

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: P332371-935

Luminaire Tested: **S123RDIP-S1165D585U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332371-935
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-S1165D585U935-4F0-1E-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: 5596.9 lumens
Efficiency: N/A
Efficacy: 101.6 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

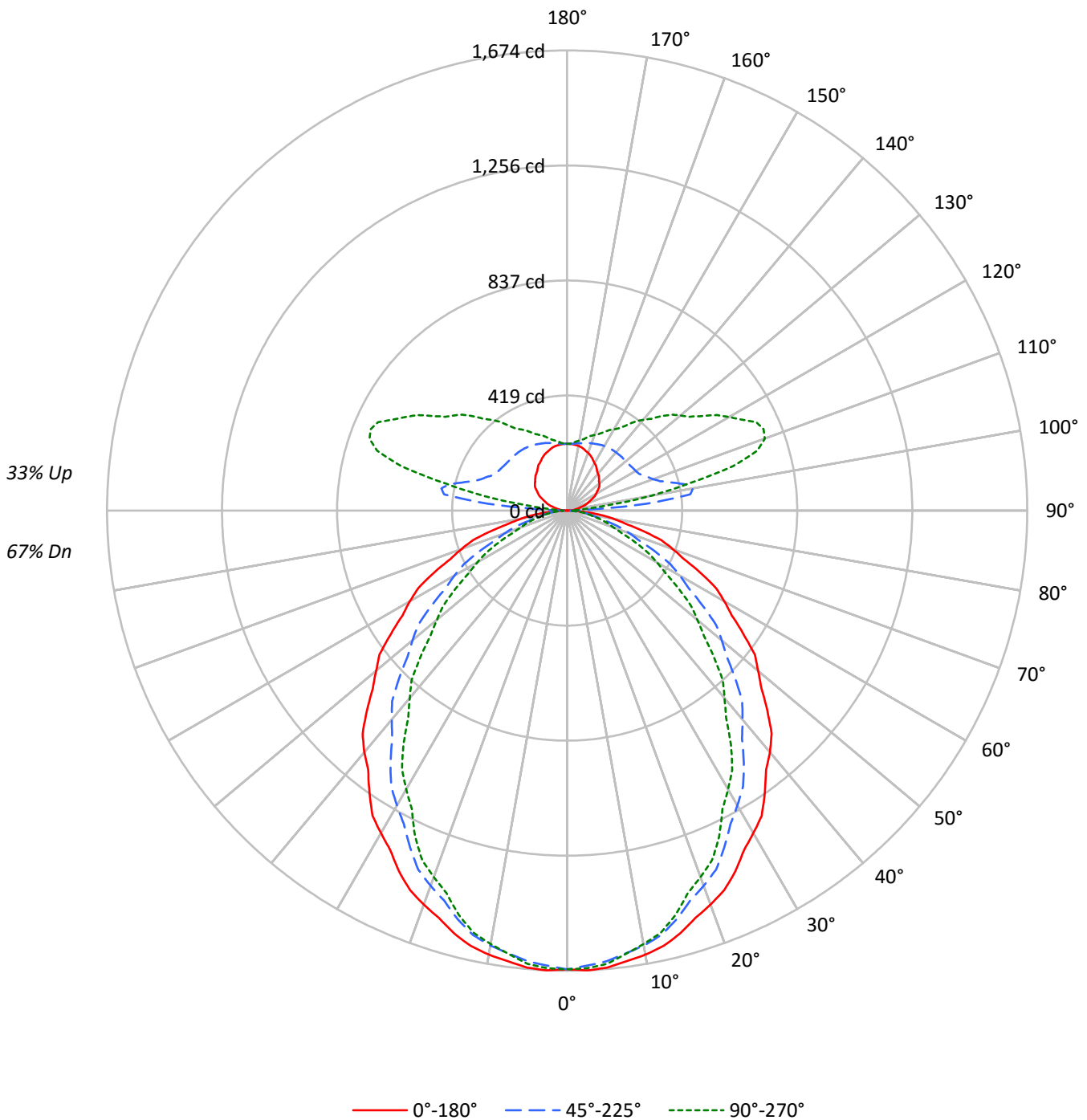
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	17963	17963	17963
5°	18031	17782	17884
10°	17930	17559	17500
15°	17736	17149	16967
20°	17472	16635	16247
25°	17199	16057	15543
30°	16839	15392	14551
35°	16469	14725	13641
40°	16127	13939	12513
45°	15678	13164	11496
50°	15185	12285	10357
55°	14681	11277	9295
60°	14219	10198	8129
65°	13616	9032	6963
70°	12862	7582	5624
75°	11761	5964	5294
80°	10488	5281	4866
85°	8855	4681	4347



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.7	2.8
10°-20°	436.0	7.8
20°-30°	627.8	11.2
30°-40°	707.2	12.6
40°-50°	676.5	12.1
50°-60°	554.0	9.9
60°-70°	373.8	6.7
70°-80°	188.1	3.4
80°-90°	51.6	0.9
90°-100°	135.0	2.4
100°-110°	382.3	6.8
110°-120°	376.1	6.7
120°-130°	300.0	5.4
130°-140°	236.5	4.2
140°-150°	176.5	3.2
150°-160°	123.0	2.2
160°-170°	72.3	1.3
170°-180°	23.5	0.4
0°-30°	1220.5	21.8
0°-40°	1927.7	34.4
0°-60°	3158.3	56.4
0°-90°	3771.8	67.4
90°-120°	893.4	16.0
90°-150°	1606.4	28.7
90°-180°	1825.0	32.6
0°-180°	5596.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1669	1669	1669	1669	1669	
5°	1669	1662	1646	1657	1655	158
15°	1592	1575	1539	1532	1523	448
25°	1448	1413	1352	1324	1309	666
35°	1253	1203	1121	1064	1038	784
45°	1030	967	865	790	755	794
55°	782	713	601	525	495	701
65°	535	458	355	291	273	529
75°	283	217	143	131	127	302
85°	72	43	38	35	35	81
90°	1	6	12	14	14	5
95°	17	54	291	85	57	18
105°	57	84	395	690	625	61
115°	101	125	302	662	760	100
125°	140	165	282	511	599	124
135°	164	196	278	421	486	127
145°	187	214	274	345	380	117
155°	213	229	266	302	315	98
165°	232	239	254	270	274	65
175°	242	242	244	248	247	23
180°	243	243	243	243	243	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8
2.5°	1674.2	1673.2	1672.2	1671.3	1670.3	1668.4	1665.5	1662.6	1659.7	1656.8	1659.5
5°	1668.8	1667.2	1665.8	1664.2	1662.8	1660.2	1656.6	1652.9	1649.3	1645.7	1648.5
