

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: P332851-940

Luminaire Tested: **S124DIW-S1195D1050U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332851-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1050U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8300.1 lumens
Efficiency: N/A
Efficacy: 123.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

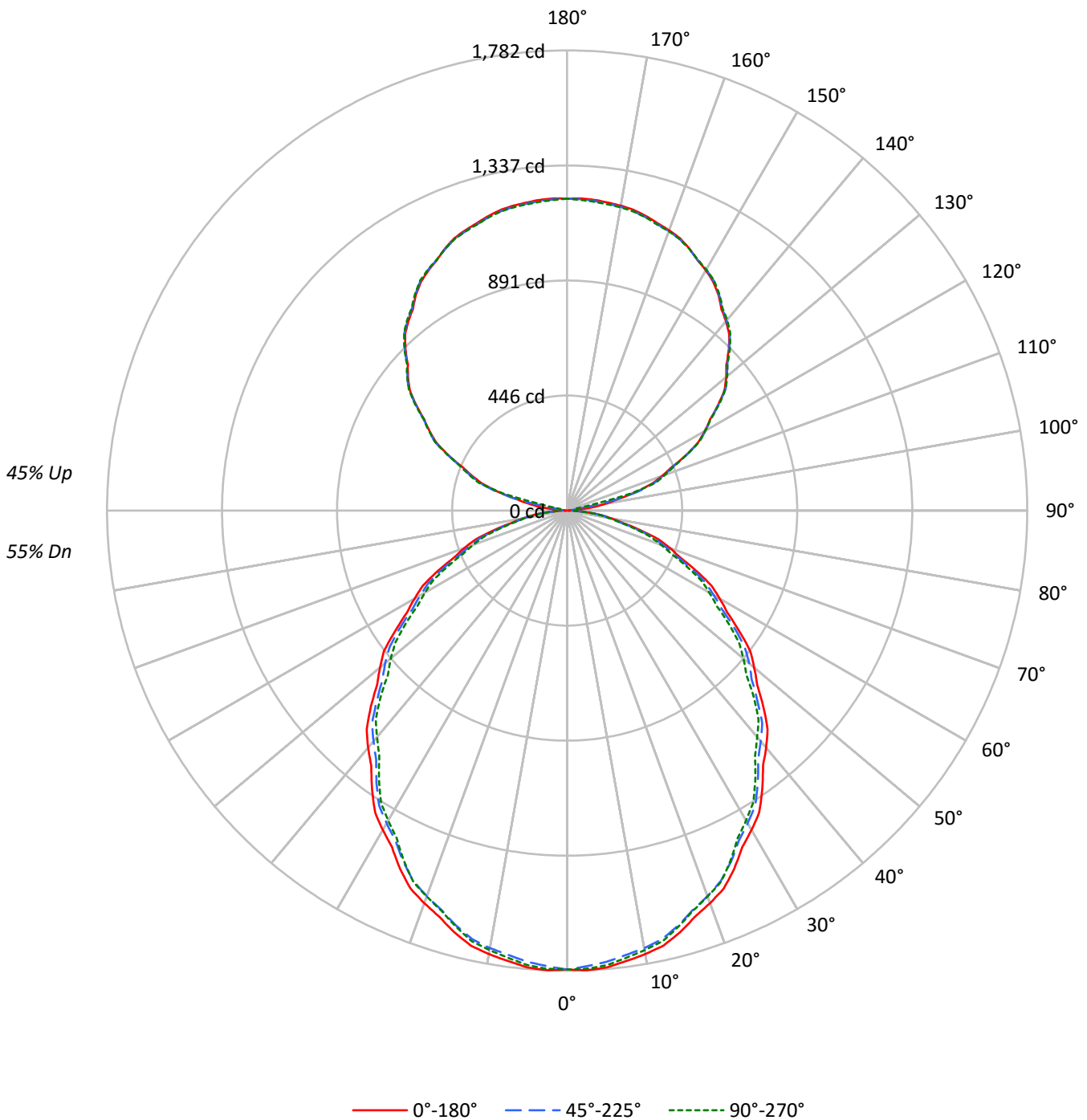
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	54	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32	28
5	69	57	49	43	64	53	46	41	46	41	36	40	35	32	34	30	28	24
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	31	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	32	28	35	29	25	30	25	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14346	14346	14346
5°	14389	14216	14319
10°	14299	14100	14170
15°	14125	13900	13936
20°	13897	13651	13664
25°	13635	13367	13331
30°	13313	13035	12915
35°	12980	12686	12518
40°	12635	12290	12064
45°	12273	11900	11671
50°	11875	11552	11195
55°	11444	11102	10742
60°	11013	10598	10277
65°	10527	10118	9712
70°	9982	9477	9106
75°	9148	8706	8484
80°	8140	7810	7610
85°	7123	6854	6725



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.3	2.0
10°-20°	471.5	5.7
20°-30°	694.0	8.4
30°-40°	806.8	9.7
40°-50°	806.8	9.7
50°-60°	705.8	8.5
60°-70°	524.1	6.3
70°-80°	297.8	3.6
80°-90°	89.4	1.1
90°-100°	41.3	0.5
100°-110°	263.4	3.2
110°-120°	503.9	6.1
120°-130°	639.7	7.7
130°-140°	684.4	8.2
140°-150°	640.0	7.7
150°-160°	516.1	6.2
160°-170°	332.9	4.0
170°-180°	114.7	1.4
0°-30°	1332.9	16.1
0°-40°	2139.7	25.8
0°-60°	3652.3	44.0
0°-90°	4563.6	55.0
90°-120°	808.6	9.7
90°-150°	2772.8	33.4
90°-180°	3737.0	45.0
0°-180°	8300.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1777	1777	1777	1777	1777	
5°	1776	1769	1754	1769	1767	168
15°	1690	1684	1663	1671	1667	476
25°	1531	1520	1501	1502	1497	704
35°	1317	1307	1287	1277	1270	823
45°	1075	1064	1042	1027	1022	828
55°	813	808	789	772	763	728
65°	551	544	530	516	508	545
75°	293	286	279	274	272	312
