42nd Issue] [41st Issue not published

Government of India

MARINE DEPARTMENT

INDIAN LIGHT LIST

LIGHT-HOUSES, LIGHT-VESSELS, LIGHT BUOYS, LEADING LIGHTS AND VISUAL TIME SIGNALS ON THE COASTS OF INDIA, BURMA, AND CEYLON, INCLUDING THOSE IN THE PERSIAN GULF AND THE GULF OF ADEN

Corrected to 30th June 1923

Compiled under the Orders of the Director of the Royal Indian Marine

[Price—15 Annas]

BOMBAY
PRINTED AT THE GOVERNMENT CENTRAL PRESS
1924

Obtainable from the Superintendent, Government Printing and Stationery, Poona

L
V2,88(N5)N23
N24.
53/40.

OFFICIAL AGENTS FOR THE SALE OF INDIAN OFFICIAL PUBLICATIONS.

IN EUROPE.

CONSTABLE & Co., 10, Orange Street, Leicester Square, W.C., London.
GRINDLAY & Co., 54, Parliament Street, S.W., London.
HENRY S. KING & Co., 65, Cornhill, E.C., London.
P. S. KING & SON, 2 & 4, Great Smith Street, Westminster, S.W., London.
KEGAN PAUL, TRENCH, TRUBNER & Co., Limited, 68-74, Carter Lane, E.C., and 39, New Oxford Street, London, W.C.
B. QUARITCH, 11, Grafton Street, New Bond Street, W., London.
W. THACKER & Co., 2, Creed Lane, London, E.C.
LUZAC & Co., 46, Great Russel Street, London, W.C.
B. H. BLACKWELL, 50 & 51, Broad Street, Oxford.
DEIGHTON BELL & Co., Limited, Cambridge.
T. FISHER UNWIN, Limited, 1, Adelphi Terrace, London, W.C.
WHELDON & WESLEY, Ltd., 2, 3 & 4, Arthur Street, New Oxford Street, London, W.C. 2.
EAST & WEST, Ltd., 3, Victoria Street, London, S.W. 1.
ERNEST LEROUX, 28, Rue Bonaparte, Paris.
MARTINUS NIJHOFF, The Hague.
OTTO HARRASSOWITZ, Leipzig.
FRIEDLANDER & SOHN, Berlin.

IN INDIA

HIGGINBOTHAM & Co., Madras.
V. KALYANARAMA IYER & Co., Madras.
P. R. RAMA IYER & Co., Madras.
THACKER, SPINK & Co., Calcutta.
W. NEWMAN & Co., Calcutta.
S. K. LAHIRI & Co., Calcutta.
R. CAMBRAY & Co., Calcutta.
THE ASSOCIATION PRESS, Calcutta.
THACKER & Co., Limited, Bombay.
SUPERINTENDENT, GOVERNMENT PRINTING AND STATIONERY, Poona.
D. B. TARAPOREVALA, SONS & Co., Bombay.
GOPAL NARAYAN & Co., Booksellers, etc., Bombay.
Mrs. RADHABAI ATMARAM SAGOON, Bookseller, etc., Bombay.
RAMCHANDRA GOVIND & SON, Booksellers, etc., Bombay.
BOMBAY TRACT AND BOOK SOCIETY, Bombay.
N. B. MATHUR, N. K. H. PRESS, Allahabad.
MANAGER, THE "HITAVADA," Nagpur.
MANAGER, NYAYASHRAYA PRESS, Poona.
RAMA KRISHNA & SONS, Lahore.
SUNDAR PANDURANG (RAMNATH SUNDAR, the Successor), Bombay.
MANAGER, NEW KITABKHANA, Poona.
KARSANDAS NARANDAS & SONS, Surat.
N. M. TRIPATHI & Co., Booksellers, etc., Bombay.
MANGALDAS HARKISANDAS, Bookseller, etc., Surat.
KING & Co., Bombay.
MANAGER, SHRI SANKAR KARNATAKA PUSTAKA BHANDARA, Dharwar.*
MANAGER, BUTTERWORTH & Co., Ltd., Booksellers, Calcutta.
MANAGER, INDIAN BOOK DEPOT, Bombay.
THE OXFORD BOOK AND STATIONERY COMPANY, Delhi.
THE STANDARD BOOKSTALL, Karachi.

* For the sale of official Kanarese publications in the Belgaum, Dharwar, Bijapur and Kanara districts

42nd Issue] [41st Issue not published

Government of India

MARINE DEPARTMENT

INDIAN LIGHT LIST

LIGHT-HOUSES, LIGHT-VESSELS, LIGHT BUOYS, LEADING LIGHTS AND VISUAL TIME SIGNALS ON THE COASTS OF INDIA, BURMA, AND CEYLON, INCLUDING THOSE IN THE PERSIAN GULF AND THE GULF OF ADEN

CORRECTED TO 30TH JUNE 1923

Compiled under the Orders of the Director of the Royal Indian Marine

BOMBAY
PRINTED AT THE GOVERNMENT CENTRAL PRESS
1924

CONTENTS.

	Pages.
List of Lights :—	
Introductory Remarks	i—ii
Lloyd's Signal Stations	iii
Table of Distances	iv
Distance and Bearing tables	v
Gulf of Aden	6 to 9
Persian Gulf	10 to 14
Bombay Presidency	14 to 34
Indian Ocean	38
Ceylon	38 to 42
Madras Presidency	34 to 38, and 44 to 48
Bengal Presidency	48 to 52
Burma Coast	54 to 58
Andaman Islands	58
List of Visual Time Signals :—	
Uniform Time System	61
Time Signals	62 to 64
Index to Lights and Time Signals	66 to 69

INTRODUCTORY REMARKS.

Lights.

Illuminating Apparatus.—The illuminating apparatus ordinarily consists of a flame, or incandescent mantle with reflectors or refractors, or a combination of both, to concentrate the light and direct it towards the horizon. Occasionally an electric illuminant is employed.

The system of reflectors is named Catoptric, of refractors Dioptric, and the combination of the two Catadioptric. They are abbreviated in the tables by the letters C. for Catoptric, D. for Dioptric, and C. D. for Catadioptric.

Order of Apparatus.—Lights have hitherto been classified according to their order, which depends upon the local distance, *i.e.*, the distance from the centre of the illuminant to the inner surface of the lens.

Thus a light of the	1st	order has a focal distance of	920	millimetres	equal to	36·2	ins.
,,	,,	2nd	,,	,,	,,	700	,,	,,	27·6	,,
,,	,,	3rd	,,	,,	,,	500	,,	,,	19·7	,,
						to			to	
						375			14·7	
,,	,,	4th	,,	,,	,,	250	,,	,,	9·8	,,
,,	,,	5th	,,	,,	,,	187·5	,,	,,	7·4	,,
,,	,,	6th	,,	,,	,,	150	,,	,,	5·9	,,

The power of the lights, however, does not vary directly with the order, and whenever obtainable the candle power is given in units of 1,000 candles. Thus, the figure 22 means 22,000 candles, ¼ means 250 candles.

When the power of the light is capable of being varied, two figures are given, the lower representing the clear weather power, and the higher the maximum power available for thick weather. Thus, a light which can be varied from a power of 20,000 to 100,000 candles is noted as 20 to 100.

The French "bec Carcel" is equivalent to 9·8 English Standard candles; but in converting "becs Carcel" into units of candle power, 10 has been used for convenience.

The German "Hefner" candle has been assumed to be equivalent to 0·9 English Standard candles.

(U) after the name of a light indicates that it is unwatched, and therefore must not be implicitly relied on.

Characteristics.—Lights may either show a continuous steady light, or be varied by the introduction of flashes, eclipses, etc. They are divided generally into two classes, as shown below in parallel columns, *viz.*—

(1) Lights whose colour does not alter throughout the entire system of changes;

(2) Lights which alter in colour;

both classes having the same characteristic phases.

Lights whose Colour does not alter.	Characteristic Phases.	Lights which alter in Colour.
F. Fixed ..	A continuous steady light	Alt. Alternating.
Fl. Flashing ..	(*a*) Showing a single flash at regular intervals, the duration of light being always less than that of darkness.	Alt. Fl. Alternating flashing.
	(*b*) A steady light with, at regular intervals, a total eclipse; the duration of light being always less than that of darkness.	
Gp. Fl. Group flashing.	Showing, at regular intervals, a group of two or more flashes	Alt. Gp. Fl. Alternating group flashing.
Occ. Occulting ..	A steady light with, at regular intervals, a sudden and total eclipse; the duration of darkness being always less than, or equal to, that of light.	Alt. Occ. Alternating occulting.
Gp. Occ. Group occulting.	A steady light with, at regular intervals, a group of two or more sudden eclipses.	Alt. Gp. Occ. Alternating group occulting.
F. Fl. Fixed and flashing.	A fixed light varied, at regular intervals, by a single flash of relatively greater brilliancy. The flash may, or may not, be preceded and followed by an eclipse.	Alt. F. Fl. Alternating fixed and flashing.
F. Gp. Fl. Fixed and Group flashing.	A fixed light, varied at regular intervals, by a group of two or more flashes of relatively greater brilliancy. The group may, or may not, be preceded and followed by an eclipse.	Alt. F. Gp. Fl. Alternating fixed and group flashing.

Explanation.—For hydrographic purposes a light is characterised as *flashing* or *occulting* solely according to the relative durations of light and darkness, and without any reference to the apparatus employed. At short distances, and in clear weather, *flashing* lights may show a faint continuous light.

Period is the interval between successive commencements of the same phase, *i.e.*, in a flashing light the interval between the commencement of one flash and the commencement of the succeeding flash ; and in an alternating; occulting or group flashing light, etc., the time occupied by the exhibition of the entire system of changes includes in the same phase.

The durations of light and darkness given in the column of Remarks are, as a rule, those for which the apparatus was designed. In practice they are subject to some degree of fluctuation, owing to slight variations in the working speed of the apparatus. The duration of a flash may also appear to be less than normal when seen from a great distance, and haze has the same apparent effect.

The Bearings are true, and in degrees from 000° (North) to 360° measured clockwise, and are given from seaward ; the limits of sectors and arcs of visibility are invariably arranged from left to right.

Visibility.—The distances from which the lights are visible are calculated in nautical miles as seen from a height of 15 feet above the sea, the height of the lights being in all cases taken as above high water.

Caution.—The power of a light should always be considered when expecting to make it in thick weather. A weak light is easily obscured by haze, and no dependence can be placed on its being seen.

It should be remembered that lights placed at a great elevation are more frequently obscured by cloud, etc., than those near the sea level.

The power of a light whose candle power is not given can be estimated by remarking its order entered in this list and in some cases by noting how much its visibility in clear weather falls short of the range due to the height at which it is placed. Thus a light placed at 200 feet above the sea, and recorded as visible only 10 miles in clear weather, is manifestly of little brilliancy, as its height would permit it to be seen over 20 miles if of sufficient power. *See* " Table of Distances " on page iv.

Cuts or Sectors.—In some conditions of the atmosphere, white lights may have a reddish hue; the mariner therefore should not trust solely to colour where there are sectors, but should verify the position by taking a bearing of the light. On either side of the line of demarcation between white and red, and also between white and green, there is always a small sector of uncertain colour. It should also be remembered that the edges of a sector of visibility are rarely cut off sharply, especially when seen by an observer near, and that instead of suddenly disappearing, the light frequently fades gradually away, after the line given as the limit of visibility has been crossed. Bearings given are in most cases those received from the different Lighthouse Authorities ; they should not be implicitly relied on, but should invariably be checked by compass bearings.

Where a light is cut off by adjoining land, and the arc of visibility is given in the light list or chart, it must be remembered that the bearing on which the light disappears will, in many cases vary with the distance of the ship observing it, and with the height of the observer's eye. When the point of land or hill which cuts off the light, slopes, the arc of visibility increases with either the distance of the observer, or the height of his eye.

Positions of Lights.—The latitudes and longitudes given in the lists are approximate, and are only intended to facilitate reference to a chart.

System of colouring Lights on Charts.—The approximate position of a light is indicated by a yellow colour of a shade distinctly visible both by day and by artificial light, and sufficiently transparent to enable the engraved star or dot denoting the exact position of the light to be clearly seen through it.

Fog Signals.—It has been clearly established—

(1) That fog signals are heard at greatly varying distances.

(2) That, under certain conditions of atmosphere, when a fog signal is a combination of high and low tones,one of the notes may be inaudible.

(3) That there are occasionally areas around a fog signal in which it is wholly inaudible.

(4) That a fog may exist a short distance from a station, and not be observable from it, and the signal will not be sounded.

(5) That some fog signals cannot be started at a moment's notice, though every endeavour will be made to sound them as quickly, as possible after signs of fog have been observed.

Mariners are, therefore,warned that fog signals can never be implicitly relied upon, and that *the lead should never be neglected.* Particular attention should be given to placing " Look-out men " in positions in which the noises in the ship are least likely to interfere with the hearing of the sound of a fog signal, as experience shows that though such a signal may not be heard from the deck or bridge, when the engines are moving, it may be heard when the ship is stopped, or from a quiet position. It may sometimes be heard from aloft though not on deck.

Submarine Bells.—These may be worked by machinery or by hand, to indicate a regular code ; or by wave motion, in which case the sound is irregular. Only those bells which sound a regular code are, as a rule, included in the List of Lights.

Their effective range far exceeds that of aerial sound signals, having been known to exceed 15 miles : and their bearing can be determined with sufficient accuracy for safe navigation in a fog, if a vessel is equipped with receivers. Even should a vessel not be so equipped, the submarine bell can be heard from below the water line for distances which are well outside the rang of aerial fog-signals, though its bearing cannot then be so well determined.

Other Signals.—Storm signals, and International code signals, are noted in the column of Remarks when they are shown from a light-house or its immediate vicinity, not otherwise.

Light vessels.—The light-vessels of India exhibit a white light from the forestay for the purpose of showing in which direction the vessel is riding.

It should be remembered that light-vessels are liable to be withdrawn for repairs without notice and in some cases not replaced by relief vessels.

Where the lights of different countries intermingle they are distinguished by the following letters :—

B.—British. F.—French. P.—Portuguese. Pa.—Persian.

LLOYD'S SIGNAL STATIONS

are established at the undermentioned places in the areas embraced by this volume :—

Aden.			
†Perim.			
Jashk	.. Persian Gulf ..	Indo-European Telegraph Company.	
Henjam	.. Do. ..	Do.	Do.
Bushire (Bushehr)	Do. ..	Do.	Do.
†Point de Galle	.. ..	Ceylon Colonial Government.	
Sandheads, River Hugli.			
False point, Bay of Bengal	..	Indian telegraph department.	
Sagar island, River Hugli	..	Do.	Do.
Mud point ..	Do. ..	Do.	Do.
Diamond harbour	Do. ..	Do.	Do.
Hughli point	Do. ..	Do.	Do.
Achipur	Do. ..	Do.	Do.
Budge Budge	Do. ..	Do.	Do.
Diamond Island, Burmah	..	Do.	Do.
Amherst ..	Do. ..	Do.	Do.
Elephant point	Do. ..	Do.	Do.

