

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: P331953-927

Luminaire Tested: **S123DIP-S560D1195U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331953-927  
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-S560D1195U927-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH 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: 5086.2 lumens  
Efficiency: N/A  
Efficacy: 103.0 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

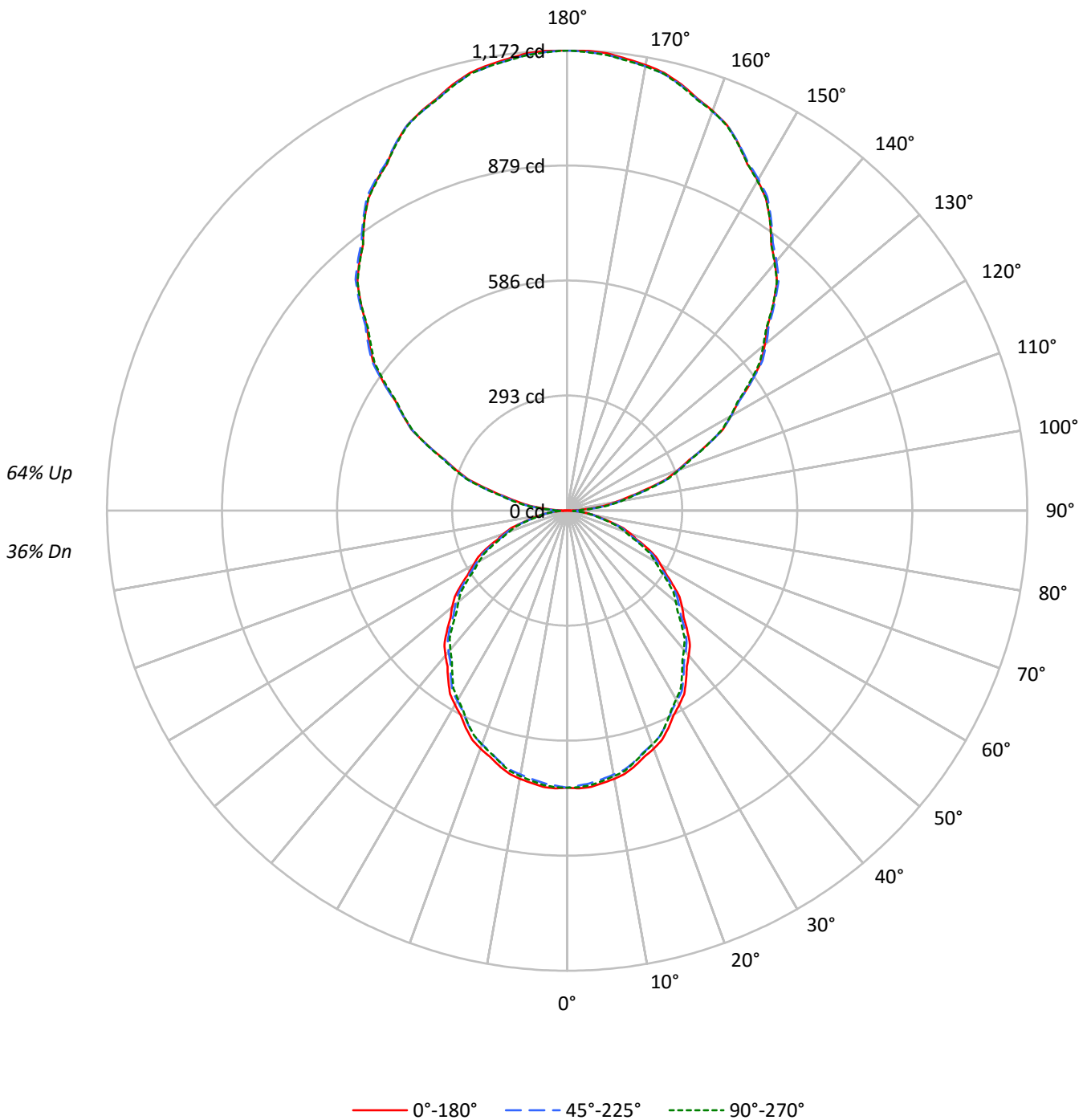
Input Watts (W): 49.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331953-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-F1

### 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	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°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606



