

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: P331905-840

Luminaire Tested: **S123DIP-S340D1195U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331905-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1195U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5594.4 lumens
Efficiency: N/A
Efficacy: 132.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

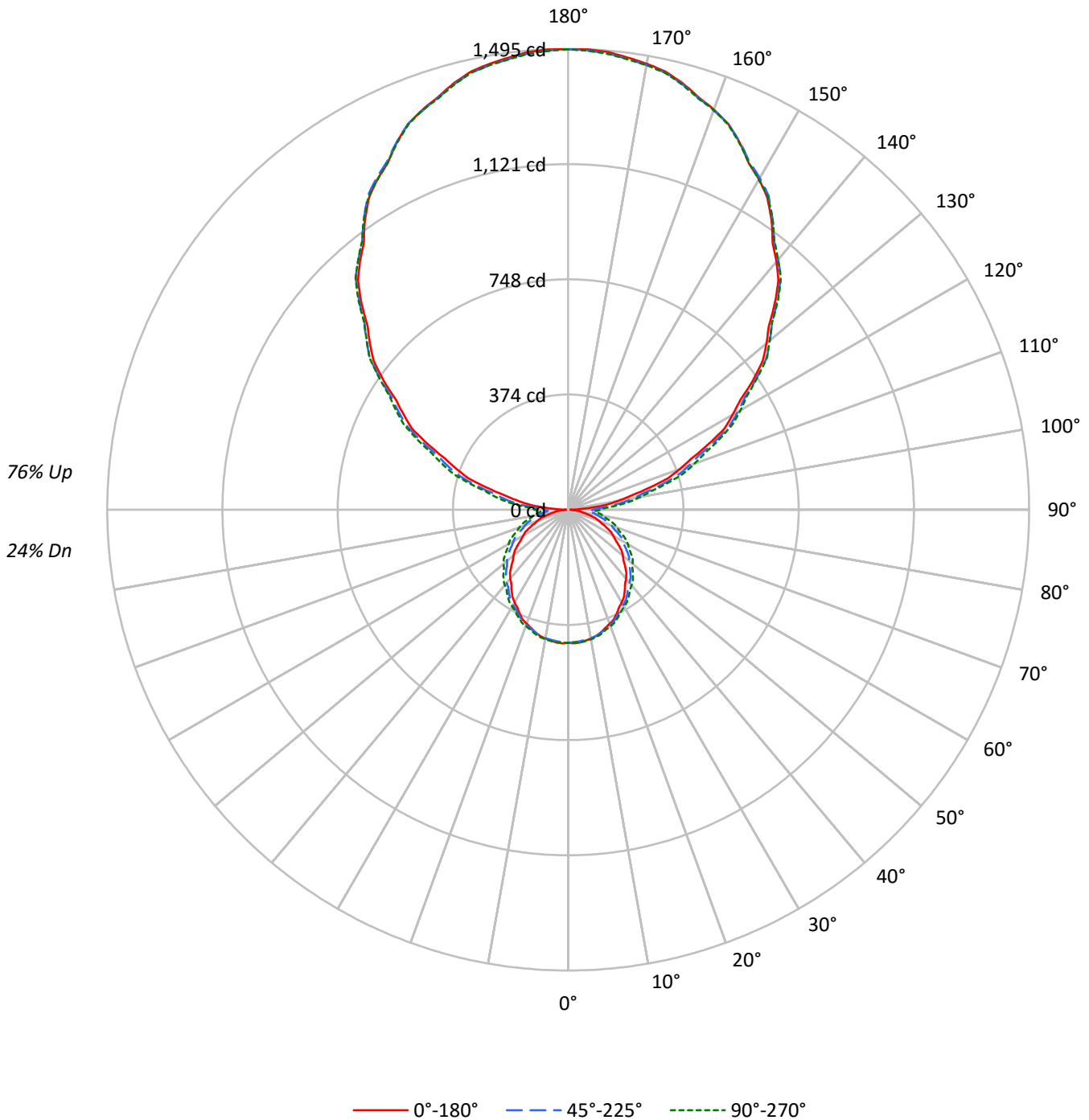
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331905-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P331905-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D1

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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	64	73	67	62	58	52	48	45	37	35	33	24	23	21	16
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	42	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	14	13	11	9	6
9	46	34	27	22	41	31	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4649	4649	4649
5°	4664	4533	4534
10°	4622	4428	4406
15°	4562	4309	4265
20°	4477	4174	4110
25°	4372	4019	3947
30°	4265	3879	3780
35°	4143	3731	3649
40°	4030	3595	3508
45°	3902	3466	3395
50°	3776	3338	3272
55°	3636	3207	3158
60°	3499	3074	3045
65°	3360	2931	2907
70°	3149	2772	2766
75°	2886	2590	2626
80°	2583	2410	2462
85°	2294	2286	2367



