

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: P332665

Luminaire Tested: **S124DIP-S1020D1205U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332665
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D1205U835-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

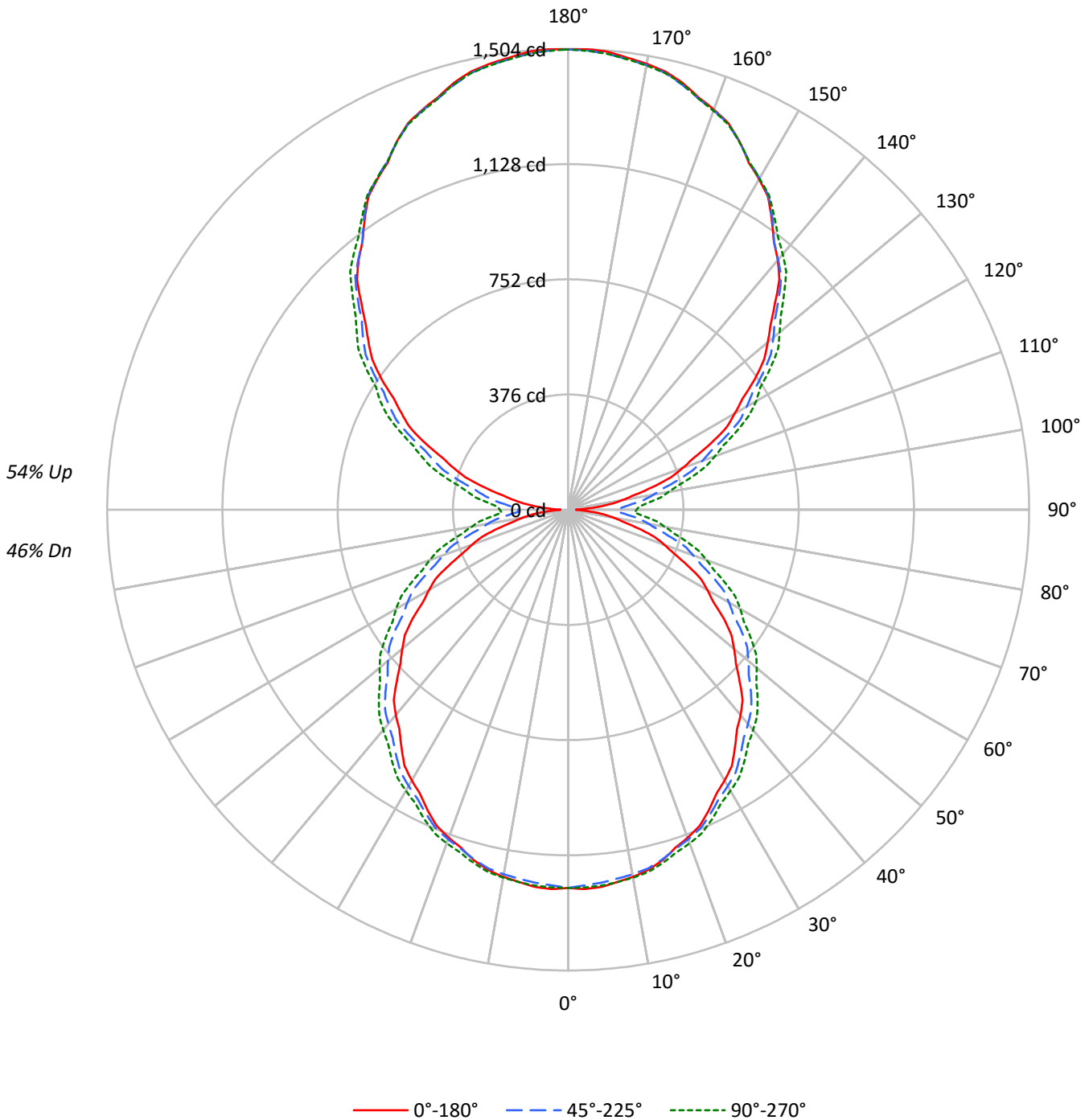
Lumens per Lamp: N/A
Luminaire Lumens: 8381.1 lumens
Efficiency: N/A
Efficacy: 128.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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										
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	50	30	10	0														
RCR																																						
0	106	106	106	106	98	98	98	98	81	81	81	67	67	67	53	53	53	46																				
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	43	37																				
2	87	79	73	67	79	73	67	62	61	56	53	50	47	44	39	37	35	30																				
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	30	25																				
4	72	61	53	47	66	56	49	43	47	42	37	38	34	31	31	28	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	22	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°	9968	9968	9968
5°	9998	9741	9769
10°	9937	9582	9575
15°	9848	9397	9346
20°	9714	9194	9123
25°	9563	8966	8879
30°	9399	8739	8627
35°	9213	8507	8407
40°	9065	8285	8178
45°	8844	8081	7981
50°	8658	7846	7773
55°	8466	7625	7529
60°	8166	7342	7306
65°	7837	7040	7032
70°	7439	6694	6714
75°	6882	6312	6425
80°	6266	5946	6141
85°	5484	5623	5977



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.9	1.4
10°-20°	335.0	4.0
20°-30°	506.5	6.0
30°-40°	612.9	7.3
40°-50°	647.9	7.7
50°-60°	609.8	7.3
60°-70°	505.9	6.0
70°-80°	355.4	4.2
80°-90°	205.4	2.5
90°-100°	218.4	2.6
100°-110°	381.8	4.6
110°-120°	557.4	6.7
120°-130°	690.3	8.2
130°-140°	752.2	9.0
140°-150°	727.9	8.7
150°-160°	609.7	7.3
160°-170°	405.7	4.8
170°-180°	142.1	1.7
0°-30°	958.4	11.4
0°-40°	1571.3	18.7
0°-60°	2829.0	33.8
0°-90°	3895.6	46.5
90°-120°	1157.6	13.8
90°-150°	3328.0	39.7
90°-180°	4485.0	53.5
0°-180°	8381.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1236	1232	1222	1233	1232	117
