



**INTERNATIONAL
YEAR OF LIGHT
2015**

Sviluppo di prodotti efficienti per l'illuminazione

- OLED
- LED + controlli, interazione luce-uomo
- Lumière



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Sviluppo di prodotti efficienti per l'illuminazione

- LED + controlli, interazione luce-uomo



I collaboratori universitari

Poli. Milano. Dip. Design

Univ. Milano. Dip. Informatica e
Comunicazione

Univ. Sapienza Roma. Dip. DIAEE

Univ. Napoli Federico II

I principali partner

ASSIL

Assoluce

Crosspoint

Harvard Engineering

NERI

Oxytech...

Sistema in evoluzione

Esigenze (anche potenziali):

- sicurezza
- comfort visivo
- estetica
- aspetti non visivi...

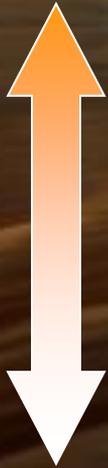


Specifiche:

- potenza
- resa cromatica
- flusso luminoso
- temperatura di colore...

Prescrizioni

- Sicurezza
- Prestazioni minime..



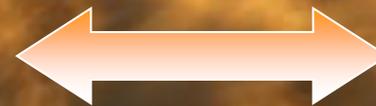
Efficienza
energetica



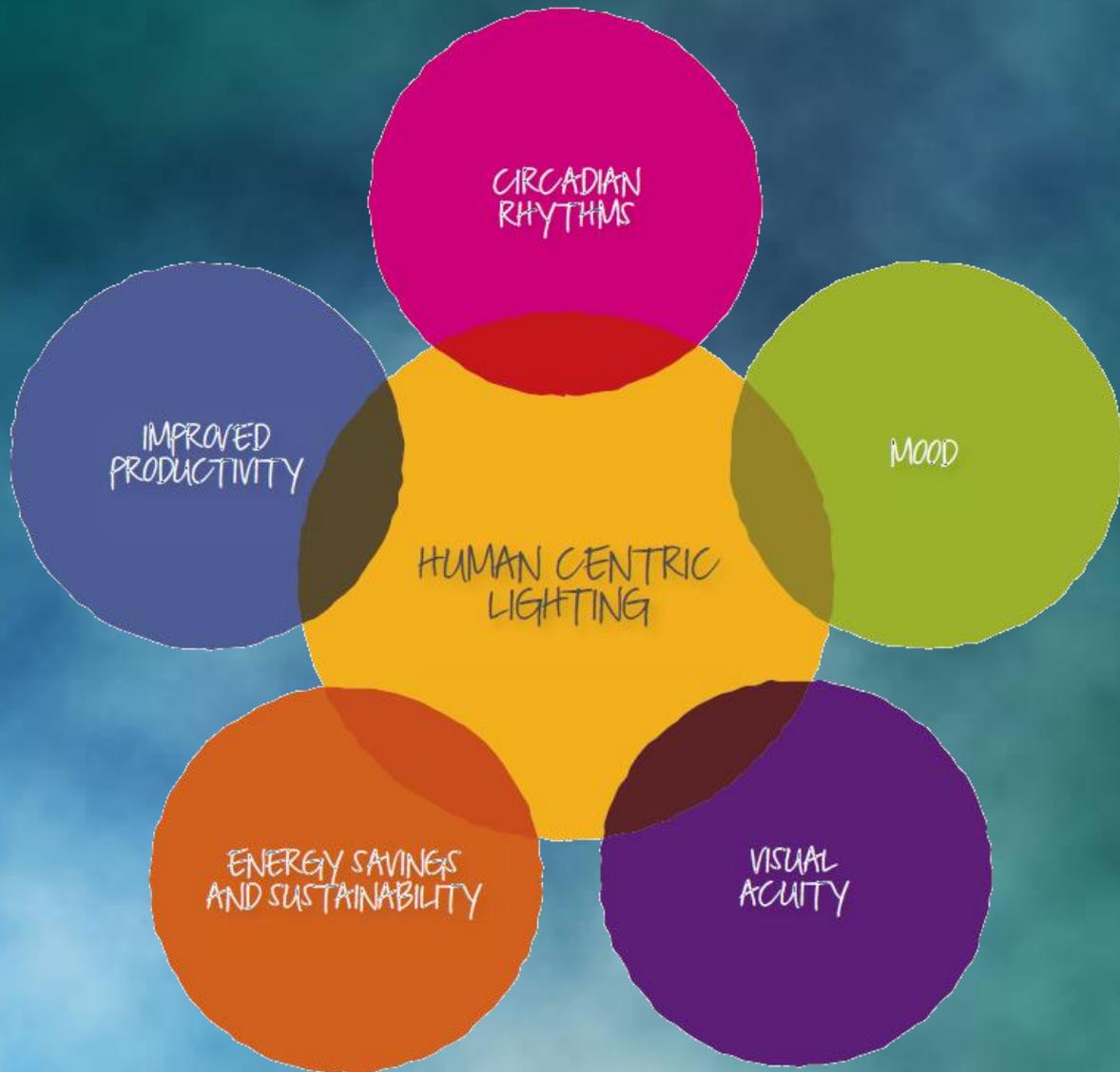
Norme tecniche.

Indicazioni su:

- illuminazione pubblica
- posti di lavoro
- ...



