

# 2014 TLFEA Zhaga Seminar

## - Zhaga 模組規格統一化

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# Agenda



Background

Book Development

What's in a Book?

Progress

Overview Books 1 2 & 3

What's next?

1. Books 9, 10, 11
2. Zhaga Rebate Program
3. Zhaga-UL Work Shop in Taiwan

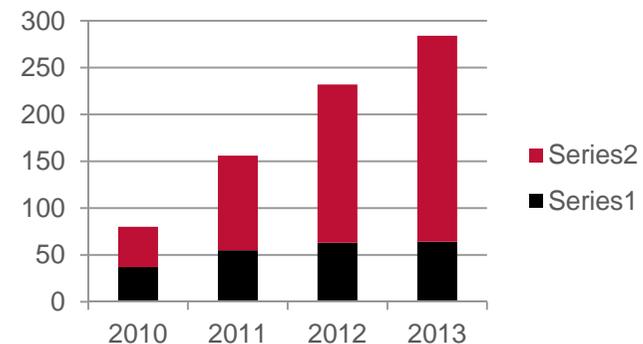
# The Zhaga Consortium



- Zhaga is a global consortium of companies founded on February 3, 2010
- Membership is **growing** rapidly (>230 Companies)

- Meeting every 6-8 weeks
- 3 day meeting
- EU, US and Asia
- 70-90 participants

Zhaga Membership



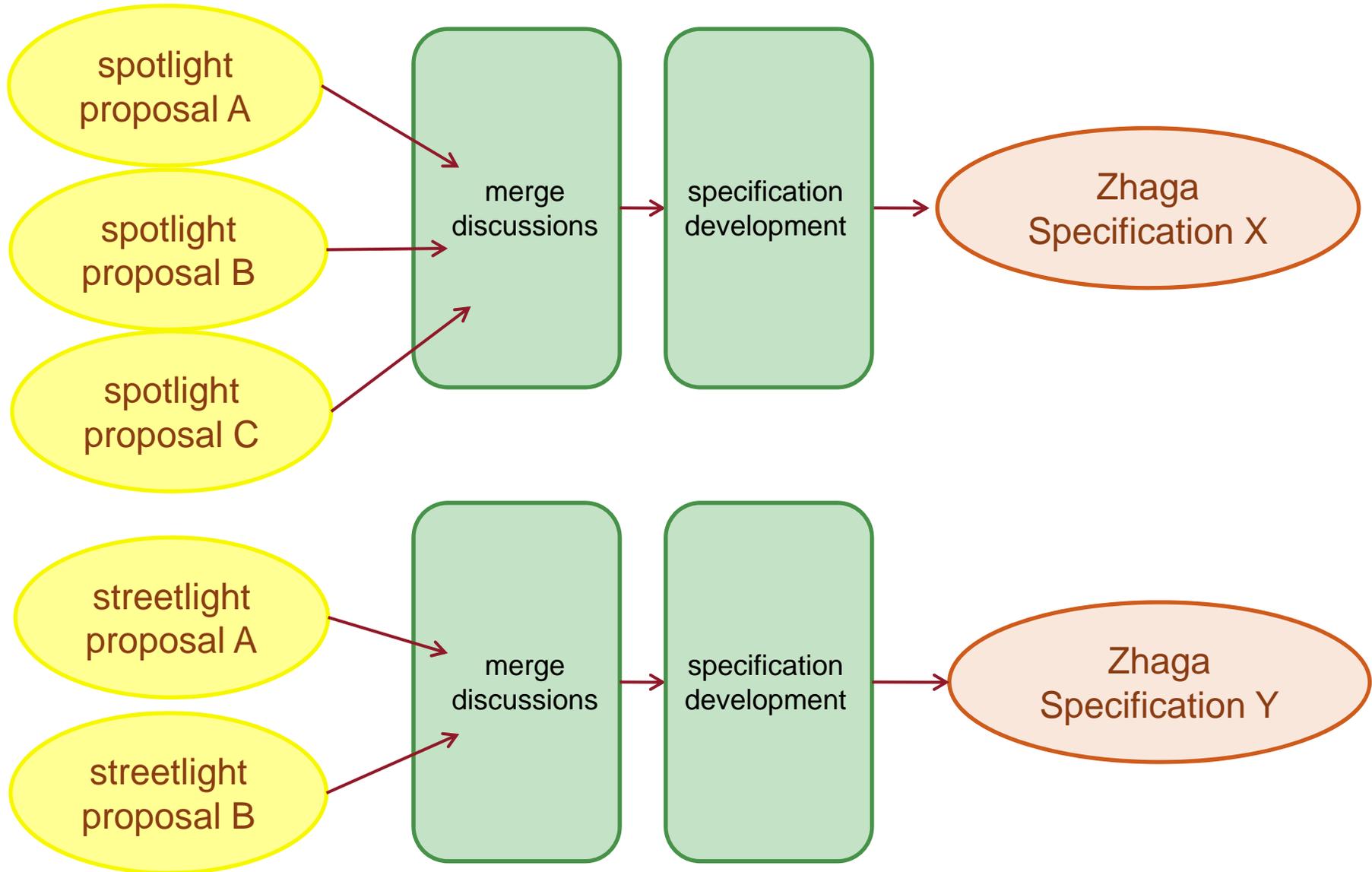
- Fast and dynamic collaborative effort to develop specifications for **LED light engine** interfaces.

