

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: P333110-940

Luminaire Tested: **S124RDIW-S1195D1340U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333110-940
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: S124RDIW-S1195D1340U940-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8449.5 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

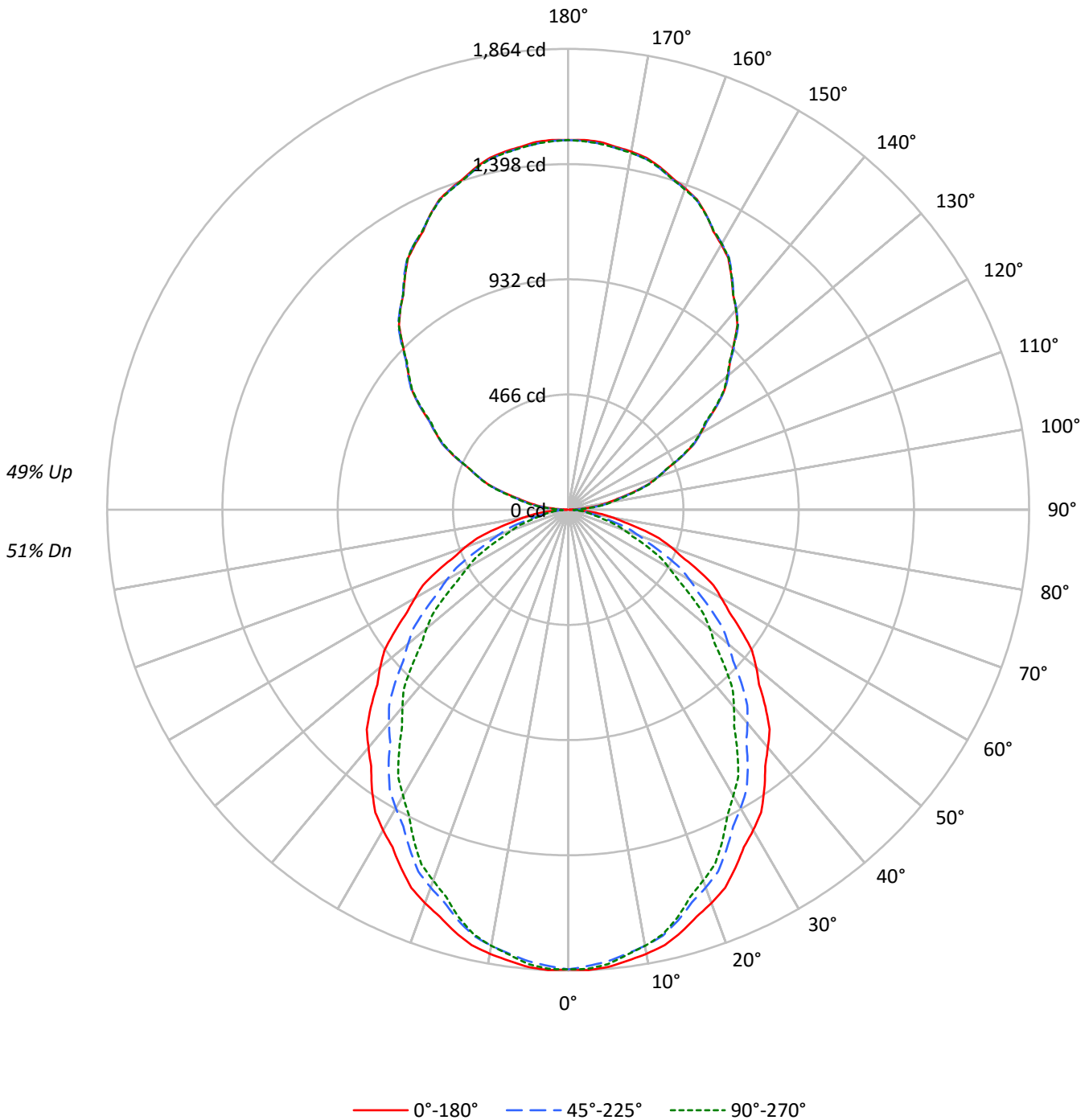
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84		70	70	70		57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	69		62	60	59		51	50	49	43
2	90	82	76	71	83	76	71	67	65	61	58		55	52	49		45	43	41	37
3	82	73	65	60	75	67	61	56	58	53	49		49	45	42		40	38	35	31
4	75	64	57	51	69	60	53	48	51	46	42		43	39	36		36	33	31	27
5	69	58	50	44	64	54	46	41	46	41	36		39	35	32		33	29	27	24
6	64	52	44	38	59	48	41	36	42	36	32		35	31	28		30	26	24	21
7	59	47	39	33	54	44	37	32	38	32	28		32	28	25		27	24	21	19
8	55	43	35	30	51	40	33	28	34	29	25		30	25	22		25	22	19	17
9	51	39	31	26	47	36	30	25	32	26	22		27	23	20		23	20	17	15
10	48	36	29	24	44	33	27	23	29	24	20		25	21	18		21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15012	15012	15012
5°	15046	14862	14955
10°	14952	14684	14684
15°	14780	14375	14269
20°	14545	13970	13713
25°	14243	13495	13153
30°	13951	12995	12450
35°	13626	12476	11745
40°	13235	11884	10984
45°	12875	11298	10209
50°	12465	10623	9388
55°	12024	9920	8497
60°	11541	9150	7585
65°	11096	8187	6692
70°	10452	7124	5681
75°	9638	5908	4619
80°	8405	4500	4235
85°	7123	4085	3825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	2.1
10°-20°	487.1	5.8
20°-30°	703.4	8.3
30°-40°	797.3	9.4
40°-50°	770.0	9.1
50°-60°	640.3	7.6
60°-70°	442.1	5.2
70°-80°	224.1	2.7
80°-90°	62.0	0.7
90°-100°	98.6	1.2
100°-110°	292.2	3.5
110°-120°	495.9	5.9
120°-130°	653.9	7.7
130°-140°	734.3	8.7
140°-150°	721.6	8.5
150°-160°	606.9	7.2
160°-170°	403.8	4.8
170°-180°	141.4	1.7
0°-30°	1365.2	16.2
0°-40°	2162.6	25.6
0°-60°	3572.8	42.3
0°-90°	4300.9	50.9
90°-120°	886.7	10.5
90°-150°	2996.4	35.5
90°-180°	4149.0	49.1
0°-180°	8449.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1860	1860	1860	1860	1860	
