

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: P332051-935

Luminaire Tested: **S123DIP-S1165D365U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332051-935
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: S123DIP-S1165D365U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5345.7 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

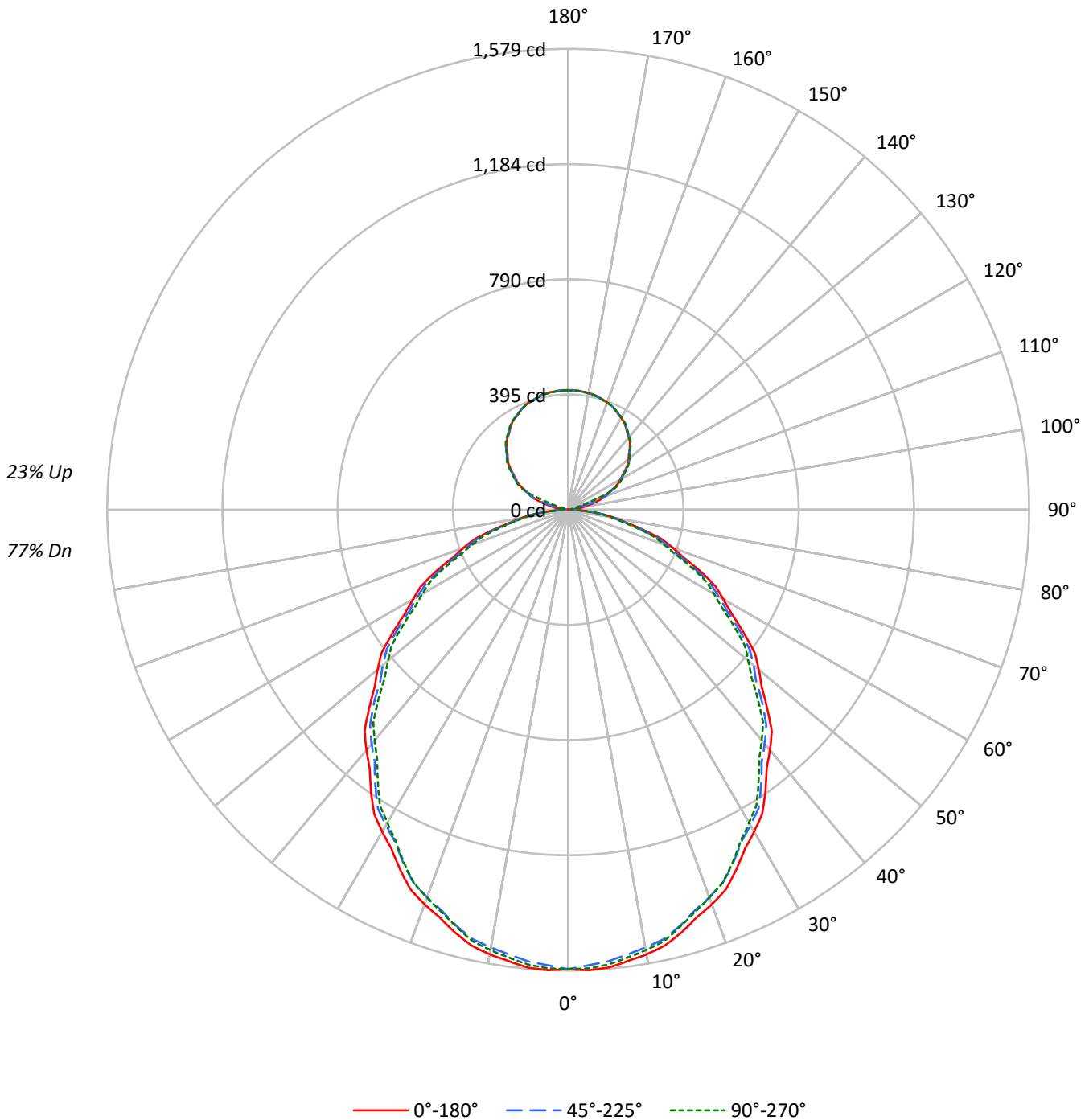
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332051-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332051-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F

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	113	113	113	113	108	108	108	108	98	98	98	89	89	89	81	81	81	77
1	104	99	95	91	99	95	91	88	86	83	81	78	76	74	71	69	68	64
2	94	87	80	75	90	83	77	72	75	71	67	69	65	62	63	60	57	54
3	86	76	68	62	82	73	66	60	67	61	56	61	56	52	55	52	49	46
4	79	67	59	53	75	65	57	51	59	53	48	54	49	45	50	45	42	39
5	73	60	52	45	69	58	50	44	53	47	42	49	43	39	45	40	37	34
6	67	54	46	40	64	52	44	38	48	41	36	44	39	34	41	36	32	30
7	62	49	41	35	59	47	39	34	44	37	32	40	35	30	37	32	29	26
8	58	45	37	31	55	43	36	30	40	33	29	37	31	27	34	29	26	24
9	54	41	33	28	51	40	32	27	37	30	26	34	28	25	31	27	23	21
10	50	38	30	25	48	36	29	25	34	28	23	31	26	22	29	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16942	16942	16942
5°	17022	16788	16904
10°	16909	16642	16746
15°	16711	16454	16485
20°	16479	16186	16200
25°	16170	15865	15833
30°	15830	15509	15392
35°	15473	15135	14939
40°	15100	14720	14491
45°	14690	14338	13988
50°	14277	13870	13485
55°	13741	13386	12979
60°	13199	12820	12411
65°	12720	12202	11826
70°	12013	11500	10990
75°	10975	10580	10131
80°	9899	9478	9397
85°	8682	8361	8028



TEST NUMBER: P332051-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	2.8
10°-20°	418.7	7.8
20°-30°	618.4	11.6
30°-40°	722.4	13.5
40°-50°	726.3	13.6
50°-60°	638.0	11.9
60°-70°	475.3	8.9
70°-80°	270.8	5.1
80°-90°	78.9	1.5
90°-100°	14.9	0.3
100°-110°	71.0	1.3
110°-120°	170.4	3.2
120°-130°	217.0	4.1
130°-140°	231.9	4.3
140°-150°	216.9	4.1
150°-160°	174.9	3.3
