

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: P332656-935

Luminaire Tested: **SA4XXDIP-C1020D1035U935-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332656-935
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-C1020D1035U935-4F0-1E-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: 6710.1 lumens
Efficiency: N/A
Efficacy: 110.9 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

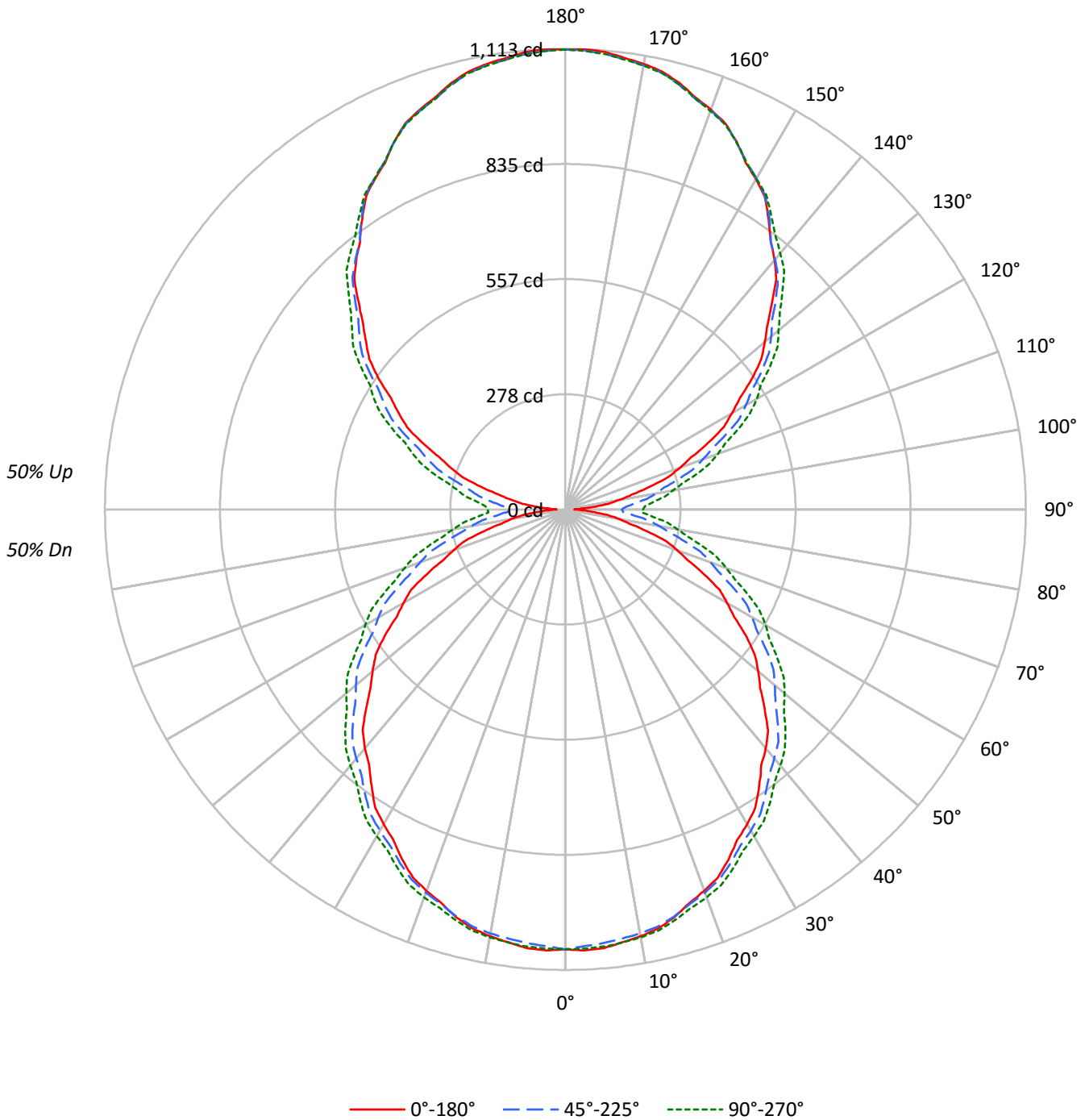
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	8582	8582	8582
5°	8608	8387	8412
10°	8556	8250	8244
15°	8479	8091	8047
20°	8364	7916	7856
25°	8233	7719	7645
30°	8093	7524	7428
35°	7933	7324	7239
40°	7804	7134	7041
45°	7615	6958	6871
50°	7455	6755	6692
55°	7289	6565	6482
60°	7031	6322	6290
65°	6747	6061	6055
70°	6405	5763	5780
75°	5924	5435	5533
80°	5397	5119	5288
85°	4721	4842	5146



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.7	1.5
10°-20°	288.4	4.3
20°-30°	436.1	6.5
30°-40°	527.7	7.9
40°-50°	557.9	8.3
50°-60°	525.0	7.8
60°-70°	435.6	6.5
70°-80°	306.0	4.6
80°-90°	176.3	2.6
90°-100°	176.0	2.6
100°-110°	293.1	4.4
110°-120°	419.5	6.3
120°-130°	514.7	7.7
130°-140°	558.1	8.3
140°-150°	538.8	8.0
150°-160°	451.0	6.7
160°-170°	300.1	4.5
170°-180°	105.1	1.6
0°-30°	825.2	12.3
0°-40°	1352.9	20.2
0°-60°	2435.8	36.3
0°-90°	3353.6	50.0
90°-120°	888.7	13.2
90°-150°	2500.3	37.3
90°-180°	3356.0	50.0
0°-180°	6710.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1064	1060	1052	1061	1061	101
15°	1020	1021	1018	1028	1027	287
25°	933	940	944	956	958	430
35°	817	831	843	859	863	511
45°	681	704	726	746	752	526
55°	533	559	594	617	625	475
65°	369	407	448	476	487	366
75°	205	249	299	331	343	218
85°	63	113	167	201	214	67
90°	22	79	137	175	188	16
95°	67	114	169	202	214	70
105°	211	237	283	314	328	225
115°	382	394	429	453	462	377
125°	550	551	578	598	604	491
135°	706	712	720	736	742	547
145°	856	858	859	865	868	536
155°	980	980	979	982	979	451
165°	1066	1064	1062	1067	1064	301
175°	1110	1105	1104	1110	1104	105
180°	1111	1111	1111	1111	1111	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1066.9	1066.3	1065.6	1065.0	1064.3	1063.2	1061.4	1059.8	1058.1	1056.4	1057.8
5°	1064.2	1063.4	1062.6	1061.9	1061.1	1059.7	1057.9	1056.0	1054.2	1052.3	1054.5
7.5°	1055.2	1054.7	1054.2	1053.8	1053.3	1052.3	1050.8	1049.2	1047.7	1046.1	1048.5
