

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: P331943-930

Luminaire Tested: **S123DIP-S560D1025U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331943-930  
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-S560D1025U930-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5233.4 lumens  
Efficiency: N/A  
Efficacy: 117.6 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-Indirect

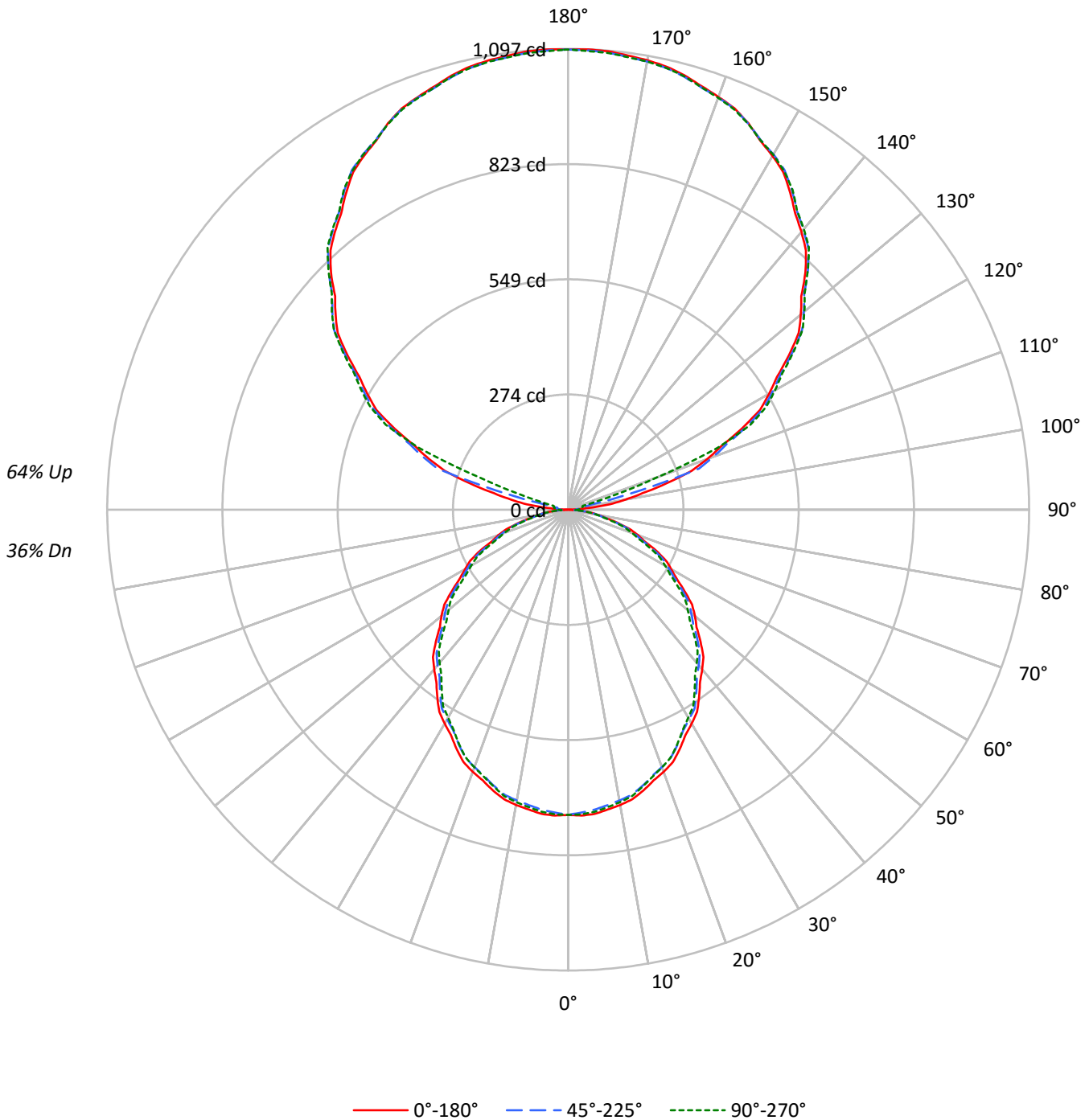
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331943-930

CATALOG NUMBER: S123DIP-S560D1025U930-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIP-S560D1025U930-4F0-1E-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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21
4	72	61	53	48	65	56	49	44	45	40	36	36	32	29	27	24	22	18
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	20	16
6	61	49	41	35	55	44	37	32	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9

