

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: P332084-935

Luminaire Tested: **S123DIP-S1165D1195U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332084-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1195U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8284.9 lumens
Efficiency: N/A
Efficacy: 115.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

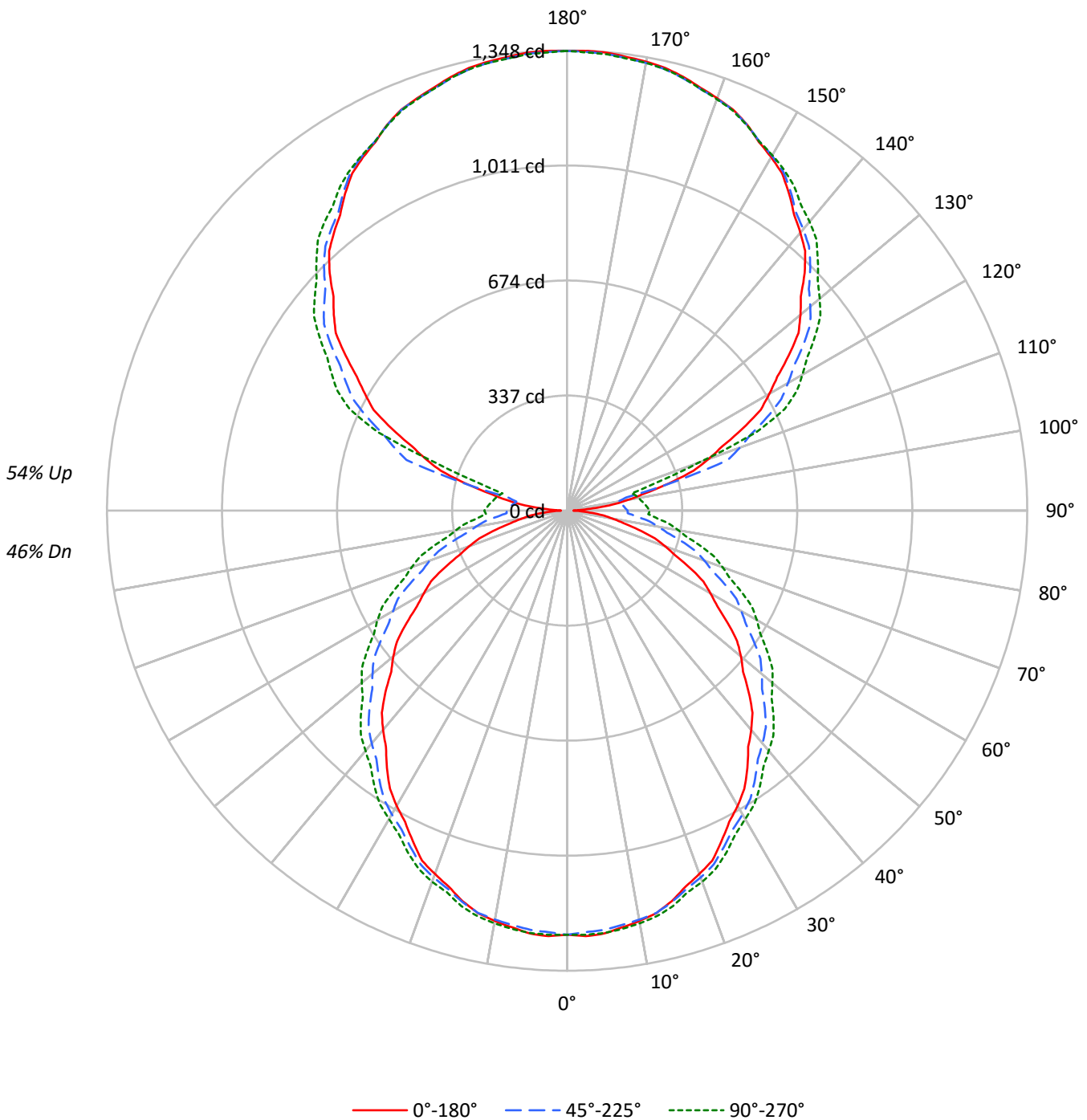
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332084-935

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332084-935

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46				
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	42	37				
2	87	79	73	67	79	73	67	62	61	56	53	49	46	44	39	37	35	30				
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	29	25				
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21				
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18				
6	61	48	40	34	56	45	37	32	38	32	28	31	27	23	25	21	19	16				
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14				
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13				
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	13	11				
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	14	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



