

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: P331904-930

Luminaire Tested: **S123DIP-S340D1195U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331904-930  
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: S123DIP-S340D1195U930-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5063.5 lumens  
Efficiency: N/A  
Efficacy: 120.0 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

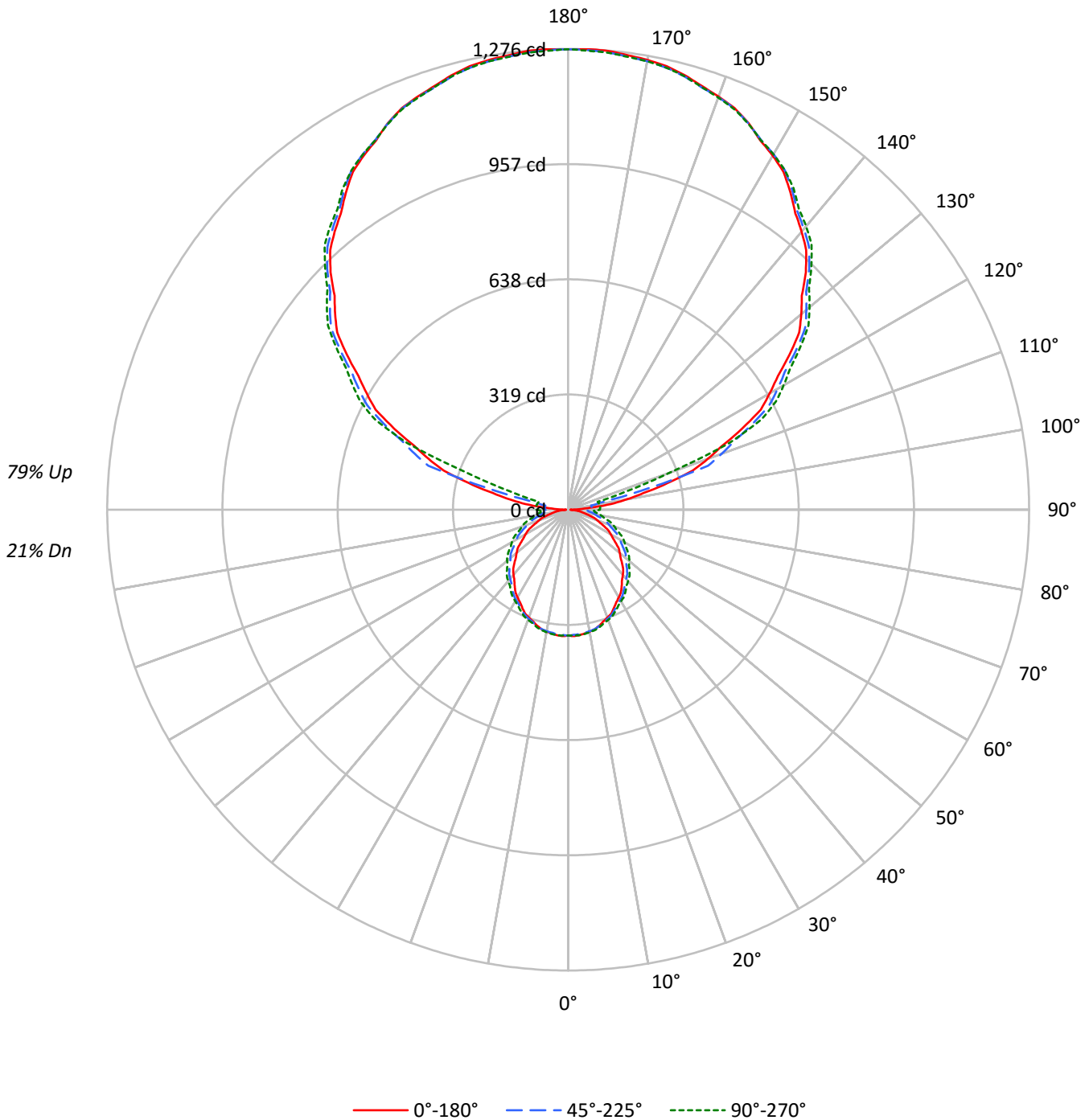
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331904-930

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331904-930

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-D

**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	100	100	100	100	89	89	89	89	67	67	67	48	48	48	30	30	30	21
1	91	87	83	79	80	77	73	71	58	56	54	41	40	39	25	25	24	17
2	83	75	69	64	73	67	62	57	51	47	44	36	34	32	22	21	20	14
3	75	66	59	53	66	58	52	48	44	40	37	31	29	27	19	18	17	12
4	69	58	50	45	60	52	45	40	39	35	31	28	25	23	17	16	14	10
5	63	51	44	38	55	46	39	34	35	30	27	25	22	19	15	14	12	8
6	58	46	38	33	51	41	34	29	31	27	23	22	19	17	14	12	11	7
7	53	41	34	28	47	37	30	25	28	24	20	20	17	15	13	11	9	6
8	49	37	30	25	43	33	27	22	26	21	18	18	15	13	12	10	8	6
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5
10	42	31	24	19	37	28	22	17	21	17	14	15	12	10	10	8	7	5

