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 LABORATORY BÜBLINGEN

 Title: BASIS WEIGHT 7 AND 9 POINT
 CARD STOCK

1.0 INTRODUCTION

1.1 SCOPE

- 1.1.1 This document establishes the method for determining basis weight of 7 and 9 point guillotined card stock samples.
- 1.1.2 Basis weight of paper is the weight in pounds of one ream of sheets with a specified size (500 sheets 24" x 36").

1.2 REFERENCES

1.2.1 Specifications

- 1.2.1.1 IBM 894507 -- Data Processing Card Stock 9 Point
- 1.2.1.2 IBM 894502 -- Data Processing Card Stock 7 Point
- 1.2.1.3 IBM-IRD 7-02-0101 -- Card Stock -- Information Processing Cards
- 1.2.1.4 IBM-IRD 7-02-0201 -- Card Stock 9 Point Data Processing

1.2.2 Standards

- 1.2.2.1 TAPPI T-402 -- Conditioning of Paper and Paperboard for Testing
- 1.2.2.2 TAPPI T-410 -- Basis Weight of Paper and Paperboard

1.3 AUTHORIZATION

- 1.3.1 This document is authorized by the Manager of IRD Quality Assurance.

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1.4 TEST EQUIPMENT/MATERIAL

- 1.4.1 An analytical balance scale or instrument capable of reading to the nearest 0.1 gram.
- 1.4.2 Ruler or straight edge.
- 1.4.4 Length and width gauge, capable of reading to the nearest thousandths of an inch.

2.0 PROCEDURE

2.1 SAMPLE PREPARATION

- 2.1.1 Total test sample shall consist of 40 guillotined square corner data processing cards (approximately 7-3/8" x 3-1/4"). First card shall contain lot number and roll position of the sample. Second card shall contain same information and be used for computation purposes. The remaining 38 cards will be used to determine the gram weight.

NOTE: If samples are converted, refer to test method 9-01-0221.

3.0 TEST INSTRUCTIONS

NOTE: Refer to applicable specification (reference 1.2.1) for limits and range requirements.

- 3.1 Condition the 40 cards for a minimum of two (2) hours. ✓
- 3.2 Weigh 38 cards to the nearest 0.1 gram. Record the gram reading on card selected for computation purposes.

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- 3.3 Place other identification card with the 38 cards for reference when preparing these cards for further testing.
- 3.4 Measure the length and width of card selected in step 3.2. Record information along side of gram weight.
- 3.5 To determine square area of the card refer to Table 1. It is important that the length and width measurements be referenced in the proper column. The point at which the two measurements intersect determines the area of the card in square inches. Record area with information obtained in steps 3.2 and 3.3.
- 3.6 Using the gram weight of the 38 card sample and the square inch area of one card, refer to Figure 2 to determine basis weight of the sample by performing the following:
- 3.6.1 Locate weight of 38 card sample in column A.
 - 3.6.2 Locate area of card as determined in step 3.4 in column C.
 - 3.6.3 Place ruler or straight edge between these two points.
 - 3.6.4 Observe the point in which the straight edge intersects a point in column B.
 - 3.6.5 This point in column B determines the basis weight.

4.0 REPORTING

- 4.1 Record the basis weight in pounds to the nearest tenth of a pound and report.