7.5°	1653.3	1651.7	1650.1	1648.5	1646.8	1643.6	1639.0	1634.3	1629.6	1624.9	1626.4
10°	1640.4	1638.2	1636.2	1634.0	1631.9	1628.2	1622.7	1617.3	1611.9	1606.5	1606.8
12.5°	1622.0	1619.6	1617.2	1614.9	1612.6	1608.1	1601.5	1594.8	1588.2	1581.6	1581.4
15°	1591.6	1588.3	1585.0	1581.7	1578.4	1572.5	1564.1	1555.7	1547.2	1538.9	1537.3
17.5°	1553.4	1549.6	1545.8	1541.9	1538.1	1530.8	1520.1	1509.3	1498.7	1488.0	1484.8
20°	1525.3	1520.5	1515.7	1510.9	1506.1	1498.0	1486.5	1475.1	1463.6	1452.2	1448.3
22.5°	1493.9	1488.3	1482.8	1477.3	1471.8	1462.9	1450.8	1438.6	1426.5	1414.3	1409.5
25°	1448.1	1440.6	1433.1	1425.6	1418.1	1407.4	1393.5	1379.8	1365.9	1352.0	1345.7
27.5°	1392.7	1384.4	1376.1	1367.8	1359.4	1347.6	1332.2	1316.8	1301.4	1286.0	1277.2
30°	1354.8	1345.7	1336.7	1327.7	1318.7	1305.7	1288.9	1272.0	1255.3	1238.4	1228.1
32.5°	1316.9	1306.7	1296.4	1286.2	1276.0	1262.0	1244.1	1226.3	1208.5	1190.8	1179.6
35°	1253.3	1242.4	1231.6	1220.8	1210.0	1195.2	1176.6	1158.0	1139.3	1120.6	1107.7
37.5°	1188.9	1176.8	1164.8	1152.7	1140.7	1124.7	1104.8	1084.9	1065.1	1045.1	1030.4
40°	1147.7	1134.5	1121.2	1108.0	1094.8	1077.5	1056.1	1034.7	1013.4	992.0	976.4
42.5°	1101.1	1087.9	1074.7	1061.4	1048.2	1030.5	1008.5	986.4	964.3	942.3	925.1
45°	1029.9	1016.4	1002.9	989.4	975.8	957.4	934.3	911.1	887.9	864.8	847.7
47.5°	958.7	943.9	929.0	914.2	899.3	880.3	857.1	834.0	810.8	787.7	769.0
50°	906.8	892.7	878.5	864.4	850.2	831.0	806.7	782.3	757.9	733.6	714.9
52.5°	860.2	844.9	829.6	814.2	798.8	779.1	755.0	730.9	706.8	682.7	663.3
55°	782.3	767.5	752.8	738.0	723.3	703.2	677.6	652.0	626.5	600.9	583.5
57.5°	710.2	694.2	678.1	662.1	646.0	625.2	599.5	573.8	548.1	522.5	505.9
60°	660.5	643.9	627.4	610.9	594.3	573.5	548.5	523.7	498.7	473.7	457.4
62.5°	610.6	594.1	577.6	561.0	544.5	523.7	498.8	473.8	448.8	423.9	408.6
65°	534.6	518.1	501.5	485.0	468.5	448.4	425.0	401.5	378.1	354.6	339.8
67.5°	458.6	441.8	425.1	408.4	391.7	372.0	349.6	327.0	304.5	282.1	271.0
70°	408.7	392.5	376.3	360.0	343.8	325.1	304.1	283.0	262.0	240.9	230.4
72.5°	359.0	342.9	326.9	310.9	294.9	277.3	258.2	239.1	220.0	200.9	192.3
75°	282.8	268.5	254.0	239.5	225.2	209.7	193.1	176.5	160.0	143.4	140.4
77.5°	213.5	200.5	187.4	174.4	161.4	149.5	138.9	128.2	117.5	106.9	105.3
80°	169.2	156.9	144.5	132.2	119.9	110.6	104.2	97.9	91.6	85.2	84.4
