

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: P332656-930

Luminaire Tested: **SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332656-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6353.9 lumens  
Efficiency: N/A  
Efficacy: 105.0 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

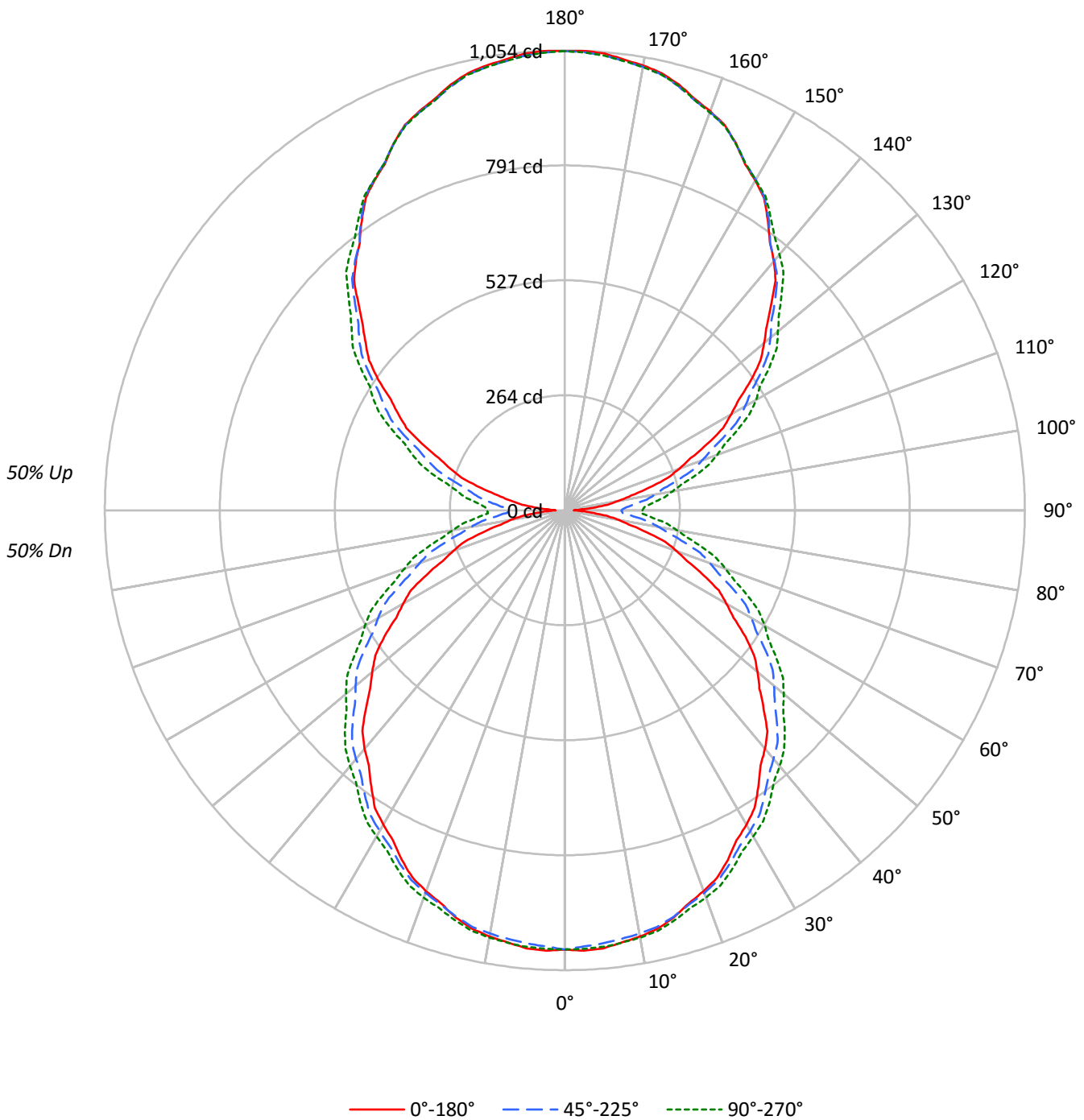
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	97	92	88	84	89	85	81	78	72	69	66	59	57	56	48	47	45	40				
2	88	80	73	68	80	74	68	63	62	58	54	51	48	46	42	39	37	33				
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	37	34	31	27				
4	73	61	53	47	67	57	50	44	48	42	38	40	36	32	32	29	27	23				
5	67	55	46	40	61	51	43	37	43	37	33	36	31	28	29	26	23	20				
6	61	49	40	34	56	45	38	32	39	33	28	32	28	24	26	23	20	17				
7	57	44	36	30	52	41	33	28	35	29	25	29	25	21	24	20	18	15				
8	52	40	32	26	48	37	30	25	32	26	22	27	22	19	22	18	16	13				
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12				
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11				

