

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: P331607-840

Luminaire Tested: **S122DIW-S1005D1240U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331607-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D1240U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9102.2 lumens
Efficiency: N/A
Efficacy: 119.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

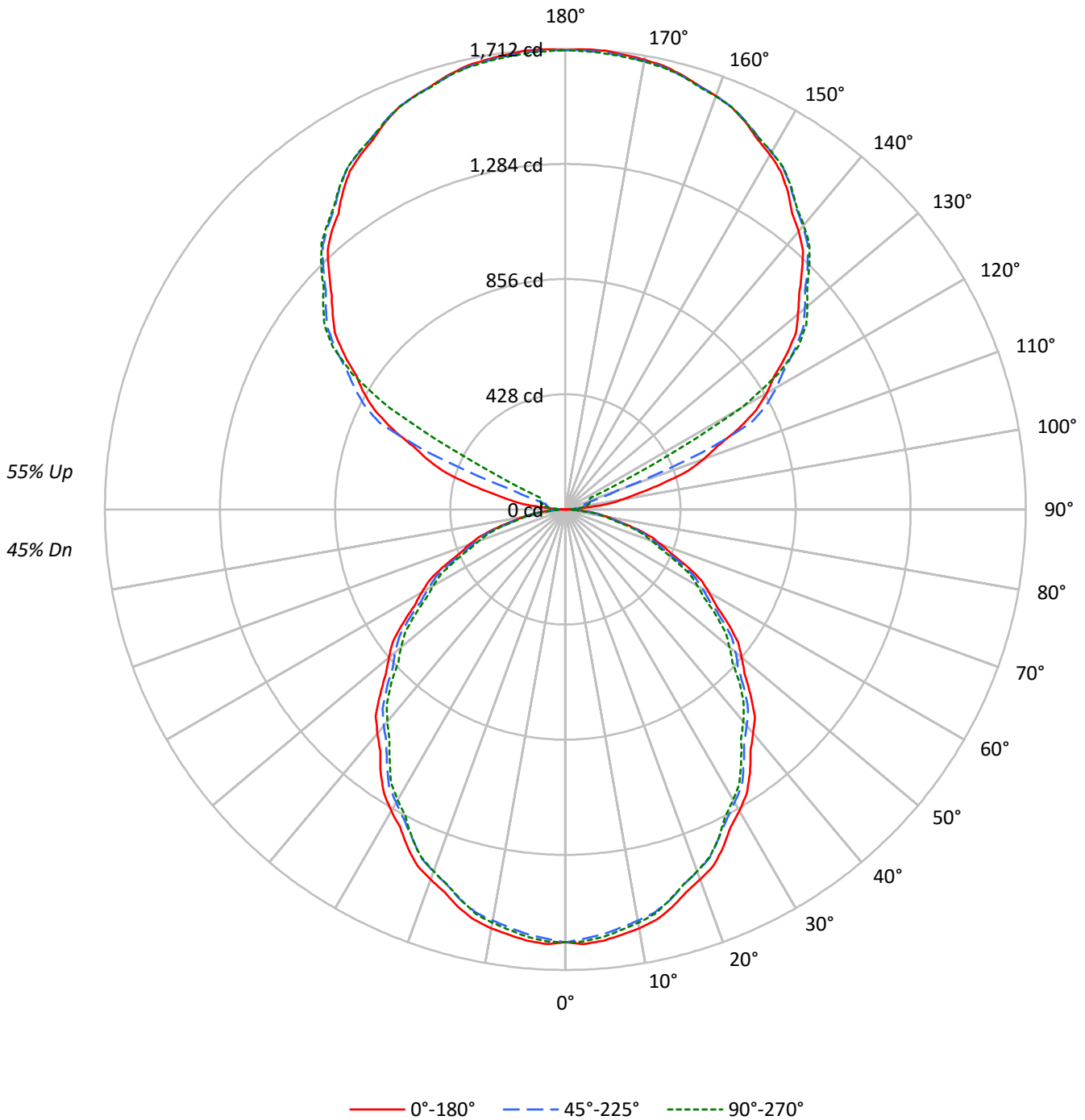
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	52	52	52	45
1	97	92	88	85	88	85	81	79	71	68	66	58	56	54	46	44	44	38
2	88	81	75	69	80	74	69	64	62	58	55	51	48	45	40	38	37	32
3	80	71	64	58	73	65	59	54	55	50	46	45	41	38	36	33	31	27
4	73	63	55	49	67	58	51	46	48	43	39	40	36	33	32	29	27	23
5	67	56	48	42	61	52	44	39	43	38	34	36	32	29	29	26	23	20
6	62	50	42	36	57	46	39	34	39	34	29	32	28	25	26	23	21	18
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	24	21	18	16
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16	14
9	49	37	30	25	45	35	28	23	30	24	21	25	21	18	20	17	15	13
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25987	25987	25987
5°	26086	25710	25861
10°	25932	25450	25576
15°	25611	25120	25095
20°	25156	24624	24598
25°	24704	24015	24015
30°	24121	23457	23256
35°	23580	22787	22450
40°	22898	22118	21692
45°	22229	21450	20922
50°	21499	20760	20022
55°	20738	19952	19212
60°	19888	18991	18290
65°	18980	18032	17207
70°	17825	16877	16074
75°	16220	15540	15159
80°	14393	13966	13240
85°	11745	11189	10022



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.3	1.7
10°-20°	425.9	4.7
20°-30°	626.0	6.9
30°-40°	727.1	8.0
40°-50°	726.3	8.0
50°-60°	633.4	7.0
60°-70°	468.3	5.1
70°-80°	265.3	2.9
80°-90°	75.5	0.8
90°-100°	56.9	0.6
100°-110°	208.8	2.3
110°-120°	558.2	6.1
120°-130°	921.5	10.1
130°-140°	980.0	10.8
140°-150°	910.9	10.0
150°-160°	732.3	8.0
160°-170°	471.9	5.2
170°-180°	162.4	1.8
0°-30°	1203.2	13.2
0°-40°	1930.3	21.2
0°-60°	3290.0	36.1
0°-90°	4099.1	45.0
90°-120°	824.0	9.1
90°-150°	3636.4	40.0
90°-180°	5003.0	55.0
0°-180°	9102.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1610	1610	1610	1610	1610	