15°	1185	1186	1182	1194	1193	334
25°	1084	1092	1096	1111	1113	499
35°	948	965	979	997	1002	594
45°	791	817	843	866	874	611
55°	619	649	690	716	726	552
65°	429	473	520	553	566	425
75°	238	289	347	384	398	253
85°	73	132	194	234	249	78
90°	26	94	162	208	223	19
95°	88	144	209	248	262	92
105°	283	314	368	404	420	301
115°	515	529	569	597	607	508
125°	743	744	775	798	805	663
135°	954	961	971	990	996	738
145°	1157	1161	1162	1169	1171	724
155°	1324	1324	1323	1327	1323	609
165°	1442	1438	1436	1442	1438	406
175°	1500	1494	1493	1500	1493	142
180°	1502	1502	1502	1502	1502	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1239.1	1238.4	1237.6	1236.9	1236.1	1234.8	1232.8	1230.9	1228.9	1226.9	1228.6
5°	1236.0	1235.1	1234.2	1233.3	1232.4	1230.8	1228.7	1226.5	1224.4	1222.2	1224.7
7.5°	1225.5	1225.0	1224.4	1223.9	1223.3	1222.2	1220.4	1218.6	1216.8	1215.0	1217.8
10°	1216.7	1216.4	1216.1	1215.8	1215.5	1214.5	1213.0	1211.5	1209.9	1208.4	1211.2
12.5°	1204.5	1204.5	1204.4	1204.3	1204.3	1203.7	1202.7	1201.6	1200.6	1199.5	1202.1
15°	1184.9	1185.2	1185.5	1185.8	1186.1	1185.8	1184.9	1184.0	1183.0	1182.1	1184.9
17.5°	1158.1	1159.0	1159.9	1160.8	1161.8	1162.1	1161.9	1161.8	1161.6	1161.4	1164.2
20°	1139.3	1140.2	1141.1	1142.0	1143.0	1143.6	1143.9	1144.2	1144.5	1144.8	1147.9
22.5°	1118.2	1119.4	1120.6	1121.8	1122.9	1123.8	1124.3	1124.9	1125.4	1126.0	1129.1
25°	1084.0	1085.8	1087.6	1089.5	1091.3	1092.7	1093.6	1094.6	1095.5	1096.4	1099.8
27.5°	1045.8	1048.5	1051.2	1053.9	1056.6	1058.7	1060.1	1061.5	1062.9	1064.3	1067.5
30°	1020.4	1022.8	1025.3	1027.7	1030.2	1032.5	1034.6	1036.8	1038.9	1041.1	1044.5
32.5°	992.7	995.7	998.6	1001.6	1004.5	1007.2	1009.6	1012.0	1014.4	1016.8	1020.6
35°	948.5	952.2	955.8	959.5	963.2	966.6	969.7	972.7	975.8	978.9	983.2
37.5°	903.9	908.2	912.4	916.7	920.9	924.9	928.7	932.5	936.4	940.2	944.5
40°	875.2	879.2	883.2	887.2	891.2	895.3	899.6	903.9	908.2	912.5	917.1
42.5°	842.0	846.5	851.0	855.5	859.9	864.7	869.7	874.8	879.8	884.9	890.0
45°	790.8	796.7	802.5	808.4	814.2	820.0	825.9	831.7	837.5	843.4	848.6
