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SPHERICAL BASIS

OF

ASTROLOGY.

TABLE OF HOUSES

FOR

LATITUDES  $22^{\circ}$  TO  $56^{\circ}$



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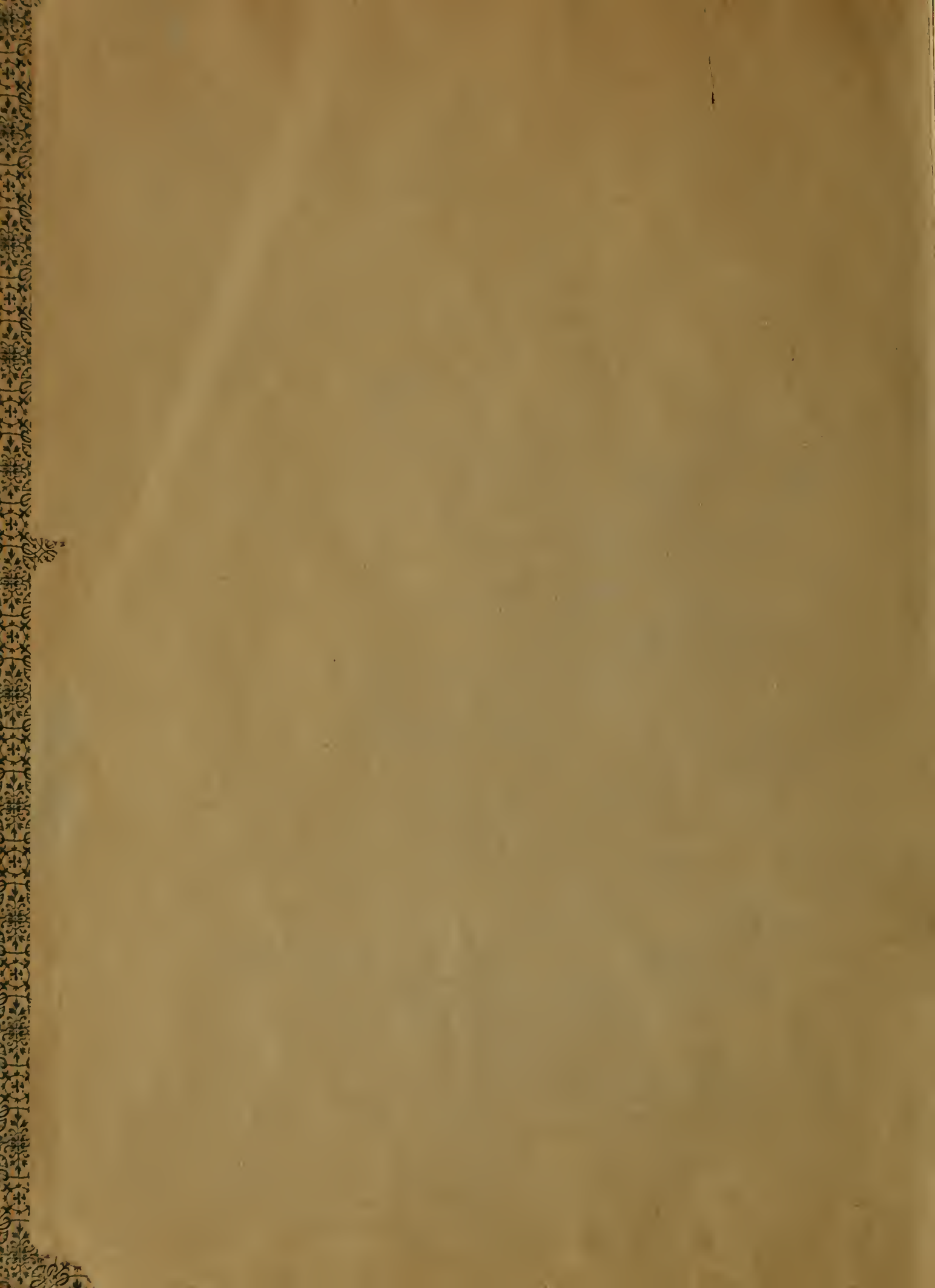
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THE  
SPHERICAL BASIS OF ASTROLOGY

BEING

A COMPREHENSIVE

TABLE OF HOUSES

FOR

LATITUDES 22° TO 56°

WITH

*RATIONAL VIEWS AND SUGGESTIONS, EXPLANATION AND INSTRUCTIONS  
CORRECTION OF WRONG METHODS, AND AUXILIARY TABLES*

BY

JOSEPH G. DALTON

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THIRD EDITION

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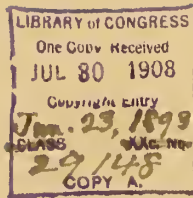


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## VIEWS AND SUGGESTIONS.

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There appears to be a wide and increasing interest in regard to Astrology in this country, and perhaps there are some who wish to study it with as much exactness and thoroughness as the peculiar subject is capable of, in its principal branch the doctrine of nativities. If such are very few as yet, the spirit of this age, now inclining to submit the occult and elusive to scientific scrutiny, is likely to breed them ere long. The present writer has studied it, in quite a private way, from a rational point of view and with careful induction, for many years, taking its fundamental ideas as probable hypotheses and using a strict mathematical method according to the best works on spherical astronomy, with the intent particularly of testing with scientific caution what correspondence there is between "arcs of direction" and the events of a person's life, when the data are known to be correct. As geometrical laws shape everything, this is the part that can probably be made nearly an exact science. The rest of it — after rejecting the mouldy old nonsense and jargon, the figments and lies of the books — is mostly deductions from general and ambiguous symbols which yield little definite meaning to the intellect, though often read wonderfully by some persons who have the fine divining faculty; but this insight, however real in its way, is a raw poetry not science, and is unreliable, especially as to times of events. I have reached numerous confident conclusions on the subject by a long inquisitorial search. Some are negative ones, indeed, yet valuable; but many are drawn from positive proof of close accord between planetary movements and personal events, disclosing to view the main points and lines in the geometrical plan of life, though giving no clear picture of anything.

Astrology is far from being a baseless and refuted pretension, as the cyclopædias and scientists, with "orthodox mental strut," generally assert. They condemn it without a trial, without examination and experiment, confounding its essential truth with the error and folly that corrupt it. Genteel scholarship and formal intellects are naturally content to abide in ignorance and aversion concerning these ancient ideas of "spherical predominance," which the unsophisticated multitude treat with innate sympathy, and which many great poets and thinkers have entertained as easily credible

in a universe so full of wonders and mystery. Its coarser aspect is conspicuous in the salable books and almanacs of the elusory charlatans who commonly lurk concealed under the name of some angel or star to prey upon the credulous, and in whose hands it has made no progress for hundreds of years. They "hitch their wagon to a star," but remain in the mire and the mist. As practised for gain and gammon, Astrology is eternal truth in distress and demoralized, disgraced by its friends, despised by its foes, and thus ever in deserved ill-repute with sensible people. It was in the same dismal plight in Bacon's time, who said that it "is so full of superstition that scarce anything sound can be discovered in it, though we judge it should rather be purged than absolutely rejected." Bacon also looked for what he calls "*Astronomia viva*, a living astronomy, an astronomy that should set forth the nature, the motion, and the influences of the heavenly bodies, as they really are." Here is the hint of a wise ideal which, after three centuries, modern astronomy, in all its extreme excellence of material means, does not fulfil. It is a vast and complex growth of declared exact science, but all mechanical and soulless, empty of divine reason and human meaning. It has been wanting in the very precision which is its chief pride. That the tabular positions of planets were erroneous, and getting more and more wide of their observed places, was seldom mentioned except in official documents. In 1882 Prof. Newcomb said, "the increasing discordance between theory and observation is a field which greatly needs to be investigated." The showy astronomy was mainly devoted to solar gas and meteors and exact places of millions of the minutest stars. Since then the American astronomers have perfected new tables of the planets.

Astrology is a curious and seductive rather than a useful study; yet is a legitimate subject for research, with the attraction of general interest, but has its own perplexities and hindrances like any other scientific inquiry. It needs an invigorating infusion of modern thought, students of the right kind to give intellectual respectability to its aims and methods; minds with the true soulful elevation and openness, "not regarding of any one's mocks," and able to emulate the patient and

severe sagacity that has reached the admirable results of the established sciences. It requires no high mathematical ability, but such as will be enamoured of much dry ciphering if it lead to a real advance by gradual steps. For the sake of such students, to furnish them a new and ample instrument, and to diminish their

liability to error, this volume is issued. Drink deep, or taste not, the Uranian eup of mystical science; the empty froth and dubious flavor are mostly on the surface. Tarry not in the dim region of fallible conjecture, but proceed to mathematic certainties.

*Ars vera est, sed pauci artifices reperiuntur.*

## EXPLANATIONS AND INSTRUCTIONS.

### WITH USEFUL TABLES.

The twelve astrological Houses are formed by trisecting each of the four natural divisions of the heavens made by the meridian and horizon. It is as if the eastern horizon were tilted up to  $\frac{1}{3}$  and to  $\frac{2}{3}$  the distance, and then down in like manner. This makes six equal sections on the east of the meridian, the others being directly opposite. The celestial equator is equally divided by these into arcs of  $30^\circ$  each; the ecliptic on account of its obliquity is unequally divided, hence the present Table which gives for each latitude the intersecting points of the ecliptic with the eastern horizon and those other great circles, to each degree of ecliptic longitude on the meridian and its proper sidereal time. It is the only general one of the kind ever made. The original MS. covers from  $10^\circ$  to  $60^\circ$  of latitude, but the limits here,  $22^\circ$  to  $56^\circ$ , include the whole civilized globe. Hitherto all such tables have been for some one latitude, and they but rudely serve within narrow bounds. Its usefulness therefore is very obvious in making a diagram of the heavens at a given date and locality to get the mundane positions of planets and stars for astrological purposes or any questions that require such a figure. An immense amount of laborious calculation has been necessary, and systematic method and the utmost care was used to insure its correctness. The ascendant, or first house, was strictly computed to the nearest tenth of a minute at a sufficient number of points (according to the more or less uniform variation), and then interpolated downward and across the page by second, third and often fourth differences, insuring general accuracy to the nearest minute. The other and minor houses were similarly fixed at many points to the nearest hundredth of a degree, and interpolated for accuracy to the nearest tenth. More than a thousand operations in trigonometry, by seven or ten logarithms each, were performed, between which to fill in by the quicker but correct process of interpolation. The ecliptic obliquity used was  $23^\circ 27' 15''$ , its mean value in 1885. On account of the very slow decrease in this angle, I find that for dates at least sixty years before and after that year the Table will hardly err anywhere more than  $1'$  on the horizon, and this mostly in the highest latitudes. It will serve still for a century more either way and be but a trifle wrong sometimes. The formula used in the computa-

tions was adapted from that for getting the longitude of "the nouagesimal," or ecliptic point  $90^\circ$  from the horizon, as given in the appendix to Bowditch's Navigator, Problem IV (old editions). It is substantially the same as that by which the ordinary tables are made for single latitudes; but I have examined many of these and find them erroneous in several ways,\* and they betray a defective method in not showing the exact recurrence of the series of differences and the consequent agreements of one quadrant with another. That the simple mathematical facts of these conformities appear in the present Table is a means of *detecting any copying* from it, on pretence of original work, by that sort of persons who make the usual tables. These plainly show the incapacity of the computers, who do more than is needful, and worse than is endurable.

The astrological books are so erroneous and various in the rules for making a figure, that it is well to have here some instructions and cautions for getting the true sidereal time in any case, with which to use this Table. Hardly a single one of those books mentions the correction to be applied for distance in longitude from Greenwich! and most of them ignore also the correction of mean time to sidereal. Neglect of the first one makes an error of  $47'$  at Boston and of  $1^m 20'$  on the Pacific coast, which in arc equals  $12'$  to  $20'$ , a difference of four months in directions to the "angles." To neglect the other correction may cause a further error of  $57'$ —about a whole year. I give the usual table here for making these corrections, and the entire process is as follows:

To the Greenwich sidereal time at the previous mean noon add the correction for longitude of the place, taken from table A, and you have the sidereal time of the same noon at the given place. (East of Greenwich this correction is *minus*.) To this add the interval between that noon and the given time, and by the same table its correction. The sum is the sidereal time or right ascension of the midheaven for the given place and time.

It is to enable students to be accurate, when necessary, that these details of precision are given, as otherwise they must be gathered from several sources. Of course

\* Some give the sidereal time to the nearest minute only, which is often an error of seven minutes of arc, to start with!



they can be omitted in making a rough figure for general consideration, and then the rule is: Gr. sid. t. at previous noon + time from same local noon = approx. sid. t. required. Add 2 or 3 minutes, and it will be nearer right on the average.

There is, however, of late a liability to fall into much larger errors. On Nov. 18, 1883, Standard Time was adopted in this country, and time-pieces no longer indicate mean solar time, though they measure it. Any given standard time must therefore first be corrected to mean time. Boston, for example, is in the Eastern Division, the central meridian of which is five hours west longitude, and the new time throughout that division is fixed at five hours earlier than Greenwich time. As Boston is east of the centre, with longitude or time-difference of 4<sup>h</sup> 44<sup>m</sup> 15<sup>s</sup>, its standard time is too slow by 15<sup>m</sup> 45<sup>s</sup>. Therefore, add that amount to get the mean time. At New York it is too slow by 3<sup>m</sup> 58<sup>s</sup>. Philadelphia is in the same division, but a little *west* of the centre, in longitude 5<sup>h</sup> 0<sup>m</sup> 36<sup>s</sup>; hence standard time there is 36<sup>s</sup> too *fast*. So of any place in either of the five hourly divisions: the long.-diff. of cent. merid. and place = corr. to mean t., and is *plus* if the place be east, and *minus* if west, of the meridian. This correction must be made with care, as it amounts to about *half an hour* near the border of a division, and if applied wrongly may make an error of double that! Practically there are many exceptions and uncertainties in the use of our standard time, also liabilities to large error for such places as many in Maine, Ohio and Pennsylvania, where it was not fully adopted until several years after. In "The Pathfinder Railway Guide," of Boston, there *has been* much information as to its local use, with a map.\*

Now with the sidereal time and the *geographic*, or the *geocentric*, latitude (as you may think proper), the Table is used like any table of double entry. Sid. T., with its equivalent arc, † to each degree on the meridian or 10th house, heads each main column. "H" below indicates the other houses, and on the side is the Latitude. Intermediate values are got generally by simple proportion between the two nearest ones, in doing which between columns it is easier to use the arc than the time. Time can be changed into arc by table C. To save needless repetition many figures and decimal points are omitted where they are readily seen above. On each left-hand page a column is duplicated from the previous page to escape the awkwardness of reckoning between columns so situated.

\* As to the various systems of standard time in foreign countries information is not easy to obtain; the astrologians know little of it and say nothing, for they always prefer to evade difficulties.

† The calculations were made from the exact R. A. in arc, but it is here given to the nearest tenth of a minute as best for getting proportional parts in the Table.

There is hardly any obvious use in having the minor houses so closely calculated, but it might be needed for some purposes, and their columns would not look well if they differed too much in that respect from the ascendant.

*These Explanations, etc., are now much amended, 1903.*

The geographical latitude is certainly not to be used for primary directions, for all such calculations as are affected by the earth's rotation will be wrong except when the equinoctial points are near the horizon. For those purposes, therefore, the latitude must be corrected for the spheroidal shape of the earth by table B, to convert it into the *geocentric* latitude by "the angle of the vertical," as astronomers do in computing eclipses, for which fact see the same chapter in Bowditch, before re-

| TABLE A.<br>CORRECTION OF MEAN TO SIDEREAL TIME. |                  |       |            |                  |    |            |                  |     |            | TABLE B.<br>CORRECTION OF LATITUDE.<br>Always minus. |    |      |                |    |      |                |   |
|--|------------------|-------|------------|------------------|----|------------|------------------|-----|------------|--|----|------|----------------|----|------|----------------|---|
| Mean time.                                       | Corr. rection. + |       | Mean time. | Corr. rection. + |    | Mean time. | Corr. rection. + |     | Mean time. | Corr. rection. +                                     |    | Lat. | Corr. rection. |    | Lat. | Corr. rection. |   |
| H.   | m.               | s.    | m.         | s.               | m. | s.         | s.               | s.  | s.         | s.   | s. | °    | '              | "  | °    | '              | " |
| 1  | 0                | 9.86  | 1          | 0.16             | 31 | 5.09       | 1                | .00 | 31         | .09  | 22 | 8    | 8              | 41 | 11   | 37             |   |
| 2  | 0                | 19.71 | 2          | 0.33             | 32 | 5.26       | 2                | .00 | 32         | .09  | 23 | 8    | 25             | 42 | 11   | 40             |   |
| 3  | 0                | 29.57 | 3          | 0.49             | 33 | 5.42       | 3                | .01 | 33         | .09  | 24 | 8    | 12             | 43 | 11   | 42             |   |
| 4  | 0                | 39.43 | 4          | 0.66             | 34 | 5.58       | 4                | .01 | 34         | .09  | 25 | 8    | 58             | 44 | 11   | 43             |   |
| 5  | 0                | 49.28 | 5          | 0.82             | 35 | 5.75       | 5                | .01 | 35         | .10  | 26 | 9    | 14             | 45 | 11   | 44             |   |
| 6  | 0                | 59.14 | 6          | 0.99             | 36 | 5.91       | 6                | .02 | 36         | .10  | 27 | 9    | 29             | 46 | 11   | 44             |   |
| 7  | 1                | 9.00  | 7          | 1.15             | 37 | 6.08       | 7                | .02 | 37         | .10  | 28 | 9    | 43             | 47 | 11   | 43             |   |
| 8  | 1                | 18.85 | 8          | 1.31             | 38 | 6.24       | 8                | .02 | 38         | .10  | 29 | 9    | 56             | 48 | 11   | 40             |   |
| 9  | 1                | 28.71 | 9          | 1.48             | 39 | 6.41       | 9                | .02 | 39         | .11  | 30 | 10   | 9              | 49 | 11   | 38             |   |
| 10   | 1                | 38.57 | 10         | 1.64             | 40 | 6.57       | 10               | .03 | 40         | .11  | 31 | 10   | 21             | 50 | 11   | 34             |   |
| 11   | 1                | 48.42 | 11         | 1.81             | 41 | 6.73       | 11               | .03 | 41         | .11  | 32 | 10   | 32             | 51 | 11   | 29             |   |
| 12   | 1                | 58.28 | 12         | 1.97             | 42 | 6.90       | 12               | .03 | 42         | .11  | 33 | 10   | 42             | 52 | 11   | 24             |   |
| 13   | 2                | 8.13  | 13         | 2.14             | 43 | 7.06       | 13               | .04 | 43         | .12  | 34 | 10   | 52             | 53 | 11   | 17             |   |
| 14   | 2                | 17.99 | 14         | 2.30             | 44 | 7.23       | 14               | .04 | 44         | .12  | 35 | 11   | 1              | 54 | 11   | 10             |   |
| 15   | 2                | 27.85 | 15         | 2.46             | 45 | 7.39       | 15               | .04 | 45         | .12  | 36 | 11   | 9              | 55 | 11   | 2              |   |
| 16   | 2                | 37.70 | 16         | 2.63             | 46 | 7.56       | 16               | .04 | 46         | .13  | 37 | 11   | 16             | 56 | 10   | 54             |   |
| 17   | 2                | 47.56 | 17         | 2.79             | 47 | 7.72       | 17               | .05 | 47         | .13  | 38 | 11   | 23             | 57 | 10   | 44             |   |
| 18   | 2                | 57.42 | 18         | 2.96             | 48 | 7.88       | 18               | .05 | 48         | .13  | 39 | 11   | 28             | 58 | 10   | 34             |   |
| 19   | 3                | 7.27  | 19         | 3.12             | 49 | 8.05       | 19               | .05 | 49         | .13  | 40 | 11   | 33             | 59 | 10   | 23             |   |
| 20   | 3                | 17.13 | 20         | 3.28             | 50 | 8.21       | 20               | .05 | 50         | .14  | 41 | 11   | 37             | 60 | 10   | 11             |   |
| 21   | 3                | 26.99 | 21         | 3.45             | 51 | 8.38       | 21               | .06 | 51         | .14  |    |      |                |    |      |                |   |
| 22   | 3                | 36.84 | 22         | 3.61             | 52 | 8.54       | 22               | .06 | 52         | .14  |    |      |                |    |      |                |   |
| 23   | 3                | 46.70 | 23         | 3.78             | 53 | 8.71       | 23               | .06 | 53         | .15  |    |      |                |    |      |                |   |
|  |                  |       | 24         | 3.94             | 54 | 8.87       | 24               | .07 | 54         | .15  |    |      |                |    |      |                |   |
|  |                  |       | 25         | 4.11             | 55 | 9.03       | 25               | .07 | 55         | .15  |    |      |                |    |      |                |   |
|  |                  |       | 26         | 4.27             | 56 | 9.20       | 26               | .07 | 56         | .15  |    |      |                |    |      |                |   |
|  |                  |       | 27         | 4.43             | 57 | 9.36       | 27               | .07 | 57         | .16  |    |      |                |    |      |                |   |
|  |                  |       | 28         | 4.60             | 58 | 9.53       | 28               | .08 | 58         | .16  |    |      |                |    |      |                |   |
|  |                  |       | 29         | 4.76             | 59 | 9.69       | 29               | .08 | 59         | .16  |    |      |                |    |      |                |   |
|  |                  |       | 30         | 4.93             | 60 | 9.86       | 30               | .08 | 60         | .16  |    |      |                |    |      |                |   |

The sum of correct's will be taken to nearest second.

N. B. This table is newly calculated from the latest determination of the ellipticity, E, by the formula, tan geoc. Lat. = (1-E) tan Lat.  
Log. of (1-E) is 9.9970351.

ferred to, and the reductions of latitude in the British and the American Ephemeris with the list of observatories. This correction often alters very much all semi-ares, especially in high latitudes; hence a main cause of the monstrous errors constantly made by those who attempt to calculate primary directions is their use of the geographic latitude.

The matter of the "poles" of the minor houses is unsound in the astrological books, and their tables of them are wrong. It should be understood, therefore, that those houses in the present Table are calculated by a strictly correct method, which for some parts in high latitudes gives results that differ, sometimes more than half a degree, from those got by using the common table of poles. I found it necessary to examine the whole question thoroughly. These poles are angles analogous to the pole of a place, its latitude, and while

the ascendant is obtained directly from that, the other houses can be had precisely only by a trial-and-error process from a mean or approximate pole to begin with, because the poles are factors in the operation that depend upon the very thing sought for. Now the usual table of poles is not made for an average case, but for the extreme one, that is when  $\varpi 0$  or  $\vartheta 0$  is on the cusp — the blunder of some one about a century ago, and has been blindly copied ever since. The errors therein are large for high latitudes. The proper average poles are a mean between those of  $\varphi 0$  on the cusp of a house, and those when  $\varpi 0$  is there. I find that a near average is had when  $8\ 22$ , or any point of same declination, is on the cusps. The table D below is made accordingly. The formula for 11th and 3d houses is  $\tan \text{pole} = \frac{\sin \frac{1}{2} \text{asc. diff.}}{\tan \text{decl.}}$ . For the 12th and 2d,  $\frac{2}{3}$  is put instead of  $\frac{1}{3}$ . Ecliptic obliquity is taken at  $23^\circ 27' 15''$ , but its variation for many years has little effect. This table will give in all cases nearly true results\* directly by the usual formula, especially if account be made of 2d differences between the tabular latitudes.

| TABLE C.<br>TO CONVERT SIDEREAL TIME<br>INTO R. A. IN ARC. |      |      |      |      |       | TABLE D.<br>APPROXIMATE POLES. |                   |                   |
|--|------|------|------|------|-------|--------------------------------|-------------------|-------------------|
| Time   | Arc. | Time | Arc. | Time | Arc.  | Lat.                           | 11th and<br>3d H. | 12th and<br>2d H. |
| H.   | °    | M.   | °    | M.   | °     | °                              | °                 | °                 |
|  | S.   | S.   | '    | S.   | '     |                                |                   |                   |
| 1  | 15   | 1    | 0 15 | 31   | 7 45  | 10                             | 3 21.9            | 6 42.4            |
| 2  | 30   | 2    | 0 30 | 32   | 8 0   | 13                             | 4 24.3            | 8 45.3            |
| 3  | 45   | 3    | 0 45 | 33   | 8 15  | 16                             | 5 28.0            | 10 49.8           |
| 4  | 60   | 4    | 1 0  | 34   | 8 30  | 19                             | 6 33.5            | 12 56.5           |
| 5  | 75   | 5    | 1 15 | 35   | 8 45  | 22                             | 7 41.4            | 15 5.9            |
| 6  | 90   | 6    | 1 30 | 36   | 9 0   | 25                             | 8 52.0            | 17 18.3           |
| 7  | 105  | 7    | 1 45 | 37   | 9 15  | 28                             | 10 5.8            | 19 34.2           |
| 8  | 120  | 8    | 2 0  | 38   | 9 30  | 31                             | 11 23.5           | 21 54.1           |
| 9  | 135  | 9    | 2 15 | 39   | 9 45  | 34                             | 12 45.8           | 24 18.7           |
| 10   | 150  | 10   | 2 30 | 40   | 10 0  | 37                             | 14 13.7           | 26 48.6           |
| 11   | 165  | 11   | 2 45 | 41   | 10 15 | 40                             | 15 48.1           | 29 24.1           |
| 12   | 180  | 12   | 3 0  | 42   | 10 30 | 42                             | 16 55.1           | 31 11.3           |
| 13   | 195  | 13   | 3 15 | 43   | 10 45 | 44                             | 18 6.3            | 33 1.7            |
| 14   | 210  | 14   | 3 30 | 44   | 11 0  | 46                             | 19 22.1           | 34 55.5           |
| 15   | 225  | 15   | 3 45 | 45   | 11 15 | 48                             | 20 42.8           | 36 52.8           |
| 16   | 240  | 16   | 4 0  | 46   | 11 30 | 50                             | 22 9.0            | 38 53.6           |
| 17   | 255  | 17   | 4 15 | 47   | 11 45 | 51                             | 22 54.6           | 39 55.5           |
| 18   | 270  | 18   | 4 30 | 48   | 12 0  | 52                             | 23 41.9           | 40 58.6           |
| 19   | 285  | 19   | 4 45 | 49   | 12 15 | 53                             | 24 31.2           | 42 2.8            |
| 20   | 300  | 20   | 5 0  | 50   | 12 30 | 54                             | 25 22.6           | 43 8.1            |
| 21   | 315  | 21   | 5 15 | 51   | 12 45 | 55                             | 26 16.1           | 44 14.5           |
| 22   | 330  | 22   | 5 30 | 52   | 13 0  | 56                             | 27 12.0           | 45 22.1           |
| 23   | 345  | 23   | 5 45 | 53   | 13 15 | 57                             | 28 10.5           | 46 31.0           |
| 24   | 360  | 24   | 6 0  | 54   | 13 30 | 58                             | 29 11.8           | 47 41.2           |
|  |      | 25   | 6 15 | 55   | 13 45 | 59                             | 30 16.3           | 48 52.7           |
|  |      | 26   | 6 30 | 56   | 14 0  | 60                             | 31 24.1           | 50 5.7            |
|  |      | 27   | 6 45 | 57   | 14 15 |                                |                   |                   |
|  |      | 28   | 7 0  | 58   | 14 30 |                                |                   |                   |
|  |      | 29   | 7 15 | 59   | 14 45 |                                |                   |                   |
|  |      | 30   | 7 30 | 60   | 15 0  |                                |                   |                   |

This table is merely to multiply by 15, as the units of time are that larger than those of arc.

This table is only for use in making figures without a table of houses, or to form such a one.

\* The test of exactness in such point is, that  $\frac{1}{3}$  (or  $\frac{2}{3}$ ) its semi-arc should equal its meridian distance by right ascension.

(See Postscript, p. 67.)

## OF FIGURES FOR SOUTH LATITUDE.

Though the Table, as it stands, is for North latitudes only, it is equally and easily available for Southern ones, as follows: Obtain the R. A. and longitude of the mid-heaven as usual; then, instead of getting the other houses from same page, add  $180^\circ$ , and in *that* part of the Table, with the latitude, find the values for those houses, but *substitute the opposite signs* for the ones found there.\*

Make the figure with ascendant on the left as usual. To reverse it, though correct in idea, causes endless confusion to one accustomed to the common position. Only bear in mind that the equator and zodiacal ring above the earth are now behind you, to the North. In calculations from a Southern figure the only change is that the plus-or-minus rule for ascensional difference is reversed.

If the geographical latitude be proper for figures, then the English tables of houses are tolerably correct except some inaccuracies in making, and by taking ecliptic obliquity at  $23^\circ 28'$ , its amount more than a century ago. But the whole system of primary direction has been confused and falsified owing to ignorance of that essential factor, the Geocentric latitude. These pages rectify all that and provide means for correct figures at any point in two wide belts around the world, at any date for about two centuries before or after our assumed Obliquity of 1885.

Of course there can be no really scientific and thorough treatment of nativities unless the factors for all operations are complete and correct. The present work is "well calculated" to facilitate that; and our "Sixteen Principal Stars" repairs many glaring omissions in all writers on the subject.

The working of nativities has always been utterly chaotic, and is worse than ever now that they falsely equate arcs by that vain scheme of *a degree for a year*. It can never be otherwise without the full astronomical basis and a right mathematical method, in place of the scant system and excessive error of the sordid Sidrophels who debase the real astrology by their confusions and deceit, and whose spurious teaching is the worst obstacle to the development of what exact science in it is possible. *O curvæ animæ, et mathesis inanis.*

\* This very necessary problem is left out of all the old books, and recent writers have mostly ignored or befogged it.

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COMPREHENSIVE TABLE OF HOUSES

LATITUDES 22° TO 56°

ECLIPTIC OBLIQUITY 23° 27' 15"



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H. M. S.<br>SID. T. 0 22 2 } $\Upsilon$<br>ARC 5° 30'.4 } 6° |      |      |         |        | H. M. S.<br>0 25 42 } $\Upsilon$ 7°<br>6° 25'.6 } $\Upsilon$ 7° |         |         |        |         | H. M. S.<br>0 29 23 } $\Upsilon$ 8°<br>7° 20'.8 } $\Upsilon$ 8° |        |        |         |         | H. M. S.<br>0 33 4 } $\Upsilon$ 9°<br>8° 16'.0 } $\Upsilon$ 9° |         |         |         |         | H. M. S.<br>0 36 45 } $\Upsilon$ 10°<br>9° 11'.3 } $\Upsilon$ 10° |         |         |       |      | H. M. S.<br>0 40 27 } $\Upsilon$ 11°<br>10° 6'.6 } $\Upsilon$ 11° |      |      |      |      |     |
|--|------|------|---------|--------|---|---------|---------|--------|---------|---|--------|--------|---------|---------|--|---------|---------|---------|---------|---|---------|---------|-------|------|---|------|------|------|------|-----|
| H.   | 11   | 12   | 1       | 2      | 3   | 11      | 12      | 1      | 2       | 3   | 11     | 12     | 1       | 2       | 3  | 11      | 12      | 1       | 2       | 3   | 11      | 12      | 1     | 2    | 3   | 11   | 12   | 1    | 2    | 3   |
| Lat.   | ♄    | ♅    | ♆       | ♇      | ♈   | ♄       | ♅       | ♆      | ♇       | ♈   | ♄      | ♅      | ♆       | ♇       | ♈  | ♄       | ♅       | ♆       | ♇       | ♈   | ♄       | ♅       | ♆     | ♇    | ♈   | ♄    | ♅    | ♆    | ♇    | ♈   |
| 22   | 10.0 | 13.3 | 14 2    | 8.2    | 5.0   | 10.9    | 14.2    | 14 51  | 9.0     | 5.9   | 11.9   | 15.1   | 15 40   | 9.9     | 6.8  | 12.9    | 16.0    | 16 29   | 10.7    | 7.8   | 13.9    | 16.9    | 17 18 | 11.6 | 8.7   | 14.8 | 17.7 | 18 7 | 12.4 | 9.6 |
| 23   | 1    | 6 14 | 29 4    | 1      | 11.1  | 5 15    | 17 3    | 6.0    | 12.0    | 4 16  | 6 10.1 | 9 13.0 | 3 16    | 55 9    | 8 14.0   | 17.2    | 17 44   | 8 8     | 15.0    | 18.1  | 18 32   | 6 7     |       |      |   |      |      |      |      |     |
| 24   | 2    | 14.0 | 14 55   | 7 1    | 2   | 8 15    | 44 5    | 0 2    | 8 16    | 32 3  | 7.0    | 1      | 6 17    | 21 11.2 | 9 1  | 5 18    | 10 12.0 | 8 1     | 4 18    | 58 8  | 8       |         |       |      |   |      |      |      |      |     |
| 25   | 3    | 3 15 | 22 9    | 2      | 3 15  | 2 16    | 11 7    | 1 3    | 16.1    | 16 59   | 6 0    | 2 17   | 0 17    | 47 4    | 8.0  | 2       | 8 18    | 36 2    | 9 2     | 7 19  | 24 13.1 | 8       |       |      |   |      |      |      |      |     |
| 26   | 4    | 6 15 | 50 9.1  | 3      | 4   | 5 16    | 38 10.0 | 2 4    | 4 17    | 26 8  | 1 4    | 3 18   | 14 6    | 0 3     | 18.2   | 19 2    | 4 9     | 3 19    | 1       | 19 50   | 3 9     |         |       |      |   |      |      |      |      |     |
| 27   | 10.5 | 15.0 | 16 17   | 4 5.3  | 11.5  | 9 17    | 5 2     | 3 12.5 | 8 17    | 54 11.0   | 2 13.5 | 6 18   | 41 9    | 1 14.5  | 5 19   | 29 7    | 9.0     | 15.5    | 4 20    | 17 5  | 9       |         |       |      |   |      |      |      |      |     |
| 28   | 7    | 3 16 | 45 6    | 4 7    | 16.2  | 17 33   | 5 6.3   | 7 17   | 1 18    | 21 3  | 2 6    | 18.0   | 19 9    | 12.1    | 1 6  | 9 19    | 57 9    | 1 6     | 8 20    | 44 8  | 10.0    |         |       |      |   |      |      |      |      |     |
| 29   | 8    | 7 17 | 14 9    | 5 8    | 6 18  | 1 7     | 4 8     | 5 18   | 49 5    | 7.3   | 8 3    | 19 37  | 3 2     | 7 19    | 2 20   | 24 13.2 | 1 7     | 20.1    | 21 12   | 14.0  | 1       |         |       |      |   |      |      |      |      |     |
| 30   | 9    | 16.0 | 17 43   | 10.2   | 6 9   | 9 18    | 30 11.0 | 5 9    | 8 19    | 17 8  | 4 9    | 7 20   | 5 6     | 8.3     | 9 6  | 20 52   | 4 2     | 9 5     | 21 39   | 2 1   |         |         |       |      |   |      |      |      |      |     |
| 31   | 11.1 | 4 18 | 12 4    | 5.6    | 12.1  | 17.3    | 18 59   | 2 5    | 13.0    | 18.2  | 19 46  | 12.0   | 5 14.0  | 19.1    | 20 33  | 8 4     | 15.0    | 9 21    | 20 7    | 3 16.0  | 8 22    | 7 5     | 2     |      |   |      |      |      |      |     |
| 32   | 2    | 8 18 | 41 7    | 7 2    | 7 19  | 29 5    | 6.6     | 2 5    | 20 16   | 3 5   | 2 4    | 21 3   | 13.1    | 4 2     | 20.3   | 21 49   | 9 9.3   | 2 21    | 2 22    | 36 7  | 2       |         |       |      |   |      |      |      |      |     |
| 33   | 3    | 17.2 | 19 12   | 11.0   | 8 4   | 18.1    | 19 59   | 8 7    | 3 9     | 20 45   | 6 6    | 3 8    | 21 32   | 4 5     | 3 7  | 22 18   | 14.2    | 4 3     | 6 23    | 5 15.0  | 10.3    |         |       |      |   |      |      |      |      |     |
| 34   | 5    | 6 19 | 42 2    | 9 5    | 5 20  | 29 12.0 | 8 5     | 19.3   | 21 15   | 8 7.7   | 5 20   | 2 22   | 2 6     | 6 5     | 21.1   | 22 48   | 4 5     | 5 22    | 0 23    | 34 2  | 4       |         |       |      |   |      |      |      |      |     |
| 35   | 7    | 18.0 | 20 14   | 5 6.0  | 7 9   | 21 0 3  | 9 7     | 8 21   | 46 13.1 | 7 7   | 6 22   | 32 9   | 8.6     | 7 5     | 23 18  | 7 5     | 7 4     | 24 4    | 5 4     |   |         |         |       |      |   |      |      |      |      |     |
| 36   | 8    | 5 20 | 45 8    | 0 8    | 19.3  | 21 31   | 6 7.0   | 8 20   | 2 22    | 17 4  | 8 8    | 21.1   | 23 3    | 14.2    | 7 8  | 22.0    | 23 49   | 15.0    | 6 8     | 8 24  | 35 8    | 5       |       |      |   |      |      |      |      |     |
| 37   | 12.0 | 9 21 | 18 12.1 | 1 13.0 | 8 22  | 3 9     | 1 14.0  | 7 22   | 49 7    | 9 15.0  | 5 23   | 34 4   | 8 16.0  | 4 24    | 20 2   | 9.7     | 17.0    | 23.3    | 25 5    | 16.0  | 6       |         |       |      |   |      |      |      |      |     |
| 38   | 2    | 19.4 | 21 51   | 4 2    | 2 20  | 3 22    | 36 13.1 | 2 2    | 21.1    | 23 21   | 9 8.0  | 2 22   | 0 24    | 7 6     | 9 2  | 9 24    | 52 5    | 8 2     | 7 25    | 37 2  | 10.6    |         |       |      |   |      |      |      |      |     |
| 39   | 3    | 9 22 | 24 6    | 6.3    | 4 7   | 23 9 4  | 3 4     | 6 23   | 54 14.2 | 1 4   | 5 24   | 39 9   | 9 4     | 23.4    | 25 24  | 7 8     | 4 24    | 2 26    | 9 5     | 7   |         |         |       |      |   |      |      |      |      |     |
| 40   | 5    | 20.4 | 22 58   | 9 4    | 5 21  | 2 23    | 43 7    | 7.4    | 6 22    | 1 24  | 28 5   | 1 6    | 23.0    | 25 13   | 15.2   | 9.0     | 6 9     | 25 57   | 16.0    | 9 6   | 8 26    | 42 8    | 8     |      |   |      |      |      |      |     |
| 41   | 7    | 9 23 | 33 13.2 | 5 7    | 8 24  | 18 14.1 | 4 8     | 6 25   | 2 8     | 2 8   | 5 25   | 47 5   | 1 8     | 24.4    | 26 31  | 3 10.0  | 8 25    | 3 27    | 15 17.1 | 9   |         |         |       |      |   |      |      |      |      |     |
| 42   | 9    | 21.4 | 24 9    | 5 6    | 14.0  | 22.3    | 24 53   | 4 5    | 15.0    | 23.2  | 25 37  | 15.1   | 8.3     | 16.0    | 24.1   | 26 21   | 8 2     | 17.0    | 9 27    | 5 6   | 1 18.0  | 8 27    | 49 4  | 9    |   |      |      |      |      |     |
| 43   | 13.2 | 22.0 | 24 46   | 8 6.7  | 2 9   | 25 30   | 7 5     | 2 7    | 26 13   | 4 4   | 2 6    | 26 57  | 16.1    | 3 2     | 25.5   | 27 40   | 9 1     | 3 26    | 4 28    | 24 7  | 11.0    |         |       |      |   |      |      |      |      |     |
| 44   | 4    | 6 25 | 23 14.1 | 8 4    | 23.5  | 26 7    | 15.0    | 7.6    | 4 24    | 3 26  | 50 7   | 5 5    | 25.2    | 27 33   | 5 9.4  | 5 26    | 1 28    | 16 17.2 | 2 5     | 9 28  | 59 18.0 | 1       |       |      |   |      |      |      |      |     |
| 45   | 6    | 23.2 | 26 2    | 5 9    | 6 24  | 1 26    | 44 3    | 7 6    | 9 27    | 27 16.0   | 6 7    | 8 28   | 10 8    | 4 7     | 7 28   | 53 5    | 10.3    | 7 27    | 5 29    | 36 3  | 2       |         |       |      |   |      |      |      |      |     |
| 46   | 8    | 8 26 | 41 8    | 7.0    | 8 7   | 27 23   | 6 8     | 8 25   | 5 28    | 6 3   | 8.7    | 9 26   | 4 28    | 48 17.1 | 5 9  | 27.3    | 29 30   | 8 4     | 9 28    | 1 0   | 13 6    | 3       |       |      |   |      |      |      |      |     |
| 47   | 14.0 | 24.5 | 27 21   | 15.1   | 1 15.0  | 25.3    | 28 3    | 16.0   | 9 16.1  | 26.2  | 28 45  | 6 8    | 17.1    | 27.1    | 29 27  | 4 6     | 18.2    | 9 0     | 9 18.1  | 5 19.1  | 8 0     | 51 19.0 | 11.3  |      |   |      |      |      |      |     |
| 48   | 3    | 25.1 | 28 2    | 5 2    | 2 26  | 0 28    | 44 4    | 8.0    | 4 8     | 29 25   | 17.0   | 9 4    | 7 0     | 7 7     | 9.7  | 5 28    | 6 0     | 48 5    | 6 4     | 29.4  | 130 3   | 4       |       |      |   |      |      |      |      |     |
| 49   | 5    | 8 28 | 45 9    | 3 5    | 7 29  | 26 7    | 1 6     | 27.5   | 0 7     | 4 9.0   | 7 28   | 4 0    | 48 18.1 | 8 7     | 29.2   | 1 29    | 8 10.7  | 7 0     | 1 2 9   | 7 5   |         |         |       |      |   |      |      |      |      |     |
| 50   | 8    | 26.5 | 29 28   | 16.3   | 4 8   | 27.4    | 0 9     | 17.1   | 2 9     | 28.2  | 0 49   | 8 1    | 18.0    | 29.1    | 1 30   | 5 9     | 19.0    | 9 2     | 10 19.2 | 8 20.0  | 8 2     | 50 20.0 | 6     |      |   |      |      |      |      |     |
| 51   | 15.1 | 27.3 | 0 13    | 7 7.5  | 16.1  | 28.2    | 0 53    | 5 3    | 17.2    | 29.0  | 1 33   | 18.2   | 2 3     | 9 2     | 12 9   | 10.0    | 3 0     | 7 2 52  | 6 9     | 3 1.5   | 3 32    | 3 11.7  |       |      |   |      |      |      |      |     |
| 52   | 4    | 28.1 | 0 58    | 17.1   | 6 4   | 29.0    | 1 38    | 9 8.4  | 5 8     | 2 18  | 6 3    | 6 0    | 7 2 57  | 19.3    | 1 6  | 1.5     | 3 36    | 20.0    | 11.0    | 7 2.3   | 4 15    | 7 8     |       |      |   |      |      |      |      |     |
| 53   | 7    | 29.0 | 1 46    | 5 7    | 8 8   | 2 25    | 18.3    | 5 9    | 0.7     | 3 4   | 19.0   | 9.4    | 9 1.5   | 3 42    | 7 2  | 20.0    | 2.3     | 4 21    | 4 1     | 21.1  | 3.2     | 5 0     | 21.1  | 9    |   |      |      |      |      |     |
| 54   | 16.1 | 9 2  | 34 9    | 8 17.2 | 0.8   | 3 13    | 7 6     | 18.3   | 1.6     | 3 51  | 4 5    | 19.3   | 2.4     | 4 29    | 20.1   | 3 4     | 3.2     | 5 7     | 8 2     | 5 4.1   | 5 45    | 5 12.0  |       |      |   |      |      |      |      |     |
| 55   | 5    | 0.9  | 3 24    | 18.4   | 8.0   | 6 1.8   | 4 2     | 19.1   | 8 7     | 2.6   | 4 40   | 8 6    | 7 3.4   | 5 17    | 5 4  | 8 4.2   | 5 55    | 21.2    | 3 9     | 5.1   | 6 32    | 9 1     |       |      |   |      |      |      |      |     |
| 56   | 9    | 2.0  | 4 16    | 9 1    | 18.0  | 2.9     | 4 53    | 6 9    | 19.1    | 3.7   | 5 30   | 20.2   | 7 20.2  | 4.5     | 6 7  | 9 5     | 21.3    | 5.2     | 6 44    | 6 4   | 22.4    | 6.1     | 7 21  | 22.3 | 2   |      |      |      |      |     |



