

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: P332086-940

Luminaire Tested: **S123DIP-S1165D1195U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332086-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1195U940-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8178.5 lumens
Efficiency: N/A
Efficacy: 114.1 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

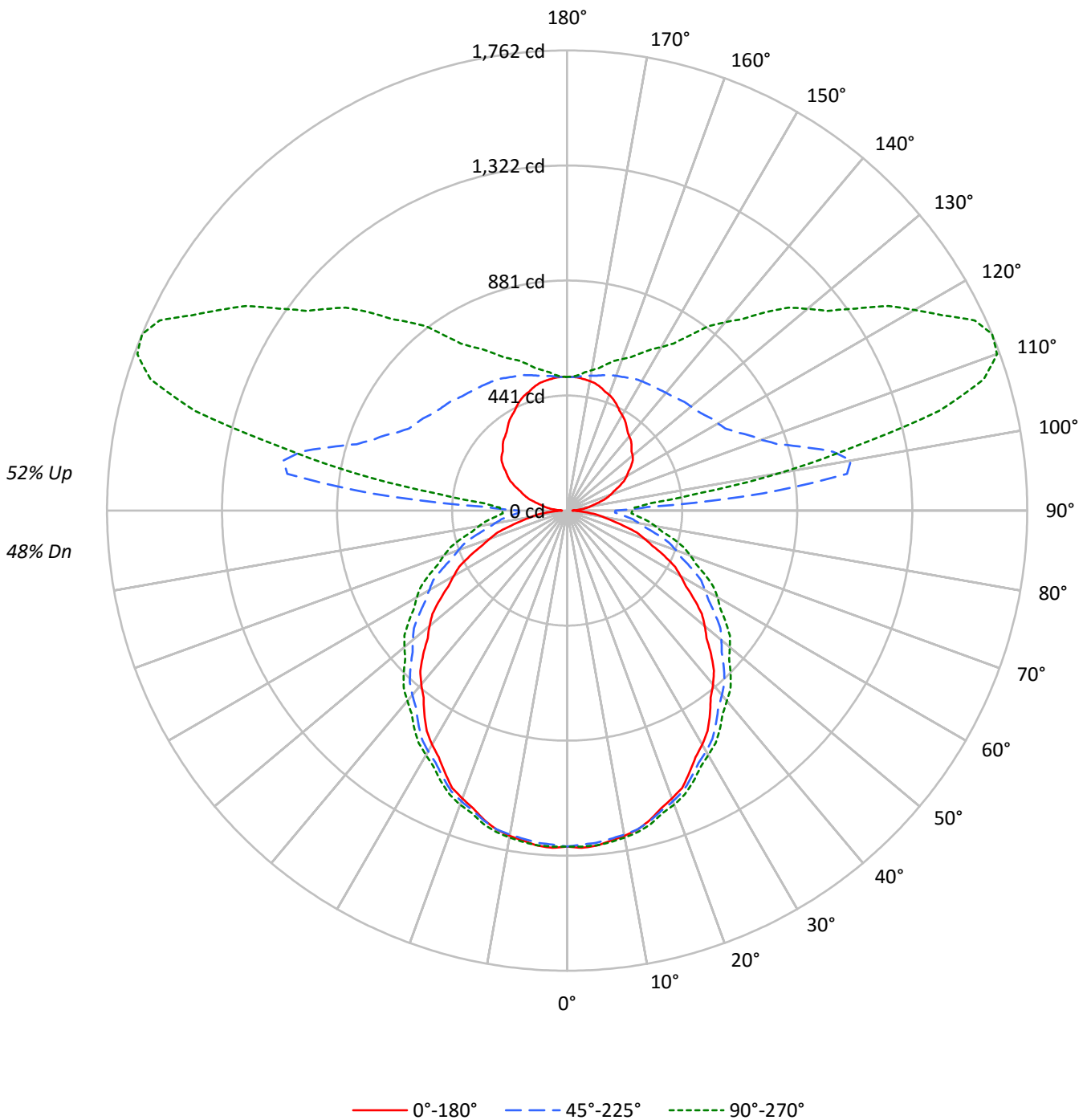
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332086-940

CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-D4

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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	96	92	87	84	88	84	81	77	71	68	66	58	56	55	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	51	47	45	41	38	36	32
3	79	69	62	56	73	64	57	52	54	49	45	44	41	37	36	33	31	26
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	29	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

