Nos 321-2 of 30-7-86.
Examiner

B. No. 1855 W. dt 22 July 1886

Communicated to
Suptg. Engrs. Concerned,
for information.

17-7-86

S.W.C. No 3665

Govt. of {1886} Madras.

MARINE.

Issued

Recd. 21st July 1886 Encl.

G.O., &c., 29th June 1886,
Nos. 348, 349.

B. No. 1855 W. dt 22nd July 1886

JUNE.

Suptg. Engrs I, II, IV, V +
VI Circles.

Despd
22/7/86

Lighthouses.

Directing that the annual report on lights in the Madras Presidency for the official year 1885-86 be forwarded to the Government of India.

Entd in S.R.
4/8

Os. 954/7.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following paper :—

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Chief Secretary to Government, dated Madras, 17th June 1886, No. 5322.

Administrative Department.

I have the honor to forward the annual report on the Madras lights for the official year 1885-86. In order to avoid further delay in its transmission, I was compelled to close the statement of expenditure annexed thereto without waiting for the supplemental statement of expenditure on account of repairs, &c., in connection with lighthouses and other marine buildings from the Examiner, Public Works Accounts, on hearing from him that he could not close his books before the 15th July next, and that he could not therefore furnish the supplemental statement at once.

ENCLOSURES.

REPORT on the Lights of the Madras Presidency for the Official Year 1885-86.

During the official year 1885-86 the general efficiency of the lights was maintained throughout except at Pámban, which will be noticed further on. The Chief Engineer, Public Works Department, and the Master Attendant, Madras, the two inspecting officers of lighthouses appointed by Government, inspected most of the lights, and it was pointed out in the report submitted by the Chief Engineer that it was impossible to carry out properly the duty in question owing to a suitable steamer not being provided for the conveyance of the inspecting officers. Such lighthouses as had not been visited were to be inspected by the Superintending Engineers in company with the Port officers concerned. On the recommendation of the Chief Engineer, Public Works Department, and the Master Attendant, Madras, the following were the most important improvements, &c., ordered by Government to be carried out. The Hope Island light was to be replaced by a new 4th order dioptric, white, fixed light. The Government of India was requested to call the attention of the Right Honorable the Secretary of State to the requisition which had been submitted for a 2nd-class light for the Santopilly lighthouse. Permanent buildings were sanctioned to be erected for the lascars attached to the Pulicat and Armeghon lighthouses at a cost of Rs. (3,640) three thousand six hundred and forty, and similar quarters ordered for the lightkeepers at Vakalapudi. A general examination and testing of the lightning conductors of the different lighthouses were to be carried out. It was noted in the Chief Engineer's report that complaints were made of the strength of the Pámban light and the lamp probably required more attention. The Port officer in charge of the light was duly communicated with by the Master Attendant, Madras, so as to ensure proper attention being paid to the burning of the light, and no further grounds were given for complaints. Owing to the recent wrecks on the Tripalore reef the Master Attendant, Madras, urged the advisability of placing a light on the spot to warn vessels off the danger, and recommended the Seven Pagodas as the best site for the new light. The 4th order dioptric light exhibited at Santopilly was to be utilized for the Seven Pagodas light, a new 2nd order light having been sanctioned for Santopilly. The lights of this Presidency are distributed as shown below and their establishments comprise four Superintendents on Rs. 70, three on Rs. 100, and one on Rs. 125, besides seventy-eight Assistant Superintendents and lightkeepers whose salaries range at Rs. 21, 15, 12, 11, 10, 9, 8, 7, and 6 per mensem. The total expenditure for the year on account of establishments and other charges amounted to Rs. 31,610-8-5, viz., establishments

Rs. 16,676-12-6; contingencies Rs. 8,307-15-1; and Public Works charges Rs. 6,625-12-10. Kerosene oil is used by most of the lighthouses, and cocoanut oil by the rest, three in number. The average annual cost of kerosene and cocoanut oil for each light was Rs. 144 and Rs. 997-8-4 respectively :—

East Coast Lights.