47.5°	741.9	747.9	753.9	760.0	766.0	772.4	779.1	785.9	792.7	799.4	804.8
50°	706.5	713.3	720.0	726.8	733.5	740.3	747.1	753.8	760.6	767.3	773.5
52.5°	671.1	677.9	684.6	691.4	698.2	705.4	713.1	720.9	728.6	736.4	742.5
55°	619.4	625.9	632.3	638.8	645.2	653.0	662.3	671.5	680.7	689.9	696.1
57.5°	561.6	569.6	577.6	585.6	593.6	602.1	611.3	620.5	629.6	638.8	646.1
60°	524.0	532.0	540.0	548.0	556.0	565.0	575.2	585.3	595.4	605.6	612.6
62.5°	487.5	496.2	505.0	513.7	522.4	531.8	542.0	552.1	562.3	572.4	579.5
65°	428.6	438.4	448.3	458.1	467.9	478.1	488.5	499.0	509.4	519.9	527.5
67.5°	371.9	382.4	392.8	403.3	413.7	424.5	435.7	446.9	458.1	469.3	477.1
70°	333.2	343.7	354.1	364.5	375.0	386.1	397.7	409.4	421.1	432.8	441.1
72.5°	295.6	306.3	317.0	327.7	338.4	349.9	362.3	374.7	387.2	399.6	407.6
75°	237.8	249.2	260.5	271.9	283.3	295.4	308.3	321.2	334.1	347.0	355.6
77.5°	183.9	195.9	208.0	220.0	232.1	244.8	258.4	271.9	285.4	298.9	307.6
80°	150.7	163.0	175.3	187.6	199.9	212.8	226.3	239.8	253.3	266.8	276.1
82.5°	117.5	130.3	143.1	155.9	168.6	181.8	195.3	208.8	222.4	235.9	245.3
85°	73.3	86.2	99.1	112.0	124.9	138.3	152.1	165.9	179.7	193.6	202.8
87.5°	41.6	54.7	67.8	80.9	94.0	107.5	121.4	135.3	149.1	163.0	172.2
90°	25.6	40.7	55.9	71.0	86.1	101.3	116.6	131.9	147.2	162.4	172.9
92.5°	45.9	60.2	74.5	88.8	103.1	117.6	132.3	146.9	161.6	176.2	185.8
95°	87.7	100.1	112.6	125.1	137.5	151.0	165.4	179.8	194.2	208.6	217.7
97.5°	138.1	148.7	159.2	169.8	180.4	193.0	207.6	222.2	236.8	251.4	260.3
100°	177.9	186.9	195.9	204.9	213.9	225.6	239.9	254.2	268.5	282.8	291.6
102.5°	220.6	228.0	235.5	242.9	250.3	260.9	274.8	288.6	302.5	316.3	325.1
105°	283.1	289.5	295.9	302.4	308.8	318.2	330.6	343.0	355.4	367.8	376.2
107.5°	351.4	356.8	362.1	367.5	372.8	380.9	391.8	402.8	413.7	424.6	432.9
110°	396.8	401.6	406.4	411.2	416.0	423.7	434.2	444.7	455.2	465.7	472.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	444.0	447.9	451.8	455.7	459.7	466.5	476.3	486.1	495.9	505.7	512.4
115°	514.8	517.6	520.4	523.1	525.9	531.9	541.3	550.6	559.9	569.2	575.7
117.5°	582.9	584.7	586.6	588.5	590.3	595.7	604.5	613.3	622.1	630.8	636.4
