

# Lighting Design Techniques for Retail Shops

This is Book One of the series of books about lighting design for retail projects. This Book 1 focuses on lighting design techniques for clothing shops or boutiques. It is divided into four chapters; first is the Theory of retail lighting, second is the Standards to be followed, third is how to use the Lighting Design Software, and last is the retail store evaluation.

All About Lighting Design

NELCA ROCO LIGHTING DESIGN

**Book**

**1**

NELCA ROCO

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All about Lighting Design

Lighting Design Techniques  
for **Retail Shops**

NELCA ROCO LIGHTING DESIGN

# Lighting Design Techniques for Retail Shops

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# Preface

Hello, fellow lighting designers! Thank you for reading this e-book. This book will be a not-so-formal type of reference materials. You will be reading this book as if I am talking to you in person.

Our main goal for writing this book is to share our knowledge for free. Our mission is to support the borderless-information-world. We would like to see a world where everybody is accessible to all the information we need through internet and no one is left behind. Really idealistic, but it is no harm in dreaming big. A little cautions though, no matter how many information we get, if we do not use it, it will be useless. Like what my mentor usually says, “Knowledge is power until you use it”.

If you have comments and suggestions, please let us know by sending us e-mail to [nelca.roc@nrocolightingdesign.com](mailto:nelca.roc@nrocolightingdesign.com), or join our conversations to our Facebook group Dialux Users. Also, check our Youtube channel for more video tutorials [www.youtube.com/user/nelcaroco/videos](http://www.youtube.com/user/nelcaroco/videos) There are also series of video tutorials included in this e-book, you may find it in chapter 12: Lighting Design Creation – Hands-on Tutorial.

To help us improve and become part of our e-books, please send us your **Book Review**, **Book Critique**, Sample Calculations or Images to [nelca.roc@nrocolightingdesign.com](mailto:nelca.roc@nrocolightingdesign.com).

You may also send us your own Lighting Design Techniques; we may include it in one of the chapters so you will also become part of our book.

This book is dedicated mostly to Lighting Designers.

Thank you and I hope you enjoy reading!

Don't forget to apply it!

## Upcoming Books:

### RETAIL LIGHTING BOOKS

BOOK 1: Lighting for Retail Shops

BOOK 2: Lighting for Supermarket

BOOK 3: Lighting for Car Showroom

BOOK 4: Lighting for Jewelry Shop

### OFFICE LIGHTING BOOKS

BOOK 1: Lighting for Small Office

BOOK 2: LEED Certified Office Lighting Design

BOOK 3: Office with Artificial and Daylight Integration

BOOK 4: Call Center Lighting Design

BOOK 5: Control Centre Lighting Design

### INDUSTRIAL LIGHTING BOOKS

BOOK 1: Substation Lighting Design

BOOK 2: Seaport Yard Lighting Design

BOOK 3: Airport Hangar Lighting Design

BOOK 4: Warehouse Lighting Design

### SPORTS LIGHTING BOOKS

BOOK 1: Football Field Sports Lighting Design

BOOK 2: Swimming Pool Indoor Lighting Design

BOOK 3: Sports Hall Lighting Design

BOOK 4: Golf Course Lighting Design

### LANDSCAPE LIGHTING BOOK

#### FAÇADE LIGHTING BOOK

#### ROAD LIGHTING BOOK

Lighting Design to achieve LEED points

Lighting Design to help achieve BREEAM Certification

# Table of Contents

Introduction .....	6
Theory of Retail Lighting .....	7
History of Retail Shops .....	10
What are Retail Projects? .....	11
Functions of lighting in retail shops.....	11
Retail Lighting Design Standard .....	17
How-to Lighting Design Techniques .....	18
Retail Lighting Design Evaluation .....	18
Retail Shop Lighting Design Considerations .....	20
Brand or Theme .....	21
Light Sources .....	25
Sustainability .....	27
Architectural Design .....	28
Retail Lighting Design Standards .....	33
Lux Level .....	35
Overall Uniformity.....	38
Glare.....	40
Light Effect .....	42
Color Rendering .....	45
Color Temperature .....	47
Sustainability Standards.....	49
Types of Lighting in Retail Shops .....	53
General/Ambient Lighting .....	53
Task Lighting.....	56
Accent Lighting.....	58
Decorative Lighting .....	60
3 Ways to Light a Retail Shop .....	62
Common .....	62
Formal .....	63
Dramatic.....	64
What is Limbic Lighting?.....	66
Balance .....	67
Stimulance .....	68
Dominance.....	70
Types of Luminaires for Retail Shop .....	72
Track Lights.....	72
Downlights.....	74
Wall Washers.....	76