Table 1

Length in Inches

	-25	-20	-15	-10	- 5	0	5	10	15	20
0	23.70	23.72	23.74	23.75	23.77	23.78	23.80	23.82	23.83	23.85
-20	23.74	23.76	23.77	23.79	23.81	23.82	23.84	23.85	23.87	23.89
-15	23.78	23.79	23.81	23.83	23.84	23.86	23.87	23.89	23.91	23.92
-10	23.81	23.83	23.85	23.86	23.88	23.90	23.91	23.93	23.94	23.95
- 5	23.85	23.87	23.88	23.90	23.92	23.93	23.95	23.96	23.98	24.00
0	23.89	23.90	23.92	23.94	23.95	23.97	23.99	24.00	24.02	24.03
5	23.92	23.94	23.96	23.97	23.99	24.01	24.02	24.04	24.05	24.07
10	23.96	23.98	23.99	24.01	24.03	24.04	24.06	24.08	24.09	24.11
15	24.00	24.01	24.03	24.05	24.06	24.08	24.10	24.11	24.13	24.14
20	24.03	24.05	24.07	24.08	24.10	24.12	24.13	24.15	24.17	24.18
25	24.07	24.09	24.10	24.12	24.14	24.15	24.17	24.19	24.20	24.22
30	24.11	24.12	24.14	24.16	24.17	24.19	24.21	24.22	24.24	24.26
35	24.14	24.16	24.18	24.19	24.21	24.23	24.24	24.26	24.28	24.29
40	24.18	24.20	24.21	24.23	24.25	24.26	24.28	24.30	24.31	24.33
45	24.22	24.23	24.25	24.27	24.28	24.30	24.32	24.33	24.35	24.37
50	24.26	24.27	24.28	24.29	24.30	24.32	24.34	24.35	24.37	24.39
55	24.29	24.31	24.32	24.34	24.36	24.37	24.39	24.41	24.42	24.44
60	24.33	24.35	24.36	24.38	24.39	24.41	24.43	24.44	24.46	24.48
65	24.37	24.38	24.40	24.41	24.43	24.45	24.46	24.48	24.50	24.51
70	24.40	24.42	24.44	24.45	24.47	24.49	24.50	24.52	24.53	24.55
75	24.44	24.46	24.47	24.49	24.51	24.52	24.54	24.56	24.57	24.59
80	24.48	24.49	24.51	24.53	24.54	24.56	24.58	24.59	24.61	24.63
85	24.51	24.53	24.55	24.56	24.58	24.60	24.61	24.63	24.65	24.66
90	24.55	24.56	24.58	24.60	24.62	24.63	24.65	24.67	24.68	24.70
95	24.59	24.60	24.62	24.64	24.65	24.67	24.68	24.70	24.72	24.74
100	24.62	24.64	24.66	24.67	24.68	24.71	24.72	24.74	24.76	24.77
105	24.66	24.68	24.69	24.71	24.73	24.74	24.76	24.78	24.79	24.81
110	24.70	24.71	24.73	24.75	24.76	24.78	24.80	24.81	24.83	24.85
115	24.73	24.75	24.77	24.78	24.80	24.82	24.83	24.85	24.87	24.88
120	24.77	24.79	24.80	24.82	24.84	24.85	24.87	24.89	24.90	24.92
125	24.81	24.82	24.84	24.86	24.87	24.89	24.91	24.92	24.94	24.96
130	24.84	24.86	24.89	24.91	24.93	24.94	24.96	24.97	24.98	25.00

	<u>Length in Inches</u>									
	25	30	35	40	45	50	55	60	65	70
-25	23.87	23.88	23.90	23.92	23.93	23.95	23.96	23.98	23.99	24.01
-20	23.90	23.92	23.93	23.95	23.97	23.98	24.00	24.02	24.03	24.05
-15	23.94	23.96	23.97	23.99	24.00	24.02	24.04	24.05	24.07	24.08
-10	23.98	23.99	24.01	24.02	24.04	24.06	24.07	24.09	24.11	24.12
- 5	24.01	24.03	24.05	24.06	24.08	24.08	24.11	24.13	24.14	24.16
0	24.05	24.07	24.08	24.10	24.12	24.13	24.15	24.16	24.18	24.20
5	24.09	24.10	24.12	24.14	24.15	24.17	24.18	24.20	24.22	24.23
10	24.12	24.14	24.16	24.17	24.18	24.21	24.22	24.24	24.25	24.27
15	24.16	24.18	24.19	24.21	24.23	24.24	24.26	24.28	24.29	24.31
20	24.20	24.21	24.23	24.25	24.26	24.28	24.30	24.31	24.33	24.35
25	24.24	24.25	24.27	24.28	24.30	24.32	24.33	24.35	24.37	24.38
30	24.27	24.29	24.30	24.32	24.34	24.35	24.37	24.39	24.40	24.42
35	24.31	24.33	24.34	24.36	24.37	24.39	24.41	24.42	24.44	24.46
40	24.35	24.36	24.38	24.40	24.41	24.43	24.44	24.46	24.48	24.49
45	24.38	24.40	24.42	24.43	24.45	24.47	24.48	24.50	24.51	24.53
50	24.42	24.44	24.45	24.47	24.49	24.50	24.52	24.54	24.55	24.57
55	24.46	24.47	24.49	24.51	24.52	24.54	24.56	24.57	24.59	24.61
0	24.49	24.51	24.53	24.54	24.56	24.58	24.59	24.61	24.63	24.64
65	24.53	24.55	24.56	24.58	24.60	24.61	24.63	24.65	24.66	24.68
70	24.57	24.58	24.60	24.62	24.63	24.65	24.67	24.68	24.70	24.72
75	24.61	24.62	24.64	24.65	24.67	24.69	24.70	24.72	24.74	24.75
80	24.64	24.66	24.68	24.69	24.71	24.73	24.74	24.76	24.78	24.79
85	24.68	24.70	24.71	24.73	24.75	24.76	24.78	24.80	24.81	24.83
90	24.72	24.73	24.75	24.77	24.78	24.80	24.82	24.83	24.85	24.87
95	24.75	24.77	24.79	24.80	24.82	24.84	24.85	24.87	24.89	24.90
100	24.79	24.81	24.82	24.84	24.86	24.87	24.89	24.91	24.92	24.94
105	24.83	24.84	24.86	24.88	24.89	24.91	24.93	24.94	24.96	24.98
110	24.86	24.88	24.90	24.91	24.93	24.95	24.96	24.98	25.00	25.02
115	24.90	24.92	24.93	24.95	24.97	24.99	25.00	25.02	25.04	25.05
120	24.94	24.95	24.97	24.99	25.01	25.02	25.04	25.06	25.07	25.09
125	24.98	24.99	25.01	25.02	25.04	25.06	25.08	25.09	25.11	25.13
130	25.01	25.03	25.05	25.06	25.08	25.10	25.11	25.13	25.15	25.16