120°	627.3	629.3	631.2	633.2	635.1	640.2	648.3	656.4	664.6	672.7	677.6
122.5°	674.7	675.3	675.9	676.5	677.1	681.4	689.5	697.5	705.6	713.7	718.9
125°	743.3	743.0	742.7	742.4	742.0	745.6	753.0	760.4	767.9	775.3	780.6
127.5°	806.4	806.9	807.4	807.8	808.3	811.3	816.8	822.2	827.7	833.2	838.2
130°	849.9	850.4	850.9	851.3	851.8	854.5	859.4	864.3	869.2	874.2	879.2
132.5°	895.5	895.7	896.0	896.3	896.5	898.5	902.2	906.0	909.7	913.4	918.2
135°	954.3	955.8	957.4	958.9	960.5	962.3	964.5	966.6	968.8	970.9	975.3
137.5°	1019.8	1020.2	1020.6	1021.1	1021.5	1022.4	1023.9	1025.3	1026.8	1028.2	1032.0
140°	1063.5	1063.7	1063.9	1064.1	1064.3	1064.6	1064.9	1065.2	1065.5	1065.8	1069.5
142.5°	1102.3	1102.8	1103.3	1103.7	1104.2	1104.2	1103.8	1103.4	1103.0	1102.6	1106.1
145°	1157.4	1158.1	1158.8	1159.5	1160.3	1160.8	1161.0	1161.3	1161.5	1161.8	1163.4
147.5°	1212.2	1213.1	1214.1	1215.0	1215.9	1216.3	1216.1	1215.9	1215.7	1215.5	1215.5
150°	1245.7	1246.4	1247.1	1247.8	1248.6	1248.9	1248.9	1248.9	1248.9	1248.9	1248.9
152.5°	1276.2	1276.7	1277.3	1277.8	1278.4	1278.8	1279.0	1279.2	1279.4	1279.6	1280.2
155°	1324.4	1324.4	1324.4	1324.4	1324.4	1324.3	1324.1	1323.8	1323.5	1323.3	1324.3
157.5°	1365.3	1364.9	1364.4	1364.0	1363.5	1363.2	1363.2	1363.1	1363.1	1363.0	1363.8
160°	1389.5	1389.3	1389.0	1388.7	1388.5	1388.2	1388.0	1387.7	1387.4	1387.2	1388.0
162.5°	1411.8	1411.1	1410.5	1409.8	1409.1	1408.7	1408.4	1408.2	1407.9	1407.6	1409.0
165°	1441.8	1441.0	1440.2	1439.5	1438.7	1438.0	1437.5	1437.0	1436.5	1436.0	1437.5
167.5°	1464.8	1463.7	1462.6	1461.5	1460.5	1459.9	1460.0	1460.0	1460.1	1460.1	1461.7
170°	1477.8	1476.5	1475.2	1473.9	1472.6	1472.1	1472.4	1472.6	1472.9	1473.2	1474.7
172.5°	1487.1	1486.0	1484.9	1483.8	1482.8	1482.2	1482.3	1482.4	1482.4	1482.5	1484.2
175°	1499.9	1498.6	1497.3	1496.0	1494.7	1493.9	1493.7	1493.4	1493.2	1492.9	1494.7
177.5°	1504.1	1503.0	1502.0	1501.0	1499.9	1499.4	1499.4	1499.4	1499.4	1499.4	1500.9
180°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1230.4	1232.1	1233.8	1234.5	1234.3	1234.0	1233.8	1233.6