5°	1857	1850	1834	1847	1845	176
15°	1768	1754	1720	1717	1707	498
25°	1599	1572	1515	1491	1477	736
35°	1383	1336	1266	1219	1192	864
45°	1128	1073	990	922	894	869
55°	854	795	705	633	604	764
65°	581	518	429	370	350	573
75°	309	256	189	158	148	326
85°	77	50	44	41	41	87
90°	4	16	25	32	35	8
95°	69	80	88	91	91	77
105°	270	271	275	279	282	286
115°	504	504	502	501	500	497
125°	734	734	733	731	728	654
135°	947	954	954	952	948	732
145°	1151	1155	1156	1155	1152	720
155°	1318	1318	1317	1321	1317	606
165°	1435	1432	1429	1436	1432	404
175°	1493	1487	1486	1493	1486	142
180°	1495	1495	1495	1495	1495	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1864.1	1863.1	1862.2	1861.1	1860.1	1858.2	1855.5	1852.6	1849.9	1847.1	1849.9
5°	1856.7	1855.5	1854.2	1853.0	1851.7	1849.1	1845.4	1841.6	1837.8	1834.0	1837.1
7.5°	1840.0	1838.6	1837.3	1835.9	1834.6	1831.5	1826.6	1821.7	1816.7	1811.8	1813.8
10°	1824.0	1822.4	1820.9	1819.3	1817.7	1814.0	1808.4	1802.7	1797.0	1791.3	1792.5
12.5°	1803.5	1801.7	1799.8	1798.0	1796.2	1791.9	1785.2	1778.5	1771.7	1765.1	1765.9
15°	1768.4	1765.6	1762.8	1760.0	1757.1	1751.7	1743.8	1735.9	1728.0	1720.0	1719.4
17.5°	1726.1	1721.9	1717.8	1713.7	1709.6	1702.8	1693.3	1683.8	1674.3	1664.8	1663.0
20°	1693.0	1688.9	1684.8	1680.7	1676.6	1669.1	1658.4	1647.6	1636.8	1626.1	1623.5
22.5°	1656.5	1652.0	1647.3	1642.7	1638.1	1630.0	1618.5	1607.0	1595.4	1583.9	1580.1
25°	1599.0	1593.3	1587.6	1582.0	1576.3	1566.9	1554.0	1541.0	1528.0	1515.0	1509.7
27.5°	1538.6	1531.5	1524.4	1517.2	1510.0	1499.6	1485.7	1471.9	1457.9	1444.1	1437.4
30°	1496.6	1488.6	1480.7	1472.7	1464.9	1453.5	1438.6	1423.7	1408.9	1394.0	1386.1
32.5°	1452.1	1443.1	1434.2	1425.3	1416.4	1404.3	1388.8	1373.5	1358.1	1342.7	1333.6
35°	1382.6	1372.4	1362.4	1352.2	1342.1	1329.1	1313.3	1297.5	1281.7	1265.9	1255.1
37.5°	1308.3	1297.8	1287.4	1276.9	1266.5	1252.5	1235.0	1217.5	1200.0	1182.4	1170.4
40°	1255.9	1245.5	1235.0	1224.6	1214.1	1199.9	1181.9	1163.8	1145.8	1127.7	1114.5
42.5°	1205.8	1194.8	1183.8	1172.9	1162.0	1147.1	1128.3	1109.5	1090.7	1071.9	1058.4
