

To be subtracted from sextant altitude

Choose the column appropriate to height, in units of 1,000 feet, and find the range of altitude in which the sextant altitude lies; thus find  $R_0$ . This is the refraction corresponding to the sextant altitude unless conditions are extreme. In that case find  $f$  from the lower table corresponding to the range of temperature for the appropriate height, and use the table on the right to find  $R$ . Example: at a height of 30,000 feet and temperature (-)  $60^\circ$  C, a celestial body is observed at altitude (-)  $2^\circ 36'$ .  $R_0$  is  $50'$ ,  $f$  is 1.1 and  $R$  is  $55'$ . Subtracting this from the sextant altitude gives (-)  $3^\circ 31'$ .

To be applied by moving the position line a distance  $Z$  to starboard (right) of the track in northern latitudes and to port (left) in southern latitudes.

| STANDARD DOME<br>REFRACTION                                                                                                                            |       |      |       | BUBBLE<br>SEXTANT<br>ERROR |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|-------|----------------------------|-------|
| To be <i>subtracted</i> from<br>observed altitude when<br>using sextant suspension<br>in a perspec dome.                                               |       |      |       | Sextant No.                |       |
| Alt.                                                                                                                                                   | Refr. | Alt. | Refr. | Alt.                       | Corr. |
| °                                                                                                                                                      | '     | °    | '     | °                          | '     |
| 10                                                                                                                                                     | 8     | 50   | 4     |                            |       |
| 20                                                                                                                                                     | 7     | 60   | 4     |                            |       |
| 30                                                                                                                                                     | 6     | 70   | 3     |                            |       |
| 40                                                                                                                                                     | 5     | 80   | 3     |                            |       |
| This table must not be<br>used if a calibration table is<br>fitted to the dome, or if a<br>flat glass plate is provided,<br>or for non-standard domes. |       |      |       |                            |       |