Shelf Lights.....	78
Pendant Lights .....	80
Cove Lights .....	81
Back Lit.....	82
Decorative Lights .....	83
Lighting Techniques .....	84
Window Display .....	85
Entrance.....	85
Gondola or Display Case.....	86
Shelves and Racks .....	86
Cash Counter.....	86
Spot Merchandize .....	87
Sales Floor .....	87
Fitting Room.....	88
Stock Room.....	88
Tools .....	89
Computer Software .....	89
Aiming Devise .....	90
Lux Meter .....	90
Luminaire Manual .....	91
Lighting Design Report.....	93
Lighting Calculation Report.....	93
Pseudo-colours .....	94
Aiming Diagram .....	95
Images .....	96
BOQ and Specifications.....	98
CAD File/ Lighting Layout .....	98
Datasheets.....	99
Conceptualization and Product Selection .....	100
Lighting Design Software.....	102
Dialux evo .....	102
AGI32.....	103
Relux .....	104
Photoshop.....	105
AutoCAD .....	105
Lighting Design Creation – Hands-on Tutorials.....	107
How to clean and understand the CAD file.....	108
How to build in Dialux evo.....	108
How to create and import objects .....	108

How to select luminaires .....	108
How to aim the spotlights .....	108
How to create light scenes .....	109
How to generate and prepare the report.....	109
How to prepare the lighting layout.....	109
Retail Shops Project Evaluation .....	110
Chanel.....	111
Prada.....	112
Gucci .....	113
Dolce and Gabbana .....	115
Guess.....	116
Lacoste.....	118
Diesel .....	119
Adidas .....	120
Bibliography .....	122
Definition of Terms.....	122
About the Author.....	124



## Introduction

*Architecture is the learned game, correct and magnificent, of forms assembled in the light. –Le Corbusier-*

**T** There are four parts that summarize this e-book. We try to make it simple and easy to read. One part is all about the theory of lighting related to retail shops, then standards concerning the retail lighting design, third is the “How-to’s” in doing the lighting design project, and last is the evaluation chapters where we will analyze, evaluate and criticize some existing retail shops.

Please note: to maximize the use of this e-book, you may click on the images attached and it will direct you to the website link. Most of the images here are from the internet. You may further read these articles, blogs, and other information later on. This is my way of referencing the images. Wink!



## Theory of Retail Lighting

This first chapter will be focusing on the theory of retail lighting design, which includes little history of retail shop, types of retail projects, reason why do we need to provide amazing lighting design for retail shop, and who are mostly benefit the lighting design for retail shop and who are the leading brands of lighting manufacturer in retail shops. Please note, this list will be just my opinion, you may object if you don't agree with it. I will not promote any brand. I will just say whatever I think is best based on my experience.

So, to know more about this theory, we need to read. A lot! There are lots of books and websites where we can read about the theory of retail lighting, but if we really want to know the real application theory of lighting, we need to check what the retail companies are saying about it. Other reliable source of finding the theory of lighting is to read the articles from designers and retail lighting manufacturers. Let's forget the old theories and move on to the latest trend.

They have the updated information about the latest trends in retail lighting design because it is sometimes the buyers who dictate what they want to see in these premises.

I would like to suggest checking the following blogs, books and websites. I am not promoting any company or person. I just want to share the reliable sites where we can get valuable information. If you want to add something on this list, please let me know so we can add it in our final e-book.

