

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: P331941-927

Luminaire Tested: **S123DIP-S560D1025U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331941-927  
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-S560D1025U927-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4664.0 lumens  
Efficiency: N/A  
Efficacy: 104.8 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

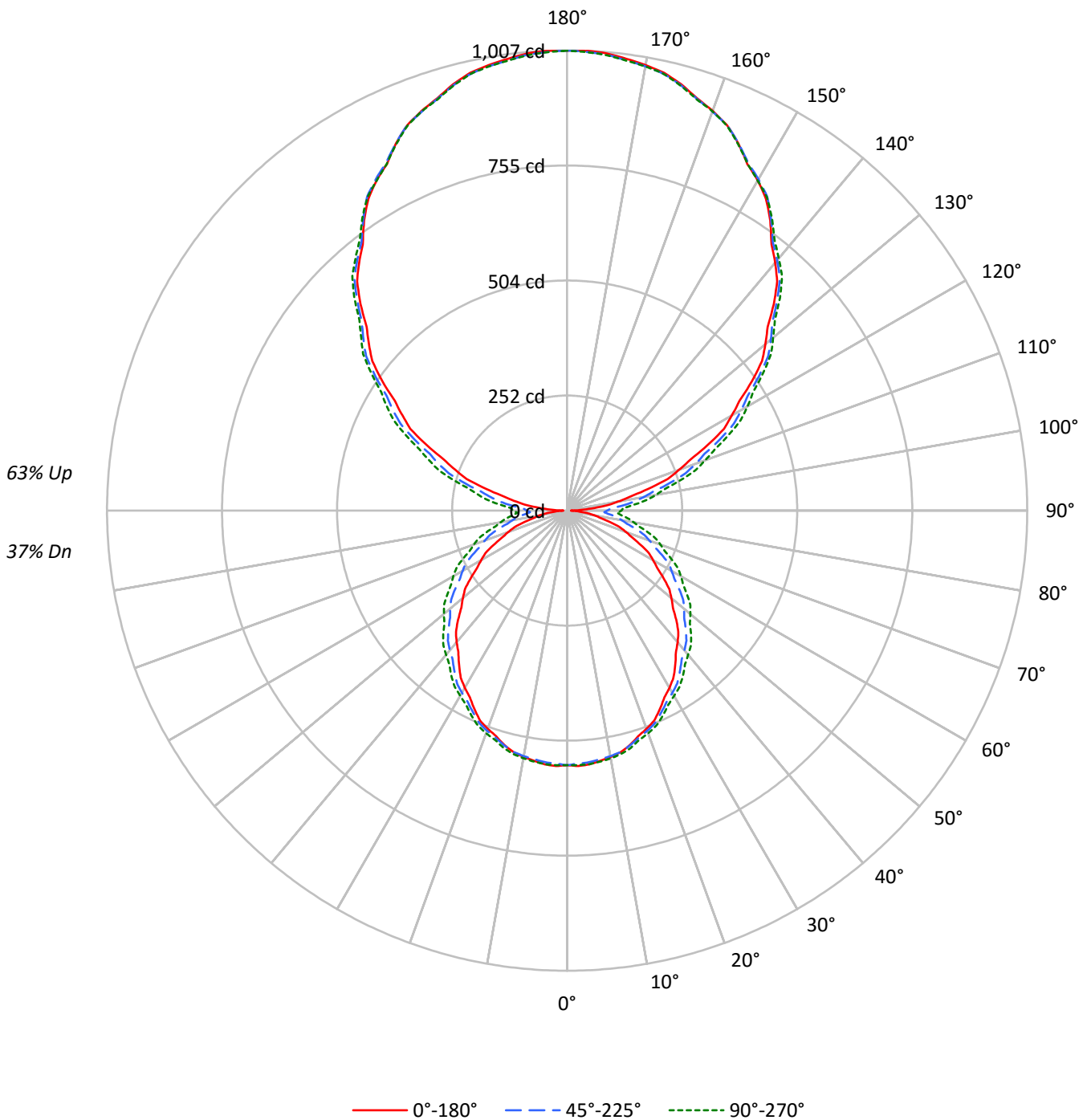
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331941-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





TEST NUMBER: P331941-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-D1

**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	44	44	44	37
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	38	37	36	29
2	85	78	71	66	77	70	65	60	57	53	50	44	42	39	33	31	29	24
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20
4	71	60	52	46	64	54	47	42	44	39	35	34	31	28	25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	16	13	15	12	10	8

