

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: P332646-830

Luminaire Tested: **SA4XXDIP-C1020D810U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332646-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1020D810U830-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

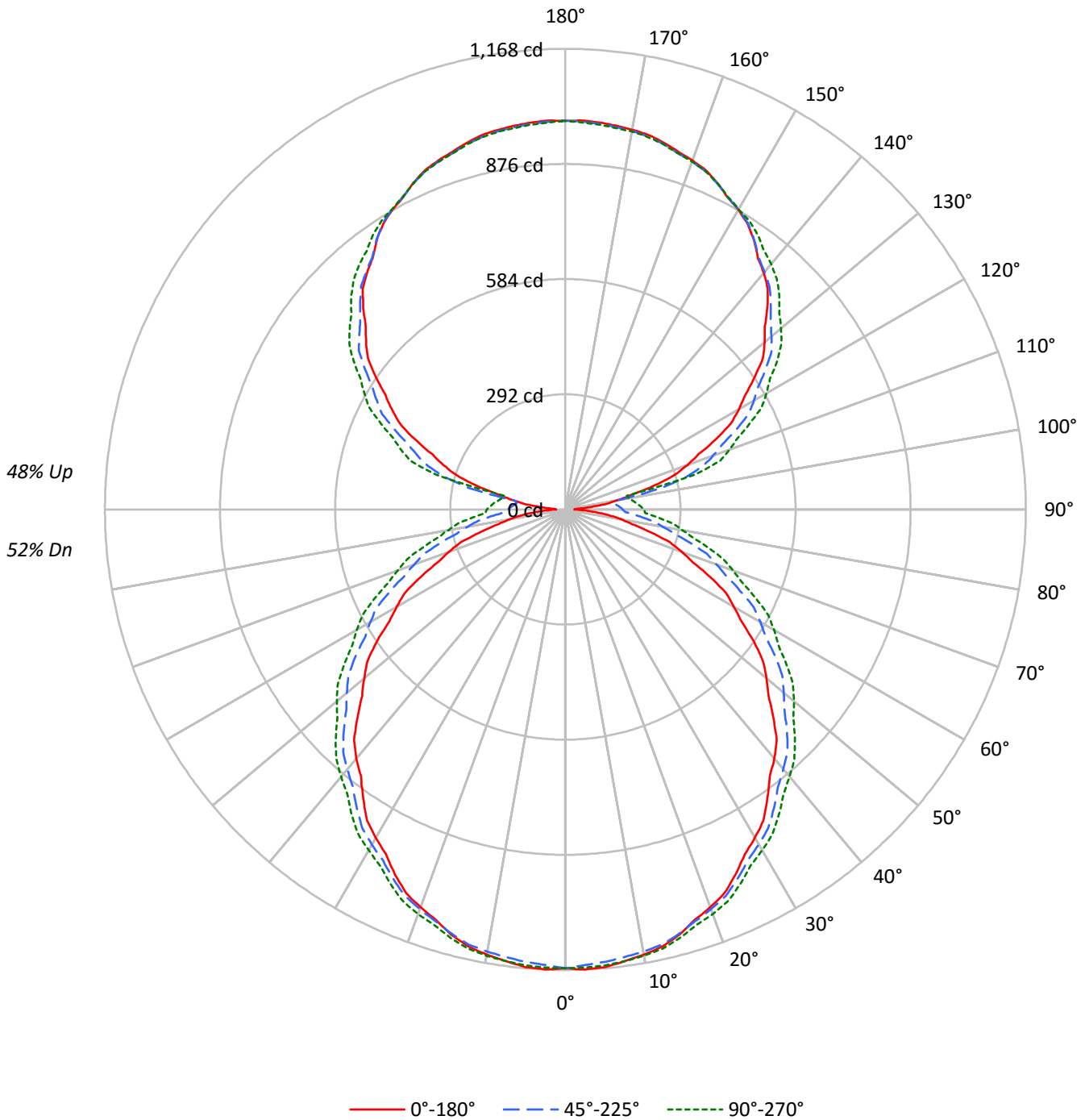
Lumens per Lamp: N/A
Luminaire Lumens: 7017.7 lumens
Efficiency: N/A
Efficacy: 129.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 54.4
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: P332646-830
CATALOG NUMBER: SA4XXDIP-C1020D810U830-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332646-830

