

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: P331905-830

Luminaire Tested: **S123DIP-S340D1195U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331905-830  
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-S340D1195U830-4F0-1E-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: 5221.5 lumens  
Efficiency: N/A  
Efficacy: 123.7 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

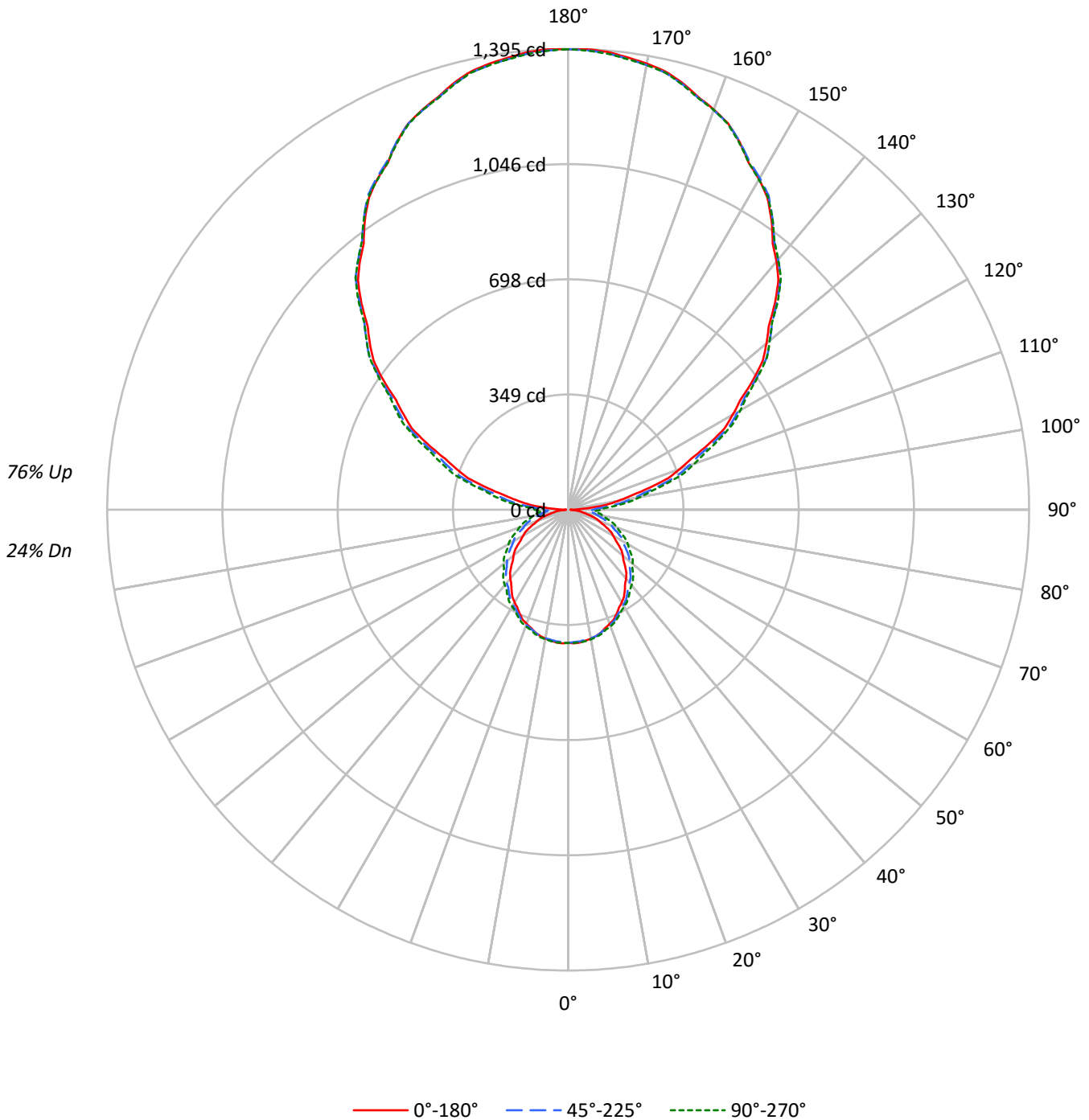
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331905-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D1

### 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	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°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