45°	1127.7	1116.0	1104.3	1092.6	1080.9	1065.5	1046.6	1027.6	1008.6	989.6	974.1
47.5°	1047.1	1035.0	1023.0	1010.8	998.8	982.8	963.1	943.3	923.6	903.9	887.8
50°	992.5	980.1	967.8	955.5	943.1	926.8	906.5	886.3	866.0	845.8	830.0
52.5°	936.7	924.5	912.5	900.4	888.3	871.8	851.1	830.4	809.6	788.8	772.8
55°	854.3	841.7	829.0	816.4	803.7	787.1	766.5	746.0	725.4	704.8	688.4
57.5°	772.8	759.7	746.5	733.4	720.2	703.6	683.3	663.0	642.7	622.5	605.8
60°	714.8	702.1	689.5	676.8	664.1	647.7	627.5	607.3	586.9	566.7	550.3
62.5°	662.4	649.3	636.1	622.9	609.8	592.8	572.0	551.3	530.5	509.8	494.5
65°	580.9	567.3	553.8	540.1	526.6	509.6	489.4	469.1	448.9	428.6	415.0
67.5°	496.3	483.3	470.3	457.3	444.3	428.3	409.5	390.7	371.9	353.1	341.4
70°	442.8	429.5	416.3	403.0	389.7	374.0	356.0	338.0	319.9	301.8	291.4
72.5°	385.8	373.9	361.9	349.8	337.8	323.2	306.2	289.2	272.2	255.1	246.2
75°	309.0	297.3	285.5	273.8	262.2	248.9	234.0	219.1	204.3	189.4	182.1
77.5°	231.0	221.1	211.1	201.2	191.2	180.2	168.2	156.2	144.2	132.2	127.9
80°	180.8	171.7	162.5	153.3	144.1	134.8	125.3	115.8	106.3	96.8	95.9
82.5°	137.6	129.1	120.7	112.3	103.9	96.9	91.5	86.1	80.6	75.2	74.5
85°	76.9	70.5	64.2	57.9	51.5	48.0	47.0	46.0	45.1	44.1	43.5
87.5°	26.9	25.4	24.0	22.5	21.0	20.4	20.6	20.7	20.9	21.0	21.1
90°	3.5	6.3	9.1	11.9	14.8	17.2	19.3	21.3	23.4	25.4	27.0
92.5°	24.8	28.0	31.2	34.4	37.7	40.0	41.5	42.9	44.3	45.8	46.7
95°	69.4	71.7	74.0	76.3	78.6	80.7	82.5	84.3	86.1	87.9	88.6
97.5°	121.2	123.1	124.9	126.7	128.6	130.5	132.7	134.8	136.9	139.0	139.9
100°	161.9	162.9	164.0	165.0	166.0	167.6	170.0	172.3	174.6	176.9	177.5
102.5°	204.5	204.9	205.3	205.7	206.1	207.3	209.5	211.6	213.7	215.8	216.5
105°	269.5	269.7	270.0	270.2	270.5	271.1	272.2	273.2	274.2	275.3	276.0
107.5°	337.7	338.0	338.3	338.6	338.9	339.1	339.3	339.5	339.7	339.7	340.5
110°	384.0	384.4	385.0	385.5	386.0	386.1	385.8	385.6	385.4	385.1	384.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	432.0	432.1	432.2	432.4	432.5	432.3	431.9	431.3	430.9	430.4	430.3
115°	504.2	504.2	504.2	504.2	504.2	504.0	503.5	502.9	502.4	501.9	501.7
