

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: P332224-840

Luminaire Tested: **S123DIW-S1165D1030U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332224-840
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: S123DIW-S1165D1030U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9064.2 lumens
Efficiency: N/A
Efficacy: 134.5 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

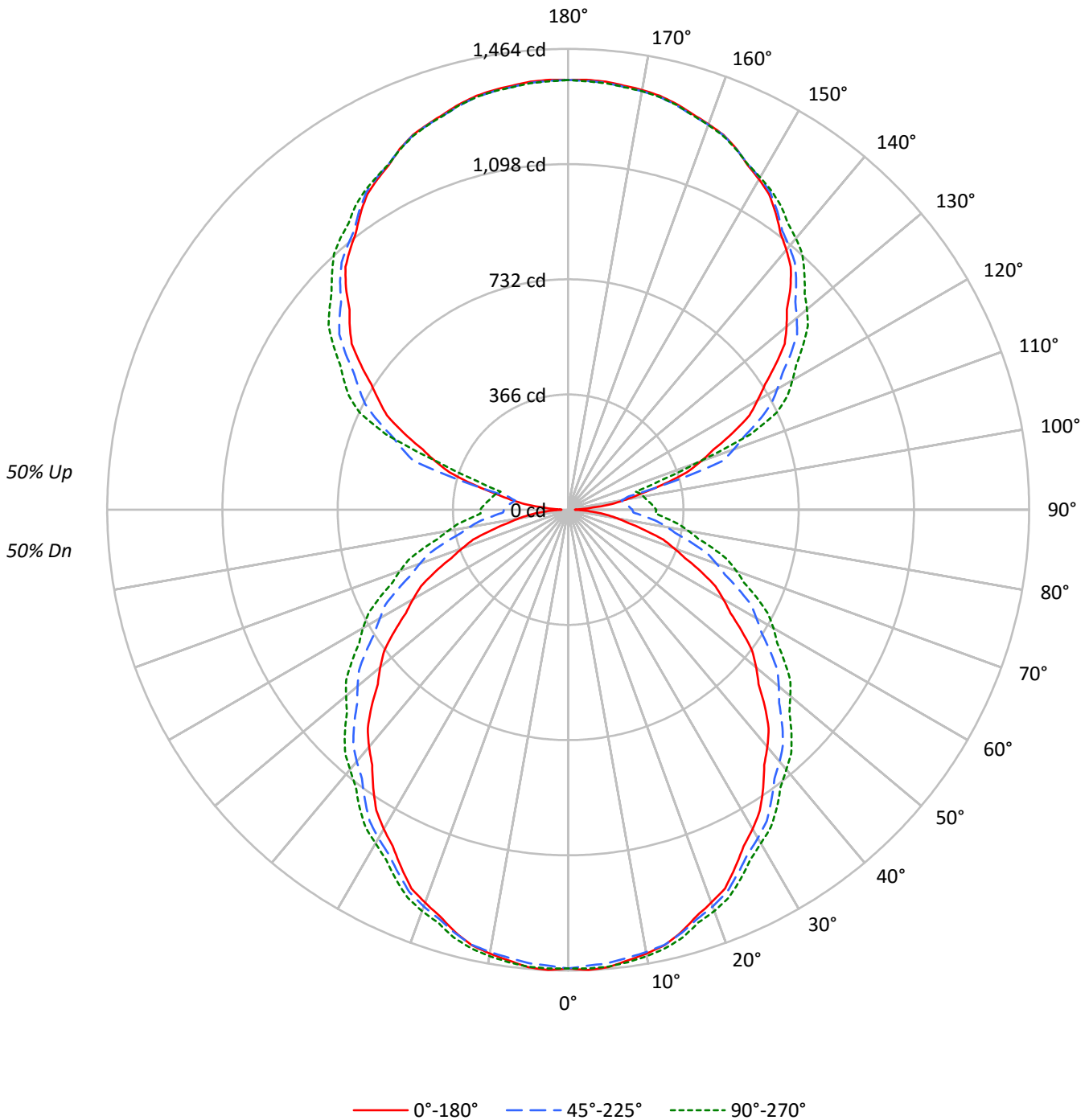
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332224-840

