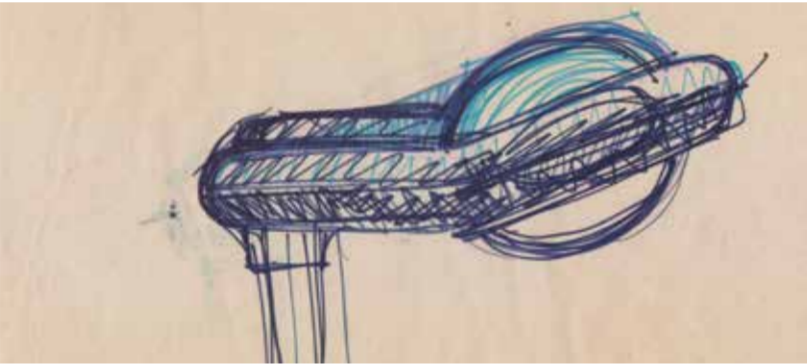
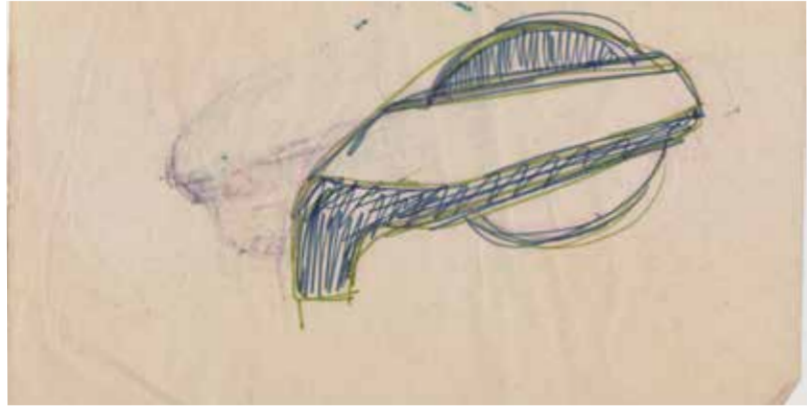
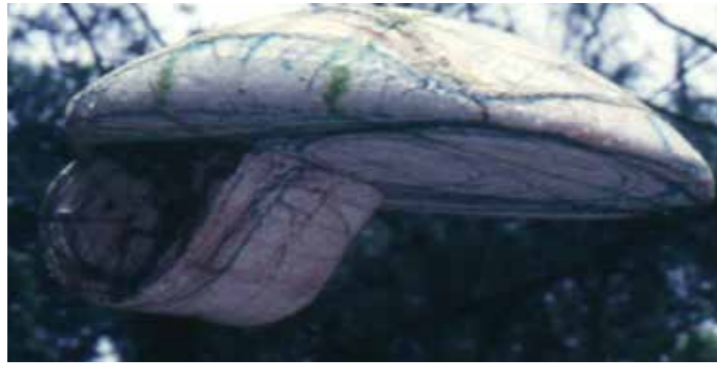


Street Lamp for Crompton Greaves design : a g rao

Crompton Greaves (India) got into a technical collaboration with a Korean company to produce bulbs with internal coating to replace external reflectors. They approached IDC to design and develop a street lamp using these bulbs!

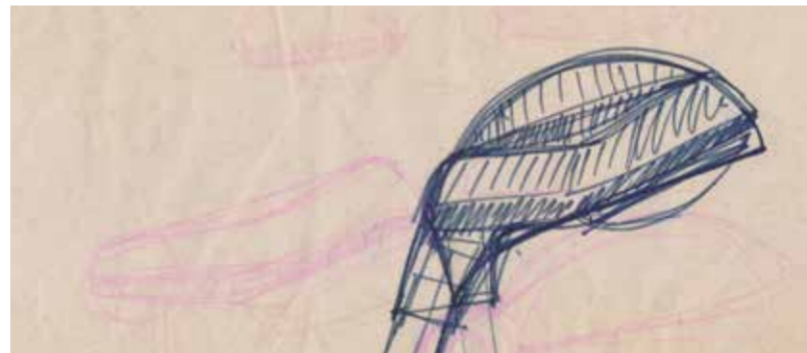
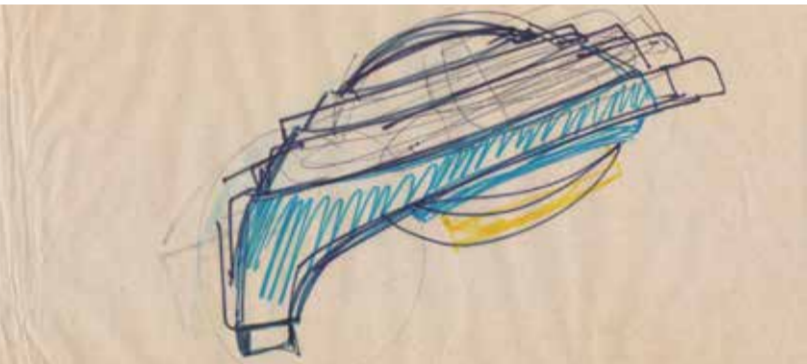
Challenge was to design a cost competitive product to compete with well established companies like Philips who was the 'Market Leader!' The new design in aluminum and FRP became cost effective, attractive and user friendly!



