

# 12



## INTERNATIONAL TWELVE METRE CLASS

Yacht's Name NORTHERN LIGHT

National letters and Sail Number US 14 Club

Designer Sparkman & Stephens

Builder Henry B. Nevis Inc. Building Year 1938

Owner Hans Eliasson

Owner's Address Dämnet 4, 43492 Lerum, Sweden

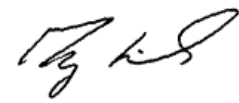
Lloyds R class certificate (Number or Date)

### RATING CERTIFICATE

This yacht has been measured by measurer(s) appointed by the International Twelve Metre Association and has been found to rate not more than 12.000 metres.

This certificate is dated: 25-Jul-23

Measurer K.-E. Brink

Signature 

Valid until 24-Jul-25

Supersedes

Is this an **Appendix E** Certificate? Y / N  Y

Was **Appendix F** used for Measurement? Y / N  N

Signature   
ITMA Technical Director



Stamp of Authority of the International Twelve Metre Association

Yacht's name : **NORTHERN LIGHT**

Date

25-Jul-23

**RATING VALUES**

<b>OVERALL LENGTH</b>				<b>21.469</b>
Overhang Forward to FGS		2.595		
Overhang Aft to AGS		3.136		
Total Overhang (Subtract)		5.731		
<b>MEASURED LENGTH (L<sub>BG</sub>)</b>				<b>15.738</b>
Girth at Bow		1.555		
Twice vertical Height at Bow (Subtract)		1.200		
Girth Difference at FGS		0.360		
Add 1.5 Girth Difference at FGS (min 0.540 m)		<b>0.540</b>		
Girth at Stern		3.207		
Twice vertical Height at Stern (Subtract)		1.680		
Girth Difference at AGS		1.527		
Add 1/3 Girth Difference at AGS (min 0.400 m)		<b>0.509</b>		
Add any penalty (Beam or Displacement)		<b>0.000</b>		
Sum of Length and Girth Corrections				<b>16.787</b>
Age/Date Correction Factor (ADCF)(see page 3)	0.9595			
<b>LENGTH (L)</b>				<b>16.107</b>
Skin IM to d1 Port		2.104		
Chain IM to d1 Port		2.083		
d Port		0.021		
Skin IM to d1 Starboard		2.096		
Chain IM to d1 Starboard		2.076		
d Starboard		0.020		
Add d		0.041		
<b>Add GIRTH 2 d</b>				<b>0.082</b>
	Datum Sta.	Actual Sta.	Rating FB	
Mean Freeboard Bow		1.361	1.361	
Mean Freeboard Midship		1.110	1.110	
Mean Freeboard Stern		1.020	1.020	
Sum of Freeboards			3.490	
<b>Subtract FREEBOARD, F</b>			See Notes	<b>1.163</b>
<b>Add SAIL AREAS (Square root)</b>				<b>13.379</b>
<b>TOTAL OF MEASUREMENTS</b>				<b>28.405</b>
<i>PENALTY (Draft or Turblehome)</i>			0.000	
<b>RATING</b>				<b>11.985</b>

Date and Place of Measurement

09-Jun-23 Glücksburg/Germany

Measurer's Name(s)

K.-E. Brink


Signature



Yacht's name : <b>NORTHERN LIGHT</b>		Date	25-Jul-23
Range Measurement (Yes or No)	N	Date:	09-Jun-23