# Book Development Background



- From the Zhaga Mission:
  - To develop interface specifications (*Books*) that cover the physical dimensions, as well as the photometric, electrical and thermal behavior, of LED light engines.
- Cover Range of Lighting Applications
- Follow Consortium Development Process
- Available First to Members Only
- Published when Products are Certified

# Book Development Process



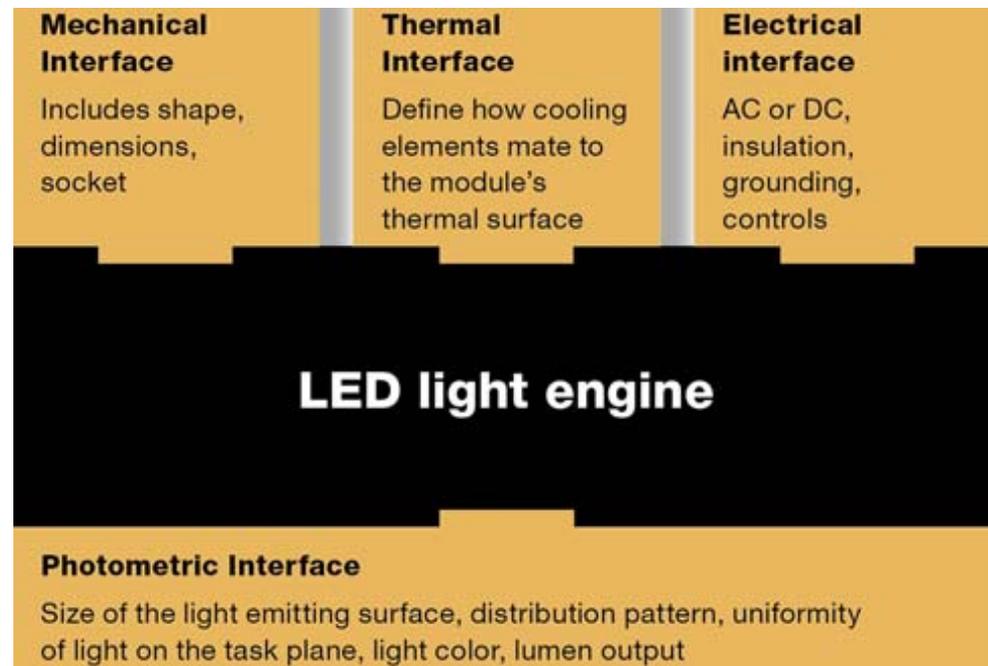
# What's In a Book?