Here is the list of sites for other retail lighting information:

<http://www.ies.org/lighting/applications/interior-retail.cfm>

<http://retailightinganddesign.com/>

<http://www.self-electronics.de/index.php/applications/index/id/79/lang/en>

<http://luxreview.com/global/retail>

<https://www.shopify.com/retail/120040003-visual-merchandising-101-how-to-create-store-designs-with-high-converting-displays>

<http://fitsmallbusiness.com/retail-store-lighting/>

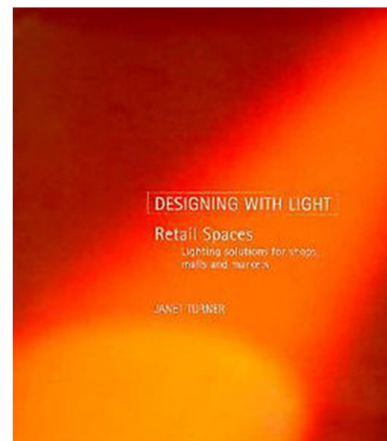
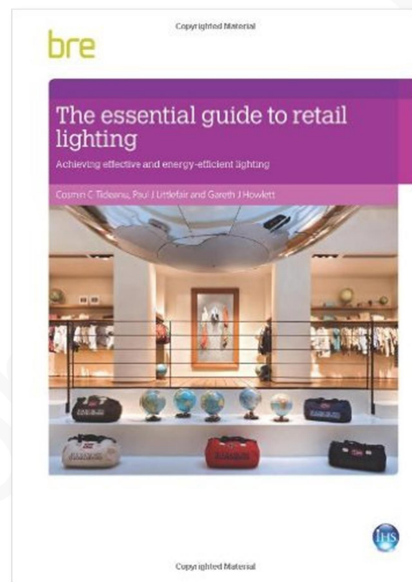
[http://vivaldi.zumtobel.com/?\\_ga=1.77885716.1694906399.1447047226#/limbic](http://vivaldi.zumtobel.com/?_ga=1.77885716.1694906399.1447047226#/limbic)

You may also check other strong brands for retail lighting, like Fagerhult, Philips, Erco, and Zumtobel. I would like to suggest seeing the retail application or project page and see how they solve the client's requirements.

Hey! You are not copying. You are just looking for inspiration. It is a two different way.

Another way of studying the theory of retail lighting is to read books. Here are some suggested books which you can also read some pages from Amazon.com.

If you are reading this e-book in your desktop, tablet or smart phone, just click the picture and it will automatically bring you to the web page.



## LIGHTING DESIGN FOR RETAIL SHOPS



I know, it sounds boring but I am not forcing you to read books. What all I know is, if you really want to become an effective lighting designer who specializes in retail lighting, then, you need to read more. Hahaha! Accept that we don't know everything. Being a lighting designer is always a continuous learning.