TEST NUMBER: P332084-935

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	1.4
10°-20°	335.7	4.1
20°-30°	502.2	6.1
30°-40°	599.7	7.2
40°-50°	627.4	7.6
50°-60°	588.8	7.1
60°-70°	491.8	5.9
70°-80°	351.8	4.2
80°-90°	213.6	2.6
90°-100°	180.6	2.2
100°-110°	330.1	4.0
110°-120°	625.0	7.5
120°-130°	750.5	9.1
130°-140°	779.0	9.4
140°-150°	716.5	8.6
150°-160°	575.2	6.9
160°-170°	371.2	4.5
170°-180°	127.9	1.5
0°-30°	955.7	11.5
0°-40°	1555.4	18.8
0°-60°	2771.6	33.5
0°-90°	3828.8	46.2
90°-120°	1135.7	13.7
90°-150°	3381.8	40.8
90°-180°	4456.0	53.8
0°-180°	8284.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	19	95	177	225	242	15
95°	76	91	165	212	228	87
105°	309	348	321	190	196	327
115°	566	590	646	687	703	559
125°	792	802	844	873	886	708
135°	984	990	1008	1034	1039	757
145°	1134	1139	1141	1154	1160	709
155°	1247	1246	1246	1251	1245	574
165°	1315	1313	1311	1319	1312	371
175°	1346	1342	1342	1349	1341	128
180°	1346	1346	1346	1346	1346	



TEST NUMBER: P332084-935

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.2	51.7	67.1	82.5	97.9	113.6	129.5	145.4	161.4	177.2	187.6
90°	18.6	35.6	52.5	69.5	86.4	104.0	122.3	140.5	158.7	176.9	188.0
92.5°	35.1	47.8	60.4	73.1	85.8	100.7	118.0	135.3	152.6	169.9	181.3
95°	75.9	78.5	81.1	83.8	86.4	96.3	113.5	130.6	147.8	165.0	175.9
97.5°	135.9	142.4	148.9	155.4	161.9	164.2	162.2	160.3	158.4	156.4	167.2
100°	181.2	195.3	209.4	223.4	237.5	234.1	213.3	192.4	171.6	150.8	161.3
102.5°	233.0	244.9	256.7	268.5	280.4	274.2	249.9	225.7	201.4	177.1	180.0
105°	308.9	318.6	328.2	337.9	347.6	348.9	341.8	334.8	327.6	320.6	289.6
107.5°	387.7	395.8	403.9	412.0	420.1	431.9	447.3	462.7	478.1	493.5	472.8
110°	440.2	447.5	454.6	461.8	469.0	479.8	494.3	508.9	523.3	537.8	538.2



TEST NUMBER: P332084-935

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	491.5	497.5	503.6	509.6	515.7	525.7	539.7	553.7	567.7	581.7	589.4
115°	565.9	570.9	575.8	580.7	585.7	594.6	607.4	620.3	633.1	645.9	655.4
117.5°	639.1	643.0	646.9	650.7	654.6	662.1	673.3	684.5	695.7	706.9	715.8
120°	683.6	687.2	690.6	694.1	697.7	704.7	715.3	725.9	736.5	747.1	755.8
122.5°	730.0	732.5	734.9	737.4	739.8	746.1	756.4	766.7	777.0	787.3	795.2
125°	792.3	794.1	795.9	797.6	799.4	805.1	814.8	824.3	834.0	843.5	850.3
127.5°	853.9	855.4	856.9	858.3	859.9	864.7	873.0	881.3	889.6	897.9	904.6
130°	892.3	893.8	895.3	896.8	898.3	902.4	909.4	916.3	923.2	930.1	936.7
132.5°	928.1	929.8	931.5	933.2	935.0	938.6	944.1	949.6	955.1	960.6	967.0
135°	984.0	985.1	986.1	987.1	988.2	990.8	995.0	999.2	1003.3	1007.5	1013.7
137.5°	1031.7	1033.2	1034.7	1036.1	1037.6	1039.5	1041.8	1044.1	1046.5	1048.9	1054.7
140°	1062.7	1064.0	1065.4	1066.7	1068.0	1069.4	1071.1	1072.6	1074.2	1075.7	1081.2
142.5°	1092.3	1093.4	1094.5	1095.6	1096.7	1097.6	1098.5	1099.3	1100.2	1101.0	1105.8
145°	1133.7	1135.0	1136.3	1137.5	1138.8	1139.6	1140.1	1140.5	1140.9	1141.3	1144.2
147.5°	1171.4	1172.4	1173.5	1174.4	1175.4	1176.2	1176.6	1177.1	1177.5	1177.9	1179.1
150°	1195.4	1196.0	1196.7	1197.4	1198.1	1198.6	1199.0	1199.5	1200.0	1200.4	1200.8
152.5°	1217.0	1217.3	1217.6	1217.9	1218.2	1218.5	1218.7	1219.1	1219.3	1219.6	1220.4
155°	1247.4	1247.0	1246.5	1246.0	1245.6	1245.5	1245.7	1246.0	1246.2	1246.4	1247.5
157.5°	1271.0	1270.9	1270.9	1270.8	1270.8	1270.7	1270.5	1270.2	1270.1	1269.8	1271.2
160°	1285.4	1285.2	1285.0	1284.8	1284.5	1284.3	1284.1	1283.8	1283.7	1283.4	1284.8
162.5°	1299.0	1298.5	1297.9	1297.3	1296.7	1296.3	1296.1	1295.9	1295.6	1295.4	1296.9
165°	1315.4	1314.7	1314.1	1313.5	1312.8	1312.3	1312.1	1311.8	1311.6	1311.4	1313.2
167.5°	1328.3	1327.3	1326.5	1325.6	1324.6	1324.2	1324.2	1324.2	1324.2	1324.2	1326.0
170°	1335.4	1334.6	1333.7	1332.7	1331.9	1331.5	1331.5	1331.5	1331.5	1331.5	1333.2
172.5°	1340.2	1339.2	1338.1	1337.0	1335.9	1335.5	1335.7	1335.8	1336.0	1336.2	1338.0
175°	1346.4	1345.3	1344.2	1343.1	1342.0	1341.5	1341.8	1342.0	1342.2	1342.4	1344.0
177.5°	1348.1	1347.1	1346.3	1345.4	1344.5	1344.1	1344.3	1344.5	1344.6	1344.8	1346.3
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4



