

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: P332224-830

Luminaire Tested: **S123DIW-S1165D1030U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332224-830
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-S1165D1030U830-4F0-1E-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: 8460.0 lumens
Efficiency: N/A
Efficacy: 125.5 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

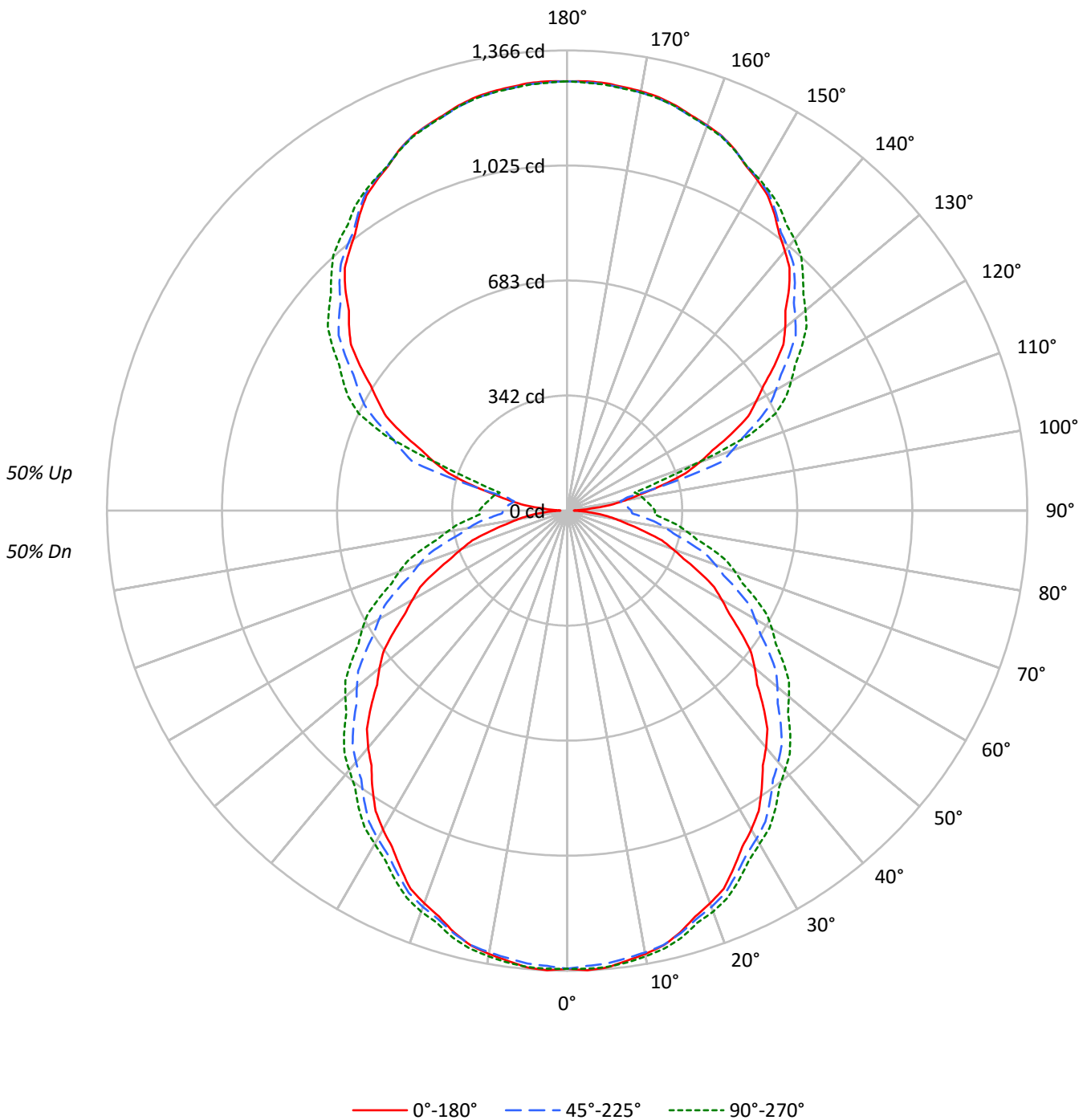
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIW-S1165D1030U830-4F0-1E-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°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



