GUIDE TO USE OF THE PROPOSED ZONING REGULATIONS FOR MIDTOWN

Refer to Midtown Development Project
Draft Report/June 1980

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THE PROPOSED ZONING TEXT

The Proposed Zoning Text

The proposed two-tier system of bulk controls will supercede the existing as-of-right regulations controlling building height, setback, and coverage. The underlying use, density, sign and parking and loading regulations will remain intact.

The following outlines the structure and content of the Zoning Text for the proposed two-tier as-of-right bulk controls for Midtown. The two-tier system consists of a prescriptive and back-up performance tier. The user may elect to use either one or the other tier. Both tiers are as-of-right.

COMMERCIAL DEVELOPMENT BULK CONTROLS

A. PRESCRIPTIVE TIER

1. Daylighting
   a) Daylighting Considerations at the Street Line
   b) Daylighting Considerations at the Upper portions of a Development
2. Street Wall Length
3. Street Wall Height

B. PERFORMANCE TIER

1a. Daylighting	maximum points	60.0
1b. Daylighting/Building Reflectivity (optional)	maximum points	(5.0)
2. Street Wall Length	maximum points	25.0
3. Street Wall Height	maximum points	15.0
		100.0
4. Sunlighting (optional)	maximum points	10.0
Minimum Compliance Points		85.0

A. PRESCRIPTIVE TIER

1. DAYLIGHTING: to maximize openess and daylighting at the public sidewalks and other outdoor amenities

a) Daylighting Considerations at the Street Line

The daylig angles control the disposition of building bulk on the zoning lot. The initial daylight angle (A_1) is either 72° or the angle determined by the required street wall height. All angles are taken at the centerline of the street. Ascending daylight angles are a function of the setback or setbacks (S_n) from the street line. For every 1' of setback from the street line the angle (A) can increase by .2°. The Height of any portion of the building (H_n) is determined by the formula:

$H_n = (S_n + D) \times \tan (72^\circ + .2\ S_n)$

= distance to centerline of Street x tan ($72^\circ + .2^\circ$ x setback)

where:

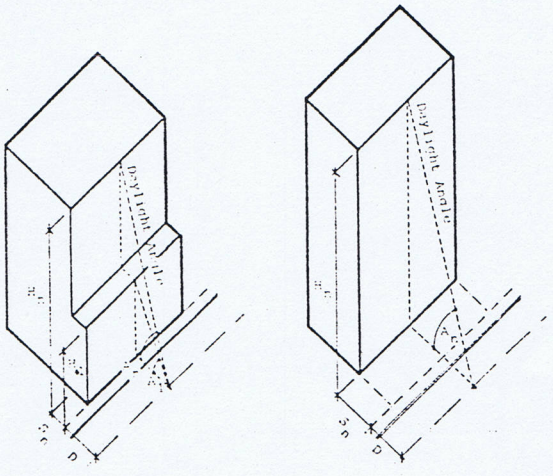
H_1 = Required Street Wall Height

H_n = Total height of any portion of the Building

D = Distance from the centerline of Street to Street Line

S_n = Distance setback from Street Line

$A_{1...n}$ = Angle subtended by portion of Building at Street Line or at setback S_n.



a. Setback and base c. Set back

Building Illustrations

Special Conditions

i. When the initial angle (A_1) is based on a required street wall height, the proposed street wall height may penetrate that angle up to the maximum range allowed (see 3. Street Wall Height).

ii. When two streets of unequal width intersect, the required street wall height of the wider street shall be the required street wall height on the narrower street up to the depth of 100' in from the wide street.

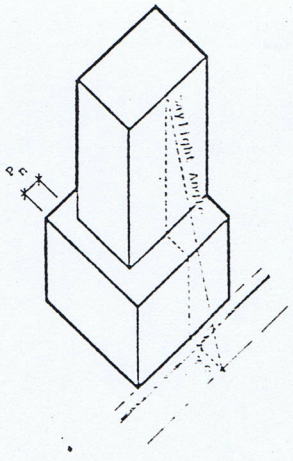
b) Daylighting Considerations at the Upper Portions of a Development

Portions of developments which subtend angles greater than 76° shall be required to set back from the lot lines. The lot line setback is expressed as a percentage of the street line, and is determined by the formula:

P_n = (angle $A_n [\geq 76^{\circ}] - 76^{\circ}$) x .06 x length of street line = total aggregate side setback.

Where:

P_n = Distance setback from side Lot Line



Building Illustration
Lot Line Setback

Special Conditions:

The required setback may be distributed between two lot lines or aggregated in one location

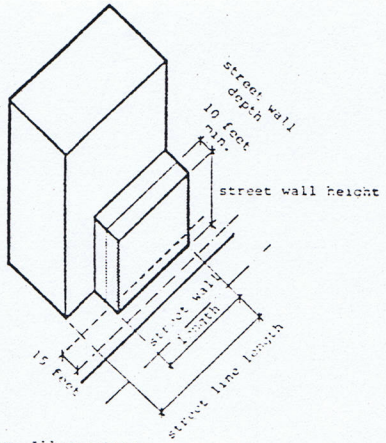
In no case can a side lot line setback be less than 15'-0".

2. STREET WALL LENGTH - to conserve the pedestrian scale of the street by visually and physically connecting the street wall of the proposed development with the Street Wall of existing nearby buildings.

The minimum proposed street wall length is a function of the length of the development's street line multiplied by the street wall length factor listed below:

factor	Street
1.00	5th Avenue
.90	Madison Avenue, Lexington Avenue, Broadway, 59th Street, and 42nd Street
.85	7th Avenue, Park Avenue
.80	3rd Avenue
.70	all other streets

A building wall must be located within 15'-0" of the street line to be a qualifying street wall. The proposed street wall must have a minimum depth of 10' for its entire length.



Building Illustration
Street Wall Length, Height, and Depth

3. STREET WALL HEIGHT: to define the space of the street and conserve existing scale by relating the height of the street wall of the proposed development to the characteristic height of nearby buildings.

The proposed street wall heights shall conform to the following listing of street wall heights with corresponding range.

Street Width	Street Wall Height	Range +	Range −
60'	90'	+10'	-15'
80'	120'	+10'	-15'
100'	150'	+10'	-25'
120'	180'	+10'	-30'
Fifth Avenue	100'	+10'	-15'

In no case can any portion of the proposed street wall be above or below the range when applied around the required street wall height. The proposed street wall must have a minimum depth of 10' for its entire length.

In the case of lots bounded by two street of unequal width the higher street wall height may be used on the narrower street up to a depth of 100" in from the wide street.

B. PERFORMANCE TIER

1a. Daylighting To maximize daylightinh on the public sidewalks and other outdoor public amenities.

Maximum points 60.0 Minimum points 40.0

Requirements for Full Compliance The proposed building shall obscure none of the daylighting squares determined on the Waldram daylighting diagram.

Computation

$$(60.0)\ \frac{A - [(a_1 \times f_1) + (a_2 \times f_2)\ldots]}{A}$$

Where:

A = Total number daylighting squares

$a_{1,2}$ = Number of daylighting squares blocked by the proposed development by importance factor

$F_{1,2}$ = Importance factor.

1b. Daylighting Building Reflectivity (optional)
To maximaze daylighting on the public sidewalks and other outdoor amenities by utilizing highly reflective exterior building materials and surfaces

Maximum Points 5.0

Requirements for Full Compliance The building reflectivity value and its zone value should be unity.

Computation

$$(5.0) \times (O_v) \times (R_v)$$

O_v = orientation value

R_v = Reflectivity value

Special Conditions

i. in the case of multiple building materials eg. glass and limestone, the area of each material in elevation. Multiply the area determined by the percentage of the area to the total building area in elevation. Then multiply that amount byits reflectivity value. The sum of the weighted reflectivity values for all the materials equals the reflectivity value of the building in the street district.

2. Street Wall Length -to conserve the pedestrian scale of the street by visually and physically connecting the street wall of the proposed development with the street wall of existing nearby buildings.

Value Points - 25.0

Requirements for Full Compliance - the length of the building walls of the proposed development falling within 15 ' of street lines and projected perpendicularly on the street line shall equal the length of the street line within a single street district.

Computation

$$(25.0) \times \frac{(b)}{B} \times \text{(street length factor)}$$

Where:

B = length of street line

b = length of street wall falling within 15' of the street line and projected perpendicularly on the street line.

Street length factors = preferred street wall length

Factor	Street
1.00	Madison, Lexington, 5th Avenue, 42nd Street, 59th Street and Broadway
0.90	7th Avenue, Park Avenue
0.85	3rd Avenue, 6th Avenue
0.75	All other crosstown streets

3. Street Wall Height - to conserve existing scale by relating the height of the street wall of the proposed development to the predominant height of the street wall of nearby buildings.

Value Points -

15.0

Requirements for Full Compliance - the proposed street wall height of the development shall occur within a zone defined by the median height of the street wall of existing buildings and a range applied around the median.

Computation

$$(15.0) \quad \frac{(c)}{C} \times \frac{(b)}{B}$$

Where:

C = existing street wall height (with or without range)
c = proposed street wall height
B = length of site street line (see =2)
b = street wall length of the proposed development falling within 15' of the street line and projected perpendicularly on the street line.

Special Conditions

i. For developments which do not have maximum compliance, compliance may be determined by the application of a range to the median height of the existing street wall. This range can be applied above and below the median.
ii. For developments which have more than one street wall height, each street wall height should be compared separately to the median height of the existing street wall or to the nearest height in the applied range. The compliance of each height is weighted in relation to its portion of the total street wall area and multiplied by the ratio (b/B).

DEFINITIONS

DAYLIGHT ANGLES

The "daylight angles" control the disposition of building bulk on the zoning lot. All angles are taken at the centerline of the street. The "daylight angles" ascend as the building bulk is set back from the street line.

RANGE, EXISTING STREET WALL HEIGHT

The range is an empirical measure of the degree of variation of the existing street wall heights. It is determined by first finding the average existing street wall height on the same side of the street as the site in the street district. Next find the area of existing street walls in elevation that are above the average existing street wall height. The range equals the sum of these areas divided by the sum of the lengths of the existing street walls. Apply the range around the median as a function of the average.

SHADOW AREA, POTENTIAL

The "potential shadow area" is used in the optional sunlighting program to provide a comparative index with the proposed shadow area, by assuming a hypothetical building of 100% coverage. The "potential shadow area" is determined during the equinox (March 21) at 11 A.M., noon, and 1 P.M. standard time. The required azimuths (angle of the sun in plan) are 1) 23° East of South at 11 A.M. 2) due South at noon, and, 3) 23° West of South at 1 P.M. The lengths of the shadow measured from the lot lines is 300 feet at 11 A.M. and 1 P.M. and 250 feet at noon.

The "potential shadow area" is the total area described by the shadows East at 11 A.M., noon, and 1 P.M.

SHADOW AREA, PROPOSED

The "proposed shadow area" is the area of outdoor amenity which is within the shadow of the proposed development. As with the "potential shadow area", the "proposed shadow area" is determined during the equinox (March 21) at 11 A.M., noon, and 1 P.M. standard time coinciding with lunch hours. The required azimuths (angle of the sun in plan) are 1) 23° East of South at 11 A.M., 2) due South at noon and 3) 23° West of South at 1 P.M. The shadow lengths at 11 A.M. and 1 P.M. are .92 times the building height and .85 time the building height at noon.

The "proposed shadow area" is the total area described by the shadows cast at 11 A.M., noon, and 1 P.M.

STREET DISTRICT

A "street district" is the perceptual locus of the zoning lot. The length of the "street district" is determined by extending the centerline of the street on which the zoning lot fronts from each side lot line to the intersection of the centerline of the street of equal or greater width, except in the case of 100 foot wide cross-town streets where the street district shall extend 1,000 feet from the lot line regardless of intersecting streets. In no case, however, shall the length of a "street district" from one side lot line be greater than 1,000 feet.

The depth of the "street district" is equal to the distance between the centerlines of the blocks on either side of the street on which the zoning lot fronts.

There shall be a "street district" for every street fronting on a site.

STREET WALL HEIGHT, EXISTING

The "existing street wall height" is the median or predominant height of the street walls of existing buildings which fall within the street district containing the proposed development and are on the same side of the street as the development. The "street wall height" for existing building shall be measured along the building wall which occurs within 15 feet of the street line. When less than 40% of the total adjoining street lines have no qualifying street wall, the "existing street wall height" shall be the median height of all the street walls of existing buildings falling within the street district containing the proposed development.

