

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: P332225-940

Luminaire Tested: **S123DIW-S1165D1030U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332225-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1165D1030U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7513.8 lumens
Efficiency: N/A
Efficacy: 111.5 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

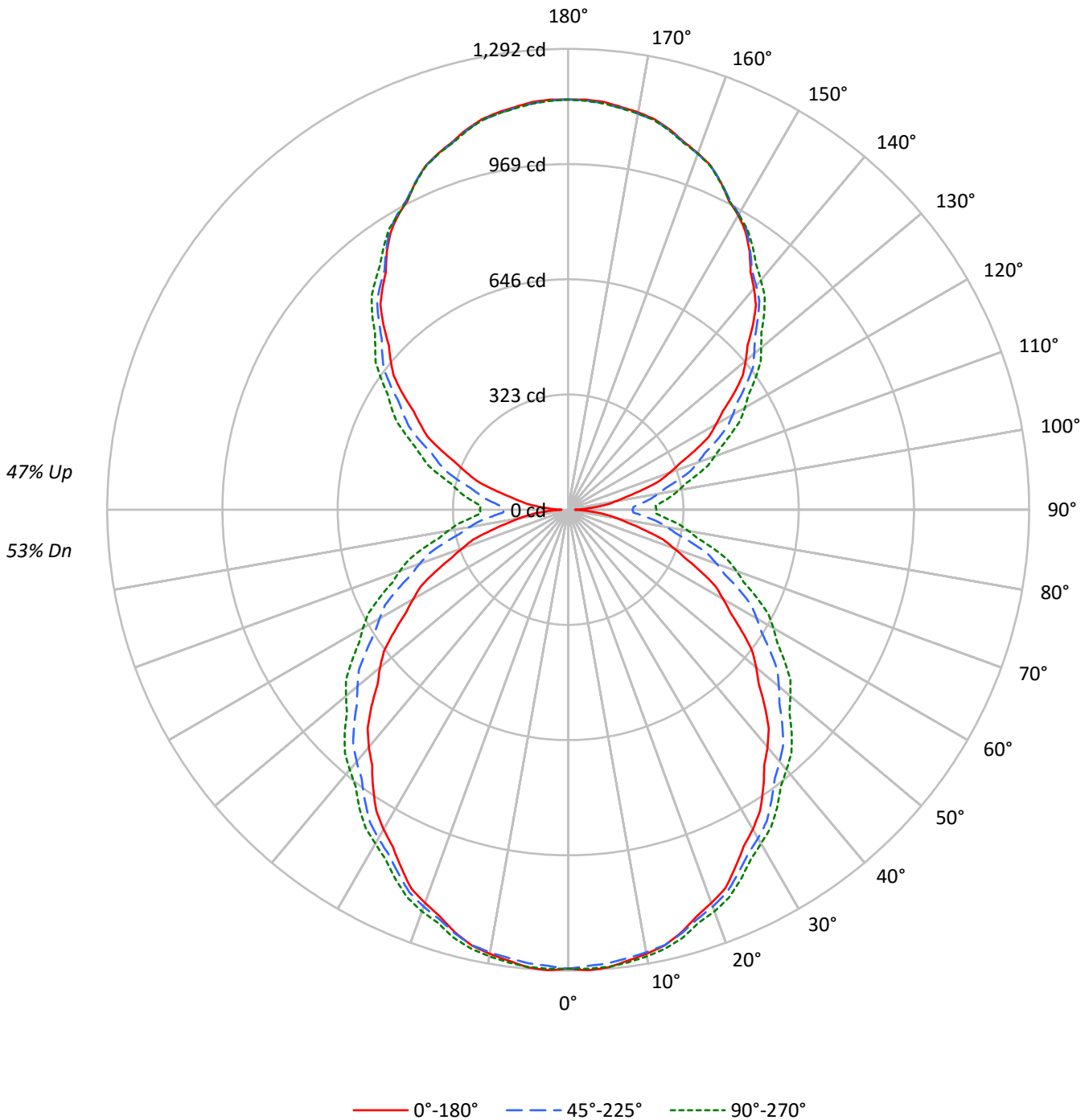
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	49	47	42				
2	88	80	73	68	81	74	68	63	63	59	55	53	50	47	43	41	39	34				
3	80	70	62	56	74	65	58	53	55	50	46	46	42	39	38	35	33	29				
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24				
5	67	55	46	40	62	51	43	38	44	38	33	37	32	29	30	27	24	21				
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18				
7	57	44	36	30	53	41	34	29	36	30	25	30	25	22	25	21	19	16				
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14				
9	49	37	29	24	45	34	27	23	30	24	20	25	21	17	21	18	15	13				
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13850	13850	13850
5°	13894	13501	13509
10°	13769	13190	13124
15°	13592	12837	12705
20°	13338	12435	12243
25°	13025	11969	11757
30°	12705	11553	11264
35°	12344	11111	10871
40°	12002	10709	10450
45°	11622	10323	10113
50°	11245	9942	9744
55°	10831	9553	9410
60°	10426	9156	9068
65°	10013	8733	8661
70°	9389	8257	8243
75°	8597	7713	7819
80°	7695	7181	7334
85°	6853	6811	7053



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	1.6
10°-20°	347.7	4.6
20°-30°	520.1	6.9
30°-40°	621.1	8.3
40°-50°	649.8	8.6
50°-60°	609.8	8.1
60°-70°	509.3	6.8
70°-80°	364.4	4.8
80°-90°	220.7	2.9
90°-100°	211.3	2.8
100°-110°	324.4	4.3
110°-120°	448.3	6.0
120°-130°	539.9	7.2
130°-140°	581.0	7.7
140°-150°	557.9	7.4
150°-160°	466.6	6.2
160°-170°	310.6	4.1
170°-180°	108.8	1.4
0°-30°	989.8	13.2
0°-40°	1610.9	21.4
0°-60°	2870.5	38.2
0°-90°	3964.9	52.8
90°-120°	984.0	13.1
90°-150°	2662.9	35.4
90°-180°	3549.0	47.2
0°-180°	7513.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1288	1285	1277	1287	1287	122
15°	1226	1230	1229	1242	1242	345
25°	1107	1121	1126	1143	1144	510
35°	953	975	994	1014	1020	596
45°	779	813	848	874	886	601
55°	594	641	691	727	740	532
65°	411	466	527	568	583	406
75°	223	289	359	403	422	238
85°	69	139	213	259	275	72
90°	19	97	180	229	247	16
95°	69	131	206	251	267	72
105°	214	252	318	356	372	229
115°	391	412	459	492	504	387
125°	566	571	608	632	640	505
135°	732	736	750	771	777	564
145°	886	886	889	899	901	553
