

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: P332862-940

Luminaire Tested: **S124DIW-S1195D1560U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332862-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1560U940-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9163.1 lumens
Efficiency: N/A
Efficacy: 110.5 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

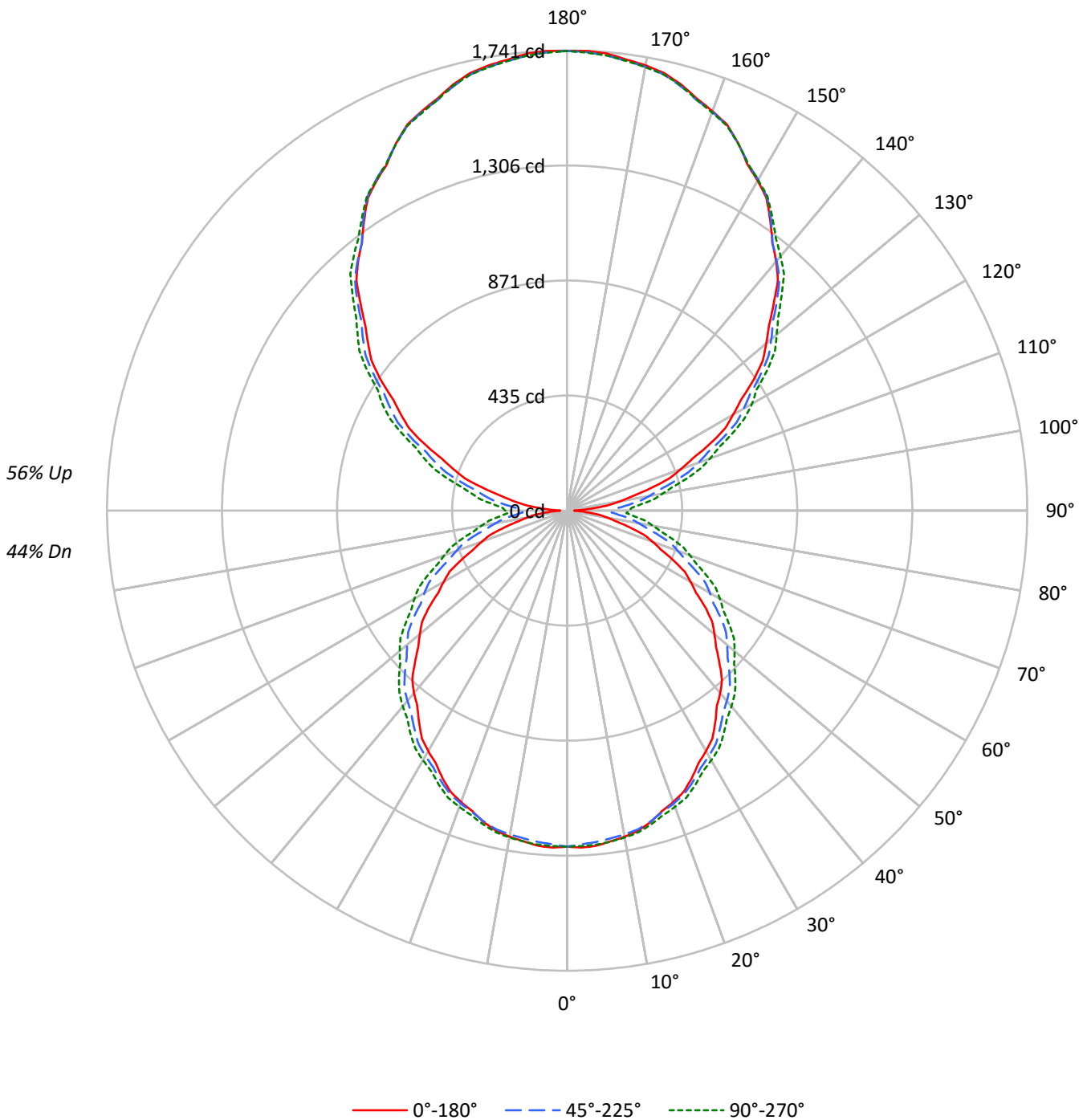
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	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	37	35	34	29
3	79	69	61	55	72	63	56	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	39	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°	10266	10266	10266
5°	10297	10032	10061
10°	10234	9869	9861
15°	10142	9679	9625
20°	10004	9469	9396
25°	9848	9234	9144
30°	9679	9000	8885
35°	9488	8760	8658
40°	9335	8533	8422
45°	9109	8323	8219
50°	8917	8080	8004
55°	8719	7852	7753
60°	8410	7562	7524
65°	8071	7250	7242
70°	7660	6893	6914
75°	7091	6501	6617
80°	6453	6124	6326
85°	5641	5792	6154



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	1.3
10°-20°	345.0	3.8
20°-30°	521.7	5.7
30°-40°	631.2	6.9
40°-50°	667.3	7.3
50°-60°	628.0	6.9
60°-70°	521.0	5.7
70°-80°	366.0	4.0
80°-90°	212.1	2.3
90°-100°	237.5	2.6
100°-110°	430.6	4.7
110°-120°	637.6	7.0
120°-130°	794.7	8.7
130°-140°	868.7	9.5
140°-150°	842.0	9.2
150°-160°	705.6	7.7
160°-170°	469.5	5.1
170°-180°	164.4	1.8
0°-30°	987.1	10.8
0°-40°	1618.2	17.7
0°-60°	2913.5	31.8
0°-90°	4012.5	43.8
90°-120°	1305.7	14.2
90°-150°	3811.0	41.6
90°-180°	5151.0	56.2
0°-180°	9163.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1273	1268	1259	1269	1269	121
15°	1220	1221	1218	1229	1229	344
25°	1116	1125	1129	1144	1146	514
35°	977	994	1008	1027	1032	611
45°	814	842	869	892	900	629
55°	638	668	710	738	748	568
65°	441	487	535	570	582	437
75°	245	298	357	396	410	260
85°	75	136	199	240	256	80
90°	27	99	171	218	234	20
95°	99	159	226	267	281	104
105°	326	358	414	452	469	347
115°	595	609	650	679	689	587
125°	860	860	892	916	923	766
