

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: P331904-927

Luminaire Tested: **S123DIP-S340D1195U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331904-927  
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-S340D1195U927-4F0-1E-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: 4919.9 lumens  
Efficiency: N/A  
Efficacy: 116.6 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

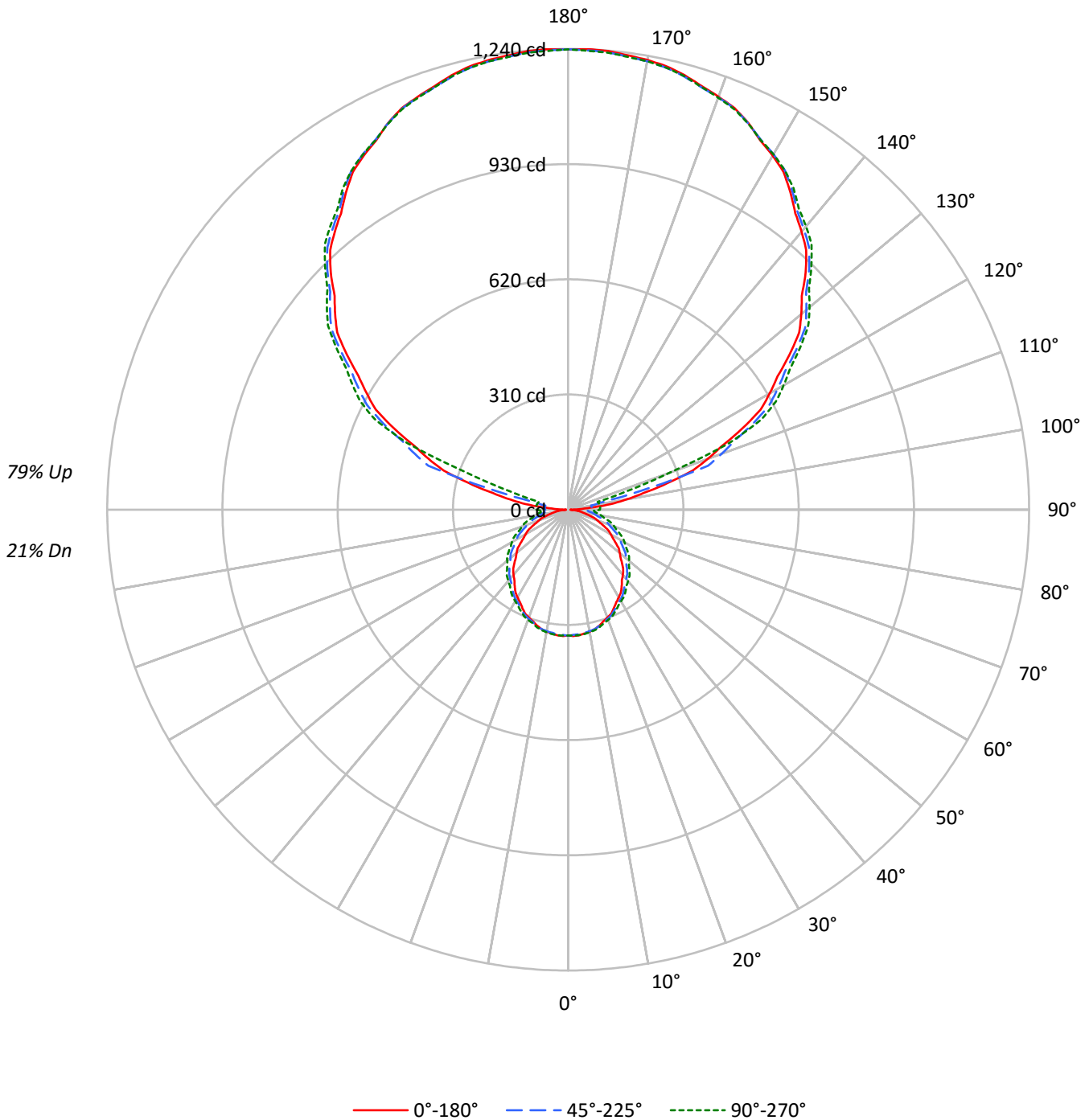
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	3647	3647	3647
5°	3658	3556	3557
10°	3626	3473	3456
15°	3579	3380	3345
20°	3513	3274	3224
25°	3430	3152	3096
30°	3345	3043	2966
35°	3251	2926	2863
40°	3161	2820	2752
45°	3061	2718	2664
50°	2962	2618	2566
55°	2852	2516	2478
60°	2745	2411	2388
65°	2636	2300	2280
70°	2471	2174	2170
75°	2265	2031	2059
80°	2023	1890	1932
85°	1805	1794	1856



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.1	0.7
10°-20°	91.6	1.9
20°-30°	137.0	2.8
30°-40°	163.6	3.3
40°-50°	171.1	3.5
50°-60°	160.6	3.3
60°-70°	134.1	2.7
70°-80°	96.0	2.0
80°-90°	60.7	1.2
90°-100°	80.9	1.6
100°-110°	241.0	4.9
110°-120°	533.2	10.8
120°-130°	666.6	13.5
130°-140°	706.0	14.4
140°-150°	657.0	13.4
150°-160°	529.2	10.8
160°-170°	341.5	6.9
170°-180°	117.7	2.4
0°-30°	260.6	5.3
0°-40°	424.2	8.6
0°-60°	755.9	15.4
0°-90°	1046.7	21.3
90°-120°	855.2	17.4
90°-150°	2884.9	58.6
90°-180°	3873.0	78.7
0°-180°	4919.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	339	339	32
15°	323	324	324	327	327	91
25°	292	295	296	301	301	134
35°	251	257	262	267	269	157
45°	205	214	223	230	233	158
55°	156	169	182	192	195	140
65°	108	123	139	149	154	107
75°	59	76	94	106	111	63
85°	18	37	56	68	72	19
90°	6	33	64	79	86	6
95°	60	40	65	82	87	73
105°	277	291	229	85	82	294
115°	516	527	548	565	572	510
125°	726	734	748	757	762	649
135°	904	909	916	925	925	695
145°	1042	1048	1050	1055	1056	652
155°	1148	1146	1147	1151	1146	529
165°	1210	1208	1207	1213	1208	342
175°	1239	1234	1235	1241	1234	118
180°	1239	1239	1239	1239	1239	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	340.3	340.2	339.9	339.8	339.5	339.2	338.7	338.1	337.6	337.1	337.6
5°	339.2	339.1	338.9	338.7	338.6	338.3	337.7	337.2	336.8	336.3	336.9
7.5°	335.9	336.0	336.0	336.0	336.0	335.8	335.3	334.9	334.4	333.9	334.7
