

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: P332351-840

Luminaire Tested: **S123RDIP-S1000D1025U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332351-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D1025U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7969.8 lumens
Efficiency: N/A
Efficacy: 131.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

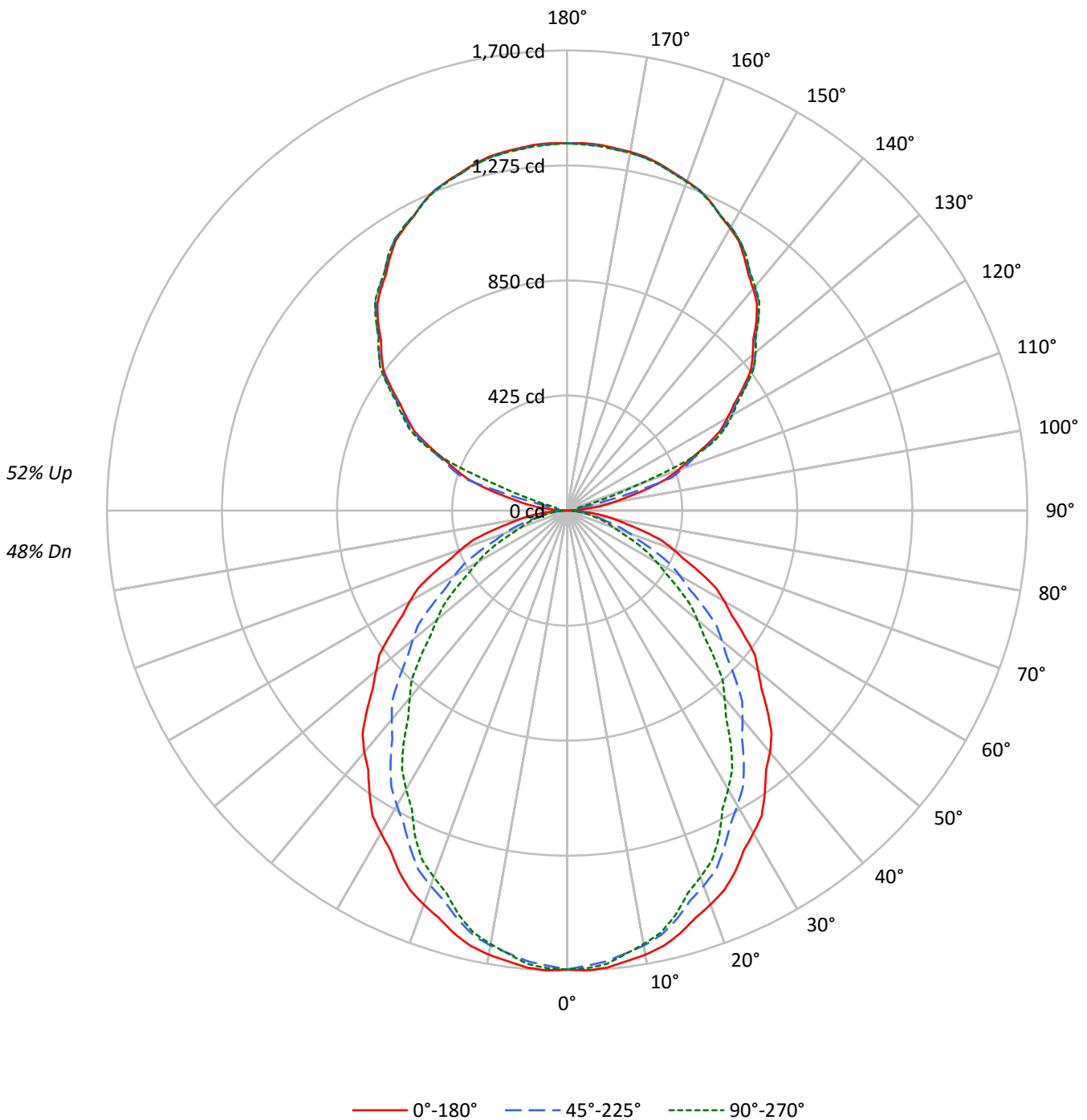
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48					48			
1	98	93	90	86	90	86	83	80	73	70	68	60	58	57	49	47	47	41					41			
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35					35			
3	82	72	65	59	75	67	61	56	57	52	48	47	44	41	38	36	34	30					30			
4	75	64	56	51	69	59	53	47	51	45	41	42	38	35	35	32	30	26					26			
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23					23			
6	63	51	44	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20					20			
7	59	47	39	33	54	43	36	31	37	32	28	31	27	24	26	23	21	18					18			
8	54	42	35	29	50	39	33	28	34	29	25	29	25	22	24	21	18	16					16			
9	51	39	31	26	47	36	29	25	31	26	22	27	22	19	22	19	17	15					15			
10	47	35	28	24	44	33	27	22	29	24	20	25	20	18	21	17	15	13					13			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18243	18243	18243
5°	18312	18058	18163
10°	18208	17832	17772
15°	18013	17415	17231
20°	17743	16893	16501
25°	17467	16308	15785
30°	17100	15632	14777
35°	16724	14954	13853
40°	16378	14155	12708
45°	15923	13370	11676
50°	15421	12476	10518
55°	14910	11453	9439
60°	14441	10357	8254
65°	13827	9172	7070
70°	13064	7701	5712
75°	11948	6059	5373
80°	10649	5362	4940
85°	8991	4755	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.1	2.0
10°-20°	442.8	5.6
20°-30°	637.6	8.0
30°-40°	718.2	9.0
40°-50°	687.1	8.6
50°-60°	562.6	7.1
60°-70°	379.6	4.8
70°-80°	191.0	2.4
80°-90°	54.3	0.7
90°-100°	49.3	0.6
100°-110°	235.1	2.9
110°-120°	564.7	7.1
120°-130°	719.1	9.0
130°-140°	768.3	9.6
140°-150°	718.5	9.0
150°-160°	579.5	7.3
160°-170°	374.0	4.7
170°-180°	128.9	1.6
0°-30°	1239.5	15.6
0°-40°	1957.7	24.6
0°-60°	3207.4	40.2
0°-90°	3832.3	48.1
90°-120°	849.1	10.7
90°-150°	3055.0	38.3