TEST NUMBER: P331905-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	0.7
10°-20°	116.7	2.1
20°-30°	174.6	3.1
30°-40°	208.5	3.7
40°-50°	218.1	3.9
50°-60°	204.7	3.7
60°-70°	171.0	3.1
70°-80°	122.3	2.2
80°-90°	77.4	1.4
90°-100°	143.1	2.6
100°-110°	324.9	5.8
110°-120°	517.8	9.3
120°-130°	664.4	11.9
130°-140°	738.1	13.2
140°-150°	721.1	12.9
150°-160°	606.0	10.8
160°-170°	403.4	7.2
170°-180°	141.3	2.5
0°-30°	332.3	5.9
0°-40°	540.8	9.7
0°-60°	963.6	17.2
0°-90°	1334.3	23.9
90°-120°	985.8	17.6
90°-150°	3109.4	55.6
90°-180°	4260.0	76.1
0°-180°	5594.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	431	429	432	432	41
15°	412	413	413	417	417	116
25°	372	376	378	384	384	171
35°	320	327	334	340	342	200
45°	262	273	285	293	297	202
55°	200	215	232	244	248	179
65°	138	156	177	191	196	136
75°	75	97	120	135	142	80
85°	23	47	72	87	92	24
90°	7	42	81	101	109	8
95°	74	101	133	152	157	82
105°	268	282	312	325	332	287
115°	501	510	525	537	540	496
125°	731	735	746	751	750	652
135°	948	954	958	962	962	730
145°	1149	1151	1155	1157	1154	717
155°	1315	1315	1316	1320	1313	605
165°	1433	1429	1429	1435	1428	404
175°	1490	1486	1485	1492	1484	141
180°	1494	1494	1494	1494	1494	