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H. Lat. | H. M. S. 17° |         |       |      |           | H. M. S. 18° |        |           |           |           | H. M. S. 19° |           |          |           |           | H. M. S. 20° |          |           |          |           | H. M. S. 21° |        |         |      |       | H. M. S. 22° |      |      |      |      |    |    |   |   |
|---------|--------------|---------|-------|------|-----------|--------------|--------|-----------|-----------|-----------|--------------|-----------|----------|-----------|-----------|--------------|----------|-----------|----------|-----------|--------------|--------|---------|------|-------|--------------|------|------|------|------|----|----|---|---|
|         | 11           | 12      | 1     | 2    | 3         | 11           | 12     | 1         | 2         | 3         | 11           | 12        | 1        | 2         | 3         | 11           | 12       | 1         | 2        | 3         | 11           | 12     | 1       | 2    | 3     | 11           | 12   | 1    | 2    | 3    | 11 | 12 | 1 | 2 |
| 22      | 20.6         | 23.0    | 22 59 | 17.5 | 15.3      | 21.6         | 23.8   | 23 49     | 18.4      | 16.2      | 22.5         | 24.7      | 24 38    | 19.3      | 17.2      | 23.5         | 25.6     | 25 27     | 20.1     | 18.1      | 24.4         | 26.4   | 26 16   | 21.0 | 19.1  | 25.4         | 27.3 | 27 5 | 21.9 | 20.1 |    |    |   |   |
| 23      | 7            | 3       | 23 24 | 7    | 3         | 7 24.2       | 24 13  | 6         | 3         | 7 25.0    | 25 2         | 5         | 2        | 6         | 9         | 25 51        | 3        | 2         | 6        | 8         | 26 40        | 2      | 1       | 5    | 6     | 27 29        | 22.1 | 1    |      |      |    |    |   |   |
| 24      | 9            | 6       | 23 49 | 9    | 4         | 8 5 24 38    | 8      | 3         | 8 4 25 26 | 7         | 3            | 7 26.2    | 26 15    | 5         | 2         | 7 27.1       | 27 4     | 4         | 2        | 7         | 27 53        | 3      | 1       |      |       |              |      |      |      |      |    |    |   |   |
| 25      | 21.0         | 24.0    | 24 14 | 18.1 | 4         | 22.0         | 8 25 2 | 19.0      | 3         | 9         | 7 25 51      | 9         | 3        | 9         | 5         | 26 39        | 7        | 2         | 8        | 4         | 27 28        | 6      | 2       | 8    | 28.3  | 28 17        | 5    | 2    |      |      |    |    |   |   |
| 26      | 1            | 3       | 24 39 | 3    | 4         | 1 25.2       | 25 27  | 2         | 4         | 23.1      | 26.0         | 26 16     | 20.1     | 3         | 24.0      | 9 27 4       | 9        | 3         | 25.0     | 7         | 27 52        | 8      | 2       | 26.0 | 6     | 28 41        | 7    | 2    |      |      |    |    |   |   |
| 27      | 3            | 6       | 25 5  | 6    | 15.5      | 2 5 25 53    | 4      | 16.4      | 2 4 26 41 | 3         | 17.4         | 2 27.2    | 27 29    | 21.1      | 18.3      | 1 28.1       | 28 17    | 22.0      | 19.3     | 1         | 9            | 29 5   | 8       | 20.2 |       |              |      |      |      |      |    |    |   |   |
| 28      | 4            | 25.0    | 25 30 | 8    | 5         | 4 8 26 18    | 6      | 5         | 4 7 27 6  | 5         | 4            | 3 6 27 54 | 3        | 3         | 3 4 28 42 | 2            | 3        | 3 29.3    | 29 30    | 23.0      | 2            |        |         |      |       |              |      |      |      |      |    |    |   |   |
| 29      | 21.6         | 3 25 56 | 19.0  | 6    | 22.5      | 26.2         | 26 44  | 8         | 5         | 5 27.1    | 27 32        | 7         | 4        | 5 9 28 19 | 5         | 4            | 5 8 29 7 | 4         | 3        | 4 6 29 55 | 2            | 3      |         |      |       |              |      |      |      |      |    |    |   |   |
| 30      | 7            | 7 26 23 | 2     | 6    | 7 6 27 10 | 20.1         | 6      | 7 4 27 57 | 9         | 5         | 6 28.3       | 28 45     | 7        | 4         | 6 29.1    | 29 32        | 6        | 4         | 26.6     | 0 20      | 4            | 3      |         |      |       |              |      |      |      |      |    |    |   |   |
| 31      | 9            | 26.1    | 26 49 | 4    | 7         | 9 9 27 36    | 3      | 16.6      | 8 8 28 24 | 21.1      | 5            | 8 6 29 11 | 9        | 18.4      | 8 5 29 58 | 8            | 4        | 7 0.4     | 0.45     | 6         | 3            |        |         |      |       |              |      |      |      |      |    |    |   |   |
| 32      | 22.1         | 4 27 16 | 6     | 15.7 | 23.0      | 27.3         | 28 3   | 5         | 6         | 24.0      | 28.1         | 28 50     | 3        | 17.6      | 25.0      | 29.0         | 29 37    | 22.1      | 5        | 26.0      | 9 0 24       | 23.0   | 19.4    | 9    | 7     | 1 11         | 8    | 20.4 |      |      |    |    |   |   |
| 33      | 2            | 8 27 44 | 9     | 8    | 2 7 28 30 | 7            | 7      | 2 5 29 17 | 6         | 6         | 2 4 0 4      | 4         | 5        | 1 0.2     | 0.50      | 2            | 5        | 27.1      | 1.1      | 1 37 24.0 | 4            |        |         |      |       |              |      |      |      |      |    |    |   |   |
| 34      | 4            | 27.2    | 28 12 | 20.1 | 8         | 4 28.1       | 28 58  | 9         | 7         | 3 9 29 44 | 8            | 7         | 4 8 0 31 | 6         | 6         | 3 6 1 17     | 4        | 5         | 3 5 2 4  | 2         | 4            |        |         |      |       |              |      |      |      |      |    |    |   |   |
| 35      | 6            | 6 28 40 | 4     | 9    | 6 5 29 26 | 21.2         | 16.8   | 5 29.3    | 0 12      | 22.0      | 7            | 5         | 0.2      | 0.58      | 8 18.6    | 5            | 1.0      | 1 44      | 6        | 5         | 5 9 2 30     | 4      | 5       |      |       |              |      |      |      |      |    |    |   |   |
| 36      | 8            | 28.0    | 29 9  | 6    | 9         | 8 9 29 54    | 4      | 8         | 7 7 0 40  | 2         | 7            | 7 6 1 26  | 23.0     | 6         | 7         | 5 2 12       | 8        | 6         | 7 2.4    | 2.58      | 6            | 5      |         |      |       |              |      |      |      |      |    |    |   |   |
| 37      | 23.0         | 5 29 38 | 8     | 16.0 | 24.0      | 29.3         | 0 23   | 6         | 9         | 9 0.2     | 1 9          | 4 17.8    | 9        | 1.0       | 1 54      | 2            | 7        | 9 9 2 40  | 24.0     | 19.6      | 9            | 8      | 3 25    | 8    | 20.5  |              |      |      |      |      |    |    |   |   |
| 38      | 2            | 9 0 7   | 21.0  | 0    | 2 8 0 53  | 8            | 9      | 25.1      | 6 1 38    | 6         | 8            | 26.1      | 5 2 23   | 4         | 7         | 27.1         | 2.4      | 3 8       | 2        | 7         | 28.1         | 3.2    | 3 53    | 25.0 | 6     |              |      |      |      |      |    |    |   |   |
| 39      | 4            | 29.4    | 0 38  | 2    | 1         | 4 0.3        | 1 22   | 22.0      | 17.0      | 3 1.1     | 2 7          | 8 9       | 3 2.0    | 2 52      | 6 18.8    | 3            | 8        | 3 37      | 4        | 7         | 3 7 4 22     | 2      | 6       |      |       |              |      |      |      |      |    |    |   |   |
| 40      | 6            | 9 1 8   | 5     | 1    | 6 8 1 53  | 3            | 0      | 6 6 2 37  | 23.1      | 9         | 5            | 5 3 22    | 9        | 8         | 5 3.3     | 4 6          | 7        | 7         | 5 4.2    | 4.51      | 5            | 6      |         |      |       |              |      |      |      |      |    |    |   |   |
| 41      | 8            | 0.4     | 1 40  | 7    | 2         | 8 1.3        | 2 24   | 5         | 1         | 8 2.1     | 3 8          | 3 18.0    | 8 3.0    | 3 52      | 24.1      | 9            | 7        | 8 4 36    | 9        | 19.8      | 7            | 6      | 5 20    | 7    | 20.7  |              |      |      |      |      |    |    |   |   |
| 42      | 24.0         | 9 2 11  | 22.0  | 16.2 | 25.0      | 8 2 55       | 8      | 1         | 26.0      | 6 3 39    | 6            | 0         | 27.0     | 5 4 22    | 4         | 9            | 28.0     | 4.3       | 5 7 25.2 | 8         | 9            | 5.1    | 5 50    | 26.0 | 7     |              |      |      |      |      |    |    |   |   |
| 43      | 3            | 1.5     | 2 44  | 3    | 3         | 3 2.3        | 3 27   | 23.1      | 2         | 2 3.2     | 4 11         | 9 1       | 2 4.0    | 4 54      | 6 19.0    | 2            | 9        | 5 38      | 4        | 9         | 29.2         | 7 6 21 | 2       | 7    |       |              |      |      |      |      |    |    |   |   |
| 44      | 5            | 2.0     | 3 17  | 6    | 4         | 5 9 4 0      | 3 17.2 | 5         | 7 4 43    | 24.1      | 1            | 5 6 5 26  | 9        | 0         | 5 5.4     | 6 9          | 7 9      | 4 6.2     | 6.52     | 5         | 8            |        |         |      |       |              |      |      |      |      |    |    |   |   |
| 45      | 7            | 6 3 51  | 9     | 4    | 7 3.5     | 4 33         | 6      | 3         | 7 4.3     | 5 16      | 4            | 2         | 7 5.1    | 5 58      | 25.2      | 1            | 7 6.0    | 6 41      | 9 20.0   | 6         | 8            | 7 24   | 7       | 20.8 |       |              |      |      |      |      |    |    |   |   |
| 46      | 25.0         | 3.2     | 4 26  | 23.2 | 16.5      | 26.0         | 4.1    | 5 8       | 9 4 27.0  | 9 5 50    | 7 18.2       | 9         | 7 6 32   | 5         | 1         | 9 5 7 14     | 26.2     | 0         | 9 7.3    | 7.56      | 27.0         | 8      |         |      |       |              |      |      |      |      |    |    |   |   |
| 47      | 3            | 8 5 1   | 5     | 6    | 3 7 5 43  | 24.2         | 4      | 3 5.5     | 6 24      | 9 3 28.2  | 6.3          | 7 6       | 7 2 29.2 | 7.1       | 7 48      | 4            | 1        | 0.2       | 9 8 29   | 3         | 9            |        |         |      |       |              |      |      |      |      |    |    |   |   |
| 48      | 6            | 4.4     | 5 37  | 8    | 6         | 6 5.3        | 6 18   | 5 17.5    | 6 6.1     | 7 0 25.2  | 3            | 5         | 9 7 41   | 26.0      | 19.2      | 5            | 7 8 22   | 7         | 1        | 5 8.5     | 9 3          | 5      | 9       |      |       |              |      |      |      |      |    |    |   |   |
| 49      | 9            | 5.1     | 6 14  | 24.1 | 7         | 9 9 6 55     | 8      | 5         | 9 7 7 36  | 5         | 4            | 8 7.6     | 8 16     | 3 3 8 8.3 | 8 57      | 27.0         | 1        | 8 9.2     | 9 38     | 8         | 21.0         |        |         |      |       |              |      |      |      |      |    |    |   |   |
| 50      | 26.2         | 8 6 52  | 4     | 16.7 | 27.2      | 6.6          | 7 32   | 25.1      | 6         | 28.2      | 7.4          | 8 13      | 8 4 29.2 | 8.2       | 8 53      | 6            | 3        | 0.2       | 9.0      | 9 33      | 3 20.2       | 1.2    | 8 10 14 | 28.1 | 0     |              |      |      |      |      |    |    |   |   |
| 51      | 6            | 6.5     | 7 31  | 7    | 8         | 6 7.3        | 8 11   | 4         | 7         | 6 8.1     | 8 51         | 26.1      | 18.5     | 6         | 9 9 30    | 9            | 4        | 6 7 10 10 | 6        | 2         | 6 10.5       | 10 50  | 4       | 1    |       |              |      |      |      |      |    |    |   |   |
| 52      | 27.0         | 7.3     | 8 11  | 25.0 | 8         | 28.0         | 8.1    | 8 50      | 7 17.7    | 29.0      | 9 9 29       | 4         | 5        | 0.2       | 9.6       | 10 8 27.2    | 19.4     | 1.0       | 10.4     | 10 48     | 9            | 3      | 2.0     | 11.2 | 11 27 | 7            | 1    |      |      |      |    |    |   |   |
| 53      | 4            | 8.1     | 8 52  | 3    | 9         | 4 9 9 31     | 26.1   | 8         | 4 9.7     | 10 9      | 8 6 0.4      | 10.4      | 10 48    | 5         | 5         | 4 11.2       | 11 27    | 28.2      | 3        | 4 12.0    | 12 6 29.0    | 21.2   |         |      |       |              |      |      |      |      |    |    |   |   |
| 54      | 8            | 9 9 34  | 7     | 17.0 | 8 9.7     | 10 12        | 4      | 8         | 8 10.5    | 10 50     | 27.1         | 7         | 8 11.2   | 11 28     | 8         | 5            | 8 12.0   | 12 6      | 5 20.4   | 9         | 8 12 45      | 3      | 3       |      |       |              |      |      |      |      |    |    |   |   |
| 55      | 28.2         | 9.8     | 10 17 | 26.1 | 1         | 29.3         | 10.6   | 10 55     | 8 9 0.3   | 11.4      | 11 32        | 5         | 8        | 1.3       | 12.1      | 12 10        | 28.2     | 6         | 2.3      | 9 12 47   | 9            | 4      | 3.4     | 13.7 | 13 25 | 6            | 3    |      |      |      |    |    |   |   |
| 56      | 7            | 10.7    | 11 2  | 5    | 1         | 8 11.5       | 11 39  | 27.2      | 9         | 8 12.3    | 12 15        | 9         | 9        | 8 13.0    | 12 53     | 6            | 7        | 8 13.8    | 13 29    | 29.3      | 5            | 9 14.6 | 14 6    | 0.2  | 4     |              |      |      |      |      |    |    |   |   |

TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

| 6   |      | UPPER MERIDIAN, CUSP OF 10th H.                    |      |      |      |      |   |       |      |      |      |  |       |      |      |      |  |       |      |      |      |  |      |      |      |      |      |      |      |      |      |      |      |    |      |      |      |
|---|------|--|------|------|------|------|---|-------|------|------|------|--|-------|------|------|------|--|-------|------|------|------|--|------|------|------|------|------|------|------|------|------|------|------|----|------|------|------|
| SID. T. 1 21 21 } $\Upsilon$<br>ARC 20° 20' 2 } 22° |      | H. M. S.<br>1 25 6 } $\Upsilon$ 23°<br>21° 16'.6 } |      |      |      |      | H. M. S.<br>1 28 52 } $\Upsilon$ 24°<br>22° 13' } |       |      |      |      | H. M. S.<br>1 32 38 } $\Upsilon$ 25°<br>23° 9'.6 } |       |      |      |      | H. M. S.<br>1 36 25 } $\Upsilon$ 26°<br>24° 6'.3 } |       |      |      |      | H. M. S.<br>1 40 12 } $\Upsilon$ 27°<br>25° 3'.2 } |      |      |      |      |      |      |      |      |      |      |      |    |      |      |      |
| H.  | Lat. | 11   | 12   | 1    | 2    | 3    | 11  | 12    | 1    | 2    | 3    | 11   | 12    | 1    | 2    | 3    | 11   | 12    | 1    | 2    | 3    | 11   | 12   | 1    | 2    | 3    |      |      |      |      |      |      |      |    |      |      |      |
|   |      | ♄  | ♅    | ♆    | ♇    | ♈    | ♄   | ♅     | ♆    | ♇    | ♈    | ♄  | ♅     | ♆    | ♇    | ♈    | ♄  | ♅     | ♆    | ♇    | ♈    | ♄  | ♅    | ♆    | ♇    | ♈    |      |      |      |      |      |      |      |    |      |      |      |
| 22  | 25.4 | 27.3   | 27.5 | 21.9 | 20.1 | 26.3 | 28.2  | 27.55 | 22.8 | 21.0 | 27.3 | 29.0   | 28.45 | 23.7 | 22.0 | 28.2 | 29.9   | 29.34 | 24.5 | 23.0 | 29.1 | 0.8  | 0.24 | 25.4 | 24.0 | 0.1  | 1.6  | 1.14 | 26.3 | 24.9 |      |      |      |    |      |      |      |
| 23  | 5    | 6  | 27   | 29   | 22.1 | 1    | 5   | 5     | 28   | 18   | 9    | 1  | 4     | 4    | 29   | 8    | 8  | 0     | 3    | 0.2  | 29   | 57   | 7    | 0    | 3    | 1.1  | 0.46 | 6    | 0    | 2    | 9    | 1.36 | 5    | 9  |      |      |      |
| 24  | 7    | 9  | 27   | 53   | 3    | 1    | 6   | 8     | 28   | 42   | 23.1 | 1  | 5     | 7    | 29   | 31   | 24.0   | 1     | 5    | 5    | 0    | 20   | 9    | 0    | 4    | 4    | 1    | 9    | 8    | 0    | 4    | 2.3  | 1.59 | 7  | 25.0 |      |      |
| 25  | 8    | 28.3   | 28   | 17   | 5    | 2    | 8   | 29.1  | 29   | 6    | 3    | 1  | 7     | 25   | 29   | 54   | 2  | 1     | 6    | 9    | 0.43 | 25.1   | 1    | 6    | 7    | 1.32 | 9    | 0    | 5    | 6    | 2.22 | 8    | 0    |    |      |      |      |
| 26  | 26.0 | 6  | 28   | 41   | 7    | 2    | 9   | 5     | 29   | 30   | 5    | 1  | 8     | 0.3  | 0    | 18   | 4  | 1     | 8    | 1.2  | 1    | 7  | 3    | 1    | 7    | 2.1  | 1.56 | 26.1 | 0    | 7    | 9    | 2.45 | 27.0 | 0  |      |      |      |
| 27  | 1    | 9  | 29   | 5    | 8    | 20.2 | 27.1  | 8     | 29   | 54   | 7    | 21.2   | 28.0  | 7    | 0    | 42   | 6  | 22.1  | 29.0 | 5    | 1.31 | 4  | 23.1 | 9    | 4    | 2    | 19   | 3    | 24.0 | 9    | 3.2  | 3    | 8    | 2  | 0    |      |      |
| 28  | 3    | 29.3   | 29   | 30   | 23.0 | 2    | 2   | 0.1   | 0    | 18   | 9    | 2  | 1     | 1.0  | 1    | 6    | 7  | 1     | 1    | 9    | 1.54 | 6  | 1    | 0.1  | 7    | 2.43 | 5    | 1    | 1.0  | 6    | 3.31 | 4    | 0    |    |      |      |      |
| 29  | 4    | 6  | 29   | 55   | 2    | 3    | 4   | 5     | 0.43 | 24.1 | 2    | 3  | 4     | 1.31 | 9    | 2    | 3  | 2.2   | 2    | 19   | 8    | 1  | 2    | 3.1  | 3    | 7    | 7    | 1    | 2    | 9    | 3.55 | 5    | 25.0 |    |      |      |      |
| 30  | 26.6 | 25   | 0    | 20   | 4    | 3    | 5   | 9     | 1    | 8    | 3    | 3  | 5     | 7    | 1.55 | 25.1 | 2  | 4     | 6    | 2.43 | 26.0 | 2  | 4    | 4    | 3.31 | 8    | 1    | 4    | 4.3  | 4    | 19   | 7    | 1    |    |      |      |      |
| 31  | 7    | 0.4  | 0    | 45   | 6    | 3    | 7   | 1.2   | 1.33 | 5    | 3    | 7  | 2.1   | 2.20 | 3    | 2    | 6  | 9     | 3    | 8    | 2    | 2  | 6    | 8    | 3.55 | 27.0 | 1    | 5    | 7    | 4.43 | 9    | 1    |      |    |      |      |      |
| 32  | 9    | 7  | 1    | 11   | 8    | 20.4 | 9   | 6     | 1    | 58   | 7    | 21.3   | 8     | 4    | 2.45 | 5    | 22.2   | 8     | 3.3  | 3    | 32   | 4  | 23.2 | 8    | 4.2  | 4.20 | 2    | 24.1 | 7    | 5.0  | 5    | 7    | 28.1 | 1  |      |      |      |
| 33  | 27.1 | 1.1  | 1    | 37   | 24.0 | 4    | 28.1  | 2.0   | 2    | 24   | 9    | 3  | 29.0  | 8    | 3    | 11   | 7  | 3     | ♅    | 7    | 3    | 58   | 6    | 2    | 1.0  | 5    | 4.45 | 4    | 2    | 9    | 4    | 5.32 | 2    | 1  |      |      |      |
| 34  | 3    | 5  | 2    | 4    | 2    | 4    | 2   | 4     | 2    | 50   | 25.1 | 4  | 2     | 3.2  | 3    | 37   | 9  | 3     | 0.2  | 4.1  | 4    | 23   | 7    | 2    | 1    | 9    | 5    | 10   | 6    | 2    | 2.1  | 8    | 5.57 | 4  | 25.1 |      |      |
| 35  | 5    | 9  | 2    | 30   | 4    | 5    | 4   | 8     | 3    | 17   | 3    | 4  | 4     | 6    | 4    | 3    | 26.1   | 3     | 4    | 5    | 4.49 | 9  | 3    | 3    | 5.3  | 5    | 36   | 8    | 2    | 3    | 6.2  | 6    | 22   | 6  | 1    |      |      |
| 36  | 7    | 2.4  | 2    | 58   | 6    | 5    | 6   | 3.2   | 3    | 43   | 5    | 4  | 6     | 4.0  | 4    | 30   | 3  | 3     | 6    | 9    | 5    | 16   | 27.1 | 3    | 5    | 7    | 6    | 2    | 28.0 | 2    | 5    | 6    | 6.48 | 8  | 2    |      |      |
| 37  | 9    | 8  | 3    | 25   | 8    | 20.5 | 8   | 6     | 4    | 11   | 6    | 21.5   | 8     | 4    | 4    | 57   | 5  | 22.4  | 8    | 5.3  | 5    | 42   | 3    | 23.3 | 7    | 6.1  | 6    | 28   | 2    | 24.2 | 7    | 7.0  | 7    | 14 | 29.0 | 2    |      |
| 38  | 28.1 | 3.2  | 3    | 53   | 25.0 | 6    | 29.0  | 4.1   | 4    | 38   | 8    | 5  | ♅     | 9    | 5    | 24   | 7  | 4     | 1.0  | 7    | 6    | 9  | 6    | 3    | 9    | 6    | 6    | 55   | 4    | 3    | 9    | 4    | 7.40 | 2  | 2    |      |      |
| 39  | 3    | 7  | 4    | 22   | 2    | 6    | 2   | 5     | 5    | 7    | 26.0 | 5  | 0.2   | 5.4  | 5    | 52   | 9  | 4     | 2    | 6.2  | 6    | 37   | 8    | 4    | 2.1  | 7.1  | 7    | 22   | 6    | 3    | 3.1  | 9    | 8    | 7  | 4    | 25.2 |      |
| 40  | 5    | 4.2  | 4    | 51   | 5    | 6    | 5   | 5.0   | 5    | 35   | 3    | 6  | 4     | 8    | 6    | 20   | 27.1   | 5     | 4    | 7    | 7    | 5  | 28.0 | 4    | 4    | 5    | 7    | 49   | 8    | 3    | 3    | 8.4  | 8    | 34 | 6    | 2    |      |
| 41  | 7    | 6  | 5    | 20   | 7    | 20.7 | 7   | 5     | 6    | 5    | 5    | 6  | 7     | 6.3  | 6    | 49   | 3  | 5     | 6    | 7.1  | 7    | 33   | 2    | 4    | 6    | 8.0  | 8    | 18   | 29.0 | 3    | 6    | 8    | 9    | 2  | 8    | 3    |      |
| 42  | 9    | 5.1  | 5    | 50   | 26.0 | 7    | 9   | 6.0   | 6    | 34   | 8    | 21.6   | 9     | 8    | 7    | 18   | 5  | 22.5  | 9    | 6    | 8    | 2  | 4    | 23.4 | 8    | 5    | 8    | 46   | 2    | 24.4 | 8    | 9.3  | 9    | 30 | ♄    | 3    |      |
| 43  | 29.2 | 7  | 6    | 21   | 2    | 7    | ♅   | 0.2   | 5    | 7    | 4    | 27.0   | 7     | 1.1  | 7.4  | 7    | 48   | 8     | 6    | 2.1  | 8.1  | 8  | 32   | 7    | 5    | 3.1  | 9.0  | 9    | 15   | 4    | 4    | 4.1  | 8    | 9  | 59   | 0.2  | 3    |
| 44  | 4    | 6.2  | 6    | 52   | 5    | 8    | 4   | 7.0   | 7    | 35   | 3    | 7  | 4     | 9    | 8    | 18   | 28.0   | 6     | 4    | 7    | 9    | 2  | 9    | 5    | 4    | 5    | 9    | 45   | 6    | 4    | 3    | 10.4 | 10   | 28 | 4    | 25.3 |      |
| 45  | 6    | 8  | 7    | 24   | 7    | 20.8 | 6   | 6     | 8    | 6    | 5    | 7  | 6     | 8.5  | 8    | 49   | 3  | 6     | 7    | 9.2  | 9    | 32   | 29.1 | 5    | 7    | 10.1 | 10   | 15   | 8    | 4    | 6    | 9    | 10   | 58 | 6    | 3    |      |
| 46  | 9    | 7.3  | 7    | 56   | 27.0 | 8    | 9   | 8.1   | 8    | 38   | 7    | 8  | 9     | 9.0  | 9    | 21   | 5  | 7     | 9    | 8    | 10   | 3  | 3    | 5    | 9    | 7    | 10   | 46   | ♄    | 0.1  | 5    | 9    | 11.5 | 11 | 28   | 8    | 4    |
| 47  | ♅    | 0.2  | 9    | 8    | 29   | 3    | 9   | 1.2   | 7    | 9    | 11   | 9  | 21.8  | 2.2  | 6    | 9    | 53   | 7     | 22.7 | 3.2  | 10.4 | 10   | 35   | 5    | 23.6 | 4.2  | 11.2 | 11   | 17   | 3    | 24.5 | 5.2  | 12.0 | 11 | 59   | 1.0  | 4    |
| 48  | 5    | 8.5  | 9    | 3    | 5    | 9    | 5   | 9.3   | 9    | 45   | 28.2 | 8  | 5     | 10.2 | 10   | 26   | 29.0   | 7     | 5    | 11.0 | 11   | 8  | 7    | 6    | 5    | 8    | 11   | 49   | 6    | 5    | 5    | 6    | 12   | 31 | 3    | 25.4 |      |
| 49  | 8    | 9.2  | 9    | 38   | 8    | 21.0 | 8   | 10.0  | 10   | 19   | 5    | 9  | 8     | 8    | 11   | 0    | 3  | 8     | 9    | 6    | 11   | 41   | ♄    | 6    | 9    | 12.4 | 12   | 22   | 9    | 5    | 8    | 13.2 | 13   | 3  | 5    | 4    |      |
| 50  | 1.2  | 8  | 10   | 14   | 28.1 | 0    | 2.2   | 6     | 10   | 54   | 8    | 9  | 3.2   | 11.4 | 11   | 35   | 6  | 8     | 4.2  | 12.2 | 12   | 15   | 0.3  | 6    | 5.2  | 13.0 | 12   | 56   | 1.1  | 5    | 6.2  | 8    | 13   | 36 | 8    | 4    |      |
| 51  | 6    | 10.5   | 10   | 50   | 4    | 1    | 6   | 11.3  | 11   | 30   | 29.1 | 9  | 6     | 12.1 | 12   | 10   | 9  | 22.8  | 6    | 9    | 12   | 50   | 6    | 7    | 6    | 7    | 13   | 30   | 4    | 6    | 6    | 14.5 | 14   | 10 | 2.1  | 5    |      |
| 52  | 2.0  | 11.2   | 11   | 27   | 7    | 1    | 3.0   | 12.0  | 12   | 7    | 4    | 22.0   | 4.0   | 8    | 12   | 46   | ♄  | 0.2   | 9    | 5.0  | 13.6 | 13   | 26   | 9    | 23.7 | 6.0  | 14.4 | 14   | 5    | 6    | 24.6 | 7.0  | 15.2 | 14 | 45   | 3    | 25.5 |
| 53  | 4    | 12.0   | 12   | 6    | 29.0 | 21.2 | 4   | 8     | 12   | 44   | 7    | 0  | 4     | 13.6 | 13   | 23   | 5  | 9     | 4    | 14.4 | 14   | 2  | 1.2  | 7    | 4    | 15.1 | 14   | 41   | 9    | 6    | 4    | 9    | 15   | 20 | 6    | 5    |      |
| 54  | 9    | 8  | 12   | 45   | 3    | 3    | 9   | 13.6  | 13   | 23   | ♄    | 1  | 9     | 14.4 | 14   | 1    | 8  | 23.0  | 9    | 15.2 | 14   | 40   | 5    | 8    | 9    | 9    | 15   | 18   | 2.2  | 7    | 9    | 16.7 | 15   | 57 | 9    | 5    |      |
| 55  | 3.4  | 13.7   | 13   | 25   | 6    | 3    | 4.4   | 14.5  | 14   | 3    | 0.3  | 1  | 5.4   | 15.2 | 14   | 40   | 1.1  | 0     | 6.4  | 16.0 | 15   | 17   | 8    | 8    | 7.4  | 16.7 | 15   | 56   | 5    | 7    | 8.4  | 17.5 | 16   | 34 | 3.2  | 5    |      |
| 56  | 9    | 14.6   | 14   | 6    | ♄    | 4    | 9   | 15.4  | 14   | 43   | 7    | 2  | 9     | 16.1 | 15   | 21   | 4  | 1     | 9    | 9    | 15   | 58   | 2.1  | 9    | 8.0  | 17.5 | 16   | 35   | 8    | 7    | 9.0  | 18.4 | 17   | 13 | 5    | 6    |      |





TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

| 8  |      | UPPER MERIDIAN, CUSP OF 10th H.                    |      |       |     |     |  |      |       |     |     |  |      |       |     |     |   |       |        |     |     |  |       |        |     |      |  |       |       |      |     |
|----|------|--|------|-------|-----|-----|--|------|-------|-----|-----|--|------|-------|-----|-----|---|-------|--------|-----|-----|--|-------|--------|-----|------|--|-------|-------|------|-----|
|    |      | H. M. S. } 3°<br>SID. T. 2 3 8 }<br>ARC 30° 47.1 } |      |       |     |     | H. M. S. } 4°<br>2 7 0 }<br>31° 44.9 } |      |       |     |     | H. M. S. } 5°<br>2 10 52 }<br>32° 42.9 } |      |       |     |     | H. M. S. } 6°<br>2 14 44 }<br>33° 41' } |       |        |     |     | H. M. S. } 7°<br>2 18 37 }<br>34° 39.4 } |       |        |     |      | H. M. S. } 8°<br>2 22 31 }<br>35° 37.8 } |       |       |      |     |
| H. | Lat. | 11   | 12   | 1     | 2   | 3   | 11                                     | 12   | 1     | 2   | 3   | 11                                       | 12   | 1     | 2   | 3   | 11                                      | 12    | 1      | 2   | 3   | 11                                       | 12    | 1      | 2   | 3    | 11                                       | 12    | 1     | 2    | 3   |
|    |      | Π  | ♄    | ♃     | ♁   | ♅   | Π                                      | ♄    | ♃     | ♁   | ♅   | Π  | ♄    | ♃     | ♁   | ♅   | Π                                       | ♄     | ♃      | ♁   | ♅   | Π  | ♄     | ♃      | ♁   | ♅    | Π  | ♄     | ♃     | ♁    | ♅   |
| 22 | 22   | 5.7  | 6.8  | 6.16  | 1.8 | 0.8 | 6.7                                    | 7.7  | 7.7   | 2.7 | 1.8 | 7.6                                      | 8.6  | 7.58  | 3.6 | 2.8 | 8.6                                     | 9.5   | 8.49   | 4.5 | 3.8 | 9.5                                      | 10.4  | 9.41   | 5.5 | 4.8  | 10.4                                     | 11.2  | 10.33 | 6.4  | 5.8 |
| 23 | 23   | 8  | 7.1  | 6.37  | 9   | 8   | 8                                      | 8.0  | 7.28  | 8   | 8   | 8  | 9    | 8.19  | 8   | 8   | 7                                       | 8     | 9.10   | 7   | 8   | 6  | 7.10  | 1      | 6   | 8    | 6  | 5.10  | 5.3   | 5    | 8   |
| 24 | 24   | 6.0  | 5    | 6.58  | 2.1 | 8   | 7.0                                    | 3    | 7.49  | 3.0 | 8   | 9  | 9.2  | 8.40  | 9   | 8   | 9                                       | 10.1  | 9.30   | 8   | 8   | 8  | 11.0  | 10.21  | 7   | 8    | 7  | 8.11  | 12    | 6    | 8   |
| 25 | 25   | 2  | 8    | 7.20  | 2   | 8   | 2                                      | 6    | 8.10  | 1   | 8   | 8.1                                      | 5    | 9.0   | 4.0 | 8   | 9.0                                     | 4     | 9.51   | 9   | 8   | 10.0                                     | 3.10  | 4.2    | 8   | 8    | 9  | 12.1  | 11.32 | 8    | 8   |
| 26 | 26   | 3  | 8.1  | 7.41  | 3   | 8   | 3                                      | 9.0  | 8.31  | 2   | 8   | 2  | 8    | 9.21  | 1   | 8   | 2                                       | 7.10  | 12     | 5.1 | 8   | 1  | 6.11  | 2      | 6.0 | 7    | 11.1                                     | 5.11  | 5.3   | 9    | 7   |
| 27 | 27   | 6.5  | 4    | 8.3   | 5   | 0.8 | 5                                      | 3    | 8.53  | 4   | 1.8 | 4  | 10.2 | 9.43  | 3   | 2.8 | 4                                       | 11.0  | 10.32  | 2   | 3.7 | 3  | 9.11  | 2.3    | 1   | 4.7  | 2  | 8.12  | 13    | 7.0  | 5.7 |
| 28 | 28   | 6  | 8    | 8.25  | 2.6 | 8   | 6                                      | 6    | 9.14  | 3.5 | 8   | 6  | 5.10 | 4     | 4   | 8   | 5                                       | 4.10  | 5.3    | 3   | 7   | 5.12.2                                   | 11.43 | 2      | 7   | 4    | 13.1                                     | 12.33 | 1     | 7    |     |
| 29 | 29   | 8  | 9.1  | 8.47  | 8   | 8   | 8                                      | 10.0 | 9.36  | 7   | 8   | 8  | 8    | 10.25 | 4.6 | 8   | 7                                       | 7.11  | 14     | 5   | 7   | 6  | 6.12  | 4      | 3   | 7    | 6  | 4.12  | 5.4   | 2    | 7   |
| 30 | 30   | 7.0  | 5    | 9.9   | 9   | 8   | 8.0                                    | 3    | 9.58  | 8   | 8   | 9  | 11.2 | 10.47 | 7   | 7   | 9                                       | 12.0  | 11.36  | 5.6 | 7   | 8  | 9.12  | 2.5    | 6.5 | 7    | 8  | 8.13  | 14    | 4    | 7   |
| 31 | 31   | 2  | 8    | 9.31  | 3.1 | 8   | 2                                      | 7.10 | 20    | 9   | 8   | 9.1                                      | 5.11 | 9     | 8   | 7   | 10.1                                    | 4.11  | 5.7    | 7   | 7   | 11.0                                     | 13.2  | 12.46  | 6   | 7    | 9.14.1                                   | 13.35 | 7.5   | 6    |     |
| 32 | 32   | 4  | 10.2 | 9.54  | 2   | 0.8 | 4                                      | 11.0 | 10.42 | 4.1 | 1.8 | 3  | 9.11 | 3.1   | 5.0 | 2.7 | 2                                       | 7.12  | 19     | 9   | 3.7 | 2  | 6.13  | 8      | 7   | 4.7  | 12.1                                     | 4.13  | 5.6   | 6    | 5.6 |
| 33 | 33   | 6  | 5    | 10.17 | 4   | 8   | 5                                      | 4.11 | 5     | 2   | 8   | 5  | 12.2 | 11.53 | 1   | 7   | 4                                       | 13.1  | 12.41  | 6.0 | 7   | 4  | 9.13  | 2.9    | 9   | 6    | 3  | 8.14  | 18    | 8    | 6   |
| 34 | 34   | 8  | 9    | 10.40 | 5   | 8   | 7                                      | 8.11 | 2.8   | 4   | 8   | 7  | 6.12 | 1.5   | 3   | 7   | 6                                       | 5.13  | 3      | 1   | 7   | 6.14.3                                   | 13.51 | 7.0    | 6   | 5    | 15.2                                     | 14.39 | 9     | 6    |     |
| 35 | 35   | 8.0  | 11.3 | 11.3  | 7   | 8   | 9                                      | 12.2 | 11.51 | 6   | 7   | 9  | 13.0 | 12.38 | 4   | 7   | 8                                       | 9.13  | 2.5    | 3   | 6   | 8  | 7.14  | 1.3    | 2   | 6    | 7  | 6.15  | 1     | 8.0  | 6   |
| 36 | 36   | 2  | 7.11 | 2.7   | 9   | 8   | 9.1                                    | 6.12 | 1.4   | 7   | 7   | 10.1                                     | 4.13 | 1     | 5.6 | 7   | 11.0                                    | 14.3  | 13.48  | 4   | 6   | 12.0                                     | 15.1  | 14.35  | 3   | 6    | 9  | 9.15  | 2.3   | 2    | 5   |
| 37 | 37   | 4  | 12.1 | 11.51 | 4.0 | 0.8 | 3                                      | 13.0 | 12.38 | 9   | 1.7 | 3  | 8.13 | 2.4   | 7   | 2.7 | 2                                       | 7.14  | 11     | 6.6 | 3.6 | 2  | 5.14  | 5.8    | 5   | 4.6  | 13.1                                     | 16.3  | 15.45 | 3    | 5.5 |
| 38 | 38   | 6  | 5    | 12.15 | 1   | 8   | 6                                      | 4.13 | 2     | 5.0 | 7   | 5  | 14.2 | 13.48 | 9   | 7   | 5                                       | 15.1  | 14.34  | 8   | 6   | 4  | 9.15  | 2.1    | 7.6 | 6    | 3  | 7.16  | 8     | 4    | 5   |
| 39 | 39   | 8  | 9    | 12.40 | 3   | 8   | 8                                      | 8.13 | 2.6   | 2   | 7   | 7  | 6.14 | 1.2   | 6.1 | 7   | 7                                       | 5.14  | 5.8    | 9   | 6   | 6.16.3                                   | 15.44 | 8      | 5   | 6    | 17.2                                     | 16.31 | 8.5   | 5    |     |
| 40 | 40   | 9.0  | 13.3 | 13.5  | 5   | 8   | 10.0                                   | 14.2 | 13.51 | 4   | 7   | 11.0                                     | 15.1 | 14.36 | 2   | 7   | 9                                       | 9.15  | 2.2    | 7.0 | 6   | 9  | 7.16  | 8      | 9   | 5    | 8  | 6.16  | 5.4   | 7    | 5   |
| 41 | 41   | 3  | 7.13 | 3.1   | 7   | 8   | 3                                      | 7.14 | 1.6   | 6   | 7   | 2  | 5.15 | 1     | 4   | 6   | 12.2                                    | 16.3  | 15.46  | 1   | 6   | 13.1                                     | 17.2  | 16.32  | 8.1 | 5    | 14.1                                     | 18.0  | 17.17 | 8    | 4   |
| 42 | 42   | 6  | 14.2 | 13.57 | 8   | 0.8 | 5                                      | 15.1 | 14.41 | 8   | 1.7 | 5  | 16.0 | 15.26 | 6   | 2.6 | 4                                       | 8.16  | 1.1    | 3   | 3.5 | 4  | 6.16  | 5.6    | 2   | 4.5  | 3  | 5.17  | 4.1   | 9.0  | 5.4 |
| 43 | 43   | 9  | 7.14 | 2.3   | 5.0 | 8   | 8                                      | 6.15 | 7     | 9   | 7   | 8  | 4.15 | 5.2   | 8   | 6   | 7.17.3                                  | 16.36 | 5      | 5   | 7   | 18.1                                     | 17.21 | 4      | 5   | 6    | 9.18                                     | 5     | 1     | 4    |     |
| 44 | 44   | 10.1   | 15.2 | 14.50 | 2   | 8   | 11.1                                   | 16.1 | 15.34 | 6.1 | 7   | 12.1                                     | 9.16 | 1.8   | 9   | 6   | 13.0                                    | 7.17  | 2      | 7   | 5   | 14.0                                     | 6.17  | 4.6    | 5   | 4    | 9.19.4                                   | 18.30 | 3     | 4    |     |
| 45 | 45   | 4  | 7.15 | 1.7   | 4   | 8   | 4                                      | 6.16 | 0     | 2   | 7   | 4  | 17.4 | 16.44 | 7.0 | 6   | 3                                       | 18.2  | 17.28  | 8   | 5   | 3  | 19.1  | 18.12  | 6   | 4    | 15.2                                     | 9.18  | 5.5   | 5    | 3   |
| 46 | 46   | 7  | 16.3 | 15.45 | 6   | 8   | 7                                      | 17.1 | 16.28 | 4   | 7   | 7  | 9.17 | 1.1   | 2   | 6   | 6                                       | 7.17  | 5.4    | 8.0 | 5   | 6  | 6.18  | 3.8    | 7   | 4    | 5.20.4                                   | 19.21 | 6     | 3    |     |
| 47 | 47   | 11.0   | 9    | 16.13 | 8   | 0.7 | 12.0                                   | 7.16 | 5.6   | 6   | 1.7 | 13.0                                     | 18.5 | 17.38 | 4   | 2.6 | 9                                       | 19.3  | 18.21  | 1   | 3.5 | 9  | 20.1  | 19.4   | 9   | 4.4  | 8  | 9.19  | 4.7   | 8    | 5.3 |
| 48 | 48   | 3  | 17.5 | 16.42 | 6.0 | 7   | 3                                      | 18.2 | 17.24 | 8   | 6   | 3  | 19.0 | 18.6  | 5   | 6   | 14.2                                    | 8.18  | 4.8    | 3   | 4   | 15.2                                     | 7.19  | 3.1    | 9.1 | 3    | 16.1                                     | 21.5  | 20.14 | 10.0 | 3   |
| 49 | 49   | 6  | 18.0 | 17.11 | 2   | 7   | 6                                      | 8.17 | 5.3   | 7.0 | 6   | 6  | 6.18 | 3.5   | 7   | 5   | 5.20.4                                  | 19.16 | 5      | 4   | 5   | 21.2                                     | 19.58 | 3      | 3   | 4    | 22.0                                     | 20.41 | 2     | 2    |     |
| 50 | 50   | 12.0   | 6    | 17.41 | 4   | 7   | 13.0                                   | 19.4 | 18.22 | 2   | 6   | 9  | 20.2 | 19.4  | 9   | 5   | 9                                       | 21.0  | 19.45  | 7   | 4   | 8  | 8.20  | 2.7    | 5   | 3    | 8  | 6.21  | 8     | 3    | 2   |
| 51 | 51   | 4  | 19.2 | 18.12 | 6   | 7   | 4                                      | 20.0 | 18.53 | 4   | 6   | 14.3                                     | 8.19 | 3.3   | 8.1 | 5   | 15.3                                    | 6.20  | 1.4    | 9   | 4   | 16.2                                     | 22.4  | 20.55  | 7   | 3    | 17.2                                     | 23.2  | 21.36 | 4    | 2   |
| 52 | 52   | 8  | 9    | 18.44 | 8   | 0.7 | 8                                      | 7.19 | 2.4   | 6   | 1.6 | 7  | 21.5 | 20.4  | 3   | 2.5 | 7                                       | 22.3  | 20.44  | 9.1 | 3.4 | 6  | 23.0  | 21.25  | 9   | 4.2  | 6  | 8.22  | 5     | 6    | 5.2 |
| 53 | 53   | 13.2   | 20.6 | 19.16 | 7.0 | 7   | 14.2                                   | 21.4 | 19.55 | 8   | 6   | 15.2                                     | 22.2 | 20.35 | 5   | 5   | 16.1                                    | 9.21  | 1.5    | 3   | 3   | 17.1                                     | 7.21  | 5.10.1 | 2   | 18.0 | 24.4                                     | 22.35 | 8     | 1    |     |
| 54 | 54   | 7  | 21.3 | 19.49 | 2   | 7   | 7                                      | 22.1 | 20.28 | 8.0 | 6   | 7  | 9.21 | 7     | 7   | 5   | 6                                       | 23.6  | 21.47  | 5   | 3   | 6  | 24.4  | 22.26  | 3   | 2    | 4  | 25.1  | 23.5  | 11.0 | 1   |
| 55 | 55   | 14.2   | 22.1 | 20.23 | 5   | 7   | 15.2                                   | 8.21 | 1     | 3   | 6   | 16.2                                     | 23.6 | 21.40 | 9.0 | 4   | 17.1                                    | 24.3  | 22.19  | 7   | 3   | 18.1                                     | 25.1  | 22.5.8 | 5   | 2    | 19.0                                     | 8.23  | 3.6   | 2    | 1   |
| 56 | 56   | 8  | 9    | 20.58 | 7   | 7   | 8                                      | 23.6 | 21.36 | 5   | 6   | 8  | 24.4 | 22.14 | 2   | 4   | 7                                       | 25.0  | 22.5.2 | 9   | 3   | 7  | 8.23  | 3.0    | 8   | 1    | 5  | 26.5  | 24.8  | 4    | 1   |

TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

|    |      | H. M. S. } 8<br>SID. T. 2 26 26 } 8<br>ARC 36° 38'.5 } 9° |       |      |      |         | H. M. S. } 8 10°<br>2 30 21 } 8 10°<br>37° 35'.3 } 8 10° |       |      |         |         | H. M. S. } 8 11°<br>2 34 17 } 8 11°<br>38° 34'.3 } 8 11° |       |         |         |         | H. M. S. } 8 12°<br>2 38 14 } 8 12°<br>39° 33'.4 } 8 12° |       |         |         |       | H. M. S. } 8 13°<br>2 42 11 } 8 13°<br>40° 32'.8 } 8 13° |         |       |       |       | H. M. S. } 8 14°<br>2 46 0 } 8 14°<br>41° 32'.3 } 8 14° |       |      |      |   |
|----|------|---|-------|------|------|---------|--|-------|------|---------|---------|--|-------|---------|---------|---------|--|-------|---------|---------|-------|--|---------|-------|-------|-------|---|-------|------|------|---|
| H. | Lat. | 11  | 12    | 1    | 2    | 3       | 11   | 12    | 1    | 2       | 3       | 11   | 12    | 1       | 2       | 3       | 11   | 12    | 1       | 2       | 3     | 11   | 12      | 1     | 2     | 3     | 11  | 12    | 1    | 2    | 3 |
|    | °    | □   | ♄     | ♃    | ♁    | ♅       | □  | ♄     | ♃    | ♁       | ♅       | □  | ♄     | ♃       | ♁       | ♅       | □  | ♄     | ♃       | ♁       | ♅     | □  | ♄       | ♃     | ♁     | ♅     | □   | ♄     | ♃    | ♁    | ♅ |
|    | '    | °   | '     | '    | '    | '       | '  | '     | '    | '       | '       | '  | '     | '       | '       | '       | '  | '     | '       | '       | '     | '  | '       | '     | '     | '     | '   | '     | '    | '    | ' |
| 22 | 11.3 | 12.1  | 11 25 | 7.3  | 6.8  | 12.3    | 13.0   | 12 17 | 8.3  | 7.8     | 13.2    | 13.9   | 13 9  | 9.2     | 8.8     | 14.1    | 14.8   | 14 1  | 10.2    | 9.8     | 15.1  | 15.7   | 14 54   | 11.1  | 10.8  | 16.0  | 16.5  | 15 47 | 12.1 | 11.8 |   |
| 23 | 5    | 4 11 44   | 4     | 8    | 4    | 3 12 36 | 4  | 8     | 4    | 14.2    | 13 28   | 3  | 8     | 3       | 15.1    | 14 20   | 3  | 8     | 2       | 16.0    | 15 12 | 2  | 8       | 2     | 8     | 16    | 5   | 1     | 8    |      |   |
| 24 | 7    | 7 12 4  | 6     | 7    | 6    | 6 12 55 | 5  | 7     | 5    | 5 13 47 | 4       | 8  | 5     | 4       | 14 39   | 4       | 7  | 4     | 3       | 15 30   | 3     | 7  | 3       | 17.1  | 16 23 | 2     | 7   |       |      |      |   |
| 25 | 8    | 13.0  | 12 23 | 7    | 7    | 8       | 9 13 14  | 6     | 7    | 7       | 8 14 6  | 5  | 7     | 6       | 7 14 57 | 5       | 7  | 5     | 6       | 15 49   | 4     | 7  | 5       | 4     | 16 41 | 3     | 7   |       |      |      |   |
| 26 | 12.0 | 3 12 43   | 8     | 7    | 9    | 14.2    | 13 34  | 8.7   | 7    | 9       | 15.1    | 14 25  | 9.6   | 7       | 8       | 16.0    | 15 16  | 10.6  | 7       | 7       | 9     | 16 8   | 5       | 7     | 6     | 7     | 16 59   | 4     | 7    |      |   |
| 27 | 2    | 6 13 3  | 9     | 6.7  | 13.1 | 5 13 54 | 8  | 7.7   | 14.0 | 4 14 44 | 8       | 8.7  | 15.0  | 3 15 35 | 7       | 9.7     | 9  | 17.2  | 16 26   | 11.6    | 10.7  | 8  | 18.0    | 17 18 | 12.5  | 11.6  |   |       |      |      |   |
| 28 | 3    | 14.0  | 13 23 | 8.0  | 7    | 3       | 8 14 13  | 9     | 7    | 2       | 7 15 4  | 9  | 6     | 1       | 6 15 54 | 8       | 6  | 16.1  | 5 16 45 | 7       | 6     | 17.0   | 4 17 36 | 6     | 6     |       |   |       |      |      |   |
| 29 | 5    | 3 13 43   | 2     | 6    | 4    | 15.2    | 14 33  | 9.1   | 6    | 4       | 16.0    | 15 23  | 10.0  | 6       | 3       | 9 16 14 | 9  | 6     | 2       | 8 17 4  | 8     | 6  | 2       | 7     | 17 55 | 7     | 6   |       |      |      |   |
| 30 | 7    | 6 14 4  | 3     | 6    | 6    | 5 14 53 | 2  | 6     | 6    | 4 15 43 | 1       | 6  | 5     | 17.2    | 16 33   | 11.0    | 6  | 4     | 18.1    | 17 23   | 9     | 5  | 3       | 19.0  | 18 13 | 8     | 5   |       |      |      |   |
| 31 | 9    | 15.0  | 14 24 | 4    | 6    | 8       | 8 15 14  | 3     | 6    | 7       | 7 16 3  | 2  | 6     | 7       | 6 16 53 | 1       | 5  | 6     | 4       | 17 42   | 12.0  | 5  | 5       | 3     | 18 32 | 9     | 5   |       |      |      |   |
| 32 | 13.1 | 3 14 45   | 8.5   | 6.6  | 14.0 | 16.2    | 15 34  | 4     | 7.6  | 9       | 17.0    | 16 23  | 3     | 8.5     | 9       | 9 17 13 | 2  | 9.5   | 8       | 8 18 2  | 1     | 10.5   | 7       | 7     | 18 52 | 13.0  | 11.4  |       |      |      |   |
| 33 | 3    | 7 15 6  | 7     | 6    | 2    | 5 15 55 | 9.5  | 5     | 15.1 | 4 16 43 | 4       | 5  | 16.1  | 18.3    | 17 33   | 3       | 5  | 17.0  | 19.1    | 18 21   | 2     | 4  | 9       | 20.0  | 19 11 | 1     | 4   |       |      |      |   |
| 34 | 5    | 16.0  | 15 27 | 8    | 5    | 4       | 9 16 16  | 6     | 5    | 3       | 7 17 4  | 10.5   | 5     | 3       | 6 17 53 | 4       | 4  | 2     | 5       | 18 41   | 3     | 4  | 18.1    | 3     | 19 30 | 2     | 4   |       |      |      |   |
| 35 | 7    | 4 15 49   | 9     | 5    | 6    | 17.3    | 16 37  | 8     | 5    | 5       | 18.1    | 17 25  | 7     | 4       | 5       | 19.0    | 18 13  | 11.5  | 4       | 4       | 9     | 19 1   | 4       | 4     | 3     | 7     | 19 50   | 3     | 3    |      |   |
| 36 | 9    | 8 16 10   | 9.1   | 5    | 8    | 6 16 58 | 9  | 5     | 7    | 5 17 46 | 8       | 4  | 7     | 4 18 34 | 7       | 9.4     | 6  | 20.2  | 19 22   | 12.5    | 3     | 5  | 21.1    | 20 10 | 4     | 3     |   |       |      |      |   |
| 37 | 14.1 | 17.2  | 16 32 | 2    | 6.5  | 15.0    | 18.0   | 17 20 | 10.0 | 7.4     | 9       | 9 18 7   | 9     | 8.4     | 9       | 7 18 55 | 8  | 3     | 8       | 6 19 42 | 7     | 10.3   | 8       | 5     | 20 30 | 13.5  | 11.2  |       |      |      |   |
| 38 | 3    | 6 16 55   | 3     | 4    | 2    | 4 17 41 | 1  | 4     | 16.2 | 19.3    | 18 29   | 11.0   | 3     | 17.1    | 20.1    | 19 16   | 9  | 3     | 18.0    | 21.0    | 20 3  | 8  | 2       | 19.0  | 9     | 20 51 | 6   | 2     |      |      |   |
| 39 | 5    | 18.0  | 17 17 | 5    | 4    | 5       | 8 18 4   | 2     | 4    | 4       | 7 18 50 | 2  | 3     | 3       | 5 19 37 | 12.0    | 3  | 3     | 4       | 20 24   | 9     | 2  | 2       | 22.3  | 21 12 | 8     | 2   |       |      |      |   |
| 40 | 8    | 4 17 40   | 9.6   | 4    | 7    | 19.3    | 18 26  | 4     | 3    | 6       | 20.1    | 19 12  | 3     | 3       | 6       | 9 19 59 | 2  | 9.2   | 5       | 8       | 20 45 | 13.0   | 2       | 5     | 7     | 21 33 | 9   | 1     |      |      |   |
| 41 | 15.0 | 9 18 3  | 8     | 4    | 16.0 | 7 18 49 | 10.5   | 7.3   | 9    | 5 19 35 | 4       | 8.2  | 8     | 21.4    | 20 21   | 3       | 2  | 8     | 22.2    | 21 7    | 1     | 1  | 7       | 23.1  | 21 54 | 14.0  | 11.1  |       |      |      |   |
| 42 | 3    | 19.3  | 18 26 | 9    | 6.3  | 2       | 20.1   | 19 12 | 6    | 3       | 17.2    | 21.0   | 19 58 | 11.6    | 2       | 18.1    | 8  | 20 43 | 4       | 1       | 19.0  | 6  | 21 29   | 3     | 10.1  | 20.0  | 5   | 22 15 | 1    | 0    |   |
| 43 | 5    | 8 18 50   | 10.1  | 3    | 5    | 6 19 36 | 8  | 2     | 4    | 4       | 20 21   | 7  | 2     | 4       | 22.2    | 21 6    | 12.5   | 1     | 3       | 23.1    | 21 51 | 4  | 0       | 2     | 9     | 22 37 | 2   | 0     |      |      |   |
| 44 | 8    | 20.2  | 19 15 | 2    | 3    | 8       | 21.1   | 19 59 | 9    | 2       | 7       | 9 20 44  | 8     | 1       | 7       | 7 21 29 | 6  | 9.1   | 6       | 5       | 22 14 | 13.5   | 0       | 5     | 24.4  | 22 59 | 3   | 0     |      |      |   |
| 45 | 16.1 | 7 19 39   | 3     | 2    | 17.1 | 6 20 24 | 11.1   | 7.2   | 18.0 | 22.4    | 21 8    | 9  | 8.1   | 19.0    | 23.2    | 21 52   | 7  | 0     | 9       | 24.0    | 22 37 | 6  | 0       | 8     | 9     | 23 22 | 4   | 10.9  |      |      |   |
| 46 | 4    | 21.2  | 20 5  | 4    | 2    | 4       | 22.1   | 20 48 | 2    | 1       | 3       | 9 21 32  | 12.1  | 1       | 3       | 7 22 16 | 9  | 0     | 20.2    | 5       | 23 0  | 7  | 9.9     | 21.1  | 25.3  | 23 45 | 14.5  | 9     |      |      |   |
| 47 | 8    | 8 20 30   | 10.6  | 6.2  | 7    | 6 21 13 | 4  | 1     | 6    | 23.4    | 21 57   | 2  | 0     | 6       | 24.2    | 22 40   | 13.0   | 0     | 5       | 25.0    | 23 24 | 8  | 9       | 4     | 8     | 24 8  | 6   | 8     |      |      |   |
| 48 | 17.1 | 22.3  | 20 56 | 8    | 2    | 18.0    | 23.1   | 21 39 | 6    | 1       | 19.0    | 9  | 22 22 | 4       | 0       | 9       | 7 23 5   | 2     | 8.9     | 8       | 4     | 23 48  | 14.0    | 9     | 8     | 26.2  | 24 32   | 8     | 8    |      |   |
| 49 | 4    | 9 21 23   | 9     | 1    | 3    | 6 22 5  | 7  | 7.1   | 3    | 24.4    | 22 48   | 5  | 7.9   | 20.3    | 25.2    | 23 30   | 3  | 9     | 21.1    | 9       | 24 13 | 1  | 8       | 22.1  | 7     | 24 56 | 9   | 10.7  |      |      |   |
| 50 | 7    | 23.4  | 21 50 | 11.1 | 1    | 7       | 24.2   | 22 32 | 9    | 0       | 6       | 9 23 14  | 7     | 9       | 6       | 7 23 56 | 5  | 9     | 5       | 26.5    | 24 38 | 3  | 8       | 5     | 27.3  | 25 21 | 15.1  | 7     |      |      |   |
| 51 | 18.1 | 24.0  | 22 18 | 3    | 1    | 19.1    | 8  | 22 59 | 12.1 | 0       | 20.0    | 25.5   | 23 41 | 9       | 9       | 21.0    | 26.3   | 24 23 | 13.6    | 8       | 9     | 27.1   | 25 4    | 4     | 9.7   | 9     | 9   | 25 46 | 2    | 6    |   |
| 52 | 5    | 6 22 46   | 4     | 6.1  | 5    | 25.4    | 23 27  | 2     | 0    | 4       | 26.1    | 24 8   | 13.0  | 8       | 4       | 9       | 24 50  | 7     | 8.8     | 22.4    | 7     | 25 30  | 14.5    | 7     | 23.3  | 28.5  | 26 12   | 3     | 6    |      |   |
| 53 | 19.0 | 25.2  | 23 15 | 6    | 0    | 9       | 26.0   | 23 56 | 3    | 6.9     | 9       | 7  | 24 36 | 1       | 7.8     | 9       | 27.5   | 25 17 | 8       | 7       | 8     | 28.3   | 25 57   | 6     | 6     | 7     | 29.1  | 26 38 | 4    | 10.5 |   |
| 54 | 5    | 9 23 45   | 8     | 0    | 20.4 | 6 24 25 | 5  | 9     | 21.4 | 27.4    | 25 5    | 3  | 8     | 22.3    | 28.1    | 25 45   | 14.0   | 7     | 23.3    | 9       | 26 25 | 8  | 6       | 24.2  | 7     | 27 5  | 6   | 5     |      |      |   |
| 55 | 20.0 | 26.6  | 24 16 | 12.0 | 0    | 9       | 27.3   | 24 55 | 7    | 9       | 9       | 28.1   | 25 34 | 5       | 7       | 8       | 8  | 26 13 | 2       | 6       | 8     | 29.6   | 26 53   | 15.0  | 5     | 7     | 0.3   | 27 33 | 8    | 4    |   |
| 56 | 6    | 27.3  | 24 47 | 2    | 5.9  | 21.5    | 28.0   | 25 25 | 9    | 8       | 22.4    | 8  | 26 4  | 7       | 7       | 23.4    | 29.5   | 26 43 | 4       | 5       | 24.4  | 0.3  | 27 22   | 2     | 5     | 25.3  | 1.0   | 28 1  | 16.0 | 4    |   |

TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

| 10  |      | UPPER MERIDIAN, CUSP OF 10th H. |     |    |   |      |      |      |     |   |      |      |      |      |   |    |      |      |      |  |    |    |      |      |   |      |     |    |      |      |      |      |      |     |      |      |   |      |
|---|------|---------------------------------|-----|----|---|------|------|------|-----|---|------|------|------|------|---|----|------|------|------|--|----|----|------|------|---|------|-----|----|------|------|------|------|------|-----|------|------|---|------|
| H. M. S.<br>SID. T. 2 46 9 } S<br>ARC 41° 32'.3 } 14° |      |                                 |     |    | H. M. S.<br>2 50 8 } S 15°<br>42° 32'.0 } |      |      |      |     | H. M. S.<br>2 54 7 } S 16°<br>43° 31'.8 } |      |      |      |      | H. M. S.<br>2 58 7 } S 17°<br>44° 31'.9 } |    |      |      |      | H. M. S.<br>3 2 8 } S 18°<br>45° 32'.1 } |    |    |      |      | H. M. S.<br>3 6 10 } S 19°<br>46° 32'.5 } |      |     |    |      |      |      |      |      |     |      |      |   |      |
| H.  | 11   | 12                              | 1   | 2  | 3   | 11   | 12   | 1    | 2   | 3   | 11   | 12   | 1    | 2    | 3   | 11 | 12   | 1    | 2    | 3  | 11 | 12 | 1    | 2    | 3   | 11   | 12  | 1  | 2    | 3    |      |      |      |     |      |      |   |      |
| Lat.  | Π    | ♄                               | ♃   | ♂  | ♁   | Π    | ♄    | ♃    | ♂   | ♁   | Π    | ♄    | ♃    | ♂    | ♁   | Π  | ♄    | ♃    | ♂    | ♁  | Π  | ♄  | ♃    | ♂    | ♁   | Π    | ♄   | ♃  | ♂    | ♁    |      |      |      |     |      |      |   |      |
| 22  | 16.0 | 16.5                            | 15  | 47 | 12.1                                      | 11.8 | 16.9 | 17.4 | 16  | 40  | 13.0 | 12.8 | 17.9 | 18.3 | 17  | 33 | 14.0 | 13.8 | 18.8 | 19.2                                     | 18 | 27 | 14.9 | 14.9 | 19.7                                      | 20.1 | 19  | 20 | 15.9 | 15.9 | 20.7 | 21.0 | 20   | 14  | 16.9 | 16.9 |   |      |
| 23  | 2    | 8                               | 16  | 5  | 1   | 8    | 17.1 | 7    | 16  | 57  | 1    | 8    | 18.0 | 6    | 17  | 51 | 1    | 8    | 19.0 | 5  | 18 | 44 | 15.0 | 8    | 9   | 4    | 19  | 37 | 16.0 | 8    | 8    | 3    | 20   | 31  | 9    | 8    |   |      |
| 24  | 3    | 17.1                            | 16  | 23 | 2   | 7    | 2    | 18.0 | 17  | 15  | 2    | 8    | 2    | 9    | 18  | 8  | 1    | 8    | 1    | 8  | 19 | 1  | 1    | 8    | 20.1                                      | 7    | 19  | 54 | 0    | 8    | 21.0 | 6    | 20   | 48  | 17.0 | 8    |   |      |
| 25  | 5    | 4                               | 16  | 41 | 3   | 7    | 4    | 3    | 17  | 33  | 3    | 7    | 3    | 19.2 | 18  | 26 | 2    | 7    | 3    | 20.1                                     | 19 | 18 | 2    | 7    | 2   | 21.0 | 20  | 11 | 1    | 7    | 2    | 9    | 21   | 4   | 1    | 7    |   |      |
| 26  | 6    | 7                               | 16  | 59 | 4   | 7    | 6    | 6    | 17  | 51  | 13.4 | 7    | 5    | 5    | 18  | 43 | 14.3 | 7    | 4    | 4  | 19 | 35 | 3    | 7    | 4   | 3    | 20  | 28 | 2    | 7    | 3    | 22.2 | 21   | 21  | 1    | 7    |   |      |
| 27  | 8    | 18.0                            | 17  | 18 | 12.5                                      | 11.6 | 7    | 9    | 18  | 9   | 4    | 12.6 | 7    | 8    | 19  | 1  | 4    | 13.6 | 6    | 7  | 19 | 53 | 15.3 | 14.6 | 6   | 6    | 20  | 45 | 3    | 15.6 | 5    | 5    | 21   | 38  | 2    | 16.6 |   |      |
| 28  | 17.0 | 4                               | 17  | 36 | 6   | 6    | 9    | 19.2 | 18  | 27  | 5    | 6    | 9    | 20.1 | 19  | 19 | 5    | 6    | 8    | 21.0                                     | 20 | 10 | 4    | 6    | 7   | 9    | 21  | 2  | 16.3 | 6    | 7    | 8    | 21   | 55  | 17.3 | 6    |   |      |
| 29  | 2    | 7                               | 17  | 55 | 7   | 6    | 18.1 | 6    | 18  | 46  | 6    | 6    | 19.0 | 4    | 19  | 37 | 6    | 5    | 20.0 | 3  | 20 | 28 | 5    | 5    | 9   | 22.2 | 21  | 20 | 4    | 5    | 9    | 23.1 | 22   | 12  | 4    | 5    |   |      |
| 30  | 3    | 19.0                            | 18  | 13 | 8   | 5    | 3    | 9    | 19  | 4   | 13.7 | 5    | 2    | 8    | 19  | 55 | 14.7 | 5    | 2    | 6  | 20 | 46 | 6    | 5    | 21.1                                      | 5    | 21  | 37 | 5    | 5    | 22.0 | 4    | 22   | 29  | 4    | 5    |   |      |
| 31  | 5    | 3                               | 18  | 32 | 9   | 5    | 5    | 20.2 | 19  | 23  | 8    | 12.5 | 4    | 21.1 | 20  | 13 | 7    | 13.5 | 3    | 22.0                                     | 21 | 4  | 15.7 | 4    | 3   | 8    | 21  | 55 | 6    | 4    | 2    | 7    | 22   | 46  | 5    | 4    |   |      |
| 32  | 7    | 7                               | 18  | 52 | 13.0                                      | 11.4 | 7    | 5    | 19  | 41  | 9    | 4    | 6    | 4    | 20  | 32 | 8    | 4    | 5    | 3  | 21 | 22 | 7    | 14.4 | 5   | 23.2 | 22  | 12 | 16.7 | 15.4 | 4    | 24.1 | 23   | 3   | 6    | 16.4 |   |      |
| 33  | 9    | 20.0                            | 19  | 11 | 1   | 4    | 9    | 9    | 20  | 0   | 14.0 | 4    | 8    | 7    | 20  | 50 | 9    | 4    | 7    | 6  | 21 | 40 | 8    | 3    | 7   | 5    | 22  | 30 | 7    | 3    | 6    | 4    | 23   | 21  | 17.7 | 3    |   |      |
| 34  | 18.1 | 3                               | 19  | 30 | 2   | 4    | 19.1 | 21.2 | 20  | 20  | 1    | 4    | 20.0 | 22.1 | 21  | 9  | 15.0 | 3    | 9    | 23.0                                     | 21 | 59 | 9    | 3    | 9   | 8    | 22  | 48 | 8    | 3    | 8    | 7    | 23   | 38  | 7    | 3    |   |      |
| 35  | 3    | 7                               | 19  | 50 | 3   | 3    | 3    | 6    | 20  | 39  | 2    | 12.3 | 2    | 5    | 21  | 28 | 1    | 13.3 | 21.1 | 3  | 22 | 17 | 16.0 | 2    | 22.1                                      | 24.2 | 23  | 7  | 9    | 2    | 23.0 | 25.1 | 23   | 56  | 8    | 2    |   |      |
| 36  | 5    | 21.1                            | 20  | 10 | 4   | 3    | 5    | 22.0 | 20  | 59  | 3    | 3    | 4    | 8    | 21  | 47 | 2    | 2    | 3    | 7  | 22 | 36 | 1    | 2    | 3   | 5    | 23  | 25 | 17.0 | 15.2 | 2    | 4    | 24   | 14  | 9    | 16.1 |   |      |
| 37  | 8    | 5                               | 20  | 30 | 13.5                                      | 11.2 | 7    | 3    | 21  | 18  | 4    | 2    | 6    | 23.2 | 22  | 7  | 3    | 2    | 5    | 24.0                                     | 22 | 55 | 2    | 14.1 | 5   | 9    | 23  | 44 | 1    | 1    | 4    | 8    | 24   | 32  | 18.0 | 1    |   |      |
| 38  | 19.0 | 9                               | 20  | 51 | 6   | 2    | 9    | 7    | 21  | 38  | 14.5 | 2    | 8    | 6    | 22  | 26 | 4    | 1    | 8    | 3  | 23 | 14 | 3    | 1    | 7   | 25.3 | 24  | 3  | 2    | 1    | 6    | 26.2 | 24   | 51  | 1    | 0    |   |      |
| 39  | 2    | 22.3                            | 21  | 12 | 8   | 2    | 20.1 | 23.1 | 21  | 59  | 6    | 12.1 | 21.1 | 24.0 | 22  | 46 | 15.5 | 13.1 | 22.0 | 7  | 23 | 34 | 4    | 0    | 9   | 7    | 24  | 22 | 3    | 0    | 9    | 5    | 25   | 10  | 1    | 0    |   |      |
| 40  | 5    | 7                               | 21  | 33 | 9   | 1    | 4    | 4    | 22  | 20  | 7    | 1    | 3    | 4    | 23  | 7  | 6    | 0    | 2    | 25.1                                     | 23 | 54 | 16.5 | 0    | 23.2                                      | 26.1 | 24  | 41 | 17.3 | 14.9 | 24.1 | 9    | 25   | 29  | 2    | 15.9 |   |      |
| 41  | 7    | 23.1                            | 21  | 54 | 14.0                                      | 11.1 | 6    | 8    | 22  | 40  | 9    | 0    | 6    | 8    | 23  | 27 | 7    | 0    | 5    | 5  | 24 | 14 | 6    | 13.9 | 4   | 5    | 25  | 1  | 4    | 9    | 4    | 27.3 | 25   | 48  | 18.3 | 8    |   |      |
| 42  | 20.0 | 5                               | 22  | 15 | 1   | 0    | 9    | 24.3 | 23  | 1   | 15.0 | 0    | 8    | 25.2 | 23  | 48 | 8    | 0    | 8    | 9  | 24 | 34 | 7    | 9    | 7   | 9    | 25  | 21 | 5    | 8    | 6    | 7    | 26   | 7   | 4    | 8    |   |      |
| 43  | 2    | 9                               | 22  | 37 | 2   | 0    | 21.2 | 7    | 23  | 23  | 1    | 11.9 | 22.1 | 6    | 24  | 9  | 9    | 12.9 | 23.0 | 26.3                                     | 24 | 54 | 8    | 8    | 24.0                                      | 27.3 | 25  | 41 | 6    | 8    | 9    | 28.1 | 26   | 27  | 5    | 7    |   |      |
| 44  | 5    | 24.4                            | 22  | 59 | 3   | 0    | 5    | 25.2 | 23  | 44  | 2    | 9    | 4    | 26.1 | 24  | 30 | 16.0 | 9    | 3    | 8  | 25 | 15 | 9    | 8    | 2   | 7    | 26  | 1  | 17.7 | 14.7 | 25.2 | 6    | 26   | 47  | 6    | 7    |   |      |
| 45  | 8    | 9                               | 23  | 22 | 4   | 10.9 | 8    | 7    | 24  | 6   | 3    | 9    | 7    | 5    | 24  | 51 | 1    | 8    | 6    | 27.2                                     | 25 | 37 | 17.0 | 7    | 5   | 28.2 | 26  | 22 | 7    | 7    | 5    | 29.0 | 27   | 7   | 18.7 | 15.6 |   |      |
| 46  | 21.1 | 25.3                            | 23  | 45 | 14.5                                      | 9    | 22.1 | 26.1 | 24  | 29  | 15.4 | 8    | 23.0 | 27.0 | 25  | 13 | 2    | 8    | 9    | 7  | 25 | 58 | 1    | 13.7 | 8   | 6    | 26  | 43 | 8    | 6    | 8    | 4    | 27   | 28  | 8    | 6    |   |      |
| 47  | 4    | 8                               | 24  | 8  | 6   | 8    | 4    | 6    | 24  | 52  | 5    | 8    | 3    | 5    | 25  | 36 | 3    | 7    | 24.2 | 28.2                                     | 26 | 21 | 1    | 6    | 25.2                                      | 29.1 | 27  | 5  | 9    | 6    | 26.1 | 8    | 27   | 49  | 9    | 5    |   |      |
| 48  | 8    | 26.2                            | 24  | 32 | 8   | 8    | 7    | 27.0 | 25  | 15  | 6    | 11.7 | 6    | 9    | 25  | 59 | 4    | 12.7 | 6    | 7  | 26 | 42 | 2    | 6    | 5   | 5    | 27  | 26 | 18.0 | 14.5 | 5    | 0.3  | 28   | 10  | 9    | 5    |   |      |
| 49  | 22.1 | 7                               | 24  | 56 | 9   | 10.7 | 23.1 | 5    | 25  | 39  | 7    | 7    | 24.0 | 28.4 | 26  | 22 | 16.5 | 6    | 9    | 29.2                                     | 27 | 5  | 3    | 5    | 8   | ♄    | 27  | 49 | 1    | 5    | 9    | 8    | 28   | 32  | 19.0 | 4    |   |      |
| 50  | 5    | 27.3                            | 25  | 21 | 15.1                                      | 7    | 4    | 28.1 | 26  | 3   | 9    | 6    | 4    | 9    | 26  | 46 | 7    | 6    | 25.3 | 7  | 27 | 28 | 17.5 | 5    | 26.2                                      | 0.5  | 28  | 11 | 3    | 4    | 27.2 | 1.3  | 28   | 54  | 1    | 15.4 |   |      |
| 51  | 9    | 9                               | 25  | 46 | 2   | 6    | 8    | 7    | 26  | 28  | 16.0 | 6    | 7    | 29.4 | 27  | 10 | 8    | 5    | 7    | 0.2                                      | 27 | 52 | 6    | 13.4 | 6   | 1.0  | 28  | 34 | 4    | 3    | 6    | 8    | 29   | 17  | 2    | 3    |   |      |
| 52  | 23.3 | 28.5                            | 26  | 12 | 3   | 6    | 24.2 | 29.3 | 26  | 53  | 1    | 11.5 | 25.1 | ♄    | 27  | 35 | 9    | 12.5 | 26.1 | 8  | 28 | 16 | 7    | 3    | 27.0                                      | 6    | 28  | 58 | 18.5 | 14.2 | 28.0 | 2.3  | 29   | 40  | 3    | 2    |   |      |
| 53  | 7    | 29.1                            | 26  | 38 | 4   | 10.5 | 6    | 9    | 27  | 19  | 2    | 5    | 6    | 0.6  | 28  | 0  | 17.0 | 4    | 5    | 4  | 28 | 41 | 8    | 3    | 4   | 2.2  | 29  | 22 | 6    | 2    | 4    | 9    | 0    | 3   | 19.4 | 1    |   |      |
| 54  | 24.2 | 7                               | 27  | 5  | 6   | 5    | 25.1 | 0.5  | 27  | 45  | 16.3 | 4    | 26.1 | 1.2  | 28  | 26 | 1    | 3    | 27.0 | 2.0                                      | 29 | 6  | 9    | 2    | 9   | 8    | 29  | 47 | 7    | 1    | 9    | 3.5  | 0    | 28  | 5    | 0    |   |      |
| 55  | 7    | ♄                               | 0.3 | 27 | 33  | 8    | 4    | 6    | 1.1 | 28  | 12   | 5    | 3    | 6    | 9   | 28 | 52   | 3    | 2    | 5  | 6  | 29 | 32   | 18.1 | 1   | 28.4 | 3.4 | ♄  | 0    | 12   | 9    | 0    | 29.4 | 4.1 | 0    | 52   | 6 | 14.9 |
| 56  | 25.3 | 1.0                             | 28  | 1  | 16.0                                      | 4    | 26.2 | 8    | 28  | 40  | 7    | 3    | 27.1 | 2.6  | 29  | 19 | 4    | 1    | 28.0 | 3.3                                      | 29 | 58 | 3    | 0    | 29.0                                      | 4.0  | 0   | 38 | 19.0 | 13.9 | 9    | 8    | 1    | 18  | 8    | 8    |   |      |