STREET WALL HEIGHT, PROPOSED

The "proposed street wall height" are the heights of roof surfaces measured along a line 10'-0" back from the proposed street wall.

STREET WALL, PROPOSED

The "proposed street wall" is the building wall of the proposed development falling within 15 feet of the street and having a minimum depth of 10 feet.

ORIENTATION VALUE

The "orientation value" is used in the optional program 1b. Daylighting Building Reflectivity to determine the solar orientation coefficient for the particular building facade being evaluated..

~~diagram~~

REFLECTIVITY VALUE

The "reflectivity value" used in the optional program 1b. Daylighting Building Reflectivity is the coefficient of reflectivity for the material used. The reflectivity value shall be certified by the manufacturer, licensed independent testing laboratory, or standard reference text such as Time Saver Standards, Architectural Graphic Standards, etc.

WALDRAM DIAGRAM (MODIFIED)

The Waldram Diagram is a Daylight Evaluation Diagram upon which a building or buildings is drawn for evaluating daylight compliance. The building or buildings are drawn on the diagram by using a fixed vantage point (V) in the street and recording all horizontal and vertical angles subtended by all edges of of the building from the vantage point. The building or buildings are translated to the corresponding angle lines on the diagram. A Waldrum Diagram is required for each intersection of a lot line. The area of the building or buildings evaluated by each diagram is that area depicted from the far lot line to the center of the near perpendicular lot line.

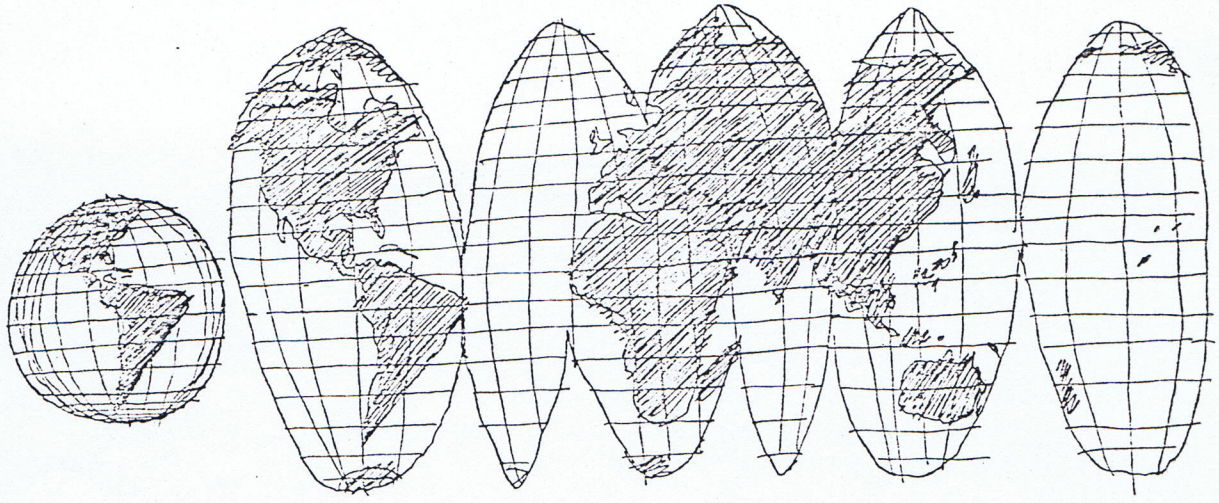
Where:

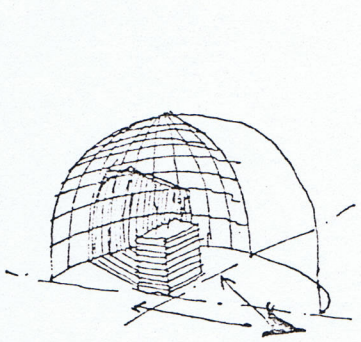
V = vantage point
D = distance to the centerline of the street
U = far lot line intersection

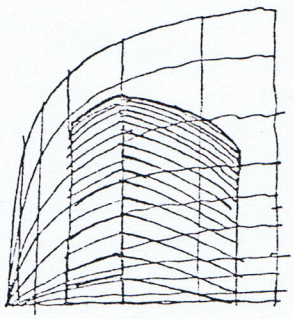
GENERAL PRINCIPLES

DAYLIGHT EVALUATION DIAGRAM

The Daylight Evaluation Diagram represents a quarter of the sky-dome drawn on a flat surface and corrected for distortion in the upper reaches. Much like a map of the world, drawn flat to represent the view of the round globe as if rotated onto one plane, the Daylight Diagram is the equivalent of the inside of the sky-dome, as seen when standing at one position, and sweeping a full quarter circle with the eyes.

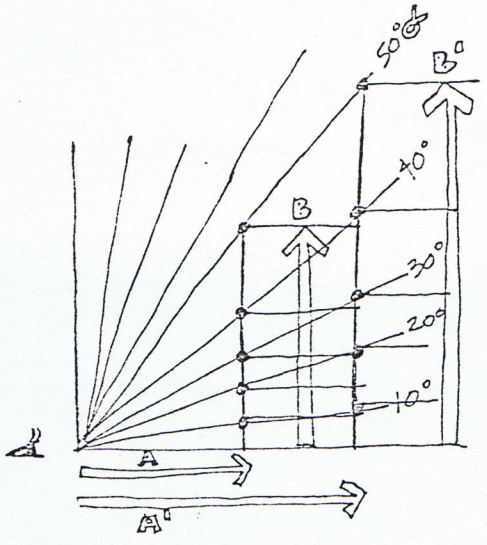






The shapes of buildings on the diagram approximate the way we perceive them from one point in the street, by bracketing or sweeping our view, as in a panoramic lense.

Like an architect's perspective grid chart, the Daylight Diagram has vertical and horizontal (curving) lines which demarcate angles both vertically and horizontally from a single point of view. Unlike a perspective chart, the chart represents a kinetic experience, that is, though taken from one point in the street, it allows for the evaluation of form (or open and closed squares) in a sweep.



$$\frac{A}{B} = \frac{A'}{B'} = \frac{1}{\tan\alpha}$$

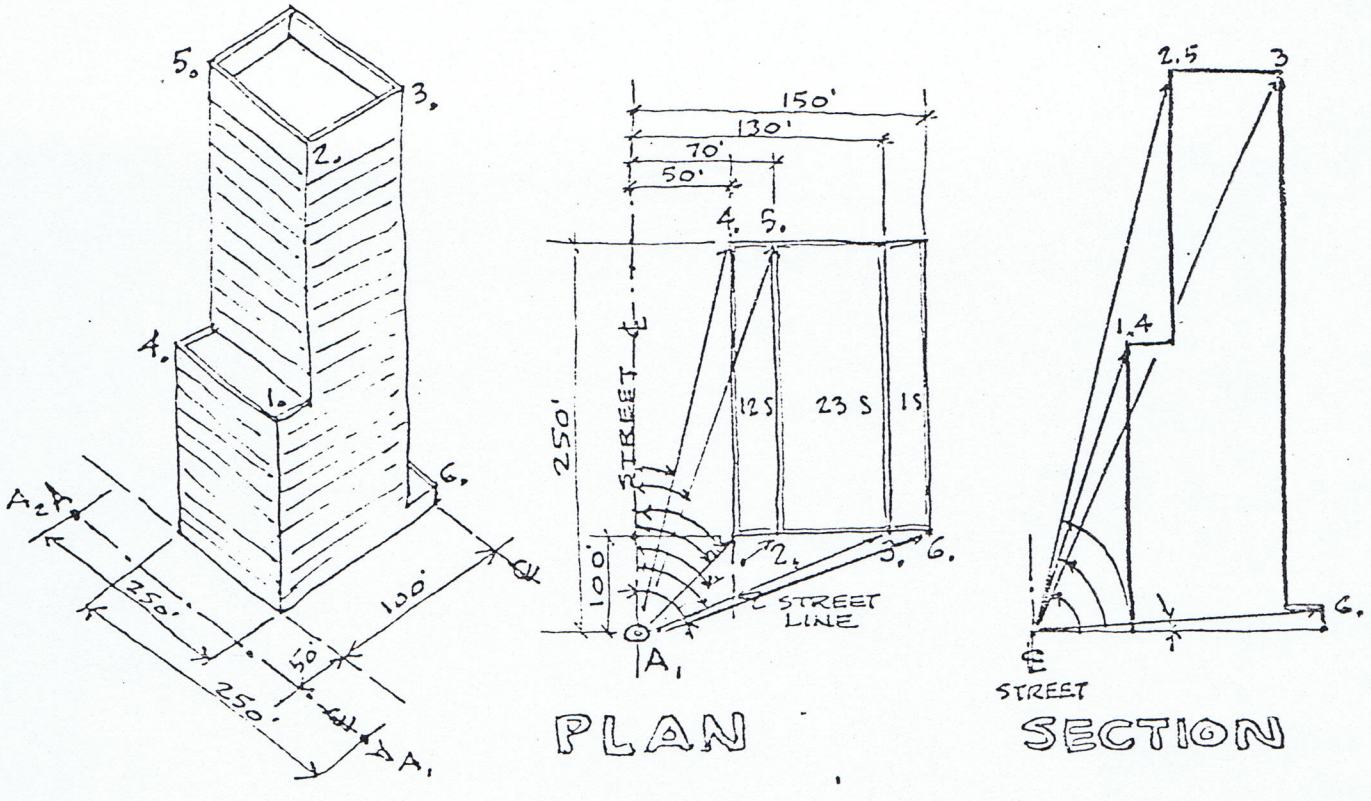
$$\frac{B}{A} = \frac{B'}{A'} = \tan\alpha$$

The chart, like a perspective grid chart, can be drawn upon by projecting lines in plan and section from a station point or view point, and then locating these points on the chart. In perspective diagrams, the measurement of dimensions is used, but as the perception of space and openness of the sky is a function of proportion, the Daylight Diagram is calibrated in degrees. Just as the relationship between the distance from the centerline of a street to a building face, as compared to street wall height was expressed by proportion in the 1916 zoning ordinance, the use of degrees in the Daylight Diagram is a proportional system. The amount of daylight one perceives is in relation to the amount of the skydome left open, which can be quantified using equal increments of degrees from the horizon. The use of degrees gives both equal amounts ofdaylight per grid square, and also represents equal perception of bulk.

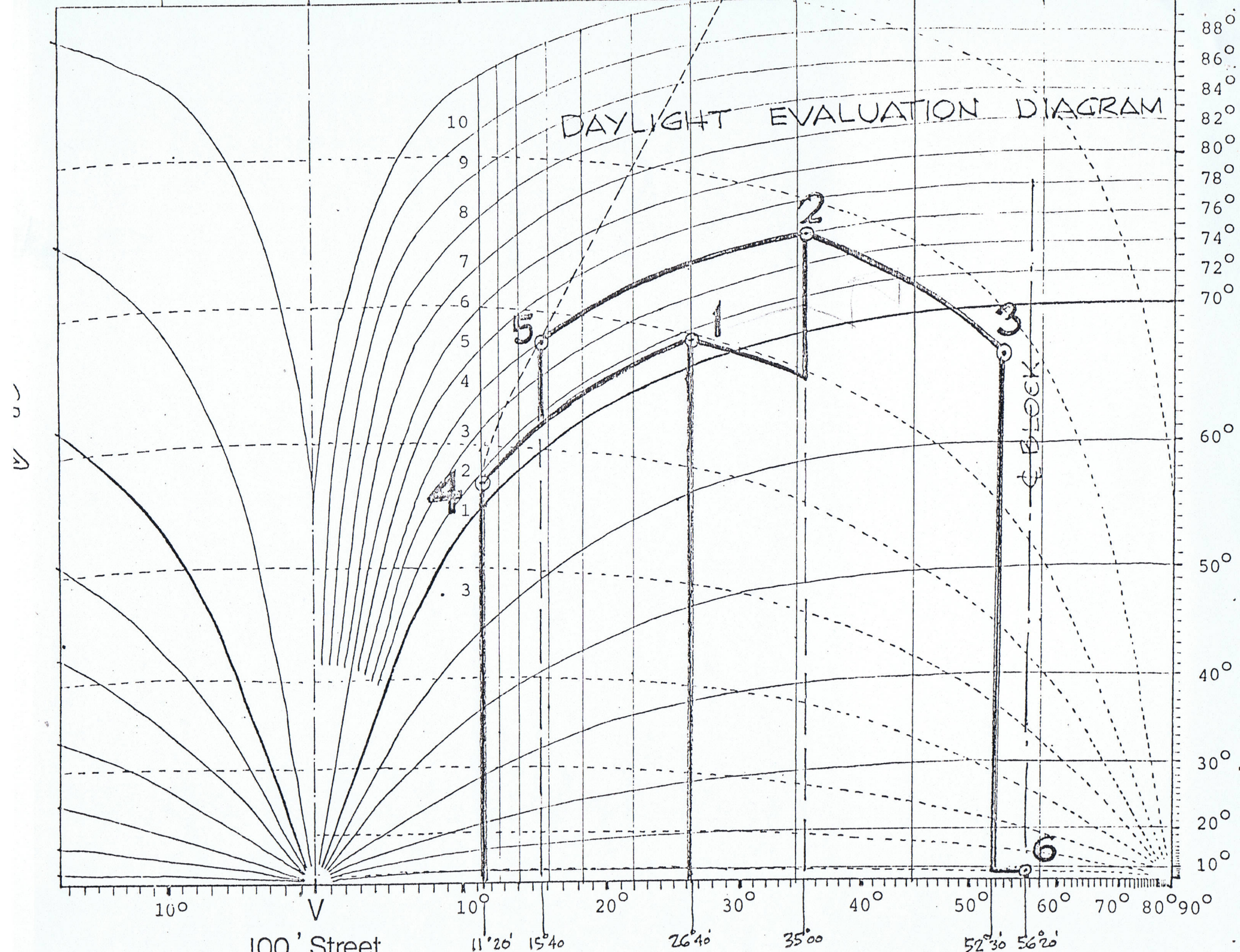
The following example is used to show how a building can be translated to the Daylight Evaluation Diagram. A Diagram would be drawn for each view looking toward a building in each of the Street Districts of the building. A building facing only one street would have two diagrams; each would evaluate the presence of the building from 250 feet to the far lot line forward to the viewpoint.

