

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: P333109-930

Luminaire Tested: **S124RDIW-S1195D1340U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333109-930
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: S124RDIW-S1195D1340U930-4F0-1E-UDD-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8305.9 lumens
Efficiency: N/A
Efficacy: 109.0 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

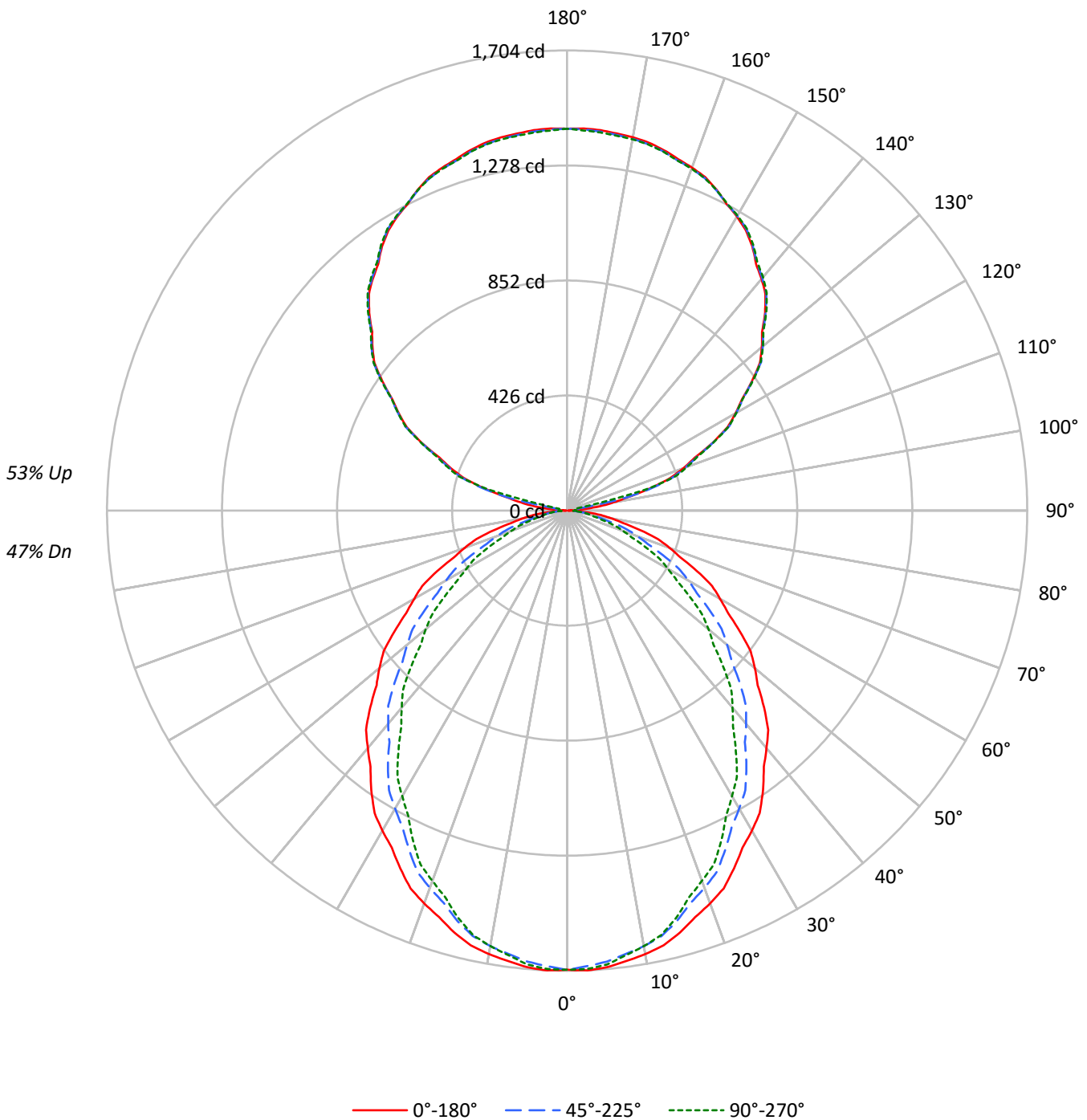
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40
2	89	82	76	71	82	75	70	66	63	60	56	53	50	48	42	41	39	34
3	81	72	65	59	74	67	60	55	56	52	48	47	43	40	38	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25
5	68	57	49	43	63	53	46	40	45	39	35	38	33	30	31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22	20
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	25	22	20	17
8	54	42	34	29	50	39	32	28	34	28	24	28	24	21	23	20	18	16
9	50	38	31	26	46	36	29	25	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13726	13726	13726
5°	13757	13588	13674
10°	13671	13426	13426
15°	13514	13143	13046
20°	13298	12773	12538
25°	13023	12339	12026
30°	12755	11882	11384
35°	12458	11406	10738
40°	12101	10866	10043
45°	11772	10330	9334
50°	11396	9712	8584
55°	10994	9070	7769
60°	10551	8365	6936
65°	10147	7484	6117
70°	9557	6515	5193
75°	8812	5402	4223
80°	7685	4114	3873
85°	6512	3742	3492



