

U. S. DEPARTMENT OF COMMERCE
LIGHTHOUSE SERVICE

LIGHT LIST

INCLUDING FOG SIGNALS, BUOYS, AND
DAYMARKS

GREAT LAKES

UNITED STATES AND
CANADA

1931

CORRECTED TO MARCH 1



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RETURN TO
AIDS TO NAVIGATION



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Please Return.

The Notice to Mariners will be mailed weekly, free of charge, to any mariner who will apply to the Superintendent of Lighthouses, Detroit, Mich.

The Navy Radio Service broadcasts important information concerning changes in aids to navigation.

Defects in aids to navigation.—Mariners are requested to report direct to the nearest superintendent of lighthouses (address as below), by radio or other prompt means, defects in aids to navigation.

Tenth District: Superintendent of Lighthouses, BUFFALO, N. Y. Includes the United States waters of the St. Lawrence and Niagara Rivers, Lakes Ontario and Erie to the mouth of the Detroit River.

Eleventh District: Superintendent of Lighthouses, DETROIT, MICH. Includes the United States waters of Lakes St. Clair, Huron, and Superior; Detroit, St. Clair, and St. Marys Rivers; and part of the Straits of Mackinac.

Twelfth District: Superintendent of Lighthouses, MILWAUKEE, WIS. Includes the waters of Lake Michigan, Green Bay and tributaries, and a part of the Straits of Mackinac.

Recommendations as to aids to navigation, or their improvement, or reports of aids no longer needed, should be mailed to the same addresses, or to the Commissioner of Lighthouses, Washington, D. C.

Canadian lights and fog signals are under the charge of the Department of Marine and Fisheries, Ottawa, Canada. Any failure in Canadian aids should be immediately reported by letter to the Chief Engineer, Department of Marine and Fisheries, Ottawa, Canada. Such letters may be mailed post free in Canada.

Laws for the protection of aids to navigation provide severe penalties.—It is unlawful to show any false light, with intent to bring any vessel into danger or shipwreck, to interfere with any aid to navigation or to anchor any vessel in navigable waters of the United States so as to obstruct range lights, or to establish or maintain in the navigable waters of the United States any aid to navigation similar to those maintained by the Department of Commerce without first obtaining permission from the Commissioner of Lighthouses.

Collisions of vessels with lightships, buoys, or other aids to navigation.—The licensed officer in command of a vessel colliding with any aid to navigation must report the collision promptly to the Department of Commerce through the nearest board of local inspectors of steamboats.

Bearings are in degrees true, reading clockwise from 0° at N.; bearings relating to visibility of lights are as observed from a vessel.

Distances are in statute miles unless otherwise stated.

Heights and depths are referred to standard low water.

Unwatched lights.—"U" after the name of a light indicates that the light is unwatched. All gas buoys are unwatched. Unwatched lights may become irregular or extinguished, although such apparatus has a high degree of reliability.

Reliance must not be placed on floating aids maintaining their exact positions; in cases of uncertainty it is safer to navigate by bearings or angles to fixed objects on shore, and by the use of soundings.

Latitudes and longitudes in this list are approximate, and are only intended to facilitate reference to a chart.

Character of lights.—To avoid confusion, lights are given distinct characteristics; these are indicated by abbreviations, as follows:

Lights which do not change color	Characteristic phases	Lights which show alternately white and red in various combinations
F. = Fixed	A continuous steady light.....	Alt. = Alternating.
Fl. = Flashing	(a) Showing a single flash at regular intervals.... (b) A steady light with total eclipses.	Alt. Fl. = Alternating flashing.
F. Fl. = Fixed and flashing	A fixed light varied at regular intervals by 1 or more flashes, usually of greater brilliance. A flash is preceded and followed by a diminution of light or an eclipse.	Alt. F. Fl. = Alternating fixed and flashing.
Gp. Fl. = Group flashing	Showing at regular intervals groups of flashes....	Alt. Gp. Fl. = Alternating group flashing.
Occ. = Occulting	A steady light totally eclipsed at intervals....	Alt. Occ. = Alternating occulting.
Gp. Occ. = Group occulting ..	A steady light totally eclipsed by a group of 2 or more eclipses.	

W. = White; R. = Red; G. = Green.

Lights are characterized as flashing or occulting according to the relative durations of light and darkness.

A flash is usually shorter than the duration of an eclipse.

An occultation is shorter than, or equal to, the duration of light.

In approaching a light of varying intensity, such as fixed varied by flashes, or alternating white and red, due allowance must be made for the inferior brightness of the less powerful part of the light. The first-named light may, on account of distance or haze, show flashes only and the true characteristic will not develop until the observer comes within range of the fixed light; similarly the second named may show as occulting white until the observer comes within range of the red light.

At short distances and in clear weather flashing lights may show a faint continuous light.

Period of a flashing or occulting light is the time required to go through the full set of changes.

Miles seen.—The distances at which lights may be seen in clear weather are the geographic range computed in statute miles for a height of the observer's eye of 15 feet above lake level; the luminous range is given when the light is not of sufficient power to be seen to the limit of its geographic range. These distances may at times be increased by abnormal atmospheric refraction, and of course may be greatly lessened by unfavorable weather conditions, due to fog, rain, haze, or smoke. Weak lights and colored lights are easily obscured by such conditions.

Under certain atmospheric conditions, especially with the more powerful lights, the glare of the light may be visible beyond the computed geographic range. When approaching a high-power light it evidently may be seen earlier from aloft.

The table following gives the approximate geographic range of visibility for an object which may be seen by an observer whose eye is at lake level; in practice, therefore, it is necessary to add to these a distance of visibility corresponding to the height of the observer's eye above lake level.

Distances of visibility for objects of various elevations above lake level

Height, in feet	Distance, in statute miles	Height, in feet	Distance, in statute miles	Height, in feet	Distance, in statute miles	Height, in feet	Distance, in statute miles
5	2.9	55	9.8	110	13.9	450	28.1
10	4.2	60	10.2	120	14.5	500	29.6
15	5.1	65	10.7	130	15.1	550	31.0
20	5.9	70	11.1	140	15.6	600	32.4
25	6.6	75	11.4	150	16.2	650	33.7
30	7.2	80	11.8	200	18.7	700	35.0
35	7.8	85	12.2	250	20.9	800	37.4
40	8.4	90	12.5	300	22.9	900	39.7
45	8.9	95	12.8	350	24.7	1,000	41.8
50	9.3	100	13.2	400	26.4		

Candlepowers of lights are approximate and are stated in English candles. When the power of a light varies, as in the case of a white light with a red sector, or a fixed light varied by flashes, the candlepower of both white and red, or fixed light and flash, is given. From the stated candlepowers the mariner may judge of the relative brilliancy and power of the various lights.

Light sectors.—In some conditions of the atmosphere white lights may have a reddish hue; the mariner, therefore, should not trust solely to color 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 there is always a small sector of uncertain color, as the edges of a sector can not be cut off sharply.

When a light is cut off by adjoining land, and the arc of visibility is given the bearing on which the light disappears may vary with the distance of the vessel from which observed. When the light is cut off by a sloping point of land or hill the light may be seen over a wider arc by a ship far off than by one close-to.

Radiobeacon signals are sent continuously during fog or low visibility, and at certain scheduled times in clear weather. All operating details, including frequencies, characteristics, etc., are given in the tables on pages 256-259. They are the most valuable fog signals, and are also available for navigation in clear weather.

In plotting long-range bearings on a chart of the Mercator projection a correction must be made, as the line of bearing is not a straight line excepting in the meridian.

Distance finding by synchronized sound and radio signals.—At certain stations the sound and radio signals are synchronized for the purpose of distance finding. For names of stations and method of operation see page 236.

Caution for distance-finding stations.—At these stations, as indicated in each case, the sound-in-air fog signal is varied one minute out of each three, for convenience in distance finding, as explained on page 256. Such distance-finding stations may be recognized by their characteristic for the third minute; which is uniform at most stations, a long silent interval followed by a long and a short blast.

Sound in air fog signals.—Mariners are cautioned that fog signals sounded in air can not be implicitly relied upon, and that the lead should never be neglected.

Experience teaches:

That distances must not be judged by the power of the sound.

That occasionally there may be areas close to a fog signal in which it can not be heard, and that, therefore, the mariner must not assume that a signal is not sounding because he does not hear it, even when near it.

That a fog may exist a short distance from a station and not be seen from it, so that the signal may not be sounded.

Attention should be given to observing a fog signal in positions where the noises of the sea are least likely to interfere with the hearing, as experience shows that

though such a signal may not be heard from the deck or bridge when the engines are running, it may be heard when the ship is stopped, or from a quiet position; it may sometimes be heard aloft, though not on deck.

Bells at light stations are operated by clockwork, unless otherwise stated.

Effort is made in all cases to start fog signals as soon as possible after fog has been observed, but there may be some delay.

Whistle and bell buoys are operated by the action of the sea; therefore, they sound irregularly, and in calm weather they are less effective or may not sound.

Lightships under way, or off station, will fly the International Code signal letters "QE" (signifying "lightship is not at anchor on her station").

Relief lightships may be placed at any of the lightship stations, and, when practicable, will exhibit lights and sound signals having the characteristics of the station. Relief lightships usually have all visible parts from the bow to the middle of the foremast, and from the middle of the mainmast aft, painted red; all visible parts between the fore and main masts, including the middle third of each lantern mast, white, except stack which is black. The daymarks (oval gratings or lantern galleries) at the mastheads have alternating red and white vertical stripes, of equal width. The word "RELIEF," or the name of the station ship, is in large black letters on the bulwarks on the middle of each side.

Lighthouse tenders when working on buoys in channels or other frequented waters may display a red flag (international signal-code letter "B") and a black ball at the fore, as a warning to other vessels to slow down in passing. Passing vessels will facilitate the work of the Lighthouse Service by a proper observance of the signals.

Caution regarding buoys.—Buoys are liable to be carried away, shifted, cap-sized, sunk, etc., lighted buoys may be extinguished, or whistle or bell buoys may not sound, as the result of storm, the accumulation of ice, running ice, or other natural causes, or collision, or other accidents.

Buoy colors and numbers.—Buoys are colored and numbered as follows:

In approaching the channel, etc., from seaward, RED BUOYS, with EVEN NUMBERS, are found on the STARBOARD side, and BLACK BUOYS, with ODD NUMBERS, on the PORT side.

BUOYS with RED and BLACK HORIZONTAL BANDS are on OBSTRUCTIONS, with channelways on either side of them, and may be left on either hand in passing in.

BUOYS with BLACK and WHITE VERTICAL STRIPES are in MID-CHANNEL and may be passed close-to on either hand.

STATION BUOYS, colored the same as the regular aids, are placed alongside of lightships and important buoy stations to mark them in case the regular aid is carried away. Lightship station buoys bear the letters "LS" above

the initials of the station, thus: $\frac{LS}{O}$.

Buoys, shapes.—NUN BUOYS, conical, are placed on the starboard or right-hand side of a channel, or at bifurcation of channels when the main or important channel is to port.

CAN BUOYS, approximately cylindrical, are placed on the port or left-hand side of a channel, or at bifurcation of channels when the main or important channel is to starboard.

LIGHTED BUOYS have cylindrical or conical bodies, which contain the gas or gas tanks, and are surmounted by skeleton superstructure with lantern, and in cases of combination, buoys have bell or whistle as the case may be.

BELL BUOYS have a flat float with skeleton superstructure supporting a bell.

WHISTLE BUOYS are conical, with whistle at top.

SPAR BUOYS are long slender buoys of wood or iron.

Description of buoys

Type and class	Shape	Diameter at water line	Height above water line	Draft
		<i>Feet</i>	<i>Feet</i>	<i>Feet</i>
Tall nun, 1st class.....	Conical.....	5	13	17
Tall nun, 2d class.....	Conical.....	4	11	15
Tall nun, 3d class.....	Conical.....	3	8	11
Special nun, 1st class.....	Cylindrical with conical top.....	2½	7¾	13¼
Special nun, 2d class.....	Cylindrical with conical top.....	2	5¾	7½
Special nun, 3d class.....	Cylindrical with conical top.....	2	4¼	5
Nun, 1st class.....	Conical.....	6	8	5
Nun, 2d class.....	Conical.....	4	2½	5
Nun, 3d class.....	Conical.....	3	2	4
Tall can, 1st class.....	Cylindrical.....	5	9½	17
Tall can, 2d class.....	Cylindrical.....	4	7	15
Tall can, 3d class.....	Cylindrical.....	3	5	11
Special can, 1st class.....	Cylindrical.....	2½	6½	13¼
Special can, 2d class.....	Cylindrical.....	2	4½	7½
Special can, 3d class.....	Cylindrical.....	2	3¼	5
Can, 1st class.....	Approximately cylindrical.....	6	5	6
Can, 2d class.....	Approximately cylindrical.....	4	4	4½
Can, 3d class.....	Approximately cylindrical.....	3	2	4
Iron spar, 1st class.....	Spar shaped.....	2½	15	37
Iron spar, 2d class.....	Spar shaped.....	2	11½	30
Iron spar, 3d class.....	Spar shaped.....	2	8	23
Wooden spar, 1st class.....	Spar shaped.....	1¾	18	30
Wooden spar, 2d class.....	Spar shaped.....	1¾	12	27
Wooden spar, 3d class.....	Spar shaped.....	1¾	8	20
Wooden spar, 4th class.....	Spar shaped.....	¾	7	14
Bell buoy.....	Has a flat deck nearly awash, with pyramidal skeleton superstructure supporting a bell.	8	8	6
Whistle buoy.....	Conical, with whistle at top.....	8	11	20

Abbreviations designating the order or internal diameter of illuminating apparatus and kind of illuminants, etc.:

1 = 1st order.

2 = 2d order.

3 = 3d order.

3½ = 3½ order.

4 = 4th order.

5 = 5th order.

6 = 6th order.

Rg = range lens.

Rf = reflector.

Ll = lens lantern.

Pl = post lantern.

Hl = hand lantern.

mm = millimeter.

a = acetylene gas, compressed.

ac = acetylene gas, carbide to water.

cp = candlepower.

ei = electric incandescent.

g = gas.

iov = incandescent oil vapor.

m = mantle.

o = oil in regular service lamp.

pc = primary cell.

pg = oil gas.

EXAMPLES: "4 iov" = 4th-order lens with incandescent oil-vapor lamp "200 mm pg m" = 200-millimeter lens with oil gas and mantle.

LIGHTS AND FOG SIGNALS

ST. LAWRENCE RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. LAWRENCE RIVER					
1	RANGE ST. REGIS DIKE FRONT... F. W.	On west end of dike		Feet 18	6
		45 01	74 40		
2	ST. REGIS DIKE REAR... F. W.	On east end of dike, 166 yards 95½° from preceding.		30	6
3	St. Regis Dike Gas Buoy 96 F... Occ. R.	Opposite east end of Corn- wall Island.		0	
4	St. Lawrence Park Gas Buoy... Occ. R.	On edge of shoal off park... 45 01 74 42			
5	DICKINSON LANDING... F. R.	South side of west entrance to Cornwall Canal. 45 00 74 55		21	3
6	Delaney Shoal Gas Buoy 6 U... Occ. R.	1,240 yards 244° from Dick- inson Landing Lighthouse.			
7	Archibald Shoal Gas Buoy 8 U... Occ. R.	Southwest of Dawson Point. 44 59 74 56			
7.5	GRAVEYARD POINT... F. W. U.	On shore, 0.8 mile below Far- rans Point. 44 59 74 59		40	11
8	Gas Buoy 40 U... Occ. R.	At upper entrance, Farran Point Canal.		13	4
9	Steen Island Gas Buoy 44 U... Occ. E.	On edge of shoal east of island. 44 57 75 01			
10	Weaver Point Gas Buoy 50 U... Occ. R.	On south end of shoal off point. 44 56 75 04			
11	Prurmer Shoal Gas Buoy 54 U... Occ. E.	Southwest of Cooks Point... 44 56 75 05		13	
12	Goose Neck Island Gas Buoy 67... Occ. W.	On edge of shoal off north- east end of island. 44 55 75 07			
13	Goose Neck Island Gas Buoy 69 U... Occ. W.	On edge of shoal off north side of island. 44 55 75 08			
14	Jackass Shoal Gas Buoy 72 U... Occ. R.	In 18 feet, on south side of shoal. 44 55 75 09		13	

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet Red box and lantern on white cylindrical tank on concrete base. 15	Year 1902
		Red conical slat-work cage and lantern on white cylindrical tank on concrete base. 1902	27
		Red, cylindrical.	
		Red, cylindrical.	
	Maintained by Department of Railways and Canals.	White, square, wood. 22	1865 1891
	Marks 14-foot shoal.	Red, cylindrical.	
		Red, cylindrical.	
		Red, cylindrical.	
		Red, cylindrical.	
		Red, cylindrical.	
		Black, cylindrical.	
		Black, cylindrical.	
		Red, cylindrical.	

ST. LAWRENCE RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
	ST. LAWRENCE RIVER			<i>Feet</i>	
14.5	Doran Point Gas Buoy 82 U. Occ. R.	44 54	75 10		
15	ROBERTSON POINT..... F. R. U.	Near high-water mark.....		25	4
16	PINETREE POINT..... F. R. U.	Near high-water mark.....		25	4
17	Gas Buoy, 138 U..... Occ. R.	At upper entrance, Iroquois Canal.		13	
18	HEAD OF GALOP CANAL..... Occ. W.	On west end of pier, south side of upper entrance to canal.		24	2
19	Gas Buoy, 142 U..... Occ. R.	North side of channel, 835 yards above upper entrance to Galop Canal.			
20	NORTH CHANNEL DIKE..... F. R.	On angle of dike, northwest side of lower entrance to north channel. 44 46 75 26		26	4
21	DRUMMOND ISLAND NORTH..... Occ. W. U.	On revetment wall, north side of channel.		12	4
22	DRUMMOND ISLAND SOUTH..... Occ. W. U.	On revetment wall, south side of channel.		12	4
23	NORTH CHANNEL DIKE BEND. Occ. R. U.	North side of channel, at bend in dike.		12	4
24	NORTH CHANNEL DIKE WEST END. Occ. W.	On west end of dike, at up- per entrance to north chan- nel, 0.5 mile above Spencer Island. 44 44 75 27		26	10
25	WINDMILL POINT..... F. W.	1.5 miles below Prescott, nearly opposite Ogdens- burg. 44 43 75 29		92	15
26	Ogdensburg East Entrance Gas Buoy 1. Fl. W., 3 sec.	In 24 feet..... N. Y.		10	8
27	Ogdensburg West Entrance Gas Buoy 2. Fl. W., 3 sec.	In 20 feet, on west side of entrance.		10	8
28	OGDENSBURG CAR FERRY..... F. R. U.	On pier, west side of entrance.		32	4

NEW YORK AND CANADA

10TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i>	<i>Year</i>
		Red; cylindrical.	
		Mast on crib, white house at base.	1927
		Mast, white house at base.	1927
		Red, cylindrical.	
	Maintained by Department of Railways and Canals.	White cylindrical column, shed alongside.	1902
		20	
		Red, cylindrical.	
		Red box and lantern on white cylindrical tank on concrete base.	1902 1904
		23	
		Steel structure.	1927
		Steel structure.	1927
		Steel structure.	1927
		Red box and lantern on white cylindrical tank.	1907
		24	
		White, circular, stone.	1873
		62	
70	Flash 0.3 sec.....	Black.	
200 mm a			
70	Flash 0.3 sec.....	Red.	
200 mm a			
20 ei	SIREN, electric: Blast 4 sec., silent 16 sec. Light maintained by N. Y. C. R. R. Co.	Black post.	1907

ST. LAWRENCE RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. LAWRENCE RIVER					
29	OGDENSBURG..... Occ. W., 10 sec.	On low, rocky point, side of entrance.	N. Y.	63	14
30	PRESCOTT BEACON..... F. R.	On outer end of east pier, Dominion Lighthouse Depot.	C.	25	6
		44 42	75 31		
32	NEEDLES EYE ISLAND..... Occ. W.	On south side of Island, 2.5 miles above Brookville.	U.	20	
		44 33	75 43		
33	SKELTON ISLAND..... Occ. W.	On south end of island, east end of Brockville Narrows.	U.	31	10
		44 35	75 42		
34	Hillcrest Gas Buoy 4 T..... Occ. R.	In 18 feet, on southeast edge of rock, in Narrows west of Brock Group.	C.	13	4
		44 33	75 44		
35	DE WATTVILLE ISLAND FRONT. F. W.	On island.....	C.	30	10
36	DE WATTVILLE ISLAND REAR. F. W.	On mainland, 465 yards 36° from preceding.		70	15
37	Gas Buoy 6 T..... Occ. R.	On south side of 15-foot shoal, 0.2 mile southeast of Cole Shoal.	C.		
		44 32	75 45		
38	UNION PARK FRONT..... F. W.	West of shore end of wharf.	C.	35	5
39	UNION PARK REAR..... F. W.	435 yards 345½° from preced- ing.		120	5
40	Bay State Shoal Gas Buoy 7..... Fl. W., 3 sec.	In 20 feet, east side of chan- nel.	N. Y.	10	8
41	CROSS OVER ISLAND..... F. R.	On island, west side of chan- nel.	N. Y.	34	12
		44 30	75 47		
42	SUPERIOR SHOAL..... Fl. W., 3 sec.	In 4 feet, at north end of nar- row ledge off Chippewa Point.	U.	28	10
44	BRIDGE ISLAND..... F. W.	On island No. 118 A, 170 yards south of Bridge Is- land.	U.	18	6
		44 28	75 50		

NEW YORK AND CANADA

10TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
2,500 4 ei	Light 6 sec., eclipse 4 sec.	66	Year 1834 1900
		23	1907
			1928
		17	1913
			1927
	Watch room and lantern of rear light only, visible on range line.		1927
			1927
70 200 mm a	Flash 0.3 sec.		1848 1882
80 6 o		31	1910 1919
180 120 mm pc	Flash 0.4 sec.		1910 1919

ST. LAWRENCE RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. LAWRENCE RIVER					
45	Empire Shoal Gas Buoy..... Occ. R.			Feet	
		In 16 feet, on southeast edge of shoal.			
46	SISTER ISLANDS..... Fl. W., 3 sec. U.			47	12
		On north Sister Island... N. Y. 44 25 75 51			
47	Whiskey Island Shoal Gas Buoy 17 A. Fl. W., 3 sec.			10	8
		In 22 feet, northwest of shoal. N. Y.			
48	SUNKEN ROCK..... F. G.			30	9
		On rock, 0.5 mile north of Alexandria Bay. N. Y. 44 21 75 55			
48.5	HARBOR ISLAND..... Fl. R., 2 sec. U.			3	
		1,650 feet 337° from Sunken Rock Light.			
49	SUNKEN ROCK SHOAL..... Fl. W., 3 sec. U.			28	9
		In 6 feet, on west edge of reef. N. Y.			
50	COMFORT ISLAND SHOAL..... Fl. W., 3 sec. U.			28	9
		In 6 feet, on head of shoal. N. Y.			
51	WELLS ISLAND..... Fl. W., 3 sec. U.			34	12
		15 yards from north shore of river. N. Y. 44 18 75 58			
52	GRANITE STATE SHOAL..... Gp. Fl. W., 3 sec. U. 2 flashes.			28	9
		In 6 feet, on east point of shoal, at head of Narrows. N. Y.			
52.5	TRIPOD SHOAL..... Fl. G., 2 sec. U.			12	
		In 8 feet, marks inside chan- nel to Thousand Islands Park. N. Y.			
53	ROCK ISLAND..... F. G.			50	9
		On northwest point of island, at head of Narrows. N. Y.			
54	CHAPMAN SHOAL..... Gp. Fl. W., 3 sec. U. 2 flashes.			28	9
		In 6 feet, on southeast point of shoal. N. Y.			
55	WASHINGTON ISLAND PIER... F. G. U.			15	2
		In 18 feet, off end of concrete pier.			
55.5	Clayton Shoal Buoy Light 1... Fl. W., 2 sec.			5	
		In 8 feet, on edge of shoal... N. Y.			
56	BARTLETT POINT..... Fl. W., 3 sec. U.			35	12
		In 4 feet, off Prospect Park. N. Y. 44 14 76 06			

NEW YORK AND CANADA

10TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		Red, cylindrical.	
450 6 a	Flash 0.3 sec.-----	Gray square tower on stone dwelling.	1870
70 200 mm a	Flash 0.3 sec.-----	Black.	
80 6 o		White conical iron tower.	1848 1882
7 120 mm ci	Maintained by J. M. Breitenbach	Red iron spindle.	1930
90 300 mm pc	Flash 0.4 sec.-----	Black square pyramidal skeleton tower on white tank house on pyramidal concrete block.	1923
90 300 mm pc	Flash 0.4 sec.-----	Black square pyramidal skeleton tower on white tank house on pyramidal concrete base.	1924
280 300 mm a	Flash 0.3 sec.-----	White square pyramidal skele- ton, concrete base.	1912 27
90 300 mm pc		Red square pyramidal skeleton tower on white tank house on concrete base.	1923
8 120 mm ei	Flash 0.1 sec. Maintained by Thousand Islands Park Asso- ciation.	White tripod.	1929
120 6 o		White conical tower, lower half concrete.	1848 1911
180 120 mm pc		Red square pyramidal skeleton tower on white tank house on pyramidal concrete base.	1924
10 H1 o	Maintained by Standard Oil Co. of N. Y.	Post on concrete pier.	1926
25 120 mm ei	Flash 0.1 sec. Maintained by Consaul-Hall Co.	Black.	1929
230 300 mm a	Flash 0.3 sec.-----	Black square pyramidal skeleton tower on white tank house on concrete base.	1926

ST. LAWRENCE RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. LAWRENCE RIVER					
57	Wolfe Island Cut Gas Buoy 38 T. Occ. R.	At southeast end of cut through Blanket Shoals, at foot of island.		<i>Feet</i>	
59	WOLFE ISLAND..... F. W.	On Quebec or East Point..... 44 14	C 76 11	37	10
60	LINDA ISLAND..... Fl. W., R. sector, 3 sec. U.	Off north end of island, N. Y. 44 12		33	12 8
61	RANGE { IRWINS POINT FRONT..... F. W. U.	On point, south side of Wolfe Island. C.		28	3
62		IRWINS POINT REAR..... F. W. U.	138 yards 14° from preceding.		45
63	CARLETON ISLAND..... Fl. W., 3 sec. U.		On northwest point of island. N. Y.		107
64	Feather Bed Shoal Gas Buoy 25. Fl. W., 3 sec.	In 21 feet, on west edge of shoal. N. Y.		10	8
65	CAPE VINCENT BREAKWATER EAST END. F. R., dark sector.	On breakwater..... N. Y.		28	10
66	CAPE VINCENT BREAKWATER WEST END. F. R., dark sector.	On breakwater..... N. Y. 44 08	76 20	28	10
67	NEWMAN BASIN..... F. G. U.	On end of pier at Cape Vin- cent. N. Y.			
68	Tibbetts Point..... Occ. W., 10 sec.	On point, south side of head of St. Lawrence River, N. Y. 44 06		69	14 76 22
CANADIAN CHANNEL					
69	Poole's Resort Gas Buoy 7 T. Occ. W.	On south side of channel op- posite Poole's Resort. 44 25			75 53
70	DUCK ROCK..... F. W. U.	On island No. 106 G, 65 yards west of Duck Island. 44 24		22	5 75 54
71	GRENADIER ISLAND..... Occ. W. U.	On southwest point of island, 2 miles below Rockport. 44 28		25	10 75 54

NEW YORK AND CANADA

10TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
Apparatus Illuminant	Fog signal		
		<i>Feet</i>	<i>Year</i>
		Red, cylindrical.	
		White, square, wood; red lantern roof. 33	1861 1912
W. 230 R. 70 300 mm a	Flash 0.3 sec. Red from 66° to 76°, covers rocky patch about 1 mile distant.	White square pyramidal skeleton tower.	1915
		White diamond daymark on pole, shed at base.	1924
		White diamond daymark on pole, shed at base.	1924
230 300 mm a	Flash 0.3 sec. Obscured from 254° to 285°.	White square pyramidal skele- ton, inclosed base.	1899 1914
70 200 mm a	Flash 0.3 sec.	Black.	
150 5 o	Illuminates 307° of the horizon; dark sectors lying toward shore.	White square inclosed struc- ture. 26	1901 1912
150 5 o	Illuminates 307° of the horizon; dark sectors lying toward shore. Weather signals west of fish hatchery.	White square inclosed structure. 26	1901 1904
Pl ei	Maintained by village of Cape Vincent, N. Y.	White post.	1908
6, 100 4 ei	Light 6 sec., eclipse 4 sec..... DIAPHONE, air; Blast 3 sec., silent 27 sec.	White conical tower. 59	1854
		Black, cylindrical.	
		White square skeleton tower, concrete base. 13	1913 1919
		Lantern on cylindrical tank. 1856	1923

ST. LAWRENCE RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
	CANADIAN CHANNEL				
72	Georgina Island Gas Buoy 9 T. Occ. W.			Feet	
72.5	Wood Island Gas Buoy----- Occ. E.				
73	LYNEDOCH ISLAND----- F. W.			40	5
74	GANANOQUE NARROWS----- F. W.			44	3
75	JACKSTRAW SHOAL----- F. R.			34	5
76	SPECTACLE SHOAL----- F. W.			28	3
77	RED HORSE ROCK----- F. W.			28	5
78	BURNT ISLAND----- F. W.			64	5
78.5	Bayfield Island Gas Buoy---- Occ. E.				
79	Cold Bath Shoal Gas Buoy 46 T. Occ. W.			13	
80	KNAPP POINT----- F. W.			28	10
81	RANGE BARRIEFIELD COMMON FRONT. F. W.			48	12
82	BARRIEFIELD COMMON REAR. F. W.			75	12
83	Penitentiary Shoal Gas Buoy 61 T. F. W.				

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		Black, cylindrical.	
		Red.	
		White, square, wood. 26	1856
		White, square, wood. 37	1856
		White, square, wood; on pier. 29	1856
		White, square, wood; on pier. 26	1856
		White, square, wood; on pier. 26	1856
		White, rectangular, wood; square lantern on roof. 30	1856 1916
		Red, cylindrical.	
		Red, cylindrical.	
	HORN, hand, answers signals.	White, square, wood. 20	1874
	Radio station on Barrieffield Common; call VBH. Storm signal mast at city pumping station.	White oval daymark on red tripod, brown shed alongside. 50	1892 1921
		White oval daymark on red tripod, brown shed alongside. 80	1892 1921
		Red and black horizontal bands.	

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
CANADIAN CHANNEL					
84	PORTSMOUTH FRONT----- F. W.	° ' ° '	° ' ° '	Feet 32	11
		On east end of Carruthers Point, west side of Little Cataragui Bay. 44 13 76 33			
85	PORTSMOUTH REAR----- F. W.	On north shore of bay, 1,185 yards 18½° from preceding.		61	13
86	FOURMILE POINT----- F. R.	On northwest point of Simcoe Island. 44 11 76 32		47	8
87	Middle Ground Gas and Bell Buoy 69 T. Occ. W.	On west end of shoal, between Snake Island and Seven Acre Shoal.		13	---
LAKE ONTARIO, EAST END					
88	Ninemile Point----- Gp. Fl. W., 25 sec. 3 flashes.	On southwest point of Simcoe Island. C. 44 09 76 33		45	12
89	East Charity Shoal Gas Buoy, 2. Fl. W., 3 sec.	In 24 feet, on southeast side of Charity Shoals group. N. Y.		10	8
90	Stony Island Gas Buoy 2----- Fl. W., 3 sec.	In 36 feet, off northeast end of island. N. Y.		10	8
91	CHERRY ISLAND----- Fl. W., 3 sec. U.	On southwest point of island, Chaumont Bay. 44 01 76 11		32	10
92	CHAUMONT HARBOR----- Gp. Fl. W., 6 sec. 2 flashes. U.	On Independence Point, Chaumont Bay.		30	12
93	SACKETS HARBOR----- Fl. W., 3 sec. U.	On north side of Horse Island. 43 57 76 09		57	13
94	Galloo Island Shoal Gas Buoy 3. Fl. W., 3 sec.	In 30 feet, off southwest end of shoal.		10	8
95	Galloo Island----- Gp. Fl. W., 12 sec. 3 flashes.	On southwest end of island. 43 53 76 27		58	15

Candlepower	Light characteristic		Structure, vessel or buoy	
	Apparatus Illuminant	Fog signal	Top of lantern above ground	Established Rebuilt
		Visible on range line and in channel toward Kingston.	Feet White, square, wood. 33	Year 1912
		Visible on range line-----	White square skeleton tower, upper part inclosed. 64	1912
		HORN, hand, answers signals-----	White, octagonal, wood; red octagonal lantern. 37	1858 1918
		BELL, on buoy-----	Black.	
	20,000	Flash, 4 sec. eclipse; flash, 4 sec. eclipse; flash, 17 sec. eclipse. DIAPHONE, air: Blast 7 sec., silent 53 sec.	White, circular, stone; red lantern. 40	1833
	70 200 mm a	Flash 0.3 sec.----- BELL, on buoy alongside.	Red.	
	70 200 mm a	Flash 0.3 sec.-----	Red.	
	120 300 mm a	Flash 0.3 sec.-----	White square pyramidal skeleton tower. 27	1911
	230 300 mm a	Flash 0.3 sec., eclipse 0.9 sec., flash 0.3 sec., eclipse 4.5 sec.	White square pyramidal skeleton tower. 27	1911
	550 5 a	Flash 0.3 sec.-----	White square tower attached to dwelling. 54	1831 1899
	70 200 mm a	Flash 0.3 sec.-----	Black.	
	4,500 4 ei	3 flashes 2 sec. each, 2 eclipses 1 sec. each, 1 eclipse 4 sec. DIAPHONE, air: gp. 3 blasts every 30 sec.: 3 blasts 1 sec. each, 2 silences 1 sec. each, 1 silence 25 sec.	Gray conical tower, covered way to dwelling. 60	1820 1867

LAKE ONTARIO

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
EAST END					
96	Stony Point Alt. Fl. W. & R., 10 sec.	On point.....		<i>Fed</i> 57	15 14
SOUTH SIDE					
97	Oswego Gp. Fl. W., 12 sec. 2 flashes.	Inside angle of outer break- water, west side of entrance. 43 28 76 31		39	13
98	OSWEGO INNER F. R.	On inner west breakwater, west side of inner entrance.		28	----
99	Canal Channel Buoy Light 151 F. W.	In 15 feet, at dredged channel leading to Lock No. 8.		4	----
100	Canal Channel Buoy Light 149 F. W.	In 20 feet, at dredged channel leading to Lock No. 8.		4	----
101	{ Fair Haven Front F. W.	Near outer end on west pier, entrance to Little Sodus Bay. 43 21 76 43		31	12
102		0.3 mile 175° from preceding.			
103	Sodus Outer F. Fl. W., 30 sec.	On north end of west pier, entrance to Great Sodus Bay. 43 17 76 58		47	14
104	{ SODUS ENTRANCE FRONT F. G. U.	In 4 feet, north of Sand Point.		14	----
105		In 2 feet, on Sand Point, 200 yards 176° from preceding.		27	----
106	{ SODUS INNER FRONT F. R.	At elbow of west pier.....		25	8
107		108 yards 323° from preced- ing.		45	----
108	ROCHESTER HARBOR EAST PIER F. G.	On north end of pier, entrance to harbor.		34	13
109	ROCHESTER HARBOR Occ. W., 10 sec.	On west pier, near north end. 43 16 77 36		34	13

NEW YORK

10th Dist.

Candlepower	Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established Rebuilt
W 1,800 R. 540 4 o	W. flash 1 sec., eclipse 4 sec., R. flash 1 sec., eclipse 4 sec.	<i>Fed</i> White square tower, dwelling attached. 59	Year 1838 1901	
4,500 4 ci	Flash 3 sec., eclipse 1 sec., flash 3 sec., eclipse 5 sec. BELL; 1 stroke every 12 sec.	White octagonal pyramidal tow- er on crib. 33	1872 1877	
50 Ll o	-----	Post.	1822 1917	
50 Hl o	Maintained by State of New York.	Hand lantern on red can buoy.		
50 Hl o	Maintained by State of New York.	Hand lantern on red can buoy.		
490 4 o	Light is brighter (630 cp.), be- tween 177° and 267°, and is dim from 357° to 87°. BELL; gp. 2 strokes every 20 sec.	Square pyramidal tower, brown below, white above. 30	1872 1872	
160 Ll o	-----	White square pyramidal tower. 21	1884 1896	
F. 490 Fl. 1,800 4 o	Fixed light with 2.5 sec. flash every 30 sec. AIR SIGNAL: Blast 4 sec., silent 26 sec.	Square pyramidal tower, brown below, white above. 45	1858 1901	
250 170 mm ei	-----	Unpainted pile dolphin.	1926	
250 170 mm ei	-----	White square daymark on pipe on concrete base.	1926	
420 300 mm ei	-----	White square pyramidal tower. 24	1858 1895	
650 Rf ei	-----	White pole.	1928	
390 300 mm ei	-----	White square pyramidal tower. 31	1902	
4,500 4 ei	Light 6 sec., eclipse 4 sec.----- SIREN, 1st-cl. air: Blast 2 sec., silent 28 sec. Bell, if siren is disabled; 1 stroke every 30 sec.	Square pyramidal tower, brown below, white above. 31	1822 1884	

LAKE ONTARIO

No.	Name Character and period of light	Location		Light above high water	Miles seen	
		Latitude, N.	Longitude, W.			
SOUTH SIDE						
110	Braddock Point Gp. Fl. W., 6 sec. 2 flashes.	On Bogus Point, 2.7 miles west of Braddock Point.	° ' ° ' 43 20 77 46	Feet 92	18	
111	Thirty-Mile Point Fl. W., 10 sec.	On point.....	43 22 78 20	71	16	
112	OLCOTT F. R. U.	On outer end of west pier.....	43 20 78 43	28	12	
113	Fort Niagara Occ. W., 6 sec.	On high east bank of river. N. Y.	43 16 79 04	91	18	
114	Niagara Gas and Bell Buoy Occ. R.	On east end of shoals off mouth of river, 2.5 miles 350° from Fort Niagara Lighthouse.	43 18 79 04			
115	Niagara River Gas Buoy Occ. W.	At northwest end of shoal on east side of mouth of river, 1,065 yards 314½° from Fort Niagara Lighthouse.				
116	RANGE { NIAGARA-ON-THE-LAKE FRONT. F. R.	Near Niagara Navigation Co.'s wharf.		30	7	
117		Niagara-on-the-Lake Rear. F. R.	230 yards 152½° from pre- ceding.		43	8
118	PORT WELLER Occ. W.	On outer end of west embank- ment at entrance to harbor. C.		45	10	
119	RANGE { Port Dalhousie Main..... Gp. Occ. W., 60 sec. 8 eclipses.	On shore east of line of east breakwater, entrance to old Welland Canal.		56	13	
120		PORT DALHOUSIE FRONT.. F. R.	Near outer end of east pier, 500 yards 357° from pre- ceding.		43 13 79 16	42

NEW YORK AND CANADA

10TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
20,000 3½ ei	Flash 1 sec., eclipse 1 sec., flash 1 sec., eclipse 3 sec.	Feet Red, upper part black, octago- nal pyramidal tower, attached to dwelling. 97	Year 1896
24,000 3 o	Flash 1.5 sec., eclipse 8.5 sec....	White lantern parapet on white square tower, attached to dark- gray dwelling. 61	1876
250 170 mm ei	-----	Red steel post.	1873 1930
4,500 4 ei	Light 4 sec., eclipse 2 sec. Light shut in by trees to eastward and from occasional points in river.	Gray octagonal tower, upper part white. 65	1823 1872
-----	BELL , on buoy.....	Red.	
-----	Maintained from May 10 to Oct. 20.		
-----	Maintained from May 10 to Oct. 20.	Black, cylindrical.	
10,000	DIAPHONE , air: Blast 3 sec., silent 57 sec.	White, square, wood; red lan- tern. 32	1904
10,000	-----	White, square, wood; red lan- tern. 45	1904
-----	BELL ; strikes continuously.....	Concrete pole. 35	1921 1927
-----	8 eclipses 2 sec. each, 7 light periods 5 sec. each, 1 light pe- riod 9 sec.	White, octagonal, wood; red iron lantern. 58	1852 1898
-----	DIAPHONE , air: Blast 4 sec., silent 26 sec. Horn points north. Storm-signal mast on point between old and new canals, middle of harbor.	White, square, wood. 38	1879

BAY OF QUINTE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
BAY OF QUINTE					
121	CENTRE BROTHER ISLAND. Occ. W.	On north point of island. 44 12 76 38		Feet 31	10
122	Point Pleasant. F. W.	Entrance to Bay of Quinte. 44 07 76 51		52	12
123	Foresters Island Gas Buoy 89 T. Occ. W.	0.2 mile 67° from north point of island. 44 11 77 03			
124	TELEGRAPH ISLAND. Occ. W.	On north side of island, Bay of Quinte. 44 10 77 07		46	8
125	Northport Shoal Gas Buoy 103 T. Occ. W.	In 16 feet, on north side of shoal.			
126	Minnie Blakely Shoal Gas Buoy 106 T. Occ. R.	In 20 feet.			
127	BELLEVILLE. F. R.	On southeast edge of shoal, at entrance to harbor, 230 yards west of end of railway wharf. 44 09 77 23		38	9
128	BAY OF QUINTE BRIDGE. 2 F. W. 2 F. R. 2 F. G.	West of Belleville. 44 09 77 23		18	3
129	NIGGER ISLAND SHOAL. Occ. W.	In 11 feet, on north side of steamboat channel. 44 07 77 30		27	10
130	ONDERDONK POINT. F. W.	44 05 77 32		34	4
131	TRENTON FRONT. F. R.	On west side of harbor. 44 06 77 34		20	2
132	TRENTON REAR. F. R.	175 yards 280½° from pre- ceding.		42	2
133	Trenton Gas Buoy 110 T. Occ. R.	At turn in east dredged chan- nel. 44 06 77 33			

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Relbuilt
		Feet	Year
		White, square, wood; red lan- tern. 31	1890 1928
		White, octagonal, wood; red lantern. 52	1866
		Black.	
		White square tower on dwelling on cribwork. 41	1870 1926
		Black.	
		Red.	
		White, square, wood; on octag- onal pier. 36	1881
	Channel 75 feet wide north and south of swing pier. Red light at each end of draw when closed; open draw indicated by 2 green lights, flanked by 2 white lights; vessels must pass between green and white lights. Maintained by Bridge Co.	Open-truss bridge.	1891
		Pole on pier.	1894 1927
		White, square, wood. 20	1911
		White diamond daymark on mast, shed at base. 20	1905
		White diamond daymark on mast, shed at base. 30	1905
		Red.	

MURRAY CANAL

No.	Name Character and period of light	Location		Light above high water	Miles seen					
		Latitude, N.	Longitude, W.							
MURRAY CANAL										
134	F. W. -----	10 yards from end of north pier, east entrance to canal.	44 04 77 35	27	5					
135	F. W. or F. R. -----	Above center of swing pier of Carrying Place Highway Bridge, 1,575 yards from preceding.		35	6					
136	F. W. or F. R. -----	Above center of swing pier of Central Ontario Railway Bridge, 500 yards west from preceding.		20	4					
137	F. W. or F. R. -----	Above center pier of Smithfield Bridge, 2,200 yards west from preceding.		35	6					
138	F. W. or F. R. -----	Above center of swing pier of Lovatt Bridge, 2,565 yards west from preceding, and 2,165 yards from west entrance to canal.		35	6					
139	F. W. -----	10 yards from end of north pier, west entrance to canal.	44 02 77 41	27	5					
140	BRIGHTON RANGE, 3, F. W. -----	In 15 feet, north side of channel, and on axis of Murray Canal, 2,400 yards from end of canal piers, 1,305 yards from Brighton Wharf.	44 01 77 42	29	3					
						141	BRIGHTON RANGE, 2, F. W. -----	1,785 yards 246° from preceding, 480 yards from Brighton Wharf.	45	6
143	Presqu'ile Middle Ground Gas Buoy 21. Occ. W.	On southwest end of shoal, 760 yards 350° from Presqu'ile Lighthouse.								
144	Presqu'ile F. W. -----	On east point of peninsula.	44 00 77 41	67	13					

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i> White cylindrical column, hexagonal base. 18	<i>Year</i> 1891 1899
	By day centers of swings of bridges, by night lights on same (white if swings are open, red if closed) in range, indicate middle of dredged channel and canal. Each bridge is passed to southward of swing, which is somewhat to northward of axis of canal.	Open-truss bridge.	1891
		Open-truss bridge.	1891
		Open-truss bridge.	1891
	By day centers of swings of bridges, by night lights on same (white if swings are open, red if closed) in range, indicate middle of dredged channel and canal. Each bridge is passed to southward of swing, which is somewhat to northward of axis of canal.	Open-truss bridge.	1891
		White cylindrical column, hexagonal base. 18	1891 1899
	No. 3 light, in range with No. 2, leads up from canal through center of channel. Leave 35 yards on starboard hand. Brought directly astern, with No. 1 directly ahead, guides through dredged channel.	White, square, wood; on octagonal pier. 30	1891
		White, square, wood; on pier. 47	1891
	Structure destroyed. Temporary light shown on Brighton Wharf.	White, square, wood; on octagonal pier. 30	1891 1920
		Black, cylindrical.	
	DIAPHONE, air: Blast 6 sec., silent 54 sec. Horn points south.	White, octagonal, stone; white fog-signal house with red roof, 15 yards west. 63	1840

LAKE ONTARIO

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
145	Pigeon Island Gp. Fl. W., 5 sec. 2 flashes.	On island, 4 miles from Wolfe Island, northeast end of lake. 44 04	0 30 76 33	<i>Fat</i> 65	13
146	Main Duck Island Fl. W., 6 sec. Radiobeacon.	On west end of island..... 43 56	76 38	74	14
147	False Ducks F. W.	On east point of Swetman Island, easternmost island of False Ducks groups. 43 57	76 48	68	13
148	PRINCE EDWARD POINT F. R.	On point..... 43 56	76 52	36	7
149	Point Peter Fl. W., 20 sec.	On point..... 43 50	77 09	62	13
150	Scotch Bonnet Fl. W., 4 sec. U.	On small island, 1 mile south- west of Nicholson Island. 43 54	77 32	51	12
<i>(For Murray Canal going east read upward from No. 143.)</i>					
151	COBOURG EAST PIERHEAD Occ. R. U.	On outer end of east pier..... U.		45	8
153	COBOURG WEST PIERHEAD Fl. W., 3 sec. U.	On outer end west pier..... 43 57	78 10	40	11
151	RANGE { COBOURG FRONT..... F. R.	On east pier, 55 yards inside customs warehouse. 43 57	78 10	30	3
155		{ COBOURG REAR..... F. R.	East of east pier, 125 yards S $\frac{1}{2}$ ° from preceding.		38
156	Peter Rock Occ. W., 10 sec. U.	On rock, 2.5 miles east of Port Hope Breakwater. 43 56	78 14	45	10

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	Flash 0.2 sec., eclipse 0.8 sec., flash 0.2 sec., eclipse 3.8 sec. HORN , hand, answers signals.	<i>Fat</i> White square skeleton tower in- closing stair cylinder; red cylin- drical lantern; white rectangu- lar wooden dwelling. 65	<i>Year</i> 1871 1909
	DIAPHONE , air; gp. 2 blasts every 45 sec.; Blast 3 sec., silent 3 sec., blast 3 sec., silent 36 sec. Horn points 250°. RADIO BEACON : Transmits gps. of 3 dots and 1 dash; 2 dashes and 1 dot, and 1 dash and 2 dots (VGD), see p. 257 for time schedule, etc.	White octagonal pyramidal tower, red lantern roof. 80	1914
	DIAPHONE , air: Blast 4 sec., silent 56 sec. Horn points south.	White, circular, stone; red lan- tern; white rectangular fog- signal house with red roof. 62	1828
		White, square, wood; dwelling attached. 36	1881
40,000	DIAPHONE , air: Blast 3 sec., silent 27 sec.	White, circular, stone; white wooden fog-signal house, brown roof. 60	1833 1925
	Flash 1 sec., eclipse 3 sec.	White, circular, stone; dwelling attached. 54	1856 1919
	Flash 0.8 sec. DIAPHONE , air; gp. 2 blasts every 60 sec.; Blast 4 sec., silent 4 sec., blast 4 sec., silent 48 sec.	Concrete pyramid. 26	1915 1924
	Flash 0.5 sec.	White, square, pyramidal. 36	1883 1915
	Storm signal mast on east pier. Lifeboat station.	Black drum on mast in front of white diamond daymark. 26	1907
		Black drum on mast in front of white diamond daymark. 34	1907
	Light 5 sec., eclipse 5 sec.	White, circular, stone; sur- rounded by cribwork pier. 48	1840 1919

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
157	PORT HOPE..... F. W.	Near outer end of east break- water.		40	4
158	DARLINGTON..... F. W., R. sector.	On east pierhead..... 43 53 78 40			4
159	OSHAWA HARBOR..... Occ. R.	On outer end of west pier..... U.			
159. 1	RANGE { OSHAWA HARBOR FRONT..... F. R.	On west breakwater pier..... U.		21	
159. 2		RANGE { OSHAWA HARBOR REAR..... F. R.	133 yards 328° from preced- ing.		30
160	WHITBY..... Occ. W.		On west pier..... 43 51 78 56		37
TORONTO HARBOR					
161	RANGE { EAST ENTRANCE FRONT..... Fl. R., 12 sec.	On east pier, 35 yards from outer end. 43 38 79 21		43	8
162		RANGE { EAST ENTRANCE REAR..... F. R.	550 yards 323° from preced- ing.		69
163	EAST ENTRANCE INNER..... F. R.		On inner end of east pier, 800 yards 320° from front light.		27
164	Gibraltar Point..... Occ. W., S sec.	567 yards 54° from southwest end of point, 1.5 miles south of Toronto. 43 37 79 23		66	14
165	RANGE { WEST ENTRANCE FRONT..... F. R. F. R.	On south pier, near outer end. 43 38 79 24		43	7
166		RANGE { WEST ENTRANCE REAR..... Occ. W. F. R.	On south pier, near inner end, 810 yards 54° from preced- ing.		65

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	Not under Dominion Marine De- partment. Lifeboat station. Storm-signal on wharf near lighthouse.	Feet White pole.	Year 1868 1929
	Red from 339½° to 343½°; over arc of 30° on each side of red sector unscreened light shows both red and white. Not under Dominion Marine Department.	Red, octagonal lantern on white shed. 30	
	HORN , hand, answers signals.....		
		White, octagonal, wood; red roof. 39	1844 1923
	Flash 1 sec. Visible from 197° to 17°. BELL ; 1 stroke every 3 sec.	Red skeleton tower, white in- closed upper part; red lantern roof. 40	1895 1926
	DIAPHONE , air: Blast 4 sec., silent 56 sec. Horn points southeast. Storm-signal station on east pier, near fog signal. Lifeboat sta- tion at west pier, opposite fog signal.	Box attached to electric trans- mission tower; fog-signal house, white square wood green roof, 545 yards shoreward of front lighthouse.	1905
	Not visible lakeward; guide to channel from harbor side only. BELL ; 1 stroke every 5 sec.	White, square, wood; red lantern roof; fog-bell platform on north side. 22	1898 1906
	Light 4 sec., eclipse 4 sec..... Radio station; call VBG.	White, hexagonal, stone. 62	1808
	Upper lights visible on range line only, lower lights visible from all points of approach. BELL ; 1 stroke every 5 sec.	White, square; surmounted by pole supporting lantern. 26	1856 1925
	Storm-signal mast at foot of Yonge St.	White square skeleton tower, in- closed upper part, surmounted by pole supporting lantern. 46	1838 1925

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
167	OAKVILLE Gp. Occ. W., 30 sec. 2 eclipses.	On east pier, 15 yards from outer end. 43 26	79 40	Feet 39	11
168	BRONTE F. W.	On north pier, near outer end. 43 24	79 42	27	10
169	RANGE BURLINGTON BAY FRONT. F. R.	On outer end of south pier. 43 18	C. 79 47	40	7
170		Burlington Bay Rear (Main). F. W.	Near middle of south pier, 489 yards 233° from preced- ing. 43 18	79 48	75
171	BURLINGTON BAY F. R.	On inner end of south pier, 435 yards 238° from preced- ing. 43 18	79 48	20	4
NIAGARA RIVER					
172	CHIPPAWA F. R.	On northeast side of entrance to ship channel, at mouth of Welland River. C.		16	9
172. 1	NIAGARA FALLS TRANSMIS- SION LINE A. U. Fl. W., 3 sec.	On pier supporting tower carrying transmission line.		20	5
172. 2	NIAGARA FALLS TRANSMIS- SION LINE B. U. Fl. W., 3 sec.	On pier supporting tower carrying transmission line.		20	5
172. 3	NIAGARA FALLS TRANSMIS- SION LINE C. U. Fl. W., 3 sec.	On pier supporting tower carrying transmission line.		20	5
TONAWANDA CHANNEL					
173	NIAGARA FALLS INTAKE CRIB. Fl. W., 3 sec.	On crib. N. Y.		15	
174	LOCKPORT INTAKE CRIB. F. W.	In 18 feet, on north crib.		13	
175	NORTH TONAWANDA INTAKE CRIB. F. R.	In 17 feet, on middle crib.		17	
176	TONAWANDA INTAKE CRIB. F. R.	In 16 feet, on south crib.		18	

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	Light 18 sec., eclipse 3 sec., light 6 sec., eclipse 3 sec. Storm- signal mast on shore, above east pier.	Feet White, hexagonal, wood; red lantern. 31	Year red 1863 1888
		White, square, wood. 27	1906
	Powerful beam on range line only. East end of north pier illuminated by projector. DIAPHONE, air; gp. 2 blasts every 60 sec.; Blast 3.5 sec., silent 3 sec., blast 3.5 sec., si- lent 50 sec. Horn points east.	White, lower part square, upper part pyramidal; octagonal; red octagonal lantern. 41	1845 1922
	Storm-signal mast here.	Gray circular tower, red lantern. 79	1838
10,000 50	Powerful beam on range line only; low-power light visible from all points of approach.	White, square, wood; red lan- tern roof. 22	1899 1922
	Defines danger zone above Ni- agara Falls and marks entrance to Welland River.	Ornamental iron pole.	1912 1924
25 120 mm ei	Maintained by Niagara Falls Power Co.	Aluminum cylindrical standard.	1930
25 120 mm ei	Maintained by Niagara Falls Power Co.	Aluminum cylindrical standard.	1930
25 120 mm ei	Maintained by Niagara Falls Power Co.	Aluminum cylindrical standard.	1930
25 120 mm ei	Flash 0.5 sec., maintained by city of Niagara Falls, N. Y.	Lantern on pole.	1911
o	Maintained by city of Lockport, N. Y.	Lantern on crib.	1909
o	Maintained by city of North Tonawanda, N. Y.	Lantern on crib.	1897
o	Maintained by City of Tona- wanda, N. Y.	Lantern on crib.	1893

NIAGARA RIVER AND LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
TONAWANDA CHANNEL					
177	CANAL ENTRANCE WEST. F. W. U.	On west side of entrance to Erie Canal.		8	
178	CANAL ENTRANCE EAST. F. R. U.	On east side of entrance to Erie Canal.		6	
179	CANAL PIER. F. R. U.	On east side of entrance to Erie Canal.		12	
180	OLD CANAL ENTRANCE. F. W. U.	On west side of entrance to Erie Canal.		12	
181	<i>Rattlesnake Shoal Gas Buoy</i> 1A. Fl. W., 3 sec.	In 22 feet, on point of shoal, east side channel.		10	
182	RANGE { GRAND ISLAND FRONT. F. R. U.	On east shore of island, on axis of dredged channel.		29	
183		RANGE { GRAND ISLAND REAR. F. R. U.	On island, 515 yards 313½° from preceding.		53
184	<i>Strawberry Island Cut Gas</i> Buoy 3. Fl. W., 3 sec.		In 21 feet, on northeast side of entrance to cut.		8
185	RANGE { STRAWBERRY ISLAND LOW- ER CUT FRONT. F. R. U.	On towpath of Erie Canal.		34	
186		RANGE { STRAWBERRY ISLAND LOW- ER CUT REAR. F. R. U.	On Fuller Street, Buffalo, 250 yards 139½° from preced- ing.		53
187	RANGE { STRAWBERRY ISLAND UP- PER CUT FRONT. F. R. U.		In 5 feet, on east side of river. 42 57 78 55		30
188		RANGE { STRAWBERRY ISLAND UP- PER CUT REAR. F. R. U.	In Riverside Park, 265 yards ½° from preceding.		58
189	<i>Strawberry Island Cut Gas</i> Buoy 12. Fl. W., 3 sec.		In 22 feet, on edge of Straw- berry Island Reef, at turn.		7
190	NIAGARA RIVER INTAKE CRIB. F. R. U.	In 15 feet, on crib.		30	
BUFFALO HARBOR					
191	BUFFALO INTAKE CRIB. Occ. R., 10 sec. U.	In 17 feet, on north side of north entrance to harbor.		55	10

NEW YORK

10TH DIST.

