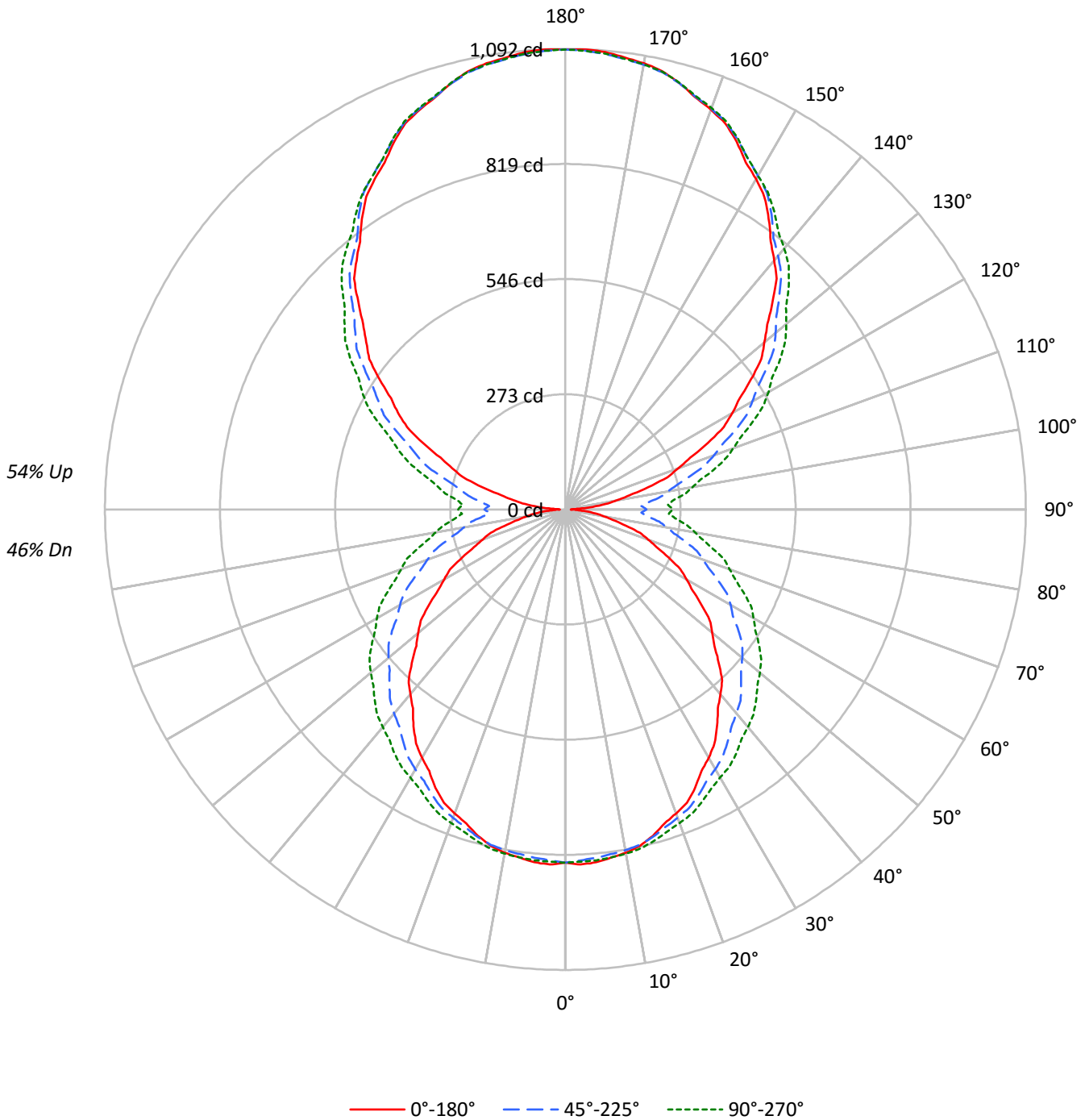
Lumens per Lamp: N/A  
Luminaire Lumens: 6249.2 lumens  
Efficiency: N/A  
Efficacy: 87.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 71.7  
Input Voltage (V): 120  
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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	95	91	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	36	34	29
3	78	68	61	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	27	30	26	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	12
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

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

	0°	45°	90°
0°	13525	13525	13525
5°	13591	13020	12971
10°	13506	12635	12493
15°	13320	12228	11990
20°	13085	11791	11506
25°	12852	11370	11066
30°	12525	10939	10626
35°	12192	10521	10314
40°	11845	10165	10004
45°	11515	9846	9739
50°	11159	9559	9477
55°	10787	9249	9211
60°	10329	8927	8928
65°	9856	8551	8595
70°	9323	8147	8233
75°	8642	7750	7901
80°	7567	7345	7563
85°	6539	6995	7303



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.4	1.3
10°-20°	227.6	3.6
20°-30°	344.9	5.5
30°-40°	420.1	6.7
40°-50°	452.0	7.2
50°-60°	438.9	7.0
60°-70°	383.2	6.1
70°-80°	295.0	4.7
80°-90°	202.4	3.2
90°-100°	205.5	3.3
100°-110°	314.2	5.0
110°-120°	432.6	6.9
120°-130°	519.1	8.3
130°-140°	556.8	8.9
140°-150°	533.6	8.5
150°-160°	445.3	7.1
160°-170°	295.3	4.7
170°-180°	103.2	1.7
0°-30°	651.9	10.4
0°-40°	1072.0	17.2
0°-60°	1962.9	31.4
0°-90°	2843.6	45.5
90°-120°	952.3	15.2
90°-150°	2561.8	41.0
90°-180°	3406.0	54.5
0°-180°	6249.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	838	838	838	838	838	
5°	840	836	829	836	835	80
15°	801	804	804	814	813	226
25°	728	737	748	762	766	335
35°	628	648	671	697	706	392
45°	515	548	590	626	640	397
55°	395	439	501	544	561	353
65°	270	330	401	449	466	268
75°	149	218	295	345	363	158
85°	44	119	197	246	265	47
90°	13	95	192	237	255	11
95°	58	124	198	243	257	63
105°	204	243	307	350	365	216
115°	373	394	445	479	491	368
125°	538	548	582	611	622	481
135°	694	704	718	742	750	536
145°	841	847	853	861	864	526
155°	962	964	967	971	969	442
165°	1046	1045	1045	1051	1047	295
175°	1089	1086	1084	1090	1085	103
180°	1090	1090	1090	1090	1090	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	842.6	841.9	841.2	840.6	840.0	838.8	837.3	835.8	834.3	832.8	833.9
