

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: P332855-935

Luminaire Tested: **S124DIW-S1195D1340U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332855-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1340U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8808.2 lumens
Efficiency: N/A
Efficacy: 115.6 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

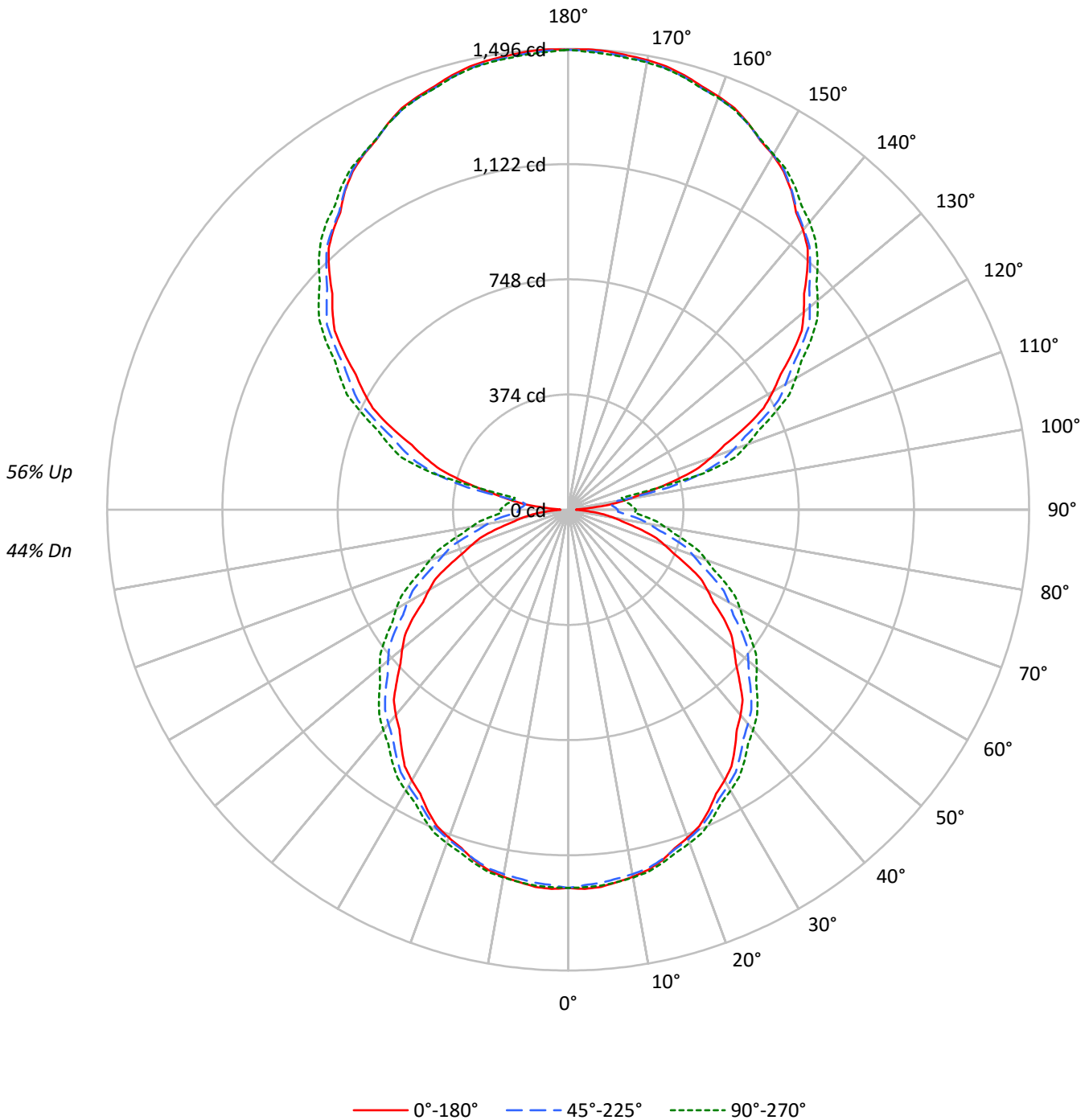
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332855-935

CATALOG NUMBER: S124DIW-S1195D1340U935-4F0-1E-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	0
RCR																		
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	96	91	87	83	87	83	80	76	69	66	64	55	54	52	43	42	41	35
2	87	79	72	67	79	72	67	62	60	56	52	48	45	43	38	36	34	29
3	79	69	61	55	72	63	57	51	52	47	43	42	39	36	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	1.3
10°-20°	333.1	3.8
20°-30°	503.7	5.7
30°-40°	609.4	6.9
40°-50°	644.3	7.3
50°-60°	606.4	6.9
60°-70°	503.1	5.7
70°-80°	353.4	4.0
80°-90°	204.1	2.3
90°-100°	169.7	1.9
100°-110°	413.4	4.7
110°-120°	681.8	7.7
120°-130°	824.0	9.4
130°-140°	860.4	9.8
140°-150°	794.0	9.0
150°-160°	638.0	7.2
160°-170°	411.5	4.7
170°-180°	141.8	1.6
0°-30°	953.1	10.8
0°-40°	1562.5	17.7
0°-60°	2813.1	31.9
0°-90°	3873.6	44.0
90°-120°	1264.9	14.4
90°-150°	3743.3	42.5
90°-180°	4935.0	56.0
0°-180°	8808.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	78
90°	25	93	161	205	220	17
95°	79	89	144	186	202	93
105°	348	384	439	480	454	366
115°	636	653	694	726	737	626
125°	888	892	923	951	962	793
135°	1097	1097	1110	1134	1145	845
145°	1263	1265	1265	1275	1282	789
155°	1384	1385	1382	1385	1383	638
165°	1460	1454	1454	1462	1453	412
175°	1493	1487	1488	1496	1484	142
180°	1493	1493	1493	1493	1493	



