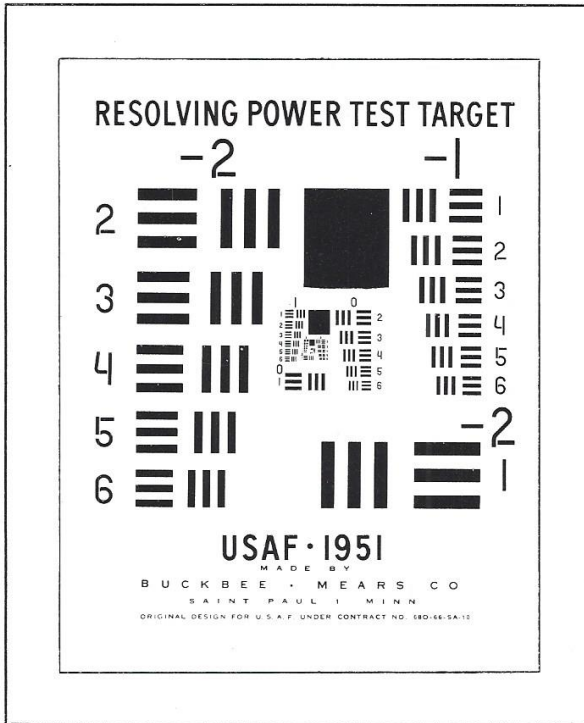




USAF RESOLUTION CHART DATA

NOMENCLATURE AND SPECIFICATIONS



The proportionality of the line and element dimensions is given by the ratio of the unit widths of two subsequent elements. This ratio shall be the sixth root of two. At the head of every group shall be a group number indicating the number of li/mm of the largest pattern within the group in terms of powers of two. For example, a group number K-3 shall indicate eight li/mm for the largest pattern of this group. The group numbers shall be whole numbers, for example—1, 0, 1 etc. Within a group, every element shall be designated by an element number $n=1$ (number 1 belonging to the largest element) through number 6 (number 6 belonging to the smallest element). The resolving power R represented by the element n of group K of the target can then be calculated from the equation.

$$R = \frac{K \text{ plus } n-1}{6}$$

Thus element 1 of group —2 has 0.25 li/mm, element 1 of group —1 has 0.5 li/mm, and element 1 of group 0 has 1 li/mm.

The range of the target shall include ten target groups from 0.25 to 227.5 li/mm or from group —2 to group 7.

Interval—a line or a space.

Unit—a line and the adjacent space.

Pattern—three lines and two included spaces.

Element—an arrangement of two patterns set at right angles to each other and separated by one unit width.

GROUP —2		GROUP —1	
(1)	.25 li. m/m	(1)	.50 li. m/m
	Interval = .07874 Unit = .15748		Interval = .03937 Unit = .07874
	Element .94488 × .3937		Element .47244 × .19685
(2)	.280625 li. m/m	(2)	.56125 li. m/m
	Interval = .07014699 Unit = .14029398		Interval = .03507349665 Unit = .0701469933
	Element .84176388 × .35073495		Element .4208819598 × .17536748325
(3)	.317475 li. m/m	(3)	.63495 li. m/m
	Interval = .06200488225 Unit = .1240097645		Interval = .0310024411 Unit = .0620048822
	Element .744058587 × .31002441125		Element .3720292932 × .1550122055
(4)	.356175 li. m/m	(4)	.71235 li. m/m
	Interval = .0552677756 Unit = .1105355513		Interval = .0276338878 Unit = .0552677756
	Element .6632133078 × .27633887825		Element .3316066536 × .138169439
(5)	.3994 li. m/m	(5)	.7988 li. m/m
	Interval = .0492864296 Unit = .0985728592		Interval = .0246432148 Unit = .0492864296
	Element .5914371552 × .246432148		Element .2957185776 × .123216074
(6)	.44545 li. m/m	(6)	.8909 li. m/m
	Interval = .04419126725 Unit = .0883825345		Interval = .0220956336 Unit = .0441912672
	Element .5302952124 × .2209563385		Element .2651476032 × .110478168

GROUP + 0

(1)	1 li. m/m ----- }	Interval = .019685
		Unit = .03937
		Element .23622 × .098425
(2)	1.1225 li. m/m ----- }	Interval = .01753674832
		Unit = .03507349665
		Element .2104409799 × .087683741625
(3)	1.2599 li. m/m ----- }	Interval = .01550122056
		Unit = .03100244113
		Element .18601464678 × .077506102825
(4)	1.4142 li. m/m ----- }	Interval = .01381694391
		Unit = .02763388783
		Element .16580332698 × .069084719575
(5)	1.5874 li. m/m ----- }	Interval = .01232160741
		Unit = .02464321482
		Element .14785928892 × .06160803705
(6)	1.7818 li. m/m ----- }	Interval = .01104781681
		Unit = .02209563362
		Element .13257380172 × .05523908405