- The Zhaga Interface Specification consists of a series of books
- Except for Book 1, Each Book defines the **interfaces** between an LED Luminaire and its **LED Light Engine** for a particular **LLE Type**

## Minimum Interface Specification

- Mechanical = Physical Fit
- Electrical = Electrical Ratings
- Thermal = Thermal Dissipation
- Photometric = Light Output
- Control = On/Off and Dimming

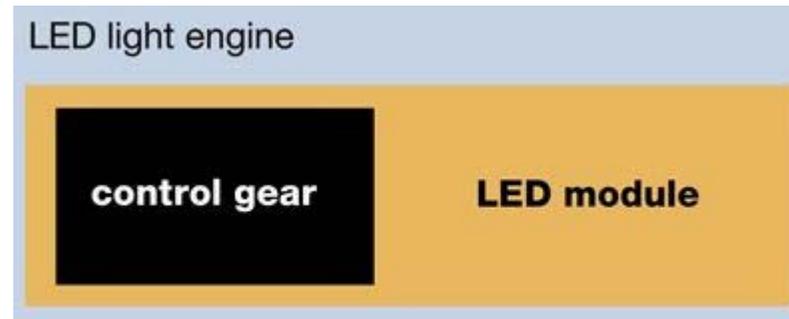


# LED Light Engine (LLE) Defined

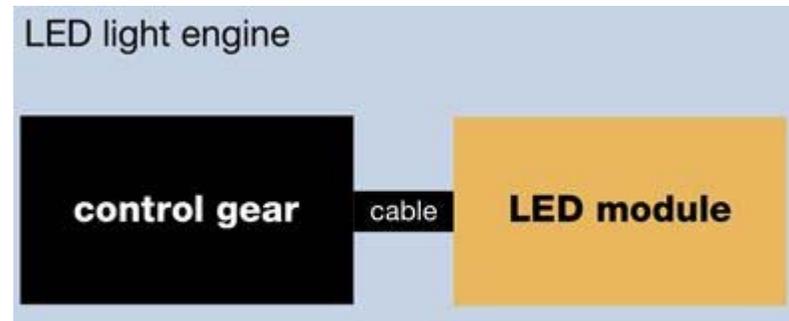


An LED light engine is the combination of an LED module and its associated electronic control gear ('driver').

Integrated ECG



Separate ECG



# LED Light Engine Types



## LLE CHARACTERISTICS

- Socketable vs. Non-Socketable
- Integrated ECG vs. Separate ECG

## LLE TYPES:

- A) Socketable with integrated control gear
- B) Socketable with separate control gear



- C) Non-socketable with integrated control gear
- D) Non-socketable with separate control gear

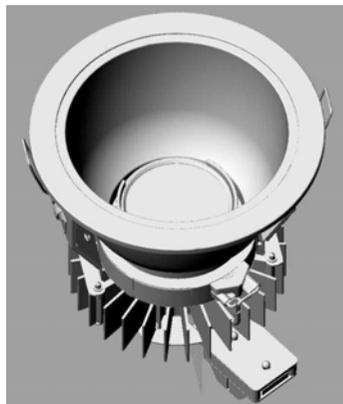


# Complete System Specification



- For a given LLE Type: Each Book specifies **interfaces** for the complete system (i.e. LLE / Luminaire):

Integrated LLEs  
LED Modules



ECG / Drivers



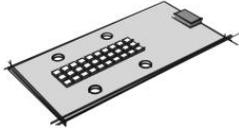
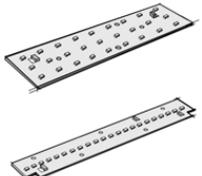
Holder  
Luminaire /Heat sink



# Available Specifications:



Books for a wide Range of LLE Types And Applications

|   |   |  |
|---|---|--|
| <p><b>Book 4:</b><br/>Street Light Engine with <b>separate</b> ECG</p> <p><i>Street / High-bay Outdoor</i></p>   | <p><b>Book 2:</b><br/><u>Socketable</u> LLE with <b>integrated</b> ECG</p> <p><i>Downlight from Recessed Mount</i></p>   | <p><b>Book 3:</b><br/>Spot LLE with <b>separate</b> ECG</p> <p><i>Spot light</i></p>                        |
| <p><b>Book 7:</b><br/>Indoor LLE with <b>separate</b> ECG</p> <p><i>Office / Troffer style Luminaires</i></p>  | <p><b>Book 5:</b><br/><u>Socketable</u> LLE with <b>separate</b> ECG</p> <p><i>Track, recessed, pendant</i></p>    | <p><b>Book 6:</b><br/><u>Socketable</u> LLE with <b>integrated</b> ECG</p> <p><i>Compact downlight</i></p>  |
|   | <p><b>Book 8:</b><br/><u>Socketable</u> LLE with <b>integrated</b> ECG</p> <p><i>Downlight from Recessed Mount (Same as Book 2, but With larger base)</i></p>  | <p><b>Book #: NEW ??</b></p> <p><b>Based on Proposals From Regular Zhaga Members</b></p>   |

