

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: P332359-840

Luminaire Tested: **S123RDIP-S1000D1195U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332359-840  
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-S1000D1195U840-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8193.8 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

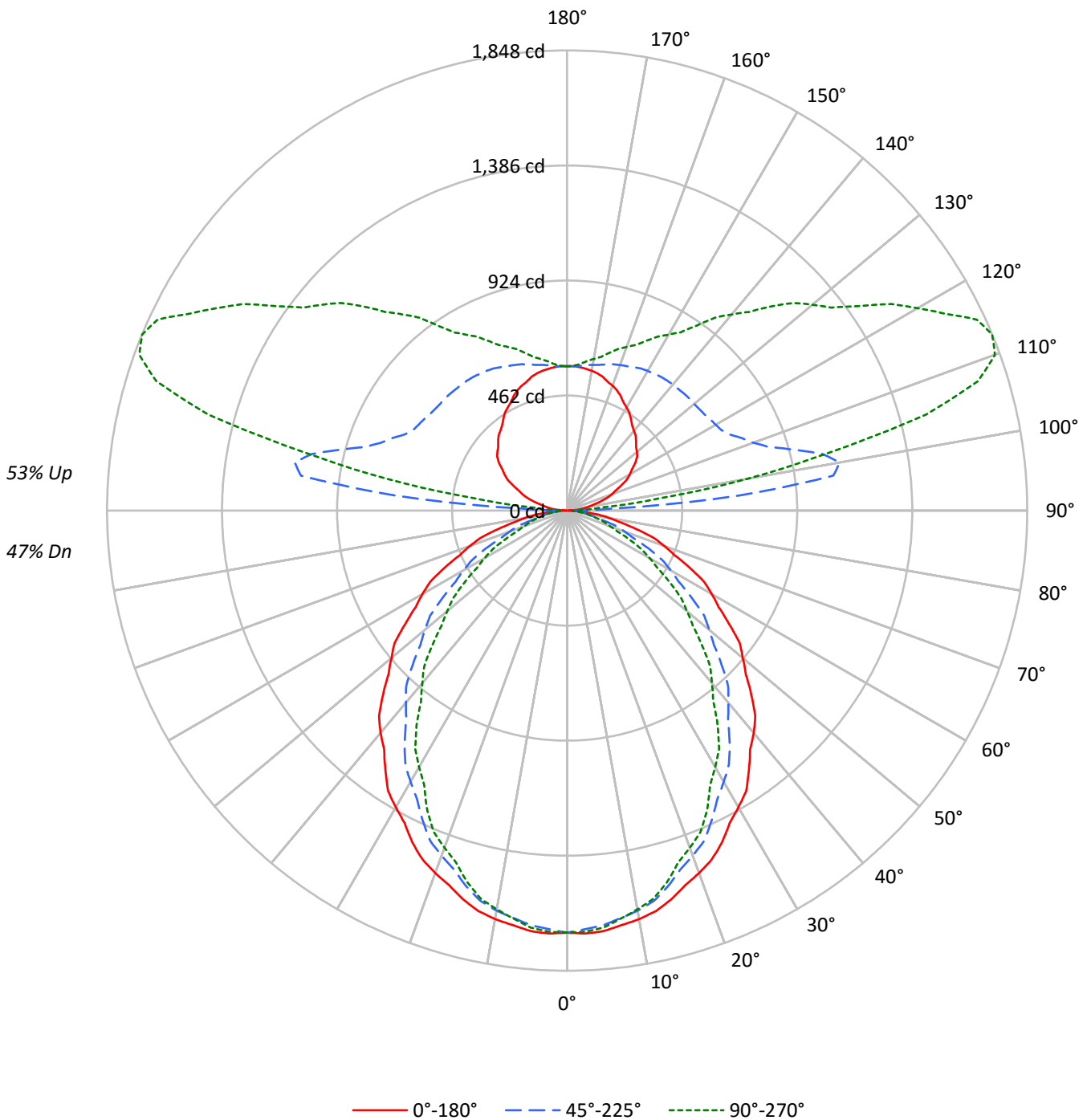
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0	
RCR																						
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47				47
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	47	46	45				40	
2	89	82	76	71	81	75	70	66	63	60	56	52	50	47	42	40	39				34	
3	81	72	65	59	74	67	60	55	56	52	48	46	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	41	45	40	35	37	33	30	31	28	25				22	
6	63	51	43	38	58	48	41	35	41	35	31	34	30	27	28	25	22				20	
7	58	46	39	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	26	22	26	22	19	22	19	16				14	
10	47	35	28	23	43	33	27	22	28	23	20	24	20	17	20	17	15				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	1.9
10°-20°	442.8	5.4
20°-30°	637.6	7.8
30°-40°	718.2	8.8
40°-50°	687.1	8.4
50°-60°	562.6	6.9
60°-70°	379.6	4.6
70°-80°	191.0	2.3
80°-90°	55.0	0.7
90°-100°	322.6	3.9
100°-110°	913.4	11.1
110°-120°	898.5	11.0
120°-130°	716.7	8.7
130°-140°	565.1	6.9
140°-150°	421.7	5.1
150°-160°	294.0	3.6
160°-170°	172.7	2.1
170°-180°	56.2	0.7
0°-30°	1239.5	15.1
0°-40°	1957.7	23.9
0°-60°	3207.4	39.1
0°-90°	3833.0	46.8
90°-120°	2134.4	26.0
90°-150°	3837.9	46.8
90°-180°	4361.0	53.2
0°-180°	8193.8	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	14	29	33	34	6
95°	40	130	696	203	136	43
105°	136	201	943	1650	1492	145
115°	240	300	722	1582	1815	238
125°	334	395	674	1220	1432	297
135°	392	468	664	1005	1160	303
145°	447	512	656	824	907	280
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