160°-170°	112.9	2.1
170°-180°	38.9	0.7
0°-30°	1185.3	22.2
0°-40°	1907.7	35.7
0°-60°	3272.0	61.2
0°-90°	4096.9	76.6
90°-120°	256.3	4.8
90°-150°	922.1	17.2
90°-180°	1249.0	23.4
0°-180°	5345.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1574	1574	1574	1574	1574	
5°	1575	1568	1554	1566	1564	149
15°	1500	1494	1476	1486	1479	423
25°	1362	1353	1336	1337	1333	627
35°	1178	1169	1152	1144	1137	736
45°	965	959	942	926	919	745
55°	732	730	713	699	692	656
65°	499	492	479	469	464	493
75°	264	259	254	248	244	282
85°	70	68	68	65	65	77
90°	0	3	7	8	9	5
95°	19	7	10	11	12	23
105°	91	92	67	16	13	96
115°	170	172	175	178	179	168
125°	240	242	243	244	245	214
135°	298	300	302	302	302	230
145°	344	346	347	348	348	216
155°	379	379	379	380	379	175
165°	400	399	399	401	399	113
175°	410	408	408	410	408	39
180°	410	410	410	410	410	



TEST NUMBER: P332051-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1579.4	1578.5	1577.5	1576.6	1575.5	1573.7	1571.2	1568.5	1565.8	1563.1	1565.6
5°	1575.4	1573.9	1572.4	1570.9	1569.3	1566.9	1563.7	1560.3	1557.0	1553.7	1556.7
7.5°	1560.0	1558.4	1556.9	1555.4	1553.9	1551.4	1548.0	1544.6	1541.2	1537.7	1540.4
10°	1547.0	1545.4	1543.9	1542.4	1540.9	1538.3	1534.3	1530.4	1526.5	1522.6	1525.3
12.5°	1529.7	1528.4	1527.1	1525.9	1524.6	1522.1	1518.5	1514.8	1511.1	1507.4	1509.4
15°	1499.6	1498.4	1497.2	1496.0	1494.8	1492.2	1488.3	1484.4	1480.5	1476.5	1478.9
17.5°	1464.6	1463.1	1461.5	1460.0	1458.4	1455.7	1451.7	1447.9	1443.9	1440.0	1441.7
20°	1438.6	1436.8	1435.0	1433.2	1431.5	1428.6	1424.7	1420.8	1416.9	1413.0	1414.2
22.5°	1409.5	1407.6	1405.8	1404.0	1402.2	1399.4	1395.4	1391.5	1387.7	1383.7	1384.7
25°	1361.5	1359.7	1357.9	1356.1	1354.4	1351.4	1347.6	1343.7	1339.7	1335.8	1336.1
27.5°	1310.4	1308.6	1306.9	1305.1	1303.4	1300.5	1296.2	1292.0	1287.8	1283.6	1283.8
30°	1273.6	1272.0	1270.6	1269.0	1267.6	1264.7	1260.5	1256.3	1252.1	1247.8	1247.8
32.5°	1236.7	1234.8	1232.8	1230.8	1228.8	1226.2	1223.0	1219.7	1216.4	1213.2	1211.5
35°	1177.5	1175.7	1173.9	1172.1	1170.3	1167.4	1163.5	1159.6	1155.6	1151.8	1150.0