After drawing the plan and section of the building, the points that determine its shape are located with reference to the fixed point of view. The angle that is formed by the line connecting these points to the fixed viewpoint in the street can either be measured with a protractor, or found using any tangent table. For illustration, the dimensions used assume a 100 foot wide street.

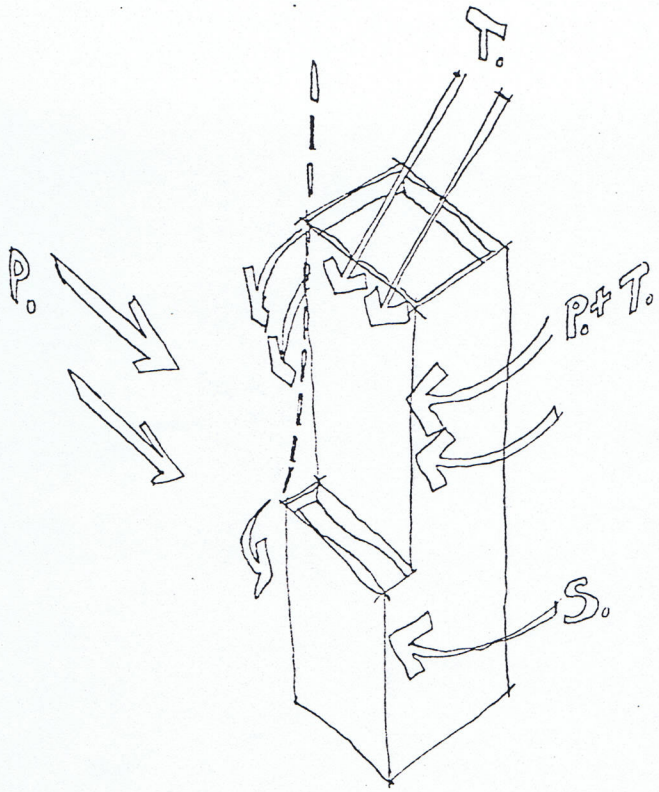
Once the coordinates are found as expressed by angles, the lines between them are connected to draw the building as shown.

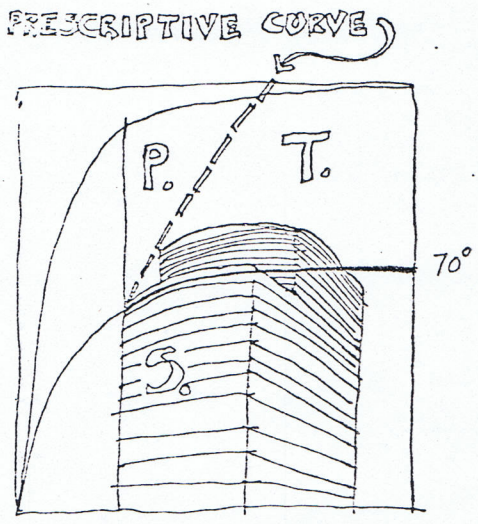


POINT	PLAN ANGLES				SECTION ANGLES			
	DISTANCE FROM VIEW POINT A1	STREET WIDTH + SETBACK	TANGENT RATIO DECIMAL	ANGLE	STREET WIDTH + SETBACK	HEIGHT	TANGENT RATIO DECIMAL	ANGLE
1.	100'	50'	50/100 0.500	26°40'	50'	150'	150/50 = 3.000	71°40'
2.	100'	70'	70/100 = 0.700	35°00'	70'	280'	280/70 = 4.000	76°00'
3.	100'	130'	130/100 = 1.300	52°30'	130'	280'	280/130 = 2.150	65°00'
4.	250'	50'	50/250 = 0.200	11°20'	50'	150'	150/50 = 3.000	71°40'
5.	250'	70'	70/250 = 0.280	15°40'	70'	280'	280/70 = 4.000	76°00'
6.	100'	150'	150/100 = 1.500	56°20'	150'	17'	17/150 = 0.113	6°27'


DAYLIGHT EVALUATION DIAGRAM
10
9
8
7
6
5
4
3
2
1
3
88°
86°
84°
82°
80°
78°
76°
74°
72°
70°
60°
50°
40°
30°
20°
10°
1
2
3
4
5
6
BLOCK
10°
V
10°
20°
30°
40°
50°
60°
70°
80°
90°
100' Street
11°20'
15°40
26°40
35°00
52°30
56°20

The Daylight Evaluation Diagram is divided into 100 squares of equal daylight above 70°, which represents the maximum expectation of daylight above the average street walls of Midtown. Each view of a building is compared against this amount, taking into account three aspects of daylight: daylight coming over the tops of buildings (T) daylight coming around the sides of buildings, with special consideration for unexpected daylight below 70° (S), and daylight unblocked by the profile of the building looking down the street (P).





T = TOP
P = PROFILE
S = SIDE BELOW 70°

Buildings are evaluated by comparing the number and value of squares blocked, or left open, as weighted and compared to the maximum expectation. The maximum expectation is equal to the number of squares above 70° and between the far lot line and a projection of the centerline of the block at the near lot line. The dotted line across the Diagram represents the prescriptive setback, or profile curve. Any portion of a building encroaching forward of this line will diminish daylight and squeeze the space of the street as seen perpendicular to the building beyond the expectations of Midtown. As this profile encroachment has impact from great distances, as well as close to the building, this zone is heavily weighted.

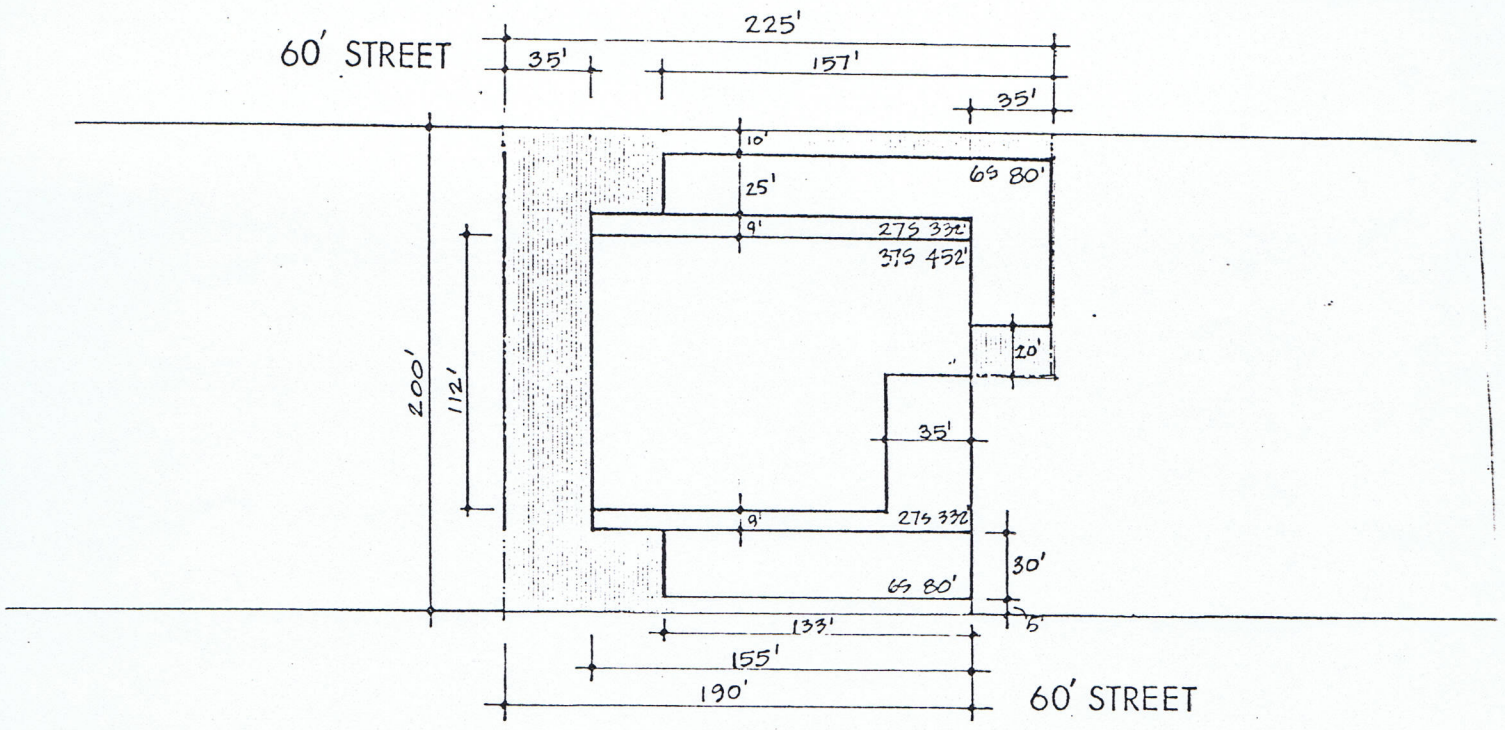
Bringing daylight around the building below the street wall (70°) is a positive contribution buildings can make, although the quality of this light due to surrounding structures is less, so the squares if left open in this zone are counted lightly.

Squares that are blocked above the 70° line are multiplied by their value, and then added together and given a minus sign. Squares below 70° that are left open to daylight are multiplied by their value, and then given a plus sign. The sum of these is the daylight equivalency score, which because of the weighting and the opportunity for positive scores below the 70° line, can range from better than 100% to less than 0.

EXAMPLES

I. Prescriptive Tier

AL = 41,500 S.F.
FAR = 18 (max.)
Floor Area = 747,000 S.F. (20% of which, or 124,000 S.F. will be generated by bonuses. In example, sidewalk widenings and through-block passage were used)



A. Required Street Wall Length:

0.70 times length of property line, on both streets
0.70 x 225 = 157' - for North street
0.70 x 190 = 133' for South street

B. Required Street Wall Height:

On 60' wide street: 90', with range + 10-15.
Select 80' as appropriate relationship to adjoining buildings.

Note: Present Zoning Resolution permits a 40% tower (16,600 S.F./floor). The proposed Prescriptive Tier used in this example provides a 6 story base of 29,500 S.F./floor, an initial tower of 21 stories at 20,000 S.F./floor (48% coverage) and a top portion of 10 stories at 15,000 S.F./floor.

A lower building with even larger floors would have been possible, but the above solution provides legal windows on 3 sides above the first setback, at 7th floor.

