

RADAR REFLECTORS USED IN CANADA

(Report of the Department of Transports)

AIDS TO NAVIGATION DIVISION, DEPARTMENT OF TRANSPORT OF CANADA

Radar reflectors were first used in the Canadian buoy service in 1946. These were adapted from a radar reflector used by Trinity House, London, England. The reflectors now generally used on 9' buoys have been developed from this reflector to reduce weight and to simplify construction. Blue prints of the reflector are attached (# 2140 and 2139).

A requirement for a radar reflector on small buoys 3 to 6 feet in diameter was met by designing a reflector somewhat similar to the larger one. This type of reflector is mounted on 150 mm. Wallace and Tiernan lanterns as per the attached drawing. A few of these reflectors are being used on specially designed unlighted buoys (# 2136).

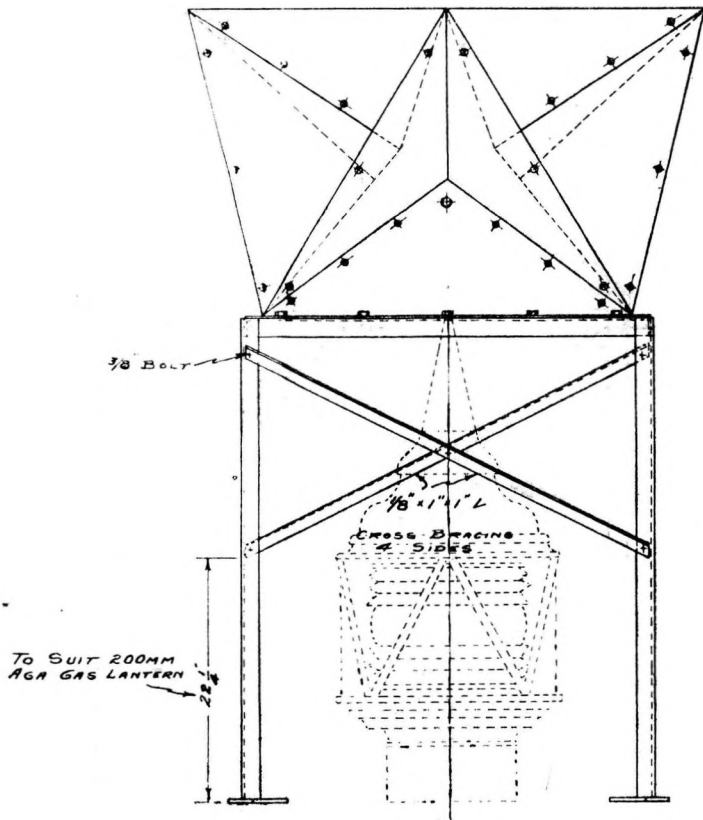
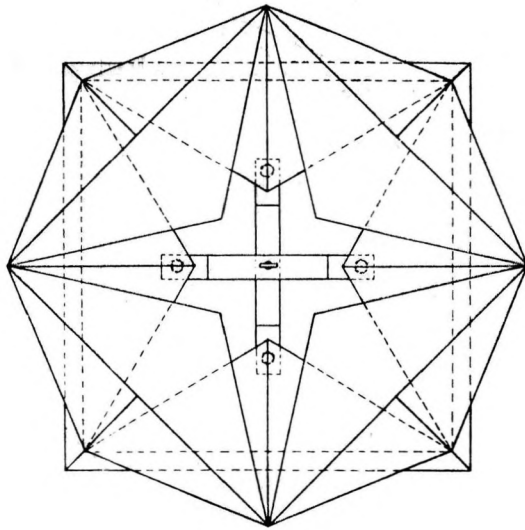
A third type of radar reflector for wooden spar buoys is imported from the AGA Company, Stockholm, Sweden (# 418305).

Other types of radar reflectors have been tried out but have not been adopted for general use. Experimental work is continuing on radar reflectors for unlighted steel buoys. The reflectors used by the Coast Guard of the United States of America are being tested in Canadian waters.