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

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



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CATALOG NUMBER: SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.3	1.5
10°-20°	273.1	4.3
20°-30°	413.0	6.5
30°-40°	499.7	7.9
40°-50°	528.2	8.3
50°-60°	497.1	7.8
60°-70°	412.5	6.5
70°-80°	289.7	4.6
80°-90°	166.9	2.6
90°-100°	166.6	2.6
100°-110°	277.6	4.4
110°-120°	397.3	6.3
120°-130°	487.4	7.7
130°-140°	528.5	8.3
140°-150°	510.2	8.0
150°-160°	427.1	6.7
160°-170°	284.1	4.5
170°-180°	99.5	1.6
0°-30°	781.4	12.3
0°-40°	1281.1	20.2
0°-60°	2306.5	36.3
0°-90°	3175.6	50.0
90°-120°	841.5	13.2
90°-150°	2367.6	37.3
90°-180°	3178.0	50.0
0°-180°	6353.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	20	75	130	166	178	15
95°	64	108	160	192	203	66
105°	200	224	268	298	310	213
115°	362	373	406	429	437	357
125°	521	522	548	566	572	465
135°	669	674	682	697	702	517
145°	811	813	814	819	822	507
155°	928	928	927	930	927	427
165°	1010	1008	1006	1010	1008	285
175°	1051	1047	1046	1051	1046	100
180°	1052	1052	1052	1052	1052	



TEST NUMBER: P332656-930

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	33.8	44.4	55.1	65.7	76.3	87.2	98.5	109.8	121.1	132.3	139.8
90°	20.5	32.4	44.5	56.5	68.5	80.6	92.9	105.1	117.3	129.5	137.9
92.5°	34.6	45.8	57.2	68.4	79.7	91.3	103.1	114.9	126.6	138.4	146.1
95°	63.5	73.4	83.2	93.2	103.1	113.7	125.3	136.8	148.4	159.9	167.2
97.5°	98.6	107.0	115.4	123.8	132.2	142.3	153.9	165.6	177.2	188.9	196.1
100°	126.3	133.5	140.8	148.1	155.3	164.6	176.0	187.4	198.8	210.2	217.3
102.5°	156.3	162.2	168.3	174.3	180.3	188.8	199.8	210.9	221.9	233.0	240.1
105°	199.7	205.0	210.1	215.3	220.5	228.1	238.1	248.1	258.1	268.1	274.9
107.5°	247.5	251.8	256.2	260.5	264.8	271.4	280.3	289.2	298.1	307.0	313.6
110°	279.2	283.1	286.9	290.8	294.6	300.9	309.5	318.0	326.7	335.3	340.6



TEST NUMBER: P332656-930

CATALOG NUMBER: SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	312.2	315.4	318.5	321.7	324.9	330.4	338.5	346.6	354.6	362.6	368.1
115°	361.6	363.8	366.1	368.4	370.6	375.5	383.2	390.9	398.5	406.2	411.5
117.5°	409.2	410.7	412.2	413.7	415.2	419.6	426.7	434.0	441.2	448.4	453.0
120°	440.2	441.6	443.1	444.6	446.1	450.2	456.9	463.7	470.3	477.1	481.2
122.5°	473.4	473.9	474.3	474.7	475.2	478.7	485.3	491.9	498.5	505.2	509.5
125°	521.2	521.0	520.7	520.5	520.2	523.2	529.3	535.3	541.4	547.5	551.9
127.5°	565.5	565.7	566.1	566.3	566.6	569.1	573.6	578.0	582.6	587.1	591.3
130°	595.8	596.1	596.4	596.7	597.0	599.2	603.2	607.2	611.1	615.1	619.3
132.5°	627.7	627.9	628.0	628.2	628.3	629.9	633.0	636.0	639.1	642.1	646.1
135°	668.7	669.8	670.9	672.0	673.1	674.5	676.3	678.0	679.8	681.5	685.2
137.5°	714.6	714.9	715.2	715.4	715.7	716.3	717.5	718.6	719.7	720.9	724.1
140°	745.3	745.3	745.4	745.6	745.7	745.8	746.1	746.3	746.7	746.9	749.9
142.5°	772.3	772.7	773.0	773.2	773.6	773.6	773.3	773.0	772.7	772.4	775.2
145°	810.8	811.3	811.8	812.3	812.7	813.0	813.3	813.4	813.6	813.8	815.1
147.5°	849.2	849.9	850.5	851.1	851.7	852.0	851.8	851.7	851.5	851.4	851.4
150°	872.7	873.2	873.6	874.1	874.6	874.8	874.8	874.8	874.8	874.8	874.8
152.5°	893.9	894.3	894.7	895.0	895.4	895.7	895.9	896.0	896.2	896.3	896.7
155°	927.7	927.7	927.7	927.7	927.7	927.6	927.4	927.2	927.1	926.9	927.6
157.5°	956.3	956.0	955.7	955.4	955.0	954.9	954.8	954.8	954.8	954.7	955.3
160°	973.3	973.1	972.9	972.7	972.6	972.4	972.2	972.0	971.8	971.7	972.2
162.5°	988.9	988.5	988.0	987.5	987.0	986.7	986.5	986.3	986.2	985.9	986.9
165°	1009.9	1009.3	1008.9	1008.3	1007.7	1007.3	1006.9	1006.6	1006.2	1005.8	1006.9
167.5°	1026.1	1025.2	1024.5	1023.8	1023.0	1022.6	1022.6	1022.7	1022.7	1022.8	1023.9
170°	1035.1	1034.2	1033.3	1032.4	1031.5	1031.1	1031.4	1031.5	1031.7	1031.8	1033.0
172.5°	1041.6	1040.9	1040.2	1039.3	1038.6	1038.2	1038.3	1038.3	1038.4	1038.4	1039.6
175°	1050.6	1049.7	1048.8	1047.9	1047.0	1046.4	1046.3	1046.0	1045.9	1045.7	1047.0
177.5°	1053.5	1052.8	1052.1	1051.3	1050.6	1050.3	1050.3	1050.3	1050.3	1050.3	1051.2
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2



