

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: P332858-935

Luminaire Tested: **S124DIW-S1195D1340U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332858-935  
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-S1195D1340U935-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8413.0 lumens  
Efficiency: N/A  
Efficacy: 110.4 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

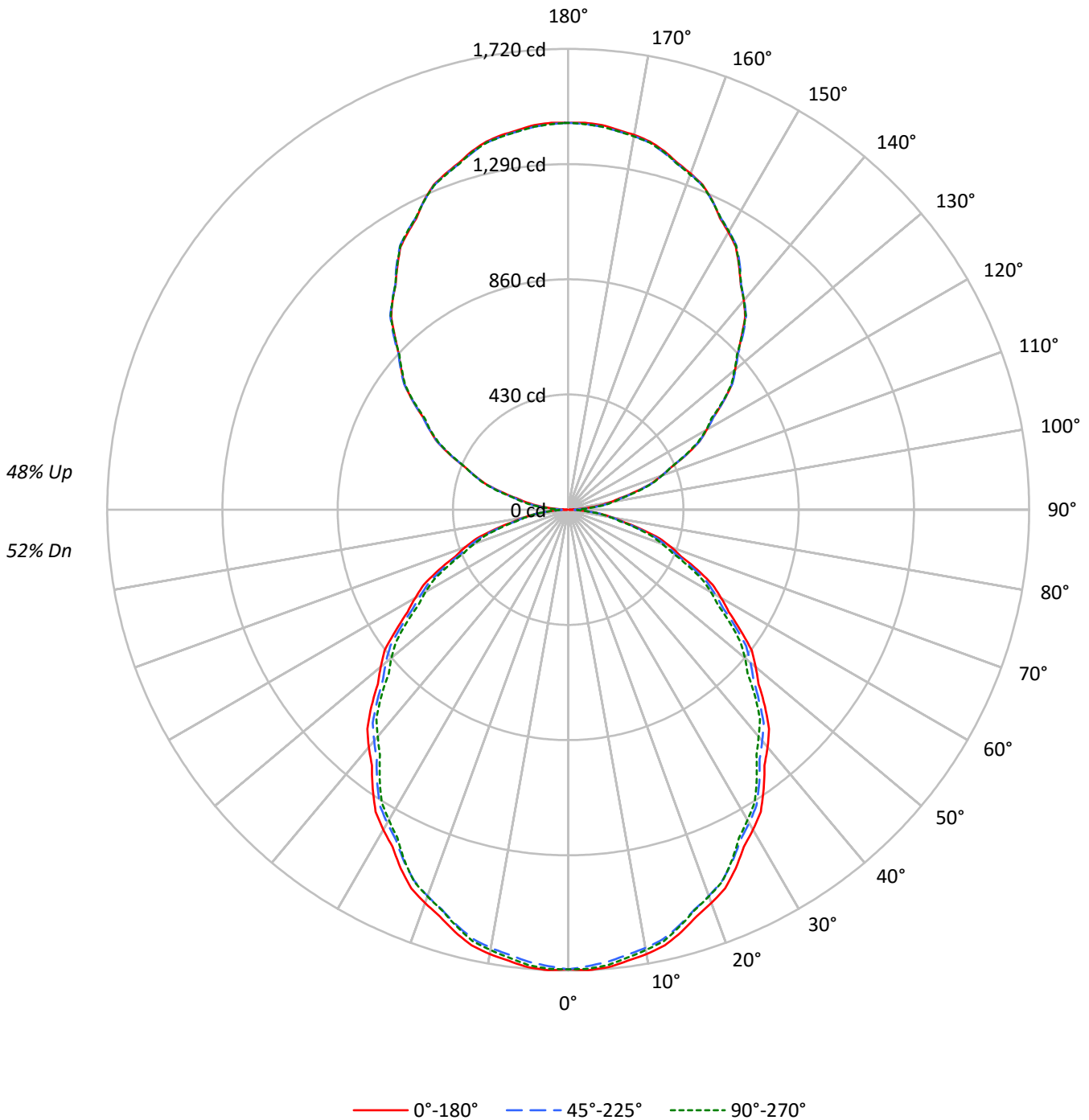
Input Watts (W): 76.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	86	91	87	84	81	74	72	69	62	61	59	51	50	49	44
2	89	82	76	71	83	76	71	66	65	61	57	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	69	57	49	43	63	53	46	40	46	40	36	39	34	31	32	29	26	23
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	32	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16
9	50	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13852	13852	13852
5°	13893	13726	13827
10°	13806	13615	13682
15°	13639	13422	13456
20°	13418	13181	13193
25°	13165	12908	12871
30°	12855	12585	12470
35°	12534	12249	12086
40°	12199	11866	11649
45°	11851	11490	11270
50°	11465	11154	10810
55°	11050	10719	10372
60°	10634	10233	9923
65°	10164	9769	9377
70°	9640	9151	8795
75°	8833	8406	8191
80°	7861	7541	7350
85°	6873	6623	6493



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.6	1.9
10°-20°	455.3	5.4
20°-30°	670.1	8.0
30°-40°	779.0	9.3
40°-50°	779.1	9.3
50°-60°	681.5	8.1
60°-70°	506.1	6.0
70°-80°	287.5	3.4
80°-90°	87.3	1.0
90°-100°	95.2	1.1
100°-110°	282.1	3.4
110°-120°	478.8	5.7
120°-130°	631.3	7.5
130°-140°	709.0	8.4
140°-150°	696.7	8.3
150°-160°	586.0	7.0
160°-170°	389.9	4.6
170°-180°	136.5	1.6
0°-30°	1287.0	15.3
0°-40°	2066.0	24.6
0°-60°	3526.5	41.9
0°-90°	4407.4	52.4
90°-120°	856.1	10.2
90°-150°	2893.2	34.4
90°-180°	4006.0	47.6
0°-180°	8413.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1714	1708	1694	1708	1706	163
15°	1632	1626	1606	1613	1610	460
25°	1478	1468	1449	1450	1445	680
35°	1272	1262	1243	1233	1226	795
45°	1038	1028	1006	992	987	800
55°	785	780	762	746	737	703