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

	0°	45°	90°
0°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



TEST NUMBER: P331941-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.8	1.1
10°-20°	150.5	3.2
20°-30°	225.2	4.8
30°-40°	268.9	5.8
40°-50°	281.3	6.0
50°-60°	264.0	5.7
60°-70°	220.5	4.7
70°-80°	157.8	3.4
80°-90°	97.1	2.1
90°-100°	124.6	2.7
100°-110°	239.7	5.1
110°-120°	362.8	7.8
120°-130°	455.7	9.8
130°-140°	501.0	10.7
140°-150°	486.7	10.4
150°-160°	408.4	8.8
160°-170°	271.9	5.8
170°-180°	95.2	2.0
0°-30°	428.5	9.2
0°-40°	697.4	15.0
0°-60°	1242.7	26.6
0°-90°	1718.0	36.8
90°-120°	727.1	15.6
90°-150°	2170.5	46.5
90°-180°	2946.0	63.2
0°-180°	4664.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	9	46	88	110	119	8
95°	53	83	119	140	147	58
105°	183	200	232	249	256	195
115°	339	349	369	384	388	336
125°	494	497	512	521	523	440
135°	639	644	649	657	659	492
145°	775	776	778	782	781	484
155°	886	886	887	890	885	408
165°	966	963	963	967	962	272
175°	1004	1001	1001	1005	1000	95
180°	1007	1007	1007	1007	1007	



TEST NUMBER: P331941-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.3	23.4	30.4	37.5	44.6	51.7	59.1	66.5	73.8	81.1	85.8
90°	8.7	17.0	25.4	33.7	42.1	50.9	60.0	69.2	78.4	87.5	92.8
92.5°	26.5	33.7	40.9	48.0	55.1	62.7	70.8	78.9	87.0	95.1	100.1
95°	53.3	59.8	66.3	72.8	79.3	86.5	94.6	102.6	110.6	118.6	123.5
97.5°	88.8	94.5	100.1	105.8	111.5	118.0	125.3	132.6	140.0	147.3	152.1
100°	113.0	118.4	123.7	129.1	134.5	140.7	147.8	154.9	161.9	169.1	173.5
102.5°	141.0	145.5	150.0	154.6	159.1	164.9	172.2	179.4	186.7	193.9	198.3
105°	182.8	186.4	190.0	193.5	197.1	202.6	210.0	217.4	224.7	232.1	235.9
107.5°	230.8	233.7	236.7	239.6	242.6	247.2	253.3	259.4	265.5	271.7	275.8
110°	260.6	263.4	266.2	268.9	271.7	276.0	281.8	287.5	293.3	299.0	303.2



TEST NUMBER: P331941-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	292.2	294.5	296.7	298.9	301.1	304.8	310.1	315.3	320.6	325.8	330.0
115°	339.1	341.3	343.4	345.5	347.7	351.0	355.5	360.0	364.6	369.0	372.4
117.5°	386.7	388.1	389.4	390.8	392.1	394.9	398.9	403.1	407.2	411.3	414.5
120°	416.0	417.7	419.5	421.2	422.9	425.6	429.1	432.7	436.3	439.8	442.8
122.5°	447.0	448.1	449.2	450.4	451.5	453.9	457.7	461.5	465.2	469.1	471.6
125°	493.7	494.2	494.7	495.3	495.7	497.8	501.4	504.9	508.5	512.1	514.2
127.5°	537.3	538.3	539.3	540.3	541.3	543.2	546.1	548.9	551.8	554.6	556.3
130°	566.4	567.7	568.9	570.2	571.5	573.2	575.4	577.6	579.7	581.9	583.8
132.5°	595.0	596.4	597.8	599.2	600.6	602.1	603.9	605.7	607.4	609.2	610.9
135°	639.4	640.2	641.2	642.1	643.0	644.1	645.5	646.7	648.1	649.4	651.1
137.5°	680.3	681.1	681.9	682.7	683.4	684.4	685.8	687.1	688.3	689.7	691.0
140°	708.4	709.2	710.1	711.0	711.9	712.6	713.2	713.8	714.3	714.9	716.8
142.5°	734.3	735.1	735.8	736.6	737.4	737.9	738.3	738.7	739.1	739.5	741.2
145°	774.8	775.0	775.2	775.4	775.6	776.0	776.5	777.1	777.6	778.1	779.0
147.5°	809.6	810.2	810.9	811.5	812.1	812.7	813.2	813.7	814.1	814.7	815.0
150°	834.2	834.6	835.0	835.3	835.7	836.0	836.4	836.7	837.1	837.4	837.4
152.5°	854.5	855.0	855.5	856.0	856.4	856.8	857.1	857.2	857.5	857.7	857.9
155°	886.5	886.5	886.5	886.5	886.5	886.5	886.7	886.8	887.1	887.2	888.0
157.5°	913.6	913.5	913.2	913.0	912.8	912.8	912.9	913.1	913.2	913.3	914.1
160°	930.7	930.3	930.0	929.7	929.3	929.2	929.2	929.2	929.2	929.2	930.0
162.5°	945.9	945.4	944.9	944.4	944.0	943.8	943.9	944.0	944.2	944.4	945.2
165°	965.5	965.0	964.5	963.9	963.5	963.1	963.1	963.1	963.1	963.1	964.2
167.5°	981.2	980.5	979.8	979.1	978.3	978.1	978.3	978.3	978.5	978.7	979.8
170°	990.1	989.4	988.6	987.9	987.2	986.9	986.9	986.9	986.9	986.9	988.1
172.5°	997.0	996.3	995.6	994.9	994.2	993.8	993.8	993.8	993.8	993.8	994.9
175°	1004.2	1003.5	1002.8	1002.2	1001.5	1001.1	1001.1	1001.1	1001.1	1001.1	1002.2
177.5°	1007.3	1006.7	1006.2	1005.6	1005.0	1004.7	1004.7	1004.7	1004.7	1004.7	1005.6
180°	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6