10°	333.0	333.1	333.3	333.4	333.6	333.5	333.0	332.6	332.2	331.8	332.6
12.5°	329.4	329.6	329.9	330.1	330.3	330.3	330.0	329.7	329.5	329.2	329.9
15°	323.0	323.2	323.4	323.7	323.9	324.1	323.9	323.8	323.8	323.7	324.6
17.5°	314.9	315.4	315.8	316.3	316.8	317.0	317.0	317.0	317.0	317.0	317.7
20°	309.0	309.4	309.9	310.5	310.9	311.2	311.4	311.6	311.7	311.9	312.7
22.5°	302.8	303.2	303.7	304.2	304.8	305.1	305.3	305.5	305.8	306.0	307.0
25°	291.6	292.4	293.3	294.1	294.9	295.4	295.6	295.9	296.1	296.4	297.5
27.5°	280.4	281.3	282.3	283.2	284.2	284.9	285.3	285.9	286.5	286.9	287.9
30°	272.4	273.5	274.6	275.6	276.7	277.5	278.2	278.8	279.5	280.2	281.1
32.5°	263.6	264.7	265.9	267.1	268.3	269.3	270.2	271.1	272.0	272.7	273.9
35°	251.0	252.3	253.7	254.9	256.3	257.5	258.5	259.6	260.6	261.7	262.9
37.5°	237.7	239.2	240.7	242.2	243.6	245.0	246.3	247.6	249.0	250.3	251.7
40°	228.9	230.4	231.8	233.3	234.7	236.3	238.0	239.6	241.2	242.9	244.3
42.5°	219.1	220.9	222.7	224.5	226.3	228.1	229.8	231.5	233.2	234.9	236.5
45°	205.3	207.2	209.1	211.1	213.1	215.1	217.1	219.2	221.3	223.3	224.9
47.5°	190.7	192.9	195.1	197.4	199.6	201.9	204.2	206.6	208.9	211.3	213.0
50°	181.3	183.5	185.8	188.1	190.4	192.8	195.4	198.0	200.5	203.0	204.9
52.5°	171.2	173.6	176.0	178.5	180.9	183.5	186.3	189.2	191.9	194.7	196.7
55°	156.5	159.2	161.9	164.6	167.3	170.2	173.1	176.1	179.0	182.0	184.2
57.5°	142.2	145.0	147.8	150.7	153.4	156.5	159.7	163.0	166.2	169.4	171.7
60°	132.1	135.1	138.1	141.0	143.9	147.1	150.5	153.8	157.2	160.6	162.9
62.5°	122.7	125.7	128.7	131.7	134.8	138.1	141.6	145.2	148.8	152.3	154.6
65°	108.1	111.4	114.5	117.7	121.0	124.4	127.9	131.6	135.1	138.8	141.2
67.5°	93.4	96.8	100.2	103.5	106.9	110.5	114.2	117.9	121.5	125.2	127.9
70°	83.0	86.6	90.1	93.6	97.1	100.9	104.8	108.8	112.7	116.6	119.3
72.5°	73.6	77.2	80.6	84.2	87.7	91.5	95.5	99.7	103.7	107.8	110.5
75°	58.7	62.6	66.4	70.3	74.1	78.1	82.2	86.3	90.4	94.5	97.2
77.5°	45.7	49.6	53.5	57.4	61.2	65.3	69.4	73.5	77.6	81.8	84.7
80°	36.5	40.6	44.6	48.6	52.6	56.8	61.0	65.3	69.6	73.8	76.6
82.5°	28.6	32.6	36.8	40.8	44.9	49.1	53.5	57.8	62.1	66.5	69.2
85°	18.1	22.2	26.3	30.4	34.5	38.7	43.1	47.4	51.7	56.1	58.9
87.5°	10.0	14.5	19.0	23.4	28.0	32.6	37.3	42.0	46.7	51.4	54.4
90°	5.7	11.8	17.8	23.9	29.9	36.4	43.3	50.1	57.0	63.8	67.4