1. Gopálpur	Flagstaff	3rd Order	Country made	Fixed	White.
2. Calingapatam	Lighthouse	3rd Do.	Do.	Do.	Do.
3. Santopilly	Do.	4th Do.	Dioptric	Do.	Do.
4. Vakalapudi	Do.	4th Do.	Catoptric	Revolving	Do.
5. Hope Island	Do.	1st Do.	Country made	Fixed	Do.
6. Masulipatam	Flagstaff	6th Do.	Dioptric	Do.	Do.
7. Point Divi	Lighthouse	4th Do.	Do.	Flashing	Do.
8. Armeghon	Do.	4th Do.	Do.	Fixed	Do.
9. Pulicat	Do.	4th Do.	Do.	Flashing	Do.
10. Madras	Do.	English Catadioptric.	Reciprocating	Flashing	Do.
11. Negapatam	Do.	4th Order	Dioptric	Fixed	Do.
12. Pámban	Do.	4th Do.	Catadioptric	Do.	Do.
13. Tuticorin	Do.	4th Do.	Dioptric	Do.	Do.

West Coast Lights.

14. Muttum	Lighthouse	1st Order	Dioptric	Fixed	White.
15. Cochin	Do	4th Do.	Catadioptric	Do.	Do.
16. Beypore	Flagstaff	A globular lantern.			Red.
17. Calicut	Lighthouse	4th Order	Dioptric	Fixed	White.
18. Tellicherry	Do	6th Do.	Do.	Do.	Do.
19. Cannanore	Do	6th Do.	Do.	Do.	Red.
20. Mangalore	Do	4th Do.	Do.	Do.	White.

STATEMENT of expenditure of Lighthouses of the Madras Presidency for 1885-86.

	Amount. RS. A. P.	Total. RS. A. P.
Gopálpur Light.		
One Assistant Superintendent	120 0 0	
Two Lascars	192 0 0	
Oil	170 0 0	
Stores	9 8 0	
Contingencies	31 13 1	
		523 5 1
Calingapatam Light.		
One Assistant Superintendent	120 0 0	
Two Lascars	192 0 0	
Oil	59 10 0	
Stores	85 8 0	
Contingencies	21 5 6	
		478 7 6
Santopilly Lighthouse.		
One Superintendent	840 0 0	
One Assistant Superintendent	180 0 0	
Four Lascars	360 0 0	
Oil	93 8 0	
Stores	....	
Contingencies	7 15 0	
Public Works charges for repairs	142 0 0	
		1,623 7 0

	Amount. RS. A. P.	Total. RS. A. P.
Vakalapudi Lighthouse, Cocanada.		
One Superintendent	1,289 10 8	
One Assistant Superintendent	161 14 10	
Four Lascars	360 0 0	
Oil	85 0 0	
Stores	53 4 0	
Contingencies	62 8 0	
Public Works charges for repairs	318 15 0	
		2,331 4 6
Hope Island Lighthouse.		
One Superintendent	840 0 0	
One Assistant Superintendent	144 0 0	
Four Lascars	372 0 0	
Oil	1,275 7 0	
Stores	52 5 0	
Contingencies	662 7 0	
Public Works charges for repairs	137 15 10	
		3,484 2 10
Masulipatam Light.		
Two Lascars	168 0 0	
Oil	102 0 0	
Stores	5 3 0	
Contingencies	15 12 0	
		290 15 0
Point Divi Lighthouse.		
One Superintendent	840 0 0	
Five Lascars	427 15 6	
Oil	204 0 0	
Stores	33 3 0	
Contingencies	52 10 11	
Public Works charges for repairs	601 6 5	
		2,159 3 10
Armeghon Lighthouse.		
One Superintendent	1,200 0 0	
Five Lascars	396 0 0	
Oil	127 8 0	
Stores	85 3 0	
Contingencies	48 10 2	
Public Works charges for repairs	1,303 13 4	
		3,161 2 6
Pulicat Lighthouse.		
One Superintendent	919 1 4	
Five Lascars	396 0 0	
Oil	170 0 0	
Stores	69 14 0	
Contingencies	113 9 0	
Public Works charges for repairs	363 0 3	
		2,031 8 7
Madras Lighthouse.		
One Superintendent	*1,500 0 0	
One Assistant Superintendent	252 0 0	
Four Lascars	504 0 0	
One Sweeper	12 0 0	
One Washerman	12 0 0	
One Toty	12 0 0	
Oil	1,657 8 0	
Stores	214 5 6	
Contingencies	30 8 0	
		4,194 5 6

* Including house-rent Rs. 25 per mensem.

