

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: P332664-830

Luminaire Tested: **SA4XXDIP-C1020D1205U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332664-830  
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-C1020D1205U830-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8500.7 lumens  
Efficiency: N/A  
Efficacy: 130.0 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

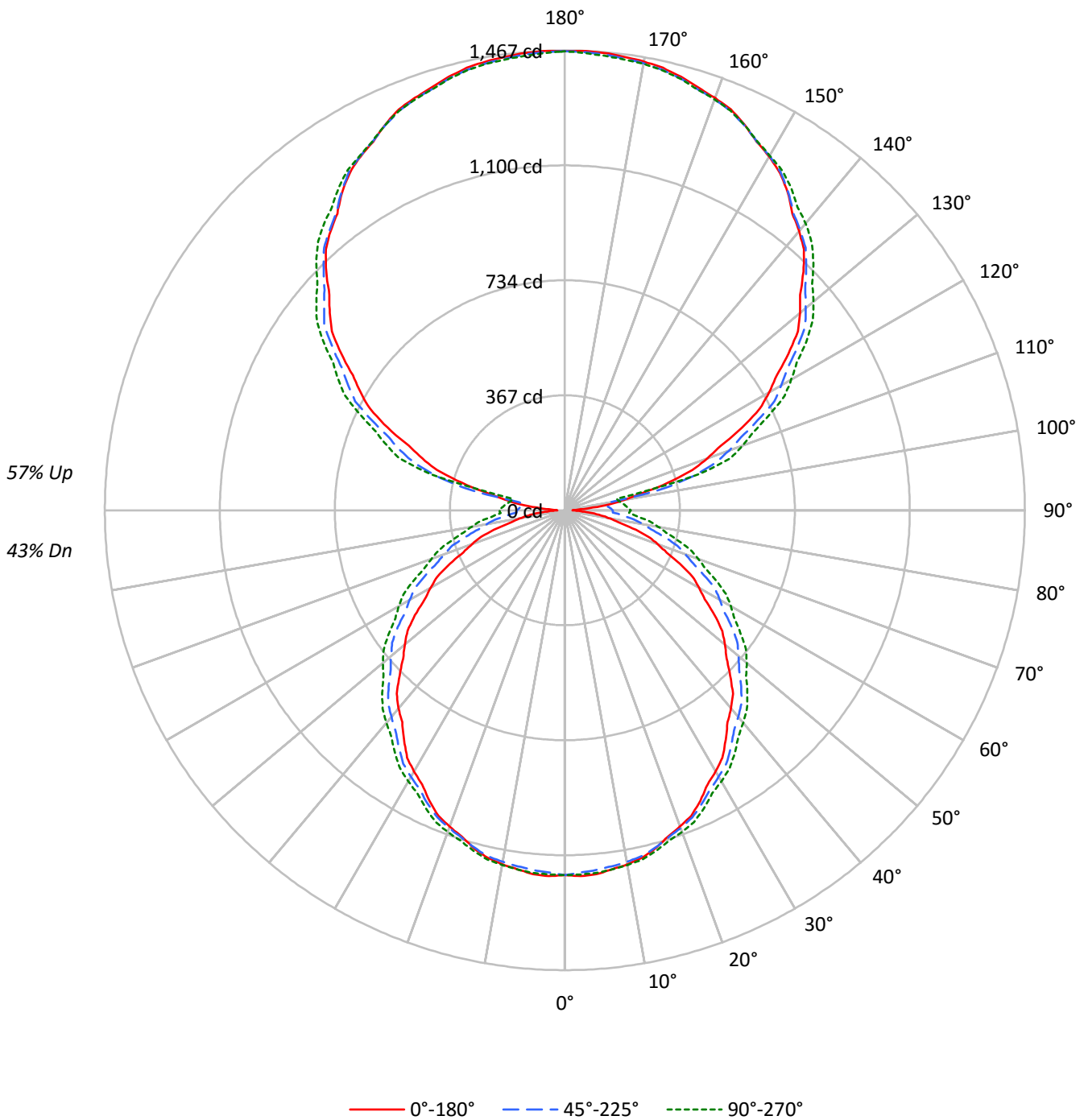
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	96	96	96	96	80	80	80	64	64	64	50	50	50	43
1	95	91	87	83	87	83	79	76	68	66	63	55	53	52	43	41	40	35
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	32	30	28	23
4	72	61	53	46	65	56	48	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	17	19	16	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	10
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	11	9