TEST NUMBER: P331953-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	1.3
10°-20°	187.7	3.7
20°-30°	277.3	5.5
30°-40°	323.9	6.4
40°-50°	325.6	6.4
50°-60°	286.0	5.6
60°-70°	213.1	4.2
70°-80°	121.4	2.4
80°-90°	38.3	0.8
90°-100°	76.3	1.5
100°-110°	228.5	4.5
110°-120°	388.6	7.6
120°-130°	511.1	10.0
130°-140°	574.5	11.3
140°-150°	564.7	11.1
150°-160°	475.4	9.3
160°-170°	316.5	6.2
170°-180°	110.8	2.2
0°-30°	531.5	10.4
0°-40°	855.4	16.8
0°-60°	1467.0	28.8
0°-90°	1839.9	36.2
90°-120°	693.4	13.6
90°-150°	2343.7	46.1
90°-180°	3246.0	63.8
0°-180°	5086.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	1	10	22	26	28	5
95°	54	61	68	72	72	61
105°	207	209	217	217	219	222
115°	391	394	392	393	392	387
125°	572	575	574	570	566	510
135°	743	748	747	744	742	572
145°	901	903	906	905	901	563
155°	1032	1032	1033	1036	1030	475
165°	1124	1121	1121	1126	1120	317
175°	1169	1165	1165	1170	1164	111
180°	1172	1172	1172	1172	1172	



TEST NUMBER: P331953-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.8	12.9	13.0	13.1	13.2	13.4	13.9	14.3	14.7	15.1	15.1
90°	1.0	2.9	5.0	7.1	9.1	11.5	14.1	16.8	19.4	22.1	22.9
92.5°	22.3	23.7	25.0	26.5	27.8	29.3	30.8	32.3	33.8	35.3	36.0
95°	54.3	55.8	57.2	58.6	60.0	61.6	63.2	64.8	66.5	68.1	68.9
97.5°	96.5	97.5	98.6	99.7	100.7	101.9	103.1	104.3	105.4	106.5	107.5
100°	125.2	126.4	127.6	128.9	130.1	131.2	132.2	133.2	134.3	135.3	135.9
102.5°	158.3	159.1	159.8	160.5	161.3	162.3	163.7	165.0	166.4	167.7	168.3
105°	207.1	207.5	207.9	208.3	208.7	209.8	211.7	213.6	215.4	217.2	217.2
107.5°	263.8	264.0	264.3	264.5	264.7	265.3	266.0	266.7	267.4	268.2	268.9
110°	299.1	299.5	299.9	300.4	300.8	301.2	301.6	302.0	302.4	302.9	303.6



TEST NUMBER: P331953-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	336.0	336.2	336.4	336.7	336.9	337.1	337.2	337.2	337.3	337.4	338.4
115°	391.2	391.8	392.4	393.0	393.6	393.7	393.3	392.9	392.5	392.1	392.3
117.5°	446.8	447.2	447.6	448.0	448.4	448.4	447.8	447.3	446.8	446.2	446.2
120°	481.4	482.6	483.9	485.1	486.3	486.4	485.4	484.3	483.3	482.3	482.1
122.5°	517.5	518.3	519.3	520.1	521.1	521.3	520.7	520.1	519.7	519.1	518.6
125°	572.5	573.1	573.7	574.3	575.0	575.0	574.6	574.3	573.9	573.5	572.6
127.5°	623.3	624.6	625.9	627.2	628.5	629.0	628.5	628.0	627.6	627.2	626.1
130°	657.2	658.8	660.4	662.1	663.7	664.2	663.6	663.0	662.4	661.8	661.0
132.5°	691.0	692.7	694.3	695.9	697.6	698.2	697.8	697.3	696.8	696.4	695.4
135°	742.8	744.0	745.2	746.5	747.7	748.2	748.0	747.8	747.6	747.3	746.6
137.5°	790.7	791.6	792.7	793.7	794.7	795.5	796.1	796.5	797.1	797.6	796.8
140°	823.8	824.8	825.9	826.9	827.8	828.5	828.7	828.9	829.1	829.3	829.1
142.5°	854.0	855.0	856.0	857.1	858.1	858.7	859.1	859.5	859.8	860.2	860.0
145°	901.1	901.5	901.9	902.3	902.7	903.2	903.9	904.4	905.1	905.7	905.5
147.5°	942.3	943.1	943.8	944.5	945.3	945.9	946.5	947.1	947.6	948.2	948.2
150°	971.1	971.5	971.8	972.2	972.7	973.1	973.5	973.9	974.3	974.7	974.7
152.5°	994.6	995.2	995.8	996.3	996.9	997.3	997.5	997.8	998.1	998.3	998.6
155°	1031.8	1031.8	1031.8	1031.8	1031.8	1031.9	1032.1	1032.3	1032.5	1032.7	1033.6
157.5°	1063.4	1063.2	1063.0	1062.7	1062.5	1062.4	1062.6	1062.8	1063.0	1063.1	1064.0
160°	1083.3	1082.9	1082.5	1082.1	1081.7	1081.5	1081.5	1081.5	1081.5	1081.5	1082.5
162.5°	1101.0	1100.4	1099.9	1099.3	1098.8	1098.5	1098.7	1098.8	1099.0	1099.2	1100.2
165°	1123.9	1123.2	1122.6	1122.0	1121.4	1121.1	1121.1	1121.1	1121.1	1121.1	1122.3
167.5°	1142.1	1141.2	1140.4	1139.6	1138.8	1138.4	1138.6	1138.8	1138.9	1139.1	1140.3
170°	1152.4	1151.5	1150.7	1149.9	1149.1	1148.7	1148.7	1148.7	1148.7	1148.7	1150.1
172.5°	1160.5	1159.7	1158.8	1158.0	1157.2	1156.8	1156.8	1156.8	1156.8	1156.8	1158.1
175°	1168.9	1168.2	1167.3	1166.5	1165.7	1165.2	1165.2	1165.2	1165.2	1165.2	1166.5
177.5°	1172.4	1171.8	1171.2	1170.4	1169.8	1169.5	1169.5	1169.5	1169.5	1169.5	1170.4
180°	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7