10°	1047.6	1047.3	1047.1	1046.8	1046.5	1045.7	1044.4	1043.1	1041.7	1040.4	1042.8
12.5°	1037.1	1037.1	1037.0	1036.9	1036.9	1036.4	1035.5	1034.6	1033.7	1032.8	1035.0
15°	1020.2	1020.5	1020.7	1021.0	1021.2	1021.0	1020.2	1019.4	1018.6	1017.8	1020.2
17.5°	997.1	997.9	998.7	999.4	1000.3	1000.6	1000.4	1000.3	1000.1	1000.0	1002.4
20°	980.9	981.7	982.5	983.3	984.1	984.6	984.9	985.2	985.4	985.7	988.3
22.5°	962.8	963.8	964.8	965.9	966.8	967.6	968.0	968.5	969.0	969.5	972.2
25°	933.3	934.9	936.4	938.1	939.6	940.8	941.6	942.5	943.2	944.0	946.9
27.5°	900.4	902.8	905.1	907.4	909.7	911.5	912.7	914.0	915.2	916.4	919.1
30°	878.6	880.6	882.8	884.8	887.0	889.0	890.8	892.7	894.5	896.4	899.3
32.5°	854.7	857.3	859.8	862.4	864.9	867.2	869.3	871.3	873.4	875.5	878.7
35°	816.7	819.8	822.9	826.1	829.3	832.2	834.9	837.5	840.2	842.8	846.5
37.5°	778.3	782.0	785.6	789.3	792.9	796.3	799.6	802.9	806.2	809.5	813.2
40°	753.5	757.0	760.4	763.9	767.3	770.9	774.6	778.3	782.0	785.7	789.6
42.5°	725.0	728.8	732.7	736.6	740.4	744.5	748.8	753.2	757.5	761.9	766.3
45°	680.9	686.0	691.0	696.0	701.0	706.0	711.1	716.1	721.1	726.2	730.6
47.5°	638.8	643.9	649.1	654.4	659.5	665.0	670.8	676.7	682.5	688.3	692.9
50°	608.3	614.2	619.9	625.8	631.5	637.4	643.3	649.0	654.9	660.6	666.0
52.5°	577.8	583.7	589.4	595.3	601.2	607.3	614.0	620.7	627.3	634.0	639.3
55°	533.3	538.9	544.4	550.0	555.5	562.2	570.2	578.2	586.1	594.0	599.3
57.5°	483.5	490.4	497.3	504.2	511.1	518.4	526.3	534.3	542.1	550.0	556.3
60°	451.2	458.1	464.9	471.8	478.7	486.5	495.2	503.9	512.6	521.4	527.4
62.5°	419.7	427.2	434.8	442.3	449.8	457.9	466.7	475.4	484.1	492.8	498.9
65°	369.0	377.5	386.0	394.4	402.9	411.6	420.6	429.6	438.6	447.6	454.2
67.5°	320.2	329.2	338.2	347.2	356.2	365.5	375.1	384.8	394.4	404.1	410.8
70°	286.9	295.9	304.9	313.8	322.9	332.4	342.4	352.5	362.6	372.6	379.8
72.5°	254.5	263.7	272.9	282.1	291.4	301.3	311.9	322.6	333.4	344.1	350.9
75°	204.7	214.6	224.3	234.1	243.9	254.3	265.4	276.6	287.7	298.8	306.2
77.5°	158.3	168.7	179.1	189.4	199.8	210.8	222.5	234.1	245.7	257.4	264.8
80°	129.8	140.3	150.9	161.5	172.1	183.2	194.8	206.5	218.1	229.7	237.7
82.5°	101.2	112.2	123.2	134.2	145.2	156.5	168.2	179.8	191.5	203.1	211.2
85°	63.1	74.2	85.3	96.4	107.5	119.1	131.0	142.8	154.7	166.7	174.6
87.5°	35.7	46.9	58.2	69.4	80.6	92.1	104.0	116.0	127.9	139.7	147.7