Click here for more books to read. <http://www.nrocolightingdesign.com/books>

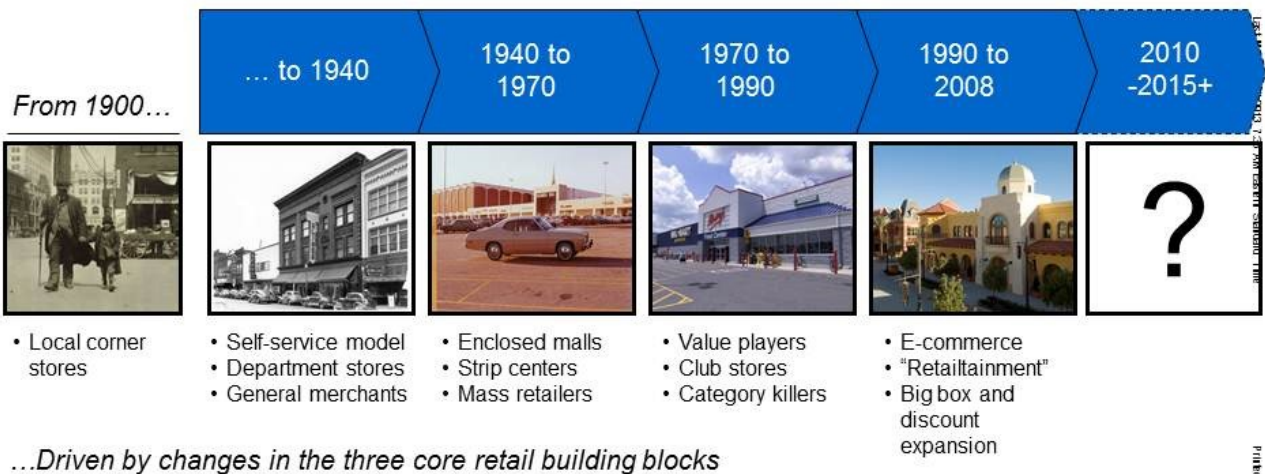
### History of Retail Shops

Let's go back to where this retail shop begins; it is better for us to at least understand the history of the project we are working with. When, where, why, who and how this retail shops starts? I remember when I first heard the word retail shop when the shopping malls are already existed. How about you?

I only know that we started from barter system, there is common public place where they can sell goods, then money came, then people can buy more, then people ask for more, then people can do a lot more, then men and women started to become obsessed with fashion, then retail shops with lighting starts.

Josh will tell us on his blog on how did we get here ([a short history of retail](#)), and Nicole will give us the hint about the [history of retail shopping](#). If you are really obsessed on how the retail shops starts then read this [list of books and articles about history of retailing](#). Hahaha! Let me know if you did read all of these. I will give you some amazing gift!

### Major trends and enablers have driven new eras within US retailing



<b>Merchandise and pricing</b>	<ul style="list-style-type: none"> <li>Standard products</li> <li>Refrigeration</li> </ul>	<ul style="list-style-type: none"> <li>Mass market products</li> <li>Demand for variety</li> </ul>	<ul style="list-style-type: none"> <li>Commoditization</li> <li>Private brand</li> <li>Oil crises</li> </ul>	<ul style="list-style-type: none"> <li>New definition of value</li> <li>Mass customization</li> </ul>
<b>Store experience</b>	<ul style="list-style-type: none"> <li>Shopping cart</li> <li>Self-service</li> </ul>	<ul style="list-style-type: none"> <li>Suburban life</li> <li>Automobile</li> </ul>	<ul style="list-style-type: none"> <li>One-stop shopping</li> </ul>	<ul style="list-style-type: none"> <li>Services</li> <li>Online/virtual</li> </ul>
<b>Marketing approach</b>	<ul style="list-style-type: none"> <li>Print media</li> <li>Radio ads</li> </ul>	<ul style="list-style-type: none"> <li>TV ads</li> <li>Fads &amp; fashion</li> </ul>	<ul style="list-style-type: none"> <li>Global megabrands</li> <li>EDLP</li> </ul>	<ul style="list-style-type: none"> <li>Introduction of personalization online</li> </ul>

### **What are Retail Projects?**

You might be wondering what retail projects are. If your boss or your client asks you to design a retail shop, you may immediately think of a clothing store. Actually, that might be for me only. I really don't know what you think. Wink!

Retail projects goes from small to big enterprises. Malls, supermarket, clothing boutiques, grocery stores, car showroom, book shops, toy shops, bakery, and jewelry shops, anything that sells merchandize in a specific place can be a retail project.

Now, we know.

To get the perfect definition of retail projects, let's go and visit one of the big brands thought about it.

According to ...

Since we know a lot of different retail projects, this e-book will only be focusing on clothing retail shops.

### **Functions of lighting in retail shops**

So, before we go directly to our computer and start clicking the Dialux icon or any lighting design software icon for that matter, let us find out first what are we going to do and why retail shops needs lighting.

Why do you think retail shops need lighting? How do you think lighting will help the retail shops get its goals? By the way, what are the goals of retail shops? These are some of the questions that we need to address before diving into the drawing board.

According to the old people with necktie, retail shops main objective is to sell merchandize. Nothing else! That's the end goal.

Ok? So that is the main goal. Sell goods. How do you think lighting will help that?

To reach that goal there is a process called "attract then satisfies", from which lighting will help a lot. A lot!

From attracting the customers to enter the shop, to sensing the products in their hands, to completing the sale at the cash counter.