CATALOG NUMBER: SA4XXDIP-C1020D810U830-4F0-1E-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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52				
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	48	47	42				
2	88	80	73	68	81	74	68	63	63	59	55	53	49	47	43	41	39	34				
3	80	70	62	56	74	65	58	52	55	50	46	46	42	39	38	35	33	28				
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	30	28	24				
5	67	55	46	40	62	51	43	38	44	38	33	37	32	28	30	27	24	21				
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18				
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	18	16				
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14				
9	49	37	29	24	45	34	27	22	29	24	20	25	21	17	21	17	15	13				
10	46	33	26	21	42	31	25	20	27	22	18	23	19	16	19	16	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9395	9395	9395
5°	9424	9182	9208
10°	9366	9032	9024
15°	9282	8858	8809
20°	9156	8666	8599
25°	9013	8450	8368
30°	8859	8237	8131
35°	8684	8018	7924
40°	8544	7809	7708
45°	8336	7617	7522
50°	8161	7395	7326
55°	7979	7187	7096
60°	7697	6921	6885
65°	7387	6635	6628
70°	7013	6309	6327
75°	6486	5950	6056
80°	5904	5605	5788
85°	5170	5301	5633



TEST NUMBER: P332646-830

CATALOG NUMBER: SA4XXDIP-C1020D810U830-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.2	1.6
10°-20°	315.7	4.5
20°-30°	477.4	6.8
30°-40°	577.6	8.2
40°-50°	610.7	8.7
50°-60°	574.7	8.2
60°-70°	476.8	6.8
70°-80°	334.9	4.8
80°-90°	192.2	2.7
90°-100°	146.1	2.1
100°-110°	298.1	4.2
110°-120°	466.9	6.7
120°-130°	553.3	7.9
130°-140°	571.9	8.1
140°-150°	524.8	7.5
150°-160°	421.0	6.0
160°-170°	271.5	3.9
170°-180°	93.6	1.3
0°-30°	903.4	12.9
0°-40°	1481.0	21.1
0°-60°	2666.4	38.0
0°-90°	3670.4	52.3
90°-120°	911.1	13.0
90°-150°	2561.2	36.5
90°-180°	3347.0	47.7
0°-180°	7017.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1164	1164	1164	1164	1164	
5°	1165	1161	1152	1162	1161	111
15°	1117	1118	1114	1125	1125	315
25°	1022	1029	1033	1047	1049	470
35°	894	910	923	940	945	560
45°	745	770	795	816	824	576
55°	584	612	650	675	684	520
65°	404	446	490	521	533	400
75°	224	273	327	362	375	238
85°	69	124	182	220	235	74
90°	23	83	145	186	199	16
95°	58	77	130	168	182	66
105°	234	265	316	352	339	245
115°	422	437	477	506	516	416
125°	587	591	620	646	656	525
135°	725	725	736	758	768	559
145°	834	835	835	843	850	521
155°	913	914	912	914	912	421
165°	963	960	960	965	959	272
175°	985	981	982	987	979	94
180°	985	985	985	985	985	