5°	1610	1603	1586	1598	1596	153
15°	1532	1522	1503	1508	1501	431
25°	1387	1374	1348	1351	1348	638
35°	1196	1180	1156	1147	1139	747
45°	974	962	939	923	916	751
55°	737	727	709	691	682	658
65°	497	487	472	458	450	491
75°	260	257	249	241	243	278
85°	63	62	60	56	54	73
90°	1	15	25	31	33	7
95°	80	42	48	54	53	98
105°	376	392	75	88	94	401
115°	710	732	762	217	101	699
125°	1004	1021	1044	1052	1056	895
135°	1243	1262	1274	1285	1284	959
145°	1442	1442	1461	1469	1464	901
155°	1587	1578	1591	1598	1589	731
165°	1673	1666	1669	1677	1669	472
175°	1711	1703	1705	1712	1701	163
180°	1707	1707	1707	1707	1707	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1617.0	1615.6	1614.3	1612.9	1611.4	1609.3	1606.3	1603.3	1600.2	1597.2	1599.9
5°	1609.5	1608.2	1606.8	1605.4	1604.1	1601.4	1597.7	1593.9	1590.1	1586.3	1589.1
7.5°	1595.3	1593.2	1591.0	1588.9	1586.8	1583.8	1579.9	1576.1	1572.3	1568.4	1571.1
10°	1581.7	1579.3	1576.9	1574.5	1572.1	1568.8	1564.7	1560.5	1556.4	1552.3	1555.1
12.5°	1563.2	1560.9	1558.8	1556.7	1554.6	1551.5	1547.3	1543.2	1539.1	1535.0	1536.9
15°	1532.2	1530.1	1528.0	1526.0	1523.9	1520.7	1516.2	1511.7	1507.2	1502.8	1504.2
17.5°	1492.6	1490.5	1488.4	1486.3	1484.3	1481.0	1476.4	1471.9	1467.3	1462.9	1464.4
20°	1464.1	1462.0	1460.0	1457.8	1455.8	1452.4	1447.5	1442.8	1437.9	1433.1	1434.1
22.5°	1435.6	1432.7	1429.9	1426.9	1424.0	1420.4	1415.8	1411.3	1406.7	1402.2	1402.4
25°	1386.7	1383.9	1381.2	1378.5	1375.7	1371.4	1365.5	1359.7	1353.8	1348.0	1348.7
27.5°	1331.0	1328.5	1326.1	1323.5	1321.1	1317.6	1312.9	1308.3	1303.7	1299.1	1298.1
30°	1293.8	1291.1	1288.3	1285.6	1282.8	1278.9	1273.7	1268.6	1263.4	1258.2	1257.2
32.5°	1254.3	1252.0	1249.8	1247.6	1245.4	1241.6	1236.2	1230.7	1225.3	1219.8	1218.0
35°	1196.3	1192.9	1189.4	1186.0	1182.6	1178.1	1172.6	1167.1	1161.6	1156.1	1154.1
37.5°	1131.0	1128.0	1125.0	1122.0	1118.9	1114.7	1109.1	1103.7	1098.1	1092.7	1090.0
40°	1086.4	1083.7	1081.0	1078.2	1075.4	1071.4	1065.8	1060.4	1054.8	1049.4	1046.2
42.5°	1043.1	1040.4	1037.6	1034.9	1032.1	1027.9	1022.5	1016.9	1011.5	1005.9	1002.6
45°	973.5	971.1	968.7	966.2	963.8	960.1	954.9	949.8	944.6	939.4	935.6