85°	77	77	74	74	73	85
90°	3	12	20	25	27	6
95°	50	21	20	25	26	64
105°	272	277	282	288	258	285
115°	508	510	510	511	511	499
125°	714	717	716	718	719	637
135°	885	885	888	890	892	682
145°	1021	1023	1024	1025	1026	638
155°	1119	1120	1118	1121	1118	516
165°	1181	1177	1176	1183	1175	334
175°	1208	1203	1204	1210	1201	115
180°	1208	1208	1208	1208	1208	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0
2.5°	1781.5	1780.8	1780.0	1779.3	1778.5	1776.7	1774.0	1771.2	1768.4	1765.7	1768.2
5°	1775.6	1774.3	1773.1	1771.8	1770.6	1768.2	1764.7	1761.2	1757.7	1754.3	1757.7
7.5°	1759.1	1757.8	1756.6	1755.2	1754.0	1751.5	1747.6	1743.7	1739.9	1736.0	1738.8
10°	1744.3	1743.0	1741.8	1740.4	1739.2	1736.5	1732.4	1728.3	1724.2	1720.1	1722.6
12.5°	1724.9	1723.7	1722.3	1721.1	1719.8	1717.0	1712.7	1708.3	1704.0	1699.6	1702.4
15°	1690.1	1688.9	1687.7	1686.4	1685.1	1682.1	1677.3	1672.6	1667.9	1663.1	1665.0
17.5°	1648.3	1646.7	1645.1	1643.6	1642.0	1639.0	1634.4	1630.0	1625.5	1621.0	1622.2
20°	1617.6	1616.0	1614.4	1612.8	1611.2	1608.0	1603.3	1598.6	1593.8	1589.0	1590.0
22.5°	1584.5	1582.4	1580.4	1578.2	1576.2	1572.7	1568.0	1563.3	1558.5	1553.7	1555.5
25°	1530.7	1528.5	1526.3	1524.0	1521.8	1518.5	1514.0	1509.7	1505.2	1500.7	1501.1
27.5°	1469.2	1466.9	1464.6	1462.3	1460.1	1456.9	1452.8	1448.7	1444.6	1440.4	1439.7
30°	1428.2	1425.7	1423.1	1420.6	1418.1	1414.7	1410.6	1406.5	1402.4	1398.3	1397.0
32.5°	1384.9	1382.6	1380.4	1378.0	1375.7	1372.4	1368.1	1363.7	1359.3	1355.0	1353.4
35°	1317.1	1314.9	1312.7	1310.5	1308.2	1304.9	1300.5	1296.1	1291.6	1287.2	1285.0
37.5°	1245.6	1243.6	1241.6	1239.6	1237.5	1234.1	1229.4	1224.7	1219.9	1215.1	1212.7
40°	1198.9	1196.4	1193.8	1191.3	1188.8	1185.2	1180.4	1175.6	1170.9	1166.2	1163.0
42.5°	1148.8	1147.3	1145.8	1144.2	1142.7	1139.3	1134.1	1128.8	1123.6	1118.3	1114.6
45°	1075.0	1072.8	1070.6	1068.4	1066.2	1062.6	1057.5	1052.4	1047.3	1042.3	1038.8
47.5°	997.8	996.3	994.8	993.3	991.8	988.7	984.0	979.4	974.6	970.0	966.1
50°	945.5	944.2	942.9	941.6	940.4	937.5	933.1	928.7	924.3	919.8	915.4