TEST NUMBER: P332646-830

CATALOG NUMBER: SA4XXDIP-C1020D810U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8
2.5°	1167.9	1167.2	1166.5	1165.8	1165.1	1163.9	1162.0	1160.2	1158.3	1156.4	1158.0
5°	1165.0	1164.1	1163.3	1162.4	1161.6	1160.1	1158.1	1156.0	1154.0	1152.0	1154.3
7.5°	1155.1	1154.6	1154.0	1153.6	1153.0	1152.0	1150.3	1148.6	1146.9	1145.2	1147.8
10°	1146.8	1146.5	1146.2	1145.9	1145.7	1144.7	1143.3	1141.9	1140.4	1139.0	1141.6
12.5°	1135.3	1135.3	1135.2	1135.1	1135.1	1134.5	1133.6	1132.6	1131.6	1130.6	1133.0
15°	1116.8	1117.1	1117.4	1117.7	1117.9	1117.7	1116.8	1116.0	1115.0	1114.2	1116.8
17.5°	1091.6	1092.4	1093.3	1094.1	1095.0	1095.3	1095.1	1095.0	1094.9	1094.7	1097.3
20°	1073.8	1074.7	1075.5	1076.4	1077.3	1077.9	1078.2	1078.5	1078.7	1079.0	1081.9
22.5°	1054.0	1055.1	1056.2	1057.3	1058.4	1059.2	1059.7	1060.3	1060.7	1061.3	1064.2
25°	1021.7	1023.4	1025.1	1026.9	1028.6	1029.9	1030.8	1031.7	1032.6	1033.4	1036.6
27.5°	985.7	988.3	990.8	993.3	995.9	997.9	999.2	1000.5	1001.8	1003.1	1006.2
30°	961.8	964.0	966.4	968.7	971.0	973.2	975.2	977.2	979.2	981.3	984.5
32.5°	935.7	938.5	941.2	944.1	946.8	949.3	951.6	953.9	956.1	958.4	962.0
35°	894.0	897.5	900.9	904.4	907.9	911.1	914.0	916.8	919.7	922.7	926.7
37.5°	852.0	856.0	860.0	864.0	868.0	871.8	875.3	878.9	882.6	886.2	890.2
40°	824.9	828.7	832.5	836.2	840.0	843.9	847.9	852.0	856.0	860.1	864.4
42.5°	793.6	797.9	802.1	806.3	810.5	815.0	819.7	824.5	829.2	834.1	838.9
45°	745.4	750.9	756.4	762.0	767.4	772.9	778.4	783.9	789.4	794.9	799.8
47.5°	699.3	704.9	710.6	716.3	722.0	728.0	734.3	740.7	747.2	753.5	758.6
50°	665.9	672.3	678.6	685.0	691.4	697.8	704.2	710.5	716.9	723.2	729.1
52.5°	632.5	638.9	645.3	651.7	658.1	664.9	672.1	679.5	686.7	694.1	699.8
55°	583.8	589.9	596.0	602.1	608.1	615.5	624.2	632.9	641.6	650.3	656.1
57.5°	529.3	536.9	544.4	552.0	559.5	567.5	576.2	584.8	593.4	602.1	609.0
60°	493.9	501.4	509.0	516.5	524.1	532.5	542.2	551.7	561.2	570.8	577.4
62.5°	459.5	467.7	476.0	484.2	492.4	501.2	510.9	520.4	530.0	539.5	546.2
65°	404.0	413.2	422.5	431.8	441.0	450.6	460.4	470.3	480.1	490.0	497.2
67.5°	350.5	360.4	370.2	380.1	389.9	400.1	410.7	421.2	431.8	442.3	449.7
70°	314.1	324.0	333.8	343.6	353.5	363.9	374.8	385.9	396.9	407.9	415.8
72.5°	278.6	288.7	298.8	308.9	319.0	329.8	341.5	353.2	365.0	376.6	384.2
75°	224.1	234.9	245.5	256.3	267.0	278.4	290.6	302.7	314.9	327.1	335.2
77.5°	173.3	184.6	196.0	207.4	218.8	230.7	243.6	256.3	269.0	281.7	289.9
80°	142.0	153.6	165.2	176.8	188.4	200.6	213.3	226.0	238.7	251.5	260.2
82.5°	110.7	122.8	134.9	146.9	158.9	171.4	184.1	196.8	209.6	222.3	231.2
85°	69.1	81.2	93.4	105.6	117.7	130.4	143.4	156.4	169.4	182.5	191.1
87.5°	39.0	51.2	63.3	75.5	87.8	100.3	113.2	126.2	139.1	152.0	160.7
90°	23.1	36.5	49.9	63.2	76.6	90.2	104.0	117.7	131.5	145.2	154.6
92.5°	29.1	39.6	50.1	60.7	71.2	83.3	97.1	110.8	124.6	138.4	147.5
95°	57.5	61.5	65.4	69.5	73.4	81.4	93.5	105.5	117.5	129.6	138.4
97.5°	101.4	113.1	124.9	136.6	148.3	150.8	144.3	137.8	131.3	124.8	132.4
100°	135.2	145.7	156.2	166.6	177.1	176.7	165.4	154.1	142.8	131.5	136.5
102.5°	174.1	182.9	191.6	200.4	209.2	217.6	225.7	233.8	242.0	250.1	227.6
105°	233.6	240.3	247.1	253.9	260.6	269.8	281.3	292.8	304.4	315.9	324.6
107.5°	291.0	296.1	301.4	306.6	311.9	320.1	331.4	342.6	353.9	365.1	373.0
110°	328.8	333.4	337.9	342.4	346.9	354.8	365.9	377.0	388.1	399.3	406.2