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.2	1.3
10°-20°	315.7	3.7
20°-30°	477.4	5.6
30°-40°	577.6	6.8
40°-50°	610.7	7.2
50°-60°	574.7	6.8
60°-70°	476.8	5.6
70°-80°	334.9	3.9
80°-90°	193.6	2.3
90°-100°	162.5	1.9
100°-110°	402.5	4.7
110°-120°	666.7	7.8
120°-130°	807.0	9.5
130°-140°	843.3	9.9
140°-150°	778.6	9.2
150°-160°	625.7	7.4
160°-170°	403.5	4.7
170°-180°	139.1	1.6
0°-30°	903.4	10.6
0°-40°	1481.0	17.4
0°-60°	2666.4	31.4
0°-90°	3671.8	43.2
90°-120°	1231.8	14.5
90°-150°	3660.6	43.1
90°-180°	4829.0	56.8
0°-180°	8500.7	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°	24	88	153	196	210	17
95°	77	86	137	178	192	91
105°	341	375	428	466	441	358
115°	623	640	679	709	719	614
125°	870	875	904	931	941	777
135°	1076	1076	1088	1111	1121	829
145°	1239	1241	1241	1250	1257	774
155°	1357	1358	1355	1359	1356	625
165°	1431	1426	1426	1434	1425	404
175°	1464	1458	1459	1467	1456	139
180°	1464	1464	1464	1464	1464	



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**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°	39.2	51.6	63.9	76.3	88.6	101.3	114.4	127.5	140.5	153.6	162.3
90°	24.1	38.4	52.7	66.9	81.2	95.5	109.9	124.3	138.7	153.1	163.0
92.5°	33.6	44.2	54.8	65.3	75.9	88.4	102.7	117.2	131.6	146.0	155.6
95°	77.2	78.4	79.7	81.1	82.3	89.0	101.1	113.2	125.4	137.4	146.8
97.5°	143.3	156.7	170.0	183.4	196.8	195.9	180.4	165.0	149.6	134.2	141.9
100°	194.0	205.9	217.7	229.7	241.6	236.4	214.1	191.8	169.6	147.2	150.9
102.5°	251.8	261.6	271.4	281.3	291.1	299.3	305.9	312.6	319.3	326.0	289.0
105°	341.4	348.6	355.9	363.2	370.4	379.9	391.9	403.9	415.8	427.7	437.2
107.5°	426.8	432.3	437.7	443.2	448.7	457.3	469.1	480.9	492.7	504.4	512.6
110°	483.5	488.3	493.1	497.9	502.7	510.9	522.5	534.0	545.6	557.2	564.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	538.6	543.5	548.4	553.3	558.2	565.8	576.2	586.5	596.9	607.3	613.6
115°	623.3	626.7	630.0	633.3	636.7	642.8	651.9	660.9	670.0	678.9	685.8
117.5°	700.8	703.3	705.9	708.4	711.0	716.8	725.9	735.2	744.3	753.5	759.4
120°	752.3	754.2	756.0	757.9	759.7	764.7	772.9	781.0	789.2	797.3	803.6
122.5°	801.4	802.2	803.0	803.7	804.5	809.0	817.2	825.5	833.8	842.1	848.1
125°	870.4	871.1	871.8	872.5	873.2	876.8	883.6	890.4	897.1	903.9	910.1
127.5°	936.7	936.7	936.6	936.6	936.5	939.9	946.6	953.2	959.9	966.6	971.7
130°	978.6	978.5	978.5	978.5	978.5	981.1	986.5	991.8	997.2	1002.6	1008.0
132.5°	1018.0	1018.2	1018.3	1018.5	1018.6	1021.1	1025.7	1030.3	1034.9	1039.5	1044.8
135°	1075.9	1075.6	1075.4	1075.2	1074.9	1076.3	1079.3	1082.3	1085.3	1088.3	1093.4
137.5°	1128.2	1128.0	1127.8	1127.7	1127.5	1128.4	1130.5	1132.6	1134.5	1136.6	1141.4
140°	1162.4	1162.6	1162.8	1163.0	1163.2	1163.7	1164.5	1165.3	1166.0	1166.8	1171.3
142.5°	1192.0	1192.9	1193.6	1194.5	1195.3	1195.8	1195.9	1196.0	1196.1	1196.3	1200.0
145°	1238.9	1239.3	1239.7	1240.2	1240.7	1240.9	1240.9	1240.9	1240.9	1240.9	1242.8
147.5°	1276.3	1277.4	1278.5	1279.5	1280.6	1281.0	1280.8	1280.5	1280.3	1280.1	1280.4
150°	1303.4	1304.2	1304.9	1305.5	1306.2	1306.5	1306.2	1306.0	1305.7	1305.4	1305.4
152.5°	1325.2	1326.0	1326.6	1327.4	1328.1	1328.2	1327.9	1327.4	1326.9	1326.5	1326.9
155°	1357.0	1357.2	1357.4	1357.6	1357.9	1357.6	1357.0	1356.2	1355.5	1354.7	1355.8
157.5°	1383.8	1383.7	1383.6	1383.5	1383.3	1382.8	1382.0	1381.2	1380.4	1379.5	1380.7
160°	1399.7	1398.9	1398.2	1397.5	1396.8	1396.3	1396.0	1395.7	1395.5	1395.2	1396.8
162.5°	1413.6	1412.8	1411.8	1410.9	1409.9	1409.4	1409.1	1408.9	1408.6	1408.4	1409.9
165°	1431.4	1430.2	1429.0	1427.8	1426.5	1426.0	1426.0	1426.0	1426.0	1426.0	1427.9
167.5°	1445.4	1444.2	1442.9	1441.6	1440.4	1439.6	1439.5	1439.4	1439.3	1439.1	1441.2
170°	1453.3	1451.9	1450.4	1449.0	1447.5	1446.9	1447.1	1447.4	1447.6	1447.8	1449.8
172.5°	1458.6	1457.1	1455.7	1454.2	1452.7	1452.1	1452.4	1452.6	1452.8	1453.1	1455.0
175°	1464.2	1462.8	1461.3	1459.9	1458.4	1457.8	1458.0	1458.3	1458.6	1458.8	1460.9
177.5°	1466.9	1465.6	1464.1	1462.8	1461.4	1460.9	1461.3	1461.7	1462.2	1462.5	1464.1
180°	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2



