

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: P331944-940

Luminaire Tested: **S123DIP-S560D1025U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331944-940  
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-S560D1025U940-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH 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: 5209.9 lumens  
Efficiency: N/A  
Efficacy: 117.1 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

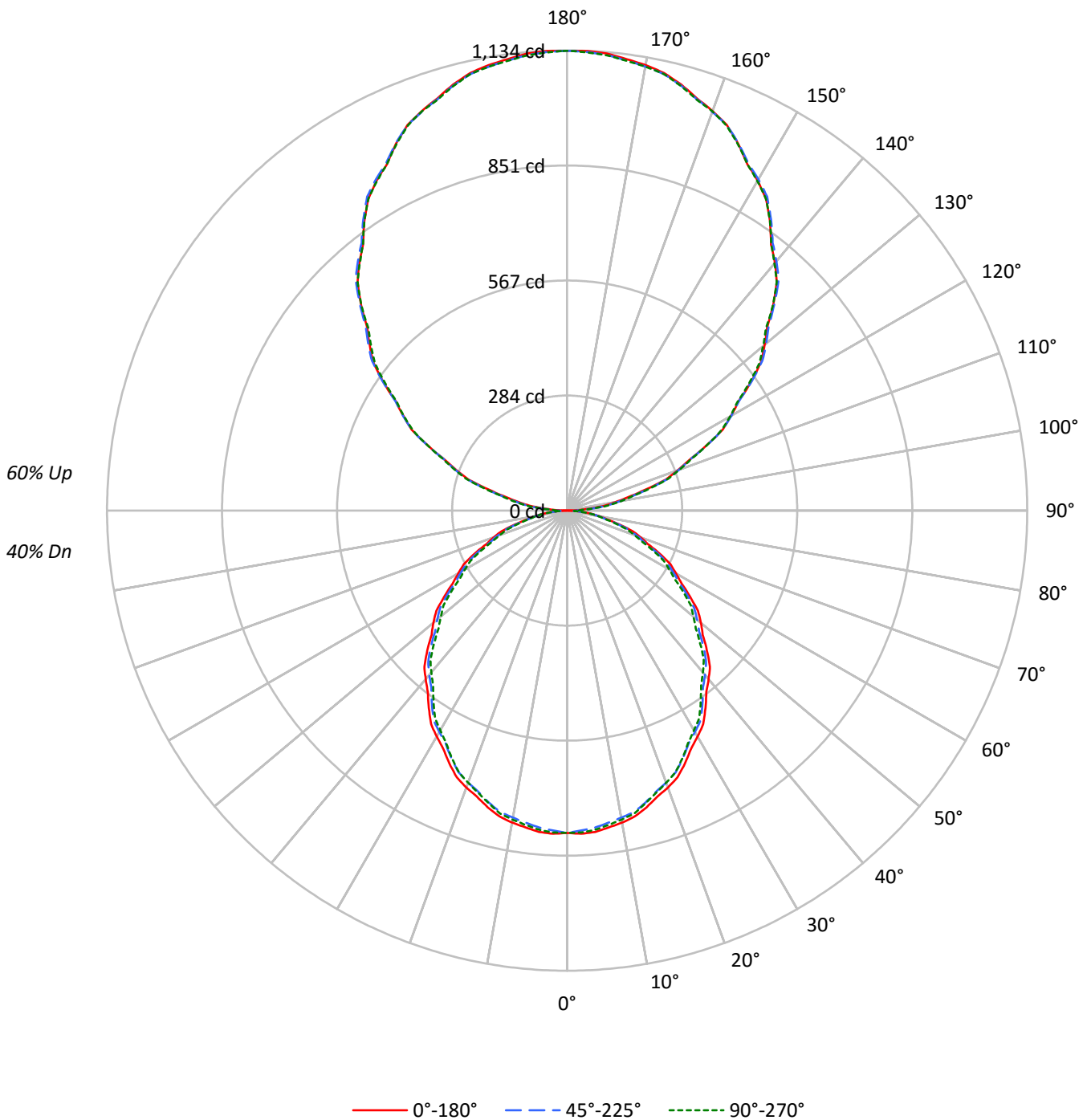
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331944-940

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P331944-940

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-F1

**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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	91	87	84	87	83	80	77	68	66	64	54	52	51	41	40	39	33
2	87	80	73	68	79	73	67	63	59	56	53	47	45	43	36	35	33	28
3	79	70	63	57	72	64	58	53	52	48	44	42	39	36	32	30	28	24
4	72	62	54	48	66	56	50	44	46	41	37	37	34	31	29	26	24	20
5	66	55	47	41	60	50	43	38	42	36	32	33	30	27	26	23	21	18
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	21	18	15
7	56	44	36	31	51	41	34	29	34	29	25	27	23	20	21	19	16	14
8	52	40	33	27	47	37	30	25	31	26	22	25	21	18	20	17	15	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	17	21	17	15	17	14	12	10