GROUP + 1

(1)	2 li. m/m ----- }	Interval = .0098425
		Unit = .019685
		Element .11811 × .0492125
(2)	2.245 li. m/m ----- }	Interval = .00876837416
		Unit = .01753674832
		Element .10522048992 × .0438418708
(3)	2.5398 li. m/m ----- }	Interval = .00775061028
		Unit = .01550122056
		Element .0900732336 × .0387530514
(4)	2.8494 li. m/m ----- }	Interval = .00690847195
		Unit = .01381694391
		Element .08290166346 × .034542359775
(5)	3.1952 li. m/m ----- }	Interval = .0061608037
		Unit = .01232160741
		Element .07392964446 × .030804018525
(6)	3.5636 li. m/m ----- }	Interval = .0055239084
		Unit = .01104781681
		Element .06628690086 × .027619542025

GROUP + 2

(1)	4 li. m/m ----- }	Interval = .00492125
		Unit = .0098425
		Element .059055 × .02460625
(2)	4.49 li. m/m ----- }	Interval = .00438418708
		Unit = .00876837416
		Element .05261024496 × .0219209354
(3)	5.0796 li. m/m ----- }	Interval = .00387530514
		Unit = .00775061028
		Element .04650366168 × .0193765257
(4)	5.6988 li. m/m ----- }	Interval = .003454235975
		Unit = .00690847195
		Element .0414508257 × .017271177375
(5)	6.3904 li. m/m ----- }	Interval = .00308040185
		Unit = .0061608037
		Element .0369648222 × .01540200925
(6)	7.1272 li. m/m ----- }	Interval = .0027619542
		Unit = .0055239084
		Element .0331434504 × .013809771

GROUP + 3

(1)	8 li. m/m ----- }	Interval = .002460625
		Unit = .00492125
		Element .0295275 × .012303125
(2)	8.98 li. m/m ----- }	Interval = .002192093541
		Unit = .00438418708
		Element .02630512248 × .0109604677
(3)	10.1592 li. m/m ----- }	Interval = .001937652571
		Unit = .003875305142
		Element .023251830852 × .009688262855
(4)	11.3976 li. m/m ----- }	Interval = .001727117989
		Unit = .003454235979
		Element .020725415874 × .0086355899475
(5)	12.7808 li. m/m ----- }	Interval = .001540200926
		Unit = .003080401852
		Element .018482411112 × .00770100463
(6)	14.2544 li. m/m ----- }	Interval = .001380977101
		Unit = .002761954203
		Element .016571725218 × .0069048858075

GROUP + 4

- (1) 16 li. m/m } Interval = .0012303125
Unit = .002460625
Element .01476375 × .0061515625
- (2) 17.96 li. m/m } Interval = .00109604677
Unit = .002192093541
Element .013152561246 × .0054802338525
- (3) 20.3184 li. m/m } Interval = .000968826285
Unit = .001937652571
Element .011625915426 × .0048441314275
- (4) 22.7952 li. m/m } Interval = .000863558994
Unit = .001727117989
Element .010362707934 × .0043177949725
- (5) 25.5616 li. m/m } Interval = .000770100463
Unit = .001540200926
Element .009241205556 × .003850502315
- (6) 28.5088 li. m/m } Interval = .000690488550
Unit = .001380977101
Element .008285820606 × .0034524252525

GROUP + 5

- (1) 32 li. m/m } Interval = .00061515625
Unit = .0012303125
Element .007381875 × .00307578125
- (2) 35.92 li. m/m } Interval = .000548023385
Unit = .00109604677
Element .00657628062 × .002740116925
- (3) 40.6368 li. m/m } Interval = .0004844131425
Unit = .000968826285
Element .00581295771 × .0024220657125
- (4) 45.5904 li. m/m } Interval = .000431779497
Unit = .000863558994
Element .0051813053964 × .0021588772485
- (5) 51.1232 li. m/m } Interval = .0003850502315
Unit = .000770100463
Element .004620602778 × .0019252511575
- (6) 57.0176 li. m/m } Interval = .000345244275
Unit = .00069048855
Element .0041429313 × .001726221375