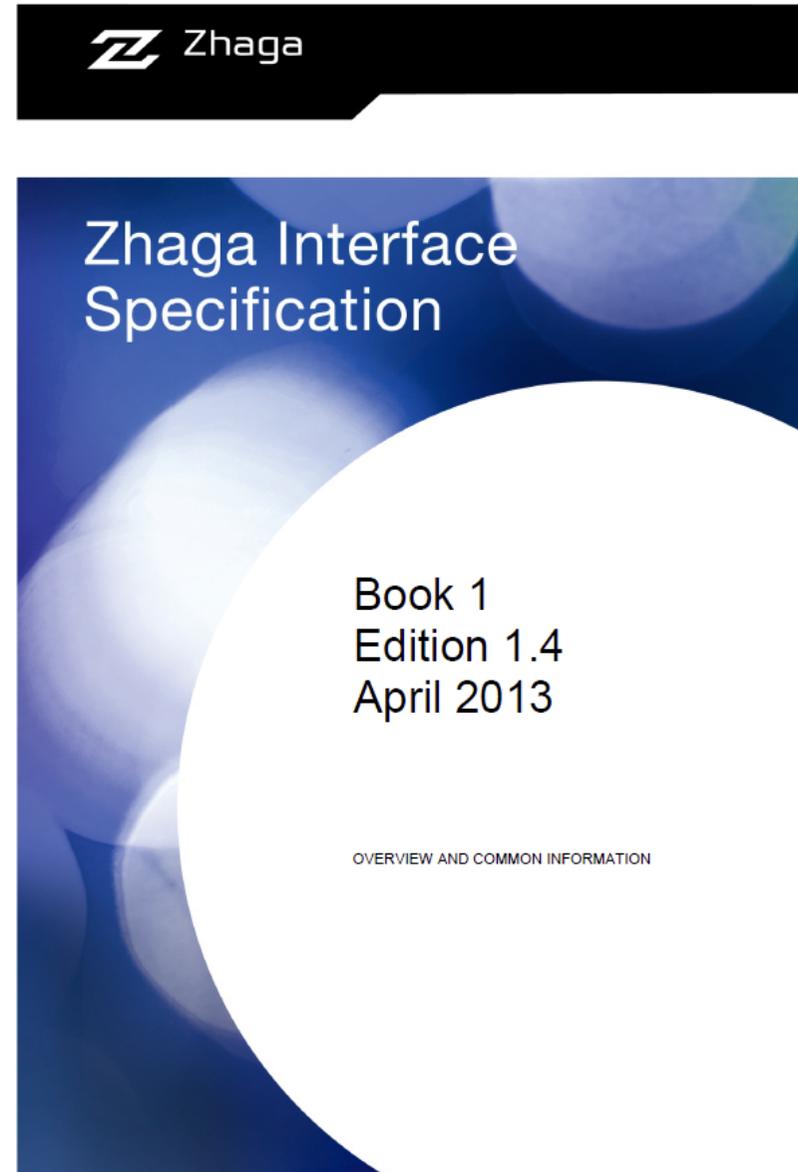
# Overview Book 1



- Scope:  
This Book 1 of the Zhaga Interface Specification specifies general requirements for Zhaga compliant LED Light Engines and Luminaires.

Book 1 covers:

