

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: P332353-840

Luminaire Tested: **S123RDIP-S1000D1025U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332353-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
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-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7578.8 lumens
Efficiency: N/A
Efficacy: 125.3 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

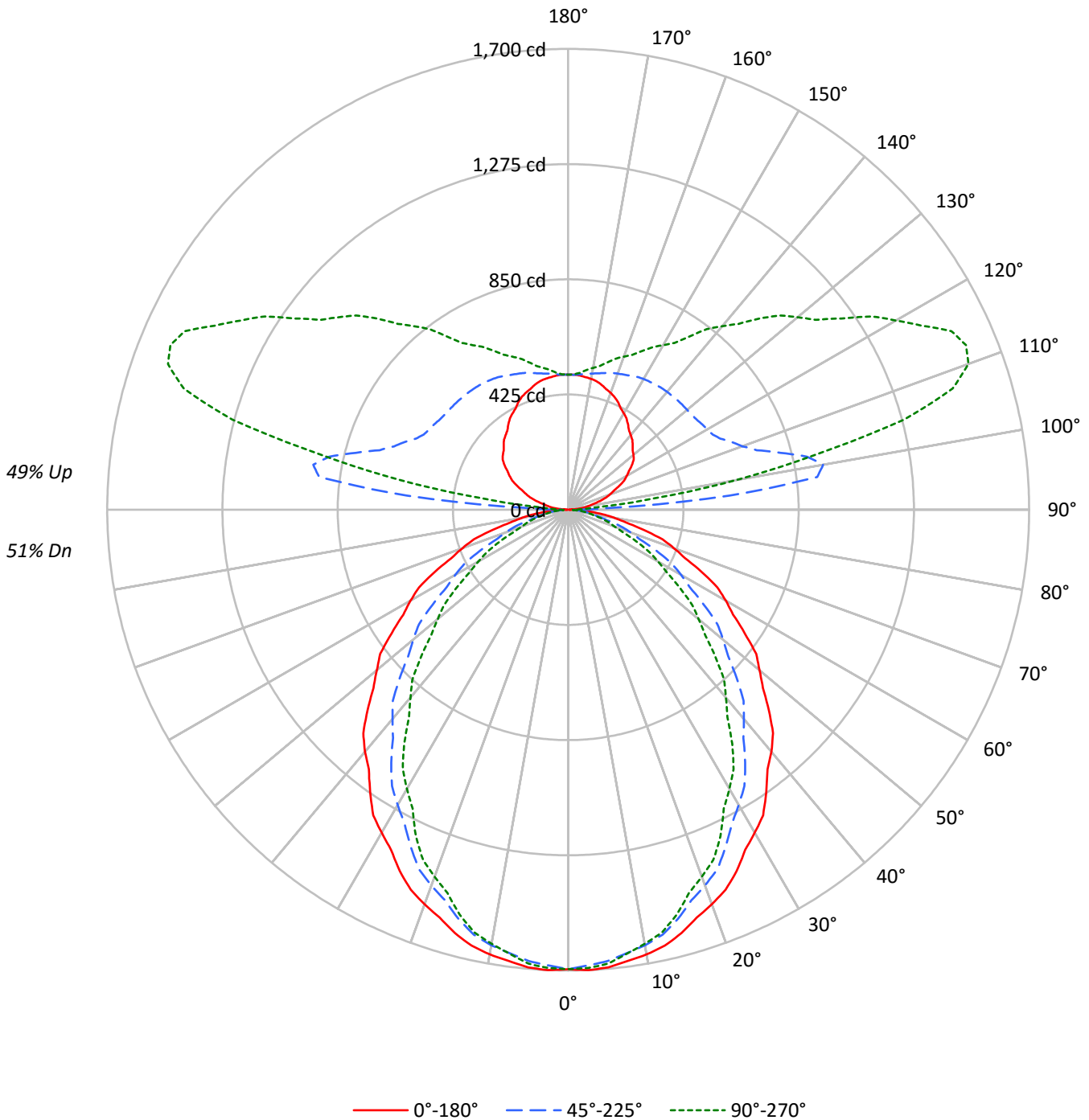
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	71	69		62	60	59		51	49	48	43
2	90	82	77	71	83	76	71	67	65	61	58		55	52	49		45	43	41	37
3	82	73	66	60	76	68	61	56	58	53	49		49	45	42		40	38	36	31
4	75	65	57	51	69	60	53	48	51	46	42		43	40	36		36	33	31	27
5	69	58	50	44	64	54	47	41	46	41	36		39	35	32		33	30	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	34	54	44	37	32	38	32	28		32	28	25		27	24	21	19
8	55	43	35	30	51	40	33	28	35	29	25		30	25	22		25	22	19	17
9	51	39	32	27	47	37	30	25	32	26	23		27	23	20		23	20	17	15
10	48	36	29	24	44	34	27	23	29	24	20		25	21	18		21	18	16	14

