

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: P332377-940

Luminaire Tested: **S123RDIP-S1165D805U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332377-940
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-S1165D805U940-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6498.1 lumens
Efficiency: N/A
Efficacy: 107.1 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: Semi-Direct

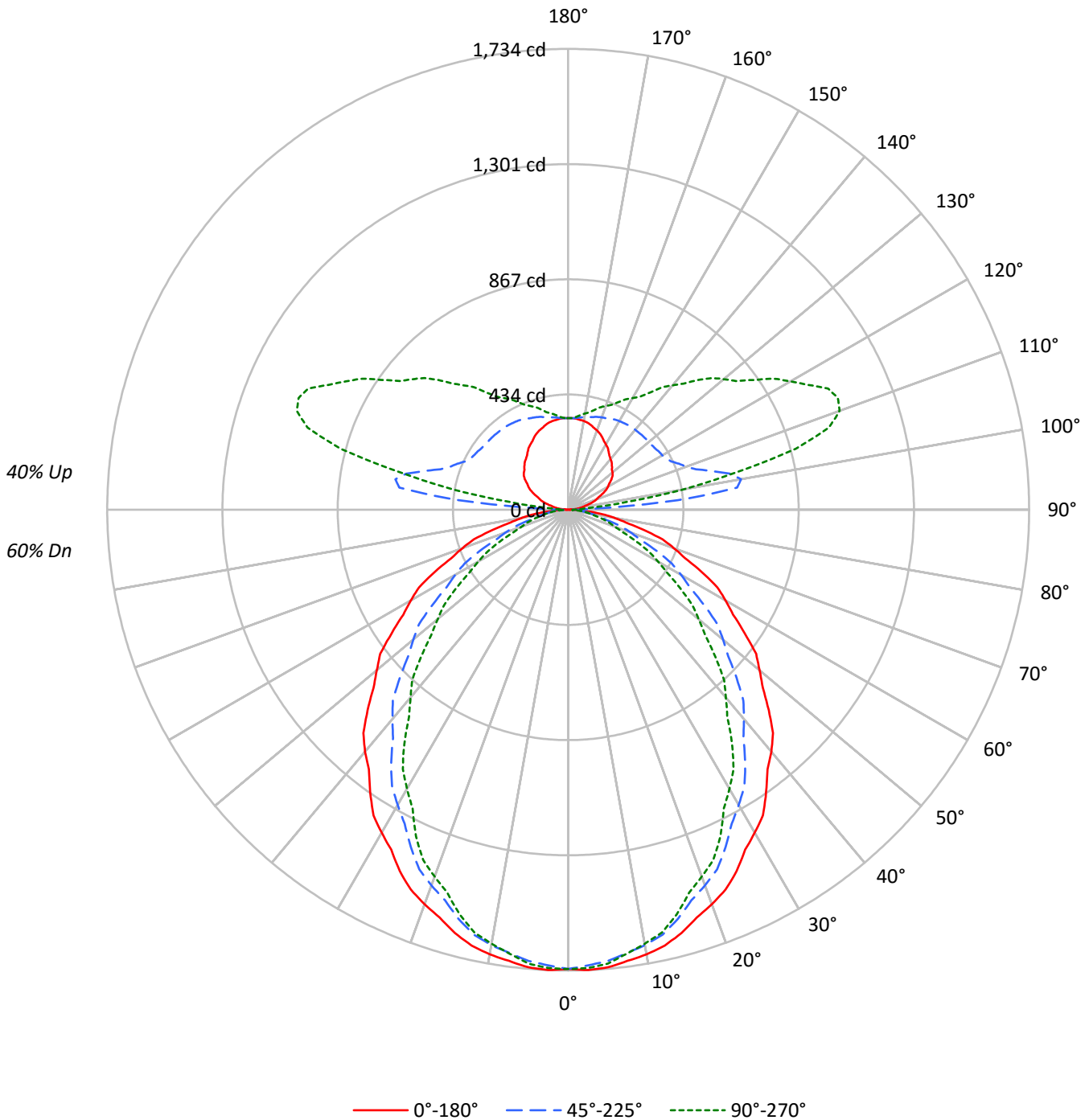
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60
1	100	96	92	89	94	90	87	84	79	76	74	68	66	65	58	57	56	51
2	92	84	78	73	86	79	74	69	69	65	62	60	57	55	52	50	48	44
3	84	75	67	62	78	70	64	58	62	57	52	54	50	47	46	44	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	38	36	32
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	31	28
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	34	31	28	25
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	31	28	25	22
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20
9	53	40	33	28	49	38	31	27	34	29	25	30	26	22	27	23	20	18
10	49	37	30	25	46	35	29	24	32	26	22	28	24	20	25	21	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18603	18603	18603
5°	18674	18416	18522
10°	18569	18185	18124
15°	18369	17761	17572
20°	18095	17228	16827
25°	17813	16631	16098
30°	17439	15940	15070
35°	17056	15251	14127
40°	16703	14436	12960
45°	16238	13633	11905
50°	15726	12722	10727
55°	15204	11678	9627
60°	14725	10562	8420
65°	14103	9352	7210
70°	13322	7852	5822
75°	12181	6180	5481
80°	10860	5473	5040
85°	9176	4841	4508



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	2.5
10°-20°	451.6	6.9
20°-30°	650.2	10.0
30°-40°	732.4	11.3
40°-50°	700.7	10.8
50°-60°	573.8	8.8
60°-70°	387.1	6.0
70°-80°	194.8	3.0
80°-90°	54.2	0.8
90°-100°	191.7	2.9
100°-110°	542.7	8.4
110°-120°	533.9	8.2
120°-130°	425.8	6.6
130°-140°	335.7	5.2
140°-150°	250.6	3.9
150°-160°	174.7	2.7
160°-170°	102.6	1.6
170°-180°	33.4	0.5
0°-30°	1264.1	19.5
0°-40°	1996.5	30.7
0°-60°	3270.9	50.3
0°-90°	3907.0	60.1
90°-120°	1268.2	19.5
90°-150°	2280.4	35.1
90°-180°	2591.0	39.9
0°-180°	6498.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1728	1728	1728	1728	1728	
5°	1728	1721	1704	1716	1714	164
15°	1648	1632	1594	1587	1577	464
25°	1500	1463	1400	1372	1355	689
35°	1298	1246	1161	1102	1075	812
45°	1067	1001	896	818	782	823
55°	810	739	622	544	513	726
65°	554	475	367	302	283	548
75°	293	225	149	135	132	312
85°	74	45	39	37	36	83
90°	1	8	17	20	20	5