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

	0°	45°	90°
0°	7819	7819	7819
5°	7854	7747	7800
10°	7803	7679	7726
15°	7710	7592	7608
20°	7605	7468	7475
25°	7462	7321	7305
30°	7305	7157	7102
35°	7139	6984	6893
40°	6968	6792	6687
45°	6779	6616	6454
50°	6589	6400	6223
55°	6341	6176	5988
60°	6090	5916	5726
65°	5871	5631	5456
70°	5542	5306	5070
75°	5065	4882	4675
80°	4568	4376	4339
85°	4001	3853	3705



TEST NUMBER: P331943-930

CATALOG NUMBER: S123DIP-S560D1025U930-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.4	1.3
10°-20°	193.2	3.7
20°-30°	285.4	5.5
30°-40°	333.3	6.4
40°-50°	335.1	6.4
50°-60°	294.4	5.6
60°-70°	219.3	4.2
70°-80°	124.9	2.4
80°-90°	38.9	0.7
90°-100°	39.8	0.8
100°-110°	189.8	3.6
110°-120°	455.9	8.7
120°-130°	580.5	11.1
130°-140°	620.3	11.9
140°-150°	580.0	11.1
150°-160°	467.9	8.9
160°-170°	302.0	5.8
170°-180°	104.1	2.0
0°-30°	547.0	10.5
0°-40°	880.3	16.8
0°-60°	1509.9	28.9
0°-90°	1893.1	36.2
90°-120°	685.5	13.1
90°-150°	2466.4	47.1
90°-180°	3340.0	63.8
0°-180°	5233.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	726	726	726	726	726	
5°	727	724	717	723	722	69
15°	692	689	681	686	683	195
25°	628	624	616	617	615	289
35°	543	539	532	528	525	340
45°	445	442	435	427	424	344
55°	338	337	329	322	319	303
65°	230	227	221	216	214	227
75°	122	119	117	114	112	130
85°	32	31	31	30	30	36
90°	1	9	20	23	24	4
95°	50	19	25	31	31	61
105°	242	247	178	42	36	257
115°	455	460	467	475	478	449
125°	641	648	651	653	654	572
135°	798	803	806	809	806	614
145°	921	927	928	930	930	576
155°	1015	1013	1014	1018	1013	467
165°	1070	1068	1067	1073	1068	302
175°	1095	1092	1092	1097	1091	104
180°	1095	1095	1095	1095	1095	