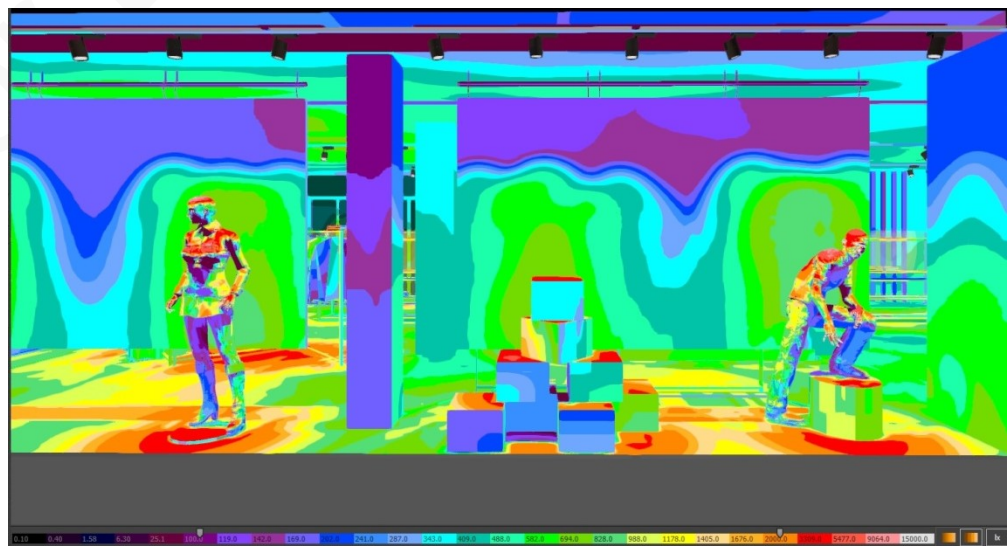
The basic functions of Retail Lighting:

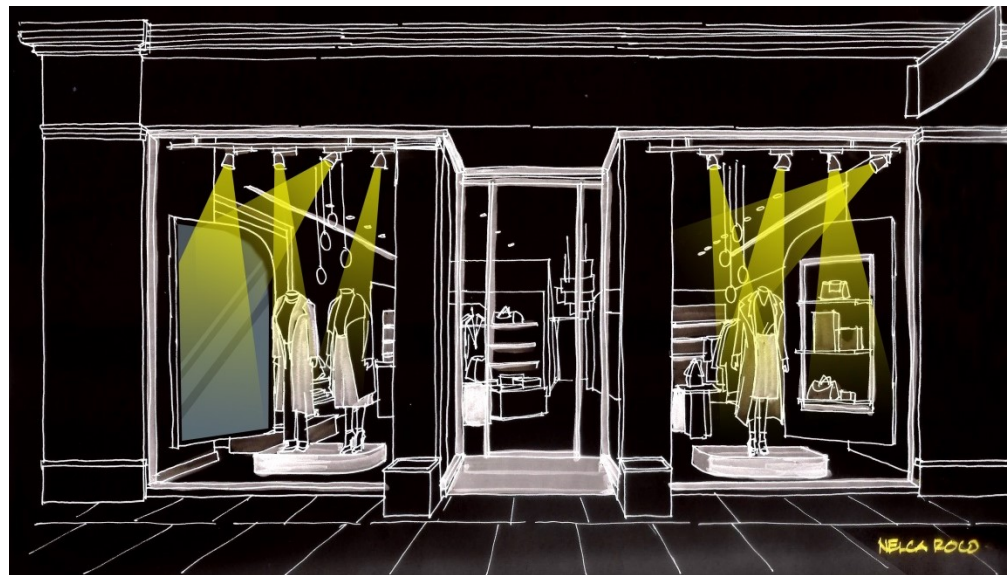
1. Attract the customers
2. Guide Customers
3. Show the correct quality and color of products
4. Provide task light

...and so on, there are lots of articles mentioning the basic function or roles of lighting in retail shop. Let's just focus on these four.

**Attract the customers** – this can be done from the entrance, window display and highlighted items. Lighting is the most powerful tool to attract the attention of human being. You might think it's the color, or the shape or the movement. But no, it is the light. It is the secret ingredient to enhance the colors, the shape and even the movement. Light is the hidden hero for all the beautiful things you see in this world. That is for the tangible ones.