Componenti del
sistema di
illuminazione e
controlli



CIRCADIAN
RHYTHMS

MOOD

HUMAN CENTRIC
LIGHTING

VISUAL
ACUITY

ENERGY SAVINGS
AND SUSTAINABILITY

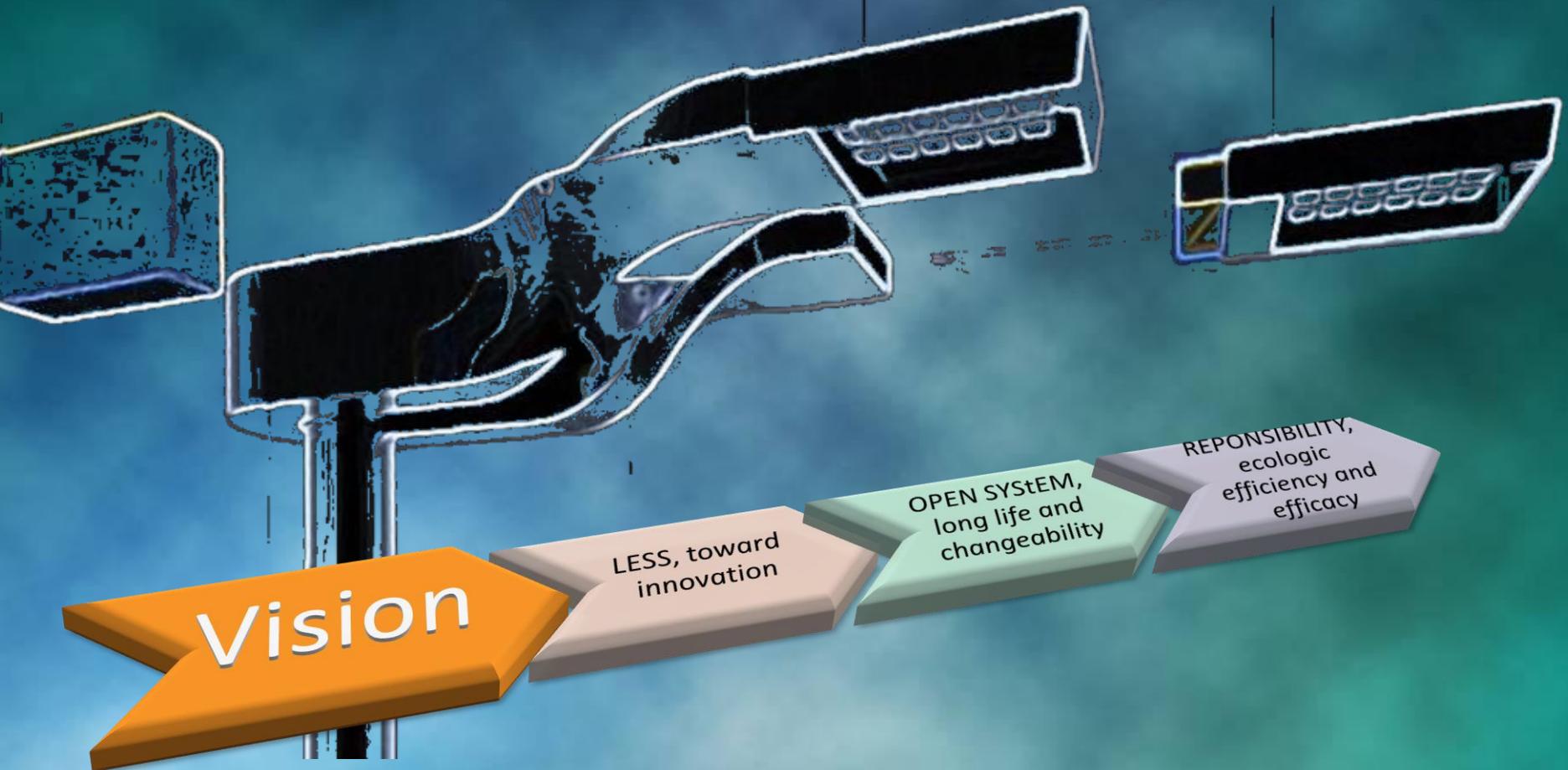
IMPROVED
PRODUCTIVITY

- The start: historic and urban centre in a small municipality, typical Italian situation:
 - lighting performance requirements
 - possibile photometric distributions
- Public spaces have to be pleasant places for people both during day and night time: therefore not only safety and functionality, but also quality, comfort, aesthetics, taking into account environment and energy savings

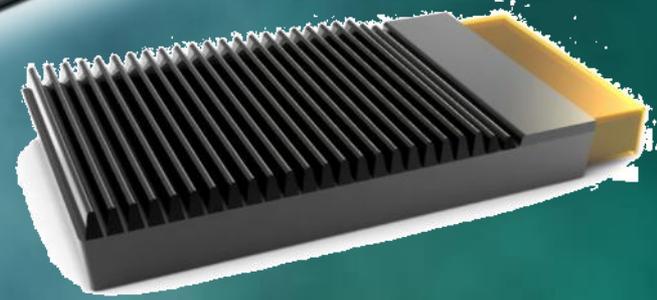
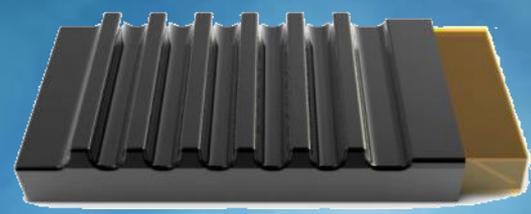


Un po' di storia... Design by components...

- The classic luminaire is fragmented into modules, which may be recombined and composed
- different photometric curves according to specific application requirements
- different aesthetic-formal solutions for the final luminaire



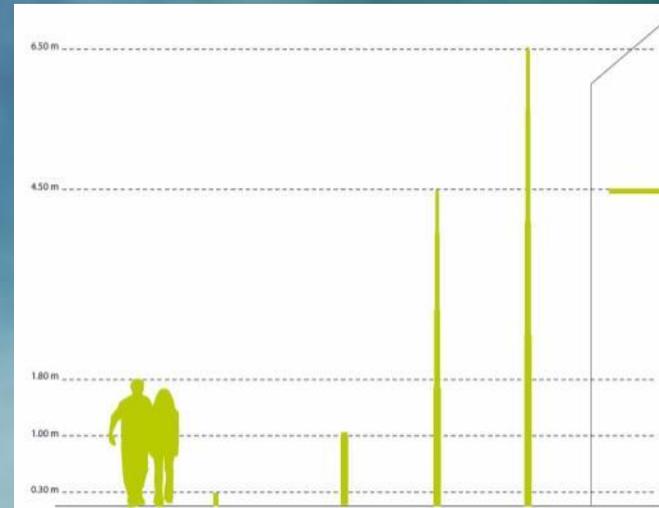
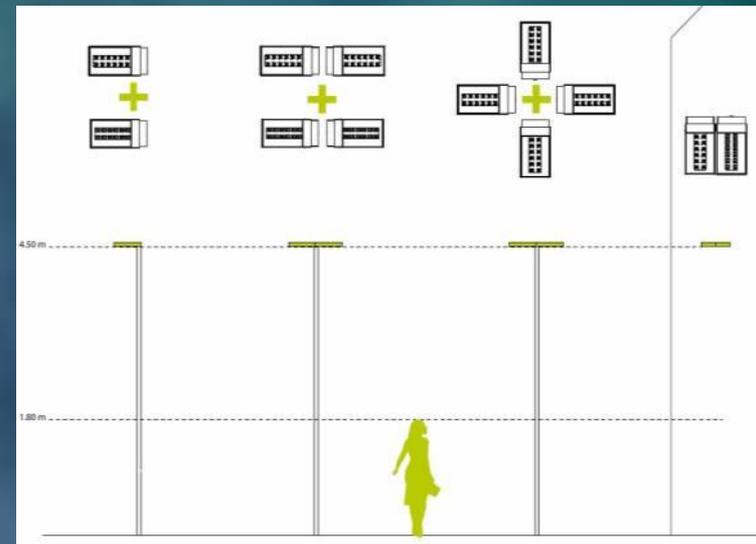
Un po' di storia... i primi prototipi