Candlepower, Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
50 Hl o	Maintained by State of New York.	Feet Red stake.	Year 1918
15 Hl o	Maintained by State of New York.	Red stake.	1920
15 Hl o	Maintained by State of New York.	Red stake.	1919
50 Hl o	Maintained by State of New York.	Black stake.	1919
70 200 mm a	Flash 0.3 sec.	Black.	
12,000 Rg ei	This range is lighted throughout the 24 hours of each day.	White rectangular slatted day- mark on square pyramidal skeleton tower.	1917 27
12,000 Rg ei		White rectangular slatted day- mark on square pyramidal skeleton tower.	1917 51
70 200 mm a	Flash 0.3 sec.	Black.	
4,800 Rf ei		White pyramidal skeleton tower.	1908 29 1916
4,800 Rf ei		White pyramidal skeleton tower.	1908 61 1916
420 300 mm ei	Illuminates 22° to eastward and 112° to westward of range line.	White octagonal pyramidal tow- er on square pier.	1908 29
420 300 mm ei	Illuminates 22° to eastward and 112° to westward of range line.	White, octagonal, pyramidal above first story.	1908 33
30 150 mm a	Flash 0.3 sec.	Red.	
ei	Maintained by city of Buffalo, N. Y.	Lantern on crib.	1870
220 4 a	Light 5 sec., eclipse 5 sec. Main- tained by city of Buffalo, N. Y.	Lantern on crib.	1908

BUFFALO HARBOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W		
BUFFALO HARBOR					
192	North Entrance Gas Buoy 1A. Fl. W., 3 sec.	In 23 feet, on northwest side of north entrance.		Feet 10	8
193	North Entrance Gas Buoy 3. Fl. W., 3 sec.	In 23 feet, on northwest side of north entrance, at turn.		10	8
194	Buffalo. Fl. W., 7.5 sec. Radiobeacon.	In 20 feet, inside breakwater, south side of north (main) entrance to harbor. 42 53 78 54		65	16
195	BUFFALO HARBOR ANCHOR- AGE. F. G.	On breakwater, 400 yards 151° from Buffalo Light- house.		21	---
196	BUFFALO NORTH BREAK- WATER SOUTH END. F. G.	On southeast end. 42 53 78 54		36	8
197	BUFFALO SOUTH PIER. Occ. E., 10 sec.	On pier, near outer end.		51	---
BLACK ROCK CHANNEL					
197.5	Black Rock Channel Entrance Gas Buoy 2. Fl. R., 5 sec.	In 20 feet.		7	---
198	Black Rock Channel Gas Buoy 3. Fl. W., 5 sec.	In 20 feet.		8	---
199	STATE BREAKWATER, 4. F. R.	On northwest end.		30	---
200	Black Rock Channel Gas Buoy 6. Fl. R., 5 sec.	In 20 feet, on east side of channel.		7	---
201	Black Rock Channel Gas Buoy 5. Fl. W., 5 sec.	In 20 feet, on west side of channel.		7	---
202	Black Rock Channel Gas Buoy 7. Fl. W., 5 sec.	In 20 feet, at angle in west channel bank.		7	---

NEW YORK

10th Dist.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Retuilt
			Year
70 200 mm a	Flash 0.3 sec.	Feet Black.	
70 200 mm a	Flash 0.3 sec.	Black.	
620,000 3 ei	Flash 0.5 sec., eclipse 7 sec. Vessels are requested not to anchor east, or within 400 yards south of this light. DIAPHONE, air; gp. 2 blasts every 20 sec.; Blast 1 sec., silent 1 sec., blast 1 sec., silent 17 sec. RADIOBEACON: Transmits groups of 4 dashes. See p. 256 for time schedule, etc.	White square tower on corner of square building. Illuminated cable warning on channel side of pier. 1872 1914	
100 170 mm ei	Visible only from 140° to 330°, inside of breakwater. Vessels are requested not to anchor north of this light.	Black, lantern on pipe.	1922
480 300 mm ei	-----	White bottle-shaped iron struc- ture. 1901 1903	
1,500 300 mm ei	Light 8 sec., eclipse 2 sec. BELL; 1 stroke every 15 sec. Vessels are requested not to an- chor near. Weather signals at Coast Guard station.	White skeleton structure with inclosed top. Illuminated ca- ble warning 135 yards 127°. 1914	
10 150 mm a	Flash 0.7 sec.	Red, cylindrical.	
70 200 mm a	Flash 0.7 sec.	Black.	
50 Ll o	-----	White post.	1914
10 150 mm a	Flash 0.7 sec.	Red, cylindrical.	
30 150 mm a	Flash 0.7 sec.	Black, cylindrical.	
30 150 mm a	Flash 0.7 sec.	Black, cylindrical.	

BUFFALO HARBOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
	BLACK ROCK CHANNEL				
203	<i>Black Rock Channel Gas Buoy</i> 8. Fl. R., 5 sec.	In 20 feet, on east side of channel.		<i>Fed</i> 7	
204	<i>Black Rock Channel Gas Buoy</i> 9. Fl. W., 5 sec.	In 20 feet, on west side of channel.		7	
205	<i>Black Rock Channel Gas Buoy</i> 10. Fl. R., 5 sec.	In 20 feet, on east side of channel.		7	
206	<i>Black Rock Channel Gas Buoy</i> 11. Fl. W., 5 sec.	In 20 feet, on southwest side of channel, at beginning of turn.		7	
207	<i>Black Rock Channel Gas Buoy</i> 14. Fl. R., 5 sec.	In 20 feet, on northeast side of channel, abreast light No. 11.		7	
208	<i>Black Rock Channel Gas Buoy</i> 16. Fl. R., 5 sec.	In 20 feet, on east side of channel, abreast light No. 13.		7	
209	<i>Black Rock Channel Gas Buoy</i> 13. Fl. W., 5 sec.	In 20 feet, on west side of channel.		7	
210	<i>Black Rock Channel Gas Buoy</i> 18. Fl. R., 5 sec.	In 20 feet, on east side of channel.		7	
211	<i>Black Rock Channel Gas Buoy</i> 15. Fl. W., 5 sec.	In 20 feet, on west side of channel, abreast preceding.		7	
212	BIRD ISLAND PIER 17----- F. W. U.	At angle of pier-----		21	
213	<i>Black Rock Channel Gas Buoy</i> 20. Fl. R., 5 sec.	In 20 feet, on east bank, abreast preceding.		7	
214	<i>Black Rock Channel Gas Buoy</i> 19. Fl. W., 5 sec.	In 20 feet, on west bank-----		7	
216	<i>Black Rock Channel Gas Buoy</i> 23. Fl. W., 5 sec.	In 20 feet, at angle of west bank.		7	
217	<i>Black Rock Channel Gas Buoy</i> 25. Fl. W., 5 sec.	In 20 feet, at angle of west bank.		7	
219	<i>Black Rock Channel Gas Buoy</i> Fl. W., 5 sec.	In 20 feet, at angle of west bank.		7	

NEW YORK

10TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i>	<i>Year</i>
10 150 mm a	Flash 0.7 sec.-----	Red, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
10 150 mm a	Flash 0.7 sec.-----	Red, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
10 150 mm a	Flash 0.7 sec.-----	Red, cylindrical.	
10 150 mm a	Flash 0.7 sec.-----	Red, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
10 150 mm a	Flash 0.7 sec.-----	Red, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
10 150 mm a	Flash 0.7 sec.-----	Red, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
160 Li o	-----	White post.	1914
10 150 mm a	Flash 0.7 sec.-----	Red, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	
30 150 mm a	Flash 0.7 sec.-----	Black, cylindrical.	

No.	Name Character and period of light	Location		Light above high water	Miles seen	Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Latitude, N.	Longitude, W.					Top of lantern above ground	Established Rebuilt
BLACK ROCK CHANNEL									
220	<i>Black Rock Channel Gas Buoy 24.</i> Fl. R., 5 sec.	In 20 feet, at angle of east bank.		Feet 7		10 150 mm a	Flash 0.7 sec.....	Feet Red, cylindrical.	Year
221	<i>Black Rock Channel Gas Buoy 29.</i> Fl. W., 5 sec.	In 20 feet, at angle of west bank.		7		30 150 mm a	Flash 0.7 sec.....	Black, cylindrical.	
222	<i>Black Rock Channel Gas Buoy 26.</i> Fl. R., 5 sec.	In 20 feet, at angle of east bank, abreast preceding.		7		10 150 mm a	Flash 0.7 sec.....	Red, cylindrical.	
BUFFALO HARBOR									
223	TERMINALS AND TRANSPORTATION CORPORATION PIER. F. G. U.	On southwest corner of pier.		12		150 mm ei	Maintained by Terminals and Transportation Corp. of America.	Pile cluster.	1928
225	SOUTH BUFFALO PIERHEAD... Gp. Fl. R., 6 sec. 3 flashes.	On outer end of extension arm of Stony Point Breakwater. 42 50 78 52		43	9	85 300 mm a	3 flashes 0.3 sec. each, 2 eclipses 0.7 sec. each, 1 eclipse 3.7 sec.	White square pyramidal skeleton tower. 27	1912
226	SOUTH BUFFALO NORTH SIDE. F. W.	On breakwater, north side of main south entrance to Buffalo Harbor.		40	10	160 Ll o		White bottle-shaped iron structure. 29	1903
227	SOUTH BUFFALO SOUTH SIDE. Gp. Fl. W. Alt. R. Fl., 30 sec. 2 W., 1 R. flashes.	On breakwater, south side of main south entrance to Buffalo Harbor.		53	15	150,000 4 ei	Each flash 0.3 sec., each eclipse 9.7 sec. SIREN, 1st-cl. air: Blast 2 sec., silent 28 sec.	Lower part brown, cylindrical; upper part white, conical; brown fog-signal house adjoining. 44	1903
228	LACKAWANNA..... F. R. U.	On east side of entrance to slip.		22	4	ea	Maintained by Bethlehem Steel Co., Lackawanna, N. Y.	Post.	1909
229	LACKAWANNA WEST PIERHEAD. F. R. U.	On west side of entrance to slip.		8		ei	Maintained by Bethlehem Steel Co., Lackawanna, N. Y.	Post.	1911
230	UNION CANAL..... F. R. U.	On south side of entrance to canal, south end of harbor.		15		ea	Maintained by South Buffalo Ry. Co.	Pole.	1917
EAST END									
231	<i>Waverly Shoal Gas and Bell Buoy 1.</i> Fl. W., 3 sec.	In 30 feet, 1.2 miles south of 12-foot spot, 3 miles 221° from Buffalo (main) Light-house.		16	10	390 375 mm a	Flash 0.3 sec..... BELL; sounds 1 stroke every 15 sec. (CO ₂).	Black.	
232	<i>Seneca Shoal Gas Buoy 2</i> Occ. W., 20 sec.	In 30 feet, on northwest side of shoal.		10	9	120 200mmpgm	Light 10 sec., eclipse 10 sec....	Red. Spar station buoy.	
233	<i>Buffalo Approach Gas Buoy B.</i> Occ. W., 20 sec.	In 60 feet, midway between Point Abino and Sturgeon Point; 13 miles southwest of Buffalo.		10	9	120 200mmpgm	Light 10 sec., eclipse 10 sec....	Black and white vertical stripes.	

LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH SIDE					
235	Dunkirk..... Occ. W., 10 sec.	On point Gratiot, west of entrance to Harbor. N. Y. 42 30	79 21	82	17
236	DUNKIRK PIERHEAD..... F. R.	On outer end west pier, en- trance to Harbor. N. Y.		41	8
ERIE HARBOR					
237	PRESQUE ISLE FOG SIGNAL STATION.	On northeast shore of penin- sula. Pa.			
238	HAMMERMILL INTAKE..... F. W. U.	On crib.....		9	
239	Erie Harbor Outer Gas Buoy 1. Fl. W., 3 sec.	In 20 feet, on south side of entrance.		11	8
240	Outer Gas Buoy 1A..... Occ. W., 20 sec.	In 18 feet, on edge of channel.		10	9
241	PRESQUE ISLE PIERHEAD..... Occ. R., 5 sec.	On north pier, 190 yards from outer end. 42 09	80 04	39	13
242	RANGE { ERIE, 1..... F. R.	On west end of north pier.....		38	12
243		ERIE, 2..... F. R.	279 yards 54¼° from preced- ing.		80
244	Erie Harbor Inner Gas Buoy S. Fl. W., 3 sec.	In 16 feet.....		10	
SOUTH SIDE					
245	Presque Isle..... Alt. Fl. R. and W., 20 sec.	On northwest shore of penin- sula. Pa. 42 10	80 07	73	16
CONNEAUT HARBOR					
246	CONNEAUT EAST BREAKWA- TER. U. Fl. R., 3 sec.	On northwest end of break- water, east side of entrance to harbor. Ohio		37	9
247	Conneaut Harbor..... Gp. Fl. W., 12 sec. 2 flashes.	On east end of west break- water, west side of entrance to harbor.		55	15

NEW YORK, PENNSYLVANIA, AND OHIO 10TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
31,000 3 ei	Light 6 sec., eclipse 4 sec.....	Feet Gray square stone tower, white above gallery; covered way to dwelling. 1827 61 1876	Year
50 Li o	-----	Brown base, white upper part; inclosed tower; pyramidal above square base. 1837 36 1899	
-----	DIAPHONE, air; gp. 3 blasts every 30 sec.; 3 blasts 1 sec. each, 2 silences 1 sec. each, 1 silence 25 sec.	White pyramidal skeleton tower, inclosed top; horn 45 feet above base. 1899 1924	
55 ei	Maintained by Hammermill Paper Co.	Lantern on crib.	1912
70 200 mm a	Flash 0.3 sec.....	Black.	
120 200 mmpgm	Light 10 sec., eclipse 10 sec.....	Black.	
3,600 4 ei	Light 3 sec., eclipse 2 sec..... BELL; 1 stroke every 15 sec.	White and brown pyramidal tower; red square pyramidal bell tower 165 yards east. 1819 36 1858	
420 300 mm ei	-----	White square pyramidal tower. 39 1856 1896	
420 300 mm ei	-----	White oval slatted daymark on pyramidal skeleton tower. 1856 80 1924	
70 200 mm a	Flash 0.3 sec.....	Red.	
R. 30,000 W. 120,000 4 ei	Red flash 1 sec., eclipse 9 sec., white flash 1 sec., eclipse 9 sec.	White square tower, red dwelling attached. 1873 68 1896	
85 300 mm a	Flash 0.3 sec.....	White square skeleton tower. 1917 1920	
4,500 4 ei	Flash 3 sec., eclipse 1 sec., flash 3 sec., eclipse 5 sec. DIAPHONE; air; gp. 2 blasts every 30 sec.; Blast 2 sec., si- lent 1 sec., blast 1 sec., silent 26 sec.	Cement color square tower on corner of rectangular building. 1915 1920	

LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
CONNEAUT HARBOR					
248	CONNEAUT WEST PIER..... F. R.	On north end of west pier....		Feet 28	12
249	CONNEAUT EAST PIER..... F. W.	On north end of east pier....		28	12
ASHTABULA HARBOR					
249.5	POWERHOUSE BREAKWATER... F. W. U.	On north end of breakwater..		17	11
250	Ashtabula..... Fl. W., 5 sec. Radiobeacon.	On pierhead, at north end of west breakwater, west side of entrance.		51	15
251	ASHTABULA EAST BREAKWA- TER. Fl. R., 3 sec.	On pierhead, at west end of breakwater, east side of en- trance.		37	9
252	ASHTABULA INNER BREAK- WATER. F. R.	On pierhead, at northwest end of breakwater, east side of inner entrance.		21	8
253	ASHTABULA WEST PIER..... F. R.	On east side of pier, near north end.		20	11
FAIRPORT HARBOR					
254	DIAMOND ALKALI COMPANY OUTER CRIB. U. Fl. R., 5 sec.	In 20 feet, on crib, 1,440 yards east of entrance to harbor.		24	8
255	DIAMOND ALKALI COMPANY CRIB. U. F. R.	On intake crib, 1 mile east of mouth of Grand River.		25	-----
256	FAIRPORT EAST BREAKWA- TER. U. Fl. R., 3 sec.	On pierhead of breakwater, east side of entrance to har- bor.		37	9
257	Fairport West Breakwater.... Occ. W., 5 sec.	On north end of breakwater, west side of entrance to har- bor.		56	15
258	FAIRPORT WEST PIER..... F. R.	On north end of pier, west side of inner entrance.		74	12

OHIO

10th Dist.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
420 300 mm ei	-----	Feet Red pole.	Year 1835 1931
1,400 300 mm ei	-----	White pole.	1915 1924
1,900 200 mm ei	Maintained by Cleveland Elec- tric Illuminating Co.	Black steel tripod.	1930
32,000 4 ei	Flash 0.7 sec., eclipse 4.3 sec.... DIAPHONE; air: Blast 4 sec., si- lent 56 sec. RADIOBEACON; Transmits gps. of 2 dashes and 1 dot. See p. 256 for time schedule, etc.	White cylindrical tower on square house. 42	1914 1915
80 300 mm a	Flash 0.3 sec.-----	White square pyramidal skeleton steel tower, inclosed base.	1914
50 Ll o	-----	White square pyramidal wooden skeleton tower. 14	1913
420 300 mm ei	-----	Brown square pyramidal tower. 22	1893 1897
60 300 mm a	Flash 0.5 sec. Maintained by Diamond Alkali Co.	Red steel skeleton tower.	1917
-----	Maintained by Diamond Alkali Co.	Red iron tripod.	1912
85 300 mm a	Flash 0.3 sec.-----	White square pyramidal skeleton tower. 31	1913 1925
4,500 4 ei	Light 3 sec., eclipse 2 sec.----- DIAPHONE, air; gp. 2 blasts and 1 blast "21" every 30 sec.: Blast 1 sec., silent 1 sec., blast 1 sec., silent 3 sec., blast 1 sec., silent 23 sec.	White square tower on corner of square building.	1910 1921
420 300 mm ei	-----	White square pyramidal skeleton steel tower. 67	1912

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
FAIRPORT HARBOR					
259	FAIRPORT EAST PIER..... F. G.	On north end of pier, east side of inner entrance.		Feet 28	12
259.5	PAINESVILLE WATER WORKS INTAKE. U. Fl. W., 3 sec.	In 12 feet. Marks location of crib.		5	---
CLEVELAND HARBOR					
260	CLEVELAND EAST ENTRANCE. Occ. W., 10 sec. U.	On northeast end of break- water, northwest side of en- trance to East Basin.		59	15
261	Cleveland East Pierhead..... Gp. Fl. W., 6 sec. 3 flashes.	On outer pierhead, main en- trance to harbor. 41 31 81 43		39	13
262	Cleveland West Pierhead..... Alt. Fl. W. and R., 10 sec.	On outer pierhead, main en- trance to harbor.		63	16
263	CLEVELAND EAST BREAKWA- TER. Gp. Fl. W., 4 sec. 2 flashes.	On northeast side of main entrance.		38	12
264	CLEVELAND WEST BREAKWA- TER. Gp. Fl. R., 4 sec. 2 flashes.	At southwest side of main entrance.		55	10
265	CLEVELAND EAST PIER..... F. W.	On pier, near outer end.....		36	13
266	CLEVELAND WEST PIER..... Fl. R., 2 sec.	On pier, near outer end.....		36	9
267	CLEVELAND WATERWORKS IN- TAKE CRIB. U. Occ. W., 10 sec.	In 54 feet, 3 miles off main entrance to harbor.		55	13
SOUTH SIDE					
268	Rocky River Gas Buoy 1..... Occ. W., 20 sec.	In 30 feet, at entrance to river.		10	9
269	ROCKY RIVER PIERHEAD..... Occ. G., 4 sec. U.	On outer end of submerged pier.		15	9
270	ROCKY RIVER FRONT..... F. R. U.	On bathhouse, at entrance to river.		25	---
271	ROCKY RIVER REAR..... F. R. U.	On flag pole, 333 yards south- easterly from preceding.		50	---

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
420 300 mm ei	-----	Feet White pole. 20	Year 1835 1925
25 120 mm ei	Flash 0.2 sec..... Maintained by city of Paines- ville.	Red structure.	1929 1930
6,000 300 mm ei	Light 8 sec., eclipse 2 sec..... DIAPHONE, air: Blast 2 sec., si- lent 18 sec. Submarine cable to shore; do not anchor near.	White pyramidal skeleton tower, inclosed top. 47	1915
750 4 a	3 flashes 0.2 sec. each, 2 eclipses 0.4 sec. each, 1 eclipse 4.6 sec.	White conical iron tower. 31	1911
W. 32,000 R. 9,600 4 iov	White flash 1 sec., eclipse 4 sec., Red flash 1 sec., eclipse 4 sec. DIAPHONE, air: gp. 2 blasts ev- ery 30 sec.: Blast 1 sec., silent 1 sec., blast 1 sec., silent 27 sec.	White conical iron tower. 55	1911
230 300 mm a	Flash 0.2 sec., eclipse 0.3 sec., flash 0.2 sec., eclipse 3.3 sec.	White square pyramidal skeleton tower, with inclosed base. 27	1892 1911
160 5 a	Flash 0.2 sec., eclipse 0.3 sec., flash 0.2 sec., eclipse 3.3 sec.	Brown, northwest panel of tower white; octagonal tower, upper half pyramidal; on crib. 52	1885 1903
1,400 300 mm ei	-----	Gray square pyramidal tower. 34	1869 1875
85 300 mm a	Flash 0.2 sec.....	White skeleton tower on tank house. 27	1831 1917
360 300 mm a	Light 5 sec., eclipse 5 sec..... SIGNAL, air: Blast 5 sec., silent 25 sec. Maintained by city of Cleveland.	Gray square house on orange cylindrical crib.	1898
120 200 mm pgm	Light 10 sec., eclipse 10 sec.....	Black.	
570 ei	Light 2 sec., eclipse 2 sec. Main- tained May 1 to Nov. 1 by Cleveland Yachting Club.	Conical concrete structure.	1911
100 ei	Maintained by Cleveland Yacht- ing Club.	White tripod on roof of house.	1921
100 ei	Maintained by Cleveland Yacht- ing Club.	White flag pole.	1921

50
LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH SIDE					
272	AVON POWER HOUSE FRONT. U. F. G.	At shore line.....		Fat 15	9
273	AVON POWER HOUSE REAR. U. F. G.	54 yards 183° from preced- ing.		27	9
274	AVON POWER HOUSE BASIN EAST. U. F. W.	At entrance to breakwater basin.		15	9
275	AVON POWER HOUSE BASIN WEST. U. F. W.	At entrance to breakwater basin.		15	9
LORAIN HARBOR					
276	LORAIN EAST BREAKWATER... Gp. Fl. R., 6 sec. U. 2 flashes.	On east side of entrance to harbor.		37	9
277	Lorain West Breakwater..... Occ. W., 10 sec.	On west side of entrance to harbor.		58	15
278	LORAIN EAST PIER..... Fl. R., 3 sec. U.	On pier, near outer end, east side of inner entrance.		32	9
279	LORAIN WEST PIER..... F. R. U.	On pier, near outer end, west side of inner entrance. 41 28 82 11		32	13
LAKE ERIE					
280	VERMILION..... Fl. W., 3 sec. U.	On west pier, near outer end. 41 26 82 22		26	12
280.5	Huron Entrance Gas Buoy 2... Fl. R., 3 sec.	In 21 feet.....		11	7
281	HURON EAST BREAKWATER... Fl. G., 3 sec. U.	On east pier head.....		28	7
282	Huron..... Gp. Fl. W., 10 sec. 2 flashes.	On west pier, near outer end... 41 24 82 33		48	14

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OHIO
10TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
570 ei	Maintained by Cleveland Elec- tric Illuminating Co.	Fat Black steel tripod.	Year 1927
570 ei	Maintained by Cleveland Elec- tric Illuminating Co.	Black steel tripod.	1927
400 ei	Maintained by Cleveland Elec- tric Illuminating Co.	Black steel tripod.	1927 1930
400 ei	Maintained by Cleveland Elec- tric Illuminating Co.	Black steel tripod.	1927
85 300 mm a	Flash 0.3 sec., eclipse 0.9 sec., flash 0.3 sec., eclipse 4.5 sec.	White square pyramidal skeleton tower, inclosed base.	1909 1914
13,000 4 ei	Light 5 sec., eclipse 5 sec..... DIAPHONE, air; 1 blast and gp. 2 blasts "12" every 30 sec.: Blast 1 sec., silent 3 sec., blast 1 sec., silent 1 sec., blast 1 sec., silent 23 sec.	Cement color square tower on southeast corner of square building.	1909 1919
80 300 mm a	Flash 0.3 sec.....	White square pyramidal skeleton tower, inclosed base.	1919
420 300 mm ei	-----	White square pyramidal skeleton tower, inclosed base.	1836 1922
230 300 mm a	Flash 0.3 sec.....	White skeleton tower.	1847 1929
35 200 mm a	Flash 0.3 sec.....	Red.	
35 300 mm a	Flash 0.3 sec.....	White daymark on steel post.	1928
4,500 4 ei	Flash 2 sec., eclipse 1.5 sec., flash 2 sec., eclipse 4.5 sec. Lights in range mark approach to harbor. SIGNAL, air; gp 2 blasts every 30 sec.: Blast 1.5 sec., silent 1 sec., blast 1.5 sec. silent 26 sec. Weather signals near.	White square pyramidal tower.	1835 1857

LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
LAKE ERIE					
283	HURON HARBOR..... F. R.	U.	At bend of west pier, 400 yards 215° from preceding.	Feet 71	16
SANDUSKY HARBOR					
284	Sandusky Bay Outside Gas and Bell Buoy 2. Occ. R., 20 sec.		In 21 feet, at north side of en- trance to channel.	10	7
285	SANDUSKY PIERHEAD..... Occ. W., 6 sec.	U.	On east end of jetty, south side of entrance to bay.	66	15
286	SANDUSKY BAY FRONT..... F. W.		On axis of straight channel... 41 29 82 46	32	13
287	SANDUSKY BAY REAR..... F. W.		875 yards 237° from preced- ing.	61	15
288	SANDUSKY BAY FRONT..... F. R.		On axis of straight channel, at junction of west jetty and Sand Point dike.	27	---
289	SANDUSKY BAY REAR..... F. R.		500 yards 17° from preceding.	61	---
290	Sandusky Inner Gas Buoy 26... Occ. R., 20 sec.		In 18 feet, at bend in channel abreast B. & O. R. R. Piers.	10	---
291	Dock Channel Gas Buoy 30... Fl. R., 3 sec.		In 18 feet.....	8	6
292	Dock Channel Gas Buoy 38... Fl. R., 3 sec.		In 18 feet.....	8	6
292.5	Dock Channel Gas Buoy 17... Fl. W., 5 sec.		In 20 feet.....	9	7
293	SANDUSKY INTAKE CRIB..... F. W.	U.	400 yards offshore from waterworks.	8	---
293.5	BATTERY PARK FRONT..... F. R.	U.	At entrance to East Battery Park Basin.	12	---
293.6	BATTERY PARK REAR..... F. R.	U.	12 yards 153° from preceding.	15	---
294	B. & O. Dock..... 3 F. G.	U.	On northeast corner of B. & O. R. R. Co. dock.	10	9
295	SANDUSKY BAY TRANSMIS- SION LINE. 2 Fl. W., 3 sec.	U.	Mark channel through trans- mission line.	---	---

OHIO

10TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
6,700 Rf ei	Lights in range mark approach to harbor.	Feet White square pyramidal skeleton structure.	Year 1919
35 200 mm pgm	Light 10 sec., eclipse 10 sec. BELL, on buoy.	Red.	
7,500 375 mm ei	Light 4 sec., eclipse 2 sec. DIAPHONE, air: Blast 3 sec., si- lent 27 sec.	White pyramidal skeleton tower, inclosed top.	1921 1926
180,000 Rf ei	-----	White square pyramidal skeleton tower on concrete crib.	1900 1926
180,000 Rf ei	-----	White square pyramidal tower on square crib.	1900
54,000 Rf ei	Submarine cable to a point just east of lighthouse wharf on Cedar Point. Do not anchor.	Red square pyramidal skeleton tower on concrete crib.	1896 1926
54,000 Rf ei	-----	Red square pyramidal tower on concrete crib.	1896
35 200 mm pgm	Light 10 sec., eclipse 10 sec.	Red.	
20 200 mm a	Flash 0.3 sec.	Red.	
20 200 mm a	Flash 0.3 sec.	Red.	
30 150 mm a	Flash 0.7 sec.	Black.	
60 ei	Maintained by city of Sandusky.	Lantern on crib.	1916
100 300 mm ei	Range maintained by city of Sandusky.	Red cylindrical standard.	1930
100 300 mm ei	-----	Red cylindrical standard.	1930
200 ei	Maintained by the Wagner Quarries Co., Sandusky.	At dock level, 4 feet apart.	1928
40	Flash 0.3 sec. Maintained by Ohio Public Service Co.	On masts on concrete pier.	1926

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST END					
296	Kelleys Island North Side Gas Buoy 1 A. Occ. W., 10 sec.	In 28 feet, on northwest side of Kelleys Island Shoal.		<i>Feet</i> 10	9
297	Gull Island Shoal Gas Buoy 4. Occ. R., 20 sec.	In 36 feet, on south side of shoal.		10	7
298	Marblehead Fl. R., 10 sec.	On northeast end of point 41 32 82 43		67	16
299	Scott Point Shoal Gas Buoy 1. Occ. W., 20 sec.	In 20 feet, on northeast part of shoal.		10	9
300	Starve Island Reef Gas Buoy 4. Occ. R., 20 sec.	In 22 feet, on south point of reef.		10	7
301	BALLAST ISLAND Fl. W., 3 sec. U.	On northeast end of island 41 41 82 47		92	12
302	PERRY MEMORIAL MONU- MENT. U. F. W.	On middle of narrow neck of land forming southeast shore of Put-in-Bay.		354	-----
304	South Bass Island Alt. Fl. W. and R., 30 sec.	On southwest point of island 41 38 82 50		60 14	15 14
305	Green Island Gp. Fl. W., 10 sec. U. 2 flashes.	Near west end of island 41 39 82 52		57	14
306	Peach Orchard Point Gas Buoy 2. Occ. W., 20 sec.	In 17 feet, off point, in Put- in-Bay.		10	9
307	PORT CLINTON F. R. U.	On outer end of west pier, entrance to Port Clinton Harbor. 41 39 82 56		26	10
308	Niagara Reef Gas Buoy 5 Occ. W., 20 sec.	In 24 feet, on north side		10	9
309	West Sister Island Fl. W., 3 sec	On southwest end of island 41 44 83 07		55	14

Candlepower	Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established Rebuilt
			<i>Feet</i>	<i>Year</i>
120 200mm p gm		Light 5 sec., eclipse 5 sec.-----	Black.	
35 200mm p gm		Light 10 sec., eclipse 10 sec.-----	Red.	
330,000 3 1/2 ei		Flash 0.3 sec., eclipse 9.7 sec. Weather signals at Coast Guard station on point.	White conical tower. 70	1821
120 200mm p gm		Light 10 sec., eclipse 10 sec.-----	Black.	
35 200mm p gm		Light 10 sec., eclipse 10 sec.-----	Red.	
230 300 mm a		Flash 0.3 sec.-----	White square pyramidal skele- ton, inclosed base.	1916 67
ei		Lighted only from dusk until midnight during summer. Not maintained by the Lighthouse Service.	White granite doric column.	1915
W. 32,000 R. 9,600 4 ei		White flash 1.5 sec., eclipse 13.5 sec., Red flash 1.5 sec., eclipse 13.5 sec. Light obscured by trees from 173° to 249°.	Red square tower projecting from square dwelling.	1897 46
580 4 a		Flash 0.5 sec., eclipse 1 sec., flash 0.5 sec., eclipse 8 sec. Light obscured by woods from 238° to 303°.	Gray square tower attached to dwelling.	1854 50 1865
120 200mm p gm		Light 10 sec., eclipse 10 sec.-----	Red.	
900 5 ei		-----	White square pyramidal tower, concrete pier.	1833 24 1896
120 200mm p gm		Light 10 sec., eclipse 10 sec.-----	Black.	
750 4 a		Flash 0.3 sec. Light obscured by trees on northeast side of island through arc of about 35°; other scattered trees ob- scure light at intervals. Red light in place of usual white light is distress signal.	Cement colored conical tower, covered way to dwelling.	1848 53

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
MAUMEE BAY					
310	Toledo Harbor Gp. Fl. W. Alt. R. Fl. 30 sec. 2 W., 1 R. flashes.	In 21 feet, off outer entrance to straight channel. 41 46	83 20	Feet 72	16
311	Entrance Gas Buoy 1 Occ. W., 20 sec.	In 20 feet, southeast side of entrance.		10	9
312	Channel Gas Buoy 14 Fl. R., 3 sec.	In 18 feet, on north side of channel.		10	6
313	Channel Gas Buoy 13 Fl. W., 3 sec.	In 18 feet, on south side of channel.		10	8
314	Channel Gas Buoy 20 Fl. R., 3 sec.	In 18 feet, on north side of channel.		10	6
315	STRAIGHT CHANNEL RANGES NEL. RANGES	MAUMEE BAY EASTERLY FRONT AND WEST- ERLY REAR. F. W.	On northeast end of artificial island.	42	13
316		MAUMEE BAY EAST- ERLY REAR AND WESTERLY FRONT. F. W. F. W.	413 yards 237¼° from pre- ceding.		64 25
317	MAUMEE CRIB OUTER NORTHERLY. F. R.	At widest part of crib of Mau- mee Bay Straight Channel Ohio.		10	-----
318	MAUMEE CRIB INNER NORTH- ERLY. F. R.		10	-----	
319	MAUMEE CRIB INNER SOUTH- ERLY. F. R.		10	-----	
320	MAUMEE CRIB OUTER SOUTH- ERLY. F. R.		10	-----	
321	Channel Gas Buoy 23 Fl. W., 3 sec.		In 18 feet, on south side of channel.		10
322	Channel Gas Buoy 30 Fl. R., 3 sec.	In 18 feet on north side of channel.		8	6
323	Channel Gas Buoy 29 Fl. W., 3 sec.	In 18 feet, on south side of channel, abreast preceding.		8	8
324	Inner Gas Buoy 38 Occ. W., 20 sec.	In 17 feet, on north side of channel, at bend.		10	9

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
R. 18,000 W. 13,000 3½ o	Each flash 1 sec., each eclipse 9 sec. SIREN, 1st-cl. air: Blast 2 sec., silent 24 sec.	Feet Buff square 3-story brick dwell- ing, fog-signal house attached. 70	Year 1904
120 200 mm pg m	Light 10 sec., eclipse 10 sec.	Black.	
20 200 mm a	Flash 0.3 sec.	Red.	
70 200 mm a	Flash 0.3 sec.	Black.	
20 200 mm a	Flash 0.3 sec.	Red.	
350 5 o	Illuminates horizon except from 80° to 125°.	Red square pyramidal skeleton tower, black lantern, and watch room. 42	1884 1898
350 350 5 o	Upper light is rear light of east range; lower light is front light of west range. Each light visible 90° on each side of range line.	Red square pyramidal skeleton tower, two black lanterns, and watch rooms. 64 25	1884 1898
50 Ll o	-----	Lantern on pedestal. 5	1913
50 Ll o	-----	Lantern on pedestal. 5	1913
50 Ll o	-----	Lantern on pedestal. 5	1913
50 Ll o	-----	Lantern on pedestal. 5	1913
70 200 mm a	Flash 0.3 sec.	Black.	
20 200 mm a	Flash 0.3 sec.	Red.	
70 200 mm a	Flash 0.3 sec.	Black.	
120 200 mm pg m	Light 10 sec., eclipse 10 sec.	Red.	

LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
MAUMEE BAY					
325	MANHATTAN FRONT F. R.	On south side Grassy Point.		40	13
		41 42	83 28		
326	MANHATTAN REAR F. R.	0.6 mile 237½° from preceding.		86	17
		Ohio.			
LAKE ERIE, WEST END					
327	Monroe Fl. W., 3 sec.	At outer end of north pier, entrance to Raisin River.		34	12
		U.	Mich. 41 53		
NORTH SIDE					
328	Point Abino Gp. Fl. W., 12 sec. 3 flashes.	On beach, on south end of point.		87	15
		42 50	C. 79 06		
329	Port Colborne Gas and Bell Buoy. Occ. W.	On Port Colborne Range line, 3 miles from front light.		---	---
		42 49	79 17		
330	PORT COLBORNE OUTER F. R.	On south end of west break- water spur.		36	---
331	Port Colborne Inner Fl. W., 5 sec.	On outer end of west break- water.		50	12
		42 52	C. 79 15		
332	PORT COLBORNE EAST Break- WATER. Fl. W., 3 sec.	On outer end of breakwater.		---	10
		U.			
333	Mohawk Island Gp. Fl. W., 24 sec. 2 flashes.	2.5 miles eastward of Port Maitland, 1 mile offshore.		70	15
		42 50	79 31		
334	WINTER LIGHT Occ. W.	U.		---	---
334	Port Maitland Gas and Bell Buoy. Occ. W.	2¾ miles 203° from Port Mait- land Range Front Light.		---	---

OHIO, MICHIGAN, AND CANADA

10TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
36,000 6 Rg ei	---	Feet	Year
		41	1895 1918
56,000 5 Rg ei	---	White rectangular slatted day- mark on square pyramidal skel- eton tower.	1895 1918
		S3	1918
230 300 mm a	Flash 0.3 sec.	White square pyramidal skeleton tower on crib.	1849 1916
		27	1916
60,000	Flash, eclipse 2 sec.; flash, eclipse 2 sec.; flash, eclipse 8 sec. DIAPHONE, air; gp. 3 blasts every 60 sec.; blasts each 2 sec., silent 48 sec. Horn points 165½°.	White square tower, fog-signal house attached; red polygonal lantern; gray rectangular dwell- ing, red roof, 100 yards 332°.	1918
		S5	1918
1,800	BELL, on buoy	Black and white vertical stripes.	
---	DIAPHONE, air; Blast 2.5 sec., silent 57.5 sec. Horn points south	White square concrete tower.	1928
---	BELL; sounds continuously dur- ing fog. Storm signal on east bank of canal.	White square concrete tower, upper part sloping.	1903 1929
		46	1929
---	Flash 0.5 sec.	Red square pyramidal skeleton on concrete base.	1906
50,000	Flash, eclipse 6 sec., flash, eclipse 18 sec.	White, circular, stone; red octag- onal lantern; dwelling at- tached.	1848
		60	
---	Maintained by Toronto, Hamil- ton & Buffalo Navigation Co.	Black, cylindrical.	

LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
335	RANGE { PORT MAITLAND FRONT..... F. W.	On west pier, 35 yards from south end; entrance to Grand River.		51	10
		42 51	79 35		
336	PORT MAITLAND REAR..... F. W.	On west pier, at angle, 300 yards 23° from preceding.		75	13
337	RANGE { PORT DOVER FRONT..... F. R.	35 yards from outer end of west pier.		34	11
		42 47	80 12		
338	PORT DOVER REAR..... F. R.	556 yards 22½° from preceding.		45	7
339	Long Point..... Fl. W., 8 sec. Radiobeacon.	On point 0.2 mile from east end.		97	18
		42 33	80 03		
339.5	PORT BURWELL WEST BREAK- WATER..... Occ. W.	On blockhead of outer end of extension of west breakwater.		42	11
340	PORT BURWELL WEST BREAK- WATER INNER. Occ. W.	On outer end of old portion of breakwater.		30	10
341	Port Burwell..... F. W.	On east side of harbor, 260 yards north of shoreline.		90	15
		42 39	80 48		
342	RANGE { PORT BURWELL FRONT..... F. W.	On southwest corner of east pier.		18	9
		42 38	80 48		
343	PORT BURWELL REAR..... F. W.	On east pier, 433 yards 356° from preceding.		22	9
344	PORT STANLEY..... F. W.	On west pier.....		42	11
		42 40	81 13		

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i>	<i>Year</i>
		White, square, wood; on brown skeleton frame; red octagonal lantern.	1846 1927
		41	1927
	DIAPHONE, air; gp. 2 blasts every 60 sec.: Blast 2 sec., silent 3 sec., blast 2 sec., silent 53 sec. Horn points 202°.	Square pyramidal steel skeleton; white rectangular wooden fog-signal house on inner end of pier.	1916 1920
	Storm signal at end of west pier.	White, square, wood; red lantern.	1849 1905
		35	1905
	HORN, hand, answers signals.	White skeleton tower; wooden lantern.	1897
		45	1897
100,000	DIAPHONE, air: Blast 3 sec., silent 27 sec. Horn points south. Storm signal 50 yards 57° from lighthouse. Lifeboat station on south side of Long Point, 1.2 miles from lighthouse. RADIOBEACON: Transmits gps. of 3 dots, 1 dash; 2 dashes, 1 dot; 2 dots, 1 dash, 1 dot. (VGF). See p. 257 for time schedule, etc.	White octagonal pyramidal tower, red polygonal lantern; fog-signal house white, red roof, 130 yards 281° from tower.	1843 1916
		102	1843 1916
		Lantern on pole.	
	DIAPHONE, air; gp. 3 blasts every 60 sec.: 3 blasts 2.5 sec. each, 2 silences 4 sec. each, 1 silence 44.5 sec.	Red pyramidal skeleton on square pyramidal concrete base.	1914
		25	1914
	Radio station, 0.4 mile east of lighthouse; call VBF. Storm-signal mast south of lighthouse.	White, octagonal, wood; red octagonal lantern.	1840
		55	1840
		Lantern on wooden framework.	1906
		16	1906
	DIAPHONE, air; gp. 3 blasts every 60 sec.: 3 blasts 2.5 sec. each, 2 silences 4 sec. each, 1 silence 44.5 sec. Horn points 176°. Bell, hand, if diaphone is disabled.	Lantern on wooden framework; red fog-signal building.	1906
		16	1906
	Lifeboat station in harbor.	Mast.	1844 1882
		35	1882

LAKE ERIE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
345	PORT STANLEY BREAKWATER. Fl. W. U.	On outer end of breakwater-- 42 39 81 13		29	10
346	POINTE AUX PINS----- Occ. W. U.	On south end of point, 2.5 miles east of Rondeau Har- bor.			
347	RONDEAU HARBOR FRONT-- F. W. U.	On outer end of east break- water.		36	11
348	RONDEAU HARBOR REAR-- Fl. W., S sec. U.	On inner end of east pier, 260 yards 14° from preceding.		70	14
		42 16 81 54			
349	RONDEAU WEST BREAK- WATER. Occ. E.	On outer end of breakwater pier. 42 15 81 55		29	10
350	Southeast Shoal----- Fl. W., 10 sec. Radiobeacon.	In 39 feet, near southeast end of shoal. 41 50 82 28		58	15
351	Pelee Point Gas and Bell Buoy-- F. W.	100 yards south of Old Dum- my Foundation, 2.4 miles south of Pelee Point. 41 52 82 30			
352	Pelee Passage----- Gp. Fl. W., 7½ sec. 2 flashes.	On north end of Middle Ground. 41 51 82 35		75	14
353	SCUDDER WHARF----- F. R.	On wharf, north side of Pelee Island.		18	
354	PELEE ISLAND WEST WHARF-- F. R.	On wharf, west side of island--		18	
355	Grubb Reef Gas Buoy----- Occ. E.	South of reef, close to 18-foot spot. 41 52 82 34		8	4

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i>	<i>Year</i>
	DIAPHONE, air: Blast 2.5 sec., silent 27.5 sec. Horn points 154°.	Red pyramidal skeleton on white square pyramidal concrete base. 27	1909
		Mast.	1919
		Red square skeleton tower, red square lantern. 36	1876 1920
20,000	Leave on starboard hand enter- ing.	White, octagonal, wood; red cylindrical base; red polygonal lantern. 49	1876 1920
	DIAPHONE, air; gp. 3 blasts every 60 sec.: 3 blasts 2.5 sec. each, 2 silences 3 sec. each, 1 silence 46.5 sec.	Red pyramidal skeleton on square pyramidal concrete base. 24	1912 1927
	DIAPHONE, air; gp. 2 blasts every 60 sec.: Blast 2.5 sec., silent 3 sec., blast 2.5 sec., si- lent 52 sec. RADIOBEACON: Transmits groups of 3 dots, 1 dash; 2 dashes, 1 dot; 2 dots, 1 dash. See page 256 for time schedule, etc.	White pyramidal structure on square pier.	1927
	BELL, on buoy-----	Red.	
	Flash 0.5 sec., eclipse 1 sec., flash 0.5 sec., eclipse 5.5 sec. DIAPHONE, air: Blast 7 sec., si- lent 30 sec. Horn points north.	Red lantern on white circular tower on brown cylindrical pier. 66	1902
	HORN, hand, answers signals----	Lantern on freight shed.	1916
	HORN, hand, answers signals----	White mast, shed at base.	1916
		Red.	

DETROIT RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
356	LEAMINGTON Fl. W.	On outer end of Government pier. 42 02	82 36	Feet 40	12
357	KINGSVILLE FRONT F. R.	On outer end of east break-water pier. 42 02	82 44	27	5
358					
359	Colchester Reef F. W.	Near southeast edge of reef. 41 56	82 54	72	14
AMHERSTBURG CHANNEL					
360	East Channel Gas and Bell Buoy 2. Fl. R., 2 sec.	In 20 feet, at lower entrance of channel.	Mich.	10	6
361	East Channel Gas Buoy 5. Fl. W., 3 sec.	In 20 feet.	Mich.	11	9
362	East Channel Gas Buoy 10. Occ. R., 10 sec.	In 20 feet.	Mich.	13	7
363	Detroit River Gp. Fl. W., 20 sec. 2 flashes. Radiobeacon. LOW WATER WARNING LIGHT. (See p. 65.)	In 20 feet at entrance of river. 42 00	Mich. 83 08	55	15
364	Gas Buoy 18 D. Occ. W.	In 21 feet, 1,400 yards 350° from Detroit River Light-house.	C.		
365	Gas Buoy 14 D. Occ. R.	In 21 feet, 1,400 yards 11° from Detroit River Light-house.	C.		
366	Gas Buoy 23 D. Occ. W.	In 22 feet.	C.		
367	Gas Buoy 24 D. Occ. R.	In 21 feet.	C.		
368	Gas Buoy 32 D. Occ. R.	In 21 feet, abreast Bar Point Lightship.	C.		

MICHIGAN AND CANADA

11th Dist.

Candlepower	Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established rebuilt
			Feet Pole	Year 1880 1923
		HORN, hand, answers signals.	Mast. 21	1886
		BELL; 1 stroke every 15 sec.	White, square, wood; red iron lantern. 29	1886 1889
		Flash 0.5 sec.	Red.	
20 200 mm a		BELL, on buoy.		
	70 200 mm a	Flash 0.3 sec.	Black.	
	35 200 mm pgm	Light 5 sec., eclipse 5 sec.	Red. Spar-shaped.	
	25,000 4 ei	Flash 1.2 sec., eclipse 3.8 sec., flash 1.2 sec., eclipse 13.8 sec. Low-water warning light, amber colored, 8 feet high, on post; will show in direction of Bar Point East Channel when dangerously low water prevails in Amherstburg Channel. SIREN, 1st-cl. air: Blast 3 sec., silent 27 sec. RADIOBEACON: Transmits gps. of 2 dashes. See p. 256 for time schedule, etc.	White conical tower on hexagonal pier. 49	1885
			Black.	
			Red.	
			Black.	
			Red.	
			Red.	

DETROIT RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen	
		Latitude, N.	Longitude, W.			
	AMHERSTBURG CHANNEL					
369	BAR POINT LIGHTSHIP F. W.	In 23 feet, at junction of Amherstburg and Living- stone Channels.	42 03	30		
	HACKETT REACH					
370	<i>Gas Buoy 38 D.</i> Occ. R.	In 21 feet, off Bar Point, 3.8 miles 11¼° from Detroit River Lighthouse.				
371	<i>Buoy Light 43 D.</i> F. W.	In 21 feet.				
372	<i>Buoy Light 44 D.</i> F. R.	In 21 feet.				
373	<i>Buoy Light 45 D.</i> F. W.	In 21 feet.				
374	<i>Buoy Light 46 D.</i> F. R.	In 21 feet.				
375	<i>Buoy Light 47 D.</i> F. W.	In 21 feet.				
376	<i>Buoy Light 48 D.</i> F. R.	In 21 feet.				
377	<i>Buoy Light 49 D.</i> F. W.	In 21 feet.				
378	<i>Buoy Light 50 D.</i> F. R.	In 21 feet.				
379	Bois Blanc Occ. W.	On south end of island. U. 42 05	83 07	56	14	
380	ANCHORAGE <i>Floot Light 52 D.</i> F. R.	In 21 feet, 435 yards 104° from Bois Blanc Light- house.				
381						<i>Floot Light 54 D.</i> F. R.
382						<i>Floot Light 56 D.</i> F. R.
383	RANGE AMHERSTBURG FRONT F. R.	On east bank of river at Am- herstburg.	42 06	83 07	54	8
384						

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	WHISTLE , steam: Blast 10 sec., silent 30 sec. Bell, hand, if whistle is disabled.	<i>Feet</i> Red hull; "BAR POINT No. 21" in white on sides; two masts; red circular daymark at foremast head.	<i>Year</i> 1837 1924
		Red, cylindrical.	
		Black spar.	
		Red spar.	
		Black spar.	
		Red spar.	
		Black spar.	
		Red spar.	
		Black spar.	
		Red spar.	
		White circular stone tower, red lantern.	1837 1924
	Marks anchorage.	Red lantern on float moored to spar buoy.	
	Marks anchorage.	Red lantern on float moored to spar buoy.	
	Marks anchorage.	Red lantern on float moored to spar buoy.	
	Storm-signal at Waterworks Park dock, Amherstburg.	White square pyramidal skele- ton tower, slatted disk day- mark.	1889 50
		Red square skeleton tower, disk daymark.	1889 68
			1904

DETROIT RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
AMHERSTBURG CHANNEL					
AMHERSTBURG REACH					
385	RANGE ELLIOTT POINT FRONT F. R.	On east bank of river.....		Feet 50	5
			42 05	83 07	
386	ELLIOTT POINT REAR F. R.	353 yards 175¼° from pre- ceding.		70	5
387	Float Light 57 D. F. W.	In 21 feet, 500 yards 36½° from Bois Blanc Light- house.			
388	Float Light 58 D. F. R.	In 21 feet.....			
389	Float Light 59 D. F. W.	In 21 feet.....			
390	Float Light 60 D. F. R.	In 21 feet.....			
391	Float Light 61 D. F. W.	In 21 feet.....			
392	Float Light 62 D. F. R.	In 21 feet.....			
393	Float Light 63 D. F. W.	In 21 feet.....			
394	Float Light 64 D. F. R.	In 21 feet.....			
395	Float Light 65 D. F. W.	In 21 feet.....			
LIMEKILN CROSSING CHANNEL					
396	Float Light 66 D. F. R.	In 21 feet.....			
397	Gas Buoy 67 D. Occ. W.	In 21 feet.....			
398	Gas Buoy 68 D. Occ. R.	In 21 feet.....			
399	Float Light 69 D. F. W.	In 21 feet.....			
400	Float Light 70 D. F. R.	In 21 feet.....			
401	Float Light 71 D. F. W.	In 21 feet.....			

CANADA

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		White skeleton tower, red slatted daymark.	1898
		50	1905
		White skeleton tower, red slatted daymark.	1898
		70	1905
		Black. Lantern on float moored to spar buoy.	
		Red lantern on float moored to spar buoy.	
		Black lantern on float moored to spar buoy.	
		Red lantern on float moored to spar buoy.	
		Black lantern on float moored to spar buoy.	
		Red lantern on float moored to spar buoy.	
		Black lantern on float moored to spar buoy.	
		Red lantern on float moored to spar buoy.	
		Black lantern on float moored to spar buoy.	
		Red lantern on float moored to spar buoy.	
		Black.	
		Red.	
		Black lantern on float moored to spar buoy.	
		Red lantern on float moored to spar buoy.	
		Black lantern on float moored to spar buoy.	

DETROIT RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
AMHERSTBURG CHANNEL					
LIMEKILN CROSSING CHANNEL					
402	Float Light 72 D. F. R.	In 21 feet.		Feet	
403	LIMEKILN CROSSING FRONT. F. R.	On southwest end of old ferry wharf.		31	2
		42 08	83 07		
404	LIMEKILN CROSSING REAR. F. R.	350 yards 3° 9' from preceding.		66	2
405	Gas Buoy 73 D. Occ. W.	In 21 feet.			
406	Gas Buoy 74 D. Occ. R.	In 21 feet.			
BALLARD REEF CHANNEL					
407	FORT MALDEN FRONT. F. W.	On east bank of river, 0.5 mile above head of Bois Blanc Island.		71	4
		42 07	83 07		
408	FORT MALDEN REAR. F. R.	128 yards 162° 35' from preceding.		98	4
409	Float Light 76 D. F. R.	In 21 feet.			
410	Float Light 78 D. F. R.	In 21 feet.			
411	LIVINGSTONE CHANNEL UPPER ENTRANCE. Alt. W. & R., 15 sec.	In 18 feet, at junction of Livingstone and Ballard Reef channels.		42	8
		42 08	83 07		
412	Ballard Reef Channel Gas Buoy 80 D. Occ. R.	In 21 feet, nearly abreast preceding.			
413	Ballard Reef Channel Gas Buoy 81 D. Occ. W.	In 21 feet.			
414	Ballard Reef Channel Gas Buoy 82 D. Occ. R.	In 21 feet.			
415	Ballard Reef Channel Gas Buoy 83 D. Occ. W.	In 21 feet.			

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		Red lantern on float moored to spar buoy.	
	Range leads from Elliot Point Range line to Fort Malden Range line.	Red square skeleton tower, hexagonal lantern.	1914
		31	
		Red square skeleton tower, hexagonal lantern.	1914
		51	
		Black.	
		Red.	
	Range marks Ballard Reef Channel.	Black slatted disk daymark on square pyramidal skeleton tower, white base.	1889
		50	1904
		Black slatted disk daymark on square, pyramidal skeleton tower, red base.	1889
		80	1904
		Red lantern on float moored to spar buoy.	
		Red lantern on float moored to spar buoy.	
W. 2,900 R. 870 4 iov	White light 10 sec., red light 5 sec. BELL; 1 stroke every 5 sec.	White square tower, upper part pyramidal; red octagonal lantern on square pier.	1915
		42	
		Red.	
		Black.	
		Red.	
		Black.	