† Arrangements have been made to receive night signals by Morse code.

** It is requested that any errors or omissions in this work may be immediately communicated by letter to the Director of the Royal Indian Marine, Bombay.

TABLE OF DISTANCES.

At which objects can be seen at sea, according to their respective elevations and the elevation of the eye of the observer.

Heights in feet.	Distances in geographical or nautical miles.	Heights in feet.	Distances in geographical or nautical miles.	Heights in feet.	Distances in geographical or nautical miles.
5	2·565	70	9·598	250	18·14
10	3·628	75	9·935	300	19·87
15	4·443	80	10·26	350	21·46
20	5·130	85	10·57	400	22·94
25	5·736	90	10·88	450	24·33
30	6·283	95	11·18	500	25·65
35	6·787	100	11·47	550	26·90
40	7·255	110	12·03	600	28·10
45	7·696	120	12·56	650	29·25
50	8·112	130	13·08	700	30·28
55	8·509	140	13·57	800	32·45
60	8·886	150	14·02	900	34·54
65	9·249	200	16·22	1,000	36·28

REMARKS: This table affords a ready means of ascertaining the visibility in clear weather of powerful lights, whose actual range exceeds the visibility given in Admiralty publications.

EXAMPLE: At what distance may a light having an elevation of 200 feet be sighted from the bridge of a vessel, where the observer is 55 feet above the sea?

Height of observer 55 feet, distace = 8·51 miles.
Height of light 200 feet, ditance = 16·22 ,,
Distance visible = 24·73 ,,

TO FIND THE DISTANCE OF AN OBJECT BY TWO BEARINGS, AND THE DISTANCE RUN BETWEEN THEM.*

RULE.—Under the number of points contained between the course and second bearing, and opposite to the difference between the course and first bearing, will be found a number which, multiplied by the miles made good, will give the distance of the object (in miles) at the time the last bearing was taken.

N. B.—Due allowance should be made for current.

Difference between the Course and Second Bearing in points of the compass.

4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	Pts.
.00	0·81 1·23	0·69 1·00	0·60 0·85	0·54 0·74	0·49 0·67	0·46 0·61	0·43 0·57	0·41 0·53	0·40 0·51	0·39 0·49	0·38 0·48	0·38 0·47	0·38 0·47	0·39 0·47	0·40 0·48	0·41 0·49	0·43 0·51	2 2½
		1·45	1·17 1·66	1·00 1·35	0·88 1·14	0·79 1·00	0·72 0·90	0·67 0·82	0·63 0·76	0·60 0·72	0·58 0·69	0·57 0·66	0·56 0·65	0·56 0·64	0·56 0·64	0·57 0·64	0·58 0·65	3 3½
				1·85	1·50 2·02	1·27 1·64	1·11 1·39	1·00 1·22	0·92 1·09	0·85 1·00	0·80 0·93	0·76 0·88	0·74 0·84	0·72 0·81	0·71 0·79	0·71 0·78	0·71 0·78	4 4½
						2·17	1·77 2·30	1·50 1·37	1·31 1·58	1·18 1·39	1·08 1·25	1·00 1·14	0·94 1·01	0·90 1·00	0·87 0·95	0·85 0·92	0·83 0·90	5 5½
								2·41	1·96 2·50	1·66 2·03	1·46 1·72	1·31 1·51	1·19 1·35	1·11 1·24	1·05 1·15	1·00 1·08	0·97 1·03	6 6½
										2·56	2·08 2·60	1·76 2·11	1·55 1·79	1·39 1·57	1·27 1·41	1·18 1·29	1·11 1·20	7 7½
												2·61	2·12 2·60	1·80 2·11	1·58 1·79	1·41 1·57	1·29 1·41	8 8½
														2·56	2·08 2·50	1·76 2·03	1·55 1·72	9 9½
																2·41	1·96 2·30	10 10½

Difference between the course and first bearing in points of compass.

V

EXAMPLE.—A rock bore N. N. W., after running W. 12 miles it bore N.-E. by N.
Required the distance of the ship from the rock when the second bearing was taken. The number of points between W. and N.-E by N. is 11; between W. and N.-N.W. is 6. Under 11 at the top and opposite 6 at the side, stands 1·11, which multiplied by 12 gives 13·32 miles, the distance of the rock when the second bearing was taken.
From the 'Sailor's Pocket Book,' by Captain Bedford, R. N.

LIST OF LIGHTS.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
1		South shore of port, near high-water mark.	10° 25′	44° 59′	1 White	F.	..	8
2	Berbera (B) ..	Front. On outer end of pier.	10° 27′	45° 1′	1 Red	F.	..	2
3		Rear. On White House near custom house.	..	..	1 Red	F.	..	2
4	Bulhar (B) ..	On beach ..	10° 23′	44° 24′	1 White	F.	..	8
5	Zella (B) ..	End of jetty ..	11° 22′	43° 28′	1 White	F.	..	6
6		Front. Near the Ambouli river.	11° 34′	43° 07′	1 Red	F.	..	9
7	JIBUTI BAY (F).	Rear. In Fort Ayabele.	..	..	1 White	F.	..	15
8		End of Government Pier.	..	..	1 Green	F.	..	2
9	Tajura Gulf (F) ..	Mashah Ids, N. E. point.	11° 43′	43° 13′	1 Red	F.	..	5
10	RAS-AL-BIR (F)..	365 yards within the cape.	11° 58′	43° 22′	1 White	F.	..	15

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
1	Visible from 061°, through east to 241°.	A mast near disused light-house.	49	30	D., 6th Ord.	1877 1887	
2	....	Post with black and white horizontal stripes.	20	14	Lantern ..	1886 1895 1912	Leading lights 070° about 190 yards apart.
3	....	Do. ..	40	..	Do. ..	1895 1912	
4	..	Above prison ..	22	..	....	1886	
5	....	....	12	..	....	1904	
6	....	White square tower.	64	..	....	1895	Leading lights, 184°, 1,112 yards apart. Two *fixed* lights, *white* and *red*, are shown northward of the outer end of the pier.
7	....	Do.	105	..	D., 3rd Ord.	1895	
8	....	Iron mast ..	23	12	....	1899	A red light is hoisted at the Mara-bout when French mail steamer is expected.
9	Visible with full power from 028°, through east to 296°.	White quadrangular masonry tower.	64	47	....	1899	Over the remaining sector the light is weak and is obscured over a small sector about 316°.
10	Visible from 205°, through west to 074°.	Grey quadrangular tower.	157	39	D., 5th Ord.	1889	

from seaward.

No.		Name of Light.	Position.		Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
11	Perim Island, (B).	HIGH LIGHT.	800 yards northward of summit of island.		12° 39′	43° 25′	1	White	Gp. Fl.	Fifteen seconds.	22
12	Perim Island, (B).	BALFE POINT.	On west extreme of island.		12° 39′	43° 23′	1	White	Fl.	Ten seconds.	12
13	Perim Island, (B).	PERIM HARBOUR.	On Pirie Point, west side of entrance.		12° 38′	43° 24′	1	Red	F.	..	3
14	Perim Island, (B).	PERIM HARBOUR.	On Murray point.	Front	..	..	1	White	F.	..	3
15	Perim Island, (B).	PERIM HARBOUR.	On Murray point.	Rear	..	..	1	White	F.	..	3
16	Aden (B).	Fairway buoy (U).	In the centre of the channel, 269° 9 2/10 cables from Residency F. S.		..	..	1	Red	Occ.	Ten seconds.	..
17	Aden (B).	ELEPHANT'S BACK.	On summit of headland forming the western boundary of Conquest bay.		12° 46′	44° 59′	1	White with red sectors.	Fl.	Two and a half seconds.	20
18	Aden (B).	RAS MARSHAG.	South-east part ..		12° 45′	45° 03′	1	White	Occ.	Five seconds.	20
19	Makalla ..		....		14° 31′	49° 07′	1	White	F.	..	..
20											

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
11	....	Grey stone tower within embattled wall. White lantern.	266	81	200 ..	1861 1871 1912	Four flashes of *two-tenths of a second* each; eclipse between flashes *two and one-tenth seconds*; between groups, *seven and nine-tenths seconds*.
12	Visible from 343°, through north to 192°.	Iron trestle tower.	44 5/10	26 5/10	2 5/10 ..	1888 1904 1912	Flash, six-tenths of a second.
13	....	Iron staff on white hexagonal wooden beacon.	44	..	D., 4th Ord.	1884	Two *red* lights (unreliable) are shown from Lloyd's signal station to mark its position for passing vessels.
14	....	Beacon ..	34	..	....	1884	Leading lights into harbour, 344°, 100 yards apart A *white fixed* light is shown from the CLUB pier.
15	....	Beacon ..	44	..	....	1884	
16	....	Conical black and white chequered buoy.	..	..	....	1913	Storm signal station at Ras Marbat.
17	Red from 306°, to 322°, white thence to 061°, red thence to 119°.	Grey cylindrical stone building.	188	15	D., 3rd Ord. W. 50. R. 18.	1908 1909	Flash, three-tenths of a second; and eclipse, two and two-tenths seconds.
18	....	Dark grey tower.	244	85	D., 15 ..	1867 1904	Eclipse, two seconds. To the west-ward the light is lost sight of when shut in with Ras Taih. Lloyd's signal.
19	....	House ..	15	..	Lantern ..	1909	Private, unreliable.
20							

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
21	MASKAT COVE.	On British Consulate front.	23° 37′	58° 36′	1	White	F.	..	3
22		Rear ..	23° 37′	58° 36′	1	White	F.	..	3
23 to 29									
30	LITTLE QUOIN ISLAND.	On summit of island.	26° 28′	56° 33′	1	White	Gp. Fl.	Ten seconds.	20
31	Bahrein. Outer gas buoy (U).	35°, distant 6 miles from Khaseifa Island.	26° 22′	50° 42′	1	White	Fl.	Ten seconds.	8
32	Bahrein. Ras Zarwan ..	On beacon ..	26° 15′	50° 33′	1	White	F.	..	..
33	Bahrein. Inner Gas-buoy (U).	5°, distant 5·3 miles from Ras Zarwan beacon.	..	..	1	Red	Fl.	Twenty-two seconds.	8
34	Kuweit. Ras-al-Arz ..	On Ras-al-arz beacon.	29° 21′	48° 06′	1	White	F.	..	7
35	Kuweit. Raz-al-Ajuza ..	On Sheikh's house .	29° 23′	48° 01′	1	White	F.	..	..
36	Kuweit. Kuweit (B) ..	On British Residencon.	29° 23′	47° 59′	1	Red	F.	..	8
37	Shatt-al-Arab (B). SHATT-AL-ARAB.	Light-vessel, entrance to Shatt-al-Arab river.	29° 44′	48° 49′	1	White	Fl.	Ten seconds.	10
38	Shatt-al-Arab (B). Fairway gas buoy (U).	141°, distant 2·75 miles from Tidal Semaphore.	29° 48′	48° 45′	1	White	Occ.	..	..
39	Shatt-al-Arab (B). Outer Bar (Green gas) (U).	152°, distant 2 miles from Tidal Semaphore.	29° 49′	48° 44′	1	Green	Occ.	..	..
40	Shatt-al-Arab (B). Middle (Red) Gas Buoy (U).	264°, distant 1 mile from Tidal Semaphore.	29° 51′	48° 42′	1	Red	Occ.	..	..

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character annd candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
21	....	Flagstaff ..	62	..	$\frac{2}{10}$	1918 1919	Leading lights, in line 157°, about 480 yards apart.
22	....	....	165	..	$\frac{3}{10}$	1919	Unreliable (1921).
23 to 29							
30	Obscured from 133 to 142° by Gt. Quoin Island and from 153° to 164° by Gap Island.	Pile tower ..	196	79	200	1914	2 flashes of $\frac{1}{4}$ second each eclipse between flashes $1\frac{1}{2}$ seconds, between groups eight seconds.
31	....	Conical light buoy painted red, White band round day mark.	..	..	$\frac{1}{4}$	1913	One flash every ten seconds.
32	....	White masonry beacon with staff.	..	..	Lantern ..	1918	Occasional and unreliable shown when British Indian Steam Navigation Company's steamer are in port.
33	....	Light buoy painted red.	..	..	$\frac{1}{4}$	..	
34	From 119°, through south to 344°.	Black pyramidal beacon, black ball.	25	32	....	1915	
35	All round ..	....	..	50	....	1921	
36	....	Flagstaff ..	58	88	6th Order	1908 1913	
37	....	One mast, red, hull "Shatt-al-Arab," painted on sides.	32	..	40	1914	See page ii.
38	....	Fairway gas buoy. Black and white horizontal stripes.	..	..	....	1911 1916 1917	
39	....	Gas-buoy painted black.	..	..	....	1921	
40	....	Conical light-buoy painted red.	..	..	....	1916	

from seaward.