5°	1227.1	1229.6	1232.1	1233.1	1232.8	1232.5	1232.2	1231.9
7.5°	1220.6	1223.3	1226.1	1227.3	1227.0	1226.7	1226.4	1226.1
10°	1213.9	1216.7	1219.5	1220.7	1220.4	1220.1	1219.8	1219.5
12.5°	1204.6	1207.1	1209.6	1210.9	1210.8	1210.7	1210.7	1210.6
15°	1187.7	1190.4	1193.2	1194.4	1194.1	1193.8	1193.5	1193.2
17.5°	1167.0	1169.9	1172.7	1174.0	1173.7	1173.5	1173.2	1173.0
20°	1150.9	1154.0	1157.1	1158.6	1158.6	1158.6	1158.6	1158.6
22.5°	1132.1	1135.2	1138.3	1140.1	1140.6	1141.0	1141.5	1142.0
25°	1103.2	1106.5	1109.9	1111.8	1112.1	1112.4	1112.7	1113.0
27.5°	1070.6	1073.7	1076.9	1078.6	1079.0	1079.4	1079.7	1080.1
30°	1047.9	1051.2	1054.6	1056.6	1057.2	1057.8	1058.5	1059.1
32.5°	1024.5	1028.4	1032.3	1034.5	1035.1	1035.7	1036.3	1037.0
35°	987.5	991.8	996.1	998.7	999.6	1000.5	1001.5	1002.4
37.5°	948.9	953.3	957.6	960.3	961.3	962.3	963.2	964.2
40°	921.7	926.3	931.0	933.9	935.1	936.3	937.6	938.8
42.5°	895.1	900.2	905.3	908.3	909.3	910.3	911.3	912.2
45°	853.8	859.1	864.3	867.7	869.2	870.7	872.3	873.8
47.5°	810.2	815.6	821.1	824.7	826.5	828.4	830.2	832.1
50°	779.6	785.8	791.9	795.9	797.8	799.6	801.4	803.3
52.5°	748.7	754.8	761.0	764.9	766.8	768.6	770.5	772.3
55°	702.2	708.4	714.5	718.5	720.3	722.2	724.0	725.9
57.5°	653.4	660.7	668.0	672.5	674.2	676.0	677.7	679.4
60°	619.7	626.8	633.8	638.6	641.1	643.5	646.0	648.4
62.5°	586.5	593.6	600.7	605.4	607.9	610.3	612.8	615.3
65°	535.2	542.9	550.6	555.7	558.1	560.6	563.0	565.5
67.5°	484.9	492.7	500.5	505.6	508.0	510.4	512.8	515.2
70°	449.3	457.6	465.9	471.2	473.3	475.5	477.6	479.8
72.5°	415.7	423.7	431.8	437.0	439.4	441.8	444.2	446.6
75°	364.2	372.8	381.4	387.1	389.9	392.7	395.4	398.2
77.5°	316.4	325.1	333.8	339.7	342.6	345.6	348.5	351.5
80°	285.3	294.5	303.7	309.5	312.0	314.5	316.9	319.4
82.5°	254.8	264.3	273.7	279.8	282.5	285.2	287.9	290.6
85°	212.0	221.2	230.4	236.6	239.7	242.7	245.8	248.9
87.5°	181.4	190.7	199.9	205.9	208.7	211.5	214.3	217.1
90°	183.4	193.8	204.3	211.0	214.0	216.9	219.9	222.9
92.5°	195.4	205.0	214.6	220.8	223.6	226.3	229.1	231.9
95°	226.7	235.8	244.9	250.8	253.5	256.3	259.1	261.8