CATALOG NUMBER: S123DIW-S1165D1030U840-4F0-1E-UDD-D

Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIW-S1165D1030U840-4F0-1E-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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15685	15685	15685
5°	15735	15290	15299
10°	15593	14937	14863
15°	15393	14539	14387
20°	15105	14082	13865
25°	14751	13556	13315
30°	14388	13084	12757
35°	13980	12583	12311
40°	13592	12128	11834
45°	13161	11692	11453
50°	12735	11259	11034
55°	12267	10818	10657
60°	11808	10368	10270
65°	11339	9889	9809
70°	10633	9352	9336
75°	9740	8736	8855
80°	8709	8132	8306
85°	7760	7716	7988



TEST NUMBER: P332224-840

CATALOG NUMBER: S123DIW-S1165D1030U840-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.1	1.5
10°-20°	393.8	4.3
20°-30°	589.0	6.5
30°-40°	703.4	7.8
40°-50°	735.9	8.1
50°-60°	690.6	7.6
60°-70°	576.8	6.4
70°-80°	412.7	4.6
80°-90°	249.9	2.8
90°-100°	204.0	2.3
100°-110°	350.0	3.9
110°-120°	644.0	7.1
120°-130°	766.9	8.5
130°-140°	792.6	8.7
140°-150°	727.1	8.0
150°-160°	583.2	6.4
160°-170°	376.4	4.2
170°-180°	129.7	1.4
0°-30°	1120.9	12.4
0°-40°	1824.3	20.1
0°-60°	3250.8	35.9
0°-90°	4490.2	49.5
90°-120°	1198.1	13.2
90°-150°	3484.7	38.4
90°-180°	4574.0	50.5
0°-180°	9064.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1459	1455	1446	1458	1457	138
15°	1389	1393	1392	1407	1406	391
25°	1254	1269	1275	1294	1295	578
35°	1079	1105	1126	1148	1156	675
45°	883	921	960	990	1003	680
55°	673	726	783	824	838	602
65°	465	528	597	643	660	459
75°	252	327	406	457	478	270
85°	78	157	241	293	311	82
90°	22	110	204	260	280	17
95°	79	104	189	243	261	90
105°	315	360	341	215	222	333
115°	575	602	666	713	731	568
125°	804	814	862	896	911	718
135°	998	1004	1024	1054	1061	768
145°	1150	1155	1157	1172	1178	719
155°	1265	1263	1264	1268	1263	583
165°	1334	1331	1330	1337	1331	377
175°	1365	1361	1361	1368	1360	130
180°	1365	1365	1365	1365	1365	