	Amount. RS. A. P.	Total. RS. A. P.
Negapatam Lighthouse.		
One Assistant Superintendent	120 0 0	
Two Lascars	180 0 0	
Oil	85 0 0	
Stores	18 2 0	
Contingencies	16 4 7	
		419 6 7
Pámban Lighthouse.		
One Assistant Superintendent	120 0 0	
One Lascar	94 0 0	
Oil	127 8 0	
Stores	395 6 0	
Contingencies	68 2 2	
		805 0 2
Tuticorin Lighthouse.		
One Assistant Superintendent	144 0 0	
Four Lascars	360 0 0	
Oil	42 8 0	
Stores	29 12 0	
Contingencies	37 3 0	
		613 7 0
Muttum Lighthouse.		
One Superintendent	1,500 0 0	
One Head Lightkeeper	180 0 0	
Four Lascars	336 0 0	
Oil	510 0 0	
Stores	227 6 0	
Contingencies	197 15 9	
Public Works charges for repairs	3,758 10 0	
		6,709 15 9
Cochin Lighthouse.		
One Assistant Superintendent	144 0 0	
Two Lascars	201 0 0	
Oil	255 0 0	
Stores	6 14 0	
Contingencies	15 2 4	
		622 0 4
Calicut Lighthouse.		
One Assistant Superintendent	120 0 0	
Three Lascars	276 0 0	
Oil	127 8 0	
Stores	12 6 0	
Contingencies	26 7 11	
		562 5 11
Beypore Lighthouse.		
One Lightkeeper	120 0 0	
Oil	42 8 0	
Stores	46 0 0	
Contingencies	3 12 0	
		212 4 0
Tellicherry Light.		
One Assistant Superintendent	120 0 0	
Two Lascars	180 0 0	
Oil	85 0 0	
Stores	7 3 0	
Contingencies	22 7 3	
		414 10 3

	Amount. RS. A. P.	Total. RS. A. P.
Cannanore Lighthouse.		
One Assistant Superintendent	120 0 0	
One Lascar	95 0 0	
Oil	136 0 0	
Stores	7 2 0	
Contingencies	15 9 6	
		373 11 6
Mangalore Lighthouse.		
One Assistant Superintendent	110 0 0	
Four Lascars	346 2 2	
Oil	85 0 0	
Stores	13 4 0	
Contingencies	45 6 5	
		599 12 7
Total		31,610 8 5

LIST OF LIGHTS IN THE MADRAS PRESIDENCY.