TEST NUMBER: P331953-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	15.2	15.3	15.3	15.4	15.4	15.5	15.6	15.7
90°	23.8	24.6	25.3	26.0	26.4	26.8	27.2	27.6
92.5°	36.7	37.3	37.9	38.2	37.9	37.7	37.4	37.2
95°	69.7	70.6	71.4	71.8	71.8	71.8	71.8	71.8
97.5°	108.4	109.4	110.4	110.7	110.7	110.6	110.5	110.4
100°	136.5	137.1	137.8	138.2	138.7	139.1	139.5	139.9
102.5°	168.9	169.5	170.2	170.4	170.3	170.2	170.2	170.1
105°	217.2	217.2	217.2	217.5	217.9	218.2	218.6	219.0
107.5°	269.5	270.2	270.8	271.0	270.8	270.5	270.3	270.1
110°	304.4	305.3	306.1	306.3	305.9	305.5	305.1	304.7





TEST NUMBER: P331953-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	339.4	340.4	341.4	341.8	341.7	341.7	341.6	341.5
115°	392.5	392.7	392.9	392.9	392.7	392.5	392.3	392.1
117.5°	446.2	446.1	446.1	445.8	445.2	444.6	444.0	443.5
120°	481.9	481.7	481.5	481.2	480.8	480.4	480.0	479.5
122.5°	518.1	517.5	517.0	516.4	515.9	515.3	514.7	514.1
125°	571.8	571.0	570.1	569.3	568.5	567.7	566.9	566.1
127.5°	624.9	623.8	622.6	621.5	620.6	619.6	618.7	617.8
130°	660.1	659.3	658.5	657.4	655.9	654.5	653.1	651.6
132.5°	694.4	693.5	692.4	691.4	690.3	689.2	688.1	687.0
135°	745.8	744.9	744.1	743.5	743.1	742.7	742.3	741.9
137.5°	795.9	795.0	794.2	793.4	792.6	791.9	791.1	790.3
140°	828.9	828.7	828.5	827.7	826.2	824.8	823.4	822.0
142.5°	859.8	859.6	859.4	858.7	857.6	856.5	855.5	854.4
145°	905.3	905.1	904.9	904.4	903.6	902.7	901.9	901.1
147.5°	948.2	948.2	948.2	947.6	946.3	945.2	943.9	942.7
150°	974.7	974.7	974.7	974.1	972.9	971.7	970.4	969.2
152.5°	998.9	999.3	999.6	999.3	998.1	997.1	996.0	995.0
155°	1034.4	1035.1	1036.0	1035.7	1034.3	1032.8	1031.4	1029.9
157.5°	1064.8	1065.6	1066.5	1066.4	1065.2	1064.1	1063.0	1061.8
160°	1083.5	1084.6	1085.6	1085.7	1084.9	1084.0	1083.2	1082.4
162.5°	1101.2	1102.2	1103.3	1103.1	1101.8	1100.5	1099.2	1097.9
165°	1123.6	1124.7	1126.0	1125.8	1124.4	1123.0	1121.6	1120.1
167.5°	1141.6	1142.9	1144.1	1144.1	1142.9	1141.6	1140.3	1139.1
170°	1151.5	1153.0	1154.4	1154.4	1153.0	1151.5	1150.1	1148.7
172.5°	1159.4	1160.6	1161.9	1161.8	1160.3	1158.9	1157.5	1156.0
175°	1167.7	1168.9	1170.1	1170.1	1168.6	1167.2	1165.8	1164.3
177.5°	1171.5	1172.4	1173.4	1173.3	1172.2	1171.0	1169.9	1168.8
180°	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7

(END OF REPORT)