TEST NUMBER: P332224-840

CATALOG NUMBER: S123DIW-S1165D1030U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1463.6	1462.8	1461.9	1461.1	1460.2	1458.6	1456.4	1454.1	1451.9	1449.7	1451.9
5°	1458.9	1458.1	1457.4	1456.7	1456.0	1454.6	1452.5	1450.4	1448.2	1446.1	1449.0
7.5°	1444.5	1444.7	1444.8	1445.0	1445.1	1444.2	1442.1	1440.1	1438.0	1435.9	1439.5
10°	1431.9	1432.6	1433.3	1434.0	1434.7	1434.1	1432.4	1430.6	1428.9	1427.0	1430.6
12.5°	1416.6	1417.5	1418.6	1419.6	1420.6	1420.5	1419.3	1418.1	1416.8	1415.6	1418.9
15°	1389.0	1390.1	1391.1	1392.2	1393.2	1393.6	1393.2	1392.9	1392.5	1392.2	1395.7
17.5°	1354.0	1356.1	1358.3	1360.4	1362.5	1363.5	1363.4	1363.2	1363.1	1362.9	1366.1
20°	1328.7	1330.8	1332.9	1335.0	1337.2	1338.6	1339.3	1340.0	1340.7	1341.4	1344.5
22.5°	1302.0	1304.1	1306.3	1308.4	1310.5	1312.0	1313.0	1314.0	1314.9	1316.0	1320.0
25°	1254.1	1257.6	1261.1	1264.7	1268.2	1270.4	1271.5	1272.5	1273.6	1274.7	1279.3
27.5°	1205.8	1209.8	1213.9	1217.9	1221.8	1225.1	1227.3	1229.5	1231.8	1234.1	1238.0
30°	1171.5	1176.1	1180.6	1185.3	1189.8	1193.6	1196.4	1199.2	1202.0	1204.9	1209.1
32.5°	1133.4	1138.5	1143.7	1148.8	1154.0	1158.4	1162.1	1165.8	1169.4	1173.1	1177.6
35°	1079.4	1085.1	1090.8	1096.4	1102.1	1107.1	1111.8	1116.3	1120.8	1125.5	1130.7
37.5°	1022.3	1028.6	1035.0	1041.4	1047.7	1053.7	1059.3	1065.0	1070.7	1076.3	1082.3
40°	984.2	990.6	996.9	1003.2	1009.6	1016.3	1023.4	1030.4	1037.4	1044.5	1050.6
42.5°	942.3	950.1	957.9	965.5	973.3	980.9	988.3	995.5	1002.9	1010.3	1016.8
45°	882.6	891.1	899.5	908.0	916.5	925.1	933.9	942.7	951.6	960.4	967.0
47.5°	820.0	829.6	839.2	848.9	858.5	868.3	878.4	888.5	898.6	908.7	916.1
50°	779.4	789.3	799.2	809.0	818.9	829.3	840.3	851.2	862.1	873.0	881.2
52.5°	736.3	746.7	757.1	767.6	778.0	789.3	801.3	813.3	825.5	837.5	846.0
55°	673.1	684.7	696.3	708.0	719.6	731.7	744.5	757.2	769.9	782.6	792.1
57.5°	611.5	623.6	635.7	647.8	660.0	673.1	686.9	700.8	714.7	728.6	738.2
60°	568.3	581.0	593.7	606.4	619.0	632.7	647.1	661.6	676.1	690.5	700.4
62.5°	527.7	540.7	553.6	566.6	579.6	593.7	609.0	624.3	639.6	655.0	664.8
65°	465.1	478.9	492.6	506.3	520.2	534.8	550.3	565.8	581.4	596.8	607.4
67.5°	401.6	416.3	430.8	445.5	460.0	475.2	491.0	506.9	522.6	538.5	550.0
70°	357.2	372.3	387.5	402.6	417.9	433.9	450.8	467.8	484.7	501.6	512.9
72.5°	316.5	331.7	346.9	362.0	377.2	393.5	411.0	428.5	446.1	463.5	475.1
75°	252.4	269.0	285.6	302.2	318.7	335.8	353.5	371.1	388.7	406.4	418.0
77.5°	196.5	213.3	229.9	246.7	263.4	280.6	298.4	316.2	334.0	351.7	364.1
80°	157.1	174.4	191.8	209.0	226.3	244.1	262.5	280.8	299.1	317.5	329.5
82.5°	122.9	140.5	158.0	175.6	193.1	211.3	229.8	248.5	267.1	285.7	297.7
85°	77.8	95.4	113.1	130.7	148.3	166.5	185.2	203.9	222.6	241.3	253.3
87.5°	42.4	60.5	78.5	96.4	114.5	132.8	151.4	170.0	188.5	207.1	219.2
90°	21.6	41.2	60.7	80.3	99.8	120.1	141.0	161.9	182.8	203.7	216.6
92.5°	38.3	53.2	68.2	83.1	98.1	115.5	135.4	155.3	175.3	195.2	208.3
95°	79.4	83.8	88.4	92.9	97.4	109.6	129.3	149.1	168.8	188.6	201.1
97.5°	139.9	148.1	156.4	164.7	173.0	177.2	177.5	177.8	178.1	178.3	190.7
100°	185.7	201.5	217.3	233.1	248.9	247.3	228.4	209.4	190.6	171.6	183.6
102.5°	238.0	251.4	264.8	278.2	291.6	287.1	264.6	242.2	219.6	197.2	201.6
105°	315.0	325.9	336.9	347.8	358.7	361.6	356.6	351.4	346.3	341.2	311.1
107.5°	394.7	403.7	412.9	422.1	431.3	444.7	462.3	479.9	497.5	515.1	495.2
110°	447.7	455.9	464.0	472.2	480.3	492.7	509.3	525.8	542.5	559.1	560.8