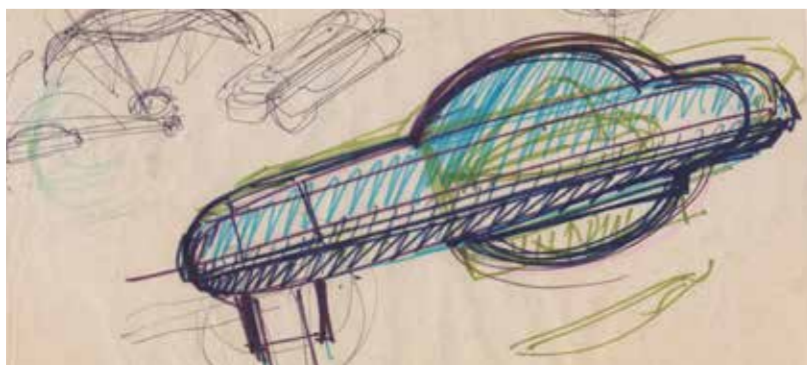
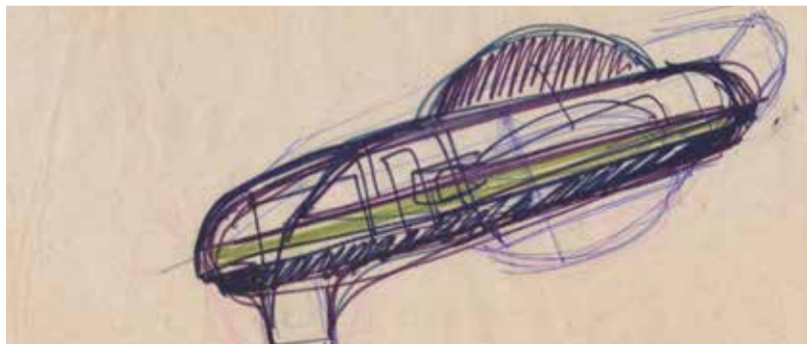


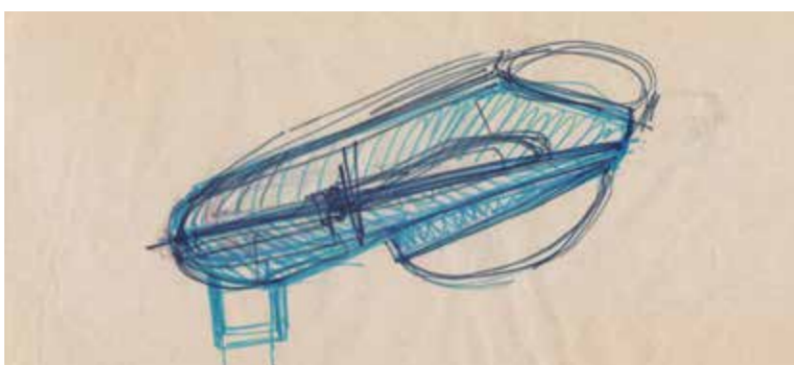
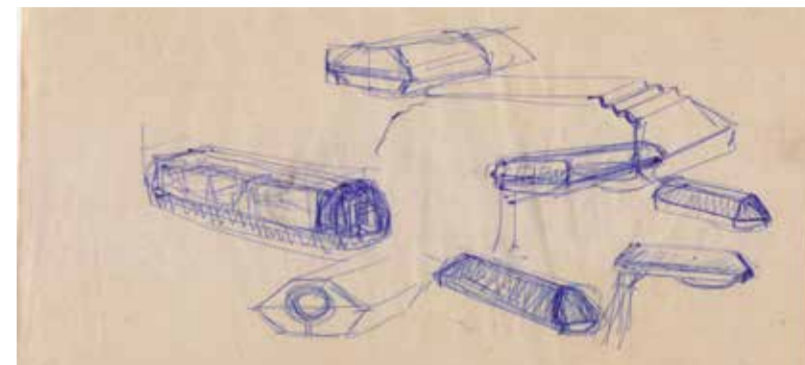
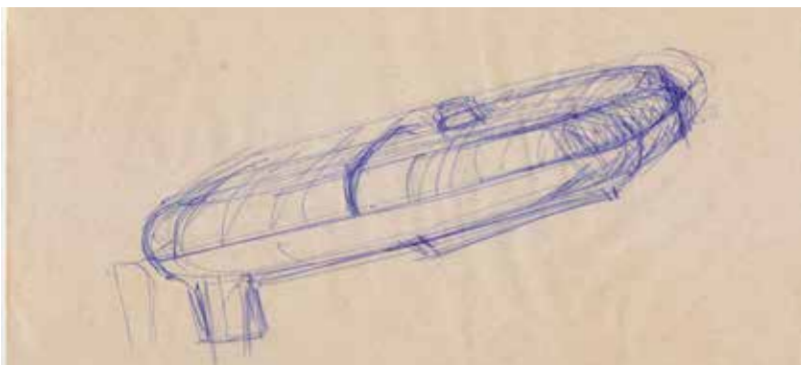
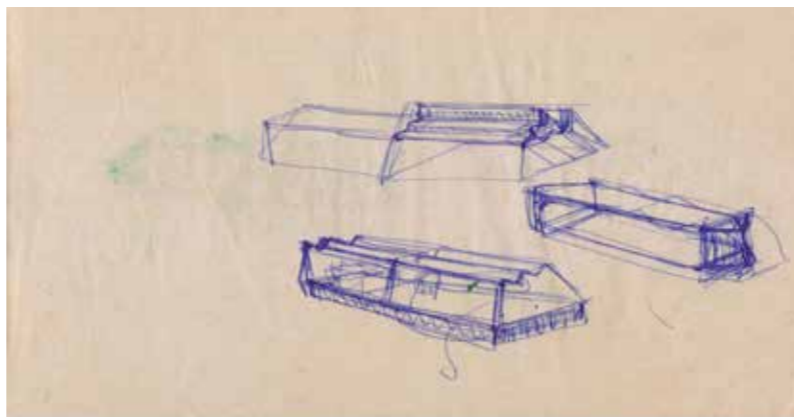
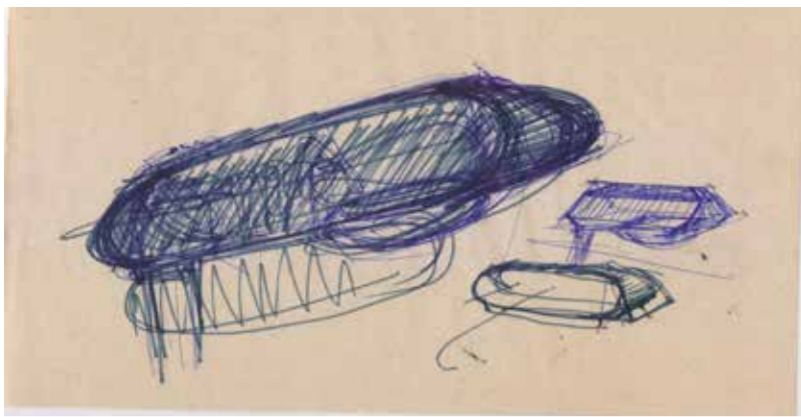
Challenge was to design a cost competitive product to compete with well established companies like Philips who was the 'Market Leader!' The new design in aluminium and FRP became cost effective, attractive and user friendly!