DETROIT RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
416	BALLARD REEF CHANNEL				
	<i>Ballard Reef Channel Gas Buoy 84 D.</i> Occ. R.	In 24 feet		Feet	
417	LIVINGSTONE CHANNEL				
	<i>Livingstone Channel Gas Buoy 29.</i> Fl. W., 2 sec.	In 23 feet, on west side of north entrance to channel.	Mich.	12	
418	LIVINGSTONE CHANNEL 9 F. W.	In 14 feet, west side of north entrance.	Mich.	34	
419	LIVINGSTONE CHANNEL 10 F. R.	In 14 feet, on east side of north entrance to cofferdam section.		34	
420	LIVINGSTONE CHANNEL 7 Occ. W., 2 sec.	In 16 feet, on west side of channel, inside of cofferdam section.		34	
421	LIVINGSTONE CHANNEL 8 Occ. R., 2 sec.	In 16 feet, on east side of channel, abreast light No. 7.		34	
422	LIVINGSTONE CHANNEL 5 F. W.	In 16 feet, on west side of channel at south end of cofferdam section.		34	
423	LIVINGSTONE CHANNEL 6 F. R.	In 16 feet, on east side of channel at south end of cofferdam section.		34	
424	LIVINGSTONE CHANNEL 3 B Occ. W., 2 sec.	On dike, on west side of channel.		34	
425	LIVINGSTONE CHANNEL 4 B Occ. R., 2 sec.	In 20 feet, on east side of channel.		34	
426	LIVINGSTONE CHANNEL 3 A F. W.	On dike, on west side of channel.		34	
427	LIVINGSTONE CHANNEL 4 A F. R.	In 18 feet, on east side of channel.		34	
428	<i>Livingstone Channel Gas Buoy 12 A.</i> Occ. R., 10 sec.	In 23 feet, on east side of channel.		13	
429	<i>Livingstone Channel Gas Buoy 17 A.</i> Occ. W., 10 sec.	In 23 feet, on west side of channel.		13	
430	LIVINGSTONE CHANNEL 3 F. W.	In 13 feet, on west side of channel.		34	
431	LIVINGSTONE CHANNEL 4 F. R.	In 12 feet, on east side of channel, abreast preceding.		34	

MICHIGAN

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Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		Red.	
70 200 mm a	Flash 0.5 sec	Black.	
230 300 mm a		Black column and tank house on pier.	1915
70 300 mm a		Red column and tank house on pier.	1912
230 300 mm a	Light 1 sec., eclipse 1 sec.	Black column and tank house on pier.	1912
70 300 mm a	Light 1 sec., eclipse 1 sec.	Red column and tank house on pier.	1912
230 300 mm a		Black column and tank house on pier.	1922
70 300 mm a		Red column and tank house on pier.	1912
230 300 mm a	Light 1 sec., eclipse 1 sec.	Black column and tank house on pier.	1912
70 300 mm a	Light 1 sec., eclipse 1 sec.	Red column and tank house on pier.	1915
230 300 mm a		Black column and tank house on pier.	1922
70 300 mm a		Red column and tank house on pier.	1915
35 200mmpgm	Light 5 sec., eclipse 5 sec.	Red. Spar shaped.	
120 200mmpgm	Light 5 sec., eclipse 5 sec.	Black. Spar shaped.	
230 300 mm a		Black column and tank house on pier.	1912
70 300 mm a		Red column and tank house on pier.	1912

DETROIT RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
131.5	LIVINGSTONE CHANNEL GROSSE ISLE AVIATION BEACON. Fl. W., 10 sec.	42 06	83 09	Feet 125	
432	<i>Livingstone Channel Gas Buoy</i> 8 A. Occ. R., 10 sec.	In 23 feet, on east side of channel.		13	
433	<i>Livingstone Channel Gas Buoy</i> 13 A. Occ. W., 10 sec.	In 23 feet, on west side of channel.		13	
434	LIVINGSTONE CHANNEL 2 F. R.	In 14 feet, on east side of channel.		34	
435	LIVINGSTONE CHANNEL 1 F. W.	In 13 feet, on west side of channel, abreast preceding.		34	
436	<i>Livingstone Channel Gas Buoy</i> 7. Fl. W., 3 sec.	In 23 feet, on west side of channel.		13	
437	<i>Livingstone Channel Gas Buoy</i> 2. Fl. R., 3 sec.	In 23 feet, on east side of channel.		13	
438	<i>Livingstone Channel Gas Buoy</i> 1. Occ. W., 10 sec.	In 23 feet, on west side of channel.		13	
439	<i>West Channel Gas Buoy</i> 9 Fl. W., 3 sec.	In 20 feet, 335 yards 280° from Detroit River Light-house.	Mich.	10	
439.5	<i>West Channel Gas and Bell Buoy</i> 1. Fl. W., 2 sec.	In 20 feet	Mich.	13	
440	<i>West Channel Gas Buoy</i> 1 C. Fl. W., 3 sec.	In 20 feet, at south end of channel.	Mich.	13	
441	GROSSE ISLE FRONT F. R.	On north end of Grosse Isle.	Mich. 42 11 83 09	30	
442	GROSSE ISLE REAR F. R.	498 yards 342° 35' from preceding.		50	
443	GROSSE ISLE Fl. W., 2 sec.	In 3 feet, at east shore of Grosse Isle.	Mich. 42 10 83 08	45	
444	<i>Grosse Isle Spit Gas Buoy</i> Fl. W., 3 sec.	In 24 feet, at end of shoal.	Mich.	8	

MICHIGAN

11th Dist.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
8,000,000 Rf ei	Beam of light elevated 1° above horizon. Maintained by Detroit Aircraft Corporation.	Feet	Year 1929
35 200 mm pg m	Light 5 sec., eclipse 5 sec.	Red.	Spar shaped.
120 200 mm pg m	Light 5 sec., eclipse 5 sec.	Black.	Spar shaped.
70 300 mm a		Red column and tank house on pier.	1912
230 300 mm a		Black column and tank house on pier.	1912
70 120 mm ei	Flash 0.2 sec.	Black.	Spar shaped.
20 120 mm ei	Flash 0.2 sec.	Red.	Spar shaped.
120 200 mm pg m	Light 5 sec., eclipse 5 sec.	Black.	Spar shaped.
70 200 mm a	Flash 0.3 sec.	Black.	
190 300 mm a	Flash 0.5 sec. BELL, sounds continuously.	Black.	
70 200 mm a	Flash 0.3 sec.	Black.	
130 5 pg m		Square pyramidal tower, white from range line, brown from other points of view.	1891 33 1895
130 5 pg m		Square pyramidal tower, white from range line, brown from other points of view.	1891 54 1895
550 5 a	Flash 0.5 sec.	White octagonal tower, upper part pyramidal.	1894 1906
30 150 mm a	Flash 0.3 sec.	Red and black horizontal bands.	

DETROIT RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
LIVINGSTONE CHANNEL					
445	FIGHTING ISLAND SOUTH. Fl. R., 2 sec. U.	In 6 feet, on east side of south end of channel.	Mich.	Fath 32	
446	MAMAJUDA..... Fl. W., 2 sec. U.	On east side of Mamajuda Island.	Mich. 42 12 S3 08	25	
DETROIT RIVER					
447	Fighting Island Channel Gas Buoy 4. Fl. R., 2 sec. U.	In 34 feet, on east side of chan- nel, opposite Mamajuda Light.		10	
448	Fighting Island Channel Gas Buoy 3. Fl. W., 2 sec. U.	In 33 feet, on west side of channel.		10	
449	Fighting Island Channel Gas Buoy 6. Fl. R., 2 sec. U.	In 22 feet, on east side of channel.		10	
450	GRASSY ISLAND..... Fl. W., 2 sec. U.	On north end of Grassy Island		26	
451	Fighting Island Channel Gas Buoy 10. Fl. R., 2 sec. U.	In 36 feet, on east side of channel.		10	
452	FIGHTING ISLAND NORTH.... Fl. R., 2 sec. U.	In 13 feet, on east side of channel, at upper entrance.		36	
452.5	MICHIGAN STEEL WATER IN- TAKE. Fl. W., 3 sec. U.	On west side of channel, op- posite lower end of Mud Island.		5	
453	Ecorse Channel Gas Buoy 2.... Fl. R., 3 sec. U.	In 21 feet, on northwest point of Mud Island flats, 1,200 yards 245½° from Ecorse Light.		10	
454	Ecorse Channel Gas Buoy 5.... Fl. W., 3 sec. U.	In 21 feet, on north side of channel, 480 yards 232° from Ecorse Light.		8	
455	ECORSE..... Fl. W., 2 sec. U.	On west side of river	42 15 S3 08	26	
456	Rouge River Canal Entrance Gas Buoy 2. Fl. R., 2 sec. U.	In 22 feet, at north side of entrance to canal.		8	
457	ROUGE RIVER CANAL OUTER ENTRANCE. U.	On shore side of crib, south- erly side of channel.		30	

MICHIGAN

11TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
60 300 mm a	Flash 0.5 sec.....	Feet Red square pyramidal skeleton tower on tank house, on pier.	Year 1916 1928
70 200 mm a	Flash 0.5 sec.....	Black square pyramidal skeleton tower on tank house on con- crete pier.	1849 1921
20 200 mm a	Flash 0.3 sec.....	Red.	
70 200 mm a	Flash 0.3 sec.....	Black.	
20 200 mm a	Flash 0.3 sec.....	Red.	
70 200 mm a	Flash 0.3 sec.....	Black square pyramidal skeleton tower on tank house on con- crete pier.	1849 1921
20 200 mm a	Flash 0.3 sec.....	Red.	
85 300 mm a	Flash 0.5 sec.....	Buff square brick house on con- crete pier.	1917
30 150 mm a	Flash 0.3 sec. Maintained by Michigan Steel Corp.	Pile.	1930
10 150 mm a	Flash 0.3 sec.....	Red.	
30 120 mm ei	Flash 0.2 sec.....	Black.	
70 200 mm a	Flash 0.5 sec.....	Black square pyramidal skeleton tower on tank house on con- crete pier.	1895 1920
10 120 mm ei	Flash 0.3 sec.....	Red.	
50 Ll ei		Black steel mast.	1924

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
DETROIT RIVER					
458	ROUGE RIVER CANAL INNER ENTRANCE. F. W. U.	On inner entrance crib, south- erly side of channel.		Fet 30	
459	NORTH CHAN- NEL RANGE GRASSY ISLAND FRONT... F. R.	On north end of flats, north end island.		30	
		42 14	83 08		
460	GRASSY ISLAND REAR... F. R.	660 yards 207° from preced- ing.		50	
461	Belle Isle..... F. R. U.	On southeast point of Belle Isle.		42 10	
		42 20	82 58		
461.5	WILLIAM LIVINGSTONE MEMORIAL. U. Occ. W., 5 sec.	On easterly end of Belle Isle.		58 15	
461.8	Peach Island Gas Buoy 8 Fl. R., 3 sec.	In 20 feet.....		12	
462	Belle Isle East End Gas Buoy. Occ. W., 10 sec.	In 28 feet, at junction of channels above Belle Isle.		13	
463	PEACH ISLAND..... Fl. R., 5 sec. U.	In 28 feet.....		32 9	
465	WATERWORKS INTAKE CRIB. Gp. Fl. W., 15 sec. 2 flashes.	In 20 feet, at head of Belle Isle.		40	
466	Belle Isle North Channel Gas Buoy 3. Fl. W., 3 sec.	In 22 feet, marks entrance to channel.		8	
469	Windmill Point..... Gp. Fl. W., 10 sec. 3 flashes.	On point, north shore.....		55 14	
		42 22	82 56		
470	Vincent Gas Buoy 1..... Fl. W., 1 sec.	In 6 feet, at outer end of dredged channel.		6 4	
LAKE ST. CLAIR					
471	RANGE Peach Island Front..... Occ. W., 2 sec. U.	In 20 feet, southwest end of lake.		38 13	
		42 22	82 54		
472	PEACH ISLAND REAR..... F. R. U.	1,180 yards 227° 43' from preceding.		66 16	
473	Lake St. Clair Gas Buoy 1..... Fl. W., 2 sec.	In 20 feet.....		10 9	

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
160 Ll ei	-----	Fet Black steel mast.	Year 1924
750 Rf o	-----	Straw color square tower on dwelling.	1897
1,800 Rf pg m	-----	Red daymark on black square pyramidal skeleton tower.	1897 1917
3,100 4 ei	-----	Red square brick tower, dwell- ing attached.	1882
11,000 ei	Light 4 sec., eclipse 1 sec.-----	White pyramidal monumental structure.	1930
20 200 mm a	Flash 0.3 sec.-----	Red.	
120 200 mm pgm	Light 5 sec., eclipse 5 sec.-----	Red and black horizontal bands, spar shaped.	
85 300 mm a	Flash 0.5 sec.-----	Red skeleton tower and tank house on concrete base.	1929
70 200 mm a	Flash 0.7 sec., eclipse 3.6 sec., flash 0.7 sec., eclipse 10 sec. Maintained by the city of Detroit.	Gray stone tower on pier.	1913
30 150 mm a	Flash 0.3 sec.-----	Black.	
12,000 4 ei	3 flashes 1 sec. each, 2 eclipses 1 sec. each, 1 eclipse 5 sec.	White conical tower.	
30 150 mm a	Flash 0.2 sec. Maintained by J. G. Vincent from Apr. 1 to Nov. 1.	Black.	
900 375 mm a	Light 1 sec., eclipse 1 sec.-----	Black pyramidal tower, up- stream face white, rectangular pier.	1908 1927
14,000 4 Rg a	-----	Black conical tower, square pier.	1908 1926
70 200 mm a	Flash 0.3 sec.-----	Black.	

LAKE ST. CLAIR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
LAKE ST. CLAIR-					
474	<i>Judson Gas Buoy</i> ----- Fl. W., 3 sec.	In 8 feet, at entrance to Chan- nel off Grosse Point Village.		Feet 6	6
475	<i>Lake St. Clair Gas Buoy 2</i> ----- Fl. E., 2 sec.	In 20 feet-----		10	7
476	<i>Lake St. Clair Gas Buoy 9</i> ----- Fl. W., 2 sec.	In 20 feet-----		10	9
477	<i>Lake St. Clair Gas Buoy 10</i> ----- Fl. E., 2 sec.	In 20 feet-----		10	7
478	<i>Lake St. Clair Gas Buoy 19</i> ----- Fl. W., 2 sec.	In 20 feet-----		10	9
479	<i>Lake St. Clair Gas Buoy 20</i> ----- Fl. E., 2 sec.	In 20 feet-----		10	7
480	<i>Lake St. Clair Gas and Bell Buoy 24.</i> Fl. E., 2 sec.	In 20 feet, on east side of channel.		10	7
481	<i>Lake St. Clair Gas Buoy 25</i> ----- Fl. W., 2 sec.	In 19 feet-----		11	8
482	LAKE ST. CLAIR LIGHT- SHIP. U. Fl. W., 3 sec.	In 20 feet, on westerly side of channel at turn. 42 28 82 45		35	13
482.5	<i>Lake St. Clair Gas Buoy 28</i> ----- Fl. E., 3 sec.	In 20 feet abreast lightship--		10	6
483	<i>Lake St. Clair Gas Buoy 29</i> ----- Fl. W., 2 sec.	In 20 feet-----		12	-----
484	<i>Lake St. Clair Gas Buoy 30</i> ----- Fl. E., 2 sec.	In 20 feet-----		12	-----
485	<i>St. Clair Flats Canal Gas Buoy 31.</i> Fl. W., 2 sec.	In 20 feet-----		10	9
486	<i>St. Clair Flats Canal Gas Buoy 32.</i> Fl. E., 2 sec.	In 20 feet-----		10	7
487	ST. CLAIR FLATS CANAL LOWER. Occ. W., 2 sec.	On south end of center pier-- 42 31 82 41		45	14
487.5	ST. CLAIR FLATS CANAL PIERHEAD. Fl. W., 1 sec.	On southeast corner of center pier.		12	-----
488	ST. CLAIR FLATS CANAL EAST PIERHEAD. Fl. E., 10 sec.	On south end of pier-----		30	-----

MICHIGAN

11th Dist.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
30 150 mm a	Flash 0.3 sec. Maintained by R. W. Judson.	Black.	
20 200 mm a	Flash 0.3 sec-----	Red.	
70 200 mm a	Flash 0.3 sec-----	Black.	
20 200 mm a	Flash 0.3 sec-----	Red.	
70 200 mm a	Flash 0.3 sec-----	Black.	
20 200 mm a	Flash 0.3 sec-----	Red.	
20 200 mm a	Flash 0.3 sec----- BELL, on buoy.	Red.	
70 200 mm a	Flash 0.3 sec-----	Black.	
350 300 mm a	Flash 0.3 sec----- BELL, 1 stroke every 15 sec.	Red hull, "ST. CLAIR" on sides; one mast, black gallery daymark.	1887
20 200 mm a	Flash 0.3 sec-----	Red.	
70 200 mm a	Flash 0.3 sec-----	Black.	
20 200 mm a	Flash 0.3 sec-----	Red.	
70 200 mm a	Flash 0.3 sec-----	Black.	
20 200 mm a	Flash 0.3 sec-----	Red.	
1,600 4 a	Light 1 sec., eclipse 1 sec-----	Red octagonal tower on dwelling. 48	1871
30 150 mm a	Flash 0.3 sec-----	Mast.	1930
35 200 mmpgm	Light 5 sec., eclipse 5 sec-----	Red cylindrical tank on pier.	1913 1921

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
LAKE ST. CLAIR					
489	ST. CLAIR FLATS CANAL UPPER. F. E.	On north end of center pier.		45	10
490	St. Clair Flats Canal West Channel Gas Buoy 3. Fl. W., 3 sec.	In 20 feet.....		10	9
491	St. Clair Flats Canal West Channel Gas Buoy 9. Fl. W., 3 sec.	In 20 feet..... Mich.		10	8
492	RANGE { ST. CLAIR FLATS FRONT..... Fl. W., 1 sec. U.	At head of old channel. Mich.		28	7
493		ST. CLAIR FLATS REAR..... Occ. W., 2 sec. U.	335 yards 56° from preceding. 42 32 82 41		44
494	JOY DOCK..... Occ. R., 40 sec.	On dock, near outer end. Mich.		60	---
495	GROSSEPOINT FARMS INTAKE CRIB. F. E. U.	In 15 feet..... Mich.		10	---
495.5	MT. CLEMENS WATERWORKS INTAKE. Fl. R., 2 sec. U.	On submerged intake crib.....		8	---
496	Point Huron Gas Buoy 1..... Fl. W., 3 sec.	In 13 feet..... Mich.		12	10
497	Clinton River Outer Float..... Fl. W., 1 sec.	In 4 feet, on north side of entrance 743 yards 93° from Clinton River Inner Light. Mich.		8	7
498	CLINTON RIVER INNER..... Occ. W., 2 sec. U.	On point at river entrance. Mich. 42 36 82 47		30	7
499	Thames River Gas Buoy..... Occ. W.	In 14 feet, on north side of outer end of dredged cut, 1.5 miles 320½° from Thames River Range Rear Light. C.		---	---
500	RANGE { THAMES RIVER FRONT..... F. W. C.	100 yards 320° from rear light.		22	9
501		THAMES RIVER REAR..... F. W. C.	On south shore, mouth of river. 42 19 82 27		55
502	RANGE { MITCHELL BAY FRONT..... F. W. C.	On inner end of wharf..... C.		21	9
503		MITCHELL BAY REAR..... F. W.	72 yards 45° from preceding.		30

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
150 4 o	-----	Feet Red octagonal tower on dwelling. 48	Year 1871
70 200 mm a	Flash 0.3 sec.-----	Black.	
70 200 mm a	Flash 0.3 sec.-----	Black.	
30 150 mm a	Flash 0.3 sec.-----	Yellow tower on crib.	1850 1915
30 150 mm a	Light 1 sec., eclipse 1 sec.-----	Yellow conical tower, dwelling attached, on crib.	1859 1915
---	Light 20 sec., eclipse 20 sec. Maintained by Henry B. Joy.	Red steel tower on boathouse.	1914 1924
---	Maintained by village of Grosse- point Farms, Mich.	Mast.	1915
30 a	Flash 0.3 sec. Maintained by City of Mt. Clemens.	Steel mast.	1930
70 200 mm a	Flash 0.3 sec.-----	Black.	
30 150 mm a	Flash 0.3 sec.-----	White skeleton framework on float.	
30 150 mm a	Light 1 sec., eclipse 1 sec.-----	White skeleton tower, red day- mark on tank house.	1908 1928
---	-----	Black.	
---	-----	Red square skeleton.	1845 23
---	-----	White circular tower, red poly- gonal lantern.	1837 59
---	-----	White mast, shed alongside.	1912 20
---	-----	White mast.	1912 29

ST. CLAIR RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen		
		Latitude, N.	Longitude, W.				
ST. CLAIR RIVER							
504	RANGE { MITCHELL BAY SHORE FRONT. F. W. U.	45	28	82	25	19	
						C	
505	MITCHELL BAY SHORE REAR. F. W. U.	63 yards	109°	from preceding.		28	
506	RANGE { MARTIN ISLAND FRONT. F. W. U.	On east end of island.			C.	28	9
			42	28	82	27	
507	MARTIN ISLAND REAR. F. W. U.	90 yards	3°	from preceding.		36	9
508	STAR ISLAND. F. W. U.	At old steamer dock at Star Island.			Mich.	24	
509	MAYBURY HIGHWAY. Occ. W. U.	On south side of channel.			C.	18	
		42	33	82	38		
510	LOWER REACH 1. F. W. U. Fl. W., 2 sec.	On northeast corner of hotel dock.			Mich.	28	
512	LOWER REACH 2. F. W. U. Fl. W., 2 sec.	On north shore.			Mich.	28	
						22	
512.5	SOUTHEAST BEND LOWER 3. F. W. U.	On north end of Joe Bedore dock.			Mich.	24	
513	SOUTHEAST BEND 1. Occ. R., 6 sec. U.	Opposite Joe Bedore's wharf.			C.	23	
		42	33	82	37		
514	SOUTHEAST BEND 2. Occ. R., 8 sec. U.	At entrance to Little Bassett Channel.			C.	23	
515	SOUTHEAST BEND LOWER 4. F. W., R. sector. U.	Near north shore.			Mich.	26	
516	SOUTHEAST BEND MIDDLE 5. F. W. U.	On north bank.			Mich.	16	
517	SOUTHEAST BEND 3. Occ. R., 10 sec. U.	Opposite preceding.			C.	23	
		42	33	82	36		
518	SOUTHEAST BEND UPPER 6. F. W., R. sector. U. Fl. W., 2 sec.	On north bank.			Mich.	26	
						12	

MICHIGAN AND CANADA

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy		
		Top of lantern above ground	Established Rebuilt	
	Range guides through cut to intersection of Mitchell Bay Wharf Range.	Feet White pole.	diamond	daymark on 1927
	Range marks channel to Chenal Ecarte.	White pole. 33	diamond	daymark on 1914
		White pole. 40	diamond	daymark on 1914
420 150 mm ei		White pole.	diamond	daymark on 1924
		White pole on shed on piles. 1928		
470 150 mm ei 25		White pole.	daymark on	mast on 1859 1929
90 mm ei 470 150 mm ei 25		White daymark on pile cluster. 1889 1913		
90 mm ei 470 150 mm ei		White daymark on mast. 1930		
	Light 3 sec., eclipse 3 sec.	White shed with pole, on piles. 1913		
	Light 4 sec., eclipse 4 sec.	White shed with pole, on piles. 1913		
W. 470 R. 140 150 mm ei	Red from 248° to 41°, covers turn abreast light.	White diamond	daymark on	black latticed mast. 1889 1927
420 150 mm ei		White lamp	house on	pile cluster. 1889 1927
	Light 5 sec., eclipse 5 sec.	Pole white shed at base. 1913		
W. 470 R. 140 150 mm ei 25 90 mm ei	Red from 248° to 359°, covers turn abreast light.	White diamond	daymark on	black latticed mast. 1889 1927

ST. CLAIR RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. CLAIR RIVER					
519	SOUTHEAST BEND 4 Occ. R., 10 sec. U.	170 yards north of Canada Club Wharf.		Feet 23	
520	SOUTHEAST BEND 5 Occ. R., 10 sec. U.	800 yards south of Harsens Island Lower Light, 7. C. 42 34 82 35		23	
521	HARSENS ISLAND FRONT 8 F. W. Fl. W., 2 sec. U.	In 3 feet near shore, below island. Mich. 42 34 82 35		18	
				12	
522	HARSENS ISLAND REAR 9 F. R. U.	175 yards 23½° from preceding. Mich.		31	
523	GRANDE POINTE F. G. U.	In 1 foot, off American shore, 0.9 mile southwesterly from Grande Pointe dock. Mich.		28	
524	SQUIRREL ISLAND Occ. W. U.	On east side of channel. C. 42 36 82 33		18	
525	RUSSELL ISLAND LOWER FRONT 10. F. W. Fl. W., 2 sec. U.	In 1 foot, near shore, 670 yards 222¼° from rear light. Mich.		18	
				8	
526	RUSSELL ISLAND MIDDLE REAR 11. F. W. and F. G. U.	In 1 foot, abreast woods on island. Mich. 42 37 82 31		33	
527	RUSSELL ISLAND UPPER 12 F. G. U.	In 2 feet, 500 yards 27° from preceding. Mich.		18	
528	WALPOLE ISLAND LOWER Occ. R. U.	In 5 feet, off northwest corner of Government Wharf. C.		18	
529	WALPOLE ISLAND UPPER Occ. R. U.	In 5 feet, on east side of channel. C.		23	
530	Russell Island Shoal Gas Buoy. Fl. W., 3 sec.	In 20 feet, on west side of dredged cut at north end of shoal. Mich.		8	
531	Middle Channel Gas Buoy Fl. W., 3 sec.	In 21 feet, at intersection of Middle and North Channels. Mich.		7	
531.5	G. W. Parker Float 2 Fl. R., 3 sec.	In 30 feet on north bank, middle channel. Mich.		6	

MICHIGAN AND CANADA

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	Light 5 sec., eclipse 5 sec.	Feet White shed with pole on piles.	Year 1913
	Light 5 sec., eclipse 5 sec.	White shed with pole on piles.	1913
470 150 mm ei 25 90 mm ei		White diamond daymark on skeleton tower.	1889 1929
140 150 mm ei		White daymark on tripod.	1889 1913
140 150 mm ei		White diamond daymark on mast.	1924
		White pole on shed on piles.	1928
470 150 mm ei 25 90 mm ei		White diamond daymark on black latticed mast.	1889 1929
W. 470 R. 140 150 mm ei	White in range with light No. 10 and from all points of approach excepting from northward. Green from 177° to 237°, an arc of 30° on each side of the alignment with light No. 12.	White square daymark on skeleton mast.	1889 1913
140 150 mm ei		White lamp house and post on concrete pier.	1889 1920
		White shed with pole on platform on piles.	1920 1927
		White square concrete structure, sloping sides.	1920 1929
70 200 mm a	Flash 0.3 sec.	Red and black horizontal bands.	
30 150 mm a	Flash 0.3 sec.	Red and black horizontal bands.	
10 150 mm a	Flash 0.3 sec.	Timber float.	

ST. CLAIR RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. CLAIR RIVER					
532	ANCHOR BAY CANAL..... F. W.	U.	On north side of North Channel, opposite North Channel Club.	Feet 15	
532. 5	Roberts Landing Gas Buoy 3. Fl. W., 3 sec.		In 21 feet Mich.	10	
533	Woodtick Island Gas Buoy 2. Fl. R., 3 sec.		In 19 feet, on west side of shoal off south end of Woodtick Island. Mich.	8	6
534	Marine City Shoal Gas Buoy 4. Occ. R., 10 sec.		In 20 feet..... Mich.	13	
535	RANGE { CHENAL ECARTÉ FRONT..... F. W.		On Walpole Island, 250 yards southeast of north end. C. 42 38 82 30	10	1
536		{ CHENAL ECARTÉ REAR..... F. W.		67 yards 138¾° from preceding. C.	25
537	RECORS POINT..... Occ. W., 10 sec.	U.	On west side of river... Mich. 42 46 82 28	30	
537. 5	HARTS LANDING..... F. G.	U.	On northeasterly corner of boat house. Mich.	26	
538	St. Clair Middle Ground Lower End Gas Buoy. Fl. R., 3 sec.		In 19 feet, south end of shoal. Mich.	8	
539	St. Clair Middle Ground Gas Buoy 6 MG. Fl. R., 3 sec.		In 20 feet..... Mich.	8	
540	St. Clair Middle Ground Upper End Gas Buoy. Fl. W., 3 sec.		In 20 feet, at north end of shoal. Mich.	8	
541	STAG ISLAND SHOAL..... Occ. W.		In water, on south end of shoal. C. 42 52 82 28	20	4
542	RANGE { CORUNNA FRONT..... F. R.		In village, at foot of Fane Street. C. 42 53 82 27	50	2
543		{ CORUNNA REAR..... F. R.		190 yards 167¼° from preceding. C.	60
544	Stag Island Lower Gas Buoy 5. Occ. W., 10 sec.		In 23 feet, on west bank, at turn. Mich. 42 51 82 28	13	

MICHIGAN AND CANADA

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
100 ei	Maintained by Will St. John & Co., from May 1 to Dec. 30.	Feet Mast.	Year 1926
70 200 mm a	Flash 0.3 sec.....	Black.	
20 200 mm a	Flash 0.3 sec.....	Red.	
35 200 mm pgm	Light 5 sec., eclipse 5 sec.....	Red, spar shaped.	
		White diamond slatted daymark with black vertical stripe on mast. 8	1909
		White diamond slatted daymark with black vertical stripe on mast; white shed alongside. 26	1909
120 200 mm pgm	Light 5 sec., eclipse 5 sec.....	Black cylindrical tank on concrete pier.	1913
140 150 mm ei		Mast.	1930
20 200 mm a	Flash 0.3 sec.....	Red and black horizontal bands.	
20 200 mm a	Flash 0.3 sec.....	Red.	
70 200 mm a	Flash 0.3 sec.....	Red and black horizontal bands.	
		White, square, wood; on concrete pier. 22	con- 1900 1928
		White, square, wood. 42	1890
		White, square, wood. 42	1890 1892
120 200 mm pgm	Light 5 sec., eclipse 5 sec.....	Black. Spar-shaped.	

ST. CLAIR RIVER AND LAKE HURON

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. CLAIR RIVER					
545	STAG ISLAND MIDDLE F. G. U.	On west bank	Mich.	Feet 16	
546	Stag Island Upper Gas Buoy Occ. W., 10 sec.	In 20 feet, at north end of shoal.	Mich.	13	
547	STAG ISLAND UPPER Occ. W., 2 sec. U.	On Marysville dock	Mich.	26	
548	Port Huron Traffic Gas Buoy Fl. R., 3 sec.	In 22 feet, between up and downbound channels.	Mich.	10	
550	BAY POINT Gp. Fl. W., 4 sec. 2 flashes. U.	On south end of point, Sarnia.	C. C.	16	1
		42 59	82 25		
551	RANGE FORT GRATIOT FRONT F. R. U.	On west side of river, Port Huron.	Mich.	42	14
552		FORT GRATIOT REAR F. R. U.	212 yards 207¼° from preceding.	Mich.	64
553	RANGE POINT EDWARD FRONT F. R.	On beach, near head of St. Clair River.	C. C.	35	7
		43 00	82 25		
554	POINT EDWARD REAR F. R.	193 yards 180° from preceding.	C.	58	7
554.5	BAYFIELD F. R. U.	Near outer end of wharf	C.	22	
LAKE HURON, WEST SIDE					
555	Fort Gratiot F. Fl. W., 60 sec.	On mainland, north entrance to St. Clair River.	Mich. C. C.	82	17
		43 00	82 25		
555.1	Fort Gratiot Gas Buoy 1 Occ. W., 10 sec.	In 22 feet		13	
555.3	Lake Huron Cut Gas Buoy 1 Fl. W., 3 sec.	In 19 feet	Mich.	10	
555.5	Lake Huron Cut Gas Buoy 2 Fl. R., 3 sec.	In 19 feet, 1,660 yards southerly from lightship.	Mich.	10	

CANADA AND MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
140 150 mm ei		Feet Black post on concrete block.	Year 1900 1916
120 200 mm pgm	Light 5 sec., eclipse 5 sec.	Red and black horizontal bands, spar shaped.	
680 150 mm ei	Light 1 sec., eclipse 1 sec.	White diamond daymark on black latticed mast.	1906 1927
20 200 mm a	Flash 0.3 sec.	Black and white vertical stripes,	
	Flash ½ sec., eclipse ¾ sec., flash ½ sec., eclipse 2¼ sec. Storm signal north of waterworks.	Pole, white shed at base.	1914 18
1,500 Rf ei		White oval daymark on black pyramidal skeleton tower.	1891 1916
1,500 Rf ei		White square pyramidal skeleton tower, elliptical daymark.	1891 1899
		White, square, wood.	1903 1927
	Radio station; call VBE.	White, square, wood.	1903 1925
		Pole.	1930
F. 16,000 Fl. 100,000 3 ei	Fixed light with 4.5 sec. flash every 60 sec. WHISTLE, 6-inch steam: When foggy on lake and clear in river: Blast 3 sec., silent 17 sec. DIAPHONE, air: When foggy in river: Blast 5 sec., silent 55 sec.	White conical tower, brick.	1825 1861
120 200 mm pgm	Light 5 sec. eclipse 5 sec.	Black, spar-shaped	
70 200 mm a	Flash 0.3 sec.	Black.	
20 200 mm a	Flash 0.3 sec.	Red.	

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
LAKE HURON, WEST SIDE					
556	LAKE HURON LIGHTSHIP Gp. Fl. W., 10 sec. 2 flashes. Radiobeacon.	In 21 feet, south end of lake, 185 yards east of Point Ed- ward Range line; 5,400 yards north of front light. Mich. 43 03	82 25	42	14
557	<i>Lake Huron Cut Gas Buoy 3</i> Fl. W., 3 sec.	In 22 feet, opposite light- ship.		10	9
558	Port Sanilac Gp. Fl. W., 10 sec. 3 flashes.	In village 43 26	Mich. 82 32	69	16
559	Harbor Beach Alt. Fl. W. and R., 10 sec.	On north side of entrance 43 51	82 38	54	15
560	HARBOR BEACH SOUTH PIER Fl. R., 3 sec.	On south side of entrance U.		27	8
561	<i>Pointe aux Barques Gas and Bell Buoy 1</i> Fl. W., 3 sec.	In 36 feet, 2.3 miles 56° from Pointe aux Barques Light- house.		12	8
562	Pointe aux Barques Fl. W., 10 sec.	On point, 9 miles east-south- east of Pointe aux Barques. 44 01	82 48	93	18
SAGINAW BAY					
563	Port Austin Reef Fl. R., 12 sec.	On south side of entrance 44 05	82 59	76	17
564	<i>Port Crescent Gas and Bell Buoy 2</i> Fl. R., 2 sec.	In 35 feet, easterly from Flat Rock Point Reef, 4.7 miles 238° from Port Austin Reef Lighthouse.		10	6
564.5	ALABASTER TRAMWAY OUTER CRIB F. R.	On crib near outer end of tramway.		20	----
564.6	ALABASTER TRAMWAY INNER CRIB F. R.	On inner end of tramway U.		70	----
565	<i>Charity Island Shoal Gas and Bell Buoy 5</i> Fl. W., 3 sec.	In 40 feet, off north end of shoal, 4 miles 329½° from Charity Island Lighthouse.		10	7
566	Charity Island Fl. W., 10 sec.	On northwest point U. 44 02	83 26	45	14

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
15,000 375 mm ei	Flash 0.5 sec., eclipse 1 sec., flash 0.5 sec., eclipse 8 sec. SIREN , 1st-cl. air: Blast 2 sec., silent 18 sec. RADIOBEACON : Transmits gps. of 3 dashes. See p. 248 for time schedule, etc.	Feet Red hull, "HURON" on sides; black cylindrical lantern on red mast.	Year 1893
70 200 mm a	Flash 0.3 sec.	Black.	
18,000 4 ei	3 flashes 1 sec. each, 2 eclipses 1 sec. each, 1 eclipse 5 sec.	White octagonal tower. 59	1886
W. 13,000 R. 4,000 4 iov	White flash 1 sec., eclipse 4 sec., red flash 1 sec., eclipse 4 sec. DIAPHONE , air: Blast 5 sec., silent 25 sec. Bell, 1 stroke every 30 sec. after close of sta- tion until harbor is closed by ice.	White conical tower.	1885
70 300 mm a	Flash 0.3 sec.	Brown skeleton tripod.	1885 1912
70 200 mm a	Flash 0.3 sec. BELL , on buoy.	Black.	
38,000 3 iov	Flash 2.7 sec., eclipse 7.3 sec. Coast Guard station 30 yards south.	White conical tower, dwelling attached. 89	1847 1908
4,000 4 iov	Flash 1.4 sec., eclipse 10.6 sec. WHISTLE , 10-inch steam: Blast 7 sec., silent 80 sec.	Buff square tower, fog-signal house attached.	1878 1899
20 200 mm a	Flash 0.3 sec. BELL , on buoy.	Red.	
220 ei	Maintained by U. S. Gypsum Co.		1929
220 ei	Maintained by U. S. Gypsum Co.		1929
70 200 mm a	Flash 0.3 sec. BELL , on buoy.	Black.	
800 4 a	Flash 1 sec.	White conical, stone tower, dwelling attached. 46	1857

SAGINAW RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SAGINAW BAY					
567	Gravelly Point Shoal Gas and Bell Buoy 4. Fl. W., 1.5 sec.	In 24 feet, on end of shoal		Feet 10	8
568	SAND POINT Fl. W., 3 sec. U.	In 6 feet, on edge of shoal		10	
568.5	STONY ISLAND Fl. W., 6 sec. U.	In 14 feet		14	
SAGINAW RIVER					
569	Saginaw River Entrance Gas and Bell Buoy 1. Fl. W., 2 sec.	In 22 feet		10	8
569.5	Saginaw River Gas Buoy 2B. Fl. R., 3 sec.	In 18 feet		10	6
570	Channel Gas Buoy 7 Fl. W., 3 sec.	In 18 feet		9	
570.5	Channel Gas Buoy 14 Fl. R., 3 sec.	In 13 feet		10	
571	RANGE SAGINAW RIVER FRONT F. R.	On west side of river		39	13
572		SAGINAW RIVER REAR F. R.	777 yards 184° from preceding. 43 38 83 51		61
572.5	Saginaw River Float 20 Fl. R., 3 sec.	In 16 feet		4	
573	Float Light 21 Fl. W., 3 sec.	In 13 feet, on east side of river.		4	
574	Saginaw River Gas Buoy 29 Fl. W., 3 sec.	In 14 feet		10	
575	Saginaw River Float 32 Fl. R., 3 sec.	In 17 feet, on west side of river.		4	
575.1	Kavanaugh Dock Gas Buoy 34 Fl. R., 3 sec.	In 20 feet, on west channel bank.		10	
575.13	Foss Dock Float 1 Fl. W., 3 sec.	In 16 feet, southerly side of channel.		4	
575.15	Saginaw River Gas Buoy 31 Fl. W., 3 sec.	In 18 feet, on easterly side of channel.		10	

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
70 200 mm a	Flash 0.3 sec. BELL, on buoy.	Feet Red.	Year
30 150 mm a	Flash 0.3 sec.	White pile cluster.	1928
30 150 mm a	Flash 0.5 sec.	Pile cluster.	1931
70 200 mm a	Flash 0.5 sec. BELL, on buoy.	Black.	
20 200 mm a	Flash 0.3 sec.	Red.	
70 200 mm a	Flash 0.3 sec.	Black.	
20 200 mm a	Flash 0.3 sec.	Red.	
18,000 400 mm Rg ei 350 300 mm ei	On range line Other points of approach.	Red slatted, elliptical daymark, with white vertical stripe, on black pyramidal skeleton tower.	1876 1915
18,000 400 mm Rg ei	Visible on range line only	Buff square pyramidal tower in corner of square dwelling.	1876 1911
10 150 mm a	Flash 0.3 sec.	Red.	
30 150 mm a	Flash 0.3 sec.	Black skeleton framework on float moored to spar buoy.	
30 150 mm a	Flash 0.3 sec.	Black.	
10 150 mm a	Flash 0.3 sec.	Red skeleton framework on float moored to spar buoy.	
10 150 mm a	Flash 0.3 sec.	Red.	
30 150 mm a	Flash 0.3 sec.	Black.	
30 150 mm a	Flash 0.3 sec.	Black.	

SAGINAW RIVER AND LAKE HURON

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SAGINAW RIVER					
575.20	<i>Saginaw River Gas Buoy 40</i> --- Fl. R., 3 sec.	In 18 feet, on westerly side of channel.		<i>Feet</i> 10	
575.25	<i>Saginaw River Gas Buoy 37A</i> --- Fl. W., 3 sec.	In 17 feet, on easterly channel bank.		10	
575.30	<i>Saginaw River Gas Buoy 46</i> --- Fl. R., 3 sec.	In 17 feet, on southerly side of channel.		10	
575.35	<i>Saginaw River Gas Buoy 48</i> --- Fl. R., 3 sec.	In 11 feet, on westerly chan- nel bank.		10	
575.40	<i>Saginaw River Gas Buoy 45</i> --- Fl. W., 3 sec.	In 17 feet, on easterly channel bank.		10	
575.45	<i>Saginaw River Gas Buoy 49</i> --- Fl. W., 3 sec.	In 17 feet.....		10	
575.55	<i>Saginaw River Gas Buoy 56</i> --- Fl. R., 3 sec.	In 17 feet.....		10	
575.60	<i>Saginaw River Gas Buoy 58</i> --- Fl. R., 3 sec.	In 17 feet, on easterly channel bank.		10	
575.65	<i>Saginaw River Gas Buoy 61</i> --- Fl. W., 3 sec.	In 17 feet, on westerly channel bank.		10	
LAKE HURON, WEST SIDE					
576	<i>Tawas</i> Occ. W., R. sector, 30 sec.	On Tawas Point..... 44 15	83 27	70	16
577	<i>Tawas Point Gas Buoy 6</i> Fl. W., 5 sec.	In 33 feet, on end of shoal...		12	8
578	<i>Au Sable Point Gas and Bell Buoy 5 A.</i> Fl. W., 1.5 sec.	In 40 feet, outside shoal off point.		10	8
579	<i>AU SABLE PIERHEAD</i> Fl. R., 3 sec.	On side of north pier, mouth of Au Sable River. 44 24	83 19	34	10
580	<i>Sturgeon Point</i> Fl. W., 6 sec.	On easternmost point be- tween Saginaw and Thunder Bays. 44 43	83 16	69	16
581	<i>North Point Gas and Bell Buoy 10.</i> Fl. W., 3 sec.	In 22 feet, on end of shoal, in Thunder Bay.		10	9
582	<i>ALPENA</i> Occ. W., 2 sec.	On north side of entrance of Thunder Bay River. 45 04		42	14

MICHIGAN

11TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
10 150 mm a	Flash 0.3 sec.....	<i>Feet</i> Red.	<i>Year</i>
30 150 mm a	Flash 0.3 sec.....	Black.	
10 150 mm a	Flash 0.3 sec.....	Red.	
10 150 mm a	Flash 0.3 sec.....	Red.	
30 150 mm a	Flash 0.3 sec.....	Black.	
30 150 mm a	Flash 0.3 sec.....	Black.	
10 150 mm a	Flash 0.3 sec.....	Red.	
10 150 mm a	Flash 0.3 sec.....	Red.	
30 150 mm a	Flash 0.3 sec.....	Black.	
W. 2,900 R. 870 4 iov	Light 25 sec., eclipse 5 sec. Red from 45° to 135°. DIAPHONE , air; gp. 2 blasts every 60 sec.: Blast 4 sec., si- lent 16 sec., blast 4 sec., silent 36 sec.	White conical tower, dwelling attached. 71	1853 1876
70 200 mm a	Flash 0.5 sec.....	Red.	
70 200 mm a	Flash 0.3 sec..... BELL , on buoy.	Black.	
110 375 mm a	Flash 0.3 sec.....	Red pyramidal skeleton tower on concrete pier.	1873 1912
2,600 3½ a	Flash 0.6 sec..... Coast-guard station 200 yards south.	White conical tower, dwelling attached. 71	1870
70 200 mm a	Flash 0.3 sec..... BELL , on buoy.	Red.	
580 4 a	Light 1 sec., eclipse 1 sec..... SIREN , electric: Blast 10 sec., silent 10 sec.	Black rectangular skeleton tower on concrete pier.	1877 1914

LAKE HURON

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
583	HURON PORTLAND CEMENT Co.'s CHANNEL FRONT. U. F. R.	On north shore, Thunder Bay.		Feet 40	-----
584	HURON PORTLAND CEMENT Co.'s CHANNEL MIDDLE. U. F. R.	22 yards 343° from preceding.		63	-----
585	HURON PORTLAND CEMENT Co.'s CHANNEL REAR. U. F. R.	365 yards 343° from front light.		100	-----
586	East Alpena Channel Gas Buoy 1. Fl. W., 3 sec.	In 21 feet, on west side of channel, at intersection with river channel.		10	10
587	Thunder Bay Island. Fl. W., 30 sec. Radiobeacon.	On east shore of island. 45 02 83 12 Radiobeacon 500 feet south of lighthouse.		63	16
588	Middle Island. F. R.	On east side of island. 45 12 83 19		78	17
589	Rockport Gas Buoy 2. Fl. R., 2 sec.	In 25 feet, on north side of channel entrance.		13	6
590	PRESQUE ISLE HARBOR FRONT. U. F. W., 1 sec.	On west shore of harbor. 45 20 83 29		18	10
591	PRESQUE ISLE HARBOR REAR. U. F. W.	267 yards 274° from preceding.		36	10
592	Presque Isle F. W.	On north end of Presque Isle. 45 21 83 30		123	20
593	Adams Point Gas Buoy 1. Fl. W., 3 sec.	In 42 feet, north of point.		10	-----
594	CALCITE BREAKWATER. F. R. U.	On outer end of west breakwater.		49	14
594.1	CALCITE. F. R. U.	At inner end of slip.		191	-----

MICHIGAN

11TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
40 ei	Maintained by Huron Portland Cement Co.	Feet White slatted diamond day-mark on skeleton iron tower.	Year 1911 1924
40 ei	Maintained by Huron Portland Cement Co.		1911 1924
40 ei	Maintained by Huron Portland Cement Co.	White slatted diamond day-mark on iron tripod on roof of conveyor house.	1911 1924
70 200 mm a	Flash 0.3 sec.-----	Black.	
24,000 4 iov	Flash 4 sec., eclipse 26 sec.----- DIAPHONE, air; gp. 2 blasts every 30 sec.; Blast 2 sec., silent 2 sec., blast 2 sec., silent 24 sec. RADIOBEACON: Transmits gps. 1 dash, 1 dot, 1 dash. See p. 256 for time schedule, etc.	Yellow conical brick tower, dwelling attached.	1832 1857
3,700 3 iov	WHISTLE, 10-inch steam: Blast 3 sec., silent 17 sec.	Buff conical tower, dwelling detached.	1905
20 200 mm a	Flash 0.5 sec.-----	Red.	
80 300 mm a	Flash 0.3 sec.-----	White square tower.	1870
80 200 mm a	-----	Black pyramidal skeleton tower.	1870 1926
12,000 3 iov	DIAPHONE, air; gp. 3 blasts every 30 sec.; 3 blasts 1½ sec. each, 2 silences 1 sec. each, 1 silence 24 sec. Weather signals shown here.	White conical tower, dwelling attached.	1840 1871
70 200 mm a	Flash 0.3 sec.-----	Black.	
1,000 ei	NAUTOPHONE: Blast 3 sec., silent 7 sec. Maintained by Michigan Limestone & Chemical Co., from Apr. 15 to Dec. 15.	Red skeleton tower.	1928 1929
ei	Maintained by Michigan Limestone & Chemical Co.	Neon light 8 feet in diameter, on screen house.	1930

LAKE HURON AND STRAITS OF MACKINAC

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
594. 2	RANGE { CALCITE INCOMING FRONT F. R. U.	On south side of slip-----		Feet 72	10
594. 3		500 feet 236° from preceding--		180	10
594. 4	RANGE { CALCITE OUTGOING FRONT F. G. U.	Near mid channel-----		115	9
594. 5		250 feet 236° from preceding--		55	9
595	Forty-Mile Point----- Occ. W., 30 sec.	On mainland----- 45 29 83 55		66	16
NORTH END					
596	Spectacle Reef----- Alt. Fl. W. and R., 60 sec.	On west edge of reef----- 45 46 84 08		86	17
STRAITS OF MACKINAC					
597	Poe Reef----- Gp. Fl. W., 10 sec. 2 flashes. Radiobeacon.	In 23 feet, on east end of reef, north side of channel. 45 42 84 22		71	16
600	Fourteen Foot Shoal----- Fl. W., 3 sec.	In 14 feet-----		51	14
601	Cordwood Point Gas Buoy 1--- Fl. W., 3 sec.	In 30 feet, on north side of shoal, off Cordwood Point.		12	8
602	CHEBOYGAN CRIB----- Fl. R., 2 sec. U.	On west side of dredged en- trance to Cheboygan River.		37	12

MICHIGAN

11th Dist.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
150 ei	Maintained by Michigan Lime- stone & Chemical Co.	<i>Feet</i> White diamond daymark on conveyor house.	<i>Year</i> 1930
150 ei	Maintained by Michigan Lime- stone & Chemical Co.		1930
120 ei	Maintained by Michigan Lime- stone & Chemical Co.	Box mounted on conveyor house.	1930
120 ei	Maintained by Michigan Lime- stone & Chemical Co.	Two lights, 10 feet apart hori- zontally.	1930
2,900 4 iov	Light 15 sec., eclipse 15 sec----- DIAPHONE, air: Blast 3 sec., si- lent 27 sec.	Red square brick tower on dwelling, upper part, including lantern, white.	1897 53
W. 46,000 R. 34,000 2 iov	White flash 6 sec., eclipse 24 sec., red flash 6 sec., eclipse 24 sec. Winter light of reduced candle- power shown after station is closed. DIAPHONE, air; gp. 2 blasts every 30 sec.: Blast 2 sec., silent 2 sec., blast 2 sec., silent 24 sec.	Gray conical tower on square concrete pier.	1874 1905
24,000 3 ei	Flash 1 sec., eclipse 1.5 sec., flash 1 sec., eclipse 6.5 sec. Winter light of reduced candle- power shown after station is closed. DIAPHONE, air: Blast 2 sec., silent 18 sec. RADIOBEACON; Transmits gps. of 1 dot and 2 dashes. See p. 256 for time schedule, etc.	White square tower on concrete pier.	1929
11,000 4 ei	Flash 1 sec., eclipse 2 sec----- Winter light of reduced candle- power shown after station is closed. DIAPHONE; Blast 1 sec., silent 14 sec.	White conical tower, square structure on concrete pier.	1930
70 200 mm a	Flash 0.3 sec-----	Black.	
290 4 a	Flash 0.5 sec----- BELL, 1 stroke every 15 sec.	White octagonal tower on crib.	1884 1910

STRAITS OF MACKINAC

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
STRAITS OF MACKINAC					
603	RANGE { CHEBOYGAN RIVER FRONT- F. R. CHEBOYGAN RIVER REAR- F. R.	In city of Cheboygan, on river bank.		Feet 45	14
604		371 yards 212 $\frac{3}{4}$ ° from pre- ceding.	84 28	75	15
605	South Graham Shoal Gas and Bell Buoy 18. Fl. W., 1.5 sec.	In 24 feet, on shoal		10	9
606	North Graham Shoal Gas Buoy 20. Fl. W., 5 sec.	In 20 feet, on east end of shoal.		10	8
606.5	Majors Shoal Gas Buoy 2 Fl. R., 3 sec.	In 20 feet, at west end of shoal.		10	6
607	Round Island Fl. R., 10 sec.	On northwest end of island 45 50 84 37		53	15
608	Mackinac Spit Gas Buoy 22 Fl. R., 3 sec.	In 29 feet, on end of spit		10	6
609	Round Island Gas Buoy 9 Fl. W., 3 sec.	In 19 feet, at outer end of shoal, north of island.		10	8
610	Mission Point Gas and Bell Buoy 22 A. Fl. W., 1.5 sec.	In 24 feet, on edge of shoal making off point.		10	8
611	Bois Blanc Fl. W., 5 sec. U.	On point, east end of Bois Blanc Island. 45 49 84 25		50	14
612	ISLE ISADORE F. W. U.	On south end of Island No. 8, Les Cheneaux Islands.		15	5
613	Martin Reef Gp. Fl. W., 10 sec. 3 flashes. U.	In 6 feet, on south end of reef. 45 55 84 09		65	14
	WINTER LIGHT	U.			

