

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: P332852-940

Luminaire Tested: **S124DIW-S1195D1050U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332852-940
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-S1195D1050U940-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7804.2 lumens
Efficiency: N/A
Efficacy: 115.8 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

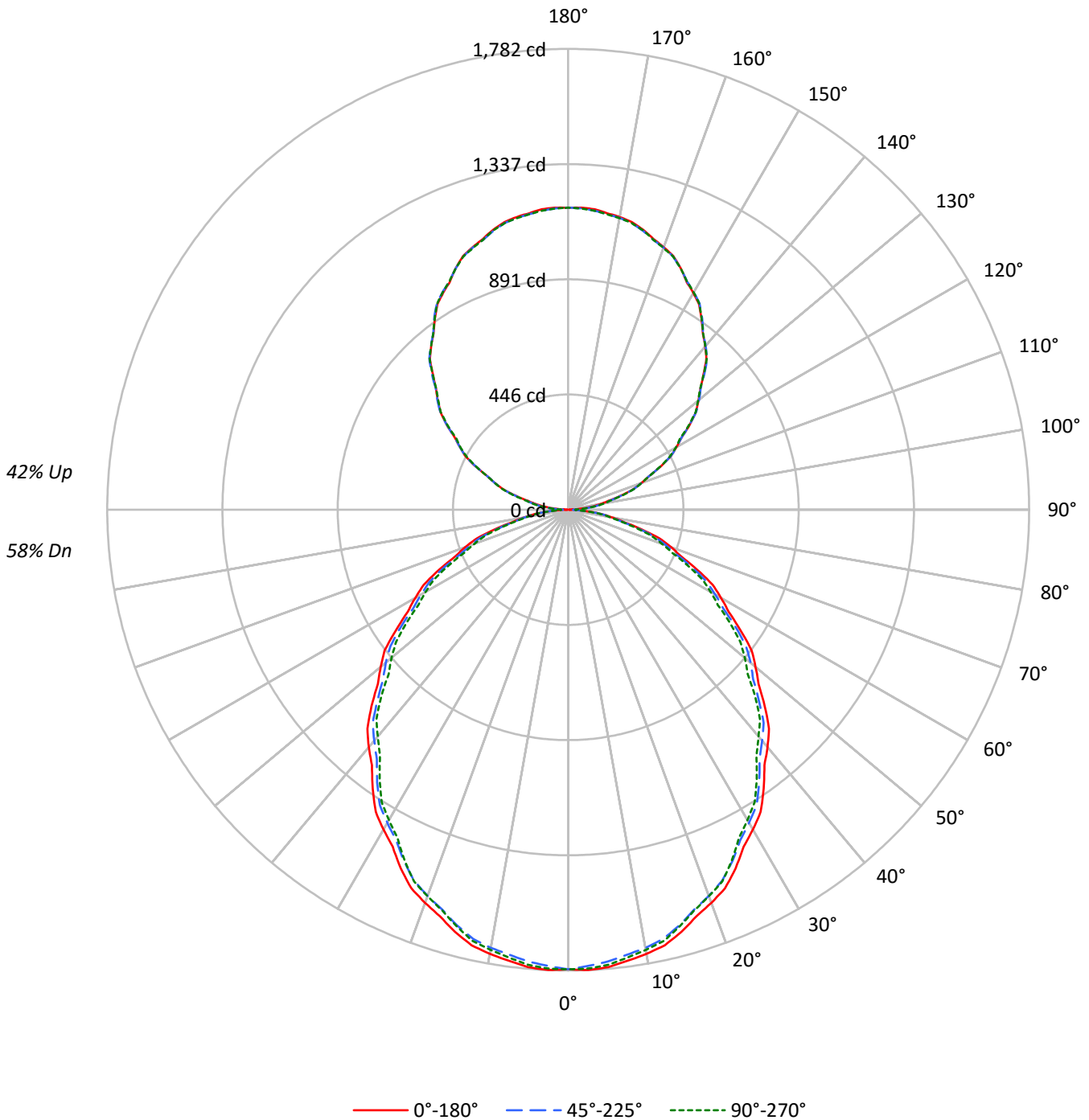
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58
1	100	95	91	88	93	89	86	82	77	75	72	66	65	63	56	55	54	49
2	91	83	77	72	84	78	72	68	68	63	60	58	55	52	50	47	45	41
3	83	73	66	60	77	68	62	57	60	55	50	52	48	44	44	41	39	35
4	76	65	57	51	70	61	54	48	53	47	43	46	42	38	39	36	33	30
5	70	58	49	43	65	54	47	41	47	42	37	41	37	33	35	32	29	26
6	64	52	44	38	60	49	41	36	43	37	32	37	33	29	32	28	26	23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	29	26	23	20
8	55	43	35	29	51	40	33	28	35	30	25	31	26	23	27	23	20	18
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	18	16
10	48	36	28	24	45	34	27	23	30	24	21	27	22	19	23	19	17	15