Entrance and window display are the main areas which is critical to get the first impression of the retail shop. The lighting design must convey the correct message from what is inside the shop. It must compliment the architectural feature of the retail shop entrance and provide the best lighting scene for the occasion.





Later in this chapter we will discuss how to light the window display and entrance effectively. There are many ways on how to do it. It must be associated with different occasions, which gives different lighting effect. The retail merchandiser wants a flexible lighting installation, so we as lighting designer must help them accomplish it.



**Guide customers** – Lighting must successfully guide customers to proper circulation inside the retail store. Finding the locations of fitting rooms and cash counter inside the retail shop must be easy to customers.



## LIGHTING DESIGN FOR RETAIL SHOPS

This safety and guidance will be achieved usually by general lighting. Special lighted signage for fitting rooms and cash counter will add emphasis to these areas.



For this particular function, the lighting standard must prevail. Uniformity or lighting ratio is the number one consideration.



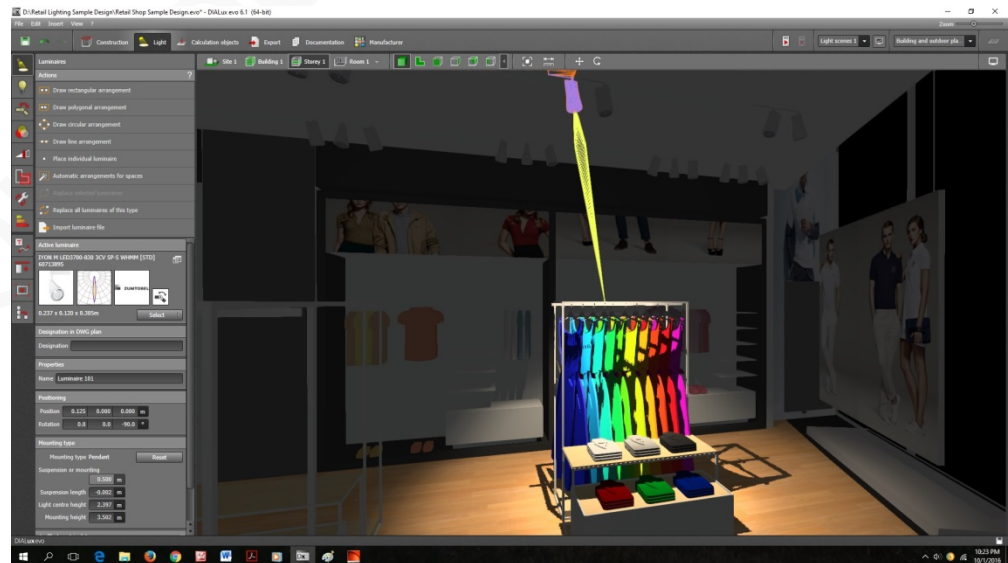
**Show the correct quality and color of products** – giving the correct color rendering and texture helps the customer evaluate the product properly. The more the customers appreciate the fabric, color, texture, and other details of the merchandise the more they will likely proceed to purchase.

## LIGHTING DESIGN FOR RETAIL SHOPS

This is not only applicable in selling area, but most importantly in the fitting room. The customers must look good when they look at the mirror. Providing correct color rendering which enhances their skin tone and the fabrics will boost the emotional urge of the customer to buy.



Later we will discuss the different lamps and luminaire which will help achieve this goal. Not only the position of the mirror that makes the fitting rooms exciting but also the lighting.



## LIGHTING DESIGN FOR RETAIL SHOPS



**Provide task light** – this is to assist the customers read the price tags labels and to facilitate customers transactions. This is very important in cashier area. Providing enough lighting will reduce mistakes in payment transactions.

This task light along the cashier area will also use as part of identifying the space. Customers will easily identify the location of cash counter by using different lighting. This light source can be both decorative and functional.

On the next pages, we will discuss how we will light the cash counter in all possible options.



To summarize, the basic function of retail lighting is: to attract the customers, guide them, show-off the merchandize honestly, and to provide enough light for the sales staff.