135°	1104	1112	1122	1141	1147	854
145°	1339	1343	1344	1351	1353	838
155°	1533	1533	1531	1536	1531	705
165°	1669	1665	1662	1669	1665	470
175°	1736	1729	1728	1736	1728	165
180°	1738	1738	1738	1738	1738	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1276.1	1275.3	1274.6	1273.8	1273.1	1271.7	1269.6	1267.7	1265.6	1263.6	1265.3
5°	1272.9	1272.0	1271.0	1270.2	1269.2	1267.6	1265.3	1263.1	1261.0	1258.7	1261.2
7.5°	1262.1	1261.6	1261.0	1260.4	1259.9	1258.6	1256.9	1255.0	1253.1	1251.3	1254.2
10°	1253.0	1252.7	1252.4	1252.1	1251.8	1250.8	1249.2	1247.7	1246.1	1244.5	1247.3
12.5°	1240.5	1240.5	1240.4	1240.3	1240.3	1239.7	1238.6	1237.5	1236.4	1235.4	1238.0
15°	1220.3	1220.6	1220.9	1221.2	1221.6	1221.2	1220.3	1219.3	1218.3	1217.5	1220.3
17.5°	1192.7	1193.6	1194.5	1195.5	1196.4	1196.9	1196.7	1196.4	1196.2	1196.1	1199.0
20°	1173.3	1174.2	1175.2	1176.2	1177.1	1177.7	1178.0	1178.4	1178.7	1179.0	1182.1
22.5°	1151.6	1152.8	1154.1	1155.2	1156.5	1157.4	1157.9	1158.5	1159.0	1159.6	1162.8
25°	1116.3	1118.2	1120.2	1122.0	1123.9	1125.3	1126.3	1127.2	1128.2	1129.2	1132.7
27.5°	1077.0	1079.9	1082.6	1085.4	1088.2	1090.3	1091.7	1093.2	1094.7	1096.1	1099.3
30°	1050.8	1053.4	1055.9	1058.5	1061.0	1063.4	1065.5	1067.7	1070.0	1072.2	1075.7
32.5°	1022.3	1025.4	1028.4	1031.4	1034.5	1037.2	1039.7	1042.2	1044.6	1047.1	1051.1
35°	976.8	980.6	984.4	988.2	991.9	995.4	998.6	1001.7	1005.0	1008.1	1012.5
37.5°	930.9	935.3	939.7	944.1	948.4	952.5	956.4	960.4	964.3	968.2	972.8
40°	901.3	905.4	909.5	913.6	917.7	922.0	926.5	930.9	935.3	939.8	944.5
42.5°	867.2	871.7	876.4	881.0	885.6	890.6	895.7	900.9	906.1	911.3	916.6
45°	814.5	820.5	826.5	832.5	838.5	844.5	850.5	856.6	862.6	868.6	874.0
47.5°	764.0	770.3	776.5	782.7	788.9	795.5	802.5	809.4	816.4	823.3	828.8
50°	727.6	734.6	741.5	748.5	755.5	762.4	769.4	776.3	783.3	790.2	796.6
52.5°	691.2	698.1	705.1	712.0	719.0	726.5	734.4	742.4	750.4	758.4	764.7
55°	637.9	644.5	651.2	657.8	664.5	672.5	682.1	691.5	701.1	710.5	716.8
57.5°	578.4	586.7	594.9	603.1	611.3	620.1	629.5	639.0	648.5	657.8	665.4