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	2.1
10°-20°	442.8	5.8
20°-30°	637.6	8.4
30°-40°	718.2	9.5
40°-50°	687.1	9.1
50°-60°	562.6	7.4
60°-70°	379.6	5.0
70°-80°	191.0	2.5
80°-90°	54.4	0.7
90°-100°	277.1	3.7
100°-110°	784.7	10.4
110°-120°	771.9	10.2
120°-130°	615.7	8.1
130°-140°	485.5	6.4
140°-150°	362.3	4.8
150°-160°	252.5	3.3
160°-170°	148.4	2.0
170°-180°	48.3	0.6
0°-30°	1239.5	16.4
0°-40°	1957.7	25.8
0°-60°	3207.4	42.3
0°-90°	3832.4	50.6
90°-120°	1833.8	24.2
90°-150°	3297.3	43.5
90°-180°	3746.0	49.4
0°-180°	7578.8	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°	2	12	25	28	29	6
95°	34	111	598	174	117	37
105°	117	173	810	1417	1282	124
115°	207	258	620	1359	1559	205
125°	287	339	579	1048	1230	255
135°	337	402	571	863	997	260
145°	384	440	564	708	779	241
155°	436	471	545	620	646	201
165°	477	490	522	554	564	134
175°	497	498	501	508	507	47
180°	498	498	498	498	498	



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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°	26.8	24.5	22.2	20.1	17.9	17.0	17.5	18.1	18.7	19.3	18.9
90°	2.0	4.0	6.1	9.1	11.1	13.1	16.2	19.2	22.2	25.2	24.2
92.5°	12.5	18.6	27.1	34.8	43.3	58.3	84.6	128.1	170.6	155.0	116.9
95°	34.2	37.3	48.4	65.5	91.7	131.1	216.7	366.9	532.2	597.7	484.8
97.5°	58.5	59.5	68.2	83.0	108.9	151.4	233.3	402.6	678.2	926.3	991.1
100°	74.6	75.6	82.7	96.7	121.0	160.3	230.9	380.0	645.1	954.6	1153.2
102.5°	91.5	93.3	99.6	112.9	134.7	170.8	234.1	360.6	596.7	902.2	1161.2
105°	116.9	120.0	126.0	138.1	157.2	188.5	243.0	346.8	537.2	810.4	1099.7
107.5°	143.9	146.9	152.8	164.7	182.7	211.7	259.4	345.8	499.4	729.4	992.1
110°	163.3	166.3	171.4	182.5	199.5	227.8	273.2	349.8	484.8	683.5	924.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.1	184.1	189.1	200.2	217.3	244.8	286.9	357.9	476.8	652.8	865.5
115°	206.6	210.7	216.7	226.8	244.0	271.1	309.4	370.9	473.7	620.0	794.4
117.5°	232.3	236.9	242.0	251.2	270.3	295.6	333.5	388.3	475.5	600.6	751.3
120°	249.9	253.0	258.0	268.1	287.3	312.5	348.8	401.2	478.8	591.7	728.8
122.5°	265.3	268.3	273.4	284.3	302.7	329.4	364.9	413.3	484.4	586.0	710.2
125°	287.3	289.3	295.4	306.4	325.6	352.8	388.1	432.4	492.9	578.7	686.5
127.5°	304.1	307.0	314.5	325.8	347.0	374.2	408.3	448.2	502.6	575.0	665.5
130°	314.5	317.5	326.6	338.7	359.8	387.1	420.3	458.7	509.1	572.6	654.2
132.5°	322.6	326.4	336.3	350.8	371.9	398.4	430.8	468.4	513.9	571.8	643.7
135°	336.7	340.7	351.8	366.9	388.1	415.3	446.6	480.8	521.2	570.6	630.1
137.5°	350.0	354.3	365.1	381.2	402.2	427.4	457.5	490.1	525.9	568.4	618.1
140°	358.9	363.9	374.0	390.1	410.3	435.5	464.7	494.9	529.2	567.5	610.9
142.5°	368.5	372.7	383.6	398.2	418.3	441.9	470.4	499.8	531.6	565.9	604.4
145°	384.1	387.1	396.2	411.3	428.4	451.6	477.8	505.0	533.2	563.5	595.7
147.5°	399.8	401.6	410.5	423.5	440.1	459.9	483.8	508.3	533.2	559.7	587.2
150°	410.3	411.3	419.3	432.4	446.6	464.7	487.9	509.1	533.2	556.4	581.6
152.5°	420.7	420.9	429.0	440.5	453.0	470.4	490.3	510.7	530.8	552.4	575.2
155°	436.5	436.5	442.5	452.6	463.7	477.8	494.9	511.1	528.2	545.3	565.5
157.5°	449.0	449.8	454.6	463.5	472.9	483.8	497.6	512.1	524.8	539.1	554.6
160°	458.7	458.7	462.7	470.7	477.8	487.9	500.0	512.1	523.2	534.2	547.3
162.5°	466.0	466.0	469.2	475.5	481.8	490.3	500.8	511.3	520.0	529.4	540.1
165°	476.8	475.7	477.8	482.8	486.9	493.9	502.0	509.1	515.1	522.2	530.2
167.5°	485.0	483.8	484.8	488.7	491.5	495.9	501.8	507.5	510.3	514.9	520.8
170°	489.9	487.9	488.9	491.9	493.9	495.9	501.0	505.0	507.1	510.1	515.1
172.5°	493.1	491.9	492.1	494.3	495.5	496.8	501.0	504.2	504.6	506.0	509.5
175°	497.0	495.9	494.9	497.0	497.0	498.0	500.0	502.0	501.0	501.0	503.0
177.5°	498.8	498.0	497.2	498.0	498.0	498.0	498.8	500.4	498.8	498.0	498.8
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0



