



New Light on Old Masters

RIJKS MUSEUM



Lighting the Rijksmuseum:

A HISTORY OF THE PROJECT

















Reliquary of the Holy Blood
This reliquary, made of silver and gold, contains a small amount of the blood of Christ, which is believed to have been preserved in the lance wound in the side of Jesus Christ. It is one of the most important relics in the Catholic Church.

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Lighting the Rijksmuseum:

HOW DID WE ACHIEVE THIS?



Why does the lighting look so clear?

White Point 3000K

Color Balance Ra93, R9-50

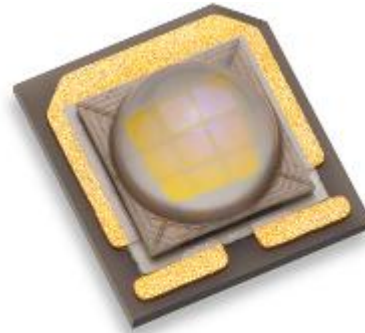
Crisp Single Shadow, 7.5°

Consistent 3 SDCM (dimming)





We started with the heart of the light:



8mm diameter
1100 lumens (hot)
3000K
93 CRI, R9-50
3 SDCM

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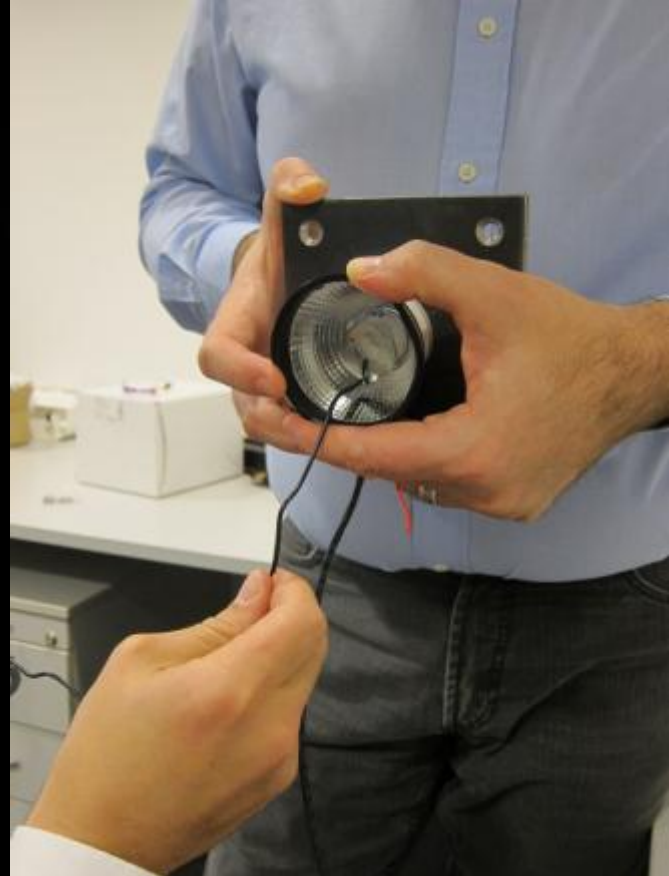
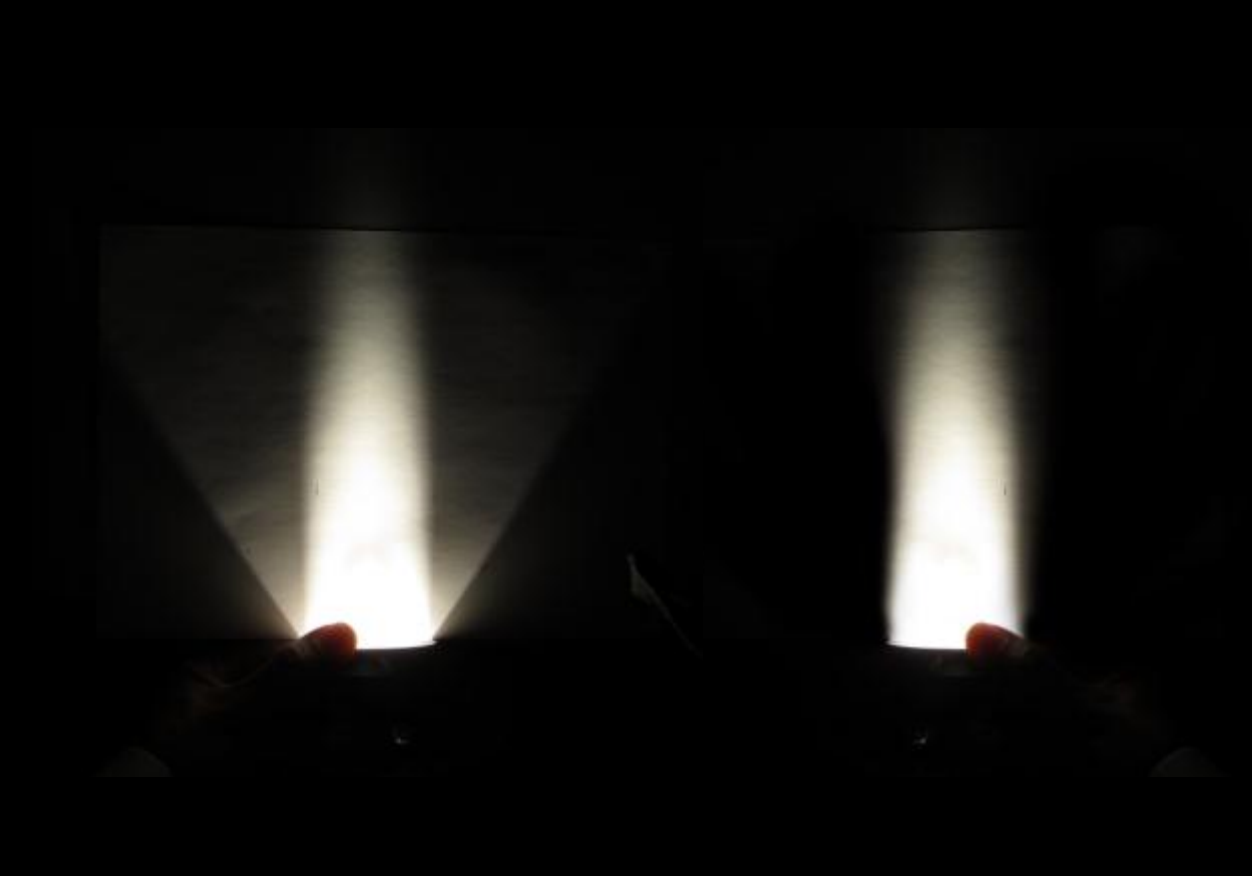
LED package