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**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°	171.0	179.7	188.4	194.1	196.7	199.3	202.0	204.6
90°	172.9	182.7	192.6	198.9	201.7	204.4	207.3	210.1
92.5°	165.2	174.8	184.5	190.5	192.9	195.3	197.7	200.2
95°	156.0	165.3	174.6	180.7	183.5	186.3	189.2	192.1
97.5°	149.7	157.4	165.1	170.4	173.1	175.9	178.6	181.3
100°	154.6	158.3	161.9	164.9	167.2	169.5	171.7	174.0
102.5°	251.9	214.9	177.9	160.4	162.8	165.0	167.4	169.7
105°	446.6	456.0	465.4	466.9	460.4	454.0	447.6	441.1
107.5°	520.8	529.0	537.2	542.9	545.8	548.8	551.9	554.9
110°	571.6	578.7	585.9	591.0	594.0	597.0	600.1	603.1





TEST NUMBER: P332664-830  
 CATALOG NUMBER: SA4XXDIP-C1020D1205U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	619.9	626.2	632.5	637.3	640.6	643.9	647.1	650.4
115°	692.7	699.6	706.3	710.8	712.8	714.8	716.9	718.9
117.5°	765.3	771.3	777.2	781.3	783.4	785.7	787.9	790.1
120°	809.9	816.1	822.5	826.5	828.3	830.2	832.0	833.8
122.5°	854.2	860.4	866.4	870.2	871.9	873.5	875.1	876.7
125°	916.3	922.6	928.8	932.9	934.9	936.9	938.9	940.8
127.5°	976.8	981.8	986.8	990.2	992.0	993.8	995.6	997.4
130°	1013.5	1018.9	1024.4	1027.9	1029.7	1031.4	1033.2	1034.9
132.5°	1050.0	1055.3	1060.5	1063.8	1065.4	1067.0	1068.5	1070.0
135°	1098.5	1103.6	1108.8	1112.5	1114.7	1116.9	1119.1	1121.3
137.5°	1146.1	1150.9	1155.7	1158.7	1160.0	1161.3	1162.6	1163.9
140°	1175.8	1180.3	1184.8	1187.9	1189.6	1191.3	1193.0	1194.7
142.5°	1203.9	1207.8	1211.6	1214.2	1215.4	1216.6	1218.0	1219.2
145°	1244.8	1246.8	1248.8	1250.6	1252.3	1253.9	1255.6	1257.2
147.5°	1280.9	1281.3	1281.8	1282.5	1283.7	1284.9	1286.1	1287.2
150°	1305.4	1305.4	1305.4	1305.6	1305.8	1306.1	1306.4	1306.6
152.5°	1327.3	1327.7	1328.0	1328.1	1328.0	1327.9	1327.8	1327.6
155°	1356.7	1357.6	1358.7	1358.8	1358.0	1357.3	1356.6	1355.8
157.5°	1382.1	1383.3	1384.6	1384.6	1383.3	1382.1	1380.7	1379.5
160°	1398.2	1399.7	1401.1	1401.1	1399.7	1398.2	1396.8	1395.2
162.5°	1411.4	1412.8	1414.3	1414.2	1412.5	1410.9	1409.2	1407.5
165°	1429.8	1431.8	1433.7	1433.6	1431.4	1429.2	1427.0	1424.8
167.5°	1443.4	1445.5	1447.7	1447.5	1445.1	1442.7	1440.2	1437.8
170°	1451.7	1453.7	1455.7	1455.4	1452.9	1450.5	1448.1	1445.7
172.5°	1457.0	1459.0	1460.8	1460.6	1457.9	1455.3	1452.6	1450.0
175°	1463.2	1465.4	1467.5	1467.2	1464.2	1461.3	1458.4	1455.5
177.5°	1465.7	1467.2	1468.8	1468.4	1466.0	1463.7	1461.3	1459.1
180°	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2

(END OF REPORT)