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
750 Rf o	-----	Feet White square tower on red dwelling. 51	Year 1880
750 Rf o	-----	Black square pyramidal skeleton tower, white slatted daymark. 77	1880 1900
70 200 mm a	Flash 0.3 sec. BELL, on buoy.	Red.	
70 200 mm a	Flash 0.3 sec.	Red.	
20 200 mm a	Flash 0.3 sec.	Red.	
11,000 4 iov	Flash 0.8 sec., eclipse 9.2 sec. DIAPHONE, air: Blast 3 sec., silent 27 sec.	Red square tower on dwelling. 57	1896 1911
20 200 mm a	Flash 0.3 sec.	Red.	
70 200 mm a	Flash 0.3 sec.	Black.	
70 200 mm a	Flash 0.3 sec. BELL, on buoy.	Red.	
720 5 a	Light 0.5 sec., eclipse 4.5 sec.	Black pyramidal skeleton tower. 35	
30 Pl o	Maintained by William B. Hatch, from July to Septem- ber.	Green triangular tower.	1916
8,000 4 ei a	3 flashes, 1 sec. each, 2 eclipses 1 sec. each, 1 eclipse 5 sec. Winter light of reduced candle- power shown after station is closed. DIAPHONE, air: Blast 2 sec., silent 18 sec.	White square tower on concrete pier.	1927

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
STRAITS OF MACKINAC					
614	Detour Fl. W., 10 sec. Radiobeacon.	On south end of point, west side of entrance to St. Marys River. 45 57 83 55 Radiobeacon 400 feet north-east of lighthouse.		80	17
NORTH END					
615	SCAMMON HARBOR EN- TRANCE. Fl. W., 1.5 sec.	U.	On westerly end of Boot Island. Mich.	15	6
616	COATS POINT Fl. W., 1.5 sec.	U.	On westerly end of point. Mich.	15	6
617	Detour Point Radiocom- pass Station. Call NZU.				
EAST SIDE					
618	Goderich Main Gp. Fl. W., 25 sec. 2 flashes.		On high bank, south side of entrance to Goderich Harbor. C. 43 45 81 44	150	18
619	GODERICH BREAKWATER Fl. W., 5 sec.	U.	On west end of north breakwater.	25	10
620	RANGE { GODERICH NORTH PIER FRONT. F. R.		On pier, 40 yards from outer end. 43 45 81 44	41	8
621		{ GODERICH NORTH PIER REAR. F. R.		On beach, 475 yards from preceding. 89 1/2°	65
622	Point Clark Gp. Fl. W., 10 sec. 2 flashes.		On end of low point. 44 04 81 46	93	15

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
100,000 3 1/2 iov	Flash 1 sec., eclipse 9 sec. DIAPHONE, air: When foggy in lake, but clear inside river, gp. 3 blasts: 3 blasts 2 sec. each, 2 silent 2 sec. each, 1 silence 50 sec. repeated for 2 minutes. Every third minute signal is blast 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. When foggy in both lake and river: Blast 6 sec., silent 54 sec. RADIOBEACON: Transmits gps. 4 dashes. See p. 256 for time schedule, etc.	Feet White skeleton tower, dwelling attached.	Year 1848 1909
30 150 mm a	Flash 0.3 sec. Maintained by the Les Cheneaux Association from June 15 to Nov. 1.	Orange wooden framework.	1927
30 150 mm a	Flash 0.3 sec. Maintained by the Les Cheneaux Association from June 15 to Nov. 1. (U. S. Navy)	Orange wooden framework.	1927
25,000	Flash, eclipse 6 sec., flash, eclipse 19 sec. Storm signal mast; north side of lighthouse.	White square stone, red octagonal lantern.	1847
	Flash 0.5 sec. DIAPHONE, air: Blast 2 sec., silent 23 sec. Horn points 332 1/2°.	White square pyramidal concrete structure.	1909 1914
	Lifeboat station on south pier	Square tower, red open base, white upper part inclosed, red lantern.	33
		White square skeleton, upper part inclosed, red lantern.	1905 1908
30,000	Flash, eclipse 2 1/2 sec., flash, eclipse 2 1/2 sec., flash, eclipse 10 sec.	White circular stone.	1859 1927

LAKE HURON

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
EAST SIDE					
623	KINCARDINE FRONT. F. R.	On north pier, 40 yards from west end, 435 yards 285° from rear light.		35	7
624	Kincardine Rear. Fl. W., 20 sec.	In town on hillside.		80	14
625	PORT ELGIN SOUTH FRONT. F. W.	On shore, 400 yards 167° from south end of Government wharf.		25	4
626	PORT ELGIN SOUTH REAR. F. R.	50 yards 104° from preceding.		20	4
627	PORT ELGIN NORTH FRONT. F. W.	On north end of Government wharf.		21	9
628	PORT ELGIN NORTH REAR. F. R.	On shore, 220 yards 38° 40' from preceding.		31	4
629	Chantry Island. F. W.	On east side of island, 2.5 miles west from Saugeen.		94	15
630	SOUTHAMPTON HARBOR FRONT. F. R.	On east end of west breakwater.		28	7
631	Southampton Harbor Rear. F. W.	On shore, 2,638 yards 178½° from preceding.		31	10
632	SAUGEEN FRONT. F. R.	On breakwater, 50 yards from its outer end, north side of mouth of Saugeen River.		36	7
633	SAUGEEN REAR. F. R.	On hill, 752 yards 95¼° from preceding.		61	7
634	Southampton Gas and Bell Buoy. Occ. R.	In 22 feet, off north end Chantry Island Bank.			
635	Lyal Island. Gp. Fl. W., 20 sec. 2 flashes.	On west side of island.		51	12

CANADA

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	Storm signal, east side of harbor basin.	30	1874 1925
	Lifeboat station on east shore of harbor.	63	1881 1925
	Enter port only with local knowledge.	14	1895 1912
	Enter port only with local knowledge.	30	1895
	Use range only with local knowledge.	14	1884
		16	1895
		86	1859
		27	1877
	WHISTLE , steam; gp. 2 blasts every 60 sec.; Blast 5 sec., silent 5 sec., blast 5 sec., silent 45 sec. Maintained by town corporation. Fog signal 0.2 mile southwest from Saugeen River. Storm-signal 65 yards east of fog signal.	28	1877 1901
		31	1883 1903
		31	1903
	BELL , on buoy.		
25,000	Flash, eclipse 5 sec., flash, eclipse 15 sec.	57	1885

LAKE HURON AND GEORGIAN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
EAST SIDE					
636	RANGE { STOKES BAY FRONT F. W.	On northwest end of west- ernmost Knife Island.		Feet 30	10
		44 58	81 24		
637	STOKES BAY REAR F. W.	On mainland, 1,417 yards 69° from preceding.		61	13
638	Cove Island Gas and Whis- tle Buoy. Occ. W.	In 138 feet, 6 miles 274° from Cove Island Lighthouse.			
639	O'Brien Patch Gas Buoy. Occ. W.	In 72 feet			
		45 30	81 47		
640	Cove Island Fl. W., 2.5 sec. Radiobeacon.	On north point of island, en- trance to Georgian Bay.		90	15
		45 20	81 44		
RANGE					
641	RANGE { SOUTH BAYMOUTH FRONT F. W.	On southeast end of island, north side of mouth of bay.		28	10
		45 33	82 01		
642	South Baymouth Rear F. W.	On Manitoulin Island, 257 yards 24° from preceding.		46	12
643	PROVIDENCE BAY F. W.	On end of Providence Point, Manitoulin Island.		43	11
		45 39	82 17		
644	Great Duck Island Gp. Fl. W., 15 sec. 3 flashes.	On southwest point of island.		89	18
		45 38	82 58		
645	Mississagi Strait F. W.	On west side of Manitoulin Island, 1 mile north of south- west point.		46	13
		45 54	83 14		
GEORGIAN BAY					
646	TOBERMORY F. R.	On west side of entrance.		40	8
		45 16	81 40		
647	Flowerpot Island F. W.	On northeast point of island.		88	15
		45 18	81 37		
648	Bears Rump Shoal Gas and Bell Buoy. Occ. W.	In 42 feet, off south end of Bears Rump Island.			
		45 18	81 35		

CANADA

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	Use range only with local knowl- edge.	Feet White, square, wood. 33	Year 1904
		Brown square skeleton, white inclosed upper part.	1904
	WHISTLE, on buoy.	Black and white vertical stripes.	
		Red and black horizontal bands.	
30,000	DIAPHONE, air; gp. 3 blasts every 60 sec.; blasts 2.5 sec. each, silent 47.5 sec. RADIOBEACON: Transmits gps. of 3 dots, 1 dash; 2 dashes, 1 dot; 3 dashes. See p. 256 for time schedule, etc.	White circular stone dwelling attached. 85	1859 1924
		White, square, wood. 28	1898
		White, square, wood. 40	1898
	HORN, hand, answers signals.	White, octagonal, wood; red iron lantern. 42	1904
60,000	2 flashes with 2 eclipses, 5 sec., 1 flash, 1 eclipse 10 sec. DIAPHONE, air: Blast 2.5 sec., silent 27.5 sec. Horn points southwest.	White octagonal pyramidal con- crete tower, red polygonal iron lantern. 85	1877 1918
	DIAPHONE, air; gp. 2 blasts every 45 sec.: Blast 3 sec., si- lent 3 sec., blast 3 sec., silent 36 sec. Horn points 188°.	White, square, wood; red oc- tagonal iron lantern; dwelling attached 28	1873
	HORN, hand, answers signals. Storm signal on high ground, opposite lighthouse.	White, hexagonal, wood; red iron lantern. 43	1885
	Visible from 97½° to 283°. DIAPHONE, air: Blast 4 sec., si- lent 56 sec. Horn points north.	White, square, wood; red lan- tern on roof. 31	1897
	BELL, on buoy.	Black.	

GEORGIAN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
GEORGIAN BAY					
649	RANGE WINGFIELD BASIN FRONT. F. W.	On south side of basin.		Feet	
		45 15	81 18		
650	WINGFIELD BASIN REAR. F. W.	50 yards 173° from preceding.			
651	Cabot Head. Fl. W., 25 sec.	On cliff, 0.3 miles east from entrance to Wingfield Basin. 45 15 81 17		80	14
652	LIONHEAD HARBOR. F. W.	On breakwater, near outer end, north entrance. 45 00 81 15		27	10
653	Surprise Shoal Gas and Whistle Buoy. Occ. W.	In 90 feet, off west end of shoal.			
654	Cape Croker. Gp. Fl. W., 5 sec. 2 flashes.	On point, 1.3 miles southeast- ward from cape. 44 57 80 58		67	13
655	WARTON. F. R.	Near outer end of breakwater, head of Colpo Bay. 44 45 81 08		19	6
656	Griffith Island. Occ. W. U.	On northeast side of island. 44 51 80 53		85	16
657	RANGE OWEN SOUND FRONT. F. W.	On east side of mouth of Sydenham River. 44 35 80 56		50	12
658		OWEN SOUND REAR. F. W.	353 yards 195° from preced- ing.		92
659	WEST PIER OUTER. Occ. R., 14 sec. U.	Extreme outer end of pier.			
660	WEST PIER INNER. F. W. U.	Inner end of pier.			
661	Vails Point Shoal Gas and Bell Buoy. Occ. W.	In 60 feet, 1.2 miles 309° from point.			

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		White narrow wooden structure. 16	1914
		White narrow wooden structure. 16	1914
	DIAPHONE; gp. 2 blasts every 60 sec.: Blast 3 sec., silent 3 sec., blast 3 sec., silent 51 sec. Horn points northeast.	White, square wood; red poly- gonal iron lantern, dwelling attached. 54	1896
		Storm-signal station 25 yards southeast.	
120		White, square, wood. 27	1903 1915
	WHISTLE, on buoy.	Black.	
	Flash 0.3 sec., eclipse 0.7 sec., flash 0.3 sec., eclipse 3.7 sec. DIAPHONE, air: Blast 5 sec., si- lent 55 sec. Horn points northeast.	Octagonal concrete tower, red cylindrical lantern. 53	1902 1900
	Storm signal on outer end of breakwater.	Mast, white shed at base. 15	1891
		White circular stone. 61	1859 1928
	BELL; 1 stroke every 10 sec. Storm signal on west side of river.	Black square skeleton tower, white wooden slat work, black vertical stripe, red lantern. 50	1895 1909
		Square pyramidal skeleton tower white wooden slat work on upper part, black vertical stripe on front; 2 galvanized- iron lanterns. 88	1895 1915
	Light 10 sec., eclipse 4 sec.		1928
	Marks turn to elevator.		1928
	BELL, on buoy.	Black.	

GEORGIAN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
GEORGIAN BAY					
662	MEAFORD BREAKWATER..... Occ. W. U.	On west end of breakwater, north side of entrance. ° ' ° ' 44 37 80 35		20	8
663	RANGE { THORNBURY FRONT..... F. R.	On west breakwater pier..... 44 34 80 27		28	10
664		THORNBURY REAR..... F. R.		36	7
665	Nottawasaga Island..... Fl. W., R. sector, 5 sec.	On north point of island, 2 miles northwest from Col- lingwood Harbor. 44 32 80 16		86	15
666	Lockerbie Rock Gas Buoy..... Occ. W.	In 24 feet, 400 yards 284° from middle of rock.			
666.5	Collingwood Harbor Gas Buoy..... Occ. E.	In 36 feet.....			
667	RANGES { COLLINGWOOD SHORE AND WHARVES FRONT. F. R.	On pier, at turn in dredged channel. Collingwood Har- bor. 44 31 80 14		29	7
668		COLLINGWOOD SHORE REAR. F. R.		58	8
669	COLLINGWOOD WHARVES REAR. F. W.	510 yards 304½° from front light.		34	
670	Lottie Wolf Shoal Gas Buoy..... Occ. R.	In 21 feet, on end of shoal.....			
671	Hope Island..... Gp. Fl. W., 24 sec. 3 flashes.	On northeast point of island 44 55 80 10		54	12
672	Bennet Bank Gas and Bell Buoy..... Occ. W.	In 66 feet, off southwest edge of bank. 44 52 80 02			
673	Giants Tomb..... Fl. W., 20 sec.	On south end of Giants Tomb Island. 44 53 80 00		40	11
674	Saw-log Point Gas Buoy..... Occ. R.	On north edge of shoal ex- tending northward from Saw-log Point.			

CANADA

Candlepower	Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established Rebuilt
			Feet	Year
			Black square pyramidal skele- ton, shed alongside. 17	1906 1914
			White, square, wood; red lan- tern roof. 27	1887 1911
			White diamond daymark on mast, drab shed at base. 29	1901
		Red sector, of 30°, southwest from Fisherman Point and in- cluding Collingwood Harbor, covers shoals between light and harbor. HORN, hand, answers signals.	White circular stone. 85	1859
			Black.	
			Red.	
		HORN, hand, answers signals.....	White, square, wood; red lan- tern. 27	1884 1906
		Lifeboat at foot of Maple St.....	Gray square skeleton tower, white inclosed upper part. 63	1902 1906
		Storm signal near Government wharf.	White, square, wood. 39	1906
			Red.	
20,000		Flash, eclipse 4 sec., flash, eclipse 4 sec., flash, eclipse 16 sec. DIAPHONE, air; gp. 2 blasts every 30 sec.; Blast 3 sec., silent 3 sec., blast 3 sec., silent 21 sec. Horn points 35°.	White, square, wood; dwelling attached; red polygonal lan- tern. White fog-signal house, green roof, 15 yards 342° from lighthouse. 57	1884
		BELL, on buoy.....	Black.	
25,000		HORN, hand, answers signals.....	White, square, wood; dwelling attached. 37	1893
			Red.	

GEORGIAN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
GEORGIAN BAY					
675	Pinery Point Gas Buoy. Occ. R.	On east end of shoal off point.			
		44 50	79 54		
676	Candlemas Shoal Gas Buoy. Occ. W.	On west side of shoal, 765 yards 192° from south end of Beausoleil Island.			
		44 49	79 52		
677	BREBEUF FRONT. F. W.	On north end of Brebeuf Island.		40	10
		44 53	79 53		
678	BREBEUF REAR. F. W.	On west shore 800 yards 88° from preceding.		87	10
679	McNICOLL FRONT. F. W.	East of Elimere Point.		28	10
		44 46	79 50		
680	McNICOLL REAR. F. W.	860 yards 152° from preced- ing.		166	12
681	TIFFIN FRONT. F. R.	On northwest end of dock.		31	
		44 45	79 51		
682	TIFFIN REAR. F. R.	50 yards 142° from preceding.		53	
683	MIDLAND FRONT. F. R.	On hillside, in southwest part of town.		150	4
		44 45	79 54		
684	MIDLAND REAR. F. R.	440 yards 230° from preced- ing.		190	4
685	WHISKEY ISLAND. F. W.	At entrance to Penetanguishene Harbor.		33	11
		44 49	79 55		
686	REFORMATORY PIER. F. W.	On outer end of pier.		17	8
		44 48	79 56		
687	PENETANGUSHENE HAR- BOR FRONT. F. R.	535 yards 117½° from mouth of Copeland Creek.		100	3
		44 45	79 56		
688	PENETANGUSHENE HAR- BOR REAR. F. R.	185 yards 186° from preced- ing.		143	3

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		Red.	
		Black.	
30,000 200	Bright light on range line; low power light from other points of approach.	White square tower, red lan- tern. 36	1900
		Red square skeleton tower, white octagonal lantern. 90	1900 1915
		White, square, wood. 27	1913
		Red square skeleton tower, white inclosed upper part; white slats on upper part of front face. 46	1913
	Range maintained by Grand Trunk Railway Co. Radio station; call VBC.	Mast. 25	
		Lantern attached to NW. wall of G. T. R. elevator.	
	Storm signal on hill on south side of entrance to harbor.	Mast. 30	1901
		Mast. 30	1901
		White, square, wood; red lan- tern. 36	1882
		White, square, wood; red lan- tern. 18	1876
6,000		White diamond daymark on mast. 30	1909
6,000		White diamond daymark on mast. 43	1909

GEORGIAN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
GEORGIAN BAY					
689	MIDLAND POINT FRONT F. W.	0.5 mile north of point.		49	7
		44 47	79 52		
690	MIDLAND POINT REAR F. W.	135 yards 283° from preceding.		85	7
691	VICTORIA HARBOR FRONT F. R.	On Bergie Point.		27	7
		44 45	79 47		
692	VICTORIA HARBOR REAR F. R.	On hill, 1,400 yards 149° from preceding.		100	7
693	Port McNicoll Gas Buoy Occ. R.	On west side of channel to C. P. R. dock.			
694	TURNING ROCK, WAUBAUSHENE Occ. W.	Waubauskene approach.		30	6
		44 46	79 44		
695	SEVERN RIVER FRONT F. R.	On east shore of Sturgeon Bay.		20	2
		44 45	79 43		
696	SEVERN RIVER REAR F. R.	133 yards 167½° from preceding.		26	2
697	WAUBAUSHENE FRONT F. R.	On flat, north of channel.		18	2
		44 46	79 42		
698	WAUBAUSHENE REAR F. R.	167 yards 89½° from preceding.		24	2
700	TURNING ROCK Occ. W.	On rock, southeast of Roberts Island, Honey Harbor.		14	
700.1	MINNICOGNASHENE ISLAND Front. Occ. W.	On south end of island.		25	0
		44 54	79 54		
700.2	MINNICOGNASHENE ISLAND Rear. Occ. W.	167 yards 4° from preceding.		50	12
700.3	NEWTON ISLAND Occ. W.	On easterly island.		24	9
		44 56	79 56		
700.4	RED ROCK Occ. W.	On summit of rock.		24	9
		44 58	79 58		
701	Western Island. Fl. W., 15 sec.	On Double Top Rock.		74	14
		45 02	80 22		

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
100		Feet White, square, wood. 45	Year 1912 1913
100		White, square, wood. 27	1912 1913
		White, square, wood. 27	1910
		White, square, wood. 32	1910
	Storm signal 100 yards north-west of C. P. R. station, Port McNicoll.	Red.	
		White, square, wood; red lantern. 30	1915
		Mast.	1910
		Mast.	1910
		Mast.	1910
		Mast.	1910
		White slatted daymark on pyramidal skeleton tower, concrete base.	1914 1919
		White pyramidal beacon.	
		White pyramidal beacon.	
		White pyramidal beacon.	
		White pyramidal beacon.	
	DIAPHONE, air: Blast 3 sec., silent 27 sec.	White, octagonal, wood; red iron lantern. 59	1895

GEORGIAN BAY AND PARRY SOUND

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
GEORGIAN BAY					
702	<i>Sequin Bank Gas and Whistle Buoy.</i> Occ. W.	On south end of bank		Feet	4
		45 19	80 32		
703	<i>Red Rock</i> Occ. W., 12 sec.	At entrance to main channel to Parry Sound.		60	13
		45 22	80 25		
704	<i>TURNING ISLAND</i> Occ. W.	On south point of island		30	
		45 13	80 10		
705	<i>BEAUTY ISLAND</i> Occ. W.	On northwest point of island		30	3
		45 14	80 10		
706	<i>FIVE MILE NARROWS</i> Occ. W.	On southwest end of island No. 60.		20	2
		45 16	80 06		
707	<i>THREE MILE GAP</i> Occ. W.	On small island at entrance to gap.		20	2
		45 18	80 04		
PARRY SOUND					
708	<i>Three Star Shoal Gas Buoy</i> Occ. R.	In 24 feet, 50 yards north- west of 17-foot rock; 75 yards south of Snug Har- bor Range line.			
		45 22	80 22		
709	<i>SNUG HARBOR FRONT</i> Occ. W.	On westernmost Island.	Walton	39	11
		45 22	80 20		
710	<i>SNUG HARBOR REAR</i> F. W.	1,033 yards 70° from preced- ing.		62	13
711	<i>Middle Ground Gas Buoy</i> Occ. R.	Between Hall Reef and Twin Rock.			
712	<i>Hooper Island Shoal Gas Buoy</i> Occ. R.	In 18 feet, north of island		7	3
713	<i>JONES ISLAND FRONT</i> Occ. W.	On summit of northernmost Gordon Rock.		40	11
		45 19	80 17		
714	<i>JONES ISLAND REAR</i> F. W.	On southwest point of island, 2,900 yards 132° from pre- ceding.		63	13
714.5	<i>IRON ROCK</i> Fl. R., 2.5 sec.	Near south end of rock		30	10
715	<i>Spruce Shoal</i> Occ. W.	On shoal, near south end		39	11
		45 20	80 16		

CANADA

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	WHISTLE , on buoy	Feet Black.	Year
	Light 8 sec., eclipse 4 sec. DIAPHONE , air: Blast 2 sec., silent 18 sec.	Red, polygonal lantern, on con- crete building; on red cylin- drical pier.	1870 1911
		White pyramidal structure.	1925
		White pyramidal structure.	1925
		Red triangular daymark above white triangular daymark on pole.	1925
		Red triangular daymark above white triangular daymark on pole.	1925
		Red.	
		White, square, wood.	1894 1927
		White, square, wood; on rec- tangular dwelling.	1894
		Red.	
		Red.	
	Visible from 112° to 292°	White, square, wood.	1894 38
		White, square, wood; on rec- tangular dwelling.	1894 50
	Maintained from May 15 to Nov. 15.		
		Black cylinder on octagonal con- crete tower on pier.	1908

PARRY SOUND

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
PARRY SOUND					
716	CARLING ROCK Occ. R.	On north part of summit of rock. 45 20	80 14	Feet 28	7
717	KILLBEAR POINT Occ. W. U.	On southwest end of point. 45 20	80 10	37	7
718	DEPOT ISLAND Gp. Fl. W., 6 sec. 2 flashes	On beach, at west end of island. 45 19	80 07	25	6
719	THREE MILE POINT Occ. W. U.	On point. 45 21	80 06	38	7
720	ROSE POINT SWING BRIDGE F. G. F. R.	From westernmost end of Rose Point to Parry Island. 45 19	80 03		
721	RANGE { POINTE AU BARIL FRONT. F. W.	On south end of point. 45 34	80 31	38	10
722		POINTE AU BARIL REAR F. R.	On summit of island, 1,600 yards 104½° from preceding.		93
723	BRIGNALL NARROWS F. W. U.	On south side of channel at narrows.		18	
724	CASTOR ISLAND F. W. U.	On Barrel Rock, 65 yards northwest of island, northeasterly from Pointe au Baril Range Rear Light.		14	4
725	OPEECHE F. W. U.	On south point of Opeeche Island, north side of entrance to Pointe au Baril.		12	4
726	JERGENS ISLAND F. R. U.	On southeast point of island.		18	4
727	ROGERS ISLAND F. R. U.	On northwest point of island.		12	3
728	Byng Inlet Gas and Whistle oy. Occ. W.	In 54 feet, on Byng Inlet Range line; 0.7 mile west of Maganatawan Ledges.			

CANADA

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet White, square, wood, red stripe on west side. 27	Year 1898
		Red lantern and box on white cylinder.	1904
	Flash 0.5 sec., eclipse 1 sec., flash 0.5 sec., eclipse 4 sec. Visible from 174° to 354°. Storm-signal mast on bluff 300 yards eastward of Supply Point.	White, square, wood. 28	1898
		Gray cylindrical tank on concrete base; red skeleton superstructure.	1908
	Fixed green light (bridge open) fixed red light (bridge closed). When bridge is open, a 4-foot red and white ball is shown at top of mast on top of swing; ball lowered when swing is closed. To pass bridge steamers should stop at Sloop Island or east point of Isabella Island and give 3 long whistles.		1897
		White, square, wood; red lantern. 32	1889
		Square, skeleton tower, white slat work on channel face, white inclosed upper part, black vertical stripe on front face of tower. S1	1889 1908
		Pole.	1924
	Shown from June 15 to Sept. 30.	Lantern on iron mast.	1922
	Shown from June 15 to Sept. 30.	Lantern on iron mast.	1922
	Shown from June 15 to Sept. 30.	Mast.	1926
	Shown from June 15 to Sept. 30.	White diamond daymark on pole.	
	WHISTLE, on buoy	Black and white vertical stripes.	

PARRY SOUND AND FRENCH RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
PARRY SOUND					
729	Gereaux Island..... F. W.	On south side of entrance to Byng Inlet. 45 44 80 40		49	12
730	BYNG INLET FRONT..... F. R.	On south side of channel..... 45 45 80 39		34	8
731	BYNG INLET REAR..... F. R.	507 yards 75° from preceding.		60	8
732	Key Inlet Entrance Gas Buoy Z. Occ. R.	1.5 miles 213° from Southeast rock.			
FRENCH RIVER					
733	BUSTARD ROCKS INNER FRONT. F. W.	76 yards 43° from rear light..		30	6
734	Bustard Rocks Rear..... F. W.	On rocky islet, 2.5 miles southwest of entrance to French River. 45 53 80 57		48	12
735	BUSTARD ROCKS OUTER RANGE FRONT. F. W.	65 yards 254° from preceding.		27	10
736	INNER FRONT..... F. R.	On Lefroy Island, west side of mouth of French River. 45 56 80 54		15	6
737	INNER REAR..... F. R.	On east side of river, 1,726 yards 27° from preceding.		37	6
738	Lonely Island..... Gp. Fl. W., 8 sec. 3 flashes.	On summit of north bluff..... 45 34 81 28		195	20
739	Killarney East..... Fl. W., 30 sec.	On Red Rock Point, 1 mile east of Killarney. 45 58 81 29		54	12
740	KILLARNEY WEST..... F. W.	On Partridge Island, 1 mile northwest of Killarney. 45 59 81 32		37	11
741	Ann Long Gas Buoy..... Occ. W.	In 19 feet, 200 feet northeast of Fish Point.			
742	Campbell Rock Gas and Bell Buoy. Occ. W.	North side of Rock, 2 miles northeast of Cape Smith.			

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	HORN, hand, answers signals.	Feet White, square, wood; red lan- tern; dwelling attached. 48	Year 1870 1870 1880
		White, square, wood. 33	1890
		White, square, wood, open frame; lantern and upper part inclosed, slatted below. 49	1890
		Red.	
		White, square, wood; red square wooden lantern. 28	1875 1893
	Visible except over the rocks and shoals to northeastward and eastward. HORN, hand, answers signals.	White, square, wood; red hex- agonal iron lantern. 37	1875 1893
		White, square, wood; red square wooden lantern. 28	1893
		White square slatted skeleton tower, red lantern. 13	1875 1914
		White square tower, red lantern. 33	1875 1893
	3 flashes, 0.2 sec. each, 2 eclipses, 1.2 sec. each, 1 eclipse 5 sec. Obscured from 327° to 46½°. HORN, hand, answers signals.	White, octagonal, wood; red cylindrical lantern. 57	1870 1907
	HORN, hand, answers signals.	White, square, wood; red octag- onal iron lantern. 29	1866 1909
170		White, square, wood; red octag- onal, iron lantern. 29	1866 1927
		Black.	
	BELL, on buoy.	Red and black horizontal bands.	

NORTH CHANNEL

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH CHANNEL					
743	RANGE { BADGELEY ISLAND FRONT. F. W.	On point, south side of island.		39	10
		45 56	81 37		
744	RANGE { BADGELEY ISLAND REAR. F. W.	On southeast point of island, 0.3 mile 75° from preceding.		61	13
745	MANITOWANING..... F. W.	On hill in village, Manitoulin Island.		80	14
		45 45	81 48		
746	RANGE { SHEGUIANDAH FRONT. F. W.	On outer end of Government wharf, Manitoulin Island.		23	9
		45 54	81 55		
747	RANGE { SHEGUIANDAH REAR. F. W.	317 yards 261½° from pre- ceding.		35	11
748	Strawberry Island..... F. W.	On northernmost point of island.		40	11
		45 58	81 51		
749	LITTLE CURRENT SWING BRIDGE. F. W. F. R. F. G.	Between Goat Island and Manitoulin Island, east of Little Current.			
750	RANGE { LITTLE CURRENT FRONT. F. R.	Near shore in village.....		33	6
		45 59	81 56		
751	RANGE { LITTLE CURRENT REAR. F. R.	On high ground, 124 yards 174° from preceding.		58	1
752	SPIDER ISLAND..... Occ. W.	On east end of island.....		40	6
		45 59	81 56		
753	Narrow Island..... F. W., R. sector.	On west end of island.....		36	11
		45 59	81 59		
754	James Foot Patch Float..... Occ. R.	In 27 feet, on southwest edge of patch.			
		45 59	82 05		
755	Clapperton Island..... F. W.	On north point of island.....		30	10
		46 03	82 14		

CANADA

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i>	<i>Year</i>
		White square dwelling, red lan- tern on roof.	1912
		36	
		Brown square skeleton tower, white inclosed upper part; red octagonal lantern.	1912
		64	
		White, square, wood; red iron lantern.	1885
		38	
		White diamond daymark on mast.	1909
		22	
		White diamond daymark on mast.	1909
		23	
230	HORN, hand, answers signals.	White square tower, red lantern, dwelling attached.	1881
		44	
	White light marks each side of channel to be used, one on end of rest pier of swing, the other on opposite side of opening. Swing span surmounted by light showing red when passage is closed, and green when open. Signal to open swing: 2 long followed by 2 short blasts of whistle.		1913
		Pole.	1866
		33	1919
		Mast.	1907
		40	
		White square tower; red lantern.	1866
		43	
	Red from 75° to 92°, covers Fos- ter Bank and shoals near, and marks shoals extending west- ward from head of island. Horn, hand, answers signals.	White, rectangular, wood; red octagonal lantern on roof.	1890
		37	1902
		Red superstructure on float.	
		White, square, wood; red lan- tern.	1866
		35	

NORTH CHANNEL

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH CHANNEL					
756	KAGAWONG F. W.	At foot of Mudge Bay 45 55	82 16	38	11
757	BOYD ISLAND Occ. R.	On rock near island 46 07	82 20	41	6
758	Gore Bay F. W.	On Janet Head 45 57	82 29	43	11
759	TOWN POINT F. R.	West side of entrance to Gore Bay. U.		21	5
760	Cape Robert F. W.	On north end of cape. 46 00	82 49	46	12
761	RANGE BLIND RIVER FRONT F. R.	On outer end of Government wharf, at Harriette Point. 46 11 82 58		25	6
762		BLIND RIVER REAR F. R.		40	7
763	RANGE EDDY WHARVES FRONT F. R.	On elevated way, west of Eddy west wharf. 46 11 82 58		35	7
764		EDDY WHARVES REAR F. R.		50	7
765	Mississagi Island Fl. W., 7 sec.	On south end of island 46 06	83 01	53	12
766	SULPHUR ISLAND Occ. W.	On south end of island 46 09	83 36	49	12
767	THESSALON F. W.	Near end of Thessalon Point. 46 14	83 34	30	10
767.2	RANGE THESSALON FRONT F. R.	On north side of east wharf. U.		17	
767.3		THESSALON REAR F. R.		33	
		440 yards 15½° from preceding. U.			

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i> White square tower, red lantern. 27	<i>Year</i> 1888 1894
		White, square, wood; red lantern. 39	1885
	HORN, hand, answers signals.	White, square, wood; red lantern; dwelling attached. 40	1879
		Mast, white shed at base.	1928
	HORN, hand, answers signals.	White, square, wood; red lantern; dwelling attached. 41	1885
		Lantern on corner of drab storehouse.	1900 1905
		Mast.	1900 1905
		Mast.	1905 1921
		Lantern on office building.	1905 1921
20,000	Obscured from 140° to 208°	White, square, wood; red lantern; dwelling attached. 50	1884
		White octagonal tower, red octagonal lantern. 43	1869 1928
	HORN, hand, answers signals.	White, square, wood; red lantern on dwelling. 30	1898
Rf ci	HORN, hand, answers signals.		
Rf ci			

ST. JOSEPH CHANNEL AND ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. JOSEPH CHANNEL					
768	BRUCE MINES {McKAY ISLAND..... F. W.	On east end of island.....		Feet	11
		46 17	83 47		
769	{GOVERNMENT WHARF..... F. R.	On outer end of wharf.....		12	5
		46 18	83 47		
770	HILTON..... F. R.	On outer end of wharf.....			
		46 16	83 53		
771	West Sister Rock..... F. W.	On rock.....		35	11
		46 18	83 54		
772	RANGE {WILSON CHANNEL FRONT... F. W.	On main land, opposite north- west point of Wilson Island.		58	3
		46 19	83 59		
773	{WILSON CHANNEL REAR... F. W.	243 yards 53½° from preced- ing.		109	3
774	RICHARDS LANDING..... F. W.	On wharf.....		16	3
		46 18	84 02		
775	SHOAL ISLAND..... F. W.	On north end of island, south side of channel.		32	4
		46 19	84 05		
776	Cambria Bank Gas Buoy..... Occ. W.	In 24 feet, 0.4 mile 71° from Harwood Point, Sugar Is- land.			
ST. MARYS RIVER					
777	Detour Reef Gas and Bell Buoy 1. Fl. W., 2 sec.	In 24 feet, off southeast end of reef. Mich.		13	9
778	Crab Island Shoal Gas Buoy, 4. Occ. R., 10 sec.	In 24 feet, east side of chan- nel.		11	7
779	FRYING-PAN ISLAND..... Fl. R., 2 sec. U.	On west side of Detour Pas- sage.		19	11
780	Watson Reefs Gas Buoy 5..... Fl. W., 2 sec.	In 30 feet, opposite center of reefs.		11	
782	Pipe Island Shoal Gas Buoy 5A. Occ. W., 10 sec.	In 20 feet, on southeast side of shoal, 1,200 yards 131° from Pipe Island Lighthouse.		11	
783	Pipe Island..... F. R.	On south side of island.....		52	10
		46 01	83 54		
784	PIPE ISLAND TWINS..... Fl. W., 2 sec. U.	On northeast side of East Twin Island.		25	

MICHIGAN

11th Dist.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		White square wooden dwelling, red lantern on roof.	1907
		34	
		Gray rectangular warehouse, brown roof.	1902
		Lantern on front of freight shed.	1914
	HORN, hand, answers signals.....	White, hexagonal, wood; red lantern; on pier.	1885 1905
		30	
		White, square, wood; red octag- onal lantern.	1905
		28	
		White, square, wood.	1905
		28	
		Lantern on warehouse.	1894 1901
	HORN, hand, answers signals.....	White square dwelling, lantern on roof.	1885 1909
		34	
		Black.	
	Flash 0.5 sec..... BELL; sounds continuously.	Black.	
190 300 mm a			
35 200mm pg m	Light 5 sec., eclipse 5 sec.....	Red.	
1, 200 5 ei	Flash 0.5 sec.....	White conical tower.	1882
		18	
70 200 mm a	Flash 0.3 sec.....	Black.	
120 200mm pg m	Light 5 sec., eclipse 5 sec.....	Black.	
100 300 mm a		Yellow octagonal tower, skeleton superstructure.	1888 1920
		44	
70 200 mm a	Flash 0.5 sec.....	Black pyramidal steel skeleton tower, tank house in base, on pier.	1919
		25	

ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. MARYS RIVER					
785	SQUAW ISLAND----- Fl. E., 2 sec. U.	On south point of island-----		26	
786	Sweets Point Shoal Gas Buoy 7. Occ. W., 20 sec.	In 20 feet, off north end of shoal.		11	
787	ROUND ISLAND----- Fl. W., R. sector, 2 sec. U.	On east side of island-----		29	
787.5	Hay Point Reef Gas Buoy 6A-- Fl. E., 3 sec.	In 22 feet, off west edge of shoal.		13	
788	Point aux Frenes Gas Buoy 11-- Occ. W., 10 sec.	In 24 feet, off east edge of shoal.		13	
788.5	Lake Munuscong Middle Gas and Bell Buoy. Occ. W., 10 sec.	In 22 feet-----		11	
789	Lake Munuscong Gas Buoy 1D. Fl. R., 3 sec.	In 22 feet-----		13	6
790	Lake Munuscong Gas Buoy 1B. Fl. W., 3 sec.	In 22 feet, at turning point--		10	
791	RANGE { WINTER POINT FRONT----- F. W. U.	On south end of Neebish Island. 46 13 84 09		22	
792		WINTER POINT REAR----- F. W. U.	258 yards 310½° from pre- ceding.		68
793	RANGE { PILOT ISLAND FRONT----- Occ. W., 2 sec. U.	On island----- 46 11 84 08		39	
794		PILOT ISLAND REAR----- F. W. U.	628 yards 195½° from pre- ceding.		58
794.3	Lake Munuscong Gas Buoy 12-- Occ. R., 10 sec.	In 23 feet-----		11	
794.5	Lake Munuscong Gas Buoy 16-- Fl. R., 3 sec.	In 20 feet-----		10	
794.7	Encampment Cut Gas Buoy 2-- Fl. R., 3 sec.	In 25 feet at junction of new and old cuts.		10	

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
20 200 mm a	Flash 0.5 sec-----	<i>Feet</i> Red pyramidal steel skeleton tower, tank house in base, on pier. 25	<i>Year</i> 1919
120 200 mm pgm	Light 10 sec., eclipse 10 sec----	Black.	
W. 190 R. 60 200 mm a	Flash 0.5 sec. Red west of 1° and 181°.	Black skeleton tower.	1892 1923
20 200 mm a	Flash 0.3 sec-----	Red, spar shaped.	
120 200 mm pgm	Light 5 sec., eclipse 5 sec----- BELL, on buoy.	Red and black horizontal bands.	
120 200 mm pgm	Light 5 sec., eclipse 5 sec----	Black, spar shaped.	
20 200 mm a	Flash 0.3 sec-----	Red, spar shaped.	
70 200 mm a	Flash 0.3 sec-----	Black.	
6,000 Rf pg m		White square pyramidal skel- eton tower slatted diamond daymark.	1892 1921
6,000 Rf pg m		Black triangular skeleton tower, slatted diamond day-mark.	1892 1894
2,500 Rf a	Light 1 sec., eclipse 1 sec-----	White octagonal pyramidal frame tower.	1894 1905
2,500 Rf a		White octagonal pyramidal frame tower.	1894 1905
35 200 mm pgm	Light 5 sec., eclipse 5 sec-----	Red.	
20 200 mm a	Flash 0.3 sec-----	Red.	
20 200 mm a	Flash 0.3 sec-----	Red.	

ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. MARYS RIVER					
795	Rains Island Gas Buoy 1..... Fl. W., 3 sec.	In 20 feet, on west edge of channel.		10	-----
797	JOHNSONS POINT LIGHT..... Occ. W., 10 sec. U.	In 10 feet, off point, at turn into Dark Hole Passage. Mich.		24	-----
798	RANGE { SAILORS ENCAMPMENT FRONT. F. W.	On Rains Hill, St. Joseph Island. C. 46 16 84 07		35	6
799		SAILORS ENCAMPMENT REAR. F. W.		269 yards 16° from preced- ing.	83
800	RANGE { RAINS WHARF FRONT..... F. R.	On shore, north of wharf, St. Joseph Island. C. 46 15 84 05		21	2
801		RAINS WHARF REAR..... F. R.		145 yards 134¼° from pre- ceding.	22
S01.5	Encampment Cut Gas Buoy 8... Fl. R., 3 sec.	In 22 feet.....		8	-----
S02	Rains Island Shoal Gas Buoy 7. Fl. W., 3 sec.	In 22 feet, on west side of channel. Mich.		10	-----
S03	RANGE { POINT OF WOODS FRONT... Occ. R., 2 sec. U.	On east side of Neebish Is- land. Mich. 46 16 84 07		26	-----
S04		POINT OF WOODS REAR... F. R. U.		110 yards 314¼° from pre- ceding.	42
S04.5	Dark Hole Gas Buoy 9..... Fl. W., 3 sec.	In 20 feet.....		8	-----
S05	Dark Hole Gas Buoy 14..... Fl. R., 3 sec.	In 24 feet, opposite Reed Point, at turn. Mich.		10	-----
S06	Coyle Point Gas Buoy 16..... Fl. R., 3 sec.	In 24 feet, at angle of east bank, abreast Coyle Point.		10	-----
S07	RANGE { DARK HOLE EAST FRONT... F. R. U.	At upper end of Sailors En- campment. Mich. 46 16 84 07		32	-----
S08		DARK HOLE EAST REAR... F. R. U.		310 yards 176½° from pre- ceding.	84

CANADA AND MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
70 200 mm a	Flash 0.3 sec.....	<i>Fet</i> Black.	<i>Year</i> 1914
240 300 mm pgm	Light 5 sec., eclipse 5 sec.....	Black post and tanks on pier.	1914
-----	-----	White square tower, red lantern roof.	1892 1909
-----	-----	White square tower, red lantern roof.	1892 1909
-----	-----	Mast. 15	1892
-----	-----	Mast. 22	1892
20 200 mm a	Flash 0.3 sec.....	Red.	
70 200 mm a	Flash 0.3 sec.....	Black.	
55 300 mm a	Light 1 sec., eclipse 1 sec.....	White diamond daymark on mast, tank house alongside on concrete pier.	1892 1921
55 300 mm a	-----	White diamond daymark on black square pyramidal skel- eton tower on white tank house on concrete pier.	1892 1921
70 200 mm a	Flash 0.3 sec.....	Black.	
20 200 mm a	Flash 0.3 sec.....	Red.	
20 200 mm a	Flash 0.3 sec.....	Red.	
750 Rf o	-----	Red square pyramidal tower.	1892 1930
750 Rf o	-----	Red square pyramidal skeleton tower, upper part inclosed.	1892 1930

ST. MARYS RIVER

No.	Name		Location		Light above high water	Miles seen
	Character and period of light		Latitude, N.	Longitude, W.		
ST. MARYS RIVER						
808.3	RANGE	DARK HOLE WEST FRONT. Fl. W., 1 sec. U.	67 yards 296½° from Dark Hole East Range Front Light. 46 16 84 07		31	-----
808.4		DARK HOLE WEST REAR. F. W. U.	310 yards 176½° from preceding.		84	-----
809		Munuscong Channel Gas Buoy 23. Fl. W., 3 sec.	In 20 feet, abreast point.----- Mich.		13	-----
809.5		Munuscong Channel Gas Buoy 24. Fl. R., 3 sec.	In 20 feet.-----		10	-----
810		Munuscong Channel Gas Buoy 27. Fl. W., 3 sec.	In 22 feet.----- Mich.		10	-----
811	RANGE	HARWOOD POINT EAST FRONT. Fl. W., 1 sec. U.	On southeast end of Sugar Island. Mich. 46 19 84 07		22	-----
812		HARWOOD POINT EAST REAR. F. W. U.	334 yards 356½° from preceding.		35	-----
812.3	RANGE	HARWOOD POINT WEST FRONT. Fl. R., 1 sec. U.	67 yards 270° from Harwood Point East Range Front Light. 46 19 84 07		30	-----
812.4		HARWOOD POINT WEST REAR. F. R. U.	334 yards 356½° from preceding.		62	-----
813		STRIBLING POINT SHORE. F. W. U.	230 yards 291½° from following. C.		18	5
814	RANGE	STRIBLING POINT FRONT. F. W.	On northwest end of St. Joseph Island. C. 46 19 84 07		30	5
815		STRIBLING POINT REAR. F. W.	On hillside, 482 yards 111½° from preceding.		53	5
816		Munuscong Channel Gas Buoy 31. Fl. W., 3 sec.	In 22 feet.----- Mich.		10	-----
817		Middle Neebish Cut Gas Buoy 1. Occ. W., 10 sec.	In 20 feet, on south edge of channel.		13	-----

CANADA AND MICHIGAN

11TH DIST.

Candlepower	Apparatus Illuminant	Light characteristic		Structure, vessel or buoy	
		Fog signal		Top of lantern above ground	Established Rebuilt
3, 200 400 mm Rg a		Flash 0.3 sec.-----		Feet White square pyramidal tower.	Year 1930
3, 200 400 mm Rg a		-----		White daymark on black square pyramidal tower.	1930
70 200 mm a		Flash 0.3 sec.-----		Black, spar shaped.	
20 200 mm a		Flash 0.3 sec.-----		Red.	
70 200 mm a		Flash 0.3 sec.-----		Black.	
3, 200 400 mm Rg a		Flash 0.3 sec.-----		White square pyramidal tower.	1930
3, 200 400 mm Rg a		-----		White daymark on black square pyramidal skeleton tower.	1930
1, 100 350 mm Rg a		Flash 0.3 sec.-----		Red square pyramidal tower.	1930
1, 100 350 mm Rg a		-----		Red square pyramidal skeleton tower, upper part inclosed.	1930
		-----		White mast, small shed at base.	1927
		-----		White, square, wood.	1900 1902
		-----		White, square, wood; white octagonal wooden lantern.	1900 1902
70 200 mm a		Flash 0.3 sec.-----		Black.	
120 200 mm pg m		Light 5 sec., eclipse 5 sec.-----		Black, spar-shaped.	

ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. MARYS RIVER					
S18	MIDDLE NEEBISH CUT NORTH SIDE LOWER 2. U. Fl. R., 5 sec.	On east end of dike.....		Feet 26	
S19	Middle Neebish Cut Gas Buoy 3. Occ. W., 10 sec.	In 20 feet, on south edge of channel.		13	
S20	MIDDLE NEEBISH CUT NORTH SIDE MIDDLE 4. U. Fl. R., 5 sec.	At center of dike		26	
S21	Middle Neebish Cut Gas Buoy 5. Occ. W., 10 sec.	In 20 feet, on south edge of channel.		13	
S22	MIDDLE NEEBISH CUT NORTH SIDE UPPER 6. U. Fl. R., 5 sec.	At upper end of dike.....		26	
S23	NORTH RANGE { MIDDLE NEEBISH FRONT 7N. U. Fl. W., 1 sec.	In 18 feet.....		31	
S24		MIDDLE NEEBISH REAR 9N. U. F. W.	In 14 feet, 830 yards, 292° from preceding.		46
S24.3	SOUTH RANGE { MIDDLE NEEBISH FRONT 7S. U. Fl. R., 1 sec.		74 yards 159° from Middle Neebish North Range Front Light 7N. 46 20 84 11		35
S24.4		MIDDLE NEEBISH REAR 9S. U. F. R.	2,000 yards 291¼° from pre- ceding.		69
S25	JUNCTION 8 Fl. R., 2 sec. U.		On north edge of channel at turn. Mich.		26
S26	EAST RANGE { LOWER NICOLET FRONT 10E. U. F. R.	On north end of Neebish Island. 46 20 84 10		44	
S27		LOWER NICOLET REAR 11E. U. F. R.	586 yards 150¼° from pre- ceding.		94

MICHIGAN

11th Dist.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
20 200 mm a	Flash 0.5 sec.....	Feet Red post and tank house on platform.	Year 1895 1920
120 200 mm pg m	Light 5 sec., eclipse 5 sec.....	Black, spar-shaped.	
20 200 mm a	Flash 0.5 sec.....	Red post and tank house on platform.	1895 1910
70 200 mm pg m	Light 5 sec., eclipse 5 sec.....	Black, spar-shaped.	
20 200 mm a	Flash 0.5 sec.....	Red post and tank house on platform.	1895 1910
350 300 mm a	Flash 0.3 sec.....	White oval slatted daymark on square pyramidal skeleton tower on concrete pier. 1895 1931	
3,600 350 mm Rg a	-----	White oval slatted daymark on square pyramidal skeleton- tower on concrete pier. 1895 1920	
1,000 400 mm Rg a	Flash 0.3 sec.....	Red square pyramidal tower on concrete pier. 1930	
1,100 350 mm Rg a	-----	Red square pyramidal skeleton tower, upper part inclosed, on concrete pier. 1930	
20 200 mm a	Flash 0.3 sec.....	Red square pyramidal skeleton tower on tank house on con- crete pier. 1895 1920	
750 Rf o	-----	Black square pyramidal tower, white vertically slatted day- mark. 1895 1909	
750 Rf o	-----	Black square pyramidal tower, white vertically slatted day- mark. 1895 1909	
		76	

ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. MARYS RIVER					
827. 3	WEST RANGE LOWER NICOLET FRONT 10W. F. W.	67 yards 240 $\frac{1}{4}$ ° from Lower Nicolet East Range Front Light 10E. 46 20	84 10	Feet	-----
827. 4					
828	Lake Nicolet Gas Buoy 4----- Occ. R., 10 sec.	In 20 feet, on east side of channel.		11	-----
829	Lake Nicolet Gas Buoy 5----- Occ. W., 10 sec.	In 20 feet, on west side of channel.		11	-----
830	Lake Nicolet Gas Buoy 11----- Occ. W., 10 sec.	In 20 feet, on west side of channel.		13	-----
831	Lake Nicolet Gas Buoy 10----- Occ. R., 10 sec.	In 20 feet, on east side of channel.		13	-----
832	NINE-MILE POINT----- Fl. R., 10 sec. U.	In 12 feet, off point-----		32	8
833	MIDDLE LAKE NICOLET FRONT 17 U. F. W.	In 20 feet, on east side of lake. 46 26	84 15	31	-----
834					
834. 5	Six Mile Point Gas Buoy 17-- Fl. W., 3 sec.	In 21 feet-----		10	-----
835	RANGE FRECHETTE POINT FRONT 21. U. F. R.	In 3 feet, below point----- 46 27	84 17	38	-----
836					
837	Frechette Point Gas Buoy 18. Fl. R., 3 sec.	In 21 feet, nearly abreast in- tersection of Six-Mile Point and Frechette Point range lines.		11	-----

MICHIGAN

11TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
2,500 Rf o	-----	Feet White diamond daymark post.	Year on 1931
2,500 Rf o	-----	White diamond daymark post.	on 1931
35 200mm pgm	Light 5 sec., eclipse 5 sec -----	Red.	
120 200mm pgm	Light 5 sec., eclipse 5 sec-----	Black.	
120 200mm pgm	Light 5 sec., eclipse 5 sec-----	Black, spar-shaped.	
35 200mm pgm	Light 5 sec., eclipse 5 sec-----	Red, spar-shaped.	
240 300mm pgm	Flash 3 sec-----	Red column adjoining lamp house on concrete pier.	1895 1913
240 300mm pgm	-----	White daymark on black skele- ton tower, on tank house with white front on concrete pier.	1895 1913
240 300mm pgm	-----	White slatted daymark on black square pyramidal tower on concrete pier.	1895 1913
70 200 mm a	Flash 0.3 sec-----	Black.	
95 300mm pgm	-----	White horizontally slatted day- mark on black square pyram- idal skeleton tower.	1895
95 300mm pgm	-----	White horizontally slatted day- mark on black square pyram- idal skeleton tower.	1895 1921
10 150 mm a	Flash 0.3 sec-----	Red.	

ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. MARYS RIVER					
838	SIX-MILE POINT FRONT F. W. U.	In 8 feet, $\frac{1}{2}$ mile above point.		Feet 26	
839	SIX-MILE POINT REAR F. W. U.	658 yards 153° from preceding.		45	
840	LITTLE RAPIDS CUT 23 Occ. W., 10 sec. U.	On Island No. 1 46 28 84 18		18	
841	LITTLE RAPIDS CUT 24 Occ. R., 10 sec. U.	On Island No. 1		20	
842	LITTLE RAPIDS CUT 26 Occ. R., 10 sec. U.	Off north end of Island No. 1		18	
843	LITTLE RAPIDS CUT 25 F. W. U.	On Mission Point, north entrance to cut.		18	
844	Little Rapids Cut Gas Buoy 23A. Fl. R., 3 sec.	In 22 feet		11	
845	NORTH ENTRANCE 27 Occ. W., 5 sec.	On west side of north entrance to Little Rapids Cut. 46 30 84 18		35	
846	BAYFIELD ROCK FRONT F. W. U.	On northwest end of Sugar Island.		24	
847	BAYFIELD ROCK REAR F. W. U.	315 yards 109° from preceding.		34	
848	EAST CENTER PIER FRONT F. R.	On pierhead, at east entrance to canals.		20	
849	EAST CENTER PIER REAR F. W. U. F. R.	35 yards 273 $\frac{1}{2}$ ° from preceding.		35 30	
850	NORTHEAST PIERHEAD F. R.	On southeast corner of pierhead, east entrance to north canal.			
851	WEST CENTER PIERHEAD F. R.	On pierhead, west entrance to canals.			
852	SOUTHWEST PIER F. R.	On pierheads, at west entrance to canal.			
853	NORTHWEST PIERHEAD F. R.				

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
240 300mm p g m		Feet White cylindrical tower on concrete pier.	Year 1895 1921
240 300mm p g m		White cylindrical tower on concrete pier.	1895 1921
240 300mm p g m	Light 5 sec., eclipse 5 sec.	Black mast, tanks at base.	1895 1913
95 300mm p g m	Light 5 sec., eclipse 5 sec.	Red mast, tanks at base.	1895 1913
95 300mm p g m	Light 5 sec., eclipse 5 sec.	Red mast, tanks at base.	1895 1913
340 150mm ei		Black mast, tanks at base.	1895 1913
10 150 mm a	Flash 0.3 sec.	Red.	
260 300mm p g m	Light 2.5 sec., eclipse 2.5 sec.	Black steel skeleton tower, tanks alongside on pier.	1895 1919
240 300mm p g m		White octagonal pyramidal tower.	1892 1913
240 300mm p g m		White octagonal pyramidal tower.	1892 1913
ei	Marks direction of pier. Maintained by U. S. Engineers.	Red post.	1913
ei	Marks direction of pier. Maintained by U. S. Engineers.	Pole.	
ei	Maintained by U. S. Engineers.	Concrete column.	1913
ei	Maintained by U. S. Engineers.	Concrete column.	1899 1923
ei	Maintained by U. S. Engineers.	Concrete column.	1899 1923
ei	Maintained by U. S. Engineers.	Concrete column.	1899 1923

ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. MARYS RIVER					
S54	RANGE VIDAL SHOALS CHANNEL FRONT. Occ. R., 3 sec.	On north pier, west of Inter- national Bridge.	Mich.	Feet 62	-----
S55	VIDAL SHOALS CHANNEL REAR. F. R.	On dike, 700 yards 75° from preceding.		98	-----
S56	Vidal Shoals Channel Gas Buoy 4. Occ. R., 10 sec.	In 36 feet, on north side at angle of channel.	Mich.	11	-----
S57	Vidal Shoals Channel Gas Buoy 1. Occ. W., 10 sec.	In 29 feet, on south side of channel.	Mich.	11	-----
S57.5	Vidal Shoals Temporary Gas Buoy 3. Occ. W., 10 sec.	In 22 feet, on axis of Vidal Shoals Channel Range.		11	-----
CANADIAN CHANNEL					
S58	Lower Entrance Gas Buoy Occ. W.	At lower entrance to Cana- dian Canal, 315 yards 142° from outer end of south pier.			-----
S59	RANGE CANADIAN CANAL LOWER ENTRANCE FRONT. F. R.	On shore of bay north of en- trance.	46 31	84 20	63 2
S60	CANADIAN CANAL LOWER ENTRANCE REAR. F. R.	452 yards 321½° from preced- ing.		90	2
S61	RANGE CANADIAN CANAL UPPER ENTRANCE FRONT. F. R.	On pier, 167 yards east of Commercial dock.	46 31	84 22	34 2
S62	CANADIAN CANAL UPPER ENTRANCE REAR. F. R.	421 yards 51° from preceding.		65	2

NOTE.—The Canadian Canal and its cribwork approaches are illuminated by two rows of arc lights, one on each side of the canal; the most easterly and the most westerly in each row are green lights; all of the other lights are white.

CANADA AND MICHIGAN

11th Dist.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
1,500 Rf ei	Light 2 sec., eclipse 1 sec.-----	Feet Black skeleton tower; white slatted daymark on concrete pier. White oval horizontally slatted daymark 285 yards 255° from tower.	Year 1899 1915
1,500 Rf ei	-----	Black skeleton tower, white daymark on concrete pier.	1899 1913
35 200 mm pg m	Light 5 sec., eclipse 5 sec.-----	Red.	
120 200 mm pg m	Light 5 sec., eclipse 5 sec.-----	Black.	
120 200 mm pg m	Light 5 sec., eclipse 5 sec.-----	Black.	
		Black.	
		White diamond slatted day- mark on gray square skeleton tower.	1896 1904
	Radio station east of town, call VBB. Storm signal on Gov- ernment wharf.	White box on, and white conical daymark in framework of gray square skeleton tower.	1896 1909
		White box on gray square skele- ton tower, white conical day- mark at base.	1896 1910
		White box on, and white conical daymark in framework of gray square skeleton tower.	1896 1910

CANADIAN CHANNEL AND ST. MARYS RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
CANADIAN CHANNEL					
863	Upper Turning Gas Buoy--- Occ. W.	On south edge of dredged turn, 450 yards west of west end of south entrance pier of Canadian Canal.		Feet	2
864	Vidal Shoals E. Gas Buoy--- Occ. R.	On north edge of Canadian channel, at lower end of shoals.			
865	Vidal Shoals S. E. Gas Buoy--- Occ. W.	On south edge of Canadian channel, at lower end of shoals.			
866	Vidal Shoals W. Gas Buoy--- Occ. R.	On west end of shoals, north edge of Canadian channel.			2
867	Vidal Shoals S. W. Gas Buoy--- Occ. W.	On west end of shoal, south edge of Canadian channel, at junction with U. S. chan- nel.			
868	RANGE { POINTE AUX PINS FRONT--- F. W.	On north end of point. C.		28	4
		46 28	84 28		
869	{ POINTE AUX PINS REAR--- F. W.	307 yards 232° 20' from pre- ceding.		53	4
870	Brush Point Gas Buoy 3.----- Occ. W., 10 sec.	In 25 feet, off point --- Mich.		11	
871	Pointe aux Pins, Main----- F. W.	On outer end of low sand point. C.		30	6
		46 28	84 28		
ST. MARYS RIVER					
872	RANGE { BRUSH POINT FRONT--- F. W. U. Occ. W., 10 sec.	In 10 feet, 40 yards south from channel bank. Mich.		32	
		46 28	84 28		
873	{ BRUSH POINT REAR--- F. W. U.	1,357 yards 74¼° from pre- ceding.		55	
874	Cedar Point Gas Buoy 4.----- Occ. R., 10 sec.	In 21 feet, on north side of dredged channel. Mich.		11	
875	Cedar Point Gas Buoy 7.----- Occ. W., 10 sec.	In 23 feet, on south edge of dredged channel. Mich.		11	

MICHIGAN AND CANADA

11TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
		Black.	
		Red.	
		Black.	
		Red.	
		Red and black horizontal bands.	
		White square tower, red lantern roof. 1903	
		White square tower, red lantern roof. 1903	
120 200 mm pg m	Light 5 sec., eclipse 5 sec.-----	Black.	
	BELL, 1 stroke every 8 sec -----	White, square, wood; red lantern. 23 1873	
6,000 Rf pg m 120 200 mm pg m	Fixed light visible on range line only. Occ. light visible from all points except on range line. Light 5 sec., eclipse 5 sec.	Black pyramidal skeleton tower, white slatted daymarks on upstream faces. 1887 1913	
6,000 Rf pg m		Black skeleton tower, white slatted daymark. 1887 1913	
35 200 mm pg m	Light 5 sec., eclipse 5 sec.-----	Red.	
120 200 mm pg m	Light 5 sec., eclipse 5 sec.-----	Black.	