Customer serviceable module



Zhaga





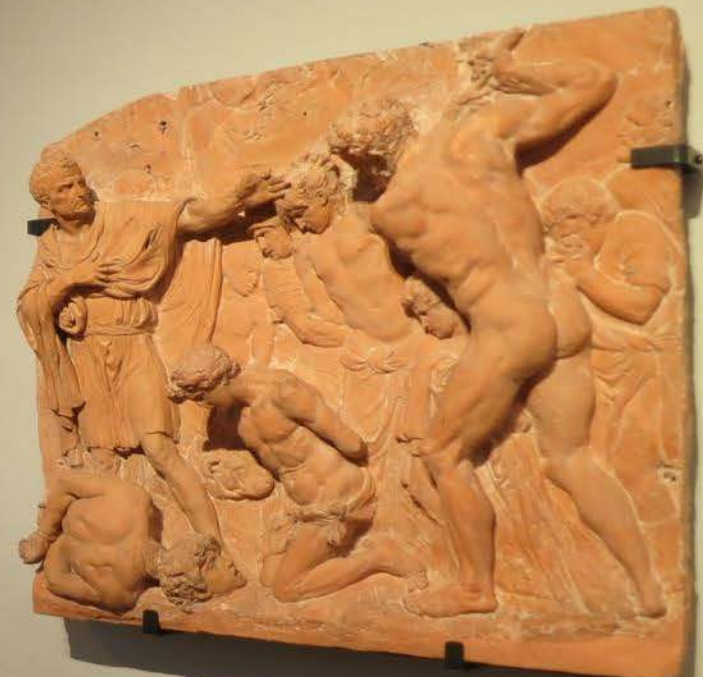


Philips Fortimo LED SLM Tight Beam
Philips Lumileds LUXEON S





Small text label next to the medium-sized relief sculpture, likely providing information about the artwork.


