65°	532	525	511	498	491	527
75°	283	276	270	264	263	301
85°	74	74	72	71	70	82
90°	3	15	24	31	34	8
95°	67	77	85	88	88	75
105°	260	261	266	269	272	276
115°	487	487	485	484	482	480
125°	709	709	708	706	703	632
135°	914	921	921	919	916	707
145°	1111	1115	1117	1115	1112	695
155°	1273	1273	1272	1276	1272	585
165°	1386	1382	1380	1386	1382	390
175°	1442	1436	1435	1442	1435	137
180°	1444	1444	1444	1444	1444	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1720.2	1719.5	1718.7	1718.0	1717.3	1715.5	1712.9	1710.2	1707.5	1704.9	1707.3
5°	1714.4	1713.2	1712.0	1710.8	1709.6	1707.3	1703.9	1700.6	1697.2	1693.8	1697.2
7.5°	1698.5	1697.3	1696.1	1694.8	1693.6	1691.2	1687.4	1683.7	1680.0	1676.2	1679.0
10°	1684.2	1683.0	1681.8	1680.5	1679.3	1676.7	1672.8	1668.8	1664.8	1660.9	1663.3
12.5°	1665.5	1664.3	1663.0	1661.8	1660.6	1657.9	1653.7	1649.5	1645.3	1641.1	1643.7
15°	1631.9	1630.7	1629.5	1628.3	1627.0	1624.2	1619.5	1615.0	1610.4	1605.9	1607.7
17.5°	1591.6	1590.0	1588.5	1587.0	1585.4	1582.5	1578.1	1573.8	1569.5	1565.1	1566.3
20°	1561.9	1560.3	1558.8	1557.3	1555.7	1552.6	1548.1	1543.5	1539.0	1534.3	1535.2
22.5°	1529.9	1527.9	1526.0	1523.9	1521.9	1518.5	1514.0	1509.4	1504.9	1500.2	1501.9
25°	1478.0	1475.8	1473.7	1471.5	1469.4	1466.2	1461.9	1457.7	1453.4	1449.1	1449.4
27.5°	1418.6	1416.3	1414.2	1412.0	1409.8	1406.7	1402.7	1398.8	1394.8	1390.8	1390.1
30°	1379.0	1376.6	1374.1	1371.7	1369.2	1366.0	1362.0	1358.1	1354.1	1350.1	1348.9
32.5°	1337.2	1335.0	1332.8	1330.6	1328.4	1325.2	1320.9	1316.7	1312.5	1308.3	1306.8
35°	1271.8	1269.6	1267.5	1265.3	1263.2	1260.0	1255.7	1251.5	1247.2	1242.9	1240.7
37.5°	1202.7	1200.8	1198.9	1196.9	1194.9	1191.6	1187.1	1182.5	1177.8	1173.3	1171.0
40°	1157.6	1155.2	1152.7	1150.3	1147.9	1144.4	1139.8	1135.1	1130.6	1126.0	1122.9
42.5°	1109.2	1107.8	1106.3	1104.8	1103.4	1100.1	1095.0	1089.9	1084.9	1079.8	1076.2
45°	1038.0	1035.9	1033.7	1031.6	1029.5	1026.0	1021.1	1016.2	1011.2	1006.4	1003.1
47.5°	963.5	962.0	960.5	959.1	957.6	954.7	950.1	945.6	941.1	936.6	932.8