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. MARYS RIVER					
876	CEDAR POINT FRONT. F. W., R. sector. U.	On northwest edge of Round Island, off Cedar Point. Mich.	46 27	50	
877	CEDAR POINT REAR. F. W. U.	205 yards 120½° from pre- ceding.	84 31	70	
878	Middle Ground Gas Buoy 6. Occ. R., 10 sec.	In 27 feet, north side of east end of dredged channel. Mich.		11	
879	Middle Ground Southwest Gas and Bell Buoy 9. Fl. W., 3 sec.	In 21 feet, on southerly edge of dredged channel.		11	
880	BIRCH POINT FRONT. F. W.	On mainland Mich. 46 26	84 31	53	
881	BIRCH POINT REAR. F. W.	323 yards 139¼° from pre- ceding.		78	
882	Middle Gas Buoy 11. Occ. W., 10 sec.	In 20 feet, east edge Point Iroquois Shoal. Mich.		11	
883	Point Iroquois Shoal Gas and Bell Buoy 15. Fl. W., 3 sec.	In 23 feet.		11	
884	Point Iroquois. Fl. W., 4 sec.	On point Mich. 46 29	84 38	73	16
885	GROS CAP REEFS LIGHT- SHIP. Occ. W.	In 36 feet, 815 yards north- west of 15-foot spot. C. 46 31	84 28	35	8
WEST NEEBISH CHANNEL					
DOWNBOUND					
886	WEST SIDE 25. F. W. U.	In 20 feet Mich. U.		22	
887	EAST SIDE UPPER 24. F. R. U.	In 22 feet U.		32	
888	WEST SIDE LOWER 23. Occ. W., 10 sec. U.	In 9 feet U.		32	
889	EAST SIDE 22. F. R. U.	On east side of cut. U.		32	

Candlepower	Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established Rebuilt
W. 2,500 R. 750 Rf a	2,500 Rf a	Red light east of 140°; when west bound change from red to white light indicates beginning of turn from Brush Point Range line.	Feet White oval slatted daymark on black pyramidal skeleton struc- ture. 45	Year 1887 1919
35 200 mm pgm	70 200 mm a	Light 5 sec., eclipse 5 sec. Flash 0.3 sec. BELL, on buoy.	White oval slatted daymark on black pyramidal skeleton struc- ture. 64	1887 1919
120 200 mm pgm	70 200 mm a	Light 5 sec., eclipse 5 sec. Flash 0.3 sec. BELL, on buoy.	Red, conical.	
2,500 Rf o	2,500 Rf o	White daymark on black square pyramidal skeleton tower. 51	Black.	1901
2,500 Rf o	2,500 Rf o	White daymark on black square pyramidal skeleton tower. 75	Black.	1901
13,000 4 iov	120 200 mm pgm	Flash 0.8 sec., eclipse 3.2 sec. SIREN, air: Blast 2½ sec., silent 27½ sec.	White conical stone tower, dwell- ing attached. 62	1855 1871
240 300 mm pgm	95 300 mm pgm	Fixed white light will be shown if occulting light inoperative. WHISTLE, steam: Blast 10 sec., silent 50 sec.	Red hull, GROS CAP REEFS No. 22 on sides; two masts; red ball near top of foremast; Ball will be lowered if ship is off station.	
240 300 mm pgm	95 300 mm pgm	Light 5 sec., eclipse 5 sec.	Black mast on pile cluster.	1908 1929
240 300 mm pgm	95 300 mm pgm	Light 5 sec., eclipse 5 sec.	Red column adjoining lamp house.	1908 1913
240 300 mm pgm	95 300 mm pgm	Light 5 sec., eclipse 5 sec.	Black column adjoining lamp house.	1908 1913
95 300 mm pgm	95 300 mm pgm		Red column adjoining lamp house.	

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST NEEBISH CHANNEL					
DOWNBOUND					
890	WEST NEEBISH CHANNEL UPPER LEADING. U. F. W.	On extended axis of West Neebish Channel upper course.		69	
891	WEST SIDE 21.----- F. W. U.	In 9 feet.-----		32	
893	EAST SIDE 18.----- F. R. U.	In 6 feet.----- 46 19 84 13		32	
894	WEST SIDE 17.----- F. W. U.	In 6 feet.-----		32	
898	EAST SIDE UPPER COFFER- DAM 14½. U. F. R.	At lower end of turn.-----		32	
899	WEST SIDE 13.----- Occ. W., 20 sec. U.			32	
899.5	WEST NEEBISH LOWER LEADING. U. F. W.	An axis of Cut 2.-----		65	
900	ROCK CUT FOG BELL.-----	Adjacent to Coast Guard Sta- tion, 4.			
901	EAST SIDE NORTH END ROCK CUT, 14. U. Occ. E., 10 sec.			32	
902	WEST SIDE NORTH END ROCK CUT 11. U. Occ. W., 10 sec.	46 17 84 12		32	
903	EAST SIDE BELOW RETAINING WALLS 12. U. F. R.	On east side of cut.-----		32	
904	WEST SIDE BELOW RETAIN- ING WALLS 9. U. F. W.	In 15 feet.-----		32	
906	EAST SIDE MIDDLE 10.----- F. R. U.	In 15 feet.-----		32	
907	WEST SIDE MIDDLE 7.----- F. W. U.	In 19 feet, off Kemps Point. 46 14 84 11		32	

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
3, 200 400 mm Rg a	On same structure as Middle Neebish Range Rear Light 9S.	Feet Red square pyramidal skeleton tower, upper part inclosed, on concrete pier.	Year 1930
240 300 mm pg m		Black column adjoining lamp house.	1908 1913
95 300 mm pg m		Red column adjoining lamp house.	1908 1929
200 300 mm pg m		Black column adjoining lamp house.	1908 1929
95 300 mm pg m		Red column adjoining lamp house.	1908 1913
240 300 mm pg m	Light 15 sec., eclipse 5 sec.	Black column adjoining lamp house.	1908 1913
3, 600 350 mm Rg a		Skeleton tower, upstream face white. On concrete base.	1929
	BELL, hand, answers signals.	Black skeleton framework.	1928
95 300 mm pg m	Light 5 sec., eclipse 5 sec.	Red column adjoining lamp house.	1908 1913
240 300 mm pg m	Light 5 sec., eclipse 5 sec.	Black column adjoining lamp house.	1908 1913
95 300 mm pg m		Red column adjoining lamp house.	1908 1913
200 300 mm pg m		Black column adjoining lamp house.	1908 1913
95 300 mm pg m		Red column adjoining lamp house.	1908 1913
240 300 mm pg m		Black column adjoining lamp house.	1908 1913

ST. MARYS RIVER AND LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WESTNEEBISH CHANNEL					
DOWNBOUND					
908	EAST SIDE LOWER 8.----- Occ. R., 10 sec. U.	In 12 feet, at beginning of turn.		Feet 32	
909	WEST SIDE UPPER 5.----- F. W. U.	In 10 feet, at angle of cut.---		32	
911	EAST SIDE UPPER 6.----- F. E. U.	In 3 feet, off Moon Island.---		32	
912	MOON ISLAND FOG BELL.---	On pier, near East Side Upper Light, 6.			
913	EAST SIDE MIDDLE 4.----- F. E. U.	In 6 feet. South of Winter Point.		32	
914	WEST SIDE MIDDLE 3.----- F. W. U.	In 6 feet.-----		32	
LAKE GEORGE CHANNEL					
917	RANGE { HEN AND CHICKENS FRONT. F. R. U.	On Hen Island.-----		22	
		46 19	84 08		
918	{ HEN AND CHICKENS REAR. F. R. U.	566 yards 231° from preced- ing.		32	
919	LIGHTHOUSE DEPOT DOCK.--- Fl. W., 3 sec. U.	On northeast corner of wharf, on east side of Sugar Island.		28	
LAKE SUPERIOR, SOUTH SIDE					
921	Whitefish Point.----- Fl. W., 10 sec. Radiobeacon.	On point.----- 46 46 84 57 Radiobeacon 400 yards east- ward of lighthouse, near tip of point.		76	17
922	Crisp Point.----- F. W.	On mainland.----- 46 45 85 15		62	16

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
95 300 mm pg m	Light 5 sec., eclipse 5 sec.-----	Feet Red column adjoining house.	Year lamp 1903 1918
240 300 mm pg m	-----	Black column adjoining house.	lamp 1908 1920
95 300 mm pg m	-----	Red column adjoining house.	lamp 1908 1920
-----	BELL, hand, answers signals.---	Black skeleton framework.	1928
95 300 mm pg m	-----	Red column adjoining house.	lamp 1908 1913
200 300 mm pg m	-----	Black column adjoining house.	lamp 1908 1913
20 Pl o	-----	White diamond daymark on post.	1892
20 Pl o	-----	White diamond daymark on post.	1892
30 150 mm a	Flash 0.3 sec.-----	Black skeleton tower.	1927
270,000 3½ iov	Flash 0.2 sec., eclipse 9.8 sec. Weather signals shown here. DIAPHONE, air; gp. 2 short and 1 long blasts: 2 blasts 1 sec. each, 2 silences 1 sec. each, 1 blast 4 sec., 1 silence 52 sec., repeated for 2 minutes. Every third minute, signal is: Blast 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. RADIOBEACON: Transmits gps. of 3 dashes and 1 dot. See p. 256 for time schedule, etc.	White skeleton tower; inclosed stair cylinder; dwelling at- tached.	1849 1011
2,900 4 iov	WHISTLE, 10-inch steam chime. Blast 10 sec., silent 50 sec.	White conical brick tower. 58	DISTANCE FINDING STATION. For method of operation, see p. 256. 1004

No.	Name Character and period of light	Location		Light above high water	Miles seen	Candlepower Apparatus illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Latitude, N.	Longitude, W.					Top of lantern above ground	Established Rebuilt
SOUTH SIDE									
923	RANGE { GRAND MARAIS HARBOR OF REFUGE FRONT. U. Fl. R., 2 sec.	On outer end of pier		<i>Feet</i> 40	10	150 375 mm a	Flash 0.5 sec.----- DIAPHONE, air: Blast 1 sec., silent 14 sec.	<i>Feet</i> White square pyramidal skele-	<i>Year</i> ton tower, upper part inclosed. 1895 1927
46 41		85 58							
924	{ GRAND MARAIS HARBOR OF REFUGE REAR. F. R.	590 yards	176½°	54	10	100 5 o	-----	White square pyramidal skele-	ton tower, upper part inclosed. 1898 55
926	Au Sable F. W.	On point		107	19	12,000 3 lov	DIAPHONE, air; gp. 2 blasts every 30 sec., blast 1.5 sec., silent 1.5 sec., blast 1.5 sec., silent 25.5 sec.	White conical brick tower, red brick dwelling attached.	1874 1909 87
927	Grand Island Fl. W., 15 sec. U.	On northwest point		205	18	1,700 4 a	Flash 1.5 sec., eclipse 13.5 sec.---	Yellow square tower on brick dwelling.	1856 1867 40
928	Sand Point Gas and Bell Buoy 1. Fl. W., 3 sec.	In 21 feet, on northwest edge of shoal.		10	8	70 200 mm a	Flash 0.3 sec.----- BELL, on buoy.	Black.	
929	RANGE { MUNISING FRONT F. R.	In town of Munising		79	15	750 Rf o	-----	White conical steel tower.	1909 58
930	{ MUNISING REAR F. R.	383 yards	217°	107	15	750 Rf o	-----	White conical steel tower.	1909 33
931	RANGE { GRAND ISLAND HARBOR FRONT. U. Fl. W., 1 sec.	On south shore of island, west entrance to harbor.		23	11	3,600 350mm Rg a	Flash 0.3 sec.-----	White slatted daymark on mast, tank house alongside.	1868 1920 26
932	{ GRAND ISLAND HARBOR REAR. U. Occ. W., 2 sec.	250 yards	164½°	72	16	3,600 350mm Rg a	Light 1 sec., eclipse 1 sec.-----	Black conical steel tower, upper part white; black lantern; on concrete pier.	1868 1913 64
933	Grand Island Harbor West Entrance Gas and Bell Buoy. Fl. R., 3 sec.	In 54 feet, off south end of Grand Island.		10	6	20 200 mm a	Flash 0.3 sec.----- BELL, on buoy.	Black and white vertical stripes.	
934	Marquette Fl. W., 5 sec. Radiobeacon.	On north point		77	17	130,000 4 ei	Flash 0.4 sec., eclipse 4.6 sec.----- SIREN, 1st-cl. air: Blast 3 sec., silent 27 sec. RADIOBEACON: Transmits gps. of 1 dot and 2 dashes. See p. 256 for time schedule, etc.	Red square tower on dwelling.	1853 1912 40
935	MARQUETTE BREAKWATER OUTER. U. Occ. R., 3 sec.	At outer end of breakwater		40	12	2,400 4 ei	Light 2 sec., eclipse 1 sec.----- DIAPHONE, air: Blast 1 sec., silent 14 sec.	White square pyramidal skele-	ton iron tower. 1875 1908
936	MARQUETTE BREAKWATER INNER. U. F. R.	At elbow of breakwater, 500 yards from end.		38	-----	140 150 mm ei	-----	Black skeleton tower.	1927

LAKE SUPERIOR AND KEWEENAW BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH SIDE					
936. 5	Presque Isle Harbor Gas Buoy 1. Fl. W., 3 sec.	In 28 feet, on north point of shoal off Pioneer Iron Works.		8	
937	Presque Isle Harbor Gas Buoy 2. Fl. R., 3 sec.	In 30 feet, on southwest edge of shoal.		10	9
938	Granite Island. F. W. Alt. R. Fl., 60 sec.	On island. 46 43	87 25	89	18
939	Big Bay Point. F. Fl. W., 20 sec.	On point. 46 50	87 41	105	19
940	Stannard Rock. Fl. W., 30 sec. WINTER LIGHT. U. Fl. W., 30 sec.	On north end of reef. 47 11		102	18
941	Huron Island. F. W. Radiobeacon.	On northeast side of island. 46 58 88 00 Radiobeacon 433 yards 309° from lighthouse.		197	21
942	HURON BAY. Fl. W., 3 sec. KEWEENAW BAY	On point, east side of bay. 46 53	88 13	16	7
943	FRONT F. R. U.	At outer end of wharf on starboard side of slip.		20	
944	MIDDLE F. R. U.	150 yards 344° from preceding.		30	
945	REAR. F. R. U.	330 yards 344° from preceding.		40	
946	SAND POINT. Fl. W., 3 sec. U.	0.4 mile north of point. 46 47		35	12

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
			Year
30 150 mm a	Flash 0.3 sec.-----	Feet Black.	
20 200 mm a	Flash 0.3 sec.-----	Red.	
F. 2,900 Fl. 11,000 4 iov	Fixed white light with 3 sec. red flash every 60 sec. BELL; 1 stroke every 12 sec.	Gray square granite tower on dwelling. 39	1869 1910
F. 12,000 Fl. 70,000 3 iov	Fixed light with 2 sec. flash every 20 sec. DIAPHONE, air; gp. 2 blasts every 60 sec.: Blast 3 sec., silent 3 sec., blast 3 sec., silent 51 sec.	White square tower on dwelling. 64	1896
110,000 2 iov	Flash 4 sec., eclipse 26 sec.----- Winter light of reduced candlepower shown after station is closed. DIAPHONE, air; gp. 2 blasts every 30 sec.: Blast 2 sec., silent 2 sec., blast 2 sec., silent 24 sec.	Gray conical stone tower on cylindrical pier.	1882
4,300 3½ iov	DIAPHONE, air; 3 blasts 2 sec. each, 2 silences 2 sec. each, 1 silence 50 sec., repeated for 2 minutes. Every third minute signal is blast 5 sec., silent 1 sec., blast 1 sec. RADIOBEACON: Transmits gps. of 1 dash, 1 dot and 1 dash. See p. 256 for time schedule, etc.	Gray granite tower on dwelling. 39	1868
30 150 mm a	Flash 0.3 sec.-----	White wooden post, tankhouse at base.	1910 1918
200 ei	Range maintained by Ford Motor Co.	Natural colored wooden pole.	1924
200 ei			
200 ei			
230 300 mm a	Flash 0.3 sec.-----	Red mast on brick tank house.	1878 1922

KEWEENAW BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen	
		Latitude, N.	Longitude, W.			
KEWEENAW BAY						
947	L'ANSE RANGE FRONT.----- F. R. U.	On north corner of bulkhead.		Feet 20		
948		MIDDLE.----- F. R. U.	240 yards 136° from preced- ing.		30	
949		REAR.----- F. R. U.	319 yards 136° from preced- ing.		40	
950	Keweenaw Waterway----- Occ. W., 3 sec.	On outer end of breakwater, at entrance to waterway. 46 58 88 26		68	16	
951	Keweenaw Waterway Gas Buoy 1. Fl. W., 3 sec.	In 23 feet-----		12		
952	KEWEENAW WATERWAY 1.--- F. W. U.	On south end of west revet- ment.		19		
953	KEWEENAW WATERWAY 2.--- F. R. U.	On north end of east revet- ment.		15		
954	KEWEENAW WATERWAY 3.--- F. W. U.	On north end of west revet- ment.		23		
955	KEWEENAW WATERWAY 5.--- F. W. U.	On south end of west pier----		16		
956	KEWEENAW WATERWAY 7.--- F. W. U.	On north end of west pier----		16		
957	KEWEENAW WATERWAY 9.--- F. W. U.	In 13 feet, on west side of north entrance to harbor.		16		
958	KEWEENAW WATERWAY 4.--- F. R. U.	On east bank-----		16		
959	RANGE KEWEENAW WATERWAY 6 FRONT.----- F. W. U.	In 12 feet, on east edge of channel.		16		
960		KEWEENAW WATERWAY 8 REAR.----- F. W. U.	280 yards 140½° from pre- ceding.		34	
961	RANGE KEWEENAW WATERWAY 12 FRONT.----- F. W. U.	On north side of Cut 3, and on axis of Cut 2.		16		
962		KEWEENAW WATERWAY 13 REAR.----- F. W. U.	280 yards 331° from preced- ing.		34	

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		<i>Feet</i>	<i>Year</i>
200 ei	Range maintained by Ford Motor Co.		
200 ei		Natural colored wooden	pole 1924
200 ei			
6,500 4 ei	Light 2 sec., eclipse 1 sec.----- SIREN, 1st cl. air: blast 3 sec., silent 27 sec.	Gray; octagonal tower; on con- crete pierhead.	1856 1920
77 200 mm a	Flash 0.3 sec.-----	Black.	
250 5 ei		White square frame tower.	1913
30 150 mm ei		Red skeleton tower.	1913 1920
40 150 mm ei		White mast.	1913 1920
40 150 mm ei		Black skeleton tower.	1920
40 150 mm ei		Black skeleton tower.	1920
40 150 mm ei		Black skeleton tower on con- crete pier.	1916 1924
30 150 mm ei		Red skeleton tower on concrete pier.	1897 1920
40 150 mm ei		White diamond daymark on red skeleton tower on concrete pier.	1897 1920
40 150 mm ei		White diamond daymark on red skeleton tower on concrete pier.	1897 1920
40 150 mm ei		White diamond daymark on red skeleton tower on concrete pier.	1897 1920

KEWEENAW BAY AND PORTAGE LAKE

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
KEWEENAW BAY					
963	RANGE { KEWEENAW WATERWAY FRONT. F. W.	10 U.	On east side of Cut 2 and on axis of Cut 3.	16	Feet
964		11 U.	243 yards 122¼° from preceding.	34	
965	RANGE { KEWEENAW WATERWAY FRONT. F. W.	15 U.	In 7 feet, east of Princess Point, and on axis of Cut 4.	17	
966		18 U.	310 yards 289½° from preceding.	33	
967	KEWEENAW WATERWAY F. R.	14 U.	On easterly side of cut through Princess Point.	15	
968	KEWEENAW WATERWAY F. W.	17 U.	On southwesterly side of cut through Princess Point.	15	
969	KEWEENAW WATERWAY F. R.	16 U.	On easterly side of cut through Princess Point.	15	
970	RANGE { KEWEENAW WATERWAY FRONT. F. W.	19 U.	On west side of cut through Princess Point and on axis of cut in south end of Portage Lake.	15	
971		18 U.	300 yards 164° from preceding.	33	
972	KEWEENAW WATERWAY F. R.	20 U.	On east side of cut, abreast junction of Keweenaw Waterway and Portage River Channels.	15	
973	Princess Point Cutoff Gas Buoy. Fl. W., 2 sec.		In 18 feet, at junction of Princess Point Cutoff and Portage River Channels.	12	
974	Keweenaw Waterway Gas Buoy 31. Fl. W., 3 sec.		In 20 feet, on west side of north end of cut.	9	
975	PRINCESS POINT F. R.	U.	On point, Portage River 47 01 88 28	15	
PORTAGE LAKE					
976	Torch Bay Entrance Gas Buoy 1. Fl. W., 3 sec.		In 20 feet, on southeast end of Middle Ground, north side of entrance to bay.	13	

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
40 150 mm ei	-----	Feet White diamond daymark on red skeleton tower on concrete pier. 1897 1920	Year
40 150 mm ei	-----	White diamond daymark on red skeleton tower on concrete pier. 1897 1920	
80 150 mm ei	-----	White slatted diamond daymark on black skeleton tower on concrete pier. 1923	
80 150 mm ei	-----	Two white diamond daymarks on black skeleton tower. 1923	
25 150 mm ei	-----	Red skeleton tower on concrete pier. 1926	
80 150 mm ei	-----	Black skeleton tower on concrete pier. 1923	
25 150 mm ei	-----	Red skeleton tower on concrete pier. 1926	
80 150 mm ei	-----	White diamond daymark, black skeleton tower. 1923	
80 150 mm ei	-----	2 white diamond daymarks, black skeleton tower. 1923	
25 150 mm ei	-----	Red skeleton tower on concrete pier. 1923	
30 150 mm a	Flash 0.3 sec.-----	Red and black horizontal bands.	
30 150 mm a	Flash 0.3 sec.-----	Black flat float, skeleton superstructure.	
25 150 mm ei	-----	Red skeleton tower on concrete pier. 1897 1926	
70 200 mm a	Flash 0.3 sec.-----	Black, spar-shaped.	

PORTAGE LAKE AND LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
PORTAGE LAKE					
977	PILGRIM POINT..... Fl. W., 3 sec. U.	On east edge of shoal..... 47 06	88 30	20	
977.5	College of Mines Float 5A..... Fl. W., 3 sec.	In 20 feet.....		5	
978	OSCEOLA POINT..... F. W. U.	On north shore..... 47 07	88 36	8	
979	ATLANTIC POINT..... F. G. U.	On south shore..... 47 08	88 36	8	
979.5	Grass Island Float 8..... Fl. R., 3 sec.	In 20 feet, opposite Cole Creek Light.		5	
980	COLE CREEK..... F. G. U.	On southwest shore..... 47 08	88 37	12	
981	HARRINGTON ISLAND..... F. G. U.	Off east side of island..... 47 10	88 38	12	
982	High Point Gas Buoy 12..... Fl. W., 2 sec.	In 20 feet, off point.....		12	
983	RANGE (ROULEAU POINT FRONT..... Occ. W., 2 sec. U.	On east shore..... 47 12	88 37	11	
984	(ROULEAU POINT REAR..... F. W. U.	147 yards 34° from preceding.....		28	
985	RANGE (PORTAGE LAKE SHIP CA- NALS FRONT. U. Occ. E., 2 sec.	On east pier..... 47 12	88 37	8	
986	(PORTAGE LAKE SHIP CA- NALS REAR. U. F. R.	235 yards 14° from preceding.....		28	
987	LILY POND SOUTH..... F. R. U.	On south end of east revet- ment. 47 12	88 37	12	
988	LILY POND NORTH..... F. R. U.	On north end of east revet- ment. 47 13	88 37	12	
SOUTH SIDE					
989	Mendota..... F. W.	On south side of entrance to Lac la Belle. 47 22	87 58	44	14

MICHIGAN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
230 300 mm a	Flash 0.3 sec.....	Feet Gray mast on hexagonal house on pier.	Year 1897 1916
30 150 mm a	Flash 0.3 sec.....	Black skeleton framework on float moored to spar.	
380 300 mm ei	-----	White lamp house.	1897 1901
110 300 mm ei	-----	White lamp house.	1897
10 150 mm a	Flash 0.3 sec.....	Red skeleton framework on float moored to spar.	
110 300 mm ei	-----	White lamp house on pile cluster.	1900 1901
50 300 mm o	-----	White lamp house on pile cluster.	1900
30 150 mm a	Flash 0.3 sec.....	Red.	
90 300 mm a	Light 1 sec., eclipse 1 sec.....	White lamp house on crib.	1897 1906
90 300 mm a	-----	White diamond daymark on black skeleton tower.	1897 1922
30 300 mm a	Light 1 sec., eclipse 1 sec.....	White lamp house.	1894 1900
30 300 mm a	-----	White diamond daymark on black skeleton tower.	1894 1922
50 300 mm o	-----	White lamp house.	1903
50 300 mm o	-----	White lamp house.	1903
5,200 4 ei	-----	Buff square brick tower on dwell- ing.	1870 1895

LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH SIDE					
990	Manitou----- Fl. W., 10 sec. Radiobeacon.	On east point of Manitou Island. 47 25	87 35	Feet 81	17
	WINTER LIGHT----- Fl. W., 10 sec.	U.			
991	Gull Rock----- Fl. R., 3 sec.	On rock----- 47 25	87 40	50	10
992	Keweenaw Point Gas Buoy 1.- Fl. W., 3 sec.	In 30 feet-----		10	8
993	Copper Harbor----- Fl. W., 1 sec.	On east point of entrance to harbor. 47 28	87 52	65	15
994	RANGE { COPPER HARBOR FRONT----- F. W.	On south shore of harbor-----	87 52	22	10
995		RANGE { COPPER HARBOR REAR----- F. W.	157 yards 190½° from preced- ing.		39
997	Eagle Harbor----- F. W., Fl. Alt. W. and R., 120 sec. Radiobeacon.		On north point----- 47 28	88 10	60

MICHIGAN AND WISCONSIN

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
120,000 3 ei	Flash 0.8 sec., eclipse 9.2 sec.--- Winter light of reduced candle- power shown after station is closed. DIAPHONE , air: Gp. 1 and 2 blasts; blast 4 sec., silent 26 sec., blast 2 sec., silent 2 sec., blast 2 sec., silent 24 sec., repeated for 2 minutes. Every third minute signal is, blast 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. RADIOBEACON : Transmits gps. of 2 dashes. See p. 256 for time schedule, etc.	<i>Feet</i> White square pyramidal iron skeleton, inclosing stair cylin- der; connected to dwelling. 80	<i>Year</i> 1850 1909
170 4 a	Flash 0.3 sec.-----	Yellow square brick tower on dwelling. 46	1867
70 200 mm a	Flash 0.3 sec.-----	Black.	
750 4 a	Flash 0.3 sec., eclipse 0.7 sec.---	Yellow square brick tower on dwelling. 42	1849 1867
160 300 mm o	-----	White steel tower on white tank house. 22	1865 1927
160 300 mm o	-----	White lantern on dwelling. 32	1865 1869
F. W. 2,900 W. Fl. 19,000 R. Fl. 5,700 4 iov	W. light 40 sec., eclipse 8.5 sec., W. flash 3 sec., eclipse 8.5 sec., W. light 40 sec., eclipse 8.5 sec., R. flash 3 sec., eclipse 8.5 sec. DIAPHONE , air; gp. 2 blasts: Blast 3 sec., silent 3 sec., blast 3 sec., silent 51 sec., re- peated for 2 minutes. Every third minute signal is blast 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. RADIOBEACON : Transmits gps. of 1 dot and 3 dashes. See p. 256 for time schedule, etc.	White octagonal brick tower on red brick dwelling. 44	1851 1871
		DISTANCE FINDING STATION. For method of operation, see p. 256.	

LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH SIDE					
998	Sand Hills Gp. Fl. W., 30 sec. 2 flashes	On point ¾ miles west of Eagle River. 47 23	88 22	Feet 91	18
999	PORTAGE LAKE SHIP CANALS EAST BREAKWATER. U. Fl. W., 3 sec.	On outer end 47 14	88 38	32	8
1000	PORTAGE LAKE SHIP CANALS WEST BREAKWATER. U. Fl. R., 3 sec.	On outer end 47 14	88 38	32	6
1001	PORTAGE LAKE SHIP CANALS PIERHEAD. U. Fl. W., 1 sec.	On inner east pier 47 14	88 38	26	6
1002	Portage Lake Ship Canals Occ. W. 3 sec.	On west bank 47 14	Mich. 88 38	66	16
1003	Fourteen-Mile Point F. W. Alt. R. Fl., 20 sec.	On point 47 00	Mich. 89 08	60	15
1004	ONTONAGON PIERHEAD F. R.	On west pier at entrance to Ontonagon Harbor. Mich. 46 53	89 20	31	11
1005	Ontonagon F. W.	On west bank of Ontonagon River. Mich. 46 52	89 20	44	13
1006	Outer Island Fl. W., 45 sec.	On north point of island. Wis. 47 05	90 25	130	20
1007	Michigan Island Gp. Fl. W., 10 sec. Radiobeacon.	On south point of island. Wis. 46 52	90 30	170	22
1007.5	GULL ISLAND Fl. W., 10 sec. U.	On middle of island		55	13
1008	La Pointe F. W. Radiobeacon.	On point 46 44	Wis. 90 47	70	16
1009	LA POINTE PIERHEAD F. W. U.	On end of pierhead		20	7

WISCONSIN AND MINNESOTA

11TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
24,000 4 iov	Flash 1.3 sec., eclipse 8.7 sec., flash 1.3 sec., eclipse 18.7 sec., DIAPHONE, air: Blast 8 sec., silent 52 sec.	Feet Buff brick square tower on 2-story dwelling.	Year 1902 1917 1910
70 200 mm a	Flash 0.3 sec.	White square pyramidal skele- ton steel tower.	1902 1913
20 200 mm a	Flash 0.3 sec.	White square pyramidal skele- ton steel tower.	1902 1913
30 150 mm a	Flash 0.3 sec.	Black square pyramidal skele- ton tower.	1875 1926
9,000 3½ ei	Light 2 sec., eclipse 1 sec. DIAPHONE, air: Blast 2 sec., silent 18 sec.	Buff square brick tower, dwell- ing attached.	1874 49 1896
F. 2,900 7,200 4 iov	Fixed white light with 1.3 sec. red flash every 20 sec. WHISTLE, 10-inch steam: Blast 5 sec., silent 25 sec.	White lantern; red square brick tower rising from center of dwelling.	1894 55 1894
200 4 ei	HORN, hand, answers signals; blast 10 sec., silent 10 sec.	White square pyramidal skele- ton iron tower.	1875 1900
350 5 o		Yellow square brick tower on dwelling.	1852 45 1856
110,000 3 iov	Flash 4.7 sec., eclipse 40.3 sec. DIAPHONE, air: Gp. 2 blasts every 60 sec., blast 3 sec., silent 2 sec., blast 3 sec., silent 52 sec.	White conical brick tower, dwell- ing attached.	1874 86
24,000 3½ ei	Flash 1.5 sec., eclipse 1.5 sec., flash 1.5 sec., eclipse 5.5 sec. RADIOBEACON: Transmits gps. of 1 dot and 2 dashes. See p. 256 for time schedule, etc.	White hexagonal pyramidal skel- eton tower.	1857 109 1929
390 375 mm a	Flash 1 sec.	Black square skeleton tower.	1929
2,900 4 iov	DIAPHONE, air: Blast 3 sec., silent 27 sec. RADIOBEACON: Transmits gps. of 4 dashes. See p. 256 for time schedule, etc.	White square pyramidal skele- ton iron tower.	1852 67 1897
ei	Maintained by the town of La Pointe.	White mast on small house.	1928

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH SIDE					
1010	CHEQUAMEGON POINT----- F. R.	On end of point----- 46 44	Wis. 90 49	Feet 39	10
1011	Chequamegon Bay Gas Buoy 1. Fl. W., 1.5 sec.	In 30 feet, on west edge of shoal.	Wis.	12	8
1012	ASHLAND BREAKWATER----- Occ. W., 3 sec.	On pierhead-----	Wis.	65	16
1013	Ashland Ore Docks Gas Buoy- Fl. R., 3 sec.	In 20 feet, 0.4 mile westerly of C. & N. W. Ry. ore docks.		8	-----
1013.5	SOO LINE ORE DOCK----- Fl. W., 3 sec. U.	In 20 feet on outer end of sub- structure of old dock.		9	-----
1014	Red Cliff Point Gas Buoy 1--- Fl. W., 3 sec.	In 42 feet, in West Channel, abreast point.		12	-----
1015	RASPBERRY ISLAND----- F. Fl. W., 60 sec.	On southwest point of island. 46 58	Wis. 90 48	77 13 16	
1016	Devils Island----- Alt. Fl. W. and R., 20 sec. Radiobeacon.	On north end of island--	Wis. 47 05	90 44	100 18
1017	York Island Shoals Gas and Bell Buoy 1A. Fl. W., 3 sec.	In 30 feet, on west side of shoals.	Wis.	10	8
1018	Sand Island----- Fl. W., 10 sec. U.	On north point of island--	Wis. 47 00	90 56	56 14
1019	PORT WING EAST PIER----- Fl. W., 3 sec. U.	On outer end of pier-----	Wis. 46 48	91 23	30 10
WEST END					
1020	Superior Entry South Break- water. Occ. W., 10 sec.	On outer end of breakwater. 46 43	Wis. 92 00	70	16

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
150 4 c	BELL, 1 stroke every 20 sec-----	Feet White square pyramidal skele- ton iron tower. 42	Year 1897
70 200 mm a	Flash 0.3 sec-----	Black.	
1,600 4 ci	Light 2 sec., eclipse 1 sec----- SIREN, electric: Blast 4 sec., silent 16 sec.	Gray octagonal pyramidal tower.	1911 1915
10 150 mm a	Flash 0.3 sec-----	Red and black horizontal bands.	
30 150 mm a	Flash 0.3 sec. Maintained by M., St. P., & S. Ste. M. Ry. Co.	Pile.	1929
70 200 mm a	Flash 0.3 sec-----	Black.	
F. 350 Fl. 1,000 5 c	Fixed light with 3 sec. flash every 60 sec. WHISTLE, 10-inch steam chime: Blast 3 sec., silent 17 sec.	White square wooden tower on dwelling. 46	1862 1906
W. 300,000 R. 180,000 3 ci	White flash 0.6 sec., eclipse 9.4 sec., red flash 0.6 sec., eclipse 9.4 sec. DIAPHONE, air; gp. 3 blasts every 60 sec.: 3 blasts 2 sec. each, 2 silences 2 sec. each, 1 silence 50 sec., repeated for 2 minutes. Every third minute signal is blast 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. RADIOBEACON: Transmits gps. of 3 dashes. See p. 256 for time schedule, etc.	White cylindrical steel tower. 80	1891 1901
70 200 mm a	Flash 0.3 sec----- BELL, on buoy.	Black.	
750 4 a	Flash 1.5 sec-----	Red octagonal stone tower on dwelling. 44	1881
130 200 mm a	Flash 0.3 sec-----	Black steel tank house with mast.	1913
2,900 4 iov	Light 5 sec., eclipse 5 sec----- SIREN, 1st-cl. air: Blast 3 sec., silent 27 sec.	Gray cylindrical tower on dwell- ing.	1913

LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST END					
1021	SUPERIOR ENTRY NORTH BREAKWATER. U. Fl. W., 1 sec.	°	°	70	14
		On outer end of breakwater.	Minn.		
1022	SUPERIOR ENTRY INNER NORTH PIERHEAD. U. Occ. W., 2 sec.			39	----
		On outer end of inner pier.	Minn.		
1023	SUPERIOR ENTRY INNER SOUTH PIERHEAD. U. Occ. G., 2 sec.			39	----
		On outer end of inner pier.	Wis.		
1024	SUPERIOR HARBOR BASIN 1... Fl. W., 3 sec.			36	----
		On inner end of south pier.	Wis.		
1025	SUPERIOR HARBOR BASIN 2... F. R. U.	In 14 feet, at north corner of basin.	Minn.	12	----
1025.5	SUPERIOR HARBOR BASIN 3... F. W. U.	In 5 feet, on southwesterly side of basin.		12	----
1026	ALLOUEZ BAY 1... F. W. U.	On northeast edge of dredged channel.	Wis.	12	----
1027	SUPERIOR FRONT CHANNEL 2... F. R. U.	In 7 feet, on northeast side of dredged channel.	Wis.	12	----
1028	SUPERIOR FRONT CHANNEL 4... F. R. U.	In 9 feet, on northeast side of dredged channel.	Wis.	12	----
1028.5	SUPERIOR FRONT CHANNEL 4A. U. F. R.	In 7 feet		12	----
1029	SUPERIOR FRONT CHANNEL 6... F. R. U.	In 9 feet, on northeast side of dredged channel.	Minn.	12	----
1030	SUPERIOR FRONT CHANNEL 8... F. R. U.	In 15 feet, at junction of Front Channel and East Gate Basin.	Minn.	12	----
1030.5	SUPERIOR FRONT CHANNEL 1... F. W. U.	In 12 feet, on southwesterly side of channel.		12	----

WISCONSIN AND MINNESOTA

Candlepower	Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established Rebuilt
390 375 mm a		Flash 0.3 sec.-----	<i>Feet</i> Black skeleton steel tower, con- crete base.	<i>Year</i> 1910 1912
130 200 mm a		Light 1 sec., eclipse 1 sec.-----	Black pyramidal skeleton steel tower on tank house	1912
40 200 mm a		Light 1 sec., eclipse 1 sec.-----	Black pyramidal skeleton steel tower on tank house.	1914
70 200 mm a		Flash 0.3 sec.-----	Black pyramidal skeleton tower on tank house.	1915
10 P l o		-----	White cross daymark on post on unpainted pile cluster.	1921
40 P l o		-----	White daymark on post on pile cluster.	1930
40 P l o		-----	White daymark on post on pile cluster.	1900 1912
10 P l o		-----	White daymark on post on pile cluster.	1900 1920
10 P l o		-----	White daymark on post on pile cluster.	1900 1929
10 P l o		-----	White daymark on post on pile cluster.	1900 1929
10 P l o		-----	White daymark on post on pile cluster.	1901 1920
40 P l o		-----	White daymark on pile cluster.	1929

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST END					
1031	DULUTH FRONT..... F. G. F. G. Radiobeacon.	On outer end of south pier.....		Feet	12
		46 47	92 05	44 43	
1032	Duluth Rear..... Fl. W., 4 sec.	396 yards 245° from preced- ing.		68	16
1033	DULUTH NORTH PIER..... Occ. W., 4 sec. U.	On outer end of pier..... 46 47 92 05		46	12
1034	DULUTH HARBOR BASIN A... F. W. U.	At north angle of basin.....		12	
1035	DULUTH HARBOR BASIN C... F. W. U.	In 20 feet, at southeast angle of basin.		12	
1036	Rice Point Channel Gas Buoy S. Fl. W., 2 sec.	In 20 feet, on east side of channel at turn.		8	
1037	EAST GATE BASIN..... F. E. U.	At east side of basin.....		12	
1038	RICE POINT 6..... F. E. U.	In 5 feet, on west side of channel, at turn to East Gate Basin.		12	
1038.5	RICE POINT 8..... F. E. U.	In 6 feet, on north side of East Gate Basin.		12	
ST. LOUIS BAY					
1039	NORTH CHANNEL 2A..... F. E. U.	On north side of channel, at turn, east end of bay. 46 45 92 07		12	
1040	NORTH CHANNEL 5A..... F. W. U.	In 12 feet, on south side of channel, abreast preceding.		12	
1041	NORTH CHANNEL 9..... F. W. U.	In 23 feet at north entrance to Cross Channel.		12	

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
2400 4 ei	Lower light visible only from 8° to 98°.	Feet Buff brick tower on fog-signal house.	Year 1874
140 300 mm ei	DIAPHONE, air: Blast 5 sec., silent 55 sec., repeated for 2 minutes. Every third minute signal is blast for 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. RADIOBEACON: Transmits gps. of 3 dashes and 1 dot. See p. 256 for time schedule, etc.	35	1901
48,000 5 ei	Flash 0.4 sec., eclipse 3.6 sec.---	Black square pyramidal iron skeleton, inclosing stair cylin- der; lower part of lantern white. 1889 67	1901
210 5 ei	Light 2 sec., eclipse 2 sec.---	White cylindrical steel tower. 37	1910
40 Pl o	-----	White daymark on post on pile cluster. 1910 1918	
40 Pl o	-----	White daymark on post on pile cluster. 1910 1924	
70 200 mm a	Flash 0.5 sec.-----	Black, cylindrical.	
10 Pl o	-----	White daymark on post on pile cluster. 1900 1912	
10 Pl o	-----	Post on pile cluster. 1912	
10 Pl o	-----	White daymark on pile cluster. 1929	
10 Pl o	-----	White daymark on post on pile cluster. 1893 1912	
40 Pl o	-----	White daymark on post on pile cluster. 1926	
40 Pl o	-----	White daymark on post on pile cluster. 1928	

ST. LOUIS BAY AND RIVER

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. LOUIS BAY					
1041.5	NORTH CHANNEL 12A F. R. U.	In 7 feet, on north bank.		Feet 12	
1041.6	JUNCTION F. W. U.	In 7 feet at west intersection of north and south channels.		12	
1042	WEST RANGES NORTH CHANNEL FRONT 6 F. R. U.	At west end of channel.		12	
		46 44	92 09		
1043	WEST RANGES NORTH AND SOUTH CHAN- NELS REAR. U.	267 yards 227° from preced- ing and 217½° from follow- ing.		21	
1044	WEST RANGES SOUTH CHANNEL FRONT 8 F. R. U.	At west end of south channel.		12	
		46 44	92 09		
1045	CROSS CHANNEL SOUTH EN- TRANCE. U.	On east side of dredged chan- nel.		12	
	F. R. U.	46 45	92 07		
1046	CROSS CHANNEL MIDDLE F. R. U.	On east side of dredged chan- nel.		12	
1047	CROSS CHANNEL NORTH EN- TRANCE. U.	In 9 feet, on east side of dredged channel.		12	
		F. R. U.	46 45	92 07	
1048	CROSS CHANNEL 3 F. W. U.	On west side.		12	
1048.5	SOUTH CHANNEL 5 F. W. U.	In 5 feet, at entrance to slip.		12	
1049	SOUTH CHANNEL 9 F. W. U.	In 18 feet, on southwest side of channel.		12	
ST. LOUIS RIVER					
1050	GRASSY POINT F. R. U.	In 6 feet, off point, on north- side of channel.		12	
1051	RANGE ST. LOUIS RIVER FRONT F. R. U.	On east edge of channel at Grassy Point turn.		12	
		46 43	92 09		
1052	RANGE ST. LOUIS RIVER REAR F. R. U.	On bank, 355 yards 84½° from preceding.		30	
1053	ST. LOUIS RIVER 1A F. W. U.	On southerly edge of channel.		12	

MINNESOTA

11TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
10 Pi o		Feet White daymark on post on pile cluster.	Year 1929
40 Pi o		White daymark on post on pile cluster.	1929
10 Pi o		White daymark on post on pile cluster.	1893 1912
10 Pi o		White daymark on post on pile cluster.	1893 1912
10 Pi o		White daymark on post on pile cluster.	1893 1912
10 Pi o		White daymark on post on pile cluster.	1907 1916
10 Pi o		White daymark on post on pile cluster.	1907 1921
10 Pi o		White daymark on post on pile cluster.	1907 1920
40 Pi o		White daymark, on post on pile cluster.	1913 1919
40 Pi o		White daymark on post on pile cluster.	1930
40 Pi o		Pile.	1916
10 Pi o		White daymark on post on red pile cluster.	1919 1928
10 Pi o		White daymark on post on pile cluster.	1903 1926
50 300 mm o		White diamond daymark on lamp house.	1903 1919
40 Pi o		White daymark on pile.	1925

ST. LOUIS RIVER AND LAKE OF THE WOODS

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
ST. LOUIS RIVER					
1054	ST. LOUIS RIVER 2A F. E. U.	In 10 feet, on north side of channel, west of Grassy Point.		12	
1055	ST. LOUIS RIVER 1 F. W. U.	On east point of island.		12	
RAINY RIVER					
1064	RANGE RANIER FRONT F. W. U.	300 yards south from center of railroad bridge. Minn. 48 36 93 30		17	10
1065	RANGE RANIER REAR F. W. U.	58 yards 95½° from preceding.		28	10
LAKE OF THE WOODS					
1066	RAINY RIVER F. W.	Off southwest end of Sable Island. C. 48 53 94 41		37	10
1068	TOMAHAWK ISLAND F. W.	On island, off McAuley Bay. C. 49 02 94 31		35	11
1069	FERRIS ISLAND F. W.	Off Hooper Point, west end of Bigsby Island. C. 49 03 94 39		36	11
1070	SQUAW ISLAND Occ. W.	On island, west of south point of Island 37 B. C. 49 18 94 49		33	11
1071	RANGE BISHOPS BAY FRONT F. W.	On small island, 65 yards north of northeast end of Royal Island. C. 49 28 94 46		17	2
1072	RANGE BISHOPS BAY REAR F. R.	On north shore of Royal Is- land, 160½° from preced- ing. C.		28	2
1073	DEVIL GAP HEAD F. W.	On east side of south end of gap. C. 49 44 94 28			
1074	DEVIL GAP FOOT F. W.	At north end of gap. C. 49 44 94 29			
1075	WARROAD HARBOR ENTRANCE Fl. W., 3 sec. U.	In 12 feet, on west side of channel. Minn.		12	

MINNESOTA AND CANADA

11TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
10 Pl o		Feet White daymark on pile.	Year 1926
40 Pl o		White daymark on pile cluster.	1916 1926
160 300 mm o		White steel mast with diamond daymark.	1910
160 300 mm o		White steel mast with diamond daymark.	1910
		White, square, wood; on pier. 36	1895 1928
		White, square, wooden tower. 33	1901
		White square wooden tower. 28	1897
		White square wooden tower. 33	1900
		White square wooden tower. 20	1897
		White square wooden tower. 28	1897
7 ei		Pole.	1914
7 ei		Pole on pier.	1914
30 150 mm a	Flash 0.3 sec.	On pile cluster with unpainted center mast.	1930

LAKE OF THE WOODS AND LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
LAKE OF THE WOODS					
1076	WARROAD HARBOR EN- TRANCE FRONT. U. F. W.	In 5 feet, on south edge of channel, at turn.	0 1 Minn.	Feet 35	10
1077	WARROAD HARBOR EN- TRANCE REAR. U. F. W.	350 yards 223° from preced- ing.		60	10
LAKE SUPERIOR					
1078	Two Harbors----- Gp. Fl. W., 20 sec. 2 flashes.	On point, between Agate and Burlington Bays.	Minn. 47 01 91 40	78	17
1079	TWO HARBORS WEST BREAK- WATER. U. Fl. W., 2 sec.	On breakwater-----	Minn.	20	7
1080	TWO HARBORS BREAKWATER. F. R. U.	On outer end-----	Minn. 47 01 91 40	33	12
1081	Split Rock----- Fl. W., 10 sec.	On promontory, 1¼ miles northeast from Split Rock Point.	Minn. 47 12 91 22	168	22
NORTHWEST SIDE					
1082	Grand Marais----- Fl. W., 3 sec.	On outer end of east break- water.	Minn. 47 45 90 20	38	13
1083	GRAND MARAIS WEST BREAKWATER. U. Fl. R., 3 sec.	On breakwater-----	Minn. 47 45 90 20	36	-----
1084	Rock of Ages----- Gp. Fl. W., 10 sec. 2 flashes. Radiobeacon. WINTER LIGHT Gp. Fl. W., 10 sec. 2 flashes. U.	Off west end of Isle Royal--	Mich. 47 52 89 19	117	19
1085	Isle Royal----- Fl. W., 5 sec. U.	On Menagerie Island--	Mich. 47 57 88 46	72	15
1086	BLAKE POINT----- Fl. W., 3 sec. U.	At Blake point, northeast end of Isle Royal.	Mich.	40	10

CANADA AND MINNESOTA

11TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
1, 200 300 mm ei	-----	Feet White diamond daymark, black center, on concrete block.	Year 1907 1927
1, 200 300 mm ei	-----	White diamond daymark, black center, on concrete block.	1907 1927
220, 000 4 ei	Flash 0.4 sec., eclipse 4.6 sec., flash 0.4 sec., eclipse 14.6 sec. DIAPHONE, air; gp. 2 blasts and 1 blast every 60 sec.: Blast 1 sec., silent 1 sec., blast 1 sec., silent 27 sec., blast 3 sec., silent 27 sec.	Red square brick tower on dwelling.	1892 50
30 150 mm a	Flash 0.5 sec-----	Black mast on small house.	1916
250 4 ei	SIREN: Blast 2 sec., silent 18 sec.	White square pyramidal skele- ton iron tower, upper part in- closed.	1895 1906
370, 000 3 iov	Flash 0.3 sec., eclipse 9.7 sec.--- SIREN, 1st-cl. air: Blast 2 sec., silent 18 sec.	Buff octagonal brick tower, fog- signal house adjacent.	1910 54
700 5 a	Flash 0.3 sec----- SIREN, electric: Blast 5 sec., silent 30 sec.	White square pyramidal skele- ton tower, upper part inclosed.	1885 1920
20 200 mm a	Flash 0.3 sec----- Signal station 0.4 mile north of light tower.	White skeleton steel tower.	1902 1904
400, 000 2 ei	Flash 0.5 sec., eclipse 2 sec., flash 0.5 sec., eclipse 7 sec. Winter light of reduced candle- power shown after station is closed. SIREN, 1st-cl. air: Blast 3 sec., silent 27 sec. RADIOBEACON: Transmits gps. of 2 dashes and 2 dots. See p. 256 for time schedule, etc.	Buff conical brick tower on cylindrical base.	1908 130
800 4 a	Flash 0.5 sec-----	White octagonal stone tower, dwelling attached.	1875 61
130 200 mm a	Flash 0.3 sec-----	Red steel mast, lamp house adjacent.	1917 20

LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTHWEST SIDE					
1087	Passage Island Fl. W., 10 sec. Radiobeacon.	On southwest point of island Mich. 48 13	88 22	Feet 78	17
NORTH SIDE					
1088	Isle Parisienne Occ. W., 6 sec.	On southwest end of island C. 46 39	84 43	54	12
1089	Pancake Shoal Gas and Bell Buoy. Occ. R.	In 30 feet, 165 yards south- west of shoalest spot of Outer Pancake Shoal. 46 54	84 50		
1090	CORBELL POINT F. W.	On point, north side of en- trance to Batchawana Bay. 46 54	84 36	77	14
1091	COPPERMINE POINT Occ. W.	On northwest end of point. U. 46 59	84 47	61	13
1092	Gargantua F. W.	On summit of small island, at entrance to Gargantua Harbor. 47 34	84 58	85	15
1093	Michipicoten Harbor Fl. W., 30 sec.	On southeast end of Perk- wakwia Point. 47 57	84 54	70	14
1094	Caribou Island Gp. Fl. W., 10 sec. 3 flashes.	On small island southwest of Caribou Island. 47 20	85 50	99	15
1095	Michipicoten Island East End. Gp. Fl. W., 6½ sec. 2 flashes. Radiobeacon.	On northeast end of island. 47 45	85 36	84	15
1096	Davieaux Island Gp. Fl. W., 24 sec. 4 flashes.	On summit of island south of Quebec Harbor, Michipico- ten Island. 47 42	85 49	129	17

MICHIGAN AND CANADA

11TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
52,000 4 ci	Flash 1.2 sec., eclipse 8.8 sec. DIAPHONE, air: Blast 4 sec., silent 26 sec. RADIOBEACON: Transmits gps. of 1 dash, 2 dots, and 1 dash. See p. 250 for time schedule, etc.	Feet Gray octagonal stone tower on dwelling. 44	Year 1882
	Light 4 sec., eclipse 2 sec. DIAPHONE, air; gp. 2 blasts every 60 sec.: Blast 4 sec., silent 4 sec., blast 4 sec., silent 48 sec. Horn points 232°.	Gray hexagonal concrete tower; red polygonal lantern; white dwelling 40 yards 55° from tower. 58	1912
	BELL, on buoy	Red, cylindrical.	
	HORN, hand, answers signals.	White octagonal wooden tower; red octagonal iron lantern; dwelling attached. 63	1873
		White square wooden tower, red octagonal lantern. 32	1901 1908
	HORN, hand, answers signals.	White hexagonal wooden tower, red lantern. 43	1889
	HORN, hand, answers signals.	Lantern on white square wooden building, red roof. 31	1902
	3 flashes 0.5 sec. each, 2 eclipses 1.2 sec. each, 1 eclipse 6.1 sec. DIAPHONE, air: Blast 2 sec., si- lent 28 sec. Horn points 178°.	Concrete hexagonal pyramidal tower, red cylindrical lantern. 104	1886 1912
	Flash ½ sec., eclipse 1 sec., flash ¼ sec., eclipse 5 sec. HORN, hand, answers signals. RADIOBEACON: Transmits gps. of 3 dots, 1 dash; 2 dashes, 1 dot; 2 dashes. See p. 256 for time schedule, etc.	Concrete hexagonal pyramidal tower, red cylindrical lantern, dwelling 30 yards southwest of tower. 83	1912
30,000	Flash, eclipse 3 sec., flash, eclipse 3 sec., flash, eclipse 3 sec., flash, eclipse 15 sec. HORN, hand, answers signals.	White octagonal pyramidal con- crete tower, red octagonal lan- tern. 44	1872 1918

LAKE SUPERIOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
1007	QUEBEC HARBOR FRONT F. W.	On north shore of Quebec Harbor, Michipicoten Island.	° ' ° ' Feet 47 43 85 48	23	9
1008	QUEBEC HARBOR REAR F. W.	200 yards 0° 43' from preceding.		67	13
1009	Otter Island F. Fl. W., 8 sec.	On northwest end of island.	48 07 86 04	97	10
1100	Peninsula Harbor Fl. W., 30 sec.	On south end of Hawkins Island, at entrance to harbor.	48 43 86 26	88	16
1101	JACKFISH BAY F. W.	On southwest end of St. Patrick Island, entrance to bay.	48 47 86 59	39	11
1102	Slate Islands Gp. Fl. W., 15 sec. 2 flashes.	On summit of hill, on south end of south Slate Island.	48 37 87 00	224	20
1103	Battle Island Gp. Fl. W., 24 sec. 3 flashes.	On southwest point of island, east entrance to Nipigon Bay.	48 45 87 33	118	16
1104	Lamb Island F. W.	At western entrance to Nipigon Bay.	48 36 88 09	90	15
1105	SHAGANASH F. W.	On west end of island No. 10, westward of Shaganash Island.	48 26 88 29	6 3	10
1106	Porphyry Point F. W.	On southwest end of Porphyry Island, entrance to Black Bay.	48 20 88 39	56	13
1107	SILVER ISLET FRONT F. W.	On wharf, on mainland, inside Burnt Island.	48 20 88 49	10	2
1108	SILVER ISLET REAR F. W.	On wharf, 39 yards 52° from preceding.		16	2

CANADA

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
2,700	Range line leads between Hope and Davieaux Islands and marks axis of dredged channel at entrance to harbor.	Feet 20	Year wood. 1872 1918
2,700	-----	42	White, square, pyramidal, wood. 1918
20,000	DIAPHONE, air; gp. 2 blasts every 60 sec.; Blast 2 sec., silent 3 sec., blast 2 sec., silent 53 sec. Horn points 248°.	36	White octagonal tower, red lantern. 1903 1920
15,000	HORN, hand, answers signals.		White square tower, on dwelling. 1891 1929
-----	-----	14	White square skeleton tower. 1907
25,000	Flash, 3¼ sec., eclipse, flash 11¼ sec., eclipse. DIAPHONE, air: Blast 3.5 sec., silent 56.5 sec. Horn points 170°.	36	White octagonal tower, red lantern. 1903
20,000	Fixed light of 12 sec. with gp. of 3 flashes, followed by 16 sec. eclipse; 4 sec. between flashes in gp. DIAPHONE, air: Blast 3.5 sec., silent 26.5 sec. Horn points 180°.	43	White octagonal concrete tower, red octagonal lantern, rectangular dwelling 100 yards north-eastward. 1877 1914
-----	DIAPHONE, air; gp. 2 blasts every 60 sec.; Blast 2.5 sec., silent 3 sec., blast 2.5 sec., silent 52 sec.	46	White square tower, dwelling attached, red lantern. 1877
-----	HORN, hand, answers signals.	34	White, square, wood; white rectangular wooden dwelling. 1910 1923
-----	DIAPHONE, air: Blast 2.5 sec., silent 57.5 sec. Horn points southeast.	42	White, square, wood; red octagonal lantern. 1873
-----	-----	12	Mast. 1869
-----	-----	18	Mast. 1869

LAKE SUPERIOR AND THUNDER BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH SIDE					
1109	Trowbridge Island..... Fl. W., 5 sec.	On summit of island, 3.1 miles 102° from Thunder Cape. 4S 18	3.1 8S 52	Feet 114	16
1110	ANGUS ISLAND..... Fl. W., 20 sec.	Near north end of island, west side of entrance to Thunder Bay.		70	
THUNDER BAY					
1111	THUNDER CAPE..... Occ. W. U.	On west side of cape, entrance to Thunder Bay. 4S 18	8S 56	40	11
1112	Hare Island Reef Gas and Bell Buoy. Occ. R.	1.7 miles 274° from Thunder Cape Lighthouse, southeast of 24-foot spot. 4S 18	8S 59		
1113	Welcome Island..... Occ. W., 15 sec.	On northeast end of the east- ern Welcome Island. 4S 22	89 07	112	16
1114	Welcome Shoal Gas Buoy..... Occ. R.	In 24 feet, on south end of shoal south from the west Welcome Island.			
1115	MISSION CHANNEL EN- TRANCE. Fl. W., 2 sec. U.	On outer end of revetment, south side of channel en- trance. 4S 21	89 12	26	10
1116	MISSION CHANNEL FRONT. F. R.	On south side of Mission Channel, 0.3 mile west of mouth. 4S 21	89 13	25	7
1117	MISSION CHANNEL REAR..... F. R.	500 yards 290½° from pre- ceding.		38	7
1118	Fort William North Gas Buoy..... Occ. R.	At outer end of north side of cut, mouth of Kaministik- wia River			
1119	Fort William South Gas and Bell Buoy. Occ. W.	At outer end of south side of cut, abreast preceding; mouth of Kaministikwia River.			
1120	KAMINISTIKWIA..... F. R.	On Empire Elevator wharf, north side of channel. 4S 24	89 13	25	10

CANADA

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
		Feet	Year
	DIAPHONE, air; gp. 2 blasts every 60 sec.: Blast 3¼ sec., silent 9 sec., blast 3¼ sec., silent 4½ sec. Horn points southeast.	White octagonal concrete tower, red lantern. 39	1924
	DIAPHONE, air: Blast 2.5 sec., silent 27.5 sec.	White square wooden dwelling. 1927	
		Pole on boat-house.	1874 1924
	BELL, on buoy	Red.	
	Light 10 sec., eclipse 5 sec..... DIAPHONE, air; gp. 2 blasts every 70 sec.: Blast 2.5 sec., silent 5 sec., blast 2.5 sec., si- lent 60 sec.	White square dwelling, white octagonal lantern on red roof. 38	1906
		Red.	
	Flash ¼ sec., eclipse 1¼ sec.....	White pole, shed at base. 21	1917
	800 ei	White triangular daymark, apex up, on mast. 28	1913 1927
	800 ei	White triangular daymark, apex down, on mast. 35	1913 1927
		Red.	
	BELL, on buoy	Black.	
	Storm-signal mast close to Ogil- vie's elevator.	White mast, shed at base.	1908

THUNDER BAY AND STRAITS OF MACKINAC

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
THUNDER BAY					
1121	PORT ARTHUR SOUTH EN- TRANCE 1. Fl. R., 4 sec.	On breakwater, on north side of south entrance to Port Arthur Harbor.		<i>Feet</i> 37	11
		48 25	89 12		
1122	PORT ARTHUR SOUTH EN- TRANCE 2. Occ. W.	On north end of south break- water, entrance to Port Arthur Harbor.		37	11
		48 25	89 12		
1123	Port Arthur Gas and Bell Buoy. Occ. R.	In 30 feet, in prolongation of northeast edge of dredged channel.			
1124	Port Arthur..... Fl. R., 8 sec.	On north breakwater, 10 yards from south end.		43	12
		48 26	89 13		
1125	PORT ARTHUR NORTH EN- TRANCE. Occ. R.	Near southwest end of north breakwater.		25	5
1126	PIE ISLAND..... Occ. W.	On point, west end of island, west entrance to Thunder Bay.		34	11
		48 14	89 10		
1127	Victoria Island..... F. W.	On end of point, northwest end of island.		45	12
		48 05	89 22		
STRAITS OF MACKINAC					
1128	Old Mackinac Point..... Fl. W., 10 sec.	On point.....		62	16
		45 47	84 44		
1129	St. Helena..... Fl. R., 5 sec.	On southeast point of St. Helena Island.		71	16
		45 51	84 52		
1130	New Shoals Gas Buoy 1..... Fl. W., 3 sec.	In 57 feet north of shoal, 3¼ miles 47° from Waugo- shance unused lighthouse.		10	8
1131	New Shoal Gas and Bell Buoy 6. Fl. W., 3 sec.	In 58 feet, north of shoal, 2¾ miles 326° from Waugo- shance unused lighthouse.		12	8

CANADA AND MICHIGAN

12TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
	Flash 0.8 sec.....	<i>Feet</i> White mast, shed at base. 32	<i>Year</i> 1916
		White mast with small house at base.	1926
	BELL, on buoy.....	Red.	
	BELL; 1 stroke every 6 sec..... Radio station on hill; call VBA. Storm-signal tower on roof of customhouse.	White, square, wood; red lantern roof. 36	1882 1887
	Visible from all points of ap- proach except where hidden by high land on Pie Island, east of it.	Mast, white shed at base	
	Visible from all points of ap- proach on the inside channel and from the westward.	White, square, wood; red lan- tern; dwelling northeast. 23	1895 1921
	HORN, hand, answers signals.....	White, square, wood; red hexa- gonal lantern. 30	1881 1904
140,000 4 ei	Flash 2 sec., eclipse 8 sec. Weather signals displayed here. WHISTLE, 10-inch steam; gp. 2 blasts every 60 sec.: Blast 5 sec., silent 17 sec., blast 5 sec., silent 33 sec.	Yellow cylindrical tower, dwell- ing attached. 56	1892
870 3½ a	Flash 0.5 sec., eclipse 4.5 sec.....	White conical tower connected to dwelling. 71	1873
70 200 mm a	Flash 0.3 sec.....	Black. Spar station buoy.	
70 200 mm a	Flash 0.3 sec..... BELL, on buoy.	Black. Spar station buoy.	