60°	539.7	547.9	556.1	564.4	572.6	581.9	592.4	602.8	613.2	623.7	631.0
62.5°	502.0	511.0	520.0	529.1	538.0	547.7	558.2	568.6	579.1	589.5	596.7
65°	441.4	451.6	461.6	471.8	481.9	492.3	503.1	513.9	524.6	535.4	543.3
67.5°	383.0	393.8	404.6	415.3	426.1	437.2	448.7	460.2	471.7	483.3	491.3
70°	343.1	353.9	364.7	375.4	386.2	397.6	409.6	421.6	433.6	445.7	454.2
72.5°	304.4	315.4	326.5	337.4	348.5	360.3	373.2	385.9	398.7	411.5	419.8
75°	245.0	256.6	268.3	280.0	291.8	304.3	317.5	330.8	344.1	357.4	366.2
77.5°	189.4	201.8	214.2	226.6	239.0	252.2	266.1	280.0	293.9	307.8	316.8
80°	155.2	167.8	180.5	193.1	205.8	219.1	233.0	247.0	260.9	274.8	284.3
82.5°	121.0	134.2	147.4	160.5	173.7	187.3	201.2	215.1	229.0	242.9	252.6
85°	75.4	88.7	102.0	115.3	128.6	142.4	156.6	170.9	185.1	199.4	208.8
87.5°	43.0	56.5	70.1	83.6	97.2	111.2	125.6	139.8	154.2	168.5	178.1
90°	26.8	42.8	58.7	74.6	90.6	106.6	122.5	138.6	154.5	170.6	181.6
92.5°	50.4	65.5	80.7	95.9	111.0	126.3	141.5	156.9	172.1	187.3	197.3
95°	99.2	112.4	125.5	138.6	151.7	165.8	180.8	195.9	211.0	226.0	235.5
97.5°	157.7	168.9	179.9	191.1	202.2	215.4	230.8	246.1	261.4	276.7	286.1
100°	203.9	213.3	222.7	232.2	241.6	253.8	268.9	283.8	298.9	314.0	323.1
102.5°	253.4	261.1	268.8	276.4	284.2	295.2	309.8	324.3	338.9	353.4	362.6
105°	326.1	332.7	339.4	346.0	352.6	362.4	375.2	388.2	401.1	414.0	422.8
107.5°	405.1	410.7	416.3	421.8	427.3	435.7	447.0	458.3	469.5	480.7	489.4
110°	457.8	462.8	467.9	472.9	477.9	485.8	496.6	507.4	518.1	528.9	535.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	512.6	516.7	520.7	524.7	528.8	535.8	545.8	555.9	565.9	575.9	582.8
115°	594.8	597.6	600.5	603.3	606.2	612.3	621.9	631.4	641.0	650.5	657.1
117.5°	673.5	675.5	677.4	679.4	681.4	686.8	695.8	704.8	713.8	722.8	728.4
120°	725.1	727.3	729.4	731.6	733.7	738.9	747.2	755.5	763.8	772.0	776.9
122.5°	780.0	780.6	781.3	781.9	782.7	787.1	795.3	803.6	811.8	820.1	825.5
125°	859.5	859.2	858.9	858.5	858.2	861.8	869.5	877.1	884.7	892.3	897.8