155°	1013	1013	1014	1017	1011	466
165°	1103	1100	1100	1105	1100	311
175°	1147	1144	1144	1148	1143	109
180°	1150	1150	1150	1150	1150	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1292.4	1291.6	1290.8	1290.1	1289.3	1288.0	1286.0	1284.0	1282.0	1280.1	1282.0
5°	1288.2	1287.5	1286.9	1286.3	1285.7	1284.4	1282.5	1280.7	1278.8	1276.9	1279.4
7.5°	1275.5	1275.7	1275.8	1275.9	1276.0	1275.2	1273.4	1271.6	1269.8	1267.9	1271.0
10°	1264.4	1265.0	1265.6	1266.2	1266.9	1266.3	1264.8	1263.2	1261.7	1260.1	1263.2
12.5°	1250.9	1251.7	1252.6	1253.5	1254.4	1254.3	1253.2	1252.1	1251.1	1250.0	1252.9
15°	1226.5	1227.4	1228.3	1229.3	1230.2	1230.6	1230.2	1229.9	1229.6	1229.3	1232.4
17.5°	1195.6	1197.5	1199.4	1201.2	1203.1	1204.0	1203.9	1203.7	1203.6	1203.5	1206.3
20°	1173.2	1175.1	1177.0	1178.8	1180.7	1182.0	1182.6	1183.2	1183.8	1184.5	1187.2
22.5°	1149.7	1151.6	1153.4	1155.3	1157.2	1158.5	1159.4	1160.3	1161.1	1162.0	1165.6
25°	1107.3	1110.4	1113.6	1116.7	1119.8	1121.8	1122.8	1123.6	1124.6	1125.5	1129.6
27.5°	1064.7	1068.3	1071.8	1075.4	1078.9	1081.7	1083.7	1085.7	1087.7	1089.7	1093.1
30°	1034.5	1038.5	1042.5	1046.6	1050.6	1053.9	1056.4	1058.9	1061.4	1063.9	1067.6
32.5°	1000.8	1005.3	1009.9	1014.4	1019.0	1022.9	1026.1	1029.4	1032.6	1035.8	1039.8
35°	953.1	958.1	963.1	968.1	973.1	977.6	981.7	985.7	989.7	993.8	998.4
37.5°	902.7	908.3	913.9	919.5	925.1	930.4	935.4	940.4	945.4	950.4	955.6
40°	869.1	874.7	880.3	885.8	891.4	897.4	903.7	909.8	916.1	922.3	927.6
42.5°	832.1	838.9	845.8	852.6	859.4	866.1	872.6	879.0	885.6	892.1	897.9
45°	779.4	786.8	794.2	801.7	809.2	816.9	824.7	832.4	840.3	848.0	853.9
47.5°	724.1	732.5	741.0	749.6	758.0	766.7	775.6	784.5	793.4	802.4	809.0
50°	688.2	697.0	705.7	714.3	723.1	732.3	742.0	751.6	761.3	770.9	778.1
52.5°	650.1	659.3	668.5	677.8	687.0	697.0	707.6	718.2	728.9	739.5	747.0
55°	594.3	604.6	614.8	625.2	635.4	646.1	657.4	668.6	679.8	691.1	699.5
57.5°	539.9	550.6	561.3	572.0	582.8	594.3	606.5	618.8	631.1	643.4	651.8
60°	501.8	513.0	524.2	535.5	546.6	558.7	571.4	584.2	597.0	609.8	618.5
62.5°	465.9	477.4	488.8	500.3	511.8	524.2	537.8	551.3	564.8	578.4	587.0
65°	410.7	422.8	435.0	447.1	459.3	472.3	485.9	499.6	513.4	527.0	536.4
67.5°	354.6	367.6	380.4	393.3	406.2	419.6	433.5	447.5	461.5	475.5	485.6
70°	315.4	328.8	342.1	355.5	369.0	383.2	398.1	413.0	428.0	442.9	452.9
72.5°	279.5	292.9	306.3	319.7	333.1	347.5	362.9	378.4	393.9	409.3	419.5
75°	222.8	237.6	252.2	266.8	281.4	296.5	312.1	327.7	343.2	358.8	369.1