I start with sketches . But they are made in a size format, so that I don't loose track of proportion. I use a tracing paper pad, to save time and facilitate quick sketching. i make 3D rough models in materials like thermocol.

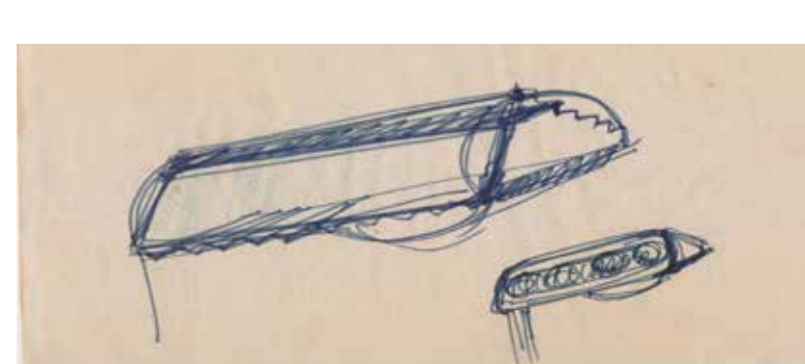
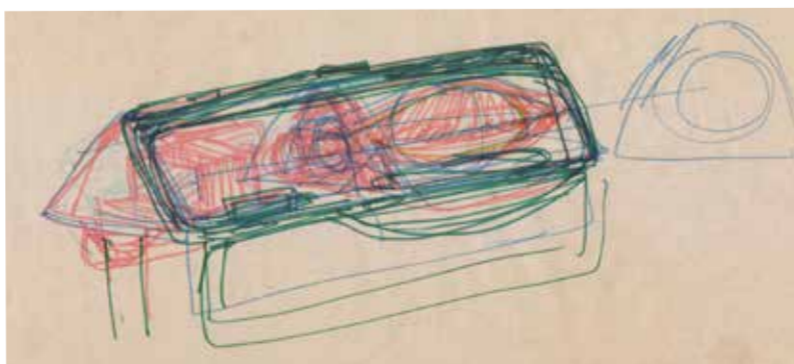
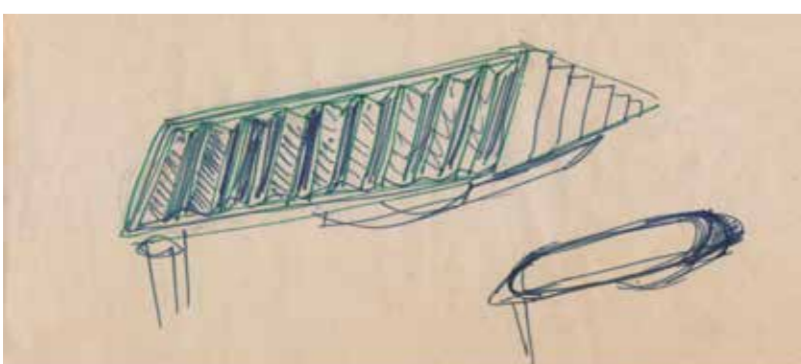
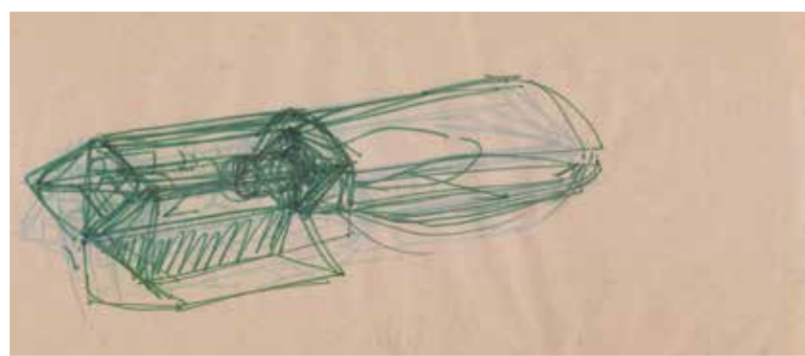
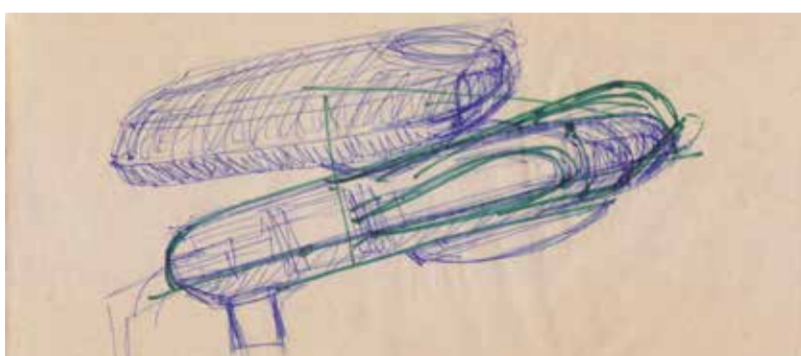
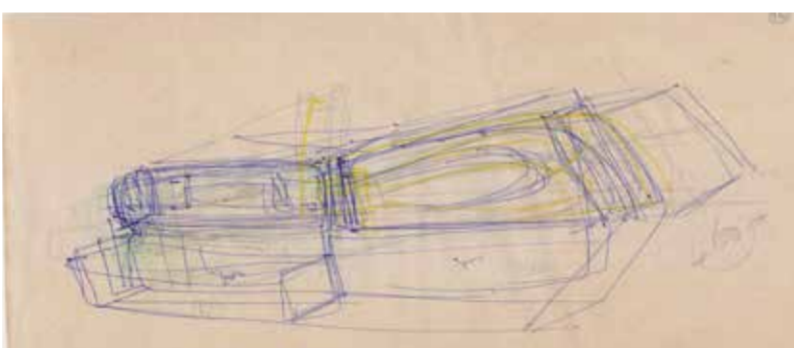
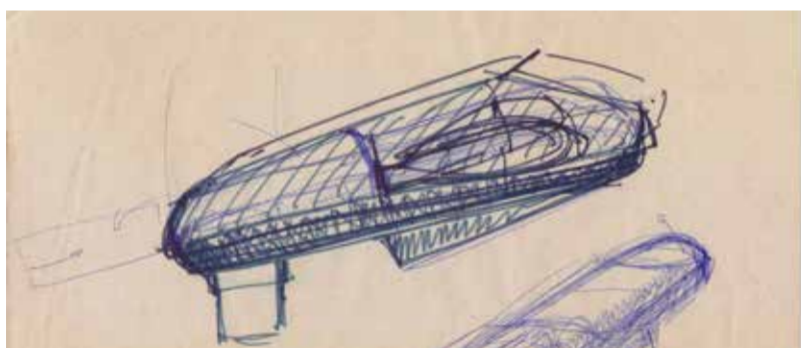