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
STRAITS OF MACKINAC					
1132	White Shoal..... Fl. W., 15 sec.	In 20 feet, on east end of shoal.	85 08	125	20
	WINTER LIGHT..... Fl. W., 3 sec. U.			45 50	139
1133	Simmons Reef Gas and Bell Buoy 2. Fl. W., 3 sec.	In 26 feet, on south end of reef.		10	8
1134	GRAYS REEF LIGHTSHIP. F. W. Radiobeacon.	In 20 feet, off east end of reef.	85 11	30	12
1135	Grays Reef Shoal Gas Buoy 9. Fl. W., 3 sec.	In 20 feet, on edge of shoal...		8	8
1136	De Aux Galets..... F. W.	On De Aux Galets Rock, 5¾ miles from mainland.	85 10	58	15
	WINTER LIGHT..... F. W. U.			45 41	58
1137	Beaver Island Shoal North- east End Gas and Bell Buoy 1. Fl. W., 3 sec.	In 15 feet, south side of pas- sage between Beaver and Garden Islands.		10	8
EAST SIDE					
1138	BEAVER ISLAND HARBOR..... Fl. R., 5 sec. U.	On north side of entrance to harbor.		38	10
1139	Stony Point Shoal Gas and Bell Buoy 1. Fl. W., 5 sec.	In 20 feet, on east end of shoal, south side of en- trance to Beaver Harbor.		10	8
1140	Beaver Island..... F. Fl. W., 20 sec.	On bluff, south end of island..	85 34	103	18 19
1141	LITTLE TRAVERSE..... F. R.	On Harbor Point, north side Little Traverse Bay.	84 59	41	14

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
3,000,000 2 ei 120 300 mm a	Flash 0.4 sec., eclipse 14.6 sec. Winter light, flash 0.3 sec., shown 2 weeks only, beginning when station is closed. WHISTLE, 10-inch air gp. 2 blasts every 60 sec.: Blast 2.5 sec., silent 18 sec., blast 2.5 sec., silent 37 sec. Hand fog horn will sound every 10 sec. if whistle is disabled.	Feet Black conical tower on square concrete pier, silver-gray lan- tern. 118	Year 1910
70 200 mm a	Flash 0.3 sec..... BELL, on buoy.	Red. Spar station buoy.	
3,300 1 l ei	WHISTLE, 10-inch steam: Blast 2 sec., silent 18 sec. RADIOBEACON: Transmits gps. of 1 dash, 2 dots, 1 dash. See p. 256 for time schedule, etc.	Red hull, "GRAYS" on sides, lantern gallery on black tubular mast. 1891 1929	Station buoy about 0.1 mile west from lightship.
70 200 mm a	Flash 0.3 sec.....	Black. Spar station buoy.	
2,900 4 iov 220 4 a	WHISTLE, 10-inch steam: gp. 2 blasts every 60 sec.: Blast 5 sec., silent 10 sec., blast 5 sec., silent 40 sec. Winter light shown 2 weeks only, beginning when station is closed.	White octagonal tower con- nected to dwelling. 58	1850 1888
70 200 mm a	Flash 0.3 sec..... BELL, on buoy.	Black. Spar station buoy.	
190 4 a	Flash 1 sec..... Coast Guard station 55 yards west of lighthouse.	White cylindrical tower con- nected to dwelling. 41	1856 1870
70 200 mm a	Flash 0.5 sec..... BELL, on buoy.	Black. Spar station buoy.	
F. 1,700 Fl. 14,000 4 iov	Fixed light with 1.3 sec., flash every 20 sec. WHISTLE, 10-inch steam: Blast 7 sec., silent 42 sec.	Yellow cylindrical tower con- nected to dwelling. 46	1851 1901
2,000 4 ei	BELL, 1 stroke every 15 sec.....	Red square tower attached to dwelling. 41	1884

No.	Name Character and period of light	Location		Light above high water	Miles seen	Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Latitude, N.	Longitude, W.					Top of lantern above ground	Established Rebuilt
EAST SIDE									
1142	PETOSKEY Fl. R., 4 sec. U.			<i>Fet</i> 44	7	35 300 mm a	Flash 1 sec.-----	<i>Fet</i> Red skeleton tower on concrete base.	<i>Year</i> 1899 1930
1143	CHARLEVOIX NORTH PIER- HEAD. Occ. W., 6 sec.			61	12	240 Ll ei	Light 3 sec., eclipse 3 sec.-----	White pyramidal skeleton tower. 56	1899 1914
1144	CHARLEVOIX SOUTH PIER- HEAD. F. R.			37	10	100 5 o	BELL; gp. 2 strokes, 20 sec.; 1 stroke, 20 sec. Weather signals, 80 yards south- east of tower.	Red square open-frame tower, upper part inclosed. 35	1885 1911
1145	Grand Traverse F. W.			47	14	1,700 4 iov	WHISTLE, 10-inch steam; gp. 2 unequal blasts every 45 sec.: Blast 3 sec., silent 12 sec., blast 6 sec., silent 24 sec.	Yellow square tower on dwell- ing. 41	1852 1900
1146	Northport Point Gas and Bell Buoy 2. Fl. W., 3 sec.			10	8	70 200 mm a	Flash 0.3 sec.----- BELL, on buoy.	Red. Spar station buoy.	
1147	Mission Point F. W.			43	13	350 5 o	-----	White, red roofs, square tower on dwelling. 36	1870
1148	Lee Point Gas and Bell Buoy 4. Fl. W., 3 sec.			10	8	70 200 mm a	Flash 0.3 sec.----- BELL, on buoy.	Red. Spar station buoy.	
1149	BOARDMAN RIVER WEST PIERHEAD LIGHT. F. W.			20	10	160 ei	Maintained by the city of Tra- verse City, Mich.	Post with cross arm.	1914
1150	South Fox Island Fl. W., 30 sec.			67	16	160,000 4 ei	Flash 1.2 sec., eclipse 28.8 sec.--- TYFON, air: Blast 3 sec., silent 17 sec.	White square tower attached to dwelling. 44	1867 1911
1151	South Fox Island Shoals Gas Buoy 1. Fl. W., 3 sec.			10	8	70 200 mm a	Flash 0.3 sec.-----	Black. Spar station buoy.	
1152	LELAND PIERHEAD F. R. U.			16	8	140 ei	-----	White post.	1911
1153	North Manitou Alt. Fl. R. and W., 20 sec.			70	16	R. 7,200 W. 24,000 4 iov 230 300 mm a	Red flash 1.3 sec., eclipse 8.7 sec., white flash 1.3 sec., eclipse 8.7 sec. Winter light, flash 0.3 sec., shown entire winter. Obscured from 53° to 173°. WHISTLE, 10-inch steam: Blast 5 sec., silent 25 sec.	White square pyramidal tower. 65	1897
	WINTER LIGHT Fl. W., 3 sec. U.			70	12				

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
EAST SIDE					
1154	NORTH MANITOU SHOAL LIGHTSHIP. F. W.	In 21 feet, on south end of shoals. 45 01	85 57	Feet 44	12
1155	South Manitou..... F. W.	On southeast point of South Manitou Island. 45 00	86 06	104	19
1156	<i>Sleeping Bear Gas and Bell Buoy 7.</i> Fl. W., 3 sec.	In 34 feet, 1¼ miles off Sleeping Bear Point.		10	8
1157	Point Betsie..... Fl. W., 10 sec. Radiobeacon.	On point..... 44 41	86 15	52	15
1157.5	FRANKFORT SOUTH BREAK-WATER. U. Fl. R., 3 sec.	Near outer end of south break-water.		44	8
1158	RANGE { FRANKFORT PIERHEAD FRONT. F. W.	On outer end of north pier... 44 38	86 15	46	14
1159		FRANKFORT PIERHEAD REAR. F. W.	200 yards 96° from preceding.		66
1160	RANGE { FRANKFORT SOUTH PIERHEAD. U. Fl. R., 3 sec.	On outer end of pier..... 44 38		35	6
1161		FRANKFORT SOUTH PIER REAR. U. F. R.	1,600 feet, 96° from preceding.		40
1162	PORTAGE LAKE PIERHEAD..... U. Fl. W., 3 sec.	On north pier..... 44 22	86 16	44	11

MICHIGAN

12TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
310 300 mm a	WHISTLE, 6-inch steam: Blast 2 sec., silent 18 sec.	Feet Red hull, "MANITOU" on sides, tubular mast and lantern gallery, white house. Station buoy, 0.1 mile northwesterly from lightship.	Year 1910
7,300 3 iov	WHISTLE, 10-inch steam: Blast 8 sec., silent 52 sec.	White conical tower connected to yellow dwelling.	1839 1872
70 200 mm a	Flash 0.3 sec..... BELL, on buoy.	Black. Spar station buoy.	
70,000 4 ei	Flash 1.3 sec., eclipse 8.7 sec. DIAPHONE, air; gp. 2 blasts every 30 sec.: Blast 1.5 sec., silent 2 sec., blast 1.5 sec., silent 25 sec. Every third minute signal is blast 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. RADIOBEACON: Transmits gps. of 1 dot, 2 dashes and 1 dot. See p. 256 for time schedule, etc. Coast Guard station 100 yards south of lighthouse.	White, red roofs, cylindrical tower, connected to dwelling.	37 1858 1894
70 200 mm a	Flash 0.3 sec.....	DISTANCE FINDING STATION. For method of operation, see p. 256.	
70 200 mm a	Flash 0.3 sec.....	Red pyramidal skeleton tower.	1930
1,900 6 ei	DIAPHONE, air: Blast 2 sec., silent 18 sec. Siren, air, if diaphone is disabled: Blast 3 sec., silent 3 sec.	White square pyramidal tower.	44 1873 1912
740 Ll ei	-----	White post.	60 1896 1912
20 200 mm a	Flash 0.3 sec.....	Red pyramidal structure.	29 1912
1,000	-----	Unpainted post.	1928
200 300 mm a	Flash 0.3 sec.....	White square pyramidal skeleton tower, on concrete base.	1891 1930

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
EAST SIDE					
1163	Manistee Pierhead..... Gp. Occ. W., 30 sec. 3 eclipses.	On outer end of north pier... 44 15	86 21	Feet 55	15
1164	MANISTEE BREAKWATER..... Fl. R., 3 sec. U.	On outer end of breakwater..		45	8
1164.5	Manistee Lake Lighted Buoy 1. Fl. W., 3 Sec.	In 18 feet, on easterly side of channel.		5	6
1165	Big Sable..... F. W.	On Big Sable Point..... 44 03	86 31	106	19
1166	Ludington North Break- water Front Occ. W., 6 sec. Radiobeacon.	On breakwater, near outer end.		55	15
		Radiobeacon is near north pier, 840 yards 94½° from lighthouse.			
1167	LUDINGTON NORTH PIER- HEAD REAR. F. W.	On pier, 10 yards from outer end; 623 yards 97° from pre- ceding.		65	16
1168	LUDINGTON SOUTH BREAK- WATER. Occ. R., 2 sec. U.	On northwest end of break- water.		40	6
1169	LUDINGTON SOUTH PIERHEAD. Fl. R., 3 sec. U.	On pier, 665 yards 00½° from preceding. 43 57	86 28	40	6
1170	PERE MARQUETTE LAKE..... F. R. U.	On east end of south pier....		20	---
1171	PENTWATER PIERHEAD..... Fl. R., 3 sec. U.	On south pier, 25 yards from outer end.		33	8
1172	Little Sable..... F. Fl. W., 30 sec.	On point..... 43 39	86 32	108	19
1173	WHITE RIVER PIERHEAD..... Fl. R., 3 sec. U.	On outer end of south pier....		43	10
1174	White River..... F. W., 20 sec.	On south bank at entrance to White Lake and River. 43 22	86 25	57	15

MICHIGAN

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
5,000 5 ei	3 eclipses 2 sec. each, 2 light pe- riods 2 sec. each, 1 light period 20 sec. DIAPHONE, air; gp. 3 blasts ey- ery 30 sec.; 3 blasts 1 sec. each, 2 silences 2 sec. each, 1 silence 23 sec. Weather signals and Coast Guard station on inner end of pier.	Feet White cylindrical tower. 39	Year 1894 1927
60 300 mm a	Flash 0.3 sec.....	Red skeleton tower.	1915
40 150 mm ei	Flash 0.3 sec.....	Black.	
7,300 3 ioy	SIREN, 1st-cl. air; gp. 2 blasts every 45 sec.; Blast 3 sec., silent 12 sec., blast 3 sec., silent 27 sec.	Conical tower, middle third and top black, remainder white, connected to yellow dwelling. 107	1867 1908
4,800 4 ei	Light 5 sec., eclipse 1 sec..... DIAPHONE, air: Blast 2 sec., silent 18 sec. RADIOBEACON: Transmits gps. 4 dashes. See p. 256 for time schedule, etc.	White square pyramidal tower. 57	1870 1924
2,500 1 l ei	Coast Guard station on inner end of pier.	White skeleton tower.	1924
20 200 mm a	Light 1 sec., eclipse 1 sec.....	Red square concrete tower. 36	1909 1916
20 200 mm a	Flash 0.3 sec.....	Red pyramidal skeleton tower. 107	1870 1925
2 150 mm a	-----	Red square pyramidal skeleton structure.	1920
45 6 a	Flash 0.3 sec.....	Red square pyramidal tower, upper part inclosed. 31	1873
F. 3,700 Fl. 24,000 3 ioy	Fixed light with 5 sec. flash ev- ery 30 sec.	White conical tower connected to red dwelling. 107	1874 1911
160 6 a	Flash 0.3 sec.....	Red square pyramidal tower, on concrete base. 31	1872 1930
9,600 4 ei	Light 10 sec., eclipse 10 sec.....	Yellow octagonal tower attached to dwelling. 38	1875

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
EAST SIDE					
1175	MUSKEGON NORTH PIERHEAD Fl. W., 3 sec. U.	° ' ° '	° ' ° '	<i>Feet</i> 41	10
1176	MUSKEGON BREAKWATER. F. R.	On lakeward end of south breakwater.		70	6
1177	MUSKEGON PIERHEAD REAR Occ. R., 6 sec.	605 yards 60° from pre- ceding.		50	14
1179	MUSKEGON LAKE Fl. R., 3 sec. U.	On south pier----- 43 14 86 20		24	7
1180	BANK POINT----- Fl. G., 3 sec. U.	In 9 feet, on point of shoal---		24	---
1181	MUSKEGON HARTSHORN----- Fl. R., 5 sec. U.	In 1 fathom, on northerly end of shoal off old dock.		23	---
1182	GRAND HAVEN NORTH PIER- HEAD. U. Fl. W., 3 sec.	On outer end of pier-----		30	10
1183	GRAND HAVEN PIERHEAD FRONT F. R. Radiobeacon.	On outer end of south pier--- 43 03 86 15		42	14
1184	Grand Haven Pierhead Rear. F. Fl. R., 30 sec.	200 yards 80° 08' from pre- ceding.		52	15
1185	HOLLAND (BLACK LAKE) FRONT. U. Fl. R., 4 sec.	On outer end of south break- water. 42 46 86 13		30	7
1186	Holland (Black Lake) Rear-- F. R.	On outer end of south pier, 295 yards 86½° from pre- ceding.		45	10
1187	BLACK LAKE----- F. R. U.	On south pier entrance to lake.		20	---
1188	MIDDLE GROUND----- Fl. W., 3 sec. U.	On southeast point of shoal. Mich. 42 47 86 10		23	---
1189	DRAKE POINT----- Fl. R., 3 sec. U.	On point of shoal----- Mich.		23	---
1190	POINT SUPERIOR----- Fl. W., 5 sec. U.	Off point----- Mich.		23	---

INDIANA

12TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
120 300 mm a	Flash 0.3 sec.-----	<i>Feet</i> White skeleton tower on con- crete base.	<i>Year</i> 1914
4,800 4 ei	OSCILLATOR, air; blast 3 sec., silent 17 sec.	Red pyramidal tower. 53	1928 1929
4,800 4 ei	Light 4 sec., eclipse 2 sec.-----	Red conical tower. 48	1852 1903
35 300 mm a	Flash 0.3 sec.-----	Red pyramidal skeleton tower on concrete base.	1895 1925
20 200 mm a	Flash 1 sec.-----	Black square pyramidal skeleton tower, tank house at base, on concrete pier.	1901 1915
10 300 mm a	Flash 0.5 sec.-----	Red square pyramidal skeleton structure, lower part inclosed, cylindrical concrete base.	1923
120 300 mm a	Flash 0.3 sec. Coast Guard sta- tion at inner end of pier.	White square pyramidal skeleton tower, inclosed base.	1911 26
1,200 6 ei	DIAPHONE; air; gp. 2 blasts every 30 sec.: Blast 1.5 sec., silent 2 sec., blast 1.5 sec., si- lent 25 sec. RADIOBEACON: Transmits gps. of 1 dot and 3 dashes. See p. 256 for time schedule, etc.	Red lantern on gable end of fog- signal building. 36	1871 1922
F. 2,000 Fl. 13,000 4 ei	Fixed light with 1 sec. flash every 30 sec.	Red cylindrical tower. 51	1839 1907
35 300 mm a	Flash 1 sec.-----	Red oval tower. 27	1907
150 4 o	WHISTLE, 10-inch steam: Blast 5 sec., silent 25 sec.	Red square pyramidal tower, lower half open, connected to fog-signal building. 45	1870 1907
150 300 mm ei	-----	Red post.	1928
130 300 mm a	Flash 0.3 sec.-----	White pyramidal tower on cylon- dical concrete base.	1909 1922
60 300 mm a	Flash 0.3 sec.-----	Red pyramidal tower on cylon- dical concrete base.	1909 1922
130 300 mm a	Flash 0.5 sec.-----	White pyramidal tower on cylon- dical concrete base.	1909 1922

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH END					
1191	SAUGATUCK SOUTH PIERHEAD Fl. R., 3 sec. U.	On outer end of pier... Mich. 42 41 86 13		31	7
1192	RANGE SOUTH HAVEN PIERHEAD FRONT. F. R.	On south pier, 10 yards from outer end. Mich. 42 24 86 17		37	13
1193		SOUTH HAVEN REAR..... F. R.	267 yards 81° from preceding.		52
1194	RANGE St. Joseph Pierhead Front.. F. W.	On outer end of north pier.. Mich. 42 07 86 30		31	12
1195		St. JOSEPH PIERHEAD REAR F. W.	105 yards 108° from preced- ing.		53
1196	St. JOSEPH SOUTH PIERHEAD.. Occ. R., 2 sec. U.	On pier, near outer end.....		53	10
1197	Michigan City East Pierhead.. F. W.	On outer end of pier.... Ind. 41 44 86 55		55	13
1198	MICHIGAN CITY BREAKWATER Fl. R., 3 sec. U.	On north end of breakwater. Ind.		36	6
1199	MICHIGAN CITY WEST PIER- HEAD. U. Fl. R., 6 sec.	On north end of pier.... Ind.		27	8
1200	Indiana Shoal Gas and Bell Buoy 2. Fl. W., 3 sec.	In 47 feet, on northeast end of shoals. Ind. 41 43 87 21		10	8
1201	Gary Breakwater..... Gp. Fl. R., 15.7 sec. U. 2 flashes.	On end of breakwater..... 41 38 87 19		40	12
1202	RANGE GARY EAST PIERHEAD FRONT. F. W.	On outer end of pier.....		30	8
1203		GARY EAST PIERHEAD REAR. U. F. R.	83 yards 181° from preceding.		45
1204	GARY WEST PIERHEAD..... F. G. U.	On outer end of pier.....		25	4
1205	BUFFINGTON PIERHEAD..... F. W. U.	Near easterly end of south pier.		48	14

MICHIGAN AND INDIANA

12TH DIST.

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
35 Ll a	Flash 0.3 sec.....	Feet Red square column on pedestal. 26	Year 1907
1,000 5 ei	BELL; 1 stroke every 20 sec.....	Red conical tower. 35	1872 1913
7,000 Rf ei	-----	Red skeleton tower.	1916
350 5 o	-----	White cylindrical tower. 30	1846 1907
1,700 4 iov	WHISTLE, 10-inch steam: Blast 3 sec., silent 17 sec.	White octagonal tower attached to fog-signal building. 53	1898 1907
120 375 mm a	Light 1 sec., eclipse 1 sec.....	Red skeleton tower, concrete base.	1919
350 5 o	WHISTLE, 10-inch steam: Blast 5 sec., silent 55 sec. Coast Guard station at inner end of pier.	White, red roof, octagonal tow- er attached to fog-signal build- ing. 49	1904 1904
20 200 mm a	Flash 0.3 sec.....	Red pyramidal structure.	1904 1911
70 300 mm a	Flash 1 sec.....	Red cylindrical tower. 26	1904
70 200 mm a	Flash 0.3 sec..... BELL, on buoy.	Red. Spar station buoy.	
270 375 mm a	Flash 2 sec., eclipse 2.7 sec., flash 2 sec., eclipse 9 sec. SIREN, 6-inch air: Blast 2 sec., silent 28 sec. Maintained by Indiana Steel Co., Chicago, Ill.	Maroon cylindrical tower.	1911
60 Ll ei	Maintained by Indiana Steel Co., Chicago, Ill.	Unpainted pyramidal wooden skeleton tower.	1908
20 Ll ei	Maintained by Indiana Steel Co., Chicago, Ill.	Unpainted pyramidal wooden skeleton tower.	1908
10 Ll ei	Maintained by Indiana Steel Co., Chicago, Ill.	Unpainted pyramidal wooden skeleton tower.	1908
1,900 ei	Maintained by the Universal Portland Cement Co.	White square skeleton tower on concrete base.	1927

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1206	BUFFINGTON BREAKWATER... F. R. U.	At east end of north break-		48	14
		water.	Ind.		
1207	BUFFINGTON HARBOR FRONT. F. W. U.	On wharf		42	5
1208	BUFFINGTON HARBOR REAR F. W. U.	334 yards 236½° from preced-		61	5
		ing.			
INDIANA HARBOR					
1209	19-Foot Shoal Gas and Bell Buoy 1. Fl. W., 3 sec.	In 27 feet, at east side of en-		10	8
		trance to dredged channel.			
1210	WEST BREAKWATER..... Fl. R., 3 sec. U.	On breakwater near easterly		48	8
		end.			
1211	EAST PIERHEAD..... Fl. G., 4 sec. U.	On east side of entrance to		45	8
		harbor.			
1212	East Breakwater..... Gp. Fl. W., 20 sec. 2 flashes.	On crib, near northwest end of breakwater.		58	15
		41 40	87 26		
WEST SIDE					
1213	HAMMOND INTAKE CRIB..... Fl. W., 6 sec. U.	On intake crib		39	8
1214	Calumet Bar Gas and Bell Buoy CB. Fl. W., 3 sec.	In 22 feet, on southeasterly	Ill.	10	8
		end of bar.			
1215	Calumet Harbor..... Gp. Fl. R., 30 sec. 3 flashes. Radio beacon.	On southeast end of break-		51	12
		water.		41 44	87 30
1216	Calumet Pierhead..... (South Chicago.) F. R.	On outer stub end of north		39	13
		pier.			

INDIANA AND ILLINOIS

12TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
Apparatus Illuminant	Fog signal		
4,500 ei	DIAPHONE, air: Blast 1 sec., silent 9 sec. Maintained by Universal Portland Cement Co.	Red conical tower on concrete base.	Year 1926
900 ei	Maintained by Universal Port- land Cement Co. Light shows a circle.	Steel mast with black and white circular daymark.	1927
720 ei	Maintained by Universal Port- land Cement Co. Light shows V-shape.	On building, black and white triangular daymark.	1927
70 200 mm a	Flash 0.3 sec.----- BELL, on buoy.	Black. Spar station buoy.	
80 200 mm a	Flash 0.3 sec.-----	Red pyramidal skeleton tower on concrete base.	1923
70 300 mm a	Flash 1 sec.-----	White skeleton tower on concrete base.	1920
22,000 4 ei	Flash 1.4 sec., eclipse 3.6 sec., flash 1.4 sec., eclipse 13.6 sec. DIAPHONE, air; gp. 2 blasts every 20 sec.: Blast 1 sec., si- lent 2 sec., blast 1 sec., silent 16 sec.	Red-brick square structure.	1920 1924
70 200 mm a	Flash 1 sec. Maintained by city of Hammond.	Black skeleton tower.	1927
70 200 mm a	Flash 0.3 sec.----- BELL, on buoy.	Red and black horizontal bands. Spar station buoy.	
9,000 4 ei	3 flashes 2 sec. each, 2 eclipses 4 sec. each, 1 eclipse 16 sec. DIAPHONE, air; gp. 3 blasts ev- ery 30 sec.: 3 blasts 1 sec. each, 2 silences 2 sec. each, 1 silence 23 sec. RADIOBEACON: Transmits gps. of 1 dash, 1 dot, and 1 dash. See p. 255 for time schedule, etc.	Red cylindrical tower attached to buff fog-signal building on concrete pier.	1905 1924
800 6 ei	DIAPHONE, air: Blast 2 sec., si- lent 18 sec. Bell, 1 stroke every 20 sec., if diaphone is disabled. Coast Guard station, and Weather signals, 110 yards southwest from light tower.	Red cylindrical tower.	1873 1923

LAKE MICHIGAN AND CHICAGO HARBOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1217	RANGE ILLINOIS STEEL COMPANY NORTH SLIP FRONT. U. F. G.	At north entrance to slip-----		Feet 60	7
		41 44	87 32		
1218	ILLINOIS STEEL COMPANY NORTH SLIP REAR. U. F. G.	On 5th stack from south end of No. 2 open-hearth plant, 875 yards 288½° from pre- ceding.		140	7
CHICAGO HARBOR					
1219	CASINO PIER NORTH EXTEN- SION. U. Fl. R., 2 sec.	On outer end of extension:---		18	7
1220	CASINO PIER OUTER----- Fl. R., 2 sec. U.	On east end of pier, Jackson Park, Chicago.		22	7
1221	CASINO PIER MIDDLE----- F. R. U.	On north side of entrance to yacht harbor, Jackson Park.		37	8½
1222	CASINO PIER INSIDE----- F. G. U.	On south side of entrance to yacht harbor, Jackson Park.		33	6
1223	HYDE PARK CRIB----- Fl. R., 3 sec.	On Waterworks Crib, 2¼ miles off Jackson Park, Chicago.		61	8
1223.5	Clemson Shoal Gas and Bell Buoy 4. Fl. W., 3 sec.	In 22 feet-----		11	8
1224	Morgans Reef Gas Buoy 4----- Fl. R., 10 sec.	In 21 feet----- 41 49		10	8
1227	Chicago Harbor Outer Gas and Bell Buoy. Fl. W., 3 sec.	In 60 feet, 7 miles 71° from Chicago Harbor Lighthouse.		16	10
1228	FOUR-MILE CRIB----- Fl. W., 3 sec.	3.7 miles off Grant Park, Chicago.		66	11
1229	CHICAGO HARBOR OUTER BREAKWATER SOUTH END. Fl. R., 6 sec. U.	On breakwater, near south end.		48	8
1230	CHICAGO HARBOR ENTRANCE SOUTH SIDE. U. Occ. W., 2 sec.	At north end of breakwater, south side of main entrance to harbor.		48	12

ILLINOIS

12TH DIST.

Candlepower Apperatus illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
40 ei	Range maintained by Illinois Steel Co.	Feet White diamond daymark on pole.	Year 1925
40 ei	-----	White diamond daymark on black stack.	1925
35 Li a	Flash 0.3 sec. Maintained by South Park Commissioners from Mar. 31 to Dec. 1.	Square pyramidal skeleton struc- ture.	1916
35 Li a	Flash 0.3 sec. Maintained by South Park Commissioners from Mar. 31 to Dec. 1.	Black post.	1903
50 Li ei	Maintained by South Park Com- missioners from Mar. 31 to Dec. 1.	Black post.	1903
25 Llei	Maintained by South Park Com- missioners from Mar. 31 to Dec. 1.	Black post.	1903
60 300mmpgm	Flash 1 sec. BELL; 1 stroke every 12 sec. Maintained by city of Chicago, Ill.	Silver-gray lantern on red py- ramidal skeleton tower on stone crib.	1898 1923
130 200 mm a	Flash 0.3 sec.-----	Red. Spar station buoy.	
70 200 mm a	Flash 1 sec.-----	Black. Spar station buoy.	
390 375 mm a	Flash 0.3 sec.----- BELL, on buoy.	Black and white vertical stripes. Spar station buoy.	
190 300mmpgm	Flash 1 sec.----- BELL; 1 stroke every 10 sec. Maintained by city of Chicago, Ill.	Silver-gray lantern on red py- ramidal skeleton tower on stone crib.	1892 1923
60 300 mm a	Flash 2 sec.-----	Red pyramidal skeleton tower on concrete base.	1923
230 300 mm a	Light 1 sec., eclipse 1 sec.-----	White skeleton tower.	1918

CHICAGO HARBOR

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
CHICAGO HARBOR					
1231	Chicago Harbor Alt. Fl. R. and W., 20 sec. Radiobeacon.	At south end of north break- water. 41 53	87 35	Feet 82	17
1232	CHICAGO PIERHEAD FRONT. F. R.	On outer end of north pier		30	8
1233	CHICAGO PIERHEAD REAR. F. R.	On north pier, 36 yards 271¼° from preceding.		43	10
1234	CHICAGO BREAKWATER NORTH. U. Fl. W., 3 sec.	On north end of inner break- water. 41 53	87 37	29	8
1235	CHICAGO BREAKWATER SOUTH. U. Fl. R., 3 sec.	On south end of inner break- water.		36	10
1235.5	JETTY F. R. U.	At west end of jetty of inner breakwater.		10	
1236	MUNICIPAL PIER No. 1. F. R. U.	On outer end		30	6
1237	MUNICIPAL PIER No. 2. Occ. R., 4 sec. U.	On southeast corner of pier		30	12
1238	MUNICIPAL PIER No. 3. F. R. U.	At outer end of Municipal Pier No. 3.		18	
1238.5	Lindbergh Aviation Beacon. Fl. W., 20 sec. U.	On Colgate - Palmolive - Peet Building, Michigan Ave.		531	30
1239	CHICAGO OUTER BREAKWATER NORTHWEST END. U. Fl. W., 3 sec.	On breakwater, near north- west end, east side of gap.		55	8
1240	CHICAGO WATERWORKS CRIB (TWO-MILE CRIB). Fl. W., 3 sec.	On crib		65	8
1241	CARTER H. HARRISON CRIB. Fl. R., 3 sec.	On crib		68	8

ILLINOIS

12TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
R. 40,000 W. 140,000 3 ei	Red flash 0.8 sec., eclipse 9.2 sec., white flash 0.8 sec., eclipse 9.2 sec. DIAPHONE, air; gp. 2 blasts every 20 sec.: Blast 1 sec., silent 2 sec., blast 1 sec., silent 16 sec. Every third minute sig- nal is blast 5 sec., silent 1 sec.; blast 1 sec., silent 53 sec. Whis- tle, 12-inch steam, if diaphone is disabled: Blast 5 sec., silent 25 sec. RADIOBEACON: Transmits gps. of 1 dot, 1 dash, 1 dot, and 1 dash. See p. 256 for time schedule, etc.	Feet Red conical tower. 66	Year 1893 1919
160 Ll ei		Red oval tower. 28	1891 1908
1,500 5 ei	BELL; gp. 2 strokes, 20 sec.; 1 stroke, 20 sec.	Red cylindrical tower. 41	1869 1908
70 200 mm a	Flash 0.3 sec. Light obscured along breakwater to south- ward. Coast Guard station and Weather signals near.	White pyramidal skeleton tower inclosed base. 22	1876 1913
100 300 mm a	Flash 0.3 sec.	Red pyramidal skeleton tower. 33	1876 1926
50 300 mm o		Pile cluster.	1930
20 200 mm ei	Maintained by city of Chicago, Ill.	Red skeleton tower.	1917
230 300 mm a	Light 2 sec., eclipse 2 sec. Main- tained by city of Chicago, Ill.	Black skeleton mast on concrete base. 28	1916
100 150 mm ei	Maintained by city of Chicago, Ill.	Red skeleton tower.	1926
2 billion Rf ei	Maintained by Colgate-Palm- olive-Peet Co.		1930
70 200 mm a	Flash 0.3 sec.	White square pyramidal skeleton tower. 55	1890 1906
65 300 mm pgm	Flash 1 sec. BELL; 1 stroke every 15 sec. Maintained by city of Chicago, Ill.	Silver gray lantern on red py- ramidal skeleton tower on stone crib 56	1867 1923
60 300 mm a	Flash 1 sec. BELL; gp. 3 strokes every 30 sec. Maintained by city of Chicago, Ill.	Silver gray lantern on red py- ramidal skeleton tower on stone crib. 31	1900 1923

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1242	SHIPYARD ENTRANCE..... F. R. U. F. R.	Off Lincoln Park.....		Feet 18 14	8 8
1243	BATHING BEACH FRONT..... F. R. U.	Off Lincoln Park.....		19	8
1244	BATHING BEACH REAR..... F. W. U.	40 yards 270° from preceding.		20	11
1245	NORTH YACHT HARBOR..... Fl. G., 3 sec. U.	On north side of channel into harbor.		47	10
1246	MONTROSE BREAKWATER..... Fl. R., 3 sec. U.	On easterly point of breakwater, foot of Montrose Ave.		35	6
1247	WILSON AVENUE INTAKE CRIB. F. W.	On crib, 3.5 miles 344° from Carter Harrison Crib.		68	8
1248	Rogers Park Shoal Gas and Bell Buoy 6. Fl. R., 3 sec.	In 22 feet, on east side of shoal.		12	6
1249	Grossepoint..... F. W. Alt. R. Fl., 180 sec.	On point.....Ill. 42 04 87 41		110	20
1249.5	Grossepoint Outer Gas and Bell Buoy 4. Fl. R., 3 sec.	In 22 feet, east of shoal spot..		11	6
1250	WILMETTE SANITARY CHANNEL ENTRANCE. F. R. U.	On end of north pier at entrance to Wilmette Harbor. Ill.		40	5
1251	WILMETTE SANITARY CHANNEL INNER. F. R. U.	At north side of entrance to Wilmette Harbor.		35	---
1252	GREAT LAKES EAST BREAKWATER. Fl. R., 5 sec. U.	On breakwater, 20 yards from south end.		47	8
1253	GREAT LAKES SOUTH BREAKWATER. Fl. W., 3 sec. U.	On breakwater, 20 yards from easterly end.		45	10
1254	Waukegan Shoals Gas Buoy 3. Fl. W., 3 sec.	In 28 feet, northeast of 18-foot shoal. Ill.		13	8
1255	Waukegan Harbor..... F. W. Alt. Gp. R. Fl., 40 sec. 4 flashes.	On outer end of south pier..... Ill. 42 22 87 49		36	13
1256	WAUKEGAN BREAKWATER..... Fl., 3 sec. U.	On southeast end breakwater. Ill.		45	6

ILLINOIS

12TH DIST.

Candlepower	Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established Rebuilt
50 ei		Maintained by Lincoln Park Commissioners from Apr. 1 to Dec. 1.	Feet Unpainted pole, lights 3½ feet apart vertically.	Year 1913
50 ei		Maintained by Lincoln Park Commissioners from Apr. 1 to Dec. 1.	Unpainted pole.	1913
200 ei		Maintained by Lincoln Park Commissioners from Apr. 1 to Dec. 1.	Unpainted pole.	1913
120 Ll a		Flash 0.3 sec. Maintained by Lincoln Park Commissioners from Apr. 1 to Dec. 1.	Gray skeleton tower.	1916
20 200 mm a		Flash 0.3 sec.....	Red skeleton tower on piling.	1928
60 300 mm pgin		BELL; gp. 2 strokes every 20 sec. Maintained by city of Chicago, Ill.	Silver gray lantern on red cylindrical tower on stone crib.	1915 1923
40 200 mm a		Flash 0.3 sec..... BELL, on buoy.	Red.	
W. 10,000 R. 32,000 2 ei		Fixed white light with 6 sec. red flash every 180 sec. WHISTLE, 10-inch steam; gp. 2 blasts every 70 sec.: Blast 5 sec., silent 20 sec., blast 5 sec., silent 40 sec.	White, red roofs, conical tower connected to dwelling. 110	1873
40 200 mm a		Flash 0.3 sec..... BELL, on buoy.	Red.	
15 ei		Maintained by Sanitary District of Chicago.	Red pole.	1921
15 ei		Maintained by city of Chicago..	Red steel pole.	1926
60 300 mm a		Flash 1 sec. Maintained by U. S. Navy.	Red pyramidal skeleton tower on concrete base.	1923
190 300 mm a		Flash 0.3 sec. Maintained by U. S. Navy.	White pyramidal skeleton tower on concrete base.	1923
70 200 mm a		Flash 0.3 sec.....	Black. Spar station buoy.	
W. 490 R. 390 4 o		White light 21.1 sec., eclipse 1.2 sec., 4 red flashes 1.5 sec. each, 3 eclipses 3.5 sec. each, 1 eclipse 1.2 sec. SIREN, 1st-cl. air: Blast 2 sec., silent 18 sec.	White cylindrical tower attached to fog-signal building. 35	1899 1905
20 200 mm a		Flash 0.3 sec.....	Red pyramidal skeleton tower on concrete base.	1905 923

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1257	JOHNS-MANVILLE INTAKE CRIB. U. Fl. W., 6 sec.	On crib-----		Feet 38	8
1258	KENOSHA BREAKWATER. U. Fl. R., 3 sec.	On southeast end of break-water.	Wis.	42	6
1259	Kenosha.----- Gp. Occ. R., 30 sec. 2 eclipses.	On end of north pier, about 250 yards, 263½° from preceding.	87 48	50	14
1260	Racine Reef West End Gas Buoy 1. Fl. W., 3 sec.	In 19 feet, on end of reef---		10	8
1261	Racine Reef.----- Fl. R., 5 sec.	On east side of reef-----	87 44	72	16
1262	RACINE SOUTH BREAKWATER. U. Fl. W., 3 sec.	On lakeward end of break-water.		42	10
1263	RACINE NORTH BREAKWATER. U. F. R.	On lakeward end of break-water.	87 46	53	14
1264	RACINE NORTH PIERHEAD.----- F. R.	On stub end of pier-----		31	-----
1265	Wind Point (Racine Point) --- Fl. W., 30 sec.	On Wind Point-----	87 46	111	19
1266	Wind Point North Shoals Gas Buoy 14. Fl. W., 3 sec.	In 22 feet, on southeast end of shoals.		10	8
1267	Milwaukee South Point Gas and Bell Buoy 1. Fl. W., 3 sec.	In 20 feet, on northeast point of shoal, 3.6 miles 141° from Milwaukee Breakwater Light.		10	8
1268	MILWAUKEE LIGHTSHIP.----- Gp. Occ. W., 15 sec. 4 eclipses.	In 50 feet, 2.4 miles 91° from Milwaukee Breakwater Light.		45	14

WISCONSIN

12TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
65 200 mm a	Flash 1 sec. Maintained by Johns-Manville (Inc.).	Feet White pyramidal skeleton tower on crib.	Year 1923
20 200 mm a	Flash 0.3 sec.-----	Red octagonal skeleton tower, inclosed base, on concrete base.	1900 1921
1,000 5 ei	Eclipse 1.5 sec., light 5 sec., eclipse 1.5 sec., light 22 sec. DIAPHONE, air; gp 3 blasts every 30 sec.: 3 blasts 1 sec. each, 2 silences 3 sec. each, 1 silence 21 sec.	Red cylindrical tower.	1856 1906
70 200 mm a	Flash 0.3 sec.-----	Black. Spar station buoy.	
25,000 4 ei	Flash 0.4 sec., eclipse 4.6 sec. Light obscured from 81° to 103½°. DIAPHONE, air: Blast 3 sec., silent 27 sec. Whistle, 10-inch steam, if diaphone is disabled. Blast 3 sec., silent 27 sec.	Brown and white octagonal tower on octagonal building on concrete pier.	1906
100 300 mm a	Flash 0.3 sec.-----	White pyramidal skeleton tower.	1917
3,900 4 ei	DIAPHONE, air; gp. 2 blasts every 20 sec.: Blast 1 sec., silent 2 sec., blast 1 sec., silent 16 sec. Bell; gp. 2 strokes every 20 sec., if diaphone is disabled.	Red square pyramidal skeleton tower, upper half inclosed.	1900 1923
420 Pl ei	Coast Guard station. Weather signals near.	Red post.	1916
150,000 3 ei	Flash 3.6 sec., eclipse 26.4 sec. SIREN, 1st-cl. air: Blast 3 sec., silent 57 sec.	White conical tower connected to dwelling.	1880 1910
70 200 mm a	Flash 0.3 sec.-----	Red. Spar station buoy.	
70 200 mm a	Flash 0.3 sec.----- BELL, on buoy.	Black. Spar station buoy.	
1,900 300 mm ei	4 eclipses 1 sec. each, 3 light periods 1 sec. each, 1 light period 8 sec. WHISTLE, 12-inch steam chime; gp. 2 unequal blasts every 60 sec.: Blast 3 sec., silent 7 sec., blast 4 sec., silent 46 sec. Bell, hand, if whistle is disabled.	Red hull, "MILWAUKEE" in white on sides, lantern above circular gallery on mast. Station buoy about 0.1 mile westerly from lightship.	1912

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1265	SOUTH ENTRANCE----- Fl. R., 6 sec. U.	On north side of entrance to gap in breakwater.		Feet 42	8
1269	MILWAUKEE BREAKWATER ENTRANCE SOUTH SIDE. U. Occ. W., 2 sec.	On south breakwater, 10 yards from northerly end.		47	10
1270	MILWAUKEE SOUTH PIER- HEAD. U. Fl. W., 3 sec.	On pier-----		41	8
1271	MILWAUKEE PIERHEAD----- F. R.	On outer end of north pier--- 43 01 87 54		45	14
1272	Milwaukee Breakwater----- Occ. E., 6 sec. Radiobeacon.	On southeast end of north breakwater.		67	16
1273	North Point (Milwaukee)----- F. Fl. W., 30 sec.	On point, 12° 2¼ miles from Milwaukee Breakwater Light. 43 04 87 52		154	18 22
1274	Port Washington Pierhead----- Fl. R., 3 sec.	Near outer end of north pier at mouth of Sauk River. 43 23 87 52		42	8
1275	Sheboygan Breakwater----- Occ. E., 4 sec.	On southeast end of break- water.		55	15
1276	SHEBOYGAN SOUTH PIER- HEAD. U. Fl. W., 3 sec.	On end of pier-----		40	10
1277	SHEBOYGAN NORTH PIER- HEAD. F. R.	On stub end of pier-----		31	----
1278	MANITOWOC SOUTH BREAK- WATER. U. Fl. W., 3 sec.	On end of breakwater-----		41	8
1279	Manitowoc Breakwater----- F. R. Radiobeacon.	On south end of north break- water. 44 06 87 38		52	15
1280	MANITOWOC PIERHEAD----- F. R.	Near end of north pier, 267° from preceding.		42	14

WISCONSIN

12TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
60 300 mm a	Flash 2 sec-----	Feet Red skeleton tower.	Year 1929
190 300 mm a	Light 1 sec., eclipse 1 sec-----	White pyramidal skeleton tower on concrete base.	1926
70 200 mm a	Flash 0.3 sec-----	White pyramidal shaft.	1912
1,700 5 ei	BELL; 1 stroke every 10 sec-----	Red cylindrical tower. 41	1872 1906
5,000 4 ei	Light 4.5 sec., eclipse 1.5 sec----- DIAPHONE, air; gp. 2 blasts every 20 sec.: Blast 1 sec., silent 2 sec., blast 1 sec., silent 16 sec. RADIOBEACON: Transmits gps. of 2 dashes. See p. 256 for time schedule, etc. Submarine cable runs to Mil- waukee Pierhead Light.	Black lantern on red square structure. 25	1926
F. 1,800 Fl. 300,000 4 ei	Fixed light with 1.6 sec. flash every 30 sec.	Buff, red roof, octagonal tower adjacent to dwelling. 74	1855 1928
70 6 a	Flash 0.3 sec----- SIREN, air: Blast 7 sec., silent 23 sec. To sound when vessels in offing. Maintained by city of Port Washington.	Red square pyramidal open framework tower. 41	1849 1899
10,000 3½ ei	Light 3 sec., eclipse 1 sec----- SIREN, 1st-cl. air: Blast 3 sec., silent 27 sec.	Red cylindrical tower. 50	1915
190 300 mm a	Flash 0.3 sec-----	White skeleton tower. 36	1915
240 150 mm ei	Coast Guard station near-----	Red post.	1916
70 200 mm a	Flash 0.3 sec-----	White pyramidal shaft on pedes- tal. 37	1912
2,000 4 ei	DIAPHONE, air; gp. 2 blasts every 20 sec.: Blast 1 sec., silent 1 sec., blast 1 sec., silent 17 sec. Every third minute signal is blast 5 sec., silent 1 sec., blast 1 sec., silent 53 sec. RADIOBEACON: Transmits gps. of 3 dashes. See p. 256 for time schedule, etc.	Red cylindrical tower no fog- signal building.	1895 1918
		DISTANCE FINDING STATION. For method of operation see p. 256.	
1,200 6 ei	-----	Red square pyramidal tower. 27	1840 1907

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1281	TWO RIVERS PIERHEAD----- F. R.	On outer end of north pier---		Feet 35	13
1282	Twin River Point----- F. Fl. W., 30 sec.	On Rawley Point----- 44 13 87 31		113	19
1283	Kewaunee Shoal Gas and Bell Buoy 1. Fl. W., 3 sec.	In 18 feet, on shoal 1.2 miles 112° from end of south pier.		10	8
1284	Kewaunee Pierhead----- F. W. Radiobeacon.	On outer end of south pier--- 44 27 87 30		43	14
1285	RANGE { KEWAUNEE FRONT----- Fl. R., 3 sec. U.	On north pier, 10 yards from outer end.		40	6
1286		RANGE { KEWAUNEE REAR----- F. R.	On shore end of south pier, 505 yards 284½° from pre- ceding.		62
1287	RANGE { ALGOMA PIERHEAD FRONT----- F. R.	On end of north pier-----		22	4
1288		RANGE { Algoma Pierhead Rear----- F. R.	On north pier, 33 yards 316¼° from preceding. 44 36 87 26		37
1289	Sturgeon Bay Canal Pierhead. F. R. Radiobeacon.	On end of north pier----- 44 48 87 19		40	10
1290	Sturgeon Bay Canal----- Fl. Alt. W. and R., 20 sec.	On the north side of entrance to canal from Harbor of Refuge. 44 48 87 19		107	19
STURGEON BAY CANAL					
1291	SOUTHEAST ENTRANCE, NORTHEAST SIDE 1. F. R.	On northeast side of entrance to canal from Harbor of Refuge. 44 48 87 19		11	-----
1292	NORTHWEST ENTRANCE 3----- Fl. R., 3 sec. U.	2,066 yards northwest from Light No. 1.		19	-----
1293	NORTHWEST ENTRANCE TO CUT 4. Fl. W., 3 sec. U.	1,833 yards northwest from Light No. 3.		21	-----

WISCONSIN AND MICHIGAN

12TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
850 6 ei	DIAPHONE, air: Blast 1 sec., silent 14 sec.	Feet Red square pyramidal frame- work tower. 34	Year 1886 1928
F. 2,900 Fl. 240,000 3 ei	Fixed light with 6 sec. flash every 30 sec. DIAPHONE, air: Blast 4 sec., silent 56 sec.	White octagonal skeleton tower inclosing stair cylinder. 111	1883 1894
70 200 mm a	Flash 0.3 sec----- BELL, on buoy.	Black. Spar station buoy.	
5,000 5 ei	DIAPHONE, air: Blast 2 sec., silent 18 sec. RADIOBEACON: Transmits gps. 2 dashes, 1 dot. See p. 256 for time schedule, etc.	White square pyramidal tower, upper part inclosed; connected to fog-signal building. 43	1891 1912
20 200 mm a	Flash 0.3 sec-----	Red pyramidal skeleton tower. 35	1913
220 Ll ei	Coast Guard station. Weather signals near.	Red pyramidal skeleton tower. 61	1889 1917
480 Pl ei	-----	Red post. 18	1893 1909
1,500 5 ei	SIREN, air: Blast 10 sec., silent 10 sec.	Red square pyramidal tower. 34	1893 1909
1,500 5 ei	WHISTLE, 10-inch steam: Blast 5 sec., silent 25 sec. RADIOBEACON: Transmits gps. of 3 dashes, 1 dot. See p. 256 for time schedule, etc.	Red cylindrical tower attached to fog-signal building. 39	1882 1903
W. 240,000 R. 72,000 3 ei	White flash 1.3 sec., eclipse 8.7 sec., red flash 1.3 sec., eclipse 8.7 sec.	White cylindrical tower. 98 Coast Guard station near.	1899 1903
50 Ll o	-----	Red square inclosed wooden structure. 12	1896
35 300 mm a	Flash 0.3 sec-----	Red square pyramidal skeleton on pier. 15	1896 1916
70 200 mm a	Flash 0.3 sec-----	White square pyramidal skele- ton on crib. 15	1896 1916

LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1294	BAILEYS HARBOR FRONT. F. W. U.	On north shore of harbor		Feet 21	10
1295	BAILEYS HARBOR REAR. F. W. U.	317 yards	339½° from pre- ceding.	36	12
		45 04	87 07		
1296	Cana Island F. W.	On island, between Baileys Harbor and North Bay.		80	17
	WINTER LIGHT Fl. W., 6 sec. U.	45 05	87 21		
1297	Outer Shoal Gas and Bell Buoy 1. Fl. W., 3 sec.	In 23 feet, off southeast point of shoal, south of entrance to Porte des Morts Passage. Wis.		10	8
1298	Pilot Island F. Fl. W., 15 sec.	On island, in Porte des Morts Passage entrance to Green Bay. Wis.		48	14
		45 17	86 55		
1298.5	Waverly Shoal Gas and Bell Buoy 5. Fl. W., 6 sec.	In 21 feet		10	8
1299	PLUM ISLAND FRONT. F. R.	On southwest side of island		36	13
1300	Plum Island Rear F. R.	550 yards	330° 54' from pre- ceding.	80	16
		45 18	86 57		
1301	Detroit Harbor Gas and Bell Buoy. Fl. W., 3 sec.	In 20 feet, in entrance to har- bor from Detroit Island Passage. Wis.		10	8
		45 20	86 56		
1302	DETROIT HARBOR Fl. R., 3 sec. U.	In 7 feet, on east side near north end of channel.		10	6
1303	Fisherman Shoal Gas and Bell Buoy 6. Fl. W., 3 sec.	In 36 feet, on southeast part of shoal. Wis.		10	8
1304	Pottawatomie F. W.	On northwest point of Rock Island. Wis.		159	18
		45 26	86 50		
1305	Rock Island Passage Gas Buoy 2. Fl. R., 3 sec.	In 34 feet, on southeast point shoal. Wis.		8	6

WISCONSIN AND MICHIGAN

12TH DIST.