C. Daylight:

1. Street Wall: 80' = 1st floor @ 20' plus 5 floors @ 12' = 6 stories

2. 1st Setback:

Assume 20,000 S.F. as desirable floor size. Achieve this by setting back 35' from street line on both streets. Rise an additional 21 stories @ 12' to El. 332. This is determined by use of formula H_n = (1/2 st. width) + setback dist.) x tan (72 + setback dist. x .2) = 65 x tan 79° = 334' (see pp. A53 & 54).

Note: at 76° (200') daylighting is required at side(s) of building. This is achieved, without need to check formula in this case, because of the 35' side yard setback on the west.

Recap: 6 floors @ 29,490 S.F. = 176,940 S.F.
21 floors @ 20,000 S.F. = 420,000 S.F.

Total: 27 floors 596,940 S.F.

Unused S.F. = 747,000 - 596,940 = 150,060

3. 2nd Setback:

Based on unused S.F., consider 10 additional stories at 15,000 S.F.

10 stories @ 12 = 120', plus 332' = El. 452

By formula, check using an additional 9' setback:
H_n - 74 (tan 72 x .2 x 44) = 470, (greater than 452: acceptable)

Daylighting around side(s) of building (refer to p. A55)

Pn = (81 - 76) x .06 x 190 = 57' on south street
Actual Pn = 70: complies

Pn - (81 - 76) x .06 x 225 = 67' on north street
Actual Pn = 70: complies

4. Recap. Total Building

6 floors	@ 29,490 S.F.	=	176,940
21 floors	@ 20,000 S.F.	=	420,000
10 floors	@ 15,000 S.F.	=	150,000
Total			746,940 S.F. (747,000 permitted)

II. Performance Tier

A. Site Information (see plan following page)

The site selected is a 41,500 S.F. asymmetrical through lot which fronts on 60' side streets. The owner of the lot has entered into an agreement with the owner of the adjoining lot fronting on the South street for the unused air rights wherein the height of any future replacement structure is limited to 80' and the present street wall length and location must be maintained.

The base FAR is 15 and the 20% maximum bonus gives a total FAR of 18.

B. Basic Calculations

1. Floor Area

a. Base 15 x 41,672 S.F. = 625,080 S.F.

b. Bonus 3 x 41,672 S.F. = 125,016 S.F.

c. Air Rights: Adjoining lot area 5,021 S.F. x 7.5
maximum FAR transferrable = 37,658 S.F.

d. Total Buildable Floor Area = 787,754 S.F.

e. The actual FAR on the development portion of the lot is
780,820 S.F. ÷ 41,672 S.F. = 18.7

2. Bonus Development

a. Sidewalk widening at 10 S.F. per S.F.
North street: 225 x 10 = 2,250 S.F. x 10 = 22,500 S.F.
South street: 120 x 5 = 600 S.F. x 10 = 6,000 S.F.

b. Urban Plaza at 10 S.F. per S.F.
South street: 2,000 S.F. x 10 = 20,000 S.F.

c. Through Block Connection, assumes provision of amenities to achieve bonus of 10 S.F. per S.F.:
7,666 S.F. x 10 = 76,700 S.F.

d. Total Floor Area Developed: 125,200 S.F.
(125,016 S.F. required)

C. Street District Requirements

1. All calculations are done by Street District. The Street District scores are aggregated at the end, giving a total score. The Sanborn maps serve as the information base for the calculations.

2. Street Districts occur for each street property line. In the example, there are two Street Districts, one for the North street and one for the South street. In each case, the Street Districts extend to the centerlines of the 100' wide streets to the east and west.

D. Street Wall Lengths

1. Determine Street Wall Length for each Street District. In this example, the preferred Street Wall Length on each of the 60' wide streets is 0.75 of the length of the street property line in each Street District. Proposed street walls shorter than these preferred lengths will lose points.

2. North Street District, preferred Street Wall Length: 0.75 x 225' = 168.8'. In the example, the actual Street Wall Length is 225'. Thus, it is in full compliance and obtains the maximum 25 points.

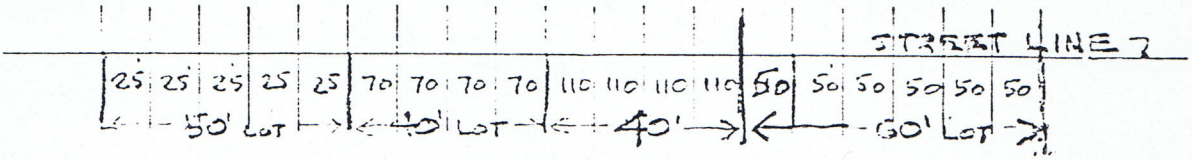
3. South Street District, preferred Street Wall Length: 0.75 x 240 = 180.0'. In this example the adjoining (air rights) building's street property line is included as its length is guaranteed by the restrictive covenant. The actual Street Wall Length is 10' + 120' + 50' = 180', is in full compliance and obtains the maximum 25 points.

E. Street Wall Heights
Determination of the existing Street Wall Height and Range

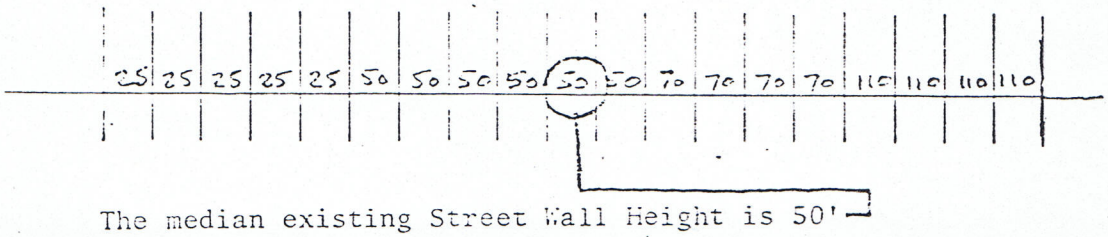
1. The existing Street Wall Height takes into account all existing building walls within 15' of the street property line on the same side of the street as the site. It does not consider the site itself.

2. The existing Street Wall Height is the median or predominant actual Street Wall Height in the Street District. It is determined by establishing a common unit for each increment of Street Wall and then arraying them from low to high. In the following illustration, a portion of a theoretical Street District is divided into a grid of 10' increments. There are 19 increments and each shows the Street Wall Height (within 15' of the street line)

2. (continued)



The array is as follows:



The median existing Street Wall Height is 50'

3. The range or variation of existing Street Wall Heights around the median height as established above is determined by:

   a. Calculating the weighted average of existing building Street Wall Heights:

25'	x 50'	=	1,250 SF
70'	x 40'	=	2,800 SF
110'	x 40'	=	4,400 SF
50'	x 60'	=	3,000 SF
	190'		11,400 SF

   11,400 ÷ 190 = 60.0, the weighted average

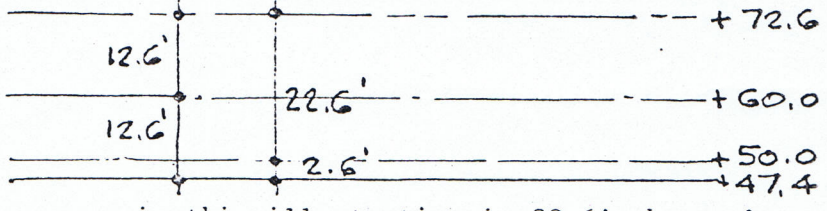
   b. Determine the amount of existing street walls in elevation above the average:

(70	- 60.0	x 40	= 400
(110	- 60.0	x 40	= 2000
			2400

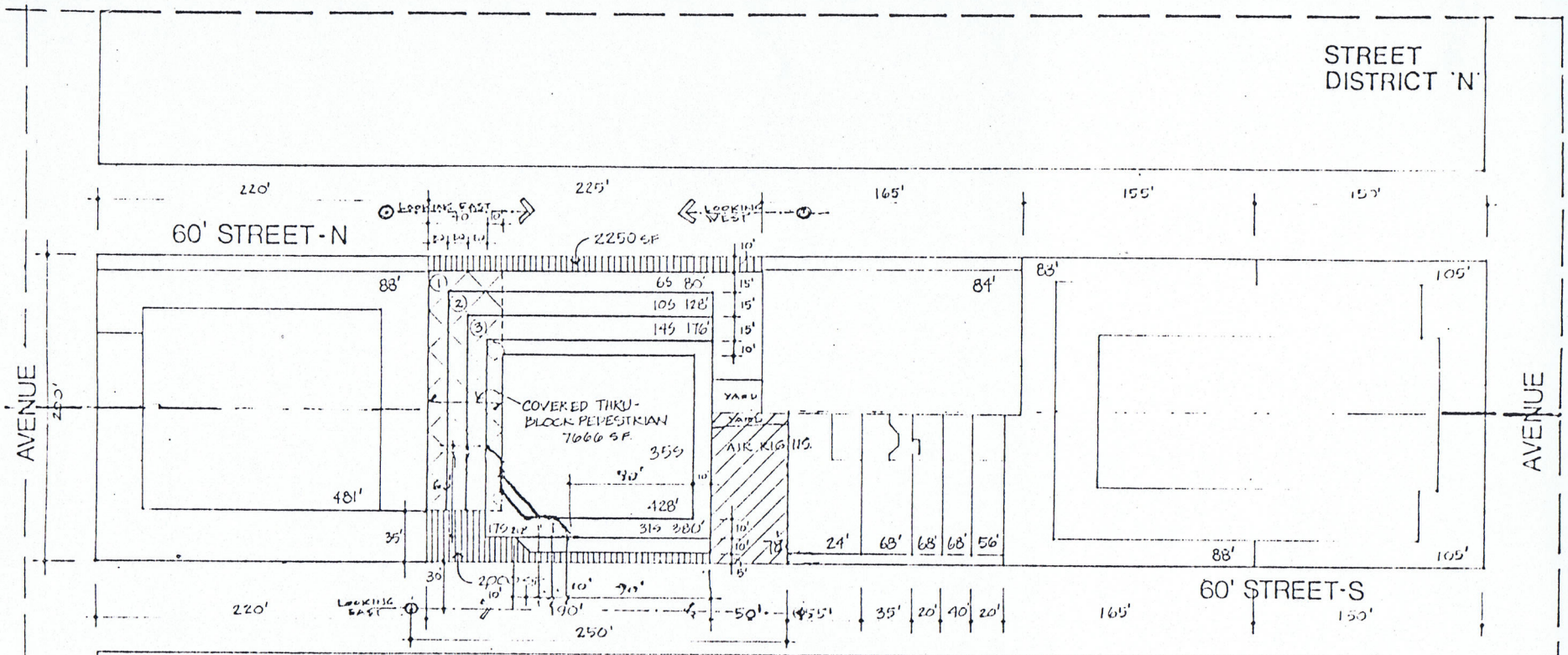
   Divide by the existing length of street wall (200'):

   2,400 ÷ 190 = 12.6

   c. Determine the range above and below the median:



   The range in this illustration is 22.6' above the median and 2.6' below the median. Any Street Wall Height falling within the range achieves full compliance. Should this illustration have used even greater variations in Street Wall Height this would have resulted in a greater available range.