## PENALTIES

Overhang Forward to <b>MWL</b>	3.240	
Overhang Aft to <b>MWL</b>	4.011	
Subtract from overall length	7.251	
Difference of immersion from salt to fresh water	Meas. Density	
<b>WATERLINE LENGTH (LWL)</b>		<b>14.218</b>
Minimum Displacement for Zero Penalty [m3]	26.828	
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)	27.498	
<b>WEIGHT [tonne]</b> Actual weight		<b>27.505</b>
Equivalent LWL (for Displ. < min.)	14.219	
Difference (if negative)		
<b>DISPLACEMENT PENALTY (add to L)</b>		<b>0.000</b>
Displacement Determination Method	3D-Scan	
<b>DRAFT (actual)</b>	2.770	
Max. Draft for Zero Penalty	2.775	
Difference (if positive)		
<b>DRAFT PENALTY (add to Rating)</b>		<b>0.000</b>
<b>BEAM (Min)</b>	3.600	
Max Beam at 1/3 of Midship Freeboard	3.600	
Difference (if positive)		
<b>BEAM PENALTY (add to L)</b>		<b>0.000</b>
Tumblehome Max. (2 x 2% of Extr. Beam)	0.144	
Extreme Beam	3.600	
Beam at deck	3.514	
Difference	0.086	
<b>TUMBLEHOME PENALTY (add to Rating)</b>		<b>0.000</b>

Date and Place of Measurement	09-Jun-23    Glücksburg/Germany	
Measurer's Name(s)	K.-E. Brink	<b>Signature</b>

Design/Age Correction Factor Calculation		
Age Date	1938	
ADCF ( Table E-2)	0.9595	
Hull Alteration Scope and Date		
Appendage Change Scope and Date		
Change/Alteration Correction ADCF		
Accommodation Deficiency Ballast	none	

Yacht's name : **NORTHERN LIGHT**

Date

25-Jul-23

**SAIL PLAN**

Max Height of Sail Plan =	<input type="text" value="24.876"/>	J=	<input type="text" value="6.760"/>	I =	<input type="text" value="18.598"/>
Boom above Mast Datum =	<input type="text" value="1.543"/>	P=	<input type="text" value="23.333"/>	E=	<input type="text" value="10.742"/>
Rated Mainsail Area	<input type="text" value="125.322"/>	Spi boom=	<input type="text" value="6.790"/>	$\sqrt{S}$ =	<input type="text" value="13.379"/>
J used for Rating	<input type="text" value="6.790"/>				
Rated Foretriangle Area	<input type="text" value="53.669"/>	Propeller allowance		<input type="text" value="1.000"/>	
TOTAL RATED SAIL AREA (S)	<input type="text" value="178.991"/>	Corrected sail area		<input type="text" value="178.991"/>	

**SAIL LIMITS**

Mainsail max girth:	1/2 height (68% of E)	<input type="text" value="7.305"/>	3/4 height (41% of E)	<input type="text" value="4.404"/>
Genoa:	max. foot length (J + 4.8m)	<input type="text" value="11.560"/>		
Spinnaker:	1/2 foot max breadth (125% J)	<input type="text" value="8.488"/>	max. luff length=	<input type="text" value="18.339"/>

**Spar Measurement**

MAST (material)	<input type="text" value="Aluminium"/>	Mast Weight	<input type="text" value="457"/>	CG pos.	<input type="text" value="10.360"/>
	Deck	Half-Height	Jib-Halyard	Head	
Mast dimensions [mm]	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Sections area [cm <sup>2</sup> ]	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Mast CG Correction (if applicable) Wt & CG	<input type="text"/>		Mk <sup>2</sup>	<input type="text"/>	

**Engine/Propeller Installation**

Engine and propeller weight	<input type="text"/>	Propeller diameter =	<input type="text"/>
Minimum boat speed with engine	<input type="text" value=" &gt; 8 kn"/>	Propeller position =	<input type="text" value=" port"/>
Propeller Type (folding feathering fixed pitch etc.), no of blades		<input type="text" value=" feathering"/>	<input type="text" value=" 3-bladed"/>
Propeller Skew			<input type="text" value=" &gt; 20°"/>

**Flotation**

1	Lead ballast in bilge, 1.0 m in front of mast	3*25.5 kg	1*42.5 kg	1*29.6 kg
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**Measurer's Notes**

1	Rated freeboard is one third of the sum of the mean freeboards as per 1933 rule
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Date and Place of Measurement

09-Jun-23 Glücksburg/Germany

Measurer's Name(s)

K.-E. Brink