The response of radar reflectors depends upon the height of the reflector above the water and the elevation of the radar equipment on board ship. Steel buoys have a radar response without reflectors but this is substantially increased by the addition of the reflectors. It is the practice of this service to install radar reflectors on steel buoys where it is advantageous to the navigator to observe them on radar equipment from a distance greater than one mile. Wooden spar buoys have no radar response and although this type of reflector is new in our service it is likely that it will be used extensively on spar buoys marking channels used by radar equipped ships (# 418305).

Some work has been done in radar identification of buoys but it was found that grouping of radar reflector buoys would be the only feasible means of achieving this objective. The expense involved was considered too great and identification of radar reflector buoys is dependent upon the radar response from surrounding land or other objects. There is no positive identification of a radar buoy now available otherwise in Canada.

Radar reflectors have been used experimentally on a few Canadian lighthouses. The reports from Masters of radar equipped ships concerning their usefulness have not been conclusive and until such time as actual measurements can be accurately taken by the floating laboratory of the National Research Council, the installation of radar reflectors on additional lighthouse towers remains in abeyance.

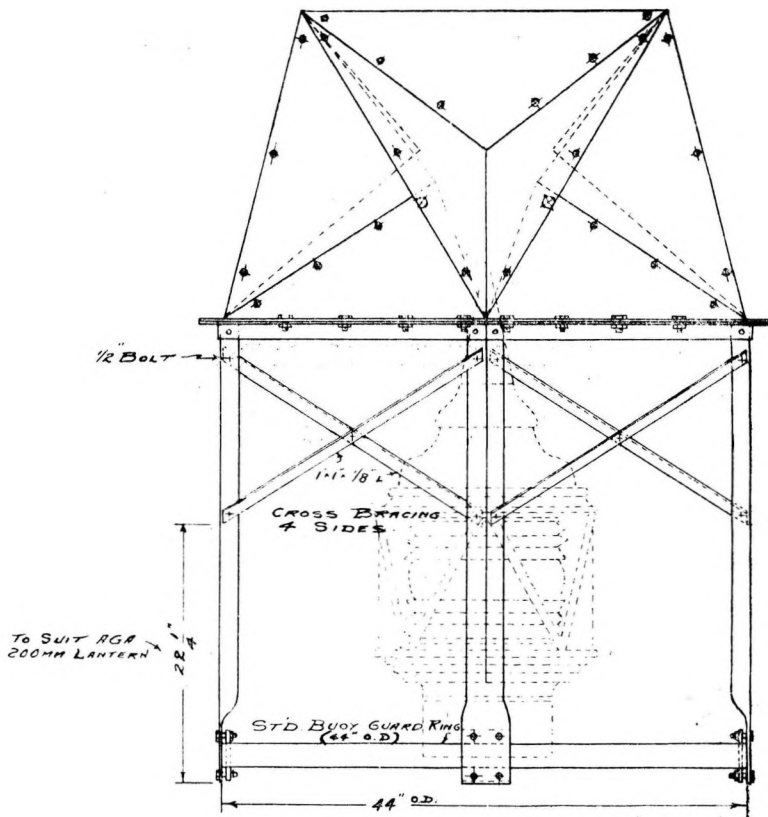
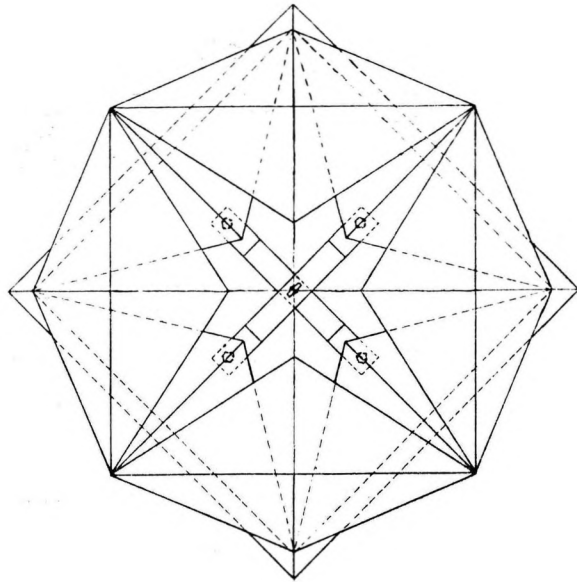


NOTE ALL ALUMINUM CONSTRUCTION.