SITE: DEVELOPMENT PORTION 41, [illegible] SF

FLOOR AREA:

	SITE AREA	FAR	TOTAL
BASIC	41,[illegible] SF	15.0	62[illegible] SF
BONUS	41,[illegible] SF	3.0	12[illegible] SF
TOTAL PRESCRIPTIVE TIER			[illegible] SF
AIR RIGHTS TRANSFER	5,021 SF	7.5	37,658 SF
TOTAL FLOOR AREA (PERFORMANCE TIER)			[illegible] SF

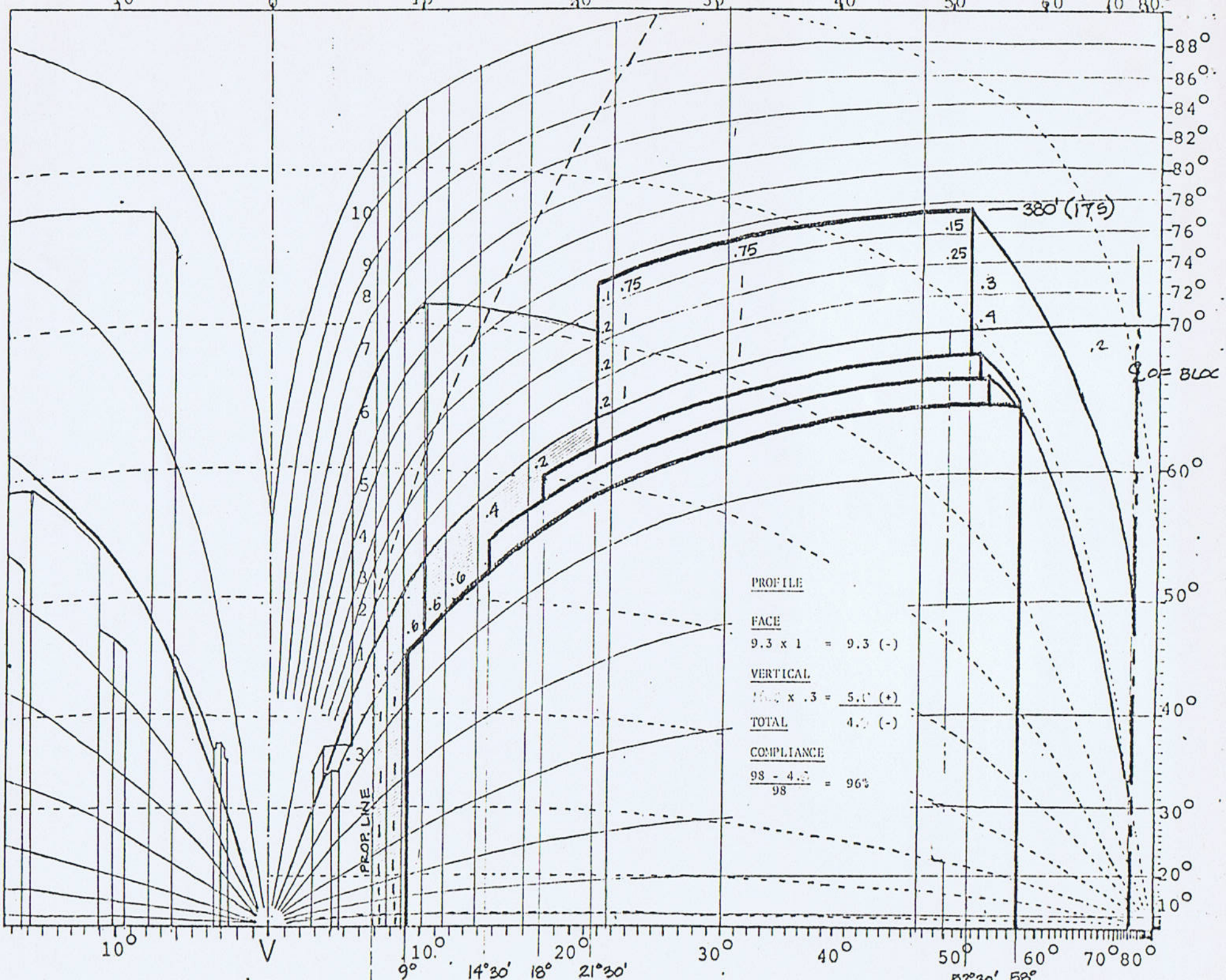
(with covenant restricting future development on air rights site to maximum 80' height)

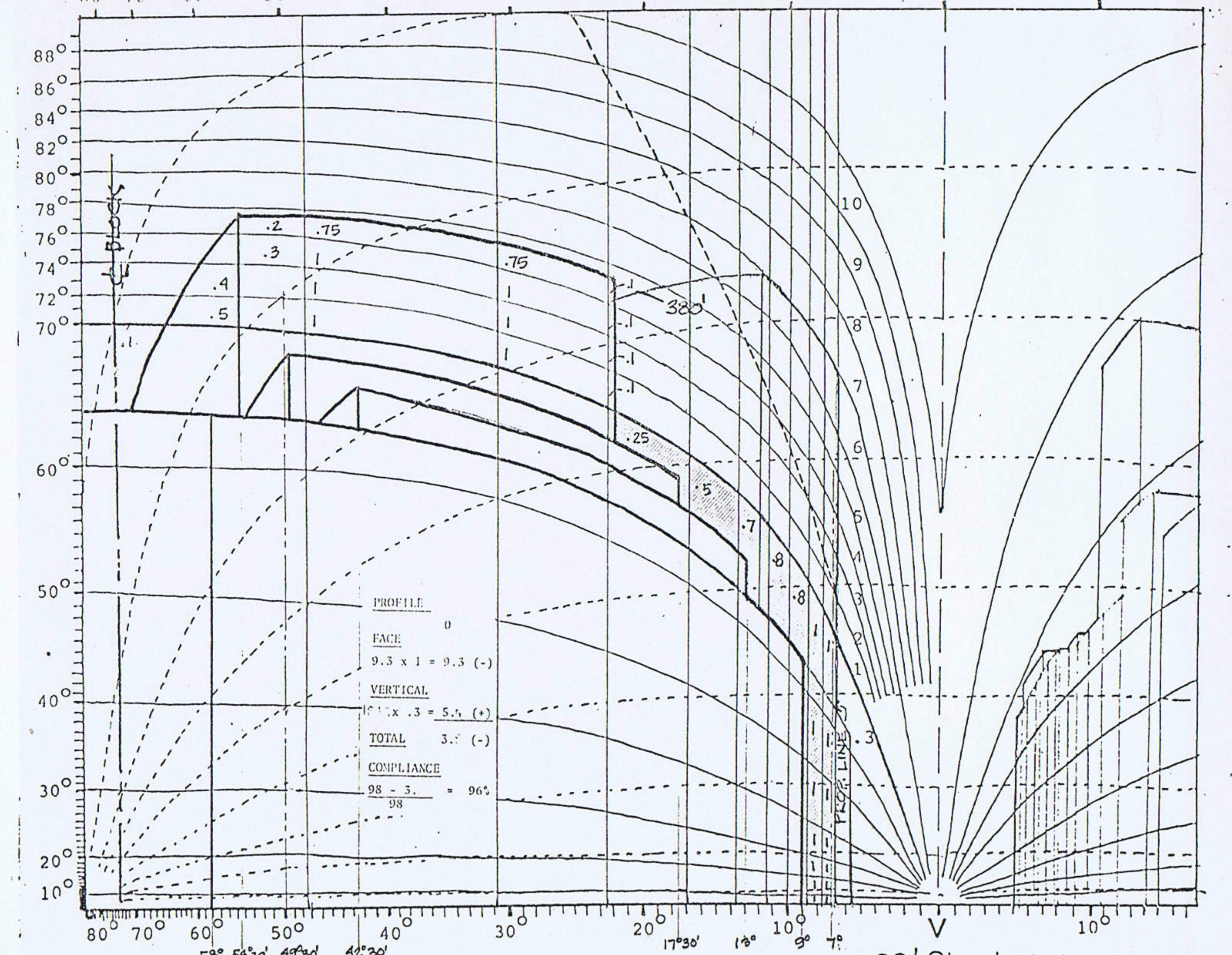
BONUS

SIDEWALK WIDENING	2,200 SF	@10 SF	22,500 SF
	600 SF	@10 SF	6,000 SF
URBAN PLAZA	2,000 SF	@10 SF	20,000 SF
THROUGH BLOCK	7,666 SF	@10 SF	76,700 SF
TOTAL BONUS			125,200 SF