127.5°	932.6	933.2	933.8	934.3	935.0	938.0	943.6	949.2	954.8	960.4	965.5
130°	983.1	983.6	984.3	984.8	985.4	988.3	993.3	998.4	1003.4	1008.5	1013.6
132.5°	1035.8	1036.2	1036.5	1036.9	1037.1	1039.3	1043.0	1046.9	1050.7	1054.5	1059.4
135°	1104.0	1105.8	1107.6	1109.4	1111.3	1113.2	1115.4	1117.7	1119.9	1122.0	1126.5
137.5°	1179.9	1180.4	1180.9	1181.4	1182.0	1183.0	1184.5	1186.1	1187.7	1189.2	1193.0
140°	1230.4	1230.7	1231.0	1231.3	1231.5	1231.8	1232.2	1232.5	1232.8	1233.1	1236.9
142.5°	1275.5	1276.0	1276.6	1277.1	1277.6	1277.7	1277.3	1276.8	1276.5	1276.0	1279.6
145°	1339.3	1340.2	1341.0	1341.9	1342.7	1343.4	1343.6	1344.0	1344.3	1344.5	1346.1
147.5°	1402.8	1403.8	1405.0	1406.0	1407.2	1407.7	1407.4	1407.1	1406.9	1406.7	1406.7
150°	1441.5	1442.3	1443.2	1444.0	1444.9	1445.4	1445.4	1445.4	1445.4	1445.4	1445.4
152.5°	1476.9	1477.6	1478.2	1478.8	1479.5	1480.0	1480.2	1480.4	1480.7	1480.9	1481.6
155°	1532.8	1532.8	1532.8	1532.8	1532.8	1532.7	1532.3	1532.0	1531.8	1531.4	1532.7
157.5°	1580.1	1579.6	1579.0	1578.5	1578.0	1577.7	1577.6	1577.5	1577.5	1577.4	1578.3
160°	1608.1	1607.8	1607.5	1607.2	1606.9	1606.6	1606.3	1606.0	1605.7	1605.4	1606.3
162.5°	1633.9	1633.2	1632.4	1631.6	1630.8	1630.2	1630.0	1629.7	1629.3	1629.1	1630.7
165°	1668.6	1667.7	1666.8	1665.9	1665.0	1664.3	1663.7	1663.0	1662.5	1661.9	1663.7
167.5°	1695.2	1694.0	1692.7	1691.5	1690.2	1689.6	1689.7	1689.7	1689.8	1689.9	1691.7
170°	1710.3	1708.8	1707.3	1705.8	1704.3	1703.7	1704.0	1704.3	1704.6	1704.9	1706.6
172.5°	1721.0	1719.8	1718.5	1717.3	1716.0	1715.4	1715.5	1715.6	1715.6	1715.7	1717.7
175°	1735.8	1734.3	1732.9	1731.3	1729.8	1728.9	1728.7	1728.3	1728.0	1727.8	1729.8
177.5°	1740.6	1739.5	1738.3	1737.1	1735.9	1735.3	1735.3	1735.3	1735.3	1735.3	1737.0
180°	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1267.1	1268.9	1270.7	1271.4	1271.1	1270.9	1270.7	1270.4
5°	1263.8	1266.3	1268.8	1270.0	1269.6	1269.4	1269.0	1268.7
7.5°	1257.0	1259.9	1262.8	1264.0	1263.6	1263.4	1263.0	1262.8
10°	1250.2	1253.0	1255.9	1257.1	1256.9	1256.5	1256.2	1255.9