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



TEST NUMBER: P332852-940

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.3	2.1
10°-20°	471.5	6.0
20°-30°	694.0	8.9
30°-40°	806.8	10.3
40°-50°	806.8	10.3
50°-60°	705.8	9.0
60°-70°	524.1	6.7
70°-80°	297.8	3.8
80°-90°	89.4	1.1
90°-100°	77.0	1.0
100°-110°	228.2	2.9
110°-120°	387.4	5.0
120°-130°	510.8	6.5
130°-140°	573.6	7.3
140°-150°	563.7	7.2
150°-160°	474.1	6.1
160°-170°	315.4	4.0
170°-180°	110.5	1.4
0°-30°	1332.9	17.1
0°-40°	2139.7	27.4
0°-60°	3652.3	46.8
0°-90°	4563.6	58.5
90°-120°	692.6	8.9
90°-150°	2340.6	30.0
90°-180°	3241.0	41.5
0°-180°	7804.2	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	8
95°	54	62	69	71	71	60
105°	210	212	215	218	220	223
115°	394	394	392	391	390	388
125°	574	574	573	571	569	511
135°	740	745	745	743	741	572
145°	899	902	903	902	900	562
155°	1030	1030	1029	1032	1029	474
165°	1121	1118	1116	1121	1118	316
175°	1166	1162	1161	1166	1161	111
180°	1168	1168	1168	1168	1168	



TEST NUMBER: P332852-940

CATALOG NUMBER: S124DIW-S1195D1050U940-4F0-1E-UDD-F1

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°	19.4	21.8	24.4	26.9	29.4	31.3	32.4	33.5	34.7	35.8	36.5
95°	54.2	56.0	57.8	59.7	61.4	63.0	64.5	65.8	67.2	68.7	69.3
97.5°	94.7	96.1	97.6	99.0	100.5	102.0	103.6	105.3	106.9	108.6	109.3
100°	126.4	127.2	128.0	128.9	129.7	131.0	132.8	134.6	136.4	138.2	138.6
102.5°	159.7	160.1	160.3	160.7	161.0	161.9	163.6	165.2	166.9	168.5	169.2
105°	210.4	210.7	210.9	211.1	211.2	211.8	212.6	213.4	214.2	215.0	215.6
107.5°	263.8	264.0	264.2	264.5	264.7	264.9	265.0	265.2	265.3	265.4	266.0
110°	299.9	300.3	300.7	301.1	301.5	301.6	301.4	301.2	301.0	300.8	300.4



TEST NUMBER: P332852-940

CATALOG NUMBER: S124DIW-S1195D1050U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	337.5	337.6	337.7	337.7	337.8	337.7	337.3	337.0	336.6	336.3	336.2
115°	393.9	393.9	393.9	393.9	393.9	393.7	393.2	392.9	392.4	392.1	391.8
117.5°	447.0	447.1	447.3	447.5	447.6	447.5	447.3	447.0	446.7	446.4	445.8
120°	482.4	483.2	484.0	484.8	485.6	485.7	485.1	484.5	483.9	483.3	482.3
122.5°	519.2	519.6	519.9	520.2	520.5	520.6	520.2	520.0	519.7	519.4	518.7
125°	573.6	573.6	573.6	573.6	573.6	573.5	573.3	573.1	572.9	572.7	572.3
127.5°	622.9	623.6	624.1	624.7	625.4	625.5	625.2	624.8	624.6	624.2	623.8
130°	657.6	658.3	658.8	659.4	660.0	660.3	660.3	660.3	660.3	660.3	660.0
132.5°	693.0	693.5	693.9	694.4	694.8	694.9	694.8	694.6	694.5	694.3	693.9
135°	739.9	741.0	742.3	743.4	744.7	745.3	745.3	745.3	745.3	745.3	744.8
137.5°	790.8	791.3	791.9	792.5	793.0	793.4	793.8	794.2	794.4	794.8	794.2
140°	824.7	825.2	825.5	826.0	826.3	826.5	826.5	826.5	826.5	826.5	826.3
142.5°	855.9	856.2	856.7	857.0	857.5	857.6	857.4	857.2	857.1	856.9	856.8
145°	898.8	899.6	900.4	901.3	902.1	902.5	902.8	902.9	903.1	903.3	903.1
147.5°	941.5	942.4	943.4	944.3	945.3	945.7	945.6	945.4	945.2	945.0	944.9
150°	967.5	968.3	969.1	969.9	970.7	971.1	971.1	971.1	971.1	971.1	971.1
152.5°	992.0	992.6	993.0	993.5	994.0	994.3	994.4	994.6	994.8	995.0	995.4
155°	1029.8	1029.8	1029.8	1029.8	1029.8	1029.7	1029.5	1029.3	1029.1	1028.9	1029.7
157.5°	1061.6	1061.2	1060.9	1060.5	1060.2	1060.0	1059.9	1059.9	1059.8	1059.8	1060.4
160°	1080.4	1080.2	1080.0	1079.8	1079.6	1079.4	1079.1	1079.0	1078.8	1078.6	1079.1
162.5°	1097.7	1097.3	1096.7	1096.2	1095.6	1095.3	1095.1	1094.9	1094.7	1094.5	1095.6
165°	1121.1	1120.4	1119.8	1119.3	1118.7	1118.1	1117.8	1117.3	1117.0	1116.5	1117.8
167.5°	1138.9	1138.1	1137.3	1136.4	1135.6	1135.1	1135.2	1135.2	1135.2	1135.3	1136.5
170°	1149.1	1148.1	1147.0	1146.0	1145.0	1144.6	1144.9	1145.0	1145.2	1145.4	1146.7
172.5°	1156.3	1155.4	1154.6	1153.8	1152.9	1152.5	1152.5	1152.6	1152.6	1152.6	1154.1
175°	1166.2	1165.2	1164.2	1163.2	1162.2	1161.6	1161.4	1161.2	1161.0	1160.8	1162.2
177.5°	1169.5	1168.7	1167.9	1167.1	1166.3	1165.8	1165.8	1165.8	1165.8	1165.8	1167.0
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1