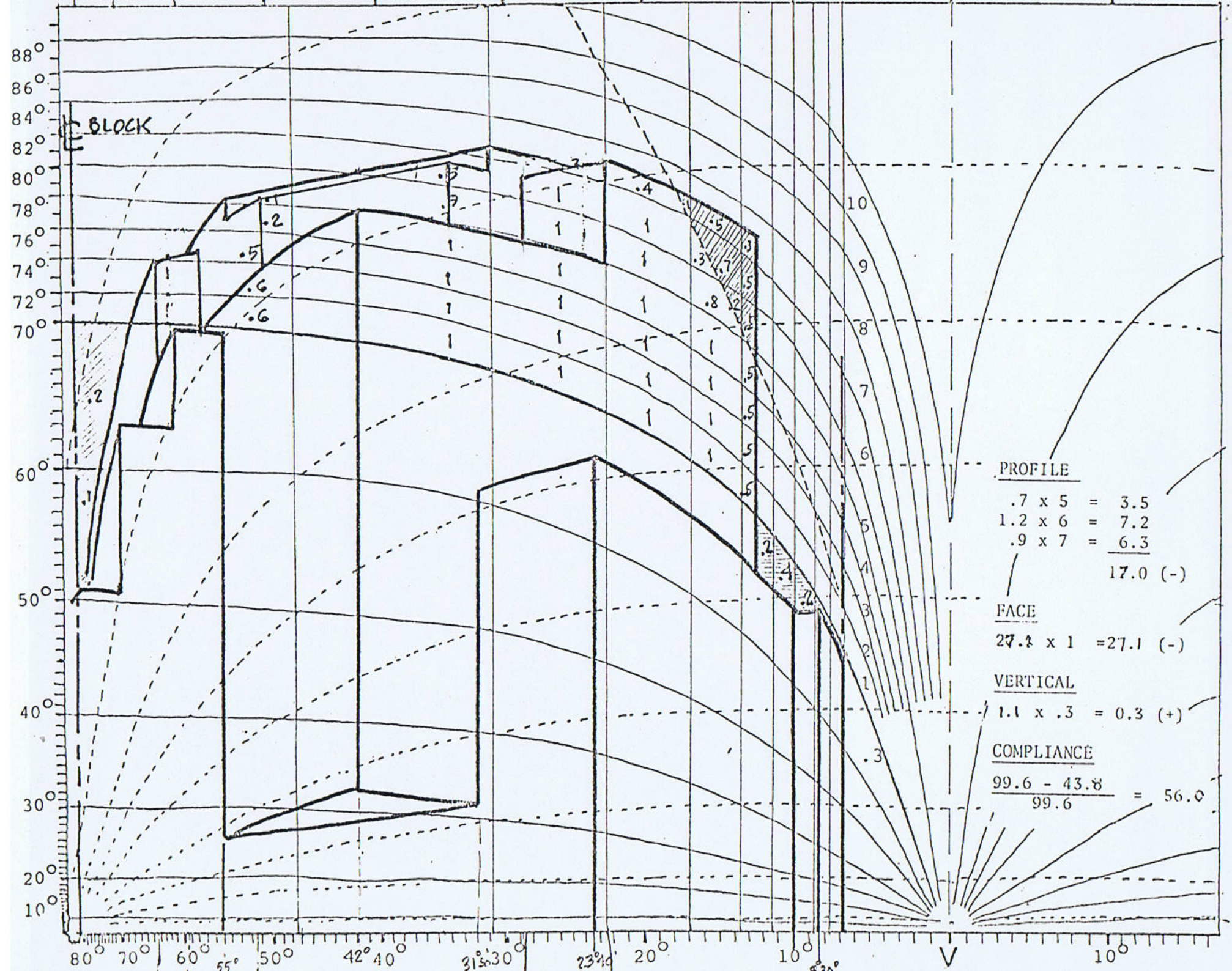
BUILDING FLOOR AREA

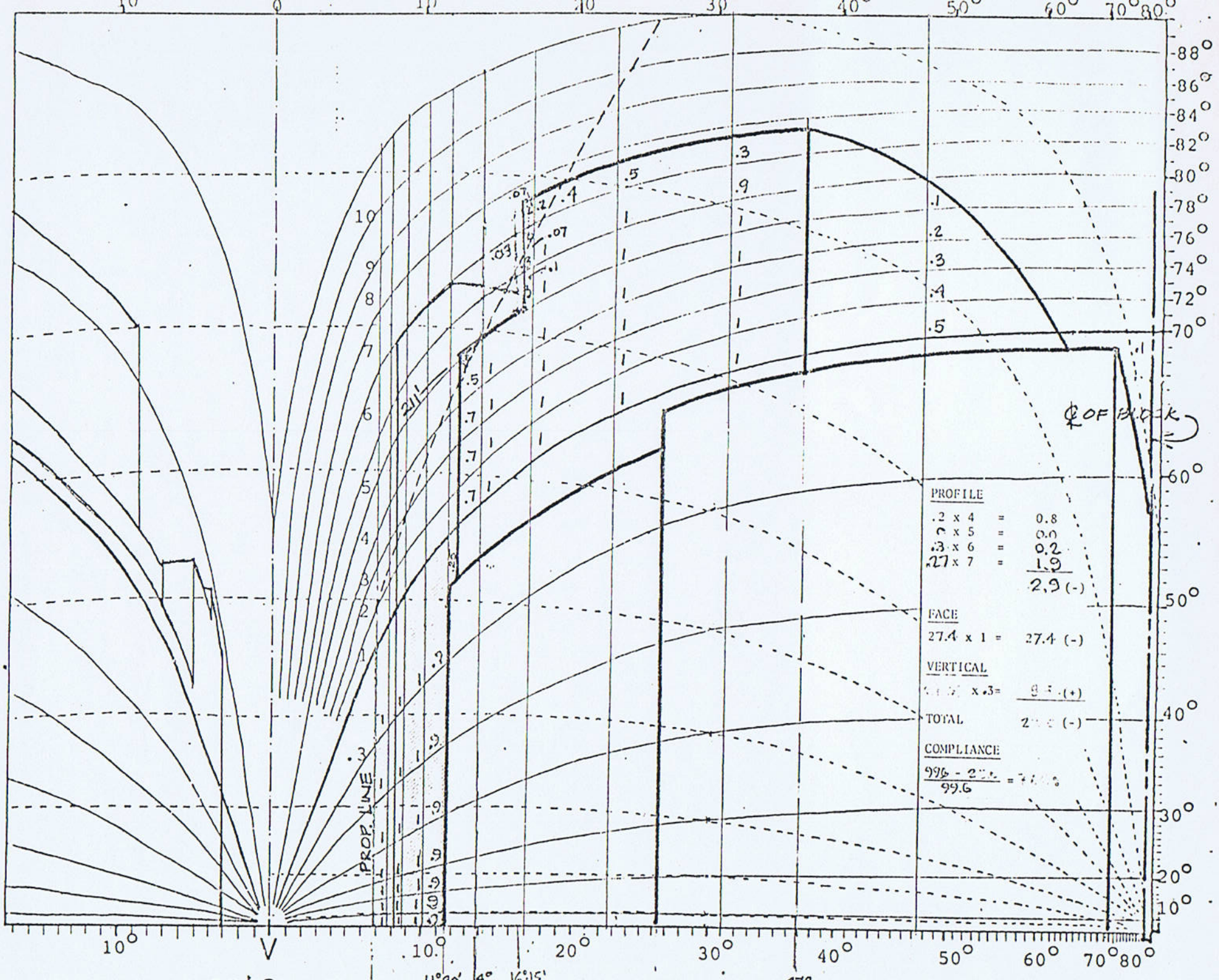
1. FLOORS 1-6:	6 x 35,350 SF	= 212,100 SF
2. FLOORS 7-10:	4 x 27,000 SF	= 108,320 SF
3. FLOORS 11-14:	4 x 22,000 SF	= 91,000 SF
4. FLOORS 15-17:	3 x 19,500 SF	= 58,000 SF
5. FLOORS 18-31:	14 x 18,250 SF	= 255,500 SF
6. FLOORS 32-35:	4 x 13,850 SF	= 55,400 SF
TOTAL		780,820 SF


380' (175)
PROFILE
FACE
9.3 x 1 = 9.3 (-)
VERTICAL
x .3 = (+)
TOTAL (-)
COMPLIANCE
98 - 4.
98
= 96%
PROP. LINE
V
10°
9°
10°
14°30'
18°
20°
21°30'
30°
40°
50°
52°30'
58°
60°
70°
80°
88°
86°
84°
82°
80°
78°
76°
74°
72°
70°
60°
50°
40°
30°
20°
10°



BLOCK
.2
.75
.3
.4
.5
.75
380'
.1
.25
.5
.7
.8
10
9
8
7
6
5
4
3
2
1
.3
PROP. LINE
PROFILE
0
FACE
9.3 x 1 = 9.3 (-)
VERTICAL
x .3 = 5.5 (+)
TOTAL
(-)
COMPLIANCE
98 - 3.
98
= 96%
V
17°30'
13°
9°
7°


BLOCK
PROFILE
.7 x 5 = 3.5
1.2 x 6 = 7.2
.9 x 7 = 6.3
17.0 (-)
FACE
27.1 x 1 =27.1 (-)
VERTICAL
1.1 x .3 = 0.3 (+)
COMPLIANCE
99.6 - 43.8 / 99.6 = 56.0
V


PROFILE
.2 x 4 = 0.8
.2 x 5 = 0.0
.3 x 6 = 0.2
.27 x 7 = 1.9
2.9 (-)
FACE
27.4 x 1 = 27.4 (-)
VERTICAL
x .3=
TOTAL
COMPLIANCE
PROP. LINE
V

4. In the site used in the example, the median and range of the existing Street Wall Height in each Street District were determined and compliance of the Street Wall Heights for the proposed building was calculated.

   a. North Street District

      Median 88'
      Weighted Average 90.7'
      Range + 5.8', - 0.4'

      Street Wall Height for proposed building: 80'
      This height falls outside the Range and will not achieve the full 15 points.

      Actual point score: (80 ÷ 88) x 1.0 x 15 = 13.5 points

   b. South Street District

      Median 88'
      Weighted Average 83.2'
      Range + 4.2', - 13.8'

      Street Wall Height falls within the Range, thus is in full compliance and achieves the available 15 points.

F. Daylighting

   a. The accompanying Daylight Evaluation diagrams have been constructed, two for each Street District. Full compliance, the equivalent of no obstruction of daylighting above 70°, is valued at 60 points. A minimum of 40 points is required for each Street District.

   b. On each Daylight Evaluation diagram, the weight given to each blocked "square" is 1.0 except for the blocked squares forward of the dotted line representing the Prescriptive Tier required setbacks, which are more heavily weighted (from 2.0 to 6.0). Open (unblocked) squares below the 70° are credited at 0.3.

   c. North Street

      View to east: Complaince: 96%
      View to west: Compliance: 96%
      Average: 96% x 60 = 59.4 points

   d. South Street

      View to east: Compliance: 56.0
      View to west: Compliance: 7[illegible].%

      Average: [illegible]% x 60 = 40.[illegible] points

G. Summary Scoring

1. Tabulation

	North Street Street District	South Street Street District
Daylighting	59.4	40.0
Street Wall Length	25.0	25.0
Street Wall Height	13.5	15.0
TOTAL POINTS	97.9	80.0

2. Weighted Average to determine final score for the proposed building:

97.9 x (225 ÷ 465) + 80.0 (240 ÷ 465)

- 225: sum of lengths of both street property lines
- 465: street property line in each Street District

= 88. points

85 points are minimum required for compliance

H. Notes

1. Proposed building was set only 5' from South street to create an extreme situation. Had building been set back further from the street, there would have been less obstruction of daylighting. With a 5' or lesser setback, it would be possible to apply the Reflectivity bonus to offset the lower daylighting score. However, in no case can the Daylighting score be less than 40 points in a Street District.

2. Reflectivity was not illustrated in the example. The tabulation of values given in the text of the proposed resolution and the evaluation of reflectivity are in process of review.

Degrees	Tangent	Cotangent	
9 00	.1584	6.3138	81 00
10	.1614	6.1970	50
20	.1644	6.0844	40
30	.1673	5.9758	30
40	.1703	5.8708	20
50	.1733	5.7694	10
10 00	.1763	5.6713	80 00
10	.1793	5.5764	50
20	.1823	5.4845	40
30	.1853	5.3955	30
40	.1883	5.3093	20
50	.1914	5.2257	10
11 00	.1944	5.1446	79 00
10	.1974	5.0658	50
20	.2004	4.9894	40
30	.2035	4.9152	30
40	.2065	4.8430	20
50	.2095	4.7729	10
12 00	.2126	4.7046	78 00
10	.2156	4.6382	50
20	.2186	4.5736	40
30	.2217	4.5107	30
40	.2247	4.4494	20
50	.2278	4.3897	10
13 00	.2309	4.3315	77 00
10	.2339	4.2747	50
20	.2370	4.2193	40
30	.2401	4.1653	30
40	.2432	4.1126	20
50	.2462	4.0611	10
14 00	.2493	4.0108	76 00
10	.2524	3.9617	50
20	.2555	3.9136	40
30	.2586	3.8667	30
40	.2617	3.8208	20
50	.2648	3.7760	10
15 00	.2679	3.7321	75 00
	Cotangent	Tangent	Degrees

Degrees	Tangent	Cotangent	
15 00	.2679	3.7321	75 00
10	.2711	3.6891	50
20	.2742	3.6470	40
30	.2773	3.6059	30
40	.2805	3.5656	20
50	.2836	3.5261	10
16 00	.2867	3.4874	74 00
10	.2899	3.4495	50
20	.2931	3.4124	40
30	.2962	3.3759	30
40	.2994	3.3402	20
50	.3026	3.3052	10
17 00	.3057	3.2709	73 00
10	.3089	3.2371	50
20	.3121	3.2041	40
30	.3153	3.1716	30
40	.3185	3.1397	20
50	.3217	3.1084	10
18 00	.3249	3.0777	72 00
10	.3281	3.0475	50
20	.3314	3.0178	40
30	.3346	2.9887	30
40	.3378	2.9600	20
50	.3411	2.9319	10
19 00	.3443	2.9042	71 00
10	.3476	2.8770	50
20	.3508	2.8502	40
30	.3541	2.8239	30
40	.3574	2.7980	20
50	.3607	2.7725	10
20 00	.3640	2.7475	70 00
10	.3673	2.7228	50
20	.3706	2.6985	40
30	.3739	2.6746	30
40	.3772	2.6511	20
50	.3805	2.6279	10
21 00	.3839	2.6051	69 00
10	.3872	2.5826	50
20	.3906	2.5605	40
30	.3939	2.5386	30
40	.3973	2.5172	20
50	.4006	2.4960	10
22 00	.4040	2.4751	68 00
10	.4074	2.4545	50
20	.4108	2.4342	40
30	.4142	2.4142	30
40	.4176	2.3945	20
50	.4210	2.3750	10
23 00	.4245	2.3559	67 00
10	.4279	2.3369	50
20	.4314	2.3183	40
30	.4348	2.2998	30
40	.4383	2.2817	20
50	.4417	2.2637	10
24 00	.4452	2.2460	66 00
10	.4487	2.2286	50
20	.4522	2.2113	40
30	.4557	2.1943	30
40	.4592	2.1775	20
50	.4628	2.1609	10
25 00	.4663	2.1445	65 00
10	.4699	2.1283	50
20	.4734	2.1123	40
30	.4770	2.0965	30
40	.4806	2.0809	20
50	.4841	2.0655	10
26 00	.4877	2.0503	64 00
10	.4913	2.0353	50
20	.4950	2.0204	40
30	.4986	2.0057	30
40	.5022	1.9912	20
50	.5059	1.9768	10
27 00	.5095	1.9626	63 00
10	.5132	1.9486	50
20	.5169	1.9347	40
30	.5206	1.9210	30
40	.5243	1.9074	20
50	.5280	1.8940	10
28 00	.5317	1.8807	62 00
10	.5354	1.8676	50
20	.5392	1.8546	40
30	.5430	1.8418	30
40	.5467	1.8291	20
50	.5505	1.8165	10
29 00	.5543	1.8040	61 00
10	.5581	1.7917	50
20	.5619	1.7796	40
30	.5658	1.7675	30
40	.5696	1.7556	20
50	.5735	1.7437	10
30 00	.5774	1.7321	60 00
	Cotangent	Tangent	Degrees