95°	24	77	413	121	81	26
105°	81	120	560	980	887	86
115°	143	178	429	940	1078	141
125°	199	235	400	725	850	176
135°	233	278	395	597	690	180
145°	266	304	390	490	539	166
155°	302	326	377	429	447	139
165°	330	339	361	383	390	93
175°	344	344	346	351	351	33
180°	344	344	344	344	344	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3
2.5°	1733.9	1732.9	1731.9	1730.9	1729.9	1727.9	1724.9	1721.9	1719.0	1715.9	1718.7
5°	1728.3	1726.7	1725.2	1723.6	1722.1	1719.4	1715.7	1711.9	1708.2	1704.4	1707.3
7.5°	1712.3	1710.7	1709.0	1707.3	1705.6	1702.3	1697.5	1692.6	1687.7	1682.8	1684.4
10°	1698.9	1696.7	1694.5	1692.3	1690.1	1686.2	1680.6	1675.0	1669.4	1663.8	1664.1
12.5°	1679.8	1677.4	1674.9	1672.5	1670.1	1665.4	1658.6	1651.7	1644.8	1638.0	1637.8
15°	1648.4	1644.9	1641.6	1638.1	1634.7	1628.6	1619.9	1611.1	1602.4	1593.8	1592.1
17.5°	1608.8	1604.9	1600.9	1596.9	1593.0	1585.4	1574.3	1563.2	1552.1	1541.1	1537.8
20°	1579.7	1574.8	1569.8	1564.8	1559.8	1551.4	1539.5	1527.7	1515.8	1504.0	1499.9
22.5°	1547.2	1541.4	1535.7	1530.0	1524.3	1515.1	1502.5	1490.0	1477.4	1464.7	1459.7
25°	1499.8	1492.0	1484.3	1476.4	1468.6	1457.6	1443.2	1429.0	1414.6	1400.3	1393.7
27.5°	1442.3	1433.8	1425.1	1416.6	1407.9	1395.7	1379.7	1363.8	1347.8	1331.9	1322.8
30°	1403.1	1393.7	1384.4	1375.0	1365.7	1352.3	1334.9	1317.4	1300.0	1282.5	1271.9
32.5°	1363.9	1353.3	1342.6	1332.0	1321.5	1307.0	1288.5	1270.1	1251.6	1233.2	1221.6
35°	1298.0	1286.7	1275.5	1264.4	1253.1	1237.9	1218.5	1199.3	1179.9	1160.6	1147.2
37.5°	1231.3	1218.8	1206.3	1193.8	1181.4	1164.8	1144.2	1123.6	1103.0	1082.4	1067.2
40°	1188.7	1174.9	1161.2	1147.5	1133.8	1115.9	1093.8	1071.7	1049.5	1027.4	1011.2
42.5°	1140.4	1126.7	1113.0	1099.3	1085.6	1067.3	1044.5	1021.5	998.7	975.9	958.1
45°	1066.7	1052.7	1038.7	1024.7	1010.6	991.6	967.6	943.6	919.6	895.6	877.9
47.5°	992.9	977.6	962.2	946.8	931.4	911.7	887.7	863.7	839.7	815.8	796.5
50°	939.1	924.5	909.8	895.2	880.6	860.7	835.4	810.2	785.0	759.7	740.4
52.5°	890.9	875.0	859.2	843.3	827.3	806.9	781.9	757.0	732.0	707.0	687.0
55°	810.2	794.9	779.6	764.4	749.1	728.3	701.8	675.3	648.8	622.3	604.3
57.5°	735.6	719.0	702.3	685.7	669.1	647.5	620.9	594.2	567.7	541.1	524.0
60°	684.0	666.9	649.8	632.7	615.5	594.0	568.1	542.3	516.5	490.6	473.8
62.5°	632.4	615.3	598.2	581.0	563.9	542.4	516.6	490.7	464.8	439.0	423.2
65°	553.7	536.5	519.4	502.3	485.2	464.4	440.1	415.8	391.6	367.2	352.0
67.5°	474.9	457.5	440.2	422.9	405.6	385.3	362.0	338.7	315.4	292.1	280.7