TEST NUMBER: P331943-930

CATALOG NUMBER: S123DIP-S560D1025U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	728.8	728.4	728.0	727.5	727.1	726.2	725.0	723.7	722.6	721.4	722.4
5°	726.9	726.3	725.5	724.9	724.1	723.1	721.5	720.0	718.5	717.0	718.4
7.5°	719.8	719.2	718.4	717.8	717.1	715.9	714.4	712.7	711.2	709.6	710.9
10°	713.9	713.1	712.5	711.8	711.1	709.8	708.0	706.2	704.4	702.6	703.8
12.5°	705.9	705.2	704.7	704.1	703.5	702.4	700.7	699.0	697.3	695.6	696.5
15°	691.9	691.5	690.9	690.3	689.7	688.6	686.8	685.0	683.1	681.3	682.5
17.5°	675.9	675.1	674.4	673.7	672.9	671.7	669.9	668.1	666.3	664.5	665.3
20°	663.9	663.1	662.2	661.4	660.6	659.3	657.5	655.7	653.8	652.0	652.6
22.5°	650.4	649.5	648.7	647.9	647.0	645.7	643.9	642.1	640.3	638.5	639.0
25°	628.3	627.5	626.6	625.8	624.9	623.6	621.8	620.0	618.2	616.4	616.5
27.5°	604.7	603.9	603.1	602.3	601.4	600.1	598.1	596.2	594.3	592.3	592.4
30°	587.7	587.0	586.3	585.6	584.9	583.6	581.6	579.7	577.8	575.8	575.8
32.5°	570.7	569.8	568.8	567.9	567.0	565.8	564.4	562.8	561.3	559.9	559.1
35°	543.3	542.5	541.7	540.9	540.1	538.7	536.9	535.1	533.3	531.5	530.7
37.5°	515.4	514.3	513.2	512.2	511.1	509.7	507.8	506.1	504.2	502.4	501.4
40°	495.9	495.0	494.2	493.4	492.5	491.1	489.2	487.3	485.3	483.4	482.2
42.5°	476.4	475.5	474.5	473.5	472.6	471.2	469.2	467.3	465.4	463.4	462.3
45°	445.3	444.7	444.2	443.6	443.0	441.9	440.1	438.3	436.5	434.6	433.0
47.5°	414.4	413.6	412.9	412.1	411.2	409.9	408.3	406.6	404.9	403.2	401.5
50°	393.5	392.7	392.1	391.3	390.7	389.5	387.6	385.8	384.0	382.2	380.7
52.5°	371.5	371.0	370.6	370.1	369.6	368.4	366.5	364.6	362.6	360.8	359.5
55°	337.9	337.7	337.6	337.5	337.3	336.3	334.5	332.7	330.9	329.1	327.6
57.5°	305.9	305.4	304.9	304.5	304.0	303.0	301.6	300.2	298.7	297.3	296.0
60°	282.9	282.7	282.7	282.5	282.3	281.4	279.8	278.1	276.5	274.8	273.5
62.5°	262.4	262.0	261.7	261.4	261.0	260.0	258.3	256.7	254.9	253.3	252.1
65°	230.5	229.8	229.1	228.4	227.7	226.7	225.3	223.9	222.5	221.1	220.0
67.5°	196.6	196.0	195.3	194.8	194.1	193.3	192.2	191.2	190.1	189.1	188.2
70°	176.1	175.3	174.5	173.7	172.8	171.9	171.1	170.3	169.4	168.6	167.6
72.5°	154.7	154.0	153.4	152.8	152.2	151.4	150.5	149.5	148.5	147.7	146.8
75°	121.8	121.2	120.7	120.1	119.6	119.1	118.6	118.2	117.8	117.4	116.8
77.5°	92.7	92.4	92.0	91.8	91.5	91.1	90.6	90.1	89.5	89.0	88.6
80°	73.7	73.3	72.9	72.5	72.0	71.7	71.4	71.1	70.8	70.6	70.4
82.5°	55.2	55.1	55.0	55.0	54.9	54.8	54.8	54.7	54.6	54.6	54.3
85°	32.4	32.2	32.0	31.6	31.4	31.2	31.2	31.2	31.2	31.2	31.0
87.5°	13.1	13.2	13.2	13.2	13.3	13.5	13.9	14.2	14.5	14.9	14.9
90°	0.8	2.6	4.4	6.3	8.1	10.1	12.5	14.8	17.2	19.6	20.2
92.5°	15.2	14.6	14.1	13.6	13.1	13.8	15.5	17.3	19.1	20.9	22.0
95°	49.7	42.2	34.8	27.4	20.0	17.3	19.2	21.3	23.2	25.2	26.5
97.5°	99.8	96.4	93.1	89.8	86.4	78.3	65.3	52.3	39.2	26.2	27.6
100°	137.5	141.1	144.8	148.4	152.0	139.7	111.5	83.2	55.0	26.8	28.3
102.5°	180.5	183.1	185.7	188.3	190.9	176.8	146.0	115.2	84.4	53.6	49.1
105°	242.5	244.5	246.5	248.5	250.5	243.3	227.1	210.8	194.5	178.2	146.2
107.5°	307.9	309.6	311.1	312.7	314.3	316.4	318.9	321.6	324.1	326.7	303.2
110°	351.6	353.0	354.4	355.9	357.3	359.1	361.0	363.1	365.0	367.0	361.0



