

Design hydrostatics report.

Designer			
Created by			
Comment			
Filename C:\Documents and Settings\Andrew\Desktop\LonelyBot\Design Files\LonelyBot.fbm			
Design length	24.000 <i>ft</i>	Midship location	12.000 <i>ft</i>
Length over all	24.322 <i>ft</i>	Relative water density	1.025
Design beam	4.000 <i>ft</i>	Mean shell thickness	0.0000 <i>ft</i>
Beam over all	3.393 <i>ft</i>	Appendage coefficient	1.0000
Design draft	0.750 <i>ft</i>		

Volume properties		Waterplane properties	
Displaced volume	13.550 <i>ft</i> ³	Length on waterline	23.277 <i>ft</i>
Displacement	0.387 <i>tons</i>	Beam on waterline	2.459 <i>ft</i>
Block coefficient	0.1882	Waterplane coefficient	0.3954
Prismatic coefficient	0.5398	Waterplane center of floatation	11.358 <i>ft</i>
Vert. prismatic coefficient	0.4760	Entrance angle	89.995 <i>Degr.</i>
Wetted surface area	45.680 <i>ft</i> ²	Transverse moment of inertia	13.469 <i>ft</i> ⁴
Longitudinal center of buoyancy	11.460 <i>ft</i>	Longitudinal moment of inertia	991.16 <i>ft</i> ⁴
Longitudinal center of buoyancy	-2.322 %		
Vertical center of buoyancy	0.523 <i>ft</i>		

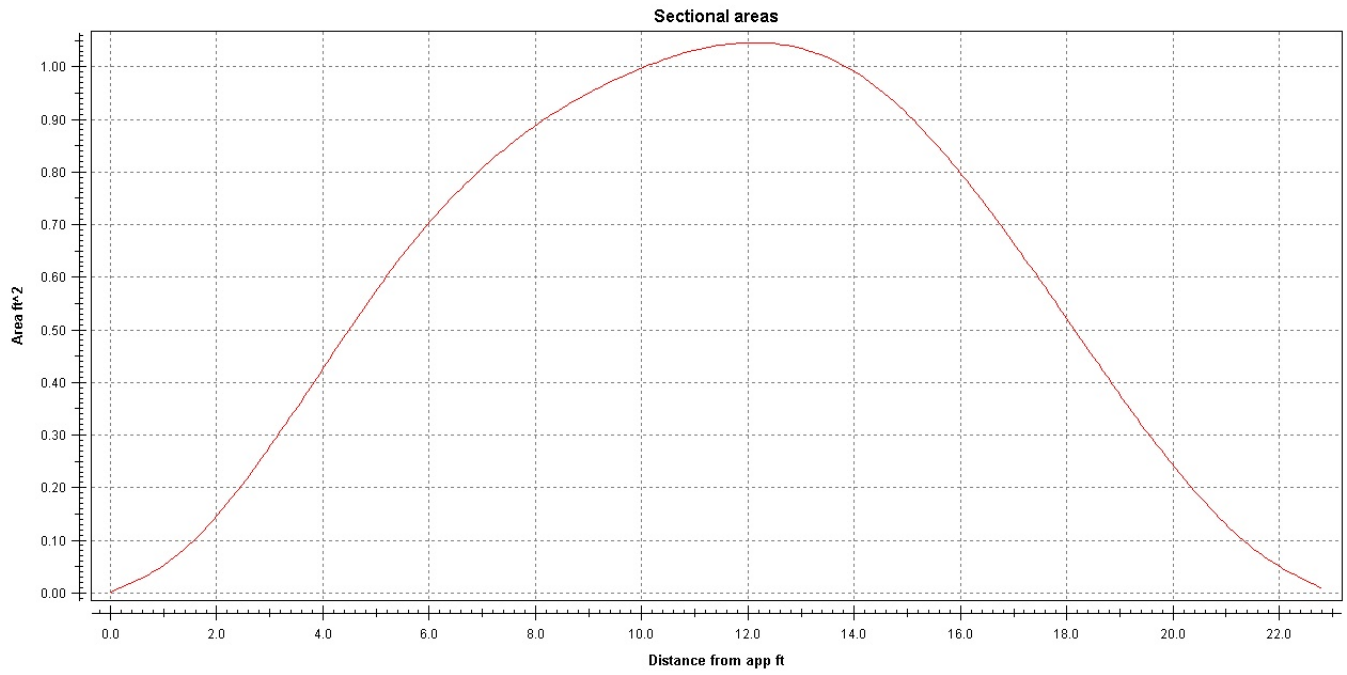
Midship properties		Initial stability	
Midship section area	1.046 <i>ft</i> ²	Transverse metacentric height	1.517 <i>ft</i>
Midship coefficient	0.3486	Longitudinal metacentric height	73.674 <i>ft</i>

Lateral plane	
Lateral area	9.456 <i>ft</i> ²
Longitudinal center of effort	13.662 <i>ft</i>
Vertical center of effort	0.428 <i>ft</i>

The following layer properties are calculated for both sides of the ship

Layer	Area <i>ft</i> ²	Thickness	Weight <i>tons</i>	VCG <i>ft</i>	LCG <i>ft</i>	TCG <i>ft</i>
Layer 0	179.13	0.000	0.000	1.574	12.029	0.000 (CL)

Sectional areas									
Location <i>ft</i>	Area <i>ft</i> ²	Location <i>ft</i>	Area <i>ft</i> ²	Location <i>ft</i>	Area <i>ft</i> ²	Location <i>ft</i>	Area <i>ft</i> ²	Location <i>ft</i>	Area <i>ft</i> ²
0.000	0.001	4.800	0.546	9.600	0.980	14.400	0.963	19.200	0.348
1.200	0.067	6.000	0.704	10.800	1.026	15.600	0.846	20.400	0.194
2.400	0.196	7.200	0.825	12.000	1.046	16.800	0.693	21.600	0.077
3.600	0.366	8.400	0.915	13.200	1.029	18.000	0.521	22.800	0.008



NOTE 1: Draft (and all other vertical heights) is measured above base Z=0.00!

NOTE 2: All calculated coefficients based on project length, draft and beam.