

Sun-Run-Noon Fix

NauticTools2 – report of 23.10.2026, 08:54

Lines of position

	Morning line of position	Noon latitude
Body	Sun, Lower limb	Sun noon latitude, Lower limb
Date	22.10.26	22.10.26
Time [UTC]	13:05:20	–
Dead reckoning position	14°30.6'N 059°56.7'W	14°27.8'N 060°13.0'W
Sextant altitude (Hs)	42° 52.9'	64° 10.6'
Index correction (IC)	-1.0'	-1.0'
Height of eye (HE)	3 m	3 m
COG (course over ground)	260°	–
SOG (speed over ground)	6.0 kn	–
Δh	+4.4'	+2.5'
Az	121.0°	180.0°
Culmination	–	15:45:19 UTC

Calculation steps · Lines of position

		Morning line of position	Noon latitude
δ	<i>Ephemeris calculation</i>	11°10.2'S	11°12.6'S
GHA	<i>Ephemeris calculation</i>	020°13.0'	–
t	<i>Grt + longitude</i>	320°16.3'	–
Ho	<i>Ht + HP·cos(Ht)/60 + semi-diameter/120</i>	43°03.9'	64°22.1'
Hc	<i>asin(sinφ · sinδ + cosφ · cosδ · cos t)</i>	42°59.5'	64°19.6'
Az	<i>from hy = -sin t, hz = cosφ · tanδ - sinφ · cos t</i>	121.0°	180.0°
Δh	<i>(Hb - Hr) · 60</i>	+4.4'	+2.5'
Culmination	<i>Meridian passage at the DR longitude</i>	–	15:45:19 UTC
Noon lat	<i>90° - Ho + Dec</i>	–	14°25.3'N

Result

Observed position	14°25.3'N 060°09.3'W
Fix run (advance)	124.9° / 4.4 nm

Calculation steps

Noon DR position	<i>Morning DR + SOG · Δt along COG (mid-latitude)</i>	14°27.8'N 060°13.0'W
Run	<i>SOG · Δt in direction of COG</i>	1: 260°, 16.0 nm
Intersection	<i>Line of position 1 ∩ line of position 2</i>	14°25.3'N 060°09.3'W
DR offset	<i>DR position of the last line of position → fix</i>	124.9°, 4.4 nm
Angle of cut	<i>smallest angle between the lines of position</i>	59°

Plotting sheet