77.5°	173.5	188.3	203.0	217.8	232.6	247.8	263.5	279.2	294.9	310.6	321.5
80°	138.8	154.0	169.3	184.6	199.8	215.5	231.8	248.0	264.1	280.4	291.0
82.5°	108.5	124.0	139.6	155.1	170.5	186.5	203.0	219.5	235.9	252.3	262.9
85°	68.7	84.3	99.9	115.4	131.0	147.0	163.5	180.0	196.5	213.0	223.6
87.5°	37.5	53.4	69.3	85.2	101.1	117.3	133.7	150.1	166.5	182.9	193.7
90°	19.1	36.4	53.7	71.0	88.2	106.1	124.6	143.1	161.6	180.0	191.5
92.5°	39.0	54.1	69.2	84.4	99.5	115.7	132.8	149.9	167.0	184.1	195.1
95°	68.8	82.3	95.9	109.4	123.0	138.1	155.0	171.9	188.8	205.6	216.1
97.5°	108.4	120.4	132.4	144.5	156.4	170.3	186.1	201.8	217.6	233.3	243.5
100°	135.5	146.7	157.8	169.0	180.1	193.4	208.7	224.1	239.4	254.8	264.4
102.5°	166.8	176.6	186.3	196.0	205.6	218.2	233.6	249.1	264.4	279.8	289.2
105°	214.5	222.4	230.2	238.1	246.0	257.5	272.7	287.9	303.1	318.3	327.1
107.5°	268.4	275.0	281.6	288.2	294.8	304.9	318.3	331.7	345.1	358.6	367.6
110°	302.0	308.0	314.1	320.0	326.0	335.5	348.3	361.2	374.1	386.9	395.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	338.1	343.0	347.9	352.7	357.6	366.0	378.1	390.1	402.2	414.2	422.9
115°	390.9	395.3	399.7	403.9	408.3	415.9	426.7	437.5	448.4	459.1	466.8
117.5°	445.2	447.9	450.7	453.3	456.1	462.4	472.4	482.4	492.4	502.5	509.8
120°	478.0	480.8	483.6	486.3	489.1	495.2	504.4	513.7	523.0	532.3	539.2
122.5°	513.5	515.2	516.9	518.6	520.3	525.8	535.0	544.3	553.5	562.8	569.2
125°	566.1	566.7	567.3	567.9	568.6	573.2	581.8	590.4	599.1	607.7	613.4
127.5°	616.0	617.0	618.0	618.9	619.9	623.9	630.9	637.9	645.0	652.0	657.1
130°	649.3	650.5	651.8	653.1	654.4	657.9	663.5	669.1	674.8	680.4	685.5
132.5°	681.4	682.9	684.5	686.0	687.5	690.5	695.1	699.6	704.2	708.7	713.5
135°	731.8	732.7	733.6	734.5	735.4	737.4	740.7	744.0	747.2	750.4	755.2
137.5°	778.6	779.3	780.1	780.8	781.6	783.2	785.6	788.1	790.5	793.0	797.1
140°	809.9	810.9	812.0	813.0	814.0	815.0	816.2	817.3	818.4	819.6	824.0
142.5°	839.5	840.3	841.1	841.9	842.6	843.3	843.8	844.4	844.9	845.4	849.4
145°	885.8	885.9	886.0	886.1	886.2	886.5	887.2	887.8	888.3	888.9	891.3
147.5°	924.9	925.6	926.3	927.1	927.8	928.4	929.0	929.6	930.1	930.7	931.4
150°	953.1	953.5	953.9	954.3	954.7	955.1	955.5	955.9	956.3	956.7	956.7
152.5°	976.2	976.8	977.3	977.9	978.5	978.8	979.1	979.4	979.6	979.8	980.2
155°	1012.7	1012.7	1012.7	1012.7	1012.7	1012.8	1013.0	1013.3	1013.4	1013.6	1014.4
157.5°	1043.8	1043.6	1043.3	1043.0	1042.9	1042.8	1042.9	1043.1	1043.3	1043.4	1044.3