52.5°	894.2	892.7	891.2	889.7	888.1	885.0	880.4	875.7	871.0	866.3	862.4
55°	813.1	812.1	811.2	810.2	809.2	806.6	802.1	797.7	793.3	788.8	785.1
57.5°	735.6	734.5	733.4	732.4	731.3	728.5	724.2	719.8	715.4	711.1	707.5
60°	682.1	680.5	678.9	677.3	675.7	672.9	668.8	664.7	660.5	656.4	653.5
62.5°	629.6	628.3	627.0	625.6	624.4	621.5	617.2	612.8	608.4	604.0	601.5
65°	551.1	549.5	547.9	546.3	544.7	542.3	539.2	536.0	532.9	529.7	526.6
67.5°	471.9	470.5	469.0	467.5	466.1	463.8	460.7	457.7	454.7	451.7	448.6
70°	422.9	420.7	418.5	416.3	414.0	411.7	409.1	406.6	404.0	401.5	399.0
72.5°	370.5	368.3	366.0	363.8	361.7	359.5	357.5	355.4	353.5	351.4	349.4
75°	293.3	291.8	290.2	288.6	287.0	285.4	283.8	282.2	280.7	279.1	277.9
77.5°	219.5	218.8	218.2	217.5	216.8	215.7	214.4	212.9	211.6	210.2	209.8
80°	175.1	174.2	173.3	172.3	171.4	170.6	170.0	169.2	168.6	168.0	167.4
82.5°	131.9	131.4	131.0	130.5	130.1	129.8	129.7	129.6	129.4	129.3	128.9
85°	76.9	76.9	76.9	76.9	76.9	76.6	76.0	75.3	74.6	74.0	74.0
87.5°	30.1	30.3	30.5	30.8	30.9	31.0	31.1	31.2	31.2	31.3	31.6
90°	2.7	4.9	7.1	9.4	11.5	13.5	15.1	16.7	18.3	19.9	21.0
92.5°	11.4	11.5	11.6	11.8	11.9	12.8	14.4	16.0	17.6	19.2	20.3
95°	49.7	42.9	36.0	29.2	22.4	19.1	19.3	19.4	19.7	19.9	21.0
97.5°	105.5	109.8	114.0	118.3	122.5	113.5	91.0	68.7	46.3	23.8	24.0
100°	148.2	151.8	155.4	159.0	162.6	150.6	122.9	95.1	67.5	39.8	36.4
102.5°	195.9	198.5	201.2	203.8	206.4	206.0	202.4	198.8	195.1	191.5	154.7
105°	272.0	273.1	274.4	275.5	276.8	277.9	278.8	279.9	280.9	281.9	283.7
107.5°	342.6	343.2	343.8	344.4	345.0	346.0	347.3	348.7	350.1	351.4	352.3
110°	390.3	390.9	391.5	392.1	392.7	393.6	394.8	396.0	397.3	398.4	398.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	436.6	437.7	438.7	439.8	440.9	441.8	442.3	442.8	443.4	444.0	443.9
115°	507.7	508.4	509.0	509.5	510.1	510.3	510.1	510.0	509.8	509.5	510.0
117.5°	571.9	572.7	573.5	574.3	575.1	575.7	576.1	576.6	577.0	577.5	577.4
120°	615.3	616.1	616.9	617.7	618.5	618.8	618.6	618.4	618.1	618.0	618.4