82.5°	126.9	116.3	105.6	95.0	84.4	77.6	74.6	71.6	68.7	65.8	64.8
85°	71.7	65.1	58.5	51.9	45.3	41.5	40.6	39.7	38.8	37.9	37.3
87.5°	26.2	23.8	21.3	18.9	16.4	15.3	15.7	15.9	16.3	16.5	16.2
90°	0.9	2.0	2.9	4.4	5.4	6.4	7.8	9.3	10.8	12.3	11.8
92.5°	6.1	9.0	13.2	17.0	21.1	28.4	41.2	62.3	83.1	75.5	57.0
95°	16.7	18.2	23.6	31.9	44.7	63.8	105.6	178.7	259.3	291.2	236.2
97.5°	28.5	29.0	33.2	40.5	53.0	73.8	113.7	196.1	330.4	451.3	482.8
100°	36.3	36.9	40.3	47.2	58.9	78.1	112.4	185.1	314.3	465.0	561.8
102.5°	44.6	45.5	48.6	55.0	65.6	83.2	114.0	175.7	290.8	439.5	565.8
105°	57.0	58.5	61.4	67.2	76.6	91.9	118.4	168.9	261.7	394.9	535.8
107.5°	70.1	71.6	74.5	80.2	89.0	103.1	126.4	168.4	243.3	355.3	483.4
110°	79.6	81.0	83.5	88.9	97.2	111.0	133.1	170.4	236.2	332.9	450.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.2	89.7	92.1	97.6	105.9	119.2	139.7	174.4	232.3	318.1	421.6
115°	100.7	102.6	105.6	110.5	118.8	132.1	150.8	180.7	230.8	302.0	387.0
117.5°	113.1	115.4	117.9	122.3	131.7	144.0	162.5	189.2	231.7	292.6	366.1
120°	121.8	123.3	125.7	130.6	140.0	152.2	169.9	195.4	233.2	288.3	355.1
122.5°	129.2	130.7	133.2	138.4	147.4	160.5	177.8	201.4	236.0	285.5	346.0
125°	140.0	140.9	143.9	149.3	158.6	171.9	189.1	210.7	240.1	281.9	334.4
127.5°	148.1	149.6	153.3	158.7	169.0	182.3	198.9	218.3	244.9	280.1	324.3
130°	153.3	154.7	159.1	165.0	175.3	188.6	204.7	223.4	248.0	279.0	318.7
132.5°	157.1	159.0	163.8	170.9	181.2	194.1	209.9	228.2	250.4	278.5	313.6
135°	164.0	166.0	171.4	178.7	189.1	202.3	217.6	234.3	253.9	277.9	306.9
137.5°	170.5	172.5	177.9	185.7	196.0	208.2	222.8	238.8	256.2	276.9	301.2
140°	174.9	177.3	182.2	190.0	199.8	212.2	226.4	241.2	257.8	276.5	297.6
142.5°	179.5	181.6	186.9	194.0	203.8	215.3	229.1	243.5	259.0	275.7	294.5
145°	187.1	188.6	193.0	200.4	208.7	220.0	232.8	246.1	259.8	274.5	290.2
147.5°	194.8	195.6	200.0	206.4	214.4	224.0	235.7	247.6	259.8	272.7	286.1
150°	199.8	200.4	204.3	210.7	217.6	226.4	237.7	248.0	259.8	271.0	283.4
152.5°	205.0	205.1	209.1	214.6	220.7	229.1	238.8	248.8	258.6	269.1	280.3
155°	212.7	212.7	215.6	220.5	225.9	232.8	241.2	249.0	257.4	265.7	275.5
157.5°	218.7	219.1	221.4	225.8	230.4	235.7	242.4	249.5	255.6	262.6	270.2
160°	223.4	223.4	225.4	229.4	232.8	237.7	243.6	249.5	254.9	260.3	266.7
162.5°	227.0	227.0	228.6	231.7	234.7	238.8	244.0	249.1	253.3	258.0	263.1