TEST NUMBER: P332224-840

CATALOG NUMBER: S123DIW-S1165D1030U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	499.7	506.4	513.3	520.2	527.0	538.5	554.5	570.5	586.5	602.6	611.6
115°	574.9	580.6	586.1	591.7	597.2	607.4	622.2	636.9	651.7	666.3	677.1
117.5°	649.0	653.4	657.6	661.9	666.2	674.8	687.7	700.7	713.7	726.6	736.8
120°	694.1	697.8	701.7	705.4	709.2	717.3	729.6	741.9	754.3	766.6	776.5
122.5°	741.1	743.7	746.3	748.9	751.4	758.7	770.6	782.5	794.6	806.5	815.6
125°	804.1	805.9	807.7	809.4	811.2	817.7	828.9	840.0	851.1	862.2	870.1
127.5°	866.6	868.0	869.4	870.9	872.3	877.8	887.4	897.0	906.5	916.0	923.7
130°	905.4	907.0	908.4	909.8	911.3	915.9	923.9	931.9	939.9	947.8	955.4
132.5°	941.5	943.2	945.0	946.7	948.5	952.5	958.9	965.2	971.6	978.0	985.3
135°	998.3	999.3	1000.2	1001.2	1002.2	1005.1	1009.9	1014.7	1019.5	1024.2	1031.3
137.5°	1046.6	1048.0	1049.5	1050.9	1052.3	1054.4	1057.0	1059.8	1062.4	1065.1	1071.8
140°	1077.7	1079.1	1080.5	1081.9	1083.2	1084.7	1086.4	1088.2	1089.9	1091.7	1097.8
142.5°	1107.8	1108.8	1109.9	1111.1	1112.1	1113.1	1114.0	1114.8	1115.7	1116.6	1122.1
145°	1149.8	1151.0	1152.3	1153.5	1154.7	1155.5	1156.0	1156.4	1156.9	1157.3	1160.6
147.5°	1187.8	1188.8	1189.8	1190.8	1191.9	1192.7	1193.1	1193.6	1194.0	1194.5	1195.8
150°	1212.1	1212.7	1213.5	1214.2	1214.8	1215.4	1215.8	1216.3	1216.7	1217.2	1217.6
152.5°	1234.1	1234.4	1234.7	1235.0	1235.3	1235.6	1235.9	1236.1	1236.4	1236.7	1237.5
155°	1264.9	1264.4	1263.9	1263.5	1263.0	1262.9	1263.1	1263.3	1263.6	1263.8	1265.0
157.5°	1288.8	1288.8	1288.7	1288.7	1288.6	1288.5	1288.3	1288.0	1287.8	1287.6	1288.9
160°	1303.4	1303.1	1302.9	1302.7	1302.5	1302.2	1302.0	1301.8	1301.6	1301.4	1302.7
162.5°	1317.2	1316.6	1316.1	1315.5	1314.8	1314.4	1314.2	1314.0	1313.7	1313.5	1315.0
165°	1333.8	1333.1	1332.5	1331.8	1331.1	1330.7	1330.4	1330.2	1330.0	1329.8	1331.6
167.5°	1346.8	1345.9	1345.0	1344.1	1343.2	1342.7	1342.7	1342.7	1342.7	1342.7	1344.5
170°	1354.1	1353.2	1352.3	1351.4	1350.5	1350.1	1350.1	1350.1	1350.1	1350.1	1351.8
172.5°	1359.0	1357.9	1356.9	1355.7	1354.6	1354.2	1354.3	1354.5	1354.7	1354.9	1356.8
175°	1365.2	1364.1	1363.0	1361.9	1360.8	1360.3	1360.5	1360.8	1361.0	1361.2	1362.8
177.5°	1366.9	1365.9	1365.1	1364.2	1363.3	1362.9	1363.1	1363.3	1363.4	1363.6	1365.1
180°	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2