TEST NUMBER: P332656-930

CATALOG NUMBER: SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	147.2	154.7	162.2	167.1	169.4	171.7	174.0	176.2
90°	146.2	154.6	162.9	168.3	170.6	173.0	175.4	177.7
92.5°	153.8	161.6	169.3	174.2	176.4	178.7	180.9	183.1
95°	174.6	181.8	189.1	194.0	196.2	198.4	200.6	202.9
97.5°	203.3	210.5	217.8	222.4	224.6	226.7	228.9	231.1
100°	224.5	231.5	238.6	243.1	244.8	246.6	248.3	250.1
102.5°	247.1	254.2	261.3	265.9	268.0	270.1	272.1	274.3
105°	281.7	288.5	295.3	299.9	302.6	305.1	307.6	310.1
107.5°	320.2	326.9	333.6	337.9	339.6	341.4	343.2	344.9
110°	346.0	351.5	356.9	360.9	363.4	365.9	368.4	371.0





TEST NUMBER: P332656-930

CATALOG NUMBER: SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	373.6	379.1	384.6	388.4	390.5	392.6	394.7	396.8
115°	416.8	422.2	427.5	431.0	432.5	434.1	435.6	437.2
117.5°	457.5	462.2	466.8	469.9	471.6	473.2	474.8	476.5
120°	485.3	489.4	493.5	496.8	499.1	501.5	503.9	506.2
122.5°	513.9	518.3	522.7	525.5	526.6	527.7	529.0	530.1
125°	556.3	560.7	565.1	567.9	569.0	570.1	571.3	572.4
127.5°	595.4	599.6	603.7	606.5	607.9	609.4	610.7	612.1
130°	623.5	627.6	631.8	634.2	635.0	635.8	636.6	637.3
132.5°	650.0	654.0	657.9	660.6	661.7	662.9	664.1	665.4
135°	688.8	692.4	696.1	698.4	699.4	700.3	701.3	702.2
137.5°	727.3	730.5	733.7	736.0	737.3	738.7	740.0	741.4
140°	753.0	756.1	759.1	761.2	762.3	763.4	764.4	765.6
142.5°	778.0	780.9	783.7	785.6	786.6	787.7	788.6	789.7
145°	816.4	817.7	819.0	819.9	820.4	820.8	821.3	821.8
147.5°	851.5	851.6	851.6	851.9	852.6	853.2	853.8	854.4
150°	874.8	874.8	874.8	874.7	874.6	874.3	874.2	874.0
152.5°	897.2	897.6	898.1	898.1	897.6	897.1	896.6	896.1
155°	928.4	929.0	929.8	929.8	929.0	928.4	927.6	926.9
157.5°	955.8	956.3	956.9	956.8	956.3	955.6	955.0	954.4
160°	972.7	973.3	973.8	973.6	972.7	971.8	970.9	970.0
162.5°	987.9	988.9	989.9	989.9	989.0	988.1	987.2	986.3
165°	1008.0	1009.1	1010.2	1010.3	1009.7	1008.9	1008.2	1007.5
167.5°	1024.9	1026.1	1027.1	1027.1	1026.0	1024.8	1023.7	1022.6
170°	1034.0	1035.1	1036.2	1036.1	1034.9	1033.6	1032.3	1031.0
172.5°	1040.8	1042.0	1043.3	1043.3	1042.0	1040.7	1039.5	1038.2
175°	1048.2	1049.5	1050.8	1050.8	1049.5	1048.2	1047.0	1045.7
177.5°	1052.3	1053.3	1054.3	1054.3	1053.1	1051.9	1050.8	1049.6
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2

(END OF REPORT)