

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: P332371-930

Luminaire Tested: **S123RDIP-S1165D585U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332371-930
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-S1165D585U930-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5299.9 lumens
Efficiency: N/A
Efficacy: 96.2 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

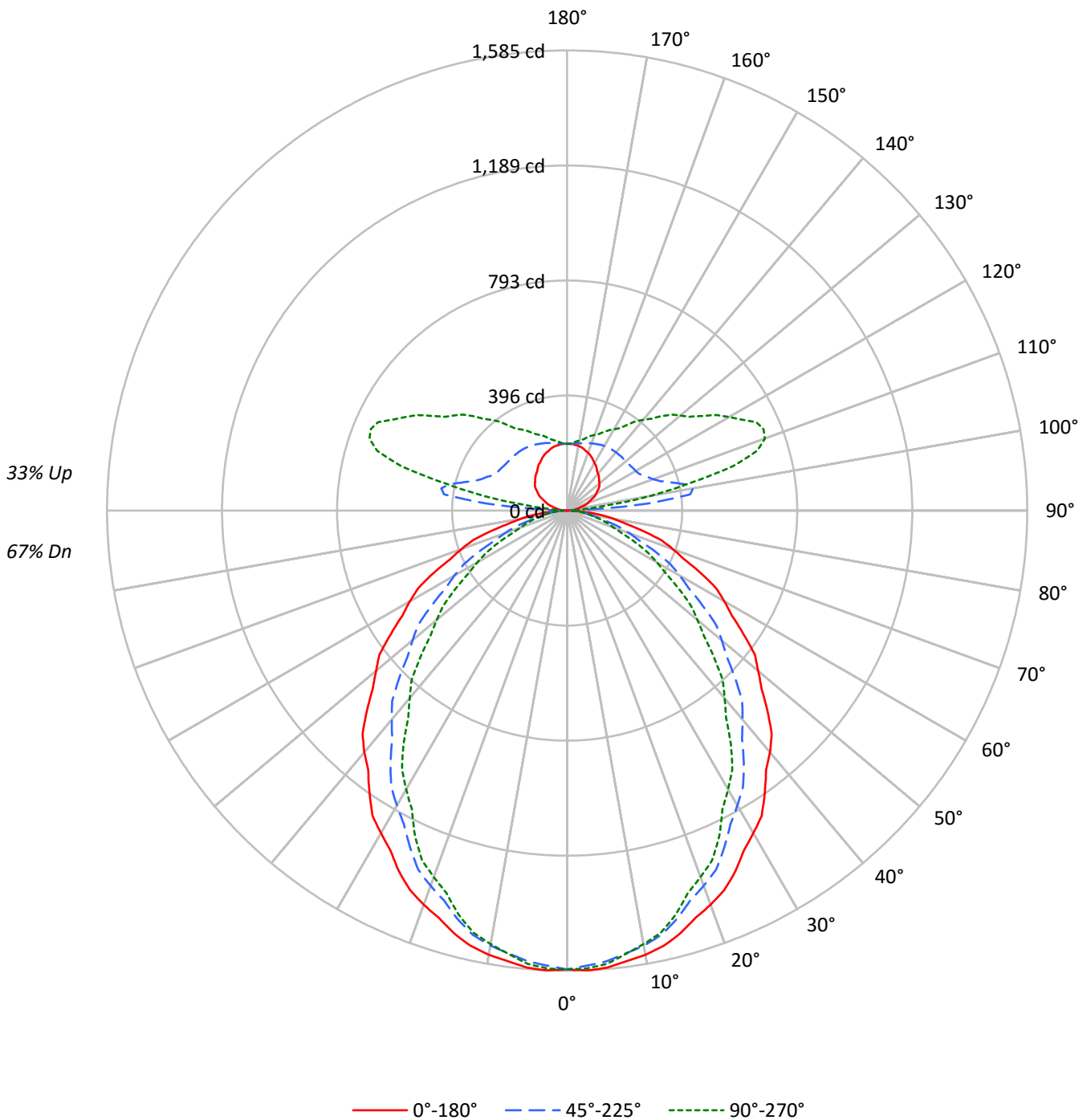
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332371-930

CATALOG NUMBER: S123RDIP-S1165D585U930-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P332371-930

CATALOG NUMBER: S123RDIP-S1165D585U930-4F0-1E-UDD-F4

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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	98	94	91	96	92	89	86	82	80	77	73	71	69	64	63	62	58
2	93	86	80	75	88	81	76	71	73	68	65	65	61	59	57	55	53	49
3	85	76	69	63	80	72	65	60	64	59	55	58	54	50	51	48	45	42
4	78	68	60	54	74	64	57	51	58	52	47	52	47	43	46	42	39	36
5	72	61	52	46	68	58	50	45	52	46	41	47	42	38	42	38	35	32
6	67	55	46	41	63	52	44	39	47	41	36	42	37	33	38	34	31	28
7	62	49	41	36	58	47	40	35	43	37	32	39	34	30	35	31	27	25
8	58	45	37	32	54	43	36	31	39	33	29	35	30	27	32	28	25	23
9	54	41	34	29	51	40	33	28	36	30	26	33	28	24	30	25	22	20
10	50	38	31	26	48	36	30	25	33	28	24	30	25	22	28	23	20	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



