

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: P331943-927

Luminaire Tested: **S123DIP-S560D1025U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331943-927  
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-S560D1025U927-4F0-1E-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: 5085.0 lumens  
Efficiency: N/A  
Efficacy: 114.3 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

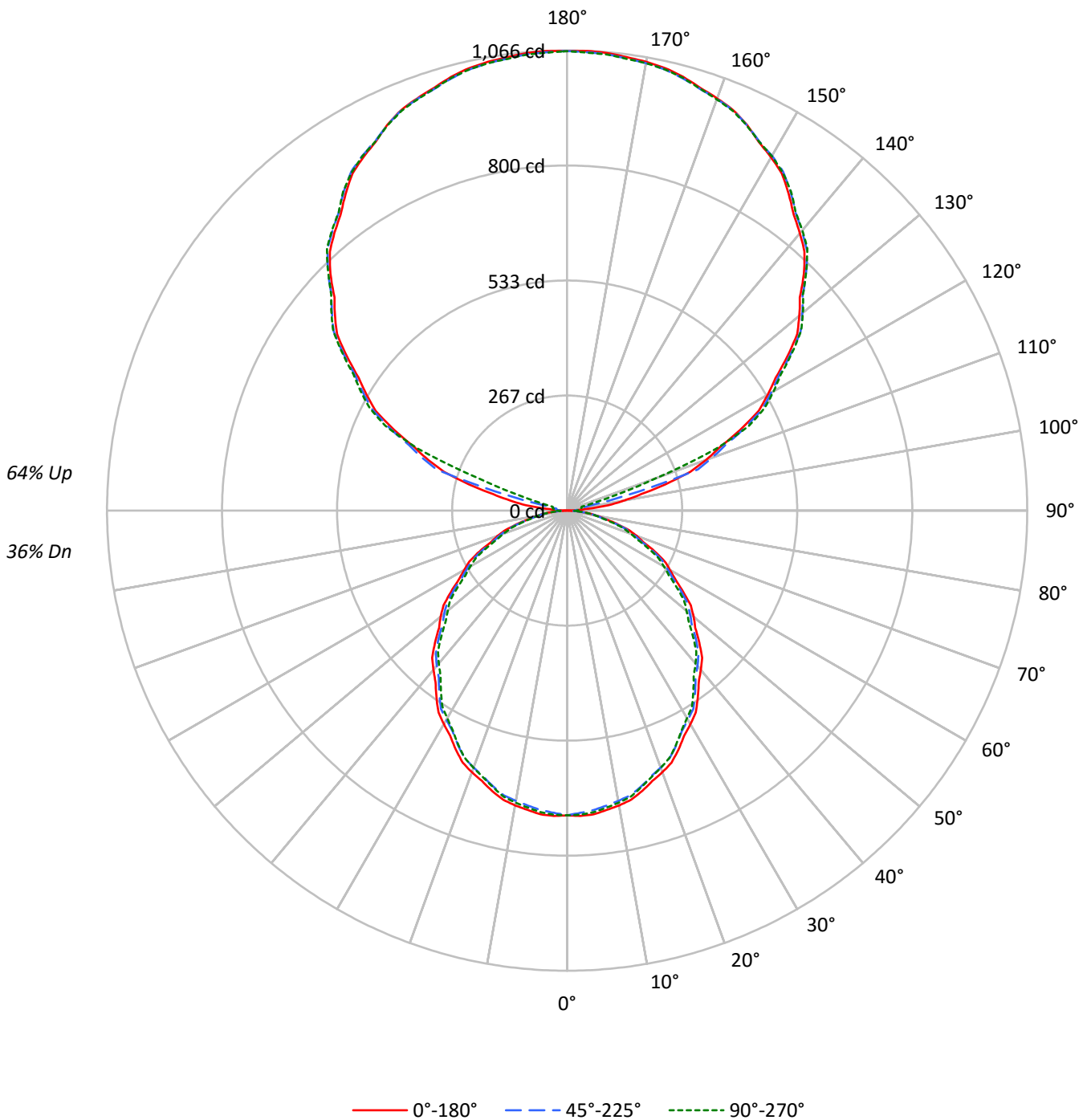
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331943-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P331943-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-F

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	37	37
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26
4	72	61	53	48	65	56	49	44	45	40	36	36	32	29	27	24	22
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	20
6	61	49	41	35	55	44	37	32	36	31	27	29	25	22	22	19	17
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11