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| Lat. | H. M. S. 25° |      |       |      |      | H. M. S. 26° |      |       |      |      | H. M. S. 27° |      |       |      |      | H. M. S. 28° |      |       |      |      | H. M. S. 29° |      |       |      |      | H. M. S. 30° |      |       |      |      |    |    |   |   |
|------|--------------|------|-------|------|------|--------------|------|-------|------|------|--------------|------|-------|------|------|--------------|------|-------|------|------|--------------|------|-------|------|------|--------------|------|-------|------|------|----|----|---|---|
|      | 11           | 12   | 1     | 2    | 3    | 11           | 12   | 1     | 2    | 3    | 11           | 12   | 1     | 2    | 3    | 11           | 12   | 1     | 2    | 3    | 11           | 12   | 1     | 2    | 3    | 11           | 12   | 1     | 2    | 3    | 11 | 12 | 1 | 2 |
| 22   | 26.3         | 26.5 | 25.43 | 22.8 | 23.1 | 27.3         | 27.5 | 26.39 | 23.7 | 24.1 | 28.2         | 28.4 | 27.35 | 24.8 | 25.1 | 29.2         | 29.4 | 28.31 | 25.7 | 26.2 | 30.1         | 30.3 | 29.27 | 26.8 | 27.3 | 31.1         | 31.2 | 30.23 | 27.8 | 28.3 |    |    |   |   |
| 23   | 5            | 8    | 25.58 | 8    | 0    | 4            | 7    | 26.53 | 8    | 0    | 4            | 7    | 27.48 | 8    | 1    | 3            | 6    | 28.44 | 8    | 1    | 3            | 5    | 29.40 | 8    | 2    | 2            | 5    | 0.36  | 8    | 3    |    |    |   |   |
| 24   | 6            | 27.1 | 26.12 | 8    | 22.9 | 6            | 28.0 | 27.7  | 8    | 0    | 5            | 9    | 28.2  | 8    | 0    | 5            | 9    | 28.58 | 8    | 1    | 4            | 8    | 29.53 | 8    | 1    | 4            | 7    | 0.49  | 8    | 2    |    |    |   |   |
| 25   | 8            | 4    | 26.27 | 9    | 9    | 8            | 3    | 27.21 | 9    | 23.9 | 7            | 29.2 | 28.16 | 8    | 24.9 | 7            | 0.2  | 29.11 | 8    | 0    | 6            | 1.1  | 0.6   | 8    | 1    | 6            | 2.0  | 1.2   | 8    | 1    |    |    |   |   |
| 26   | 27.0         | 6    | 26.42 | 9    | 8    | 9            | 6    | 27.36 | 9    | 8    | 9            | 5    | 28.30 | 24.9 | 9    | 8            | 4    | 29.25 | 8    | 25.9 | 8            | 3    | 0.19  | 26.8 | 0    | 7            | 3    | 1.15  | 8    | 0    |    |    |   |   |
| 27   | 2            | 9    | 26.56 | 23.0 | 7    | 28.1         | 8    | 27.50 | 9    | 8    | 29.0         | 8    | 28.44 | 9    | 8    | 30           | 7    | 29.38 | 25.9 | 9    | 1.0          | 6    | 0.33  | 9    | 26.9 | 9            | 5    | 1.27  | 27.8 | 27.9 |    |    |   |   |
| 28   | 3            | 28.2 | 27.11 | 0    | 7    | 3            | 29.1 | 28.5  | 24.0 | 7    | 2            | 30   | 28.58 | 9    | 7    | 0.2          | 1.0  | 29.52 | 9    | 8    | 1            | 9    | 0.46  | 9    | 8    | 2.1          | 8    | 1.40  | 8    | 9    |    |    |   |   |
| 29   | 5            | 5    | 27.26 | 0    | 22.6 | 5            | 4    | 28.19 | 0    | 6    | 4            | 0.3  | 29.12 | 25.0 | 7    | 4            | 3    | 0.6   | 9    | 7    | 3            | 2.1  | 0.59  | 9    | 7    | 2            | 3.1  | 1.53  | 9    | 8    |    |    |   |   |
| 30   | 7            | 8    | 27.41 | 1    | .5   | 6            | 7    | 28.34 | 0    | 23.6 | 6            | 6    | 29.26 | 0    | 24.6 | 5            | 5    | 0.20  | 9    | 25.6 | 5            | 4    | 1.13  | 26.9 | 7    | 4            | 4    | 2.6   | 9    | 7    |    |    |   |   |
| 31   | 9            | 29.1 | 27.56 | 1    | 5    | 8            | 30   | 28.48 | 1    | 5    | 8            | 9    | 29.41 | 0    | 5    | 7            | 8    | 0.33  | 26.0 | 5    | 7            | 7    | 1.26  | 9    | 26.6 | 6            | 6    | 2.19  | 9    | 27.6 |    |    |   |   |
| 32   | 28.1         | 4    | 28.11 | 23.2 | 4    | 29.0         | 0.3  | 29.3  | 1    | 4    | 30           | 1.2  | 29.55 | 0    | 4    | 9            | 2.1  | 0.47  | 0    | 5    | 9            | 3.0  | 1.40  | 9    | 5    | 8            | 9    | 2.33  | 27.9 | 5    |    |    |   |   |
| 33   | 3            | 7    | 28.26 | 2    | 3    | 2            | 6    | 29.18 | 24.1 | 3    | 0.2          | 5    | 0.9   | 1    | 3    | 1.1          | 4    | 1.1   | 0    | 4    | 2.1          | 3    | 1.54  | 27.0 | 4    | 3.0          | 4.2  | 2.46  | 9    | 4    |    |    |   |   |
| 34   | 5            | 30   | 28.42 | 2    | 22.2 | 4            | 9    | 29.33 | 2    | 23.2 | 3            | 8    | 0.24  | 25.1 | 24.3 | 3            | 7    | 1.16  | 0    | 25.3 | 2            | 6    | 2.7   | 0    | 3    | 2            | 5    | 2.59  | 9    | 3    |    |    |   |   |
| 35   | 7            | 0.4  | 28.57 | 3    | 2    | 6            | 1.2  | 29.48 | 2    | 2    | 5            | 2.1  | 0.39  | 1    | 2    | 5            | 3.0  | 1.30  | 1    | 2    | 4            | 9    | 2.21  | 0    | 26.2 | 4            | 8    | 3.13  | 9    | 27.2 |    |    |   |   |
| 36   | 9            | 7    | 29.13 | 3    | 1    | 8            | 6    | 0.3   | 2    | 1    | 7            | 5    | 0.54  | 2    | 1    | 7            | 4    | 1.44  | 26.1 | 1    | 6            | 4.2  | 2.36  | 0    | 1    | 6            | 5.1  | 3.26  | 28.0 | 2    |    |    |   |   |
| 37   | 29.1         | 1.0  | 29.29 | 23.4 | 0    | 30           | 9    | 0.19  | 3    | 0    | 1.0          | 8    | 1.9   | 2    | 0    | 9            | 7    | 1.59  | 1    | 0    | 9            | 6    | 2.50  | 0    | 0    | 8            | 4    | 3.40  | 0    | 1    |    |    |   |   |
| 38   | 3            | 4    | 29.45 | 4    | 21.9 | 0.2          | 2.2  | 0.34  | 24.3 | 22.9 | 2            | 3.1  | 1.24  | 2    | 23.9 | 2.1          | 4.0  | 2.14  | 1    | 24.9 | 3.1          | 9    | 3.4   | 27.1 | 0    | 4.0          | 7    | 3.54  | 0    | 0    |    |    |   |   |
| 39   | 5            | 7    | 0.1   | 5    | 8    | 5            | 5    | 0.50  | 4    | 8    | 4            | 5    | 1.39  | 25.3 | 8    | 4            | 4    | 2.29  | 2    | 8    | 3            | 5.2  | 3.18  | 1    | 25.9 | 3            | 6.0  | 4.8   | 0    | 26.9 |    |    |   |   |
| 40   | 8            | 2.1  | 0.17  | 5    | 8    | 7            | 9    | 1.6   | 4    | 8    | 6            | 8    | 1.55  | 3    | 8    | 6            | 7    | 2.44  | 26.2 | 7    | 5            | 6    | 3.33  | 1    | 8    | 5            | 4    | 4.22  | 0    | 8    |    |    |   |   |
| 41   | 30           | 5    | 0.34  | 23.6 | 7    | 1.0          | 3.2  | 1.22  | 5    | 7    | 9            | 4.2  | 2.11  | 3    | 7    | 8            | 5.1  | 2.59  | 2    | 6    | 8            | 9    | 3.48  | 1    | 7    | 7            | 8    | 4.37  | 28.0 | 7    |    |    |   |   |
| 42   | 0.3          | 9    | 0.51  | 6    | 6    | 2            | 6    | 1.38  | 5    | 22.6 | 2.2          | 6    | 2.26  | 4    | 23.6 | 3.1          | 5    | 3.15  | 3    | 24.5 | 4.1          | 6.3  | 4.3   | 2    | 6    | 5.0          | 7.1  | 4.51  | 1    | 6    |    |    |   |   |
| 43   | 5            | 3.3  | 1.8   | 7    | 21.5 | 5            | 4.0  | 1.55  | 24.6 | 5    | 4            | 5.0  | 2.43  | 25.4 | 5    | 4            | 8    | 3.30  | 3    | 4    | 3            | 7    | 4.18  | 27.2 | 4    | 3            | 5    | 5.6   | 1    | 5    |    |    |   |   |
| 44   | 8            | 7    | 1.25  | 7    | 5    | 8            | 4    | 2.12  | 6    | 4    | 7            | 4    | 2.59  | 5    | 4    | 7            | 6.2  | 3.46  | 26.3 | 4    | 6            | 7.0  | 4.34  | 2    | 25.3 | 6            | 9    | 5.21  | 1    | 26.4 |    |    |   |   |
| 45   | 1.1          | 4.1  | 1.43  | 23.8 | 4    | 2.1          | 8    | 2.29  | 6    | 3    | 3.0          | 7    | 3.16  | 5    | 4    | 9            | 5    | 4.2   | 4    | 3    | 9            | 4    | 4.49  | 2    | 3    | 8            | 8.3  | 5.36  | 1    | 3    |    |    |   |   |
| 46   | 4            | 4    | 2.0   | 8    | 3    | 4            | 5.2  | 2.46  | 7    | 22.3 | 3            | 6.1  | 3.33  | 5    | 23.3 | 4.2          | 9    | 4.19  | 4    | 24.2 | 5.2          | 8    | 5.5   | 3    | 2    | 6.1          | 7    | 5.52  | 28.1 | 2    |    |    |   |   |
| 47   | 7            | 8    | 2.18  | 9    | 21.2 | 7            | 7    | 3.4   | 7    | 2    | 6            | 5    | 3.50  | 25.6 | 1    | 6            | 7.3  | 4.35  | 4    | 1    | 5            | 8.2  | 5.21  | 3    | 1    | 4            | 9.1  | 6.7   | 2    | 1    |    |    |   |   |
| 48   | 2.1          | 5.3  | 2.37  | 9    | 1    | 3.0          | 6.1  | 3.22  | 24.8 | 1    | 9            | 9    | 4.7   | 6    | 0    | 9            | 7    | 4.52  | 26.5 | 0    | 8            | 6    | 5.38  | 27.3 | 0    | 8            | 5    | 6.23  | 2    | 0    |    |    |   |   |
| 49   | 4            | 7    | 2.56  | 24.0 | 1    | 3            | 6    | 3.40  | 8    | 0    | 4.3          | 7.3  | 4.25  | 7    | 22.9 | 5.2          | 8.1  | 5.10  | 5    | 23.9 | 6.1          | 9.0  | 5.55  | 3    | 24.8 | 7.1          | 9    | 6.39  | 2    | 25.9 |    |    |   |   |
| 50   | 8            | 6.2  | 3.15  | 1    | 0    | 7            | 7.0  | 3.59  | 9    | 21.9 | 7            | 8    | 4.43  | 7    | 8    | 6            | 6    | 5.27  | 6    | 8    | 5            | 4    | 6.12  | 4    | 7    | 5            | 10.3 | 6.56  | 2    | 7    |    |    |   |   |
| 51   | 3.1          | 7    | 3.34  | 1    | 20.9 | 4.0          | 5    | 4.18  | 9    | 8    | 5.0          | 8.3  | 5.1   | 25.8 | 7    | 9            | 9.1  | 5.45  | 6    | 7    | 8            | 9    | 6.29  | 4    | 6    | 8            | 7    | 7.13  | 28.2 | 6    |    |    |   |   |
| 52   | 5            | 7.2  | 3.54  | 2    | 8    | 4            | 8.0  | 4.37  | 25.0 | 7    | 4            | 8    | 5.20  | 8    | 6    | 6.3          | 6    | 6.3   | 26.6 | 6    | 7.2          | 10.4 | 6.47  | 27.4 | 5    | 8.1          | 11.1 | 7.30  | 3    | 5    |    |    |   |   |
| 53   | 9            | 7    | 4.15  | 24.2 | 7    | 8            | 5    | 4.57  | 0    | 6    | 8            | 9.3  | 5.39  | 8    | 22.5 | 7            | 10.1 | 6.22  | 7    | 23.4 | 6            | 9    | 7.5   | 5    | 24.3 | 5            | 6    | 7.48  | 3    | 25.4 |    |    |   |   |
| 54   | 4.4          | 8.2  | 4.35  | 3    | 6    | 5.3          | 9.0  | 5.17  | 1    | 5    | 6.2          | 8    | 5.59  | 9    | 4    | 7.2          | 6    | 6.41  | 7    | 3    | 8.1          | 11.4 | 7.23  | 5    | 2    | 9.0          | 12.1 | 8.5   | 3    | 2    |    |    |   |   |
| 55   | 9            | 7    | 4.57  | 4    | 4    | 8            | 5    | 5.38  | 2    | 3    | 7            | 10.3 | 6.19  | 26.0 | 2    | 7            | 11.1 | 7.0   | 8    | 1    | 6            | 9    | 7.42  | 6    | 0    | 5            | 6    | 8.24  | 4    | 0    |    |    |   |   |
| 56   | 5.4          | 9.3  | 5.18  | 4    | 3    | 6.3          | 10.1 | 5.59  | 2    | 2    | 7.2          | 9    | 6.40  | 0    | 1    | 8.2          | 6    | 7.20  | 8    | 0    | 9.1          | 12.4 | 8.1   | 6    | 23.9 | 10.0         | 13.1 | 8.42  | 4    | 24.9 |    |    |   |   |

TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H.   | H. M. S. } II 1°<br>SID. T. 3 55 26<br>ARC 58° 51.5 |      |      |      |      | H. M. S. } II 2°<br>3 59 37<br>59° 54.2 |      |      |      |      | H. M. S. } II 3°<br>4 3 48<br>60° 57.1 |      |       |     |      | H. M. S. } II 4°<br>4 8 1<br>62° 0.1 |       |       |     |      | H. M. S. } II 5°<br>4 12 13<br>63° 3.3 |       |       |     |      | H. M. S. } II 6°<br>4 16 27<br>64° 6.7 |      |       |     |     |
|------|---|------|------|------|------|---|------|------|------|------|--|------|-------|-----|------|--------------------------------------|-------|-------|-----|------|--|-------|-------|-----|------|--|------|-------|-----|-----|
|      | 11  | 12   | 1    | 2    | 3    | 11                                      | 12   | 1    | 2    | 3    | 11                                     | 12   | 1     | 2   | 3    | 11                                   | 12    | 1     | 2   | 3    | 11                                     | 12    | 1     | 2   | 3    | 11                                     | 12   | 1     | 2   | 3   |
| Lat. | ☉   | ☌    | ☿    | ♁    | ♃    | ☉                                       | ☌    | ☿    | ♁    | ♃    | ☉                                      | ☌    | ☿     | ♁   | ♃    | ☉                                    | ☌     | ☿     | ♁   | ♃    | ☉                                      | ☌     | ☿     | ♁   | ♃    | ☉                                      | ☌    | ☿     | ♁   | ♃   |
| 22   | 2.0   | 2.1  | 1 20 | 28.8 | 29.4 | 3.0                                     | 3.1  | 2 17 | 29.8 | 0.4  | 3.9                                    | 4.1  | 3 14  | 0.8 | 1.5  | 4.9                                  | 5.0   | 4 11  | 1.8 | 2.5  | 5.9                                    | 6.0   | 5 9   | 2.9 | 3.6  | 6.8                                    | 7.0  | 6 7   | 3.9 | 4.6 |
| 23   | 2   | 4    | 1 33 | 8    | 3    | 2                                       | 3    | 2 29 | 8    | 3    | 4.1                                    | 3    | 3 26  | 8   | 4    | 5.1                                  | 3     | 4 23  | 8   | 4    | 6.0                                    | 3     | 5 20  | 9   | 5    | 7.0                                    | 2    | 6 17  | 9   | 5   |
| 24   | 4   | 7    | 1 45 | 8    | 2    | 3                                       | 6    | 2 41 | 8    | 3    | 3                                      | 6    | 3 37  | 8   | 3    | 2                                    | 5     | 4 34  | 8   | 3    | 2                                      | 5     | 5 31  | 9   | 4    | 2                                      | 5    | 6 28  | 9   | 4   |
| 25   | 5   | 9    | 1 57 | 8    | 1    | 5                                       | 9    | 2 53 | 8    | 2    | 4                                      | 8    | 3 49  | 8   | 2    | 4                                    | 8     | 4 45  | 8   | 3    | 4                                      | 8     | 5 42  | 8   | 3    | 3                                      | 7    | 6 38  | 9   | 3   |
| 26   | 7   | 3.2  | 2 10 | 8    | 1    | 6                                       | 4.1  | 3 5  | 8    | 1    | 6                                      | 5.1  | 4 1   | 8   | 1.1  | 6                                    | 6.0   | 4 57  | 8   | 2.2  | 5                                      | 7.0   | 5 53  | 8   | 3.2  | 5                                      | 8.0  | 6 49  | 8   | 4.2 |
| 27   | 9   | 5    | 2 22 | 28.8 | 0    | 8                                       | 4    | 3 17 | 29.8 | 0    | 8                                      | 3    | 4 13  | 0.8 | 1    | 7                                    | 3     | 5 8   | 1.8 | 1    | 7                                      | 3     | 6 4   | 2.8 | 1    | 7                                      | 2    | 6 59  | 3.8 | 1   |
| 28   | 3.0   | 7    | 2 35 | 8    | 28.9 | 4.0                                     | 6    | 3 30 | 8    | 29.9 | 9                                      | 6    | 4 24  | 8   | 0    | 9                                    | 5     | 5 19  | 8   | 0    | 9                                      | 5     | 6 15  | 8   | 0    | 8                                      | 5    | 7 10  | 8   | 1   |
| 29   | 2   | 4.0  | 2 47 | 8    | 8    | 2                                       | 9    | 3 42 | 8    | 8    | 5.1                                    | 8    | 4 36  | 8   | 0.9  | 6.1                                  | 8     | 5 31  | 8   | 1.9  | 7.0                                    | 8     | 6 26  | 8   | 2.9  | 8.0                                    | 7    | 7 21  | 8   | 0   |
| 30   | 4   | 3    | 3 0  | 8    | 7    | 3                                       | 5.2  | 3 54 | 8    | 8    | 3                                      | 6.1  | 4 48  | 8   | 8    | 3                                    | 7.0   | 5 42  | 8   | 8    | 2                                      | 8.0   | 6 37  | 7   | 8    | 2                                      | 9.0  | 7 31  | 7   | 3.9 |
| 31   | 6   | 5    | 3 13 | 8    | 6    | 5                                       | 5    | 4 6  | 8    | 7    | 5                                      | 4    | 5 0   | 8   | 7    | 4                                    | 3     | 5 54  | 8   | 7    | 4                                      | 3     | 6 48  | 7   | 7    | 4                                      | 2    | 7 42  | 7   | 8   |
| 32   | 8   | 8    | 3 26 | 28.8 | 28.5 | 7                                       | 7    | 4 19 | 29.8 | 29.6 | 7                                      | 7    | 5 12  | 0.8 | 6    | 6                                    | 6     | 6 5   | 1.8 | 6    | 6                                      | 6     | 6 59  | 2.7 | 6    | 5                                      | 5    | 7 53  | 3.7 | 7   |
| 33   | 4.0   | 5.1  | 3 38 | 9    | 5    | 9                                       | 6.0  | 4 31 | 8    | 5    | 9                                      | 9    | 5 24  | 8   | 5    | 8                                    | 9     | 6 17  | 7   | 5    | 8                                      | 8     | 7 10  | 7   | 5    | 7                                      | 8    | 8 4   | 7   | 6   |
| 34   | 1   | 4    | 3 51 | 9    | 4    | 5.1                                     | 3    | 4 44 | 8    | 4    | 6.0                                    | 7.2  | 5 36  | 8   | 0.4  | 7.0                                  | 8.1   | 6 29  | 7   | 1.4  | 8.0                                    | 9.1   | 7 22  | 7   | 2.4  | 9                                      | 10.0 | 8 14  | 6   | 5   |
| 35   | 3   | 7    | 4 4  | 9    | 3    | 3                                       | 6    | 4 56 | 8    | 3    | 2                                      | 5    | 5 48  | 8   | 3    | 2                                    | 4     | 6 41  | 7   | 3    | 2                                      | 4     | 7 33  | 7   | 3    | 9.1                                    | 3    | 8 25  | 6   | 3.4 |
| 36   | 5   | 6.0  | 4 18 | 9    | 28.2 | 5                                       | 9    | 5 9  | 8    | 29.2 | 4                                      | 8    | 6 1   | 8   | 2    | 4                                    | 7     | 6 53  | 7   | 2    | 4                                      | 7     | 7 44  | 7   | 2    | 3                                      | 6    | 8 37  | 6   | 2   |
| 37   | 8   | 3    | 4 31 | 28.9 | 1    | 7                                       | 7.2  | 5 22 | 29.8 | 1    | 7                                      | 8.1  | 6 13  | 0.8 | 1    | 6                                    | 9.0   | 7 5   | 1.7 | 1    | 6                                      | 10.0  | 7 56  | 2.7 | 1    | 5                                      | 9    | 8 48  | 3.6 | 1   |
| 38   | 5.0   | 6    | 4 44 | 9    | 0    | 9                                       | 5    | 5 35 | 8    | 0    | 9                                      | 4    | 6 26  | 8   | 0    | 8                                    | 3     | 7 17  | 7   | 0    | 8                                      | 3     | 8 8   | 6   | 0    | 7                                      | 11.2 | 8 59  | 6   | 0   |
| 39   | 2   | 9    | 4 58 | 9    | 27.9 | 6.2                                     | 8    | 5 48 | 8    | 28.9 | 7.1                                    | 7    | 6 38  | 8   | 29.9 | 8.1                                  | 7     | 7 29  | 7   | 0.9  | 9.0                                    | 6     | 8 19  | 6   | 1.9  | 10.0                                   | 5    | 9 10  | 5   | 2.9 |
| 40   | 4   | 7.3  | 5 12 | 9    | 8    | 4                                       | 8.2  | 6 2  | 8    | 8    | 3                                      | 9.1  | 6 51  | 8   | 8    | 3                                    | 10.0  | 7 41  | 7   | 8    | 2                                      | 9     | 8 31  | 6   | 8    | 2                                      | 8    | 9 22  | 5   | 8   |
| 41   | 7   | 6    | 5 26 | 9    | 7    | 6                                       | 5    | 6 15 | 29.8 | 7    | 6                                      | 4    | 7 4   | 8   | 7    | 5                                    | 3     | 7 54  | 7   | 6    | 5                                      | 11.3  | 8 44  | 6   | 6    | 4                                      | 12.2 | 9 33  | 5   | 6   |
| 42   | 6.0   | 8.0  | 5 40 | 29.0 | 5    | 9                                       | 9    | 6 29 | 8    | 5    | 9                                      | 8    | 7 18  | 0.8 | 5    | 8                                    | 7     | 8 7   | 1.7 | 5    | 8                                      | 6     | 8 56  | 2.6 | 5    | 7                                      | 5    | 9 45  | 3.5 | 5   |
| 43   | 2   | 4    | 5 54 | 0    | 4    | 7.2                                     | 9.2  | 6 43 | 9    | 4    | 8.1                                    | 10.1 | 7 31  | 8   | 4    | 9.1                                  | 11.0  | 8 20  | 7   | 0.4  | 10.0                                   | 12.0  | 9 8   | 6   | 1.4  | 11.0                                   | 8    | 9 57  | 4   | 2.4 |
| 44   | 5   | 7    | 6 9  | 0    | 27.3 | 5                                       | 6    | 6 57 | 9    | 28.3 | 4                                      | 5    | 7 44  | 8   | 29.3 | 3                                    | 4     | 8 33  | 7   | 3    | 3                                      | 3     | 9 21  | 6   | 2    | 2                                      | 13.1 | 10 9  | 4   | 2   |
| 45   | 8   | 9.1  | 6 23 | 0    | 2    | 7                                       | 10.0 | 7 11 | 29.9 | 2    | 7                                      | 8    | 7 58  | 8   | 2    | 6                                    | 7     | 8 46  | 6   | 1    | 6                                      | 6     | 9 34  | 6   | 1    | 5                                      | 4    | 10 21 | 4   | 1   |
| 46   | 7.1   | 5    | 6 38 | 0    | 1    | 8.0                                     | 4    | 7 25 | 9    | 1    | 9.0                                    | 11.2 | 8 12  | 8   | 1    | 9                                    | 12.1  | 8 59  | 6   | 0    | 9                                      | 9     | 9 47  | 5   | 0    | 8                                      | 8    | 10 34 | 4   | 0   |
| 47   | 4   | 8    | 6 53 | 29.0 | 0    | 3                                       | 7    | 7 40 | 9    | 0    | 3                                      | 5    | 8 26  | 0.8 | 0    | 10.2                                 | 5     | 9 13  | 1.6 | 29.9 | 11.2                                   | 13.3  | 10 0  | 2.5 | 0.9  | 12.1                                   | 14.2 | 10 46 | 3.3 | 1.9 |
| 48   | 7   | 10.2 | 7 9  | 0    | 26.9 | 6                                       | 11.1 | 7 55 | 9    | 27.9 | 6                                      | 9    | 8 41  | 8   | 28.8 | 5                                    | 8     | 9 27  | 6   | 8    | 5                                      | 6     | 10 13 | 5   | 7    | 4                                      | 5    | 10 59 | 3   | 7   |
| 49   | 8.0   | 6    | 7 25 | 1    | 7    | 9.0                                     | 5    | 8 10 | 29.9 | 8    | 10.0                                   | 12.3 | 8 55  | 8   | 7    | 8                                    | 13.2  | 9 41  | 6   | 6    | 8                                      | 14.0  | 10 27 | 5   | 6    | 7                                      | 8    | 11 12 | 3   | 5   |
| 50   | 4   | 11.1 | 7 41 | 1    | 6    | 3                                       | 9    | 8 25 | 9    | 6    | 3                                      | 7    | 9 10  | 8   | 5    | 11.2                                 | 6     | 9 55  | 6   | 5    | 12.1                                   | 4     | 10 41 | 5   | 4    | 13.1                                   | 15.2 | 11 26 | 3   | 4   |
| 51   | 7   | 5    | 7 57 | 1    | 5    | 6                                       | 12.3 | 8 41 | 9    | 5    | 6                                      | 13.1 | 9 25  | 8   | 4    | 5                                    | 14.0  | 10 10 | 6   | 29.3 | 4                                      | 8     | 10 55 | 5   | 0.3  | 4                                      | 6    | 11 39 | 3   | 3   |
| 52   | 9.1   | 9    | 8 13 | 29.1 | 26.4 | 10.0                                    | 7    | 8 57 | 9    | 27.3 | 11.0                                   | 5    | 9 41  | 0.8 | 2    | 9                                    | 4     | 10 25 | 1.6 | 2    | 8                                      | 15.2  | 11 9  | 2.4 | 1    | 8                                      | 16.0 | 11 53 | 3.2 | 1   |
| 53   | 5   | 12.4 | 8 30 | 1    | 2    | 4                                       | 13.2 | 9 13 | 2    | 4    | 14.0                                   | 9 57 | 8     | 1   | 12.3 | 8                                    | 10 40 | 6     | 0   | 13.2 | 6                                      | 11 24 | 4     | 0   | 14.2 | 4                                      | 12 7 | 2     | 0.9 |     |
| 54   | 9   | 9    | 8 48 | 1    | 1    | 9                                       | 7    | 9 30 | 0.0  | 0    | 8                                      | 5    | 10 13 | 8   | 27.9 | 7                                    | 15.3  | 10 56 | 6   | 28.9 | 6                                      | 16.1  | 11 39 | 4   | 29.8 | 6                                      | 9    | 12 22 | 2   | 7   |
| 55   | 10.4  | 13.4 | 9 5  | 2    | 25.9 | 11.3                                    | 14.2 | 9 47 | 0    | 26.8 | 12.2                                   | 15.0 | 10 29 | 8   | 7    | 13.2                                 | 8     | 11 11 | 6   | 7    | 14.1                                   | 6     | 11 54 | 4   | 6    | 15.0                                   | 17.4 | 12 36 | 2   | 5   |
| 56   | 9   | 9    | 9 23 | 2    | 8    | 9                                       | 7    | 10 5 | 0    | 7    | 7                                      | 5    | 10 46 | 8   | 6    | 7                                    | 16.3  | 11 28 | 5   | 5    | 6                                      | 17.1  | 12 10 | 3   | 4    | 5                                      | 9    | 12 51 | 1   | 3   |







TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H. M. S.<br>SID. T. 5 3 30 } II<br>ARC 75° 52'.5 } 17° |        |           |              |            |           | H. M. S.<br>5 7 49 } II 18°<br>76° 57'.3 } |                   |                |                   |                 | H. M. S.<br>5 12 9 } II 19°<br>78° 2'.2 } |              |             |              |           | H. M. S.<br>5 16 29 } II 20°<br>79° 7'.2 } |        |       |      |      | H. M. S.<br>5 20 49 } II 21°<br>80° 12'.3 } |      |       |      |      | H. M. S.<br>5 25 10 } II 22°<br>81° 17'.4 } |      |       |      |      |
|--|--------|-----------|--------------|------------|-----------|--|-------------------|----------------|-------------------|-----------------|---|--------------|-------------|--------------|-----------|--|--------|-------|------|------|---|------|-------|------|------|---|------|-------|------|------|
| Lat.   | 11     | 12        | 1            | 2          | 3         | 11   | 12                | 1              | 2                 | 3               | 11  | 12           | 1           | 2            | 3         | 11   | 12     | 1     | 2    | 3    | 11  | 12   | 1     | 2    | 3    | 11  | 12   | 1     | 2    | 3    |
| 22   | 17.6   | 17.8      | 16.55        | 15.6       | 16.0      | 18.6                                       | 18.8              | 17.55          | 16.6              | 17.1            | 19.6                                      | 19.8         | 18.55       | 17.7         | 18.1      | 20.6                                       | 20.8   | 19.55 | 18.7 | 19.1 | 21.6  | 21.8 | 20.55 | 19.8 | 20.2 | 22.6  | 22.8 | 21.55 | 20.8 | 21.2 |
| 23   | 7 18.0 | 17 1 5    | 15.9         | 7 19.0     | 18 1 5    | 0  | 7 20.0            | 19 0 6         | 0                 | 7 21.0          | 20 0 6                                    | 0            | 7 22.0      | 20 59 6      | 0         | 7 9 21                                     | 59 7   | 1     |      |      |   |      |       |      |      |   |      |       |      |      |
| 24   | 9 2 17 | 7 4 8     | 9 2 18       | 6 4 16.8   | 9 2 19    | 5 5 17.9                                   | 9 1 20            | 4 5 18.9       | 9 2 21            | 3 5 19.9        | 9 23.1                                    | 22 2 6       | 20.9        |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 25   | 18.0   | 4 17      | 13 3 7       | 19.0       | 4 18      | 11 3 7                                     | 20.0              | 4 19           | 10 4 7            | 21.0            | 3 20                                      | 9 4 8        | 22.0        | 3 21         | 7 4 8     | 23.0                                       | 3 22   | 6 5 8 |      |      |   |      |       |      |      |   |      |       |      |      |
| 26   | 2 6 17 | 19 15.2   | 6 2 6 18     | 17 16.2    | 6 2 6 19  | 15 17.3                                    | 6 2 5 20          | 13 18.3        | 6 2 5 21          | 12 19.3         | 7 2 5 22                                  | 10 20.3      | 7           |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 27   | 4 8 17 | 24 1 5    | 3 8 18       | 22 1 5     | 3 8 19    | 20 1 5                                     | 3 7 20            | 18 2 5         | 3 7 21            | 16 2 6          | 3 7 22                                    | 14 2 6       |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 28   | 5 19.0 | 17 30 0   | 15.3         | 5 20.0     | 18 27 0   | 16.4                                       | 5 21.0            | 19 25 0        | 17.4              | 5 9 20          | 22 1 18.4                                 | 5 9 21       | 20 1 19.4   | 5 9 22       | 17 1 20.4 |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 29   | 7 2 17 | 36 14.9   | 2 7 2 18     | 33 15.9    | 2 7 2 19  | 30 16.9                                    | 3 6 22.1          | 20 27 0        | 3 6 23.1          | 21 24 0         | 3 23.6                                    | 24.1         | 22 21 0     | 3            |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 30   | 8 4 17 | 42 8 1    | 8 4 18       | 38 8 1     | 8 4 19    | 35 8 1                                     | 8 3 20            | 31 17.8        | 1 8 3 21          | 28 18.9         | 2 8 3 22                                  | 25 19.9      | 2           |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 31   | 19.0   | 6 17      | 48 7 0       | 20.0       | 6 18      | 44 7 0                                     | 21.0              | 6 19           | 40 7 0            | 22.0            | 5 20                                      | 36 7 0       | 23.0        | 5 21         | 32 7 0    | 9 5 22                                     | 28 7 0 |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 32   | 2 9 17 | 54 6 14.8 | 2 8 18       | 49 6 15.9  | 2 8 19    | 45 6 16.9                                  | 1 8 20            | 41 6 17.9      | 1 7 21            | 36 6 18.9       | 24.1                                      | 7 22         | 32 6 19.9   |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 33   | 4 20.1 | 18 0 14.5 | 7 3 21.0     | 18 55 15.5 | 7 3 22.0  | 19 50 5 7                                  | 3 23.0            | 20 45 5 7      | 3 9 21            | 40 5 8          | 3 9 22                                    | 36 5 8       |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 34   | 5 3 18 | 6 4 6     | 5 3 19       | 0 4 6      | 5 2 19    | 55 16.4                                    | 6 5 2 20          | 50 4 6         | 5 24.1            | 21 45 18.4      | 6 5 25.1                                  | 22 39 19.4   | 6           |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 35   | 7 5 18 | 12 3 4    | 7 5 19       | 6 3 4      | 7 4 20    | 0 3 4                                      | 7 4 20            | 55 17.3        | 4 7 3 21          | 49 3 5          | 6 3 22                                    | 43 3 5       |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 36   | 9 7 18 | 18 3 14.3 | 9 7 19       | 12 3 15.3  | 9 6 20    | 5 2 16.3                                   | 9 5 20            | 59 2 17.3      | 8 5 21            | 53 2 18.3       | 8 5 22                                    | 47 1 19.3    |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 37   | 20.1   | 9 18      | 24 14.2      | 1 21.1     | 9 19      | 17 15.2                                    | 1 22.1            | 8 20           | 11 1 1 23.1       | 7 21 4 1 1 24.0 | 7 21 57 0 1 25.0                          | 7 22 51 0 1  |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 38   | 3 21.2 | 18 30 1 0 | 3 22.1       | 19 23 1 0  | 3 23.0    | 20 16 0 0                                  | 3 24.0            | 21 9 0 0       | 2 9 22            | 2 17.9          | 0 2 9 22                                  | 55 18.9      | 0           |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 39   | 6 4 18 | 37 0 13.9 | 5 4 19       | 29 0 14.8  | 5 3 20    | 21 15.9                                    | 15.8              | 5 2 21         | 14 16.9           | 16.8            | 4 25.1                                    | 22 6 8 17.8  | 4 26.1      | 22 59 8 18.8 |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 40   | 8 7 18 | 43 13.9   | 7 7 6 19     | 35 14.9    | 7 7 5 20  | 27 8 7                                     | 7 5 21            | 19 8 7         | 6 4 22            | 10 7 7          | 6 3 23                                    | 2 7 6        |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 41   | 21.0   | 22.0      | 18 50 8 5    | 22.0       | 9 19      | 41 8 5                                     | 9 8 20            | 32 7 5         | 9 7 21            | 23 7 5          | 9 6 22                                    | 15 6 5       | 8 5 23      | 6 6 5        |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 42   | 2 2 18 | 56 7 4    | 2 23.1       | 19 47 7 3  | 23.2      | 24.0 20 38 6 3                             | 24.1              | 25.0 21 28 6 3 | 25.1              | 9 22 19 17.4    | 3 26.1                                    | 8 23 10 18.5 | 3           |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 43   | 5 5 19 | 3 6 2     | 5 4 19       | 53 6 2     | 4 3 20    | 43 4 1                                     | 4 2 21            | 34 16.5        | 1 3 26.1          | 22 24 3 1       | 3 27.0                                    | 23 14 3 1    |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 44   | 8 8 19 | 9 5 0     | 7 7 19       | 59 14.5    | 0 7 6 20  | 49 15.3                                    | 0 6 5 21          | 39 3 15.9      | 6 4 22            | 29 2 16.9       | 6 3 23                                    | 19 2 17.9    |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 45   | 22.0   | 23.1      | 19 16 13.4   | 12.9       | 23.0      | 24.0 20 5 4 13.9                           | 9 9 20            | 55 2 14.9      | 9 7 21            | 44 2 8 9 6 22   | 33 0 8 8 5 23                             | 23 0 8       |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 46   | 3 3 19 | 23 3 7    | 2 20         | 12 2 7     | 24.1      | 25.1 21 0 1 7                              | 25.1              | 26.0 21 49 1 6 | 26.1              | 9 22 38 16.9    | 6 27.0                                    | 7 23 27 17.8 | 6           |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 47   | 5 6 19 | 30 2 5    | 4 4 20       | 18 0 5     | 3 3 21    | 6 0 5                                      | 3 2 21            | 55 15.9        | 4 3 27.2          | 22 43 7 4       | 2 28.0                                    | 23 31 6 4    |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 48   | 7 9 19 | 37 1 3    | 7 7 20       | 25 13.9    | 3 6 6 21  | 12 14.9                                    | 2 6 5 22          | 0 8 2 5 5 22   | 48 6 2            | 4 2 23          | 35 5 1                                    |              |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 49   | 23.0   | 24.2      | 19 44 0 1    | 24.0       | 25.1      | 20 31 8 1                                  | 9 9 21            | 18 8 0 9 8 22  | 5 7 0 8 7 22      | 53 4 0 7 5 23   | 40 3 16.9                                 |              |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 50   | 3 5 19 | 51 12.9   | 11.9         | 3 4 20     | 38 7 12.9 | 25.2                                       | 26.2 21 24 6 13.8 | 26.2           | 27.1 22 11 5 14.8 | 27.1            | 28.0 22 58 16.3                           | 15.8 28.0    | 8 23 44 2 7 |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 51   | 6 9 19 | 59 8 7    | 6 7 20       | 45 5 7     | 5 5 21    | 31 5 6                                     | 5 4 22            | 17 15.4        | 6 4 3 23          | 3 2 6 3 29.1    | 23 49 0 5                                 |              |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 52   | 9 25.2 | 20 6 6 5  | 9 26.0       | 20 52 13.4 | 5 8 8 21  | 37 14.3                                    | 4 8 7 22          | 23 2 4 7 6 23  | 8 1 4 6 4 23      | 54 16.9         | 3   |              |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 53   | 24.3   | 5 20      | 14 5 3       | 25.2       | 3 20      | 59 3 3                                     | 26.1              | 27.1 21 44 2 2 | 27.1              | 28.0 22 29 0 2  | 28.0                                      | 9 23 13 15.9 | 1 9 7 23    | 58 8 1       |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 54   | 7 8 20 | 22 12.3   | 1 6 7 21     | 6 2 0      | 5 5 21    | 50 0 12.9                                  | 5 3 22            | 35 14.9        | 13.9              | 4 29.2          | 23 19 7 14.8                              | 29.3         | 24 3 6 15.8 |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 55   | 25.1   | 26.2      | 20 30 2 10.8 | 26.0       | 27.1      | 21 13 0 11.7                               | 9 9 21            | 57 13.9        | 6 9 7 22          | 41 7 6 8 5 23   | 24 5 5 7 0.3                              | 24 8 4 5     |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |
| 56   | 5 6 20 | 38 1 5    | 4 5 21       | 21 12.9    | 4 27.3    | 28.3 22 4 7                                | 3 28.3            | 29.1 22 47 5 3 | 29.2              | 9 23 30 3 2     | 0.1                                       | 7 24 13 2 2  |             |              |           |  |        |       |      |      |   |      |       |      |      |   |      |       |      |      |



















TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H. Lat. | H. M. S. } $\Omega$ 7°<br>SID. T. 8 37 36 }<br>ARC 120° 24'.0 } |     |       |      |      | H. M. S. } $\Omega$ 8°<br>8 41 41 }<br>130° 25'.2 } |      |           |      |      | H. M. S. } $\Omega$ 9°<br>8 45 44 }<br>131° 26'.1 } |      |          |      |      | H. M. S. } $\Omega$ 10°<br>8 49 48 }<br>132° 26'.0 } |      |           |      |      | H. M. S. } $\Omega$ 11°<br>8 53 50 }<br>133° 27'.5 } |          |           |      |      | H. M. S. } $\Omega$ 12°<br>8 57 52 }<br>134° 27'.9 } |          |           |     |      |
|---------|---|-----|-------|------|------|---|------|-----------|------|------|---|------|----------|------|------|--|------|-----------|------|------|--|----------|-----------|------|------|--|----------|-----------|-----|------|
|         | 11  | 12  | 1     | 2    | 3    | 11  | 12   | 1         | 2    | 3    | 11  | 12   | 1        | 2    | 3    | 11   | 12   | 1         | 2    | 3    | 11   | 12       | 1         | 2    | 3    | 11   | 12       | 1         | 2   | 3    |
| 22      | 9.0   | 9.2 | 6 7   | 5.3  | 5.6  | 10.0  | 10.2 | 7 2       | 6.3  | 6.5  | 11.1  | 11.2 | 7 57     | 7.2  | 7.4  | 12.1   | 12.2 | 8 51      | 8.1  | 8.4  | 13.1   | 13.1     | 9 46      | 9.0  | 9.3  | 14.1   | 14.1     | 10 40     | 9.9 | 10.3 |
| 23      | 1   | 2   | 5 52  | 0    | 4    | 1   | 2    | 6 47      | 0    | 3    | 1   | 1    | 7 41     | 6.9  | 3    | 1  | 1    | 8 35      | 7.8  | 2    | 2  | 1        | 9 29      | 8.7  | 2    | 2  | 0 10 23  | 6         | 1   |      |
| 24      | 1   | 1   | 5 37  | 4.8  | 2    | 1   | 1    | 6 31      | 5.7  | 2    | 2   | 1    | 7 25     | 6    | 1    | 2  | 0    | 8 19      | 5    | 1    | 2  | 0        | 9 12      | 4    | 0    | 2  | 0 10 6   | 3         | 9.9 |      |
| 25      | 2   | 1   | 5 21  | 5    | 1    | 2   | 0    | 6 15      | 4    | 0    | 2   | 0    | 7 9      | 3    | 0    | 2  | 0    | 8 3       | 2    | 7.9  | 3  | 12.9     | 8 56      | 1    | 8.8  | 3  | 13.9     | 9 49      | 0   | 8    |
| 26      | 3   | 0   | 5 6   | 2    | 4.9  | 3   | 0    | 6 0       | 1    | 5.9  | 3   | 10.9 | 6 53     | 0    | 6.8  | 12.3   | 11.9 | 7 46      | 6.9  | 7    | 13.3   | 9        | 8 39      | 7.8  | 7    | 3  | 8 9 32   | 8.7       | 6   |      |
| 27      | 9.3   | 0   | 4 51  | 3.9  | 7    | 10.3  | 9.9  | 5 44      | 4.8  | 7    | 11.3  | 9    | 6 37     | 5.7  | 6    | 3  | 8    | 7 30      | 6    | 6    | 4  | 8        | 8 22      | 5    | 5    | 14.4   | 7 9 15   | 4         | 4   |      |
| 28      | 4   | 8.9 | 4 35  | 6    | 6    | 4   | 9    | 5 28      | 5    | 5    | 4   | 8    | 6 21     | 4    | 4    | 4  | 8    | 7 13      | 3    | 4    | 4  | 7        | 8 5       | 2    | 3    | 4  | 7 8 58   | 1         | 3   |      |
| 29      | 4   | 9   | 4 20  | 3    | 4    | 4   | 8    | 5 12      | 2    | 3    | 5   | 8    | 6 4      | 1    | 3    | 5  | 7    | 6 57      | 0    | 2    | 5  | 6        | 7 48      | 6.9  | 1    | 5  | 13.6     | 8 40      | 7.8 | 1    |
| 30      | 5   | 8   | 4 4   | 0    | 2    | 5   | 8    | 4 56      | 3.9  | 1    | 5   | 10.7 | 5 48     | 4.8  | 1    | 12.5   | 6    | 6 40      | 5.7  | 0    | 13.5   | 12.6     | 7 31      | 6    | 0    | 5  | 5 8 23   | 5         | 8.9 |      |
| 31      | 6   | 8   | 3 48  | 2.7  | 0    | 6   | 9.7  | 4 40      | 6    | 0    | 6   | 6    | 5 31     | 5    | 5.9  | 6  | 11.6 | 6 23      | 4    | 6.8  | 6  | 5        | 7 14      | 3    | 7.8  | 14.6   | 4 8 5    | 2         | 7   |      |
| 32      | 9.6   | 7   | 3 32  | 4    | 3.8  | 10.6  | 6    | 4 24      | 3    | 4.8  | 11.6  | 6    | 5 15     | 2    | 7    | 6  | 5    | 6 6       | 1    | 6    | 6  | 4        | 6 57      | 5.9  | 6    | 6  | 3 7 48   | 6.8       | 5   |      |
| 33      | 7   | 8.7 | 3 16  | 1    | 6    | 7   | 6    | 4 7       | 0    | 6    | 7   | 5    | 4 58     | 3.9  | 5    | 7  | 4    | 5 49      | 4.8  | 5    | 7  | 3        | 6 39      | 6    | 4    | 7  | 13.3     | 7 30      | 5   | 3    |
| 34      | 8   | 6   | 3 0   | 1.8  | 4    | 8   | 5    | 3 51      | 2.7  | 4    | 8   | 10.4 | 4 41     | 5    | 3    | 12.8   | 4    | 5 31      | 4    | 3    | 13.7   | 12.3     | 6 22      | 3    | 2    | 7  | 2 7 12   | 2         | 1   |      |
| 35      | 8   | 6   | 2 44  | 4    | 2    | 8   | 9.5  | 3 34      | 3    | 2    | 8   | 4    | 4 24     | 2    | 1    | 8  | 3    | 5 14      | 1    | 1    | 8  | 2        | 6 4       | 4.9  | 0    | 14.8   | 1 6 53   | 5.8       | 7.9 |      |
| 36      | 9   | 5   | 2 27  | 1    | 0    | 9   | 4    | 3 17      | 0    | 0    | 9   | 3    | 4 7      | 2.8  | 4.9  | 9  | 11.2 | 4 56      | 3.7  | 5.8  | 9  | 1        | 5 46      | 6    | 6.8  | 8  | 0 6 35   | 5         | 7   |      |
| 37      | 10.0  | 8.4 | 2 11  | 0.7  | 2.8  | 11.0  | 3    | 3 0       | 1.6  | 3.8  | 12.0  | 2    | 3 49     | 5    | 7    | 9  | 1    | 4 39      | 4    | 6    | 9  | 0        | 5 28      | 2    | 6    | 9  | 12.9     | 6 16      | 1   | 5    |
| 38      | 1   | 4   | 1 54  | 4    | 6    | 0   | 3    | 2 43      | 3    | 5    | 0   | 10.2 | 3 32     | 1    | 5    | 13.0   | 1    | 4 21      | 0    | 4    | 14.0   | 11.9     | 5 9       | 3.8  | 4    | 9  | 8 5 57   | 4.7       | 3   |      |
| 39      | 1   | 3   | 1 37  | 0    | 4    | 1   | 9.2  | 2 26      | 0.9  | 3    | 1   | 1    | 3 14     | 1.8  | 2    | 1  | 0    | 4 2       | 2.6  | 2    | 0  | 9        | 4 50      | 5    | 1    | 15.0   | 7 5 38   | 3         | 1   |      |
| 40      | 2   | 3   | 1 20  | 29.7 | 1    | 2   | 2    | 2 8       | 5    | 1    | 2   | 0    | 2 56     | 4    | 0    | 1  | 10.9 | 3 44      | 3    | 4.9  | 1  | 8        | 4 31      | 1    | 5.9  | 1  | 7 5 19   | 0         | 6.8 |      |
| 41      | 3   | 8.2 | 1 2   | 3    | 1.9  | 3   | 1    | 1 50      | 1    | 2.8  | 2   | 0    | 2 37     | 0    | 3.7  | 2  | 8    | 3 25      | 1.9  | 7    | 2  | 7        | 4 12      | 2.7  | 6    | 1  | 12.6     | 4 59      | 3.5 | 6    |
| 42      | 10.4  | 1   | 0 45  | 28.9 | 6    | 11.4  | 0    | 1 32      | 29.7 | 5    | 12.3  | 9.9  | 2 19     | 0.6  | 5    | 3  | 7    | 3 6       | 5    | 4    | 14.2   | 11.6     | 3 53      | 3    | 4    | 2  | 5 4 39   | 1         | 3   |      |
| 43      | 5   | 1   | 0 27  | 5    | 3    | 4   | 8.9  | 1 13      | 3    | 3    | 4   | 8    | 2 0      | 2    | 2    | 13.3   | 7    | 2 47      | 0    | 2    | 3  | 5        | 3 33      | 1.9  | 1    | 15.2   | 4 4 19   | 2.7       | 0   |      |
| 44      | 5   | 0   | 0 8   | 1    | 1    | 5   | 9    | 0 55      | 28.9 | 0    | 4   | 7    | 1 41     | 29.8 | 2.9  | 4  | 10.6 | 2 27      | 0.6  | 3.9  | 3  | 4        | 3 13      | 4    | 4.8  | 3  | 3 3 59   | 3         | 5.8 |      |
| 45      | 6   | 7.9 | 29 50 | 27.6 | 0.8  | 6   | 8    | 0 36      | 5    | 1.7  | 5   | 6    | 1 22     | 3    | 6    | 4  | 5    | 2 7       | 2    | 6    | 4  | 3        | 2 53      | 0    | 5    | 3  | 12.3     | 3 38      | 1.8 | 5    |
| 46      | 6   | 9   | 29 31 | 2    | 5    | 6   | 7    | 0 17      | 1    | 4    | 5   | 9.6  | 1 2 28.9 | 3    | 5    | 4  | 1 47 | 29.7      | 3    | 14.4 | 11.2   | 2 32     | 0.6       | 2    | 4    | 2 3 17   | 4        | 2         |     |      |
| 47      | 10.7  | 8   | 29 12 | 26.8 | 1    | 11.7  | 6    | 29 57     | 27.7 | 1    | 12.6  | 5    | 0 42     | 5    | 0    | 5  | 3    | 1 27      | 3    | 0    | 5  | 1        | 2 11      | 2    | 3.9  | 15.4   | 1 2 55   | 0.9       | 4.8 |      |
| 48      | 8   | 7   | 28 53 | 4    | 29.8 | 7   | 8.6  | 29 37     | 2    | 0.8  | 7   | 4    | 0 21     | 0    | 1.7  | 13.6   | 10.2 | 1 6 28.9  | 2.6  | 5    | 1  | 1 50     | 29.7      | 5    | 5    | 0 2 34   | 5        | 5         |     |      |
| 49      | 8   | 7.7 | 28 33 | 0    | 5    | 8   | 5    | 29 17     | 26.7 | 4    | 8   | 3    | 0 1 27.6 | 3    | 7    | 2  | 0 45 | 4         | 3    | 6    | 0  | 1 28     | 2         | 1    | 5    | 11.9   | 2 11     | 0         | 2   |      |
| 50      | 9   | 6   | 28 13 | 25.5 | 1    | 9   | 4    | 28 56     | 3    | 0    | 8   | 9.2  | 29 40    | 1    | 0.9  | 7  | 1    | 0 23 27.9 | 1.9  | 14.6 | 10.9   | 1 6 28.7 | 2.8       | 6    | 7    | 1 49 29.5  | 3.8      |           |     |      |
| 51      | 11.0  | 5   | 27 52 | 0    | 28.8 | 12.0  | 3    | 28 35     | 25.8 | 29.7 | 9   | 1    | 29 18    | 26.6 | 5    | 8  | 0    | 0 1       | 4    | 6    | 7  | 8        | 0 43      | 2    | 4    | 15.7   | 6 1 26   | 0         | 4   |      |
| 52      | 1   | 4   | 27 31 | 24.5 | 4    | 1   | 8.2  | 28 14     | 3    | 3    | 13.0  | 1    | 28 56    | 1    | 1    | 9  | 9.9  | 29 38     | 26.9 | 2    | 8  | 7        | 0 20 27.7 | 0    | 8    | 5  | 1 2 28.4 | 0         |     |      |
| 53      | 2   | 7.3 | 27 10 | 0    | 0    | 2   | 1    | 27 52     | 24.8 | 28.9 | 1   | 0    | 28 34    | 25.5 | 29.7 | 14.0   | 8    | 29 15     | 3    | 0.7  | 9  | 6        | 29 57     | 1    | 1.6  | 8  | 11.4     | 0 38 27.8 | 2.6 |      |
| 54      | 3   | 3   | 26 48 | 23.4 | 27.5 | 3   | 0    | 27 29     | 2    | 4    | 2   | 8.9  | 28 11    | 24.9 | 3    | 1  | 7    | 28 51     | 25.7 | 3    | 15.0   | 10.5     | 29 32     | 26.5 | 1    | 9  | 3 0 13   | 2         | 1   |      |
| 55      | 5   | 2   | 26 25 | 22.8 | 26.9 | 4   | 0    | 27 6 23.6 | 27.9 | 3    | 3   | 8    | 27 47    | 3    | 28.8 | 2  | 6    | 28 27     | 1    | 29.7 | 1  | 4        | 29 8 25.9 | 0.6  | 16.0 | 1  | 29 48    | 26.6      | 1.6 |      |
| 56      | 6   | 1   | 26 3  | 2    | 4    | 5   | 7.9  | 26 43     | 0    | 4    | 4   | 7    | 27 23    | 23.7 | 3    | 3  | 5    | 28 3 24.5 | 2    | 2    | 2  | 28 42    | 2         | 1    | 1    | 0 29 22  | 0        | 0         |     |      |



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

## UPPER MERIDIAN, CUSP OF 10th H.

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| H.   | H. M. S. } Ω 18°<br>SID. T. 9 21 46 } Ω<br>ARC 140° 26'.6 } |      |    |    |           | H. M. S. } Ω 19°<br>9 25 43 } |         |          |           |                | H. M. S. } Ω 20°<br>9 29 39 } |                 |            |          |           | H. M. S. } Ω 21°<br>9 33 34 } |          |             |              |           | H. M. S. } Ω 22°<br>9 37 29 } |             |                |          |           | H. M. S. } Ω 23°<br>9 41 23 } |           |        |        |           |
|------|---|------|----|----|-----------|-------------------------------|---------|----------|-----------|----------------|-------------------------------|-----------------|------------|----------|-----------|-------------------------------|----------|-------------|--------------|-----------|-------------------------------|-------------|----------------|----------|-----------|-------------------------------|-----------|--------|--------|-----------|
|      | 11  | 12   | 1  | 2  | 3         | 11                            | 12      | 1        | 2         | 3              | 11                            | 12              | 1          | 2        | 3         | 11                            | 12       | 1           | 2            | 3         | 11                            | 12          | 1              | 2        | 3         | 11                            | 12        | 1      | 2      | 3         |
| Lat. | ⊘   | △    | ♍  | ♋  | ♌         | ⊘                             | △       | ♍        | ♋         | ♌              | ⊘                             | △               | ♍          | ♋        | ♌         | ⊘                             | △        | ♍           | ♋            | ♌         | ⊘                             | △           | ♍              | ♋        | ♌         | ⊘                             | △         | ♍      | ♋      | ♌         |
| 22   | 20.2  | 19.8 | 15 | 59 | 15.2 15.9 | 21.2                          | 20.8    | 16       | 51        | 16.1 16.8      | 22.2                          | 21.7            | 17         | 43       | 17.0 17.7 | 23.2                          | 22.7     | 18          | 35           | 17.9 18.7 | 24.2                          | 23.6        | 19             | 27       | 18.8 19.6 | 25.2                          | 24.5      | 20     | 19     | 19.6 20.5 |
| 23   | 2   | 7    | 15 | 40 | 14.9 7    | 2                             | 7       | 16       | 32        | 15.8 6         | 2                             | 6               | 17         | 24       | 16.7 6    | 2                             | 6        | 18          | 16           | 6 5       | 2                             | 5           | 19             | 7 5 4    | 2         | 4                             | 19        | 59     | 3 4    |           |
| 24   | 3   | 6    | 15 | 21 | 6 5       | 2                             | 6       | 16       | 13        | 5 5            | 3                             | 5               | 17         | 5 4 4    | 3         | 4                             | 17       | 56          | 3 3          | 2         | 4                             | 18          | 48 2 3         | 2        | 3         | 19                            | 39        | 0 2    |        |           |
| 25   | 3   | 5    | 15 | 3  | 3 4       | 3                             | 5       | 15       | 54        | 2 3            | 3                             | 4               | 16         | 46 1 2   | 3         | 3                             | 17       | 37          | 0 2          | 2         | 2                             | 18          | 28 17.9 1      | 2        | 2         | 19                            | 18        | 18.7 0 |        |           |
| 26   | 3   | 4    | 14 | 44 | 0 2       | 3                             | 20.4    | 15       | 35        | 14.9 1         | 3                             | 21.3            | 16         | 26       | 15.8 1    | 3                             | 22.2     | 17          | 17           | 16.7 0    | 3                             | 1           | 18             | 7 5 18.9 | 3         | 0                             | 18        | 58     | 4 19.9 |           |
| 27   | 3   | 19.3 | 14 | 25 | 13.7 0    | 21.3                          | 2       | 15       | 16        | 6 0            | 22.3                          | 2               | 16         | 6 5 16.9 | 23.3      | 1                             | 16       | 57          | 4 17.8       | 24.3      | 0                             | 17          | 47 2 8         | 25.3     | 23.9      | 18                            | 37        | 1 7    |        |           |
| 28   | 20.4  | 2    | 14 | 6  | 4 14.9    | 4                             | 1       | 14       | 56        | 3 15.8         | 3                             | 1               | 15         | 47 2 7   | 3         | 0                             | 16       | 37          | 0 7          | 3         | 22.9                          | 17          | 27             | 16.9 6 3 | 8         | 18                            | 17        | 17.8 5 |        |           |
| 29   | 4   | 1    | 13 | 46 | 1 7       | 4                             | 0       | 14       | 37        | 0 6            | 4                             | 20.9            | 15         | 27       | 14.8 6    | 4                             | 21.8     | 16          | 17           | 15.7 5 3  | 8                             | 17          | 6 6 4 3        | 7        | 17        | 56                            | 4 4       |        |        |           |
| 30   | 4   | 0    | 13 | 27 | 12.8 5    | 4                             | 19.9    | 14       | 17        | 13.6 4 4       | 8                             | 15              | 7 5 4      | 4        | 7         | 15                            | 56       | 4 3 3       | 6            | 16        | 46                            | 2 2 3       | 5              | 17       | 35        | 1 2                           |           |        |        |           |
| 31   | 5   | 18.9 | 13 | 7  | 4 3       | 4                             | 8       | 13       | 57        | 3 3 4          | 7                             | 14              | 46         | 2 2 4    | 6         | 15                            | 36       | 0 1 4       | 5            | 16        | 25                            | 15.9 1 3    | 23.4           | 17       | 14        | 16.8 0                        |           |        |        |           |
| 32   | 5   | 8    | 12 | 47 | 1 1       | 21.5                          | 7       | 13       | 37        | 0 1            | 22.4                          | 6               | 14         | 26       | 13.8 0    | 23.4                          | 5        | 15          | 15           | 14.7 16.9 | 24.4                          | 22.4        | 16             | 4 6 17.9 | 25.3      | 3                             | 16        | 52     | 4 18.8 |           |
| 33   | 20.5  | 7    | 12 | 27 | 11.7 13.9 | 5                             | 6       | 13       | 17        | 12.6 14.9      | 5                             | 5               | 14         | 5 5 15.8 | 4         | 21.3                          | 14       | 54          | 3 7 4        | 2         | 15                            | 42          | 2 7 4          | 1        | 16        | 31                            | 1 6       |        |        |           |
| 34   | 6   | 6    | 12 | 7  | 4 7       | 5                             | 5       | 12       | 56        | 3 7            | 5                             | 20.4            | 13         | 44       | 1 6       | 5                             | 2        | 14          | 33           | 0 5 4     | 1                             | 15          | 21             | 14.8 5 4 | 0         | 16                            | 9         | 15.7 4 |        |           |
| 35   | 6   | 5    | 11 | 47 | 0 5       | 6                             | 19.3    | 12       | 35        | 11.9 5 5       | 2                             | 13              | 23         | 12.7 4 5 | 1         | 14                            | 11       | 13.6 3 4    | 0            | 14        | 59                            | 4 3 4       | 22.8           | 15       | 47        | 3 2                           |           |        |        |           |
| 36   | 6   | 18.3 | 11 | 26 | 10.6 3    | 6                             | 2       | 12       | 14        | 5 3 5          | 1                             | 13              | 2          | 4 2      | 5         | 20.9                          | 13       | 50          | 2 1 5        | 21.8      | 14                            | 37          | 1 1 4          | 7        | 15        | 25                            | 14.9 0    |        |        |           |
| 37   | 20.7  | 2    | 11 | 5  | 3 1       | 21.6                          | 1       | 11       | 53        | 1 1            | 22.6                          | 0               | 12         | 40 0 0   | 23.5      | 8                             | 13       | 28          | 12.8 15.9    | 24.5      | 7                             | 14          | 15 13.7 16.9   | 25.4     | 5         | 15                            | 2 5       | 17.8   |        |           |
| 38   | 7   | 1    | 10 | 44 | 9.9 12.9  | 7                             | 0       | 11       | 31        | 10.7 13.8      | 6                             | 19.9            | 12         | 19       | 11.6 14.8 | 6                             | 7        | 13          | 5 4 7        | 5         | 6                             | 13          | 52 3 7 4       | 4        | 14        | 39                            | 1 6       |        |        |           |
| 39   | 7   | 0    | 10 | 23 | 5 7       | 7                             | 18.8    | 11       | 10        | 3 6 6          | 8                             | 11              | 56         | 2 5 6    | 5         | 12                            | 43       | 0 5 5       | 5            | 13        | 29                            | 12.8 4 5    | 2              | 14       | 16        | 13.7 4                        |           |        |        |           |
| 40   | 8   | 17.8 | 10 | 1  | 1 4       | 7                             | 7       | 10       | 48        | 9.9 4 7        | 6                             | 11              | 34         | 10.7 3 6 | 20.4      | 12                            | 20       | 11.6 2 5    | 21.3         | 13        | 6 4 2 5                       | 1           | 13             | 52       | 3 1       |                               |           |        |        |           |
| 41   | 20.8  | 7    | 9  | 39 | 8.6 2     | 8                             | 6       | 10       | 25        | 5 1 7          | 5                             | 11              | 11         | 3 0      | 23.6      | 2                             | 11       | 57          | 1 0 6        | 2         | 12                            | 43 0 15.9   | 5              | 21.9     | 13        | 28                            | 12.8 16.9 |        |        |           |
| 42   | 9   | 6    | 9  | 17 | 2 11.9    | 21.8                          | 4       | 10       | 2 0       | 12.8 22.7      | 19.4                          | 10              | 48         | 9.9 13.8 | 7         | 1                             | 11       | 34          | 10.7 14.7    | 24.6      | 0                             | 12          | 19 11.5 7 25.5 | 8        | 13        | 4 4 6                         |           |        |        |           |
| 43   | 9   | 5    | 8  | 54 | 7.8 6     | 8                             | 18.3    | 9        | 39        | 8.6 6 8        | 2                             | 10              | 24         | 4 5 7    | 19.9      | 11                            | 10       | 2 5 6       | 20.9         | 11        | 55 1 4 5                      | 6           | 12             | 39       | 11.9 3    |                               |           |        |        |           |
| 44   | 9   | 17.4 | 8  | 31 | 3 3       | 9                             | 2       | 9        | 16        | 1 3 8          | 1                             | 10              | 1 8.9 2 7  | 8        | 10        | 45                            | 9.8 2 6  | 7           | 11           | 30        | 10.6 1 6 5                    | 12          | 14             | 4 0      |           |                               |           |        |        |           |
| 45   | 21.0  | 3    | 8  | 8  | 6.8 0     | 9                             | 1       | 8        | 52        | 7.6 0 8        | 18.9                          | 9               | 36         | 4 12.9   | 23.8      | 7                             | 10       | 21          | 3 13.9       | 7         | 5                             | 11 5 1 14.8 | 6              | 21.4     | 11        | 48                            | 10.9 15.7 |        |        |           |
| 46   | 0   | 1    | 7  | 44 | 3 10.7    | 9                             | 17.9    | 8        | 28        | 1 11.7         | 22.9                          | 8               | 9          | 12       | 7.9 6 8   | 6                             | 9        | 55          | 8.8 6 7      | 4         | 10                            | 39 9.6 5 6  | 3              | 11       | 22        | 4 4                           |           |        |        |           |
| 47   | 0   | 0    | 7  | 20 | 5.8 4     | 22.0                          | 8       | 8        | 3 6.6 4 9 | 6 8 47 4 3     | 8                             | 19.4            | 9          | 30       | 2 2 24.7  | 2                             | 10       | 13 1 2 25.6 | 1 10         | 56        | 9.9 1                         |             |                |          |           |                               |           |        |        |           |
| 48   | 1   | 16.8 | 6  | 55 | 3 1 0     | 6                             | 7       | 38       | 1 0 9     | 4 8 21 6.9 0 8 | 2 9 4 7.7 12.9                | 7 0 9 46        | 8.5 13.9   | 7 20.9   | 10 29     | 3 14.8                        |          |             |              |           |                               |             |                |          |           |                               |           |        |        |           |
| 49   | 21.1  | 7    | 6  | 30 | 4.8 9.7   | 1                             | 5       | 7        | 12        | 5.6 10.7 9     | 3 7 55 4 11.7                 | 23.9            | 1          | 8        | 37 1 6 8  | 19.8                          | 9        | 19 0 6 7    | 7 10 2 8.8 5 |           |                               |             |                |          |           |                               |           |        |        |           |
| 50   | 1   | 5    | 6  | 4  | 3 4 1     | 17.3                          | 6       | 46       | 1 4 23.0  | 1 7 28 5.8 3 9 | 18.9                          | 8               | 10         | 6.6 3 8  | 7 8 52    | 7.4 2 7 5                     | 9 33     | 2 2         |              |           |                               |             |                |          |           |                               |           |        |        |           |
| 51   | 2   | 4    | 5  | 37 | 3.7 0 1   | 1                             | 6       | 19       | 4.5 0 0   | 17.9           | 7 1 2 10.9                    | 9 7 7 42 0 11.9 | 8 6 8 24   | 6.8 12.8 | 7 3 9 5   | 7.6 13.8                      |          |             |              |           |                               |             |                |          |           |                               |           |        |        |           |
| 52   | 2   | 16.3 | 5  | 10 | 1 8.6     | 22.2                          | 0       | 5        | 52        | 3.9 9.6 0 8    | 6 33 4.6 5 9                  | 6 7 14          | 5.4 5 24.8 | 4 7 55   | 2 4 25.8  | 1 8 35                        | 0 4      |             |              |           |                               |             |                |          |           |                               |           |        |        |           |
| 53   | 21.3  | 2    | 4  | 43 | 2.5 1 2   | 16.9                          | 5       | 24       | 3 1 1     | 7 6 4 0 1 24.0 | 4 6 45                        | 4.8 0 9 2       | 7 25       | 5.6 0 8  | 19.9      | 8 5 6.3 12.9                  |          |             |              |           |                               |             |                |          |           |                               |           |        |        |           |
| 54   | 3   | 0    | 4  | 15 | 1.9 7.7   | 2                             | 7       | 4        | 55        | 2.6 8.6 23.1   | 5 5 35                        | 3.4 9.6 0 2     | 6 15       | 1 10.5   | 9 0 6 55  | 4.9 11.6                      | 8 7 7 34 | 5.6 4       |              |           |                               |             |                |          |           |                               |           |        |        |           |
| 55   | 4   | 15.8 | 3  | 47 | 2 2 3     | 5 4 26                        | 1.9 1 1 | 3 5 5    | 2.7 1 0   | 0 5 44         | 3.4 0 9                       | 18.8            | 6 24       | 2 0 8    | 5 7 2     | 4.9 11.9                      |          |             |              |           |                               |             |                |          |           |                               |           |        |        |           |
| 56   | 5   | 6    | 3  | 17 | 0.5 6.6   | 3 3 3 56                      | 2 7.6   | 2 1 4 35 | 0 8.5     | 1 17.8         | 5 13                          | 2.7 9.4         | 9 6 5 52   | 3.5 10.5 | 9 2 6 30  | 2 3                           |          |             |              |           |                               |             |                |          |           |                               |           |        |        |           |



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H. | H. M. S. 10 4 33 } 29° |         |            |         |           | H. M. S. 10 8 22 } 30° |            |             |            |            | H. M. S. 10 12 11 } 31° |             |             |             |             | H. M. S. 10 16 0 } 32° |           |         |      |      | H. M. S. 10 19 47 } 33° |     |       |      |      | H. M. S. 10 23 35 } 34° |     |       |      |     |
|----|------------------------|---------|------------|---------|-----------|------------------------|------------|-------------|------------|------------|-------------------------|-------------|-------------|-------------|-------------|------------------------|-----------|---------|------|------|-------------------------|-----|-------|------|------|-------------------------|-----|-------|------|-----|
|    | 11                     | 12      | 1          | 2       | 3         | 11                     | 12         | 1           | 2          | 3          | 11                      | 12          | 1           | 2           | 3           | 11                     | 12        | 1       | 2    | 3    | 11                      | 12  | 1     | 2    | 3    | 11                      | 12  | 1     | 2    | 3   |
| 22 | 1.1                    | 0.0     | 25 25      | 24.9    | 26.2      | 2.1                    | 1.0        | 26 16       | 25.8       | 27.1       | 3.1                     | 1.9         | 27 6        | 26.6        | 28.1        | 4.1                    | 2.8       | 27 56   | 27.5 | 29.0 | 5.1                     | 3.7 | 28 46 | 28.4 | 29.9 | 6.0                     | 4.6 | 29 36 | 29.2 | 0.9 |
| 23 | 1                      | 29.9    | 25 4       | 6 0     | 1         | 0.8                    | 25 54      | 5 0         | 1          | 7 26 44    | 3 27.9                  | 1           | 6 27 34     | 2 28.8      | 1           | 5 28 24                | 1 8 0     | 4 29 14 | 28.9 | 7    |                         |     |       |      |      |                         |     |       |      |     |
| 24 | 2                      | 7 24 42 | 3 25.9     | 1       | 6 25 32   | 1 26.8                 | 1          | 5 26 22     | 0 8 1      | 5 27 12    | 26.9                    | 7 0         | 3 28 1 27.7 | 6 0         | 2 28 51     | 6 6                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 25 | 1                      | 6 24 20 | 0 7 1      | 5 25 10 | 24.8      | 7 1                    | 4 26 0     | 25.7        | 6 1        | 3 26 49    | 5 5 0                   | 2 27 38     | 4 5 0       | 1 28 28     | 3 4         |                        |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 26 | 1                      | 4 23 58 | 23.6       | 6 1     | 3 24 48   | 5 5 3.1                | 2 25 37    | 3 4 4.0     | 1 26 26    | 2 3 5.0    | 0 27 15                 | 1 29.3      | 0 3.9       | 28 4 27.9   | 3           |                        |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 27 | 1.1                    | 29.3    | 23 36      | 3 4 2.1 | 2 24 25   | 2 4 1                  | 1 25 15    | 0 27.3      | 0 1.9      | 26 4 25.9  | 2 0                     | 2.8         | 26 52 26.8  | 1 0         | 7 27 41     | 6 1                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 28 | 1                      | 1 23 14 | 0 2 1      | 0 24 3  | 23.8      | 2 0                    | 0.9        | 24 52 24.7  | 1 0        | 8 25 40    | 5 0 0                   | 6 26 29     | 4 0 5.9     | 5 27 17     | 3 29.9      |                        |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 29 | 1                      | 0 22 51 | 22.6       | 1 1     | 29.9      | 23 40                  | 5 0 0      | 7 24 29     | 3 0 0      | 6 25 17    | 2 27.9                  | 0 5 26 5    | 1 28.8      | 9 3 26 53   | 26.9        | 8                      |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 30 | 1                      | 28.8    | 22 28      | 3 24.9  | 1         | 7 23 17                | 1 25.8     | 3.0         | 6 24 5     | 0 26.8     | 4.0                     | 4 24 53     | 24.8        | 7 4.9       | 3 25 41     | 25.7                   | 6 9       | 2 26 29 | 6 6  |      |                         |     |       |      |      |                         |     |       |      |     |
| 31 | 1                      | 7 22 5  | 21.9       | 7 1     | 5 22 54   | 22.8                   | 7 0        | 4 23 42     | 23.6       | 6 0        | 3 24 29                 | 5 5 9       | 1 25 17     | 3 5 9       | 0 26 5      | 2 4                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 32 | 1.1                    | 5 21 42 | 6 5 2.1    | 4 22 30 | 4 5 0     | 2 23 18                | 3 4 0      | 1 24 5      | 1 3 9      | 1.9        | 24 53                   | 0 3 9       | 2.8         | 25 40 25.8  | 2           |                        |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 33 | 1                      | 4 21 19 | 2 3 0      | 2 22 6  | 0 3 0     | 1 22 54                | 22.9       | 2 3.9       | 0.9        | 23 41 23.8 | 1 9                     | 8 24 28     | 24.6        | 1 5.8       | 6 25 15     | 5 0                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 34 | 1                      | 2 20 55 | 20.8       | 1 0     | 0 21 42   | 21.7                   | 1 3.0      | 29.9        | 22 29      | 5 0 9      | 7 23 16                 | 4 26.9      | 9 6 24 3    | 2 27.9      | 8 4 24 50   | 1 28.9                 |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 35 | 1                      | 0 20 31 | 4 23.9     | 0       | 28.9      | 21 18                  | 3 24.9     | 0           | 7 22 5     | 1 25.8     | 9 5 22 51               | 0 7 4.9     | 4 23 38     | 23.8        | 7 8         | 2 24 24                | 24.7      | 7       |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 36 | 1                      | 27.8    | 20 6 0 7   | 0       | 7 20 53   | 20.9                   | 7 0        | 5 21 40     | 21.7       | 6 9        | 3 22 26                 | 22.6        | 5 8         | 2 23 12     | 4 5 8       | 0 23 58                | 3 5       |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 37 | 1.1                    | 7 19 42 | 19.6       | 5 2.0   | 6 20 28   | 5 5 0                  | 4 21 14    | 3 4 9       | 1 22 0     | 2 3 8      | 0 22 46                 | 0 3 8       | 1.8         | 23 32 23.9  | 3           |                        |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 38 | 1                      | 5 19 17 | 2 3 0      | 4 20 3  | 0 3 2.9   | 2 20 48                | 20.9       | 2 3.9       | 0 21 34    | 21.7       | 1 8                     | 0.8         | 22 20 22.6  | 1 5.7       | 6 23 5      | 4 1                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 39 | 1                      | 3 18 51 | 18.7       | 1 0     | 2 19 37   | 19.6                   | 0 9        | 0 20 22     | 4 0 9      | 29.8       | 21 8                    | 3 25.9      | 8 6 21 53   | 1 26.9      | 7 4 22 38   | 22.9                   | 27.9      |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 40 | 1                      | 1 18 26 | 3 22.9     | 0       | 0 19 11   | 1 23.8                 | 9 28.8     | 19 56       | 0 24.8     | 8 6 20 41  | 20.8                    | 7 4.8       | 4 21 26     | 21.6        | 7 7         | 2 22 11                | 5 6       |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 41 | 1                      | 26.9    | 17 59 17.8 | 6 0     | 27.8      | 18 44 18.7             | 6 9        | 6 19 29     | 19.6       | 5 8        | 4 20 13                 | 3 5 7       | 2 20 58     | 2 4 7       | 0 21 42     | 0 4                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 42 | 1.1                    | 8 17 33 | 3 3 2.0    | 6 18 17 | 2 3 9     | 4 19 1                 | 1 3 8      | 2 19 46     | 19.8       | 2 7        | 0 20 30                 | 20.7        | 2 6 0.8     | 21 14 21.5  | 2           |                        |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 43 | 1                      | 6 17 5  | 16.8       | 1 0     | 4 17 50   | 17.7                   | 0 2.9      | 2 18 34     | 18.6       | 0 3.8      | 0 19 17                 | 3 0 7       | 29.8        | 20 1 2 25.9 | 5.6         | 6 20 45                | 0 26.9    |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 44 | 1                      | 4 16 38 | 3 21.8     | 0       | 2 17 22   | 1 22.7                 | 9 0 18 5   | 1 23.7      | 8 28.8     | 18 48 18.8 | 24.7                    | 7 6 19 32   | 19.6        | 7 6         | 4 20 15     | 20.5                   | 6         |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 45 | 1                      | 2 16 10 | 15.8       | 5 0     | 0 16 53   | 16.6                   | 5 9        | 27.8        | 17 36 17.5 | 5 8        | 6 18 19                 | 3 5 4.7     | 4 19 2      | 1 4 6       | 2 19 45     | 19.9                   | 3         |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 46 | 1                      | 0 15 41 | 3 2 0      | 26.8    | 16 24     | 1 2 9                  | 6 17 7     | 0 2 8       | 4 17 49    | 17.7       | 2 6                     | 2 18 32     | 18.5        | 1 5 29.9    | 19 14       | 3 1                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 47 | 1.1                    | 25.7    | 15 12 14.7 | 20.9    | 2.0       | 6 15 54                | 15.5       | 21.9        | 8 3 16 37  | 16.4       | 22.9                    | 7 2 17 19   | 1 23.9      | 6 0 18 1    | 0 24.8      | 5 7 18 43              | 18.8      | 25.8    |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 48 | 1                      | 5 14 42 | 1 6 0      | 4 15 23 | 14.9      | 6 2.8                  | 1 16 6     | 15.8        | 6 3.7      | 0 16 48    | 16.6                    | 6 6 28.7    | 17 29 17.4  | 5 5.5       | 4 18 11     | 2 5                    |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 49 | 1                      | 3 14 12 | 13.6       | 3 0     | 2 14 52   | 4 2 8                  | 26.8       | 15 34       | 2 3 7      | 27.7       | 16 16                   | 0 3 4.6     | 5 16 57     | 16.8        | 2 5 1 17 38 | 17.6                   | 1         |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 50 | 1                      | 1 13 41 | 0 19.9     | 0       | 25.9      | 14 21 13.8             | 20.9       | 8 6 15      | 2 14.6     | 21.9       | 7 4 15 43               | 15.4        | 22.9        | 6 2 16 24   | 2 23.8      | 5 28.9                 | 17 4      | 0 24.8  |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 51 | 0                      | 24.9    | 13 9 12.3  | 5 1.9   | 7 13 49   | 2 5 8                  | 4 14 29    | 13.9        | 5 7        | 2 15 10    | 14.7                    | 5 5 27.9    | 15 50 15.5  | 4 4         | 6 16 30     | 16.3                   | 4         |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 52 | 1.0                    | 7 12 36 | 11.6       | 1 9     | 5 13 16   | 12.5                   | 1 2.8      | 2 13 56     | 2 1 3.6    | 0 14 35    | 0 1 5                   | 7 15 15     | 14.8        | 0 5.4       | 4 15 55     | 15.6                   | 0         |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 53 | 0                      | 4 12 3  | 10.9       | 18.7    | 9 3 12 42 | 11.8                   | 19.7       | 8 0 13 21   | 12.5       | 20.7       | 6 26.7                  | 14 0 13.3   | 21.7        | 4.5         | 4 14 40     | 1 22.6                 | 4 1 15 19 | 14.9    | 23.6 |      |                         |     |       |      |      |                         |     |       |      |     |
| 54 | 0                      | 2 11 28 | 2 2 9      | 0 12 8  | 0 2 8     | 25.7                   | 12 46 11.8 | 2 6 4 13 25 | 12.5       | 2 5 1 14 3 | 13.3                    | 1 3 27.8    | 14 42       | 1 1         |             |                        |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 55 | 0                      | 23.9    | 10 54 9.5  | 17.7    | 9 24.7    | 11 32 10.2             | 18.7       | 8 4 12 10   | 0 19.7     | 6 1 12 48  | 11.7                    | 20.7        | 5 26.8      | 13 26 12.5  | 21.6        | 3 5 14 4               | 13.3      | 22.6    |      |      |                         |     |       |      |      |                         |     |       |      |     |
| 56 | 0                      | 6 10 18 | 8.7        | 1 8     | 4 10 55   | 9.4                    | 1 7        | 1 11 33     | 10.2       | 1 5 25.8   | 12 10 10.9              | 1 4 5 12 47 | 11.6        | 0 3 2 13 25 | 12.5        | 0                      |           |         |      |      |                         |     |       |      |      |                         |     |       |      |     |





TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

|    |      | H. M. S.<br>SID. T. 10 46 9 } 10°<br>ARC 161° 32'.2 |           |         |             |           | H. M. S.<br>10 49 53 } 11°<br>162° 28'.2 |           |          |       |          | H. M. S.<br>10 53 37 } 12°<br>163° 24'.1 |          |        |           |         | H. M. S.<br>10 57 20 } 13°<br>164° 20'.0 |            |           |           |           | H. M. S.<br>11 1 3 } 14°<br>165° 15'.7 |      |     |      |      | H. M. S.<br>11 4 46 } 15°<br>166° 11'.4 |      |     |      |   |
|----|------|---|-----------|---------|-------------|-----------|--|-----------|----------|-------|----------|--|----------|--------|-----------|---------|--|------------|-----------|-----------|-----------|--|------|-----|------|------|---|------|-----|------|---|
| H. | Lat. | 11  | 12        | 1       | 2           | 3         | 11                                       | 12        | 1        | 2     | 3        | 11                                       | 12       | 1      | 2         | 3       | 11                                       | 12         | 1         | 2         | 3         | 11                                     | 12   | 1   | 2    | 3    | 11                                      | 12   | 1   | 2    | 3 |
|    |      | ♄   | ♃         | ♂       | ♆           | ♁         | ♄  | ♃         | ♂        | ♆     | ♁        | ♄  | ♃        | ♂      | ♆         | ♁       | ♄  | ♃          | ♂         | ♆         | ♁         | ♄                                      | ♃    | ♂   | ♆    | ♁    | ♄                                       | ♃    | ♂   | ♆    | ♁ |
| 22 | 11.9 | 9.9   | 4 33      | 4.4     | 6.5         | 12.8      | 10.7                                     | 5 22      | 5.3      | 7.5   | 13.8     | 11.6                                     | 6 11     | 6.2    | 8.4       | 14.7    | 12.5                                     | 7 1        | 7.0       | 9.4       | 15.7      | 13.3                                   | 7 50 | 7.9 | 10.3 | 16.6 | 14.2                                    | 8 38 | 8.8 | 11.3 |   |
| 23 | 8    | 7 4 9   | 1 4       | 8       | 5 4 58      | 0 3       | 7 4 5 47                                 | 5.8       | 3        | 7     | 4 5 47   | 5.8                                      | 3        | 7      | 3 6 36    | 6.7     | 3  | 6 1 7 25   | 6 2       | 6 0 8 13  | 4 2       |  |      |     |      |      |   |      |     |      |   |
| 24 | 8    | 5 3 45  | 3.8       | 3       | 7 3 4 34    | 4.6       | 2  | 7 2 5 22  | 5 2      | 6     | 1 6 11   | 4 1                                      | 6        | 12.9   | 7 0       | 2 1     | 5  | 13.8       | 7 48      | 1 0       |           |  |      |     |      |      |   |      |     |      |   |
| 25 | 8    | 3 3 21  | 5 1       | 7       | 1 4 9       | 3 1       | 7  | 0 4 58    | 2 0      | 6     | 11.9     | 5 46                                     | 0 0      | 5      | 7 6 35    | 6.9     | 0  | 5 6 7 23   | 7.8       | 10.9      |           |  |      |     |      |      |   |      |     |      |   |
| 26 | 7    | 1 2 56  | 1 0       | 7       | 9.9         | 3 44      | 0 6.9                                    | 6         | 10.8     | 4 33  | 4.8      | 7.9                                      | 6        | 7 5 21 | 5.7       | 8.9     | 15.5                                     | 5 6 9      | 6 9.8     | 4 4 6 57  | 4 8       |  |      |     |      |      |   |      |     |      |   |
| 27 | 11.7 | 8.9   | 2 31      | 2.8     | 5.8         | 12.6      | 7 3 19                                   | 3.6       | 8        | 13.6  | 6 4 7    | 5 8                                      | 14.5     | 4 4 55 | 4 7       | 4       | 3 5 43                                   | 2 7        | 16.4      | 1 6 31    | 1 6       |  |      |     |      |      |   |      |     |      |   |
| 28 | 7    | 7 2 6   | 4 7       | 6       | 5 2 54      | 3 6       | 5  | 4 3 42    | 2 6      | 5     | 2 4 30   | 0 6                                      | 4        | 1 5 17 | 5.9       | 5       | 3 12.9                                   | 6 5 6.7    | 5         |           |           |  |      |     |      |      |   |      |     |      |   |
| 29 | 6    | 5 1 41  | 1 5       | 6       | 3 2 28      | 2.9       | 5  | 5 2 3 16  | 3.8      | 5     | 4 0 4 4  | 4.7                                      | 4        | 4 11.9 | 4 51      | 5 4     | 3 7 5 39                                 | 4 10.4     |           |           |           |  |      |     |      |      |   |      |     |      |   |
| 30 | 6    | 3 1 15  | 1.7       | 4       | 5 1 2 3     | 6 6.3     | 4  | 9.9       | 2 50     | 4 7.3 | 4        | 10.8                                     | 3 37     | 3 3    | 15.3      | 6 4 25  | 2 2                                      | 2 5 5 12   | 0 2       |           |           |  |      |     |      |      |   |      |     |      |   |
| 31 | 6    | 1 0 49  | 4 2       | 12.5    | 8.9         | 1 36      | 2 2                                      | 4         | 7 2 24   | 1 1   | 14.3     | 6 3 11                                   | 3.9      | 1      | 3 4 3 58  | 4.8     | 1  | 2 2 4 45   | 5.7       | 0         |           |  |      |     |      |      |   |      |     |      |   |
| 32 | 11.5 | 7.9   | 0 23      | 0 0     | 4 7 1 10    | 1.9       | 0  | 13.4      | 5 1 57   | 2.7   | 0        | 3 4 2 44                                 | 6 7.9    | 2      | 2 3 30    | 4 8.9   | 16.1                                     | 0 4 17     | 3 9.9     |           |           |  |      |     |      |      |   |      |     |      |   |
| 33 | 5    | 6 29 56   | 0.6       | 4.8     | 4 5 0 43    | 5 5.8     | 3  | 3 1 30    | 3 6.8    | 2     | 1 2 16   | 2 8                                      | 2        | 0 3 3  | 0 7       | 1       | 11.8                                     | 3 49       | 4.9       | 7         |           |  |      |     |      |      |   |      |     |      |   |
| 34 | 4    | 4 29 29   | 2 6       | 3       | 2 0 16      | 1 7       | 3  | 1 1 2 1.9 | 6 2      | 9.9   | 1 48     | 2.8                                      | 6        | 15.1   | 10.7      | 2 35    | 3.6                                      | 6 0 5 3 21 | 5 5       |           |           |  |      |     |      |      |   |      |     |      |   |
| 35 | 4    | 2 29 2 29.8   | 5 12.3    | 0 29 48 | 0.7         | 5         | 2  | 8.8       | 0 34     | 5 4   | 14.1     | 6 1 20                                   | 4 4      | 1      | 5 2 6     | 2 4     | 0 3 2 52                                 | 1 4        |           |           |           |  |      |     |      |      |   |      |     |      |   |
| 36 | 4    | 0 28 34   | 4 3       | 3       | 7.8         | 29 20     | 3 3                                      | 2         | 6 0 6    | 1 2   | 1        | 4 0 51                                   | 0 2      | 0      | 2 1 37    | 2.8     | 2  | 15.9       | 0 2 23    | 3.7       | 2         |  |      |     |      |      |   |      |     |      |   |
| 37 | 11.3 | 6.8   | 28 6      | 0 1     | 2 6 28 51   | 29.8      | 1  | 13.1      | 4 29 37  | 0.7   | 0        | 0 2 0 22                                 | 1.5      | 0      | 0 0 1 7   | 4 0     | 9  | 10.8       | 1 53      | 2 0       |           |  |      |     |      |      |   |      |     |      |   |
| 38 | 3    | 6 27 37   | 28.5      | 3.9     | 2 4 28 22   | 4 4.9     | 1  | 2 29 7    | 2 5.8    | 0     | 0 29 53  | 1 6.8                                    | 14.9     | 9.8    | 0 37      | 1.9     | 7.8                                      | 8 5 1 23   | 2.8       | 8.8       |           |  |      |     |      |      |   |      |     |      |   |
| 39 | 2    | 4 27 8  | 0 7       | 12.1    | 2 27 53     | 28.9      | 7  | 0 0 28 38 | 29.7     | 6     | 13.9     | 8.8                                      | 29 22    | 0.6    | 6         | 8 6 0 7 | 4 6                                      | 7 3 0 52   | 3 6       |           |           |  |      |     |      |      |   |      |     |      |   |
| 40 | 2    | 1 26 38   | 27.5      | 5 1     | 6.9         | 27 23     | 4 4                                      | 0         | 7.7      | 28 7  | 2 4      | 9 5 28 52                                | 1 4      | 8      | 3 29 36   | 0.9     | 4  | 7 0 0 21   | 1.8       | 4         |           |  |      |     |      |      |   |      |     |      |   |
| 41 | 11.1 | 5.9   | 26 8      | 0 2     | 0 7 26 52   | 27.9      | 2  | 12.9      | 5 27 36  | 28.7  | 2        | 8 3 28 20                                | 29.6     | 2      | 7 0 29 5  | 4 2     | 15.6                                     | 9.7        | 29 49     | 3 2       |           |  |      |     |      |      |   |      |     |      |   |
| 42 | 1    | 6 25 38   | 26.5      | 0 0     | 4 26 21     | 4 0       | 9  | 2 27 5    | 2 0      | 8     | 0 27 49  | 1 0                                      | 7        | 8.8    | 28 32     | 29.9    | 0  | 6 5 29 16  | 0.8       | 7.9       |           |  |      |     |      |      |   |      |     |      |   |
| 43 | 0    | 4 25 6  | 0 2.8     | 11.9    | 1 25 49     | 26.8      | 3.8                                      | 8         | 6.9      | 26 33 | 27.7     | 4.7                                      | 13.7     | 7.7    | 27 16     | 28.5    | 5.7                                      | 14.6       | 5 27 59   | 4 6.7     | 5 2 28 43 | 2 7                                    |      |     |      |      |   |      |     |      |   |
| 44 | 0    | 1 24 34   | 25.4      | 5 9     | 5.9         | 25 17     | 3 5                                      | 8         | 7 26 0   | 1 5   | 6        | 4 26 43                                  | 0 5      | 5      | 2 27 26   | 28.8    | 5  | 4 8.9      | 28 9 29.7 | 4         |           |  |      |     |      |      |   |      |     |      |   |
| 45 | 10.9 | 4.8   | 24 2 24.9 | 3 8     | 6 24 44     | 25.7      | 3  | 7 4 25 27 | 26.5     | 3     | 6 1 26 9 | 27.4                                     | 3        | 5 7.9  | 26 52     | 2 2     | 3 6 27 34                                | 1 2        |           |           |           |  |      |     |      |      |   |      |     |      |   |
| 46 | 9    | 5 23 28   | 3 1       | 8       | 3 24 10     | 1 0       | 12.6                                     | 1 24 52   | 25.9     | 0     | 5 6.8    | 25 34                                    | 26.8     | 0      | 4 6 26 16 | 27.6    | 0  | 15.3       | 3 26 59   | 28.5      | 0         |  |      |     |      |      |   |      |     |      |   |
| 47 | 8    | 3 22 54   | 23.7      | 1.8     | 7 1 23 36   | 24.5      | 2.7                                      | 6         | 5.8      | 24 17 | 3 3.7    | 13.4                                     | 5 24 59  | 2 4.7  | 3         | 3 25 41 | 0 5.7                                    | 2          | 0 26 22   | 27.9      | 6.7       |  |      |     |      |      |   |      |     |      |   |
| 48 | 8    | 0 22 19   | 1 5       | 11.7    | 4.8         | 23 0 23.9 | 4 5                                      | 5         | 23 42    | 24.7  | 4 4      | 2 24 23                                  | 25.6     | 4      | 14.2      | 0 25 4  | 26.4                                     | 4          | 1 7.7     | 25 45     | 2 4       |  |      |     |      |      |   |      |     |      |   |
| 49 | 10.7 | 3.7   | 21 44     | 22.4    | 2 6 5 22 24 | 3 1       | 5  | 2 23 5    | 1 1      | 3     | 5.9      | 23 46                                    | 24.9     | 1      | 2 6.7     | 24 27   | 25.7                                     | 1          | 1 4 25 7  | 26.5      | 1         |  |      |     |      |      |   |      |     |      |   |
| 50 | 7    | 4 21 7  | 21.8      | 0.8     | 6 2 21 47   | 22.6      | 1.8                                      | 4         | 4.9      | 22 28 | 23.4     | 2.8                                      | 3 6 23 8 | 2 3.8  | 1         | 4 23 48 | 0 4.8                                    | 0          | 1 24 28   | 25.9      | 5.8       |  |      |     |      |      |   |      |     |      |   |
| 51 | 6    | 1 20 30   | 1 4       | 5       | 3.9         | 21 9 21.9 | 4 12.3                                   | 6         | 21 49    | 22.7  | 4 13.2   | 3 22 29                                  | 23.5     | 4      | 1 1 23 9  | 24.3    | 4  | 14.9       | 6.8       | 23 49     | 2 4       |  |      |     |      |      |   |      |     |      |   |
| 52 | 6    | 2.8   | 19 52     | 20.4    | 0 11.5      | 6 20 31   | 1 0                                      | 3         | 3 21 10  | 21.9  | 0 2      | 0 21 49                                  | 22.7     | 0      | 0 5.7     | 22 28   | 23.5                                     | 0          | 9 4 23 8  | 24.4      | 1         |  |      |     |      |      |   |      |     |      |   |
| 53 | 10.5 | 5 19 12   | 19.6      | 29.6    | 4 2 19 51   | 20.3      | 0.6                                      | 2         | 3.9      | 20 29 | 1 1.6    | 1 4.7                                    | 21 8     | 21.9   | 2.6       | 13.9    | 4 21 47                                  | 22.7       | 3.6       | 8 1 22 26 | 23.6      | 4.7                                    |      |     |      |      |   |      |     |      |   |
| 54 | 5    | 2 18 32   | 18.8      | 2 3     | 2.9         | 19 10     | 19.5                                     | 2         | 6 19 48  | 20.3  | 2 0      | 3 20 26                                  | 1 2      | 8      | 0 21 4    | 21.9    | 2  | 7 5.7      | 21 42     | 22.7      | 3         |  |      |     |      |      |   |      |     |      |   |
| 55 | 4    | 1.8   | 17 50     | 17.9    | 28.7        | 2 5 18 28 | 18.6                                     | 29.7      | 1 2 19 5 | 19.4  | 0.7      | 12.9                                     | 3.9      | 19 43  | 20.2      | 1.8     | 8 4.6                                    | 20 20      | 0 2.8     | 6 3 20 58 | 21.8      | 3.9                                    |      |     |      |      |   |      |     |      |   |
| 56 | 3    | 4 17 7  | 0 2       | 1       | 1 17 45     | 17.7      | 2  | 1         | 2.8      | 18 21 | 18.5     | 2 9                                      | 5 18 58  | 19.3   | 3 7       | 2 19 35 | 20.0                                     | 3          | 5 4.9     | 20 12     | 20.8      | 4                                      |      |     |      |      |   |      |     |      |   |

TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| Lat. | H. M. S. 15° |      |              |     |      | H. M. S. 16° |              |            |     |      | H. M. S. 17° |            |           |      |            | H. M. S. 18° |            |       |            |            | H. M. S. 19° |            |            |            |            | H. M. S. 20° |       |       |      |      |
|------|--------------|------|--------------|-----|------|--------------|--------------|------------|-----|------|--------------|------------|-----------|------|------------|--------------|------------|-------|------------|------------|--------------|------------|------------|------------|------------|--------------|-------|-------|------|------|
|      | 11           | 12   | 1            | 2   | 3    | 11           | 12           | 1          | 2   | 3    | 11           | 12         | 1         | 2    | 3          | 11           | 12         | 1     | 2          | 3          | 11           | 12         | 1          | 2          | 3          | 11           | 12    | 1     | 2    | 3    |
| 22   | 16.6         | 14.2 | 8 38         | 8.8 | 11.3 | 17.6         | 15.0         | 9 27       | 9.6 | 12.3 | 18.5         | 15.9       | 10 16     | 10.5 | 13.2       | 19.4         | 16.7       | 11 5  | 11.4       | 14.2       | 20.4         | 17.6       | 11 53      | 12.3       | 15.2       | 21.3         | 18.4  | 12 42 | 13.1 | 16.1 |
| 23   | 6            | 0    | 8 13         | 4   | 2    | 5 14.8       | 9            | 2          | 3   | 1    | 4            | 7          | 9 51      | 2    | 1          | 4            | 5          | 10 39 | 1          | 1          | 3            | 4          | 11 28      | 11.9       | 0          | 2            | 2     | 12 16 | 12.8 | 0    |
| 24   | 5            | 13.8 | 7 48         | 1   | 0    | 5            | 6            | 8 37       | 0   | 0    | 4            | 5          | 9 25      | 9.8  | 0          | 3            | 3          | 10 14 | 10.7       | 13.9       | 2            | 2          | 11 2       | 6 14.9     | 2          | 0            | 11 50 | 5     | 15.9 |      |
| 25   | 5            | 6    | 7 23         | 7.8 | 10.9 | 4            | 4            | 8 11       | 8.6 | 11.9 | 3            | 2          | 8 59      | 5    | 12.8       | 3            | 1          | 9 48  | 4          | 8          | 2            | 16.9       | 10 36      | 3          | 8          | 1            | 17.8  | 11 24 | 2    | 8    |
| 26   | 4            | 4    | 6 57         | 4   | 8    | 17.4         | 2            | 7 45       | 3   | 8    | 3            | 0          | 8 33      | 2    | 7          | 2            | 15.8       | 9 22  | 1          | 7          | 20.1         | 7          | 10 10      | 10.9       | 7          | 1            | 6     | 10 58 | 11.8 | 7    |
| 27   | 16.4         | 1    | 6 31         | 1   | 6    | 3            | 0            | 7 19       | 0   | 6    | 18.2         | 14.8       | 8 7       | 8.8  | 6          | 19.2         | 6          | 8 55  | 9.7        | 6          | 1            | 5          | 9 43       | 6          | 5          | 0            | 3     | 10 31 | 5    | 5    |
| 28   | 3            | 12.9 | 6 5          | 6.7 | 5    | 3            | 13.7         | 6 53       | 7.6 | 5    | 2            | 6          | 7 40      | 5    | 4          | 1            | 4          | 8 28  | 4          | 13.4       | 0            | 2          | 9 16       | 2 14.4     | 20.9       | 1            | 10 3  | 1     | 15.4 |      |
| 29   | 3            | 7    | 5 39         | 4   | 10.4 | 2            | 5            | 6 26       | 3   | 11.3 | 1            | 3          | 7 14      | 1    | 12.3       | 0            | 2          | 8 1   | 0          | 3          | 19.9         | 0          | 8 48       | 9.9        | 3          | 9            | 16.8  | 9 36  | 10.8 | 3    |
| 30   | 2            | 5    | 5 12         | 0   | 2    | 17.1         | 3            | 5 59       | 6.9 | 2    | 1            | 1          | 6 46      | 7.8  | 2          | 0            | 14.9       | 7 34  | 8.6        | 1          | 9            | 15.8       | 8 21       | 5          | 1          | 8            | 6     | 9 8   | 4    | 1    |
| 31   | 2            | 2    | 4 45         | 5.7 | 0    | 1            | 1            | 5 32       | 5   | 0    | 0            | 13.9       | 6 19      | 4    | 0          | 18.9         | 7          | 7 6   | 3          | 0          | 8            | 5          | 7 53       | 2          | 0          | 7            | 3     | 8 40  | 1    | 0    |
| 32   | 16.1         | 0    | 4 17         | 3   | 9.9  | 0            | 12.8         | 5 4        | 2   | 10.9 | 17.9         | 6          | 5 51      | 0    | 11.9       | 9            | 5          | 6 37  | 7.9        | 12.8       | 8            | 3          | 7 24       | 8.8        | 13.8       | 7            | 1     | 8 11  | 9.7  | 14.8 |
| 33   | 1            | 11.8 | 3 49         | 4.9 | 7    | 0            | 6            | 4 36       | 5.8 | 7    | 9            | 4          | 5 22      | 6.7  | 7          | 8            | 2          | 6 9   | 5          | 7          | 7            | 0          | 6 55       | 4          | 7          | 20.6         | 15.8  | 7 42  | 3    | 7    |
| 34   | 0            | 5    | 3 21         | 5   | 5    | 16.9         | 3            | 4 7        | 4   | 5    | 8            | 1          | 4 53      | 3    | 5          | 7            | 0          | 5 39  | 1          | 5          | 19.6         | 14.8       | 6 26       | 0          | 5          | 5            | 6     | 7 12  | 8.9  | 5    |
| 35   | 0            | 3    | 2 52         | 1   | 4    | 9            | 1            | 3 38       | 0   | 4    | 8            | 12.9       | 4 24      | 5.8  | 4          | 7            | 13.7       | 5 10  | 6.7        | 4          | 6            | 5          | 5 56       | 7.6        | 3          | 5            | 3     | 6 42  | 5    | 3    |
| 36   | 15.9         | 0    | 2 23         | 3.7 | 2    | 8            | 11.8         | 3 8        | 4.5 | 2    | 17.7         | 6          | 3 54      | 4    | 2          | 18.6         | 4          | 4 40  | 3          | 2          | 5            | 2          | 5 25       | 2          | 2          | 4            | 0     | 6 11  | 0    | 2    |
| 37   | 9            | 10.8 | 1 53         | 2   | 0    | 7            | 6            | 2 38       | 1   | 0    | 6            | 4          | 3 24      | 0    | 0          | 5            | 2          | 4 9   | 5.8        | 0          | 4            | 0          | 4 55       | 6.7        | 0          | 3            | 14.8  | 5 40  | 7.6  | 0    |
| 38   | 8            | 5    | 1 23         | 2.8 | 8.8  | 7            | 3            | 2 8        | 3.6 | 9.8  | 6            | 1          | 2 53      | 4.5  | 10.8       | 5            | 12.9       | 3 38  | 4          | 11.8       | 4            | 13.8       | 4 23       | 3          | 12.8       | 20.2         | 5     | 5 8   | 1    | 13.8 |
| 39   | 7            | 3    | 0 52         | 3   | 6    | 16.6         | 1            | 1 37       | 1   | 6    | 5            | 11.8       | 2 21      | 0    | 6          | 4            | 6          | 3 6   | 4.9        | 6          | 19.3         | 5          | 3 51       | 5.8        | 6          | 2            | 3     | 4 36  | 6.6  | 6    |
| 40   | 7            | 0    | 0 21         | 1.8 | 4    | 6            | 10.8         | 1 5        | 2.6 | 4    | 17.4         | 6          | 1 49      | 3.5  | 4          | 3            | 4          | 2 34  | 4          | 4          | 2            | 2          | 3 18       | 2          | 4          | 1            | 0     | 4 3   | 1    | 4    |
| 41   | 15.6         | 9.7  | 29 49        | 3   | 2    | 5            | 5            | 0 33       | 1   | 2    | 4            | 3          | 1 17      | 0    | 2          | 18.3         | 1          | 2 1   | 3.9        | 2          | 1            | 12.9       | 2 45       | 4.7        | 2          | 0            | 13.7  | 3 29  | 5.6  | 2    |
| 42   | 6            | 5    | 29 16        | 0.8 | 7.9  | 4            | 2            | 0 0        | 1.6 | 8.9  | 3            | 0          | 0 43      | 2.5  | 9.9        | 2            | 11.8       | 1 27  | 3          | 0          | 1            | 6          | 2 11       | 2          | 0          | 19.9         | 4     | 2 55  | 1    | 0    |
| 43   | 5            | 2    | 28 43        | 2   | 7    | 4            | 0            | 29 26      | 1   | 7    | 2            | 10.7       | 0 9       | 1.9  | 7          | 1            | 5          | 0 53  | 2.8        | 10.7       | 0            | 3          | 1 36       | 3.6        | 11.7       | 9            | 1     | 2 20  | 4.5  | 12.8 |
| 44   | 4            | 8.9  | 28 9 29.7    | 4   | 16.3 | 9.7          | 28 52        | 0.5        | 5   | 17.2 | 4            | 29 35      | 3         | 5    | 0          | 2            | 0 18       | 2     | 5          | 18.9       | 0            | 1          | 1          | 1          | 5          | 8            | 12.8  | 1 44  | 3.9  | 5    |
| 45   | 3            | 6    | 27 34        | 1   | 2    | 2            | 4            | 28 17 29.9 | 3   | 1    | 2            | 28 59      | 0.7       | 3    | 17.9       | 10.9         | 29 42      | 1.6   | 3          | 8          | 11.7         | 0 24       | 2.5        | 3          | 7          | 5            | 1     | 7 3   | 3    | 3    |
| 46   | 15.3         | 3    | 26 59 28.5   | 0   | 1    | 1            | 27 41        | 3          | 1   | 0    | 9.9          | 28 23      | 1         | 1    | 8          | 6            | 29 5       | 0     | 1          | 7          | 4            | 29 47      | 1.9        | 1          | 19.6       | 2            | 0     | 30    | 2.7  | 1    |
| 47   | 2            | 0    | 26 22 27.9   | 6.7 | 0    | 8.8          | 27 4         | 28.7       | 7.8 | 0    | 6            | 27 46 29.5 | 8.8       | 8    | 3          | 28 28        | 0.4        | 9.8   | 7          | 0          | 29 9         | 2          | 10.9       | 5          | 11.9       | 29 51        | 1     | 11.8  |      |      |
| 48   | 1            | 7.7  | 25 45        | 2   | 4    | 0            | 5            | 26 26      | 0   | 5    | 16.9         | 3          | 27 8 28.9 | 5    | 7          | 0            | 27 49 29.7 | 5     | 18.6       | 10.7       | 28 30        | 0.6        | 6          | 4          | 5          | 29 12        | 1.4   | 5     |      |      |
| 49   | 1            | 4    | 25 7 26.5    | 1   | 15.9 | 2            | 25 48        | 27.4       | 2   | 8    | 0            | 26 29      | 2         | 2    | 17.6       | 9.7          | 27 10      | 1     | 2          | 5          | 3            | 27 51 29.9 | 3          | 3          | 2          | 28 31        | 0.8   | 3     |      |      |
| 50   | 0            | 1    | 24 28 25.9   | 5.8 | 8    | 7.8          | 25 9 26.7    | 6.9        | 7   | 8.6  | 25 49 27.5   | 7.9        | 5         | 3    | 26 29 28.4 | 8.9          | 4          | 0     | 27 10      | 2          | 0            | 19.2       | 10.8       | 27 50      | 1          | 0            |       |       |      |      |
| 51   | 14.9         | 6.8  | 23 49        | 2   | 4    | 7            | 5            | 24 28 25.9 | 5   | 6    | 3            | 25 8 26.8  | 6         | 5    | 0          | 25 48 27.6   | 6          | 3     | 9.7        | 26 28 28.5 | 9.7          | 1          | 4          | 27 8 29.3  | 10.7       |              |       |       |      |      |
| 52   | 9            | 4    | 23 8 24.4    | 1   | 7    | 1            | 23 47        | 1          | 1   | 16.6 | 7.9          | 24 26      | 0         | 2    | 4          | 8.6          | 25 5 26.8  | 2     | 18.2       | 3          | 25 45 27.7   | 3          | 0          | 0          | 26 24 28.5 | 4            |       |       |      |      |
| 53   | 8            | 1    | 22 26 23.6   | 4.7 | 15.6 | 6.8          | 23 4 24.3    | 5.7        | 5   | 5    | 23 43 25.1   | 6.8        | 17.3      | 2    | 24 22 25.9 | 7.8          | 1          | 8.9   | 25 0 26.8  | 8.9        | 18.9         | 9.6        | 25 39 27.7 | 0          |            |              |       |       |      |      |
| 54   | 7            | 5.7  | 21 42 22.7   | 3   | 5    | 4            | 22 20 23.4   | 3          | 4   | 1    | 22 58 24.2   | 4          | 2         | 7.8  | 23 37      | 0            | 4          | 0     | 5          | 24 15 25.9 | 5            | 8          | 2          | 24 53 26.8 | 9.6        |              |       |       |      |      |
| 55   | 6            | 3    | 20 58 21.8   | 3.9 | 4    | 0            | 21 35 22.5   | 4.9        | 3   | 6.7  | 22 13 23.3   | 0          | 1         | 4    | 22 50 24.1 | 0            | 17.9       | 1     | 23 28 24.9 | 1          | 7            | 8.8        | 24 5 25.8  | 2          |            |              |       |       |      |      |
| 56   | 5            | 4    | 9 20 12 20.8 | 4   | 3    | 5            | 6 20 49 21.5 | 4          | 2   | 3    | 21 26 22.3   | 5.5        | 0         | 0    | 22 3 23.1  | 6.5          | 8          | 7     | 22 39 23.9 | 7.6        | 6            | 4          | 23 16 24.8 | 8.7        |            |              |       |       |      |      |



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

| S4   |                       |                       |                       |                       |  |                       |                       |                       |                       |   |                       |                       |                       |                       |   |                       |                       |                       |                       |  |                       |                       |                       |                       | UPPER MERIDIAN, CUSP OF 10th H.  |                       |                       |                       |                       |                       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|-----------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| H. M. S.<br>SID. T. 11 45 19 } $\overline{\text{m}}$<br>ARC 176° 19'.8 } $\overline{26^\circ}$ |                       |                       |                       |                       | H. M. S.<br>11 48 59 } $\overline{\text{m}}$<br>177° 14'.8 } $\overline{27^\circ}$ |                       |                       |                       |                       | H. M. S.<br>11 52 40 } $\overline{\text{m}}$<br>178° 9'.9 } $\overline{28^\circ}$ |                       |                       |                       |                       | H. M. S.<br>11 56 20 } $\overline{\text{m}}$<br>179° 5'.0 } $\overline{29^\circ}$ |                       |                       |                       |                       | H. M. S.<br>12 0 0 } $\overline{\text{m}}$<br>180° 0'.0 } $\overline{0^\circ}$ |                       |                       |                       |                       | H. M. S.<br>12 3 40 } $\overline{\text{m}}$<br>180° 55'.0 } $\overline{1^\circ}$ |                       |                       |                       |                       |                       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H.   | 11                    | 12                    | 1                     | 2                     | 3  | 11                    | 12                    | 1                     | 2                     | 3   | 11                    | 12                    | 1                     | 2                     | 3   | 11                    | 12                    | 1                     | 2                     | 3  | 11                    | 12                    | 1                     | 2                     | 3  | 11                    | 12                    | 1                     | 2                     | 3                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lat.   | $\overline{\text{m}}$ | $\overline{\text{m}}$ | $\overline{\text{f}}$ | $\overline{\text{v}}$ | $\overline{\text{m}}$  | $\overline{\text{m}}$ | $\overline{\text{m}}$ | $\overline{\text{f}}$ | $\overline{\text{v}}$ | $\overline{\text{m}}$   | $\overline{\text{m}}$ | $\overline{\text{m}}$ | $\overline{\text{f}}$ | $\overline{\text{v}}$ | $\overline{\text{m}}$   | $\overline{\text{m}}$ | $\overline{\text{m}}$ | $\overline{\text{f}}$ | $\overline{\text{v}}$ | $\overline{\text{m}}$  | $\overline{\text{m}}$ | $\overline{\text{m}}$ | $\overline{\text{f}}$ | $\overline{\text{v}}$ | $\overline{\text{m}}$  | $\overline{\text{m}}$ | $\overline{\text{m}}$ | $\overline{\text{f}}$ | $\overline{\text{v}}$ | $\overline{\text{m}}$ |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22   | 26.9                  | 23.5                  | 17.36                 | 18.5                  | 22.0   | 27.8                  | 24.3                  | 18.24                 | 19.4                  | 23.0  | 28.7                  | 25.2                  | 19.14                 | 20.3                  | 24.0  | 29.7                  | 26.0                  | 20.3                  | 21.2                  | 25.0   | 0.6                   | 26.8                  | 20.52                 | 22.1                  | 26.0   | 1.5                   | 27.7                  | 21.41                 | 23.0                  | 27.0                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23   | 8                     | 3                     | 17.9                  | 2                     | 21.9   | 7                     | 1                     | 17.57                 | 1                     | 22.9  | 6                     | 24.9                  | 18.47                 | 0                     | 23.9  | 6                     | 25.8                  | 19.36                 | 20.9                  | 24.9   | 5                     | 6                     | 20.25                 | 21.8                  | 25.9   | 4                     | 4                     | 21.14                 | 22.7                  | 26.9                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24   | 7                     | 0                     | 16.42                 | 17.8                  | 8  | 7                     | 23.8                  | 17.30                 | 18.7                  | 8   | 6                     | 7                     | 18.19                 | 19.6                  | 8   | 5                     | 5                     | 19.8                  | 5                     | 8  | 4                     | 3                     | 19.57                 | 4                     | 8  | 3                     | 2                     | 20.46                 | 4                     | 8                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25   | 6                     | 22.8                  | 16.15                 | 5                     | 7  | 6                     | 6                     | 17.3                  | 4                     | 7   | 5                     | 4                     | 17.52                 | 3                     | 7   | 4                     | 2                     | 18.40                 | 2                     | 7  | 3                     | 1                     | 19.29                 | 1                     | 7  | 2                     | 26.9                  | 20.18                 | 0                     | 7                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 26   | 26.6                  | 5                     | 15.47                 | 2                     | 6  | 27.5                  | 3                     | 16.35                 | 1                     | 6   | 4                     | 2                     | 17.24                 | 0                     | 6   | 3                     | 0                     | 18.12                 | 19.9                  | 6  | 0.2                   | 25.8                  | 19                    | 1                     | 20.8   | 6                     | 1.1                   | 6                     | 19.50                 | 21.7                  | 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27   | 5                     | 3                     | 15.19                 | 16.8                  | 4  | 4                     | 1                     | 16.7                  | 17.7                  | 5   | 28.3                  | 23.9                  | 16.55                 | 18.6                  | 5   | 29.3                  | 24.7                  | 17.44                 | 5                     | 5  | 2                     | 5                     | 18.33                 | 4                     | 5  | 0                     | 4                     | 19.21                 | 4                     | 5                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28   | 4                     | 0                     | 14.50                 | 5                     | 21.3   | 3                     | 22.8                  | 15.38                 | 4                     | 22.3  | 3                     | 6                     | 16.26                 | 3                     | 23.3  | 2                     | 4                     | 17.15                 | 2                     | 24.4   | 1                     | 3                     | 18.4                  | 1                     | 25.4   | 0                     | 1                     | 18.51                 | 0                     | 26.4                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29   | 3                     | 21.7                  | 14.22                 | 1                     | 2  | 3                     | 5                     | 15.9                  | 0                     | 2   | 2                     | 4                     | 15.57                 | 17.9                  | 2   | 1                     | 2                     | 16.45                 | 18.9                  | 3  | 0                     | 0                     | 17.34                 | 19.8                  | 3  | 0.9                   | 25.8                  | 18.22                 | 20.7                  | 3                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30   | 26.3                  | 5                     | 13.53                 | 15.8                  | 1  | 27.2                  | 3                     | 14.40                 | 16.7                  | 1   | 1                     | 1                     | 15.28                 | 6                     | 1   | 0                     | 23.9                  | 16.16                 | 5                     | 2  | 29.9                  | 24.7                  | 17                    | 4                     | 4  | 2                     | 8                     | 5                     | 17.52                 | 3                     | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31   | 2                     | 2                     | 13.23                 | 4                     | 0  | 1                     | 0                     | 14.10                 | 3                     | 0   | 0                     | 22.8                  | 14.58                 | 2                     | 0   | 28.9                  | 6                     | 15.45                 | 1                     | 0  | 8                     | 4                     | 16.34                 | 0                     | 1  | 7                     | 2                     | 17.21                 | 0                     | 0                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 32   | 1                     | 20.9                  | 12.53                 | 0                     | 20.8   | 0                     | 21.7                  | 13.39                 | 15.9                  | 21.8  | 27.9                  | 5                     | 14.27                 | 16.8                  | 22.8  | 8                     | 3                     | 15.15                 | 17.8                  | 23.9   | 7                     | 2                     | 16.3                  | 18.7                  | 0  | 6                     | 0                     | 16.50                 | 19.6                  | 25.9                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 33   | 0                     | 7                     | 12.22                 | 14.6                  | 7  | 26.9                  | 5                     | 13.9                  | 5                     | 7   | 8                     | 2                     | 13.56                 | 4                     | 7   | 7                     | 1                     | 14.43                 | 4                     | 8  | 6                     | 23.9                  | 15.31                 | 3                     | 24.8   | 5                     | 24.7                  | 16.18                 | 2                     | 8                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 34   | 25.9                  | 4                     | 11.51                 | 2                     | 5  | 8                     | 2                     | 12.38                 | 1                     | 5   | 7                     | 0                     | 13.24                 | 0                     | 6   | 6                     | 22.8                  | 14.11                 | 0                     | 6  | 5                     | 6                     | 14.59                 | 17.9                  | 7  | 0.4                   | 4                     | 15.45                 | 18.8                  | 6                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35   | 8                     | 1                     | 11.19                 | 13.8                  | 4  | 7                     | 20.9                  | 12.6                  | 14.7                  | 4   | 6                     | 21.7                  | 12.52                 | 15.6                  | 4   | 5                     | 5                     | 13.39                 | 16.6                  | 5  | 29.4                  | 3                     | 14.26                 | 5                     | 6  | 3                     | 1                     | 15.13                 | 4                     | 5                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 36   | 7                     | 19.8                  | 10.47                 | 3                     | 2  | 6                     | 6                     | 11.33                 | 2                     | 2   | 5                     | 4                     | 12.19                 | 1                     | 2   | 28.4                  | 2                     | 13.6                  | 1                     | 23.3   | 3                     | 0                     | 13.52                 | 0                     | 4  | 2                     | 23.8                  | 14.39                 | 17.9                  | 25.3                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 37   | 6                     | 5                     | 10.14                 | 12.9                  | 1  | 5                     | 3                     | 11.0                  | 13.8                  | 1   | 27.4                  | 1                     | 11.46                 | 14.7                  | 1   | 3                     | 21.9                  | 12.32                 | 15.7                  | 2  | 2                     | 22.7                  | 13.18                 | 16.6                  | 3  | 1                     | 4                     | 14.5                  | 5                     | 2                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 38   | 25.6                  | 2                     | 9.40                  | 4                     | 19.9   | 26.4                  | 0                     | 10.26                 | 3                     | 20.9  | 3                     | 20.8                  | 11.12                 | 2                     | 21.9  | 2                     | 6                     | 11.58                 | 2                     | 0  | 1                     | 3                     | 12.44                 | 1                     | 1  | 29.9                  | 1                     | 13.30                 | 0                     | 0                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 39   | 5                     | 0                     | 9.6                   | 11.9                  | 7  | 3                     | 19.7                  | 9.52                  | 12.8                  | 7   | 2                     | 5                     | 10.37                 | 13.7                  | 8   | 1                     | 3                     | 11.23                 | 14.7                  | 22.9   | 0                     | 0                     | 12.8                  | 15.6                  | 23.9   | 8                     | 22.8                  | 12.54                 | 16.5                  | 24.9                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40   | 4                     | 18.7                  | 8.31                  | 4                     | 5  | 2                     | 4                     | 9.16                  | 3                     | 6   | 1                     | 1                     | 10.1                  | 2                     | 6   | 0                     | 0                     | 10.47                 | 2                     | 7  | 28.9                  | 21.7                  | 11.32                 | 1                     | 7  | 7                     | 5                     | 12.17                 | 0                     | 8                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41   | 3                     | 4                     | 7.56                  | 10.9                  | 3  | 1                     | 0                     | 8.40                  | 11.8                  | 4   | 0                     | 19.8                  | 9.25                  | 12.7                  | 4   | 27.9                  | 20.7                  | 10.10                 | 13.7                  | 6  | 8                     | 3                     | 10.55                 | 14.6                  | 6  | 6                     | 1                     | 11.40                 | 15.5                  | 6                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 42   | 25.2                  | 0                     | 7.19                  | 4                     | 1  | 0                     | 18.7                  | 8.4                   | 3                     | 2   | 26.9                  | 5                     | 8.48                  | 2                     | 2   | 8                     | 3                     | 9.32                  | 1                     | 4  | 6                     | 0                     | 10.17                 | 1                     | 4  | 5                     | 21.7                  | 11.2                  | 0                     | 4                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 43   | 1                     | 17.7                  | 6.42                  | 9.8                   | 18.9   | 25.9                  | 4                     | 7.26                  | 10.7                  | 0   | 8                     | 1                     | 8.10                  | 11.6                  | 1   | 6                     | 0                     | 8.54                  | 12.6                  | 2  | 5                     | 20.7                  | 9.38                  | 13.5                  | 2  | 29.4                  | 4                     | 10.22                 | 14.4                  | 2                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 44   | 0                     | 3                     | 6.4                   | 2                     | 7  | 8                     | 0                     | 6.47                  | 1                     | 19.9  | 7                     | 18.8                  | 7.31                  | 0                     | 20.9  | 5                     | 19.6                  | 8.15                  | 0                     | 0  | 28.4                  | 4                     | 8.59                  | 12.9                  | 0  | 2                     | 0                     | 9.42                  | 13.8                  | 0                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 45   | 24.9                  | 0                     | 5.25                  | 8.6                   | 6  | 7                     | 17.7                  | 6.8                   | 9.5                   | 7   | 6                     | 5                     | 6.51                  | 10.4                  | 7   | 4                     | 2                     | 7.34                  | 11.4                  | 21.8   | 3                     | 0                     | 8.18                  | 3                     | 22.8   | 1                     | 20.6                  | 9.1                   | 2                     | 23.8                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 46   | 8                     | 16.6                  | 4.44                  | 0                     | 4  | 6                     | 4                     | 5.27                  | 8.9                   | 5   | 5                     | 2                     | 6.10                  | 9.7                   | 5   | 27.3                  | 18.9                  | 6.53                  | 10.7                  | 6  | 2                     | 19.6                  | 7.36                  | 11.7                  | 5  | 0                     | 3                     | 8.19                  | 12.6                  | 6                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 47   | 7                     | 3                     | 4.3                   | 7.3                   | 2  | 5                     | 1                     | 4.46                  | 2                     | 3   | 26.4                  | 17.8                  | 5.28                  | 1                     | 3   | 2                     | 5                     | 6.10                  | 1                     | 4  | 1                     | 2                     | 6.53                  | 0                     | 3  | 28.9                  | 19.9                  | 7.36                  | 11.9                  | 5                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 48   | 6                     | 15.9                  | 3.21                  | 6.6                   | 0  | 25.4                  | 16.7                  | 4.3                   | 7.5                   | 1   | 3                     | 4                     | 4.45                  | 8.4                   | 1   | 1                     | 1                     | 5.27                  | 9.4                   | 2  | 27.9                  | 18.8                  | 6.9                   | 10.3                  | 1  | 8                     | 5                     | 6.52                  | 2                     | 3                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 49   | 24.4                  | 5                     | 2.38                  | 0                     | 17.7   | 3                     | 3                     | 3.19                  | 6.8                   | 18.8  | 1                     | 0                     | 4.1                   | 7.7                   | 19.8  | 0                     | 17.7                  | 4.42                  | 8.7                   | 20.9   | 8                     | 4                     | 5.24                  | 9.6                   | 21.9   | 6                     | 1                     | 6.6                   | 10.5                  | 1                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50   | 3                     | 1                     | 1.54                  | 5.3                   | 4  | 1                     | 15.9                  | 2.34                  | 1                     | 5   | 0                     | 16.6                  | 3.15                  | 0                     | 5   | 26.8                  | 3                     | 3.56                  | 7.9                   | 6  | 7                     | 0                     | 4.38                  | 8.8                   | 7  | 5                     | 18.7                  | 5.19                  | 9.7                   | 22.9                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 51   | 2                     | 14.7                  | 1.8                   | 4.5                   | 1  | 0                     | 5                     | 1.48                  | 5.3                   | 2   | 25.8                  | 2                     | 2.29                  | 6.2                   | 2   | 6                     | 16.9                  | 3.9                   | 1                     | 4  | 6                     | 17.6                  | 3.50                  | 0                     | 4  | 28.3                  | 3                     | 4.30                  | 8.9                   | 6                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 52   | 1                     | 3                     | 0.21                  | 3.7                   | 16.8   | 24.9                  | 1                     | 1.1                   | 4.5                   | 17.9  | 7                     | 15.8                  | 1.40                  | 5.4                   | 18.9  | 5                     | 5                     | 2.20                  | 6.3                   | 1  | 27.4                  | 2                     | 3.1                   | 7.1                   | 1  | 1                     | 17.9                  | 3.40                  | 0                     | 3                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 53   | 23.9                  | 13.9                  | 29.33                 | 2.8                   | 5  | 8                     | 14.6                  | 0.12                  | 3.6                   | 6   | 6                     | 3                     | 0.51                  | 4.5                   | 6   | 4                     | 0                     | 1.30                  | 5.4                   | 19.8   | 2                     | 16.7                  | 2.10                  | 6.2                   | 20.8   | 0                     | 4                     | 2.49                  | 7.1                   | 0                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 54   | 8                     | 5                     | 28.43                 | 1.8                   | 1  | 6                     | 1                     | 29.21                 | 2.6                   | 2   | 5                     | 14.8                  | 0.0                   | 3.5                   | 3   | 3                     | 15.5                  | 0.38                  | 4.4                   | 4  | 0                     | 2                     | 1.17                  | 5.2                   | 5  | 27.9                  | 16.9                  | 1.56                  | 6.1                   | 21.7                  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 55   | 6                     | 0                     | 27.51                 | 0.7                   | 15.7   | 4                     | 13.6                  | 28.29                 | 1.6                   | 16.8  | 3                     | 3                     | 29.7                  | 2.5                   | 0   | 1                     | 0                     | 29.45                 | 3.3                   | 1  | 26.9                  | 15.7                  | 0.23                  | 4.2                   | 2  | 7                     | 4                     | 1.1                   | 5.1                   | 4                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 56   | 5                     | 12.5                  | 26.58                 | 29.6                  | 3  | 3                     | 1                     | 27.35                 | 0.5                   | 4   | 2                     | 13.8                  | 28.13                 | 1.4                   | 17.6  | 25.9                  | 14.5                  | 28.50                 | 2.2                   | 18.7   | 7                     | 2                     | 29.28                 | 3.0                   | 19.9   | 5                     | 15.9                  | 0.5                   | 4.0                   | 1                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

UPPER MERIDIAN, CUSP OF 10th H.