Un po' di storia... Modularità applicata

PLUS

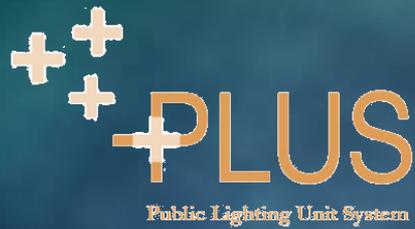
Public Lighting Unit System



*street
lighting*

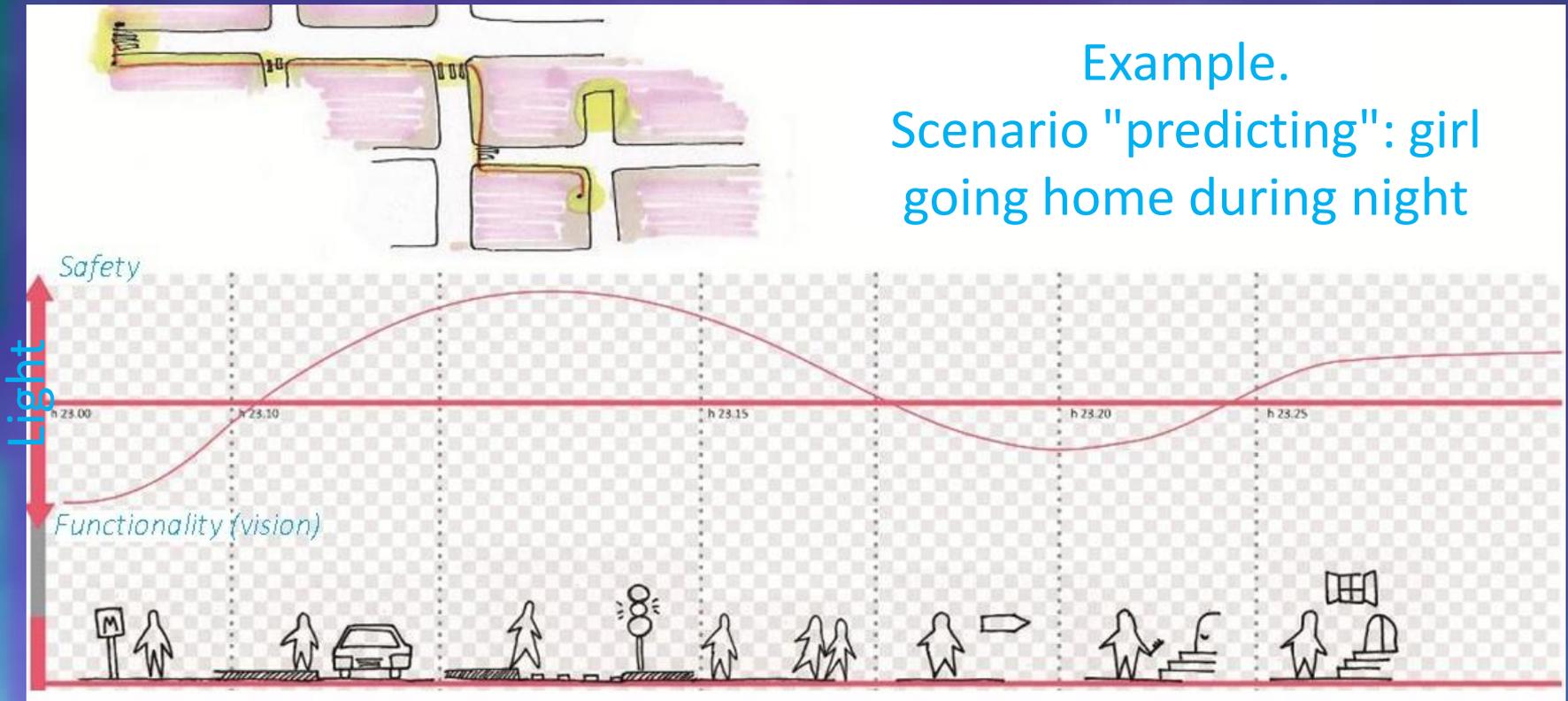
*lighting of
squares, frames*

*bollards
paths and light
guide*



PLUS SENSE

Example.
Scenario "predicting": girl
going home during night



Un po' di storia... Il secondo prototipo



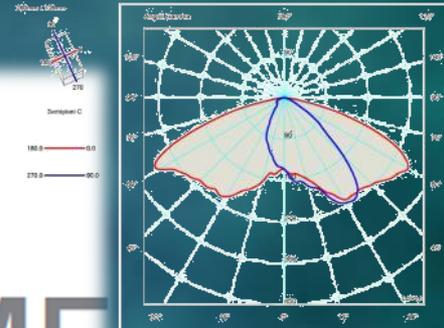
PLUS SENSE





PLUS ME

Public Lighting Unit System
for ME street lighting categories

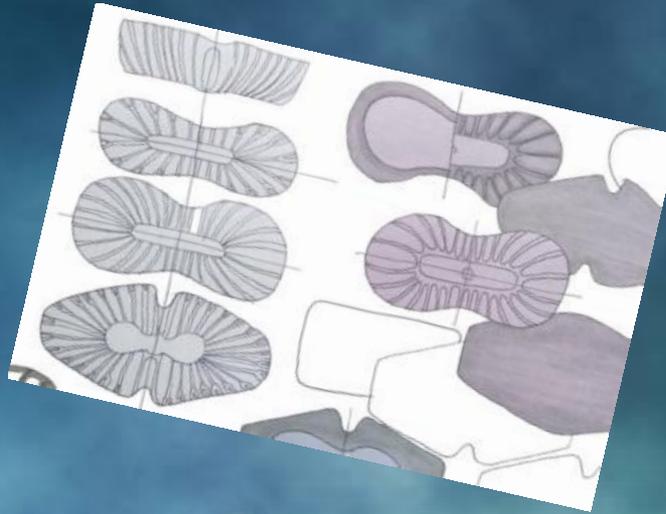
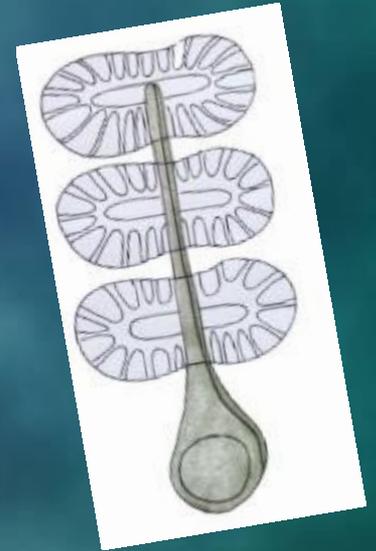


- + **ELSE & LESS**, trasformazione formale con riduzione di materiale
- + **OPEN SYSTEM**, longevità di sistema tramite modularità
- + **RESPONSIBILITY**, efficienza ed efficacia