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

	0°	45°	90°
0°	8551	8551	8551
5°	8590	8473	8532
10°	8534	8400	8451
15°	8433	8304	8320
20°	8317	8168	8176
25°	8162	8007	7991
30°	7988	7828	7768
35°	7808	7638	7540
40°	7620	7429	7314
45°	7415	7237	7060
50°	7206	7000	6805
55°	6934	6756	6549
60°	6661	6469	6265
65°	6421	6159	5968
70°	6061	5803	5545
75°	5540	5340	5115
80°	4996	4785	4742
85°	4384	4224	4051



TEST NUMBER: P331944-940

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.8	1.4
10°-20°	211.3	4.1
20°-30°	312.1	6.0
30°-40°	364.6	7.0
40°-50°	366.5	7.0
50°-60°	322.0	6.2
60°-70°	239.9	4.6
70°-80°	136.7	2.6
80°-90°	42.6	0.8
90°-100°	73.8	1.4
100°-110°	220.9	4.2
110°-120°	375.8	7.2
120°-130°	494.3	9.5
130°-140°	555.6	10.7
140°-150°	546.1	10.5
150°-160°	459.7	8.8
160°-170°	306.0	5.9
170°-180°	107.2	2.1
0°-30°	598.2	11.5
0°-40°	962.8	18.5
0°-60°	1651.3	31.7
0°-90°	2070.5	39.7
90°-120°	670.6	12.9
90°-150°	2266.5	43.5
90°-180°	3139.0	60.3
0°-180°	5209.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	795	791	784	791	790	75
15°	757	754	745	750	747	213
25°	687	683	674	675	673	316
35°	594	590	581	577	574	372
45°	487	484	475	467	464	376
55°	370	368	360	353	349	331
65°	252	248	242	236	234	249
75°	133	131	128	125	123	142
85°	36	34	34	33	33	39
90°	1	10	21	25	27	5
95°	52	59	66	69	70	59
105°	200	202	210	210	212	214
115°	378	381	379	380	379	374
125°	554	556	555	551	547	494
135°	718	723	723	719	718	553
145°	871	873	876	875	871	544
155°	998	998	999	1002	996	459
165°	1087	1084	1084	1089	1083	306
175°	1130	1127	1127	1132	1126	107
180°	1133	1133	1133	1133	1133	