50°	912.9	911.7	910.4	909.2	908.0	905.3	901.0	896.7	892.4	888.1	883.9
52.5°	863.4	861.9	860.5	859.0	857.6	854.5	850.1	845.5	841.0	836.5	832.7
55°	785.1	784.1	783.3	782.3	781.4	778.8	774.5	770.3	765.9	761.6	758.0
57.5°	710.2	709.2	708.2	707.1	706.1	703.4	699.2	695.0	690.8	686.6	683.1
60°	658.6	657.0	655.5	654.0	652.5	649.7	645.8	641.8	637.7	633.8	631.0
62.5°	608.0	606.7	605.4	604.1	602.9	600.1	595.9	591.7	587.5	583.2	580.7
65°	532.1	530.5	529.0	527.4	526.0	523.7	520.6	517.5	514.5	511.4	508.4
67.5°	455.6	454.3	452.8	451.4	450.0	447.8	444.9	442.0	439.0	436.1	433.2
70°	408.4	406.2	404.1	401.9	399.8	397.5	395.0	392.6	390.1	387.7	385.3
72.5°	357.7	355.6	353.4	351.3	349.2	347.2	345.2	343.2	341.3	339.3	337.3
75°	283.2	281.7	280.2	278.6	277.1	275.6	274.1	272.5	271.0	269.5	268.3
77.5°	212.0	211.3	210.7	210.0	209.3	208.3	207.0	205.6	204.3	202.9	202.6
80°	169.1	168.2	167.3	166.3	165.5	164.7	164.1	163.4	162.8	162.2	161.6
82.5°	127.3	126.9	126.5	126.1	125.6	125.4	125.2	125.1	124.9	124.8	124.5
85°	74.2	74.2	74.2	74.2	74.2	74.0	73.4	72.8	72.1	71.5	71.5
87.5°	29.3	29.5	29.9	30.1	30.5	30.7	30.8	31.0	31.2	31.3	31.6
90°	3.4	6.1	8.8	11.5	14.3	16.6	18.6	20.6	22.6	24.5	26.1
92.5°	23.9	27.0	30.1	33.2	36.4	38.7	40.0	41.4	42.8	44.3	45.1
95°	67.0	69.2	71.5	73.7	75.9	77.9	79.6	81.4	83.1	84.9	85.6
97.5°	117.0	118.8	120.6	122.3	124.2	126.1	128.1	130.2	132.2	134.2	135.1
100°	156.4	157.3	158.3	159.3	160.3	161.9	164.1	166.3	168.6	170.8	171.3
102.5°	197.4	197.9	198.2	198.6	199.0	200.2	202.2	204.3	206.3	208.4	209.1
105°	260.2	260.5	260.7	260.9	261.1	261.7	262.8	263.8	264.8	265.8	266.5
107.5°	326.1	326.3	326.7	326.9	327.3	327.4	327.6	327.8	328.0	328.0	328.7
110°	370.7	371.2	371.7	372.2	372.7	372.8	372.6	372.3	372.1	371.9	371.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	417.2	417.2	417.3	417.5	417.6	417.4	417.0	416.5	416.0	415.6	415.5
115°	486.8	486.8	486.8	486.8	486.8	486.6	486.1	485.6	485.1	484.6	484.4
117.5°	552.5	552.7	552.9	553.1	553.3	553.2	552.8	552.5	552.2	551.8	551.0
120°	596.2	597.3	598.2	599.3	600.2	600.4	599.6	598.9	598.1	597.4	596.2