70°	423.3	406.5	389.7	372.8	356.1	336.7	315.0	293.1	271.3	249.5	238.6
72.5°	371.8	355.2	338.6	322.0	305.4	287.2	267.4	247.6	227.8	208.0	199.1
75°	292.9	278.0	263.1	248.1	233.2	217.1	200.0	182.8	165.7	148.6	145.4
77.5°	221.1	207.7	194.1	180.7	167.1	154.8	143.8	132.8	121.7	110.8	109.1
80°	175.2	162.5	149.6	136.9	124.1	114.5	107.9	101.4	94.9	88.3	87.4
82.5°	131.4	120.5	109.4	98.4	87.4	80.3	77.3	74.2	71.2	68.1	67.1
85°	74.3	67.4	60.5	53.8	46.9	43.0	42.1	41.1	40.2	39.2	38.6
87.5°	27.2	24.7	22.3	20.0	17.5	16.4	16.8	17.2	17.7	18.1	17.7
90°	1.4	2.8	4.2	6.2	7.7	9.1	11.1	13.3	15.3	17.4	16.8
92.5°	8.6	12.8	18.7	24.2	30.0	40.3	58.6	88.5	118.0	107.2	80.9
95°	23.7	25.8	33.4	45.3	63.4	90.6	149.9	253.8	368.1	413.4	335.4
97.5°	40.4	41.1	47.2	57.4	75.3	104.7	161.3	278.5	469.0	640.7	685.5
100°	51.6	52.3	57.2	67.0	83.6	110.8	159.6	262.8	446.2	660.2	797.5
102.5°	63.3	64.6	68.8	78.1	93.2	118.1	161.8	249.4	412.7	623.9	803.2
105°	80.9	82.9	87.1	95.5	108.8	130.4	168.0	239.8	371.6	560.5	760.6
107.5°	99.5	101.7	105.7	113.9	126.4	146.4	179.4	239.2	345.4	504.4	686.2
110°	113.0	115.0	118.5	126.2	138.0	157.6	189.0	241.9	335.4	472.7	639.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	125.2	127.3	130.8	138.5	150.3	169.2	198.4	247.4	329.8	451.5	598.6
115°	142.9	145.7	149.9	156.9	168.7	187.5	214.0	256.5	327.7	428.7	549.4
117.5°	160.6	163.8	167.3	173.7	187.0	204.4	230.6	268.6	329.0	415.4	519.7
120°	172.9	175.0	178.4	185.5	198.7	216.2	241.2	277.5	331.2	409.2	504.1
122.5°	183.5	185.6	189.0	196.6	209.3	227.8	252.4	285.8	335.0	405.4	491.2
125°	198.7	200.1	204.3	212.0	225.2	244.0	268.4	299.1	340.9	400.2	474.7
127.5°	210.3	212.3	217.5	225.3	240.0	258.8	282.3	310.0	347.6	397.7	460.3
130°	217.5	219.6	225.9	234.3	248.9	267.7	290.7	317.2	352.0	396.0	452.5
132.5°	223.1	225.8	232.6	242.6	257.3	275.5	297.9	323.9	355.4	395.4	445.2
135°	232.8	235.7	243.3	253.8	268.4	287.2	308.8	332.5	360.4	394.6	435.7
137.5°	242.0	245.0	252.5	263.7	278.1	295.6	316.4	338.9	363.8	393.1	427.5
140°	248.2	251.6	258.7	269.8	283.7	301.1	321.4	342.3	366.0	392.5	422.5
142.5°	254.9	257.8	265.4	275.4	289.4	305.6	325.3	345.6	367.7	391.4	418.0
145°	265.6	267.7	274.0	284.5	296.3	312.4	330.5	349.3	368.8	389.7	412.1
147.5°	276.5	277.8	283.9	292.9	304.3	318.1	334.7	351.5	368.8	387.1	406.2
150°	283.7	284.5	290.0	299.1	308.8	321.4	337.4	352.0	368.8	384.9	402.3
152.5°	291.0	291.1	296.7	304.7	313.3	325.3	339.1	353.2	367.1	382.0	397.8