90°-180°	4137.0	51.9
0°-180°	7969.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1695	1695	1695	1695	1695	
5°	1695	1687	1671	1683	1681	161
15°	1616	1600	1563	1556	1546	455
25°	1471	1435	1373	1345	1329	676
35°	1273	1221	1138	1081	1054	796
45°	1046	982	878	802	767	807
55°	794	724	610	533	503	712
65°	543	466	360	296	278	537
75°	287	221	146	133	129	306
85°	73	44	38	36	36	82
90°	1	11	24	28	30	6
95°	62	23	31	38	38	76
105°	300	306	221	52	44	318
115°	564	570	579	588	593	556
125°	794	802	806	808	810	709
135°	989	995	999	1002	999	761
145°	1141	1148	1150	1152	1152	714
155°	1257	1255	1256	1260	1255	579
165°	1326	1323	1322	1329	1322	374
175°	1357	1352	1353	1359	1352	129
180°	1357	1357	1357	1357	1357	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1700.2	1699.2	1698.3	1697.3	1696.3	1694.4	1691.4	1688.5	1685.6	1682.6	1685.3
5°	1694.8	1693.1	1691.6	1690.1	1688.6	1686.0	1682.3	1678.7	1675.1	1671.3	1674.1
7.5°	1679.0	1677.4	1675.8	1674.1	1672.4	1669.2	1664.5	1659.7	1655.0	1650.2	1651.7
10°	1665.9	1663.8	1661.5	1659.4	1657.3	1653.5	1648.0	1642.4	1637.0	1631.5	1631.8
12.5°	1647.2	1644.8	1642.4	1640.0	1637.6	1633.1	1626.4	1619.6	1613.0	1606.2	1606.0
15°	1616.4	1613.1	1609.6	1606.3	1603.0	1597.0	1588.4	1579.8	1571.3	1562.8	1561.3
17.5°	1577.6	1573.7	1569.8	1565.9	1562.0	1554.6	1543.7	1532.9	1522.0	1511.1	1507.8
20°	1549.0	1544.2	1539.2	1534.4	1529.4	1521.3	1509.6	1498.0	1486.4	1474.8	1470.9
22.5°	1517.1	1511.6	1505.9	1500.3	1494.7	1485.7	1473.3	1461.0	1448.7	1436.3	1431.4
25°	1470.7	1463.1	1455.4	1447.7	1440.2	1429.3	1415.2	1401.2	1387.2	1373.1	1366.7
27.5°	1414.3	1405.9	1397.5	1389.1	1380.6	1368.6	1352.9	1337.3	1321.6	1306.1	1297.1
30°	1375.8	1366.7	1357.6	1348.4	1339.2	1326.1	1309.0	1291.8	1274.8	1257.7	1247.3
32.5°	1337.4	1327.0	1316.6	1306.2	1295.9	1281.6	1263.5	1245.5	1227.3	1209.2	1197.9
35°	1272.7	1261.7	1250.7	1239.8	1228.8	1213.8	1194.9	1175.9	1157.0	1138.0	1124.9
37.5°	1207.3	1195.1	1182.9	1170.6	1158.4	1142.3	1122.1	1101.8	1081.6	1061.4	1046.4
40°	1165.6	1152.2	1138.6	1125.2	1111.8	1094.2	1072.6	1050.9	1029.2	1007.4	991.6