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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CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	1.5
10°-20°	347.7	4.3
20°-30°	520.1	6.4
30°-40°	621.1	7.6
40°-50°	649.8	7.9
50°-60°	609.8	7.5
60°-70°	509.3	6.2
70°-80°	364.4	4.5
80°-90°	221.3	2.7
90°-100°	421.2	5.1
100°-110°	906.7	11.1
110°-120°	860.3	10.5
120°-130°	671.1	8.2
130°-140°	516.1	6.3
140°-150°	376.1	4.6
150°-160°	259.6	3.2
160°-170°	152.5	1.9
170°-180°	49.6	0.6
0°-30°	989.8	12.1
0°-40°	1610.9	19.7
0°-60°	2870.5	35.1
0°-90°	3965.5	48.5
90°-120°	2188.1	26.8
90°-150°	3751.4	45.9
90°-180°	4213.0	51.5
0°-180°	8178.5	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°	20	100	184	233	250	15
95°	51	185	753	360	316	50
105°	131	224	938	1600	1475	139
115°	219	290	711	1504	1722	217
125°	299	355	640	1151	1348	266
135°	349	415	603	928	1074	269
145°	396	452	579	739	818	248
155°	449	484	560	637	664	206
165°	490	504	537	569	579	138
175°	511	511	515	522	521	48
180°	512	512	512	512	512	



TEST NUMBER: P332086-940

CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-D4

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°	37.7	53.6	69.6	85.7	101.7	117.7	134.2	150.7	167.3	183.8	194.1
90°	20.3	37.6	54.9	73.3	90.7	108.3	127.3	146.3	165.3	184.3	193.9
92.5°	30.0	49.9	72.4	94.3	116.7	146.8	189.6	249.7	309.1	308.8	279.9
95°	50.6	65.9	89.4	119.2	158.3	212.4	315.8	485.4	670.6	753.1	646.8
97.5°	73.8	85.8	105.7	132.0	169.5	226.0	324.7	513.3	811.1	1080.8	1156.5
100°	89.3	100.3	117.5	142.0	176.8	229.3	316.2	483.8	770.7	1103.0	1316.2
102.5°	105.6	116.4	131.8	154.4	185.8	234.4	313.5	457.7	714.4	1042.5	1317.5
105°	131.3	142.0	155.7	175.6	202.8	245.3	314.6	434.7	643.9	938.1	1244.1
107.5°	157.5	166.9	179.3	197.9	222.7	262.1	323.9	425.3	595.8	845.0	1123.3
110°	176.3	184.9	195.7	212.8	235.9	274.0	333.1	424.3	575.6	792.1	1047.8



TEST NUMBER: P332086-940

CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	194.5	202.2	212.0	228.0	250.2	286.7	342.0	426.9	561.1	753.9	980.3
115°	219.4	227.3	237.2	251.4	272.7	308.1	358.7	433.1	550.0	711.4	898.1
117.5°	245.4	252.5	260.0	271.8	293.8	326.1	375.6	442.5	542.8	681.7	844.2
120°	262.5	267.2	273.9	285.9	307.1	338.9	386.5	450.7	540.7	667.0	815.1
122.5°	278.3	282.2	288.2	300.2	319.9	352.8	399.0	458.5	541.4	655.6	790.1
125°	299.4	301.6	307.7	319.1	338.9	371.3	416.6	471.3	542.4	639.5	757.0
127.5°	316.6	319.5	326.8	338.1	359.5	391.1	433.6	482.1	545.5	627.4	726.6
130°	327.4	330.2	339.3	351.3	372.8	403.8	444.2	489.8	547.8	619.3	709.2
132.5°	334.6	338.5	348.6	363.5	385.1	414.7	453.1	496.6	548.4	612.9	692.5
135°	348.8	352.7	363.7	379.0	400.5	430.0	465.5	504.2	549.0	603.2	669.9
137.5°	362.2	366.3	377.3	393.6	414.9	441.7	474.5	510.0	548.8	594.2	650.3
140°	370.2	375.4	385.8	402.3	423.0	449.4	480.5	512.5	548.6	588.9	638.1
142.5°	380.1	384.2	395.2	409.9	430.3	454.6	483.9	514.4	547.3	582.7	626.5
145°	396.1	399.0	408.0	423.2	440.5	464.1	491.1	519.1	548.0	579.2	614.7
147.5°	410.9	412.8	421.9	435.3	452.4	472.6	497.3	522.4	548.0	575.2	604.3
150°	421.7	422.7	431.0	444.4	459.0	477.6	501.4	523.2	548.0	571.9	597.8
152.5°	432.5	432.7	441.0	452.7	465.6	483.4	503.9	524.9	545.5	567.8	591.2
155°	448.6	448.6	454.9	465.2	476.5	491.1	508.7	525.3	542.9	560.5	581.2
157.5°	461.5	462.3	467.3	476.4	486.1	497.3	511.4	526.3	539.4	554.1	570.0
160°	471.4	471.4	475.5	483.8	491.1	501.4	513.9	526.3	537.7	549.1	562.6
162.5°	478.8	478.8	482.1	488.8	495.3	503.9	514.7	525.5	534.4	544.1	555.1
165°	490.1	489.0	491.1	496.2	500.4	507.7	515.9	523.2	529.4	536.6	544.9
167.5°	498.6	497.3	498.3	502.3	505.2	509.7	515.8	521.6	524.4	529.2	535.2
170°	503.5	501.4	502.5	505.6	507.7	509.7	514.9	519.1	521.1	524.2	529.4
172.5°	506.8	505.6	505.8	508.1	509.3	510.6	514.9	518.3	518.6	520.0	523.6
175°	510.8	509.7	508.7	510.8	510.8	511.8	513.9	515.9	514.9	514.9	517.0
177.5°	512.6	511.8	511.0	511.8	511.8	511.8	512.6	514.2	512.6	511.8	512.6
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