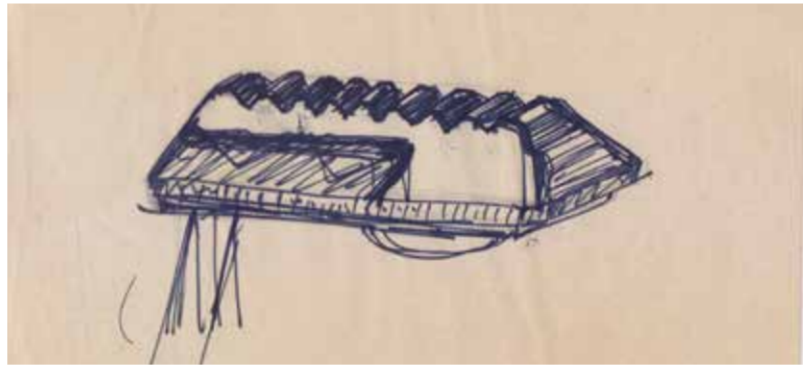
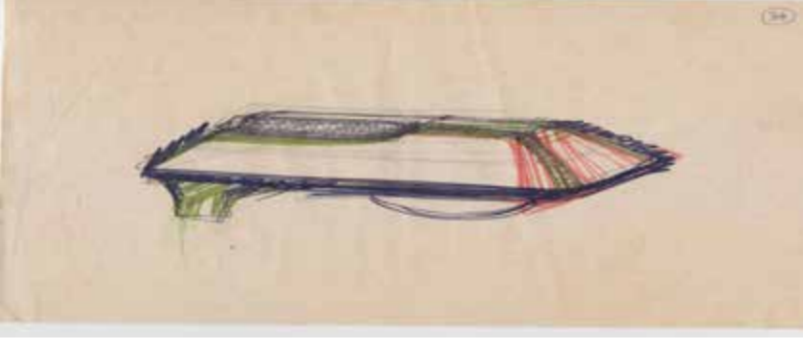
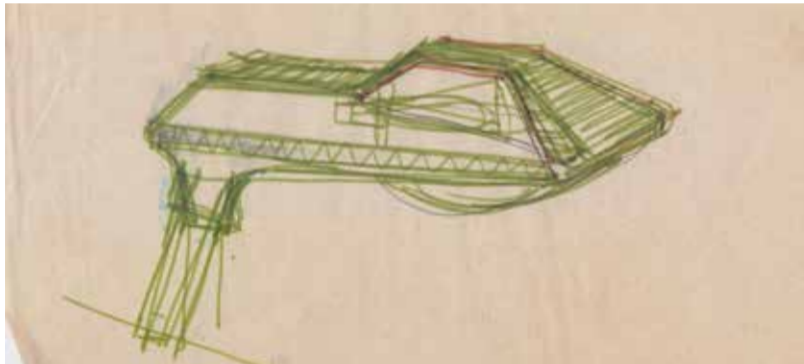
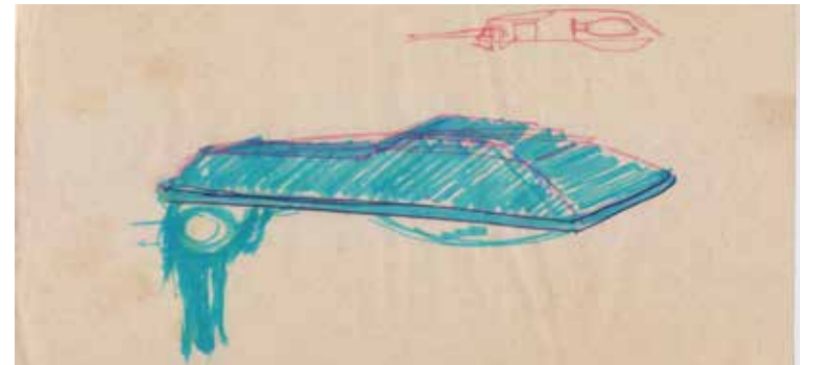
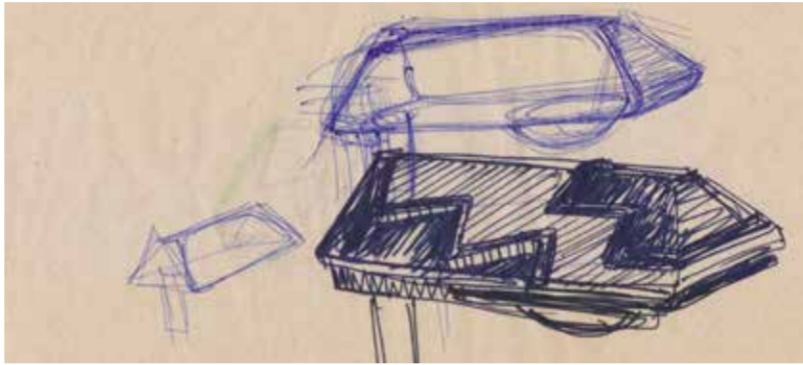
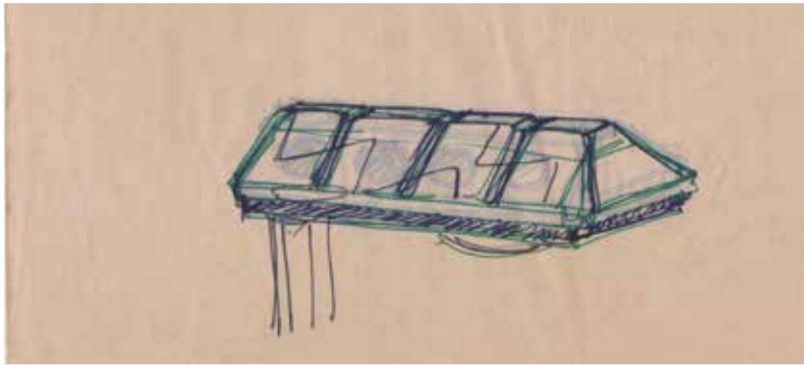
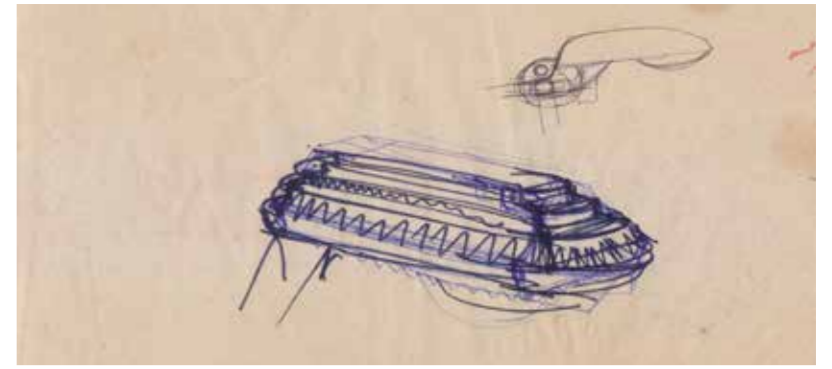
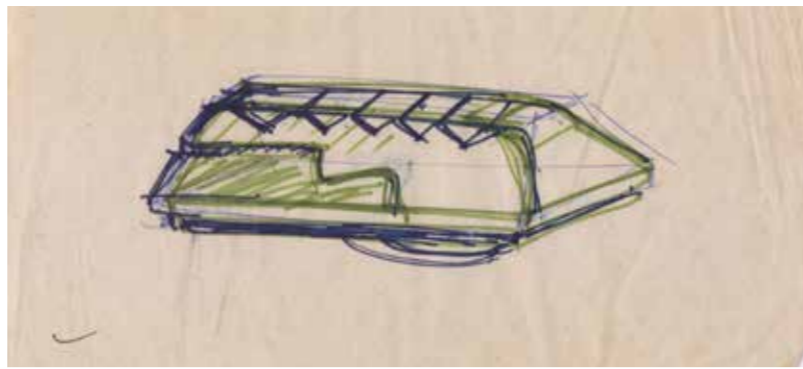
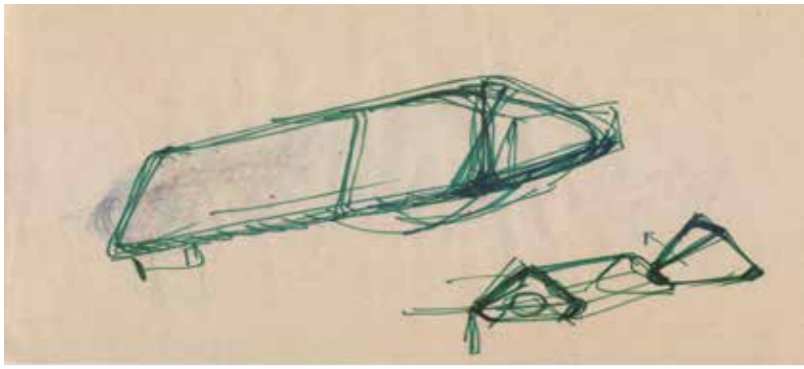
I started a new way of using them, by sketching on the models. I found this a very satisfactory method for visualising. It is not fully defined. It became easy for me to visualise precise 3d form in between these fuggy boundaries created by these sketch lines on the thermocol model!