42.5°	1118.2	1104.8	1091.4	1077.9	1064.5	1046.6	1024.2	1001.8	979.4	956.9	939.6
45°	1046.0	1032.2	1018.4	1004.7	991.0	972.4	948.9	925.3	901.8	878.3	860.9
47.5°	973.7	958.6	943.5	928.4	913.3	894.0	870.5	847.0	823.4	799.9	781.0
50°	920.9	906.6	892.2	877.9	863.4	843.9	819.2	794.5	769.7	745.0	726.0
52.5°	873.6	858.1	842.4	826.9	811.3	791.2	766.8	742.3	717.8	693.3	673.6
55°	794.5	779.5	764.5	749.5	734.6	714.1	688.1	662.2	636.2	610.3	592.6
57.5°	721.3	705.0	688.7	672.4	656.1	634.9	608.7	582.7	556.6	530.6	513.8
60°	670.8	654.0	637.1	620.4	603.5	582.5	557.1	531.8	506.4	481.1	464.5
62.5°	620.2	603.4	586.5	569.8	553.0	531.9	506.5	481.2	455.9	430.5	415.0
65°	542.9	526.1	509.3	492.5	475.7	455.4	431.6	407.8	384.0	360.1	345.2
67.5°	465.6	448.7	431.7	414.8	397.8	377.8	355.0	332.1	309.3	286.4	275.3
70°	415.1	398.6	382.1	365.6	349.1	330.2	308.8	287.4	266.0	244.7	234.0
72.5°	364.5	348.3	332.0	315.8	299.5	281.7	262.3	242.9	223.4	204.0	195.2
75°	287.3	272.6	257.9	243.3	228.6	212.9	196.1	179.3	162.5	145.7	142.6
77.5°	216.9	203.6	190.4	177.1	163.9	151.8	141.0	130.2	119.4	108.6	106.9
80°	171.8	159.3	146.7	134.2	121.7	112.3	105.8	99.4	93.0	86.5	85.6
82.5°	129.0	118.2	107.3	96.4	85.6	78.8	75.7	72.8	69.8	66.8	65.8
85°	72.8	66.1	59.4	52.7	45.9	42.1	41.2	40.3	39.4	38.5	37.9
87.5°	26.6	24.3	22.1	19.9	17.7	16.8	17.4	18.0	18.6	19.1	19.1
90°	1.0	3.2	5.5	7.8	10.0	12.5	15.5	18.4	21.3	24.2	25.0
92.5°	18.8	18.1	17.5	16.9	16.3	17.1	19.2	21.4	23.6	25.9	27.3
95°	61.5	52.3	43.1	33.9	24.7	21.4	23.8	26.4	28.8	31.2	32.8
97.5°	123.6	119.5	115.3	111.2	107.0	96.9	80.9	64.7	48.6	32.4	34.2
100°	170.4	174.8	179.4	183.8	188.2	173.0	138.0	103.1	68.2	33.2	35.0
102.5°	223.6	226.8	230.0	233.3	236.5	219.0	180.9	142.7	104.5	66.3	60.8
105°	300.3	302.9	305.3	307.8	310.2	301.3	281.2	261.1	241.0	220.8	181.1
107.5°	381.4	383.4	385.4	387.4	389.3	391.9	395.1	398.3	401.4	404.7	375.6
110°	435.5	437.3	439.0	440.8	442.6	444.7	447.2	449.7	452.1	454.6	447.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	487.1	488.7	490.3	491.9	493.5	495.5	498.1	500.5	502.9	505.4	505.5
115°	563.5	564.8	566.1	567.5	568.9	570.6	572.5	574.5	576.5	578.6	580.9