TEST NUMBER: P331944-940

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	797.1	796.7	796.2	795.7	795.2	794.2	792.9	791.6	790.3	789.0	790.1
5°	795.0	794.3	793.5	792.8	792.0	790.9	789.2	787.5	785.9	784.2	785.7
7.5°	787.3	786.6	785.8	785.1	784.3	783.0	781.3	779.5	777.8	776.1	777.5
10°	780.8	780.0	779.3	778.5	777.8	776.3	774.4	772.4	770.4	768.5	769.8
12.5°	772.0	771.3	770.7	770.1	769.5	768.2	766.3	764.5	762.7	760.8	761.8
15°	756.8	756.3	755.6	755.0	754.4	753.1	751.2	749.2	747.2	745.2	746.5
17.5°	739.2	738.4	737.6	736.8	736.0	734.7	732.7	730.8	728.8	726.7	727.6
20°	726.1	725.2	724.2	723.4	722.5	721.0	719.1	717.1	715.1	713.1	713.7
22.5°	711.3	710.4	709.5	708.6	707.7	706.2	704.3	702.3	700.3	698.4	698.8
25°	687.2	686.3	685.4	684.5	683.5	682.1	680.1	678.1	676.2	674.2	674.3
27.5°	661.4	660.5	659.6	658.7	657.8	656.3	654.2	652.1	650.0	647.8	647.9
30°	642.7	642.0	641.2	640.5	639.7	638.3	636.1	634.0	632.0	629.8	629.8
32.5°	624.2	623.2	622.1	621.2	620.2	618.8	617.2	615.5	613.9	612.3	611.4
35°	594.2	593.3	592.5	591.6	590.7	589.2	587.2	585.2	583.3	581.3	580.4
37.5°	563.7	562.5	561.3	560.2	559.0	557.5	555.4	553.5	551.4	549.5	548.4
40°	542.3	541.4	540.6	539.7	538.7	537.2	535.0	533.0	530.8	528.7	527.4
42.5°	521.0	520.0	519.0	517.9	516.9	515.3	513.2	511.1	509.0	506.8	505.6
45°	487.1	486.4	485.8	485.2	484.6	483.3	481.3	479.4	477.4	475.4	473.6
47.5°	453.3	452.4	451.6	450.7	449.8	448.4	446.6	444.7	442.8	441.0	439.2
50°	430.3	429.5	428.8	428.0	427.3	426.0	423.9	422.0	420.0	418.0	416.3
52.5°	406.3	405.7	405.3	404.7	404.2	402.9	400.8	398.8	396.6	394.6	393.2
55°	369.5	369.3	369.3	369.1	368.9	367.8	365.9	363.9	361.9	360.0	358.3
57.5°	334.6	334.0	333.5	333.1	332.5	331.4	329.8	328.3	326.7	325.1	323.7
60°	309.4	309.2	309.2	309.0	308.8	307.8	306.0	304.2	302.4	300.5	299.2
62.5°	287.0	286.6	286.2	285.9	285.4	284.4	282.5	280.7	278.8	277.1	275.7
65°	252.1	251.3	250.6	249.8	249.1	247.9	246.4	244.9	243.3	241.8	240.6
67.5°	215.0	214.4	213.7	213.0	212.3	211.4	210.3	209.1	207.9	206.9	205.8
70°	192.6	191.7	190.8	189.9	189.0	188.1	187.2	186.3	185.3	184.4	183.3
72.5°	169.2	168.4	167.8	167.1	166.5	165.6	164.6	163.5	162.5	161.5	160.5
75°	133.2	132.6	132.0	131.3	130.8	130.3	129.7	129.3	128.9	128.4	127.7
77.5°	101.4	101.0	100.7	100.4	100.0	99.6	99.1	98.5	97.9	97.4	96.9
80°	80.6	80.2	79.7	79.3	78.7	78.4	78.1	77.8	77.5	77.2	77.0
82.5°	60.4	60.3	60.2	60.1	60.0	59.9	59.9	59.8	59.7	59.7	59.4
85°	35.5	35.2	35.0	34.6	34.3	34.2	34.2	34.2	34.2	34.2	33.9
87.5°	14.4	14.4	14.4	14.4	14.5	14.7	15.2	15.5	15.9	16.3	16.3
90°	0.9	2.9	4.8	6.9	8.8	11.1	13.6	16.2	18.8	21.4	22.1
92.5°	21.6	22.9	24.3	25.6	26.9	28.4	29.8	31.2	32.7	34.2	34.8
95°	52.5	53.9	55.3	56.7	58.1	59.6	61.1	62.7	64.3	65.9	66.7
97.5°	93.3	94.3	95.3	96.4	97.4	98.4	99.6	100.8	101.9	103.1	104.0
100°	121.1	122.3	123.4	124.6	125.8	126.9	127.9	128.9	129.8	130.8	131.4
102.5°	153.1	153.8	154.5	155.2	156.0	156.9	158.3	159.5	160.9	162.2	162.7
105°	200.3	200.6	201.1	201.4	201.9	203.0	204.7	206.5	208.3	210.1	210.1
107.5°	255.1	255.4	255.6	255.8	256.1	256.5	257.3	258.0	258.7	259.4	260.0
110°	289.3	289.7	290.1	290.4	290.9	291.2	291.7	292.0	292.5	292.8	293.6