TEST NUMBER: P331943-930

CATALOG NUMBER: S123DIP-S560D1025U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	393.2	394.5	395.8	397.1	398.4	400.1	402.1	404.1	406.0	408.1	408.1
115°	454.9	456.0	457.1	458.2	459.3	460.6	462.2	463.8	465.5	467.1	469.0
117.5°	514.6	516.0	517.3	518.7	520.0	521.1	521.9	522.8	523.6	524.4	525.9
120°	551.7	553.3	555.0	556.6	558.2	559.4	559.9	560.4	561.0	561.5	563.0
122.5°	589.5	590.8	592.2	593.5	594.8	595.9	596.6	597.3	597.9	598.6	599.7
125°	641.2	642.7	644.2	645.6	647.0	648.2	648.9	649.5	650.3	651.0	651.4
127.5°	691.4	692.8	694.3	695.7	697.2	698.3	699.2	700.1	700.9	701.8	702.4
130°	722.7	724.1	725.5	727.0	728.5	729.5	730.3	731.0	731.6	732.4	733.1
132.5°	752.6	754.1	755.5	756.9	758.4	759.4	759.9	760.5	761.2	761.7	762.5
135°	798.3	799.4	800.5	801.6	802.7	803.6	804.3	805.0	805.8	806.5	807.0
137.5°	837.4	838.8	840.2	841.6	842.9	843.8	844.2	844.6	845.0	845.4	846.2
140°	863.4	864.5	865.6	866.7	867.8	868.6	869.1	869.7	870.3	870.7	871.5
142.5°	887.5	888.6	889.7	890.8	891.9	892.7	893.2	893.7	894.3	894.9	895.4
145°	921.2	922.5	923.7	925.0	926.3	927.1	927.5	927.8	928.1	928.5	928.9
147.5°	952.9	953.8	954.6	955.4	956.3	956.8	957.2	957.6	958.0	958.3	958.7
150°	972.5	973.1	973.5	974.1	974.6	975.1	975.4	975.8	976.2	976.6	976.9
152.5°	990.0	990.3	990.6	990.8	991.1	991.3	991.5	991.7	992.0	992.1	992.8
155°	1014.8	1014.4	1014.1	1013.7	1013.3	1013.3	1013.4	1013.6	1013.8	1014.0	1014.9
157.5°	1034.0	1034.0	1034.0	1033.9	1033.9	1033.7	1033.6	1033.4	1033.2	1033.0	1034.1
160°	1045.7	1045.5	1045.4	1045.2	1045.0	1044.8	1044.6	1044.5	1044.2	1044.1	1045.2
162.5°	1056.8	1056.3	1055.8	1055.4	1054.9	1054.6	1054.4	1054.2	1054.0	1053.9	1055.1
165°	1070.2	1069.6	1069.0	1068.5	1068.0	1067.6	1067.4	1067.2	1067.1	1066.9	1068.3
167.5°	1080.5	1079.9	1079.1	1078.4	1077.7	1077.3	1077.3	1077.3	1077.3	1077.3	1078.7
170°	1086.4	1085.7	1085.0	1084.3	1083.5	1083.1	1083.1	1083.1	1083.1	1083.1	1084.6
172.5°	1090.3	1089.5	1088.6	1087.7	1086.9	1086.5	1086.6	1086.8	1086.9	1087.0	1088.5
175°	1095.4	1094.5	1093.6	1092.7	1091.8	1091.4	1091.5	1091.8	1091.9	1092.1	1093.4
177.5°	1096.7	1095.9	1095.2	1094.5	1093.8	1093.5	1093.6	1093.8	1093.9	1094.1	1095.2
180°	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4



TEST NUMBER: P331943-930

CATALOG NUMBER: S123DIP-S560D1025U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	723.6	724.6	725.8	726.3	726.2	726.0	725.9	725.9
5°	719.7	721.1	722.5	723.1	722.8	722.5	722.3	721.9
7.5°	712.1	713.3	714.6	715.1	714.9	714.8	714.6	714.4
10°	705.1	706.4	707.6	708.1	707.8	707.5	707.3	706.9
12.5°	697.4	698.4	699.3	699.6	699.4	699.3	699.1	699.0
15°	683.6	684.7	685.8	685.9	685.1	684.3	683.5	682.7
17.5°	666.1	666.8	667.6	667.8	667.6	667.2	666.9	666.6
20°	653.1	653.7	654.2	654.3	653.9	653.5	653.1	652.6
22.5°	639.4	639.8	640.3	640.3	639.8	639.2	638.7	638.1
25°	616.7	616.9	616.9	616.9	616.4	616.0	615.6	615.1
27.5°	592.6	592.6	592.7	592.6	592.0	591.5	590.9	590.4
30°	575.8	575.8	575.8	575.4	574.4	573.4	572.4	571.4
32.5°	558.3	557.5	556.7	556.0	555.5	555.1	554.5	554.0
35°	529.8	529.0	528.2	527.4	526.7	526.0	525.3	524.6
37.5°	500.3	499.4	498.4	497.7	497.3	496.8	496.4	495.9
40°	481.2	480.0	479.0	478.1	477.5	477.0	476.5	475.9
42.5°	461.2	460.1	458.9	458.1	457.5	457.1	456.5	455.9
45°	431.4	429.7	428.0	426.8	426.2	425.4	424.8	424.0
47.5°	399.9	398.3	396.6	395.5	394.9	394.3	393.7	393.1
50°	379.2	377.6	376.1	375.0	374.1	373.2	372.4	371.6
52.5°	358.2	356.9	355.6	354.4	353.6	352.8	352.0	351.1
55°	326.0	324.6	323.0	321.9	321.2	320.5	319.8	319.1
57.5°	294.6	293.2	291.9	290.7	289.9	289.2	288.4	287.6
60°	272.3	271.1	269.8	268.8	268.2	267.4	266.8	266.0
62.5°	250.8	249.6	248.3	247.4	247.0	246.5	246.1	245.6
65°	218.8	217.8	216.6	215.9	215.5	215.1	214.7	214.2
67.5°	187.2	186.2	185.2	184.4	183.8	183.3	182.7	182.1
70°	166.6	165.8	164.8	163.9	163.2	162.5	161.8	161.1
72.5°	145.9	145.0	144.2	143.6	143.2	142.8	142.5	142.1
75°	116.0	115.4	114.6	114.1	113.7	113.2	112.8	112.4
77.5°	88.1	87.6	87.2	86.9	86.9	86.9	86.9	86.9
80°	70.3	70.1	70.0	70.0	70.0	70.0	70.0	70.0
82.5°	54.1	53.8	53.6	53.4	53.3	53.2	53.1	53.0
85°	30.7	30.4	30.1	30.0	30.0	30.0	30.0	30.0
87.5°	15.0	15.0	15.0	15.1	15.2	15.2	15.3	15.4
90°	21.0	21.7	22.4	23.0	23.3	23.7	24.1	24.4
92.5°	23.2	24.3	25.4	26.2	26.3	26.6	26.8	27.0
95°	27.7	29.0	30.3	30.9	30.9	30.9	30.9	30.9
97.5°	29.1	30.6	32.0	32.8	33.0	33.2	33.3	33.5
100°	29.8	31.2	32.6	33.4	33.7	33.8	34.0	34.2
102.5°	44.6	40.1	35.6	33.5	33.8	34.2	34.5	34.8
105°	114.2	82.2	50.2	34.3	34.7	35.1	35.5	35.8
107.5°	279.7	256.2	232.8	209.0	184.8	160.7	136.6	112.4
110°	355.1	349.1	343.2	327.3	301.3	275.5	249.6	223.8