Sketch No. 2140.

Department of Transport, Canada.

31" Radar Reflector for Gas & Bell Buoy.

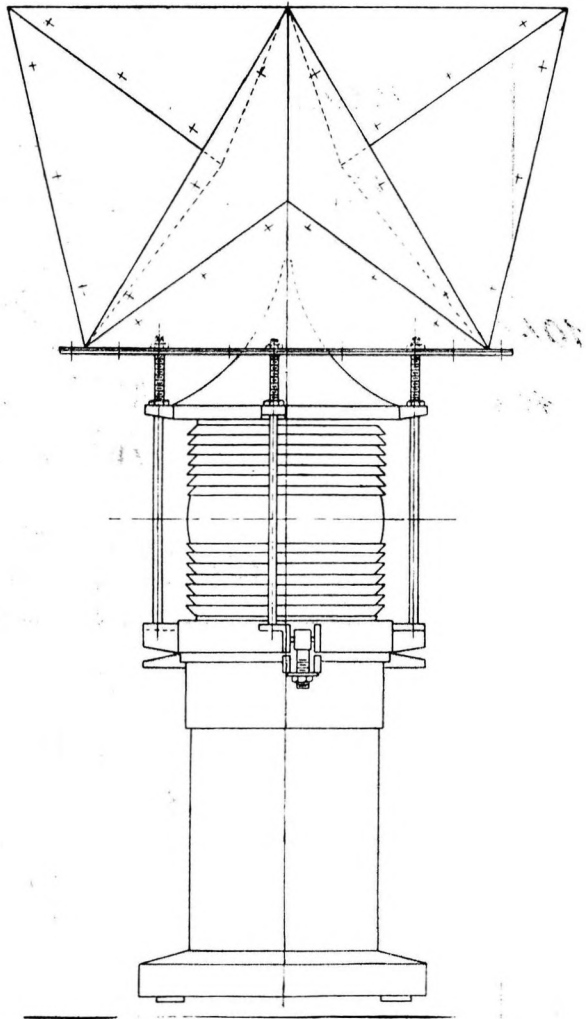
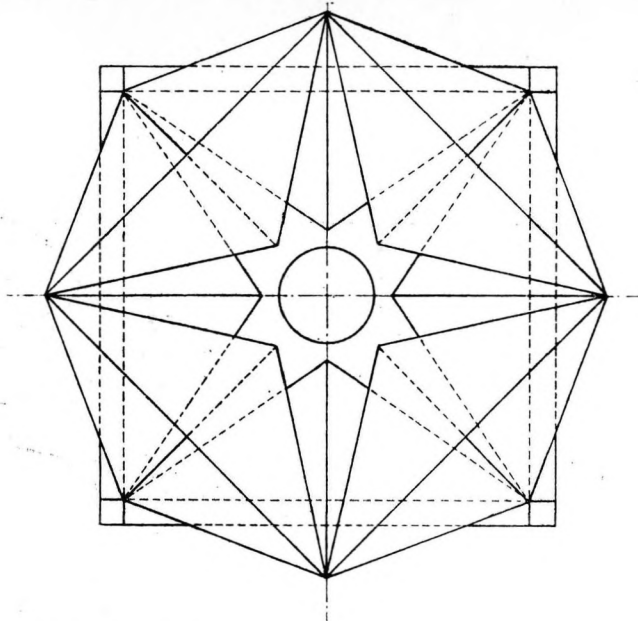


NOTE: ALL ALUMINUM CONSTRUCTION

Sketch No. 2139.