5°	840.1	839.3	838.5	837.7	836.9	835.7	834.1	832.4	830.8	829.2	830.8
7.5°	832.6	832.0	831.5	831.0	830.4	829.6	828.3	827.0	825.9	824.6	826.5
10°	826.8	826.2	825.7	825.1	824.6	823.9	823.2	822.3	821.5	820.7	822.8
12.5°	817.1	817.1	817.3	817.4	817.5	817.2	816.7	816.0	815.5	814.8	817.1
15°	801.3	801.8	802.3	802.9	803.4	803.7	803.7	803.7	803.7	803.7	806.1
17.5°	780.9	782.0	783.2	784.3	785.4	786.4	787.3	788.1	789.0	789.9	792.4
20°	767.3	768.7	770.0	771.3	772.7	773.9	775.0	776.0	777.1	778.2	781.2
22.5°	752.7	754.2	755.8	757.4	759.0	760.5	762.0	763.5	765.0	766.5	769.5
25°	728.4	730.3	732.2	734.1	736.0	738.2	740.5	743.0	745.4	747.8	751.1
27.5°	699.3	702.3	705.4	708.5	711.6	714.5	717.4	720.3	723.1	726.0	730.1
30°	679.9	683.3	686.9	690.4	693.9	697.4	700.9	704.4	707.9	711.5	715.7
32.5°	658.5	662.4	666.4	670.3	674.2	678.3	682.5	686.6	690.8	694.9	699.9
35°	627.6	632.2	636.8	641.4	646.0	650.9	656.0	661.1	666.2	671.4	677.3
37.5°	594.1	599.4	604.8	610.0	615.3	621.2	627.9	634.5	641.2	647.8	654.4
40°	571.8	577.7	583.7	589.6	595.6	602.1	609.4	616.7	624.0	631.3	638.3
42.5°	550.5	556.3	562.3	568.2	574.2	581.3	589.7	598.1	606.4	614.8	622.4
45°	514.8	522.0	529.3	536.6	543.9	552.2	561.7	571.2	580.6	590.0	598.4
47.5°	479.6	487.5	495.4	503.4	511.3	520.8	531.9	542.9	554.0	565.0	573.8
50°	455.3	463.7	472.0	480.4	488.7	499.0	511.1	523.2	535.4	547.6	556.7
52.5°	432.0	440.8	449.6	458.4	467.1	477.9	490.7	503.5	516.3	529.1	538.4
55°	394.6	404.3	414.0	423.7	433.4	445.3	459.3	473.3	487.4	501.4	511.1
57.5°	357.7	368.6	379.5	390.5	401.5	414.1	428.4	442.7	457.0	471.3	481.7
60°	331.4	343.0	354.7	366.2	377.9	391.3	406.7	422.1	437.4	452.8	463.1
62.5°	308.2	320.1	332.2	344.2	356.2	369.9	385.3	400.7	416.1	431.5	442.4
65°	269.5	282.7	296.0	309.2	322.4	337.0	352.9	368.8	384.7	400.6	411.7
67.5°	234.1	247.9	261.7	275.5	289.3	304.4	320.7	337.0	353.2	369.6	380.7
70°	208.8	222.8	236.9	250.9	264.9	280.3	297.1	313.8	330.5	347.2	358.8
72.5°	185.5	199.9	214.4	228.9	243.4	259.0	276.0	292.9	309.9	326.9	338.2
75°	149.3	164.5	179.5	194.6	209.8	225.9	243.2	260.5	277.7	295.0	306.6
77.5°	114.4	130.2	146.0	161.8	177.6	194.2	211.8	229.3	246.8	264.4	276.0
80°	91.0	107.5	124.0	140.5	156.9	173.9	191.4	209.0	226.5	244.0	255.3
82.5°	71.6	87.9	104.1	120.3	136.6	153.6	171.3	189.1	206.8	224.6	235.9