Un po' di storia... Ispirazioni per le strade di traffico

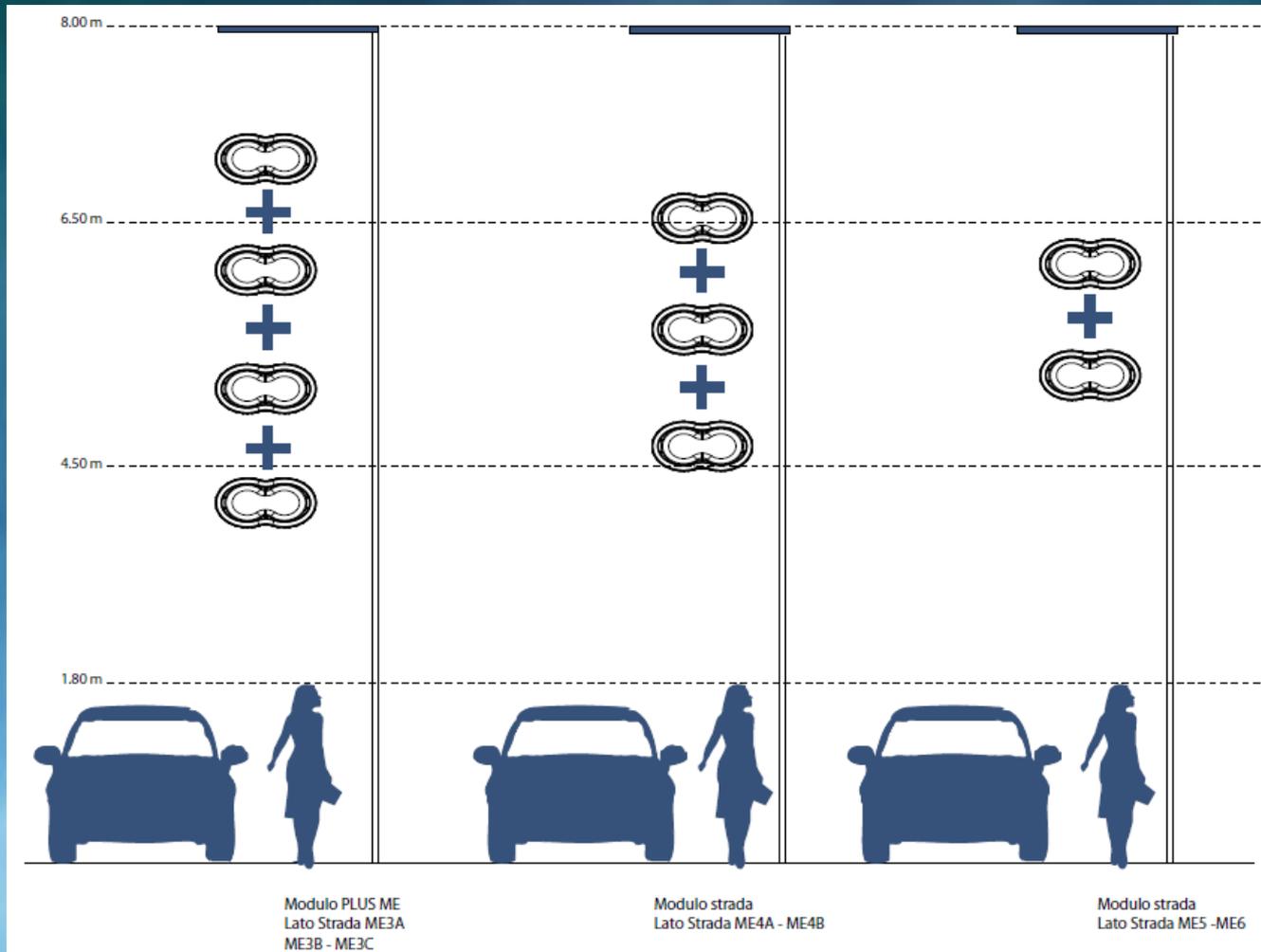
PLUS ME

Public Lighting Unit System
for MOU street lighting categories



PLUS ME

Public Lighting Unit System
for M03 street lighting categories

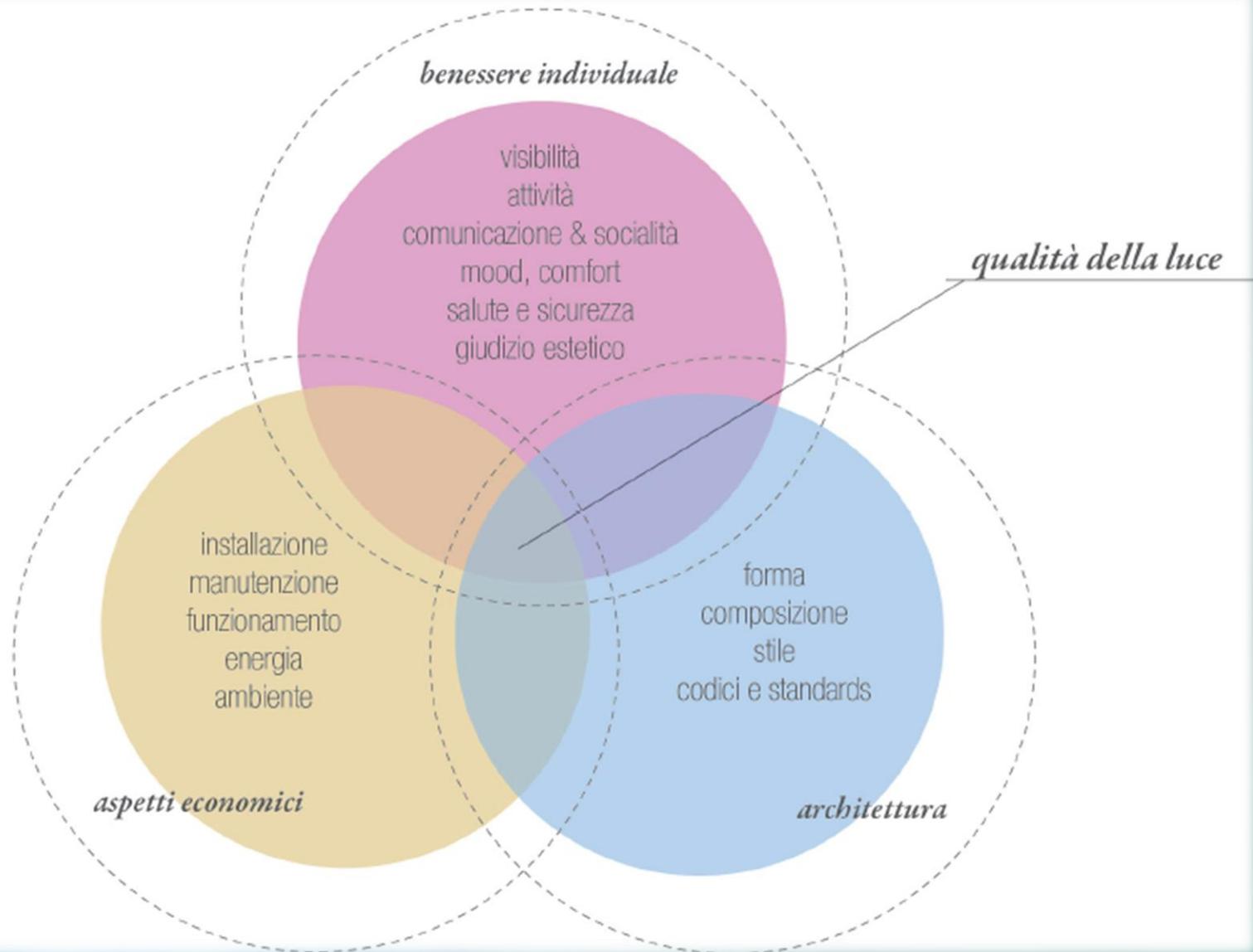


Prototipo di PLUS ME singolo modulo

++
+
+
+
PLUS ME

Public Lighting Unit System
for MUI street lighting categories





Dall'ufficio STEREOTIPATO all'ufficio ANTROPIZZATO

Dall'ufficio STEREOTIPATO all'ufficio ANTROPIZZATO

BENESSERE E COMFORT

limitazione dell'abbagliamento, resa cromatica, bianco uniforme

RESPONSABILITA' E SOSTENIBILITA'

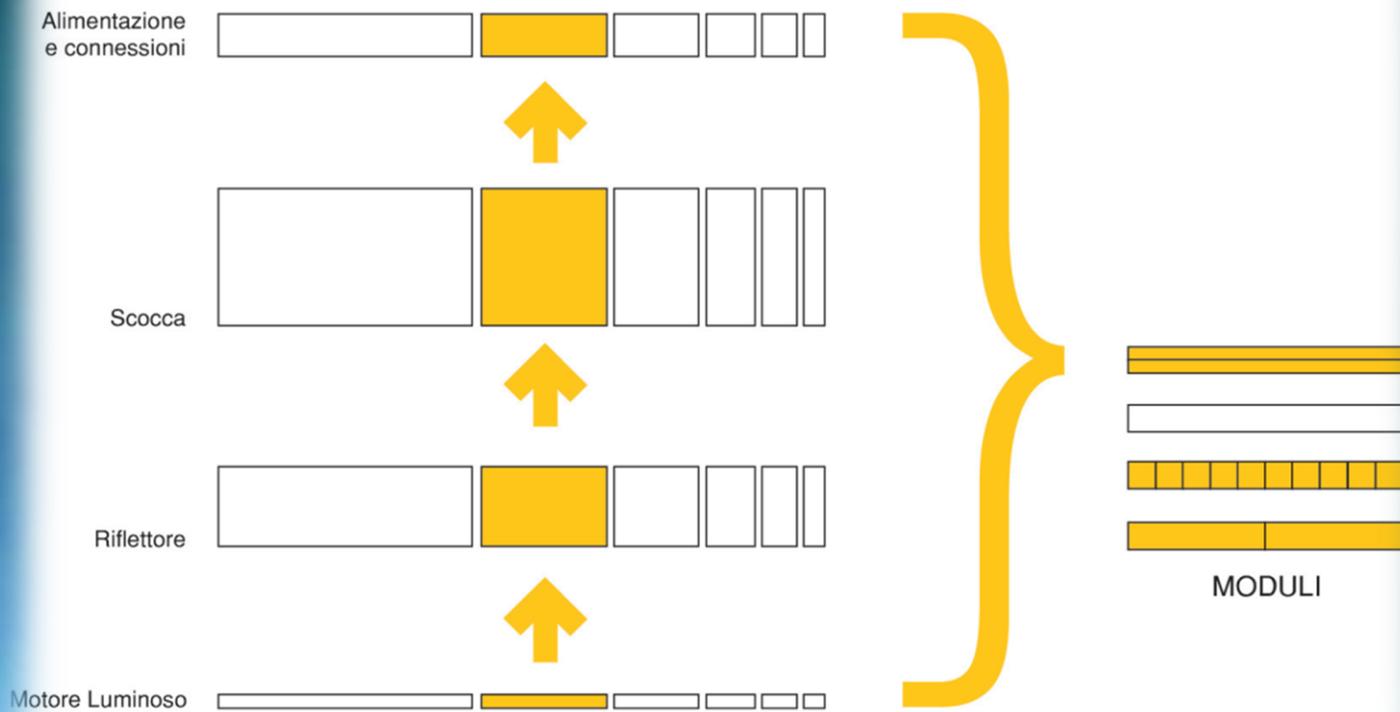
rendimento dell'apparecchio (LOR), efficienza energetica, LCA Design for Disassembling