160°	1063.3	1062.9	1062.5	1062.1	1061.7	1061.5	1061.5	1061.5	1061.5	1061.5	1062.5
162.5°	1080.7	1080.1	1079.5	1079.0	1078.4	1078.2	1078.3	1078.5	1078.7	1078.9	1079.9
165°	1103.0	1102.4	1101.9	1101.3	1100.6	1100.4	1100.4	1100.4	1100.4	1100.4	1101.5
167.5°	1121.0	1120.2	1119.4	1118.6	1117.8	1117.4	1117.6	1117.8	1117.9	1118.0	1119.3
170°	1131.0	1130.2	1129.4	1128.6	1127.8	1127.5	1127.5	1127.5	1127.5	1127.5	1128.8
172.5°	1139.0	1138.2	1137.4	1136.6	1135.8	1135.4	1135.4	1135.4	1135.4	1135.4	1136.7
175°	1147.4	1146.6	1145.8	1145.0	1144.2	1143.7	1143.7	1143.7	1143.7	1143.7	1145.0
177.5°	1150.8	1150.1	1149.5	1148.8	1148.2	1147.9	1147.9	1147.9	1147.9	1147.9	1148.8
180°	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1284.0	1286.0	1288.0	1288.9	1288.6	1288.3	1288.1	1287.9
5°	1281.9	1284.4	1286.9	1288.0	1287.7	1287.4	1287.1	1286.7
7.5°	1274.2	1277.3	1280.4	1281.8	1281.4	1281.0	1280.7	1280.3
10°	1266.3	1269.4	1272.6	1273.8	1273.2	1272.6	1271.9	1271.3
12.5°	1255.8	1258.6	1261.5	1262.6	1261.9	1261.3	1260.7	1260.1
15°	1235.5	1238.6	1241.7	1243.1	1242.9	1242.5	1242.2	1241.9
17.5°	1209.1	1211.9	1214.7	1215.8	1215.5	1215.0	1214.6	1214.2
20°	1190.0	1192.8	1195.6	1197.2	1197.5	1197.8	1198.1	1198.5
22.5°	1169.1	1172.7	1176.2	1177.9	1177.7	1177.5	1177.3	1177.1
25°	1133.6	1137.7	1141.7	1143.8	1143.8	1143.8	1143.8	1143.8
27.5°	1096.6	1100.1	1103.6	1105.5	1105.7	1106.0	1106.3	1106.5
30°	1071.4	1075.1	1078.8	1080.7	1080.7	1080.7	1080.7	1080.7
32.5°	1043.8	1047.8	1051.8	1054.2	1054.9	1055.7	1056.4	1057.1
35°	1003.2	1007.8	1012.4	1015.5	1016.7	1018.0	1019.2	1020.4
37.5°	960.9	966.3	971.5	974.6	975.7	976.7	977.7	978.7
40°	932.9	938.2	943.5	946.7	948.0	949.2	950.5	951.7
42.5°	903.7	909.5	915.3	919.0	920.7	922.5	924.2	926.0
45°	859.9	865.8	871.7	875.9	878.4	880.9	883.4	885.8
47.5°	815.6	822.3	829.0	833.3	835.2	837.1	839.1	841.0
50°	785.2	792.5	799.6	804.2	806.5	808.6	810.8	813.0
52.5°	754.4	761.8	769.2	774.3	776.9	779.6	782.3	785.0
55°	707.8	716.2	724.7	730.1	732.6	735.1	737.6	740.1
57.5°	660.3	668.8	677.3	683.0	685.9	688.8	691.8	694.6
60°	627.1	635.9	644.6	650.7	654.2	657.5	660.9	664.4
62.5°	595.8	604.5	613.2	619.2	622.3	625.5	628.7	631.9
65°	545.7	555.1	564.5	570.6	573.7	576.8	580.0	583.1
67.5°	495.9	506.1	516.3	522.7	525.4	528.0	530.6	533.2
70°	462.9	472.9	482.8	489.4	492.5	495.6	498.6	501.8
72.5°	429.7	440.0	450.1	456.8	459.9	463.1	466.2	469.3
75°	379.4	389.7	399.9	407.0	410.7	414.5	418.2	421.9
77.5°	332.3	343.1	354.0	360.8	363.7	366.6	369.4	372.3