TEST NUMBER: P331905-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	433.8	433.6	433.3	433.1	432.8	432.4	431.7	431.0	430.4	429.7	430.4
5°	432.4	432.2	432.0	431.8	431.6	431.2	430.5	429.9	429.3	428.7	429.5
7.5°	428.2	428.3	428.3	428.3	428.4	428.1	427.5	426.9	426.3	425.7	426.7
10°	424.4	424.6	424.9	425.1	425.3	425.2	424.5	424.0	423.5	423.0	424.0
12.5°	419.9	420.2	420.5	420.8	421.1	421.0	420.7	420.3	420.0	419.6	420.6
15°	411.7	412.0	412.3	412.6	412.9	413.1	412.9	412.8	412.7	412.6	413.7
17.5°	401.4	402.0	402.6	403.2	403.8	404.1	404.1	404.0	404.0	404.0	405.0
20°	393.8	394.5	395.1	395.8	396.4	396.8	397.0	397.2	397.4	397.6	398.6
22.5°	386.0	386.6	387.2	387.8	388.5	388.9	389.2	389.5	389.8	390.1	391.3
25°	371.7	372.7	373.9	374.9	375.9	376.6	376.9	377.2	377.5	377.9	379.2
27.5°	357.4	358.6	359.8	361.0	362.2	363.1	363.8	364.5	365.2	365.8	367.0
30°	347.3	348.6	350.0	351.3	352.7	353.8	354.7	355.5	356.3	357.2	358.4
32.5°	336.0	337.5	339.0	340.5	342.0	343.4	344.5	345.6	346.7	347.7	349.1
35°	319.9	321.6	323.4	325.0	326.7	328.2	329.5	330.9	332.2	333.7	335.2
37.5°	303.1	304.9	306.8	308.7	310.5	312.4	314.0	315.7	317.4	319.0	320.8
40°	291.8	293.7	295.5	297.4	299.2	301.2	303.4	305.5	307.5	309.6	311.4
42.5°	279.3	281.7	283.9	286.2	288.5	290.7	293.0	295.1	297.3	299.4	301.4
45°	261.7	264.2	266.6	269.1	271.7	274.2	276.8	279.4	282.1	284.7	286.7
47.5°	243.1	245.9	248.7	251.7	254.5	257.4	260.3	263.4	266.3	269.3	271.6
50°	231.1	234.0	236.9	239.8	242.8	245.8	249.0	252.4	255.6	258.8	261.3
52.5°	218.2	221.4	224.4	227.5	230.7	234.0	237.5	241.2	244.7	248.2	250.7
55°	199.5	203.0	206.4	209.8	213.3	216.9	220.7	224.5	228.2	232.0	234.8
57.5°	181.3	184.8	188.4	192.1	195.6	199.5	203.6	207.7	211.9	216.0	218.8
60°	168.4	172.2	176.0	179.8	183.5	187.5	191.9	196.1	200.4	204.7	207.6
62.5°	156.4	160.3	164.1	167.9	171.8	176.0	180.6	185.1	189.7	194.2	197.0
65°	137.8	142.0	146.0	150.1	154.2	158.5	163.1	167.7	172.3	176.9	180.1
67.5°	119.1	123.4	127.7	132.0	136.3	140.9	145.5	150.3	154.9	159.7	163.0
70°	105.8	110.4	114.8	119.4	123.8	128.7	133.6	138.7	143.7	148.7	152.1
72.5°	93.8	98.4	102.8	107.3	111.8	116.6	121.8	127.0	132.2	137.4	140.9
75°	74.8	79.8	84.6	89.6	94.5	99.6	104.8	110.0	115.2	120.5	123.9
77.5°	58.3	63.2	68.2	73.1	78.1	83.2	88.5	93.7	99.0	104.3	108.0
80°	46.6	51.7	56.9	62.0	67.1	72.4	77.8	83.2	88.7	94.1	97.7
82.5°	36.5	41.6	46.9	52.0	57.3	62.6	68.2	73.6	79.2	84.7	88.3
85°	23.0	28.3	33.5	38.8	43.9	49.4	54.9	60.4	65.9	71.5	75.0
87.5°	12.7	18.5	24.2	29.9	35.6	41.5	47.6	53.5	59.6	65.5	69.4
90°	7.3	15.0	22.7	30.5	38.2	46.5	55.1	63.9	72.6	81.3	85.9
92.5°	34.1	40.5	47.0	53.3	59.7	66.6	73.7	80.9	88.1	95.2	99.6
95°	74.4	80.3	86.2	92.1	98.1	104.6	111.8	119.0	126.2	133.4	137.7
97.5°	127.5	132.6	137.6	142.7	147.7	153.4	159.9	166.2	172.7	179.0	183.4
100°	163.8	168.7	173.6	178.5	183.5	188.9	195.1	201.2	207.3	213.4	217.2
102.5°	205.7	209.6	213.6	217.5	221.5	226.7	233.1	239.5	246.0	252.5	256.2
105°	267.8	270.8	273.9	276.9	279.9	284.8	291.6	298.5	305.4	312.3	315.1
107.5°	339.5	341.9	344.4	346.8	349.3	353.0	358.3	363.5	368.7	374.0	377.6
110°	384.2	386.6	389.0	391.3	393.7	397.3	402.0	406.8	411.4	416.2	419.9