47.5°	904.1	901.9	899.6	897.4	895.0	891.2	885.9	880.5	875.1	869.8	865.8
50°	855.9	854.1	852.4	850.7	849.0	845.7	840.9	836.1	831.2	826.5	821.6
52.5°	808.8	806.6	804.3	802.0	799.7	796.3	791.7	787.2	782.7	778.2	774.2
55°	736.7	734.6	732.6	730.5	728.4	725.3	721.2	717.1	713.0	708.8	704.7
57.5°	664.3	662.6	661.0	659.3	657.6	654.6	650.1	645.5	641.0	636.4	632.4
60°	615.9	614.6	613.2	611.9	610.5	607.3	602.6	597.7	592.9	588.1	584.3
62.5°	569.0	566.7	564.5	562.3	560.1	557.1	553.4	549.8	546.0	542.3	538.8
65°	496.8	494.7	492.7	490.6	488.6	485.7	482.3	478.9	475.4	472.0	469.0
67.5°	423.4	421.8	420.1	418.5	416.9	414.4	411.3	408.3	405.2	402.1	399.7
70°	377.6	376.3	374.9	373.5	372.1	369.9	366.8	363.7	360.6	357.5	355.1
72.5°	330.5	329.2	327.8	326.5	325.1	323.4	321.4	319.4	317.4	315.4	313.0
75°	260.0	259.3	258.6	257.9	257.2	256.0	254.3	252.6	250.9	249.1	247.1
77.5°	196.8	195.7	194.5	193.4	192.2	191.3	190.6	189.9	189.1	188.5	187.4
80°	154.8	154.4	154.1	153.7	153.4	152.9	152.2	151.5	150.8	150.2	149.1
82.5°	115.1	115.1	115.0	114.9	114.8	114.6	114.2	113.8	113.4	113.0	111.7
85°	63.4	63.1	62.8	62.4	62.1	61.7	61.4	61.0	60.7	60.4	59.3
87.5°	22.5	22.6	22.6	22.7	22.7	22.7	22.6	22.5	22.4	22.3	21.7
90°	1.2	4.2	7.3	10.3	13.3	16.0	18.1	20.3	22.5	24.7	26.1
92.5°	24.9	24.6	24.4	24.1	23.8	24.2	25.3	26.5	27.6	28.7	29.4
95°	80.3	71.2	62.2	53.1	44.0	40.5	42.4	44.3	46.3	48.2	49.6
97.5°	159.4	133.8	108.3	82.8	57.3	46.7	51.1	55.5	60.1	64.5	65.5
100°	218.6	181.1	143.4	105.8	68.3	51.7	56.5	61.1	65.7	70.4	72.6
102.5°	283.9	275.9	267.9	260.0	252.1	228.5	189.5	150.5	111.4	72.4	75.2
105°	375.6	383.7	392.0	400.2	408.5	375.2	300.2	225.2	150.3	75.3	78.4
107.5°	480.1	486.7	493.3	500.0	506.6	465.0	375.2	285.3	195.4	105.5	102.4
110°	547.2	553.0	558.8	564.5	570.3	533.5	454.2	374.9	295.5	216.2	188.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	610.5	615.6	620.7	625.8	631.0	623.7	604.1	584.5	564.9	545.2	445.1
115°	710.3	715.0	719.6	724.3	729.0	734.8	741.6	748.5	755.4	762.2	635.1
117.5°	799.5	804.8	809.9	815.2	820.4	825.4	830.0	834.8	839.5	844.2	813.4