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



TEST NUMBER: P331904-930

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.1	0.7
10°-20°	94.2	1.9
20°-30°	141.0	2.8
30°-40°	168.3	3.3
40°-50°	176.1	3.5
50°-60°	165.3	3.3
60°-70°	138.0	2.7
70°-80°	98.8	2.0
80°-90°	62.5	1.2
90°-100°	83.3	1.6
100°-110°	248.1	4.9
110°-120°	548.8	10.8
120°-130°	686.1	13.5
130°-140°	726.7	14.4
140°-150°	676.1	13.4
150°-160°	544.6	10.8
160°-170°	351.5	6.9
170°-180°	121.1	2.4
0°-30°	268.3	5.3
0°-40°	436.6	8.6
0°-60°	778.0	15.4
0°-90°	1077.2	21.3
90°-120°	880.2	17.4
90°-150°	2969.1	58.6
90°-180°	3986.0	78.7
0°-180°	5063.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	6	34	66	82	88	6
95°	62	41	67	85	89	75
105°	285	300	236	88	84	302
115°	531	542	564	582	589	524
125°	748	756	770	780	784	667
135°	930	935	943	952	952	716
145°	1073	1079	1081	1086	1087	671
155°	1181	1179	1180	1184	1179	544
165°	1246	1243	1242	1249	1243	352
175°	1275	1270	1271	1277	1270	121
180°	1275	1275	1275	1275	1275	



TEST NUMBER: P331904-930

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.3	14.9	19.6	24.1	28.8	33.5	38.4	43.2	48.1	52.9	56.0
90°	5.9	12.1	18.3	24.6	30.8	37.5	44.5	51.6	58.6	65.6	69.4
92.5°	22.3	25.4	28.5	31.7	34.8	39.5	45.8	52.2	58.5	64.7	68.9
95°	62.0	56.6	51.3	46.0	40.6	41.2	47.6	54.1	60.5	66.9	71.1
97.5°	119.8	119.0	118.1	117.2	116.3	110.2	99.0	87.8	76.6	65.4	69.5
100°	163.5	170.4	177.3	184.3	191.1	180.1	151.2	122.2	93.3	64.3	68.4
102.5°	213.2	218.7	224.1	229.6	235.1	221.8	189.7	157.7	125.6	93.5	90.7
105°	285.3	289.7	294.0	298.3	302.6	297.2	281.8	266.6	251.3	235.9	201.1
107.5°	361.0	364.6	368.2	371.8	375.3	380.3	386.8	393.2	399.6	406.0	381.0
110°	411.5	414.7	417.9	421.1	424.3	428.8	434.5	440.1	445.8	451.5	446.8



TEST NUMBER: P331904-930

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	460.0	462.8	465.5	468.3	471.0	475.2	480.8	486.3	491.9	497.4	499.7
115°	531.4	533.7	536.0	538.3	540.5	544.1	549.0	554.0	558.9	563.9	567.9
117.5°	600.9	603.0	605.2	607.4	609.6	612.6	616.4	620.2	624.0	627.9	631.5
120°	643.8	646.0	648.4	650.7	653.0	655.9	659.3	662.7	666.1	669.5	673.2
122.5°	687.7	689.5	691.2	693.0	694.8	697.4	700.8	704.3	707.8	711.2	714.3
125°	747.5	749.3	750.9	752.6	754.3	756.8	760.1	763.4	766.6	770.0	772.1
127.5°	805.9	807.5	809.1	810.7	812.3	814.6	817.7	820.7	823.7	826.8	829.1
130°	842.3	843.8	845.5	847.1	848.6	850.8	853.3	855.8	858.3	860.9	863.3
132.5°	876.9	878.5	880.2	881.8	883.5	885.3	887.4	889.4	891.4	893.4	895.9
135°	930.0	931.2	932.4	933.5	934.7	936.2	937.9	939.7	941.5	943.2	945.4
137.5°	975.3	976.9	978.4	980.0	981.5	982.8	983.7	984.7	985.7	986.7	989.0
140°	1005.3	1006.7	1007.9	1009.2	1010.4	1011.5	1012.4	1013.3	1014.2	1015.0	1017.2
142.5°	1033.4	1034.6	1035.8	1037.0	1038.2	1039.2	1039.8	1040.5	1041.2	1041.9	1043.7
145°	1072.6	1074.0	1075.4	1076.8	1078.2	1079.1	1079.5	1079.9	1080.4	1080.8	1081.9
147.5°	1109.2	1110.2	1111.2	1112.1	1113.0	1113.8	1114.2	1114.6	1115.0	1115.4	1116.1
150°	1132.0	1132.5	1133.2	1133.8	1134.5	1135.0	1135.4	1135.8	1136.3	1136.7	1137.1
152.5°	1152.4	1152.7	1153.0	1153.2	1153.6	1153.8	1154.1	1154.4	1154.6	1154.9	1155.6
155°	1181.2	1180.8	1180.3	1179.9	1179.5	1179.4	1179.6	1179.8	1180.1	1180.2	1181.3
157.5°	1203.5	1203.5	1203.5	1203.4	1203.4	1203.2	1203.1	1202.8	1202.6	1202.4	1203.7
160°	1217.2	1217.0	1216.8	1216.6	1216.3	1216.1	1215.9	1215.7	1215.5	1215.3	1216.6
162.5°	1230.0	1229.6	1229.0	1228.4	1227.8	1227.5	1227.3	1227.1	1226.9	1226.6	1228.1
165°	1245.6	1245.0	1244.3	1243.7	1243.1	1242.7	1242.4	1242.2	1242.0	1241.8	1243.5
167.5°	1257.8	1256.9	1256.1	1255.2	1254.3	1253.9	1253.9	1253.9	1253.9	1253.9	1255.6
170°	1264.5	1263.7	1262.9	1262.0	1261.2	1260.8	1260.8	1260.8	1260.8	1260.8	1262.4
172.5°	1269.1	1268.1	1267.1	1266.1	1265.0	1264.6	1264.8	1264.9	1265.1	1265.3	1267.0
175°	1275.0	1273.9	1272.8	1271.8	1270.7	1270.3	1270.6	1270.7	1271.0	1271.1	1272.7
177.5°	1276.5	1275.6	1274.8	1274.0	1273.1	1272.8	1272.9	1273.1	1273.3	1273.4	1274.8
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