GROUP + 6

- (1) 64 li. m/m } Interval = .000307578125
Unit = .00061515625
Element .0036909375 × .001537890625
- (2) 71.84 li. m/m } Interval = .0002740116925
Unit = .000548023385
Element .00328814031 × .0013700584625
- (3) 81.2736 li. m/m } Interval = .000242206571
Unit = .000484413142
Element .002906478852 × .001211032855
- (4) 91.1808 li. m/m } Interval = .0002158897485
Unit = .000431779497
Element .002590676982 × .0010794487425
- (5) 102.2464 li. m/m } Interval = .0001925251157
Unit = .0003850502315
Element .002310301389 × .00096262557875
- (6) 114.0352 li. m/m } Interval = .0001726221377
Unit = .0003452442754
Element .0020714656524 × .0008631106885

GROUP + 7

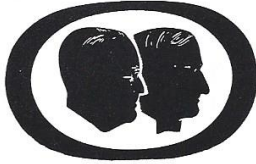
- (1) 128 li. m/m } Interval = .0001537890625
Unit = .000307578125
Element .00184546875 × .0007689453125
- (2) 143.68 li. m/m } Interval = .0001370058463
Unit = .0002740116925
Element .0016440701556 × .0006850292315
- (3) 162.5472 li. m/m } Interval = .0001211032856
Unit = .0002422065713
Element .0014532394278 × .00060551642825
- (4) 182.3616 li. m/m } Interval = .0001079448743
Unit = .0002158897487
Element .0012953384922 × .00053972437175
- (5) 204.4928 li. m/m } Interval = .0000962625578
Unit = .0001925251157
Element .0011551506942 × .00048131278925
- (6) 228.0704 li. m/m } Interval = .0000863110688
Unit = .0001726221377
Element .0010357328262 × .00043155534425

300 li. m/m

(20)

1

Interval = .000065616666
Unit = .00013123333
.00078739998 × .000328083325
.0157479996 × .0065616666



USAF 1951 RESOLUTION TEST CHART PRICE LIST

USAF RESOLUTION CHART 1951 — RESOLVING POWER TEST TARGET (ORIGINAL DESIGN FOR USAF UNDER CONTRACT NO. 680-66-SA-10)

A. IMAGE SUPPLIED ON HIGH RESOLUTION EMULSION, .060 THICK PLATE GLASS SUBSTRATE. SIZE 3¼" x 4¼". WHEN ORDERING SPECIFY OPAQUE OR CLEAR BACKGROUND.

1. LOW RESOLUTION TEST CHART

RESOLUTION: .25 LI/mm to 114 LI/mm

- | | |
|---------------------|--------------|
| a. High Contrast* | \$48.70 each |
| b. Medium Contrast* | 53.85 each |
| c. Low Contrast* | 63.10 each |

2. HIGH RESOLUTION TEST CHART

RESOLUTION: .25 LI/mm to 228 LI/mm

- | | |
|---------------------|--------------|
| a. High Contrast* | \$61.65 each |
| b. Medium Contrast* | 66.80 each |
| c. Low Contrast* | 75.75 each |

*CONTRAST: DENSITY DIFFERENCE BETWEEN TARGET AND BACKGROUND

- | | |
|---------|----------|
| Low— | .2 ± .05 |
| Medium— | .8 ± .05 |
| High— | 2.0 & up |

3. RESOLUTION TEST CHART—PAPER PRINTS \$2.80 each

4. HIGH RESOLUTION TEST CHART, CUT FROM REGULAR CHART ARRAY, CENTERED TO GROUP +7. WITH 1 1/32" OUTSIDE DIAMETER. .060 GLASS. \$70.40 each

B. SPECIAL RESOLUTION CHART USAF-1951 TARGETS ON 35mm FILM. ROLL IS 20 FEET LONG AND HAS 160 PRINTS. RESOLUTION: 1 LI/mm THROUGH 182 LI/mm. \$87.50 per roll NEGATIVE OR POSITIVE.