Length in Inches

	75	80	85	90	95	100	105	110	115	120
0	24.03	24.04	24.06	24.07	24.09	24.11	24.12	24.14	24.16	24.17
-20	24.06	24.08	24.10	24.11	24.13	24.14	24.16	24.18	24.19	24.21
-15	24.10	24.12	24.13	24.15	24.17	24.18	24.20	24.21	24.23	24.25
-10	24.14	24.15	24.17	24.19	24.20	24.22	24.24	24.25	24.27	24.28
- 5	24.18	24.19	24.21	24.22	24.24	24.26	24.27	24.29	24.31	24.32
0	24.21	24.23	24.25	24.26	24.28	24.29	24.31	24.33	24.34	24.36
5	24.25	24.27	24.28	24.30	24.31	24.33	24.35	24.36	24.38	24.40
10	24.29	24.30	24.32	24.34	24.35	24.37	24.38	24.40	24.42	24.43
15	24.32	24.34	24.36	24.37	24.39	24.41	24.42	24.44	24.45	24.47
20	24.36	24.38	24.39	24.41	24.43	24.44	24.46	24.48	24.49	24.51
25	24.40	24.42	24.43	24.45	24.46	24.48	24.50	24.51	24.53	24.55
30	24.44	24.45	24.47	24.49	24.50	24.52	24.53	24.55	24.57	24.58
35	24.47	24.49	24.51	24.52	24.54	24.56	24.57	24.59	24.60	24.62
40	24.51	24.53	24.54	24.56	24.58	24.59	24.61	24.63	24.64	24.66
45	24.55	24.56	24.58	24.60	24.61	24.63	24.65	24.66	24.68	24.70
50	24.59	24.60	24.62	24.63	24.65	24.67	24.68	24.70	24.72	24.73
55	24.62	24.64	24.66	24.67	24.69	24.71	24.72	24.74	24.75	24.77
60	24.66	24.68	24.69	24.71	24.73	24.74	24.76	24.78	24.79	24.81
65	24.70	24.71	24.73	24.75	24.76	24.78	24.80	24.81	24.83	24.85
70	24.73	24.75	24.77	24.78	24.80	24.82	24.83	24.85	24.87	24.88
75	24.77	24.79	24.80	24.82	24.84	24.85	24.87	24.89	24.90	24.92
80	24.81	24.83	24.84	24.86	24.88	24.89	24.91	24.93	24.94	24.96
85	24.85	24.86	24.88	24.90	24.91	24.93	24.95	24.96	24.98	25.00
90	24.88	24.90	24.92	24.93	24.95	24.97	24.98	25.00	25.02	25.03
95	24.92	24.94	24.95	24.97	24.99	25.00	25.02	25.04	25.05	25.07
100	24.96	24.97	24.99	25.01	25.02	25.04	25.06	25.07	25.09	25.11
105	24.99	25.01	25.03	25.05	25.06	25.08	25.10	25.11	25.13	25.15
110	25.03	25.05	25.07	25.08	25.10	25.12	25.13	25.15	25.17	25.18
115	25.07	25.09	25.10	25.12	25.14	25.15	25.17	25.19	25.20	25.22
120	25.11	25.12	25.14	25.16	25.17	25.19	25.21	25.22	25.24	25.26
125	25.14	25.16	25.18	25.19	25.21	25.23	25.25	25.26	25.28	25.30
130	25.18	25.20	25.21	25.23	25.25	25.27	25.28	25.30	25.32	25.33