120°	864.7	868.9	872.9	877.1	881.2	885.8	890.7	895.6	900.6	905.4	908.8
122.5°	920.1	924.4	928.8	933.1	937.5	942.3	947.7	953.0	958.5	963.8	965.7
125°	1004.3	1007.8	1011.5	1015.0	1018.5	1023.0	1028.2	1033.4	1038.6	1043.9	1045.8
127.5°	1080.7	1084.6	1088.5	1092.6	1096.5	1100.4	1104.3	1108.2	1112.1	1116.0	1118.8
130°	1129.1	1133.5	1137.9	1142.3	1146.7	1150.3	1153.4	1156.4	1159.4	1162.5	1165.5
132.5°	1178.5	1182.2	1186.0	1189.7	1193.5	1196.8	1199.8	1202.9	1205.9	1208.9	1211.4
135°	1242.7	1247.1	1251.5	1255.9	1260.3	1263.7	1266.2	1268.7	1271.1	1273.6	1276.4
137.5°	1307.7	1310.8	1313.8	1317.0	1320.0	1322.9	1325.8	1328.6	1331.3	1334.1	1336.9
140°	1350.2	1352.4	1354.6	1356.8	1359.0	1361.6	1364.6	1367.7	1370.7	1373.7	1376.1
142.5°	1385.8	1387.8	1389.8	1391.7	1393.7	1396.4	1399.9	1403.3	1406.7	1410.3	1412.5
145°	1441.6	1441.4	1441.1	1440.8	1440.6	1442.7	1447.4	1452.1	1456.7	1461.4	1463.3
147.5°	1490.3	1489.2	1488.2	1487.1	1486.1	1487.9	1492.5	1497.1	1501.8	1506.3	1507.8
150°	1522.0	1520.0	1518.1	1516.1	1514.2	1515.5	1519.8	1524.3	1528.6	1533.1	1534.7
152.5°	1548.6	1546.5	1544.3	1542.2	1540.0	1541.1	1545.2	1549.4	1553.6	1557.7	1559.4
155°	1587.4	1584.9	1582.5	1579.9	1577.5	1577.9	1581.2	1584.5	1587.8	1591.1	1592.8
157.5°	1617.8	1615.7	1613.6	1611.5	1609.4	1609.5	1611.8	1614.2	1616.5	1618.8	1620.6
160°	1635.6	1634.0	1632.2	1630.6	1629.0	1629.0	1630.6	1632.2	1634.0	1635.6	1637.2
162.5°	1651.4	1649.7	1648.1	1646.5	1644.8	1644.7	1646.1	1647.5	1649.0	1650.4	1652.2
165°	1672.6	1671.0	1669.3	1667.7	1666.1	1665.7	1666.5	1667.3	1668.1	1668.9	1670.8
167.5°	1688.5	1686.8	1685.2	1683.5	1681.8	1681.4	1682.2	1682.9	1683.7	1684.5	1686.4
170°	1697.4	1695.7	1694.0	1692.4	1690.7	1690.2	1690.7	1691.3	1691.8	1692.4	1694.4
172.5°	1703.2	1701.6	1700.0	1698.3	1696.7	1696.2	1696.7	1697.2	1697.8	1698.3	1700.2
175°	1710.9	1709.0	1707.1	1705.2	1703.2	1702.5	1703.1	1703.6	1704.2	1704.8	1706.7
177.5°	1712.1	1710.6	1709.1	1707.6	1706.0	1705.4	1705.6	1705.8	1706.0	1706.3	1707.8
180°	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1602.7	1605.4	1608.2	1609.3	1608.7	1608.2	1607.6	1607.1