TEST NUMBER: P332224-840

CATALOG NUMBER: S123DIW-S1165D1030U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1454.1	1456.4	1458.6	1459.7	1459.4	1459.1	1458.8	1458.5
5°	1451.8	1454.6	1457.4	1458.6	1458.3	1457.9	1457.6	1457.2
7.5°	1443.0	1446.5	1450.1	1451.7	1451.2	1450.8	1450.4	1450.0
10°	1434.1	1437.6	1441.2	1442.6	1441.9	1441.2	1440.5	1439.8
12.5°	1422.2	1425.4	1428.7	1429.9	1429.2	1428.5	1427.7	1427.0
15°	1399.2	1402.7	1406.2	1407.9	1407.5	1407.1	1406.8	1406.4
17.5°	1369.3	1372.5	1375.6	1377.0	1376.5	1376.0	1375.5	1375.0
20°	1347.7	1350.9	1354.0	1355.8	1356.1	1356.6	1356.9	1357.3
22.5°	1324.0	1328.1	1332.0	1333.9	1333.7	1333.5	1333.3	1333.1
25°	1283.8	1288.5	1293.0	1295.4	1295.4	1295.4	1295.4	1295.4
27.5°	1241.9	1245.9	1249.8	1251.9	1252.2	1252.5	1252.8	1253.1
30°	1213.4	1217.6	1221.7	1223.9	1223.9	1223.9	1223.9	1223.9
32.5°	1182.1	1186.7	1191.1	1193.9	1194.7	1195.6	1196.4	1197.2
35°	1136.1	1141.3	1146.6	1150.0	1151.4	1152.9	1154.3	1155.6
37.5°	1088.2	1094.3	1100.2	1103.8	1105.0	1106.1	1107.2	1108.3
40°	1056.5	1062.5	1068.5	1072.2	1073.6	1075.0	1076.4	1077.8
42.5°	1023.4	1030.0	1036.5	1040.8	1042.7	1044.7	1046.6	1048.6
45°	973.8	980.5	987.2	992.0	994.8	997.6	1000.5	1003.2
47.5°	923.7	931.3	938.9	943.7	945.8	948.1	950.3	952.4
50°	889.3	897.5	905.5	910.8	913.3	915.7	918.3	920.7
52.5°	854.3	862.7	871.1	876.9	879.9	882.9	886.0	889.0
55°	801.6	811.1	820.7	826.9	829.7	832.5	835.4	838.2
57.5°	747.8	757.4	767.0	773.5	776.8	780.1	783.5	786.7
60°	710.2	720.1	730.0	736.9	740.8	744.7	748.5	752.5
62.5°	674.7	684.6	694.5	701.3	704.8	708.4	712.1	715.6
65°	618.0	628.6	639.2	646.2	649.7	653.3	656.8	660.4
67.5°	561.6	573.2	584.7	592.0	595.0	597.9	600.9	603.9
70°	524.2	535.5	546.7	554.2	557.7	561.3	564.7	568.3
72.5°	486.7	498.3	509.8	517.4	520.9	524.4	528.0	531.5
75°	429.7	441.3	452.9	460.9	465.1	469.4	473.6	477.8
77.5°	376.3	388.6	400.9	408.6	411.9	415.2	418.4	421.6
80°	341.4	353.5	365.5	373.2	376.8	380.3	383.8	387.3
82.5°	309.7	321.7	333.7	341.4	345.0	348.5	352.0	355.6
85°	265.3	277.3	289.2	297.0	300.5	304.1	307.6	311.1
87.5°	231.5	243.6	255.8	263.7	267.3	270.9	274.6	278.2
90°	229.5	242.4	255.3	263.8	267.7	271.7	275.7	279.6
92.5°	221.5	234.7	247.8	256.1	259.6	263.2	266.7	270.2
95°	213.6	226.1	238.6	246.7	250.2	253.7	257.2	260.7
97.5°	203.0	215.3	227.6	235.7	239.4	243.2	246.9	250.6
100°	195.6	207.6	219.7	227.6	231.4	235.1	238.8	242.6
102.5°	205.9	210.3	214.7	218.8	222.8	226.7	230.7	234.5
105°	281.1	251.2	221.2	207.9	211.6	215.2	218.8	222.4
107.5°	475.4	455.7	435.9	412.5	385.6	358.6	331.6	304.7
110°	562.5	564.2	566.0	552.2	522.7	493.3	463.9	434.5