| H. | H. M. S. 2° |      |       |      |      | H. M. S. 3° |      |       |      |      | H. M. S. 4° |      |       |      |       | H. M. S. 5° |      |       |      |       | H. M. S. 6° |      |       |      |       | H. M. S. 7° |      |       |      |       |      |      |   |    |      |      |
|----|-------------|------|-------|------|------|-------------|------|-------|------|------|-------------|------|-------|------|-------|-------------|------|-------|------|-------|-------------|------|-------|------|-------|-------------|------|-------|------|-------|------|------|---|----|------|------|
|    | 11          | 12   | 1     | 2    | 3    | 11          | 12   | 1     | 2    | 3    | 11          | 12   | 1     | 2    | 3     | 11          | 12   | 1     | 2    | 3     | 11          | 12   | 1     | 2    | 3     | 11          | 12   | 1     | 2    | 3     | 11   | 12   | 1 | 2  | 3    |      |
| 22 | 2.4         | 28.5 | 22.31 | 23.9 | 28.0 | 3.3         | 29.3 | 23.20 | 24.8 | 29.0 | 4.2         | 0.2  | 24.10 | 25.7 | 0.0   | 5.1         | 1.0  | 24.59 | 26.6 | 1.1   | 6.0         | 1.8  | 25.49 | 27.6 | 2.1   | 6.9         | 2.6  | 26.40 | 28.5 | 3.1   |      |      |   |    |      |      |
| 23 | 3           | 22.2 | 3     | 6    | 27.9 | 2           | 12.2 | 53    | 5    | 28.9 | 1           | 29.9 | 23.42 | 4    | 29.9  | 0           | 0.7  | 24.31 | 3    | 0     | 5.9         | 5    | 25.21 | 3    | 0     | 8           | 4    | 26.11 | 2    | 0     |      |      |   |    |      |      |
| 24 | 2           | 0    | 21.35 | 3    | 8    | 1           | 28.8 | 22.25 | 2    | 8    | 0           | 6    | 23.14 | 1    | 9     | 4.9         | 5    | 24.3  | 0    | 0.9   | 8           | 3    | 24.53 | 0    | 1.9   | 7           | 1    | 25.43 | 27.9 | 2.9   |      |      |   |    |      |      |
| 25 | 1           | 27.7 | 21    | 7    | 22.9 | 0           | 6    | 21.56 | 23.9 | 7    | 3.9         | 4    | 22.45 | 24.8 | 8     | 8           | 2    | 23.35 | 25.7 | 8     | 7           | 0    | 24.24 | 26.6 | 8     | 6           | 1.8  | 25.14 | 6    | 8     |      |      |   |    |      |      |
| 26 | 0           | 5    | 20.38 | 6    | 6    | 2.9         | 3    | 21.27 | 5    | 6    | 8           | 1    | 22.17 | 4    | 7     | 7           | 29.9 | 23.6  | 4    | 7     | 6           | 0.7  | 23.55 | 3    | 7     | 5           | 5    | 24.45 | 3    | 7     |      |      |   |    |      |      |
| 27 | 1.9         | 2    | 20.9  | 3    | 5    | 8           | 0    | 20.58 | 2    | 5    | 7           | 28.8 | 21.47 | 1    | 6     | 6           | 6    | 22.36 | 0    | 6     | 5           | 4    | 23.26 | 0    | 6     | 6.4         | 3    | 24.15 | 26.9 | 7     |      |      |   |    |      |      |
| 28 | 8           | 26.9 | 19.40 | 21.9 | 27.4 | 7           | 27.7 | 20.29 | 22.9 | 28.4 | 6           | 5    | 21.18 | 23.8 | 29.5  | 5           | 4    | 22.6  | 24.7 | 5     | 5.4         | 2    | 22.56 | 25.7 | 5     | 3           | 0    | 23.45 | 6    | 2.6   |      |      |   |    |      |      |
| 29 | 7           | 6    | 19.10 | 6    | 3    | 6           | 4    | 19.59 | 5    | 3    | 5           | 3    | 20.47 | 4    | 3     | 4.4         | 1    | 21.36 | 4    | 0.4   | 3           | 29.9 | 22.25 | 3    | 1.4   | 2           | 0.7  | 23.14 | 3    | 5     |      |      |   |    |      |      |
| 30 | 7           | 3    | 18.40 | 3    | 2    | 5           | 2    | 19.28 | 2    | 2    | 3.4         | 0    | 20.17 | 1    | 2     | 3           | 28.8 | 21.5  | 0    | 3     | 2           | 6    | 21.54 | 0    | 3     | 1           | 4    | 22.43 | 25.9 | 4     |      |      |   |    |      |      |
| 31 | 6           | 1    | 18.9  | 20.9 | 1    | 2.4         | 26.9 | 18.57 | 21.8 | 1    | 3           | 27.7 | 19.45 | 22.8 | 1     | 2           | 5    | 20.34 | 23.7 | 2     | 1           | 3    | 21.22 | 24.6 | 2     | 0           | 1    | 22.11 | 6    | 3     |      |      |   |    |      |      |
| 32 | 1.5         | 25.8 | 17.37 | 5    | 26.9 | 3           | 6    | 18.26 | 4    | 0    | 2           | 4    | 19.14 | 4    | 0     | 1           | 2    | 20.1  | 3    | 1     | 0           | 0    | 20.50 | 3    | 1     | 5.8         | 29.8 | 21.38 | 2    | 2.2   |      |      |   |    |      |      |
| 33 | 4           | 5    | 17.5  | 1    | 8    | 2           | 3    | 17.53 | 0    | 27.8 | 1           | 1    | 18.41 | 0    | 28.9  | 0           | 27.9 | 19.29 | 22.9 | 0     | 4.9         | 28.7 | 20.17 | 23.9 | 0     | 7           | 5    | 21.5  | 24.8 | 1     |      |      |   |    |      |      |
| 34 | 3           | 2    | 16.33 | 19.7 | 7    | 1           | 0    | 17.20 | 20.6 | 7    | 0           | 26.8 | 18.8  | 21.6 | 8     | 3.9         | 6    | 18.56 | 5    | 29.8  | 7           | 4    | 19.44 | 5    | 0.9   | 6           | 2    | 20.32 | 4    | 0     |      |      |   |    |      |      |
| 35 | 1           | 24.9 | 15.59 | 3    | 5    | 0           | 25.7 | 16.47 | 2    | 6    | 2.9         | 5    | 17.34 | 2    | 6     | 8           | 2    | 18.22 | 1    | 7     | 6           | 0    | 19.9  | 0    | 8     | 5           | 28.8 | 19.57 | 0    | 1.9   |      |      |   |    |      |      |
| 36 | 0           | 5    | 15.26 | 18.9 | 26.4 | 1.9         | 3    | 16.13 | 19.8 | 5    | 8           | 1    | 17.0  | 20.7 | 5     | 6           | 26.9 | 17.47 | 21.7 | 6     | 5           | 27.7 | 18.35 | 22.6 | 7     | 5.4         | 5    | 19.22 | 23.5 | 7     |      |      |   |    |      |      |
| 37 | 0.9         | 2    | 14.51 | 4    | 2    | 8           | 0    | 15.38 | 3    | 27.3 | 6           | 25.8 | 16.25 | 3    | 28.4  | 5           | 6    | 17.12 | 2    | 5     | 4.4         | 4    | 17.59 | 1    | 5     | 3           | 2    | 18.47 | 1    | 6     |      |      |   |    |      |      |
| 38 | 8           | 23.9 | 14.16 | 17.9 | 1    | 7           | 24.7 | 15.2  | 18.9 | 2    | 5           | 5    | 15.49 | 19.8 | 2     | 3.4         | 3    | 16.36 | 20.7 | 29.3  | 3           | 0    | 17.23 | 21.7 | 0.4   | 1           | 27.8 | 18.10 | 22.6 | 5     |      |      |   |    |      |      |
| 39 | 7           | 6    | 13.40 | 5    | 0    | 6           | 4    | 14.26 | 4    | 0    | 2.4         | 1    | 15.12 | 3    | 1     | 3           | 25.9 | 15.59 | 2    | 2     | 2           | 26.7 | 16.46 | 2    | 3     | 0           | 5    | 17.32 | 1    | 1.4   |      |      |   |    |      |      |
| 40 | 6           | 3    | 13.3  | 0    | 25.9 | 1.4         | 1    | 13.49 | 17.9 | 26.9 | 3           | 24.8 | 14.35 | 18.8 | 0     | 2           | 6    | 15.21 | 19.7 | 1     | 0           | 4    | 16.7  | 20.7 | 2     | 4.9         | 2    | 16.54 | 21.6 | 2     |      |      |   |    |      |      |
| 41 | 5           | 0    | 12.25 | 16.4 | 7    | 3           | 23.8 | 13.11 | 4    | 7    | 2           | 4    | 13.57 | 3    | 27.9  | 0           | 2    | 14.42 | 2    | 28.9  | 3.9         | 0    | 15.28 | 2    | 0     | 8           | 26.9 | 16.15 | 1    | 1     |      |      |   |    |      |      |
| 42 | 0.3         | 22.6 | 11.47 | 15.9 | 5    | 2           | 4    | 12.32 | 16.8 | 5    | 0           | 1    | 13.17 | 17.8 | 7     | 2.9         | 24.8 | 14.3  | 18.7 | 8     | 8           | 25.6 | 14.48 | 19.6 | 29.9  | 6           | 5    | 15.34 | 20.6 | 0.9   |      |      |   |    |      |      |
| 43 | 2           | 3    | 11.7  | 3    | 3    | 1           | 0    | 11.52 | 3    | 4    | 1.9         | 23.7 | 12.37 | 2    | 5     | 8           | 5    | 13.22 | 1    | 6     | 6           | 3    | 14.7  | 1    | 7     | 5           | 1    | 14.53 | 0    | 8     |      |      |   |    |      |      |
| 44 | 1           | 21.9 | 10.27 | 14.7 | 1    | 0.9         | 22.7 | 11.11 | 15.7 | 2    | 8           | 3    | 11.56 | 16.6 | 4     | 6           | 1    | 12.40 | 17.5 | 4     | 5           | 24.9 | 13.25 | 18.5 | 6     | 4.3         | 25.7 | 14.10 | 19.4 | 6     |      |      |   |    |      |      |
| 45 | 0           | 5    | 9.45  | 1    | 24.9 | 8           | 3    | 10.29 | 1    | 0    | 6           | 22.9 | 11.13 | 0    | 2     | 5           | 23.7 | 11.58 | 16.9 | 3     | 3.3         | 5    | 12.42 | 17.8 | 4     | 2           | 3    | 13.27 | 18.8 | 5     |      |      |   |    |      |      |
| 46 | 29.9        | 1    | 9     | 3    | 13.5 | 8           | 7    | 21.9  | 9    | 46   | 14.4        | 25.8 | 5     | 5    | 10.30 | 15.3        | 0    | 2.3   | 3    | 11.14 | 3           | 1    | 2     | 1    | 11.58 | 2           | 2    | 0     | 24.9 | 12.42 | 1    | 0.3  |   |    |      |      |
| 47 | 8           | 20.7 | 8     | 19   | 12.8 | 6           | 6    | 5     | 9    | 2    | 13.7        | 7    | 1.3   | 1    | 9.45  | 14.6        | 26.8 | 2     | 22.9 | 10.29 | 15.6        | 27.9 | 1     | 23.7 | 11.12 | 16.5        | 0    | 3.9   | 5    | 11.56 | 17.5 | 1    |   |    |      |      |
| 48 | 6           | 3    | 7.34  | 1    | 4    | 0.4         | 1    | 8.16  | 0    | 5    | 2           | 21.7 | 8.59  | 13.9 | 6     | 1           | 5    | 9.42  | 14.9 | 7     | 2.9         | 3    | 10.25 | 15.8 | 28.8  | 8           | 1    | 11.9  | 16.8 | 0     |      |      |   |    |      |      |
| 49 | 5           | 19.9 | 6     | 48   | 11.4 | 2           | 3    | 20.7  | 7    | 30   | 12.3        | 3    | 1     | 3    | 8.12  | 2           | 4    | 1.9   | 1    | 8.54  | 2           | 5    | 8     | 22.9 | 9.37  | 1           | 6    | 6     | 23.6 | 10.20 | 0    | 29.8 |   |    |      |      |
| 50 | 3           | 5    | 6     | 0    | 10.6 | 0           | 2    | 2     | 6    | 4    | 11.5        | 1    | 0     | 20.9 | 7     | 23          | 12.5 | 2     | 8    | 21.6  | 8           | 5    | 13.4  | 3    | 6     | 4           | 8    | 47    | 14.4 | 4     | 4    | 1    | 9 | 29 | 15.3 | 6    |
| 51 | 1           | 1    | 5     | 11   | 9.8  | 23.7        | 0    | 19.8  | 5    | 52   | 10.7        | 24.9 | 0.9   | 5    | 6     | 33          | 11.7 | 25.9  | 6    | 2     | 7           | 15   | 12.6  | 1    | 4     | 21.9        | 7    | 56    | 13.6 | 2     | 2    | 22.6 | 8 | 38 | 14.5 | 3    |
| 52 | 28.9        | 18.6 | 4     | 21   | 8.9  | 4           | 29.9 | 3     | 5    | 1    | 9.8         | 6    | 7     | 0    | 5     | 41          | 10.8 | 6     | 4    | 20.7  | 6           | 22   | 11.7  | 26.8 | 2     | 4           | 7    | 3     | 12.7 | 0     | 0    | 1    | 7 | 44 | 13.6 | 1    |
| 53 | 8           | 1    | 3     | 29   | 0    | 1           | 7    | 18.8  | 4    | 8    | 8.9         | 3    | 5     | 19.5 | 4     | 48          | 9.9  | 3     | 2    | 2     | 5           | 29   | 10.8  | 6    | 0     | 20.9        | 6    | 8     | 11.7 | 27.8  | 2.9  | 21.6 | 6 | 49 | 12.7 | 28.8 |
| 54 | 6           | 17.6 | 2     | 35   | 7.0  | 22.8        | 5    | 3     | 3    | 14   | 7.9         | 0    | 3     | 0    | 3     | 53          | 8.9  | 1     | 1    | 19.7  | 4           | 33   | 9.8   | 3    | 1.9   | 4           | 5    | 12    | 10.7 | 5     | 7    | 1    | 5 | 52 | 11.7 | 6    |
| 55 | 5           | 1    | 1     | 40   | 6.0  | 5           | 3    | 17.8  | 2    | 18   | 6.9         | 23.7 | 1     | 18.5 | 2     | 56          | 7.8  | 24.8  | 0.9  | 2     | 3           | 35   | 8.7   | 0    | 7     | 19.9        | 4    | 14    | 9.6  | 2     | 5    | 20.5 | 4 | 53 | 10.6 | 3    |
| 56 | 3           | 16.6 | 0     | 42   | 4.9  | 2           | 1    | 3     | 1    | 20   | 5.7         | 4    | 29.9  | 17.9 | 1     | 58          | 6.6  | 5     | 6    | 18.6  | 2           | 36   | 7.5   | 25.7 | 5     | 3           | 3    | 14    | 8.4  | 26.8  | 3    | 19.9 | 3 | 52 | 9.4  | 0    |



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H.   | H. M. S. } $\simeq 13^\circ$<br>SID. T. 12 47 50 }<br>ARC 191° 57'.5 } |      |       |      |     | H. M. S. } $\simeq 14^\circ$<br>12 51 32 }<br>192° 53'.0 } |      |       |      |      | H. M. S. } $\simeq 15^\circ$<br>12 55 14 }<br>193° 48'.6 } |      |       |      |      | H. M. S. } $\simeq 16^\circ$<br>12 58 57 }<br>194° 44'.3 } |      |       |      |      | H. M. S. } $\simeq 17^\circ$<br>13 2 40 }<br>195° 40'.0 } |      |       |      |      | H. M. S. } $\simeq 18^\circ$<br>13 6 23 }<br>196° 35'.9 } |      |       |      |      |   |   |   |   |   |
|------|--|------|-------|------|-----|--|------|-------|------|------|--|------|-------|------|------|--|------|-------|------|------|---|------|-------|------|------|---|------|-------|------|------|---|---|---|---|---|
|      | 11   | 12   | 1     | 2    | 3   | 11   | 12   | 1     | 2    | 3    | 11   | 12   | 1     | 2    | 3    | 11   | 12   | 1     | 2    | 3    | 11  | 12   | 1     | 2    | 3    | 11  | 12   | 1     | 2    | 3    |   |   |   |   |   |
| Lat. | m  | f    | v     | w    | x   | m  | f    | v     | w    | x    | m  | f    | v     | w    | x    | m  | f    | v     | w    | x    | m   | f    | v     | w    | x    | m   | f    | v     | w    | x    | m | f | v | w | x |
| 22   | 12.3   | 7.6  | 1 43  | 4.2  | 9.3 | 13.1   | 8.4  | 2 34  | 5.2  | 10.3 | 14.0   | 9.3  | 3 26  | 6.1  | 11.4 | 14.9   | 10.1 | 4 18  | 7.1  | 12.4 | 15.8  | 11.0 | 5 10  | 8.1  | 13.5 | 16.7  | 11.8 | 6 1   | 9.1  | 14.6 |   |   |   |   |   |
| 23   | 1  | 3    | 1 14  | 3.9  | 2   | 0  | 2    | 2 5   | 4.9  | 3    | 13.9   | 0    | 2 57  | 5.9  | 3    | 8  | 9.8  | 3 49  | 6.8  | 4    | 7   | 10.7 | 4 41  | 7.8  | 4    | 6   | 5    | 5 33  | 8.8  | 5    |   |   |   |   |   |
| 24   | 0  | 0    | 0 45  | 6    | 2   | 12.9   | 7.9  | 1 36  | 6    | 2    | 8  | 8.7  | 2 28  | 6    | 3    | 7  | 6    | 3 19  | 6    | 3    | 6   | 4    | 4 11  | 5    | 4    | 5   | 2    | 5 3   | 6    | 5    |   |   |   |   |   |
| 25   | 11.9   | 6.8  | 0 16  | 3    | 1   | 8  | 6    | 1 7   | 3    | 1    | 7  | 4    | 1 58  | 3    | 2    | 6  | 3    | 2 50  | 3    | 3    | 5   | 1    | 3 41  | 2    | 3    | 4   | 10.9 | 4 33  | 3    | 4    |   |   |   |   |   |
| 26   | 8  | 5    | 29 46 | 0    | 0   | 7  | 3    | 0 36  | 0    | 1    | 6  | 1    | 1 28  | 0    | 11.1 | 5  | 0    | 2 19  | 0    | 2    | 15.4  | 9.8  | 3 11  | 6.9  | 3    | 16.3  | 6    | 4 3   | 0    | 14.4 |   |   |   |   |   |
| 27   | 7  | 2    | 29 15 | 2.7  | 0   | 6  | 0    | 0 6   | 3.7  | 0    | 5  | 7.8  | 0 57  | 4.7  | 1    | 14.4   | 8.7  | 1 49  | 5.7  | 12.2 | 2   | 5    | 2 40  | 6    | 13.2 | 1   | 3    | 3 32  | 7.7  | 3    |   |   |   |   |   |
| 28   | 6  | 5.9  | 28 44 | 4    | 8.9 | 5  | 6.7  | 29 35 | 3    | 9.9  | 13.4   | 5    | 0 26  | 3    | 0    | 2  | 3    | 1 17  | 3    | 1    | 1   | 2    | 2 9   | 3    | 2    | 0   | 0    | 3 0   | 4    | 3    |   |   |   |   |   |
| 29   | 5  | 6    | 28 12 | 0    | 8   | 12.4   | 4    | 29 3  | 0    | 9    | 2  | 2    | 29 54 | 0    | 10.9 | 1  | 0    | 0 45  | 0    | 0    | 0   | 8.8  | 1 37  | 0    | 1    | 15.9  | 9.7  | 2 28  | 1    | 2    |   |   |   |   |   |
| 30   | 11.4   | 2    | 27 40 | 1.7  | 7   | 2  | 1    | 28 31 | 2.7  | 8    | 1  | 6.9  | 29 22 | 3.7  | 9    | 0  | 7.7  | 0 13  | 4.7  | 0    | 14.9  | 5    | 1 4   | 5.7  | 0    | 8   | 3    | 1 55  | 6.7  | 14.1 |   |   |   |   |   |
| 31   | 2  | 4.9  | 27 8  | 4    | 6   | 1  | 5.7  | 27 58 | 4    | 7    | 0  | 6    | 28 49 | 4    | 8    | 13.9   | 4    | 29 40 | 4    | 11.9 | 7   | 2    | 0 31  | 4    | 0    | 6   | 0    | 1 22  | 4    | 1    |   |   |   |   |   |
| 32   | 1  | 6    | 26 34 | 0    | 8.6 | 0  | 4    | 27 24 | 0    | 6    | 12.9   | 2    | 28 15 | 0    | 7    | 7  | 1    | 29 6  | 0    | 8    | 6   | 7.9  | 29 57 | 0    | 12.9 | 5   | 8.7  | 0 48  | 1    | 0    |   |   |   |   |   |
| 33   | 0  | 3    | 26 0  | 0.6  | 5   | 11.9   | 1    | 26 50 | 1.6  | 9.6  | 7  | 5.9  | 27 40 | 2.6  | 7    | 6  | 6.7  | 28 31 | 3.7  | 7    | 5   | 5    | 29 22 | 4.7  | 8    | 15.4  | 3    | 0 13  | 5.7  | 13.9 |   |   |   |   |   |
| 34   | 10.9   | 0    | 25 25 | 2    | 4   | 7  | 4.8  | 26 15 | 2    | 5    | 6  | 6    | 27 5  | 2    | 10.6 | 5  | 4    | 27 55 | 3    | 7    | 14.4  | 2    | 28 46 | 3    | 8    | 2   | 0    | 29 37 | 3    | 9    |   |   |   |   |   |
| 35   | 7  | 3.6  | 24 49 | 29.8 | 3   | 6  | 4    | 25 39 | 0.8  | 4    | 5  | 2    | 26 28 | 1.8  | 5    | 13.3   | 0    | 27 19 | 2.9  | 11.6 | 2   | 6.8  | 28 9  | 3.9  | 7    | 1   | 7.6  | 29 0  | 4.9  | 8    |   |   |   |   |   |
| 36   | 6  | 3    | 24 13 | 4    | 8.2 | 5  | 1    | 25 2  | 4    | 3    | 12.3   | 4.9  | 25 51 | 4    | 4    | 2  | 5.7  | 26 41 | 5    | 5    | 1   | 5    | 27 32 | 5    | 12.6 | 14.9  | 3    | 28 22 | 5    | 7    |   |   |   |   |   |
| 37   | 5  | 2.9  | 23 35 | 0    | 1   | 11.3   | 3.7  | 24 24 | 0    | 9.2  | 2  | 5    | 25 14 | 0    | 3    | 1  | 3    | 26 3  | 0    | 4    | 13.9  | 1    | 26 54 | 1    | 5    | 8   | 6.9  | 27 44 | 1    | 7    |   |   |   |   |   |
| 38   | 10.3   | 6    | 22 57 | 28.6 | 1   | 2  | 4    | 23 46 | 29.5 | 1    | 1  | 2    | 24 35 | 0.5  | 10.3 | 12.9   | 0    | 25 24 | 1.6  | 3    | 8   | 5.7  | 26 15 | 2.6  | 5    | 6   | 5    | 27 4  | 3.7  | 13.6 |   |   |   |   |   |
| 39   | 2  | 2    | 22 18 | 1    | 0   | 0  | 0    | 23 6  | 1    | 0    | 11.9   | 3.8  | 23 55 | 1    | 2    | 8  | 4.6  | 24 44 | 1    | 11.2 | 6   | 4    | 25 34 | 2    | 4    | 5   | 2    | 26 24 | 2    | 6    |   |   |   |   |   |
| 40   | 0  | 1.8  | 21 38 | 27.6 | 7.9 | 10.9   | 2.6  | 22 26 | 28.6 | 0    | 7  | 4    | 23 15 | 29.6 | 1    | 6  | 2    | 24 4  | 0.6  | 2    | 5   | 0    | 24 53 | 1.7  | 12.3 | 14.3  | 5.8  | 25 42 | 2.7  | 5    |   |   |   |   |   |
| 41   | 9.9  | 4    | 20 57 | 0    | 8   | 7  | 2    | 21 44 | 0    | 8.9  | 6  | 0    | 22 33 | 1    | 0    | 4  | 3.8  | 23 22 | 1    | 1    | 13.3  | 4.6  | 24 11 | 1    | 2    | 2   | 4    | 25 0  | 2    | 4    |   |   |   |   |   |
| 42   | 7  | 0    | 20 14 | 26.5 | 7   | 6  | 1.8  | 21 2  | 27.5 | 8    | 4  | 2.6  | 21 50 | 28.5 | 9.9  | 3  | 4    | 22 38 | 29.6 | 0    | 1   | 2    | 23 27 | 0.6  | 1    | 0   | 4.9  | 24 16 | 1.7  | 13.3 |   |   |   |   |   |
| 43   | 6  | 0.6  | 19 31 | 0    | 5   | 4  | 4    | 20 18 | 0    | 7    | 3  | 2    | 21 6  | 0    | 8    | 1  | 0    | 21 54 | 0    | 10.9 | 0   | 3.7  | 22 42 | 0    | 0    | 13.8  | 5    | 23 31 | 1    | 2    |   |   |   |   |   |
| 44   | 4  | 2    | 18 46 | 25.4 | 7.4 | 10.3   | 0    | 19 33 | 26.4 | 5    | 1  | 1.7  | 20 20 | 27.4 | 7    | 11.9   | 2.5  | 21 8  | 28.4 | 8    | 12.8  | 3    | 21 55 | 29.4 | 11.9 | 6   | 1    | 22 44 | 0.5  | 1    |   |   |   |   |   |
| 45   | 2  | 29.7 | 18 0  | 24.8 | 3   | 1  | 0.5  | 18 46 | 25.8 | 8.4  | 10.9   | 3    | 19 33 | 26.8 | 6    | 8  | 1    | 20 20 | 27.8 | 7    | 6   | 2.8  | 21 7  | 28.8 | 8    | 4   | 3.6  | 21 56 | 29.9 | 0    |   |   |   |   |   |
| 46   | 0  | 3    | 17 13 | 1    | 1   | 0  | 1    | 17 58 | 2    | 3    | 7  | 0.9  | 18 44 | 2    | 9.4  | 7  | 1.6  | 19 31 | 2    | 6    | 4   | 4    | 20 18 | 2    | 7    | 3   | 2    | 21 6  | 3    | 12.9 |   |   |   |   |   |
| 47   | 8.9  | 28.8 | 16 24 | 23.4 | 0   | 9.8  | 29.6 | 17 9  | 24.5 | 1    | 6  | 5    | 17 55 | 25.6 | 3    | 5  | 2    | 18 41 | 26.6 | 10.5 | 3   | 1.9  | 19 27 | 27.6 | 6    | 1   | 2.7  | 20 14 | 28.7 | 8    |   |   |   |   |   |
| 48   | 8  | 4    | 15 34 | 22.8 | 6.9 | 6  | 2    | 16 18 | 23.8 | 0    | 4  | 0    | 17 3  | 24.9 | 2    | 3  | 0.7  | 17 49 | 25.9 | 3    | 1   | 4    | 18 35 | 26.9 | 5    | 12.9  | 2    | 19 21 | 1    | 7    |   |   |   |   |   |
| 49   | 6  | 0    | 14 42 | 1    | 7   | 4  | 28.7 | 15 25 | 1    | 7.9  | 2  | 29.5 | 16 11 | 2    | 0    | 1  | 2    | 16 55 | 1    | 2    | 11.9  | 0.9  | 17 41 | 2    | 11.4 | 7   | 1.7  | 18 27 | 27.4 | 6    |   |   |   |   |   |
| 50   | 4  | 27.5 | 13 48 | 21.3 | 5   | 2  | 2    | 14 31 | 22.3 | 7    | 1  | 0    | 15 16 | 23.4 | 8.9  | 10.9   | 29.7 | 16 0  | 24.4 | 1    | 7   | 4    | 16 45 | 25.5 | 3    | 5   | 2    | 17 31 | 26.6 | 12.5 |   |   |   |   |   |
| 51   | 2  | 0    | 12 52 | 20.5 | 3   | 0  | 27.7 | 13 36 | 21.5 | 5    | 9.9  | 28.5 | 14 19 | 22.6 | 7    | 7  | 2    | 15 3  | 23.6 | 9.9  | 5   | 29.9 | 15 48 | 24.7 | 1    | 3   | 0.6  | 16 32 | 25.8 | 4    |   |   |   |   |   |
| 52   | 0  | 26.5 | 11 55 | 19.6 | 1   | 8.8  | 2    | 12 38 | 20.6 | 3    | 7  | 27.9 | 13 20 | 21.7 | 6    | 5  | 28.6 | 14 4  | 22.7 | 8    | 3   | 3    | 14 48 | 23.8 | 0    | 0   | 0    | 15 32 | 24.9 | 2    |   |   |   |   |   |
| 53   | 7.8  | 25.9 | 10 55 | 18.6 | 5.9 | 6  | 26.6 | 11 38 | 19.6 | 1    | 4  | 3    | 12 20 | 20.7 | 4    | 2  | 0    | 13 3  | 21.7 | 6    | 1   | 28.7 | 13 46 | 22.7 | 10.8 | 11.8  | 29.4 | 14 29 | 23.9 | 0    |   |   |   |   |   |
| 54   | 6  | 3    | 9 54  | 17.5 | 8   | 4  | 0    | 10 36 | 18.6 | 0    | 2  | 26.7 | 11 17 | 19.6 | 2    | 0  | 27.4 | 11 59 | 20.7 | 4    | 10.9  | 1    | 12 42 | 21.7 | 7    | 6   | 28.8 | 13 24 | 22.8 | 11.9 |   |   |   |   |   |
| 55   | 4  | 24.7 | 8 51  | 16.4 | 6   | 2  | 25.4 | 9 32  | 17.5 | 6.8  | 0  | 1    | 10 13 | 18.5 | 0    | 9.8  | 26.8 | 10 54 | 19.6 | 2    | 6   | 27.5 | 11 35 | 20.6 | 5    | 4   | 2    | 12 16 | 21.7 | 7    |   |   |   |   |   |
| 56   | 1  | 1    | 7 46  | 15.1 | 4   | 7.9  | 24.8 | 8 25  | 16.3 | 5    | 8.7  | 25.5 | 9 5   | 17.2 | 7.8  | 5  | 2    | 9 45  | 18.3 | 0    | 3   | 26.9 | 10 26 | 19.3 | 3    | 1   | 27.5 | 11 6  | 20.4 | 6    |   |   |   |   |   |

TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H. M. S.<br>SID. T. 13 6 23 } $\simeq$ 18°<br>ARC 196° 35'.9 |       |            |       |          |          | H. M. S.<br>13 10 7 } $\simeq$ 19°<br>197° 31'.8 |            |       |          |          |       | H. M. S.<br>13 13 51 } $\simeq$ 20°<br>198° 27'.8 |       |          |          |       |            | H. M. S.<br>13 17 36 } $\simeq$ 21°<br>199° 24'.0 |          |          |       |            |       | H. M. S.<br>13 21 21 } $\simeq$ 22°<br>200° 20'.2 |          |       |            |       |          | H. M. S.<br>13 25 6 } $\simeq$ 23°<br>201° 16'.6 |      |   |  |  |  |
|--|-------|------------|-------|----------|----------|--|------------|-------|----------|----------|-------|---|-------|----------|----------|-------|------------|---|----------|----------|-------|------------|-------|---|----------|-------|------------|-------|----------|--|------|---|--|--|--|
| H.   | 11    | 12         | 1     | 2        | 3        | 11   | 12         | 1     | 2        | 3        | 11    | 12  | 1     | 2        | 3        | 11    | 12         | 1   | 2        | 3        | 11    | 12         | 1     | 2   | 3        | 11    | 12         | 1     | 2        | 3  |      |   |  |  |  |
| Lat.   | $\mu$ | $\uparrow$ | $\nu$ | $\simeq$ | $\times$ | $\mu$  | $\uparrow$ | $\nu$ | $\simeq$ | $\times$ | $\mu$ | $\uparrow$  | $\nu$ | $\simeq$ | $\times$ | $\mu$ | $\uparrow$ | $\nu$   | $\simeq$ | $\times$ | $\mu$ | $\uparrow$ | $\nu$ | $\simeq$  | $\times$ | $\mu$ | $\uparrow$ | $\nu$ | $\simeq$ | $\times$   |      |   |  |  |  |
| 22   | 16.7  | 11.8       | 6 1   | 9.1      | 14.6     | 17.6   | 12.6       | 6 54  | 10.1     | 15.6     | 18.5  | 13.5  | 7 47  | 11.1     | 16.7     | 19.4  | 14.3       | 8 41  | 12.1     | 17.8     | 20.3  | 15.1       | 9 34  | 13.2  | 18.8     | 21.2  | 16.0       | 10 28 | 14.2     | 19.9   |      |   |  |  |  |
| 23   | 6     | 5          | 5 33  | 8.8      | 5        | 5  | 3          | 6 26  | 9.8      | 6        | 4     | 2   | 7 18  | 10.8     | 6        | 3     | 0          | 8 12  | 11.9     | 7        | 2     | 14.8       | 9     | 5   | 12.9     | 8     | 1          | 15.7  | 9        | 59   | 13.9 | 9 |  |  |  |
| 24   | 5     | 2          | 5 3   | 6        | 5        | 4  | 0          | 5 56  | 6        | 5        | 3     | 12.9  | 6 49  | 6        | 6        | 1     | 13.7       | 7 42  | 6        | 7        | 0     | 5          | 8 35  | 6   | 8        | 20.9  | 4          | 9 29  | 7        | 9  |      |   |  |  |  |
| 25   | 4     | 10.9       | 4 33  | 3        | 4        | 3  | 11.7       | 5 26  | 3        | 5        | 1     | 6   | 6 19  | 3        | 6        | 0     | 4          | 7 12  | 3        | 7        | 19.9  | 2          | 8     | 5   | 3        | 7     | 8          | 1     | 8 59     | 4  | 8    |   |  |  |  |
| 26   | 16.3  | 6          | 4 3   | 0        | 14.4     | 1  | 4          | 4 56  | 0        | 4        | 0     | 3   | 5 48  | 0        | 5        | 18.9  | 1          | 6 41  | 0        | 6        | 8     | 13.9       | 7 35  | 1   | 7        | 7     | 14.8       | 8 28  | 1        | 8  |      |   |  |  |  |
| 27   | 1     | 3          | 3 32  | 7.7      | 3        | 0  | 1          | 4 25  | 8.7      | 15.4     | 17.9  | 0   | 5 17  | 9.7      | 16.5     | 8     | 12.8       | 6 10  | 10.7     | 17.6     | 7     | 6          | 7     | 3   | 11.8     | 18.7  | 5          | 5     | 7 57     | 12.8   | 19.8 |   |  |  |  |
| 28   | 0     | 0          | 3 0   | 4        | 3        | 16.9   | 10.8       | 3 53  | 4        | 3        | 8     | 11.6  | 4 45  | 4        | 4        | 6     | 5          | 5 38  | 4        | 5        | 5     | 3          | 6 31  | 5   | 6        | 20.4  | 1          | 7 25  | 5        | 7  |      |   |  |  |  |
| 29   | 15.9  | 9.7        | 2 28  | 1        | 2        | 8  | 5          | 3 21  | 1        | 3        | 6     | 3   | 4 13  | 1        | 4        | 5     | 2          | 5 6   | 1        | 5        | 19.4  | 0          | 5 59  | 2   | 6        | 3     | 13.8       | 6 52  | 2        | 7  |      |   |  |  |  |
| 30   | 8     | 3          | 1 55  | 6.7      | 14.1     | 6  | 2          | 2 48  | 7.8      | 2        | 5     | 0   | 3 40  | 8.8      | 3        | 18.4  | 11.8       | 4 33  | 9.8      | 4        | 3     | 12.7       | 5 25  | 10.9  | 5        | 1     | 5          | 6 19  | 11.9     | 6  |      |   |  |  |  |
| 31   | 6     | 0          | 1 22  | 4        | 1        | 5  | 9.8        | 2 14  | 4        | 15.2     | 17.4  | 10.7  | 3 6   | 5        | 3        | 3     | 5          | 3 59  | 5        | 4        | 1     | 3          | 4 51  | 6   | 5        | 0     | 1          | 5 44  | 6        | 6  |      |   |  |  |  |
| 32   | 5     | 8.7        | 0 48  | 1        | 0        | 16.4   | 5          | 1 40  | 1        | 1        | 3     | 3   | 2 31  | 1        | 16.2     | 1     | 2          | 3 24  | 2        | 17.3     | 0     | 0          | 4 16  | 2   | 18.4     | 19.9  | 12.8       | 5 10  | 3        | 19.6   |      |   |  |  |  |
| 33   | 15.4  | 3          | 0 13  | 5.7      | 13.9     | 2  | 2          | 1 4   | 6.7      | 0        | 1     | 0   | 1 56  | 7.8      | 2        | 0     | 10.8       | 2 48  | 8.8      | 3        | 18.9  | 11.6       | 3 41  | 9.9   | 4        | 7     | 4          | 4 34  | 10.9     | 5  |      |   |  |  |  |
| 34   | 2     | 0          | 29 37 | 3        | 9        | 1  | 8.8        | 0 28  | 4        | 0        | 0     | 9.6   | 1 20  | 4        | 1        | 17.8  | 5          | 2 12  | 5        | 2        | 7     | 3          | 3 4   | 5   | 3        | 6     | 1          | 3 57  | 6        | 5  |      |   |  |  |  |
| 35   | 1     | 7.6        | 29 0  | 4.9      | 8        | 0  | 5          | 29 51 | 0        | 14.9     | 16.8  | 3   | 0 43  | 0        | 0        | 7     | 1          | 1 35  | 1        | 2        | 6     | 10.9       | 2 27  | 1   | 3        | 4     | 11.7       | 3 20  | 2        | 4  |      |   |  |  |  |
| 36   | 14.9  | 3          | 28 22 | 5        | 7        | 15.8   | 1          | 29 13 | 5.6      | 9        | 7     | 8.9   | 0 5   | 6.6      | 0        | 5     | 9.7        | 0 56  | 7.7      | 17.1     | 4     | 5          | 1 48  | 8.7   | 2        | 19.3  | 3          | 2 41  | 9.8      | 19.4   |      |   |  |  |  |
| 37   | 8     | 6.9        | 27 44 | 1        | 7        | 7  | 7.7        | 28 35 | 2        | 8        | 5     | 5   | 29 26 | 2        | 15.9     | 4     | 3          | 0 17  | 3        | 1        | 3     | 1          | 1 9   | 3   | 18.2     | 1     | 0          | 2 1   | 4        | 3  |      |   |  |  |  |
| 38   | 6     | 5          | 27 4  | 3.7      | 13.6     | 5  | 3          | 27 55 | 4.7      | 7        | 4     | 2   | 28 46 | 5.8      | 8        | 2     | 8.9        | 29 37   | 6.8      | 0        | 1     | 9.7        | 0 29  | 7.9   | 1        | 0     | 10.6       | 1 21  | 0        | 3  |      |   |  |  |  |
| 39   | 5     | 2          | 26 24 | 2        | 6        | 3  | 0          | 27 14 | 3        | 6        | 2     | 7.8   | 28 5  | 3        | 8        | 1     | 5          | 28 56   | 4        | 0        | 17.9  | 3          | 29 47 | 5   | 1        | 18.8  | 2          | 0 39  | 8.5      | 2  |      |   |  |  |  |
| 40   | 14.3  | 5.8        | 25 42 | 2.7      | 5        | 2  | 6.6        | 26 33 | 3.8      | 14.6     | 0     | 4   | 27 23 | 4.9      | 7        | 16.9  | 1          | 28 13   | 5.9      | 16.9     | 8     | 8.9        | 29 4  | 0   | 0        | 6     | 9.7        | 29 56 | 1        | 19.2   |      |   |  |  |  |
| 41   | 2     | 4          | 25 0  | 2        | 4        | 0  | 2          | 25 50 | 3        | 5        | 15.9  | 6.9   | 26 39 | 4        | 6        | 7     | 7.7        | 27 30   | 4        | 9        | 6     | 5          | 28 20 | 6.5   | 17.9     | 4     | 3          | 29 12 | 7.6      | 1  |      |   |  |  |  |
| 42   | 0     | 4.9        | 24 16 | 1.7      | 13.3     | 14.8   | 5.7        | 25 5  | 2.7      | 4        | 7     | 5   | 25 55 | 3.9      | 15.5     | 5     | 3          | 26 45   | 4.9      | 8        | 4     | 1          | 27 35 | 0   | 9        | 3     | 8.9        | 28 26 | 1        | 0  |      |   |  |  |  |
| 43   | 13.8  | 5          | 23 31 | 1        | 2        | 7  | 3          | 24 20 | 2        | 4        | 5     | 1   | 25 9  | 4        | 5        | 4     | 6.9        | 25 58   | 4        | 7        | 2     | 7.6        | 26 48 | 5.5   | 8        | 1     | 4          | 27 39 | 6.6      | 0  |      |   |  |  |  |
| 44   | 6     | 1          | 22 44 | 0.5      | 1        | 5  | 4.8        | 23 32 | 1.6      | 14.3     | 3     | 5.6   | 24 21 | 2.8      | 4        | 2     | 4          | 25 10   | 3.9      | 16.6     | 0     | 2          | 26 0  | 0   | 8        | 17.9  | 7.9        | 26 50 | 0        | 18.9   |      |   |  |  |  |
| 45   | 4     | 3.6        | 21 56 | 29.9     | 0        | 3  | 4          | 22 44 | 0        | 2        | 2     | 2   | 23 32 | 2        | 4        | 0     | 5.9        | 24 21   | 3        | 6        | 16.8  | 6.7        | 25 10 | 4.4   | 7        | 7     | 5 26       | 0     | 5.5      | 8  |      |   |  |  |  |
| 46   | 3     | 2          | 21 6  | 3        | 12.9     | 2  | 3.9        | 21 54 | 0.4      | 1        | 0     | 4.7   | 22 42 | 1.6      | 15.3     | 15.8  | 4          | 23 30   | 2.7      | 5        | 7     | 2          | 24 19 | 3.8   | 17.7     | 5     | 0          | 25 8  | 4.9      | 8  |      |   |  |  |  |
| 47   | 1     | 2.7        | 20 14 | 28.7     | 8        | 0  | 4          | 21 2  | 29.7     | 0        | 14.8  | 2   | 21 49 | 0        | 2        | 6     | 4.9        | 22 37   | 1        | 4        | 5     | 5.8        | 23 26 | 2   | 6        | 3     | 6.5        | 24 15 | 3        | 7  |      |   |  |  |  |
| 48   | 12.9  | 2          | 19 21 | 1        | 7        | 13.8   | 2.9        | 20 8  | 1        | 13.9     | 6     | 3.7   | 20 55 | 0.3      | 1        | 4     | 4          | 21 43   | 1.4      | 16.3     | 3     | 3          | 22 31 | 2.5   | 5        | 1     | 0          | 23 19 | 3.6      | 18.7   |      |   |  |  |  |
| 49   | 7     | 1.7        | 18 27 | 27.4     | 6        | 6  | 4          | 19 13 | 28.4     | 8        | 4     | 2   | 20 0  | 29.6     | 0        | 2     | 3.9        | 20 47   | 0.7      | 2        | 1     | 4.7        | 21 34 | 1.8   | 4        | 16.9  | 5.5        | 22 22 | 2.9      | 6  |      |   |  |  |  |
| 50   | 5     | 2          | 17 31 | 26.6     | 12.5     | 4  | 1.9        | 18 16 | 27.7     | 7        | 2     | 2.7   | 19 2  | 28.8     | 14.9     | 0     | 4          | 19 48   | 29.9     | 1        | 15.9  | 2          | 20 35 | 0   | 17.3     | 7     | 4.9        | 21 22 | 2        | 5  |      |   |  |  |  |
| 51   | 3     | 0.6        | 16 32 | 25.8     | 4        | 2  | 3          | 17 17 | 26.9     | 6        | 13.9  | 1   | 18 2  | 0        | 8        | 14.8  | 2.8        | 18 48   | 1        | 0        | 7     | 3.6        | 19 34 | 0.2   | 2        | 4     | 3          | 20 20 | 1.4      | 4  |      |   |  |  |  |
| 52   | 0     | 0          | 15 32 | 24.9     | 2        | 12.9   | 0.7        | 16 16 | 0        | 13.4     | 7     | 1.5   | 17 0  | 27.1     | 7        | 5     | 2          | 17 45   | 28.2     | 15.8     | 4     | 0          | 18 30 | 29.3  | 1        | 1     | 3.7        | 19 16 | 0.5      | 18.3   |      |   |  |  |  |
| 53   | 11.8  | 29.4       | 14 29 | 23.9     | 0        | 7  | 1          | 15 12 | 25.0     | 3        | 5     | 0.9   | 15 56 | 26.1     | 5        | 3     | 1.6        | 16 40   | 27.2     | 7        | 2     | 2.4        | 17 25 | 28.3  | 0        | 15.9  | 1          | 18 10 | 29.5     | 2  |      |   |  |  |  |
| 54   | 6     | 28.8       | 13 24 | 22.8     | 11.9     | 5  | 29.5       | 14 6  | 23.9     | 1        | 3     | 3   | 14 49 | 25.1     | 14.4     | 0     | 0          | 15 33   | 26.2     | 6        | 14.9  | 1.8        | 16 16 | 27.3  | 16.9     | 7     | 2.5        | 17 1  | 28.5     | 2  |      |   |  |  |  |
| 55   | 4     | 2          | 12 16 | 21.7     | 7        | 2  | 28.9       | 12 58 | 22.8     | 0        | 0     | 29.7  | 13 40 | 24.0     | 2        | 13.8  | 0.4        | 14 23   | 25.1     | 5        | 6     | 1          | 15 6  | 26.2  | 8        | 4     | 1.8        | 15 49 | 27.4     | 1  |      |   |  |  |  |
| 56   | 1     | 27.5       | 11 6  | 20.4     | 6        | 11.9   | 2          | 11 47 | 21.5     | 12.9     | 12.7  | 0   | 12 28 | 22.7     | 1        | 5     | 29.7       | 13 10   | 23.8     | 3        | 3     | 0.4        | 13 52 | 25.0  | 7        | 1     | 1          | 14 34 | 26.2     | 0  |      |   |  |  |  |



TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

| H. M. S. } $\hat{=}$ 24°<br>SID. T. 13 28 52 }<br>ARC 202° 13'.0 |        |         |         |          | H. M. S. } $\hat{=}$ 25°<br>13 32 38 }<br>203° 0'.6 |         |         |        |          | H. M. S. } $\hat{=}$ 26°<br>13 36 25 }<br>204° 6'.3 |         |         |        |          | H. M. S. } $\hat{=}$ 27°<br>13 40 13 }<br>205° 3'.2 |         |        |       |          | H. M. S. } $\hat{=}$ 28°<br>13 44 0 }<br>206° 0'.1 |        |        |       |          | H. M. S. } $\hat{=}$ 29°<br>13 47 49 }<br>206° 57'.2 |       |        |       |          |        |
|--|--------|---------|---------|----------|---|---------|---------|--------|----------|---|---------|---------|--------|----------|---|---------|--------|-------|----------|--|--------|--------|-------|----------|--|-------|--------|-------|----------|--------|
| H.   | 11     | 12      | 1       | 2        | 3   | 11      | 12      | 1      | 2        | 3   | 11      | 12      | 1      | 2        | 3   | 11      | 12     | 1     | 2        | 3  | 11     | 12     | 1     | 2        | 3  | 11    | 12     | 1     | 2        | 3      |
| Lat.   | $\mu$  | $\rho$  | $\nu$   | $\omega$ | $\chi$  | $\mu$   | $\rho$  | $\nu$  | $\omega$ | $\chi$  | $\mu$   | $\rho$  | $\nu$  | $\omega$ | $\chi$  | $\mu$   | $\rho$ | $\nu$ | $\omega$ | $\chi$   | $\mu$  | $\rho$ | $\nu$ | $\omega$ | $\chi$   | $\mu$ | $\rho$ | $\nu$ | $\omega$ | $\chi$ |
| 22   | 22.1   | 16.8    | 11 22   | 15.2     | 21.0  | 23.0    | 17.7    | 12 16  | 16.3     | 22.1  | 23.9    | 18.5    | 13 11  | 17.3     | 23.2  | 24.7    | 19.4   | 14 6  | 18.4     | 24.3   | 25.6   | 20.3   | 15 2  | 19.4     | 25.4   | 26.5  | 21.1   | 15 58 | 20.5     | 26.5   |
| 23   | 21.9   | 5 10    | 53 0    | 0        | 0   | 22.8    | 4 11    | 47 0   | 1        | 7   | 2 12    | 42 1    | 2      | 6        | 1 13  | 37 1    | 3      | 5     | 0 14     | 33 2   | 4      | 4      | 20.8  | 15 29    | 3  | 5     |        |       |          |        |
| 24   | 8      | 2 10    | 23 14.7 | 20.9     | 7   | 1 11    | 18 15.8 | 1      | 6        | 17.9  | 12 12   | 16.8    | 1      | 5        | 18.8  | 13 7    | 17.9   | 2     | 4        | 19.6   | 14 3   | 18.9   | 4     | 3        | 5 14   | 59 0  | 5      |       |          |        |
| 25   | 7 15.9 | 9 53    | 4 9     | 6        | 16.8  | 10 47   | 5 0     | 5      | 6        | 11 42   | 6 1     | 4       | 5      | 12 37    | 6 2   | 2       | 3      | 13 33 | 7 4      | 1  | 2      | 14 29  | 19.8  | 4        |  |       |        |       |          |        |
| 26   | 6 6 9  | 22 2    | 9 4     | 5        | 10 17   | 2 0     | 23.3    | 3 11   | 11 3     | 1   | 2       | 2 12    | 6 4    | 2        | 1   | 0 13    | 2 4    | 3     | 0        | 19.9   | 13 58  | 5      | 4     |          |  |       |        |       |          |        |
| 27   | 21.4   | 3 8     | 51 13.9 | 9        | 22.3  | 1 9     | 45 0    | 0      | 2        | 0 10  | 40 0    | 23.1    | 1 17   | 8 11     | 35 1  | 24.2    | 0      | 18.7  | 12 31    | 2 25   | 3      | 25.9   | 5 13  | 26       | 3  | 26.4  |        |       |          |        |
| 28   | 3 0 8  | 19 6    | 8 2     | 15.8     | 9 13  | 14.7    | 21.9    | 1      | 16.7     | 10 8  | 15.7    | 1       | 23.9   | 5 11     | 3 16.8  | 2       | 24.8   | 4 11  | 58 17.9  | 3  | 7      | 2 12   | 54 0  | 4        |  |       |        |       |          |        |
| 29   | 2 14.6 | 7 46    | 3 20.8  | 0        | 5 8   | 40 4    | 9       | 22.9   | 3 9      | 35 4  | 0       | 8       | 2 10   | 30 5     | 1   | 7       | 0 11   | 25 6  | 3        | 6  | 18.9   | 12 21  | 18.7  | 4        |  |       |        |       |          |        |
| 30   | 0 3 7  | 12 0    | 8 21.9  | 2 8      | 7 1   | 9 8     | 0 9     | 1 1    | 0        | 7   | 16.8    | 9 56    | 2 1    | 5        | 17.7  | 10 51   | 3 3    | 4     | 5        | 11 47  | 4 4    |        |       |          |  |       |        |       |          |        |
| 31   | 20.9   | 0 6     | 38 12.7 | 7 8      | 14.8  | 7 32    | 13.8    | 8 6    | 15.7     | 8 27  | 14.8    | 0 5     | 5 9    | 22 15.9  | 24.1  | 4       | 3      | 10 17 | 0 25     | 2  | 25.3   | 2 11   | 13 1  | 4        |  |       |        |       |          |        |
| 32   | 7 13.6 | 6 3     | 3 7     | 6 5      | 6 57  | 4 8     | 5 3     | 7 51   | 5 22.9   | 23.4  | 1 8     | 46 6    | 1      | 24.3     | 0 9   | 41 16.7 | 2      | 1     | 17.8     | 10 37  | 17.8   | 26.4   |       |          |  |       |        |       |          |        |
| 33   | 6 3 5  | 27 0    | 6 5     | 1 6      | 21 1  | 21.8    | 22.4    | 14.9   | 7 15     | 2 9   | 2 15    | 8 10    | 3 1    | 1        | 16.6  | 9 5     | 4 2    | 0     | 4        | 10 1   | 5 3    |        |       |          |  |       |        |       |          |        |
| 34   | 4 12.9 | 4 50    | 11.7    | 20.6     | 21.3  | 13.8    | 5 44    | 12.8   | 7 2      | 6 6   | 38 13.9 | 9 1     | 4 7    | 33 0     | 0   | 0       | 2 8    | 28 1  | 2        | 24.8   | 1 9    | 23 2   | 3     |          |  |       |        |       |          |        |
| 35   | 20.3   | 6 4     | 13 3    | 6 2      | 4 5   | 6 4     | 7 1     | 2 6    | 0 5      | 8 22.9  | 0 6     | 55 14.6 | 24.0   | 23.8     | 15.9  | 7 49    | 15.7   | 25.2  | 7 16.7   | 8 45   | 16.8   | 3      |       |          |  |       |        |       |          |        |
| 36   | 1 2 3  | 34 10.9 | 5 0     | 0 4      | 27 0  | 7 21.9  | 13.8    | 5 21   | 1 8      | 8 14.6  | 6 16    | 2 0     | 6 5    | 7 10     | 3 1   | 5 3     | 8 5    | 5 3   |          |  |        |        |       |          |  |       |        |       |          |        |
| 37   | 0 11.8 | 2 54    | 5 5     | 20.9     | 12.6  | 3 47    | 11.6    | 6 7    | 4 4      | 41 12.7   | 22.8    | 6 2     | 5 35   | 13.8     | 0 5   | 1 6     | 30 0   | 1     | 3        | 15.9   | 7 25   | 1 26   | 3     |          |  |       |        |       |          |        |
| 38   | 19.8   | 4 2     | 13 1    | 4 7      | 2 3   | 6 2     | 21.6    | 6 0    | 4 0      | 3 7   | 4 13    | 8 45    | 4 0    | 3        | 14.7  | 5 48    | 14.6   | 1     | 2 5      | 6 43   | 15.7   | 3      |       |          |  |       |        |       |          |        |
| 39   | 7 0 1  | 31 9.6  | 20.4    | 5 11     | 8 2   | 24 10.8 | 5 4     | 12.6   | 3 17     | 11.9  | 7 2     | 4 4     | 11 0   | 23.9     | 1 2   | 5 5     | 2 25   | 1     | 0        | 1 5  | 59 4   | 2      |       |          |  |       |        |       |          |        |
| 40   | 5 10.6 | 0 48    | 2 4     | 4 4      | 1 40  | 4 5     | 2 2     | 2 33   | 5 7      | 1 0   | 3 27    | 12.6    | 9 22.9 | 13.8     | 4 20  | 13.8    | 0 23.8 | 14.6  | 5 15     | 0 2  |        |        |       |          |  |       |        |       |          |        |
| 41   | 3 1 0  | 3 8.7   | 4 3     | 10.9     | 0 55  | 9.9 4   | 0 11.7  | 1 48   | 0 6      | 21.9  | 12.5    | 2 41    | 1 9    | 7 4      | 3 35  | 4 0     | 6 2    | 4 29  | 14.6     | 2  |        |        |       |          |  |       |        |       |          |        |
| 42   | 1 9.7  | 29 17   | 2 3     | 1 5      | 0 9   | 4 4     | 20.8    | 3 1    | 1 10.5   | 22.6  | 7 1     | 1 54    | 11.6   | 9 5      | 12.9  | 2 48    | 12.9   | 0 4   | 13.7     | 3 41   | 1 26   | 2      |       |          |  |       |        |       |          |        |
| 43   | 18.9   | 2 28    | 30 7.7  | 3 19.9   | 0 29  | 21 8.9  | 21.3    | 6 10.8 | 0 13     | 0 5   | 5 11.6  | 1 5     | 1 8    | 3 4      | 1 59  | 4 24.9  | 2 3    | 2 52  | 13.6     | 2  |        |        |       |          |  |       |        |       |          |        |
| 44   | 7 8.7  | 27 41   | 1 20.2  | 7 9.5    | 28 32   | 4 3     | 4 3     | 29 23  | 9.5      | 5 3   | 1 0     | 15 10.6 | 23.8   | 1 11.9   | 1 8   | 11.9    | 9 0    | 12.8  | 2 1      | 1 1  |        |        |       |          |  |       |        |       |          |        |
| 45   | 5 3 26 | 50 6.5  | 1 5     | 1 27     | 41 7.8  | 2 2     | 9.8     | 28 32  | 8.9      | 5 1   | 10.6    | 29 24   | 1 8    | 21.9     | 4 0   | 16 4    | 9 22.8 | 3 1   | 9 12.6   | 1  |        |        |       |          |  |       |        |       |          |        |
| 46   | 3 7.8  | 25 58   | 0 1     | 3 8.6    | 26 48   | 2 2     | 0 3     | 27 39  | 3 4      | 20.8  | 1 28    | 30 9.5  | 7 7    | 10.9     | 29 22   | 10.8    | 8 6    | 11.8  | 0 14     | 0 1  |        |        |       |          |  |       |        |       |          |        |
| 47   | 1 3 25 | 4 5.4   | 0 1     | 0 25     | 54 6.6  | 21.1    | 19.8    | 8.8    | 26 44    | 7.7   | 22.4    | 6 9.6   | 27 34  | 8.9      | 7 6   | 4 28    | 26 2   | 8 4   | 2 29     | 18 11.4  | 26.1   |        |       |          |  |       |        |       |          |        |
| 48   | 17.9   | 6.8     | 24 8    | 4.7      | 19.9  | 18.9    | 7.5     | 24 57  | 5.9      | 1 6   | 3 25    | 47 1    | 4 4    | 1 26     | 37 3  | 23.6    | 4 9.9  | 27 28 | 9.6      | 24.8   | 2 10.7 | 28 19  | 10.8  | 0        |  |       |        |       |          |        |
| 49   | 7 3 23 | 10 0    | 9 7     | 6.9      | 23 58   | 2 0     | 4 7.8   | 24 48  | 6.4      | 3 2   | 8.6     | 25 37   | 7.6    | 6 2      | 3 26  | 27 8.9  | 7 21.9 | 1 27  | 18 1     | 0  |        |        |       |          |  |       |        |       |          |        |
| 50   | 5 5.7  | 22 10   | 3.3     | 8 4      | 4 22  | 58 4.5  | 0 2     | 2 23   | 46 5.7   | 3 0   | 0 24    | 35 6.9  | 5 20.9 | 8.7      | 25 25   | 2 7     | 7 9.5  | 26 14 | 9.4      | 0  |        |        |       |          |  |       |        |       |          |        |
| 51   | 2 1 21 | 7 2.5   | 7 2     | 5.8      | 21 55   | 3.7     | 20.9    | 18.9   | 6.6      | 22 42   | 4.9     | 22.2    | 19.7   | 7.4      | 23 31   | 1 5     | 6 1    | 24 20 | 7.4      | 6 4  | 8.9    | 25 9   | 8.7   | 25.9     |  |       |        |       |          |        |
| 52   | 0 4.5  | 20 2    | 1.6     | 19.6     | 17.9  | 2 20    | 49 2.8  | 9 7    | 0 21     | 36 1  | 1 4     | 6.8     | 22 24  | 5.3      | 23.4  | 3 7.5   | 23 12  | 6.6   | 24.6     | 1 3  | 24 0   | 7.9    | 9     |          |  |       |        |       |          |        |
| 53   | 16.8   | 3.9     | 18 55   | 0.7      | 5 6   | 4.6     | 19 41   | 1.9    | 8 5      | 5.4   | 20 27   | 3.2     | 1 2    | 1 21     | 14 4.4  | 3 1     | 6.8    | 22 1  | 5.7      | 5 20.9   | 7.6    | 22 49  | 0 9   |          |  |       |        |       |          |        |
| 54   | 5 2 17 | 45 29.7 | 4 3     | 3.9      | 18 30   | 0.9     | 7 2     | 4.7    | 19 16    | 2.2   | 0 0     | 5.4     | 20 1   | 3.4      | 3 19.8  | 1 20    | 48 4.7 | 5 6   | 6.9      | 21 35  | 6.0    | 8      |       |          |  |       |        |       |          |        |
| 55   | 2 2.5  | 16 32   | 28.6    | 3 0      | 2 17  | 17 29.8 | 6 17.9  | 0 18   | 1 1.1    | 21.9  | 18.7    | 4.7     | 18 46  | 2.3      | 2 5   | 5.4     | 19 31  | 3.6   | 5 3      | 2 20   | 17 4.9 | 8      |       |          |  |       |        |       |          |        |
| 56   | 15.9   | 1.8     | 15 17   | 27.4     | 2 16.7  | 2.5     | 16 0    | 28.6   | 4 5      | 3.3   | 16 43   | 29.9    | 8 3    | 0 17     | 27 1.1  | 1 1     | 4.7    | 18 12 | 2.4      | 4 0  | 5.4    | 18 56  | 3.7   | 8        |  |       |        |       |          |        |





















TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

|    |      | H M S<br>SID. T. 17 12 0 } f<br>ARC 258° 2'.2 } 19° |        |             |           |           | H M S<br>17 16 20 } f 20°<br>250° 7'.2 } |           |           |           |           | H M S<br>17 20 40 } f 21°<br>260° 12'.3 } |             |             |           |            | H M S<br>17 25 10 } f 22°<br>261° 17'.4 } |           |       |           |         | H M S<br>17 29 30 } f 23°<br>262° 22'.6 } |       |      |       |       | H M S<br>17 33 51 } f 24°<br>263° 27'.8 } |       |      |      |   |
|----|------|---|--------|-------------|-----------|-----------|--|-----------|-----------|-----------|-----------|---|-------------|-------------|-----------|------------|---|-----------|-------|-----------|---------|---|-------|------|-------|-------|---|-------|------|------|---|
| H. | Lat. | 11  | 12     | 1           | 2         | 3         | 11                                       | 12        | 1         | 2         | 3         | 11  | 12          | 1           | 2         | 3          | 11  | 12        | 1     | 2         | 3       | 11  | 12    | 1    | 2     | 3     | 11  | 12    | 1    | 2    | 3 |
| 22 | 13.6 | 10.7  | 14 17  | 22.0        | 23.0      | 14.6      | 11.8                                     | 15 42     | 23.3      | 24.1      | 15.6      | 13.0                                      | 17 6        | 24.6        | 25.2      | 16.7       | 14.2                                      | 18 32     | 25.9  | 26.3      | 17.7    | 15.4                                      | 19 57 | 27.2 | 27.4  | 18.8  | 16.6                                      | 21 23 | 28.5 | 28.5 |   |
| 23 | 5    | 4 14 7  | 2 2    | 5           | 6 15 32   | 5 3       | 5  | 12.7      | 16 58     | 8 4       | 5         | 13.9                                      | 18 24       | 26.1        | 5 5       | 5          | 1 19 51                                   | 4 6       | 6 6   | 3 21 17   | 7 6     |   |       |      |       |       |   |       |      |      |   |
| 24 | 3    | 1 13 57   | 3 3    | 3           | 3 15 23   | 6 4       | 3  | 5 16 50   | 9 5       | 4         | 7 18 17   | 2 6                                       | 4 14.9      | 19 44       | 6 7       | 4          | 1 21 11                                   | 9 8       |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 25 | 1    | 9.8   | 13 46  | 5 5         | 2 0 15 13 | 8 6       | 2  | 2 16 41   | 25.1      | 7 2       | 4 18 9    | 4 8                                       | 2 6 19 37   | 7 9         | 3 15.8    | 21 5       | 29.1                                      | 9         |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 26 | 0    | 5 13 35   | 6 23.6 | 0 10.7      | 15 3 24.0 | 7 0       | 11.9                                     | 16 31     | 3 8       | 0         | 1 18 0    | 6 9                                       | 1 3 19 30   | 9 28.0      | 1 5 20 59 | 3 29.1     |   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 27 | 12.8 | 2 13 23   | 8 8    | 13.8        | 4 14 52   | 1 9       | 14.8                                     | 6 16 22   | 5 26.0    | 15.9      | 12.8      | 17 52                                     | 8 27.1      | 16.9        | 0 19 22   | 28.1       | 2 17.9                                    | 3 20 53   | 5 3   |           |         |   |       |      |       |       |   |       |      |      |   |
| 28 | 6    | 8.9   | 13 11  | 23.0        | 9 6       | 1 14 41   | 3 25.0                                   | 7 3 16 12 | 6 1       | 7 5 17 43 | 27.0      | 2 7 13.7                                  | 19 14       | 3 3         | 8 0 20 46 | 7 4        |   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 29 | 4    | 6 12 58   | 1 24.0 | 5 9.8       | 14 30     | 5 2       | 5 0 16 1                                 | 8 3       | 5 2 17 33 | 2 4       | 6 5 19 6  | 5 5                                       | 6 14.7      | 20 39       | 9 6       |            |   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 30 | 3    | 3 12 45   | 3 2    | 3 5 14 17   | 7 3       | 3 10.7    | 15 50                                    | 26.0      | 4 3       | 11.9      | 17 24     | 4 5                                       | 4 2 18 57   | 8 6         | 4 4 20 31 | 0.1        | 7   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 31 | 1    | 0 12 31   | 5 4    | 1 2 14 5    | 9 5       | 1 4 15 39 | 2 6                                      | 2 6 17 13 | 6 7       | 2 12.9    | 18 48     | 29.0                                      | 8 2 1 20 24 | 3 9         |           |            |   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 32 | 11.9 | 7.6   | 12 17  | 7 5         | 12.9      | 8.9       | 13 51                                    | 25.1      | 7 13.9    | 1 15 27   | 4 8       | 0 3 17 3                                  | 8 9         | 0 5 18 39   | 2 29.0    | 1 13.8     | 20 16                                     | 5 0.1     |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 33 | 7    | 3 12 2  | 9 7    | 7 5 13 37   | 3 8       | 7 9.7     | 15 14                                    | 7 27.0    | 14.8      | 0 16 51   | 28.0      | 28.1                                      | 15.8        | 2 18 29     | 4 2       | 16.9       | 4 20 7                                    | 8 3       |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 34 | 5    | 6.9   | 11 46  | 24.1        | 9 5       | 1 13 23   | 5 26.0                                   | 5 3 15 1  | 9 1       | 6 10.6    | 16 39     | 3 3                                       | 6 11.8      | 18 18       | 6 4       | 7 1 19 58  | 1.0                                       | 5         |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 35 | 3    | 5 11 29   | 3 25.1 | 3 7.7       | 13 7      | 7 2       | 3 0 14 47                                | 27.1      | 3 4       | 2 16 27   | 5 4       | 4 4 18 7                                  | 9 6         | 5 12.7      | 19 48     | 3 7        |   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 36 | 1    | 1 11 11   | 5 3    | 1 3 12 51   | 26.0      | 4 1 8.6   | 14 32                                    | 4 5       | 2 9.8     | 16 14     | 8 6       | 2 1 17 56                                 | 0.2         | 8 3 3 19 38 | 6 9       |            |   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 37 | 10.8 | 5.7   | 10 52  | 8 5         | 11.9      | 6.9       | 12 34                                    | 2 6       | 12.9      | 2 14 16   | 6 7       | 13.9                                      | 4 15 59     | 29.1        | 8 0 10.7  | 17 43      | 5 0                                       | 11.9      | 19 27 | 9 1.1     |         |   |       |      |       |       |   |       |      |      |   |
| 38 | 6    | 2 10 32   | 25.0   | 7 7 5 12 15 | 5 8       | 7 7.7     | 14 0                                     | 9 9       | 7 0 15 44 | 4 29.0    | 14.8      | 3 17 30                                   | 8 0.2       | 15.8        | 5 19 16   | 2.2        | 3   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 39 | 4    | 4.8   | 10 11  | 3 9         | 4 0 11 56 | 8 27.0    | 5 3 13 42                                | 28.2      | 28.1      | 5 8.6     | 15 28     | 7 3                                       | 5 9.8       | 17 16       | 1.1       | 4 6 1 19 4 | 5 5                                       |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 40 | 2    | 3 9 48  | 5 26.1 | 2 5.6       | 11 35     | 27.0      | 2 2 6.8                                  | 13 23     | 5 3       | 2 1 15 11 | 8 5       | 3 4 17 1                                  | 4 6         | 3 10.7      | 18 51     | 8 7        |   |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 41 | 9.9  | 3.8   | 9 24   | 8 3         | 10.9      | 1 11 13   | 3 4                                      | 0 3 13 3  | 9 5       | 0 7.6     | 14 53     | 0.3                                       | 7 0 8.9     | 16 45       | 8 8       | 1 2 18 37  | 3.2                                       | 2.0       |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 42 | 6    | 3 8 58  | 26.1   | 5 7 4.6     | 10 49     | 6 6       | 11.7                                     | 5.8       | 12 41     | 29.2      | 7 12.7    | 1 14 34                                   | 7 0         | 13.8        | 4 16 28   | 2.2        | 1.1                                       | 14.8      | 9.7   | 18 22     | 6 2     |   |       |      |       |       |   |       |      |      |   |
| 43 | 4    | 2.8   | 8 30   | 4 7         | 4 0 10 23 | 9 9       | 4 3 12 18                                | 6 29.0    | 5 6.6     | 14 13     | 1.1       | 0.2                                       | 5 7.9       | 16 9        | 6 4       | 6 2 18 6   | 4.0                                       | 5         |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 44 | 1    | 2 8 0   | 7 27.0 | 1 3.5       | 9 55      | 28.3      | 28.1                                     | 1 4.7     | 11 52     | 8 3       | 2 0 13 50 | 5 4                                       | 2 3 15 49   | 3.0         | 6 3 8.6   | 17 49      | 5 7                                       |           |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 45 | 8.8  | 1.6   | 7 27   | 27.1        | 2 9.8     | 2.9       | 9 26                                     | 7 4       | 10.8      | 1 11 25   | 0.4       | 6 11.9                                    | 5.4         | 13 26       | 9 7       | 12.9       | 6.7                                       | 15 27     | 4 9   | 0 0 17 30 | 9 3.0   |   |       |      |       |       |   |       |      |      |   |
| 46 | 5    | 0 6 52  | 5 5    | 5 2 8 53    | 29.1      | 7 5 3.5   | 10 55                                    | 7 9       | 6 4.8     | 12 59     | 2.3       | 1.0                                       | 6 1 15 4    | 8 2.2       | 13.7      | 7.4        | 17 9                                      | 5.3       | 3     |           |         |   |       |      |       |       |   |       |      |      |   |
| 47 | 2    | 0.3   | 6 14   | 9 8         | 2 1.6     | 8 17      | 5 29.0                                   | 2 2.8     | 10 23     | 1.1       | 0.2       | 3 1 12 29                                 | 7 3         | 3 5.5       | 14 38     | 4.2        | 4 3 6.8                                   | 16 47     | 7 6   |           |         |   |       |      |       |       |   |       |      |      |   |
| 48 | 7.8  | 29.6  | 5 32   | 28.3        | 28.2      | 8.9       | 0.9                                      | 7 38      | 9 3       | 9.9       | 1 9 47    | 5 5                                       | 10.9        | 3.4         | 11 57     | 3.1        | 6 0 4.8                                   | 14 9      | 7 7   | 0 1 16 22 | 6.2     | 9   |       |      |       |       |   |       |      |      |   |
| 49 | 5    | 28.9  | 4 45   | 7 5         | 5 1 6 55  | 0.3       | 6 5 1.4                                  | 9 8       | 2.0       | 8 6 2.7   | 11 22     | 6 2.0                                     | 11.6        | 1 13 37     | 5.2       | 3.1        | 12.7                                      | 5.4       | 15 55 | 7 4.3     |         |   |       |      |       |       |   |       |      |      |   |
| 50 | 1    | 1 3 54  | 29.2   | 8 1 29.4    | 6 8       | 8 0       | 2 0.7                                    | 8 24      | 5 1.2     | 2 0 10 42 | 4.1       | 3 2 3.4                                   | 13 2        | 7 4         | 3 4.7     | 15 24      | 7.3                                       | 6         |       |           |         |   |       |      |       |       |   |       |      |      |   |
| 51 | 6.7  | 27.3  | 2 57   | 7 29.2      | 7.8       | 28.6      | 5 15                                     | 1.3       | 0.4       | 8.8       | 29.9      | 7 35                                      | 3.1         | 5 9.8       | 1.2       | 9 58       | 7 7                                       | 10.9      | 2.6   | 12 23     | 6.3     | 8   | 11.9  | 3.9  | 14 50 | 9 5.0 |   |       |      |      |   |
| 52 | 3    | 26.4  | 1 53   | 0.3         | 5 4 27.7  | 4 15      | 9 8                                      | 4 0 6 41  | 7 9       | 4 0.3     | 9 9       | 5.3                                       | 3.1         | 5 1.7       | 11 39     | 7.0        | 4.2                                       | 5 0 14 12 | 8.6   | 4         |         |   |       |      |       |       |   |       |      |      |   |
| 53 | 5.9  | 25.4  | 0 42   | 9 9         | 6.9       | 26.8      | 3 8                                      | 2.6       | 1.2       | 7.9       | 28.1      | 5 39                                      | 4.4         | 2.3         | 0 29.4    | 8 13       | 6.0                                       | 5 0 0.7   | 10 48 | 7 6       | 1 2.1   | 13 28                                     | 9.4   | 8    |       |       |   |       |      |      |   |
| 54 | 4    | 24.4  | 29 20  | 1.6         | 0.3       | 4 25.8    | 1 52                                     | 3.3       | 6 4 27.1  | 4 28      | 5.1       | 8 8.5                                     | 28.3        | 7 8         | 8 9 9.5   | 29.7       | 9 51                                      | 8.5       | 5.1   | 10.6      | 1.1     | 12 37                                     | 10.2  | 6.2  |       |       |   |       |      |      |   |
| 55 | 4.9  | 23.3  | 27 47  | 2.3         | 8 5.9     | 24.6      | 0 25                                     | 4.1       | 2.0       | 6.9       | 25.9      | 3 7                                       | 9 3.3       | 0 27.2      | 5 54      | 7.6        | 4.4                                       | 0 28.6    | 8 44  | 9.4       | 6 0 0.0 | 11 38                                     | 11.1  | 7    |       |       |   |       |      |      |   |
| 56 | 3    | 22.0  | 26 0   | 3.1         | 1.3       | 3 23.3    | 28 44                                    | 5.0       | 5 4 24.6  | 1 33      | 6.8       | 9 7.4                                     | 26.0        | 4 27        | 8.5       | 9 8.4      | 27.4                                      | 7 26      | 10.4  | 6.2       | 9.5     | 28.8                                      | 10 30 | 12.1 | 7.2   |       |   |       |      |      |   |



























TABLE OF HOUSES FOR LATITUDES 22° TO 56°.

UPPER MERIDIAN, CUSP OF 10th H.

Table with columns for H. M. S. (SID. T. 22 8 22), H. M. S. (22 12 11), H. M. S. (22 16 0), H. M. S. (22 19 47), H. M. S. (22 23 35), and H. M. S. (22 27 22). Each column is associated with a specific degree and minutes value (e.g., 332° 5' 5", 333° 2' 8", etc.) and contains numerical data for latitudes from 22 to 56.











|  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|
| H. M. S.<br>SID. T. 23 52 40 } $\times$ 28°<br>ARC 358° 9'.0 |  |  |  |  | H. M. S.<br>23 56 20 } $\times$ 29°<br>359° 5'.0 |  |  |  |  | H. M. S.<br>24 0 0 } $\gamma$ 0°<br>360° 0'.0 |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|

| H.   | 11  | 12   | 1     | 2    | 3    | 11  | 12   | 1     | 2    | 3    | 11   | 12   | 1      | 2    | 3    |
|------|-----|------|-------|------|------|-----|------|-------|------|------|------|------|--------|------|------|
| Lat. | 8   | □    | ☌     | ♋    | ♌    | 8   | □    | ☌     | ♋    | ♌    | 8    | □    | ☌      | ♋    | ♌    |
| 22   | 2.0 | 6.1  | 7.29  | 1.5  | 27.6 | 3.0 | 7.0  | 8.19  | 2.3  | 28.5 | 4.0  | 7.9  | 9.8    | 3.2  | 29.4 |
| 23   | 1   | +    | 7.57  | 8    | 7    | 1   | 3    | 8.46  | 6    | 6    | 1    | 8.2  | 9.35   | 4    | 5    |
| 24   | 2   | 7    | 8.25  | 2.0  | 8    | 2   | 6    | 9.14  | 8    | 7    | 2    | 6.10 | 3      | 7    | 6    |
| 25   | 3   | 7.1  | 8.53  | 3    | 9    | 3   | 8.0  | 9.42  | 3.1  | 8    | 3    | 9.10 | 31     | 9    | 7    |
| 26   | 4   | +    | 9.22  | 5    | 28.0 | 4   | 3    | 10.10 | 4    | 9    | 4    | 9.2  | 10.59  | 4.2  | 29.8 |
| 27   | 2.5 | 7    | 9.51  | 8    | 1    | 3.5 | 6    | 10.39 | 6    | 29.0 | 4.5  | 6.11 | 27     | 5    | 8    |
| 28   | 6   | 8.1  | 10.20 | 3.1  | 2    | 6   | 9.0  | 11.9  | 9    | 0    | 6    | 9.11 | 56     | 7    | 9    |
| 29   | 7   | +    | 10.50 | 4    | 3    | 7   | 3    | 11.38 | 4.2  | 1    | 7    | 10.2 | 12.26  | 5.0  | ☉    |
| 30   | 8   | 7    | 11.20 | 7    | 3    | 8   | 7    | 12.8  | 5    | 2    | 8    | 6.12 | 56     | 3    | 0.1  |
| 31   | 9   | 9.1  | 11.51 | 9    | 28.4 | 4.0 | 10.0 | 12.39 | 8    | 29.3 | 9    | 11.0 | 13.26  | 6    | 2    |
| 32   | 3.1 | 5    | 12.23 | 4.2  | 5    | 1   | 4    | 13.10 | 5.0  | 4    | 5.0  | 3.13 | 57     | 8    | 3    |
| 33   | 2   | 9    | 12.55 | 5    | 6    | 2   | 8    | 13.42 | 3    | 5    | 2    | 7.14 | 29     | 6.1  | 4    |
| 34   | 3   | 10.3 | 13.27 | 8    | 7    | 4   | 11.2 | 14.15 | 6    | 6    | 3    | 12.1 | 15.1   | 4    | 5    |
| 35   | 5   | 7    | 14.1  | 5.1  | 9    | 4.5 | 6    | 14.47 | 9    | 29.7 | 4    | 5.15 | 34     | 7    | 0.6  |
| 36   | 3.6 | 11.1 | 14.34 | 5    | 29.0 | 7   | 12.1 | 15.21 | 6.2  | 8    | 5.6  | 13.0 | 16.8   | 7.0  | 7    |
| 37   | 8   | 6    | 15.9  | 8    | 1    | 8   | 5    | 15.55 | 6    | 9    | 7    | 4.16 | 42     | 3    | 8    |
| 38   | 9   | 12.1 | 15.44 | 6.1  | 2    | 5.0 | 13.0 | 16.30 | 9    | 0.1  | 9    | 9.17 | 16     | 7    | 9    |
| 39   | 4.0 | 5    | 16.20 | 4    | 3    | 1   | 5    | 17.6  | 7.2  | 2    | 6.1  | 14.4 | 17.52  | 8.0  | 1.0  |
| 40   | 1   | 13.0 | 16.57 | 7    | 4    | 2   | 14.0 | 17.43 | 5    | 3    | 3    | 9.18 | 28     | 3    | 1    |
| 41   | 3   | 6    | 17.35 | 7.0  | 29.5 | 4   | 5    | 18.20 | 9    | 4    | 4    | 15.4 | 19.5   | 7    | 2    |
| 42   | 5   | 14.1 | 18.13 | 4    | 7    | 6   | 15.0 | 18.58 | 8.3  | 0.5  | 6    | 9.19 | 43     | 9.0  | 4    |
| 43   | 7   | 7    | 18.53 | 7    | 8    | 8   | 6    | 19.38 | 6    | 6    | 8    | 16.5 | 20.22  | 3    | 5    |
| 44   | 9   | 15.3 | 19.33 | 8.1  | 9    | 6.0 | 16.2 | 20.18 | 9.0  | 8    | 7.0  | 17.1 | 21.1   | 6    | 1.6  |
| 45   | 5.1 | 9    | 20.15 | 5    | ☉    | 2   | 8    | 20.59 | 4    | 9    | 2    | 7.21 | 42     | 10.0 | 7    |
| 46   | 2   | 16.5 | 20.57 | 9    | 0.1  | 4   | 17.4 | 21.41 | 7    | 1.0  | 5    | 18.3 | 22.24  | 4    | 8    |
| 47   | 4   | 17.2 | 21.41 | 9.3  | 2    | 5   | 18.1 | 22.24 | 10.1 | 1    | 7    | 19.0 | 23.7   | 8    | 9    |
| 48   | 6   | 9    | 22.26 | 7    | 4    | 7   | 8    | 23.8  | 5    | 2    | 9    | 7.23 | 51     | 11.2 | 2.1  |
| 49   | 8   | 18.6 | 23.12 | 10.1 | 5    | 9   | 19.5 | 23.54 | 9    | 4    | 8.1  | 20.4 | 24.36  | 6    | 2    |
| 50   | 6.0 | 19.4 | 24.0  | 5    | 7    | 7.1 | 20.3 | 24.41 | 11.3 | 1.5  | 3    | 21.2 | 25.22  | 12.0 | 3    |
| 51   | 3   | 20.2 | 24.49 | 9    | 9    | 4   | 21.1 | 25.30 | 7    | 7    | 6    | 22.0 | 26.10  | 4    | 4    |
| 52   | 6   | 21.1 | 25.39 | 11.4 | 1.1  | 7   | 22.0 | 26.20 | 12.1 | 9    | 9    | 9.26 | 59     | 8    | 6    |
| 53   | 9   | 22.0 | 26.31 | 9    | 2    | 8.0 | 9    | 27.11 | 6    | 2.0  | 9.2  | 23.8 | 27.50  | 13.3 | 8    |
| 54   | 7.2 | 23.0 | 27.25 | 12.4 | 4    | 3   | 23.9 | 28.4  | 13.1 | 1    | 5    | 24.8 | 28.43  | 8    | 3.0  |
| 55   | 5   | 24.0 | 28.20 | 9    | 5    | 6   | 24.9 | 28.59 | 6    | 3    | 8    | 25.8 | 29.37  | 14.3 | 1    |
| 56   | 8   | 25.1 | 29.18 | 13.4 | 7    | 9   | 26.0 | 29.55 | 14.1 | 5    | 10.1 | 27.0 | ♋ 0.32 | 8    | 3    |

POSTSCRIPT.

As the tabular spherical basis here built fails to cover a considerable zone near the equator, and figures are often wanted for latitudes less than 22°, the formula for their calculation is added and can be used by any one a little versed in trigonometry; and any part of the Table may also be tested thereby.

(1) To the R. A.\* of the M. C. add 30°, 60°, or 90°, or so on, according to the place of the house in order from the meridian, which will give the oblique ascension of its cusp. Express this in distance, forward or backward, from  $\gamma$  0 or  $\sphericalangle$  0, whichever be the nearer, and call it *d*. Call the ecliptic obliquity *O*.

Then,  $\cos d \cot \text{polc} = \cot A$ .

And the sum, or difference, of *A* and *O* (according as *d* measures from  $\gamma$  or  $\sphericalangle$ ) = *B*.

Then,  $\sec B \cos A \tan d = \tan \text{long. required}$ , to be reckoned from  $\gamma$  or  $\sphericalangle$  as *d* was; unless *B* exceed 90°, when the longitude is reckoned from the opposite equinox, reversely.

For South latitude, first add 180° to the R. A. of the M. C., and proceed as above; but in the final result put opposite zodiacal signs for those found on the minor houses.

The poles below latitude 10° are given in the annexed extension to the equator of table D.

| Lat. | 11th and 3d H. | 12th and 2d H. |
|------|----------------|----------------|
| 0    | 0 0            | 0 0            |
| 1    | 0 20.0         | 0 40.0         |
| 4    | 1 20.1         | 2 40.2         |
| 7    | 2 20.7         | 4 40.8         |
| 10   | 3 21.9         | 6 42.4         |

(2) On the equator the previous formula becomes simply  $\frac{\tan d}{\cos O} = \tan \text{long.}$ , to be reckoned as above.

Hence a better method than the other would be to compute the longitude for latitude 0, and then interpolate by trial between that and 22°, by aid of the tabular differences in each column. It can often be done by mere inspection. In this way any part of the Table can be completed to the equator with sufficient accuracy, as interpolation in that interval is easy.

For latitudes from 56° to 60°, follow precepts and formula of Art. (1). Interpolation for such high latitudes is not so simple, but should allow for second differences in using table D.

For latitude more than 60° special calculations must be made.

J. G. D.

July, 1903.

\* To convert ecliptic longitude into R. A., express the long. in distance (forward) from the nearest cardinal point; then, if from  $\gamma$  or  $\sphericalangle$ ,  $\tan \text{R. A.} = \tan \text{long.} \cos O$ ; if from  $\sphericalangle$  or  $\sphericalcap$ , use cot instead of tan.

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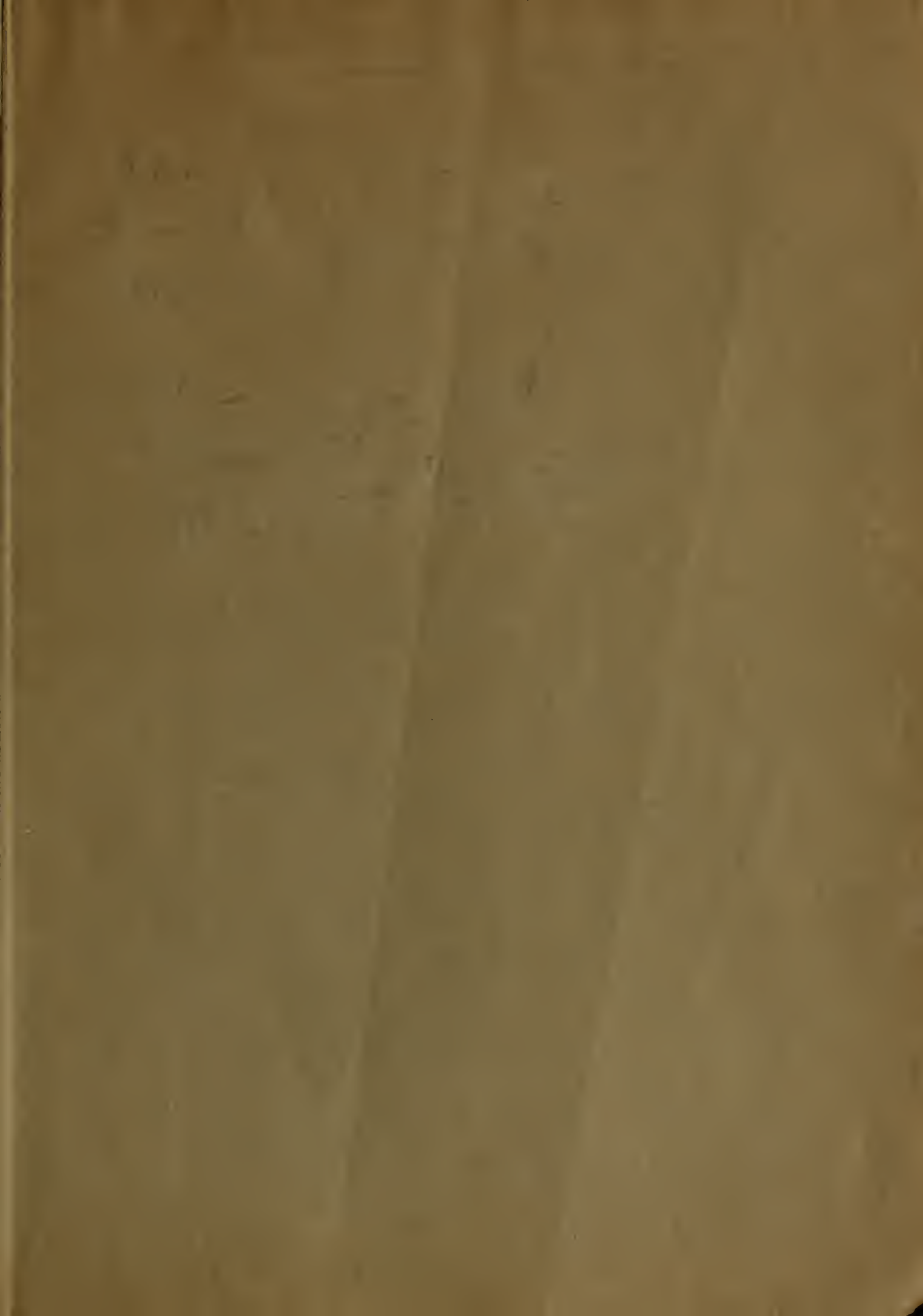
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