TEST NUMBER: P332646-830

CATALOG NUMBER: SA4XXDIP-C1020D810U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.5	369.9	374.5	378.9	383.4	390.7	400.9	410.9	421.1	431.2	437.6
115°	422.0	425.1	428.2	431.3	434.4	440.5	449.6	458.7	467.8	476.9	483.6
117.5°	474.1	476.3	478.5	480.7	483.0	488.5	497.6	506.5	515.5	524.5	530.5
120°	508.4	509.9	511.4	512.9	514.4	519.3	527.6	535.8	544.0	552.3	558.5
122.5°	541.4	542.0	542.5	543.1	543.7	548.0	556.2	564.4	572.5	580.7	586.6
125°	587.4	587.8	588.1	588.5	588.9	592.5	599.5	606.3	613.2	620.2	626.1
127.5°	632.0	631.9	631.7	631.6	631.5	634.5	640.8	647.1	653.5	659.8	665.0
130°	659.8	659.7	659.6	659.4	659.3	661.8	666.9	672.0	677.2	682.3	687.7
132.5°	686.4	686.4	686.4	686.4	686.4	688.5	692.9	697.2	701.5	705.9	711.0
135°	724.8	724.6	724.5	724.3	724.2	725.5	728.1	730.8	733.5	736.1	741.1
137.5°	760.1	759.9	759.6	759.4	759.1	759.9	761.6	763.3	765.1	766.8	771.3
140°	783.1	783.1	783.2	783.2	783.2	783.5	784.2	784.8	785.4	786.0	790.2
142.5°	802.7	803.1	803.7	804.3	804.7	805.0	805.0	805.1	805.1	805.1	808.8
145°	834.1	834.2	834.4	834.7	834.9	835.0	835.0	835.0	835.0	835.0	836.9
147.5°	859.3	859.9	860.5	861.2	861.8	862.0	861.9	861.7	861.5	861.4	861.8
150°	877.6	877.9	878.3	878.6	879.0	879.1	878.9	878.8	878.6	878.4	878.4
152.5°	891.8	892.3	892.8	893.2	893.7	893.8	893.5	893.2	892.9	892.6	892.9
155°	913.1	913.2	913.4	913.6	913.8	913.6	913.1	912.6	912.1	911.6	912.3
157.5°	931.2	931.1	931.0	930.9	930.9	930.5	929.9	929.4	928.9	928.3	929.2
160°	941.9	941.3	940.8	940.4	939.9	939.5	939.4	939.2	939.1	938.9	939.9
162.5°	951.3	950.6	950.0	949.4	948.8	948.4	948.2	948.1	947.9	947.7	948.8
165°	963.2	962.4	961.6	960.7	960.0	959.5	959.5	959.5	959.5	959.5	960.8
167.5°	972.6	971.8	970.9	970.1	969.2	968.7	968.7	968.6	968.5	968.4	969.8
170°	978.0	976.9	976.0	975.0	974.0	973.6	973.7	973.9	974.1	974.3	975.5
172.5°	981.5	980.5	979.5	978.5	977.6	977.1	977.3	977.5	977.6	977.8	979.1
175°	985.3	984.3	983.4	982.4	981.4	981.0	981.2	981.3	981.5	981.7	983.1
177.5°	987.1	986.2	985.2	984.3	983.4	983.1	983.4	983.6	983.9	984.1	985.1
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3