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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°	26.9	24.6	22.4	20.4	18.2	17.4	18.1	18.8	19.5	20.2	19.7
90°	2.3	4.6	7.1	10.6	12.9	15.2	18.8	22.3	25.9	29.3	28.2
92.5°	14.5	21.6	31.4	40.6	50.5	67.9	98.6	149.1	198.5	180.5	136.1
95°	39.9	43.4	56.4	76.2	106.7	152.5	252.3	427.1	619.6	695.8	564.3
97.5°	68.1	69.2	79.3	96.6	126.7	176.2	271.6	468.6	789.4	1078.2	1153.6
100°	86.8	88.0	96.2	112.6	140.8	186.5	268.7	442.3	750.9	1111.2	1342.3
102.5°	106.5	108.7	115.9	131.4	156.7	198.7	272.5	419.8	694.6	1050.2	1351.6
105°	136.1	139.7	146.6	160.8	183.0	219.4	282.8	403.6	625.4	943.3	1280.1
107.5°	167.5	171.1	177.8	191.7	212.6	246.4	302.1	402.4	581.3	849.0	1154.8
110°	190.1	193.6	199.4	212.4	232.3	265.2	318.0	407.2	564.3	795.5	1075.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.8	214.3	220.2	233.0	253.0	284.9	334.0	416.6	555.0	759.8	1007.4
115°	240.5	245.2	252.3	264.0	284.0	315.6	360.2	431.8	551.5	721.5	924.5
117.5°	270.3	275.7	281.6	292.4	314.7	344.1	388.1	451.9	553.6	699.0	874.5
120°	290.9	294.5	300.3	312.1	334.4	363.8	406.0	467.0	557.3	688.7	848.3
122.5°	308.8	312.4	318.2	330.8	352.2	383.4	424.7	481.1	563.9	682.2	826.7
125°	334.4	336.8	343.8	356.7	379.0	410.6	451.7	503.3	573.7	673.5	799.0
127.5°	353.9	357.4	366.1	379.2	403.8	435.6	475.1	521.7	585.0	669.2	774.7
130°	366.1	369.6	380.1	394.3	418.9	450.5	489.3	533.8	592.5	666.4	761.4
132.5°	375.5	379.9	391.4	408.3	432.9	463.7	501.5	545.1	598.1	665.5	749.3
135°	391.9	396.6	409.5	427.1	451.7	483.4	519.8	559.7	606.6	664.1	733.4
137.5°	407.4	412.3	425.0	443.7	468.2	497.5	532.4	570.5	612.3	661.5	719.4
140°	417.7	423.5	435.3	454.0	477.6	506.9	540.9	576.1	616.0	660.6	711.0
142.5°	429.0	433.9	446.6	463.4	487.0	514.4	547.4	581.7	618.8	658.7	703.5
145°	447.1	450.5	461.1	478.7	498.7	525.6	556.1	587.8	620.7	655.9	693.5
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	683.6
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