155°	301.8	301.8	306.0	313.0	320.7	330.5	342.3	353.5	365.3	377.2	391.1
157.5°	310.5	311.0	314.4	320.6	327.1	334.7	344.1	354.2	362.9	372.8	383.6
160°	317.2	317.2	320.0	325.6	330.5	337.4	345.8	354.2	361.9	369.5	378.5
162.5°	322.3	322.3	324.5	329.0	333.2	339.1	346.3	353.6	359.6	366.1	373.5
165°	329.8	329.0	330.5	333.9	336.7	341.6	347.1	352.0	356.2	361.1	366.7
167.5°	335.5	334.7	335.4	338.0	339.9	343.0	347.1	351.0	352.9	356.1	360.2
170°	338.9	337.4	338.1	340.2	341.6	343.0	346.5	349.3	350.7	352.8	356.2
172.5°	341.1	340.2	340.4	341.9	342.7	343.6	346.5	348.7	349.0	350.0	352.3
175°	343.7	343.0	342.3	343.7	343.7	344.4	345.8	347.1	346.5	346.5	347.9
177.5°	344.9	344.4	343.8	344.4	344.4	344.4	344.9	346.1	344.9	344.4	344.9
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3
2.5°	1721.4	1724.2	1726.9	1728.0	1727.5	1727.1	1726.5	1726.0
5°	1710.0	1712.9	1715.7	1716.7	1716.1	1715.5	1714.8	1714.2
7.5°	1686.0	1687.6	1689.1	1689.3	1688.3	1687.2	1686.1	1685.1
10°	1664.5	1664.7	1665.1	1664.5	1662.9	1661.3	1659.7	1658.2
12.5°	1637.6	1637.4	1637.3	1636.3	1634.5	1632.6	1630.8	1629.1
15°	1590.6	1589.0	1587.5	1585.6	1583.4	1581.3	1579.0	1576.9
17.5°	1534.5	1531.1	1527.8	1524.6	1521.3	1518.0	1514.8	1511.5
20°	1495.9	1491.8	1487.8	1483.9	1480.2	1476.4	1472.7	1469.0
22.5°	1454.6	1449.7	1444.6	1440.3	1436.8	1433.3	1429.9	1426.4
25°	1387.2	1380.6	1374.1	1369.1	1365.7	1362.3	1358.9	1355.4
27.5°	1313.7	1304.6	1295.5	1288.3	1283.1	1277.9	1272.6	1267.4
30°	1261.3	1250.8	1240.2	1232.4	1227.4	1222.4	1217.5	1212.5
32.5°	1210.1	1198.5	1186.9	1178.5	1173.2	1168.0	1162.8	1157.5
35°	1133.8	1120.4	1107.1	1097.5	1091.9	1086.3	1080.7	1075.1
37.5°	1052.0	1036.8	1021.5	1010.5	1003.6	996.7	989.8	982.8
40°	995.1	978.8	962.7	951.0	943.8	936.7	929.5	922.3
42.5°	940.5	922.7	905.1	893.0	886.6	880.2	873.8	867.4
45°	860.1	842.4	824.7	812.1	804.6	797.1	789.6	782.1
47.5°	777.1	757.9	738.5	725.6	718.9	712.2	705.5	698.9
50°	721.1	701.8	682.4	669.2	662.1	654.9	647.7	640.6
52.5°	666.9	646.8	626.8	613.5	607.1	600.7	594.3	587.9
55°	586.2	568.1	550.1	538.0	531.7	525.5	519.2	513.0
57.5°	506.9	489.8	472.8	461.5	456.3	451.0	445.7	440.4
60°	456.9	440.1	423.3	412.2	407.0	401.6	396.4	391.1
62.5°	407.3	391.6	375.7	365.1	359.4	353.9	348.4	342.9
65°	336.7	321.5	306.2	296.9	293.5	290.0	286.6	283.1
67.5°	269.3	257.9	246.5	239.0	235.3	231.6	227.9	224.3
70°	227.7	216.8	205.9	198.8	195.3	191.9	188.4	185.0
72.5°	190.2	181.3	172.4	167.2	165.8	164.3	162.9	161.5