TEST NUMBER: P333109-930

CATALOG NUMBER: S124RDIW-S1195D1340U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	1.9
10°-20°	445.4	5.4
20°-30°	643.1	7.7
30°-40°	729.0	8.8
40°-50°	704.0	8.5
50°-60°	585.4	7.0
60°-70°	404.2	4.9
70°-80°	204.9	2.5
80°-90°	56.6	0.7
90°-100°	48.4	0.6
100°-110°	308.3	3.7
110°-120°	589.8	7.1
120°-130°	748.7	9.0
130°-140°	801.1	9.6
140°-150°	749.1	9.0
150°-160°	604.1	7.3
160°-170°	389.6	4.7
170°-180°	134.3	1.6
0°-30°	1248.2	15.0
0°-40°	1977.3	23.8
0°-60°	3266.6	39.3
0°-90°	3932.4	47.3
90°-120°	946.5	11.4
90°-150°	3245.5	39.1
90°-180°	4374.0	52.7
0°-180°	8305.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1700	1700	1700	1700	1700	
5°	1698	1692	1677	1689	1687	161
15°	1617	1604	1573	1570	1561	455
25°	1462	1437	1385	1364	1350	673
35°	1264	1221	1157	1114	1090	790
45°	1031	981	905	843	818	795
55°	781	727	644	579	552	698
65°	531	474	392	338	320	524
75°	282	234	173	144	135	298
85°	70	46	40	38	38	79
90°	3	15	23	29	32	6
95°	58	24	23	29	31	75
105°	318	325	330	337	301	333
115°	594	597	596	598	598	585
125°	835	839	838	841	842	746
135°	1036	1036	1040	1042	1044	798
145°	1195	1198	1198	1199	1201	746
155°	1310	1311	1308	1312	1309	604
165°	1382	1377	1377	1384	1376	390
175°	1414	1408	1409	1417	1405	135
180°	1414	1414	1414	1414	1414	