90°	21.6	34.3	47.0	59.7	72.3	85.2	98.1	111.0	123.9	136.7	145.6
92.5°	36.5	48.4	60.4	72.2	84.2	96.4	108.8	121.3	133.7	146.2	154.3
95°	67.1	77.5	87.9	98.4	108.8	120.1	132.3	144.5	156.7	168.8	176.6
97.5°	104.1	113.0	121.9	130.8	139.7	150.2	162.6	174.9	187.2	199.5	207.1
100°	133.4	141.0	148.7	156.4	164.0	173.8	185.9	197.9	209.9	222.0	229.5
102.5°	165.1	171.3	177.7	184.1	190.4	199.4	211.0	222.7	234.4	246.1	253.6
105°	210.9	216.5	221.9	227.4	232.9	240.9	251.4	262.0	272.6	283.1	290.3
107.5°	261.4	266.0	270.5	275.1	279.7	286.6	296.0	305.4	314.8	324.2	331.2
110°	294.8	298.9	303.0	307.1	311.2	317.8	326.8	335.9	345.0	354.0	359.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	329.7	333.0	336.4	339.8	343.1	349.0	357.5	366.0	374.4	383.0	388.7
115°	381.9	384.2	386.6	389.0	391.3	396.6	404.7	412.8	420.9	429.0	434.5
117.5°	432.1	433.7	435.3	436.9	438.4	443.1	450.6	458.3	465.9	473.6	478.4
120°	464.9	466.4	468.0	469.5	471.1	475.4	482.5	489.7	496.7	503.9	508.2
122.5°	499.9	500.4	500.8	501.4	501.8	505.5	512.5	519.4	526.4	533.5	538.0
125°	550.4	550.2	549.9	549.7	549.4	552.5	559.0	565.3	571.8	578.2	582.8
127.5°	597.2	597.4	597.8	598.1	598.4	601.0	605.7	610.4	615.3	620.0	624.4
130°	629.2	629.5	629.8	630.2	630.4	632.7	637.0	641.2	645.4	649.6	654.0
132.5°	662.9	663.1	663.2	663.4	663.5	665.2	668.5	671.7	674.9	678.1	682.3
135°	706.2	707.4	708.5	709.6	710.8	712.3	714.2	716.0	717.9	719.7	723.6
137.5°	754.7	754.9	755.3	755.5	755.8	756.5	757.7	758.9	760.1	761.3	764.7
140°	787.0	787.1	787.2	787.4	787.5	787.6	787.9	788.2	788.5	788.8	791.9
142.5°	815.6	816.0	816.3	816.6	816.9	816.9	816.7	816.3	816.0	815.7	818.6
145°	856.3	856.8	857.3	857.8	858.2	858.6	858.8	859.0	859.2	859.4	860.8
147.5°	896.8	897.5	898.2	898.8	899.5	899.7	899.6	899.4	899.2	899.1	899.1
150°	921.6	922.1	922.6	923.1	923.6	923.9	923.9	923.9	923.9	923.9	923.9
152.5°	944.0	944.4	944.9	945.2	945.6	945.9	946.1	946.2	946.4	946.5	947.0
155°	979.7	979.7	979.7	979.7	979.7	979.6	979.4	979.2	979.0	978.9	979.6
157.5°	1010.0	1009.6	1009.3	1008.9	1008.6	1008.4	1008.3	1008.3	1008.3	1008.2	1008.8
160°	1027.9	1027.6	1027.4	1027.3	1027.1	1026.9	1026.7	1026.5	1026.3	1026.1	1026.7
162.5°	1044.3	1043.9	1043.4	1042.8	1042.3	1042.0	1041.8	1041.6	1041.5	1041.2	1042.2
165°	1066.5	1065.9	1065.4	1064.8	1064.2	1063.8	1063.3	1063.0	1062.6	1062.2	1063.3