No.		Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
41	Shatt-al-Arab (B).	Inner Green Gas Buoy (U).	About 5½ miles South-eastward of Abadan island, beacon (Red).	29° 54½′	48° 40′	1	Green	Occ.	..	..
42		Inner Bar (U)..	About 2 miles South-eastward of Abadan island, beacon (Red).	29° 56½′	48° 37″	1	White	Occ.	..	..
43		Fao (Pa.) ..	On roof of Customs Building.	29° 58′	48° 29′	1	Red	Fl.	Seven and a half seconds.	6
44		Kasaba Pt. ..	½′ Westward of Kasba Pt.	30° 00′	48° 27′	1	Green	F.	..	..
45		Satan's (Devil's) Gap.	Western extreme of Dabba island.	30° 27′	48° 6′	1	Red	Occ.	..	..
46		GANAVEH ..	At the entrance of the Creek.	29° 34′	50° 31′	1	White	F.	..	5
47	Abu-Sharh (Bushire).	Bushire ..	British Residency .	28° 58′	50° 49′	1	White	F.	..	13
						1	Red	F.	..	11
48		Outer Gas Buoy (U).	262°, distant 4·3 miles from Residency F. S.	28° 59′	50° 45′	1	White	Fl.	Thirty-six seconds.	..
49		Inner Gas Buoy (U).	308°, distant 2·5 miles from residency F. S.	..	..	1	Red	Fl.	Twenty seconds.	..
50		KAIS ISLAND ..	Light vessel 9½′ westward of Kais Island in 33 fms. of water.	26° 29′	53° 58′	1	White	Gp. Fl.	Thirty seconds.	10

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
41	....	Light-buoy painted red.	..	..	....	1918	
42	....	Light-buoy painted red.	..	..	....	1916	
43	....	Trellis pedestal.	25	..	....	1898	Flash one second. Irregular (1923). Two *red* lights are shown on the outer end of the pier at Abadan, and a *white fixed* light from a buoy south-eastward of the pier.
44	....	Light-buoy ..	..	..	....	1920	
45	....	Light-buoy painted green with "W" in large letters on its 3 sides.	..	..	....	1919	
46	....	....	27	..	....	1922	Occasional.
47	....	Flagstaff ..	72 54	..	Under ..	1913 1917	Vertical. Lloyd's signals. Two white electric lights are shown from two telegraph posts on Rishahr point.
48	....	Gas buoy painted red.	..	..	1	1913 1920 1921	Flash five seconds. White band round day mark.
49	....	Gas buoy painted red.	..	..	1	1913 1920 1921	Flash six seconds.
50	....	Red hull, foremast and jiggermast, white central tower for lantern *Kais island* in white on sides.	32	..	C.D., 4th Ord.	1918	Three flashes of $\frac{7}{10}$ of a second each, eclipse between flashes $5\frac{1}{2}$ seconds between groups 17 seconds. See page ii.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
51	JEZIRAT TANB..	On summit of island.	26° 16′	55° 19′	1	White	Fl.	Five seconds.	21
52	Henjam ..	On north-east corner of telegraph office, north end of island.	26° 40′	55° 54′	1	White	F.	..	5
53	Rasal Mashia ..	Hemjam sound ..	26° 41′	55° 54′	1	Red	F.	..	6
54	Kishm Island ..	81°, distant 2½ miles from conspicuous Tree on Kishm island.	26° 57′	56° 17′	..	White	Fl.	Ten seconds.	9
55	Jashk ..	278°, distant 3½ cables from beacon on cape Jashk.	25° 38′	57° 45′	1	White	Gp. Fl.	Ten seconds.	7
56	Chahbar ..	Roof of telegraph office east side of entrance to Chahbar bay.	25° 16′	60° 37′	1	White	F.	..	5
57 to 62									

BOMBAY

63	CAPE MONZE ..	On low land of Ras Mauri.	24° 50′	66° 40′	1	White	Gp. Fl.	Ten seconds.	18
64	KARACHI. MANORA POINT.	On Manora point, west side of entrance to harbour.	24° 48′	66° 59′	1	White	Fl.	Seven and a half seconds.	18
65	KARACHI. Channel buoy (U).	3⅞ cables east from breakwater light.	..	..	1	Red	Occ.	..	3
66	KARACHI. Channel buoy (U).	1¾ cables N. E. from breakwater light.	..	..	1	Green	Occ.	..	3
67	KARACHI. Breakwater (U).	End of breakwater.	24° 47′	66° 59′	1	White	Fl.	Eight seconds.	8

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
51	....	White Iron pile tower.	229	71	D., 3rd Ord. 100.	1913	Flash, three-tenths of a second.
52	From 097° through south to 318°.	Telegraph building.	128	..	....	1914	Lloyd's signal.
53	....	White Iron pillar on concrete plinth.	26	..	4th Ord. Port Light.	1920	
54	....	Gas buoy ..	..	..	¼	1914	
55	....	Square stone house with round white tower carrying the light.	37	23	Lantern, 5th Ord. Port Light.	1920	Shows two flashes of half a second each eclipse between flashes 2½ seconds, between groups 6½ seconds. Lloyd's signals.
56 57 to 62	Visible from 288° through north to 154°.	Roof of Telegraph building.	36	..	....	1914	

PRESIDENCY.

63	Visible from 277°, through north to 138°.	Concrete tower, black and white bands.	150	..	1st Ord. 500.	1914 1921	Two flashes of *three-tenths of a second* each; eclipse between flashes *two and five-tenths seconds*, between groups *six and nine-tenths seconds*.
64	....	Circular tower, red and white horizontal bands, black base and white dome.	149	124	D., 1st Ord. 1,540.	1849 1889 1909	Flash, three-tenths of a second; Storm signals. Electric lights, visible several miles, are shown at Kiamari wharves one mile north of Manora Point.
65	....	Red conical buoy.	..	..	....	..	Marks the southern limit of the port.
66	....	Black conical buoy.	..	..	....	..	
67	....	....	53	..	Lantern ..	1890 1908 1921	

from seaward.

No.		Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
68	Gulf of Kutch.	MANDVI ENTRANCE.	On S. W. bastion of fort.	22° 50′	69° 20′	1 White	Gp. Fl.	Thirty seconds.	17
69		Mandvi breakwater.	At end of breakwater.	22° 49′	69° 20′	1 Red	F.	..	8
70		NAVINAR POINT (Nawanar).	Navinar point ..	22° 44′	69° 42′	1 White	F.	..	12
71		Tuna ..	Edge of mangrove swamp, south of Tekra Island.	22° 55′	70° 07′	1 White	F.	..	10
72		Juria Bandar..	North end of quay wall.	22° 43′	70° 19′	1 White	F.	..	11
73		Rojhi ..	On temple, north end of Rojhi Island.	22° 33′	70° 01′	1 White	F.	..	7
74		PERITAN ISLAND.	On Peritan Island .	22° 36′	69° 56′	1 White	F.	..	12
75		Karumbhar Island.	West point of Karumbhar Island.	22° 26′	69° 35′	1 White	F.	..	12
76		BEIT HARBOUR.	Centre of Samiani island.	22° 29′	69° 05′	1 White with red sectors.	F.	..	12
77									
78									

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
68	..	White masonry tower.	115	56	Holophotal . 1½	1873 1889	Three flashes of about 1·7 seconds each. Eclipse between flashes about 5 seconds between 15 seconds. Storm signals.
69		....	30	..	D., ⅛	1890	
70	Visible from 250°, through west, to 070°.	White stone tower.	50	60	C.D., 3	1892	
71	....	Iron column on masonry tower.	34	32	D., ¼	1878 1892	
72	Visible from 341°, through north, to 251°.	Iron column ..	33	32	D., 6th Ord.	1903	
73	Visible from 121°, through south, to 239°	Circular white tower.	48	50	D., 6th Ord.	1867 1897	
74	Visible from 058°, through East, to 328°.	Cylindrical masonry tower, with black bands.	44	46	D., 5th Ord.	1898	
75	Visible from 330°, through north, to 240°.	Wooden post ..	40	30	D., 6th Ord.	1884 1903 1916	
76	White from 057°, through east, to 217°, red thence to 247° over Chinrei reef white thence to 260°, red thence to 290° over Paga bank, white thence to 009°.	Circular white stone tower.	71	65	D., ¼	1876 1893	
77							
78							

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
	GULF OF KUTCH—*contd.*								
79	DWARKA POINT.	On the cliff west of the town and 117 yards within high-water line.	22° 14′	68° 57′	1	White	Gp. Fl.	Twenty seconds.	14
80	PORBANDAR ..	Sea-face of town ..	21° 38′	69° 36′	1	White	E.	..	15
81	Navibandar ..	Centre bastion seaface wall.	21° 27′	69° 47′	1	White	F.	..	5
82	Mangrol ..	400 yards from landing.	21° 06′	70° 06′	1	White	F.	..	4
83	VERAVAL ..	Pier-head, N.-W. side of harbour.	20° 54′	70° 22′	1	White	F.	..	10
84	DIU HEAD ..	Near Mandwa temple on rocky headland.	20° 41′	70° 50′	1	White	Fl.	Ten seconds.	14
85	Diu (P). Harbour ..	Centre of citadel ..	20° 43′	71° 00′	1	White	F.	..	13
86	Diu (P). Harbour ..	Forte de Mar ..	20° 43′	71° 00′	1	Red	F.	..	3
87	Diu (P). Harbour ..	Couraca ..	20° 43′	71° 01′	1	White	F.	..	3
88	Diu (P). Harbour ..	Forte de Simbor..	20° 46′	71° 10′	1	White	F.	..	2
89	Nawabandar ..	On Chachula rock south of creek.	20° 44′	71° 04′	1	White	F.	..	5

All bearings are true

No.	Are of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
79	....	White square stone tower with broad black band at the top.	76	58	C.D., 1	1866 1900	Shows two flashes, of: *one and-a-half seconds* each; eclipse between flashes, *two seconds*; between groups, *fifteen seconds*. Storm signals.
80	Visible from 313°, through north, to 133°.	White circular stone tower.	90	83	D., 4th Ord.	1876 1887	Visible only about 9 miles during the S. W. monsoon. Storm signals.
81	....	....	60	..	....	1896	Exhibited from 15th September to 15th June.
82	....	On the top of a square house.	75	45	Lantern ..	1877	
83	....	White octagonal building with two outside galleries in the form of a plain tower.	56	40	D., 4th Ord.	1865 1876	Visible 6 to 8 miles during the S. W. monsoon. Storm signals.
84	....	White hexagonal building.	106	32	D., 2	1882	
85	....	White cylindrical tower on the top of the Fort.	120	63	....	1897	
86	....	White cylindrical tower on the Fort.	66	59	....	1897	Extinguished from 15th June to 31st August during strength of south-west monsoon.
87	....	White hexagonal pyramid.	23	15	....	1902 1918	
88	....	White column on Simbor Fort.		32	....	1901	
89	....	Pillar ..	58	23	Lantern ..	1896	Exhibited from 1st September to 30th June.

from seaward.

No.		Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
90	GULF OF CAMBAY.	JAFARABAD..	West point of harbour entrance.	20° 52′	71° 23′	1	White	F.	..	15
91		Kutpur ..	On Eastern extreme Kutpur Island.	21° 02′	71° 49′	1	White	F.	..	13
92		Goapnath ..	On hillock, 240 yards in shore of Goapnath point.	21° 12′	72° 06′	1	White	F.	..	6
93		PIRAM ISLAND.	On ruin of old bastion.	21° 35′	72° 20′	1	White	F.	..	17
94		Gogo or Gogha.	On south side of entrance to Gogo creek.	21° 41′	72° 16′	1	Red	F.	..	10
95		Bhaunagar ..	West side of Channel.	21° 46′	72° 13′	1	White	F.	..	8
96			Bhaunagar Bandar.	21° 47′	72° 08′	1	White	F.	..	8
97										
98		Whittlebandar .	West bank of Sabarmatti river.	22° 11′	72° 19′	1	White	F.	..	2
99		Cambay ..	Light-boat near bar.	..	..	1	White	F.	..	3
100		Devjagan ..	North bank of Dhadar river.	21° 55′	72° 30′	1	White	F.	..	10

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power of order of illuminating apparatus.	Year established or altered.	REMARKS.
90	....	White circular building; square base.	85	50	D., 4th Ord.	1876 1195 1914 1916	Storm Signals.
91	....	White turret on roof of residence.	90	27	C., 3rd Ord.	1871	For local purposes.
92	Visible from 223°, through west, to 023°.	Buff coloured masonry tower.	68	32	C.D., 6th Ord.	1879	Marks Goapnath reef.
93	Visible from 126°, through south, to 052°.	Circular stone column.	128	73	D., 4th Ord.	1865 1895	Partially obscured from 126° to 152°.
94	Visible from 159°, through south, to 317°.	Iron structure ..	25	27	D., 6th Ord.	1856 1903	
95	....	Iron mast on white square dwelling on iron piles..	43	40	D., 6th Ord.	1891	Storm Signals.
96	....	Hydraulic tower.		..	D., 6th Ord.	.. 1920	Red and blue shades are placed in front of this light to show off the Bandar. Destroyed.
97							
98	....	Pole ..	20	..	....	1886	
99	....	Red hull ..	25	..	Lantern ..	1885	Exhibited from 1st October to 15th June. See page ii.
100	Visible from 294° through north to 181°.	Mast on a Circular stone column.	41	44	D., 5th Ord.	1856 1889	Exhibited from 1st September to 15th June only.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
	GULF OF CAMBAY—*concld.*								
101	Broach (Lahara Point).	North side of the Narbada river entrance.	21° 39′	72° 31′	1	White	F.	..	10
102	Bhagwa-Dandi Point.	At Bhagwa creek entrance.	21° 20′	72° 35′	1	White	F.	..	7
103	TAPTI ..	Near Vaux's tomb Suwali point.	21° 05′	72° 37′	1	White	F.	..	15
104	BULSAR (*Bulsar*).	At South entrance to Auranga river.	20° 37′	72° 53′	1	White	F.	..	7
105	Daman Port (P) (DAMAO)	On the bastion of fort, south side of entrance. Daman Gunga river.	20° 24′	72° 49′	1	White	F.	..	10
106	DAMAN PORT	Front, At North-East angle of the Fort, Big Daman.	..	..	1	Green	F.	..	3
107		Rear. On the pier .	..	..	1	Red	F.	..	
108	ARNALA ..	On mainland near the Arnala custom house.	19° 27′	72° 45′	1	White with red Sector.	F.	..	10
109	Bassein ..	On rocks, 400 yards from pier.	19° 20′	72° 48′	1	White	F.	..	1
110	Dongri Point ..	On north bastion of Dharavi Fort at south entrance to bassein creek.	19° 18′	72° 47′	1	Green	F.	..	6

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
101	Visible from 291°, through north to 112°.	Iron structure ..	30	28	D., 6th Ord.	1887 1903	Exhibited from 1st September to 31st May only.
102	Visible from 355°, through north to 180°.	Wooden post with cabin at the bottom painted white.	36	41	D., 6th Ord.	1856 1886	
103	Visible from 258°, through west to 159°.	White circular masonry column.	91	90	D., 4th Ord.	1852 1893	Partially obscured from 258° to 290°.
104	Visible from 000°, through east to 172°	Wooden staff ..	58	62	D., 6th Ord.	1866 1883	Exhibited from 1st September to 30th June only.
105	Visible from 000°, through east, to 180°.	White masonry column.	67	50	C	1887	Storm Signals.
106	....	....	..	..	Lantern ..	..	In line lead over the bar.
107	....	....	..	..	Do. ..	..	
108	Red from 048° to 091°, white thence to 098° obscured thence to 100°, white thence to 114°.	Iron structure ..	30	32	D., 6th Ord.	1907	Partially obscured thence to 117°, obscured thence to 125°, partially obscured thence to 127°, obscured thence to 129°, partially on 130°, white elsewhere,
109	....	Iron post, on masonry base.	16	..	....	..	
110	Visible from 095°, through south to 240°.	Iron column ..	46	7	D., 6th Ord.	1913	

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
111	Uarashi beacon ..	On beacon ..	19° 05′	72° 49′	1	Red	F.	..	2
112	Thull Shoal Buoy.	In 30 ft. water on western edge of Thull Shoal.	18° 48′	72° 49′	1	Red	Fl.	Ten seconds.	6
113	BOMBAY (U) Floating light vessel.	In the fairway about 230 from Colaba Point.	18° 50′	72° 44′	1	White	Grp. Fl.	Twenty-four seconds.	11
114	PRONG Reef Buoy.	Off S. E. edge of Prongs Reef 131 from Prongs Lt. Ho. distant 1¼′ in about 36 ft. water.	18° 52′	72° 49′	1	Green	Fl.	Fifteen seconds.	6
115	PRONGS ..	Near extreme of reef extending southward from Kolaba.	18° 53′	72° 48′	1	White	Fl.	Ten seconds.	18
116	SUNK ROCK.	On the rock ..	18° 53′	72° 50′	1	White red with Sectors.	Occ.	Five seconds.	14
117	Dolphin Rock .	On the rock ..	18° 55′	72° 50′	1	Green with white Sectors.	F.		5
118	North Channel.	On beacon ..	18° 57′	70° 51′	1	White	Occ.	Six seconds.	..
119	Prince's Dock	On island between the dock gates.	..	..	1	White with red sector.	F.	..	..
120		North side of dock entrance.	..	..	1	White with green sector.	F.	..	..