TEST NUMBER: P332371-930

CATALOG NUMBER: S123RDIP-S1165D585U930-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	2.8
10°-20°	412.9	7.8
20°-30°	594.5	11.2
30°-40°	669.6	12.6
40°-50°	640.6	12.1
50°-60°	524.6	9.9
60°-70°	354.0	6.7
70°-80°	178.1	3.4
80°-90°	48.9	0.9
90°-100°	127.8	2.4
100°-110°	362.0	6.8
110°-120°	356.1	6.7
120°-130°	284.0	5.4
130°-140°	224.0	4.2
140°-150°	167.1	3.2
150°-160°	116.5	2.2
160°-170°	68.4	1.3
170°-180°	22.3	0.4
0°-30°	1155.7	21.8
0°-40°	1825.4	34.4
0°-60°	2990.6	56.4
0°-90°	3571.6	67.4
90°-120°	846.0	16.0
90°-150°	1521.1	28.7
90°-180°	1728.0	32.6
0°-180°	5299.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	1	6	12	13	14	4
95°	16	51	276	80	54	17
105°	54	80	374	654	592	57
115°	95	119	286	627	719	94
125°	133	156	267	484	567	118
135°	155	185	263	398	460	120
145°	177	203	260	327	360	111
155°	201	217	252	286	298	93
165°	220	226	241	256	260	62
175°	229	230	231	234	234	22
180°	230	230	230	230	230	



TEST NUMBER: P332371-930

CATALOG NUMBER: S123RDIP-S1165D585U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.8	22.5	20.1	17.9	15.6	14.5	14.8	15.1	15.4	15.7	15.3
90°	0.9	1.9	2.8	4.2	5.1	6.0	7.4	8.8	10.2	11.7	11.2
92.5°	5.8	8.6	12.5	16.1	20.0	26.9	39.1	59.0	78.7	71.5	54.0
95°	15.8	17.2	22.3	30.2	42.3	60.4	100.0	169.3	245.6	275.7	223.6
97.5°	27.0	27.5	31.5	38.3	50.2	69.9	107.6	185.7	312.8	427.4	457.2
100°	34.4	34.9	38.2	44.7	55.8	73.9	106.5	175.3	297.6	440.3	532.0
102.5°	42.2	43.0	46.0	52.1	62.1	78.8	107.9	166.4	275.3	416.2	535.7
105°	54.0	55.4	58.1	63.7	72.6	87.0	112.1	160.0	247.9	373.9	507.4
107.5°	66.4	67.8	70.5	76.0	84.3	97.7	119.7	159.5	230.4	336.5	457.7
110°	75.3	76.7	79.1	84.1	92.0	105.1	126.0	161.3	223.6	315.3	426.4



TEST NUMBER: P332371-930

CATALOG NUMBER: S123RDIP-S1165D585U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	83.5	85.0	87.2	92.4	100.3	112.9	132.3	165.1	220.0	301.2	399.3
115°	95.3	97.2	100.0	104.6	112.5	125.1	142.8	171.1	218.6	286.0	366.5
117.5°	107.1	109.3	111.6	115.9	124.7	136.3	153.8	179.1	219.4	277.0	346.7
120°	115.4	116.8	119.0	123.7	132.6	144.1	160.9	185.1	220.9	273.0	336.2
122.5°	122.4	123.8	126.1	131.1	139.6	152.0	168.4	190.7	223.5	270.4	327.7
125°	132.6	133.5	136.2	141.4	150.2	162.7	179.0	199.5	227.4	266.9	316.7
127.5°	140.2	141.6	145.1	150.3	160.0	172.6	188.3	206.8	231.9	265.2	307.0
130°	145.1	146.5	150.7	156.2	166.0	178.6	193.9	211.6	234.8	264.2	301.8
132.5°	148.8	150.6	155.2	161.8	171.6	183.8	198.8	216.1	237.1	263.7	296.9
135°	155.3	157.2	162.3	169.3	179.0	191.6	206.0	221.8	240.4	263.2	290.7
137.5°	161.4	163.4	168.4	175.9	185.6	197.1	211.0	226.1	242.6	262.2	285.2
140°	165.6	167.9	172.5	179.9	189.2	200.9	214.3	228.4	244.1	261.8	281.8
142.5°	170.0	171.9	177.0	183.7	193.0	203.9	217.0	230.6	245.2	261.1	278.8
145°	177.2	178.6	182.8	189.7	197.6	208.3	220.5	233.0	246.0	259.9	274.8
147.5°	184.4	185.2	189.4	195.4	203.0	212.1	223.2	234.5	246.0	258.2	270.9
150°	189.2	189.7	193.5	199.5	206.0	214.3	225.1	234.8	246.0	256.7	268.3
152.5°	194.1	194.2	198.0	203.3	209.0	217.0	226.2	235.6	244.9	254.9	265.4
155°	201.4	201.4	204.2	208.8	213.9	220.5	228.4	235.8	243.7	251.6	260.9
157.5°	207.1	207.5	209.7	213.9	218.2	223.2	229.5	236.3	242.1	248.7	255.8
160°	211.6	211.6	213.4	217.2	220.5	225.1	230.6	236.3	241.3	246.5	252.5
162.5°	214.9	214.9	216.5	219.4	222.3	226.2	231.1	235.9	239.9	244.3	249.2
165°	220.0	219.5	220.5	222.7	224.6	227.9	231.5	234.8	237.7	240.9	244.6
167.5°	223.8	223.2	223.6	225.4	226.7	228.8	231.5	234.1	235.4	237.5	240.3
170°	226.0	225.1	225.5	226.9	227.9	228.8	231.1	233.0	233.9	235.3	237.7
172.5°	227.5	226.9	227.1	228.0	228.6	229.2	231.1	232.6	232.8	233.4	235.1
175°	229.3	228.8	228.4	229.3	229.3	229.8	230.6	231.5	231.1	231.1	232.0
177.5°	230.1	229.8	229.3	229.8	229.8	229.8	230.1	230.8	230.1	229.8	230.1
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8