167.5°	1083.6	1082.7	1081.9	1081.2	1080.3	1080.0	1080.0	1080.0	1080.0	1080.1	1081.2
170°	1093.1	1092.2	1091.2	1090.3	1089.3	1088.9	1089.2	1089.3	1089.5	1089.7	1090.9
172.5°	1100.0	1099.2	1098.5	1097.6	1096.8	1096.4	1096.5	1096.5	1096.6	1096.6	1097.9
175°	1109.5	1108.5	1107.6	1106.6	1105.7	1105.1	1104.9	1104.7	1104.5	1104.3	1105.7
177.5°	1112.6	1111.8	1111.0	1110.3	1109.5	1109.1	1109.1	1109.1	1109.1	1109.1	1110.2
180°	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1059.4	1060.8	1062.3	1062.9	1062.7	1062.5	1062.3	1062.1
5°	1056.5	1058.7	1060.8	1061.7	1061.4	1061.2	1060.9	1060.7
7.5°	1050.9	1053.3	1055.7	1056.7	1056.4	1056.2	1055.9	1055.7
10°	1045.2	1047.6	1050.0	1051.0	1050.8	1050.5	1050.2	1050.0
12.5°	1037.2	1039.3	1041.5	1042.6	1042.5	1042.4	1042.4	1042.3
15°	1022.6	1024.9	1027.3	1028.4	1028.1	1027.9	1027.6	1027.3
17.5°	1004.8	1007.3	1009.7	1010.8	1010.6	1010.4	1010.1	1010.0
20°	990.9	993.6	996.3	997.6	997.6	997.6	997.6	997.6
22.5°	974.7	977.4	980.1	981.6	982.1	982.4	982.8	983.3
25°	949.9	952.7	955.6	957.3	957.5	957.8	958.0	958.3
27.5°	921.8	924.5	927.2	928.7	929.0	929.4	929.6	930.0
30°	902.2	905.1	908.0	909.7	910.2	910.8	911.4	911.9
32.5°	882.1	885.5	888.8	890.7	891.2	891.7	892.3	892.9
35°	850.2	853.9	857.6	859.9	860.7	861.4	862.3	863.1
37.5°	817.0	820.8	824.5	826.8	827.7	828.5	829.3	830.2
40°	793.6	797.5	801.6	804.1	805.1	806.2	807.3	808.3
42.5°	770.7	775.1	779.5	782.0	782.9	783.8	784.6	785.4
45°	735.1	739.7	744.2	747.1	748.4	749.7	751.1	752.3
47.5°	697.6	702.2	707.0	710.1	711.6	713.3	714.8	716.4
50°	671.2	676.6	681.8	685.3	686.9	688.5	690.0	691.6
52.5°	644.6	649.9	655.2	658.6	660.2	661.8	663.4	665.0
55°	604.6	609.9	615.2	618.6	620.2	621.8	623.4	625.0
57.5°	562.6	568.9	575.1	579.0	580.5	582.0	583.5	585.0
60°	533.6	539.7	545.7	549.8	552.0	554.1	556.2	558.3
62.5°	505.0	511.1	517.2	521.2	523.4	525.5	527.6	529.8
65°	460.8	467.4	474.1	478.5	480.5	482.7	484.7	486.9
67.5°	417.5	424.2	430.9	435.3	437.4	439.5	441.5	443.6
70°	386.8	394.0	401.1	405.7	407.5	409.4	411.2	413.1
72.5°	357.9	364.8	371.8	376.3	378.3	380.4	382.5	384.5
75°	313.6	321.0	328.4	333.3	335.7	338.1	340.4	342.9
77.5°	272.4	279.9	287.4	292.5	295.0	297.6	300.1	302.6
80°	245.6	253.6	261.5	266.5	268.6	270.8	272.9	275.0
82.5°	219.4	227.6	235.7	240.9	243.2	245.6	247.9	250.2