122.5°	655.8	656.2	656.7	657.2	657.6	658.1	658.4	658.6	658.9	659.2	659.4
125°	713.7	714.5	715.3	716.1	716.9	717.1	716.8	716.3	716.0	715.5	716.1
127.5°	768.7	768.8	769.1	769.3	769.5	770.0	771.0	771.9	772.8	773.7	773.6
130°	804.1	804.3	804.5	804.7	804.9	805.3	805.9	806.5	807.1	807.7	807.9
132.5°	836.6	837.0	837.3	837.7	838.0	838.7	839.4	840.2	840.9	841.7	841.9
135°	885.4	885.2	885.0	884.8	884.6	884.9	885.7	886.5	887.3	888.1	888.5
137.5°	928.5	928.6	928.7	928.8	928.9	929.3	930.2	931.1	932.0	932.9	933.4
140°	956.8	957.2	957.6	958.0	958.4	958.8	959.2	959.6	960.0	960.4	961.0
142.5°	982.0	982.8	983.5	984.3	985.0	985.4	985.7	985.9	986.1	986.4	986.9
145°	1020.9	1021.5	1022.1	1022.7	1023.3	1023.6	1023.6	1023.6	1023.6	1023.6	1023.9
147.5°	1051.8	1052.9	1054.1	1055.2	1056.3	1056.8	1056.6	1056.4	1056.1	1056.0	1056.1
150°	1074.2	1075.0	1075.8	1076.7	1077.5	1077.7	1077.5	1077.4	1077.1	1076.9	1076.9
152.5°	1093.0	1093.7	1094.3	1094.9	1095.6	1095.7	1095.4	1095.0	1094.7	1094.3	1094.6
155°	1119.4	1119.6	1119.8	1120.0	1120.2	1120.0	1119.4	1118.8	1118.2	1117.6	1118.4
157.5°	1141.7	1141.5	1141.4	1141.2	1141.1	1140.8	1140.1	1139.3	1138.7	1138.0	1139.1
160°	1154.6	1154.1	1153.4	1152.8	1152.2	1151.8	1151.6	1151.4	1151.2	1151.0	1152.2
162.5°	1166.2	1165.5	1164.7	1163.9	1163.1	1162.6	1162.4	1162.3	1162.1	1161.8	1163.1
165°	1180.8	1179.8	1178.8	1177.8	1176.8	1176.3	1176.3	1176.3	1176.3	1176.3	1177.9
167.5°	1192.4	1191.3	1190.3	1189.3	1188.2	1187.7	1187.5	1187.4	1187.3	1187.1	1188.9
170°	1198.9	1197.7	1196.5	1195.2	1194.1	1193.6	1193.7	1194.0	1194.2	1194.4	1196.0
172.5°	1203.2	1202.0	1200.8	1199.6	1198.4	1197.9	1198.1	1198.3	1198.5	1198.7	1200.3
175°	1207.9	1206.8	1205.5	1204.3	1203.1	1202.7	1202.8	1203.0	1203.2	1203.5	1205.2
177.5°	1210.1	1209.0	1207.8	1206.8	1205.6	1205.2	1205.5	1205.9	1206.1	1206.5	1207.7
180°	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0
2.5°	1770.7	1773.3	1775.8	1776.9	1776.6	1776.4	1776.1	1775.8
5°	1761.2	1764.7	1768.2	1769.6	1769.0	1768.4	1767.7	1767.0
7.5°	1741.6	1744.4	1747.1	1748.4	1748.0	1747.6	1747.2	1746.9