Names of lights.	Location.	Position. Latitude.	Position. Longitude.	Color of lights.	Fixed, flashing, intermitting, alternating or revolving.	Interval of revolution or flash.	Miles visible in clear weather.	Height in feet of centre of lantern above high water.	Height in feet of building from base to vane.	Arc of illumination (bearings are magnetic and from seaward).	Nature of construction, color, or any peculiarity of light-house.	Character and order of illuminating apparatus.	Year lighted.	Remarks.
		N. DEG. M. S.	E. DEG. M. S.				MILES.	FEET.	FEET.					
Gopálpur ..	On mainland sixty yards from low-water mark.	19 13 0	84 52 0	White.	Fixed..	..	10	85	..	180°, or the whole sea horizon.	Flagstaff painted white.	Third-class, country-made.	1871.	Intended as a guide to vessels making the anchorage at night, and exhibited at the special requisition of Commanders of the British India Steam Navigation Company's mail steamers.
Calingapatam ..	On the Point ..	18 19 0	84 7 30	Do. ..	Do. ..	..	8	68	73	..	Obelisk of cut stone, column white, capital dark blue.	Do. ..	15th December 1876.	Intended to warn vessels off a small reef which projects from the Point, and which should not be passed in less than eight fathoms when making the port at night.
Santopilly ..	On Santopilly Hill, three-quarters of a mile inland.	18 4 56	83 37 35	Do. ..	Do. ..	..	14	169	31	180°, facing S.E.	On the roof of a house.	Dioptric, 4th order.	1st November 1849; improved 1871.	Exhibited to warn mariners off the Santopilly Rocks, from which this light bears N.W. ⅝ W., distance 6½ miles.
Cocanada (Vakalapudi.)	Four-and-three-quarter miles north of Cocanada river, 500 yards from the shore.	17 0 40	82 16 30	Do. ..	Revolving.	A flash every 10 seconds.	14	80	76	In every direction seaward.	White column..	Catoptric, 4th order.	15th January 1879.	This light is intended to lead vessels clear of the shoals to the northward of Point Godávari when coming into the Cocanada anchorage from the southward and eastward.
Coringa or Hope Island.	On the southern part of Hope Island and distant about two-and-a-half miles from the sea.	16 49 5	82 18 58	Do. ..	Fixed.	..	10 to 12	83	94	All round the compass.	Masonry tower, horizontal alternate bands of black and white.	Country-made, with brass reflectors.	1817.	Intended to lead vessels clear of the rocks and shoals off Godávari Point.
Masulipatam ..	In the Fort.. ..	16 9 15	81 9 25	Do. ..	Do. ..	..	6	69	112	180°	Flagstaff ..	Dioptric, 6th order.	1858; improved 1870.	As a guide for vessels to the anchorage.
Point Divi ..	Two miles N. W. of Point.	15 58 55	81 9 25	Do. ..	Do. ..	..	14	48½	50	225°, or from north through west to south-west.	Masonry column white.	Dioptric, 4th order.	1st May 1851; improved 1870.	Is intended to point out the position of the danger.
Armeghon or Armogham.	Mainland, village of Moona or Moonapollium.	13 53 8	80 11 47	Do. ..	Flashing.	A flash every 20 seconds.	14	107	111	180°, or the whole sea horizon.	Do. ..	Do. ..	1st January 1853; improved 1881.	Warns vessels off the Armeghon shoal, the shoalest part of which (1¾ fathoms) lies six miles off shore.
Pulicat	Near the beach ..	13 25 15	80 19 6	Do. ..	Fixed..	..	14	68	57	180°, or the whole sea horizon.	Masonry column white with black bands.	Do. ..	1859; altered 1881.	To guide vessels clear of the Pulicat shoal. When the light bears W. ½ N., a vessel is to the northward of all dangers.
Madras	On Esplanade north of the Fort.	13 5 11	80 16 51	Do. ..	Flashing.	Light has five faces, and every minute one face flashes towards the same spot, but three faces are presented seaward at one time.	20	128	125	310°, facing east.	Granite column.	Catadioptric ..	1st January 1844.	To guide vessels clear of the Pulicat shoal and into the roadstead. Mariners should not bring this light to southward of S.S.W. ½ W. to avoid Pulicat shoal.
Negapatam ..	On bastion.. ..	10 45 30	79 50 20	Do. ..	Fixed.	..	14	79½	83	180°, or the whole sea horizon.	Masonry column white.	Dioptric, 4th order.	1st August 1846; improved 1870.	As a guide for vessels to the anchorage.
Pámban Pass ..	On a sand hill about one mile east of northern channel.	9 17 14	79 12 38	Do. ..	Do. ..	..	14	97	72	All round the compass.	Circular masonry column.	Catadioptric, 4th order.	21st April 1846; improved 1860.	Is a guide to vessels making for the Pámban channel.
Tuticorin ..	North extreme of Hare Island or Paundiantivo, 2½ miles east of Tuticorin.	8 47 10	78 11 20	Do. ..	Do. ..	..	14	85	91	All round the compass.	Sandstone column, colored brown, lantern white.	Do. ..	15th May 1845; improved 1874.	As a guide for vessels to the anchorage.
Muttum (Cadiapatam.)	A rocky promontory known as "Muttum Point."	8 7 30	77 18 10	Do. ..	Do. ..	..	20	132	72	All round ..	Dark grey granite column.	First order, dioptric.	1st January 1883.	This light, in the territory of Travancore, is intended to mark the vicinity of the Crocodile rock.