TEST NUMBER: P332224-830

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.5
10°-20°	367.5	4.3
20°-30°	549.7	6.5
30°-40°	656.5	7.8
40°-50°	686.9	8.1
50°-60°	644.6	7.6
60°-70°	538.3	6.4
70°-80°	385.2	4.6
80°-90°	233.3	2.8
90°-100°	190.4	2.3
100°-110°	326.7	3.9
110°-120°	601.1	7.1
120°-130°	715.8	8.5
130°-140°	739.7	8.7
140°-150°	678.7	8.0
150°-160°	544.3	6.4
160°-170°	351.3	4.2
170°-180°	121.1	1.4
0°-30°	1046.2	12.4
0°-40°	1702.7	20.1
0°-60°	3034.1	35.9
0°-90°	4190.9	49.5
90°-120°	1118.2	13.2
90°-150°	3252.4	38.4
90°-180°	4269.0	50.5
0°-180°	8460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	20	103	190	242	261	16
95°	74	97	176	226	243	84
105°	294	336	318	200	208	311
115°	537	562	622	665	683	530
125°	750	760	805	837	850	670
135°	932	937	956	984	990	717
145°	1073	1078	1080	1094	1100	671
155°	1180	1179	1180	1184	1179	544
165°	1245	1242	1241	1248	1242	352
175°	1274	1270	1270	1276	1270	121
180°	1274	1274	1274	1274	1274	



TEST NUMBER: P332224-830

CATALOG NUMBER: S123DIW-S1165D1030U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.6	56.5	73.2	90.0	106.9	123.9	141.3	158.6	176.0	193.3	204.6
90°	20.2	38.5	56.6	74.9	93.1	112.1	131.6	151.1	170.6	190.1	202.2
92.5°	35.7	49.7	63.6	77.6	91.5	107.8	126.4	145.0	163.6	182.2	194.4
95°	74.1	78.2	82.5	86.7	90.9	102.3	120.6	139.1	157.6	176.1	187.7
97.5°	130.5	138.3	146.0	153.7	161.5	165.4	165.7	166.0	166.3	166.5	178.0
100°	173.3	188.0	202.8	217.5	232.3	230.8	213.2	195.5	177.9	160.1	171.4
102.5°	222.2	234.6	247.1	259.7	272.2	268.0	246.9	226.0	205.0	184.1	188.1
105°	294.0	304.2	314.4	324.6	334.8	337.5	332.8	328.0	323.2	318.5	290.4
107.5°	368.3	376.8	385.4	394.0	402.6	415.1	431.5	447.9	464.3	480.8	462.2
110°	417.8	425.5	433.1	440.7	448.3	459.9	475.3	490.8	506.3	521.8	523.4



TEST NUMBER: P332224-830

CATALOG NUMBER: S123DIW-S1165D1030U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	466.4	472.7	479.1	485.5	491.9	502.6	517.6	532.4	547.4	562.4	570.8
115°	536.6	541.9	547.1	552.2	557.4	566.9	580.7	594.5	608.2	621.9	632.0
117.5°	605.8	609.8	613.8	617.7	621.8	629.8	641.9	654.0	666.1	678.2	687.7
120°	647.8	651.3	654.9	658.4	661.9	669.5	681.0	692.5	704.0	715.5	724.7
122.5°	691.7	694.1	696.5	699.0	701.3	708.1	719.3	730.4	741.6	752.7	761.2
125°	750.5	752.1	753.8	755.4	757.1	763.2	773.6	784.0	794.4	804.7	812.1
127.5°	808.8	810.1	811.4	812.8	814.2	819.3	828.2	837.2	846.0	855.0	862.1
130°	845.1	846.5	847.8	849.1	850.6	854.9	862.3	869.8	877.2	884.6	891.7
132.5°	878.7	880.3	882.0	883.6	885.2	889.0	894.9	900.9	906.8	912.8	919.6
135°	931.7	932.6	933.5	934.4	935.4	938.1	942.5	947.1	951.5	955.9	962.5
137.5°	976.9	978.2	979.5	980.8	982.1	984.1	986.6	989.1	991.6	994.1	1000.3
140°	1005.9	1007.2	1008.4	1009.7	1011.0	1012.4	1014.0	1015.7	1017.3	1018.9	1024.6
142.5°	1034.0	1034.9	1035.9	1037.0	1037.9	1038.9	1039.7	1040.5	1041.3	1042.2	1047.3
145°	1073.2	1074.3	1075.4	1076.6	1077.7	1078.5	1078.9	1079.3	1079.8	1080.2	1083.3
147.5°	1108.6	1109.6	1110.5	1111.4	1112.5	1113.1	1113.5	1114.0	1114.4	1114.8	1116.1
150°	1131.3	1131.9	1132.6	1133.2	1133.8	1134.3	1134.7	1135.2	1135.6	1136.0	1136.4
152.5°	1151.8	1152.1	1152.4	1152.6	1152.9	1153.2	1153.5	1153.7	1154.0	1154.2	1155.0
155°	1180.5	1180.1	1179.7	1179.3	1178.8	1178.7	1178.9	1179.1	1179.4	1179.6	1180.6
157.5°	1202.9	1202.9	1202.8	1202.8	1202.7	1202.6	1202.4	1202.1	1201.9	1201.7	1203.0
160°	1216.5	1216.3	1216.1	1215.9	1215.7	1215.4	1215.2	1215.0	1214.8	1214.7	1215.9
162.5°	1229.4	1228.8	1228.3	1227.8	1227.2	1226.8	1226.6	1226.4	1226.2	1226.0	1227.4
165°	1244.9	1244.3	1243.7	1243.0	1242.4	1242.0	1241.7	1241.5	1241.3	1241.1	1242.8
167.5°	1257.0	1256.2	1255.4	1254.5	1253.7	1253.2	1253.2	1253.2	1253.2	1253.2	1254.9
170°	1263.9	1263.0	1262.2	1261.3	1260.5	1260.1	1260.1	1260.1	1260.1	1260.1	1261.7
172.5°	1268.4	1267.3	1266.4	1265.4	1264.3	1263.9	1264.0	1264.2	1264.4	1264.6	1266.3
175°	1274.2	1273.2	1272.1	1271.1	1270.1	1269.6	1269.8	1270.1	1270.3	1270.5	1272.0
177.5°	1275.7	1274.9	1274.1	1273.3	1272.4	1272.1	1272.2	1272.4	1272.5	1272.7	1274.1
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2