12.5°	1240.5	1243.1	1245.7	1247.1	1247.0	1246.9	1246.8	1246.8
15°	1223.2	1226.0	1228.8	1230.1	1229.8	1229.5	1229.1	1228.8
17.5°	1201.9	1204.8	1207.7	1209.1	1208.8	1208.5	1208.3	1208.0
20°	1185.4	1188.5	1191.7	1193.2	1193.2	1193.2	1193.2	1193.2
22.5°	1165.9	1169.1	1172.2	1174.1	1174.7	1175.1	1175.6	1176.2
25°	1136.1	1139.6	1143.1	1145.0	1145.3	1145.6	1145.9	1146.2
27.5°	1102.6	1105.8	1109.0	1110.8	1111.3	1111.6	1112.0	1112.3
30°	1079.1	1082.6	1086.1	1088.2	1088.8	1089.4	1090.0	1090.7
32.5°	1055.1	1059.1	1063.1	1065.4	1066.0	1066.7	1067.3	1067.9
35°	1017.0	1021.4	1025.8	1028.5	1029.5	1030.5	1031.4	1032.3
37.5°	977.2	981.7	986.2	989.0	990.0	991.0	992.0	993.0
40°	949.2	954.0	958.8	961.8	963.0	964.3	965.5	966.8
42.5°	921.8	927.0	932.3	935.4	936.5	937.5	938.4	939.5
45°	879.3	884.8	890.1	893.6	895.2	896.7	898.3	899.9
47.5°	834.5	840.0	845.6	849.3	851.2	853.1	855.0	856.9
50°	802.9	809.2	815.6	819.7	821.6	823.5	825.4	827.2
52.5°	771.1	777.4	783.6	787.8	789.7	791.6	793.4	795.4
55°	723.2	729.5	735.8	739.9	741.8	743.8	745.6	747.5
57.5°	672.9	680.5	688.0	692.6	694.4	696.2	697.9	699.7
60°	638.2	645.5	652.7	657.6	660.2	662.7	665.3	667.8
62.5°	604.0	611.4	618.6	623.5	626.1	628.6	631.1	633.6
65°	551.2	559.1	567.0	572.2	574.8	577.3	579.9	582.4
67.5°	499.4	507.4	515.4	520.7	523.2	525.6	528.1	530.6
70°	462.8	471.3	479.8	485.3	487.4	489.6	491.9	494.1
72.5°	428.1	436.4	444.7	450.0	452.5	455.0	457.4	459.9
75°	375.1	384.0	392.8	398.7	401.5	404.4	407.2	410.1
77.5°	325.8	334.8	343.8	349.8	352.8	355.9	358.9	361.9
80°	293.8	303.3	312.8	318.8	321.3	323.9	326.4	329.0
82.5°	262.4	272.2	281.9	288.2	291.0	293.7	296.5	299.3
85°	218.3	227.8	237.3	243.6	246.8	249.9	253.2	256.3
87.5°	187.6	197.2	206.7	212.9	215.8	218.6	221.6	224.5
90°	192.5	203.5	214.5	221.5	224.6	227.7	230.9	234.0
92.5°	207.4	217.4	227.4	233.8	236.7	239.6	242.5	245.4
95°	245.0	254.4	263.9	270.0	272.8	275.6	278.5	281.3
97.5°	295.4	304.8	314.1	320.2	322.9	325.7	328.3	331.1
100°	332.3	341.3	350.5	356.1	358.4	360.6	362.8	365.1