TEST NUMBER: P332646-830

CATALOG NUMBER: SA4XXDIP-C1020D810U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8
2.5°	1159.7	1161.3	1162.9	1163.6	1163.4	1163.1	1162.9	1162.7
5°	1156.6	1159.0	1161.3	1162.2	1162.0	1161.7	1161.4	1161.1
7.5°	1150.5	1153.0	1155.7	1156.8	1156.5	1156.2	1155.9	1155.7
10°	1144.2	1146.8	1149.4	1150.6	1150.3	1150.0	1149.7	1149.4
12.5°	1135.4	1137.7	1140.1	1141.3	1141.2	1141.1	1141.1	1141.0
15°	1119.5	1122.0	1124.6	1125.8	1125.5	1125.2	1124.9	1124.6
17.5°	1099.9	1102.7	1105.3	1106.5	1106.3	1106.1	1105.8	1105.6
20°	1084.8	1087.7	1090.6	1092.0	1092.0	1092.0	1092.0	1092.0
22.5°	1067.1	1070.0	1072.9	1074.6	1075.1	1075.4	1075.9	1076.4
25°	1039.8	1042.9	1046.1	1047.9	1048.2	1048.5	1048.8	1049.0
27.5°	1009.1	1012.0	1015.0	1016.6	1017.0	1017.4	1017.7	1018.0
30°	987.7	990.8	994.0	995.9	996.5	997.0	997.7	998.2
32.5°	965.6	969.3	973.0	975.1	975.6	976.2	976.8	977.4
35°	930.8	934.8	938.9	941.3	942.2	943.0	944.0	944.8
37.5°	894.4	898.5	902.6	905.1	906.1	907.0	907.9	908.8
40°	868.7	873.1	877.5	880.2	881.4	882.5	883.7	884.9
42.5°	843.7	848.5	853.3	856.1	857.1	858.0	858.9	859.8
45°	804.7	809.7	814.6	817.8	819.3	820.7	822.2	823.6
47.5°	763.6	768.7	773.9	777.3	779.0	780.8	782.5	784.3
50°	734.8	740.6	746.4	750.2	752.0	753.7	755.4	757.1
52.5°	705.7	711.4	717.3	721.0	722.7	724.4	726.2	727.9
55°	661.9	667.7	673.4	677.2	678.9	680.7	682.4	684.2
57.5°	615.9	622.7	629.6	633.9	635.5	637.2	638.8	640.4
60°	584.1	590.8	597.4	601.9	604.3	606.5	608.9	611.1
62.5°	552.8	559.5	566.2	570.6	573.0	575.2	577.6	579.9
65°	504.4	511.7	519.0	523.8	526.0	528.4	530.7	533.0
67.5°	457.0	464.4	471.7	476.5	478.8	481.1	483.3	485.6
70°	423.5	431.3	439.1	444.1	446.1	448.2	450.2	452.2
72.5°	391.8	399.4	407.0	411.9	414.2	416.4	418.7	420.9
75°	343.3	351.4	359.5	364.9	367.5	370.1	372.7	375.3
77.5°	298.2	306.4	314.6	320.2	322.9	325.7	328.5	331.3
80°	268.9	277.6	286.3	291.7	294.1	296.4	298.7	301.0
82.5°	240.2	249.1	258.0	263.7	266.3	268.8	271.4	273.9
85°	199.8	208.5	217.2	223.0	225.9	228.8	231.7	234.6
87.5°	169.3	177.9	186.4	192.1	194.6	197.3	199.9	202.5
90°	164.0	173.3	182.8	188.8	191.4	194.1	196.7	199.3
92.5°	156.7	165.8	174.9	180.8	183.1	185.5	187.8	190.3
95°	147.2	156.0	164.8	170.6	173.3	176.2	178.9	181.6
97.5°	140.2	147.8	155.5	160.7	163.3	166.0	168.6	171.3
100°	141.6	146.6	151.6	155.2	157.4	159.6	161.8	164.0
102.5°	205.2	182.8	160.2	150.1	152.5	154.8	157.0	159.4
105°	333.4	342.0	350.8	353.4	349.8	346.2	342.6	339.0
107.5°	380.8	388.7	396.5	401.8	404.4	407.2	409.9	412.6
110°	413.3	420.3	427.3	432.2	435.0	437.7	440.5	443.4