Degrees	Tangent	Cotangent	
30 00	.5774	1.7321	60 00
10	.5812	1.7205	50
20	.5851	1.7090	40
30	.5890	1.6977	30
40	.5930	1.6864	20
50	.5969	1.6753	10
31 00	.6009	1.6643	59 00
10	.6048	1.6534	50
20	.6088	1.6426	40
30	.6128	1.6319	30
40	.6168	1.6212	20
50	.6208	1.6107	10
32 00	.6249	1.6003	58 00
10	.6289	1.5900	50
20	.6330	1.5798	40
30	.6371	1.5697	30
40	.6412	1.5597	20
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33 00	.6494	1.5399	57 00
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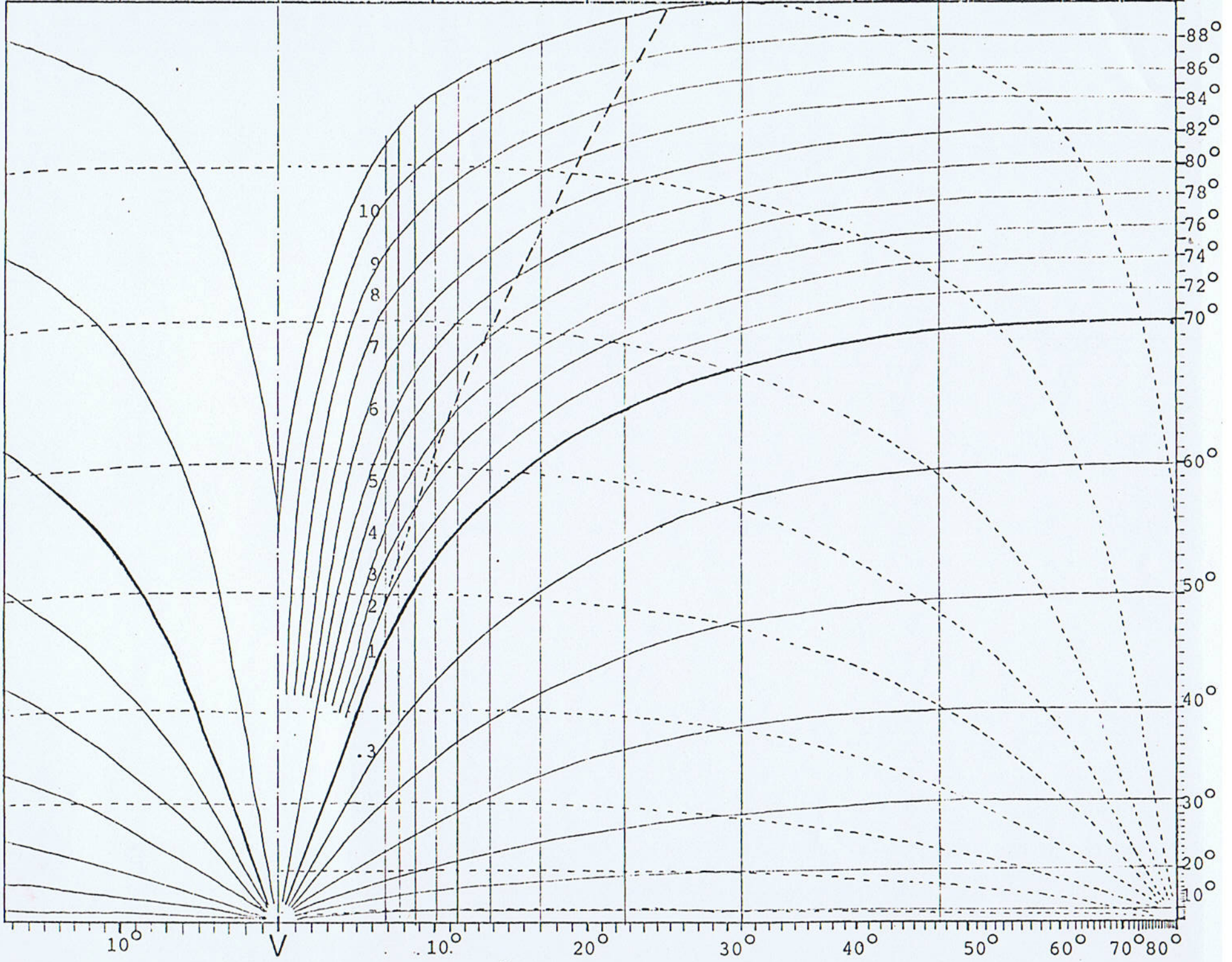
20	.6577	1.5204	40
30	.6619	1.5108	30
40	.6661	1.5013	20
50	.6703	1.4919	10
34 00	.6745	1.4826	56 00
10	.6787	1.4733	50
20	.6830	1.4641	40
30	.6873	1.4550	30
40	.6916	1.4460	20
50	.6959	1.4370	10
35 00	.7002	1.4281	55 00
10	.7046	1.4193	50
20	.7089	1.4106	40
30	.7133	1.4019	30
40	.7177	1.3934	20
50	.7221	1.3848	10
36 00	.7265	1.3764	54 00
10	.7310	1.3680	50
20	.7355	1.3597	40
30	.7400	1.3514	30
40	.7445	1.3432	20
50	.7490	1.3351	10
37 00	.7536	1.3270	53 00
10	.7581	1.3190	50
20	.7627	1.3111	40
30	.7673	1.3032	30
40	.7720	1.2954	20
50	.7766	1.2876	10
38 00	.7813	1.2799	52 00
10	.7860	1.2723	50
20	.7907	1.2647	40
30	.7954	1.2572	30
40	.8002	1.2497	20
50	.8050	1.2423	10
39 00	.8098	1.2349	51 00
10	.8146	1.2276	50
20	.8195	1.2203	40
30	.8243	1.2131	30
40	.8292	1.2059	20
50	.8342	1.1988	10
40 00	.8391	1.1918	50 00
10	.8441	1.1847	50
20	.8491	1.1778	40
30	.8541	1.1708	30
40	.8591	1.1640	20
50	.8642	1.1571	10
41 00	.8693	1.1504	49 00
10	.8744	1.1436	50
20	.8796	1.1369	40
30	.8847	1.1303	30
40	.8899	1.1237	20
50	.8952	1.1171	10
42 00	.9004	1.1106	48 00
10	.9057	1.1041	50
20	.9110	1.0977	40
30	.9163	1.0913	30
40	.9217	1.0850	20
50	.9271	1.0786	10
43 00	.9325	1.0724	47 00
10	.9380	1.0661	50
20	.9435	1.0599	40
30	.9490	1.0538	30
40	.9545	1.0477	20
50	.9601	1.0416	10
44 00	.9657	1.0355	46 00
10	.9713	1.0295	50
20	.9770	1.0235	40
30	.9827	1.0176	30
40	.9884	1.0117	20
50	.9942	1.0058	10
45 00	1.0000	1.0000	45 00
	Cotangent	Tangent	Degrees