92.5°	21.6	24.6	27.7	30.8	33.8	38.4	44.5	50.7	56.8	62.9	66.9
95°	60.2	55.0	49.8	44.7	39.5	40.0	46.3	52.5	58.8	65.0	69.1
97.5°	116.5	115.6	114.7	113.8	113.0	107.1	96.2	85.3	74.4	63.5	67.6
100°	158.8	165.6	172.3	179.0	185.7	175.0	146.9	118.7	90.6	62.5	66.5
102.5°	207.2	212.5	217.8	223.1	228.4	215.5	184.3	153.2	122.1	90.9	88.2
105°	277.2	281.5	285.7	289.9	294.1	288.8	273.9	259.0	244.2	229.3	195.4
107.5°	350.8	354.3	357.7	361.2	364.6	369.6	375.8	382.1	388.2	394.5	370.2
110°	399.8	402.9	406.1	409.2	412.3	416.6	422.2	427.6	433.2	438.7	434.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	446.9	449.6	452.3	455.0	457.6	461.8	467.1	472.5	477.9	483.3	485.5
115°	516.3	518.6	520.8	523.0	525.1	528.7	533.5	538.3	543.0	547.9	551.8
117.5°	583.8	585.9	588.0	590.2	592.3	595.2	598.9	602.6	606.3	610.1	613.6
120°	625.5	627.7	630.0	632.2	634.5	637.3	640.6	643.9	647.2	650.5	654.1
122.5°	668.2	669.9	671.6	673.4	675.1	677.6	681.0	684.4	687.7	691.0	694.0
125°	726.4	728.0	729.6	731.3	732.9	735.3	738.6	741.7	744.9	748.1	750.2
127.5°	783.1	784.6	786.2	787.7	789.3	791.5	794.5	797.4	800.3	803.4	805.6
130°	818.4	819.9	821.5	823.1	824.6	826.6	829.1	831.6	834.0	836.5	838.8
132.5°	852.0	853.6	855.2	856.8	858.4	860.2	862.2	864.2	866.2	868.1	870.4
135°	903.6	904.8	905.9	907.0	908.2	909.7	911.3	913.1	914.8	916.5	918.6
137.5°	947.7	949.2	950.7	952.2	953.7	954.9	955.8	956.8	957.7	958.7	961.0
140°	976.8	978.1	979.3	980.6	981.8	982.9	983.7	984.5	985.4	986.3	988.3
142.5°	1004.1	1005.3	1006.5	1007.6	1008.8	1009.7	1010.3	1011.0	1011.7	1012.3	1014.1
145°	1042.2	1043.5	1044.9	1046.2	1047.6	1048.5	1048.9	1049.3	1049.7	1050.1	1051.2
147.5°	1077.8	1078.7	1079.7	1080.5	1081.5	1082.2	1082.6	1083.0	1083.4	1083.8	1084.4
150°	1099.9	1100.4	1101.1	1101.7	1102.3	1102.8	1103.2	1103.6	1104.1	1104.5	1104.9
152.5°	1119.7	1120.0	1120.3	1120.5	1120.9	1121.1	1121.3	1121.7	1121.9	1122.1	1122.8
155°	1147.7	1147.3	1146.8	1146.4	1146.1	1146.0	1146.1	1146.4	1146.6	1146.8	1147.8
157.5°	1169.4	1169.3	1169.3	1169.3	1169.3	1169.1	1168.9	1168.7	1168.5	1168.3	1169.6
160°	1182.6	1182.5	1182.3	1182.1	1181.9	1181.6	1181.5	1181.2	1181.1	1180.8	1182.1
162.5°	1195.2	1194.7	1194.1	1193.6	1193.0	1192.7	1192.5	1192.3	1192.1	1191.8	1193.3
165°	1210.3	1209.7	1209.0	1208.5	1207.8	1207.4	1207.2	1207.0	1206.8	1206.6	1208.2