Department of Transport, Canada.

31" Radar Reflector for Buoys with Guard Ring.

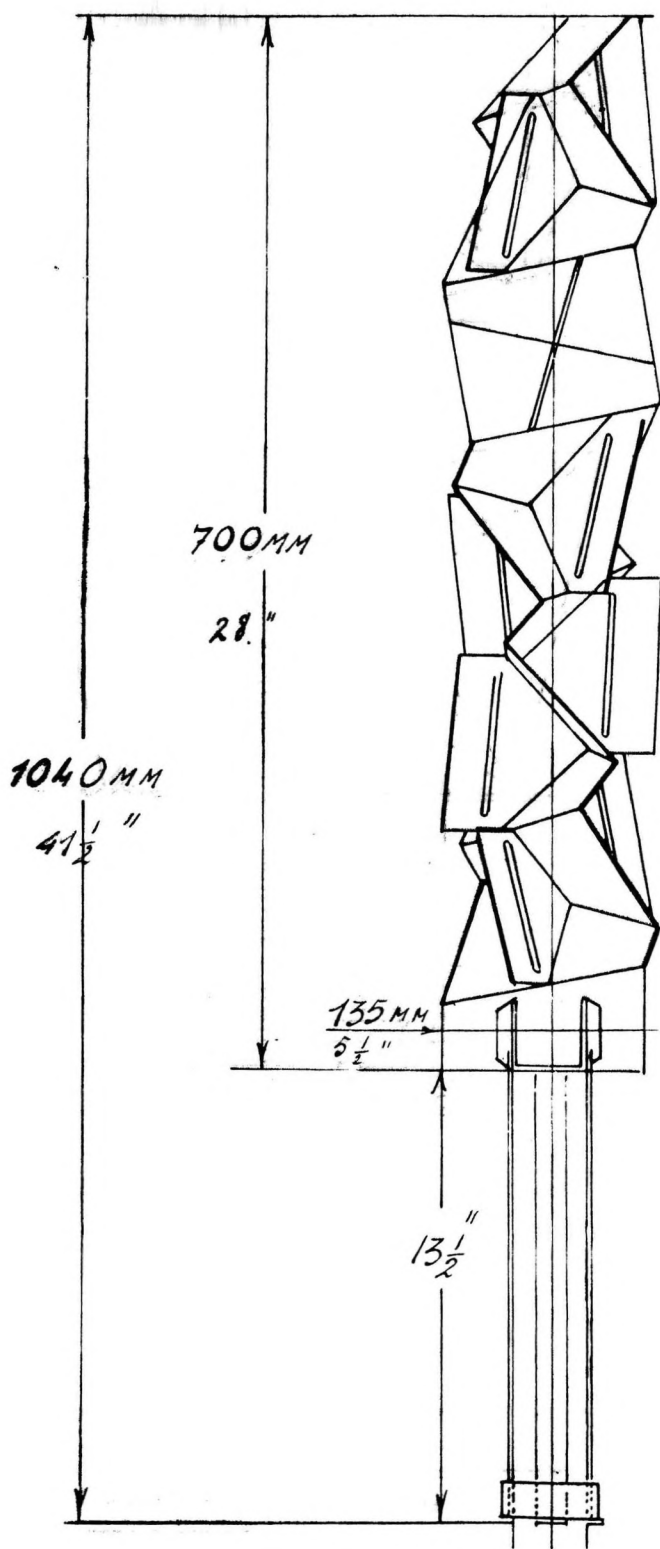


WEIGHT OF REFLECTOR 8 1/2 LBS.

Sketch No. 2136.

Department of Transport, Canada.

9ⁱⁿ Radar Reflector.



Sketch No. 418305.

AGA Radar Reflector RBSA - 13,5/24 - Stockholm.