TEST NUMBER: P331905-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	431.1	432.9	434.8	436.7	438.6	441.5	445.7	449.8	453.9	458.0	461.9
115°	501.0	503.0	505.1	507.2	509.2	511.8	515.0	518.3	521.5	524.8	527.6
117.5°	571.8	573.1	574.4	575.7	576.9	579.1	581.9	584.8	587.6	590.5	592.9
120°	615.5	617.6	619.8	621.8	623.9	626.0	628.1	630.3	632.5	634.6	636.7
122.5°	661.6	663.0	664.4	665.8	667.2	669.2	671.9	674.4	677.0	679.6	681.3
125°	731.2	732.1	732.8	733.6	734.4	736.0	738.5	741.0	743.6	746.1	747.2
127.5°	796.0	797.6	799.1	800.7	802.2	804.1	806.0	807.9	809.8	811.7	812.3
130°	839.2	841.1	843.1	845.2	847.1	848.8	850.1	851.4	852.6	853.9	855.0
132.5°	882.0	884.0	886.2	888.2	890.2	891.8	892.9	894.0	895.1	896.3	896.9
135°	947.9	949.3	950.8	952.2	953.7	954.8	955.7	956.6	957.6	958.4	959.3
137.5°	1008.8	1010.0	1011.2	1012.4	1013.6	1014.9	1016.2	1017.5	1018.9	1020.2	1020.8
140°	1050.6	1051.9	1053.2	1054.5	1055.8	1056.7	1057.3	1057.9	1058.5	1059.0	1060.4
142.5°	1089.1	1090.4	1091.6	1092.8	1094.0	1094.9	1095.4	1095.9	1096.4	1097.0	1098.1
145°	1149.1	1149.6	1150.0	1150.4	1150.8	1151.4	1152.3	1153.0	1153.8	1154.6	1155.2
147.5°	1201.2	1202.2	1203.2	1204.1	1205.1	1205.9	1206.6	1207.3	1208.0	1208.8	1209.0
150°	1237.9	1238.4	1238.9	1239.4	1240.0	1240.5	1241.0	1241.5	1242.0	1242.5	1242.5
152.5°	1267.9	1268.7	1269.4	1270.1	1270.8	1271.3	1271.6	1272.0	1272.3	1272.6	1273.0
155°	1315.3	1315.3	1315.3	1315.3	1315.3	1315.5	1315.8	1316.0	1316.3	1316.5	1317.6
157.5°	1355.6	1355.3	1355.0	1354.7	1354.4	1354.3	1354.6	1354.8	1355.0	1355.2	1356.3
160°	1381.0	1380.5	1380.0	1379.5	1379.0	1378.7	1378.7	1378.7	1378.7	1378.7	1380.0
162.5°	1403.5	1402.8	1402.1	1401.4	1400.7	1400.4	1400.6	1400.8	1401.0	1401.2	1402.5
165°	1432.7	1431.9	1431.1	1430.3	1429.6	1429.2	1429.2	1429.2	1429.2	1429.2	1430.7
167.5°	1455.9	1454.8	1453.8	1452.8	1451.7	1451.3	1451.5	1451.7	1451.9	1452.1	1453.7
170°	1469.1	1467.9	1466.9	1465.9	1464.8	1464.3	1464.3	1464.3	1464.3	1464.3	1466.1
172.5°	1479.4	1478.3	1477.2	1476.2	1475.2	1474.7	1474.7	1474.7	1474.7	1474.7	1476.3
175°	1490.2	1489.1	1488.0	1487.0	1486.0	1485.4	1485.4	1485.4	1485.4	1485.4	1487.0
177.5°	1494.6	1493.8	1493.0	1492.1	1491.3	1490.9	1490.9	1490.9	1490.9	1490.9	1492.1
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7



TEST NUMBER: P331905-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	431.0	431.7	432.4	432.6	432.6	432.5	432.4	432.3
5°	430.3	431.2	432.0	432.4	432.3	432.1	432.0	431.9
7.5°	427.8	428.8	429.8	430.3	430.2	430.0	429.9	429.8
10°	425.2	426.2	427.2	427.6	427.4	427.2	427.0	426.8
12.5°	421.5	422.5	423.4	423.8	423.6	423.4	423.2	423.0
15°	414.8	415.8	416.9	417.3	417.2	417.1	417.0	416.9
17.5°	405.9	406.9	407.8	408.2	408.0	407.9	407.8	407.6
20°	399.5	400.4	401.4	401.9	402.0	402.1	402.2	402.3
22.5°	392.4	393.6	394.9	395.5	395.4	395.3	395.3	395.2
25°	380.5	381.9	383.2	384.0	384.0	384.0	384.0	384.0
27.5°	368.1	369.3	370.5	371.1	371.2	371.3	371.3	371.4
30°	359.6	360.9	362.1	362.7	362.7	362.7	362.7	362.7
32.5°	350.4	351.7	353.0	353.9	354.2	354.4	354.7	354.9
35°	336.8	338.3	339.9	340.9	341.3	341.7	342.1	342.5
37.5°	322.6	324.4	326.2	327.2	327.5	327.9	328.2	328.5
40°	313.2	315.0	316.7	317.8	318.2	318.7	319.1	319.5
42.5°	303.4	305.3	307.2	308.5	309.1	309.6	310.2	310.8
45°	288.6	290.6	292.7	294.1	294.9	295.7	296.6	297.4
47.5°	273.8	276.1	278.3	279.7	280.3	281.0	281.7	282.4
50°	263.6	266.0	268.4	270.0	270.7	271.5	272.2	273.0
52.5°	253.3	255.7	258.2	259.9	260.8	261.8	262.6	263.5
55°	237.6	240.4	243.3	245.1	245.9	246.8	247.6	248.4
57.5°	221.7	224.5	227.3	229.2	230.2	231.3	232.3	233.2
60°	210.6	213.5	216.4	218.4	219.5	220.8	221.9	223.1
62.5°	200.0	202.9	205.8	207.8	208.9	210.0	211.1	212.2
65°	183.2	186.3	189.5	191.6	192.6	193.7	194.7	195.7
67.5°	166.4	169.9	173.3	175.5	176.3	177.2	178.1	178.9
70°	155.4	158.8	162.1	164.3	165.3	166.3	167.4	168.4
72.5°	144.2	147.6	151.1	153.4	154.4	155.4	156.5	157.5
75°	127.3	130.8	134.3	136.6	137.8	139.2	140.4	141.7
77.5°	111.6	115.2	118.9	121.1	122.1	123.1	124.0	125.0
80°	101.2	104.8	108.4	110.6	111.7	112.7	113.8	114.8
82.5°	91.8	95.3	99.0	101.2	102.3	103.3	104.3	105.4
85°	78.7	82.2	85.7	88.1	89.1	90.2	91.2	92.2
87.5°	73.1	76.9	80.6	83.1	84.2	85.4	86.5	87.7
90°	90.5	95.1	99.8	102.8	104.4	105.9	107.6	109.1
92.5°	103.8	108.2	112.4	114.9	115.5	116.2	116.8	117.5
95°	142.0	146.2	150.6	153.2	154.3	155.3	156.3	157.4
97.5°	187.7	192.0	196.3	198.9	199.9	200.9	201.8	202.7
100°	221.1	224.9	228.6	231.4	233.0	234.5	236.1	237.6
102.5°	259.9	263.7	267.4	269.7	270.6	271.7	272.6	273.5
105°	318.0	320.9	323.9	326.1	327.6	329.0	330.5	331.9
107.5°	381.2	384.9	388.5	390.6	391.2	391.8	392.4	393.0
110°	423.6	427.5	431.2	433.2	433.5	433.8	434.1	434.4