10°	1725.1	1727.7	1730.2	1731.2	1730.5	1729.9	1729.2	1728.6
12.5°	1705.1	1707.9	1710.7	1711.6	1710.7	1709.9	1709.0	1708.1
15°	1666.9	1668.8	1670.7	1671.2	1670.3	1669.3	1668.3	1667.4
17.5°	1623.4	1624.6	1625.8	1626.0	1625.4	1624.8	1624.2	1623.5
20°	1591.0	1591.9	1592.9	1593.0	1592.4	1591.8	1591.2	1590.5
22.5°	1557.2	1558.9	1560.6	1560.9	1559.8	1558.6	1557.5	1556.3
25°	1501.5	1501.7	1502.1	1501.6	1500.3	1499.1	1497.8	1496.6
27.5°	1438.9	1438.2	1437.3	1436.2	1434.6	1433.1	1431.5	1429.9
30°	1395.7	1394.5	1393.2	1391.8	1390.2	1388.7	1387.1	1385.5
32.5°	1351.9	1350.4	1348.9	1347.4	1345.8	1344.2	1342.6	1341.0
35°	1282.8	1280.6	1278.4	1276.5	1274.9	1273.3	1271.7	1270.2
37.5°	1210.3	1207.9	1205.5	1203.3	1201.2	1199.1	1197.0	1194.9
40°	1159.8	1156.6	1153.5	1151.1	1149.6	1148.0	1146.4	1144.8
42.5°	1111.0	1107.3	1103.7	1101.3	1100.2	1099.1	1098.1	1097.0
45°	1035.4	1031.9	1028.4	1026.2	1025.2	1024.2	1023.3	1022.3
47.5°	962.2	958.2	954.3	951.1	948.7	946.3	943.9	941.5
50°	911.0	906.5	902.1	898.9	897.1	895.2	893.2	891.4
52.5°	858.4	854.5	850.6	847.5	845.1	842.7	840.3	837.9
55°	781.2	777.5	773.6	770.8	768.9	767.0	765.1	763.2
57.5°	703.9	700.3	696.7	693.9	692.1	690.3	688.4	686.6
60°	650.7	647.9	645.1	642.8	641.2	639.6	638.1	636.5
62.5°	598.8	596.2	593.6	591.6	590.0	588.4	586.8	585.2
65°	523.3	520.2	517.0	514.7	513.1	511.5	509.9	508.4
67.5°	445.6	442.6	439.5	437.7	437.3	436.8	436.4	436.0
70°	396.5	394.0	391.4	389.7	388.7	387.8	386.8	385.8
72.5°	347.4	345.4	343.3	341.8	340.9	339.9	338.9	338.0
75°	276.5	275.3	274.0	273.2	273.0	272.6	272.2	272.0
77.5°	209.4	209.0	208.7	208.0	207.2	206.4	205.5	204.7
80°	166.7	166.1	165.5	165.1	164.7	164.3	164.1	163.7
82.5°	128.5	128.1	127.8	127.4	127.1	126.8	126.4	126.2
85°	74.0	74.0	74.0	73.9	73.6	73.2	72.9	72.6
87.5°	31.8	32.0	32.3	32.5	32.5	32.6	32.6	32.7
90°	22.3	23.5	24.7	25.5	25.9	26.3	26.7	27.1
92.5°	21.6	22.7	24.0	24.6	24.7	24.8	24.9	25.0
95°	22.3	23.5	24.7	25.4	25.6	25.8	26.0	26.2
97.5°	24.1	24.3	24.3	24.5	24.7	24.9	25.1	25.3