BOMBAY HARBOUR.

All bearings are true .

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of Illuminating apparatus.	Year established or altered.	Remarks.
111	Visible all round.	Masonry beacon with iron rail.	33	34	Lantern ..	1918	Exhibited from 1st October to 31st May.
112	Visible all round.	Conical Red Buoy.	13	..	AGA Light buoy.	1920	Light 2 secs. Eclipse 8 secs.
113	Visible all round.	Red hull tower with ball "Bombay Floating Light" on sides.	32	..	D., 3rd Ord.	1842 1904 1920	Shows three flashes of *one second* each; eclipse between flashes *two seconds*, between groups *seventeen seconds*. *See* page ii.
114	Visible all round.	Black Can Buoy.	23	..	AGA Light buoy.	1920	Light 5 secs. Eclipse 10 secs.
115	Obscured from 232°, through south to 171°.	Circular masonry tower, with red, white and black bands.	136	146	D., 1st Ord. 176.	1874 1912	Telephone to Bombay. One quick flash.
116	White from 186° to 209°, red thence to 015°; white thence to 031°; red thence to 069°; obscured elsewhere.	Circular masonry tower, painted white and black horizontal bands.	64	95	D., 3rd Ord. White 3. Red 1.	1884 1918	Eclipse two seconds.
117	Green from 147° to 236°, white thence to 270°, green thence to 000°.	Grey masonry tower with white dome.	35	58	D., 5th Ord. White $\frac{1}{2}$. Green $\frac{1}{3}$.	1856 1897	
118	Visible from 070°, through east, to 320°.	Beacon, black and red.	20	28	D.	1892 1896 1907	Light, four seconds; eclipse, two seconds.
119	....	Round tower ..	..	..	Lantern ..	..	Shown when docking or undocking is in progress. White sector delineates centre of dock channel and red sector danger south of the channel.
120	....	Square tower ..	..	..	Do. ..	..	Shown when docking or undocking is in progress. White sector delineates centre of dock channel and green sector danger north of the channel.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
	BOMBAY HARBOUR—*contd.*							
121	Victoria Dock Front	North side of dock entrance. Front.	..	..	1 Red	F.	..	..
122	Victoria Dock Rear	..	..	..	3 Red	F.	..	..
123	Alexandra Dock.	On mole. Front ..	18° 56′	72° 51′	1 Red	F.	..	..
124	Alexandra Dock. Rear	..	..	..	2 Red	F.	..	..
125	Tucker Beacon.	On the beacon ..	18° 56′	72° 53′	1 White	F.	..	..
126	Uran Shoal ..	Do. ..	18° 56′	72° 44′	1 White	Occ.	Fifteen seconds.	8
127	Karanja Beacon.	Do. ..	18° 55′	72° 53′	1 White	F.	..	6
128	Karanja "Reefs Buoy."	7·3 cables, 214°, from Karanja light Beacon.	18° 54′	72° 52′	1 Red	Fl.	Seven seconds.	6
129	KUNDARI ISLAND (Kennery).	On south end of island.	18° 42′	72° 49′	1 White with red sector.	Gp. Fl.	Ten seconds.	18
130	Alibagh ..	On Kolaba Fort ..	18° 38′	72° 52′	1 Green	F.	..	3
131	RAJPURI POINT .	On Rajpuri point..	18° 17′	72° 56′	1 White, with red sector.	Occ.	Fifteen seconds.	18

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
121	....	Lattice-work staff with disc.	..	..	Lantern ..	..	These leading lights are shown when dock gates are open.
122	....	Lattice-work staff.	..	..	Lanterns ..	..	Vertical.
123	....	Lattice-work staff and 2 disc.	25	..	Lantern ..	1919	Leading lights to go along-side bearing about 301°. Ballard Pier.
124	....	Staff and disc ..	41	..	Do. ..	1917	Vertical.
125	Visible from 249°, through west, to 149°.	Beacon with black and red bands.	32	32	....	1908	
126	Visible from 077°, through east, to 090°.	Red cylindrical beacon.	29	..	D., 6th Ord. $\frac{9}{10}$	1912	Eclipse, 5 seconds.
127	Visible from 349°, through north, to 219°.	Circular red masonry beacon.	33	46	Lantern ..	1914	Light exhibited only when the Karanja Reefs buoy is removed for repairs.
128	Visible all round.	Conical buoy painted red.	..	..	Aga light buoy.	1921	Flash one second.
129	Red sector from 336° through north to 001°; white elsewhere when not obscured by land.	Octagonal masonry tower above a flat-roofed house.	154	78	D., 1st Ord. White 250. Red 150.	1867 1902	Shows two flashes of *a quarter of a second* each; eclipse between flashes *two and a half seconds*, between groups *seven seconds*. Telegraph to Bombay *via* Alibagh. Storm Signal.
130	Visible from 338° through north, to 067°.	....	32	..	Lantern ..	..	For fishing and coasting craft. Storm Signals.
131	White from 006° to 057°, red thence to 079°; white thence to 217°.	White masonry tower.	179	34	D., 4th Ord.	1884 1895	Eclipse, 5 seconds. Storm signals at Murad Janjira.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
132	Harnai (Hemi) ..	On promontory ..	17° 48′	73° 06′	1	Red	F.	..	6
133	PORT DABHOL. TOLKESHWAR.	On Tolkeshwar point, south entrance to river.	17° 34′	73° 09′	1	White	F.	..	15
134	PORT DABHOL. Anjanvel ..	Northernmost point of Anjanvel Fort.	17° 34′	73° 09′	1	Green	F.	..	5
135	PORT DABHOL. DABHOL ..	West end of Dabhol Bandar.	17° 35′	73° 10′	1	Red	F.	..	4
136	JAIGARH ..	West extreme of Jaigarh Headland.	17° 18′	73° 11′	1	White	Occ.	Sixteen seconds.	13
137	RATNAGIRI ..	On the south bastion of old fort.	16° 59′	73° 16′	1	White	F.	..	15
138	RAJAPUR BAY .	On Wagapur point at south entrance Rajapur bay.	16° 36′	73° 18′	1	White	F.	..	9
139	DEOGARH ..	On north-west bastion of Fort.	16° 23′	73° 22′	1	White	Occ.	Seventeen and a half seconds.	15
140	Malwan ..	On the beach ..	16° 03′	73° 27′	1	Green	F.	..	2
141	MALWAN ..	Light-vessel south-eastward of rock at entrance.	16° 03′	73° 28′	1	Red	F.	..	4

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
132	Visible from 280°, through north, to 154°.	White Masonry tower.	95	34	D., 5th Ord.	1899 1910 1912 1923	Storm signals.
133	Visible from 346°, through north, to 164°.	White iron column with house at base.	333	28	D., 5th Ord.	1880	
134	....	Wooden post ..	36	16	Lantern ..	1889	Exhibited from 16th September to 15th June.
135	....	Wooden post ..	24	15	Lantern ..	1889	Exhibited from 16th September to 15th June.
136	Visible from 289°, through north, to 193°.	Iron structure ..	134	32	D., 5th Ord.	1896 1899 1910	Eclipse, five seconds. A fixed red light is exhibited from the northern bastion of Jaigarh fort.
137	Visible from 357°, through north, to 157°.	White masonry tower.	320	35	D., 6th Ord.	1867 1919	Storm signals.
138	Visible from 344°, through north, to 209°.	Do. ..	75	21	Do. ..	1873	Exhibited from 10th September to 10th June. Storm signals.
139	....	Do. ..	92	28	6th Ord. ..	1915	Eclipse three and a half seconds.
140	Visible from 023° to 114°.	White pole ..	20	15	Lantern ..	1878	Leading lights in line 075°. Exhibited from 16th September to 15th June, weather permitting. Storm signals.
141	....	Red hull, red flag at mast-head ; *Malwan red light on sides.*	28	..	Do. ..	1878	Removed during the strength of S. W. monsoon. Storm signals, see page ii.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
142	VENGURLA ROCKS. (Burnt Islets)	On S. E. rock ..	15° 53′	73° 27′	1	White	F.	..	16
143	Vengurla ..	On Vengurla point.	15° 51′	73° 36′	2	White	F.	..	9
144	AGUADA (GOA (P).	On the top of the fort.	15° 29′	73° 46′	1	White	Gp. Fl.	Ten seconds.	23
145	....	Southward of above light. At the base of the fort.	15° 29′	73° 46′	1	White	F.	..	6
146									
147	MANDOVI RIVER. (P.) "Tejo" ..	South entrance of river.	15° 29′	73° 49′	1	Green	F.	..	3
148	Campal ..	Front. ..	15° 30′	73° 49′	1	Red	F.	..	6
149	Malim ..	Rear ..	15° 30′	73° 50′	1	Red	F.	..	6
150	Verem ..	On pier ..	15° 30′	73° 49′	1	Green	F.	..	3
151	Reis Magos ..	On north beach ..	15° 30′	73° 49′	1	White	F.	..	6

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
142	Visible from 286°, through north, to 198°.	White masonry tower on square building.	132	31	D., 4th Ord.	1870 1890	
143	....	Mast above roof of a white masonry house.	275 260	41	C.D., 6th Ord.	1869 1911	Exhibited from 1st September to 31st May. Vertical, 15 feet apart. Storm signals.
144	....	Circular white tower.	280	53	C., 1st Ord. 8 1/10	1841 1906	Shows three flashes of half a second each; eclipse between flashes one and a half seconds; between groups five and a half seconds. Storm Signals.
145	....	White stone tower.	94	34	....	1890	In line with main light clears the Mormugao rocks and islands to the southward.
146							
147	....	Column, black, and white bands.	23	..	....	1898	
148	....	White iron structure above a white house.	115	36	C	1908	Leading lights over the bar in line 52°.
149	....	Do. ..	39	36	C	1908	
150	....	Iron pole ..	9	..	....	1910	Leading lights in line 8°.
151	....	White tower ..	50	..	....	1886	Extinguished during strength of southwest monsoon.

from seaward.

No.	Name of Light.	Position.	Latitude N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
152	MARMAGAO HARBOUR. (P.) Marmagao ..	Head of breakwater.	15° 25′	73° 47′	1	White, red and green. Sectors.	Occ.	Four seconds.	6
153		Mole head ..	..	..	1	White, and red Sectors.	F.		..
154	Chiquilim ..	On Chiquilim point (Front).	15° 25′	73° 50′	1	White	F.	..	6
155	S. Jacinto ..	On Secretario Island (Rear).	15° 24′	73° 51′	1	White	F.	..	6
156	OYSTER ROCKS.	On summit Deogarh Island.	14° 49′	74° 03′	1	White	F.	..	20
157									
158	Karwar ..	On Port Office ..	14° 48′	74° 06′	1	Red	F.	..	3
159	Tadri River ..	On middle point. North side of entrance, Tadri river.	14° 31′	74° 20′	1	White	F.	..	8
160	KUMTA POINT ..	North side of entrance to Kumpta creek.	14° 25′	74° 23′	1	White	F.	..	12
161	Honawar ..	In hospital compound.	14° 16′	74° 27′	1	White	F.	..	6

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
152	White from 066° to 112°, red thence to through east 197° white thence to 281°, green thence to 066°.	White iron column.	51	38	....	1905 1920	Eclipse two seconds. Storm signals.
153	....	....	..	..	....	1920	Not visible from seaward.
154	....	White cylindrical tower.	42	34	C.	1900	Leading lights in line 102° (about 14 cables apart) into Mormugoa harbour.
155	....	Do. ..	187	35	C.	1900	
156							
157	....	Circular masonry tower, white dome.	210	72	D., 1st Ord.	1864	
158	Visible from 323° through North to 250°.	White flagstaff .	65	..	Lantern ..	1864	Storm signals. Exhibited from 16th September to 14th June. Obscured by land to the southward of it.
159	Visible from 273° through North to 138°.	Wooden mast ..	100	20	Lantern ..	1891	Exhibited from 16th September to 15th June. Obscured by high land (between the bearings of 051° and 138° and between 273° and 342°).
160	Visible from 289° through North to 219°.	Iron column near a house at base painted white.	116	..	D., 5th Ord.	1842 1888	Storm signals. Obscured by high land when bearing more than 160°.
161	Visible from 344° through North to 194°.	Mast ..	105	60	Lantern ..	1891 1909	Exhibited from 16th September to 15th June. Storm signals. Obscured by trees when bearing less than 035°.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
162	Bhatkal ..	In the fort on summit of the hill which forms the northern boundary of the bay.	13° 58′	74° 21′	1	White	F.	..	8
163									

MADRAS

164	Kundapur ..	17 yards northward of the southern boundary pillar.	13° 38′	74° 40′	1	White	F.	..	8
165	Hangarkotta ..	Westward of custom house.	13° 27′	74° 42′	1	Red	F.	..	2
166	MULPI ..	On North Island, St. Mary Isles.	13° 21′	74° 41′	1	White	F.	..	10
167	CAHP (Kaph) ..	Near Cahp battery.	13° 13′	74° 44′	1	White	Gp. Fl.	Ten seconds.	18
168	MANGALORE ..	Southern part of Marine yard.	12° 52′	74° 50′	1	White	Gp. Occ.	One minute.	11
169									
170	TELLICHERRI ..	On western bastion of fort.	11° 45′	75° 29′	1	White	Gp. Occ.	One minute.	11
171	Mahé river (F) ..	On the Fort south side of the entrance to the river	11° 42′	75° 31′	1	Red	F.	..	3
172	COTTA POINT (Kadalur).	Near south extreme of Cotta point.	11° 28′	75° 38′	1	White	Fl.	Five seconds.	19

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
163	Visible from 301°, through north to 166°.	Mast ..	100	20	Lantern ..	1891 1919	Exhibited from 16th September to 15th June. The light is obscured by Hog Island between the bearings 129°—132°.

PRESIDENCY.