TEST NUMBER: P333109-930

CATALOG NUMBER: S124RDIW-S1195D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1704.4	1703.5	1702.6	1701.6	1700.7	1699.0	1696.5	1693.9	1691.3	1688.8	1691.3
5°	1697.6	1696.5	1695.3	1694.2	1693.1	1690.7	1687.3	1683.8	1680.3	1676.8	1679.7
7.5°	1682.3	1681.1	1679.8	1678.6	1677.4	1674.5	1670.1	1665.6	1661.0	1656.5	1658.4
10°	1667.7	1666.2	1664.8	1663.4	1661.9	1658.6	1653.4	1648.2	1643.0	1637.8	1638.9
12.5°	1648.9	1647.3	1645.6	1643.9	1642.3	1638.3	1632.2	1626.1	1619.9	1613.8	1614.5
15°	1616.9	1614.3	1611.8	1609.2	1606.5	1601.6	1594.4	1587.1	1579.9	1572.6	1572.1
17.5°	1578.2	1574.3	1570.6	1566.8	1563.1	1556.9	1548.2	1539.5	1530.8	1522.2	1520.5
20°	1547.9	1544.2	1540.4	1536.7	1532.9	1526.1	1516.3	1506.4	1496.6	1486.8	1484.4
22.5°	1514.6	1510.4	1506.2	1501.9	1497.7	1490.4	1479.8	1469.3	1458.7	1448.2	1444.7
25°	1462.0	1456.8	1451.6	1446.4	1441.2	1432.6	1420.8	1408.9	1397.1	1385.2	1380.3
27.5°	1406.8	1400.3	1393.8	1387.2	1380.6	1371.1	1358.4	1345.7	1333.0	1320.4	1314.3
30°	1368.3	1361.1	1353.8	1346.5	1339.4	1328.9	1315.3	1301.7	1288.2	1274.6	1267.3
32.5°	1327.6	1319.5	1311.3	1303.2	1295.0	1283.9	1269.8	1255.8	1241.7	1227.7	1219.3
35°	1264.1	1254.8	1245.6	1236.3	1227.1	1215.2	1200.8	1186.3	1171.8	1157.4	1147.5
37.5°	1196.2	1186.6	1177.0	1167.5	1158.0	1145.2	1129.2	1113.1	1097.1	1081.1	1070.1
40°	1148.3	1138.7	1129.2	1119.7	1110.0	1097.1	1080.6	1064.0	1047.6	1031.1	1019.0
42.5°	1102.4	1092.4	1082.4	1072.4	1062.4	1048.8	1031.6	1014.4	997.3	980.1	967.7
45°	1031.1	1020.3	1009.7	999.0	988.3	974.2	956.9	939.6	922.2	904.8	890.6
47.5°	957.4	946.3	935.3	924.2	913.2	898.6	880.6	862.5	844.5	826.5	811.7
50°	907.4	896.1	884.8	873.6	862.3	847.3	828.8	810.3	791.8	773.3	758.9
52.5°	856.4	845.3	834.3	823.2	812.2	797.1	778.2	759.2	740.2	721.2	706.5
55°	781.1	769.6	758.0	746.4	734.8	719.7	700.8	682.1	663.2	644.4	629.4
57.5°	706.6	694.6	682.6	670.6	658.5	643.3	624.8	606.2	587.7	569.2	553.9
60°	653.5	642.0	630.4	618.8	607.2	592.2	573.7	555.2	536.6	518.1	503.1
62.5°	605.6	593.6	581.6	569.6	557.5	542.0	523.0	504.0	485.0	466.1	452.2
65°	531.2	518.7	506.3	493.8	481.4	465.9	447.4	428.9	410.4	391.8	379.4
67.5°	453.8	441.9	430.0	418.1	406.2	391.6	374.4	357.3	340.1	322.9	312.2
70°	404.9	392.7	380.6	368.4	356.3	341.9	325.5	309.0	292.5	276.0	266.4
72.5°	352.8	341.9	330.8	319.8	308.8	295.5	280.0	264.4	248.8	233.3	225.1
75°	282.5	271.8	261.1	250.4	239.7	227.6	213.9	200.3	186.8	173.2	166.5
77.5°	211.2	202.1	193.0	183.9	174.8	164.8	153.8	142.8	131.8	120.8	116.9
80°	165.3	156.9	148.5	140.1	131.8	123.3	114.5	105.9	97.2	88.5	87.6
82.5°	125.8	118.1	110.4	102.6	95.0	88.6	83.6	78.7	73.7	68.7	68.1
85°	70.3	64.5	58.7	52.9	47.1	43.9	43.0	42.1	41.3	40.4	39.8
87.5°	24.6	23.2	21.9	20.5	19.2	18.7	18.8	18.9	19.1	19.2	19.3
90°	3.2	5.8	8.3	10.9	13.5	15.7	17.6	19.5	21.4	23.2	24.7
92.5°	13.3	13.5	13.6	13.8	13.9	14.9	16.8	18.7	20.5	22.4	23.8
95°	58.1	50.1	42.2	34.2	26.2	22.3	22.6	22.8	23.0	23.2	24.7
97.5°	123.5	128.5	133.5	138.4	143.4	132.8	106.6	80.4	54.1	27.9	28.0
100°	173.4	177.7	181.9	186.1	190.4	176.3	143.8	111.4	78.9	46.6	42.6
102.5°	229.3	232.4	235.5	238.6	241.7	241.1	236.8	232.7	228.4	224.2	181.1
105°	318.3	319.7	321.1	322.5	323.9	325.2	326.4	327.6	328.7	330.0	332.1
107.5°	401.0	401.7	402.4	403.1	403.8	405.0	406.6	408.1	409.8	411.4	412.4
110°	456.8	457.5	458.3	458.9	459.7	460.7	462.1	463.5	465.0	466.4	466.8