TEST NUMBER: P332084-935

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	198.0	208.4	218.9	225.6	228.7	231.8	234.9	238.0
90°	199.1	210.3	221.4	228.7	232.1	235.6	239.0	242.5
92.5°	192.7	204.1	215.5	222.7	225.8	228.8	231.9	234.9
95°	186.8	197.6	208.5	215.4	218.4	221.4	224.5	227.5
97.5°	178.0	188.6	199.4	206.4	209.7	212.8	216.1	219.3
100°	171.8	182.3	192.8	199.7	202.9	206.1	209.3	212.6
102.5°	183.0	186.0	188.9	192.2	195.5	199.0	202.3	205.8
105°	258.7	227.8	196.9	183.0	186.1	189.3	192.4	195.6
107.5°	451.9	431.2	410.4	386.5	359.5	332.4	305.5	278.4
110°	538.7	539.2	539.7	525.2	495.8	466.5	437.1	407.7



TEST NUMBER: P332084-935

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	597.1	604.9	612.5	614.3	610.3	606.2	602.2	598.1
115°	664.8	674.2	683.7	690.0	693.4	696.6	699.9	703.3
117.5°	724.7	733.7	742.6	748.3	750.9	753.4	755.9	758.5
120°	764.5	773.2	781.9	787.2	789.4	791.4	793.6	795.7
122.5°	803.1	811.1	819.0	824.1	826.3	828.6	830.9	833.2
125°	857.1	863.8	870.6	875.3	877.8	880.4	882.9	885.5
127.5°	911.2	917.8	924.5	928.7	930.2	931.9	933.5	935.0
130°	943.3	949.9	956.5	960.4	961.8	963.2	964.6	965.9
132.5°	973.4	979.7	986.1	990.0	991.4	992.8	994.3	995.7
135°	1019.7	1025.8	1031.9	1035.4	1036.2	1037.0	1037.8	1038.7
137.5°	1060.5	1066.3	1072.1	1075.6	1076.7	1077.7	1078.7	1079.9
140°	1086.6	1091.9	1097.3	1100.6	1101.6	1102.7	1103.8	1104.8
142.5°	1110.5	1115.3	1120.0	1122.8	1123.7	1124.6	1125.4	1126.4
145°	1147.0	1150.0	1152.8	1154.8	1156.0	1157.2	1158.4	1159.6
147.5°	1180.3	1181.5	1182.7	1183.3	1183.3	1183.4	1183.4	1183.5
150°	1201.3	1201.7	1202.1	1202.4	1202.3	1202.2	1202.1	1202.1
152.5°	1221.2	1222.0	1222.8	1222.7	1221.8	1220.9	1220.0	1219.1
155°	1248.6	1249.7	1250.9	1250.7	1249.4	1248.1	1246.7	1245.4
157.5°	1272.5	1273.8	1275.1	1275.0	1273.2	1271.4	1269.7	1268.0
160°	1286.1	1287.4	1288.7	1288.7	1287.1	1285.6	1283.9	1282.4
162.5°	1298.5	1299.9	1301.5	1301.5	1300.1	1298.7	1297.4	1296.0
165°	1315.0	1316.7	1318.5	1318.6	1317.1	1315.5	1314.0	1312.4
167.5°	1327.7	1329.6	1331.4	1331.4	1329.6	1327.7	1326.0	1324.2
170°	1335.0	1336.8	1338.5	1338.5	1336.8	1335.0	1333.2	1331.5
172.5°	1339.8	1341.5	1343.3	1343.2	1341.3	1339.4	1337.4	1335.4
175°	1345.6	1347.1	1348.7	1348.5	1346.8	1345.0	1343.2	1341.4
177.5°	1347.6	1349.1	1350.5	1350.3	1348.6	1346.8	1345.0	1343.2
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4

(END OF REPORT)