100°	32.9	29.5	26.1	24.5	24.7	24.9	25.1	25.3
102.5°	117.9	81.1	44.2	25.9	25.9	25.9	25.9	26.0
105°	285.5	287.3	289.1	286.4	279.2	272.0	264.7	257.5
107.5°	353.2	354.1	355.0	355.8	356.6	357.3	358.1	358.8
110°	399.2	399.7	400.0	400.6	401.2	401.7	402.3	403.0



TEST NUMBER: P332851-940

CATALOG NUMBER: S124DIW-S1195D1050U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	443.8	443.7	443.6	444.0	444.8	445.5	446.3	447.0
115°	510.3	510.8	511.1	511.4	511.4	511.4	511.4	511.4
117.5°	577.3	577.3	577.2	577.1	577.0	576.9	576.8	576.8
120°	618.8	619.2	619.6	619.6	619.2	618.8	618.4	618.0
122.5°	659.7	659.9	660.1	660.0	659.7	659.2	658.9	658.4
125°	716.8	717.4	717.9	718.4	718.5	718.7	719.0	719.2
127.5°	773.5	773.4	773.2	773.1	772.9	772.8	772.6	772.5
130°	808.1	808.3	808.5	808.6	808.6	808.6	808.6	808.6
132.5°	842.0	842.3	842.5	842.5	842.3	842.1	842.0	841.9
135°	888.9	889.3	889.7	890.1	890.6	890.9	891.4	891.7
137.5°	933.8	934.2	934.7	934.9	934.7	934.6	934.5	934.3
140°	961.6	962.2	962.8	963.2	963.4	963.6	963.8	964.0
142.5°	987.3	987.7	988.2	988.4	988.5	988.5	988.6	988.6
145°	1024.0	1024.2	1024.4	1024.8	1025.1	1025.6	1025.9	1026.4
147.5°	1056.3	1056.4	1056.6	1056.8	1057.0	1057.2	1057.4	1057.6
150°	1076.9	1076.9	1076.9	1077.0	1077.2	1077.5	1077.6	1077.8
152.5°	1094.9	1095.2	1095.6	1095.6	1095.6	1095.4	1095.3	1095.2
155°	1119.2	1120.0	1120.8	1120.9	1120.3	1119.7	1119.1	1118.5
157.5°	1140.1	1141.1	1142.2	1142.2	1141.1	1140.1	1139.1	1138.0
160°	1153.4	1154.6	1155.8	1155.8	1154.6	1153.4	1152.2	1151.0
162.5°	1164.2	1165.5	1166.6	1166.6	1165.2	1163.9	1162.5	1161.1
165°	1179.6	1181.2	1182.8	1182.6	1180.8	1179.0	1177.2	1175.4
167.5°	1190.7	1192.5	1194.2	1194.1	1192.1	1190.1	1188.1	1186.1
170°	1197.6	1199.2	1200.8	1200.6	1198.5	1196.6	1194.5	1192.6
172.5°	1201.9	1203.5	1205.1	1204.9	1202.7	1200.5	1198.4	1196.1
175°	1207.0	1208.8	1210.7	1210.3	1207.9	1205.5	1203.1	1200.7
177.5°	1209.1	1210.3	1211.7	1211.3	1209.3	1207.5	1205.5	1203.6
180°	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9	1207.9

(END OF REPORT)