122.5°	641.8	642.2	642.7	643.0	643.4	643.4	643.1	642.7	642.4	642.0	641.2
125°	709.0	709.0	709.0	709.0	709.0	708.9	708.7	708.4	708.2	707.9	707.4
127.5°	770.0	770.8	771.5	772.2	773.0	773.2	772.7	772.4	772.0	771.5	771.1
130°	812.9	813.6	814.4	815.1	815.9	816.2	816.2	816.2	816.2	816.2	815.7
132.5°	856.7	857.2	857.7	858.3	858.8	859.0	858.8	858.6	858.4	858.2	857.7
135°	914.5	916.0	917.5	918.9	920.5	921.2	921.2	921.2	921.2	921.2	920.8
137.5°	977.5	978.2	978.9	979.6	980.2	980.9	981.2	981.6	982.0	982.4	981.7
140°	1019.5	1019.9	1020.5	1021.0	1021.5	1021.7	1021.7	1021.7	1021.7	1021.7	1021.5
142.5°	1057.9	1058.3	1058.9	1059.4	1059.9	1060.0	1059.8	1059.6	1059.5	1059.2	1059.2
145°	1111.0	1112.1	1113.0	1114.0	1115.0	1115.6	1115.9	1116.1	1116.4	1116.6	1116.4
147.5°	1163.7	1164.9	1166.1	1167.3	1168.5	1169.0	1168.8	1168.6	1168.4	1168.2	1168.0
150°	1195.9	1196.9	1197.9	1198.9	1199.9	1200.3	1200.3	1200.3	1200.3	1200.3	1200.3
152.5°	1226.2	1226.8	1227.4	1228.0	1228.6	1229.1	1229.2	1229.4	1229.7	1229.9	1230.5
155°	1272.9	1272.9	1272.9	1272.9	1272.9	1272.8	1272.6	1272.3	1272.0	1271.9	1272.8
157.5°	1312.3	1311.8	1311.4	1310.9	1310.4	1310.2	1310.2	1310.1	1310.1	1310.0	1310.8
160°	1335.5	1335.2	1335.0	1334.7	1334.5	1334.2	1333.9	1333.8	1333.5	1333.3	1333.9
162.5°	1356.9	1356.2	1355.6	1355.0	1354.4	1353.9	1353.7	1353.4	1353.1	1352.9	1354.3
165°	1385.7	1385.0	1384.2	1383.5	1382.8	1382.2	1381.6	1381.1	1380.6	1380.1	1381.6
167.5°	1407.8	1406.8	1405.8	1404.7	1403.7	1403.2	1403.3	1403.3	1403.3	1403.3	1404.9
170°	1420.3	1419.1	1417.9	1416.6	1415.4	1414.9	1415.1	1415.4	1415.7	1415.8	1417.4
172.5°	1429.3	1428.2	1427.2	1426.2	1425.1	1424.6	1424.7	1424.7	1424.8	1424.8	1426.5
175°	1441.6	1440.3	1439.1	1437.9	1436.6	1435.8	1435.6	1435.4	1435.1	1434.9	1436.6
177.5°	1445.5	1444.6	1443.6	1442.6	1441.6	1441.1	1441.1	1441.1	1441.1	1441.1	1442.5
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1709.7	1712.2	1714.6	1715.7	1715.5	1715.2	1714.9	1714.7
5°	1700.6	1703.9	1707.3	1708.7	1708.1	1707.4	1706.8	1706.2
