

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: P332369-930

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332369-930
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-S1165D585U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5480.2 lumens
Efficiency: N/A
Efficacy: 99.5 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

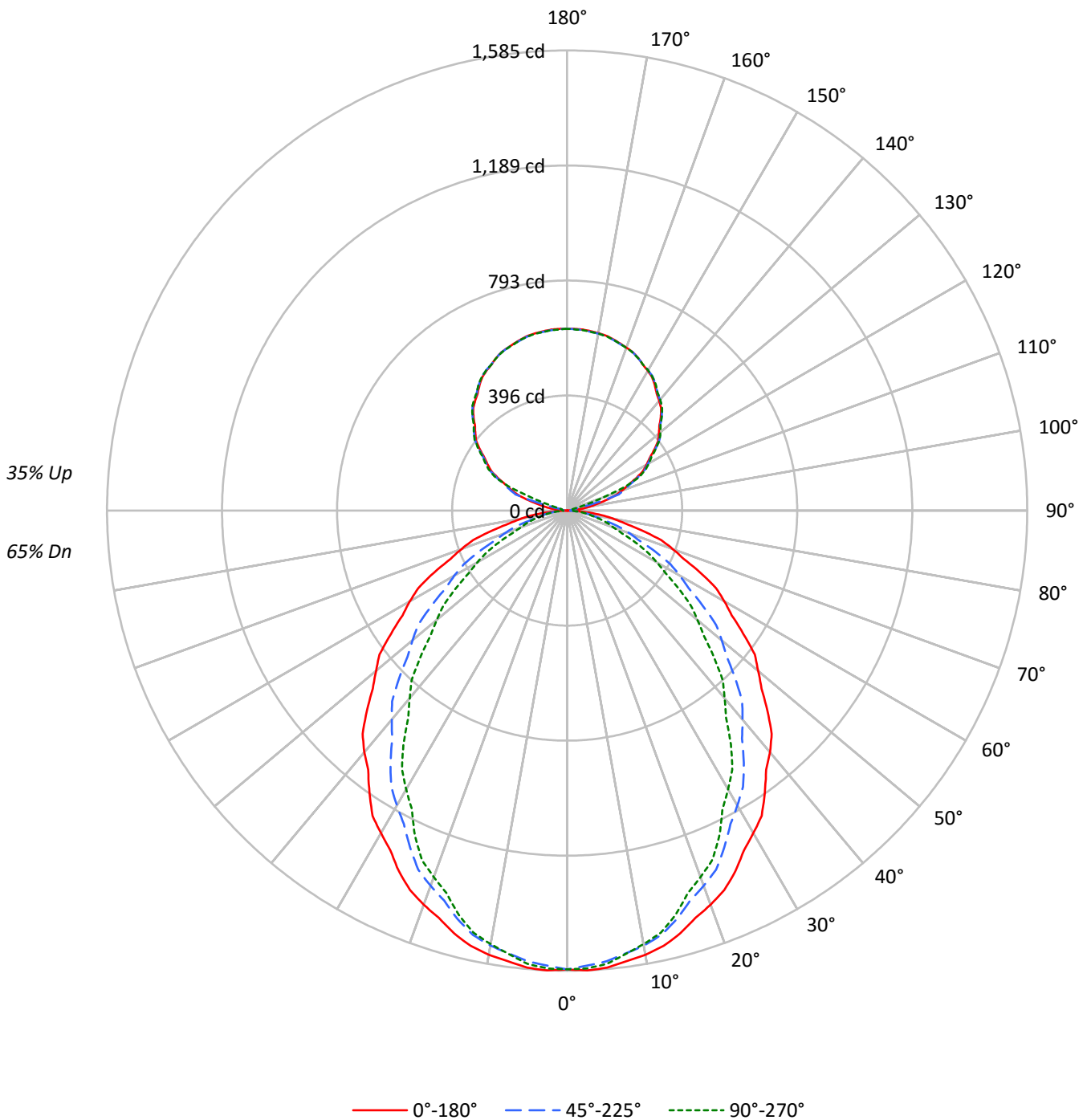
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	102	97	94	90	95	92	88	85	81	79	76	72	70	68	63	61	60	56
2	93	86	79	74	87	81	75	71	72	68	64	63	60	57	56	53	51	47
3	85	76	68	62	80	71	65	60	64	58	54	56	52	49	50	47	44	41
4	78	67	59	53	73	64	57	51	57	51	47	50	46	42	45	41	38	35
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	40	37	34	31
6	66	54	46	40	62	51	44	39	46	40	36	41	36	33	37	33	30	27
7	62	49	41	36	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	35	31	39	33	28	35	30	26	31	27	24	22
9	53	41	33	28	50	39	32	27	35	30	26	32	27	24	29	25	22	20
10	50	38	31	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	2.7
10°-20°	412.9	7.5
20°-30°	594.5	10.8
30°-40°	669.6	12.2
40°-50°	640.6	11.7
50°-60°	524.6	9.6
60°-70°	354.0	6.5
70°-80°	178.1	3.2
80°-90°	48.9	0.9
90°-100°	22.8	0.4
100°-110°	108.4	2.0
110°-120°	260.5	4.8
120°-130°	331.7	6.1
130°-140°	354.4	6.5
140°-150°	331.4	6.0
150°-160°	267.4	4.9
160°-170°	172.6	3.1
170°-180°	59.5	1.1
0°-30°	1155.7	21.1
0°-40°	1825.4	33.3
0°-60°	2990.6	54.6
0°-90°	3571.5	65.2
90°-120°	391.7	7.1
90°-150°	1409.3	25.7
90°-180°	1909.0	34.8
0°-180°	5480.2	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°	0	5	11	13	14	5
95°	28	11	14	18	18	35
105°	139	141	102	24	20	147
115°	260	263	267	271	274	257
125°	366	370	372	373	374	327
135°	456	459	461	462	461	351
145°	526	530	531	531	532	329
155°	580	579	579	581	579	267
165°	612	610	610	613	610	173
175°	626	624	624	627	624	60
180°	626	626	626	626	626	