TEST NUMBER: P333109-930

CATALOG NUMBER: S124RDIW-S1195D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	510.9	512.3	513.6	514.8	516.1	517.0	517.7	518.4	519.0	519.7	519.6
115°	594.3	595.0	595.7	596.4	597.1	597.4	597.1	596.9	596.6	596.4	596.9
117.5°	669.4	670.3	671.2	672.2	673.1	673.8	674.4	674.9	675.4	676.0	675.9
120°	720.2	721.1	722.0	723.0	723.9	724.2	724.1	723.8	723.6	723.3	723.8
122.5°	767.5	768.1	768.7	769.2	769.8	770.2	770.5	770.9	771.2	771.5	771.8
125°	835.4	836.3	837.3	838.2	839.2	839.4	838.9	838.5	838.0	837.6	838.2
127.5°	899.7	899.9	900.2	900.4	900.7	901.3	902.4	903.4	904.6	905.6	905.5
130°	941.2	941.4	941.7	941.8	942.1	942.6	943.3	944.0	944.7	945.4	945.7
132.5°	979.3	979.7	980.1	980.5	980.9	981.6	982.5	983.3	984.2	985.1	985.4
135°	1036.3	1036.1	1035.8	1035.7	1035.4	1035.8	1036.7	1037.6	1038.6	1039.5	1040.0
137.5°	1086.9	1087.0	1087.0	1087.2	1087.3	1087.9	1088.8	1089.9	1091.0	1091.9	1092.5
140°	1119.9	1120.4	1120.8	1121.3	1121.8	1122.3	1122.7	1123.2	1123.6	1124.1	1124.8
142.5°	1149.5	1150.3	1151.2	1152.0	1152.9	1153.4	1153.7	1154.0	1154.3	1154.5	1155.1
145°	1195.0	1195.6	1196.4	1197.1	1197.8	1198.2	1198.2	1198.2	1198.2	1198.2	1198.4
147.5°	1231.1	1232.4	1233.8	1235.1	1236.4	1237.0	1236.7	1236.5	1236.2	1236.0	1236.2
150°	1257.4	1258.3	1259.2	1260.2	1261.1	1261.4	1261.3	1261.0	1260.8	1260.5	1260.5
152.5°	1279.4	1280.1	1280.8	1281.6	1282.4	1282.5	1282.1	1281.7	1281.2	1280.8	1281.2
155°	1310.3	1310.4	1310.7	1310.9	1311.2	1310.9	1310.3	1309.5	1308.8	1308.1	1309.0
157.5°	1336.3	1336.1	1335.9	1335.8	1335.7	1335.2	1334.4	1333.6	1332.9	1332.0	1333.3
160°	1351.4	1350.8	1350.1	1349.3	1348.7	1348.2	1347.9	1347.7	1347.4	1347.3	1348.7
162.5°	1365.0	1364.1	1363.3	1362.4	1361.5	1360.9	1360.7	1360.4	1360.2	1359.9	1361.3
165°	1382.2	1381.0	1379.8	1378.6	1377.4	1376.9	1376.9	1376.9	1376.9	1376.9	1378.8
167.5°	1395.7	1394.5	1393.3	1392.0	1390.8	1390.1	1390.0	1389.8	1389.7	1389.5	1391.6
170°	1403.3	1401.9	1400.4	1399.1	1397.7	1397.1	1397.3	1397.5	1397.7	1398.0	1399.9
172.5°	1408.3	1407.0	1405.6	1404.1	1402.7	1402.2	1402.4	1402.6	1402.8	1403.0	1404.9
175°	1413.9	1412.4	1411.0	1409.7	1408.2	1407.6	1407.9	1408.1	1408.3	1408.6	1410.7
177.5°	1416.4	1415.1	1413.7	1412.4	1411.1	1410.6	1411.0	1411.4	1411.8	1412.2	1413.6
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9