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BASIS WEIGHT BALANCE SCALE

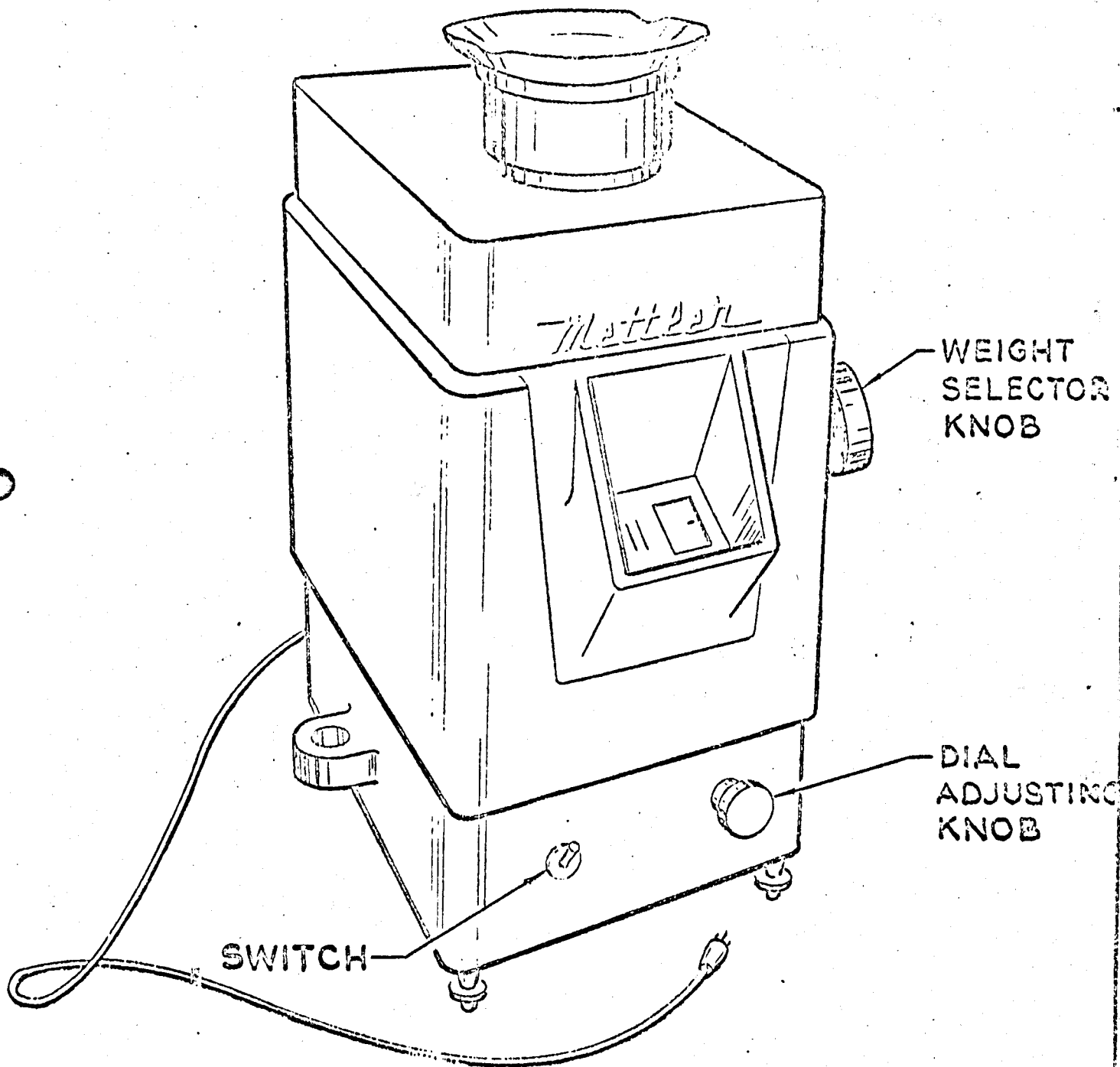