7.5°	1681.6	1684.3	1687.0	1688.2	1687.8	1687.4	1687.0	1686.7
10°	1665.7	1668.2	1670.6	1671.5	1670.9	1670.3	1669.7	1669.0
12.5°	1646.4	1649.1	1651.8	1652.7	1651.8	1651.0	1650.1	1649.2
15°	1609.5	1611.4	1613.2	1613.6	1612.7	1611.8	1610.8	1610.0
17.5°	1567.5	1568.7	1569.8	1570.0	1569.4	1568.8	1568.2	1567.6
20°	1536.2	1537.1	1538.0	1538.2	1537.6	1537.0	1536.4	1535.7
22.5°	1503.6	1505.2	1506.8	1507.1	1506.1	1504.9	1503.8	1502.7
25°	1449.8	1450.0	1450.4	1449.8	1448.6	1447.4	1446.2	1445.0
27.5°	1389.3	1388.6	1387.8	1386.7	1385.2	1383.7	1382.2	1380.6
30°	1347.6	1346.4	1345.2	1343.8	1342.3	1340.8	1339.3	1337.7
32.5°	1305.4	1303.9	1302.4	1301.0	1299.4	1297.9	1296.4	1294.9
35°	1238.6	1236.5	1234.3	1232.5	1231.0	1229.4	1227.9	1226.4
37.5°	1168.6	1166.3	1164.0	1161.8	1159.9	1157.8	1155.8	1153.7
40°	1119.9	1116.8	1113.8	1111.5	1110.0	1108.5	1106.9	1105.4
42.5°	1072.7	1069.2	1065.7	1063.3	1062.3	1061.3	1060.2	1059.2
45°	999.7	996.3	993.0	990.8	989.9	988.9	988.1	987.1
47.5°	929.0	925.2	921.4	918.3	916.0	913.7	911.4	909.0
50°	879.6	875.3	871.1	868.0	866.2	864.4	862.5	860.7
52.5°	828.9	825.1	821.3	818.3	816.0	813.6	811.3	809.0
55°	754.3	750.7	747.0	744.2	742.4	740.6	738.7	736.9
57.5°	679.7	676.1	672.7	670.0	668.3	666.5	664.7	663.0
60°	628.3	625.6	622.8	620.7	619.1	617.6	616.1	614.6
62.5°	578.2	575.7	573.2	571.2	569.6	568.1	566.6	565.1
65°	505.3	502.3	499.2	497.0	495.4	493.9	492.3	490.9
67.5°	430.2	427.3	424.4	422.7	422.2	421.8	421.4	420.9
70°	382.8	380.4	377.9	376.3	375.3	374.4	373.5	372.6
72.5°	335.4	333.5	331.5	330.0	329.2	328.2	327.3	326.4
75°	267.0	265.8	264.6	263.8	263.6	263.2	262.9	262.6
77.5°	202.2	201.8	201.5	200.9	200.1	199.3	198.5	197.7
80°	161.0	160.4	159.8	159.4	159.0	158.7	158.4	158.1
82.5°	124.1	123.7	123.4	123.0	122.7	122.4	122.1	121.8
85°	71.5	71.5	71.5	71.4	71.0	70.7	70.4	70.1
87.5°	31.9	32.2	32.5	32.7	32.8	32.9	33.0	33.1
90°	27.6	29.0	30.5	31.5	32.0	32.5	33.0	33.5
92.5°	46.0	46.9	47.8	48.4	48.6	49.0	49.2	49.6
95°	86.4	87.1	87.8	88.3	88.3	88.3	88.3	88.3
97.5°	136.0	136.9	137.8	138.3	138.3	138.3	138.3	138.3