TEST NUMBER: P331904-930

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	59.0	62.0	65.1	67.1	68.0	69.0	69.9	70.8
90°	73.1	76.8	80.5	83.0	84.3	85.5	86.8	88.1
92.5°	73.1	77.2	81.4	83.9	85.0	86.0	87.0	88.1
95°	75.2	79.2	83.3	85.8	86.7	87.5	88.3	89.2
97.5°	73.8	77.9	82.2	84.8	85.9	86.9	88.0	89.0
100°	72.6	76.7	80.9	83.4	84.5	85.5	86.6	87.6
102.5°	87.9	85.0	82.2	81.4	82.6	83.8	85.0	86.3
105°	166.2	131.3	96.4	79.5	80.7	81.9	83.1	84.2
107.5°	356.0	330.8	305.8	279.6	252.3	224.9	197.6	170.2
110°	442.0	437.2	432.5	415.4	386.0	356.5	327.2	297.7





TEST NUMBER: P331904-930

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	501.9	504.2	506.5	504.8	499.1	493.5	488.0	482.3
115°	572.1	576.3	580.3	583.2	584.7	586.2	587.7	589.2
117.5°	635.3	639.0	642.6	644.9	645.7	646.5	647.3	648.2
120°	676.8	680.4	684.0	686.2	686.7	687.3	687.9	688.5
122.5°	717.3	720.4	723.4	725.3	726.1	726.8	727.6	728.4
125°	774.3	776.5	778.7	780.3	781.3	782.4	783.3	784.4
127.5°	831.4	833.8	836.2	837.4	837.6	837.7	837.9	838.0
130°	865.8	868.2	870.7	871.9	872.0	872.0	872.1	872.3
132.5°	898.2	900.6	902.9	904.2	904.1	904.1	904.1	904.1
135°	947.5	949.7	951.9	952.8	952.6	952.4	952.2	952.0
137.5°	991.4	993.8	996.1	997.3	997.3	997.3	997.3	997.3
140°	1019.3	1021.4	1023.4	1024.5	1024.5	1024.5	1024.5	1024.5
142.5°	1045.5	1047.3	1049.1	1049.9	1049.8	1049.5	1049.4	1049.2
145°	1083.0	1084.1	1085.2	1085.9	1086.2	1086.5	1086.9	1087.2
147.5°	1116.7	1117.3	1117.9	1117.9	1117.3	1116.6	1115.9	1115.2
150°	1137.5	1137.9	1138.3	1138.3	1137.8	1137.4	1136.9	1136.4
152.5°	1156.3	1157.2	1157.9	1157.8	1156.8	1155.9	1155.0	1154.1
155°	1182.3	1183.4	1184.5	1184.3	1183.1	1181.9	1180.6	1179.3
157.5°	1204.9	1206.2	1207.5	1207.3	1205.7	1204.0	1202.3	1200.7
160°	1217.8	1219.0	1220.3	1220.3	1218.8	1217.3	1215.8	1214.3
162.5°	1229.6	1230.9	1232.4	1232.4	1231.1	1229.8	1228.5	1227.2
165°	1245.2	1246.8	1248.5	1248.6	1247.2	1245.7	1244.2	1242.8
167.5°	1257.3	1259.0	1260.7	1260.7	1259.0	1257.3	1255.6	1253.9
170°	1264.1	1265.8	1267.5	1267.5	1265.8	1264.1	1262.4	1260.8
172.5°	1268.7	1270.3	1272.0	1271.9	1270.1	1268.3	1266.4	1264.5
175°	1274.1	1275.6	1277.1	1276.9	1275.3	1273.6	1271.9	1270.2
177.5°	1276.1	1277.5	1278.8	1278.6	1277.0	1275.3	1273.6	1271.9
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0

(END OF REPORT)