TEST NUMBER: P332855-935

CATALOG NUMBER: S124DIW-S1195D1340U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	41.3	54.4	67.4	80.4	93.4	106.8	120.6	134.4	148.2	162.0	171.1
90°	25.3	40.3	55.3	70.2	85.2	100.2	115.3	130.4	145.6	160.7	171.0
92.5°	35.0	46.1	57.3	68.4	79.6	92.7	107.8	123.0	138.1	153.2	163.3
95°	79.3	80.9	82.6	84.2	85.8	93.1	105.8	118.6	131.4	144.2	153.9
97.5°	146.6	160.6	174.5	188.5	202.4	201.7	186.4	171.2	155.8	140.6	148.7
100°	198.3	210.7	223.1	235.5	247.9	243.0	220.6	198.3	176.0	153.6	157.6
102.5°	257.3	267.5	277.8	288.0	298.2	306.9	314.1	321.3	328.6	335.7	298.3
105°	348.5	356.1	363.7	371.3	378.9	389.0	401.6	414.1	426.6	439.2	449.0
107.5°	435.6	441.3	447.1	452.8	458.6	467.7	480.0	492.4	504.8	517.2	525.8
110°	493.4	498.4	503.5	508.5	513.5	522.1	534.3	546.5	558.7	570.8	578.4



TEST NUMBER: P332855-935

CATALOG NUMBER: S124DIW-S1195D1340U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	549.5	554.7	559.7	564.9	570.1	578.1	588.9	599.9	610.7	621.6	628.4
115°	635.8	639.4	642.8	646.4	649.9	656.3	665.9	675.5	684.9	694.5	701.7
117.5°	714.9	717.6	720.1	722.8	725.5	731.6	741.2	750.9	760.5	770.2	776.4
120°	767.4	769.3	771.2	773.1	775.0	780.3	788.9	797.5	806.2	814.8	821.3
122.5°	817.4	818.2	819.0	819.8	820.5	825.3	834.0	842.7	851.4	860.1	866.6
125°	887.8	888.5	889.2	889.8	890.5	894.4	901.6	908.7	915.8	923.0	929.5
127.5°	955.4	955.3	955.3	955.2	955.1	958.6	965.6	972.7	979.6	986.6	992.0
130°	998.1	998.0	997.9	997.9	997.8	1000.6	1006.3	1011.8	1017.5	1023.1	1028.9
132.5°	1038.3	1038.4	1038.5	1038.7	1038.8	1041.3	1046.2	1051.0	1055.8	1060.8	1066.3
135°	1097.2	1096.9	1096.7	1096.4	1096.2	1097.6	1100.8	1103.9	1107.0	1110.2	1115.5
137.5°	1150.6	1150.4	1150.1	1150.0	1149.8	1150.7	1152.8	1154.9	1157.1	1159.3	1164.2
140°	1185.4	1185.6	1185.8	1185.9	1186.2	1186.6	1187.5	1188.3	1189.0	1189.9	1194.6
142.5°	1215.6	1216.4	1217.3	1218.1	1218.9	1219.3	1219.5	1219.6	1219.7	1219.9	1223.8
145°	1263.3	1263.8	1264.2	1264.6	1265.1	1265.3	1265.3	1265.3	1265.3	1265.3	1267.4
147.5°	1301.5	1302.6	1303.6	1304.8	1305.9	1306.3	1306.1	1305.8	1305.5	1305.3	1305.7
150°	1329.2	1329.9	1330.6	1331.3	1332.0	1332.1	1332.0	1331.7	1331.5	1331.2	1331.2
152.5°	1351.3	1352.1	1352.8	1353.6	1354.3	1354.4	1354.0	1353.5	1353.1	1352.6	1353.1
155°	1383.7	1383.9	1384.1	1384.4	1384.7	1384.4	1383.7	1382.9	1382.2	1381.5	1382.4
157.5°	1411.2	1411.0	1410.8	1410.7	1410.6	1410.1	1409.2	1408.3	1407.6	1406.7	1408.0
160°	1427.2	1426.5	1425.7	1425.0	1424.3	1423.7	1423.5	1423.2	1423.0	1422.8	1424.3
162.5°	1441.5	1440.5	1439.7	1438.7	1437.8	1437.2	1436.9	1436.7	1436.4	1436.1	1437.6
165°	1459.7	1458.4	1457.2	1455.9	1454.7	1454.1	1454.1	1454.1	1454.1	1454.1	1456.0
167.5°	1473.9	1472.7	1471.4	1470.1	1468.8	1468.0	1467.9	1467.7	1467.6	1467.4	1469.6
170°	1482.0	1480.5	1478.9	1477.5	1476.0	1475.4	1475.6	1475.8	1476.1	1476.4	1478.3
172.5°	1487.3	1485.8	1484.4	1482.8	1481.4	1480.7	1481.0	1481.3	1481.4	1481.7	1483.7
175°	1493.1	1491.6	1490.1	1488.7	1487.1	1486.5	1486.8	1487.0	1487.3	1487.5	1489.8
177.5°	1495.8	1494.4	1493.0	1491.6	1490.2	1489.7	1490.1	1490.6	1490.9	1491.3	1492.9
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1