Candlepower	Light characteristic	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
4,400		Feet	Year
300 mm ei		White square tower.	1870
		21	
4,400		White square tower attached to dwelling.	1853
5 ei		30	1870
7,300		Yellow conical tower connected to dwelling.	1870
3 lov	Winter light, flash 1 sec., begin- ning when station is closed for winter.	86	1902
2,000			
3 a			
70	Flash 0.3 sec.	Black.	Spar station buoy.
200 mm a	BELL, on buoy.		
F. 1,700	Fixed light with 1 sec. flash every 15 sec.	Yellow, red roofs, square tower attached to dwelling.	1850
Fl. 17,000	SIREN, 1st-cl. air: Blast 3 sec., silent 27 sec.	41	1858
4 lov			
70	Flash 1 sec.	Black.	
200 mm a	BELL, on buoy.		
750		White, square base, octagonal top.	1897
Rf o		21	
870	WHISTLE, 10-inch steam: Blast 3 sec., silent 17 sec.	White square pyramidal skeleton tower.	1897
4 lov		65	
70	Flash 0.3 sec.	Black and white vertical stripes.	Spar station buoy.
200 mm a	BELL, on buoy.		
10	Flash 0.3 sec.	Unpainted pile cluster.	1930
150 mm ei			
70	Flash 0.3 sec.	Red.	Spar station buoy.
200 mm a	BELL, on buoy.		
1,700		Gray square tower attached to dwelling.	1837
4 lov		41	1858
20	Flash 0.3 sec.	Red.	Spar station buoy.
200 mm a			

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
WEST SIDE					
1306	St. Martin Island..... Fl. Alt. R. and W., 10 sec. Radiobeacon.	On northeast end of island..... 45 30	Mich. 86 46	Feet 84	17
1307	Little Gull Island Gas and Bell Buoy 2. Fl. W., 3 sec.	In 54 feet, off south point of shoal.	Mich.	10	8
NORTH END					
1308	Poverty Island..... Fl. R., 10 sec. WINTER LIGHT..... Fl. W., 10 sec. U.	On south part of island..... 45 31	Mich. 86 40	80 80	17 10
1309	Wiggins Point Shoal Gas and Bell Buoy 4. Fl. W., 3 sec.	In 30 feet, on east end of shoal off point.	Mich.	10	8
1310	MANISTIQUE WEST BREAK- WATER..... Fl. W., 3 sec. U.	On south end of breakwater..... Mich.		36	10
1311	MANISTIQUE WEST PIERHEAD..... Fl. W., 1 sec. U.	On south end of pier.....		24	9
1312	MANISTIQUE..... F. R. Radiobeacon.	On east breakwater, near outer end. Radiobeacon is on shore end of breakwater, 480 yards 35° from lighthouse.		50	14
1313	Seul Choix Pointe..... Gp. Fl. W., 15 sec. 2 flashes.	On end of point..... 45 55	85 55	80	17
1314	Boulder Reef Gas and Whis- tle Buoy. Fl. W., 3 sec.	In 33 feet, 0.2 mile south from shoalest point of reef.		14	8
1315	GULL ISLAND..... Fl. W., 10 sec. U.	On dry shoal northwesterly from Gull Island. 45 43	85 50	77	16

Candlepower	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
24,000 4 iov	Red flash 0.2 sec., eclipse 4.8 sec., white flash 0.2 sec., eclipse 4.8 sec. Light is visible from 315° to 180°, dark sector covering island. WHISTLE, 10-inch steam: Blast 3 sec., silent 27 sec. RADIOBEACON: Transmits gps. of 1 dash, 1 dot, 1 dash, 1 dot. See p. 256 for time schedule, etc.	Feet White hexagonal tower. 75	Year 1905
70 200 mm a	Flash 0.3 sec..... BELL, on buoy.	Red. Spar station buoy.	
1,900 4 iov 100 300 mm a	Flash 2.5 sec., eclipse 7.5 sec. Winter light, flash 1 sec., shown throughout winter. DIAPHONE, air; gp. 2 blasts every 30 sec.: Blast 1.5 sec., si- lent 2 sec., blast 1.5 sec., silent 25 sec.	White, red roofs, conical tower connected to dwelling. 70	1874 1921
70 200 mm a	Flash 0.3 sec..... BELL, on buoy.	Red. Spar station buoy.	
120 300 mm a	Flash 0.3 sec.....	White skeleton tower.	1914
120 200 mm a	Flash 0.1 sec.....	White pyramidal tower, inclosed base.	1914 1925
2,000 4 ei	DIAPHONE, air: Blast 2 sec., silent 18 sec. RADIOBEACON: Transmits gps. of 1 dot, 1 dash, 1 dot, 1 dash. See p. 256 for time schedule, etc.	Red square pyramidal tower on concrete base.	1915 1916
18,000 3 ei	Flash 3 sec., eclipse 2 sec., flash 3 sec., eclipse 7 sec. DIAPHONE, air; gp. 2 blasts every 30 sec.: Blast 1.5 sec., si- lent 2 sec., blast 1.5 sec., silent 25 sec.	White conical tower connected to red brick dwelling. 77	1892 1895
70 200 mm a	Flash 0.3 sec..... WHISTLE, on buoy.	Red and black horizontal bands. Spar station buoy.	
1,000 4 a	Flash 1 sec.....	Black skeleton tower on concrete base.	1928

LAKE MICHIGAN AND GREEN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
NORTH END					
1316	Lansing Shoal.----- Occ. W., 15 sec. Radiobeacon.	In 25 feet, south of shoal.----- 45 54	85 34	Feet 69	16
	WINTER LIGHT.----- Fl. W., 15 sec. U.			69	15
1317	Garden Island Shoal Gas and Bell Buoy G1. Fl. W., 3 sec.	In 22 feet, marks northeast- erly end of easterly shoal.		10	8
GREEN BAY, NORTH END					
1318	NAHMA.----- F. W.	On outer end of dock N-O, east of mouth of Sturgeon River.		25	6
NORTH END					
1319	ELEVEN-FOOT SHOAL LIGHTSHIP. F. W.	In 60 feet, to southward and westward of Corona and Eleven-Foot Shoals. 45 37	87 00	40	13
1319.5	Minneapolis Shoal Gas and Bell Buoy. Fl. W., 3 sec.	In 18 feet.-----		11	8
1320	Ford River Shoal Gas Buoy 1. Fl. W., 3 sec.	In 21 feet, marks southeast- erly point of shoal.		10	8
1321	Point Peninsula.----- Fl. W., 10 sec. U.	On south end of point.----- 45 40	86 58	40	12
1322	ESCANABA.----- F. R.	Near end of Sand Point, west side of Little Bay de Noc.		44	14
1324	Little Bay de Noc Shoal Gas Buoy 8. Fl. W., 3 sec.	In 20 feet, southwest point of shoal. Mich. 45 46	87 01	10	8
1325	SQUAW POINT.----- Fl. W., R. sector, 4 sec. U.	On west end of point. Mich. 45 50	87 00	40	13
1326	Saunders Point Gas Buoy 5.----- Fl. W., 3 sec.	In 36 feet.-----		10	8
1327	CEDAR RIVER PIERHEAD.----- Fl. W., 3 sec. U.	On outer end of west pier Mich. 45 24	87 21	38	10
1328	Whaleback Shoal East End Gas and Bell Buoy 4. W., 5 sec.	In 18 feet, on southeast point of shoal. Wis.		12	8

MICHIGAN AND WISCONSIN

12th Dist.

Candlepower	Apparatus Illuminat	Light characteristic Fog signal	Structure, vessel or buoy	
			Top of lantern above ground	Established Rebuilt
35,000 3 ei 650 3 a		Light 10 sec., eclipse 5 sec. Winter light, flash 1.5 sec. DIAPHONE, air: Blast 2 sec., silent 18 sec. RADIOBEACON: Transmits gps. of 2 dashes and 2 dots. See p. 256 for time schedule, etc.	Feet 81	Year 1928
70 200 mm a		Flash 0.3 sec.----- BELL, on buoy.		Red and black horizontal bands. Spar station buoy.
20 Pl o		Maintained by Bay de Noquet Co., Nahama, Mich.		Unpainted post. 1882
480 375 mm a		WHISTLE, 10-inch steam: Blast 3 sec., silent 17 sec.		Red hull, "11 FOOT" on sides, black lantern with gallery on red tubular mast, black stack. Station buoy, 0.1 mile north- northwesterly from lightship. 1882
70 200 mm a		Flash 0.3 sec.----- BELL on buoy.		Red and black horizontal bands.
70 200 mm a		Flash 0.3 sec.-----		Black. Spar station buoy.
230 300 mm a		Flash 1 sec.-----		Yellow, red roofs, square tower attached to dwelling. 1865 38 1902
2,000 4 ei		BELL; 1 stroke every 15 sec.-----		White, red roofs, square tower attached to dwelling. 1868 44
70 200 mm a		Flash 0.3 sec.-----		Red. Spar station buoy.
W. 350 R. 100 6 a		Flash 1 sec. Red eastward of 26° covers shoals southward of point.		Buff octagonal tower. 1897 38
100 200 mm ei		Flash 0.3 sec.-----		Black. Spar station buoy.
190 300 mm a		Flash 0.3 sec.-----		White square pyramidal skele- ton tower. 1889 38 1922
70 200 mm a		Flash 1 sec.----- BELL, on buoy.		Red. Spar station buoy.

GREEN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH END					
1329	EAGLE BLUFF ----- Fl. W., 5 sec. U.	On west point of bluff.	Wis. 87 14	<i>Feet</i> 76	13
1330	<i>Strawberry Channel Southeast Gas and Bell Buoy 6.</i> Fl. R., 3 sec.	In 13 feet, on west side of channel, 1.6 miles southerly from Eagle Bluff Lighthouse.			6
1331	CHAMBERS ISLAND ----- F. Fl. W., 30 sec.	On west point of small bay, north side of island.	Wis.	68	16
	WINTER LIGHT ----- Fl. W., 3 sec. U.			68	8
1332	<i>Chambers Island West Shoal Gas and Bell Buoy 3.</i> Fl. W., 3 sec.	In 24 feet, at west end of shoal.	Wis.	10	8
1333	RANGE { MENOMINEE PIERHEAD FRONT. F. R.	On north pier-----	Mich. 87 35	46	14
1334		{ MENOMINEE PIERHEAD REAR. F. R.	248 yards 245° from preceding.		59
1335	<i>Green Island Shoal Gas Buoy 1.</i> Fl. W., 10 sec.	In 18 feet, on west point of shoal.		13	8
1336	GREEN ISLAND ----- F. W.	On island, near southeast point.	Wis.	57	15
	WINTER LIGHT ----- Fl. W., 10 sec. U.				8
1337	PESHIGO REEF LIGHTSHIP. F. W.	In 72 feet, off southeast point of reef.	Wis. 87 34	25	12
1337.5	<i>Sherwood Point Shoal Lighted Bell Buoy.</i> Fl. W., 3 sec. STURGEON BAY, WIS.	In 20 feet on northerly side of shoal.		9	9
1338	SHERWOOD POINT ----- Occ. R., 10 sec.	On south side of west entrance to bay.	Wis. 87 26	61	15
1339	STURGEON BAY ----- Fl. W., 5 sec. U.	In 18 feet, on each side of channel.		34	10
1340	<i>Hills Point Gas Buoy 3.</i> Fl. W., 3 sec.	In 20 feet, on east side of dredged channel.		13	8

WISCONSIN AND MICHIGAN

12TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
340 5 a	Flash 0.5 sec.-----	<i>Feet</i> Yellow, red roof, square tower attached to dwelling. 43	<i>Year</i> 1868 1909
20 200 mm a	Flash 0.3 sec.----- BELL , on buoy.	Red. Spar station buoy.	
F. 1,700 Fl. 14,000 4 iov	Fixed light with 2 sec. flash every 30 sec.	Yellow octagonal tower attached to dwelling. 42	1868
120 200 mm a	Winter light, flash 0.3 sec.-----		
70 200 mm a	Flash 0.3 sec.----- BELL , on buoy.	Black. Spar station buoy.	
4,500 4 ei	DIAPHONE , air: Blast 3 sec., silent 27 sec.	Red octagonal tower on square concrete base. 34	1877 1927
8,500 Rf ei	-----	Red skeleton tower.	1916
70 200 mm a	Flash 1 sec.-----	Black, spar-shaped. Sparstation buoy.	
1,700 4 iov	-----	Yellow square tower attached to dwelling. 48	1863 1899
70 200 mm a	Winter light shown entire winter. Flash 1 sec.		
320 Ll o	WHISTLE , 8-inch air, chime: Blast 2 sec., silent 18 sec.	Black hull, "PESHIGO" on sides, 2 masts, black circular grating at foremast head. Station buoy, 0.1 mile northwesterly from lightship.	1906
120 200 mm a	Flash 0.4 sec.----- BELL , on buoy,	Red and black horizontal bands.	
3,600 4 ei	Light 5 sec., eclipse 5 sec.----- BELL ; 1 stroke every 12 sec.	Red square tower attached to dwelling. 35	1883
190 300 mm a	Flash 1 sec.-----	White pyramidal skeleton tower. 1925 1928	
70 200 mm a	Flash 0.3 sec.-----	Black, spar-shaped. Sparstation buoy.	

GREEN BAY

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH END					
1341	HILLS POINT Fl. R., 3 sec. U.	On point, close to shore line.		Feet 40	8
1342	DUNLAP REEF NORTHWEST END. U. Fl. R., 3 sec.	In 12 feet, on north end of shoal.		23	8
1342.5	West Bank Lighted Buoy 6 Fl. R., 3 sec.	In 18 feet.		11	6
1343	Oconto Harbor Gas and Bell Buoy 1. Fl. W., 3 sec.	In 20 feet, at turn, entrance to harbor.		10	8
1344	OCONTO HARBOR SOUTH PIER- HEAD. U. Fl. W., 4 sec.	On east end of pier. Wis. 44 54 87 49		31	11
SOUTH SIDE					
1345	Green Bay Harbor Entrance Gas and Bell Buoy 1. Fl. W., 3 sec.	In 21 feet.		12	10
1346	East Bank Gas Buoy 7 Fl. W., 3 sec.	In 21 feet, off west end of 18-foot shoal, 2.7 miles 48° from Tail Point Lighthouse. Wis.		13	8
1347	West Bank Elbow Gas and Bell Buoy 14. Fl. R., 3 sec.	In 21 feet, at turning point, entering channel leading to Fox River.		10	6
1348	TAIL POINT F. W.	In 10 feet, west side of channel. 44 35 87 59		38	13
1349	East Bank Elbow Gas Buoy 17. Fl. W., 3 sec.	In 18 feet, on east side of turn in channel.		13	8
1350	West Bank Gas Buoy 22 Fl. R., 3 sec.	In 20 feet, at elbow of dredged channel.		13	6
1351	GRASSY ISLAND LOWER F. W.	On north end of channel pier. 44 34 88 00		27	12
1352	GRASSY ISLAND UPPER F. W.	On south end of channel pier.		34	12
1353	ELBOW, 29 Fl. W., 3 sec. U.	On east bank of channel.		21	10
1354	West Bank Gas Buoy 36 Fl. R., 3 sec.	In 18 feet, at elbow of channel.		8	6

WISCONSIN

12TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
70 300 mm a	Flash 0.3 sec.	Feet Red pyramidal skeleton tower.	Year 1924
70 300 mm a	Flash 0.3 sec.	Red pyramidal skeleton tower, cylindrical base.	
35 150 mm ei	Flash 0.3 sec.	Red.	
70 200 mm a	Flash 0.3 sec. BELL, on buoy.	Black. Spar station buoy.	
200 300 mm a	Flash 1 sec.	White pyramidal skeleton tower on concrete base. 26	1915
280 300 mm a	Flash 0.3 sec. BELL, on buoy.	Black. Spar station buoy.	
70 200 mm a	Flash 0.3 sec.	Black spar-shaped. Spar station buoy.	
20 200 mm a	Flash 0.3 sec. BELL on buoy.	Red. Spar station buoy.	
1,700 4 iov	WHISTLE, 5-inch air: Blast 2 sec., silent 18 sec.	Buff red roof, cylindrical lantern on dwelling, on crib. 36	1848 1899
70 200 mm a	Flash 0.3 sec.	Black, spar-shaped. Spar station buoy.	
20 200 mm a	Flash 0.3 sec.	Red, spar-shaped. Spar station buoy.	
260 6 o		White square pyramidal tower. 26	1872 1907
260 6 o		White square pyramidal tower. 33	1872 1907
120 300 mm a	Flash 1 sec.	White pyramidal skeleton tower on square base.	1898 1930
20 200 mm a	Flash 0.3 sec.	Red. Spar station buoy.	

FOX AND WOLF RIVERS

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
SOUTH SIDE					
1355	MURPHY'S DOCK 37..... Fl. W., 3 sec. U.	On east side of mouth of Fox River.		Feet 22	8
FOX RIVER					
1356	RAPIDE CROCHE CANAL..... F. W. U.	On south side of entrance to canal.		28	10
1357	Menasha River Lower Float..... Fl. R., 3 sec.	On west side of entrance to dredged channel to Menasha Lock, Little Lake Buttes des Morts.		19	7
1358	Menasha River Upper Float..... Fl. R., 3 sec.	In northwest end of lake..... 44 12 88 12		19	8
1359	RANGE } NEENAH CHANNEL FRONT..... F. G. U.	In 4 feet.....		7	
1360		RANGE } NEENAH CHANNEL REAR..... F. G. U.	In 4 feet; 500 yards 270° from preceding.		10
LAKE WINNEBAGO					
1361	ROCKWELL..... F. E.	On point of land on northerly side of entrance to Fox River.		26	0
FOX AND WOLF RIVERS					
1361.5	Big Lake des Morts Lighted Buoy 2. Fl. R., 3 sec.	In 10 feet.....		5	
1361.6	Sunset Point Lighted Buoy 1..... Fl. W., 3 sec.	In 10 feet.....		5	
1362	RANGE } Butte des Morts Bar Front Float Light. Fl. W., 3 sec.	Near edge of channel.....		8	
1363		RANGE } Butte des Morts Bar Rear Float Light. Fl. W., 3 sec.	267 yards 281° from preced- ing.		8
1364	Wolf River Entrance Float Light 1. Fl. W., 3 sec.		In 10 feet, on southeast side of junction of Fox and Wolf Rivers.		6
1365	RANGE } Old River Bar Front Float Light. Fl. W., 3 sec.	In Lake Poygan, near edge of channel, entrance to Wolf River.		8	
1366		RANGE } Old River Bar Rear Float Light. Fl. W., 3 sec.	267 yards 33¾° from preced- ing.		8

WISCONSIN

12TH DIST.

Candlepower Apparatus Illuminant	Light characteristic Fog signal	Structure, vessel or buoy	
		Top of lantern above ground	Established Rebuilt
70 200 mm a	Flash 0.3 sec.....	Feet White pyramidal skeleton tower on cylindrical base.	Year 1898 1930
1,200 Ll ei	-----	White pyramidal tower, inclosed base.	1925
35 Ll a	Flash 0.3 sec.....	White post on square wood float.	
50 Ll a	Flash 0.3 sec.....	White post on square wood float.	
25	-----	White pyramidal skeleton tower.	1926
25	-----	White pyramidal skeleton tower.	1926
80 ei	Maintained by Cook & Brown Lime Co.	Octagonal concrete tower.	1923
10 150 mm ei	Flash 0.3 sec.....	Red.	
40 150 mm ei	Flash 0.3 sec.....	Black.	
30 150 mm a	Flash 0.3 sec.....	White rectangular house on wooden float.	
30 150 mm a	Flash 0.3 sec.....	White rectangular house on wooden float.	
30 150 mm a	Flash 0.3 sec.....	Black rectangular house on wooden float.	
30 150 mm a	Flash 0.3 sec.....	White rectangular house on wooden float.	
30 150 mm a	Flash 0.3 sec.....	White rectangular house on wooden float.	

BUOYS AND DAYMARKS

BUOYS, ETC.

ST. LAWRENCE RIVER

N. Y., 10TH DIST.

Name; mark on aid	Description	Location—Depth
WADDINGTON HARBOR APPROACH		
<i>Channel Buoy 2</i>	Red; 3d-cl. spar.....	In 16 feet
<i>Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 16 feet.
<i>Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 16 feet.
OGDENSBURG HARBOR		
<i>Middle Entrance Buoy 2</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Ogdensburg Shoal Buoy 1</i>	Black; 3d-cl. spar.....	In 27 feet
<i>Lighthouse Buoy 4</i>	Red; 4th-cl. spar.....	In 18 feet.
<i>East Buoy 3</i>	Black; 4th-cl. spar.....	In 19 feet.
<i>Inner Buoy 5</i>	Black; 2d-cl. can.....	In 19 feet.
MAIN CHANNEL		
<i>Cole Ferry Shoal Buoy 3</i>	Black; 4th-cl. spar.....	On southeast side of channel; marks 5-foot shoal. In 16 feet.
<i>Mid-Channel Reef Buoy</i>	Red and black horizontal bands; 4th-cl. spar.	In 14 feet.
<i>Oak Point Shoal Buoy 6</i>	Black; 3d-cl. spar.....	About 0.2 mile off Whaleback Shoal. In 14 feet.
<i>Whaleback Shoal Buoy 9</i>	Black; 3d-cl. spar.....	About 0.3 mile from Cross Over Island Lighthouse. In 17 feet.
<i>Cross Over Buoy 2</i>	Red; 3d-cl. spar.....	Marks place at which to leave Cole Shoal (Canadian) Range line. In 14 feet.
<i>Scow Island Shoal Buoy 18</i>	Black; 4th-cl. spar.....	Marks outer shoal. In 13 feet.
<i>Ironsides Shoal Buoy 17</i>	Black; 4th-cl. spar.....	On northwest side of shoal. In 20 feet.
<i>Frontenac Shoal Buoy 6</i>	Red; 4th-cl. spar.....	On southeast edge of shoal, opposite Alexandria Bay. In 16 feet.
<i>Broadway Shoal Buoy</i>	Red and black horizontal bands; 3d-cl. spar.	On north end of shoal. In 16 feet.
<i>Pullman Shoal Buoy 8</i>	Red; 4th-cl. spar.....	On east edge of shoal. In 14 feet.
<i>Niagara Shoal Buoy 23</i>	Black; 4th-cl. spar.....	In 14 feet.
<i>Masons Point Buoy 23 A</i>	Black; 3d-cl. spar.....	On north side of shoal north of Masons Point. In 20 feet.
<i>Hinckley Point Spit Buoy 14</i>	Red; 3d-cl. nun (s).....	Opposite southwest point of Carleton Island. In 18 feet.
CARLETON ISLAND SOUTH CHANNEL		
<i>Lower Buoy 1</i>	Black; 4th-cl. spar.....	About 1.9 miles west of east end of Carleton Island. In 16 feet.
<i>Upper Buoy 5</i>	Black; 4th-cl. spar.....	Opposite west end of Carleton Island. In 16 feet.

Name; mark on aid	Description	Location—Depth
EAST END		
<i>Charity Shoal Buoy 1</i>	Black; 3d-cl. spar.....	On west side of shoal. In 24 feet.
<i>East Charity Shoal Bell Buoy 2</i>	Red.....	In 20 feet.
<i>Calf Island Spit Buoy 5</i>	Black; 2d-cl. can.....	In 18 feet.
SOUTH SIDE		
<i>Ford Shoal Bell Buoy 7</i>	Black.....	In 25 feet.
SODUS BAY		
<i>Sodus Bay Entrance Buoy 1</i>	Black; 3d-cl. spar.....	In 19 feet.
<i>Sodus Bay Entrance Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Sodus Bay Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Sodus Bay Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Pennsylvania Dock Channel Buoy 2</i>	Red; 3d-cl. spar.....	Maintained by Pennsylvania Railroad Co. In 18 feet.
<i>Pennsylvania Dock Channel Buoy 1</i>	Black; 3d-cl. spar.....	
<i>Pennsylvania Dock Channel Buoy 4</i>	Red; 3d-cl. spar.....	
<i>Pennsylvania Dock Channel Buoy 5</i>	Black; 3d-cl. spar.....	
<i>Pennsylvania Dock Channel Buoy 6</i>	Red; 3d-cl. spar.....	
<i>Pennsylvania Dock Channel Buoy 8</i>	Black; 3d-cl. spar.....	

Name; mark on aid	Description	Location—Depth
BUCK HORN ISLAND CHANNEL		
<i>Buckhorn Island Channel Buoy 1</i>	Black; 4th-cl. spar.....	In 13 feet.
<i>Buckhorn Island Channel Buoy 2</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>Buckhorn Island Channel Buoy 3</i>	Black; 4th-cl. spar.....	In 13 feet.
<i>Buckhorn Island Channel Buoy 4</i>	Red; 4th-cl. spar.....	In 13 feet.
SCHLOSSER CHANNEL		
<i>Schlosser Channel Buoy 1</i>	Black; 4th-cl. spar.....	In 14 feet.
<i>Schlosser Channel Buoy 2</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>Schlosser Channel Buoy 3</i>	Black; 4th-cl. spar.....	In 13 feet.
<i>Schlosser Channel Buoy 4</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>Schlosser Channel Buoy 6</i>	Red; 4th-cl. spar.....	In 13 feet.
WEST CHANNEL		
<i>West Channel Buoy 1</i>	Black; 3d-cl. can (s).....	In 21 feet.
<i>West Channel Buoy 2</i>	Red; 3d-cl. nun (s).....	In 17 feet.
<i>West Channel Buoy 4</i>	Red; 3d-cl. nun (s).....	In 14 feet.
<i>West Channel Buoy 3</i>	Black; 3d-cl. can (s).....	In 15 feet.
<i>West Channel Buoy 5</i>	Black; 3d-cl. can (s).....	In 18 feet.
<i>West Channel Buoy 6</i>	Red; 3d-cl. nun (s).....	In 13 feet.

Name; mark on aid	Description	Location—Depth
WEST CHANNEL		
<i>West Channel Buoy 7</i>	Black; 3d-cl. can (s).....	In 15 feet.
<i>West Channel Buoy 8</i>	Red; 3d-cl. nun (s).....	In 15 feet.
<i>West Channel Buoy 9</i>	Black; 3d-cl. can (s).....	In 15 feet.
CAYUGA ISLAND CHANNEL		
<i>First Buoy 1</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Second Buoy 2</i>	Red; 4th-cl. spar.....	In 12 feet.
<i>Third Buoy 3</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Fourth Buoy 4</i>	Red; 4th-cl. spar.....	In 14 feet.
<i>Fifth Buoy 5</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Sixth Buoy 6</i>	Red; 4th-cl. spar.....	In 13 feet.
TONAWANDA HARBOR		
<i>Turning Basin Buoy 2</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Channel Buoy 1</i>	Black; 3d-cl. can (s).....	In 20 feet.
<i>Channel Buoy 4</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Channel Buoy 3</i>	Black; 3d-cl. can (s).....	In 21 feet.
<i>Channel Buoy 6</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Channel Buoy 8</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Channel Buoy 6</i>	Black; 3d-cl. can (s).....	Abreast preceding. In 21 feet.
<i>Channel Buoy 10</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Channel Buoy 7</i>	Black; 3d-cl. can (s).....	Abreast preceding. In 21 feet.
<i>West Bank Buoy 12</i>	Red; 3d-cl. nun (s).....	At turn. In 21 feet.
TONAWANDA CHANNEL		
<i>Rattlesnake Shoal Buoy 1</i>	Black; 3d-cl. can.....	In 22 feet.
<i>Grand Island Buoy 2</i>	Red; 3d-cl. nun (s).....	Near Grand Island, opposite Wickwire-Spencer Steel Co. In 21 feet.
<i>Strawberry Island Cut Buoy 5</i>	Black; 3d-cl. can (s).....	In 21 feet.
<i>Strawberry Island Beacon</i>	White, octagonal, pyramidal structure.	20 feet high. Maintained by Fix Bros., Buffalo, N. Y.
<i>Strawberry Island Cut Buoy 7</i>	Black; 3d-cl. can (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 4</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 9</i>	Black; 3d-cl. can (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 6</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 11</i>	Black; 3d-cl. can (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 8</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 15</i>	Black; 3d-cl. can (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 10</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 14</i>	Red; 3d-cl. nun (s).....	At angle of dredged channel. In 21 feet.
<i>Strawberry Island Cut Buoy 16</i>	Red; 3d-cl. nun (s).....	In 21 feet.
<i>Strawberry Island Cut Buoy 18</i>	Red; 3d-cl. nun.....	In 21 feet.

Name; mark on aid	Description	Location—Depth
MAIN CHANNEL		
<i>Bird Island Reef Buoy 1</i>	Black; 3d-cl. spar.....	In 14 feet.
<i>Southeast Shoal Buoy 8</i>	Black; 3d-cl. spar.....	In 13 feet.
<i>Middle Reef Buoy 5</i>	Black; 3d-cl. spar.....	In 13 feet.
EMERALD CHANNEL		
<i>Emerald Channel Buoy 8</i>	Red; 2d-cl. nun.....	In 14 feet.

Name; mark on aid	Description	Location—Depth
BUFFALO HARBOR		
<i>Horseshoe Reef Unused Light-house</i>	White; square 1-story tower on masonry pier.	On Middle Reef; 44 feet high. In 6 feet.
<i>North Entrance Buoy 1</i>	Black; 3d-cl. can (s).....	In 22 feet.
<i>Buffalo River Junction Buoy</i>	Red and black horizontal bands; 3d-cl. spar.	In 23 feet.
<i>North Entrance Buoy 4</i>	Red; 3d-cl. spar.....	In 23 feet.
BLACK ROCK CHANNEL		
<i>Entrance Buoy 1</i>	Black; 3d-cl. can (s).....	In 23 feet.
<i>Black Rock Channel Buoy 12</i>	Red; 3d-cl. nun (s).....	In 20 feet.
SOUTH ENTRANCE		
<i>South Entrance Buoy 1</i>	Black; 3d-cl. spar.....	At entrance to Union Ship Canal. In 22 feet.
<i>Buffalo Outer Harbor Buoy 2</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Buffalo Outer Harbor Buoy 3</i>	Black; 3d-cl. spar.....	In 18 feet.
EAST END		
<i>Waverly Shoal Buoy</i>	Red and black horizontal bands; 3d-cl. can (s).	South of 12-foot spot of shoal. In 16 feet.
DUNKIRK HARBOR		
<i>Outer Buoy 2</i>	Red; 2d-cl. nun.....	West side of entrance to dredged channel. In 15 feet.
<i>Pierhead Light Buoy 4</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>Elbow Buoy 6</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>Inner Buoy 8</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>North Bank Buoy 1</i>	Black; 4th-cl. spar.....	In 13 feet.
ERIE HARBOR		
<i>Outer Buoy 2</i>	Red; 3d-cl. nun (s).....	In 20 feet.
<i>North Bank Buoy 4</i>	Red; 3d-cl. nun (s).....	In 15 feet.
<i>South Bank Buoy 3</i>	Black; 3d-cl. can (s).....	In 15 feet.
<i>Middle Buoy 6</i>	Red; 3d-cl. nun (s).....	In 15 feet.
<i>Elbow Buoy 5</i>	Black; 3d-cl. can (s).....	In 18 feet.
<i>Inner Buoy 7</i>	Black; 3d-cl. can (s).....	In 17 feet.
<i>Water Pipe Buoy A, W.P.</i>	Yellow spar.....	In 17 feet.
<i>Water Pipe Buoy B, W.P.</i>	Yellow spar.....	In 22 feet.
<i>Water Pipe Buoy C, W.P.</i>	Yellow spar.....	In 20 feet.

Mark intake water main.
Maintained by city of Erie.

Name; mark on aid	Description	Location—Depth
ASHTABULA HARBOR		
<i>Dock Shoal Buoy 2</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Fairport Unused Lighthouse</i>	Gray, conical tower.....	On bluff, east of river.
CLEVELAND HARBOR		
<i>Euclid Intake Buoy WP</i>	Yellow; spar.....	Marks water Intake. In 13 feet. Maintained by Upson Water Co.
SOUTH SIDE		
<i>Vermilion Crib Buoy</i>	Red and black horizontal bands; spar.	Marks submerged waterworks crib, near entrance to harbor. In 12 feet. Maintained by village of Vermilion.
SANDUSKY BAY		
<i>Entrance Buoy 1</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Outer Bar Buoy 4</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Bar Buoy 8</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>North Shoal Outer Buoy 8</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Jetty Buoy 5</i>	Black; 3d-cl. spar.....	In 16 feet.
<i>North Shoal Inner Buoy 10</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Turning Buoy 14</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Inner Straight Channel Entrance Buoy 6</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Inner Straight Channel Entrance Buoy 18</i>	Red; 3d-cl. spar.....	In 16 feet.
<i>East Bank Buoy 7</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>West Bank Buoy 18</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>East Bank Buoy 9</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>West Bank Buoy 20</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>East Bank Buoy 11</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>West Bank Buoy 22</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>East Bank Buoy 13</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Inner Straight Channel End Buoy 24</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Dock Channel Buoy 28</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Dock Channel Outer Elbow Buoy 32</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Dock Channel Buoy 15</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Dock Channel Buoy 34</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Dock Channel End Buoy 58</i>	Red; 3d-cl. spar.....	In 18 feet.
WEST END		
<i>Kelleys Island Shoal East End Buoy 1</i>	Black; 2d-cl. can.....	In 26 feet.
<i>Kelleys Island Shoal West End Buoy 2</i>	Red; 2d-cl. nun.....	In 26 feet.
<i>Gull Island Shoal Buoy 3</i>	Black; 2d-cl. can.....	In 24 feet.
<i>Ballast Island Outer Channel Buoy 5</i>	Black; 3d-cl. spar.....	East entrance to channel. In 15 feet.
<i>Ballast Island Inner Channel Buoy 7</i>	Black; 3d-cl. spar.....	Near west end of channel. In 16 feet.
<i>Rock Shoal Buoy</i>	Red and black horizontal bands; 3d-cl. can (s)	Southwest of rock; off Carr Point, Kelleys Island. In 20 feet.

Name; mark on aid	Description	Location—Depth
WEST END		
<i>American Eagle Shoal Buoy</i>	Red and black horizontal bands; 3d-cl. can (s)	1.4 miles west of Kelleys Island. In 17 feet.
<i>Kelleys Island Shoal Buoy 2</i>	Red; 3d-cl. nun (s)	On southwest end of shoal. In 18 feet. <i>Do not pass between this and American Eagle Shoal Buoy.</i>
<i>Mouse Island Reef Buoy 5</i>	Black; 2d-cl. can.....	On north side of reef. In 18 feet.
MAUMEE BAY		
<i>Entrance Buoy 2</i>	Red; 2d-cl. nun.....	In 20 feet.
<i>Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Channel Buoy 5</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 9</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 11</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 16</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 15</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 13</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 17</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 19</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 21</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 22</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 24</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 26</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 25</i>	Black; 3d-cl. spar.....	Abreast preceding. In 18 feet.
<i>Channel Buoy 28</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 27</i>	Black; 3d-cl. spar.....	Abreast preceding. In 18 feet.
<i>Channel Buoy 32</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 31</i>	Black; 3d-cl. spar.....	Abreast preceding. In 18 feet.
<i>Channel Buoy 34</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 33</i>	Black; 3d-cl. spar.....	Abreast preceding. In 18 feet.
<i>Channel Buoy 36</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 35</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Channel Buoy 37</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Grassy Point Buoy 40</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Ironville Buoy 39</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Manhattan Buoy 42</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Middle Ground Buoy 44</i>	Red; 3d-cl. spar.....	In 14 feet.

Name; mark on aid	Description	Location—Depth
MAUMEE RIVER		
<i>Shell Dock Channel Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet. Maintained by The Shell Petroleum Corp.
<i>Shell Dock Channel Buoy</i>	Red and black horizontal bands; 3d-cl. spar.	In 20 feet. Maintained by the Shell Petroleum Corp.

Name; mark on aid	Description	Location—Depth
AMHERSTBURG EAST CHANNEL		
<i>East Channel Buoy 1</i>	Black; 3d-cl. spar.....	West side lower entrance. In 20 feet.
<i>East Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>East Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>East Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>East Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>East Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>East Channel Buoy 9</i>	Black; 3d-cl. spar.....	133 yards southeast from Detroit River Lighthouse. In 20 feet.
LIVINGSTONE CHANNEL		
<i>Livingstone Channel Buoy 27</i>	Black; 3d-cl. spar.....	On edge of channel. In 23 feet.
<i>Livingstone Channel Buoy 22</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 25</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 20</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 23</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 18</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 19</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 14</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 17</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 15</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 13</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 11</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 9</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 1</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 5</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>Livingstone Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 23 feet.
WEST CHANNEL		
<i>West Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 20 feet.

Name; mark on aid	Description	Location—Depth
LIVINGSTONE CHANNEL		
WEST CHANNEL		
<i>West Channel Buoy 5</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 2 C</i>	Red; 3d-cl. spar.....	East side, lower end. In 20 feet.
<i>West Channel Buoy 2 B</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 1 B</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 2 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 1 A</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>West Channel Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.
FIGHTING ISLAND CHANNEL		
<i>Fighting Island Channel Buoy 2</i>	Red; 3d-cl. spar.....	On edge of shoal north of Fighting Island South Light. In 22 feet.
<i>Mamajuda Shoal Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	At south end of shoal, junction of fighting Island and Wyandotte channels. In 24 feet.
<i>Fighting Island Channel Buoy 1</i>	Black; 3d-cl. spar.....	On point of shoal south of Mamajuda Light. In 22 feet.
<i>Fighting Island Channel Buoy 5</i>	Black; 3d-cl. spar.....	On west edge of channel. In 22 feet.
<i>Fighting Island Channel Buoy 6</i>	Red; 3d-cl. spar.....	On east edge of channel. In 22 feet.
<i>Fighting Island Channel Buoy 7</i>	Black; 3d-cl. spar.....	On west edge of channel, at north end of shoal. In 22 feet.
<i>Fighting Island Channel Buoy 12</i>	Red; 3d-cl. spar.....	On edge of shoal off north end of island. In 22 feet.
WYANDOTTE CHANNEL		
<i>Wyandotte Channel Buoy 2</i>	Red; 3d-cl. spar.....	About 250 yards 115° from Grosse Isle South Channel Range Front Light. In 21 feet.
<i>Wyandotte Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>Wyandotte Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>Wyandotte Channel Buoy 1</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Grosse Isle Spit Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	At north end of spit and junction of Gibraltar and Wyandotte channels. In 10 feet.
CHANNEL WEST OF GRASSY ISLAND SHOAL		
<i>Mud Island Shoal South Buoy</i>	Red and black horizontal bands; 4th-cl. spar.....	On west side of south entrance to this channel and east side south entrance to channel between Mud Island Shoal and mainland. In 21 feet.
<i>Grassy Island Shoal Northwest Point Buoy 2</i>	Red; 4th-cl. spar.....	East side south of entrance to channel. In 14 feet.
<i>Grassy Island Shoal Northwest Side Buoy 4</i>	Red; 4th-cl. spar.....	In 14 feet.
<i>Mud Island Shoal Buoy 3</i>	Black; 3d-cl. spar.....	At east point of shoal, north side of east entrance to channel. In 19 feet.
<i>Mud Island Shoal North Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	At northeast end of shoal. In 21 feet.
ECORSE CHANNEL		
<i>Mud Island Shoal South Buoy</i>	Red and black horizontal bands; 4th-cl. spar.....	On east side of south entrance to channel. In 21 feet.

Name; mark on aid	Description	Location—Depth
ECORSE CHANNEL		
<i>Buoy 3</i>	Black; 3d-cl. spar.....	On north side of channel. In 21 feet.
<i>Mud Island Shoal North Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	At northeast end of shoal, 100 yards from and abreast of preceding. In 21 feet.
ROUGE RIVER CANAL		
<i>Rouge River Canal Entrance Buoy 4</i>	Red; 3d-cl. spar.....	On north side of canal. In 21 feet.
ABOVE FIGHTING ISLAND		
<i>Third Street Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	In 18 feet.
<i>Randolph Street Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	At upper end of shoal. In 18 feet.
<i>Belle Isle West End Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	In 13 feet.
<i>Scott Middle Ground Lower Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	In 20 feet.
<i>Scott Middle Ground Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Scott Middle Ground Buoy 4</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Scott Middle Ground Buoy 6</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Scott Middle Ground Buoy 8</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Scott Middle Ground Buoy 1</i>	Black; 4th-cl. spar.....	Off easterly end of the Detroit Boat Club Dock. In 12 feet.
<i>Scott Middle Ground Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Scott Middle Ground Buoy 5</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Scott Middle Ground Upper Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	In 12 feet.
<i>Belle Isle North Channel Buoy 1</i>	Black; 3d-cl. spar.....	At west end of channel north of Belle Isl. In 20 feet.

LAKE ST. CLAIR

TWENTY-FOOT CHANNEL		
<i>Lake St. Clair Buoy 3</i>	Black; 3d-cl. can(s).....	In 20 feet
<i>Lake St. Clair Buoy 4</i>	Red; 3d-cl. nun(s).....	In 20 feet.
<i>Lake St. Clair Buoy 5</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>Lake St. Clair Buoy 6</i>	Red; 3d-cl. nun(s).....	In 20 feet.
<i>Lake St. Clair Buoy 7</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>Lake St. Clair Buoy 8</i>	Red; 3d-cl. nun(s).....	In 20 feet.
<i>Lake St. Clair Buoy 13</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>Lake St. Clair Buoy 14</i>	Red; 3d-cl. nun(s).....	In 20 feet.
<i>Lake St. Clair Buoy 16</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>Lake St. Clair Buoy 18</i>	Red; 3d-cl. nun(s).....	In 20 feet.
<i>Lake St. Clair Buoy 17</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>Lake St. Clair Buoy 18</i>	Red; 3d-cl. nun(s).....	In 20 feet.
<i>Lake St. Clair Buoy 21</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>Lake St. Clair Buoy 22</i>	Red; 3d-cl. nun(s).....	In 20 feet.

Name; mark on aid	Description	Location—Depth
TWENTY-FOOT CHANNEL		
<i>Lake St. Clair Buoy 33</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>Lake St. Clair Buoy 36</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Grosse Pointe Dumping Ground Buoy 1</i>	Black; white top; 4th-cl. spar.....	In 10 feet.
<i>Grosse Pointe Dumping Ground Buoy 3</i>	Black, white top; 4th-cl. spar.....	In 10 feet.
<i>Grosse Pointe Dumping Ground Buoy 5</i>	Black; white top; 4th-cl. spar.....	In 11 feet.
<i>Grosse Pointe Dumping Ground Buoy 7</i>	Black, white top; 4th-cl. spar.....	In 15 feet.
<i>Grosse Pointe Dumping Ground Buoy 9</i>	Black, white top; 3d-cl. spar.....	In 16 feet.
<i>Grosse Pointe Dumping Ground Buoy 11</i>	Black, white top; 4th-cl. spar.....	In 14 feet.
<i>Grosse Pointe Dumping Ground Buoy 2</i>	Red, white top; 4th-cl. spar.....	In 13 feet.
<i>Grosse Pointe Dumping Ground Buoy 4</i>	Red, white top; 4th-cl. spar.....	In 13 feet.
<i>Grosse Pointe Dumping Ground Buoy 6</i>	Red; white top; 3d-cl. spar.....	In 15 feet.
<i>Grosse Pointe Dumping Ground Buoy 8</i>	Red, white top; 3d-cl. spar.....	In 15 feet.
<i>Grosse Pointe Dumping Ground Buoy 10</i>	Red, white top; 4th-cl. spar.....	In 13 feet.
ST. CLAIR FLATS CANAL		
DOWNBOUND CHANNEL		
<i>West Channel Buoy 7</i>	Black; 3d-cl. can(s).....	In 20 feet.
<i>West Channel Buoy 5</i>	Black; 3d-cl. can(s).....	In 20 feet.
OLD CHANNEL		
<i>Old Channel Buoy 1</i>	Black; 4th-cl. spar.....	Northwest side of entrance to channel. In 12 feet.
<i>Old Cut Middle Buoy 2</i>	Red; 4th-cl. spar.....	In 11 feet.
<i>Elbow Off Beacon Lower Buoy 4</i>	Red; 4th-cl. spar.....	In 11 feet.
<i>Elbow Off Beacon Middle Buoy 6</i>	Red; 4th-cl. spar.....	In 11 feet.
<i>Elbow Off Beacon Upper Buoy 8</i>	Red; 4th-cl. spar.....	In 11 feet.
<i>Old Channel Buoy 3</i>	Black; 4th-cl. spar.....	On north side of channel. In 12 feet.
<i>Elbow Off Upper End of Ship Canal Upper Buoy 6</i>	Black; 4th-cl. spar.....	In 10 feet.

ST. CLAIR RIVER

<i>East Bank Buoy 2 E</i>	Red; 3d-cl. spar.....	About 0.7 mile above canal. In 20 feet.
<i>Woodtick Island Lower End Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	In 20 feet.
<i>Woodtick Island Upper End Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	Off Marine City. In 20 feet.
<i>Roberts Landing Buoy 1</i>	Black; 3d-cl. spar.....	Marks shoal area. In 24 feet.
<i>St. Clair Shoal Middle Buoy 5</i>	Black; 3d-cl. spar.....	On northeast edge of shoal. In 20 feet.

Name, mark on aid	Description	Location—Depth
<i>St. Clair Middle Ground Lower End Buoy 6</i>	Red; 3d-cl. spar.....	On south end of middle ground. In 20 feet.
<i>Stag Island Shoal Lower Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	In 20 feet.
<i>Stag Island Shoal Buoy 6 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Stag Island Middle Buoy 6 B</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Port Huron Buoy 5</i>	Black; 3d-cl. spar.....	Below Black River. In 22 feet.
<i>Port Huron Buoy 9</i>	Black; 3d-cl. spar.....	In 23 feet.

LAKE HURON

WEST SIDE			
HARBOR BEACH HARBOR OF HURON	<i>Harbor Beach Buoy 1</i>	Black; 3d-cl. spar.....	South Side of basin. In 22 feet.
	<i>Harbor Beach Buoy 3</i>	Black; 3d-cl. spar.....	West side of basin. In 22 feet.
	<i>Harbor Beach Buoy 5</i>	Black; 3d-cl. spar.....	West side of basin. In 22 feet.
	<i>Harbor Beach Buoy 7</i>	Black; 3d-cl. spar.....	In 22 feet.
	<i>Harbor Beach Buoy 9</i>	Black; 3d-cl. spar.....	In 22 feet.
	<i>Harbor Beach Buoy 11</i>	Black; 3d-cl. spar.....	In 22 feet.
<i>Hat Point Reef Shoals Buoy 9 A</i>	Black; 3d-cl. spar.....	North of shoals off Hat Point Reef; about 6 miles 258° from Port Austin Reef Lighthouse. In 24 feet.	
<i>Port Crescent Buoy 4</i>	Red; 3d-cl. spar.....	On easterly side of 20-foot spot east of Flat Rock Point Reef; about 5.4 miles 229° from Port Austin Reef Lighthouse. In 24 feet.	
<i>Twelve-Foot Shoal Buoy 5</i>	Black; 2d-cl. can.....	On north edge of shoal. In 35 feet.	
<i>Charly Island West Shoal Buoy 7</i>	Black; 2d-cl. can.....	On westerly edge of shoal. In 22 feet. Prismatic reflector.	
SAGINAW RIVER APPROACH			
<i>Entrance Buoy 2</i>	Red; 3d-cl. spar.....	In 22 feet.	
<i>Channel Buoy 1 A</i>	Black; 3d-cl. spar.....	In 19 feet.	
<i>Channel Buoy 2 A</i>	Red; 3d-cl. spar.....	In 19 feet.	
<i>Channel Buoy 1 B</i>	Black; 3d-cl. spar.....	In 18 feet.	
<i>Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 18 feet.	
<i>Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 18 feet.	
<i>Channel Buoy 3 A</i>	Black; 3d-cl. spar.....	In 17 feet.	
<i>Channel Buoy 4 A</i>	Red; 3d-cl. spar.....	In 18 feet.	
<i>Channel Buoy 6</i>	Black; 3d-cl. spar.....	In 18 feet.	
<i>Channel Buoy 6 A</i>	Red; 3d-cl. spar.....	In 17 feet.	
<i>Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 18 feet.	
<i>Channel Buoy 9</i>	Black; 3d-cl. spar.....	In 13 feet.	
<i>Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 13 feet.	
<i>Channel Buoy 11</i>	Black; 3d-cl. spar.....	In 13 feet.	
<i>Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 13 feet.	
<i>Channel Buoy 15</i>	Black; 3d-cl. spar.....	In 13 feet.	

Name; mark on aid	Description	Location—Depth
SAGINAW RIVER APPROACH		
<i>Channel Buoy 15</i>	Black; 3d-cl. spar.....	In 13 feet.
<i>Channel Buoy 16</i>	Red; 3d-cl. spar.....	In 13 feet.
<i>Channel Buoy 17</i>	Black; 3d-cl. spar.....	In 13 feet.
<i>Channel Buoy 18</i>	Red; 3d-cl. spar.....	In 13 feet.
<i>Channel Buoy 19</i>	Black; 3d-cl. spar.....	In 13 feet.
<i>Inner Buoy 22</i>	Red; 3d-cl. spar.....	At mouth of River. In 13 feet.
SAGINAW RIVER		
<i>Saginaw River Buoy 23</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Saginaw River Buoy 24</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Saginaw River Buoy 25</i>	Black; 4th-cl. spar.....	In 15 feet.
<i>Saginaw River Buoy 26</i>	Red; 4th-cl. spar.....	In 15 feet.
<i>Saginaw River Buoy 27</i>	Black; 4th-cl. spar.....	In 13 feet.
<i>Saginaw River Buoy 28</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>Saginaw River Buoy 30</i>	Red; 4th-cl. spar.....	In 14 feet.
<i>Saginaw River Buoy 34</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 36</i>	Red; 4th-cl. spar.....	In 15 feet.
<i>Saginaw River Buoy 33</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 38</i>	Red; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 35</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 37</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 43</i>	Red; 4th-cl. spar.....	In 14 feet.
<i>Saginaw River Buoy 39</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 41</i>	Red; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 44</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 43</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 50</i>	Red; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 47</i>	Black; 4th-cl. spar.....	Opposite creek. In 12 feet.
<i>Saginaw River Buoy 52</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 54</i>	Red; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 49 A</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 51 A</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 51</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 56 A</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 53</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 56 B</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 55</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 57</i>	Black; 4th-cl. spar.....	Off middle of island. In 11 feet.
<i>Saginaw River Buoy 60</i>	Red; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 59</i>	Black; 4th-cl. spar.....	In 12 feet.

Name; mark on aid	Description	Location—Depth
SAGINAW RIVER		
<i>Saginaw River Buoy 59 A</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 59 A</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Saginaw River Buoy 64</i>	Red; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 65</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 66</i>	Red; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 67</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Saginaw River Buoy 68</i>	Red; 4th-cl. spar.....	In 12 feet.
<i>Saginaw River Buoy 69</i>	Black; 4th-cl. spar.....	In 14 feet.
<i>Saginaw River Buoy 71</i>	Black; 4th-cl. spar.....	In 14 feet.
<i>Saginaw River Buoy 73</i>	Black; 4th-cl. spar.....	Opposite foot of street. In 12 feet.
WEST SIDE		
<i>Tawas Harbor Buoy 8</i>	Red; 4th-cl. spar.....	Northwest point of shoal. In 10 feet.
<i>Alpena Buoy 2</i>	Red; 3d-cl. spar.....	About 835 yards 125° from Alpena Light. In 15 feet.
<i>Alpena Buoy 1</i>	Black; 3d-cl. spar.....	Abreast Alpena Light, about 45 yards from face of pier. In 15 feet.
<i>East Alpena Channel Buoy 2</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Alpena Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>East Alpena Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Alpena Channel Buoy 5</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>East Alpena Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Alpena Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>East Alpena Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 16 feet.
<i>East Alpena Channel Buoy 9</i>	Black; 3d-cl. spar.....	In 15 feet.
<i>East Alpena Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 14 feet.
<i>East Alpena Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 10 feet.
<i>Middle Island Buoy 12</i>	Red; 2d-cl. nun.....	South end of shoal. In 21 feet.
<i>Middle Island Buoy 14</i>	Red; 3d-cl. spar.....	Northeast end of shoal. In 24 feet.
<i>Spectacle Reef South End Buoy 14</i>	Red; 2d-cl. nun.....	In 20 feet.
NORTHWEST END		
<i>Thirteen-Foot Shoal Buoy</i>	Red and black horizontal bands; 2d-cl. nun.	On Reynolds Reef, between Bois Blanc Island and Spectacle Reef. In 20 feet. Prismatic reflector.
STRAITS OF MACKINAC, SOUTH CHANNEL		
<i>Poe Reef Buoy 2</i>	Red; 3d-cl. spar.....	335 yards 130° from Poe Reef Lighthouse. In 24 feet.
<i>Nineteen-Foot Shoal Buoy 7</i>	Black; 3d-cl. spar.....	In 22 feet.
<i>Cheboygan Shoal Buoy 8</i>	Black; 3d-cl. spar.....	On point of shoal, about 0.8 mile 167° from Cheboygan Lighthouse. In 28 feet.
<i>Fourteen-Foot Shoal Buoy 5</i>	Black; 3d-cl. spar.....	In 24 feet.
<i>Zela Shoal Buoy 16</i>	Red; 2d-cl. nun.....	On west end of shoal. In 20 feet.
<i>Major's Shoal East Buoy 1</i>	Black; 3d-cl. spar.....	On east end of shoal. In 30 feet.

Maintained by Wyandotte Transportation Co.

Name; mark on aid	Description	Location—Depth
NORTH SIDE		
<i>Martin Reef Buoy 1</i>	Black; 3d-cl. spar.....	In 24 feet.
<i>Goose Island Shoal Buoy</i>	Red and black; 2d-cl. can.	West side of shoal, about 7.5 miles north-easterly from Round Island Lighthouse. In 24 feet.
<i>Brulee Point Buoy 11</i>	Black; 3d-cl. spar.....	End of shoal off point; west entrance to Cheneaux Islands. In 16 feet.
<i>Penny Island Point Buoy 13</i>	Black; 3d-cl. spar.....	End of shoal off point, entrance to Scammons Harbor. In 16 feet.