ADATTABILITA' ED ESPERIENZA

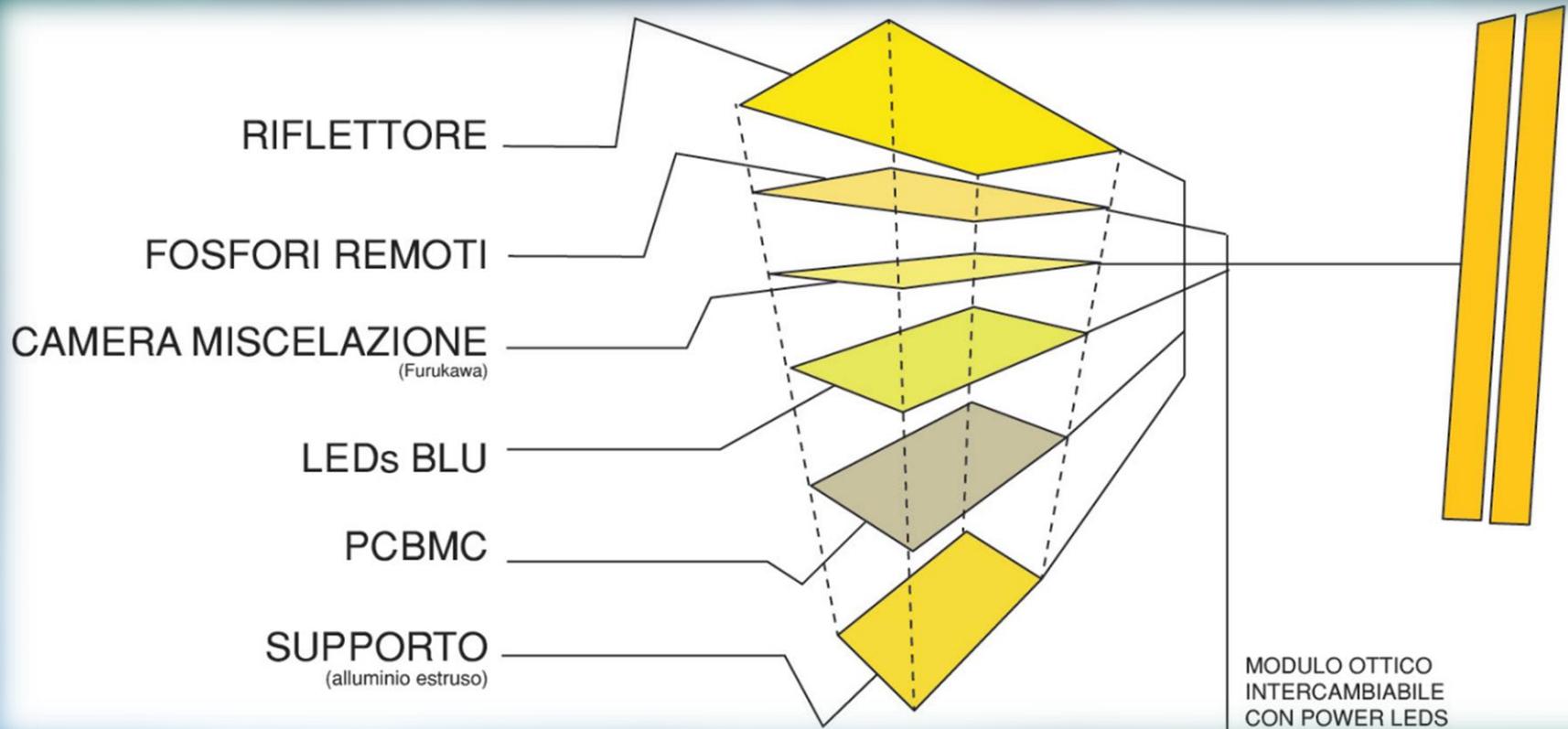
bianco dinamico, illuminazione regolabile, apparecchio modulare

Human Centric Lighting

Dall'ufficio STEREOTIPATO all'ufficio ANTROPIZZATO

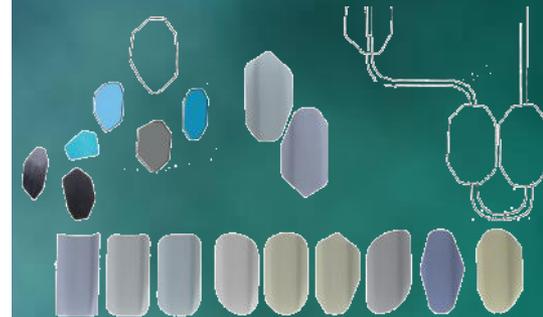
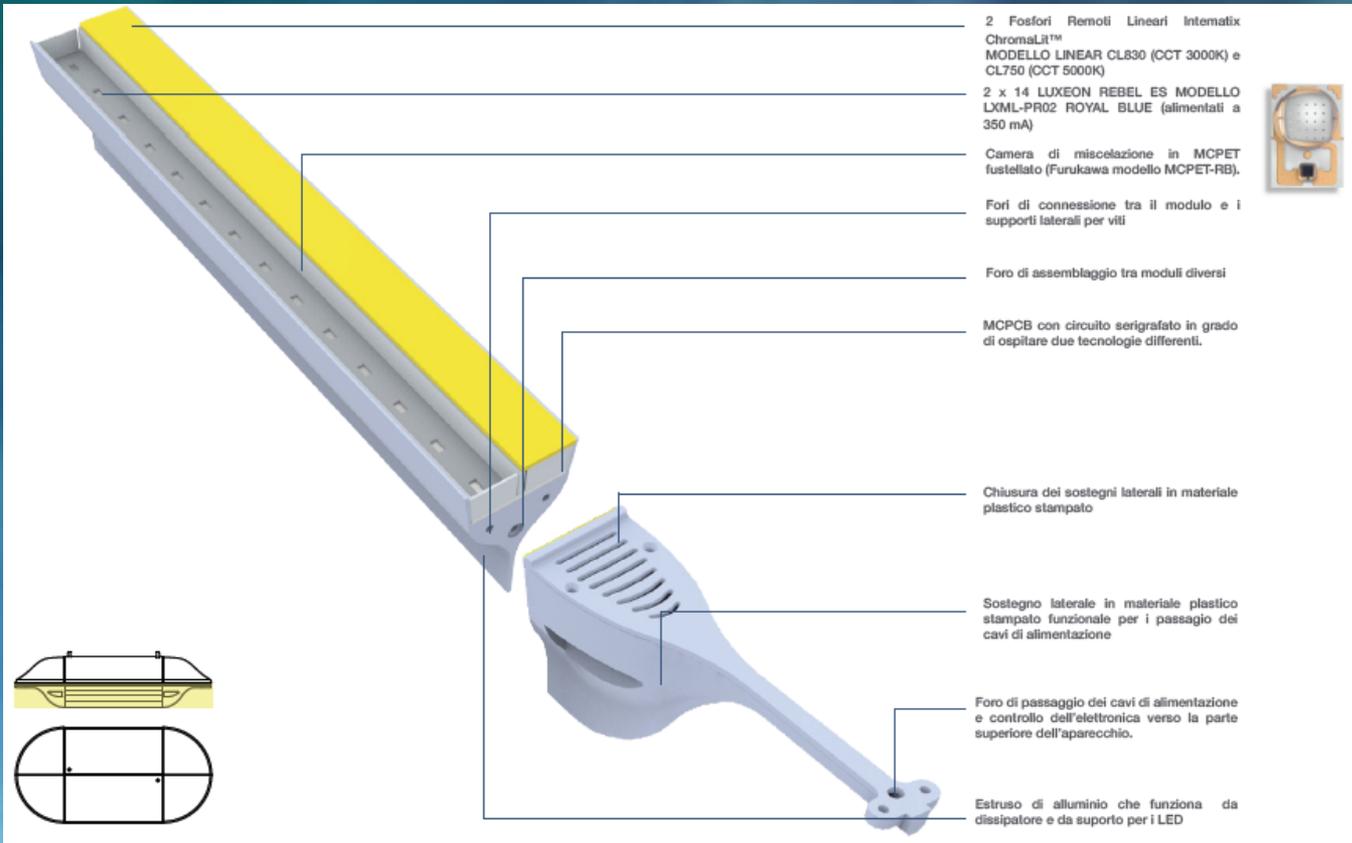
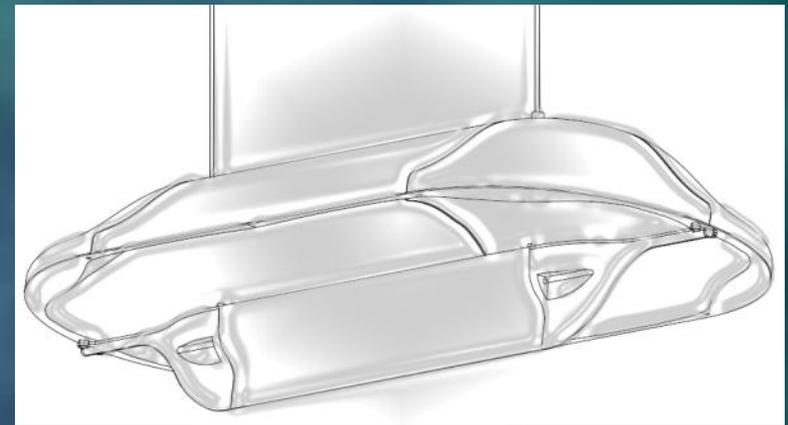