TEST NUMBER: P331941-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	90.5	95.3	100.0	103.1	104.5	105.9	107.3	108.8
90°	98.2	103.4	108.7	112.2	113.9	115.6	117.3	119.0
92.5°	105.1	110.2	115.2	118.3	119.3	120.3	121.4	122.4
95°	128.3	133.2	138.2	141.2	142.6	143.9	145.3	146.6
97.5°	156.9	161.8	166.6	169.6	171.0	172.2	173.5	174.8
100°	177.9	182.4	186.8	189.9	191.5	193.3	195.0	196.6
102.5°	202.6	206.9	211.3	214.0	215.4	216.7	217.9	219.2
105°	239.7	243.4	247.2	249.9	251.4	253.0	254.6	256.2
107.5°	280.0	284.2	288.4	291.0	291.9	292.9	293.9	294.9
110°	307.4	311.6	315.8	318.3	319.0	319.7	320.5	321.2





TEST NUMBER: P331941-927

CATALOG NUMBER: S123DIP-S560D1025U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	334.3	338.6	342.8	345.5	346.6	347.7	348.8	349.9
115°	375.9	379.3	382.7	384.8	385.7	386.7	387.5	388.4
117.5°	417.6	420.8	424.0	425.9	426.4	427.0	427.5	428.1
120°	445.7	448.6	451.5	453.3	453.9	454.5	455.1	455.7
122.5°	474.1	476.7	479.2	480.7	481.2	481.6	482.0	482.5
125°	516.3	518.5	520.5	521.7	522.0	522.3	522.5	522.8
127.5°	558.0	559.7	561.3	562.2	562.4	562.4	562.6	562.7
130°	585.7	587.5	589.4	590.1	589.6	589.2	588.8	588.4
132.5°	612.4	614.0	615.7	616.5	616.4	616.4	616.3	616.3
135°	652.8	654.6	656.2	657.3	657.6	658.0	658.3	658.6
137.5°	692.4	693.8	695.2	695.9	695.9	695.9	695.9	695.9
140°	718.6	720.4	722.3	722.9	722.4	721.8	721.3	720.7
142.5°	742.8	744.4	746.1	746.7	746.5	746.2	745.9	745.6
145°	779.9	780.9	781.7	782.1	782.0	781.8	781.6	781.4
147.5°	815.3	815.6	815.9	815.8	815.2	814.7	814.1	813.6
150°	837.4	837.4	837.4	837.0	836.2	835.4	834.6	833.9
152.5°	858.3	858.5	858.8	858.5	857.6	856.7	856.0	855.1
155°	888.7	889.4	890.0	889.8	888.6	887.3	886.1	884.9
157.5°	914.8	915.5	916.3	916.2	915.2	914.2	913.2	912.2
160°	930.9	931.8	932.6	932.7	932.1	931.4	930.7	929.9
162.5°	946.1	947.0	947.8	947.7	946.6	945.5	944.4	943.3
165°	965.3	966.3	967.3	967.3	966.1	964.8	963.6	962.3
167.5°	980.8	981.9	983.0	983.0	981.9	980.8	979.8	978.7
170°	989.4	990.5	991.8	991.8	990.5	989.4	988.1	986.9
172.5°	996.0	997.1	998.1	998.1	996.9	995.7	994.4	993.2
175°	1003.2	1004.2	1005.4	1005.2	1004.0	1002.7	1001.6	1000.3
177.5°	1006.5	1007.3	1008.1	1008.1	1007.1	1006.1	1005.1	1004.1
180°	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6	1006.6

(END OF REPORT)