100°	171.9	172.4	172.8	173.1	173.1	173.1	173.1	173.1
102.5°	209.7	210.4	211.1	211.5	211.8	212.0	212.2	212.4
105°	267.3	268.0	268.7	269.5	270.2	271.0	271.7	272.4
107.5°	329.4	330.1	330.9	331.1	331.1	331.1	331.1	331.0
110°	370.8	370.3	369.9	370.0	370.7	371.4	372.2	373.0





TEST NUMBER: P332858-935

CATALOG NUMBER: S124DIW-S1195D1340U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	415.4	415.3	415.2	415.3	415.3	415.5	415.7	415.9
115°	484.1	483.9	483.6	483.4	483.1	482.8	482.6	482.4
117.5°	550.2	549.3	548.5	547.8	547.3	546.8	546.3	545.8
120°	595.0	593.7	592.5	592.0	592.5	593.1	593.6	594.0
122.5°	640.3	639.6	638.7	637.8	636.9	636.0	635.2	634.2
125°	707.0	706.5	705.9	705.4	705.0	704.5	704.0	703.4
127.5°	770.6	770.1	769.6	769.1	768.8	768.4	767.9	767.6
130°	815.3	814.8	814.2	813.6	812.5	811.5	810.5	809.5
132.5°	857.2	856.8	856.3	855.8	855.4	855.0	854.6	854.2
135°	920.2	919.7	919.2	918.6	917.8	917.1	916.4	915.6
137.5°	981.1	980.5	979.8	979.6	979.7	979.9	980.0	980.2
140°	1021.2	1021.0	1020.7	1020.5	1020.2	1019.9	1019.7	1019.5
142.5°	1059.1	1059.1	1059.0	1058.9	1058.9	1058.9	1058.9	1058.8
145°	1116.1	1115.9	1115.6	1115.2	1114.4	1113.6	1112.9	1112.2
147.5°	1167.8	1167.6	1167.4	1167.2	1166.9	1166.7	1166.5	1166.2
150°	1200.3	1200.3	1200.3	1200.2	1200.0	1199.7	1199.5	1199.3
152.5°	1231.1	1231.7	1232.3	1232.2	1231.6	1230.9	1230.3	1229.6
155°	1273.8	1274.8	1275.8	1275.8	1274.8	1273.8	1272.8	1271.9
157.5°	1311.5	1312.3	1313.0	1312.9	1312.1	1311.2	1310.4	1309.6
160°	1334.7	1335.5	1336.2	1335.9	1334.7	1333.5	1332.2	1331.0
162.5°	1355.6	1356.9	1358.2	1358.3	1357.0	1355.8	1354.6	1353.3
165°	1383.1	1384.6	1386.1	1386.4	1385.3	1384.3	1383.4	1382.3
167.5°	1406.4	1407.8	1409.3	1409.3	1407.7	1406.2	1404.7	1403.2
170°	1418.8	1420.3	1421.9	1421.7	1420.0	1418.2	1416.5	1414.8
172.5°	1428.1	1429.9	1431.6	1431.5	1429.8	1428.1	1426.3	1424.6
175°	1438.3	1440.0	1441.8	1441.8	1440.0	1438.3	1436.6	1434.9
177.5°	1443.9	1445.3	1446.7	1446.6	1445.0	1443.4	1441.8	1440.2
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8

(END OF REPORT)