TEST NUMBER: P333109-930

CATALOG NUMBER: S124RDIW-S1195D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1693.9	1696.5	1699.0	1700.1	1699.9	1699.7	1699.4	1699.2
5°	1682.6	1685.5	1688.4	1689.5	1689.0	1688.4	1687.8	1687.3
7.5°	1660.2	1662.1	1663.9	1664.4	1663.5	1662.6	1661.6	1660.7
10°	1640.1	1641.2	1642.4	1642.4	1641.2	1640.1	1638.9	1637.8
12.5°	1615.2	1615.9	1616.6	1616.1	1614.5	1612.9	1611.3	1609.6
15°	1571.5	1570.9	1570.3	1569.0	1567.0	1565.0	1563.0	1561.0
17.5°	1518.9	1517.3	1515.6	1513.4	1510.3	1507.2	1504.1	1501.0
20°	1482.1	1479.8	1477.5	1474.5	1470.7	1467.0	1463.1	1459.4
22.5°	1441.3	1437.8	1434.4	1431.1	1428.0	1424.9	1421.9	1418.8
25°	1375.3	1370.4	1365.5	1361.6	1358.7	1355.8	1352.9	1350.1
27.5°	1308.2	1302.1	1296.1	1290.9	1286.8	1282.6	1278.5	1274.3
30°	1260.0	1252.9	1245.6	1239.7	1235.0	1230.4	1225.8	1221.2
32.5°	1210.9	1202.5	1194.1	1187.7	1183.3	1178.9	1174.5	1170.1
35°	1137.7	1127.9	1118.0	1110.5	1105.3	1100.1	1094.9	1089.6
37.5°	1059.1	1048.1	1037.1	1029.0	1023.8	1018.6	1013.4	1008.2
40°	1006.8	994.7	982.5	973.8	968.6	963.4	958.2	953.0
42.5°	955.3	942.9	930.5	921.6	916.2	910.8	905.3	899.8
45°	876.4	862.3	848.1	838.4	833.2	828.0	822.8	817.6
47.5°	797.0	782.4	767.7	757.4	751.7	746.0	740.2	734.5
50°	744.4	729.9	715.4	705.5	700.0	694.5	689.0	683.5
52.5°	691.9	677.2	662.4	652.2	646.5	640.8	635.0	629.3
55°	614.3	599.3	584.2	574.0	568.5	563.0	557.5	552.0
57.5°	538.7	523.3	508.1	498.4	494.2	490.0	485.8	481.7
60°	488.0	473.0	458.0	448.2	443.5	438.9	434.2	429.6
62.5°	438.3	424.4	410.5	401.7	398.0	394.4	390.6	386.9
65°	367.0	354.6	342.1	334.1	330.7	327.2	323.8	320.2
67.5°	301.5	290.7	280.1	272.8	269.0	265.1	261.3	257.5
70°	256.9	247.4	237.8	231.6	228.7	225.8	222.9	220.0
72.5°	217.0	208.8	200.6	195.3	192.6	190.0	187.3	184.6
75°	159.9	153.2	146.5	142.4	140.6	138.8	137.1	135.4
77.5°	113.1	109.2	105.3	103.1	102.6	102.1	101.6	101.0
80°	86.8	85.9	85.0	84.5	84.2	83.9	83.6	83.3
82.5°	67.5	66.9	66.2	65.7	65.5	65.1	64.9	64.6
85°	39.2	38.6	38.1	37.7	37.7	37.7	37.7	37.7
87.5°	19.3	19.4	19.4	19.6	20.0	20.3	20.6	21.0
90°	26.1	27.5	28.9	29.8	30.3	30.8	31.2	31.7
92.5°	25.3	26.7	28.0	28.8	28.9	29.0	29.1	29.2
95°	26.1	27.5	28.9	29.8	29.9	30.2	30.4	30.7
97.5°	28.2	28.4	28.5	28.7	28.9	29.1	29.4	29.6
100°	38.6	34.6	30.6	28.7	28.9	29.1	29.4	29.6
102.5°	138.0	94.9	51.8	30.2	30.3	30.3	30.4	30.5
105°	334.2	336.3	338.4	335.3	326.8	318.3	309.8	301.4
107.5°	413.4	414.5	415.5	416.5	417.4	418.2	419.1	420.0
110°	467.3	467.7	468.2	468.8	469.5	470.3	470.9	471.7