TEST NUMBER: P332852-940

CATALOG NUMBER: S124DIW-S1195D1050U940-4F0-1E-UDD-F1

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°	37.2	37.9	38.7	39.1	39.4	39.6	39.9	40.1
95°	69.8	70.4	71.1	71.3	71.3	71.3	71.3	71.3
97.5°	110.0	110.8	111.5	111.8	111.8	111.8	111.8	111.8
100°	139.0	139.4	139.8	140.0	140.0	140.0	140.0	140.0
102.5°	169.7	170.2	170.9	171.2	171.3	171.5	171.7	171.8
105°	216.2	216.8	217.4	218.0	218.6	219.2	219.8	220.4
107.5°	266.5	267.1	267.7	267.9	267.9	267.9	267.8	267.8
110°	300.0	299.6	299.2	299.3	299.9	300.5	301.1	301.8



TEST NUMBER: P332852-940

CATALOG NUMBER: S124DIW-S1195D1050U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	336.1	336.0	335.9	335.9	336.1	336.2	336.3	336.4
115°	391.6	391.5	391.3	391.0	390.8	390.7	390.5	390.2
117.5°	445.1	444.3	443.7	443.2	442.7	442.4	441.9	441.6
120°	481.3	480.3	479.3	478.9	479.4	479.7	480.2	480.5
122.5°	518.1	517.4	516.7	515.9	515.2	514.5	513.8	513.1
125°	571.9	571.5	571.1	570.7	570.3	569.9	569.5	569.1
127.5°	623.4	623.0	622.6	622.2	621.9	621.6	621.3	621.0
130°	659.5	659.2	658.7	658.2	657.4	656.6	655.8	655.0
132.5°	693.5	693.1	692.7	692.3	692.1	691.7	691.3	691.1
135°	744.5	744.0	743.7	743.2	742.5	741.9	741.4	740.7
137.5°	793.7	793.2	792.6	792.5	792.6	792.7	792.8	792.9
140°	826.2	826.0	825.7	825.5	825.4	825.2	824.9	824.7
142.5°	856.8	856.8	856.8	856.7	856.7	856.7	856.6	856.6
145°	902.9	902.8	902.5	902.1	901.5	900.9	900.4	899.7
147.5°	944.8	944.6	944.4	944.2	944.1	943.9	943.6	943.4
150°	971.1	971.1	971.1	971.0	970.8	970.6	970.4	970.2
152.5°	995.9	996.4	996.8	996.8	996.3	995.8	995.2	994.8
155°	1030.6	1031.4	1032.2	1032.2	1031.4	1030.6	1029.7	1028.9
157.5°	1061.0	1061.6	1062.2	1062.2	1061.5	1060.8	1060.2	1059.4
160°	1079.8	1080.4	1081.0	1080.8	1079.8	1078.8	1077.8	1076.7
162.5°	1096.6	1097.7	1098.9	1098.9	1097.9	1096.9	1095.8	1094.8
165°	1118.9	1120.2	1121.3	1121.5	1120.7	1119.9	1119.1	1118.3
167.5°	1137.7	1138.9	1140.1	1140.1	1138.9	1137.6	1136.4	1135.1
170°	1147.8	1149.1	1150.2	1150.1	1148.8	1147.4	1145.9	1144.5
172.5°	1155.4	1156.7	1158.2	1158.1	1156.7	1155.3	1153.9	1152.4
175°	1163.6	1165.0	1166.4	1166.4	1165.0	1163.6	1162.2	1160.8
177.5°	1168.1	1169.2	1170.4	1170.3	1168.9	1167.7	1166.4	1165.1
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1

(END OF REPORT)