

POLITECNICO DI TORINO  
SECOND SCHOOL OF ARCHITECTURE  
Master of Science in Architecture (Rehabilitation and Revaluation)  
**Honors theses**

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**Rocca of Borgo Medioevale in Turin: from the knowledge a lighting project**

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The thesis develops a possible museographic planning approach for a historical building used as a museum, applying it to an illustrative study-case. The aim has been attained through the integration of several subjects, such as the history of the architecture, the museography, the survey, the ambient technical physics and the increase in value, employing the respective means and methods: beginning from the analysis of the building as a museum, so examining all the aspects connected to this function, we have arrived to the achievement of a lighting project for the exhibition course.

The study, based on Rocca of Borgo Medioevale in Turin, that represents one of the symbols of the Italian General Exhibition in 1884, has been divided in three stages: the stage of “knowledge”, the stage called “from the knowledge to the project” and the stage of “project”.

***“Knowledge”***

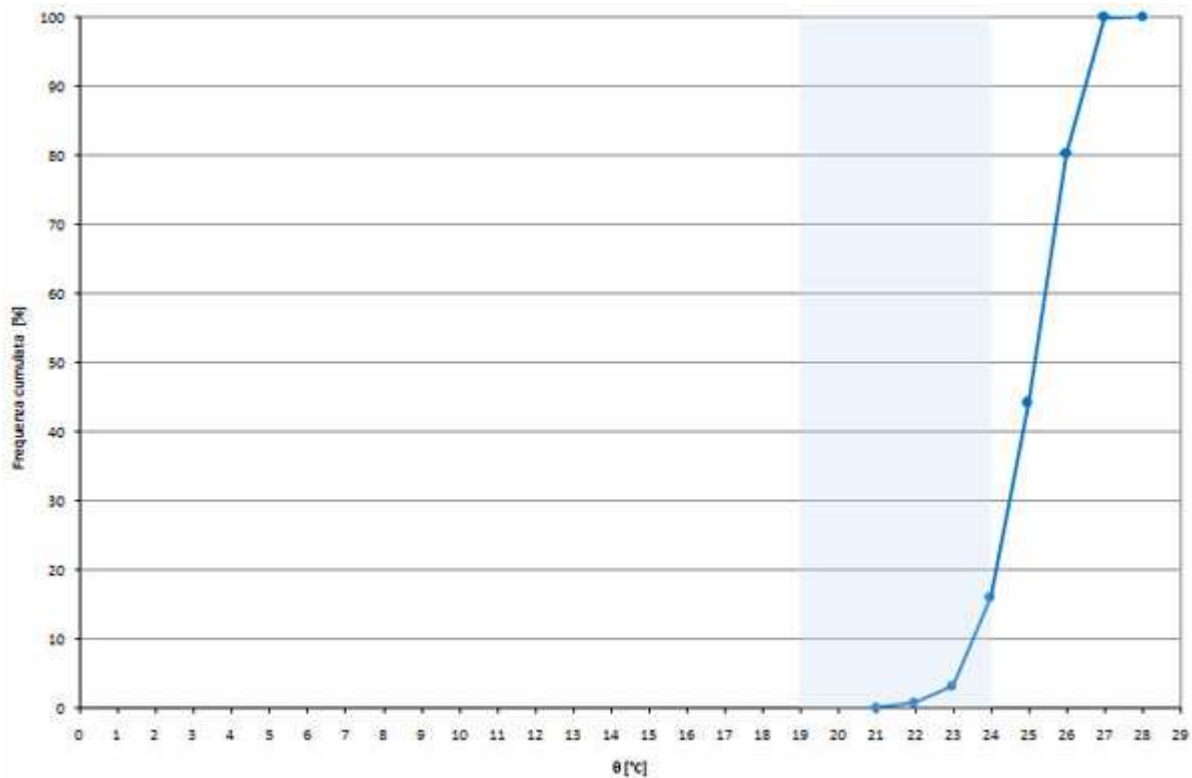
The knowledge of the object of study has been divided in the historical analysis and in the analysis of present state of the building. After explaining the context where the conception of Rocca Medioevale is placed and after briefly showing the procedure of its creation, the evolution in time of the accommodations and the lighting-engineering solutions inside exhibition rooms has been examined and redefined. Then an analysis on the existing conditions of the building has been done, facing all the aspects for outlining the “vocation” of Rocca to be museum. So architectonic, of the accommodation, of the electric plant, climatic and lighting-engineering survey, that has included the survey of the light sources and the appliances and the survey of the photometric quantities connected to the enjoyment and to the preservation of the building, have been realized. A cognitive enquiry about the impressions and the expectations of the public has also been held through an *ad hoc* questionnaire given to visitors.



Rocca of Borgo Medievale

***“From the knowledge to the project”***

The following phase, called “from the knowledge to the project”, is the connection between the stage of “knowledge” and the planning stage; during this phase in fact, preliminary analysis to the project have been done considering the facts that are emerged from the knowledge. In particular, planning requirements relating to inner environment have been established, comparing the results of the analysis and surveys done on the present situation inside exhibition rooms with the normative directions. So requirements for the preservation of the objects, for the enjoyment of the public and for the safety have been made clear.



Example of graph realized for comparing the facts emerged from the climatic survey with the normative directions. In particular, percentage accumulated frequency, referred to the temperature recorded in July in a room of Rocca Medioevale, with the indication of the optimal range of values for the preservation considered (19-24 °C)

### ***“Project”***

During the planning stage some proposals aimed at a reorganization of the museum course have been devised, circumscribed at the lighting-engineering area. The project has arisen from some conditions of a general nature and from the input derived from photometric surveys and from the enquiry about the impressions and the expectations of the public. Considering these conditions and input, the planning principles have been devised. So two lighting scenarios, that automatically alternate in every room when there are visitors, have been arranged, that is the “lighting scenario of setting”, to recreate medieval atmospheres, and the “lighting didactic scenario”, for pointing out the functions of the rooms in the Middle Age. A basic lighting for the activities of maintenance and cleaning and a lighting of emergency have also been taken into account. These principles have brought to the relative planning solutions. In particular for the “lighting scenario of setting” and the “didactic one”, appliances in style and belonging to the last generation have been provided respectively, a dynamic system managed by a direction room through a computer and started by a detector of presence, placed in every room, has been projected for allowing the automatic switching on and the alternation.



Example of representation of the “lighting scenario of setting” and “didactic one” in every room

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