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Names of lights.	Location.	Position. Latitude.	Position. Longitude.	Color of lights.	Fixed, flashing, intermitting, alternating, or revolving.	Interval of revolution or flash.	Miles visible in clear weather.	Height in feet of centre of lantern above high water.
		N. DEG. M. S.	E. DEG. M. S.				MILES.	FEET.
Cochin	On a small mound which formed a bastion of the old fort to the south of the harbour.	9 57 47	76 13 45	White.	Fixed.	..	15	100
Calicut	On the sandy beach	11 15 5	75 45 35	Do. ..	Do. ..	..	14	102
Beypore ..	Near the beach ..	11 10 0	75 47 0	Red ..	Do. ..	..	5	60
Tellicherry ..	On the fort wall near the beach.	11 44 50	75 28 30	White.	Do. ..	..	8	70
Cannanore ..	On the fort rampart near the beach.	11 51 10	75 21 45	Red ..	Do. ..	..	6 to 8	64
Mangalore ..	On a hill above the town, and near some high trees.	12 52 17	74 50 8	White.	Do. ..	..	14	240

MADRAS PRESIDENCY—*continued.*

Height in feet of building from base to vane.	Arc of illumination (bearings are magnetic and from seaward).	Nature of construction, color, or any peculiarity of lighthouse.	Character and order of illuminating apparatus.	Year lighted.	Remarks.
FEET. 91	270°	White laterite column.	Catadioptric, 4th order.	1st April 1839; improved 1868.	Harbour light. During the S.W. monsoon, when Cochin port is avoided by shipping, a small light is exhibited from a flagstaff at Narakel, about five miles to the northward of Cochin.
98	180° seaward ..	White column ..	Dioptric, 4th order.	1847; improved 1881.	To guide vessels to the anchorage clear of the reef, which lies about one mile S. 30° W. from the light. A small red light is exhibited from the head of the pier as a guide for small coasting craft when entering the port.
..	180°	Flagstaff ..	Globular lantern.	17th February 1883.	As a guide for vessels to the anchorage.
..	158°, or between the bearings of S.E. by E. and N.W. by N.	Small masonry tower.	Dioptric, 6th order; Chance's port or signal light.	1835; improved 1881.	Harbour light.
25 from the rampart.	180°	Small masonry tower of a light yellow color.	Dioptric, 6th order.	17th October 1843; improved 1880.	Do.
65	180°	Small white masonry tower.	Dioptric, 4th order.	1st October 1842; improved 1870.	As a guide for vessels to the anchorage.

ORDER—dated 29th June 1886, No. 348, Marine.

Ordered to be forwarded to the Government of India.

(True Extract.)

E. F. WEBSTER,
Chief Secretary.

To the Port Officer, Madras.

ENDORSEMENT—dated 29th June 1886, No. 349, Marine.

Five copies forwarded to the Government of India, Department of Finance and Commerce.

E. F. WEBSTER,
Chief Secretary.

Exd. T. O'Connor.

No. 1855 W. d/22 July 1886.

Order thereon

Communicated to Supg Engineers concerned, for information.

(Init.) S.S.

Govt. of {1886} Madras.

MARINE.

Issued

Recd. *Encl.*

G.O., &c., 29th June 1886,
Nos. 348, 349.

B. No. 1855 W. d/22 July 1886.

JUNE.

Lighthouses.

Directing that the annual report on lights in the Madras Presidency for the official year 1885-86 be forwarded to the Government of India.

Lo S.Gs. I. II. III. IV. V. & VI Circls.