**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: P331943-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-F

**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°	37.8	0.7
90°-100°	38.7	0.8
100°-110°	184.4	3.6
110°-120°	443.0	8.7
120°-130°	564.1	11.1
130°-140°	602.7	11.9
140°-150°	563.6	11.1
150°-160°	454.6	8.9
160°-170°	293.4	5.8
170°-180°	101.1	2.0
0°-30°	531.5	10.5
0°-40°	855.4	16.8
0°-60°	1467.0	28.9
0°-90°	1839.4	36.2
90°-120°	666.1	13.1
90°-150°	2396.5	47.1
90°-180°	3246.0	63.8
0°-180°	5085.0	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	9	19	22	24	4
95°	48	18	24	30	30	60
105°	236	240	173	41	35	250
115°	442	447	454	462	465	436
125°	623	629	633	634	636	556
135°	776	780	784	786	784	597
145°	895	900	902	904	904	560
155°	986	985	985	989	984	454
165°	1040	1038	1037	1042	1037	294
175°	1064	1061	1061	1066	1060	101
180°	1064	1064	1064	1064	1064	



TEST NUMBER: P331943-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-F

**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	12.8	12.8	12.8	12.9	13.1	13.5	13.8	14.1	14.5	14.5
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.4	16.7	19.0	19.6
92.5°	14.7	14.2	13.7	13.2	12.8	13.4	15.1	16.8	18.5	20.3	21.4
95°	48.2	41.0	33.8	26.6	19.4	16.8	18.7	20.7	22.6	24.5	25.7
97.5°	97.0	93.7	90.5	87.2	84.0	76.0	63.5	50.8	38.1	25.4	26.9
100°	133.6	137.1	140.7	144.2	147.7	135.7	108.3	80.9	53.5	26.1	27.5
102.5°	175.4	177.9	180.5	183.0	185.5	171.8	141.9	111.9	82.0	52.0	47.7
105°	235.6	237.6	239.5	241.5	243.4	236.4	220.6	204.8	189.0	173.2	142.0
107.5°	299.2	300.8	302.3	303.9	305.4	307.4	309.9	312.4	314.9	317.4	294.6
110°	341.6	343.0	344.4	345.8	347.2	348.9	350.8	352.8	354.7	356.6	350.8



TEST NUMBER: P331943-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	382.1	383.3	384.6	385.9	387.1	388.7	390.7	392.6	394.5	396.5	396.6
115°	442.0	443.1	444.1	445.2	446.2	447.6	449.1	450.7	452.3	453.8	455.7
117.5°	500.0	501.4	502.6	504.0	505.3	506.3	507.1	507.9	508.7	509.5	511.0
120°	536.1	537.7	539.2	540.8	542.4	543.5	544.0	544.5	545.1	545.6	547.0
122.5°	572.8	574.1	575.4	576.7	578.0	579.0	579.6	580.4	581.0	581.6	582.7
125°	623.1	624.5	625.9	627.3	628.7	629.8	630.5	631.1	631.8	632.6	633.0
127.5°	671.8	673.2	674.6	676.0	677.4	678.5	679.4	680.2	681.0	681.9	682.5
130°	702.2	703.5	705.0	706.4	707.8	708.8	709.6	710.3	710.9	711.6	712.3
132.5°	731.3	732.7	734.0	735.5	736.9	737.8	738.4	738.9	739.6	740.1	740.8
135°	775.7	776.7	777.8	778.9	779.9	780.8	781.5	782.2	782.9	783.6	784.1
137.5°	813.7	815.0	816.3	817.7	819.0	819.8	820.2	820.6	821.0	821.4	822.2
140°	838.9	840.0	841.1	842.1	843.2	844.0	844.5	845.0	845.6	846.1	846.8
142.5°	862.4	863.4	864.4	865.5	866.6	867.4	867.9	868.4	868.9	869.5	870.1
145°	895.1	896.4	897.5	898.8	900.0	900.8	901.2	901.5	901.8	902.2	902.5
147.5°	925.9	926.8	927.6	928.4	929.2	929.7	930.1	930.4	930.8	931.1	931.5
150°	944.9	945.5	945.9	946.5	947.0	947.5	947.8	948.2	948.5	948.9	949.2
152.5°	961.9	962.3	962.5	962.7	963.0	963.2	963.4	963.6	963.8	964.0	964.6
155°	986.0	985.6	985.3	985.0	984.6	984.5	984.7	984.8	985.1	985.2	986.1
157.5°	1004.6	1004.6	1004.6	1004.6	1004.6	1004.4	1004.2	1004.1	1003.9	1003.7	1004.8
160°	1016.1	1015.9	1015.7	1015.6	1015.3	1015.2	1015.0	1014.9	1014.6	1014.5	1015.6
162.5°	1026.8	1026.4	1025.9	1025.5	1025.0	1024.7	1024.5	1024.3	1024.1	1024.0	1025.2
165°	1039.8	1039.3	1038.7	1038.2	1037.7	1037.4	1037.1	1037.0	1036.8	1036.6	1038.0
167.5°	1049.9	1049.2	1048.5	1047.8	1047.1	1046.7	1046.7	1046.7	1046.7	1046.7	1048.1
170°	1055.6	1054.9	1054.2	1053.5	1052.8	1052.4	1052.4	1052.4	1052.4	1052.4	1053.8
172.5°	1059.4	1058.6	1057.7	1056.9	1056.1	1055.7	1055.8	1056.0	1056.1	1056.2	1057.6
175°	1064.3	1063.4	1062.6	1061.7	1060.8	1060.4	1060.6	1060.8	1061.0	1061.1	1062.4
177.5°	1065.6	1064.9	1064.1	1063.4	1062.8	1062.5	1062.6	1062.8	1062.9	1063.0	1064.1
180°	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3