37.5°	1116.8	1114.6	1112.2	1110.0	1107.7	1104.6	1100.6	1096.7	1092.7	1088.6	1086.5
40°	1074.6	1072.8	1071.0	1069.2	1067.4	1064.4	1060.1	1055.9	1051.7	1047.6	1045.2
42.5°	1032.3	1030.4	1028.3	1026.2	1024.2	1021.1	1016.8	1012.6	1008.4	1004.3	1001.9
45°	965.0	963.8	962.6	961.4	960.2	957.6	953.7	949.8	945.9	941.9	938.4
47.5°	898.1	896.4	894.7	892.9	891.1	888.5	884.8	881.1	877.4	873.7	870.2
50°	852.6	851.2	849.6	848.2	846.6	844.0	840.0	836.1	832.2	828.3	825.0
52.5°	805.0	804.0	803.0	801.9	800.9	798.3	794.2	790.1	785.9	781.7	778.9
55°	732.2	731.9	731.6	731.3	731.0	728.9	725.0	721.1	717.1	713.3	710.0
57.5°	662.9	661.9	660.8	659.9	658.8	656.8	653.6	650.5	647.4	644.2	641.3
60°	613.1	612.8	612.5	612.2	611.9	609.9	606.3	602.7	599.1	595.5	592.8
62.5°	568.7	567.9	567.1	566.4	565.6	563.4	559.7	556.1	552.6	549.0	546.2
65°	499.4	497.9	496.4	494.9	493.4	491.1	488.1	485.1	482.1	479.1	476.7
67.5°	426.0	424.7	423.4	422.1	420.8	419.0	416.6	414.4	412.1	409.8	407.7
70°	381.7	379.9	378.1	376.3	374.4	372.6	370.8	369.0	367.2	365.4	363.3
72.5°	335.1	333.8	332.4	331.1	329.8	328.1	326.1	324.0	322.0	319.9	318.1
75°	263.9	262.7	261.5	260.3	259.1	258.0	257.2	256.2	255.4	254.4	253.0
77.5°	200.9	200.2	199.5	198.9	198.2	197.3	196.2	195.2	194.1	193.0	192.0
80°	159.7	158.8	157.9	157.0	156.1	155.3	154.7	154.1	153.5	152.9	152.7
82.5°	119.7	119.4	119.2	119.1	118.9	118.7	118.6	118.6	118.4	118.3	117.8
85°	70.3	69.7	69.1	68.5	67.9	67.7	67.7	67.7	67.7	67.7	67.1
87.5°	28.2	27.6	27.0	26.4	25.8	25.6	25.5	25.4	25.3	25.3	25.1
90°	0.3	0.9	1.6	2.3	3.0	3.8	4.6	5.5	6.5	7.3	7.6
92.5°	5.7	5.5	5.3	5.1	4.9	5.2	5.8	6.5	7.1	7.7	8.2
95°	18.6	15.8	13.0	10.2	7.5	6.5	7.2	7.9	8.7	9.5	9.9
97.5°	37.3	36.1	34.8	33.6	32.3	29.3	24.4	19.5	14.6	9.8	10.3
100°	51.4	52.8	54.2	55.4	56.8	52.3	41.7	31.2	20.6	10.1	10.6
102.5°	67.5	68.4	69.4	70.4	71.4	66.1	54.6	43.0	31.5	20.1	18.3
105°	90.7	91.4	92.1	92.9	93.7	91.0	84.9	78.8	72.8	66.6	54.7
107.5°	115.1	115.7	116.3	116.9	117.5	118.3	119.2	120.2	121.1	122.1	113.3
110°	131.5	132.0	132.5	133.0	133.6	134.2	135.0	135.7	136.5	137.2	135.0