## Retail Lighting Design Standard

Now, when we say standard it means it should be followed or it will be the guidelines. Two major standards are dominating our lighting world today, aside from the local standards or regional standards. These are the American standards and European standards. It is no use to ask questions why it happens, what we need to do is to study both of these standards and apply it as per the client's requirements.

For retail lighting, it is not very difficult to follow these two because retail lighting is based on perception, not on lux level. So whatever these 2 are saying, the final decision is still on the crazy idea of the designers and the company brand. As long as we follow the basic requirements which involve the safety and security of the customers and of course the maximum load requirement of the mall or building, then we are good to do whatever we want. Amazing, right?

Here are some of the books for retail lighting design standard. Some of it can be downloaded for free. If you have generous friends who has the copy, ask them, but make sure you give them something in return. Like maybe other lighting designs information. Don't be just be a taker, it is always better to share.

Advanced Lighting Guidelines (ALG) [www.algonline.org](http://www.algonline.org)

The SLL Code for Lighting (CIBSE) [www.cibse.org](http://www.cibse.org)

The Lighting Handbook (IESNA) [www.ies.org](http://www.ies.org)

If you want to add more to this list, please let me know. Aside from this 3 lighting design standards, you may also need to check your local or regional organization if they have the separate lighting design guidelines. It is necessary to ask the client or consultant which standard to be used before start working on the design.

## How-to Lighting Design Techniques

This is the part that I am sure will excite you most. This is the main part of this amazing e-book. I will discuss some techniques in this book, but most of it is made in videos which can be found at [www.nrocolightingdesign.com](http://www.nrocolightingdesign.com). Please understand me; it will be very hard for me to explain how to do it in words, it is better to show it. I think that's why it is called "how-to" because you need to show it?

There will be series of tutorials. It will start from the basic information. A Powerpoint slides will be given, then the techniques on how to do it, and finally how to evaluate the design and prepare the documents. We will be using Dialux evo in the tutorials. I may use AGI32, but it will be separate e-book. Below are the video topics:

1. How to clean and understand the CAD file
2. How to build the retail shop in Dialux evo
3. How to create and import objects
4. How to select luminaires
5. How to aim the spotlights
6. How to create light scenes
7. How to generate and prepare the report
8. How to prepare the lighting layout

Website Links will be given for every tutorial, which can only be access here in this e-book.

Comments, suggestions and questions area will be part of the video sites to continuously improve our tutorials.

## Retail Lighting Design Evaluation

In this part, we will choose 8 major retail shop brands which we will evaluate according to their style.

From this study, our objective is to see if branding really affects the lighting design or the other way around.

I'm sure you are also curious how these famous brands use lighting to attract customers. How they emphasize their brands and how they use lighting as their secret weapon to manipulate buyers to purchase products. Hahaha! I'm sure, the way I mentioned it makes you think deeper. Don't be silly, it's just my opinion.

The brands we are planning to study are below:

1. Chanel
2. Prada
3. Gucci
4. Dolce and Gabbana
5. Guess
6. Lacoste
7. Diesel, and
8. Adidas

for Book Review

## Retail Shop Lighting Design Considerations

*Light is the life-force of man-made structures. It is through light that events become meaningful.* — Prof. Edward P. Bartholomew

**S**o, you received a lighting design inquiry from your clients. You are very much excited to work on it. Your hand is so itchy to start working on it. You are so enthusiastic! Finally, you will design a retail lighting project. But before you do something crazy, you need to know this.

Before a lighting designer starts selecting luminaire and calculating the lighting design, he/she must find or ask the client about the limitations, requirements, lighting concept and the basic considerations in lighting design. These are:

1. Brand or theme
2. Light Sources
3. Sustainability
4. Architectural design

Why is it important for us to get all these information before start working on the lighting design? Because with this information, it will lessen the revision, reduce error and the main lighting design goal is properly examined.

Some retail shops especially the big brands have established their design criteria before it was handled to a lighting designer. What a lighting designer can do is to run the calculations and achieve the standard requirements for the specific areas. Without the basic lighting design considerations, lighting designer may possibly stumble into different problems which will cause the delay