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4. Vakalapudi	Do.	4th Do.	Catoptric	Revolving	Do.
5. Hope Island	Do.	1st Do.	Country made	Fixed	Do.
6. Masulipatam	Flagstaff	6th Do.	Dioptric	Do.	Do.
7. Point Divi	Lighthouse	4th Do.	Do.	Flashing	Do.
8. Armeghon	Do.	4th Do.	Do.	Fixed	Do.
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10. Madras	Do.	English Catadioptric.	Reciprocating		
			Dioptric	Fixed	Do.
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12. Pámban	Do.	4th Do.	Dioptric	Do.	Do.
13. Tuticorin	Do.	4th Do.			

West Coast Lights.

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15. Cochin	Do	4th Do.	Catadioptric	Do.	Do.
16. Beypore	Flagstaff	A globular lantern.			Red.
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19. Cannanore	Do	6th Do.	Do.	Do.	Red.
20. Mangalore	Do	4th Do.	Do.	Do.	White.

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	Amount. RS. A. P.	Total. RS. A. P.
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Oil	1,657 8 0	
Stores	214 5 6	
Contingencies	30 8 0	
		4,194 5 6

* Including house-rent Rs. 25 per mensem.

	Amount. RS. A. P.	Total. RS. A. P.
Negapatam Lighthouse.		
One Assistant Superintendent	120 0 0	
Two Lascars	180 0 0	
Oil	85 0 0	
Stores	18 2 0	
Contingencies	16 4 7	
		419 6 7
Pámban Lighthouse.		
One Assistant Superintendent	120 0 0	
One Lascar	94 0 0	
Oil	127 8 0	
Stores	395 6 0	
Contingencies	68 2 2	
		805 0 2
Tuticorin Lighthouse.		
One Assistant Superintendent	144 0 0	
Four Lascars	360 0 0	
Oil	42 8 0	
Stores	29 12 0	
Contingencies	37 3 0	
		613 7 0
Muttum Lighthouse.		
One Superintendent	1,500 0 0	
One Head Lightkeeper	180 0 0	
Four Lascars	336 0 0	
Oil	510 0 0	
Stores	227 6 0	
Contingencies	197 15 9	
Public Works charges for repairs	3,758 10 0	
		6,709 15 9
Cochin Lighthouse.		
One Assistant Superintendent	144 0 0	
Two Lascars	201 0 0	
Oil	255 0 0	
Stores	6 14 0	
Contingencies	15 2 4	
		622 0 4
Calicut Lighthouse.		
One Assistant Superintendent	120 0 0	
Three Lascars	276 0 0	
Oil	127 8 0	
Stores	12 6 0	
Contingencies	26 7 11	
		562 5 11
Beypore Lighthouse.		
One Lightkeeper	120 0 0	
Oil	42 8 0	
Stores	46 0 0	
Contingencies	3 12 0	
		212 4 0
Tellicherry Light.		
One Assistant Superintendent	120 0 0	
Two Lascars	180 0 0	
Oil	85 0 0	
Stores	7 3 0	
Contingencies	22 7 3	
		414 10 3

	Amount. RS. A. P.	Total. RS. A. P.
Cannanore Lighthouse.		
One Assistant Superintendent	120 0 0	
One Lascar	95 0 0	
Oil	136 0 0	
Stores	7 2 0	
Contingencies	15 9 6	
		373 11 6
Mangalore Lighthouse.		
One Assistant Superintendent	110 0 0	
Four Lascars	346 2 2	
Oil	85 0 0	
Stores	13 4 0	
Contingencies	45 6 5	
		599 12 7
Total		31,610 8 5

LIST OF LIGHTS IN THE MADRAS PRESIDENCY.