TEST NUMBER: P331905-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	465.7	469.7	473.5	475.9	476.8	477.6	478.4	479.2
115°	530.3	533.1	535.8	537.6	538.2	538.7	539.3	539.9
117.5°	595.3	597.8	600.3	601.5	601.6	601.7	601.8	601.9
120°	638.8	641.1	643.2	644.4	644.6	644.8	645.0	645.2
122.5°	683.0	684.6	686.2	687.0	687.0	687.0	687.0	687.0
125°	748.3	749.5	750.6	751.0	750.7	750.4	750.1	749.8
127.5°	812.9	813.5	814.2	814.3	813.7	813.2	812.7	812.3
130°	855.9	856.8	857.8	857.7	856.5	855.3	854.0	852.8
132.5°	897.6	898.2	898.8	898.8	898.1	897.4	896.8	896.1
135°	960.1	960.9	961.8	962.2	962.2	962.2	962.2	962.2
137.5°	1021.3	1021.9	1022.4	1022.5	1022.0	1021.6	1021.1	1020.6
140°	1061.7	1063.0	1064.3	1064.3	1063.0	1061.7	1060.4	1059.0
142.5°	1099.2	1100.4	1101.6	1101.7	1100.8	1099.9	1099.0	1098.1
145°	1155.7	1156.3	1156.9	1156.8	1156.2	1155.6	1155.0	1154.4
147.5°	1209.3	1209.5	1209.8	1209.3	1208.1	1206.9	1205.8	1204.6
150°	1242.5	1242.5	1242.5	1241.9	1240.5	1239.2	1237.8	1236.5
152.5°	1273.4	1273.8	1274.2	1273.8	1272.5	1271.2	1269.9	1268.6
155°	1318.6	1319.6	1320.7	1320.3	1318.5	1316.7	1314.8	1312.9
157.5°	1357.4	1358.5	1359.6	1359.4	1358.0	1356.5	1355.0	1353.5
160°	1381.3	1382.6	1383.9	1384.0	1383.0	1381.9	1380.9	1379.9
162.5°	1403.8	1405.1	1406.4	1406.2	1404.5	1402.9	1401.2	1399.6
165°	1432.3	1433.8	1435.4	1435.2	1433.4	1431.6	1429.8	1427.9
167.5°	1455.3	1456.9	1458.5	1458.5	1456.9	1455.3	1453.7	1452.1
170°	1467.9	1469.9	1471.7	1471.7	1469.9	1467.9	1466.1	1464.3
172.5°	1477.9	1479.6	1481.2	1481.1	1479.1	1477.3	1475.5	1473.7
175°	1488.5	1490.2	1491.7	1491.6	1489.8	1487.9	1486.1	1484.3
177.5°	1493.4	1494.6	1495.8	1495.7	1494.3	1492.8	1491.4	1490.0
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7

(END OF REPORT)