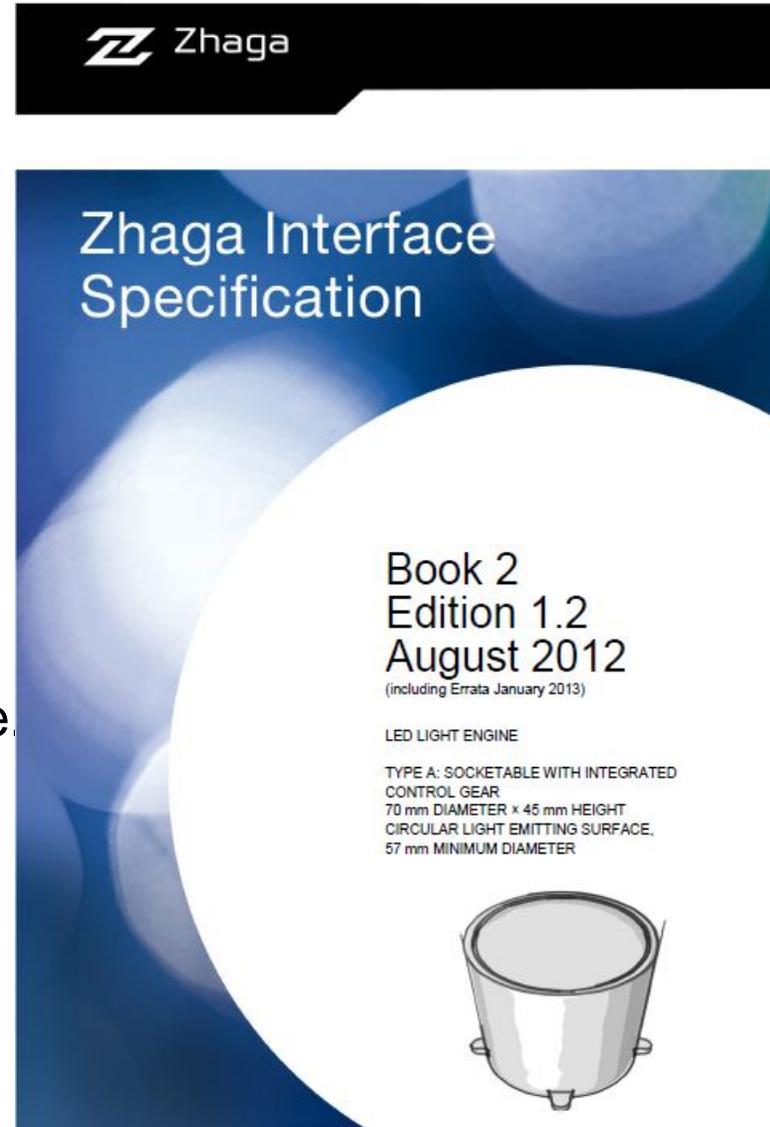
- Common Information
- Key Concepts
- Interface Fundamentals
- Tests



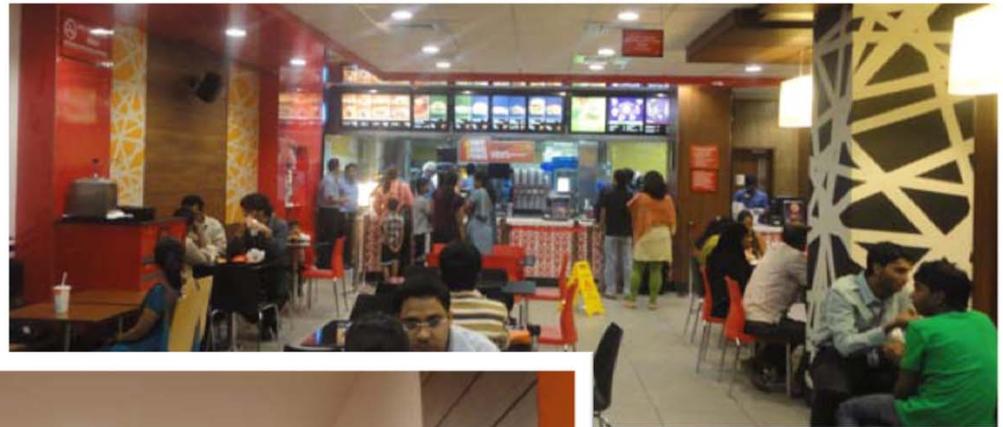
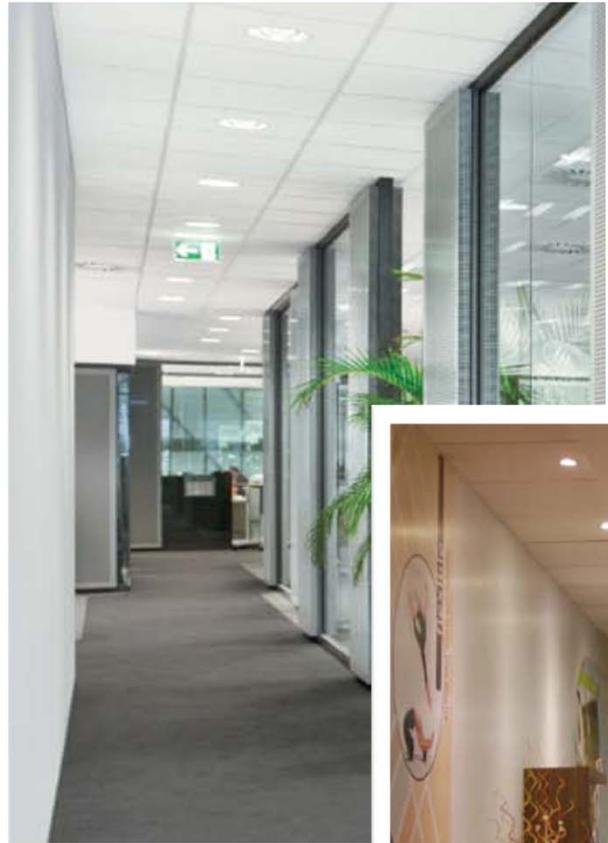
# Overview Book 2