Names of lights.	Location.	Position. Latitude.	Position. Longitude.	Color of lights.	Fixed, flashing, intermitting, alternating or revolving.	Interval of revolution or flash.	Miles visible in clear weather.	Height in feet of centre of lantern above high water.
		N. DEG. M. S.	E. DEG. M. S.				MILES.	FEET.
Gopálpur ..	On mainland sixty yards from low-water mark.	19 13 0	84 52 0	White.	Fixed..	..	10	85
Calingapatam ..	On the Point ..	18 19 0	84 7 30	Do. ..	Do. ..	..	8	68
Santopilly ..	On Santopilly Hill, three-quarters of a mile inland.	18 4 56	83 37 35	Do. ..	Do. ..	..	14	169
Cocanada (Vakalapudi.)	Four-and-three-quarter miles north of Cocanada river, 500 yards from the shore.	17 0 40	82 16 30	Do. ..	Revolving.	A flash every 10 seconds.	14	80
Coringa or Hope Island.	On the southern part of Hope Island and distant about two-and-a-half miles from the sea.	16 49 5	82 18 58	Do. ..	Fixed.	..	10 to 12	83
Masulipatam ..	In the Fort.. ..	16 9 15	81 9 25	Do. ..	Do. ..	..	6	69
Point Divi ..	Two miles N. W. of Point.	15 58 55	81 9 25	Do. ..	Do. ..	..	14	48½
Armeghon or Armogham.	Mainland, village of Moona or Moonapollium.	13 53 8	80 11 47	Do. ..	Flashing.	A flash every 20 seconds.	14	107
Pulicat	Near the beach ..	13 25 15	80 19 6	Do. ..	Fixed..	..	14	68
Madras	On Esplanade north of the Fort.	13 5 11	80 16 51	Do. ..	Flashing.	Light has five faces, and every minute one face flashes towards the same spot, but three faces are presented seaward at one time.	20	128
Negapatam ..	On bastion.. ..	10 45 30	79 50 20	Do. ..	Fixed.	..	14	79½
Pámban Pass ..	On a sand hill about one mile east of northern channel.	9 17 14	79 12 38	Do. ..	Do. ..	..	14	97
Tuticorin ..	North extreme of Hare Island or Paundiantivo, 2½ miles east of Tuticorin.	8 47 10	78 11 20	Do. ..	Do. ..	..	14	85
Muttum (Cadiapatam.)	A rocky promontory known as "Muttum Point."	8 7 30	77 18 10	Do. ..	Do. ..	..	20	132

MADRAS PRESIDENCY.

Height in feet of building from base to vane.	Arc of illumination (bearings are magnetic and from seaward).	Nature of construction, color, or any peculiarity of light-house.	Character and order of illuminating apparatus.	Year lighted.	Remarks.
FEET. ..	180°, or the whole sea horizon.	Flagstaff painted white.	Third-class, country-made.	1871.	Intended as a guide to vessels making the anchorage at night, and exhibited at the special requisition of Commanders of the British India Steam NavigationCompany's mail steamers.
73	..	Obelisk of cut stone, column white, capital dark blue.	Do. ..	15th December 1876.	Intended to warn vessels off a small reef which projects from the Point, and which should not be passed in less than eight fathoms when making the port at night.
31	180°, facing S.E.	On the roof of a house.	Dioptric, 4th order.	1st November 1849; improved 1871.	Exhibited to warn mariners off the Santopilly Rocks, from which this light bears N.W. ⅝ W., distance 6½ miles.
76	In every direction seaward.	White column..	Catoptric, 4th order.	15th January 1879.	This light is intended to lead vessels clear of the shoals to the northward of Point Godávari when coming into the Cocanada anchorage from the southward and eastward.
94	All round the compass.	Masonry tower, horizontal alternate bands of black and white.	Country-made, with brass reflectors.	1817.	Intended to lead vessels clear of the rocks and shoals off Godávari Point.
112	180°	Flagstaff ..	Dioptric, 6th order.	1858; improved 1870.	As a guide for vessels to the anchorage.
50	225°, or from north through west to southwest.	Masonry column white.	Dioptric, 4th order.	1st May 1851; improved 1870.	Is intended to point out the position of the danger.
111	180°, or the whole sea horizon.	Do. ..	Do. ..	1st January 1853; improved 1881.	Warns vessels off the Armeghon shoal, the shoalest part of which (1¾ fathoms) lies six miles off shore.
57	180°, or the whole sea horizon.	Masonry column white with black bands.	Do. ..	1859; altered 1881.	To guide vessels clear of the Pulicat shoal. When the light bears W. ½ N., a vessel is to the northward of all dangers.
125	310°, facing east.	Granite column.	Catadioptric ..	1st January 1844.	To guide vessels clear of the Pulicat shoal and into the roadstead. Mariners should not bring this light to southward of S.S.W. ½ W. to avoid Pulicat shoal.
83	180°, or the whole sea horizon.	Masonry column white.	Dioptric, 4th order.	1st August 1846; improved 1870.	As a guide for vessels to the anchorage.
72	All round the compass.	Circular masonry column.	Catadioptric, 4th order.	21st April 1846; improved 1860.	Is a guide to vessels making for the Pámban channel.
91	All round the compass.	Sandstone column, colored brown, lantern white.	Do. ..	15th May 1845; improved 1874.	As a guide for vessels to the anchorage.
72	All round ..	Dark grey granite column.	First order, dioptric.	1st January 1883.	This light, in the territory of Travancore, is intended to mark the vicinity of the Crocodile rock.