TEST NUMBER: P332224-840

CATALOG NUMBER: S123DIW-S1165D1030U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	620.6	629.7	638.6	641.3	637.6	633.9	630.2	626.5
115°	687.8	698.5	709.2	716.5	720.1	723.9	727.6	731.3
117.5°	747.0	757.2	767.4	774.0	776.9	779.9	782.8	785.8
120°	786.4	796.3	806.2	812.4	814.9	817.4	819.8	822.3
122.5°	824.7	833.7	842.8	848.7	851.3	854.0	856.7	859.3
125°	878.0	885.9	893.7	899.1	902.0	904.9	907.9	910.8
127.5°	931.4	939.2	946.8	951.7	953.6	955.5	957.6	959.5
130°	963.0	970.6	978.3	982.9	984.5	986.2	987.8	989.6
132.5°	992.6	1000.0	1007.2	1011.8	1013.6	1015.3	1017.1	1018.9
135°	1038.2	1045.3	1052.4	1056.4	1057.5	1058.5	1059.7	1060.8
137.5°	1078.4	1085.1	1091.8	1095.7	1097.0	1098.3	1099.6	1101.0
140°	1104.1	1110.2	1116.4	1120.1	1121.5	1122.8	1124.1	1125.4
142.5°	1127.5	1133.0	1138.4	1141.7	1142.9	1144.0	1145.1	1146.2
145°	1163.9	1167.1	1170.4	1172.8	1174.2	1175.6	1177.0	1178.4
147.5°	1197.1	1198.3	1199.6	1200.4	1200.6	1200.8	1201.1	1201.3
150°	1218.1	1218.5	1219.0	1219.2	1219.2	1219.3	1219.3	1219.3
152.5°	1238.3	1239.1	1239.9	1239.8	1239.0	1238.1	1237.2	1236.3
155°	1266.1	1267.2	1268.4	1268.2	1266.9	1265.6	1264.1	1262.8
157.5°	1290.3	1291.6	1292.9	1292.7	1291.0	1289.3	1287.5	1285.8
160°	1304.0	1305.5	1306.8	1306.7	1305.0	1303.5	1301.9	1300.3
162.5°	1316.6	1318.2	1319.7	1319.7	1318.4	1317.0	1315.6	1314.1
165°	1333.3	1335.1	1337.0	1337.1	1335.5	1333.9	1332.3	1330.8
167.5°	1346.4	1348.2	1350.0	1350.0	1348.2	1346.4	1344.5	1342.7
170°	1353.6	1355.4	1357.3	1357.3	1355.4	1353.6	1351.8	1350.1
172.5°	1358.6	1360.3	1362.1	1362.0	1360.1	1358.1	1356.0	1354.1
175°	1364.3	1365.9	1367.6	1367.5	1365.6	1363.8	1362.0	1360.2
177.5°	1366.5	1368.0	1369.4	1369.3	1367.5	1365.6	1363.8	1362.0
180°	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2

(END OF REPORT)