TEST NUMBER: P332371-930

CATALOG NUMBER: S123RDIP-S1165D585U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	15.2	15.1	14.9	14.9	14.6	14.4	14.3	13.9
90°	11.7	12.1	12.6	13.5	13.0	13.5	13.9	13.5
92.5°	39.1	31.1	27.5	25.0	24.2	22.7	23.2	22.4
95°	167.4	113.5	88.8	72.1	63.3	59.0	55.8	54.0
97.5°	417.4	334.3	274.3	218.7	184.3	163.4	150.8	146.8
100°	548.3	510.6	456.2	390.1	343.2	309.2	291.1	291.6
102.5°	591.8	590.6	558.9	517.0	480.5	453.6	438.4	427.7
105°	604.5	651.0	659.9	647.8	626.4	608.7	593.9	591.5
107.5°	567.9	643.4	684.1	700.7	701.1	695.1	690.1	685.8
110°	532.9	618.5	677.1	709.6	722.7	726.4	725.5	724.5



TEST NUMBER: P332371-930

CATALOG NUMBER: S123RDIP-S1165D585U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	498.3	585.7	651.4	693.2	717.1	728.6	732.1	732.3
115°	452.5	533.4	601.8	652.4	687.3	707.8	717.1	719.4
117.5°	419.2	489.1	550.5	601.9	638.3	661.7	675.1	678.2
120°	401.8	464.6	520.3	567.4	604.1	630.1	641.2	644.1
122.5°	388.0	444.8	496.5	540.1	572.8	596.2	608.5	612.0
125°	369.7	420.4	465.0	502.2	532.0	552.4	564.1	567.4
127.5°	353.7	398.9	439.2	473.0	499.5	517.0	527.5	530.5
130°	343.6	385.5	423.1	454.8	479.5	496.2	506.0	509.6
132.5°	334.4	372.8	407.9	438.1	461.2	477.9	486.6	489.2
135°	321.8	354.8	385.1	411.6	434.3	448.3	456.6	459.9
137.5°	310.4	337.5	363.5	386.5	405.6	419.7	426.8	428.9
140°	303.7	327.3	349.7	369.7	387.3	400.4	407.8	407.3
142.5°	297.3	317.7	337.0	354.4	369.5	381.1	387.8	387.3
145°	289.7	305.1	319.9	333.5	345.0	354.8	358.6	359.5
147.5°	283.5	295.6	307.7	317.2	326.0	332.6	336.2	336.6
150°	279.0	289.7	299.5	308.3	315.3	320.4	323.2	323.2
152.5°	274.9	284.1	292.8	300.1	305.6	310.4	312.0	312.0
155°	268.8	276.2	283.2	288.8	292.9	296.7	297.6	298.1
157.5°	262.3	268.5	273.9	278.3	281.9	284.7	285.4	285.4
160°	258.5	263.7	268.3	271.6	274.8	277.6	277.6	277.1
162.5°	254.1	258.4	262.8	265.6	267.7	270.2	270.2	269.7
165°	248.3	251.1	254.4	256.7	258.5	260.4	259.9	259.9
167.5°	243.3	245.4	247.3	249.0	249.8	251.1	250.6	250.6
170°	239.9	241.3	243.2	244.1	244.6	245.6	245.1	245.1
172.5°	237.0	238.0	239.5	240.0	240.1	241.1	240.3	239.9
175°	233.0	233.4	234.4	234.4	234.4	234.8	234.4	233.9
177.5°	230.5	230.8	231.2	231.2	230.8	231.2	230.5	230.5
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8

(END OF REPORT)