TEST NUMBER: P331944-940

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	324.9	325.1	325.4	325.6	325.8	326.0	326.1	326.2	326.3	326.3	327.3
115°	378.3	378.9	379.5	380.0	380.7	380.8	380.4	380.0	379.6	379.2	379.4
117.5°	432.0	432.5	432.8	433.3	433.6	433.5	433.1	432.6	432.0	431.5	431.5
120°	465.6	466.7	467.9	469.1	470.3	470.4	469.4	468.4	467.4	466.5	466.2
122.5°	500.4	501.3	502.1	503.0	503.9	504.1	503.5	503.0	502.6	502.0	501.5
125°	553.7	554.3	554.8	555.4	556.0	556.2	555.7	555.4	554.9	554.6	553.8
127.5°	602.8	604.0	605.3	606.5	607.9	608.2	607.8	607.4	607.0	606.5	605.4
130°	635.5	637.1	638.7	640.2	641.9	642.4	641.8	641.1	640.6	640.0	639.2
132.5°	668.3	669.9	671.5	673.1	674.7	675.2	674.8	674.3	673.9	673.4	672.5
135°	718.4	719.5	720.7	721.8	723.1	723.5	723.4	723.2	723.0	722.7	722.0
137.5°	764.6	765.6	766.6	767.6	768.6	769.3	769.8	770.3	770.9	771.3	770.5
140°	796.7	797.6	798.6	799.6	800.6	801.2	801.4	801.6	801.8	802.0	801.8
142.5°	825.8	826.8	827.9	828.8	829.8	830.5	830.8	831.2	831.5	831.9	831.7
145°	871.4	871.8	872.2	872.6	873.0	873.5	874.1	874.7	875.3	875.8	875.7
147.5°	911.3	912.0	912.8	913.5	914.2	914.8	915.3	915.9	916.4	917.0	917.0
150°	939.1	939.5	939.9	940.2	940.7	941.0	941.5	941.8	942.3	942.6	942.6
152.5°	961.9	962.4	963.0	963.5	964.0	964.5	964.7	964.9	965.2	965.5	965.7
155°	997.8	997.8	997.8	997.8	997.8	997.9	998.1	998.3	998.5	998.7	999.5
157.5°	1028.4	1028.2	1028.0	1027.7	1027.5	1027.4	1027.6	1027.8	1028.0	1028.1	1028.9
160°	1047.7	1047.2	1046.9	1046.5	1046.1	1045.9	1045.9	1045.9	1045.9	1045.9	1046.9
162.5°	1064.8	1064.2	1063.6	1063.1	1062.6	1062.4	1062.5	1062.7	1062.8	1063.0	1064.0
165°	1086.8	1086.2	1085.7	1085.0	1084.5	1084.1	1084.1	1084.1	1084.1	1084.1	1085.3
167.5°	1104.5	1103.7	1102.9	1102.1	1101.3	1101.0	1101.2	1101.3	1101.4	1101.6	1102.9
170°	1114.5	1113.7	1112.9	1112.1	1111.3	1110.9	1110.9	1110.9	1110.9	1110.9	1112.2
172.5°	1122.2	1121.5	1120.7	1119.9	1119.1	1118.7	1118.7	1118.7	1118.7	1118.7	1119.9
175°	1130.4	1129.6	1128.8	1128.1	1127.3	1126.9	1126.9	1126.9	1126.9	1126.9	1128.1
177.5°	1133.8	1133.2	1132.6	1131.9	1131.3	1131.0	1131.0	1131.0	1131.0	1131.0	1131.9
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1



TEST NUMBER: P331944-940

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	791.4	792.6	793.8	794.3	794.2	794.1	794.0	793.9
5°	787.2	788.7	790.2	790.9	790.5	790.2	790.0	789.6
7.5°	778.8	780.2	781.6	782.1	781.9	781.8	781.6	781.4
10°	771.2	772.6	773.9	774.5	774.2	773.8	773.6	773.2
12.5°	762.8	763.8	764.8	765.2	765.0	764.8	764.6	764.5
15°	747.7	748.9	750.1	750.2	749.3	748.4	747.5	746.6
17.5°	728.5	729.3	730.2	730.4	730.1	729.8	729.4	729.1
20°	714.3	715.0	715.5	715.6	715.2	714.7	714.3	713.8
22.5°	699.4	699.8	700.3	700.3	699.7	699.1	698.6	697.9
25°	674.5	674.7	674.8	674.7	674.2	673.8	673.2	672.8
27.5°	648.1	648.2	648.3	648.1	647.5	646.9	646.3	645.8
30°	629.8	629.8	629.8	629.3	628.2	627.1	626.1	625.0
32.5°	610.6	609.8	608.9	608.1	607.6	607.1	606.5	605.9
35°	579.4	578.5	577.7	576.8	576.0	575.3	574.5	573.8
37.5°	547.2	546.2	545.1	544.3	543.9	543.3	542.9	542.3
40°	526.3	525.0	523.9	522.9	522.3	521.7	521.1	520.5
42.5°	504.4	503.2	501.9	501.1	500.4	499.9	499.3	498.6
45°	471.8	469.9	468.1	466.8	466.1	465.3	464.6	463.8
47.5°	437.4	435.6	433.8	432.6	431.9	431.2	430.6	429.9
50°	414.7	413.0	411.3	410.1	409.1	408.2	407.3	406.4
52.5°	391.7	390.3	388.9	387.6	386.7	385.8	385.0	384.1
55°	356.6	355.0	353.3	352.0	351.3	350.5	349.8	349.0
57.5°	322.2	320.7	319.2	318.0	317.1	316.3	315.4	314.5
60°	297.8	296.5	295.1	294.0	293.3	292.5	291.8	291.0
62.5°	274.3	273.0	271.6	270.6	270.1	269.7	269.1	268.6
65°	239.3	238.2	236.9	236.1	235.7	235.2	234.8	234.3
67.5°	204.7	203.7	202.6	201.7	201.1	200.5	199.8	199.2
70°	182.3	181.3	180.2	179.2	178.5	177.7	177.0	176.2
72.5°	159.6	158.6	157.7	157.0	156.7	156.2	155.9	155.4
75°	126.9	126.2	125.4	124.8	124.3	123.9	123.4	123.0
77.5°	96.4	95.9	95.3	95.1	95.1	95.1	95.1	95.1
80°	76.9	76.7	76.6	76.5	76.5	76.5	76.5	76.5
82.5°	59.1	58.9	58.6	58.4	58.3	58.1	58.1	58.0
85°	33.5	33.3	32.9	32.8	32.8	32.8	32.8	32.8
87.5°	16.4	16.4	16.4	16.5	16.6	16.7	16.8	16.9
90°	22.9	23.7	24.5	25.1	25.5	25.9	26.3	26.7
92.5°	35.5	36.1	36.7	36.9	36.6	36.5	36.2	35.9
95°	67.4	68.2	69.0	69.5	69.5	69.5	69.5	69.5
97.5°	104.9	105.8	106.7	107.1	107.1	107.0	106.9	106.8
100°	132.1	132.6	133.2	133.8	134.1	134.5	134.9	135.3
102.5°	163.4	164.0	164.5	164.8	164.7	164.6	164.6	164.5
105°	210.1	210.1	210.1	210.3	210.6	211.1	211.4	211.9
107.5°	260.6	261.3	261.9	262.1	261.9	261.6	261.4	261.2
110°	294.4	295.2	296.0	296.2	295.8	295.4	295.1	294.6