Dall'ufficio STEREOTIPATO all'ufficio ANTROPIZZATO



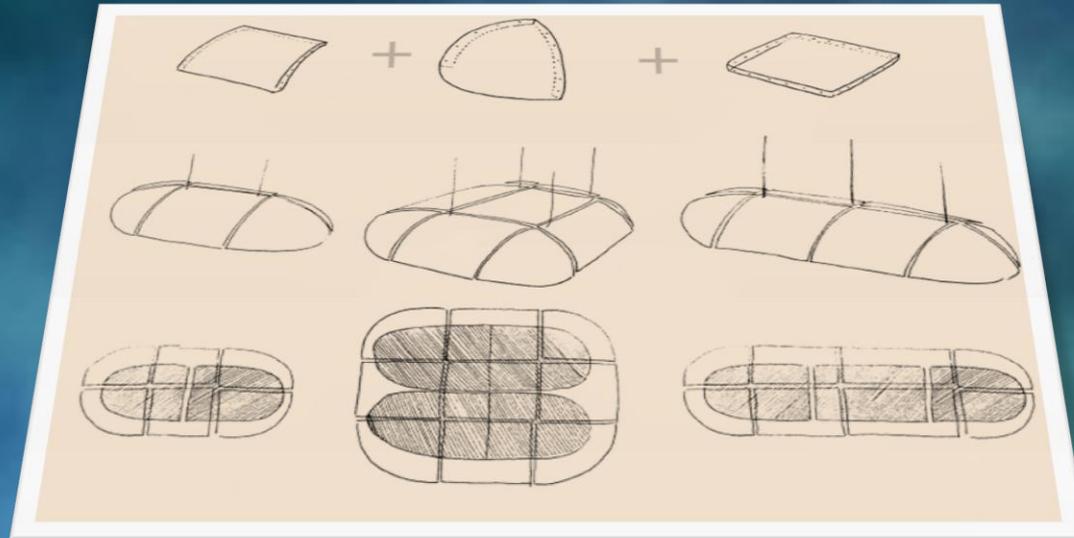
{ coeelo }

COMfortable EFFicient EXPERiential Lighting for Offices



{ coeelo }

COMfortable EFFicient EXPERiential Lighting for Offices



BISLUNGO



QUADRIO



60X60
(semi incasso)

Illuminazione in ambiente industriale

> DESIGN L@W

> ASSEMBLAGGIO

elementi standard e
prototipati in un
illuminatore funzionante

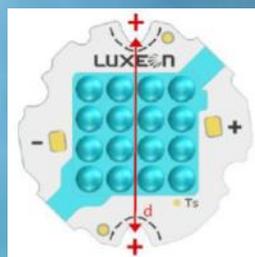
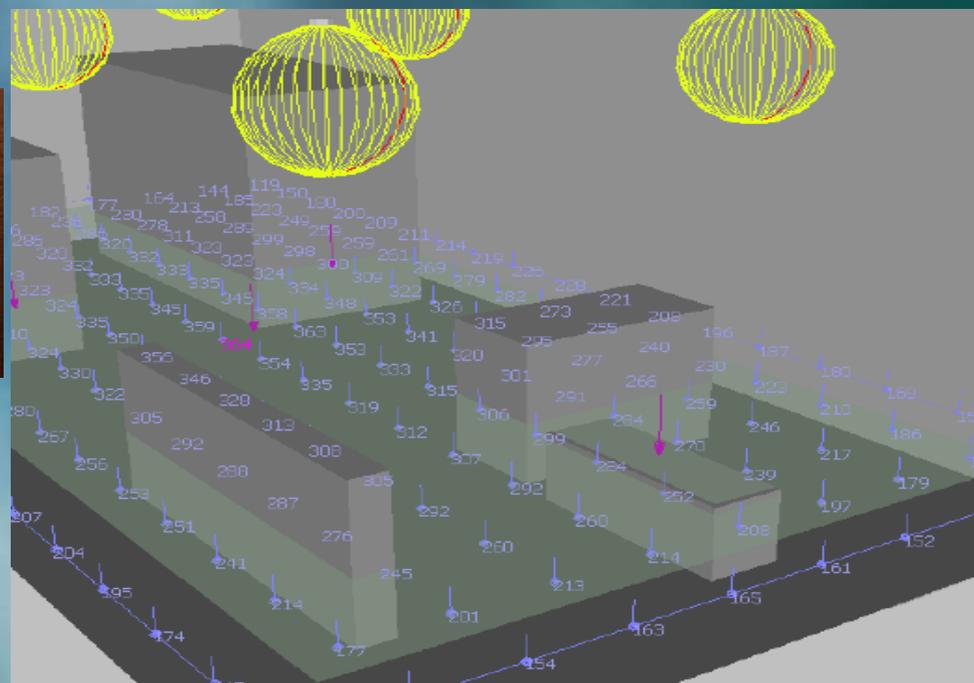
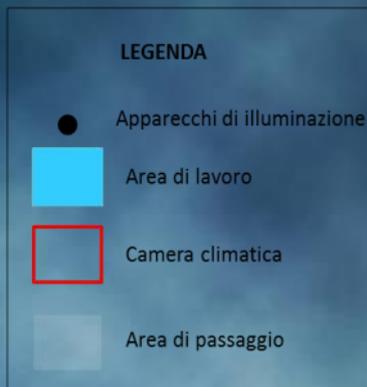
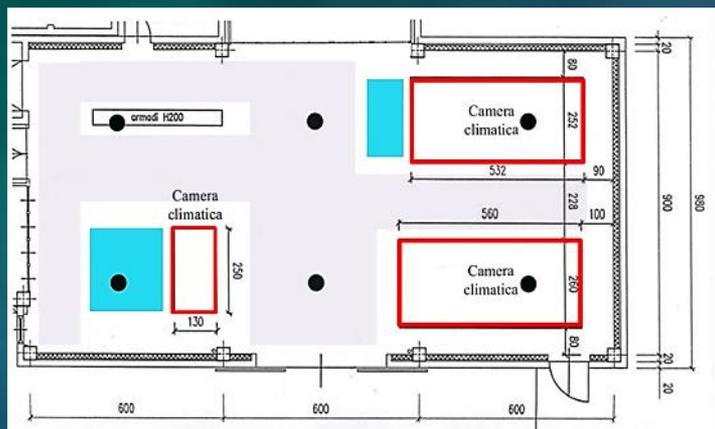