85°	182.5	190.5	198.4	203.7	206.4	209.0	211.6	214.3
87.5°	155.5	163.4	171.3	176.5	178.9	181.3	183.7	186.1
90°	154.4	163.2	172.0	177.7	180.2	182.7	185.2	187.7
92.5°	162.5	170.7	178.7	184.0	186.3	188.7	191.1	193.4
95°	184.3	192.0	199.8	204.8	207.2	209.6	211.9	214.3
97.5°	214.7	222.3	230.0	234.9	237.2	239.4	241.8	244.0
100°	237.0	244.5	252.0	256.8	258.6	260.5	262.3	264.2
102.5°	261.0	268.5	276.0	280.8	283.0	285.2	287.4	289.6
105°	297.5	304.6	311.9	316.8	319.5	322.2	324.9	327.5
107.5°	338.2	345.3	352.3	356.8	358.6	360.5	362.4	364.2
110°	365.4	371.2	376.9	381.1	383.7	386.4	389.1	391.8



TEST NUMBER: P332656-935

CATALOG NUMBER: SA4XXDIP-C1020D1035U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	394.5	400.4	406.1	410.2	412.4	414.7	416.8	419.0
115°	440.1	445.8	451.4	455.1	456.8	458.4	460.0	461.8
117.5°	483.2	488.1	492.9	496.2	498.0	499.7	501.4	503.2
120°	512.5	516.9	521.2	524.6	527.1	529.6	532.1	534.6
122.5°	542.7	547.3	552.0	554.9	556.1	557.3	558.6	559.8
125°	587.5	592.1	596.8	599.7	600.9	602.1	603.3	604.5
127.5°	628.8	633.2	637.6	640.5	642.0	643.5	645.0	646.4
130°	658.4	662.8	667.2	669.8	670.5	671.4	672.3	673.0
132.5°	686.5	690.7	694.8	697.6	698.8	700.1	701.4	702.7
135°	727.5	731.2	735.1	737.5	738.6	739.6	740.6	741.6
137.5°	768.1	771.5	774.8	777.2	778.6	780.1	781.5	782.9
140°	795.2	798.5	801.7	803.9	805.0	806.2	807.3	808.5
142.5°	821.7	824.7	827.6	829.7	830.7	831.8	832.8	834.0
145°	862.2	863.6	865.0	865.9	866.4	866.9	867.4	867.9
147.5°	899.2	899.3	899.3	899.7	900.3	901.0	901.6	902.3
150°	923.9	923.9	923.9	923.8	923.6	923.3	923.2	923.0
152.5°	947.4	947.9	948.4	948.4	947.9	947.4	946.8	946.3
155°	980.4	981.1	981.9	981.9	981.1	980.4	979.6	978.9
157.5°	1009.4	1010.0	1010.6	1010.5	1009.9	1009.2	1008.6	1007.9
160°	1027.3	1027.9	1028.4	1028.2	1027.3	1026.3	1025.4	1024.4
162.5°	1043.3	1044.3	1045.3	1045.4	1044.5	1043.5	1042.6	1041.6
165°	1064.5	1065.7	1066.8	1067.0	1066.3	1065.5	1064.7	1063.9
167.5°	1082.4	1083.6	1084.7	1084.7	1083.5	1082.3	1081.1	1080.0
170°	1092.0	1093.1	1094.3	1094.2	1092.9	1091.5	1090.2	1088.8
172.5°	1099.2	1100.4	1101.8	1101.7	1100.4	1099.1	1097.8	1096.4
175°	1107.0	1108.4	1109.7	1109.7	1108.4	1107.0	1105.7	1104.3
177.5°	1111.3	1112.3	1113.4	1113.4	1112.2	1110.9	1109.7	1108.5
180°	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2

(END OF REPORT)