164	Visible from 354°, through north, to 152°.	Steel mast ..	45	40	D., ½, 6th Ord.	1888 1894.	Storm signals.
165	Visible from 027°, through east, to 154°.	Iron post ..	13	8	Lantern ..	1912	Unreliable. Exhibited from 1st September to 31st May to mark the anchorage.
166	....	White masonry light-house.	64	16	D., ½, 5th Ord.	1888 1900	
167	....	Gray masonry tower.	140	117	D., 40 2nd Ord.	1901	Three flashes occupying four seconds, eclipse between groups six seconds. Marks the Mukki Rocks.
168	Visible from 012°, through east, to 153°.	Gray cement tower.	33	48	D., 1½, 4th Ord.	1900 1903	Four eclipses of four and-a-half seconds each. Light between eclipses seven seconds; between groups twentyone seconds. Storm signals.
169							
170	Visible from 326°, through north, to 120°.	Masonry tower .	83	35	D., ½, 4th Ord.	1835 1903	Six eclipses of 3½ seconds each. Light between eclipses, 5½ seconds; between groups 14 seconds. Storm signals.
171	....	White mast ..	88	50	....	1885 1896	
172	....	Masonry tower..	180	114	D., 200, 2nd Ord.	1909	Flash two-tenths of a second.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
173	CALICUT — CALICUT ..	On the beach close to the flagstaff, by Port Office.	11° 15′	75° 46′	1	White	Gp. Occ.	One minute.	12
174	CALICUT — North pier ..	Head ..	11° 15′	75° 46′	1	Red	F.	..	2
175	CALICUT — South pier ..	Head ..	..	..	1	Red	F.	..	2
176	MALLIPURAM ..	On beach ..	10° 01′	76° 13′	1	White	F.	..	10
177	COCHIN ..	On south side of entrance to harbour.	9° 58′	75° 14′	1	White	Gp. Occ.	One minute.	12
178	ALLEPPI — ALLEPPI ..	On beach, about 300 yards inshore.	9° 30′	76° 19′	1	White	Fl.	Forty seconds.	16
179	ALLEPPI — Pier (U) ..	Pier Head ..	..	..	1	Red	F.	..	1
180	QUILON (Tangacherri).	On Tangacherri point.	8° 53′	76° 34′	1	White	Gp. Fl.	Ten seconds.	17
181	Trivendrum ..	On the end of the pier.	..	..	1	White	F.	..	1
182	MUTTUM POINT	On Muttum point	8° 07′	77° 18′	1	White	Fl.	Five seconds.	18
183	Cape Comorin ..	Port Flagstaff ..	8° 06′	77° 33′	1	White	F.	..	3
184	Kotapilli ..	Beach ..	8° 09′	77° 36′	1	White	F.	..	4
185	MANAPAD POINT.	On Manapad point	8° 22′	78° 04′	1	White	Gp. Fl.	Ten seconds.	17

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
173	....	Masonry tower..	52	50	D., 1¼, 4th Ord.	1847 1903	Five eclipses of 1 seconds each, light between eclipses 6 seconds, between groups 16 seconds. Storm signals.
174	....	Post ..	23	..	Lantern ..	1916	Unreliable.
175	....	Post ..	23	..	Do. ..	1916	Guide to local boats.
176	Visible from 000°, through east, to 135°.	Flagstaff ..	26	112	D., 6th Ord.	1865 1903	From 15th May to 30th September. The light may be visible through the trees south-ward of 135°.
177	Visible from 339°, through north, to 168°.	White masonry column with black band.	37	34	D., 1¼, 4th Ord.	1839 1902 1914	Four eclipses of four and-a-half seconds each, light between eclipses seven seconds, between group twenty-one seconds. Storm signals.
178	....	White circular masonry tower.	113	115	C. D., 1st Ord.	1862	A red fixed light is shown at the monsoon anchorage at Pathiankara 17 miles south of Alleppi, from about 15th June to 16th September. Position of the light varying in accordance with the position of the mud banks. (Storm signals).
179	....	....	..	..	....	1915	Unreliable, exhibited from 15th September to 15th May.
180	....	Masonry tower..	135	135	D., 40, 2nd Ord.	1902	Three flashes occupying four seconds. Eclipses between groups six seconds.
181	....	....	..	..	....	1918	Occasionally exhibited during the working season. (Storm signals).
182	Visible from 295°, through north, to 0 95°.	Column black and white bands.	141	72	D., 200, 2nd Ord.	1875 1910	Flash, $\frac{4}{10}$ of a second.
183	....	Flagstaff, painted white.	60	50	Globular Lantern.	1904	Occasional.
184	....	Masonry column	14	16	Lantern ..	1912	(Fishing Light). Unreliable
185	Visible from 203°, through west to to 0 23°.	Cement tower ..	184	62	D., 45, 3rd Ord.	1888 1901	Shows two flashes occupying *two and a half seconds*; eclipse between groups *seven and a half seconds*.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
186	TUTICORIN — HARE ISLAND.	North end of island, 2½ miles eastward of Tuticorin.	8° 47′	78° 11′	1 White	F.	..	14
187	TUTICORIN — Pier ..	Head ..	8° 48′	78° 08′	1 Red	F.	..	8
188								
								INDIAN
189	MINIKOI ISLAND	On south-west end of the island.	8° 16′	73° 01′	1 White	F. Fl.	Thirty seconds.	18
190	Maldive Islands ..	Main island, each side of entrance to breakwater opposite pier.	4° 11′	73° 30′	1 Red	F.	..	..
191 to 195								
								ISLAND OF
196	Ona Gala light-buoy*	South end of shoal northward of Colombo.	6° 59′	79° 50′	1 White	Occ.	Four seconds.	6
197	COLOMBO ..	On clock-tower, at the centre of the fort.	6° 56′	79° 51′	1 White	Gp. Fl.	Ten seconds.	17
198	COLOMBO — South-west breakwater.	Northern extreme of new arm.	6° 57′	79° 51′	Red	F.	..	13
199	COLOMBO — South-west breakwater.	Landing jetty, on head of old arm.	6° 57′	79° 51′	1 Red	Occ.	Ten seconds.	7
200	COLOMBO — North-west breakwater.	South head ..	6° 57′	79° 51′	1 Green	F.	..	10
201	COLOMBO — North-west breakwater.	North head ..	..	..	1 Red	F.	..	10

*This light is under the control of the Board of Trade.

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
186	....	Masonry column, black and white horizontal bands.	85	91	D., 1, 4th Ord.	1845 1906	Storm signals.
187 488	....	Iron frame work	21	..	D., 6th Ord. $\frac{1}{10}$th	1914	Intended as a guide to boats returning from outer anchorage.
OCEAN.							
189		White tower ..	150	159	D., 76 ..	1885	Flash, *three and a half seconds.* Obscured by cocoanut trees from 223° to 226°, and from 235° to 246°, when within a distance of 6 miles, and from 255° to 273° when within 3¾ miles. When within these limits the top of the lighthouse is not visible by day above the trees.
190	....	....	15	..	....	1914	
191 to 195							
CEYLON.							
196	....	Light-buoy painted red.	10	..	$\frac{1}{7}$	1910	Light, 2 seconds. Unreliable, 1922.
197	Shows three short flashes in quick succession, except from 187° to 197° where it shows two flashes, 197 to 212° one flash, 212° to 222° two flashes.	Square white building.	135	112	D., 300, 1st Ord.	1867 1885 1907 1909	Time signals. Pilot signals from Round tower.
198	....	Concrete tower..	56	61	D., 2nd Ord..	1912	
199	Visible from 161° through south, to 0 15°.	Iron column ..	32	..	6th Ord. ..	1881 1912	Eclipse 3 seconds.
200	....	Concrete tower.	42	40	D., 5th Ord.	1905	
201	....	Do. ..	42	37	D., 5th Ord	1907	

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Mile visible in clear weather.
	COLOMBO—*contd.*								
202	North-east breakwater.	On head ..	6° 57′	79° 52′	1	Green and red sectors.	F.	..	5
203	Graving dock.	Pierhead, north side of entrance.	..	..	*2	Green	F.	..	..
204	Western leading lights.	Near Passenger Jetty. Front	..	..	1	Green	F.	..	3
		Rear	..	..	1	Red	F.	..	3
205	Eastern leading lights.	Near guide Jetty Front	..	..	1	Red	F.	..	3
		Rear	..	..	1	Green	F.	..	3
206	Passenger jetty	South side of harbour.	..	..	2	Green	F.	..	..
207	Guide jetty of patent slip.	Head ..	..	..	1	White	F.	..	..
208									
209	BARBERYN* ..	On summit of Welmaduwa island.	6° 28′	79° 58′	1	White	F. Fl.	One minute.	F. 15 Fl. 18
210	POINT DE GALLE.	On south bastion of fort. West side of harbour.	6° 01′	80° 13′	1	White	Gp. Fl.	Half minute.	15
211	DONDRA HEAD*	East extreme of head land.	5° 55′	80° 36′	1	White	F. Fl.	Twenty seconds.	F. 16 Fl. 18
212	HAMBANTOTA..	Summit of point ..	6° 07′	81° 08′	1	White	Occ.	Thirty seconds.	13
213	GREAT BASSES*	On N.-E. rock ..	6° 11′	81° 29′	1	Red	Fl.	Forty-five seconds.	16

All bearings are true

* This light is under the control of the Board of Trade.

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
202	Green from 000° through East to 180°, and red elsewhere.	Concrete tower..	44	33	D., 5th Ord.	1907	
203	....	Iron pillar ..	25 19	..	....	1911	Vertical.
204	....	White mast .. Do. ..	42 50	.. ..	D., 6th Ord.	1901 ..	Leading lights in line 188° 266 yards apart; lead between second and third lines of buoys. Not visible westward of line of breakwater.
205	....	White mast .. Do. ..	50 60	48 47	D., 6th Ord. Do.	1900 1900	Leading lights in line 188°, 250 yards apart; lead between fourth and fifth lines of buoys.
206	....	....	..	..	6th Ord. ..	1883	Horizontal.
207	....	....	17	..	....	..	
208							
209	....	Gray circular tower.	150	111	D., 115 ..	1890	Flash, 5 seconds.
210	....	White circular tower.	100	80	C., 2nd Ord.	1848 1890	Two flashes of 2 seconds each; eclipse, between flashes, 3 seconds; between group 23 seconds. Lloyd's signal station.
211	Obscured by Nilewelli point, when bearing south of 253°.	Gray octagonal tower.	152	100	D., 115 ..	1890	Flash, one and a-half seconds.
212	....	White lighthouse.	119	47	4th Ord. ..	1903 1913	Eclipse, 3 seconds.
213	....	White granite tower. The lantern has a conical roof, with one gallery under the lantern, and another 30 feet above the base.	110	125	D., 32 ..	1873	Flash, hour and-a-half seconds.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
214	LITTLE BASSES*	On reef ..	6° 25′	81° 44′	1	White	Gp. Fl.	One minute.	16
215	BATTICALOA ..	Westward of the watch house near the bar entrance.	7° 45′	81° 41′	1	White	Gp. Occ.	Forty seconds.	15
216	TRINCOMALI BAY. FOUL POINT	Near extreme of point.	8° 32′	81° 19′	1	White	F. and Fl.	Half minute.	17
217	TRINCOMALI BAY. Round Island	On summit, near centre.	8° 31′	81° 14′	1	White	F.	..	10
218									
219									
220	MULETIVU ..	Near mouth of Vattuvakal aru.	9° 16′	80° 49′	1	White	F.	..	12
221	PEDRO POINT..	On the point ..	9° 49′	80° 15′	1	Green	F.	..	7
222	KANKESANTURAI.	Western bastion of fort.	9° 49′	80° 03′	1	Red	F.	..	10
223	Mandaitivu Island.	On South point ..	9° 36′	79° 59′	1	Red	F.	..	..
224	KOVILAM POINT.	On N.-W. point of Karativu.	9° 46′	79° 52′	1	White	F.	..	12
225	TALAMANAAR. TALAMANAAR.	Western extreme of Manar Island.	9° 06′	79° 41′	1	White	Fl.	Five seconds.	15
226	TALAMANAAR. North pier ..	Head ..	9° 7′	79° 42′	1	White	Occ.	Ten seconds.	10
227 to 235									

All bearings are true

This light is under the Control of the Board of Trade.

No.	Arc of illumination.	General escription of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
214	....	White granite tower. The lantern has a domed roof, and there are two galleries at the top of the tower, 12 feet apart.	110	125	D., 32 ..	1878	Two flashes of *four and-a-half seconds* each; eclipse between flashes *ten and-a-half seconds*; between groups *forty and-a-half seconds*. Reported to show a faint light between the flashes.
215	....	White tower ..	88	93	D., 4th Ord.	1878 1914	Two eclipses, of three seconds each; light between eclipses three seconds, between groups thirty-one seconds.
216	....	Circular gray tower.	104	120	D., 2nd Ord.	1863	The fixed light between the flashes is not visible beyond 10 miles.
217	....	White circular tower.	103	69	D., 4th Ord.	1863	A red light is shown on the end of the Kacheri pier. A green light is shown on the Hospital pier, and a red light in the Naval Yard when a British ship of war is in port.
218							
219							
220	....	Iron lattice-work obelisk.	79	77	D., 5th Ord.	1886	
221	....	White steel mast.	60	..	D., 5th Ord.	1900 1916	
222	Obscured by trees when bearing to the northward of 090°.	Circular masonry tower.	81	73	D., 2nd Ord.	1893 1916	
223	....	Mast ..	..	..	....	1921	
224	....	Masonry tower.	100	97	D., 3rd Ord.	1899 1916	
225	....	Black steel frame work tower.	100	113	150	1914	
226	....	Iron column ..	81	20	Under $\frac{1}{10}$ ..	1914	Eclipse three seconds. Only shown when the pier is in use.
227 to 235							

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
236	PAMBAN PASS..	On North-West point of Pambam Island, 1,400 yds. eastward of pass.	9° 17′	79° 13′	1	White	Gp. Fl.	Nine seconds.	14
237	Tondi ..	Near the custom house.	9° 45′	79° 01′	1	White	F.	..	6
238	Ammapatam ..	On the beach ..	10° 01′	79° 13′	1	White	F.	..	6
239	Adriampatnam ..	Near custom house	10° 20′	79° 22′	1	White	F.	..	6
240	POINT CALIMERE.	On point ..	10° 18′	79° 52′	1	White	Fl.	Twenty seconds.	12
241	NEGAPATAM ..	On the jetty near custom house.	10° 45′	79° 51′	1	White	Gp. Fl.	Six seconds.	14
242	KARIKAL (F) ..	North entrance to river Arasalar.	10° 55′	79° 51′	1	White	F.	..	10
243	CUDDALORE ..	Near flagstaff ..	11° 43′	79° 46′	1	White	Fl.	Three seconds.	12
244	PONDICHERRY. (F)	In square, near the beach.	11° 56′	79° 50′	1	White	F.	..	14
245		End of landing stage.	..	..	1	Red	F.	..	5
246									