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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°	24.7	22.4	20.1	17.8	15.5	14.5	14.8	15.0	15.3	15.6	15.4
90°	0.5	1.5	2.5	3.6	4.6	5.8	7.1	8.5	9.8	11.2	11.6
92.5°	8.6	8.4	8.1	7.7	7.5	7.8	8.9	9.9	10.9	11.9	12.6
95°	28.4	24.1	19.9	15.7	11.4	9.9	11.0	12.1	13.3	14.4	15.2
97.5°	57.0	55.1	53.2	51.3	49.4	44.8	37.3	29.8	22.4	15.0	15.8
100°	78.6	80.6	82.8	84.8	86.8	79.8	63.7	47.6	31.5	15.3	16.1
102.5°	103.1	104.6	106.2	107.6	109.1	101.0	83.4	65.8	48.2	30.6	28.0
105°	138.6	139.7	140.9	141.9	143.1	139.0	129.7	120.4	111.1	101.8	83.6
107.5°	175.9	176.8	177.8	178.7	179.6	180.8	182.2	183.7	185.2	186.6	173.3
110°	200.9	201.7	202.5	203.3	204.2	205.2	206.3	207.4	208.6	209.7	206.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	224.7	225.4	226.2	226.9	227.6	228.6	229.8	230.9	232.0	233.2	233.3
115°	259.9	260.6	261.1	261.8	262.4	263.2	264.2	265.1	266.0	266.9	268.0
117.5°	294.1	294.8	295.6	296.4	297.1	297.7	298.2	298.7	299.2	299.6	300.5
120°	315.3	316.2	317.2	318.0	319.0	319.6	319.9	320.2	320.6	320.8	321.7
122.5°	336.9	337.6	338.3	339.2	339.9	340.5	340.9	341.3	341.7	342.1	342.7
125°	366.4	367.3	368.1	368.9	369.7	370.4	370.8	371.2	371.6	372.0	372.2
127.5°	395.1	395.9	396.7	397.5	398.4	399.0	399.5	400.1	400.6	401.0	401.4
130°	412.9	413.8	414.6	415.4	416.2	416.9	417.3	417.7	418.1	418.5	418.9
132.5°	430.1	430.9	431.7	432.5	433.3	433.9	434.2	434.6	434.9	435.3	435.7
135°	456.2	456.8	457.4	458.0	458.7	459.2	459.6	460.0	460.4	460.8	461.1
137.5°	478.5	479.3	480.0	480.9	481.6	482.2	482.3	482.6	482.8	483.1	483.6
140°	493.3	494.0	494.6	495.2	495.9	496.4	496.6	496.9	497.3	497.6	498.0
142.5°	507.1	507.8	508.4	509.0	509.6	510.1	510.4	510.7	511.0	511.4	511.7
145°	526.4	527.1	527.8	528.6	529.3	529.8	529.9	530.2	530.4	530.6	530.8
147.5°	544.5	545.0	545.5	545.9	546.4	546.7	547.0	547.1	547.4	547.6	547.8
150°	555.7	556.0	556.3	556.6	556.9	557.2	557.4	557.6	557.8	558.0	558.2
152.5°	565.7	565.9	566.0	566.1	566.3	566.5	566.6	566.7	566.8	567.0	567.3
155°	579.8	579.7	579.4	579.3	579.0	579.0	579.1	579.2	579.3	579.4	579.9
157.5°	590.8	590.8	590.8	590.8	590.8	590.7	590.6	590.5	590.4	590.3	590.9
160°	597.5	597.5	597.4	597.2	597.1	597.0	596.9	596.8	596.7	596.6	597.2
162.5°	603.9	603.6	603.3	603.1	602.8	602.6	602.5	602.4	602.3	602.2	602.9
165°	611.5	611.1	610.9	610.6	610.3	610.0	609.9	609.8	609.8	609.6	610.5
167.5°	617.4	617.0	616.6	616.2	615.8	615.6	615.6	615.6	615.6	615.6	616.4
170°	620.8	620.4	620.0	619.5	619.1	618.9	618.9	618.9	618.9	618.9	619.8
172.5°	623.1	622.6	622.0	621.5	621.0	620.9	620.9	621.0	621.1	621.2	622.0
175°	625.9	625.4	624.8	624.4	623.9	623.6	623.7	623.9	623.9	624.0	624.8
177.5°	626.6	626.2	625.8	625.4	625.0	624.8	624.9	625.0	625.1	625.2	625.8
180°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9