LIGHTING DESIGN NELL'INDUSTRIA L@W - LIGHT@WORK [Politecnico di Milano - Dipartimento di Design - Laboratorio Luce]

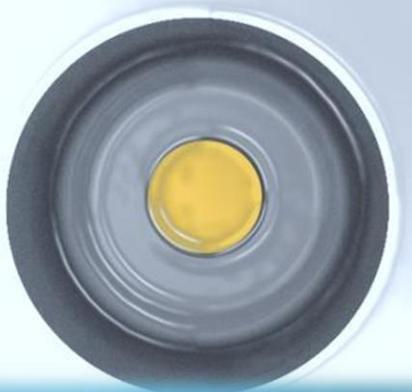


HumbleBee

illuminazione di tipo industriale: realizzazione sperimentale edificio ENEA Ispra









HumbleBee



Il sistema di movimentazione apparecchi - gennaio 2015

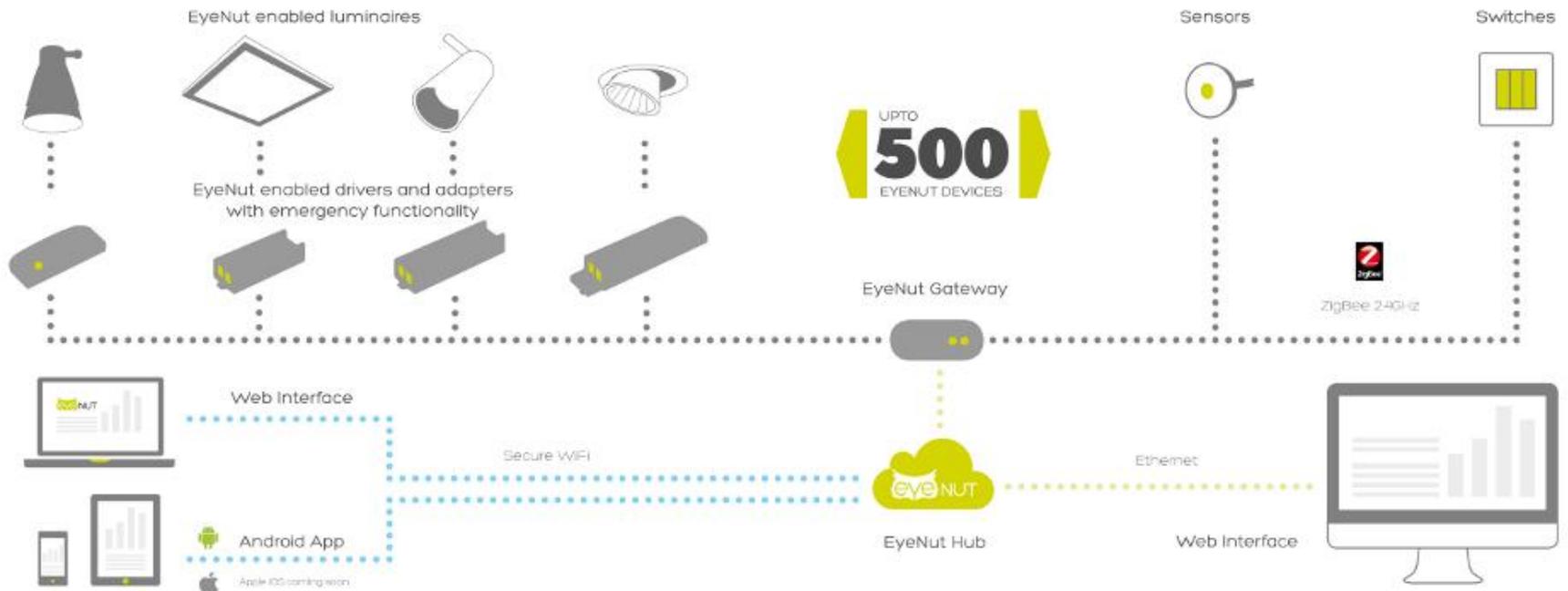
BROUGHT TO YOU BY

Harvard

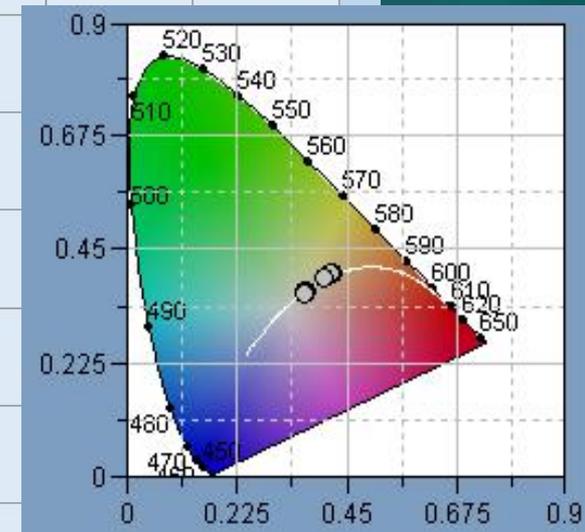
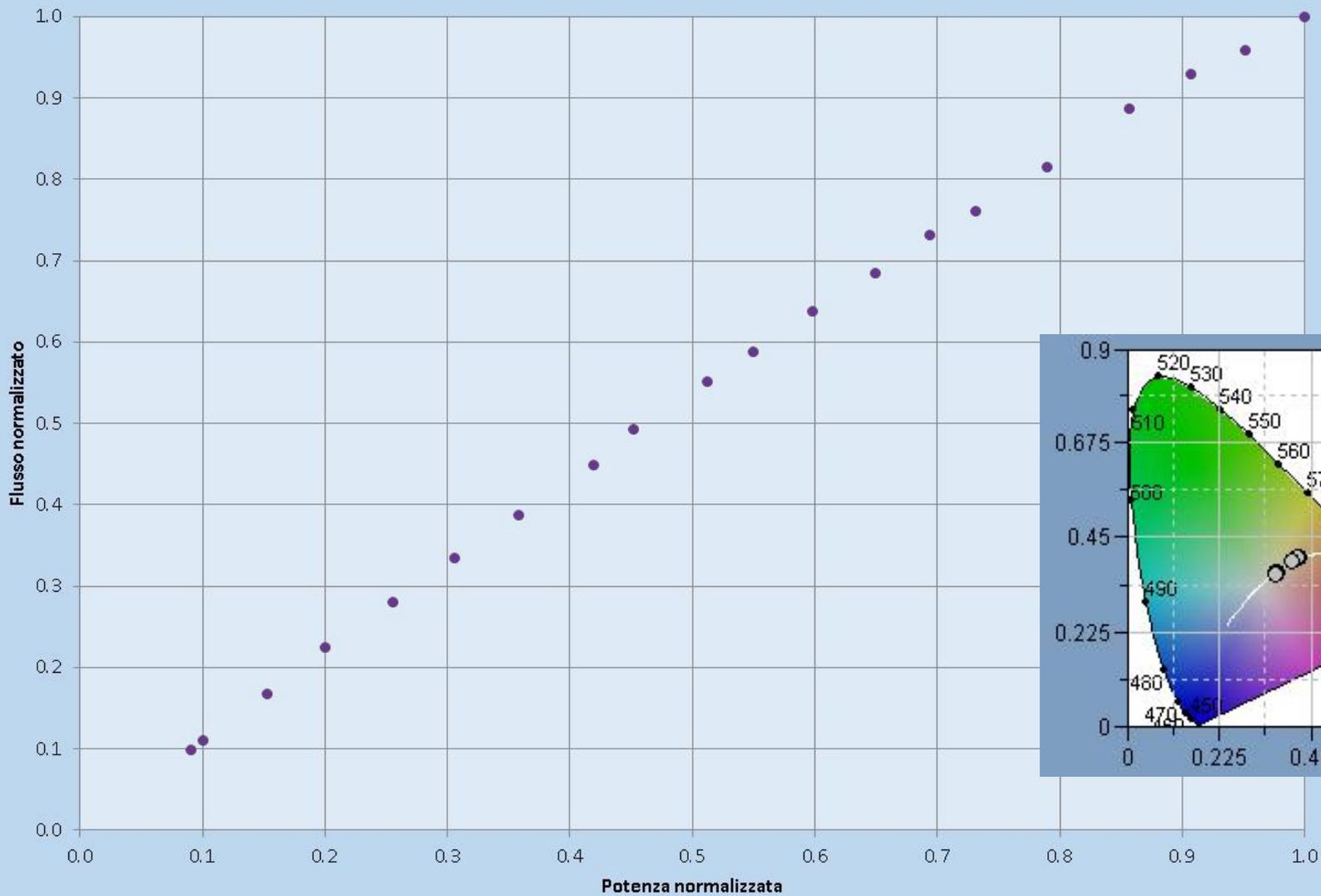
Smarter thinking for the lighting industry...