TEST NUMBER: P332646-830

CATALOG NUMBER: SA4XXDIP-C1020D810U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	443.9	450.3	456.7	461.3	464.3	467.2	470.1	473.1
115°	490.3	497.0	503.7	508.0	510.1	512.1	514.2	516.1
117.5°	536.4	542.3	548.4	552.4	554.7	556.9	559.2	561.5
120°	564.6	570.6	576.7	580.8	582.9	584.8	586.8	588.8
122.5°	592.7	598.7	604.6	608.5	610.3	612.0	613.8	615.6
125°	632.2	638.1	644.1	648.1	650.0	651.9	653.7	655.7
127.5°	670.1	675.1	680.2	683.7	685.6	687.4	689.3	691.1
130°	693.1	698.4	703.8	707.4	709.1	710.9	712.6	714.4
132.5°	716.1	721.2	726.4	729.8	731.4	733.0	734.6	736.2
135°	746.1	751.0	756.0	759.5	761.6	763.6	765.7	767.8
137.5°	775.9	780.5	785.0	788.1	789.4	790.7	792.1	793.4
140°	794.5	798.8	803.0	806.0	807.6	809.2	810.8	812.4
142.5°	812.5	816.1	819.8	822.3	823.5	824.7	826.0	827.3
145°	838.8	840.7	842.6	844.2	845.7	847.3	848.8	850.3
147.5°	862.0	862.4	862.8	863.6	864.6	865.7	866.9	867.9
150°	878.4	878.4	878.4	878.5	878.7	878.8	879.0	879.2
152.5°	893.2	893.4	893.6	893.7	893.6	893.5	893.4	893.3
155°	912.9	913.6	914.3	914.4	913.8	913.3	912.9	912.4
157.5°	930.0	930.9	931.7	931.7	930.9	930.0	929.2	928.3
160°	940.8	941.9	942.8	942.8	941.9	940.8	939.9	938.9
162.5°	949.7	950.6	951.7	951.6	950.5	949.3	948.3	947.2
165°	962.1	963.5	964.8	964.7	963.2	961.8	960.3	958.8
167.5°	971.3	972.7	974.1	974.0	972.4	970.7	969.1	967.5
170°	976.9	978.2	979.5	979.3	977.7	976.1	974.4	972.8
172.5°	980.4	981.8	983.1	982.8	981.1	979.3	977.5	975.7
175°	984.6	986.1	987.5	987.3	985.3	983.4	981.4	979.4
177.5°	986.3	987.3	988.4	988.1	986.5	985.0	983.4	981.8
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3

(END OF REPORT)