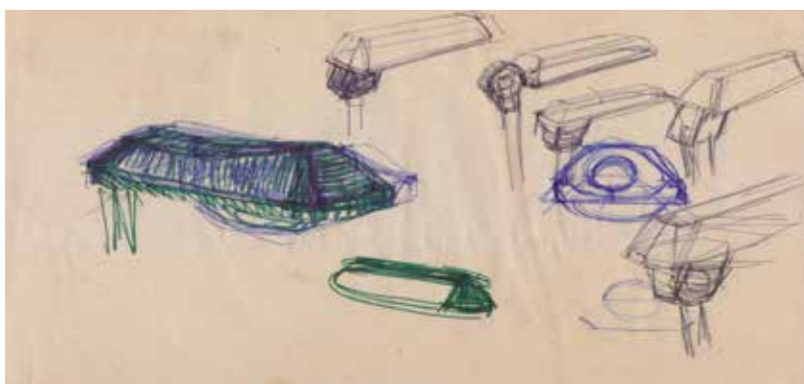


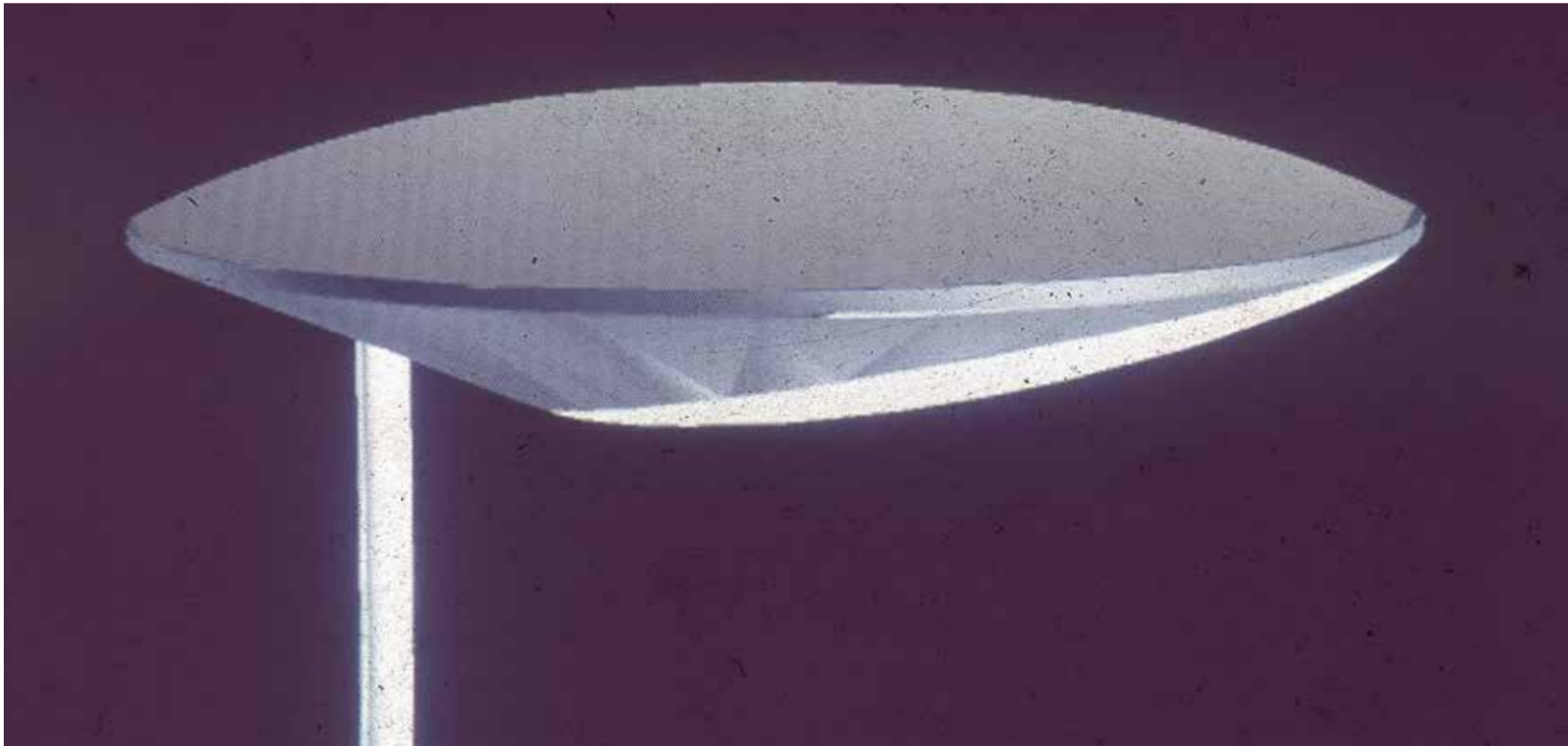
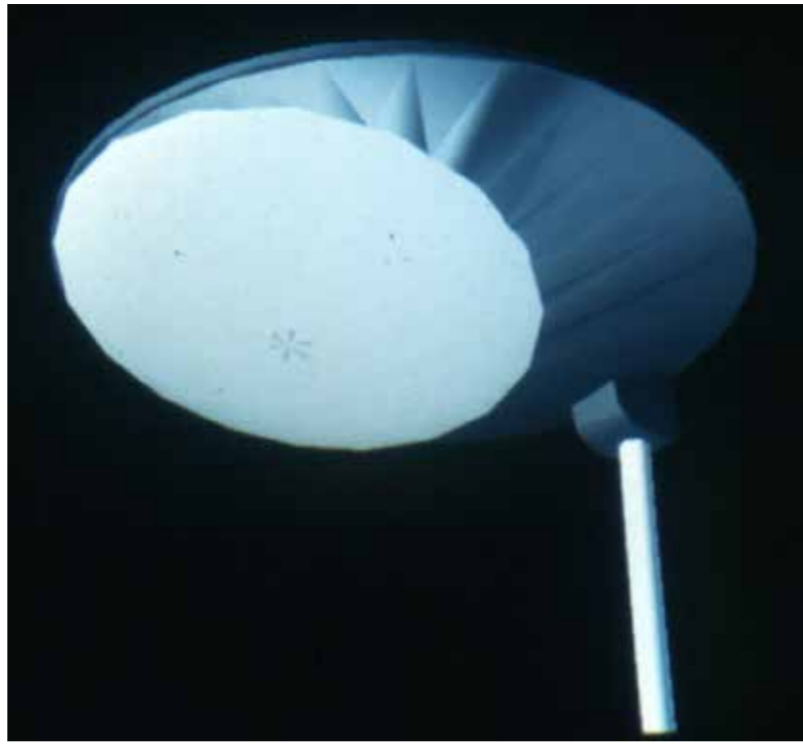
Concept sketches externalise visual thinking.
Slowly proportions started becoming horizontally linear as I started putting the components like transformer in to the picture! It was leading to a product structure, with heavy transformer in the backside and the lamp in the front.