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
236	Visible all round.	White masonry tower.	94	67	D., 1, 4th Ord.	1846 1901 1923	Shows three flashes of *three-tenths of a second* each; eclipse between flashes *one and a half seconds*, between groups *five and one-tenth seconds*. (Storm singals.)
237	....	Steel mast ..	63	52	D., $\frac{1}{10}$, 6th Ord.	1892 1902	
238	....	Flag staff ..	30	..	D., $\frac{1}{10}$, 6th Ord.	1903 1912	
239	....	White mast ..	46	56	Lantern $\frac{1}{10}$	1905	
240	....	Masonry tower..	42	52	D., 2, 4th Ord.	1890 1902	Flash, two and-a-half seconds; eclipse, seventeen and-a-half seconds.
241	Visible all round.	Masonry tower, painted white.	80	83	D., $\frac{3}{4}$, 4th Ord.	1846 1903 1923	Shows two flashes of *three-tenths of a second* each; eclipse between flashes *one and four-tenths seconds*, between groups *four seconds*. Storm signals.
242	....	Brick column plastered with chunam white.	59	56	Lantern .. D., 4th Ord.	1853 1904	
243	....	White tower over a square white house.	65	34	D., $\frac{3}{4}$, 4th Ord.	1889 1902 1923	Flashes three-tenths of a second.
244	....	Masonry tower..	89	76	D., 4th Ord.	1836 1886	
245	....	Mast above small cabin.	31	..	....	1881	When surf is heavy, and approach to landing pier is prohibited, a fixed *green* light is shown, from it 26 feet above high-water visible about 3 miles.
246							

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
247	MAHABALIPUR	On a rocky point 9 miles north of Palar River entrance.	12° 37′	80° 11′	1 White	Gp. Fl.	Ten seconds.	17
248								
249	MADRAS HARBOUR — MADRAS ..	2·5 cables north of Fort St. George.	13° 05′	80° 17′	1 White	Gp. Fl.	Half minute.	19
250	MADRAS HARBOUR — North Arm ..	Outer end ..	13° 06′	80° 18′	1 White	Fl.	Three seconds.	6
251	MADRAS HARBOUR — East entrance ..	Pier end ..	13° 06′	80° 18′	1 Red	F.	..	6
252	MADRAS HARBOUR — West entrance .	Do. ..	13° 06′	80° 18′	1 Red	F.	..	6
253								
254	PULICAT ..	Near the beach ..	13° 25′	80° 20′	1 White	Fl.	Five seconds.	14
255	ARMAGON ..	On the beach ..	13° 53′	80° 12′	1 White	Gp. Fl.	Ten seconds.	15
256								
257	....	...	...	...	...	...	...	...
258	SACRAMENTO SHOAL.	Near Katapalem beacon.	16° 35′	82° 17′	1 White	Fl.	Five seconds.	17
259	VAKALAPUDI	4¼ miles north of Cocanada river.	17° 01′	82° 17′	1 White	Gp. Fl.	Ten seconds.	14

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
247	....	Masonry tower..	135	84	D., 40, 2nd Ord.	1887 1901	Shows three flashes occupying four seconds; eclipse between groups six seconds.
248							
249	Visible from 190°, through west to 010°.	Octagonal tower, (gilded dome) of law courts.	166	190	D., 40, 3rd Ord.	1844 1894	Two flashes of two seconds each; eclipse between flashes three seconds, between groups twentythree seconds.
250	....	White Cylindrical stone column.	35	19	A.G.A., 6th Ord.	1916 1922	Flash three-tenths of a second. (Storm signals.)
251	....	Cylindrical cement column.	35	26	D., $\frac{1}{10}$, 6th Ord,	1910	
252	....	Do. ..	35	26	D., 6th Ord.	1910	
253							
254	....	Masonry column Black and white bands.	68	57	D., 10, 3rd Ord.	1859 1910	One flash, one-eight of a second, eclipse five seconds.
255	....	White cylindrical column.	97	101	D., 10, 3rd Ord.	1853 1902	Three flashes occupying four seconds; eclipse between groups six seconds.
256							
257	...	...	...	...	...	...	...
258	Visible from 225° through west, to 045°	White masonry tower.	135	148	D., 58, 3rd	1895 1902	Flash one-tenth of a second.
259	....	Do. ..	80	76	D., 10, 3rd Ord.	1879 1902	Three flashes occupying four seconds; eclipse between groups six seconds. Connected by telephone with Cocanada Port Office. Storm signals.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
260	Cocanada ..	Entrance to river:—On the end of the north groynes.	..	..	1	Red	F.	..	5
261		On the end of the south groynes.	..	..	1	Red	F.	..	2
262									
263	VIZAGAPATAM .	Near for flagstaff	17° 41′	83° 18′	1	White	F.	..	14
264	BIMLIPATAM ..	Near post office ..	17° 53′	83° 27′	1	White	Fl.	Three seconds.	11

BENGAL

265	SANTOPILLI ..	On beach ..	18° 04′	83° 38′	1	White	Gp. Fl.	Ten seconds.	18
266	KALINGAPATAM.	On sandy point ..	18° 19′	84° 07′	1	White	Gp. Fl.	Nine seconds.	14
267	Baruva ..	On the beach ..	18° 53′	84° 36′	2	White	F.	..	3
268	GOPALPUR (U)..	270 yards south of the port flagstaff.	19° 15′	84° 55′	1	White	Fl.	Five seconds.	12
269									
270									
271	Puri ..	270 yards 51° from the flagstaff.	19° 48′	85° 49′	1	White	Occ.	Fifteen Seconds	7 to 8

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
260	....	Iron post ..	10	..	....	1886 1904	Exhibited to serve as a guide to boats entering or leaving Cocanada river.
261	....	Wooden post ..	10	..	....	1886	
262							
263	Visible from 232° through west, to 352°.	Masonry tower ..	73	59	D., 4½, 2nd Ord.	1902 1903 1907	Storm signals.
264	....	Masonry tower ..	35	36	D., ½, 4th Ord.	1903 1923	Flash three-tenths of a second. Storm signal.
PRESIDENCY.							
265	....	Masonry tower ..	140	73	D., 45, 3rd Ord.	1849 1903	Two flashes, one-ninth of a second each, separated by an eclipse of two and a-half seconds and followed by an eclipse of seven and-a-half seconds.
266	....	White stone Obelisk with red spiral ladder.	76	73	D., ½, 4th Ord.	1876 1895	Shows *three* flashes of *three-tenths of a second* each; eclipse between flashes *one and a half seconds*, between groups *five and one-tenth seconds*.
267	....	Yardarms of Flagstaff.	46	..	Lanterns ..	1895	Occasional. Horizontal.
268	Visible from 213°, through west, to 57°.	White building.	80	40	D., ½, 4th Ord.	1871 1892 1918	Storm signals.
269							
270							
271	Obscured by a building from 265° through west, to 275°.	A white stone pedestal on the roof of the Circuit-house, marked Pooree on wall.	44	33	D., 4, 4th Ord.	1877 1887 1908	Light ten seconds. Eclipse, five seconds. Storm signals.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
272	FALSE POINT ..	At north entrance to the river Mahanadi, 1½ miles west of Mahanadi point.	20° 20′	86° 44′	1 White	Occ.	Half minute.	17
273	SHORTT ISLAND (U)	Entrance, Dhamra river 284°, 800 ft. from flagstaff.	20° 47′	87° 04′	1 White	F.	..	14
274								
275								
276	Hughli Rivers* PILOTS RIDGE.*	In 26½ fathoms, just east of Pilot's Ridge Station buoy bearing N. one mile.	20° 52′	87° 53′	1 White; Fog bell.	Fl.	One minute. Sounded at intervals of not more than two minutes.	12
277	EASTERN CHANNEL.*	At the entrance to Eastern Channel, in 22 fathoms. Station buoy bearing North distant one mile.	20° 53′	88° 12′	1 White; Fog bell and Fog horn.	Fl.	Half minute. Gives two blasts every two minutes during fogs.	12
278	INTERMEDIATE.†*	In the centre of the Eastern Channel in 7½ fathoms.	21° 11′	88° 12′	1 White; Fog bell.	Occ.	Two seconds.	12
279	LOWER GASPER.*	South entrance to Gasper Channel, in 5 fms. Station buoy bearing S.-W. distant one mile.	21° 25′	88° 09′	1 White; Fog gun and Fog bell.	Gp. Fl.	One minute. Every half hour during fogs.	12
280								
281								

* The following regulations have been established respecting the several light-vessels in the Hughli River, *viz.*:—
"A white light is exhibited from the forestay of each light-vessel at a height of 6 feet above the rail, for
"When a light-vessel is driven from her proper position to one where she is of no use as a guide to light will be exhibited at each end of the vessel and a *red* flare shown *every quarter of an hour*. By day the
"If from any cause the light-vessel be unable to exhibit all her usual lights whilst at her station, the
"NOTES.—The firing of special rockets of an explosive character from a light-vessel will denote the need
Apparent time is kept on board the light-vessels.
NOTE.—During the S.-W. monsoon period, *viz.*, 15th March to 31st October, the pilot vessel on station at
of 30°. The light will be revolved from east to west through south and back again, the total exposure
All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above high-water.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
272	Visible from 205°, through west, to 015°.	Red disk. Brown tower with a large white star (ten-pointed) facing to the S.-E.	127	132	D., 1st Ord.	1838 1893	Eclipse of 4 seconds. Occasionally obscured by fogs in the early mornings during January, February and March.
273	....	Steel iron tripod.	62	62	D., 7th Ord.	1888 1918 1923	Storm signals at Chandbali.
274							
275							
276	....	Light-vessel, red hull, black ball and half ball at masthead. *Pilot's Ridge* painted in white on sides.	44	..	C.	1851 1885	Single flash of about 10 seconds. A blue light is burnt every hour, between sunset and sunrise from 15th March to 31st October. See page ii.
277	....	Light-vessel, Red hull, light-tower amidships. A black ball at top masthead, *Eastern Channel* on sides.	44	..	C., 20, 4th Ord.	1816 1885 1916 1921	Flash one second, from 15th March to 31st October, a blue light is burnt *every half-hour* between sunset and sunrise. During Fogs 2 blasts are sounded from a Fog horn every 2 seconds. See page ii.
278	....	Red hull, one mast; black half ball, flat side uppermost a masthead; lattice work superstructure on forecastle for light. *Intermediate* on sides.	41	..	D.	1877 1885 1920 1921	Eclipse one second carries a stern light, See page ii.
279	....	Light-vessel, painted red. A black cone at lantern masthead. *Lower Gaspar* painted in white on sides.	44	..	C.	1827 1898 1920	Two flashes, each flash 10 seconds, eclipse between flashes, 10 seconds, between groups 30 seconds. Blue lights at past every half hour from sunset to sunrise. During fogs, signal gun and bell, every half hour (at the hour and half hour). See page ii.
280							
281							

the purpose of showing in which direction the vessel is riding when at her station.
shipping, the following signals will be made, *viz.*:—The usual station light will not be exhibited, but a *fixed red* balls or other distinguishing mast head marks will be struck.
riding light will be shown and such portion of her usual lights as may be possible to exhibit
of assistance from the shore. During fogs, a bell is rang at not more than *one minute* interval.

the Sandheads will exhibit every half hour between sunset and sunrise a sea[illegible] light beam at an elevation being one minute. This vessel is in communication with Calcutta by Wireless Telegraphy from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
	HUGHLI RIVER—*contd.**							
282	*UPPER GASPER.** (*U*)	Saugor light-house 344°, distant 8 miles.	21° 32′	88° 05′	1 White; Fog bell.	Gp. Fl.	Thirty seconds. Sounded by motion of vessel.	10½
283	*MIDDLETON* (*U*)	In 18 feet with Saugor Lt. Ho. North, distant 2¾ miles.	21° 36′	88° 03′	1 White; Fog bell.	Occ.	Ten seconds. Sounded by motion of vessels.	10½
284	*MIDDLETON* "G" light buoy.	8½ miles west of Middleton light ship.	21° 36′	87° 54′	1 White	Occ.	Ten seconds.	..
285	SAUGOR ISLAND.	About 1 mile N.-E. of Middleton Pt. Saugon Id.	21° 39′	88° 03′	1 White	Fl.	Three seconds.	15
286	*GABTOLA* ..	Gabtola channel ..	21° 48′	88° 02′	1 White	Occ.	Two seconds.	1
287	*MATLA* ..	Entrance to Matla river, in 18 fathoms.	20° 57′	88° 35′	1 White Fog.	Gp. Fl.	Half minute.	12
288								
289	CHITTAGONG ..	1½ miles south of Norman's point, Kornaphuli River entrance.	22° 11′	91° 49′	1 White	Occ.	Thirty seconds.	10
290	KUTUBDIA ..	West part of the Kutubdia island, Chittagong.	21° 52′	91° 50′	1 White	Gp. Fl.	Thirty seconds.	17
291	*SOUTH PATCHES.*	Seven cables west from South Patches buoy.	21° 29′	91° 37′	1 White	F.	..	11

* *Vide* notes, pages 46 and 47.