TEST NUMBER: P331905-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.2	0.7
10°-20°	108.9	2.1
20°-30°	163.0	3.1
30°-40°	194.6	3.7
40°-50°	203.6	3.9
50°-60°	191.1	3.7
60°-70°	159.6	3.1
70°-80°	114.2	2.2
80°-90°	72.2	1.4
90°-100°	133.6	2.6
100°-110°	303.2	5.8
110°-120°	483.3	9.3
120°-130°	620.1	11.9
130°-140°	688.9	13.2
140°-150°	673.0	12.9
150°-160°	565.6	10.8
160°-170°	376.5	7.2
170°-180°	131.8	2.5
0°-30°	310.1	5.9
0°-40°	504.7	9.7
0°-60°	899.4	17.2
0°-90°	1245.3	23.9
90°-120°	920.1	17.6
90°-150°	2902.1	55.6
90°-180°	3976.0	76.1
0°-180°	5221.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	7	40	76	95	102	8
95°	70	95	124	142	147	76
105°	250	264	291	303	310	267
115°	468	476	490	501	504	463
125°	682	686	696	701	700	609
135°	885	891	894	898	898	681
145°	1072	1074	1078	1080	1077	670
155°	1228	1228	1229	1232	1225	565
165°	1337	1334	1334	1340	1333	377
175°	1391	1387	1386	1392	1385	132
180°	1394	1394	1394	1394	1394	



TEST NUMBER: P331905-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.9	17.2	22.6	27.9	33.3	38.7	44.4	50.0	55.6	61.2	64.8
90°	6.8	14.0	21.2	28.5	35.6	43.4	51.5	59.7	67.8	75.9	80.2
92.5°	31.9	37.8	43.8	49.8	55.7	62.1	68.8	75.5	82.2	88.9	92.9
95°	69.5	74.9	80.5	86.0	91.5	97.6	104.3	111.0	117.8	124.5	128.6
97.5°	119.0	123.8	128.5	133.2	137.9	143.2	149.2	155.1	161.2	167.1	171.2
100°	152.9	157.5	162.0	166.6	171.3	176.3	182.1	187.8	193.5	199.2	202.7
102.5°	192.0	195.7	199.3	203.0	206.7	211.6	217.5	223.6	229.6	235.6	239.1
105°	250.0	252.8	255.6	258.4	261.3	265.8	272.2	278.6	285.0	291.4	294.1
107.5°	316.9	319.1	321.4	323.7	326.0	329.5	334.4	339.2	344.1	349.0	352.4
110°	358.5	360.8	363.1	365.2	367.5	370.8	375.2	379.7	384.0	388.4	391.9



TEST NUMBER: P331905-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	402.4	404.1	405.9	407.6	409.3	412.1	415.9	419.8	423.7	427.4	431.1
115°	467.6	469.5	471.5	473.3	475.2	477.7	480.7	483.7	486.7	489.8	492.4
117.5°	533.7	534.9	536.1	537.3	538.5	540.5	543.1	545.8	548.5	551.1	553.4
120°	574.5	576.5	578.4	580.3	582.3	584.3	586.3	588.2	590.3	592.3	594.3
122.5°	617.5	618.8	620.1	621.4	622.7	624.6	627.1	629.4	631.9	634.3	635.8
125°	682.5	683.2	683.9	684.7	685.4	686.9	689.3	691.6	694.0	696.4	697.4
127.5°	742.9	744.4	745.8	747.3	748.8	750.5	752.2	754.0	755.8	757.6	758.2
130°	783.3	785.0	786.9	788.8	790.6	792.2	793.4	794.7	795.8	797.0	798.0
132.5°	823.2	825.1	827.1	829.0	830.9	832.4	833.4	834.4	835.5	836.5	837.1
135°	884.7	886.0	887.4	888.7	890.1	891.2	892.0	892.9	893.7	894.5	895.3
137.5°	941.5	942.6	943.8	944.9	946.0	947.3	948.5	949.7	950.9	952.2	952.7
140°	980.5	981.8	983.0	984.2	985.4	986.3	986.8	987.4	988.0	988.4	989.7
142.5°	1016.5	1017.7	1018.8	1019.9	1021.1	1021.9	1022.4	1022.8	1023.3	1023.9	1024.9
145°	1072.5	1073.0	1073.4	1073.7	1074.1	1074.7	1075.4	1076.1	1076.9	1077.6	1078.2
147.5°	1121.2	1122.1	1122.9	1123.8	1124.7	1125.5	1126.1	1126.8	1127.5	1128.2	1128.4
150°	1155.4	1155.8	1156.3	1156.8	1157.3	1157.8	1158.3	1158.8	1159.2	1159.7	1159.7
152.5°	1183.4	1184.1	1184.8	1185.4	1186.1	1186.6	1186.8	1187.2	1187.5	1187.8	1188.2
155°	1227.7	1227.7	1227.7	1227.7	1227.7	1227.8	1228.0	1228.2	1228.5	1228.7	1229.7
157.5°	1265.3	1265.0	1264.7	1264.4	1264.1	1264.0	1264.3	1264.5	1264.7	1264.9	1265.9
160°	1288.9	1288.5	1288.0	1287.5	1287.0	1286.8	1286.8	1286.8	1286.8	1286.8	1288.0
162.5°	1309.9	1309.3	1308.6	1308.0	1307.3	1307.0	1307.2	1307.4	1307.6	1307.8	1309.0
165°	1337.2	1336.4	1335.7	1334.9	1334.3	1333.9	1333.9	1333.9	1333.9	1333.9	1335.3
167.5°	1358.9	1357.8	1356.9	1355.9	1354.9	1354.5	1354.7	1354.9	1355.1	1355.3	1356.8
170°	1371.1	1370.1	1369.1	1368.2	1367.2	1366.7	1366.7	1366.7	1366.7	1366.7	1368.4
172.5°	1380.7	1379.8	1378.8	1377.8	1376.9	1376.4	1376.4	1376.4	1376.4	1376.4	1377.9
175°	1390.8	1389.9	1388.8	1387.9	1387.0	1386.4	1386.4	1386.4	1386.4	1386.4	1387.9
177.5°	1395.0	1394.2	1393.5	1392.6	1391.9	1391.5	1391.5	1391.5	1391.5	1391.5	1392.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1