TEST NUMBER: P331943-930

CATALOG NUMBER: S123DIP-S560D1025U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	408.2	408.4	408.5	405.8	400.3	394.8	389.4	383.9
115°	470.8	472.5	474.3	475.6	476.3	477.0	477.8	478.5
117.5°	527.3	528.7	530.2	531.0	531.2	531.2	531.4	531.6
120°	564.4	565.8	567.3	568.0	568.0	568.0	568.0	568.0
122.5°	600.6	601.7	602.7	603.2	603.4	603.6	603.6	603.8
125°	651.8	652.1	652.5	652.8	653.2	653.5	654.0	654.3
127.5°	703.0	703.5	704.1	704.3	703.8	703.5	703.1	702.8
130°	733.9	734.6	735.3	735.5	735.2	734.7	734.4	734.0
132.5°	763.1	763.9	764.6	764.7	764.2	763.7	763.2	762.7
135°	807.6	808.1	808.6	808.6	808.1	807.6	807.0	806.5
137.5°	847.1	848.0	848.8	849.1	848.7	848.4	848.0	847.7
140°	872.2	872.9	873.7	873.8	873.4	873.1	872.8	872.4
142.5°	896.0	896.6	897.2	897.2	896.7	896.2	895.7	895.2
145°	929.3	929.6	930.0	930.2	930.2	930.2	930.2	930.2
147.5°	959.0	959.4	959.8	959.5	958.7	957.9	957.0	956.2
150°	977.3	977.6	978.0	977.9	977.4	976.8	976.2	975.8
152.5°	993.4	994.1	994.7	994.7	993.8	993.0	992.2	991.3
155°	1015.8	1016.7	1017.6	1017.5	1016.4	1015.4	1014.2	1013.2
157.5°	1035.2	1036.2	1037.4	1037.2	1035.8	1034.4	1033.0	1031.6
160°	1046.3	1047.3	1048.4	1048.3	1047.1	1045.8	1044.6	1043.3
162.5°	1056.3	1057.5	1058.7	1058.8	1057.7	1056.5	1055.5	1054.3
165°	1069.8	1071.2	1072.7	1072.8	1071.5	1070.2	1068.9	1067.7
167.5°	1080.2	1081.7	1083.0	1083.0	1081.7	1080.2	1078.7	1077.3
170°	1086.1	1087.5	1088.9	1088.9	1087.5	1086.1	1084.6	1083.1
172.5°	1090.0	1091.4	1092.8	1092.7	1091.2	1089.6	1088.0	1086.4
175°	1094.6	1095.9	1097.1	1097.1	1095.6	1094.2	1092.7	1091.3
177.5°	1096.3	1097.6	1098.7	1098.5	1097.1	1095.7	1094.2	1092.7
180°	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4	1095.4

(END OF REPORT)