117.5°	572.2	572.4	572.7	572.8	573.0	572.9	572.6	572.2	571.9	571.5	570.6
120°	617.5	618.6	619.6	620.6	621.6	621.8	621.0	620.3	619.5	618.7	617.4
122.5°	664.7	665.1	665.6	665.9	666.4	666.4	666.0	665.7	665.3	664.9	664.1
125°	734.3	734.3	734.3	734.3	734.3	734.2	734.0	733.7	733.4	733.2	732.6
127.5°	797.5	798.3	799.1	799.8	800.6	800.8	800.3	800.0	799.5	799.1	798.6
130°	841.9	842.7	843.5	844.2	845.0	845.3	845.3	845.3	845.3	845.3	844.8
132.5°	887.3	887.8	888.3	888.9	889.5	889.7	889.5	889.2	889.0	888.9	888.3
135°	947.1	948.7	950.2	951.7	953.3	954.0	954.0	954.0	954.0	954.0	953.6
137.5°	1012.4	1013.1	1013.8	1014.5	1015.2	1015.8	1016.2	1016.6	1017.0	1017.4	1016.7
140°	1055.9	1056.3	1056.9	1057.4	1057.9	1058.1	1058.1	1058.1	1058.1	1058.1	1057.9
142.5°	1095.6	1096.1	1096.6	1097.2	1097.7	1097.8	1097.6	1097.4	1097.3	1097.0	1097.0
145°	1150.7	1151.7	1152.7	1153.8	1154.8	1155.4	1155.7	1155.9	1156.2	1156.5	1156.2
147.5°	1205.2	1206.5	1207.7	1209.0	1210.1	1210.7	1210.5	1210.3	1210.1	1209.9	1209.7
150°	1238.6	1239.6	1240.6	1241.6	1242.7	1243.1	1243.1	1243.1	1243.1	1243.1	1243.1
152.5°	1270.0	1270.6	1271.2	1271.8	1272.5	1272.9	1273.1	1273.3	1273.5	1273.7	1274.3
155°	1318.3	1318.3	1318.3	1318.3	1318.3	1318.2	1317.9	1317.7	1317.4	1317.2	1318.2
157.5°	1359.1	1358.6	1358.2	1357.6	1357.2	1356.9	1356.9	1356.8	1356.8	1356.7	1357.5
160°	1383.1	1382.9	1382.6	1382.3	1382.1	1381.8	1381.5	1381.3	1381.1	1380.8	1381.5
162.5°	1405.3	1404.6	1404.0	1403.3	1402.7	1402.2	1401.9	1401.7	1401.4	1401.1	1402.6
165°	1435.1	1434.4	1433.6	1432.8	1432.1	1431.5	1430.9	1430.4	1429.9	1429.3	1430.9
167.5°	1458.0	1457.0	1455.9	1454.8	1453.8	1453.2	1453.3	1453.3	1453.4	1453.4	1455.0
170°	1471.0	1469.7	1468.5	1467.1	1465.9	1465.3	1465.6	1465.9	1466.2	1466.3	1467.9
172.5°	1480.2	1479.2	1478.1	1477.0	1476.0	1475.4	1475.5	1475.5	1475.6	1475.6	1477.4
175°	1493.0	1491.7	1490.4	1489.2	1487.8	1487.0	1486.8	1486.6	1486.3	1486.0	1487.8
177.5°	1497.1	1496.1	1495.0	1494.1	1493.0	1492.5	1492.5	1492.5	1492.5	1492.5	1494.0
180°	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1852.6	1855.5	1858.2	1859.5	1859.2	1858.9	1858.7	1858.5