TEST NUMBER: P331944-940

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	328.2	329.1	330.1	330.6	330.5	330.4	330.3	330.2
115°	379.6	379.8	380.0	380.0	379.8	379.6	379.4	379.2
117.5°	431.4	431.4	431.4	431.1	430.5	430.0	429.4	428.8
120°	466.0	465.8	465.7	465.3	464.9	464.6	464.1	463.8
122.5°	501.0	500.5	500.0	499.4	498.9	498.3	497.8	497.2
125°	552.9	552.1	551.3	550.5	549.8	549.0	548.2	547.4
127.5°	604.3	603.2	602.1	601.1	600.2	599.2	598.3	597.4
130°	638.4	637.6	636.9	635.7	634.4	632.9	631.6	630.2
132.5°	671.5	670.7	669.7	668.7	667.6	666.6	665.5	664.4
135°	721.2	720.4	719.6	719.0	718.6	718.2	717.8	717.5
137.5°	769.7	768.9	768.0	767.2	766.5	765.7	765.0	764.3
140°	801.6	801.4	801.2	800.4	799.1	797.6	796.3	794.9
142.5°	831.5	831.3	831.1	830.5	829.4	828.3	827.2	826.2
145°	875.5	875.3	875.0	874.6	873.8	873.0	872.2	871.4
147.5°	917.0	917.0	917.0	916.4	915.3	914.0	912.8	911.7
150°	942.6	942.6	942.6	942.0	940.8	939.7	938.4	937.3
152.5°	966.1	966.3	966.7	966.3	965.3	964.3	963.2	962.2
155°	1000.3	1001.1	1001.8	1001.6	1000.2	998.8	997.4	996.0
157.5°	1029.7	1030.6	1031.4	1031.3	1030.2	1029.0	1028.0	1026.8
160°	1047.8	1048.8	1049.8	1049.9	1049.2	1048.4	1047.6	1046.8
162.5°	1065.0	1066.0	1066.9	1066.8	1065.5	1064.3	1063.0	1061.8
165°	1086.5	1087.7	1088.9	1088.8	1087.4	1086.0	1084.7	1083.3
167.5°	1104.0	1105.3	1106.5	1106.5	1105.3	1104.0	1102.9	1101.6
170°	1113.7	1115.0	1116.4	1116.4	1115.0	1113.7	1112.2	1110.9
172.5°	1121.1	1122.4	1123.6	1123.6	1122.1	1120.8	1119.4	1117.9
175°	1129.3	1130.4	1131.7	1131.5	1130.2	1128.7	1127.4	1126.0
177.5°	1132.9	1133.8	1134.8	1134.7	1133.6	1132.5	1131.4	1130.2
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1

(END OF REPORT)