TEST NUMBER: P332086-940

CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-D4

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°	204.9	215.7	226.5	233.8	236.7	240.0	243.3	246.3
90°	205.5	217.1	228.7	237.6	239.7	243.9	248.1	250.1
92.5°	257.3	249.7	251.9	253.2	254.1	253.9	257.8	258.8
95°	531.0	420.5	375.2	344.4	327.8	321.6	317.4	316.4
97.5°	1077.0	901.3	776.9	659.2	585.8	542.2	517.5	511.7
100°	1361.5	1286.6	1174.4	1033.4	931.8	859.3	822.1	826.2
102.5°	1451.3	1457.3	1395.4	1308.1	1229.8	1173.0	1142.5	1121.7
105°	1469.5	1581.7	1610.2	1588.9	1544.1	1507.5	1477.2	1474.8
107.5°	1377.2	1553.8	1652.9	1695.3	1698.9	1688.4	1680.0	1673.1
110°	1293.2	1491.9	1630.6	1708.3	1739.9	1750.7	1751.1	1751.5



TEST NUMBER: P332086-940

CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1208.9	1411.5	1565.7	1664.2	1719.9	1748.4	1759.0	1762.2
115°	1097.3	1285.0	1444.8	1562.7	1642.9	1691.0	1714.2	1721.9
117.5°	1013.4	1176.4	1320.6	1440.1	1523.6	1578.1	1610.4	1620.0
120°	968.3	1115.4	1246.9	1356.2	1440.2	1500.4	1527.4	1535.8
122.5°	931.6	1065.1	1187.2	1289.0	1363.9	1418.3	1447.8	1457.9
125°	881.5	1001.0	1107.1	1194.3	1262.8	1310.5	1338.6	1348.1
127.5°	836.8	943.7	1039.6	1119.1	1180.3	1221.4	1246.9	1255.6
130°	808.3	907.5	997.3	1071.7	1128.5	1167.6	1191.2	1201.4
132.5°	781.5	872.9	956.7	1027.8	1081.5	1120.9	1142.3	1150.2
135°	744.9	824.1	897.1	959.7	1012.0	1044.6	1064.9	1073.7
137.5°	711.4	776.6	839.5	893.9	938.2	971.3	988.6	994.9
140°	691.5	748.9	803.4	851.0	892.0	922.6	940.7	941.2
142.5°	671.9	721.5	768.7	810.4	845.4	872.7	889.2	889.7
145°	650.4	687.2	722.7	754.7	781.9	804.9	814.4	817.7
147.5°	633.0	660.9	688.4	710.7	731.5	747.3	756.3	758.3
150°	621.6	645.4	667.2	687.2	703.4	715.4	722.2	722.8
152.5°	612.5	633.0	652.3	668.7	681.1	691.8	695.6	695.7
155°	598.8	615.4	631.0	643.4	652.7	661.0	663.1	664.1
157.5°	584.3	598.2	610.2	619.9	628.0	634.3	635.9	635.7
160°	576.0	587.5	597.8	605.0	612.3	618.5	618.5	617.5
162.5°	566.1	575.9	585.3	591.7	596.6	601.9	601.9	600.9
165°	553.2	559.5	566.7	571.9	576.0	580.1	579.2	579.2
167.5°	542.1	546.8	551.0	554.7	556.5	559.5	558.4	558.4
170°	534.6	537.7	541.8	543.9	544.9	547.1	546.0	546.0
172.5°	528.0	530.2	533.6	534.8	535.0	537.1	535.2	534.4
175°	519.1	520.0	522.2	522.2	522.2	523.2	522.2	521.1
177.5°	513.4	514.2	515.1	515.1	514.2	515.1	513.4	513.4
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

(END OF REPORT)