

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 70112

Port of Newcastle on Tyne Date of First Survey and Date of Last Survey 27 May 1917 No. of Visits 1  
 No. in Reg. Book on the Iron or Steel S.S. "LUMINA" Port belonging to Liverpool  
 Built at Jarrow on Tyne By whom Palmer S & Co Ltd When built 1917  
 Owners H. E. Moore & Co Owners' Address Liverpool  
 Yard No. 653 Electric Light Installation fitted by Palmer S & Co Ltd When fitted 1917

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

One single Cylinder Double acting Vertical Engine Coupled direct to a Compound Wound Continuous Current Dynamo  
 Capacity of Dynamo 90 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Eng Rm Platform (Aft) Whether single or double wire system is used Double  
 Position of Main Switch Board by Dynamo having switches to groups 4 in number of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each

If fuses are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch board to the cables of auxiliary circuits yes and at each position where a cable is branched or reduced in size yes and to each lamp circuit yes  
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes  
 Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 50% per cent over the normal current  
 Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes  
 Total number of lights provided for 108 arranged in the following groups:—  

A	Aft Accom	19	lights each of	25 CP M.F.	candle power requiring a total current of	7.6	Amperes
B	Mid Accom	40	lights each of	25 CP M.F.	candle power requiring a total current of	11.4	Amperes
C	Forecastle	15	lights each of	16	candle power requiring a total current of	9.0	Amperes
D	Engine Rm	24	lights each of	16	candle power requiring a total current of	14.4	Amperes
E	—	—	lights each of	—	candle power requiring a total current of	—	Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.4	Amperes
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2.4	Amperes
1	Cluster	Cargo lights of	6-16	candle power, whether incandescent or arc lights	Incandescent		

If arc lights, what protection is provided against fire, sparks, &c.  
 Where are the switches controlling the masthead and side lights placed Wheel House

**DESCRIPTION OF CABLES.**

Main cable carrying 47.2 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area  
 Branch cables carrying 7.6 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area  
 Branch cables carrying 11.4 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Leads to lamps carrying 14.4 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Cargo light cables carrying 3.6 Amperes, comprised of 176 wires, each 38 S.W.G. diameter, .0049 square inches total sectional area

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

Lead Covered in Accommodation  
Armoured in Engine Room & Forecastle  
 Joints in cables, how made, insulated, and protected None  
 Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances None Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage none  
 Are there any joints in or branches from the cable leading from dynamo to main switch board None  
 How are the cables led through the ship, and how protected Cables run in Pipes on Open Deck



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Galvanised Iron pipe

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead Covered + Armoured

What special protection has been provided for the cables near boiler casings " " "

What special protection has been provided for the cables in engine room " " "

How are cables carried through beams Holes bushed with lead through bulkheads, &c. Galv Iron pipe

How are cables carried through decks Galv Iron pipe

Are any cables run through coal bunkers Yes or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected Galv Iron pipe

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage no

If so, how are the lamp fittings and cable terminals specially protected ---

Where are the main switches and fuses for these lights fitted ---

If in the spaces, how are they specially protected ---

Are any switches or fuses fitted in bunkers ---

Cargo light cables, whether portable or permanently fixed both How fixed "Klido's" patent Terminal Boxes

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel ---

How are the returns from the lamps connected to the hull ---

Are all the joints with the hull in accessible positions ---

Is the installation supplied with a voltmeter Yes and with an amperemeter Yes, fixed on Switchboard

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion no

How are the lamps specially protected in places liable to the accumulation of vapour or gas Watertight fittings on Iron pipes

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 2500 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

Electrical Engineers

Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 215 ft Approx

Distance between dynamo or electric motors and steering compass 200 ft Approx

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6</u>	Amperes	<u>to light inside</u>	feet from standard compass	<u>4</u>	feet from steering compass
A cable carrying	<u>6.2</u>	Amperes	<u>10</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>---</u>	Amperes	<u>---</u>	feet from standard compass	<u>---</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

*J. H. Woodhall*  
SHIPYARD MANAGER

Builder's Signature.

Date

**GENERAL REMARKS.**

This electric lighting installation has been fitted in accordance with the rules & found to work satisfactory with all lights on.

It is submitted that this vessel is eligible to THE RECORD. Elec. light.

*George Hudson*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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