75°	142.3	139.2	136.1	134.3	133.7	133.0	132.4	131.8
77.5°	107.4	105.7	104.0	102.8	102.2	101.6	100.9	100.3
80°	86.4	85.5	84.5	83.8	83.2	82.6	81.9	81.3
82.5°	66.3	65.4	64.4	63.8	63.8	63.6	63.5	63.4
85°	38.0	37.4	36.7	36.5	36.5	36.5	36.5	36.5
87.5°	17.6	17.5	17.4	17.4	16.9	16.9	16.8	16.4
90°	17.4	18.1	18.8	20.2	19.5	20.2	21.0	20.2
92.5°	58.7	46.5	41.1	37.5	36.3	34.2	34.9	33.6
95°	251.0	170.1	133.1	108.1	94.8	88.5	83.6	80.9
97.5°	625.6	501.1	411.2	327.8	276.3	245.0	226.1	220.2
100°	822.0	765.4	683.9	584.9	514.5	463.6	436.4	437.1
102.5°	887.2	885.4	837.9	775.1	720.3	680.0	657.3	641.2
105°	906.3	976.0	989.3	971.2	939.1	912.6	890.3	886.8
107.5°	851.4	964.6	1025.6	1050.4	1051.1	1042.1	1034.6	1028.1
110°	799.0	927.2	1015.0	1063.9	1083.3	1089.0	1087.5	1086.2



TEST NUMBER: P332377-940

CATALOG NUMBER: S123RDIP-S1165D805U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	747.1	878.2	976.6	1039.3	1075.0	1092.3	1097.6	1097.9
115°	678.3	799.6	902.1	978.1	1030.4	1061.0	1075.0	1078.5
117.5°	628.6	733.3	825.3	902.4	956.9	992.0	1012.1	1016.9
120°	602.4	696.4	780.2	850.5	905.6	944.7	961.4	965.5
122.5°	581.8	666.9	744.4	809.9	858.7	893.9	912.3	917.6
125°	554.2	630.3	697.1	753.0	797.5	828.2	845.6	850.5
127.5°	530.3	598.0	658.4	709.2	748.9	775.1	790.9	795.3
130°	515.2	577.9	634.5	681.8	718.8	743.9	758.5	764.1
132.5°	501.2	559.0	611.5	656.7	691.4	716.6	729.5	733.4
135°	482.4	531.9	577.2	617.0	651.1	672.1	684.6	689.5
137.5°	465.3	505.9	544.9	579.3	608.1	629.3	639.9	643.1
140°	455.2	490.8	524.2	554.2	580.8	600.2	611.4	610.7
142.5°	445.8	476.3	505.3	531.4	553.9	571.2	581.3	580.6
145°	434.4	457.4	479.7	499.9	517.3	531.9	537.5	538.9
147.5°	425.0	443.3	461.3	475.6	488.8	498.7	504.1	504.6
150°	418.3	434.4	449.0	462.2	472.7	480.4	484.6	484.6
152.5°	412.1	426.0	438.9	450.0	458.2	465.3	467.8	467.8
155°	403.0	414.1	424.5	432.9	439.2	444.8	446.2	446.8
157.5°	393.2	402.5	410.6	417.1	422.6	426.8	427.9	427.8
160°	387.6	395.3	402.3	407.2	412.1	416.2	416.2	415.5
162.5°	380.9	387.4	393.9	398.2	401.4	405.0	405.0	404.4
165°	372.3	376.5	381.4	384.9	387.6	390.4	389.7	389.7
167.5°	364.7	367.9	370.8	373.3	374.5	376.5	375.8	375.8
170°	359.7	361.9	364.6	366.0	366.7	368.1	367.4	367.4
172.5°	355.3	356.8	359.0	359.9	360.0	361.4	360.2	359.6
175°	349.3	350.0	351.3	351.3	351.3	352.0	351.3	350.7
177.5°	345.5	346.1	346.6	346.6	346.1	346.6	345.5	345.5
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4

(END OF REPORT)