TEST NUMBER: P331943-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-F

**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°	14.6	14.6	14.6	14.7	14.7	14.8	14.9	15.0
90°	20.4	21.1	21.8	22.3	22.7	23.1	23.4	23.7
92.5°	22.5	23.6	24.7	25.4	25.6	25.8	26.1	26.2
95°	26.9	28.2	29.5	30.0	30.0	30.0	30.0	30.0
97.5°	28.3	29.7	31.1	31.8	32.1	32.2	32.4	32.6
100°	28.9	30.3	31.7	32.5	32.7	32.9	33.0	33.2
102.5°	43.3	39.0	34.6	32.6	32.9	33.2	33.5	33.8
105°	111.0	79.9	48.8	33.4	33.7	34.1	34.5	34.8
107.5°	271.8	249.0	226.2	203.0	179.6	156.1	132.7	109.2
110°	345.0	339.2	333.4	318.0	292.8	267.7	242.6	217.5





TEST NUMBER: P331943-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.6	396.8	396.9	394.3	389.0	383.7	378.3	373.0
115°	457.4	459.1	460.9	462.2	462.8	463.5	464.2	464.9
117.5°	512.4	513.7	515.2	515.9	516.1	516.2	516.3	516.5
120°	548.4	549.8	551.2	551.9	551.9	551.9	551.9	551.9
122.5°	583.6	584.6	585.6	586.1	586.3	586.5	586.5	586.7
125°	633.3	633.6	634.0	634.3	634.7	635.0	635.4	635.7
127.5°	683.0	683.6	684.1	684.3	683.9	683.6	683.2	682.9
130°	713.0	713.8	714.5	714.6	714.3	713.9	713.6	713.2
132.5°	741.5	742.2	742.9	743.0	742.5	742.0	741.6	741.1
135°	784.7	785.2	785.7	785.7	785.2	784.7	784.1	783.6
137.5°	823.1	823.9	824.7	825.0	824.7	824.3	823.9	823.6
140°	847.5	848.2	848.9	849.1	848.7	848.3	848.0	847.6
142.5°	870.6	871.2	871.7	871.7	871.2	870.8	870.3	869.8
145°	902.9	903.2	903.6	903.8	903.8	903.8	903.8	903.8
147.5°	931.8	932.2	932.6	932.3	931.5	930.7	929.9	929.1
150°	949.6	949.9	950.3	950.1	949.7	949.1	948.6	948.1
152.5°	965.3	965.9	966.5	966.5	965.7	964.9	964.1	963.2
155°	987.0	987.9	988.7	988.6	987.6	986.6	985.5	984.4
157.5°	1005.8	1006.9	1008.0	1007.8	1006.4	1005.0	1003.7	1002.3
160°	1016.6	1017.6	1018.7	1018.6	1017.4	1016.1	1014.9	1013.7
162.5°	1026.4	1027.5	1028.7	1028.8	1027.7	1026.6	1025.6	1024.5
165°	1039.4	1040.8	1042.3	1042.4	1041.1	1039.9	1038.6	1037.4
167.5°	1049.6	1051.0	1052.3	1052.3	1051.0	1049.6	1048.1	1046.7
170°	1055.3	1056.7	1058.0	1058.0	1056.7	1055.3	1053.8	1052.4
172.5°	1059.1	1060.4	1061.8	1061.8	1060.3	1058.7	1057.2	1055.6
175°	1063.6	1064.9	1066.0	1066.0	1064.5	1063.2	1061.8	1060.3
177.5°	1065.2	1066.4	1067.5	1067.4	1066.0	1064.6	1063.2	1061.8
180°	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3

(END OF REPORT)