5°	1840.3	1843.4	1846.6	1847.9	1847.3	1846.6	1846.0	1845.4
7.5°	1815.8	1817.8	1819.9	1820.3	1819.4	1818.4	1817.3	1816.3
10°	1793.8	1795.0	1796.4	1796.4	1795.0	1793.8	1792.5	1791.3
12.5°	1766.6	1767.4	1768.1	1767.5	1765.9	1764.1	1762.3	1760.5
15°	1718.8	1718.1	1717.5	1716.1	1713.9	1711.6	1709.5	1707.3
17.5°	1661.3	1659.5	1657.7	1655.2	1651.8	1648.4	1645.1	1641.7
20°	1621.0	1618.5	1616.0	1612.7	1608.6	1604.5	1600.3	1596.2
22.5°	1576.4	1572.5	1568.8	1565.2	1561.8	1558.4	1555.1	1551.8
25°	1504.2	1498.9	1493.5	1489.2	1486.0	1482.9	1479.7	1476.6
27.5°	1430.8	1424.2	1417.6	1411.9	1407.4	1402.8	1398.3	1393.7
30°	1378.1	1370.3	1362.4	1355.8	1350.8	1345.8	1340.7	1335.6
32.5°	1324.4	1315.2	1306.0	1299.0	1294.2	1289.4	1284.6	1279.8
35°	1244.3	1233.6	1222.8	1214.6	1208.9	1203.2	1197.5	1191.8
37.5°	1158.3	1146.3	1134.3	1125.4	1119.7	1114.0	1108.4	1102.7
40°	1101.2	1087.9	1074.6	1065.1	1059.4	1053.6	1048.0	1042.3
42.5°	1044.8	1031.3	1017.7	1008.0	1002.0	996.1	990.2	984.2
45°	958.6	943.1	927.6	916.9	911.3	905.6	899.9	894.2
47.5°	871.7	855.7	839.6	828.4	822.2	815.9	809.6	803.3
50°	814.1	798.3	782.5	771.6	765.6	759.6	753.6	747.5
52.5°	756.7	740.7	724.5	713.4	707.1	700.9	694.6	688.3
55°	671.9	655.5	639.0	627.8	621.8	615.7	609.8	603.7
57.5°	589.2	572.4	555.7	545.1	540.6	535.9	531.4	526.8
60°	533.8	517.4	500.9	490.2	485.1	480.0	474.9	469.8
62.5°	479.4	464.2	449.0	439.3	435.3	431.3	427.2	423.2
65°	401.4	387.8	374.2	365.4	361.7	357.8	354.1	350.3
67.5°	329.8	318.0	306.3	298.4	294.2	290.0	285.8	281.6
70°	281.0	270.5	260.1	253.3	250.1	247.0	243.8	240.7
72.5°	237.3	228.4	219.5	213.6	210.6	207.8	204.8	201.9
75°	174.9	167.6	160.2	155.7	153.8	151.9	150.0	148.1
77.5°	123.7	119.4	115.2	112.8	112.2	111.6	111.1	110.5
80°	95.0	94.0	93.0	92.4	92.1	91.8	91.5	91.1
82.5°	73.8	73.1	72.4	71.9	71.6	71.2	71.0	70.6
85°	42.9	42.3	41.6	41.3	41.3	41.3	41.3	41.3
87.5°	21.1	21.2	21.2	21.5	21.8	22.2	22.6	22.9
90°	28.5	30.1	31.6	32.6	33.2	33.7	34.2	34.7
92.5°	47.6	48.6	49.5	50.1	50.4	50.7	51.0	51.4
95°	89.4	90.2	91.0	91.4	91.4	91.4	91.4	91.4
97.5°	140.9	141.8	142.7	143.2	143.2	143.2	143.2	143.2