TEST NUMBER: P332855-935

CATALOG NUMBER: S124DIW-S1195D1340U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	180.2	189.4	198.5	204.5	207.3	210.1	212.9	215.7
90°	181.4	191.7	202.1	208.7	211.6	214.6	217.6	220.5
92.5°	173.4	183.5	193.6	199.9	202.5	205.0	207.6	210.1
95°	163.7	173.4	183.1	189.5	192.5	195.5	198.5	201.5
97.5°	156.9	165.1	173.1	178.7	181.6	184.4	187.4	190.2
100°	161.7	165.7	169.8	173.0	175.4	177.7	180.1	182.5
102.5°	260.7	223.3	185.7	168.2	170.6	173.1	175.5	177.9
105°	458.9	468.8	478.6	480.4	473.9	467.4	460.9	454.3
107.5°	534.4	543.0	551.6	557.5	560.6	563.8	566.9	570.1
110°	585.9	593.4	601.0	606.3	609.5	612.7	615.9	619.1



TEST NUMBER: P332855-935

CATALOG NUMBER: S124DIW-S1195D1340U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	635.0	641.7	648.4	653.4	656.8	660.2	663.6	666.9
115°	708.9	716.1	723.3	728.1	730.1	732.3	734.4	736.6
117.5°	782.7	788.9	795.2	799.5	801.8	804.3	806.6	808.9
120°	827.9	834.6	841.2	845.4	847.4	849.4	851.3	853.3
122.5°	873.0	879.4	885.8	889.8	891.6	893.3	894.9	896.6
125°	936.1	942.6	949.2	953.5	955.5	957.7	959.8	961.8
127.5°	997.4	1002.7	1008.1	1011.7	1013.6	1015.4	1017.3	1019.2
130°	1034.7	1040.3	1046.1	1049.9	1051.7	1053.6	1055.4	1057.2
132.5°	1071.8	1077.2	1082.7	1086.3	1088.0	1089.6	1091.2	1092.9
135°	1120.9	1126.3	1131.7	1135.6	1137.9	1140.2	1142.5	1144.9
137.5°	1169.2	1174.2	1179.2	1182.4	1183.8	1185.2	1186.5	1187.9
140°	1199.3	1204.0	1208.8	1211.9	1213.8	1215.6	1217.3	1219.1
142.5°	1227.9	1231.9	1236.0	1238.6	1239.9	1241.3	1242.6	1244.0
145°	1269.5	1271.5	1273.6	1275.5	1277.2	1278.9	1280.7	1282.4
147.5°	1306.1	1306.6	1307.1	1307.9	1309.2	1310.4	1311.6	1312.8
150°	1331.2	1331.2	1331.2	1331.3	1331.5	1331.8	1332.1	1332.3
152.5°	1353.4	1353.8	1354.2	1354.4	1354.2	1354.0	1353.9	1353.8
155°	1383.5	1384.4	1385.4	1385.5	1384.8	1384.1	1383.3	1382.6
157.5°	1409.3	1410.6	1411.9	1411.9	1410.6	1409.3	1408.0	1406.7
160°	1425.7	1427.2	1428.7	1428.7	1427.2	1425.7	1424.3	1422.8
162.5°	1439.2	1440.6	1442.1	1442.0	1440.4	1438.6	1436.9	1435.3
165°	1458.0	1460.0	1462.0	1461.8	1459.7	1457.4	1455.2	1452.9
167.5°	1471.8	1473.9	1476.2	1476.0	1473.5	1471.0	1468.6	1466.1
170°	1480.3	1482.3	1484.3	1484.0	1481.6	1479.1	1476.6	1474.1
172.5°	1485.7	1487.7	1489.7	1489.4	1486.6	1483.9	1481.3	1478.6
175°	1492.0	1494.3	1496.5	1496.1	1493.1	1490.1	1487.1	1484.2
177.5°	1494.5	1496.1	1497.7	1497.3	1494.9	1492.5	1490.1	1487.7
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1

(END OF REPORT)