85°	43.7	60.4	77.2	93.9	110.6	127.6	144.9	162.2	179.4	196.7	208.0
87.5°	24.0	40.6	57.1	73.7	90.2	107.7	125.8	143.9	162.2	180.3	191.2
90°	13.1	31.1	49.3	67.3	85.5	105.4	127.1	148.9	170.7	192.4	202.9
92.5°	27.6	43.9	60.3	76.7	93.0	110.0	127.7	145.4	163.1	180.8	191.5
95°	57.6	72.3	87.0	101.7	116.5	132.1	148.7	165.3	181.9	198.5	208.7
97.5°	95.9	109.0	122.1	135.1	148.2	163.0	179.3	195.6	211.9	228.1	238.1
100°	125.3	137.0	148.6	160.2	171.8	185.5	201.2	217.0	232.7	248.4	258.4
102.5°	155.3	165.7	176.2	186.6	197.0	209.9	225.4	240.9	256.4	271.8	281.7
105°	203.9	212.4	220.8	229.3	237.7	249.1	263.6	278.0	292.4	306.8	316.7
107.5°	254.1	261.3	268.4	275.6	282.7	293.0	306.5	319.9	333.4	346.7	356.0
110°	285.5	292.2	298.7	305.4	312.0	321.9	335.2	348.4	361.6	374.8	383.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	320.8	326.6	332.4	338.1	343.9	353.0	365.4	377.8	390.2	402.6	410.7
115°	373.0	377.2	381.4	385.5	389.7	397.7	409.4	421.1	432.8	444.6	452.5
117.5°	423.6	427.2	430.8	434.4	437.9	444.7	454.9	464.9	475.0	485.1	492.6
120°	458.2	460.9	463.7	466.4	469.1	475.0	484.2	493.3	502.5	511.7	519.2
122.5°	489.9	492.3	494.6	497.0	499.5	505.2	514.1	523.2	532.1	541.1	548.0
125°	538.0	539.8	541.7	543.5	545.3	550.2	558.3	566.3	574.3	582.3	589.0
127.5°	586.0	588.0	590.1	592.2	594.2	598.4	604.6	610.9	617.1	623.3	629.2
130°	616.2	618.6	621.0	623.4	625.7	629.5	634.9	640.1	645.3	650.6	656.6
132.5°	650.1	652.0	653.9	655.8	657.7	660.8	665.3	669.7	674.1	678.7	684.0
135°	694.1	696.3	698.6	700.8	703.1	705.8	708.9	712.0	715.1	718.2	723.7
137.5°	741.8	743.5	745.4	747.1	748.9	750.7	752.4	754.1	755.8	757.6	762.3
140°	770.5	772.1	773.6	775.2	776.7	778.3	779.9	781.5	783.0	784.6	788.9
142.5°	799.9	801.5	803.1	804.6	806.2	807.4	808.2	809.0	809.8	810.6	814.2
145°	841.1	842.5	843.9	845.3	846.8	848.1	849.3	850.6	851.8	853.0	854.8
147.5°	878.8	880.5	882.2	883.9	885.7	886.9	887.7	888.6	889.4	890.2	890.9
150°	904.5	905.8	907.0	908.2	909.4	910.5	911.3	912.1	912.9	913.8	914.3
152.5°	927.3	928.6	929.8	931.1	932.2	933.3	934.4	935.3	936.4	937.3	938.1
155°	961.6	962.2	962.8	963.5	964.1	964.6	965.3	965.9	966.5	967.1	968.1
157.5°	990.9	991.3	991.7	992.0	992.5	992.8	993.2	993.6	994.0	994.3	995.8
160°	1008.5	1008.9	1009.3	1009.7	1010.2	1010.4	1010.7	1010.9	1011.1	1011.3	1012.5
162.5°	1024.7	1024.8	1024.8	1024.9	1025.1	1025.2	1025.4	1025.6	1025.8	1026.0	1027.4