- Scope:  
This Book 2, LED Light Engine Type A: socketable with integrated control gear 70 mm × 45 mm, of the Zhaga Interface Specification defines the interfaces for LLEs with integrated ECG that have a typical diameter of 70 mm, a typical height of 45 mm, and a PHJ65d type Base.



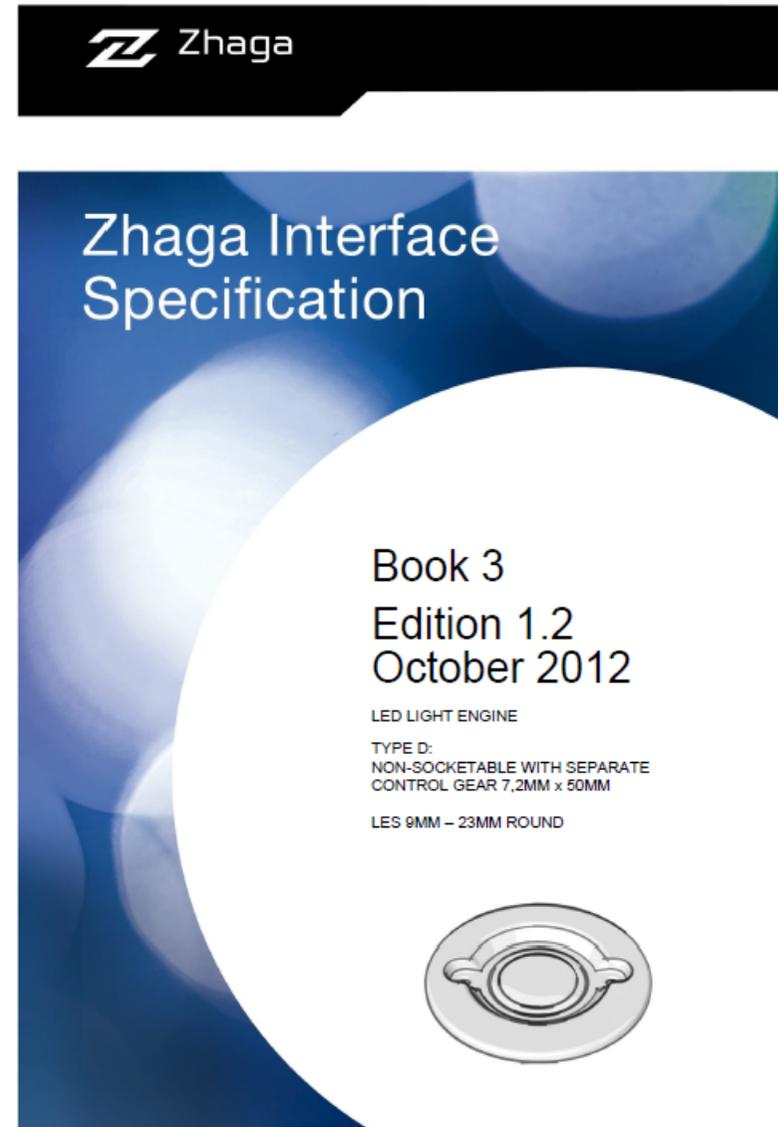
# Book 2 Application: Downlighting from Recessed Mount



# Overview Book 3



- Scope:  
This Book 3 defines the interfaces between a “Spot LED Light Engine with separate Electronic Control Gear” and a Luminaire.