INGENIOUS CONTROL

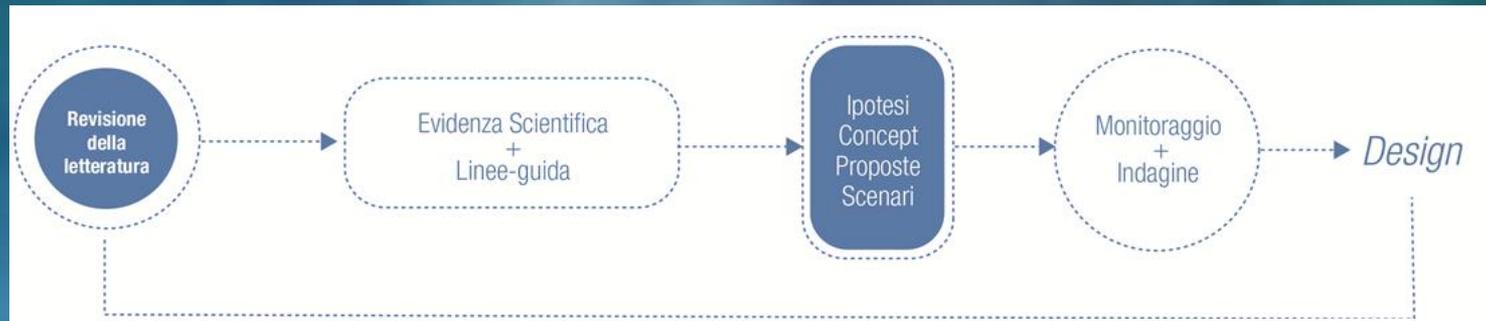






LIGHTING DESIGN FOR WELLBEING

Illuminazione domestica per la popolazione che invecchia



LIGHTING : Le regole del gioco



Direttive Etichettatura energetica ed Ecodesign

- regolamenti nuovi
- studi preparatori nuovi (smart appliances, sistemi illuminazione, nuovo prodotti illuminazione)
- sorveglianza mercato

Standardizzazione: LENI (edifici), stradale, gallerie, colore, posti di lavoro..

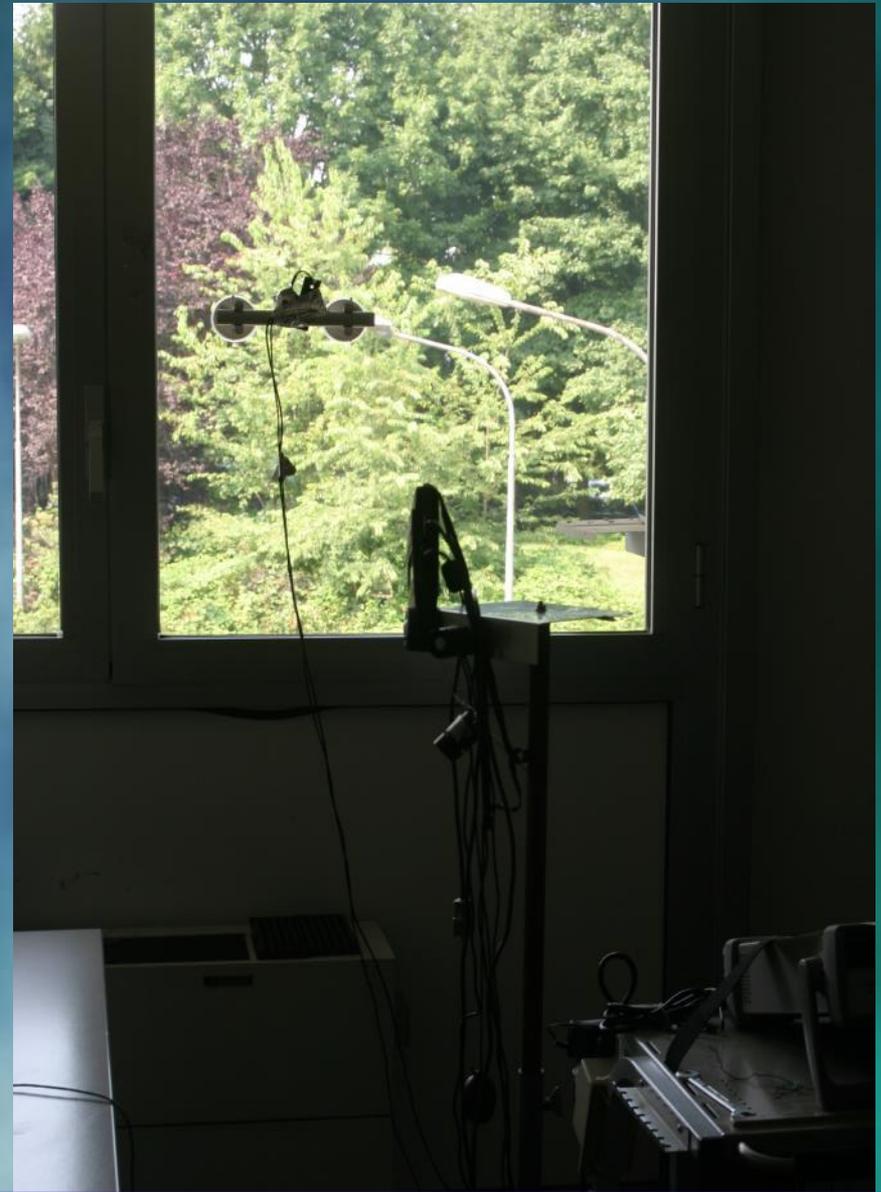


Valutare la qualità della luce

- test di percezione visiva
 - resa dei colori legata al contesto
- contrasto
- test per valutare influenza sulle capacità cognitive
- aspetti psicofisiologici
- integrazione luce naturale
- ...

- Università Milano Dip. Informatica
- Università Roma1 Sapienza Dip. DIAEE
- Università Napoli Federico II

Valutare la qualità della luce



Che succede a livello dell'occhio ? - luglio 2015. Test paralleli Napoli –(Università) Ispra (ENEA)