TANGENTS 0° to 90°

TANGENT TABLES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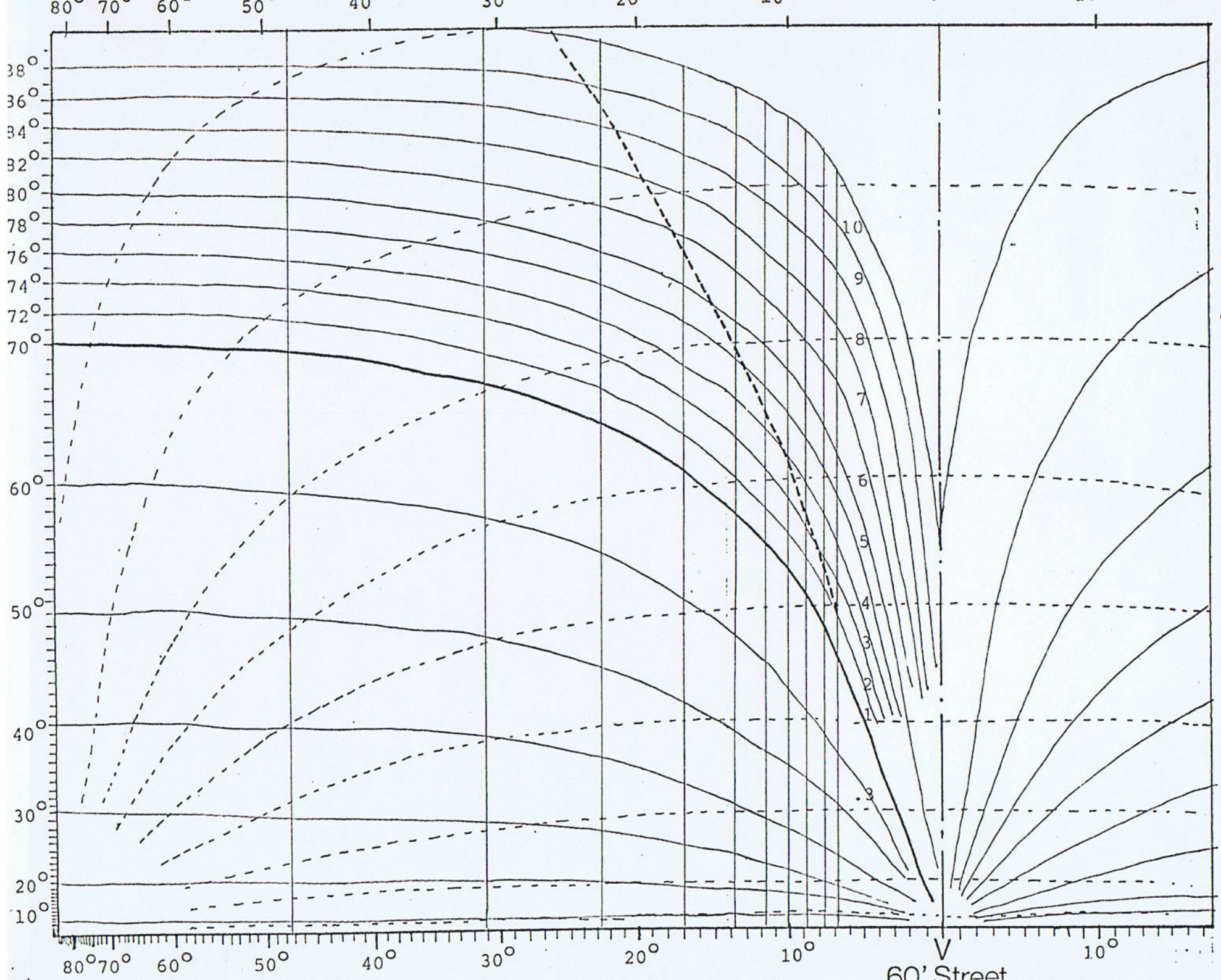
60' Street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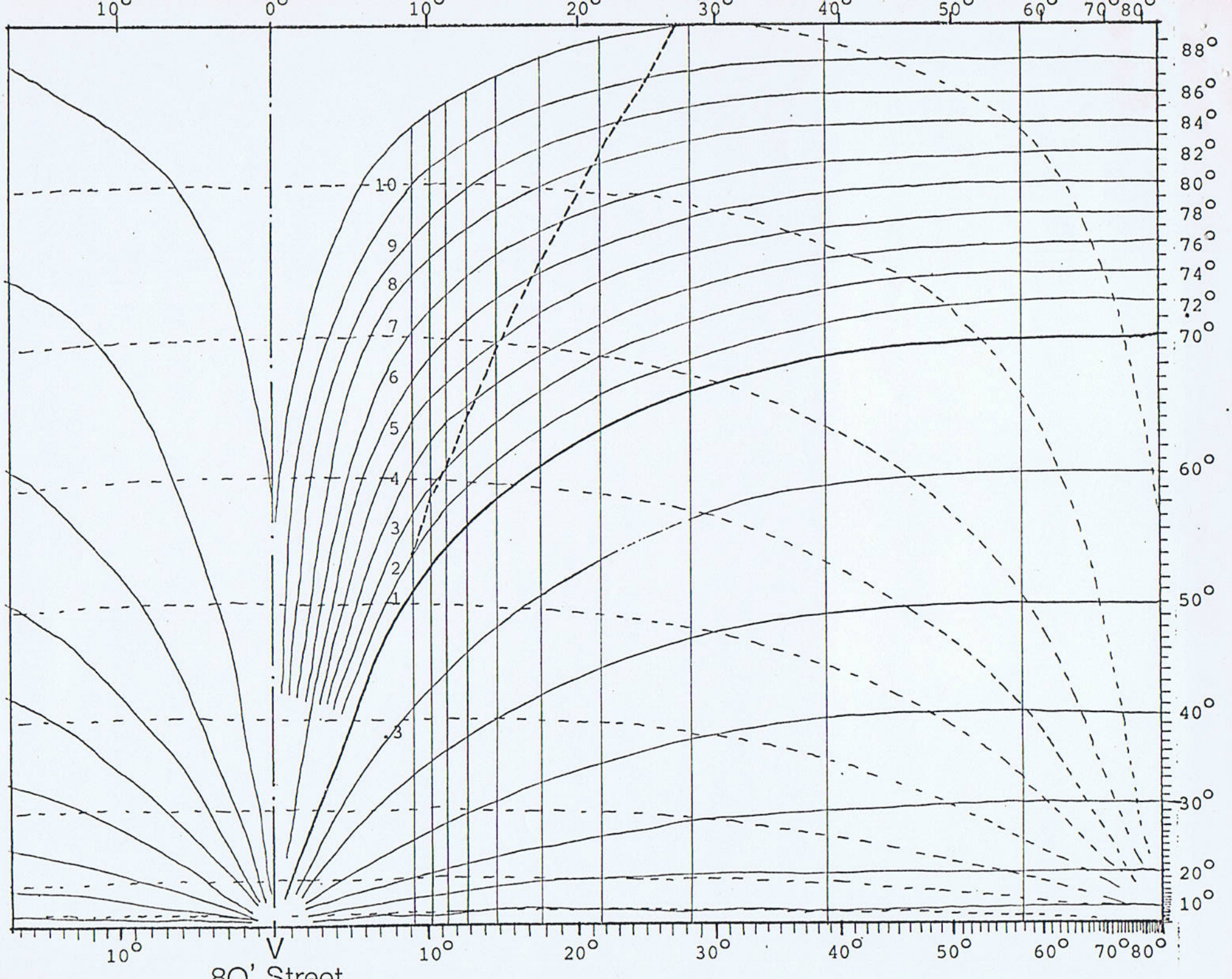
80° 70° 60° 50° 40° 30° 20° 10° V 10°
60' Street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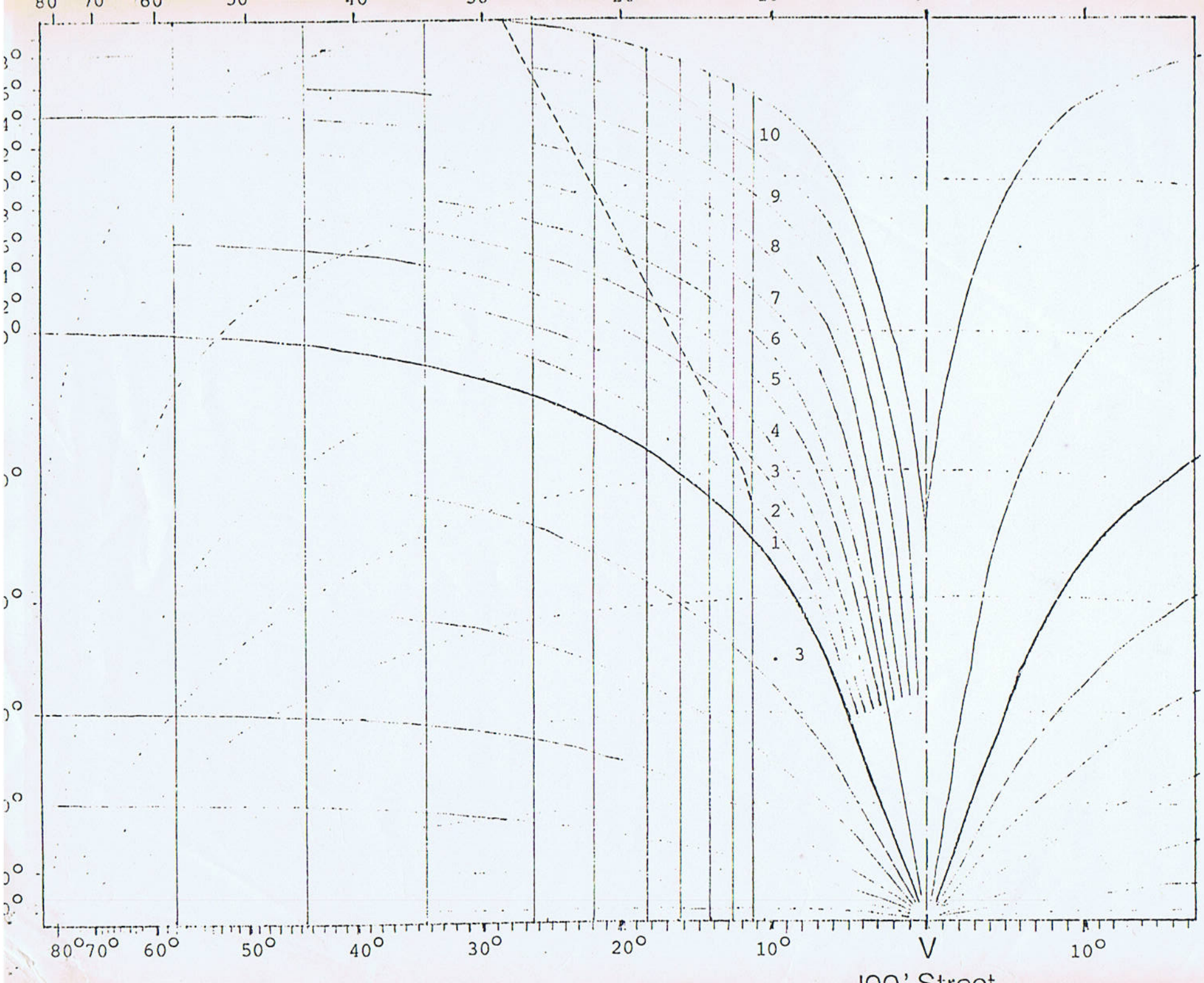
80° 70° 60° 50° 40° 30° 20° 10° V 10°
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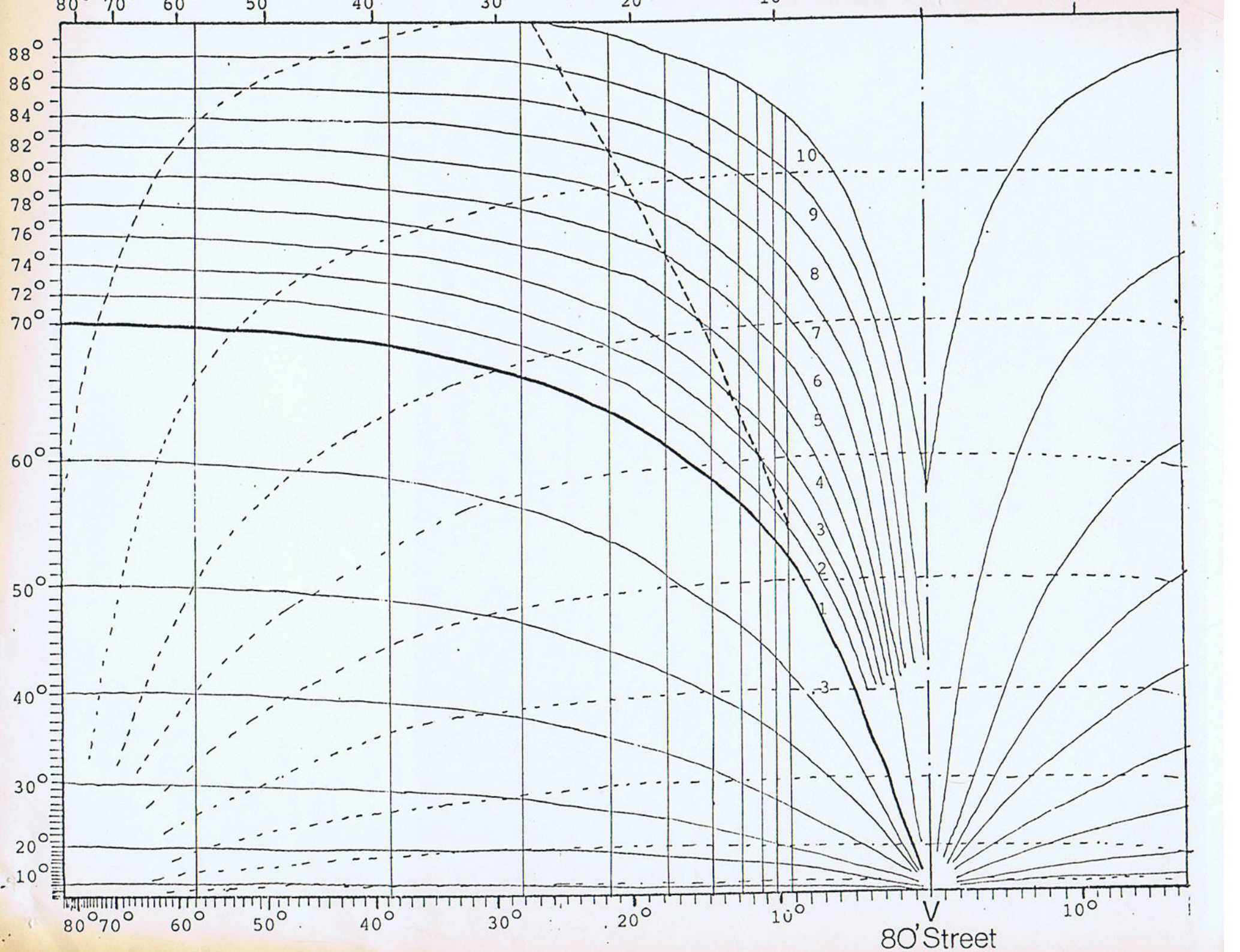
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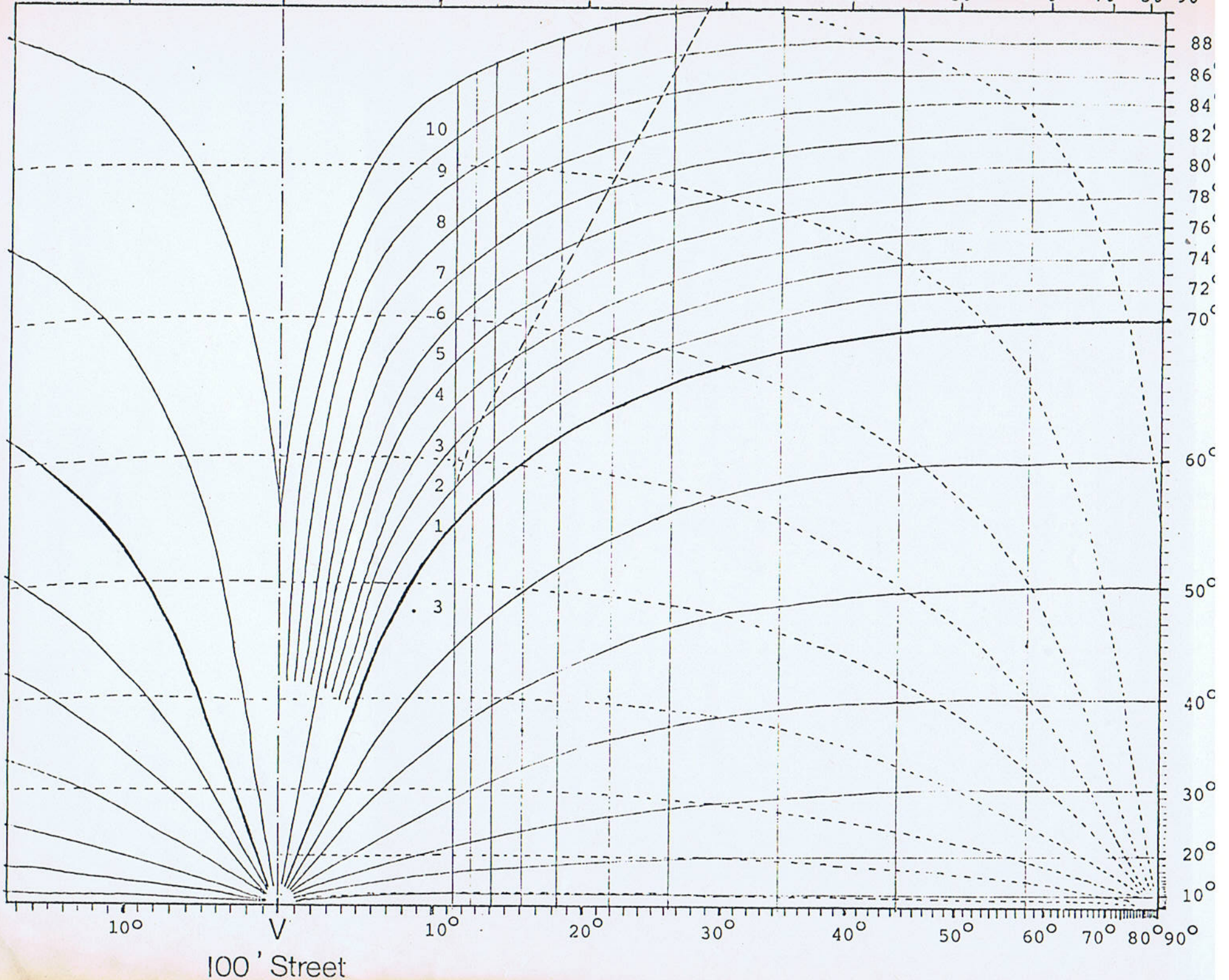
80° 70° 60° 50° 40° 30° 20° 10° 10°
V
80' Street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40
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20
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10°
20°
30°
40°
50°
60°
70°
80°
90°
100 ' Street