TEST NUMBER: P333109-930

CATALOG NUMBER: S124RDIW-S1195D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	519.4	519.3	519.3	519.7	520.6	521.5	522.4	523.3
115°	597.4	597.9	598.3	598.5	598.5	598.5	598.5	598.5
117.5°	675.7	675.6	675.6	675.5	675.4	675.3	675.2	675.1
120°	724.2	724.7	725.2	725.2	724.7	724.2	723.8	723.3
122.5°	772.1	772.4	772.7	772.6	772.1	771.6	771.2	770.7
125°	838.9	839.7	840.3	840.8	841.1	841.3	841.6	841.8
127.5°	905.4	905.2	905.1	904.9	904.7	904.5	904.3	904.2
130°	945.8	946.1	946.3	946.5	946.5	946.5	946.5	946.5
132.5°	985.6	985.9	986.1	986.1	985.9	985.8	985.5	985.4
135°	1040.5	1040.9	1041.4	1041.9	1042.4	1042.8	1043.3	1043.7
137.5°	1093.0	1093.5	1094.1	1094.2	1094.1	1094.0	1093.8	1093.6
140°	1125.5	1126.3	1126.9	1127.4	1127.6	1127.9	1128.1	1128.4
142.5°	1155.6	1156.1	1156.7	1156.9	1157.0	1157.0	1157.1	1157.1
145°	1198.6	1198.8	1199.1	1199.5	1199.9	1200.4	1200.9	1201.3
147.5°	1236.4	1236.6	1236.7	1237.0	1237.2	1237.5	1237.6	1237.9
150°	1260.5	1260.5	1260.5	1260.6	1260.9	1261.1	1261.3	1261.6
152.5°	1281.6	1282.0	1282.3	1282.5	1282.3	1282.1	1282.1	1281.9
155°	1310.0	1310.9	1311.9	1312.0	1311.3	1310.6	1309.9	1309.2
157.5°	1334.5	1335.7	1336.9	1336.9	1335.7	1334.5	1333.3	1332.0
160°	1350.1	1351.4	1352.9	1352.9	1351.4	1350.1	1348.7	1347.3
162.5°	1362.8	1364.2	1365.5	1365.5	1363.9	1362.3	1360.7	1359.1
165°	1380.6	1382.5	1384.4	1384.2	1382.2	1380.1	1377.9	1375.8
167.5°	1393.7	1395.7	1397.8	1397.7	1395.3	1392.9	1390.7	1388.3
170°	1401.7	1403.6	1405.5	1405.2	1403.0	1400.6	1398.2	1395.9
172.5°	1406.8	1408.8	1410.6	1410.3	1407.7	1405.2	1402.6	1400.1
175°	1412.8	1415.0	1417.1	1416.7	1413.9	1411.0	1408.2	1405.4
177.5°	1415.2	1416.7	1418.2	1417.8	1415.5	1413.3	1411.0	1408.8
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9

(END OF REPORT)