100°	178.0	178.5	179.0	179.2	179.2	179.2	179.2	179.2
102.5°	217.2	217.9	218.6	219.1	219.4	219.5	219.7	220.0
105°	276.8	277.6	278.3	279.1	279.8	280.6	281.4	282.1
107.5°	341.2	341.9	342.7	343.0	343.0	342.9	342.9	342.8
110°	384.1	383.5	383.1	383.2	384.0	384.7	385.5	386.3



TEST NUMBER: P333110-940

CATALOG NUMBER: S124RDIW-S1195D1340U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	430.3	430.2	430.0	430.1	430.2	430.3	430.5	430.7
115°	501.4	501.1	500.9	500.6	500.3	500.1	499.8	499.6
117.5°	569.8	568.9	568.0	567.3	566.8	566.3	565.8	565.3
120°	616.2	614.8	613.6	613.1	613.7	614.2	614.7	615.2
122.5°	663.2	662.4	661.5	660.6	659.6	658.7	657.8	656.8
125°	732.2	731.6	731.1	730.6	730.1	729.6	729.1	728.5
127.5°	798.1	797.5	797.0	796.6	796.2	795.8	795.3	795.0
130°	844.4	843.8	843.3	842.6	841.5	840.4	839.5	838.4
132.5°	887.8	887.3	886.8	886.4	885.9	885.5	885.1	884.7
135°	953.1	952.5	952.0	951.4	950.6	949.9	949.0	948.2
137.5°	1016.1	1015.5	1014.8	1014.5	1014.7	1014.9	1014.9	1015.1
140°	1057.7	1057.4	1057.1	1056.9	1056.6	1056.3	1056.1	1055.9
142.5°	1096.9	1096.9	1096.8	1096.7	1096.7	1096.6	1096.6	1096.5
145°	1155.9	1155.7	1155.4	1154.9	1154.1	1153.3	1152.6	1151.8
147.5°	1209.4	1209.2	1209.1	1208.8	1208.5	1208.3	1208.1	1207.8
150°	1243.1	1243.1	1243.1	1243.0	1242.8	1242.5	1242.2	1242.1
152.5°	1275.0	1275.6	1276.2	1276.1	1275.5	1274.8	1274.2	1273.5
155°	1319.3	1320.3	1321.3	1321.3	1320.3	1319.3	1318.2	1317.2
157.5°	1358.3	1359.1	1359.9	1359.8	1358.9	1358.0	1357.2	1356.3
160°	1382.3	1383.1	1383.8	1383.6	1382.3	1381.1	1379.7	1378.5
162.5°	1403.9	1405.3	1406.7	1406.8	1405.4	1404.2	1402.9	1401.6
165°	1432.4	1434.0	1435.6	1435.8	1434.8	1433.7	1432.7	1431.6
167.5°	1456.5	1458.0	1459.6	1459.6	1457.9	1456.3	1454.8	1453.2
170°	1469.5	1471.0	1472.6	1472.4	1470.6	1468.8	1467.0	1465.3
172.5°	1479.1	1480.9	1482.6	1482.6	1480.8	1479.0	1477.2	1475.4
175°	1489.6	1491.4	1493.3	1493.3	1491.4	1489.6	1487.8	1486.0
177.5°	1495.4	1496.8	1498.3	1498.2	1496.6	1494.9	1493.3	1491.6
180°	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3	1495.3

(END OF REPORT)