# Book 3 Application: Spot Light



# Zhaga Testing Process



- Products must be tested to verify compliance with a Zhaga specification.
- Zhaga-Authorized Test Labs for Book 2 ~ Book 8: UL
- A Zhaga Test center (e.g. UL) will test the product to verify compliance with mandatory requirements. If the product passes all tests, the ATL delivers
  - a) A test report
  - b) A test report summary (Test Certificate)

# Certification Process



- The manufacturer submits the test report summary to the **Zhaga Logo License Administrator (LLA)** by means of a web-form on the Zhaga website.  
*Note: Prior to submitting test reports the manufacturer must sign a Licensee agreement.*
- The Logo License Administrator certifies the product if the test report summary is correct.
- The product is published in the **“Certified Product Database”**
- Use of the **Zhaga logo** is restricted to products that are visible in the Certified Product Database
- After certification, Zhaga may verify compliance of products in the market.

# Getting Started



- As an Authorized Test Center and regular member of the Consortium, **UL** offers global capability, expertise, evaluations and compliance testing services for **Zhaga**.
- Zhaga testing is available separately or as a bundle along with other **UL lighting industry services** such as
  - **Energy Star,**
  - **Photometric performance testing and/ or**
  - **Safety Certification (per US, Canada and IEC standards).**
- Visit us on the web at: [ul.com/zhaga](http://ul.com/zhaga) .

# What's next?

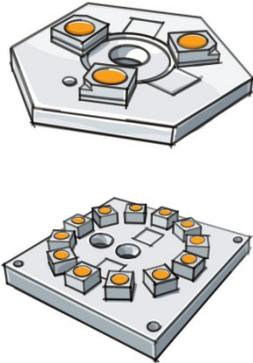
## Books 9, 10, 11



**Book 9:**  
**Non-Socketable LLE with separate ECG**

*Small spotlights, track lighting*

diameters of 12 mm or 25 mm for the ring-shaped LES



**Book 10:**  
**Non-Socketable LLE with separate ECG**

*Spotlights*

overall diameter of 75 mm and a height of 8 mm



**Book 11:**  
**Socketable LLE with integrated ECG**

*Spotlights*

overall diameter of 35 mm and a height of 3.5 mm



# What's next?

## Zhaga Rebate Program



受益範圍：所有Zhaga的正式會員及準會員。

主要補貼優惠內容：

1. 每位成員公司在 Zhaga 授權實驗室測試產品時，可以有3款產品得到補貼，具體產品補貼金額如下表；
2. 此外，參加此次活動的準會員公司可以免除一年的 Zhaga 標誌授權使用費用。

- 時間：
1. 由於總體預算有限，實施先到先得方式，有意願的公司盡量提早申請；
  2. 最後產品送測時間：2014年5月31日

註：聯繫授權實驗室的同時要與 Zhaga 的財務中心 IEEE-ISTO 取得聯繫，以方便 Zhaga 為貴公司預留補貼費用。

| Product type                | Standard rebate for 1 <sup>st</sup> product (EUR) | Rebate for each of the 2 <sup>nd</sup> and 3 <sup>rd</sup> products, where these are the same product type from the same Book as the 1 <sup>st</sup> product* (EUR) |
|-----------------------------|---|---|
| Book 2/6/8 LED light engine | 3500  | 1050  |
| Book 3/4/5 LED light engine | 4000  | 1200  |
| Book 7 LED light engine     | 2200  | 660   |
| Book 2/6/8 holder           | 1000  | 300   |
| Book 5 holder               | 1500  | 450   |
| Book 2/3/4/5/6/8 luminaire  | 1500  | 450   |
| Book 7 luminaire            | 1200  | 360   |

# What's next? Zhaga-UL Work Shop in Taiwan



**Coming Soon - in June, 2014**

**THANK YOU.**



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