TEST NUMBER: P332051-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.0	147.5	148.0	148.4	149.0	149.6	150.3	151.1	151.8	152.6	152.6
115°	170.0	170.5	170.9	171.3	171.7	172.2	172.8	173.4	174.0	174.6	175.3
117.5°	192.4	193.0	193.4	193.9	194.4	194.8	195.1	195.4	195.8	196.0	196.6
120°	206.3	206.9	207.5	208.1	208.7	209.1	209.3	209.6	209.7	209.9	210.5
122.5°	220.4	220.9	221.4	221.9	222.4	222.7	223.0	223.3	223.5	223.8	224.2
125°	239.8	240.3	240.8	241.3	241.9	242.3	242.6	242.9	243.1	243.4	243.6
127.5°	258.5	259.1	259.6	260.1	260.6	261.1	261.4	261.7	262.1	262.3	262.6
130°	270.2	270.7	271.2	271.8	272.3	272.8	273.0	273.3	273.5	273.8	274.1
132.5°	281.4	281.9	282.5	283.0	283.5	283.9	284.1	284.4	284.6	284.8	285.1
135°	298.5	298.9	299.3	299.7	300.1	300.4	300.7	301.0	301.3	301.5	301.7
137.5°	313.1	313.6	314.1	314.6	315.1	315.5	315.6	315.7	315.9	316.1	316.4
140°	322.8	323.2	323.6	324.0	324.4	324.8	324.9	325.1	325.4	325.5	325.8
142.5°	331.8	332.3	332.6	333.0	333.5	333.7	334.0	334.2	334.3	334.6	334.8
145°	344.4	344.9	345.3	345.9	346.3	346.6	346.7	346.9	347.0	347.2	347.3
147.5°	356.3	356.6	356.9	357.2	357.5	357.7	357.9	358.0	358.2	358.3	358.4
150°	363.6	363.8	363.9	364.2	364.4	364.5	364.7	364.8	365.0	365.1	365.2
152.5°	370.1	370.2	370.3	370.4	370.5	370.7	370.7	370.7	370.8	370.9	371.2
155°	379.4	379.3	379.1	379.0	378.8	378.8	378.9	378.9	379.0	379.1	379.4
157.5°	386.6	386.6	386.6	386.5	386.5	386.5	386.4	386.3	386.2	386.2	386.6
160°	391.0	390.9	390.8	390.7	390.7	390.6	390.5	390.5	390.5	390.4	390.7
162.5°	395.1	394.9	394.8	394.6	394.4	394.3	394.2	394.2	394.1	394.0	394.4
165°	400.1	399.8	399.7	399.5	399.2	399.2	399.1	399.0	398.9	398.9	399.4
167.5°	404.0	403.7	403.5	403.2	402.9	402.8	402.8	402.8	402.8	402.8	403.3
170°	406.1	405.9	405.6	405.4	405.1	404.9	404.9	404.9	404.9	404.9	405.5
172.5°	407.6	407.3	407.0	406.7	406.3	406.2	406.2	406.3	406.4	406.4	407.0
175°	409.5	409.1	408.8	408.5	408.2	408.0	408.1	408.2	408.2	408.3	408.8
177.5°	410.0	409.7	409.5	409.2	408.9	408.8	408.9	408.9	409.0	409.1	409.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5