117.5°	637.4	639.1	640.8	642.5	644.1	645.4	646.4	647.5	648.5	649.5	651.4
120°	683.4	685.4	687.4	689.4	691.5	692.9	693.5	694.2	694.9	695.5	697.3
122.5°	730.2	731.8	733.5	735.2	736.8	738.1	738.9	739.8	740.6	741.4	742.8
125°	794.3	796.1	797.9	799.7	801.4	802.8	803.8	804.6	805.5	806.4	806.9
127.5°	856.4	858.2	860.0	861.7	863.5	864.9	866.1	867.2	868.2	869.3	870.0
130°	895.1	896.9	898.7	900.5	902.3	903.6	904.5	905.4	906.3	907.2	908.1
132.5°	932.2	934.0	935.7	937.6	939.4	940.6	941.3	942.0	942.8	943.5	944.4
135°	988.9	990.2	991.5	992.9	994.2	995.3	996.2	997.1	998.0	999.0	999.6
137.5°	1037.2	1038.9	1040.7	1042.4	1044.0	1045.1	1045.6	1046.1	1046.6	1047.1	1048.1
140°	1069.4	1070.9	1072.2	1073.5	1074.9	1075.9	1076.5	1077.2	1077.9	1078.5	1079.4
142.5°	1099.3	1100.7	1102.0	1103.4	1104.7	1105.7	1106.4	1107.0	1107.7	1108.4	1109.1
145°	1141.0	1142.7	1144.2	1145.8	1147.3	1148.3	1148.8	1149.2	1149.6	1150.1	1150.5
147.5°	1180.3	1181.4	1182.5	1183.5	1184.5	1185.2	1185.7	1186.1	1186.6	1187.0	1187.5
150°	1204.6	1205.3	1205.9	1206.6	1207.2	1207.8	1208.2	1208.7	1209.1	1209.6	1210.0
152.5°	1226.3	1226.7	1227.0	1227.3	1227.6	1227.9	1228.1	1228.4	1228.7	1228.9	1229.7
155°	1257.0	1256.5	1256.1	1255.7	1255.2	1255.1	1255.3	1255.5	1255.8	1256.0	1257.1
157.5°	1280.7	1280.7	1280.7	1280.6	1280.6	1280.4	1280.2	1280.0	1279.8	1279.5	1280.9
160°	1295.3	1295.1	1294.8	1294.6	1294.3	1294.1	1293.9	1293.7	1293.4	1293.2	1294.6
162.5°	1309.0	1308.4	1307.8	1307.3	1306.7	1306.3	1306.1	1305.8	1305.6	1305.4	1306.9
165°	1325.5	1324.8	1324.1	1323.5	1322.8	1322.4	1322.1	1321.9	1321.7	1321.5	1323.2
167.5°	1338.4	1337.6	1336.7	1335.7	1334.8	1334.3	1334.3	1334.3	1334.3	1334.3	1336.2
170°	1345.6	1344.7	1343.9	1343.0	1342.1	1341.6	1341.6	1341.6	1341.6	1341.6	1343.4
172.5°	1350.5	1349.5	1348.4	1347.3	1346.3	1345.7	1345.9	1346.2	1346.3	1346.5	1348.3
175°	1356.8	1355.6	1354.5	1353.4	1352.3	1351.8	1352.0	1352.3	1352.5	1352.7	1354.3
177.5°	1358.4	1357.5	1356.6	1355.6	1354.8	1354.4	1354.6	1354.8	1354.9	1355.1	1356.6