C. SPECIAL RESOLUTION CHART USAF-1951 TARGETS OF METAL (OPEN LINES)

1. BI METAL RESOLUTION CHART: .0002 NICKEL ON .003 COPPER

RESOLUTION:

- | | |
|--------------------------------|---------------|
| a. From .25 LI/mm to 50 LI/mm | \$ 85.00 each |
| b. From .25 LI/mm to 80 LI/mm | \$125.00 each |
| c. From .25 LI/mm to 100 LI/mm | \$150.00 each |

2. ELECTROFORMED NICKEL RESOLUTION CHART .0002 THICK

RESOLUTION:

- | | |
|--------------------------------|---------------|
| a. From .25 LI/mm to 50 LI/mm | \$ 65.00 each |
| b. From .25 LI/mm to 80 LI/mm | \$ 95.00 each |
| c. From .25 LI/mm to 100 LI/mm | \$115.00 each |

ALL OF THE ABOVE ARE AVAILABLE FROM STOCK OR WITHIN ONE WEEK AFTER RECEIPT OF ORDER. PRICES ARE F.O.B. ST. PAUL. TERMS NET 30 DAYS.

GROUP + 0

- (1) 1 li. m/m } Interval = .019685
Unit = .03937
Element .23622 × .098425
- (2) 1.1225 li. m/m } Interval = .01753674832
Unit = .03507349665
Element .2104409799 × .087683741625
- (3) 1.2599 li. m/m } Interval = .01550122056
Unit = .03100244113
Element .18601464678 × .077506102825
- (4) 1.4142 li. m/m } Interval = .01381694391
Unit = .02763388783
Element .16580332698 × .069084719575
- (5) 1.5874 li. m/m } Interval = .01232160741
Unit = .02464321482
Element .14785928892 × .06160803705
- (6) 1.7818 li. m/m } Interval = .01104781681
Unit = .02209563362
Element .13257380172 × .05523908405

GROUP + 1

- (1) 2 li. m/m } Interval = .0098425
Unit = .019685
Element .11811 × .0492125
- (2) 2.245 li. m/m } Interval = .00876837416
Unit = .01753674832
Element .10522048992 × .0438418708
- (3) 2.5398 li. m/m } Interval = .00775061028
Unit = .01550122056
Element .0900732336 × .0397530514
- (4) 2.8494 li. m/m } Interval = .00690847195
Unit = .01381694391
Element .08290166346 × .034542359775
- (5) 3.1952 li. m/m } Interval = .0061608037
Unit = .01232160741
Element .07392964446 × .030804018525
- (6) 3.5636 li. m/m } Interval = .0055239084
Unit = .01104781681
Element .06628690086 × .027619542025

GROUP + 2

- (1) 4 li. m/m } Interval = .00492125
Unit = .0098425
Element .059055 × .02460625
- (2) 4.49 li. m/m } Interval = .00438418708
Unit = .00876837416
Element .05261024496 × .0219209354
- (3) 5.0796 li. m/m } Interval = .00387530514
Unit = .00775061028
Element .04650366168 × .0193765257
- (4) 5.6988 li. m/m } Interval = .003454235975
Unit = .00690847195
Element .0414508257 × .017271177375
- (5) 6.3904 li. m/m } Interval = .00308040185
Unit = .0061608037
Element .0369648222 × .01540200925
- (6) 7.1272 li. m/m } Interval = .0027619542
Unit = .0055239084
Element .0331434504 × .013809771

GROUP + 3

- (1) 8 li. m/m } Interval = .002460625
Unit = .00492125
Element .0295275 × .012303125
- (2) 8.98 li. m/m } Interval = .002192093541
Unit = .00438418708
Element .02630512248 × .0109604677
- (3) 10.1592 li. m/m } Interval = .001937652571
Unit = .003875305142
Element .023251830852 × .009688262855
- (4) 11.3976 li. m/m } Interval = .001727117989
Unit = .003454235979
Element .020725415874 × .0086355899475
- (5) 12.7808 li. m/m } Interval = .001540200926
Unit = .003080401852
Element .018482411112 × .00770100463
- (6) 14.2544 li. m/m } Interval = .001380977101
Unit = .002761954203
Element .016571725218 × .0069048855075

GROUP + 4

- (1) 16 li. m/m } Interval = .0012303125
Unit = .002460625
Element .01476375 × .0061515625
- (2) 17.96 li. m/m } Interval = .00109604677
Unit = .002192093541
Element .013152561246 × .0054802338525
- (3) 20.3184 li. m/m } Interval = .000968826285
Unit = .001937652571
Element .011625915426 × .0048441314275
- (4) 22.7952 li. m/m } Interval = .000863558994
Unit = .001727117989
Element .010362707934 × .0043177949725
- (5) 25.5616 li. m/m } Interval = .000770100463
Unit = .001540200926
Element .009241205556 × .003850502315
- (6) 28.5088 li. m/m } Interval = .000690488550
Unit = .001380977101
Element .008285820606 × .0034524252525