165°	232.3	231.8	232.8	235.2	237.2	240.6	244.5	248.0	251.0	254.4	258.3
167.5°	236.3	235.7	236.2	238.1	239.4	241.6	244.4	247.2	248.6	250.8	253.7
170°	238.7	237.7	238.2	239.6	240.6	241.6	244.1	246.1	247.0	248.5	251.0
172.5°	240.2	239.6	239.8	240.8	241.4	242.0	244.1	245.6	245.8	246.5	248.2
175°	242.1	241.6	241.2	242.1	242.1	242.6	243.6	244.5	244.1	244.1	245.0
177.5°	243.0	242.6	242.2	242.6	242.6	242.6	243.0	243.7	243.0	242.6	243.0
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8
2.5°	1662.2	1664.8	1667.4	1668.5	1668.0	1667.6	1667.1	1666.6
5°	1651.1	1653.9	1656.6	1657.6	1657.0	1656.4	1655.8	1655.2
7.5°	1627.9	1629.4	1630.9	1631.2	1630.1	1629.1	1628.1	1627.0
10°	1607.1	1607.4	1607.7	1607.1	1605.6	1604.1	1602.6	1601.1
12.5°	1581.2	1581.1	1580.9	1579.9	1578.2	1576.4	1574.7	1573.0
15°	1535.9	1534.3	1532.8	1531.0	1528.9	1526.8	1524.7	1522.6
17.5°	1481.6	1478.3	1475.2	1472.1	1468.9	1465.8	1462.7	1459.5
20°	1444.4	1440.5	1436.6	1432.8	1429.2	1425.6	1422.0	1418.4
22.5°	1404.5	1399.7	1394.8	1390.7	1387.3	1384.0	1380.6	1377.3
25°	1339.5	1333.1	1326.8	1322.0	1318.7	1315.3	1312.1	1308.7
27.5°	1268.4	1259.6	1250.9	1244.0	1238.9	1233.9	1228.8	1223.7
30°	1217.9	1207.7	1197.5	1190.0	1185.2	1180.3	1175.5	1170.7
32.5°	1168.4	1157.2	1146.0	1137.9	1132.8	1127.7	1122.7	1117.7
35°	1094.8	1081.8	1068.9	1059.7	1054.3	1048.9	1043.4	1038.1
37.5°	1015.7	1001.1	986.4	975.7	969.1	962.3	955.7	949.0
40°	960.8	945.1	929.5	918.3	911.3	904.4	897.5	890.5
42.5°	908.1	891.0	873.9	862.3	856.1	849.9	843.7	837.5
45°	830.5	813.4	796.3	784.1	776.9	769.6	762.4	755.2
47.5°	750.4	731.8	713.1	700.6	694.1	687.7	681.2	674.9
50°	696.3	677.6	658.9	646.2	639.3	632.3	625.4	618.5
52.5°	643.9	624.6	605.2	592.4	586.2	580.1	573.9	567.7
55°	566.0	548.5	531.2	519.4	513.4	507.4	501.4	495.3
57.5°	489.5	472.9	456.5	445.7	440.6	435.5	430.3	425.2
60°	441.2	425.0	408.7	398.0	393.0	387.8	382.7	377.6
62.5°	393.3	378.1	362.7	352.5	347.1	341.7	336.4	331.1
65°	325.1	310.4	295.7	286.6	283.4	280.0	276.7	273.4
67.5°	260.0	249.0	238.0	230.7	227.2	223.6	220.1	216.5
70°	219.8	209.3	198.8	191.9	188.6	185.3	181.9	178.7
72.5°	183.7	175.0	166.4	161.4	160.1	158.7	157.3	155.9
75°	137.4	134.4	131.4	129.7	129.1	128.5	127.9	127.3
77.5°	103.7	102.0	100.4	99.3	98.7	98.1	97.5	96.9