102.5°	371.7	380.8	389.9	395.8	398.5	401.3	403.9	406.7
105°	431.6	440.4	449.2	455.3	458.8	462.2	465.7	469.0
107.5°	498.0	506.6	515.2	520.7	522.9	525.1	527.3	529.5
110°	542.2	548.9	555.6	560.7	564.1	567.5	571.0	574.4



TEST NUMBER: P332862-940

CATALOG NUMBER: S124DIW-S1195D1560U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	589.7	596.6	603.5	608.3	611.1	613.8	616.4	619.2
115°	663.8	670.5	677.1	681.4	683.3	685.2	687.2	689.0
117.5°	734.0	739.6	745.1	748.9	750.8	752.8	754.7	756.6
120°	781.7	786.5	791.4	795.3	798.4	801.6	804.8	807.9
122.5°	830.7	836.1	841.3	844.6	845.8	847.0	848.2	849.4
125°	903.1	908.6	914.0	917.3	918.6	920.0	921.2	922.6
127.5°	970.6	975.7	980.8	984.2	985.9	987.6	989.2	990.9
130°	1018.7	1023.8	1028.9	1031.8	1032.5	1033.2	1033.9	1034.6
132.5°	1064.2	1069.1	1073.9	1077.0	1078.4	1079.9	1081.3	1082.7
135°	1131.0	1135.5	1140.0	1142.6	1143.7	1144.7	1145.7	1146.7
137.5°	1196.9	1200.8	1204.6	1207.4	1209.2	1210.9	1212.6	1214.4
140°	1240.7	1244.6	1248.4	1250.9	1252.2	1253.5	1254.8	1256.1
142.5°	1283.1	1286.6	1290.2	1292.6	1293.9	1295.1	1296.5	1297.7
145°	1347.7	1349.3	1350.9	1351.9	1352.3	1352.6	1353.1	1353.4
147.5°	1406.7	1406.7	1406.8	1407.1	1407.8	1408.5	1409.3	1410.0
150°	1445.4	1445.4	1445.4	1445.3	1444.9	1444.7	1444.4	1444.0
152.5°	1482.3	1483.0	1483.7	1483.7	1482.9	1482.2	1481.4	1480.6
155°	1533.8	1535.0	1536.2	1536.2	1535.0	1533.8	1532.7	1531.4
157.5°	1579.2	1580.1	1581.0	1580.9	1579.9	1579.0	1577.9	1576.9
160°	1607.2	1608.1	1609.0	1608.6	1607.2	1605.7	1604.2	1602.7
162.5°	1632.3	1633.9	1635.5	1635.6	1634.1	1632.6	1631.1	1629.6
165°	1665.4	1667.2	1669.0	1669.4	1668.1	1667.0	1665.7	1664.6
167.5°	1693.4	1695.2	1697.0	1697.0	1695.1	1693.3	1691.4	1689.5
170°	1708.5	1710.3	1712.1	1711.9	1709.9	1707.7	1705.7	1703.5
172.5°	1719.8	1721.7	1723.8	1723.8	1721.6	1719.6	1717.4	1715.4
175°	1732.0	1734.0	1736.2	1736.2	1734.0	1732.0	1729.8	1727.8
177.5°	1738.7	1740.3	1742.0	1741.9	1739.9	1738.0	1736.2	1734.2
180°	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5

(END OF REPORT)