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above highwater.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
282	....	Red hull, no masts. *Upper Gasper* on sides.	27	..	....	1858 1916 1918	Shows three flashes of two seconds each; eclipse between flashes three seconds, between groups eighteen seconds. See page ii.
283	....	Light-vessel, painted red *Middleton* painted in white on sides. No masts.	30	..	C. D.	1883 1904 1908 1910 1918	Eclipse, 6 seconds, Light 4 seconds. See page ii.
284	....	Black can gas buoy.	..	..	....	..	Eclipse 8 seconds.
285	Visible from 315°, through north, to 166°.	Cylindrical tower, red and white alternate horizontal band.	84	80	4th, Ord. D., 32.	1821 1909 1911	Flash, three-tenths of a second; connected by Telegraph. Lloyds signals.
286	....	Light-vessel. Red hull, one mast, framework superstructure on fore-castle for light, Gobtala in white on sides.	25	..	C. D.	1917 1921	Eclipse one second. A storm light is exhibited 18 feet above water. Should the occulting light fail a *white fixed* light will be shown on the mast 44 feet above water. See page ii.
287	....	Light-vessel, painted red. A black half ball surmounted by a black inverted cone on masthead. *Mutlah* painted in white on sides.	44	..	C.	1857 1885	Two flashes of 2½ seconds each; eclipse between flashes 2½ seconds, between groups 22½ seconds.
288							
289	Visible from 019° through east, to 130°.	Brick tower, painted white.	55	47	D., $\frac{1}{0}$, 5th Ord.	1866 1891	Eclipse, 4 seconds. Storm signals.
290	Visible from 000° through east to 180°.	Brick tower, white and red bands.	121	136	D., 15, 3rd Ord.	1846 1899	Two flashes, 4 seconds each; eclipse, between flash, 2 seconds between groups, 20 seconds. Storm signals at Cox's Bazar.
291	....	Light-vessel, painted red. By day carries a black ball at masthead. *South Patches* on sides.	36	..	C. D.	1906 1915	A blue light is burnt every half hour from 7 P.M. to 5 A.M. Is replaced by a schooner or brig when off its Station annually from end of December to the middle of March, and is situated four cables east of the position of the light vessel.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
292	OYSTER ISLAND	Entrance to Mayu river.	20° 12′	92° 33′	1 White; with Red sector	Occ.	Half minute.	17
293	SAVAGE ISLAND	Entrance to Akyb harbour.	20° 05′	92° 54′	1 White	F. and. Fl.	Five seconds.	16
294	BEACON ISLAND.	On eastern summit.	18° 56′	93° 27′	1 White	Gp. Fl.	Ten seconds.	17
295								
296	Diamond Island ..	Entrance to Bassein river.	15° 52′	94° 17′	1 White	F.	..	6
297	Baroni rock ..	Three cables N. N. E. of Baroni rock.	15° 53′	94° 17′	1 White	Fl.	Six seconds	..
298	ALGUADA REEF	On Alguada reef ..	15° 42′	94° 12′	1 White	Fl.	Ten seconds.	18
299	*BARAGUA* ..	South of Baragua Flats, in 6 fathoms.	15° 27′	95° 11′	1 Red and white; Forgun.	Alt. Fl.	Forty-five seconds.	12
300	*KRISHNA* ..	In 6 fathoms, off the south-east side of the Krishna shoal.	15° 36′	95° 37′	1 White; For gun.	Gp. Fl.	Half minute. Every half hour in foggy weather.	12
301	CHINA BAKIR.	10 miles South of China Bakir Light-house. (DISUSED)	16° 06′	96° 11′	1 White	Fl.	Ten seconds.	12
302	Fairway buoy ..	5 miles eastward of China Bakir.	16° 17′	96° 16′	1 White	Fl.	Seven and half seconds.	8
303	Centre Western Buoy.	7 miles 225° from Spit light-vessel.			1 White	Fl.	Six seconds.	8

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above highwater.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
292	Red from 310° to 325° over Oyster reef, white elsewhere.	Iron tower, painted alternate black and white bands.	130	141	D., 1st Ord. 6.	1885 1892 1908	Eclipse, 2 seconds.
293	Visible from 338°, through north, to 226°.	Circular stone tower painted white with red lantern.	110	70	Do. .. F. 10, Fl. 132.	1844 1891 1912	Flash four-tenths of a second. A *red* light is shown from the stone pier south of the main wharf at Akyab. Storm signal at FAKIR Point Signal Station at Akyab.
294 295	Visible from 334°, through north, to 273°.	Iron tower painted red and white.	122	119	D., 2nd Ord. 210.	1909	Shows two flashes of— One-quarter of a second each: - eclipse, one-and-a half seconds between flashes, and between group eight seconds.
296	Visible from 156°, through south, to 114°.	On south wireless telegraph mast.	164	..	Lantern 5th Ord.	1910 1912 1913	Storm signals. Wireless Telegraph Station, Unreliable 1923.
297	....	Light buoy painted B. W. H. S.	..	..	....	1913	Flash 2 seconds; eclipse 4 seconds. It is replaced annually by an unlighted buoy during the Monsoon, S. W.
298	....	Granite tower, black and white bands, 18 feet wide, black at base.	144	160	D., 1st Ord. 290.	1865 1902 1909	Flash, $\frac{8}{10}$ seconds; eclipse $9\frac{2}{10}$ seconds.
299	....	Light-vessel, with one mast painted red. By day carries 2 red balls at masthead. *Baragua* on sides.	45	..	C., 8 ..	1896	Red and white flashes alternately each flash being of 5 seconds duration. During a fog two guns will be fired in succession at the hour and half hour.
300	....	Light-vessel, with one mast painted red. By day carries a red ball at masthead. *Krishna* on sides.	43	..	C., 12 ..	1877 1893	Two flashes, *viz.*:— Flash, $1\frac{1}{4}$ seconds; eclipse, 4 seconds; flash $1\frac{1}{4}$ seconds, eclipse, $22\frac{1}{2}$ seconds. Shows a blue light every half hour from 7 P.M. to 5 A.M. (from 25th March to 31st October).
301	....	Light-vessel, one mast, China Bakir, on sides.	50	..	C., 8 ..	1922	Flash *two seconds*.
302	....	Light buoy B. W. H. S.	..	..	AGA—LIGHT 200—C.P.	1913 1923	One quick flash.
303	....	LIGHT BUOY-BLACK	..	..	Do. ..	1923	

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.	Character of light.	Period of revolution or flash.	Miles visible in clear weather.
304	*SPIT*	$2\frac{8}{10}$ miles 122° from Elephant point.	16° 17′	96° 22′	1 White	F.		12
305	Centre spit ..	On centre spit ..	..	..	1 White	F.	..	..
306	Elephant Point.	On Elephant Point — rear.	16° 29′	96° 20′	1 White	F.	..	5
307		On Elephant Point — front	..	..	1 White	F.	..	5
308	EASTERN GROVE.	East side of entrance to river.	16° 30′	96° 23′	1 White	Occ.	Ten seconds.	15
309	DESERTER'S CREEK ..	Front ..	16° 30′	96° 18′	1 White	F.	..	..
310		2¼ miles North-West of Elephant Point. REAR ..			1 White	F.		
311		Front ..			1 White	F.		
312	DEVIL'S HOLE ..	FRONT ..	16° 39′	96° 16′	1 White	F.	..	..
313		On east bank of river. REAR ..			1 White	F.		
314		FRONT ..			1 White	F.		
315								
316	*WESTERN CHANNEL*—	FRONT ..	..	..	1 White	F.	..	..
317		5 cables West of Da Silva North point. REAR ..			1 White	F.		
318								
319	CHOKEY POINT	FRONT ..	..	..	1 White	F.	..	..
320		On Chokey Point. REAR ..			1 White	F.		
321								
322	Hastings shoal	Eastern edge of Hastings shoal.	..	..	1 White	F.		3
323	LOWER MONKEY POINT.	MONKEY POINT Channel.	..	..	1 White	Fl.	Six seconds.	8
324	UPPER MONKEY POINT.	Ditto.	..	..	1 White	F.	..	3
325	GREEN ISLAND	South entrance to Moulmein river.	16° 04′	97° 33′	1 White	Fl.	Fifteen seconds.	17

RANGOON RIVER.

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height in feet of centre of lantern above highwater.	Height, in feet of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	REMARKS.
304	....	Light-vessel, one mast. *Spit* on sides.	50	..	D., ½ ..	1887 1898 1909	The vessel is moved as necessary to meet the changes in the channel.
305	....	Light buoy painted black.	..	..	....	..	
306	....	Wooden mast ..	33	..	Lantern ..	1890 1909	Altered to suit channel. Leading lights in line 284°; 140 yards apart. Telegraph to Rangoon. Storm signals.
307	....	Do. ..	15	..	Do ..	..	
308	Visible from 329°, through north, to 037°.	Iron screw piles, painted red, with white lantern. Lower piles painted black.	93	105	D., 18 ..	1860 1896 1908	Eclipse, two seconds. A faint light is seen from 307° to 329°.
309	....	Wooden mast ..	20	..	5th order ..	1900 1912	Lower leading lights in line 290°, 195 yards apart. Upper leading lights in line 154°, 200 yards apart.
310	....	Do. ..	40	..	Do. ..	..	
311	....	Do. ..	30	..	Mast head lantern.	..	
312	....	Iron standard ..	24	..	5th order ..	1901 1910	Lower leading lights in line 14°, 200 yards apart. Upper leading lights in line 116°, 157 yards apart.
313	....	Do. ..	54	..	Do. ..	..	
314	....	Wooden mast ..	25	..	Mast head lantern.	..	
315							
316	....	Iron standard ..	34	..	5th order ..	1901 1910	Leading lights in line 172°, 190 yards apart.
317	....	Do. ..	54	..			
318	....	Wooden mast ..	25	..	Mast head lantern.	1901	Leading lights in line 330°, 104 yards apart.
319	....	Do. ..	40	..			
320							
321							
322	....	Black conical light buoy.	..	..	....	1911 1923	....
323	....	Light buoy painted black.	..	..	"Aga" Light Buoy 200 C. P.	1923	....
324	....	Do. ..	..	..	....	1923	
325	....	Masonry tower, red and white bands.	135	65	D., 3rd Ord. 72.	1903 1909	Flash 3 seconds.

from seaward.

No.	Name of Light.	Position.	Latitude, N.	Longitude, E.	Number and colour of lights. Fog signal.		Character of light.	Period of revolution or flash.	Miles visible in clear weather.
326	DOUBLE ISLAND.	North point of island.	15° 53′	97° 35′	1	White	Occ.	Twenty seconds.	17
327	Tavoy River. REEF ISLAND.	West side of river river entrance.	13° 36′	98° 13′	1	White	Occ.	Ten seconds.	12
328	Tavoy River. Tsinbyubin ..	Near the landing.	13° 51′	98° 15′	1	White	F.	..	9
329	Mergui Harbour (U).	In 10 feet of water off Kalwin point.	12° 29′	98° 35′	1	White	F.	..	9
330									
331	PAKCHAN RIVER. Victoria point	River entrance ..	9° 58′	98° 33′	1	White	F.	..	6
332	PAKCHAN RIVER. Goh Phi ..	Do. ..	9° 58′	98° 35′	1	White	F.	..	3
333	PAKCHAN RIVER. SPITEFUL ROCK.	Do. ..	9° 52′	98° 27′	1	White	Fl.	..	15
334									
335	Pak Kruen inlet ..	S. shore abreast anchorage.	9° 01′	98° 20′	1	White	F.	..	..
336 to 345									

ANDAMAN

346	TABLE ISLAND.	S. W. end of Island, 2 miles north of Great Coco island.	14° 11′	93° 22′	1	White	Gp. Fl.	Ten seconds.	20
347	PORT BLAIR. PORT BLAIR.	Northern end of Ross island.	11° 41′	92° 45′	1	White	F.	..	13
348									
349	PORT BLAIR.	On point 230 yards 276½° from centre of Cellular Jail (Front).	11° 41′	92° 45′	1	Red	F.	..	3
350	PORT BLAIR. Atlanta point	903 feet 215° from lower (front) light. (Rear).	..	..	1	Red	F.	..	3
351	PORT BLAIR. South point	On end of pier (Front).	11° 4′	92° 45′	1	Green	F.	..	3
		595 feet 168½° E. from above.(Rear)	..	..	1	Green	F.	..	3

All bearings are true

No.	Arc of illumination.	General description of building or vessel.	Height, in feet, of centre of lantern above highwater.	Height, in feet, of building from base to vane.	Character and candle power or order of illuminating apparatus.	Year established or altered.	Remarks.
325	Visible from 353°, through north, to 173°.	Masonry tower, painted white.	120	61	D., 1st Ord. 35.	1865 1910 1911	A faint light is visible elsewhere.
326							
327	Visible from 164°, through south, to 007°.	White square masonry tower, circular lantern.	309	31	D., 3rd Ord 1½.	1883 1916	Eclipse two and-a-half seconds. Storm signals at Tavoy.
328	....	Iron column ..	20	..	D., 6th Ord. under 1/10.	1908	
329	....	White iron, pile beacon.	25	..	Wigham's patent lamp.	1904 1907	Storm signals. Unreliable (1922).
330							
331	....	Iron mast ..	162	76	D., 6th Ord.	1908	
332	....	Stone tower ..	48	..	....	..	Occasional.
333	....	White circular tower, dome-shaped top.	180	20	....	1908	The top of the tower shows just clear of the trees which cover the island.
335 to 345	....	....	..	..	....	..	Occasional.

ISLAND.

346	Obscured from 348° through west, to 013° and from 031° to 039°.	Cast iron circular tower with alternate red and white bands.	195	91	D., 2nd Ord. 210.	1867 1909	Shows two flashes of one quarter of a second each; eclipse, between flashes; one and-a-half second between groups, eight seconds. Storm signals.
347	Visible from 045°, through east, to 020°.	Steel framework on N.-E. corner of barracks, a large dark stone building with battlements.	163	56	D., 18 4th Ord. Electric light.	1888 1917	Two fixed red lights are also shown from the ends of wooden pier on Ross Island; and red and green lights from ends of piers, Sesostris Bay. (Storm signals.)
348							
349	....	White tower ..	70	7	Lanterns each under 1/10.	1905	Lights in line 214°, 300 yards apart, lead into the harbour.
350	....	....	144	7	Do. ..	1905	
351	....	White tower ..	7	7	Do. ..	1905 1917	Lights in lin 168°, 215 yards apart, lead to the anchorage off Ross island.
	....	Do. ..	49	11	....	1905 1917	

from seaward.

LIST OF VISUAL TIME SIGNALS

UNIFORM TIME SYSTEM

Table showing certain Countries East from Greenwich have adopted a standard meridian.

EAST FROM GREENWICH (FAST).

Name of Country, etc.	Standard Meridian.		Time.		
	°	′	H.	M.	S.
Egypt, Portuguese East Africa, Union of South Africa ..	30	00	2	00	00
British East Africa	37	30	2	30	00
Aden ; British Somaliland	Aden.		2	59	54
Benadir ; Britrea ; French Somalilard ; Italian Somaliland ; Madagascar	45	00	3	00	00
Mauritius ; Réunion ; Seychelles	60	00	4	00	00
Chagos Archipelage ; Portuguese India	75	00	5	00	00
Ceyon ; India (except Calcutta and Portuguese (India) Laccadive Island	82	30	5	30	00
Burma ; Andaman and Nicabar Ias	97	30	6	30	00

SYSTEM OF TIME-KEEPING AT SEA BY MEANS OF TIME ZONES.

The following uniform system of time-keeping at sea has been adopted in the Navies of Great Britain, Argentine, Chile, China, Denmark, France, Germany, Greece, Italy, Japan, Portugal, Siam, Spain and the United States :—

The system has been adopted to ensure vessels at sea within certain defined limits of longitude keeping the same time in a similar manner to that now used on land, where, for example, London, Plymouth and Dover all keep the same time and not the local time of each place ; the ship's clock will therefore now be set to show the time of a definite hourly meridian, instead of being set to an indefinite time selected by the ship.

The world is considered as being longitudinally divided into 24 zones of 15° each, the centre of the system being the meridian of Greenwich, theoretically the centre division therefore lies between the meridian of 7½° east and that of 7½° west, and is described as zone 0 ; the zones lying to the eastward being numbered in sequence up to 12 with a *minus* (—) prefix ; those lying to the westward being similarly numbered with a *plus* (+) prefix. The 12th zone is divided centrally by the 180th meridian, and both prefixes (+) and (—) appear in this zone.

In actual practice the boundaries of time zones on land are determined by the frontiers of countries, etc., and agree generally with those at sea, which will now be defined by the meridians of 7½°, 22½°, etc., except when modified as necessary by the territorial limits of the countries concerned.

By this system the same time will therefore be kept whether on land or sea throughout each zone (except during the periods of Summer Time), and in different zones the times will differ from one another by an integral number of hours, the minutes and seconds in all zones remaining the same.

Examples.—Greenwich Mean Time will be kept in zone 0. In zone — 8 the time kept will be 8 hours in advance of Greenwich Mean Time, while in zone + 8 it will be 8 hours behind that of Greenwich.