GROUP + 5

- (1) 32 li. m/m } Interval = .00061515625
Unit = .0012303125
Element .007381875 × .00307578125
- (2) 35.92 li. m/m } Interval = .000548023385
Unit = .00109604677
Element .00657628062 × .002740116925
- (3) 40.6368 li. m/m } Interval = .0004844131425
Unit = .000968826285
Element .00581295771 × .0024220657125
- (4) 45.5904 li. m/m } Interval = .000431779497
Unit = .000863558994
Element .0051813053964 × .0021588772485
- (5) 51.1232 li. m/m } Interval = .0003850502315
Unit = .000770100463
Element .004620602778 × .0019252511575
- (6) 57.0176 li. m/m } Interval = .000345244275
Unit = .00069048855
Element .0041429313 × .001726221375

GROUP + 6

- (1) 64 li. m/m } Interval = .000307578125
Unit = .00061515625
Element .0036909375 × .001537890625
- (2) 71.84 li. m/m } Interval = .0002740116925
Unit = .000548023385
Element .00328814031 × .0013700584625
- (3) 81.2736 li. m/m } Interval = .000242206571
Unit = .000484413142
Element .002906478852 × .001211032855
- (4) 91.1808 li. m/m } Interval = .0002158897485
Unit = .000431779497
Element .002590676982 × .0010794487425
- (5) 102.2464 li. m/m } Interval = .0001925251157
Unit = .0003850502315
Element .002310301389 × .00096262557875
- (6) 114.0382 li. m/m } Interval = .0001726221377
Unit = .0003452442754
Element .0020714656524 × .0008631106885

GROUP + 7

- (1) 128 li. m/m } Interval = .0001537890625
Unit = .000307578125
Element .00184546875 × .0007689453125
- (2) 143.68 li. m/m } Interval = .0001370058463
Unit = .0002740116926
Element .0016440701556 × .0006850292315
- (3) 162.5472 li. m/m } Interval = .0001211032856
Unit = .0002422065713
Element .0014532394278 × .00060551642825
- (4) 182.3616 li. m/m } Interval = .0001079448743
Unit = .0002158897487
Element .0012953384922 × .00053972437175
- (5) 204.4928 li. m/m } Interval = .0000962625578
Unit = .0001925251157
Element .0011551506942 × .00048131278925
- (6) 228.0704 li. m/m } Interval = .0000863110688
Unit = .0001726221377
Element .0010357328262 × .00043155534425

300 li. m/m

(20)

1

Interval = .000065616666

Unit = .00013123333

.00078739998 × .000328083325

.0157479996 × .0065616666

*For a review of your parts requirement and quotation service,
please contact the nearest field sales office or plant location.*

FIELD SALES OFFICES

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1519 Athens Drive
Whitehall, Pennsylvania 18052
Phone: 215-434-0775

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Medfield, Massachusetts 02052
Phone: 617-227-5325

CHICAGO, ILLINOIS

1818 Touhy Avenue
Elk Grove Village, Illinois 60007
Phone: 312-439-6433

DENVER, COLORADO

6244 South Datura Street
Littleton, Colorado 80120
Phone: 303-534-7858

LOS ANGELES, CALIFORNIA

14711 Emerywood Road
Tustin, California 92680
Phone: 714-827-0241

SAN JOSE, CALIFORNIA

126 Herlong Ave. 95123
Phone: 408-286-0163

ST. PAUL, MINNESOTA

245 E. 6th Street 55101
Phone: 612-227-6371

SUNNYVALE, CALIFORNIA

1256 Monet Street 94087
Phone: 408-286-0163

SYRACUSE, NEW YORK

7860 Russell Lane
Manlius, New York 13104
Phone: 315-469-7394

PLANT LOCATIONS

Buckbee-Mears Company
Industrial Division
245 E. 6th Street
St. Paul, Minnesota 55101
Phone: 612-227-6371

Industrial Reproductions, Inc.
100 Northeastern Boulevard
Nashua, New Hampshire 03060
Phone: 603-883-5541

American Fabriccraft Corporation
2000 East Main Street
Delta, Ohio 43515
Phone: 419-822-3333

CAPABILITIES

Glass and Metal Etching
Electro Forming
Electroplating

Metal Etching
Electroplating

Precision Stamping
Forming and Deep Drawing
Electroplating

BUCKBEE-MEARS EUROPE

Buckbee-Mears Europe GmbH
7840 Müllheim/Baden
Renkenrunsstrasse
Postfach 102, West Germany

CAPABILITIES

Glass and Metal Etching
Electro Forming
Electroplating