Figure 1

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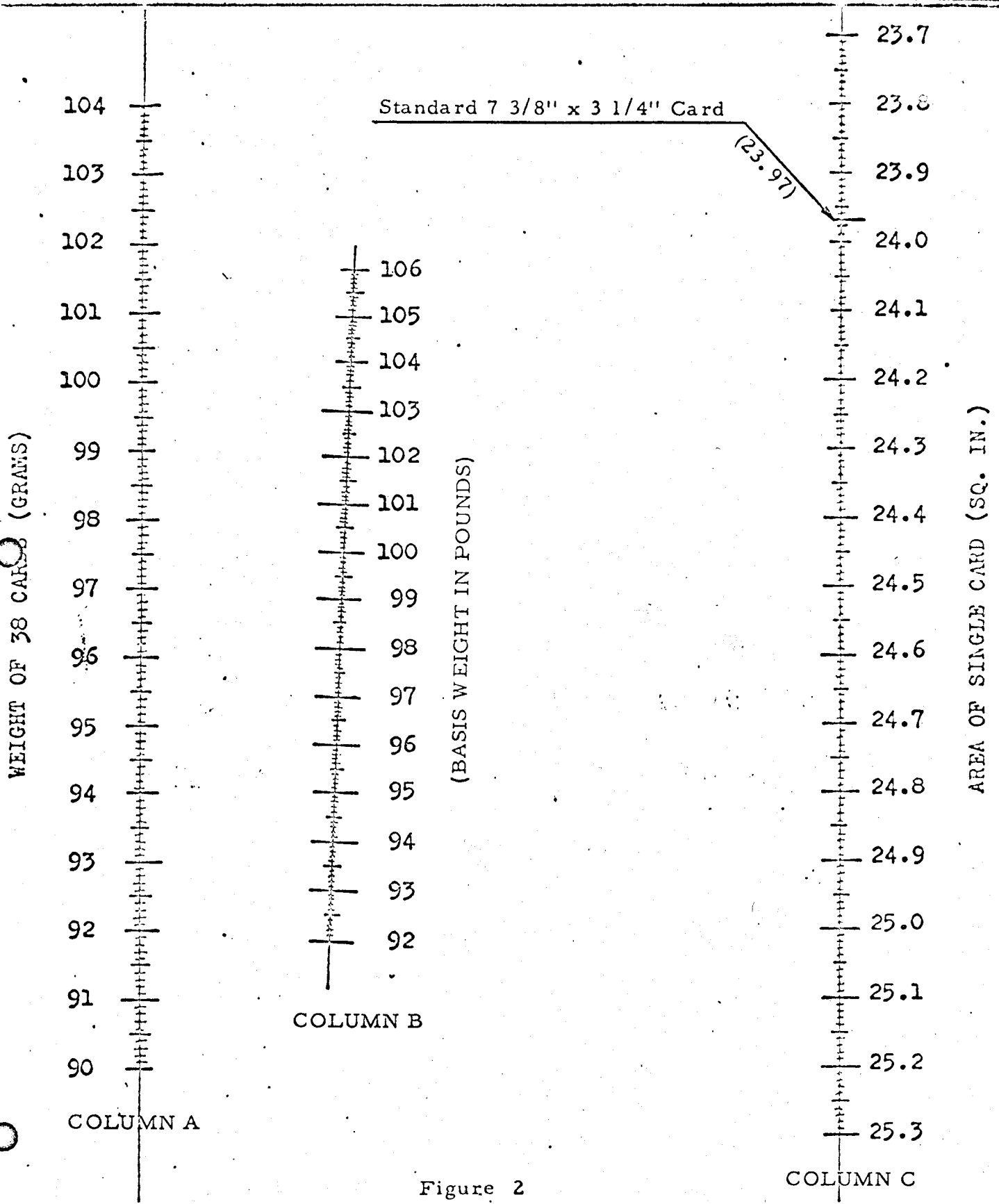


Figure 2