Cooper Lighting's Energy Solutions Calculator Puts Answers In Hand

Lighting fixture manufacturer wishes to simplify the fixture specification process by automating calculations, giving users clear answers to which fixtures are the best fit for the application. EchoViz creates a world-class tool to take the guesswork out of the procedure.
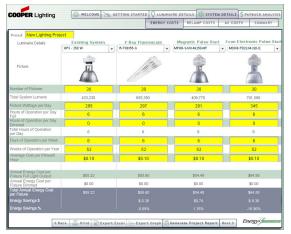
Situation

Cooper Lighting's objective was to provide a single source of information for consumers to compare three energy-efficient Cooper brands against competing products. Previously, lighting customers had to manually cull information from brochures and the web or call sales representatives. Even if all of the fixture information was available (lumens, wattage, fixture cost, etc.), an extensive knowledge of math and accounting was necessary to determine the energy costs, operating costs and internal rate of return (IRR) of one fixture over another. If one variable changes -- such as the total number of fixtures in a project -- the entire set of calculations would have to be redone.

The ideal solution would be an online application that would contain the product attributes from three of Cooper's top brands, have the ability to compare those brands to a competing fixture, as well as the capacity to conduct complex math calculations on-the-fly. With this technology, Cooper could position itself as the technological leader in the industry

Action

The Energy Solutions Calculator is an application which allows architects or lighting specifiers to compare product costs and energy savings over time for three separate Cooper Lighting brands of light fixtures versus generic competing High Intensity Discharge and Fluorescent light fixtures commonly used in similar environments.

The calculator starts by asking a series of leading questions with field-by-field validation, guiding the user through a specific usage scenario. It then selects the best fixtures for the application (based on the square footage of the space, mounting height, time of operation, etc.). Unlike competing calculators, users can change fixtures or variables at any time, with the figures recalculated on-the-fly. With the Energy Calculator, a customer can determine the best fixture for the installation environment, as well as the yearly costs of operation, and the long term savings from the purchase.

The user is offered a variety of methods for exporting the results from the calculator: Excel, PDF or hard copies. If the user chooses to generate a project report, the fixtures chosen and calculations made are inserted into a custom PDF with header and footer information, ready to be used as a sales brochure. At the user's request, the fixture and user contact information is emailed to Cooper Lighting for follow-up from a sales representative. No additional input is required from the user.

Currently, the calculator database contains 50 Cooper products and 7 competing products, representing a great deal of valuable information for users. A corresponding back-end editor was also created so Cooper Lighting employees can internally manage the database

interaction ›› user experience

Echo Visualization, LLC
881 Memorial Drive SE, Unit 118
Atlanta, GA 30316

www.echoviz.com

p 404.389.0873
f 404.389.0886

of fixtures.

Result

Users of the calculator can walk through the leading questions, and through the use of the back button, modify their answers for different results. Depending on which project application the user chooses -- either Retro-Fit or New Construction -- has an effect on how the fixture displays. In Retro-Fit circumstances, the mounting brackets for light fixtures may already be installed, and the construction crew has to work with the existing materials. For New Construction, the mounting hardware is not in place. For this reason, the calculator arranges the Retro-Fit Cooper Lighting fixtures by efficiency (highest to lowest), and the New Construction Cooper Lighting fixtures are arranged by amount of fixtures required to match the comparison fixture's lumens (lowest to highest). Performance is increased even further by the placement of a configurable text field in the New Construction section where the user can add a price for installation materials (i.e. pipe and wire) per fixture.

To allow the user maximum versatility, the outcome calculation reports are not necessarily viewed in a linear path -- tabs can be viewed in any order. Most result calculation fields are user-configurable; all modifiable fields are yellow to differentiate them from static fields. The product comparisons themselves allow the Cooper products to be compared to representations of leading competitive fixtures. These comparisons will allow a lighting contractor to choose the best fixture for the situation, even if the contractor is not familiar with the Cooper line of products. Specific functionality includes:

- Comparison systems in the first column can be changed in via a dropdown menu. Changing the comparison system recalculates the fields for the Cooper systems on-the-fly.
- Dimming calculations are included, allowing the user to configure how many hours per day the fixture is at full power, and how many hours per day the fixture is dimmed.
- Color-coded graphs can be generated and exported to give visual representations of costs and savings.
- Microsoft Excel files can be generated of each calculation screen, allowing users to add the calculator output to external file sources.
- A PDF Project Report can be compiled of every calculation table for printing, email or archive, all at the click of a button. The PDF Project Report also includes project information in a print header, including the project name, contact information and notes.
- Calculator users can have their project calculations, along with their project information, sent to a Cooper Lighting representative at the click of a button. Before the information is sent, the calculator determines if a properly formatted email address has been entered, and if the user has an active Internet connection.
- The calculator's XML database can be updated by Cooper representatives through the use of an online, password-protected editor. Existing fixtures can be edited or deleted, and new fixtures can be added.

With the opportunity for the Energy Calculator to run as a Shockwave application or on a CD-ROM, customers who seek to use the calculator can be either on or offline. Online users will have automatic updates if the fixture database changes. Offline users will be able to download the new database on demand, provided an Internet connection is available.

The comprehensive nature of the new Energy Calculator application means users are not required to have previous knowledge of any particular light fixture or accounting principle prior to successfully using the calculator. The introductory questions identify the specific usage scenario and allow the correct Cooper fixtures and competitive fixtures to be displayed as a result. The product was a big win for Cooper Lighting. The speed to market

of new product information is greatly increased, and with the use of the project reports, the user has a formatted sales tool in hand for client calls.

About Echo Visualization

Echo Visualization, LLC, (EchoViz) is a boutique interaction design & user experience consultancy with a strong background in industrial design, user-centered design, research, and brand management. We provide a wide spectrum of services including business analysis, digital strategy, user research, information architecture, interactive media, graphic design, data visualization, early stage concepting, interactive prototyping, animation, software development, implementation and QA testing. Throughout our work, we use established design strategies and advanced visualization techniques to engage customers and build brands. We are big thinkers and talented designers who strive to make an emotional connection with users by eliciting desire and delight with the interfaces we design.

interaction ›› user experience