80°	83.4	82.6	81.6	80.9	80.3	79.7	79.1	78.5
82.5°	64.0	63.1	62.2	61.6	61.6	61.4	61.3	61.2
85°	36.7	36.1	35.5	35.2	35.2	35.2	35.2	35.2
87.5°	16.0	15.9	15.8	15.8	15.4	15.2	15.1	14.7
90°	12.3	12.7	13.3	14.2	13.8	14.2	14.7	14.2
92.5°	41.3	32.8	29.0	26.4	25.6	24.0	24.5	23.7
95°	176.8	119.9	93.8	76.1	66.8	62.3	58.9	57.0
97.5°	440.7	353.0	289.6	230.9	194.7	172.5	159.3	155.1
100°	579.0	539.2	481.7	412.0	362.4	326.6	307.5	307.9
102.5°	625.0	623.7	590.2	546.0	507.4	479.0	463.0	451.7
105°	638.4	687.5	696.9	684.1	661.5	642.8	627.2	624.7
107.5°	599.7	679.5	722.5	739.9	740.4	734.1	728.8	724.3
110°	562.7	653.2	715.1	749.4	763.2	767.1	766.1	765.1



TEST NUMBER: P332371-935

CATALOG NUMBER: S123RDIP-S1165D585U935-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	526.2	618.5	687.9	732.1	757.2	769.5	773.2	773.4
115°	477.9	563.3	635.5	689.0	725.8	747.4	757.2	759.7
117.5°	442.7	516.5	581.3	635.7	674.1	698.8	713.0	716.3
120°	424.3	490.6	549.5	599.2	637.9	665.5	677.2	680.2
122.5°	409.7	469.8	524.3	570.4	604.9	629.6	642.7	646.4
125°	390.4	443.9	491.1	530.4	561.8	583.4	595.7	599.2
127.5°	373.5	421.3	463.8	499.6	527.5	546.0	557.1	560.3
130°	362.9	407.1	446.9	480.3	506.4	524.0	534.3	538.2
132.5°	353.1	393.7	430.8	462.6	487.1	504.7	513.8	516.6
135°	339.8	374.7	406.7	434.6	458.7	473.4	482.2	485.7
137.5°	327.8	356.4	383.8	408.1	428.3	443.2	450.7	453.0
140°	320.7	345.7	369.3	390.4	409.1	422.8	430.7	430.2
142.5°	314.0	335.5	355.9	374.3	390.2	402.4	409.5	409.0
145°	305.9	322.2	337.9	352.1	364.4	374.7	378.7	379.6
147.5°	299.4	312.2	324.9	335.0	344.3	351.3	355.1	355.4
150°	294.6	305.9	316.2	325.6	332.9	338.4	341.3	341.3
152.5°	290.3	300.1	309.2	316.9	322.7	327.8	329.5	329.5
155°	283.9	291.7	299.1	305.0	309.4	313.3	314.3	314.8
157.5°	277.0	283.5	289.3	293.9	297.7	300.7	301.4	301.4
160°	273.0	278.4	283.4	286.8	290.2	293.2	293.2	292.7
162.5°	268.4	272.9	277.5	280.5	282.8	285.3	285.3	284.8
165°	262.3	265.2	268.6	271.0	273.0	275.0	274.5	274.5
167.5°	256.9	259.2	261.1	262.9	263.8	265.2	264.7	264.7
170°	253.4	254.9	256.8	257.8	258.3	259.3	258.8	258.8
172.5°	250.3	251.3	252.9	253.5	253.6	254.6	253.7	253.3
175°	246.1	246.5	247.5	247.5	247.5	248.0	247.5	247.0
177.5°	243.4	243.7	244.2	244.2	243.7	244.2	243.4	243.4
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6

(END OF REPORT)