167.5°	1222.1	1221.2	1220.4	1219.6	1218.8	1218.4	1218.4	1218.4	1218.4	1218.4	1220.0
170°	1228.7	1227.9	1227.1	1226.2	1225.4	1225.0	1225.0	1225.0	1225.0	1225.0	1226.6
172.5°	1233.1	1232.2	1231.1	1230.2	1229.2	1228.8	1228.9	1229.1	1229.2	1229.4	1231.1
175°	1238.8	1237.8	1236.8	1235.7	1234.7	1234.3	1234.5	1234.7	1234.9	1235.1	1236.6
177.5°	1240.3	1239.4	1238.7	1237.9	1237.0	1236.7	1236.8	1237.0	1237.2	1237.3	1238.7
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	338.1	338.7	339.2	339.4	339.4	339.3	339.2	339.1
5°	337.5	338.3	338.9	339.2	339.1	339.0	338.9	338.8
7.5°	335.6	336.4	337.2	337.5	337.5	337.3	337.2	337.2
10°	333.5	334.3	335.1	335.4	335.3	335.1	334.9	334.8
12.5°	330.7	331.4	332.2	332.5	332.3	332.2	332.0	331.8
15°	325.3	326.1	327.0	327.3	327.3	327.2	327.1	327.0
17.5°	318.4	319.2	319.9	320.2	320.0	320.0	319.9	319.7
20°	313.4	314.1	314.9	315.3	315.4	315.4	315.5	315.6
22.5°	307.8	308.8	309.7	310.2	310.1	310.1	310.1	310.0
25°	298.5	299.6	300.6	301.2	301.2	301.2	301.2	301.2
27.5°	288.8	289.7	290.7	291.1	291.2	291.3	291.3	291.4
30°	282.1	283.1	284.1	284.6	284.6	284.6	284.6	284.6
32.5°	274.9	275.9	276.9	277.6	277.8	278.0	278.2	278.4
35°	264.2	265.4	266.6	267.4	267.8	268.1	268.4	268.7
37.5°	253.0	254.4	255.9	256.7	256.9	257.2	257.5	257.7
40°	245.7	247.1	248.4	249.3	249.6	250.0	250.3	250.6
42.5°	238.0	239.5	241.0	242.0	242.5	242.9	243.4	243.8
45°	226.4	228.0	229.6	230.7	231.3	232.0	232.7	233.3
47.5°	214.8	216.6	218.3	219.4	219.9	220.5	220.9	221.5
50°	206.8	208.7	210.6	211.8	212.4	212.9	213.5	214.1
52.5°	198.7	200.6	202.6	203.9	204.6	205.3	206.0	206.7
55°	186.4	188.6	190.8	192.3	192.9	193.6	194.2	194.9
57.5°	173.9	176.1	178.3	179.8	180.6	181.4	182.2	182.9
60°	165.2	167.5	169.8	171.3	172.2	173.2	174.0	175.0
62.5°	156.9	159.1	161.4	163.0	163.9	164.7	165.6	166.4
65°	143.7	146.2	148.6	150.3	151.1	151.9	152.7	153.5
67.5°	130.6	133.2	135.9	137.7	138.3	139.0	139.7	140.4
70°	121.9	124.5	127.1	128.9	129.7	130.5	131.3	132.1
72.5°	113.1	115.8	118.5	120.3	121.1	121.9	122.8	123.6
75°	99.9	102.6	105.4	107.2	108.1	109.2	110.1	111.1
77.5°	87.5	90.4	93.2	95.0	95.8	96.6	97.3	98.1
80°	79.4	82.2	85.0	86.7	87.6	88.4	89.3	90.1
82.5°	72.0	74.8	77.6	79.4	80.2	81.0	81.8	82.7
85°	61.7	64.5	67.3	69.1	69.9	70.7	71.5	72.3