TEST NUMBER: P332051-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1568.0	1570.4	1572.8	1573.9	1573.6	1573.4	1573.1	1573.0
5°	1559.7	1562.7	1565.7	1566.9	1566.3	1565.7	1565.1	1564.5
7.5°	1543.2	1545.8	1548.6	1549.7	1549.4	1549.0	1548.7	1548.3
10°	1528.0	1530.7	1533.4	1534.5	1533.9	1533.3	1532.7	1532.1
12.5°	1511.4	1513.4	1515.4	1516.2	1515.8	1515.4	1515.1	1514.8
15°	1481.4	1483.8	1486.2	1486.5	1484.7	1482.9	1481.1	1479.3
17.5°	1443.4	1445.1	1446.7	1447.3	1446.7	1446.0	1445.3	1444.7
20°	1415.4	1416.6	1417.8	1417.9	1417.0	1416.1	1415.2	1414.3
22.5°	1385.7	1386.6	1387.6	1387.5	1386.4	1385.2	1384.1	1382.9
25°	1336.4	1336.7	1337.0	1336.7	1335.8	1334.9	1334.0	1333.1
27.5°	1284.1	1284.3	1284.5	1284.1	1283.0	1281.8	1280.7	1279.5
30°	1247.8	1247.8	1247.8	1246.8	1244.7	1242.6	1240.4	1238.4
32.5°	1209.8	1208.2	1206.4	1205.1	1203.9	1202.7	1201.6	1200.5
35°	1148.1	1146.3	1144.5	1142.9	1141.3	1139.9	1138.3	1136.9
37.5°	1084.3	1082.2	1080.0	1078.5	1077.5	1076.5	1075.6	1074.6
40°	1042.8	1040.3	1037.9	1036.1	1034.9	1033.7	1032.5	1031.3
42.5°	999.4	997.0	994.6	992.8	991.6	990.4	989.2	988.0
45°	934.8	931.2	927.6	925.0	923.5	922.0	920.5	918.9
47.5°	866.7	863.2	859.5	857.1	855.8	854.5	853.2	851.9
50°	821.7	818.4	815.0	812.5	810.7	808.9	807.1	805.3
52.5°	776.1	773.3	770.4	768.1	766.3	764.5	762.7	760.9
55°	706.6	703.4	700.0	697.6	696.1	694.6	693.1	691.6
57.5°	638.3	635.4	632.4	630.1	628.4	626.6	624.8	623.1
60°	590.1	587.4	584.7	582.6	581.1	579.5	578.1	576.5
62.5°	543.5	540.8	538.1	536.2	535.2	534.2	533.2	532.2
65°	474.3	471.9	469.5	467.9	466.9	466.1	465.1	464.3
67.5°	405.6	403.5	401.4	399.7	398.5	397.2	395.9	394.7
70°	361.2	359.1	357.0	355.2	353.7	352.1	350.7	349.2
72.5°	316.2	314.4	312.5	311.2	310.4	309.6	308.8	308.1
75°	251.4	249.9	248.4	247.2	246.3	245.4	244.5	243.6
77.5°	191.0	189.9	188.9	188.4	188.4	188.4	188.4	188.4
80°	152.3	152.1	151.7	151.6	151.6	151.6	151.6	151.6
82.5°	117.2	116.7	116.1	115.7	115.5	115.3	115.0	114.8
85°	66.5	65.9	65.3	65.0	65.0	65.0	65.0	65.0
87.5°	24.9	24.7	24.5	24.5	24.5	24.5	24.5	24.5