5°	1591.9	1594.6	1597.3	1598.4	1597.7	1597.0	1596.3	1595.6
7.5°	1573.9	1576.6	1579.4	1580.4	1579.6	1578.9	1578.1	1577.4
10°	1557.8	1560.5	1563.3	1564.2	1563.2	1562.1	1561.0	1560.0
12.5°	1538.8	1540.8	1542.7	1543.3	1542.5	1541.8	1541.0	1540.2
15°	1505.5	1506.9	1508.2	1508.1	1506.4	1504.7	1503.0	1501.3
17.5°	1466.0	1467.6	1469.2	1469.2	1467.4	1465.8	1464.2	1462.5
20°	1435.2	1436.2	1437.2	1437.0	1435.7	1434.3	1433.0	1431.6
22.5°	1402.6	1402.8	1403.0	1402.7	1401.9	1401.1	1400.2	1399.4
25°	1349.4	1350.1	1350.8	1350.8	1350.1	1349.4	1348.7	1348.0
27.5°	1297.1	1296.0	1294.9	1293.6	1292.0	1290.3	1288.7	1287.1
30°	1256.2	1255.2	1254.2	1252.9	1251.5	1250.1	1248.8	1247.4
32.5°	1216.2	1214.3	1212.4	1210.8	1209.4	1208.1	1206.7	1205.3
35°	1152.0	1149.9	1147.8	1146.0	1144.3	1142.6	1140.7	1139.0
37.5°	1087.5	1085.0	1082.5	1080.4	1078.7	1077.0	1075.4	1073.8
40°	1043.1	1040.1	1036.9	1034.7	1033.3	1032.0	1030.6	1029.2
42.5°	999.3	995.8	992.5	989.9	988.0	986.0	984.1	982.1
45°	931.9	928.1	924.3	921.7	920.3	919.0	917.6	916.3
47.5°	861.8	857.8	853.8	850.8	848.8	846.9	844.9	842.8
50°	816.8	812.0	807.2	804.0	802.2	800.5	798.8	797.1
52.5°	770.2	766.2	762.2	759.1	756.8	754.6	752.2	750.0
55°	700.5	696.4	692.4	689.4	687.7	686.0	684.3	682.5
57.5°	628.2	624.2	620.2	617.4	616.2	614.9	613.6	612.3
60°	580.6	576.7	573.0	570.6	569.6	568.6	567.4	566.4
62.5°	535.3	531.8	528.3	525.8	524.5	523.2	521.9	520.6
65°	465.9	462.7	459.7	457.3	455.6	453.8	452.1	450.4
67.5°	397.3	394.9	392.4	390.5	389.2	387.8	386.5	385.1
70°	352.6	350.3	347.9	346.0	344.6	343.3	341.8	340.5
72.5°	310.6	308.2	305.8	304.1	303.0	301.8	300.7	299.6
75°	245.1	243.0	241.0	240.2	241.0	241.6	242.3	243.0
77.5°	186.4	185.4	184.4	183.4	182.4	181.5	180.5	179.6
80°	148.0	147.0	146.0	145.1	144.4	143.8	143.1	142.4
82.5°	110.4	109.1	107.8	107.0	106.8	106.7	106.6	106.4
85°	58.3	57.3	56.2	55.5	55.2	54.8	54.5	54.1
87.5°	21.2	20.6	20.1	19.7	19.6	19.4	19.2	19.1
90°	27.5	28.8	30.2	31.2	31.7	32.2	32.8	33.3
92.5°	30.1	30.8	31.5	32.0	32.3	32.7	33.0	33.3
95°	50.9	52.3	53.6	54.2	53.9	53.6	53.4	53.1
97.5°	66.7	67.8	68.9	69.6	69.9	70.3	70.6	70.9