TEST NUMBER: P331905-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	68.2	71.7	75.2	77.6	78.6	79.7	80.8	81.8
90°	84.5	88.8	93.1	96.0	97.5	98.9	100.4	101.8
92.5°	96.9	100.9	104.9	107.3	107.8	108.5	109.1	109.7
95°	132.5	136.5	140.5	143.0	144.0	145.0	145.9	146.9
97.5°	175.2	179.2	183.2	185.7	186.5	187.5	188.3	189.2
100°	206.3	209.9	213.4	215.9	217.4	218.9	220.4	221.8
102.5°	242.6	246.1	249.6	251.8	252.6	253.5	254.4	255.2
105°	296.8	299.5	302.3	304.3	305.8	307.1	308.5	309.8
107.5°	355.8	359.2	362.6	364.6	365.1	365.7	366.3	366.8
110°	395.4	399.0	402.5	404.4	404.6	404.9	405.2	405.5





TEST NUMBER: P331905-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	434.7	438.4	442.0	444.2	445.0	445.7	446.5	447.2
115°	494.9	497.6	500.1	501.7	502.3	502.8	503.3	503.9
117.5°	555.6	558.0	560.2	561.4	561.5	561.6	561.7	561.8
120°	596.3	598.3	600.3	601.4	601.6	601.8	602.0	602.2
122.5°	637.4	638.9	640.5	641.2	641.2	641.2	641.2	641.2
125°	698.4	699.6	700.6	701.0	700.7	700.4	700.1	699.8
127.5°	758.7	759.3	759.9	760.0	759.5	759.0	758.6	758.2
130°	798.8	799.7	800.6	800.5	799.4	798.2	797.1	796.0
132.5°	837.7	838.3	838.9	838.9	838.2	837.5	837.0	836.3
135°	896.1	896.8	897.7	898.1	898.1	898.1	898.1	898.1
137.5°	953.2	953.8	954.2	954.3	953.9	953.5	953.0	952.5
140°	990.9	992.1	993.3	993.3	992.1	990.9	989.7	988.4
142.5°	1026.0	1027.1	1028.1	1028.2	1027.4	1026.6	1025.8	1024.9
145°	1078.6	1079.2	1079.8	1079.7	1079.1	1078.6	1078.0	1077.4
147.5°	1128.7	1128.9	1129.2	1128.7	1127.6	1126.4	1125.4	1124.3
150°	1159.7	1159.7	1159.7	1159.1	1157.8	1156.6	1155.3	1154.0
152.5°	1188.5	1188.9	1189.3	1188.9	1187.7	1186.5	1185.2	1184.0
155°	1230.7	1231.6	1232.7	1232.3	1230.6	1228.9	1227.2	1225.4
157.5°	1266.9	1267.9	1268.9	1268.8	1267.4	1266.0	1264.7	1263.3
160°	1289.2	1290.4	1291.7	1291.8	1290.8	1289.8	1288.8	1287.9
162.5°	1310.2	1311.5	1312.7	1312.5	1310.9	1309.4	1307.8	1306.3
165°	1336.8	1338.2	1339.7	1339.5	1337.8	1336.1	1334.5	1332.8
167.5°	1358.3	1359.8	1361.3	1361.3	1359.8	1358.3	1356.8	1355.3
170°	1370.1	1371.9	1373.6	1373.6	1371.9	1370.1	1368.4	1366.7
172.5°	1379.4	1380.9	1382.4	1382.3	1380.5	1378.8	1377.1	1375.5
175°	1389.3	1390.8	1392.2	1392.1	1390.4	1388.7	1387.0	1385.3
177.5°	1393.8	1395.0	1396.1	1396.0	1394.7	1393.3	1391.9	1390.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1

(END OF REPORT)