Xitanium driver 25W/0.3-1A 36VTD/I 230V

 Zhaga



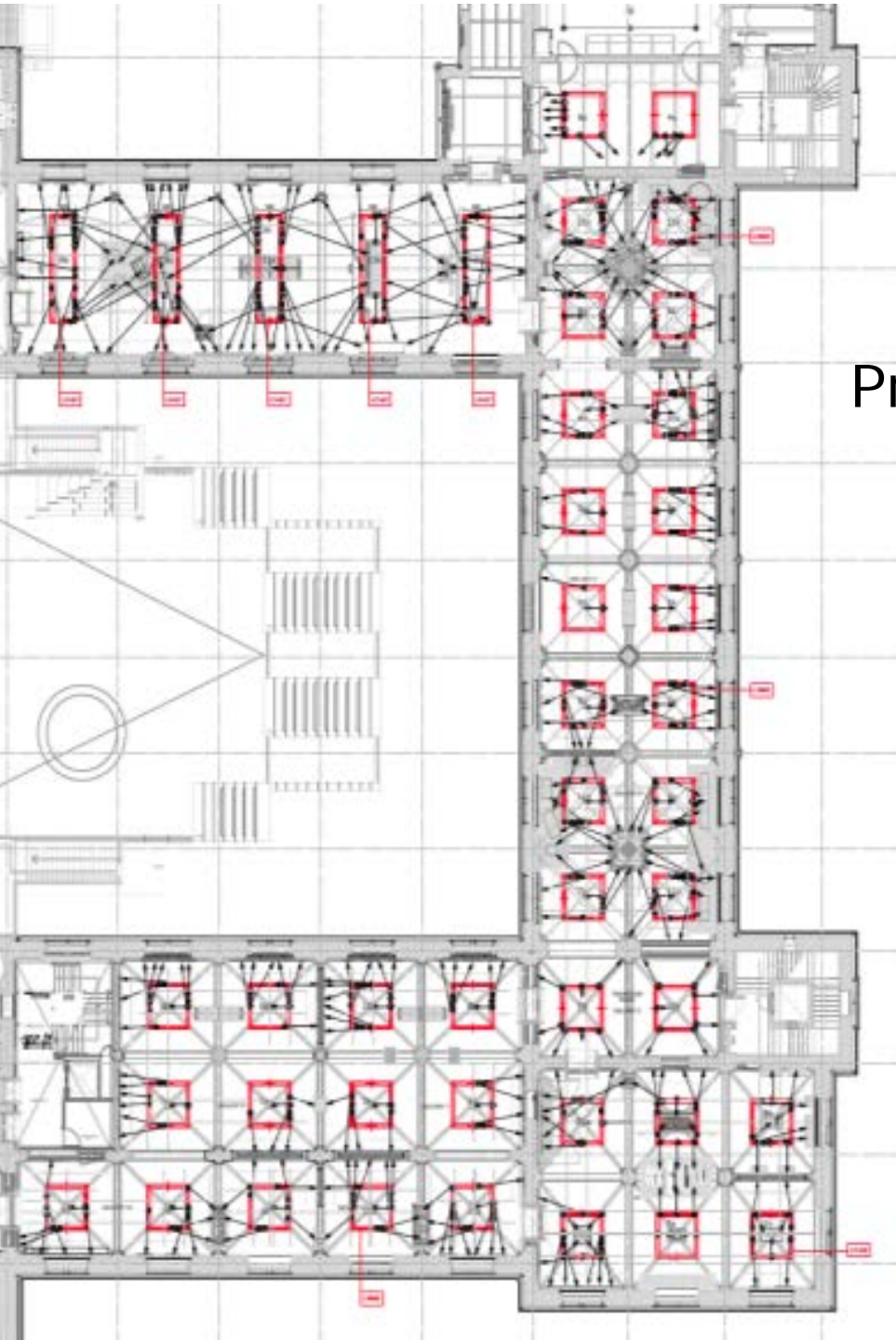


Lighting the Rijksmuseum:

LIGHTING DESIGN EXECUTION

Greatest achievement regarding the lighting > consistency in the exhibition lighting and still achieving different atmospheres per collection.





Producing the final plans

- Understanding the space and the exhibitions
- Getting to know characteristics of fixture in relation to the space
- Calculations on paper
- Testing on site > improving the fixture
- Making the final lay-out plan on paper