A trapezium shaped idea dominated for some time. I was also looking for steps. In the top they can add structural strength to FRP. A thermocol model of full scale was also made!





A presentation was made with computer renderings on the insistence of the client. Students helped with a crude version. But the company was happy!

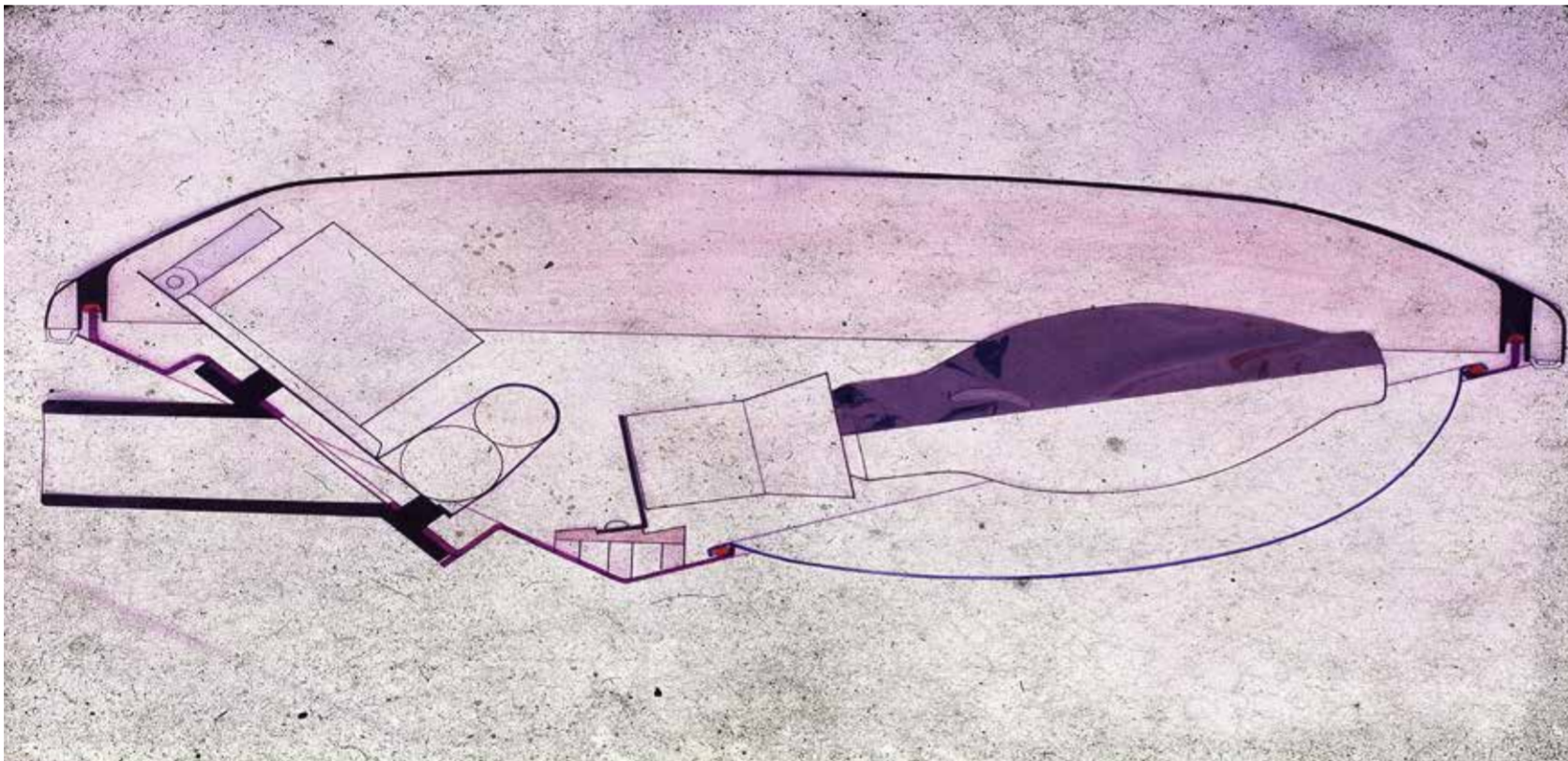




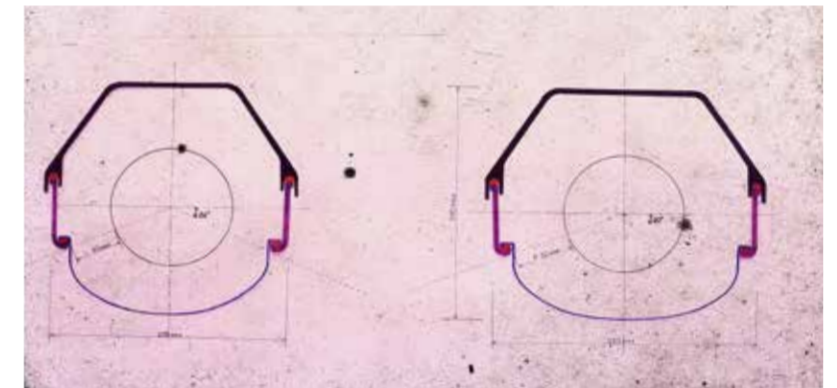
Quite often design is getting out of ideas you have! new thing has to some how emerge. So I made more thermocol models in full size. Some of them were good! But I made it simpler and simpler.