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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°	18.9	18.8	18.8	18.9	18.5	18.5	18.4	18.0
90°	25.2	26.3	27.3	29.2	28.2	29.2	30.2	29.2
92.5°	84.8	67.4	59.5	54.2	52.4	49.4	50.4	48.6
95°	362.8	246.0	192.6	156.2	137.1	128.1	121.0	116.9
97.5°	904.6	724.6	594.5	473.9	399.6	354.3	327.0	318.3
100°	1188.5	1106.8	988.9	845.8	744.0	670.3	631.1	632.1
102.5°	1282.8	1280.2	1211.4	1120.7	1041.5	983.2	950.4	927.2
105°	1310.4	1411.3	1430.4	1404.2	1357.8	1319.5	1287.3	1282.2
107.5°	1231.0	1394.7	1483.0	1518.9	1519.7	1506.8	1495.9	1486.6
110°	1155.2	1340.7	1467.6	1538.2	1566.5	1574.6	1572.6	1570.5



TEST NUMBER: P332353-840

CATALOG NUMBER: S123RDIP-S1000D1025U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1080.2	1269.7	1412.0	1502.8	1554.4	1579.3	1587.0	1587.4
115°	980.8	1156.2	1304.3	1414.2	1489.9	1534.2	1554.4	1559.4
117.5°	908.9	1060.3	1193.3	1304.7	1383.6	1434.4	1463.5	1470.3
120°	870.9	1007.0	1128.0	1229.8	1309.4	1365.8	1390.1	1396.1
122.5°	841.1	964.3	1076.4	1170.9	1241.7	1292.5	1319.1	1326.8
125°	801.4	911.3	1008.0	1088.6	1153.2	1197.5	1222.7	1229.8
127.5°	766.7	864.6	952.0	1025.3	1082.8	1120.7	1143.5	1149.9
130°	745.0	835.7	917.3	985.8	1039.3	1075.6	1096.7	1104.8
132.5°	724.8	808.2	884.2	949.6	999.8	1036.0	1054.8	1060.5
135°	697.5	769.1	834.7	892.1	941.5	971.7	989.9	996.9
137.5°	672.8	731.4	787.9	837.7	879.2	909.9	925.1	929.8
140°	658.2	709.6	758.0	801.4	839.7	867.9	884.0	883.0
142.5°	644.5	688.7	730.6	768.3	801.0	826.0	840.5	839.5
145°	628.0	661.3	693.5	722.8	747.9	769.1	777.2	779.2
147.5°	614.5	640.9	666.9	687.7	706.8	721.1	728.8	729.6
150°	604.8	628.0	649.1	668.3	683.5	694.5	700.5	700.5
152.5°	595.9	615.9	634.7	650.6	662.5	672.8	676.4	676.4
155°	582.6	598.7	613.9	626.0	635.1	643.1	645.1	646.1
157.5°	568.6	582.0	593.7	603.2	611.1	617.1	618.7	618.5
160°	560.5	571.6	581.6	588.7	595.7	601.8	601.8	600.8
162.5°	550.8	560.3	569.6	575.8	580.5	585.6	585.6	584.6
165°	538.3	544.3	551.4	556.4	560.5	564.5	563.5	563.5
167.5°	527.4	532.0	536.0	539.7	541.5	544.3	543.3	543.3
170°	520.2	523.2	527.1	529.2	530.2	532.2	531.2	531.2
172.5°	513.7	515.9	519.2	520.4	520.6	522.6	520.8	520.0
175°	505.0	506.0	508.1	508.1	508.1	509.1	508.1	507.1
177.5°	499.6	500.4	501.2	501.2	500.4	501.2	499.6	499.6
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0

(END OF REPORT)