165°	1046.2	1046.1	1045.8	1045.6	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1046.8
167.5°	1064.3	1063.7	1063.0	1062.5	1061.8	1061.5	1061.4	1061.4	1061.4	1061.4	1062.8
170°	1073.9	1073.2	1072.6	1072.0	1071.4	1071.0	1070.8	1070.6	1070.4	1070.2	1071.6
172.5°	1080.5	1079.9	1079.3	1078.6	1078.0	1077.6	1077.4	1077.2	1077.0	1076.8	1078.2
175°	1088.6	1088.0	1087.3	1086.7	1086.2	1085.6	1085.2	1084.8	1084.4	1083.9	1085.4
177.5°	1091.9	1091.4	1090.9	1090.4	1090.0	1089.5	1089.2	1088.9	1088.5	1088.2	1089.2
180°	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	835.0	836.1	837.2	837.5	837.0	836.6	836.1	835.8
5°	832.4	834.1	835.7	836.3	836.1	835.8	835.5	835.3
7.5°	828.5	830.4	832.3	833.2	832.9	832.7	832.3	832.1
10°	825.0	827.2	829.3	830.3	830.0	829.7	829.5	829.2
12.5°	819.2	821.3	823.5	824.4	824.2	823.9	823.6	823.4
15°	808.6	811.0	813.4	814.5	814.2	814.0	813.7	813.4
17.5°	795.0	797.5	800.0	801.3	801.3	801.3	801.3	801.3
20°	784.1	787.1	790.0	791.5	791.5	791.5	791.5	791.5
22.5°	772.5	775.5	778.4	780.1	780.5	781.0	781.4	781.9
25°	754.3	757.6	760.8	762.8	763.7	764.5	765.2	766.0
27.5°	734.2	738.3	742.4	744.7	745.4	745.9	746.6	747.1
30°	720.1	724.4	728.7	731.3	732.1	732.8	733.7	734.5
32.5°	704.9	709.8	714.8	718.0	719.5	720.9	722.4	723.8
35°	683.3	689.2	695.1	699.0	700.9	702.8	704.7	706.5
37.5°	661.0	667.6	674.1	678.4	680.4	682.5	684.4	686.4
40°	645.3	652.4	659.3	664.1	666.5	668.9	671.4	673.8
42.5°	630.1	637.8	645.5	650.5	652.9	655.4	657.7	660.2
45°	606.7	615.1	623.4	629.0	631.7	634.4	637.1	639.8
47.5°	582.5	591.2	600.0	605.9	608.8	611.8	614.7	617.7
50°	565.9	575.0	584.2	590.3	593.3	596.2	599.2	602.1
52.5°	547.9	557.2	566.6	572.9	576.1	579.3	582.5	585.7
55°	520.9	530.5	540.3	546.8	550.3	553.9	557.4	560.9
57.5°	492.3	502.7	513.2	520.1	523.7	527.3	530.8	534.4
60°	473.3	483.6	493.8	500.9	504.6	508.4	512.2	515.9
62.5°	453.3	464.1	475.1	482.3	485.8	489.4	493.0	496.5
65°	422.8	433.8	444.9	452.2	455.7	459.1	462.7	466.2
67.5°	391.9	403.1	414.2	421.7	425.3	429.0	432.7	436.3
70°	370.4	382.0	393.6	401.0	404.3	407.5	410.7	414.0
72.5°	349.6	361.0	372.3	380.0	383.9	387.8	391.7	395.5
75°	318.2	329.8	341.4	349.0	352.4	356.0	359.5	363.0
77.5°	287.5	299.0	310.6	318.3	322.0	325.8	329.6	333.4
80°	266.6	278.1	289.4	296.9	300.7	304.4	308.2	312.0