LIST OF LIGHTS IN THE

Names of lights.	Location.	Position. Latitude.	Position. Longitude.	Color of lights.	Fixed, flashing, intermitting, alternating, or revolving.	Interval of revolution or flash.	Miles visible in clear weather.	Height in feet of centre of lantern above high water.
		N. DEG. M. S.	E. DEG. M. S.				MILES.	FEET.
Cochin	On a small mound which formed a bastion of the old fort to the south of the harbour.	9 57 47	76 13 45	White.	Fixed.	..	15	100
Calicut	On the sandy beach	11 15 5	75 45 35	Do. ..	Do. ..	..	14	102
Beypore ..	Near the beach ..	11 10 0	75 47 0	Red ..	Do. ..	..	5	60
Tellicherry ..	On the fort wall near the beach.	11 44 50	75 28 30	White.	Do. ..	..	8	70
Cannanore ..	On the fort rampart near the beach.	11 51 10	75 21 45	Red ..	Do. ..	..	6 to 8	64
Mangalore ..	On a hill above the town, and near some high trees.	12 52 17	74 50 8	White.	Do. ..	..	14	240

MADRAS PRESIDENCY—*continued.*

Height in feet of building from base to vane.	Arc of illumination (bearings are magnetic and from seaward).	Nature of construction, color, or any peculiarity of lighthouse.	Character and order of illuminating apparatus.	Year lighted.	Remarks.
FEET. 91	270°	White laterite column.	Catadioptric, 4th order.	1st April 1839; improved 1868.	Harbour light. During the S.W. monsoon, when Cochin port is avoided by shipping, a small light is exhibited from a flagstaff at Narakel, about five miles to the northward of Cochin.
98	180° seaward ..	White column ..	Dioptric, 4th order.	1847; improved 1881.	To guide vessels to the anchorage clear of the reef, which lies about one mile S. 30° W. from the light. A small red light is exhibited from the head of the pier as a guide for small coasting craft when entering the port.
..	180°	Flagstaff ..	Globular lantern.	17th February 1883.	As a guide for vessels to the anchorage.
..	158°, or between the bearings of S.E. by E. and N.W. by N.	Small masonry tower.	Dioptric, 6th order; Chance's port or signal light.	1835; improved 1881.	Harbour light.
25 from the rampart.	180°	Small masonry tower of a light yellow color.	Dioptric, 6th order.	17th October 1843; improved 1880.	Do.
65	180°	Small white masonry tower.	Dioptric, 4th order.	1st October 1842; improved 1870.	As a guide for vessels to the anchorage.

ORDER—dated 29th June 1886, No. 348, Marine.

Ordered to be forwarded to the Government of India.

(True Extract.)

E. F. WEBSTER,
Chief Secretary.

To the Port Officer, Madras.

ENDORSEMENT—dated 29th June 1886, No. 349, Marine.

Five copies forwarded to the Government of India, Department of Finance and Commerce.

E. F. WEBSTER,
Chief Secretary.

(True copy.)

Submitted for
Under Secretary.

H. P. W. Dept.
Spare Copies will follow

Exd. T. O'Connor.