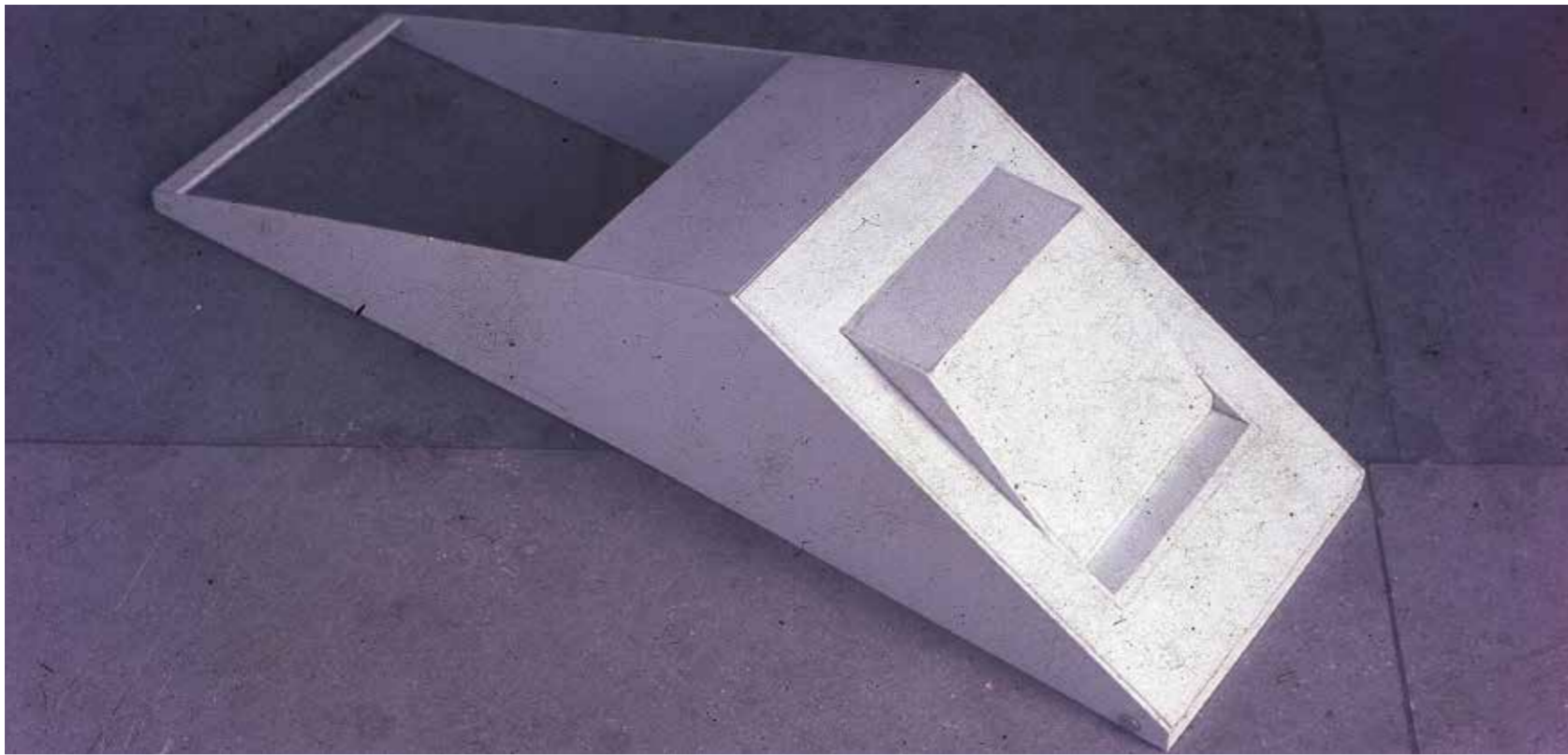


Bottom cover was completely sealed, avoiding insect entry.. Top had groove with a gasket avoiding all rain water problems. It had three steps to give three angles for the bulb mounting, for three road widths. This made a big cost difference! In addition a handle attached to the transformer took care of ease in maintenance!



Designing for small people who make big things is extremely important!





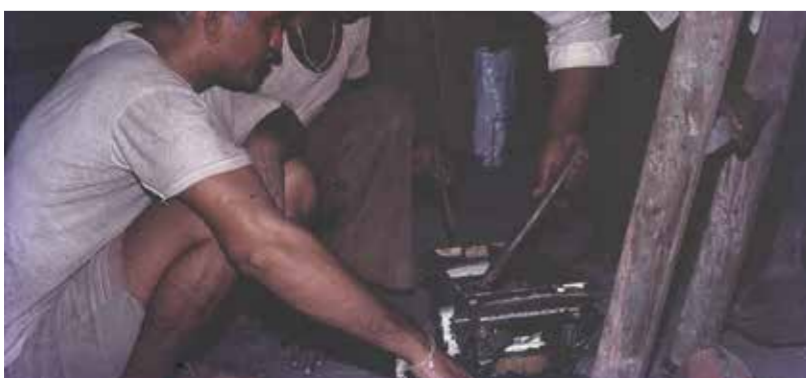
Making a working prototype which withstood the heat test after 12 hours of burning of the bulb turned out to be rich experience in product development. We made plastic dummy in full size to get the right idea. We were lucky to get a person who took contract of making the piece from pattern to machining. Making top in FRP, to simulate in RTM also went smoothly because of a rare supplier.

I can take some credit for making the silicon gasket using CAMM machine which had just landed in PD sell!





The first hand experience of seeing the castings made in front of me was a satisfying experience..





The complete story brings out vividly the innate strength of India! Please do read the narrative!