100°	74.8	77.0	79.2	80.6	81.1	81.7	82.2	82.8
102.5°	78.1	81.0	83.8	85.6	86.3	87.2	88.0	88.7
105°	81.4	84.4	87.5	89.5	90.6	91.7	92.8	93.9
107.5°	99.4	96.2	93.2	92.2	93.3	94.4	95.5	96.6
110°	161.3	133.8	106.3	93.2	94.3	95.4	96.5	97.6



TEST NUMBER: P331607-840

CATALOG NUMBER: S122DIW-S1005D1240U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	345.0	244.9	144.7	95.0	95.9	96.8	97.7	98.6
115°	508.0	380.9	253.8	180.4	160.6	140.9	121.1	101.3
117.5°	782.7	751.9	721.2	673.4	608.4	543.5	478.6	413.5
120°	912.1	915.3	918.7	901.8	864.7	827.7	790.6	753.6
122.5°	967.8	969.8	971.7	969.1	961.9	954.7	947.6	940.3
125°	1047.7	1049.7	1051.6	1052.9	1053.7	1054.6	1055.4	1056.2
127.5°	1121.6	1124.4	1127.2	1128.7	1128.8	1129.0	1129.1	1129.3
130°	1168.5	1171.5	1174.5	1175.9	1175.6	1175.4	1175.1	1174.8
132.5°	1214.1	1216.6	1219.2	1220.3	1220.1	1219.8	1219.5	1219.3
135°	1279.1	1281.8	1284.6	1285.7	1285.2	1284.6	1284.0	1283.5
137.5°	1339.5	1342.2	1344.9	1345.7	1344.8	1343.9	1343.0	1342.0
140°	1378.7	1381.1	1383.6	1384.1	1382.7	1381.4	1380.0	1378.7
142.5°	1414.7	1417.0	1419.3	1419.7	1418.4	1416.9	1415.5	1414.2
145°	1465.2	1467.1	1469.1	1469.4	1467.9	1466.6	1465.2	1463.9
147.5°	1509.2	1510.7	1512.1	1512.2	1511.1	1509.8	1508.7	1507.6
150°	1536.3	1538.0	1539.6	1539.7	1538.4	1537.0	1535.6	1534.3
152.5°	1561.0	1562.7	1564.4	1564.3	1562.5	1560.6	1558.8	1557.0
155°	1594.4	1596.1	1597.7	1597.4	1595.2	1593.1	1590.8	1588.6
157.5°	1622.6	1624.4	1626.3	1626.1	1624.0	1621.8	1619.7	1617.5
160°	1638.9	1640.5	1642.1	1642.0	1640.1	1638.2	1636.3	1634.4
162.5°	1654.2	1656.0	1657.9	1657.6	1655.3	1652.8	1650.5	1648.2
165°	1672.7	1674.7	1676.6	1676.6	1674.7	1672.7	1670.8	1668.9
167.5°	1688.3	1690.2	1692.1	1691.9	1689.4	1687.0	1684.5	1682.0
170°	1696.3	1698.2	1700.1	1699.8	1697.4	1694.9	1692.4	1689.9
172.5°	1702.1	1704.0	1706.0	1705.8	1703.2	1700.8	1698.3	1695.9
175°	1708.6	1710.5	1712.4	1712.0	1709.3	1706.6	1703.7	1701.0
177.5°	1709.3	1710.8	1712.4	1712.1	1710.2	1708.2	1706.3	1704.2
180°	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2

(END OF REPORT)