82.5°	247.2	258.6	269.9	277.3	280.9	284.5	288.0	291.6
85°	219.4	230.7	242.0	249.5	253.3	257.1	260.9	264.7
87.5°	202.2	213.1	224.0	231.2	234.7	238.2	241.7	245.2
90°	213.3	223.6	234.0	240.9	244.3	247.8	251.2	254.7
92.5°	202.1	212.8	223.4	230.4	233.6	236.9	240.2	243.5
95°	219.0	229.3	239.5	246.1	248.9	251.7	254.5	257.4
97.5°	248.1	258.2	268.2	274.6	277.8	281.0	284.1	287.2
100°	268.4	278.4	288.4	294.7	297.5	300.2	303.0	305.8
102.5°	291.6	301.6	311.5	317.8	320.6	323.4	326.1	328.9
105°	326.5	336.4	346.3	352.7	355.6	358.6	361.6	364.6
107.5°	365.2	374.5	383.7	389.3	391.3	393.4	395.4	397.4
110°	392.1	400.7	409.3	414.9	417.2	419.5	421.9	424.2





TEST NUMBER: P331460-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	418.9	427.1	435.1	440.5	443.0	445.5	448.1	450.6
115°	460.3	468.3	476.2	481.3	483.6	486.0	488.3	490.7
117.5°	500.0	507.6	515.1	519.8	522.0	524.1	526.2	528.4
120°	526.7	534.3	541.9	546.8	549.1	551.5	553.9	556.2
122.5°	554.8	561.7	568.5	573.0	575.0	577.2	579.2	581.3
125°	595.7	602.4	609.0	613.5	615.7	617.9	620.1	622.3
127.5°	635.2	641.2	647.1	650.9	652.7	654.4	656.1	657.8
130°	662.7	668.8	674.9	678.6	679.9	681.3	682.5	683.9
132.5°	689.4	694.7	700.1	703.5	705.0	706.5	708.0	709.5
135°	729.1	734.6	740.1	743.5	745.1	746.6	748.2	749.7
137.5°	767.1	772.0	776.7	779.7	780.7	781.7	782.7	783.7
140°	793.2	797.6	801.8	804.4	805.2	806.0	806.8	807.6
142.5°	817.8	821.5	825.1	827.2	827.8	828.4	828.9	829.5
145°	856.7	858.5	860.3	861.5	862.1	862.5	863.1	863.6
147.5°	891.5	892.2	892.9	893.1	893.0	892.9	892.7	892.6
150°	915.0	915.6	916.2	916.2	915.6	915.0	914.3	913.8
152.5°	938.9	939.6	940.4	940.4	939.6	938.9	938.1	937.3
155°	969.2	970.2	971.2	971.4	970.8	970.2	969.6	968.9
157.5°	997.1	998.5	999.9	1000.1	999.1	998.1	997.2	996.2
160°	1013.8	1014.9	1016.2	1016.4	1015.6	1014.8	1013.9	1013.1
162.5°	1028.8	1030.2	1031.6	1031.7	1030.8	1029.8	1028.8	1027.9
165°	1048.2	1049.6	1051.1	1051.2	1050.3	1049.2	1048.2	1047.2
167.5°	1064.2	1065.6	1067.1	1067.2	1066.2	1065.1	1064.1	1063.0
170°	1073.0	1074.4	1075.9	1076.0	1074.8	1073.6	1072.3	1071.1
172.5°	1079.7	1081.1	1082.5	1082.6	1081.4	1080.1	1079.0	1077.7
175°	1086.9	1088.3	1089.7	1089.8	1088.6	1087.3	1086.2	1084.9
177.5°	1090.2	1091.2	1092.1	1092.1	1091.2	1090.2	1089.2	1088.2
180°	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4

(END OF REPORT)