90°	7.8	8.1	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	8.7	9.1	9.6	9.8	9.8	9.9	10.0	10.1
95°	10.4	10.8	11.4	11.5	11.5	11.5	11.5	11.5
97.5°	10.8	11.5	12.0	12.2	12.3	12.4	12.5	12.6
100°	11.1	11.6	12.2	12.5	12.6	12.7	12.7	12.7
102.5°	16.7	15.0	13.3	12.6	12.7	12.7	12.9	13.0
105°	42.7	30.7	18.8	12.8	13.0	13.1	13.3	13.3
107.5°	104.6	95.8	87.0	78.1	69.1	60.1	51.1	42.0
110°	132.8	130.5	128.3	122.3	112.7	103.0	93.3	83.7



TEST NUMBER: P332051-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	152.7	152.7	152.7	151.7	149.6	147.7	145.6	143.5
115°	176.0	176.7	177.4	177.8	178.1	178.4	178.7	178.9
117.5°	197.2	197.7	198.2	198.5	198.5	198.6	198.7	198.7
120°	211.0	211.5	212.1	212.4	212.4	212.4	212.4	212.4
122.5°	224.5	225.0	225.3	225.5	225.6	225.7	225.7	225.8
125°	243.7	243.8	243.9	244.1	244.2	244.4	244.5	244.6
127.5°	262.8	263.0	263.3	263.3	263.1	263.0	262.9	262.8
130°	274.4	274.7	274.9	275.0	274.8	274.7	274.6	274.4
132.5°	285.3	285.6	285.9	285.9	285.7	285.5	285.3	285.2
135°	302.0	302.1	302.3	302.3	302.1	302.0	301.7	301.5
137.5°	316.7	317.0	317.4	317.5	317.3	317.2	317.0	316.9
140°	326.1	326.3	326.7	326.7	326.6	326.4	326.3	326.1
142.5°	335.0	335.2	335.4	335.4	335.3	335.0	334.8	334.7
145°	347.4	347.6	347.7	347.8	347.8	347.8	347.8	347.8
147.5°	358.5	358.7	358.9	358.8	358.4	358.1	357.8	357.5
150°	365.4	365.5	365.7	365.6	365.4	365.2	365.0	364.8
152.5°	371.4	371.7	372.0	371.9	371.6	371.3	370.9	370.7
155°	379.8	380.1	380.5	380.4	380.0	379.6	379.2	378.8
157.5°	387.0	387.4	387.9	387.8	387.3	386.8	386.2	385.6
160°	391.2	391.6	392.0	391.9	391.5	391.0	390.5	390.0
162.5°	394.9	395.4	395.8	395.9	395.5	395.0	394.6	394.2
165°	399.9	400.5	401.1	401.1	400.6	400.1	399.7	399.2
167.5°	403.8	404.4	404.9	404.9	404.4	403.8	403.3	402.8
170°	406.0	406.6	407.1	407.1	406.6	406.0	405.5	404.9
172.5°	407.5	408.0	408.5	408.5	407.9	407.3	406.7	406.1
175°	409.2	409.7	410.2	410.2	409.7	409.1	408.5	408.0
177.5°	409.9	410.4	410.8	410.7	410.2	409.7	409.1	408.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5

(END OF REPORT)