TEST NUMBER: P332224-830

CATALOG NUMBER: S123DIW-S1165D1030U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	216.0	227.3	238.7	246.1	249.5	252.9	256.3	259.7
90°	214.2	226.2	238.3	246.2	249.9	253.5	257.3	261.0
92.5°	206.7	219.0	231.3	239.0	242.3	245.6	248.9	252.2
95°	199.3	211.0	222.7	230.3	233.6	236.8	240.1	243.4
97.5°	189.5	201.0	212.4	220.0	223.5	227.0	230.5	233.9
100°	182.6	193.8	205.1	212.4	215.9	219.4	222.9	226.4
102.5°	192.2	196.2	200.4	204.2	207.9	211.6	215.3	218.9
105°	262.4	234.4	206.4	194.1	197.5	200.9	204.2	207.5
107.5°	443.7	425.3	406.8	385.0	359.9	334.7	309.5	284.4
110°	525.0	526.6	528.3	515.4	487.9	460.4	433.0	405.6



TEST NUMBER: P332224-830

CATALOG NUMBER: S123DIW-S1165D1030U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	579.2	587.7	596.1	598.5	595.1	591.6	588.1	584.8
115°	642.0	652.0	661.9	668.7	672.1	675.6	679.1	682.6
117.5°	697.2	706.7	716.2	722.4	725.1	727.9	730.7	733.4
120°	734.0	743.2	752.4	758.3	760.5	762.9	765.2	767.5
122.5°	769.7	778.2	786.6	792.1	794.6	797.1	799.6	802.0
125°	819.4	826.8	834.2	839.1	841.9	844.6	847.3	850.1
127.5°	869.3	876.6	883.7	888.3	890.0	891.8	893.7	895.5
130°	898.8	905.9	913.0	917.4	918.9	920.5	922.0	923.6
132.5°	926.4	933.3	940.1	944.3	946.0	947.6	949.3	950.9
135°	969.0	975.6	982.2	986.0	987.0	988.0	989.0	990.0
137.5°	1006.5	1012.8	1019.0	1022.7	1023.9	1025.1	1026.3	1027.6
140°	1030.5	1036.2	1042.0	1045.5	1046.7	1047.9	1049.1	1050.4
142.5°	1052.3	1057.4	1062.5	1065.5	1066.7	1067.7	1068.7	1069.8
145°	1086.3	1089.3	1092.4	1094.6	1095.9	1097.2	1098.5	1099.9
147.5°	1117.3	1118.4	1119.6	1120.4	1120.6	1120.8	1121.1	1121.2
150°	1136.9	1137.3	1137.7	1137.9	1137.9	1138.0	1138.0	1138.0
152.5°	1155.7	1156.5	1157.3	1157.2	1156.4	1155.6	1154.7	1153.9
155°	1181.7	1182.7	1183.8	1183.6	1182.4	1181.2	1179.9	1178.6
157.5°	1204.3	1205.5	1206.7	1206.5	1204.9	1203.3	1201.6	1200.0
160°	1217.1	1218.4	1219.7	1219.6	1218.0	1216.6	1215.1	1213.6
162.5°	1228.8	1230.3	1231.7	1231.7	1230.5	1229.2	1227.9	1226.5
165°	1244.4	1246.1	1247.8	1247.9	1246.5	1245.0	1243.5	1242.1
167.5°	1256.6	1258.3	1260.0	1260.0	1258.3	1256.6	1254.9	1253.2
170°	1263.4	1265.1	1266.8	1266.8	1265.1	1263.4	1261.7	1260.1
172.5°	1268.0	1269.6	1271.3	1271.2	1269.4	1267.5	1265.6	1263.9
175°	1273.4	1274.9	1276.4	1276.3	1274.6	1272.9	1271.2	1269.5
177.5°	1275.4	1276.8	1278.1	1278.0	1276.3	1274.6	1272.9	1271.2
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2

(END OF REPORT)