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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	15.2	15.0	14.8	14.6	14.4	14.3	14.1
90°	12.0	12.4	12.8	13.1	13.4	13.5	13.8	13.9
92.5°	13.2	13.9	14.5	14.9	15.1	15.2	15.3	15.4
95°	15.9	16.6	17.3	17.7	17.7	17.7	17.7	17.7
97.5°	16.6	17.4	18.3	18.8	18.8	18.9	19.1	19.2
100°	17.0	17.9	18.7	19.1	19.2	19.3	19.4	19.6
102.5°	25.4	22.9	20.4	19.2	19.3	19.6	19.7	19.9
105°	65.2	47.0	28.7	19.6	19.8	20.1	20.2	20.5
107.5°	159.8	146.4	133.0	119.4	105.6	91.8	78.0	64.2
110°	202.9	199.5	196.1	186.9	172.2	157.4	142.7	127.8



TEST NUMBER: P332369-930

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	233.3	233.3	233.4	231.9	228.8	225.6	222.5	219.4
115°	269.0	270.0	271.1	271.7	272.1	272.6	273.0	273.5
117.5°	301.3	302.1	303.0	303.5	303.5	303.6	303.7	303.8
120°	322.5	323.3	324.2	324.6	324.6	324.6	324.6	324.6
122.5°	343.2	343.8	344.4	344.7	344.8	344.9	345.0	345.0
125°	372.4	372.6	372.8	373.1	373.2	373.5	373.7	373.9
127.5°	401.7	402.0	402.4	402.4	402.2	402.0	401.8	401.6
130°	419.3	419.7	420.1	420.3	420.0	419.9	419.6	419.5
132.5°	436.1	436.5	436.9	437.0	436.7	436.3	436.1	435.8
135°	461.5	461.8	462.0	462.0	461.8	461.5	461.1	460.8
137.5°	484.0	484.5	485.0	485.2	484.9	484.8	484.5	484.4
140°	498.4	498.8	499.2	499.3	499.1	498.9	498.7	498.5
142.5°	512.0	512.3	512.7	512.7	512.4	512.1	511.8	511.5
145°	531.0	531.2	531.4	531.5	531.5	531.5	531.5	531.5
147.5°	548.0	548.2	548.5	548.3	547.8	547.3	546.9	546.4
150°	558.4	558.6	558.8	558.8	558.5	558.2	557.8	557.6
152.5°	567.7	568.0	568.4	568.3	567.9	567.4	567.0	566.5
155°	580.4	581.0	581.5	581.4	580.8	580.2	579.6	578.9
157.5°	591.5	592.2	592.8	592.6	591.8	591.1	590.3	589.5
160°	597.9	598.4	599.1	599.0	598.3	597.6	596.9	596.1
162.5°	603.6	604.3	605.0	605.0	604.4	603.7	603.1	602.5
165°	611.3	612.1	612.9	613.0	612.3	611.6	610.8	610.1
167.5°	617.3	618.1	618.9	618.9	618.1	617.3	616.4	615.6
170°	620.6	621.4	622.2	622.2	621.4	620.6	619.8	618.9
172.5°	622.8	623.6	624.4	624.4	623.5	622.6	621.7	620.8
175°	625.5	626.2	627.0	626.9	626.1	625.3	624.4	623.5
177.5°	626.5	627.1	627.8	627.7	626.9	626.1	625.3	624.4
180°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9

(END OF REPORT)