180°	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1688.0	1690.7	1693.3	1694.5	1693.9	1693.5	1693.0	1692.5
5°	1676.9	1679.6	1682.3	1683.4	1682.8	1682.2	1681.6	1681.0
7.5°	1653.3	1654.8	1656.3	1656.6	1655.5	1654.5	1653.5	1652.3
10°	1632.1	1632.4	1632.7	1632.1	1630.5	1629.0	1627.5	1626.0
12.5°	1605.8	1605.7	1605.5	1604.5	1602.8	1600.9	1599.2	1597.4
15°	1559.7	1558.2	1556.7	1554.8	1552.7	1550.5	1548.4	1546.3
17.5°	1504.6	1501.4	1498.1	1494.9	1491.8	1488.5	1485.4	1482.2
20°	1466.8	1462.9	1459.0	1455.1	1451.5	1447.7	1444.1	1440.5
22.5°	1426.4	1421.5	1416.5	1412.3	1409.0	1405.5	1402.1	1398.7
25°	1360.3	1353.8	1347.5	1342.5	1339.2	1335.8	1332.5	1329.1
27.5°	1288.2	1279.3	1270.3	1263.3	1258.2	1253.0	1247.9	1242.8
30°	1236.9	1226.5	1216.1	1208.5	1203.6	1198.7	1193.8	1188.9
32.5°	1186.5	1175.2	1163.8	1155.6	1150.4	1145.3	1140.1	1135.0
35°	1111.8	1098.6	1085.5	1076.2	1070.8	1065.2	1059.8	1054.2
37.5°	1031.6	1016.6	1001.8	990.9	984.1	977.3	970.6	963.8
40°	975.7	959.9	943.9	932.5	925.4	918.5	911.4	904.4
42.5°	922.2	904.8	887.5	875.7	869.4	863.1	856.8	850.5
45°	843.4	826.1	808.6	796.3	788.9	781.6	774.3	767.0
47.5°	762.0	743.2	724.2	711.4	704.9	698.4	691.9	685.3
50°	707.1	688.1	669.2	656.2	649.2	642.2	635.2	628.1
52.5°	654.0	634.3	614.6	601.6	595.3	589.1	582.8	576.4
55°	574.8	557.1	539.4	527.5	521.4	515.2	509.2	503.0
57.5°	497.1	480.3	463.6	452.6	447.5	442.2	437.1	431.8
60°	448.1	431.6	415.1	404.2	399.1	393.8	388.7	383.4
62.5°	399.4	384.0	368.4	357.9	352.5	347.1	341.6	336.2
65°	330.2	315.2	300.2	291.0	287.7	284.4	281.0	277.6
67.5°	264.1	252.9	241.8	234.3	230.8	227.1	223.5	219.9
70°	223.3	212.6	201.9	194.9	191.5	188.1	184.8	181.5
72.5°	186.5	177.7	169.1	164.0	162.6	161.2	159.8	158.3
75°	139.6	136.5	133.5	131.7	131.1	130.4	129.8	129.2
77.5°	105.3	103.6	102.0	100.9	100.3	99.7	99.1	98.5
80°	84.7	83.8	82.9	82.2	81.6	81.0	80.3	79.7
82.5°	64.9	64.0	63.1	62.6	62.5	62.4	62.2	62.1
85°	37.3	36.7	36.1	35.7	35.7	35.7	35.7	35.7
87.5°	19.0	19.0	18.9	18.8	18.6	18.5	18.3	18.2
90°	26.0	26.9	27.8	28.5	28.9	29.4	29.8	30.2
92.5°	28.7	30.1	31.5	32.4	32.6	32.9	33.2	33.4
95°	34.3	36.0	37.6	38.3	38.3	38.3	38.3	38.3