ST. MARYS RIVER

<i>Detour Passage Buoy 2</i>	Red; 3d-cl. spar.....	On southwest side of rocky shoal. In 18 feet.
<i>Detour Shoal Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Sixteen-Foot Shoal Buoy 9</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Nine-Foot Shoal Buoy 6</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Lake Munuscong Buoy 8</i>	Red; 2d-cl. nun.....	In 22 feet.
<i>Lake Munuscong Buoy 2</i>	Red; 3d-cl. spar.....	Marks submerged crib. In 21 feet.
<i>Lake Munuscong Buoy 14</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Lake Munuscong Buoy 18</i>	Red; 3d-cl. spar.....	Off Everens Point. In 20 feet.
<i>Encampment Cut Buoy 4</i>	Red; 3d-cl. spar.....	In 22 feet.
<i>Rains Island Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Encampment Cut Buoy 6</i>	Red; 3d-cl. spar.....	In 22 feet.
<i>Rains Island Buoy 5</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Rains Island Shoal Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Clarks Dock Buoy 13</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Mirre Point Buoy 11</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Munuscong Channel Buoy 17</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Munuscong Channel Buoy 18</i>	Red; 3d-cl. spar.....	Abreast preceding. In 20 feet.
<i>Munuscong Channel Buoy 19</i>	Black; 3d-cl. spar.....	At elbow of channel. In 22 feet.
<i>Munuscong Channel Buoy 20</i>	Red; 3d-cl. spar.....	Abreast preceding. In 22 feet.
<i>Munuscong Channel Buoy 21</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Munuscong Channel Buoy 22</i>	Red; 3d-cl. spar.....	Abreast preceding. In 20 feet.
<i>Munuscong Channel Buoy 25</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Munuscong Channel Buoy 28</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Munuscong Channel Buoy 29</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Munuscong Channel Buoy 29</i>	Black; 3d-cl. spar.....	At turn from Little Mud Lake into Hay Lake Channel. In 22 feet.
MIDDLE NEEBISH CUT		
<i>Harwood Point Buoy</i>	Red and black; horizontal bands; 3d-cl. spar.	Intersection of Middle Neebish and Lake George Channels. In 22 feet.
<i>Middle Neebish Channel Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Middle Neebish Channel Buoy 5</i>	Black; 3d-cl. spar.....	In 22 feet.
<i>Middle Neebish Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Middle Neebish Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 21 feet.

Name; mark on aid	Description	Location—Depth
MIDDLE NEEBISH CUT		
<i>Middle Neebish Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Middle Neebish Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Middle Neebish Channel Buoy 11</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Middle Neebish Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>Middle Neebish Channel Buoy 18</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Middle Neebish Channel Buoy 14</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>Middle Neebish Channel Buoy 16</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Middle Neebish Channel Buoy 17</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Middle Neebish Channel West End Buoy 19</i>	Black; 2d-cl. can.	At turn into Lower Nicolet Lake Cut. In 20 feet.
LAKE NICOLET CUT		
<i>Lake Nicolet Buoy 1</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Lake Nicolet Buoy 3</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Lake Nicolet Buoy 2</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>Lake Nicolet Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Lake Nicolet Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Lake Nicolet Buoy 9</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Lake Nicolet Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Lake Nicolet Buoy 12</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Lake Nicolet Buoy 13</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Nine-Mile Point North Buoy 14</i>	Red; 3d-cl. spar.....	In 22 feet.
<i>Six-Mile Point Buoy 15</i>	Black; 3d-cl. spar.....	At beginning of dredged bank. In 21 feet.
<i>Six-Mile Point Buoy 16</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>Frechette Point Buoy 19</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Frechette Point Buoy 21</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Frechette Point Buoy 20</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>Little Rapids Cut Buoy 23</i>	Black; 2d-cl. can.....	In 21 feet.
<i>Little Rapids Cut Buoy 22</i>	Red; 2d-cl. nun.....	In 23 feet.
<i>North Entrance Crib Buoy 25</i>	Black; 3d-cl. spar.....	In 20 feet.
BELOW CANAL		
<i>Prince Rock Buoy 24</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Brown Point Buoy 27</i>	Black; 3d-cl. spar.....	In 22 feet.
ABOVE CANAL		
<i>Vidal Shoals Channel Range Beacon</i>	White, oval, horizontally slatted daymark.	About 285 yards 255° from Vidal Shoals Channel Range Front Light.
<i>Cross Channel Buoy 1</i>	Black; 3d-cl. spar.....	On northerly point of shoal area. In 25 feet.
<i>Vidal Shoals Channel Buoy 1 B</i>	Black; 3d-cl. spar.....	In 22 feet.
<i>Vidal Shoals Buoy 6</i>	Red spar.....	In 22 feet.
<i>Vidal Shoals Channel Buoy 1 C</i>	Black; 3d-cl. spar.....	In 22 feet.
<i>Water Works Intake Buoy 1 A</i>	Black; 3d-cl. spar.....	In 32 feet.
<i>Pointe aux Pins Buoy 5</i>	Black; 2d-cl. spar.....	In 30 feet.

Name; mark on aid	Description	Location—Depth
ABOVE CANAL		
<i>Middle Ground East End Bell Buoy.</i>	Red and black horizontal bands.	At east end of shoal and near junction of main channel with Bay Mills Channel. In 24 feet.
<i>Middle Ground Northwest Buoy 8.</i>	Red; 3d-cl. spar.....	In 22 feet.
<i>Lower Buoy 10.....</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Upper Buoy 13.....</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Point Froquois Shoal Buoy 13.....</i>	Black; 2d-cl. can.....	Marks northeast edge of shoal. In 21 feet.
WEST NEEBISH CHANNEL (For downbound vessels only.)		
<i>West Neebish Buoy 15.....</i>	Black; 3d-cl. spar.....	Midway between lights Nos. 25 and 23. In 21 feet.
<i>West Neebish Buoy 16.....</i>	Red; 3d-cl. spar.....	Opposite buoy 15. In 21 feet.
<i>West Neebish Buoy 14.....</i>	Red; 3d-cl. spar.....	Opposite light No. 23. In 21 feet.
<i>West Neebish Buoy 12.....</i>	Red; 3d-cl. spar.....	Opposite light No. 21. In 21 feet.
<i>West Neebish Buoy 13.....</i>	Black; 3d-cl. spar.....	Midway between light 21 and temporary buoy 19. In 21 feet.
<i>West Neebish Buoy 10.....</i>	Red 3d-cl. spar.....	Opposite buoy 18. In 21 feet.
<i>West Channel Temporary Buoy 20.</i>	Red; 3d-cl. spar.....	Marks site of gas buoy 20.
<i>West Channel Temporary Buoy 19.</i>	Black; 3d-cl. spar.....	Marks site of gas buoy 19.
<i>West Neebish Buoy 8.....</i>	Red; 3d-cl. spar.....	Midway between gas buoy 20 and light No. 18. In 21 feet.
<i>West Neebish Buoy 11.....</i>	Black; 3d-cl. spar.....	Midway between gas buoy 19 and light No. 17. In 21 feet.
<i>West Neebish Buoy 9.....</i>	Black; 3d-cl. spar.....	Midway between light No. 17 and gas buoy 15. In 21 feet.
<i>West Neebish Buoy 6.....</i>	Red; 3d-cl. spar.....	Midway between light No. 18 and gas buoy 16. In 21 feet.
<i>West Neebish Temporary Buoy 12.</i>	Red; 3d-cl. spar.....	Marks site of gas buoy 12.
<i>West Neebish Temporary Buoy 5 A.</i>	Black; 3d-cl. spar.....	Marks site of gas buoy 5 A.
<i>West Neebish Buoy 7.....</i>	Black; 3d-cl. spar.....	On axis of course No. 2 and lights 13 and 11 in range. In 21 feet.
<i>West Neebish Temporary Buoy 10.</i>	Red; 3d-cl. spar.....	Marks site of gas buoy 16.
<i>West Neebish Temporary Buoy 15.</i>	Black; 3d-cl. spar.....	Marks site of gas buoy 15.
<i>West Neebish Temporary Buoy 14 A.</i>	Red; 3d-cl. spar.....	Marks site of gas buoy 14 A.
<i>West Neebish Buoy 5.....</i>	Black; 3d-cl. spar.....	Opposite light No. 6. In 21 feet.
<i>West Neebish Buoy 4.....</i>	Red; 3d-cl. spar.....	Midway between lights Nos. 6 and 4. In 21 feet.
<i>West Neebish Buoy 3.....</i>	Black; 3d-cl. spar.....	Opposite buoy 4. In 21 feet.
<i>West Neebish Buoy 2 A.....</i>	Red; 3d-cl. spar.....	Midway between light No. 4 and gas buoy No. 2. In 21 feet.
<i>West Neebish Buoy 1.....</i>	Black; 3d-cl. spar.....	Midway between light No. 3 and gas buoy No. 1. In 21 feet.
<i>West Neebish Temporary Buoy 1.</i>	Black; 3d-cl. spar.....	Marks site of gas buoy 1.
<i>West Neebish Temporary Buoy 2.</i>	Red; 3d-cl. spar.....	Marks site of gas buoy 2.

Name; mark on aid	Description	Location—Depth
LAKE GEORGE CHANNEL		
<i>Stribling Point Turning Buoy 2.....</i>	Red; 2d-cl. nun.....	At northwest point of shoal. In 17 feet.
<i>Harwood Point Lower Buoy 1.....</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>St. Joseph Island North Shoal Buoy 4.....</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Harwood Point Upper Buoy 3.....</i>	Black; 3d-cl. spar.....	At east side of shoal. In 17 feet.
<i>Merida Shoal Buoy 6.....</i>	Red; 3d-cl. spar.....	In 16 feet.
<i>Channel Buoy 5.....</i>	Black; 3d-cl. spar.....	In 16 feet.
<i>Neebish Shoal Buoy 5.....</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>American Channel Buoy 7.....</i>	Black; 3d-cl. spar.....	In 19 feet.
<i>American Channel Buoy 10.....</i>	Red; 3d-cl. spar.....	In 14 feet.
<i>American Channel Buoy 9.....</i>	Black; 3d-cl. spar.....	In 14 feet.
<i>American Cut Lower Entrance Buoy 11.....</i>	Black; 3d-cl. spar.....	In 19 feet.
<i>American Cut Lower Entrance Buoy 12.....</i>	Red; 3d-cl. spar.....	In 15 feet.
<i>American Cut Upper Entrance Buoy 13.....</i>	Black; 3d-cl. spar.....	In 14 feet.
<i>American Cut Upper Entrance Buoy 14.....</i>	Red; 3d-cl. spar.....	In 15 feet.
<i>Duck Island Buoy 16.....</i>	Red; 3d-cl. spar.....	Marks 10-foot rock. In 14 feet.
<i>Lower Entrance Buoy 2.....</i>	Red; 2d-cl. nun.....	In 9 feet.
<i>Lower Entrance Buoy 1.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Second Buoy 4.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Second Buoy 3.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Third Buoy 6.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Third Buoy 5.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Fourth Buoy 8.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Fourth Buoy 7.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Fifth Buoy 10.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Fifth Buoy 9.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Sixth Buoy 12.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Sixth Buoy 11.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Seventh Buoy 15.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Seventh Buoy 13.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Eighth Buoy 16.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Eighth Buoy 15.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Ninth Buoy 18.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Ninth Buoy 17.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Tenth Buoy 20.....</i>	Red; 4th-cl. spar.....	In 9 feet.
<i>Tenth Buoy 19.....</i>	Black; 4th-cl. spar.....	In 9 feet.
<i>Upper Entrance Buoy 22.....</i>	Red; 2d-cl. nun.....	In 16 feet.
<i>Upper Entrance Buoy 21.....</i>	Black; 4th-cl. spar.....	In 10 feet.
<i>Church Buoy 1.....</i>	Black; 2d-cl. spar.....	In 30 feet.

Name; mark on aid	Description	Location—Depth
LAKE GEORGE CHANNEL		
<i>Church Point Buoy 9</i>	Black; 3d-cl. spar.....	In 16 feet.
<i>Squirrel Island Lower End Buoy 7</i>	Red; 4th-cl. spar.....	In 11 feet.
<i>Church Mill Buoy 5</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Squirrel Island Upper End Buoy 4</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Garden River Buoy 7</i>	Black; 3d-cl. spar.....	In 16 feet.
<i>Point Charles Buoy 6</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Palmer's Point Shoal Buoy 9</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Palmer's Point Buoy 11</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Sand Flat Buoy 8</i>	Red; 4th-cl. spar.....	In 13 feet.
<i>Point aux Pins Buoy 13</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Partridge Point Buoy 15</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Point Lewis Buoy 17</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Cass Point Buoy 10</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>First Buoy 12</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Farmers Ridges Shoals Buoy 19</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Farmers Ridges Shoals Buoy 14</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>Farmers Ridges Shoals Buoy 21</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Farmers Ridges Shoals Buoy 25</i>	Black; 3d-cl. spar.....	In 17 feet.
<i>Jenkins Rock Buoy 23</i>	Black; 4th-cl. spar.....	In 11 feet.
<i>Channel Buoy 16</i>	Red; 3d-cl. spar.....	In 15 feet.
<i>Marchant's Rock Buoy 27</i>	Black; 3d-cl. spar.....	In 15 feet.
<i>Topsett Island Buoy 18</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Channel Buoy 20</i>	Red; 3d-cl. spar.....	In 19 feet.
<i>Mission Point Buoy 29</i>	Black; 3d-cl. spar.....	In 19 feet.

LAKE SUPERIOR

SOUTH SIDE		
<i>Grand Island Harbor Buoy 2</i>	Red; 3d-cl. spar.....	On extreme end of shoal off old lighthouse. In 20 feet.
<i>Williams Landing Buoy 1</i>	Black; 4th-cl. spar.....	Off southwest end of Grand Island. In 22 feet.
<i>Marquette Harbor Buoy 1</i>	Black; 3d-cl. spar.....	Marks submerged crib at outer end of Merchandise Wharf. In 27 feet.
PRESQUE ISLE HARBOR	<i>Seventeen-Foot Shoal Buoy</i>	Red and black horizontal bands; 3d-cl. spar. In 19 feet.
	<i>Presque Isle Harbor Buoy 4</i>	Red; 3d-cl. spar..... In 20 feet.
	<i>Twenty-two-Foot Shoal Buoy</i>	Red and black horizontal bands; 3d-cl. spar. In 22 feet.
<i>Big Bay Point Buoy 1</i>	Black; 3d-cl. spar.....	North end of rocky shoal. In 20 feet.
<i>Stannard Rock Beacon</i>	Gray stone.....	On south shoal.
<i>Point Abbye Shoal North Buoy 3</i>	Black; 2d-cl. can.....	In 20 feet.

Name; mark on aid	Description	Location—Depth
SOUTH SIDE		
<i>Point Abbye Shoal Southeast Buoy 6</i>	Red; 2d-cl. nun.....	In 22 feet.
KEWEENAW BAY		
<i>Pequaming Buoy 1</i>	Black spar.....	In 22 feet.
<i>Pequaming Buoy 2</i>	Red spar.....	In 22 feet.
<i>Pequaming Buoy 3</i>	Black spar.....	In 22 feet.
<i>Pequaming Buoy 4</i>	Red spar.....	In 22 feet.
<i>Pequaming Buoy 5</i>	Black spar.....	In 22 feet.
<i>Pequaming Buoy 6</i>	Red spar.....	In 22 feet.
<i>L'Anse Buoy 1</i>	Black spar.....	In 22 feet.
<i>L'Anse Buoy 2</i>	Red spar.....	In 22 feet.
<i>L'Anse Buoy 3</i>	Black spar.....	In 22 feet.
<i>L'Anse Buoy 4</i>	Red spar.....	In 22 feet.
<i>L'Anse Buoy 5</i>	Black spar.....	In 22 feet.
<i>L'Anse Buoy 6</i>	Red spar.....	In 22 feet.
KEWEENAW WATERWAY		
<i>Jetty Buoy 5</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 6</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 9</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 11</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 13</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 15</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 17</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 12</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 12 A</i>	Red; 3d-cl. spar.....	Marks turn into Cut 3. In 20 feet.
<i>Buoy 19</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Portage River Cut 3 1/2 Reflector Beacon</i>	Post with white prismatic reflector.	On revetment on south side of cut. Oriented in direction of approach from north; 7 feet high.
<i>Buoy 21</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 14</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 23</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 16</i>	Red; 3d-cl. spar.....	In 20 feet.
PORTAGE RIVER		
Range	<i>Beacon 1, Front</i>	White; diamond slatted daymark on lamphouse. Opposite Princess Point; 12 feet high. In 6 feet.
	<i>Beacon 2, Rear</i>	White; diamond daymark on post. 150 yards 268 1/4° from preceding; 28 feet high.
	<i>Buoy 1</i>	Black; 3d-cl. spar..... In 20 feet.
<i>Buoy 2</i>	Red; 3d-cl. spar..... In 20 feet.	
<i>Buoy 3</i>	Black; 3d-cl. spar..... In 20 feet.	

Maintained by Ford Motor Co.

Name; mark on aid	Description	Location—Depth
PORTAGE RIVER		
<i>Buoy 4</i>	Red; 3d-cl. spar.....	In 20 feet.
Range {	Beacon 1, Front.....	White; diamond slatted daymark on lamp-house.
	Beacon 3, Rear.....	White; diamond slatted daymark on post.
<i>Buoy 9</i>	Red; 3d-cl. spar.....	In 20 feet.
KEWEENAW WATERWAY		
<i>Buoy 25</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 27</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 18</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 20</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Buoy 26</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Buoy 22</i>	Red; 3d-cl. spar.....	In 20 feet.
PORTAGE LAKE		
<i>Middle Ground Shoal Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Grosecpoint Buoy 4</i>	Red; 3d-cl. spar.....	Marks northwest end of middle ground. In 22 feet.
<i>Pilgrim Point Buoy 1</i>	Black; 3d-cl. spar.....	Marks northeast end of shoal. In 20 feet.
<i>Snowshoe Island South Buoy 3</i>	Black; 3d-cl. spar.....	Marks rocky shoal. In 20 feet.
<i>Snowshoe Island North Buoy 5</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>College of Mines Buoy 4 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Ripley Shoal Buoy 6</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Sweettown Creek Buoy 10</i>	Red; 3d-cl. spar.....	Marks point of shoal. In 20 feet.
<i>Harrington Island Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Schlot Creek Buoy 9</i>	Black; 3d-cl. spar.....	South end dredged channel. In 20 feet.
<i>Schlot Creek Buoy 14</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Brickyard Buoy 11</i>	Black; 3d-cl. spar.....	North end dredged channel. In 20 feet.
<i>Brickyard Buoy 16</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Rouleau Point Buoy 15</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Rouleau Point Buoy 18</i>	Red; 3d-cl. spar.....	In 20 feet.
Tocon Bay {	<i>Lamirande Shoal Buoy 8</i>	Red; 3d-cl. spar.....
	<i>Torch Bay Buoy 1</i>	Black; 3d-cl. spar.....
SOUTH SIDE		
<i>Gull Rock Buoy 4</i>	Red; 3d-cl. spar.....	About 0.7 mile 195° from Gull Rock Light-house. In 20 feet.
Range {	<i>Eagle Harbor Front Unused Lighthouse.</i>	White; wooden tower.....
	<i>Eagle Harbor Rear Unused Lighthouse.</i>	White; lantern on dwelling.
<i>Madeline Island Buoy 2</i>	Red; 3d-cl. spar.....	Marks southwest end of shoal. In 24 feet.
<i>Ashland Ore Docks Buoy 2</i>	Red; 3d-cl. spar.....	On east edge of shoal. In 19 feet.
<i>Ashland Ore Docks Buoy 1</i>	Black; 3d-cl. spar.....	On west edge of shoal. In 19 feet.
<i>Ashland Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.

Name; mark on aid	Description	Location—Depth
SOUTH SIDE		
<i>Ashland Harbor Buoy 3</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Ashland Harbor Buoy 4</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Ashland Harbor Buoy 5</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Ashland Harbor Buoy 6</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Ashland Harbor Buoy 8</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Ashland Harbor Buoy 7</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Ashland Harbor Buoy 10</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Pittsburgh & Ashland Coal & Dock Co. Buoy 1</i>	Black; 3d-cl. spar.....	At west end of dredged improvements. In 16 feet.
<i>Pittsburgh & Ashland Coal & Dock Co. Buoy 2</i>	Red; 3d-cl. spar.....	At east side of entrance. In 12 feet. Maintained by Pittsburgh & Ashland Coal & Dock Co.
APOSTLE ISLANDS		
<i>Marina Shoal Buoy 1</i>	Black; 3d-cl. spar.....	On shoal off south end of Raspberry Island. In 19 feet.
<i>Seona Wreck Buoy 2 S W</i>	Red; 3d-cl. spar.....	0.3 mile north from 18-foot spot. In 20 feet.
SUPERIOR HARBOR BASIN		
<i>Allouez Bay Entrance Buoy 1</i>	Black; 3d-cl. spar.....	In 19 feet.
<i>Nemadji River Buoy 3</i>	Black; 3d-cl. spar.....	In 24 feet.
<i>Superior Harbor Basin Buoy 2</i>	Red; 3d-cl. spar.....	In 19 feet.
<i>Superior Front Channel Buoy 3 A</i>	Black; 3d-cl. spar.....	Marks entrance to new slip. In 20 feet.
SUPERIOR BAY		
<i>Superior Front Channel Buoy 5</i>	Black; 3d-cl. spar.....	At turn off Pittsburgh & Ashland Coal Dock. In 20 feet.
<i>Superior Front Channel Buoy 5 A</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 7 A</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 9</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 9 A</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 11</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 14</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Superior Front Channel Buoy 16</i>	Red; 3d-cl. spar.....	At widened entrance to channel. In 23 feet.
ALLOUEZ BAY CHANNEL {	<i>Allouez Bay Buoy 3</i>	Black; 3d-cl. spar.....
	<i>Allouez Bay Buoy 5</i>	Black; 3d-cl. spar.....
	<i>Allouez Bay Buoy 7</i>	Black; 3d-cl. spar.....
	<i>Allouez Bay Channel Buoy 2</i>	Red; 3d-cl. spar.....
	<i>Allouez Bay Channel Buoy 4</i>	Red; 3d-cl. spar.....

Name; mark on aid	Description	Location—Depth
SUPERIOR BAY		
<i>Breakwater Buoy 2</i>	Red; 3d-cl.spar.....	500 yards north of Duluth north pier. Marks outer end of old breakwater. In 21 feet.
<i>Duluth Harbor Basin Buoy A. 1</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Duluth Harbor Basin Buoy A. 1</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Duluth Harbor Basin Buoy 1</i>	Black; 3d-cl. can.....	In 20 feet.
<i>Duluth Harbor Basin Buoy 1 A</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Duluth Harbor Basin Buoy 5</i>	Black; 3d-cl. can.....	In 20 feet.
<i>Elevator Dock Buoy 4</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Flour Mill Dock Buoy 6</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Rice Point Channel Buoy 8</i>	Red; 3d-cl. spar.....	At beginning of turn into East Gate Basin In 20 feet.
<i>Turn Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
ST. LOUIS BAY		
<i>West Gate Basin Buoy 1</i>	Black; 3d-cl. spar.....	At turn into North Channel. In 20 feet.
<i>North Channel Buoy 5</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 2</i>	Red; 3d-cl. spar.....	In 22 feet.
<i>North Channel Buoy 2 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Twenty-First Avenue Channel Buoy 1</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Twenty-First Avenue Channel Buoy 2</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>North Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 17 feet.
<i>North Channel Buoy 5</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 11</i>	Black; 3d-cl. spar.....	In 23 feet.
<i>North Channel Buoy 13</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 13 A</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>North Channel Buoy 14</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Junction Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	At junction of North and South Channels of St. Louis Bay. In 20 feet.
ST. LOUIS RIVER		
<i>St. Louis River Entrance Buoy 15</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 14 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 15 A</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 17</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 14 B</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Grassy Point Buoy 19</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 16 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 18</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 21</i>	Black; 3d-cl. spar.....	In 20 feet.

Name; mark on aid	Description	Location—Depth
ST. LOUIS RIVER		
<i>St. Louis River Buoy 20</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 20 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 22</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 22 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 25</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 24</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 24 A</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 27</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 26</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 31</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 26</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 33</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 35</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 28</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 37</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 39</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 41</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>St. Louis River Buoy 30</i>	Red; 3d-cl. spar.....	In 20 feet.
ST. LOUIS BAY		
<i>South Channel Buoy 2</i>	Red; 3d-cl. spar.....	Junction of West Gate Basin with South Channel. In 20 feet.
<i>South Channel Buoy 4</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>South Channel Buoy 1</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>Junction Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	On west side of junction of South and Cross Channels. In 20 feet.
<i>South Channel Buoy 3</i>	Black; 3d-cl. spar.....	In 20 feet.
<i>South Channel Buoy 6</i>	Red; 3d-cl. spar.....	In 22 feet.
<i>South Channel Buoy 8</i>	Red; 3d-cl. spar.....	In 22 feet.
<i>South Channel Buoy 7</i>	Black; 3d-cl. spar.....	At entrance to slip. In 20 feet.
<i>South Channel Buoy 10</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>South Channel Buoy 12</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>Cross Channel South Entrance Buoy 2</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Junction Buoy</i>	Red and black horizontal bands; 3d-cl. spar.....	In 20 feet.
<i>Cross Channel Middle Buoy 4</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Cross Channel Buoy 7</i>	Black; 3d-cl. spar.....	In 20 feet.
NORTHWEST SIDE		
<i>West End Buoy 2</i>	Red; 3d-cl. spar.....	Marks west edge of 12-foot spot. In 20 feet.

LAKE OF THE WOODS

<i>Warroad Harbor Entrance Buoy 1</i>	Black; 3d-cl. spar.....	On east side of channel. In 12 feet.
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Name; mark on aid	Description	Location—Depth
STRAITS OF MACKINAC		
<i>St. Helena Southeast Shoal Buoy 1.</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>St. Helena Shoal Buoy SHS.</i>	Red and black horizontal bands; 3d-cl. spar.	On south side of 8-foot shoal. In 19 feet.
<i>New Shoal Buoy 5.</i>	Black; 3d-cl. spar.....	On north edge of New Shoal No. 2. In 27 feet.
<i>New Shoal Buoy 7.</i>	Black; 3d-cl. spar.....	On west side of New Shoal No. 3. In 23 feet.
<i>Manitou Paymen Shoal Buoy.</i>	Red and black horizontal bands; 3d-cl. spar.	Off southwest point of shoal. In 17 feet.
<i>Waugothance Sixteen-Foot Shoal Buoy 5.</i>	Black; 3d-cl. spar.....	On northwest end of shoal. In 23 feet.
<i>White Shoal Buoy.</i>	Red and black horizontal bands; 3d-cl. spar.	On southwest end of shoal. In 17 feet.
<i>Vienna Shoal Buoy 7.</i>	Black; 3d-cl. spar.....	On northwest point of shoal. In 18 feet.
<i>Middle Shoal Buoy 2.</i>	Red; 2d-cl. nun; 4th-cl. spar in winter.	On east side of shoal. In 27 feet.
<i>East Shoal Buoy 9.</i>	Black; 3d-cl. spar.....	On west side of shoal. In 27 feet.
EAST SIDE		
<i>De Aux Galets East End Buoy 2.</i>	Red; 3d-cl. spar.....	On end of shoal. In 20 feet.
<i>De Aux Galets Buoy 7.</i>	Black; 3d-cl. spar.....	On northwest end of shoal. In 18 feet.
<i>Dakota Shoal Buoy.</i>	Red and black horizontal bands; 3d-cl. can; 3d-cl. spar in winter.	On southwest end of shoal. In 17 feet.
<i>Hog Island Reef Buoy HI.</i>	Red and black horizontal bands; 2d-cl. can; 3d-cl. spar in winter.	Off southeast end of reef. In 18 feet.
<i>Beaver Harbor Buoy 2.</i>	Red; 3d-cl. spar.....	On north side of harbor entrance. In 21 feet.
<i>Richards Reef Buoy 2.</i>	Red; 3d-cl. spar.....	On westerly side of reef. In 27 feet.
<i>Charlevoix South Point Shoal Buoy 1 A.</i>	Black; 3d-cl. spar.....	Off point, on north end of shoal. In 24 feet.
<i>Fisherman Island Shoal Buoy 1.</i>	Black; 3d-cl. spar.....	On northwest end of shoal. In 20 feet.
GRAND TRAVERSE BAY		
<i>Mission Point Bell Buoy MP.</i>	Red and black horizontal bands; 3d-cl. spar along-side and in winter.	Marks north end of shoals off point. In 18 feet.
<i>Sutton Point Buoy 1.</i>	Black; 3d-cl. spar.....	On north end of shoal. In 22 feet.
<i>Marion Island South Shoal Buoy.</i>	Red and black horizontal bands; 3d-cl. spar.	On southwest end of shoal. In 22 feet.
<i>Traverse Beach Buoy 6.</i>	Red; 3d-cl. spar.....	On east end of shoal off beach. In 22 feet.
<i>Tucker Point Buoy 1.</i>	Black; 3d-cl. spar.....	On south end of shoal off point. In 22 feet.
<i>Marion Island North Shoal Buoy 2.</i>	Red; 3d-cl. spar.....	On north end of shoal. In 22 feet.
EAST SIDE		
<i>Fox Island Shoals Inside Buoy SFI.</i>	Red and black horizontal bands; 3d-cl. spar.	South of inner spot of reef extending south from island. In 20 feet.
<i>Fox Island Shoals Outside Buoy SFO.</i>	Red and black horizontal bands; 3d-cl. spar.	South of reef extending south from island. In 20 feet.
<i>South Fox Island Shoals South Buoy 2.</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	In 30 feet.

Name; mark on aid	Description	Location—Depth
EAST SIDE		
<i>Pyramid Point Shoal Buoy 5.</i>	Black; 2d-cl. can; 4th-cl. spar in winter.	On north end of shoal. In 33 feet.
<i>North Manitowish Shoal Southwest End Buoy 6.</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	In 20 feet.
<i>Indian Point Shoal Buoy 1.</i>	Black; 3d-cl. spar.....	In 21 feet.
<i>Long Point Shoal Buoy 5.</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Dowles Point Shoal Buoy 5.</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Middle Ground Buoy 2.</i>	Red; 3d-cl. spar.....	In 20 feet.
<i>South Haven North Pier Beacon</i>	White; rectangular top on pyramidal structure.	On pier, 10 yards from outer end. Flood lighted.
WEST SIDE		
INDIANA HARBOR, IND.		
<i>West Bank Buoy 2.</i>	Red; 3d-cl. spar.....	In 24 feet.
<i>East Bank Buoy 3.</i>	Black; 3d-cl. spar.....	In 24 feet.
<i>South Bank Buoy 7.</i>	Black; 3d-cl. spar.....	At elbow of dredged channel. In 27 feet.
<i>Lever Brothers Intake Crib Buoy.</i>	Red and black horizontal bands; 3d-cl. spar.	915 yards 234° from Hammond Intake Crib Light. In 17 feet.
<i>Culomet Harbor Buoy 1.</i>	Black; 3d-cl. spar.....	On south side dredged channel. In 21 feet.
CHICAGO HARBOR, ILL.		
<i>Clarke Point Buoy 6.</i>	Red; 3d-cl. spar.....	On east side of rocky reef. In 18 feet.
<i>West Racing Buoy.</i>	White spar.....	335 yards 154° from Casino Pier Outer Light. Mark triangular course.
<i>North Racing Buoy.</i>	White spar.....	1½ miles 45° from preceding. Maintained by Jackson Park Yacht Club from May 15 to Nov 1.
<i>East Racing Buoy.</i>	White spar.....	1½ miles 166° from preceding and 1½ miles 111° from West Buoy.
<i>South Park Shoal Buoy SP.</i>	Red and black horizontal bands; 2d-cl. can; 3d-cl. spar buoy substituted in winter.	On south side of shoal. In 23 feet.
<i>Madison Park Shoal Buoy 8.</i>	Red and black horizontal bands; 3d-cl. spar.	In 16 feet.
<i>Hyde Park Shoal Outside Buoy 2.</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>Hyde Park Shoal Inside Buoy 1.</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Morgan's Reef Inside Buoy 3.</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Oakland Shoal Outside Buoy 2.</i>	Red; 3d-cl. spar.....	In 26 feet.
<i>Oakland Shoal Inside Buoy 1.</i>	Black; 3d-cl. spar.....	In 16 feet.
<i>Evanston Waterworks East Intake Strainer Buoy.</i>	Red and black horizontal bands; 3d-cl. spar.	In 20 feet.
<i>Evanston Waterworks ½-mile Crib Buoy.</i>	Red and black horizontal bands; 4th-cl. spar.	In 10 feet.
<i>Evanston Waterworks Pipe Junction Buoy.</i>	Red and black horizontal bands; 4th-cl. spar.	In 10 feet. Maintained by city of Evanston, Ill., throughout the year.
<i>Evanston Waterworks Intake Tee Buoy.</i>	Red and black horizontal bands; 4th-cl. spar.	In 10 feet.
<i>Evanston Waterworks Intake Tee Buoy.</i>	Red and black horizontal bands; 4th-cl. spar.	In 10 feet.
<i>Groessepoint Shoal Buoy 4.</i>	Red; 2d-cl. spar.....	Marks 21-foot shoal. In 24 feet.

Name; mark on aid	Description	Location—Depth
WEST SIDE		
<i>Training Station Intake Crib Buoy 2.</i>	Red; 3d-cl. spar.....	Marks crib of Great Lakes Naval Training Station. In 16 feet.
<i>Waukegan Shoals Buoy 1.....</i>	Black; 3d-cl. spar.....	At east end of shoal. In 21 feet.
<i>Kenosha South Pier Beacon.....</i>	White rectangular day-mark on pyramidal structure.	20 yards from outer end of pier
<i>American Brass Co.'s Intake Buoy</i>	Red and black horizontal bands; 3d-cl. spar.	In 19 feet. Maintained by American Brass Co., from Apr. 15 to Dec. 15.
<i>Simmons Co.'s Intake Buoy.....</i>	Red and black horizontal bands; 3d-cl. spar.	In 33 feet. Maintained by Simmons Mfg. Co.
<i>Wind Point South Shoals Buoy WP</i>	Red and black horizontal bands; 2d-cl. can; 3d-cl. spar buoy in winter.	Marks shoalest part of shoals. In 20 feet.
<i>Sheboygan Reef Buoy 2.....</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	Off east side of reef. In 38 feet.
<i>Manitowoc Shoal Buoy 1.....</i>	Black; 3d-cl. spar.....	At north end of shoal. In 20 feet.
<i>Coral Shoal Buoy 12.....</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	On east side of shoal. In 21 feet.
<i>Sturgeon Bay Channel Entrance Shoal Buoy 2.</i>	Red; 3d-cl. spar.....	In 23 feet.
<i>Whitefish Point Shoal Buoy 10</i>	Red; 3d-cl. spar.....	On southeast point of shoal. In 18 feet.
<i>Belle Harbor Middle Ground Buoy 1.</i>	Black; 3d-cl. spar.....	On southeast point of shoal. In 18 feet.
<i>Belle Harbor Entrance North Side Buoy 2.</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>North Bay Entrance South Side Buoy 1.</i>	Black; 4th-cl. spar.....	In 14 feet.
<i>North Bay Entrance North Side Buoy 2.</i>	Red; 3d-cl. spar.....	In 24 feet.
<i>Four-Foot Shoal Buoy 8.....</i>	Red; 3d-cl. spar.....	On southeast point of shoal off Rowley Bay. In 18 feet.
<i>Nine-Foot Shoal Buoy 5.....</i>	Black; 3d-cl. spar.....	On east side of shoal. In 21 feet.
<i>Detroit Island Passage Buoy 2.....</i>	Red; 4th-cl. spar.....	On southwest side of shoal. In 11 feet.
<i>Detroit Harbor Channel Buoy 1.....</i>	Black; 4th-cl. spar.....	In 12 feet.
<i>Detroit Harbor Elbow Buoy 2.....</i>	Red; 4th-cl. spar.....	At turn in channel. In 7 feet.
<i>Plum Island Buoy 1.....</i>	Black; 4th-cl. spar.....	On northeast point of shoal extending from island. In 14 feet.
<i>St. Martin Shoals Buoy 4, (Mich.).</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	On southwest point of shoals. In 21 feet.
<i>Gravelly Island Shoal Buoy 4.....</i>	Red; 3d-cl. spar.....	Off southwest side of shoal. In 40 feet.
<i>Gull Island Buoy 7.....</i>	Black; 3d-cl. spar.....	In 22 feet.
NORTH END		
<i>Trout Island Shoal Buoy 5.....</i>	Black; 3d-cl. spar.....	In 22 feet.
<i>Whiskey Island Shoal Buoy 2.....</i>	Red; 3d-cl. spar.....	On south end of shoal off island. In 17 feet.
<i>Whiskey Island Shoal Buoy 3.....</i>	Black; 3d-cl. spar.....	Marks south end of shoal southeast of island. In 19 feet.
<i>Squaw Island Shoal Buoy 1.....</i>	Black; 2d-cl. can; 3d-cl. spar in winter.	On north end of shoal. In 23 feet.
<i>Squaw Island Shoal Buoy 6.....</i>	Black; 3d-cl. spar.....	Marks east side of shoal east of island. In 19 feet.
<i>Squaw Island West Shoal Buoy 8.</i>	Black; 3d-cl. spar.....	In 22 feet.

Name; mark on aid	Description	Location—Depth
NORTH END		
<i>Poverty Island Shoal Buoy 2.....</i>	Red; 3d-cl. spar.....	On narrow rocky ledge. In 22 feet.
<i>Gravelly Island Shoal Buoy 1.....</i>	Black; 3d-cl. spar.....	On small shoal 1.1 miles north of island. In 18 feet.
<i>Nahma Shoal Buoy 3.....</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>Hig Bay de Noc Shoal Buoy 1.....</i>	Black; 3d-cl. spar.....	Marks south end of shoal making off Indian Point. In 21 feet.
<i>Drisco Shoal Buoy D.S.....</i>	Red and black horizontal bands; 2d-cl. can; 3d-cl. spar in winter.	Marks northeastern point of shoal. In 21 feet.
<i>Corona Shoal Buoy.....</i>	Red and black horizontal bands; 3d-cl. spar.	On south point of shoal. In 18 feet.
<i>Eleven-Foot Shoal Buoy 4.....</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	On south side of shoal, off Point Peninsula. In 18 feet.
<i>Point Peninsula Shoal Buoy 6.....</i>	Red; 3d-cl. spar.....	Marks south end of shoal extending off point. In 18 feet.
<i>Sand Point Buoy 3.....</i>	Black; 3d-cl. spar.....	On end of shoal extending northeast from point. In 18 feet.
<i>Saunders Point Shoal Inside Buoy 7.</i>	Black; 3d-cl. spar.....	On north edge of shoal. In 17 feet.
<i>Cedar River Entrance Buoy 1.....</i>	Black; 4th-cl. spar.....	Marks rock. In 15 feet.
<i>Whaleback Shoal West End Buoy 1.</i>	Black; 3d-cl. spar.....	Marks northwest point of shoal. In 18 feet.
<i>Horsehoe Reef Buoy 2.....</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	Marks southeast point of reef. In 30 feet.
SOUTH END		
<i>Chambers Island North Shoal Buoy 1.</i>	Black; 3d-cl. spar.....	Marks northeast end of shoal northeast of Chambers Island. In 27 feet.
<i>Strawberry Channel Northeast Buoy 4.</i>	Red; 3d-cl. spar.....	Marks east edge of shoal. In 24 feet.
<i>Hancock Shoal Buoy 2.....</i>	Red; 3d-cl. spar.....	Marks southeast end of shoal southeast of Chambers Island. In 21 feet.
<i>Menominee Shoal Buoy 1.....</i>	Black; 3d-cl. spar.....	Marks shoal extending off point. In 19 feet.
<i>Menominee Shoal Buoy 2.....</i>	Red; 3d-cl. spar.....	On east side of shoal. In 23 feet.
<i>Menominee Shoal Buoy 6.....</i>	Red; 2d-cl. nun; 3d-cl. spar in winter.	On east end of shoal south of entrance to Menominee River. In 28 feet.
<i>Green Island Southeast Shoal Buoy 2.</i>	Red; 3d-cl. spar.....	On southeast end of shoal. In 20 feet.
<i>Monument Shoal Buoy 1.....</i>	Black; 3d-cl. spar.....	On west end of shoal. In 18 feet.
STURGEON BAY		
<i>Quarry Point Buoy 2.....</i>	Red; 3d-cl. spar.....	On east side of shoal off entrance to Sawyers Harbor. In 20 feet.
<i>Hills Point Buoy 5.....</i>	Black; 3d-cl. spar.....	On east edge of channel. In 20 feet.
<i>Hills Point Buoy 2 A.....</i>	Red; 2d-cl. spar.....	In 21 feet.
<i>West Channel Buoy 1.....</i>	Black; 4th-cl. spar.....	On west point of middle ground. In 12 feet.
<i>West Bank Buoy 2.....</i>	Red; 3d-cl. spar.....	On east side of middle ground. In 18 feet.
<i>Middle Ground Southeast Buoy.....</i>	Red and black horizontal bands; 4th-cl. spar.	In 15 feet.
<i>East Bank Buoy 7.....</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 8.....</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 9.....</i>	Black; 3d-cl. spar.....	In 18 feet.

Name; mark on aid	Description	Location—Depth
STURGEON BAY		
<i>West Bank Buoy 10</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 11</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 12</i>	Red; 3d-cl. spar.....	
<i>East Bank Buoy 13</i>	Black; 3d-cl. spar.....	
<i>West Bank Buoy 14</i>	Red; 3d-cl. spar.....	
<i>East Bank Buoy 15</i>	Black; 3d-cl. spar.....	
<i>West Bank Buoy 16</i>	Red; 3d-cl. spar.....	
<i>East Bank Buoy 17</i>	Black; 3d-cl. spar.....	Mark dredged area of basin. In 18 feet.
<i>West Bank Buoy 18</i>	Red; 3d-cl. spar.....	
<i>East Bank Buoy 19</i>	Black; 3d-cl. spar.....	
<i>West Bank Buoy 20</i>	Red; 3d-cl. spar.....	
GREEN BAY, SOUTH END		
<i>Sydney C. McLouth Wreck Buoy 2</i>	Red; 3d-cl. spar.....	East of wreck, $4\frac{1}{2}$ miles $174\frac{1}{2}^{\circ}$ from Oconto Harbor South Pierhead Light. In 20 feet.
GREEN BAY CITY ENTRANCE		
<i>West Bank Buoy 2</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 3</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 4</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 5</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 6</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 8</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 9</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 10</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 11</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 12</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 13</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 16</i>	Red; 3d-cl. spar.....	At inner end of cut at elbow. In 18 feet.
<i>West Bank Buoy 18</i>	Red; 3d-cl. spar.....	At entrance to dredged channel. In 18 feet.
<i>East Bank Buoy 15</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 20</i>	Red; 3d-cl. spar.....	In 16 feet.
<i>East Bank Buoy 19</i>	Black; 3d-cl. spar.....	In 15 feet.
<i>East Bank Buoy 21</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 24</i>	Red; 3d-cl. spar.....	In 21 feet.
<i>East Bank Buoy 23</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 25</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 25</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 28</i>	Red; 3d-cl. spar.....	In 15 feet.
<i>East Bank Buoy 27</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 30</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 32</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 31</i>	Black; 3d-cl. spar.....	In 18 feet.

Name; mark on aid	Description	Location—Depth
GREEN BAY CITY ENTRANCE		
<i>West Bank Buoy 54</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 55</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 56</i>	Black; 3d-cl. spar.....	In 18 feet.
<i>East Bank Buoy 59</i>	Black; spar.....	In 20 feet.
<i>West Bank Buoy 58</i>	Red; 3d-cl. spar.....	In 18 feet.
<i>West Bank Buoy 40</i>	Red; 3d-cl. spar.....	In 18 feet.
FOX RIVER		
<i>West Bank Buoy 2</i>	Red barrel.....	
<i>West Bank Buoy 4</i>	Red barrel.....	
<i>East Bank Buoy 1</i>	Black barrel.....	
<i>West Bank Buoy 6</i>	Red barrel.....	
<i>West Bank Buoy 8</i>	Red barrel.....	
<i>East Bank Buoy 3</i>	Black barrel.....	
<i>West Bank Buoy 12</i>	Red barrel.....	
<i>West Bank Buoy 14</i>	Red barrel.....	
<i>West Bank Buoy 16</i>	Red barrel.....	
<i>West Bank Buoy 18</i>	Red barrel.....	
<i>West Bank Buoy 20</i>	Red barrel.....	
<i>East Bank Buoy 7</i>	Black barrel.....	
<i>West Bank Buoy 24</i>	Red barrel.....	
<i>West Bank Buoy 26</i>	Red barrel.....	
<i>West Bank Buoy 28</i>	Red barrel.....	
<i>East Bank Buoy 2</i>	Black barrel.....	
<i>West Bank Buoy 2</i>	Red; 4th-cl. spar.....	West side of channel below Wrightstown. In 7 feet.
<i>West Bank Buoy 4</i>	Red; 4th-cl. spar.....	In 7 feet.
<i>West Bank Buoy 6</i>	Red; 4th-cl. spar.....	In 9 feet.
RAPIDE CROCHE		
<i>North Bank Buoy 8</i>	Red; 4th-cl. spar.....	North side of channel below Rapide Croche Lock. In 9 feet.
<i>North Bank Buoy 10</i>	Red barrel.....	
<i>North Bank Buoy 12</i>	Red barrel.....	
<i>North Bank Buoy 14</i>	Red barrel.....	
<i>North Bank Buoy 16</i>	Red barrel.....	
APPLETON		
<i>North Bank Buoy 18</i>	Red; 4th-cl. spar.....	North side of channel below Appleton. In 8 feet.
<i>North Bank Buoy 20</i>	Red; 4th-cl. spar.....	In 8 feet.

Name; mark on aid	Description	Location—Depth
GRIGNON RAPIDS		
North Bank Mound 2.....	Stone mound.....	
South Bank Mound 1.....	Stone mound.....	
South Bank Mound 3.....	Stone mound.....	
South Bank Mound 5.....	Stone mound.....	Mark dredged channel at Grignon Rapids above Appleton. Each mound is about 2 feet above high water.
South Bank Mound 7.....	Stone mound.....	
South Bank Mound 9.....	Stone mound.....	
North Bank Mound 4.....	Stone mound.....	
GRIGNON		
North Bank Buoy 22.....	Red barrel.....	
North Bank Buoy 24.....	Red; 4th-cl. spar.....	In 8 feet.
North Bank Buoy 26.....	Red; 3d-cl. nun.....	In 8 feet.
MENASHA		
Menasha Channel South Bank Buoy 18.....	Red; 4th-cl. spar.....	In 7 feet
Menasha Channel North Bank Buoy 1.....	Black; 4th-cl. spar.....	In 7 feet.
Menasha Channel North Bank Buoy 3.....	Black; 4th-cl. spar.....	In 8 feet
LAKE WINNEBAGO		
Neenah Channel North Bank Buoy 8.....	Red; 4th-cl. spar.....	In 7 feet.
Neenah Channel North Bank Buoy 6.....	Red; 4th-cl. spar.....	In 6 feet.
Neenah Channel North Bank Buoy 4.....	Red; 4th-cl. spar.....	In 8 feet.
Neenah Channel North Bank Buoy 2.....	Red; 4th-cl. spar.....	In 6 feet.
Oakosh Reef Buoy 2.....	Red; 3d-cl. nun.....	In 6 feet.
Oakosh Reef Buoy 4.....	Red; 4th-cl. spar.....	In 7 feet.
Fond du Lac Channel Buoy 4.....	Red; 4th-cl. spar.....	In 8 feet.
Fond du Lac Channel Buoy 6.....	Red; 4th-cl. spar.....	In 7 feet.
FOX RIVER		
East Bank Buoy 2.....	Red; 4th-cl. spar.....	In 5 feet.
West Bank Buoy 1.....	Black; 4th-cl. spar.....	In 5 feet.
Goose Island Buoy 2.....	Red barrel.....	At turn in course, southeasterly from: Goose Island, Lake Winnebago. In 8 feet.
Lone Willow Bar Buoy 3.....	Black barrel.....	At turn in course, north from Lone Willow Bar, Lake Poygan. In 9 feet.
Goose Island Channel Buoy 4.....	Red; 4th-cl. spar.....	In 5 feet.
Goose Island Elbow Buoy 6.....	Red; 4th-cl. spar.....	In 5 feet.
Goose Island Channel Buoy 8.....	Red; 4th-cl. spar.....	In 5 feet.
Goose Island Channel Buoy 10.....	Red; 4th-cl. spar.....	In 5 feet.
Boom Bay Buoy 5.....	Black; 4th-cl. spar.....	In 5 feet.
Boom Cut Buoy 7.....	Black; 4th-cl. spar.....	In 5 feet.
Boom Cut Buoy 9.....	Black; 4th-cl. spar.....	In 5 feet.

OPERATING SCHEDULES OF RADIOBEACONS

All United States radiobeacons are operated continuously during thick or foggy weather and in clear weather for the last 15 minutes of each hour.

Canadian radiobeacons are operated continuously during thick or foggy weather and in clear weather during the first 4¼ minutes of each hour excepting at Long Point Light Station which in clear weather operates for 4¼ minutes each hour, commencing 4½ minutes past the hour. At these stations the characteristic signal is repeated twice followed by long dashes. The duration of the combined dashes is equal to the length of the repeated characteristic signal.

DISTANCE-FINDING STATIONS

At the stations marked by an asterisk (*) the radiobeacon transmits a long distinctive dash (3 seconds) the termination of which is coincident with the beginning of the long blast of the sound signal. The number of seconds elapsing between the termination of the long radio dash and the beginning of the long blast of the sound signal divided by five will give the approximate distance, in miles, from the light station. The distance thus derived will be slightly too small at higher temperatures, with a maximum difference of 10 per cent. The distance to which this method may be used will vary with atmospheric conditions.

During the operating minute of the radiobeacon the sound signal characteristic will be as follows; silent 53 seconds, blast 5 seconds, silent 1 second, blast 1 second. The regular station characteristic for the sound signal will be maintained for the two minutes when the radiobeacon is not operating. The long blast is followed by a 1-second silence and a 1-second blast, to assure the observer that he is using the proper blast of the sound signal. The long dash of the radiobeacon will be transmitted only when there is fog or low visibility near the light station. Stations marked by a dagger (†) sound the regular characteristic only of the sound signal.

TRANSMITTING POWER

Radiobeacons, power: B=intermediate power, 100 to 200 watts; C=low power, below 100 watts.

46535°—31—17

RADIOBEACONS OPERATED BY THE U. S. LIGHTHOUSE SERVICE

Station		Operate on—		Signal characteristic transmitted	Interval	
		Kilo-cycles	Power		On	Off
Lat. N.	Long. W.					
GREAT LAKES						
MAIN DUCK ISLAND LIGHT STATION-- 43 56	76 38	310	B	3 dots, 1 dash; 2 dashes, 1 dot; 1 dash, 2 dots.	Sec. 75	Sec. 105
BUFFALO LIGHT STATION, N. Y.----- 42 52½	78 54	294	B	4 dashes-----	60	120
LONG POINT LIGHT STATION, CAN.---- 42 33	80 03	305	B	3 dots, 1 dash; 2 dashes, 1 dot; 2 dots, 1 dash, 1 dot.	75	105
†ASHTABULA LIGHT STATION, OHIO... 41 55	80 48	314	B	2 dashes, 1 dot..	60	120
SOUTHEAST SHOAL LIGHT STATION, CAN. 41 49½	82 27½	290	B	3 dots, 1 dash; 2 dashes, 1 dot; 2 dots, 1 dash.	75	105
DETROIT RIVER LIGHT STATION, MICH. 42 00	83 08½	306	C	2 dashes-----	60	120
LAKE HURON LIGHTSHIP, MICH.----- 43 02½	82 25	306	B	3 dashes-----	60	120
THUNDER BAY ISLAND LIGHT STATION.. 45 02	83 11½	286	B	1 dash, 1 dot, 1 dash.	60	120
COVE ISLAND LIGHT STATION, CAN.--- 45 20	81 44	300	B	3 dots, 1 dash; 2 dashes, 1 dot; 3 dashes.	75	105
POE REEF LIGHT STATION, MICH.----- 45 42	84 22	294	C	1 dot, 2 dashes..	60	120
*DETOUR LIGHT STATION, MICH.----- 45 57½	83 55	286	B	4 dashes-----	60	120
*WHITEFISH POINT LIGHT STATION, MICH. 46 46	84 57½	286	B	3 dashes, 1 dot..	60	120
MICHIPICOTEN ISLAND EAST END LIGHT STATION, CAN. 47 45	85 36	295	B	3 dots, 1 dash; 2 dashes, 1 dot; 2 dashes.	75	105
MARQUETTE LIGHT STATION, MICH.--- 46 33	87 22½	302	B	1 dot, 2 dashes..	60	120
*HURON ISLAND LIGHT STATION, MICH.. 46 58	88 00	314	C	1 dash, 1 dot, 1 dash.	60	120

Radiobeacons operated by the U. S. Lighthouse Service—Continued

Station		Operate on—		Signal characteristic transmitted	Interval	
Lat. N.	Long. W.	Kilo-cycles	Power		On	Off
GREAT LAKES						
*MANITOU LIGHT STATION, MICH. 47 25	87 35	302	B	2 dashes.....	60	120
*EAGLE HARBOR LIGHT STATION, MICH. 47 28	88 10	314	C	1 dot, 3 dashes..	60	120
ROCK OF AGES LIGHT STATION, MICH. 47 52	89 19	286	C	2 dashes, 2 dots.	60	120
MICHIGAN ISLAND LIGHT STATION, MICH. 46 62	90 30	286	C	1 dot, 2 dashes..	60	120
LA POINTE LIGHT STATION, WIS..... 46 44	90 47	314	B	4 dashes.....	60	120
*DEVILS ISLAND LIGHT STATION, WIS. 47 05	90 43½	286	B	3 dashes.....	60	120
*DULUTH RANGE FRONT LIGHT STA- TION, MINN. 46 47	92 05	314	C	3 dashes, 1 dot..	60	120
PASSAGE ISLAND LIGHT STATION, MICH. 48 13½	88 22	302	B	1 dash, 2 dots, 1 dash.	60	120
GRAYS REEF LIGHTSHIP, MICH..... 45 47	85 11	314	C	1 dash, 2 dots, 1 dash.	60	120
*POINT BETSIE LIGHT STATION, MICH. 44 41½	86 15½	314	B	1 dot, 2 dashes, 1 dot.	60	120
LUDINGTON NORTH BREAKWATER LIGHT STATION, MICH. 43 57	86 28	302	C	4 dashes.....	60	120
GRAND HAVEN PIERHEAD RANGE FRONT LIGHT STATION, MICH. 43 03½	86 15½	302	C	1 dot, 3 dashes..	60	120
CALUMET HARBOR LIGHT STATION, ILL. 41 44	87 30½	286	B	1 dash, 1 dot, 1 dash.	60	120
*CHICAGO HARBOR LIGHT STATION, ILL. 41 53½	87 35½	286	B	1 dot, 1 dash, 1 dot, 1 dash.	60	120
MILWAUKEE BREAKWATER LIGHT STATION, WIS. 43 01½	87 53	286	B	2 dashes.....	60	120
*MANITOWOC BREAKWATER LIGHT STATION, WIS. 44 05½	87 38½	302	C	3 dashes.....	60	120
KEWAUNEE PIERHEAD LIGHT STA- TION, MICH. 44 27	87 30	294	C	2 dashes, 1 dot..	60	120

Radiobeacons operated by the U. S. Lighthouse Service—Continued

Station		Operate on—		Signal characteristic transmitted	Interval	
Lat. N.	Long. W.	Kilo-cycles	Power		On	Off
GREAT LAKES						
STURGEON BAY CANAL LIGHT STA- TION, MICH. 44 48	87 19	314	C	3 dashes, 1 dot..	60	120
ST. MARTINS ISLAND LIGHT STATION, MICH. 45 30	86 46	294	C	1 dash, 1 dot, 1 dash, 1 dot.	60	120
MANISTIQUE LIGHT STATION, MICH.... 45 57	86 15	294	C	1 dot, 1 dash, 1 dot, 1 dash.	60	120
LANSING SHOAL LIGHT STATION, MICH. 45 54	85 34	314	B	2 dashes, 2 dots..	60	120

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