97.5°	269.3	278.3	287.3	293.1	295.7	298.4	301.0	303.7
100°	300.5	309.3	318.1	323.6	325.7	327.9	330.0	332.2
102.5°	333.9	342.7	351.4	357.1	359.7	362.3	364.9	367.5
105°	384.7	393.1	401.6	407.4	410.7	413.9	417.1	420.4
107.5°	441.1	449.4	457.7	462.9	465.1	467.2	469.4	471.6
110°	478.8	485.3	491.9	496.8	500.0	503.2	506.5	509.7



TEST NUMBER: P332665

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	519.1	525.9	532.6	537.2	539.8	542.5	545.1	547.7
115°	582.2	588.7	595.2	599.4	601.3	603.2	605.1	607.0
117.5°	641.9	647.4	652.9	656.6	658.6	660.5	662.5	664.4
120°	682.4	687.3	692.1	696.0	699.0	702.0	705.0	707.9
122.5°	724.2	729.5	734.7	738.0	739.3	740.6	741.9	743.1
125°	785.9	791.3	796.6	799.9	801.2	802.6	803.9	805.2
127.5°	843.2	848.3	853.3	856.6	858.3	860.0	861.6	863.3
130°	884.2	889.2	894.2	897.1	897.9	898.8	899.6	900.4
132.5°	923.0	927.7	932.5	935.6	937.0	938.5	939.9	941.3
135°	979.7	984.1	988.5	991.3	992.3	993.4	994.5	995.5
137.5°	1035.9	1039.7	1043.5	1046.2	1047.9	1049.6	1051.3	1053.0
140°	1073.3	1077.0	1080.8	1083.3	1084.5	1085.8	1087.1	1088.4
142.5°	1109.5	1113.0	1116.4	1118.8	1120.0	1121.3	1122.5	1123.7
145°	1165.0	1166.6	1168.1	1169.2	1169.6	1170.1	1170.5	1171.0
147.5°	1215.6	1215.6	1215.6	1216.0	1216.7	1217.5	1218.2	1218.9
150°	1248.9	1248.9	1248.9	1248.8	1248.5	1248.3	1248.0	1247.8
152.5°	1280.8	1281.5	1282.1	1282.1	1281.4	1280.7	1280.0	1279.4
155°	1325.4	1326.4	1327.4	1327.4	1326.4	1325.4	1324.3	1323.3
157.5°	1364.6	1365.3	1366.1	1366.1	1365.2	1364.3	1363.4	1362.6
160°	1388.7	1389.5	1390.3	1390.0	1388.7	1387.4	1386.2	1384.9
162.5°	1410.4	1411.8	1413.2	1413.3	1412.0	1410.7	1409.4	1408.1
165°	1439.1	1440.6	1442.2	1442.4	1441.4	1440.4	1439.3	1438.3
167.5°	1463.2	1464.8	1466.3	1466.3	1464.7	1463.1	1461.5	1459.9
170°	1476.3	1477.8	1479.4	1479.2	1477.4	1475.6	1473.8	1472.0
172.5°	1486.0	1487.7	1489.5	1489.5	1487.6	1485.8	1484.0	1482.2
175°	1496.5	1498.3	1500.1	1500.1	1498.3	1496.5	1494.7	1492.9
177.5°	1502.3	1503.8	1505.2	1505.1	1503.4	1501.8	1500.1	1498.5
180°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2

(END OF REPORT)