97.5°	36.1	37.9	39.6	40.6	40.9	41.1	41.3	41.5
100°	36.9	38.7	40.4	41.4	41.7	41.9	42.1	42.3
102.5°	55.2	49.7	44.1	41.5	41.9	42.3	42.7	43.1
105°	141.5	101.8	62.2	42.5	43.0	43.4	43.9	44.3
107.5°	346.5	317.4	288.3	258.8	228.9	199.0	169.2	139.3
110°	439.8	432.4	425.1	405.4	373.2	341.2	309.2	277.2



TEST NUMBER: P332351-840

CATALOG NUMBER: S123RDIP-S1000D1025U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	505.6	505.8	505.9	502.6	495.8	489.1	482.3	475.5
115°	583.1	585.3	587.5	589.2	590.0	590.9	591.8	592.7
117.5°	653.2	654.9	656.7	657.7	657.9	658.0	658.2	658.4
120°	699.1	700.8	702.7	703.6	703.6	703.6	703.6	703.6
122.5°	744.0	745.3	746.5	747.2	747.4	747.6	747.7	747.9
125°	807.3	807.7	808.2	808.6	809.1	809.5	810.0	810.4
127.5°	870.7	871.4	872.1	872.3	871.8	871.4	870.9	870.5
130°	909.0	909.9	910.8	911.0	910.6	910.1	909.7	909.2
132.5°	945.2	946.1	947.1	947.2	946.5	945.9	945.3	944.7
135°	1000.3	1001.0	1001.6	1001.6	1001.0	1000.3	999.6	999.0
137.5°	1049.2	1050.4	1051.4	1051.7	1051.3	1050.9	1050.4	1050.0
140°	1080.4	1081.3	1082.2	1082.4	1081.9	1081.5	1081.1	1080.6
142.5°	1109.8	1110.5	1111.3	1111.3	1110.6	1110.0	1109.4	1108.8
145°	1151.0	1151.4	1152.0	1152.2	1152.2	1152.2	1152.2	1152.2
147.5°	1187.9	1188.3	1188.8	1188.5	1187.5	1186.5	1185.4	1184.4
150°	1210.5	1210.9	1211.4	1211.2	1210.6	1209.9	1209.2	1208.6
152.5°	1230.5	1231.3	1232.1	1232.0	1231.0	1230.0	1229.0	1227.9
155°	1258.2	1259.3	1260.4	1260.3	1259.0	1257.7	1256.3	1255.0
157.5°	1282.2	1283.5	1285.0	1284.8	1282.9	1281.2	1279.5	1277.8
160°	1296.0	1297.3	1298.6	1298.5	1297.0	1295.4	1293.8	1292.2
162.5°	1308.4	1309.9	1311.4	1311.5	1310.1	1308.7	1307.4	1306.0
165°	1325.0	1326.9	1328.7	1328.8	1327.2	1325.6	1324.0	1322.5
167.5°	1338.0	1339.8	1341.5	1341.5	1339.8	1338.0	1336.2	1334.3
170°	1345.2	1347.1	1348.8	1348.8	1347.1	1345.2	1343.4	1341.6
172.5°	1350.1	1351.8	1353.6	1353.5	1351.6	1349.6	1347.7	1345.6
175°	1355.8	1357.5	1359.0	1358.9	1357.1	1355.3	1353.5	1351.7
177.5°	1358.0	1359.5	1360.9	1360.7	1358.9	1357.2	1355.3	1353.5
180°	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8

(END OF REPORT)