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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°	19.7	19.7	19.7	19.9	19.4	19.4	19.4	18.9
90°	29.3	30.5	31.7	34.0	32.8	34.0	35.2	34.0
92.5°	98.8	78.4	69.2	63.1	61.0	57.5	58.7	56.6
95°	422.4	286.3	224.1	181.9	159.6	149.1	140.8	136.1
97.5°	1052.9	843.3	692.1	551.7	465.1	412.3	380.6	370.5
100°	1383.3	1288.3	1151.0	984.4	865.9	780.2	734.5	735.7
102.5°	1493.2	1490.1	1410.1	1304.4	1212.2	1144.5	1106.2	1079.2
105°	1525.3	1642.6	1665.0	1634.5	1580.4	1535.9	1498.3	1492.5
107.5°	1432.8	1623.4	1726.2	1768.0	1768.9	1753.8	1741.2	1730.4
110°	1344.6	1560.5	1708.4	1790.5	1823.3	1832.7	1830.4	1828.1





TEST NUMBER: P332359-840

CATALOG NUMBER: S123RDIP-S1000D1195U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1257.3	1477.9	1643.6	1749.2	1809.3	1838.4	1847.2	1847.8
115°	1141.7	1345.7	1518.2	1646.2	1734.1	1785.7	1809.3	1815.1
117.5°	1057.8	1234.1	1389.0	1518.7	1610.5	1669.6	1703.4	1711.4
120°	1013.7	1172.2	1312.9	1431.5	1524.1	1589.8	1618.0	1625.1
122.5°	979.0	1122.4	1252.8	1362.9	1445.3	1504.4	1535.4	1544.3
125°	932.8	1060.7	1173.3	1267.2	1342.3	1393.9	1423.2	1431.5
127.5°	892.4	1006.4	1108.0	1193.5	1260.4	1304.4	1331.0	1338.5
130°	867.1	972.7	1067.7	1147.5	1209.7	1251.9	1276.6	1286.0
132.5°	843.6	940.8	1029.3	1105.3	1163.7	1205.9	1227.8	1234.4
135°	811.9	895.2	971.5	1038.3	1095.9	1131.0	1152.2	1160.4
137.5°	783.0	851.3	917.1	975.0	1023.4	1059.0	1076.8	1082.3
140°	766.2	826.0	882.3	932.8	977.3	1010.3	1029.0	1027.8
142.5°	750.2	801.6	850.4	894.3	932.3	961.4	978.3	977.1
145°	730.9	769.7	807.3	841.2	870.6	895.2	904.6	907.0
147.5°	715.3	746.0	776.3	800.4	822.7	839.4	848.3	849.2
150°	704.0	730.9	755.6	777.9	795.5	808.4	815.5	815.5
152.5°	693.7	716.9	738.7	757.3	771.1	783.0	787.3	787.3
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

(END OF REPORT)