80°	301.5	312.1	322.7	329.6	332.7	335.8	338.9	342.0
82.5°	273.5	284.1	294.6	301.5	304.6	307.7	310.9	314.0
85°	234.3	244.9	255.4	262.3	265.4	268.5	271.6	274.7
87.5°	204.4	215.2	226.0	232.9	236.1	239.2	242.5	245.7
90°	202.9	214.3	225.6	233.1	236.7	240.1	243.6	247.2
92.5°	206.1	217.0	228.0	234.9	237.5	240.1	242.7	245.3
95°	226.5	237.0	247.4	254.2	257.3	260.5	263.6	266.7
97.5°	253.7	263.9	274.1	280.7	283.7	286.8	289.8	292.8
100°	274.0	283.7	293.3	299.9	303.4	306.9	310.4	314.0
102.5°	298.6	308.0	317.4	323.6	326.6	329.7	332.7	335.7
105°	335.7	344.5	353.2	359.2	362.4	365.6	368.8	372.0
107.5°	376.6	385.6	394.5	400.3	402.8	405.3	407.8	410.3
110°	404.7	413.7	422.5	428.0	430.2	432.2	434.3	436.4



TEST NUMBER: P332225-940

CATALOG NUMBER: S123DIW-S1165D1030U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	431.8	440.6	449.4	455.1	457.8	460.5	463.2	465.8
115°	474.5	482.1	489.8	494.8	497.1	499.4	501.7	504.0
117.5°	517.2	524.6	531.9	536.5	538.4	540.3	542.2	544.0
120°	546.2	553.1	560.1	564.5	566.2	568.0	569.8	571.6
122.5°	575.6	581.9	588.4	592.4	594.0	595.6	597.2	598.9
125°	619.1	624.9	630.6	634.2	635.5	636.9	638.3	639.7
127.5°	662.1	667.2	672.2	675.3	676.5	677.7	678.9	680.1
130°	690.6	695.7	700.9	703.6	704.1	704.5	705.0	705.5
132.5°	718.2	722.8	727.5	730.4	731.5	732.5	733.5	734.6
135°	760.0	764.8	769.6	772.6	773.7	774.9	776.1	777.2
137.5°	801.1	805.2	809.3	811.7	812.5	813.3	814.1	814.9
140°	828.5	832.9	837.5	839.8	839.9	840.1	840.3	840.3
142.5°	853.4	857.4	861.3	863.5	864.1	864.5	865.0	865.5
145°	893.5	895.8	898.1	899.5	899.9	900.4	900.8	901.3
147.5°	932.2	932.9	933.7	934.0	933.9	933.9	933.8	933.7
150°	956.7	956.7	956.7	956.4	955.8	955.3	954.7	954.1
152.5°	980.4	980.8	981.1	980.8	979.9	979.0	978.0	977.1
155°	1015.2	1016.0	1016.8	1016.6	1015.1	1013.7	1012.4	1010.9
157.5°	1045.1	1046.0	1046.8	1046.7	1045.5	1044.5	1043.3	1042.1
160°	1063.5	1064.5	1065.5	1065.6	1064.8	1064.0	1063.2	1062.4
162.5°	1080.8	1081.8	1082.9	1082.7	1081.5	1080.1	1078.9	1077.5
165°	1102.8	1103.9	1105.2	1105.1	1103.7	1102.2	1100.8	1099.5
167.5°	1120.5	1121.8	1123.0	1123.0	1121.8	1120.5	1119.3	1118.0
170°	1130.2	1131.7	1133.1	1133.1	1131.7	1130.2	1128.8	1127.5
172.5°	1137.9	1139.2	1140.4	1140.3	1138.9	1137.5	1136.0	1134.7
175°	1146.1	1147.4	1148.5	1148.4	1147.0	1145.6	1144.2	1142.8
177.5°	1149.8	1150.8	1151.7	1151.6	1150.5	1149.4	1148.3	1147.2
180°	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0

(END OF REPORT)