It will thus be seen that in order to obtain Greenwich Mean Time in any zone, the number of hours given by the zone number + or — must be added to or subtracted from the ships' zone time.

It should be noted that the "zone description" of the time kept by a vessel is not necessarily the number of the zone in which she is, *e.g.*, if a vessel in British home waters is keeping summer time the zone description of the time is "— 1".

The time kept by any vessel, if she is not in the open sea, will depend on local orders and arrangements.

The foregoing system is fully illustrated on British Admiralty Chart No. D 6.

GULF OF ADEN.

No.	Name.	Year established or last altered.	Position. Latitude N. Longitude E.	Signal adopted.	Time of signal being made. Greenwich Mean Time.	Time of signal being made. Standard Time.
			° ′ ″		h. m. s.	h. m. s.
501	Jibuti ..	1919	11 35 00 43 09 00	Gun * ..	5 00 00	8 00 00
502	Aden	..	Signal station, Shamshan 12 47 00 44 59 00	Code pendant ..	21 00 06	0 00 00†
503	Aden	..	Ras Marbut .. Gun * ..	Code pendant ..	21 00 06 ..	0 00 00† ..

INDIA.

No.	Name.	Year established or last altered.	Position. Latitude N. Longitude E.	Signal adopted.	Time of signal being made. Greenwich Mean Time.	Time of signal being made. Standard Time.
504	Karachi ..	..	Beacon on low sandy spit south side of Baba channel. 24 49 04 66 57 46	Ball ..	20 30 00	2 00 00
505	Bombay	..	Tower on north-east bastion of Bombay Castle. 18 55 51 72 50 33	Ball, diameter 6 feet.	20 30 00	2 00 00
506	Bombay	..	Clock tower of Princes and Victoria docks. 18 57 13 72 50 46	Ball, diameter 6 feet.	15 00 00	20 30 00

CEYLON.

No.	Name.	Year established or last altered.	Position. Latitude N. Longitude E.	Signal adopted.	Time of signal being made. Greenwich Mean Time.	Time of signal being made. Standard Time.
507	Colombo ..	1914 1919	Master, attendant's office 6 56 00 79 50 30	Ball, diameter 6 feet.	15 30 00 19 30 00 22 30 00	21 00 00 1 00 00 4 00 00
508	Madras	.. 1917	Signal tower of Harbour office. 13 05 47 80 17 48	Red ball ..	19 30 00	1 00 00
509	Madras	..	Fort St. George ..	Gun* ..	18 30 00 2 30 00	0 00 00 8 00 00

* When the flash of a gun cannot be seen, the sound of the report may be made use of as an approximate Sound travels about 1,090 feet in a second of time, at a temperature of 32° Fahrenheit, and the speed increaes be relied on, as the path of the wave may not be direct on account of the interposition of imperious clouds.

GULF OF ADEN.

No.	ADDITIONAL DETAILS.	
501	Fired at 8h 00m 00s Standard time. Time is regulated by w reless station which receives the time signal from Eiffel tower, Paris.	
502	Pendant hoisted 5 minutes before the signal and dipped at Noon, Loca mean time. This signal is unofficial.	Temporarily discontinued, 1918.
503	Pendant hoisted 5 minutes before the signal and dipped at Noon, Local mean time. Fired when the pendant is dipped. Unreliable.	Temporarily discontinued, 1918.

WEST COAST.

504	Ball hoisted at 5 minutes before the signal, and dropped, electrically, from the observatory on Manora island at 2h 00m 00s, Standard mean time. If the signal cannot be made, a blue flag will be hoisted. Should the signal fail, a red flag will be hoisted, and the signal repeated at 3h 00m 00s, Standard time. Signal not made on Sundays.
505	95 feet above high water, 70 feet above ground, drop 18 feet. Ball hoisted at 5 minutes before the signal, and dropped, electrically from Kolaba observatory at Noon, Standard time. If the signal cannot be made, a flag will be hoisted and dipped. Should the signal fail, a flag will be hoisted, and the signal repeated at 3h 00m 00s, Standard time. Signal not made on Sundays. A clock, having a second hand, in the dome of the tower, beats electrically in unison with the clock at Kolaba observatory, and indicates practically exact Standard mean time.
506	121 feeet above high water, 115 feet above ground, drop 16 feet. Ball hoisted at 5 minutes before the signal, and dropped, electrically from Kolaba observatory, at 20h 30m 00s, Standard time. Should the signal fail, a flag will be hoisted, and the signal repeated at 21h 30m 00s, Standard mean time. Signal not made on Sundays.

CEYLON.

507	103 feet above high water, 63 feet above ground, drop 13 feet. Ball hoisted halfway up at 5 minutes, close up at 2 minutes before the signal, and dropped electrically from Colombo observatory at 21h 00m 00s, 1h 00m 00s and 4h 00m 00s, Standard time. Signal made daily. On Sundays and public holidays the ball will be dropped at 21h 00m 00s only. Under certain circumstances the signals will be made at other times on application to the master attendant. Should the signal fail, the ball will remain hoisted for 15 minutes and a green flag will be shown from the Colombo signal mast for 30 minutes.
508	Ball dropped daily electrically, from Madras observatory at 1h 00m 00s Standard time. Should the signal fail, the International code flags signifying *failed* are hoisted and kept flying for half an hour, the signal being repeated at 2h 00m 00s, Standard time.
509	Fired at Noon and 8h 00m 00s, Standard time.

indication of the time, by allowing for the interval necessary for the sound to travel the intervening space. at the rate of 1·15 feet per second for each degree of temperature above 32°. In fog the use of sound is not to

BAY OF BENGAL.

No.	Name.	Year established or last altered.	Position. Latitude N. Longitude E.	Signal adopted.	Time of signal being made. Greenwich Mean Time.	Time of signal being made. Standard Time.
			° ′ ″		h. m. s.	h. m. s.
510	Calcutta	..	Semaphore tower at Fort William. 22 33 25 88 20 12	Ball ..	19 06 39·2	1 00 00†
511		..	Kidderpur docks tower .. 22 32 51 88 18 42	Ball ..	19 06 39·2	0 59 54†
512		..	At the Port Commissioner office. 22 34 25 88 20 42	Ball ..	19 06 39·2	1 00 02†
513		..	On Port Commissioners office.	Flag ..	19 06 39·2	1 00 02†
514	Rangoon	..	Square tower of Mayo Marine institute. 16 45 00 96 10 00	Ball ..	17 35 20	0 00 00†
515		..	....	Gun* ..	17 30 00	0 00 00
516	Moulmein ..	..	16 29 00 97 37 00	Gun* ..	17 30 00	0 00 00
517	Port Blair, Andaman islands.	1919	At the wireless station, about 2 cables westward of South point. 11 40 00 92 46 00	Ball ..	19 30 00	1 40 00†

* *See* Note, page 61.

† Local mean time.

BAY OF BENGAL.

No.	ADDITIONAL DETAILS.
510	128 feet above high water, 106 feet above ground, drop 6½ feet. Ball hoisted at 5 minutes before the signal, and dropped at 1h 00m 00s, Local mean time. Indian Standard time, 5½ hours fast on Greenwich mean time, is only used in the post and telegraph offices in Calcutta.
511	84 feet above water, 73 feet above ground, drop 6 feet. Ball hoisted at 5 minutes before the signal and dropped at 1h 00m 00s, mean time of Fort William.
512	116 feet above high water, 90 feet above ground. Ball hoisted at 5 minutes before the signal, and dropped at 1h 00m 00s, mean time of Fort William.
513	Hoisted at 20 minutes before the signal.
514	Ball hoisted at 5 minutes before the signal, and dropped at Noon, Local mean time. Should the signal fail, it will be repeated at 1h 00m 00s, Local mean time.
515	Fired at Noon, Standard time.
516	Fired at Noon, Standard mean time. Unreliable, should not be used for rating chronometers. Not fired on Sundays.
517	Ball hoisted 10 minutes before the signal, and dropped at 1h 40m 00s, Local mean time. Signal made on Thursdays and Fridays only. Unreliable.

NAME.	No.
A	
Abu Shahr (Bushire)	47—49
Aden	16—18, 502—503
Adriampatnam	239
Aguada	141—145
Alexandra Dock	123—124
Alguada Reef	298
Alibagh	130
Alleppi	178—179
Ammapatam	238
Andamans Id.	346—351
Anjanvel	134
Armaghon	255
Arnala	108
Atlanta Point	350
B	
Bahrein	31—33
Baiie Point (Perim)	12
Baragua (light-vessel)	299
Barberyn	209
Baroni Rock	297
Baruva	267
Bassein	109
Bassos (Great and Little)	213—214
Battiealoa	215
Beacon Island	294
Beit Harbour	76
Berbera	1—3
Bhatkál	162
Bhagwádandi	102
Bháunagar	95—96
Bimlipatam	264
Bombay Harbour	112-129, 505-506
Bombay (light-vessel)	113
Broach (Lahara Point)	101
Bulhar	4
Bulsar (Kosamba)	104
Burnt Islets	142
Bushire	47
C	
Cahp	167
Calcutta	510—513
Calicut	173—175
Calimere Point	240
Cambay Gulf of	90—104
Cambay, light-boat	99
Campal	148
Cape Comorin	183
,, Monze	63
Chahbar	56
Chiquilim	154
China Bakir	301—303
Chokey Point	319—320
Chittagong	289
Cocanada	260—261
Cochin	177
Colombo	196—207, 507
Cotta Point	172
Cuddalore	243
D	
Dabhol	133—135
Damán Port	105—107
Damao	105
Deogarh	139
Devils Hole	312—314
Devjagan	100
Deserter Creek	309—311
Diamond Island	296
Diu	85—88
Diu Harbour	85—87
Diu Head	84
Dolphin Rock	117
Dondra Head	211
Dongri Point	110
Double Island	320
Dwárka Point	72

NAME.	No.
E	
Eastern Channel (light-vessel)	277
,, Grove ..	308
Elephant Point	306—307
Elephant's Back (Aden) ..	17
F	
False Point ..	272
Fao ..	43
Foul Point ..	216
G	
Gabtola (light-vessel) ..	286
Galle, Point de— ..	210
Ganaveh ..	46
Gaspar Channel ..	46
Goa ..	26
Goapnáth ..	92
Gogo ..	94
Goh Phi ..	332
Gopálpur ..	268
Great Basses ..	213
Green Island ..	325
H	
Hambantota ..	212
Hangarkotta ..	165
Hare Island (Tuticorin) ..	32
Harnai (Herni) ..	132
Hastings ..	322
Henjam ..	52
High Light, Perim ..	11
Honawar ..	161
Hughli River	276—287
I	
Intermediate (light-vessel) ..	278
J	
Jáfarábád ..	90
Jaigarh ..	136
Jashk ..	55
Jezirat Tanb ..	51
Jibuti	6—8, 501
Juria Bandar ..	72
K	
Kais Id. ..	50
Kalingapatam ..	266
Kankesanturai ..	222
Karachi	64—67, 504
Karanja beacon ..	127
Karanja Reefs buoy ..	128
Karikal ..	242
Karumbhar Island ..	75
Karwar ..	158
Kasaba Point ..	44
Kishm Island ..	54
Kotapilli ..	184
Kovilam Point ..	224
Krishna Shoal (light-vessel) ..	300
Kumta Point ..	160
Kundapur ..	164
Kundari Island ..	129
Kutch, Gulf of	68—76
Kutpur ..	91
Kutubdia ..	290
Kuweit ..	34—36

Name.	No.
L	
Lahara Point	20
Little Basses	214
Little Quoin Island	30
Lower Gasper (light-vessel)	279
M	
Madras	249—252, 508—509
Mahabalipur	247
Mahé	171
Makalla	19
Maldive Island	190
Malim	149
Mallipuram	176
Malwan	140
Malwan (light vessel)	141
Manapad Point	185
Mandaitivu Island	223
Mandovi River	147—151
Mándvi	68—69
Mangalore	168
Mangrol	82
Manora Point	64
Marshag Ras	18
Maskat	21—22
Matla (light-vessel)	287
Mergui Harbour	329
Middleton (light-vessel)	283—284
Minikoi	189
Monkey Points	323—324
Moulmein	516
M—*contd.*	
Marmagao	152—155
Mulpi	161
Muletivu	220
Muttum Point	182
N	
Navibandar	81
Navinar	70
Nawabandar	89
Negapatam	241
North Channel beacon	118
O	
Ona Gala	196
Oyster Island	292
,, Rock	157
P	
Pakchan River	331—333
Pak Kruen inlet	335
Pamban Pass	236
Pedro Point	221
Perim Harbour	13—15
Perim Island	11—15
Peritan Island	74
Persian Gulf	21—56
Pilot's Ridge (light-vessel)	276
Piram Island	93
Point Calimere	240
,, de Galle	210
,, Victoria	331
Pondicherry	244—245
Porbandar	18
Port Blair	347—351, 517
Prince's Dock	119—120
Prongs	114—115
Pulicat	254
Puri	271
Q	
Quilon	180
Quoin Island (Little)	30

NAME.	No.
R	
Rájapur ..	138
Rajpuri Point ..	131
Rangoon River	304-323, 514-515
Ras-al Ajuza ..	35
Rasal Arz ..	34
Ras-al Bir ..	10
Ras-al-Mashia ..	53
Ras Marshag ..	18
Ras Zarwan ..	32
Ratnagiri ..	137
Reef Island ..	327
Reis Magos ..	151
Rojhi ..	73
Ross Island ..	347
Round Island ..	217
S	
S. Jacinto ..	155
Sacramento ..	258
Santopilli ..	265
Satan's Gap ..	45
Saugor Island ..	285
Savage Island ..	293
Shatt-al-Arab	37—45
Short Island ..	273
South Patches (light-vessel).	291
South Point ..	351
Spit (light-vessel) ..	304
Spiteful Rock ..	333
Sunk Rock ..	116
T	
Table Island ..	346
Tadri River ..	159
Tajura Gulf ..	9
Talamanaar	225—226
Tangacheri Point ..	180
Tapti ..	103
Tavoy River	327—328
Tekra Island ..	71
Tejo ..	147
Tellicherri ..	170
Thall Shoal ..	112
Tolkeshwar ..	133
Tondi ..	237
Trincomali Bay	216—217
Trivendrum ..	181
Tsinbyubin ..	328
Tucker Beacon ..	125
Tuna ..	71
Tuticorin	186—187
U	
Uarashi ..	111
Upper Gasper (light-vessel) ..	282
Uran Shoal ..	126
V	
Vakalapudi ..	259
Vengurla	142—143
Verával ..	83
Verem ..	150
Victoria Dock	121—122
Victoria Point ..	331
Vizagapatam ..	263
W	
Western Channel	316—317
Whittiebandar ..	98
Z	
Zeila ..	5

BOMBAY: PRINTED AT THE GOVERNMENT CENTRAL PRESS.