87.5°	57.4	60.3	63.2	65.2	66.1	67.0	67.9	68.8
90°	71.0	74.6	78.2	80.6	81.9	83.1	84.4	85.6
92.5°	71.0	75.0	79.1	81.5	82.5	83.6	84.5	85.6
95°	73.0	77.0	81.0	83.3	84.2	85.0	85.8	86.7
97.5°	71.7	75.7	79.9	82.4	83.4	84.4	85.5	86.5
100°	70.5	74.5	78.6	81.0	82.1	83.1	84.1	85.2
102.5°	85.4	82.6	79.9	79.1	80.2	81.4	82.6	83.8
105°	161.4	127.5	93.6	77.2	78.4	79.5	80.7	81.8
107.5°	345.9	321.5	297.1	271.7	245.1	218.6	192.0	165.4
110°	429.4	424.8	420.3	403.6	375.0	346.4	317.9	289.3





TEST NUMBER: P331904-927

CATALOG NUMBER: S123DIP-S340D1195U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	487.7	489.9	492.1	490.4	485.0	479.5	474.1	468.7
115°	555.9	559.9	563.9	566.6	568.2	569.6	571.1	572.5
117.5°	617.3	620.8	624.4	626.6	627.4	628.2	629.0	629.9
120°	657.6	661.2	664.6	666.7	667.3	667.8	668.4	669.0
122.5°	697.0	700.0	702.9	704.7	705.5	706.2	706.9	707.7
125°	752.3	754.5	756.6	758.2	759.1	760.2	761.1	762.2
127.5°	807.9	810.2	812.5	813.7	813.8	814.0	814.1	814.2
130°	841.2	843.6	846.0	847.2	847.2	847.3	847.4	847.6
132.5°	872.7	875.0	877.3	878.5	878.5	878.5	878.5	878.5
135°	920.7	922.8	924.9	925.8	925.6	925.4	925.2	925.0
137.5°	963.3	965.6	967.8	969.0	969.0	969.0	969.0	969.0
140°	990.4	992.4	994.4	995.5	995.5	995.5	995.5	995.5
142.5°	1015.8	1017.6	1019.4	1020.2	1020.0	1019.8	1019.6	1019.5
145°	1052.3	1053.4	1054.4	1055.1	1055.4	1055.7	1056.1	1056.4
147.5°	1085.1	1085.6	1086.2	1086.2	1085.6	1085.0	1084.3	1083.6
150°	1105.3	1105.6	1106.0	1106.0	1105.6	1105.2	1104.7	1104.2
152.5°	1123.6	1124.3	1125.1	1125.0	1124.0	1123.2	1122.2	1121.3
155°	1148.8	1149.9	1150.9	1150.7	1149.5	1148.3	1147.1	1145.9
157.5°	1170.8	1172.0	1173.2	1173.1	1171.5	1169.8	1168.2	1166.6
160°	1183.3	1184.5	1185.7	1185.7	1184.2	1182.8	1181.3	1179.9
162.5°	1194.7	1196.0	1197.5	1197.5	1196.2	1194.9	1193.7	1192.4
165°	1209.9	1211.5	1213.1	1213.2	1211.8	1210.4	1208.9	1207.5
167.5°	1221.6	1223.3	1225.0	1225.0	1223.3	1221.6	1220.0	1218.4
170°	1228.3	1229.9	1231.5	1231.5	1229.9	1228.3	1226.6	1225.0
172.5°	1232.7	1234.3	1236.0	1235.9	1234.1	1232.3	1230.5	1228.7
175°	1238.0	1239.4	1240.9	1240.7	1239.1	1237.5	1235.9	1234.2
177.5°	1239.9	1241.3	1242.5	1242.4	1240.8	1239.1	1237.5	1235.9
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8

(END OF REPORT)