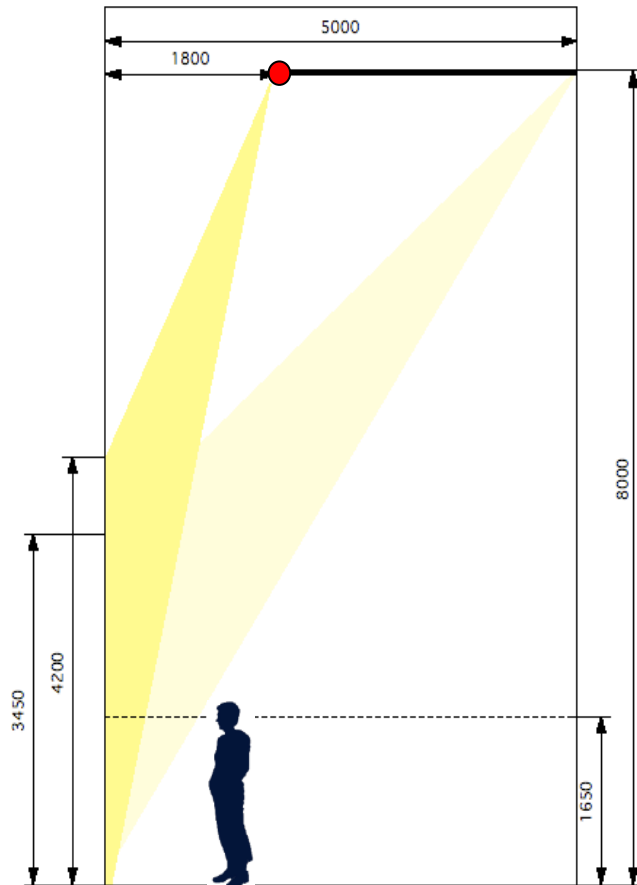
Understanding the spaces



Each floor level has a different height and space characteristic

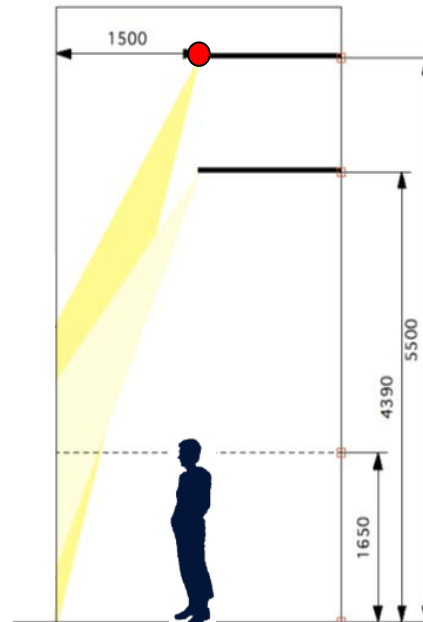
Understanding the spaces > one fixture for different spaces

fixture characteristics in three different spaces using a 5° lens



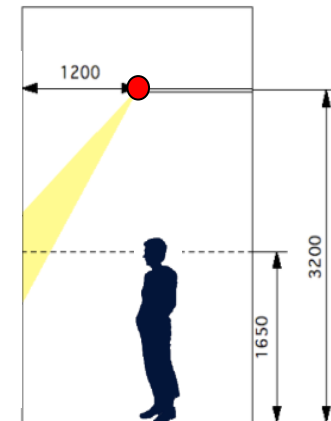
level 2:

- mainly use of narrow beams
- hardly any dimming on this level



level 1:

- use of narrow and medium beams
- some dimming will occur



level 0:

- wide variety of beam angles
- dimming will occur

Getting to know the fixture
characteristics > also through tests on
site





Aiming, focusing and tuning the light

Create a balance between:

- works of art within a gallery
- exhibition lighting and spatial lighting
- the different galleries

The tools for aiming, focusing and tuning the light

flexibility aiming: rotation of fixture

360° horizontal

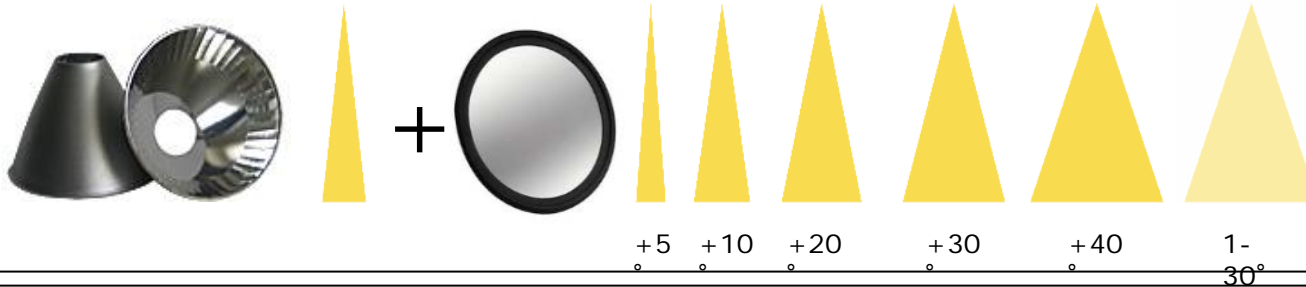
90° vertical



flexibility focusing: different beam angles

Reflector: fixed beam 7°

Lenses for different beam angles



flexibility tuning: remote individual dimming



dimming 100-20% with dali driver built in rack or in rail adapter







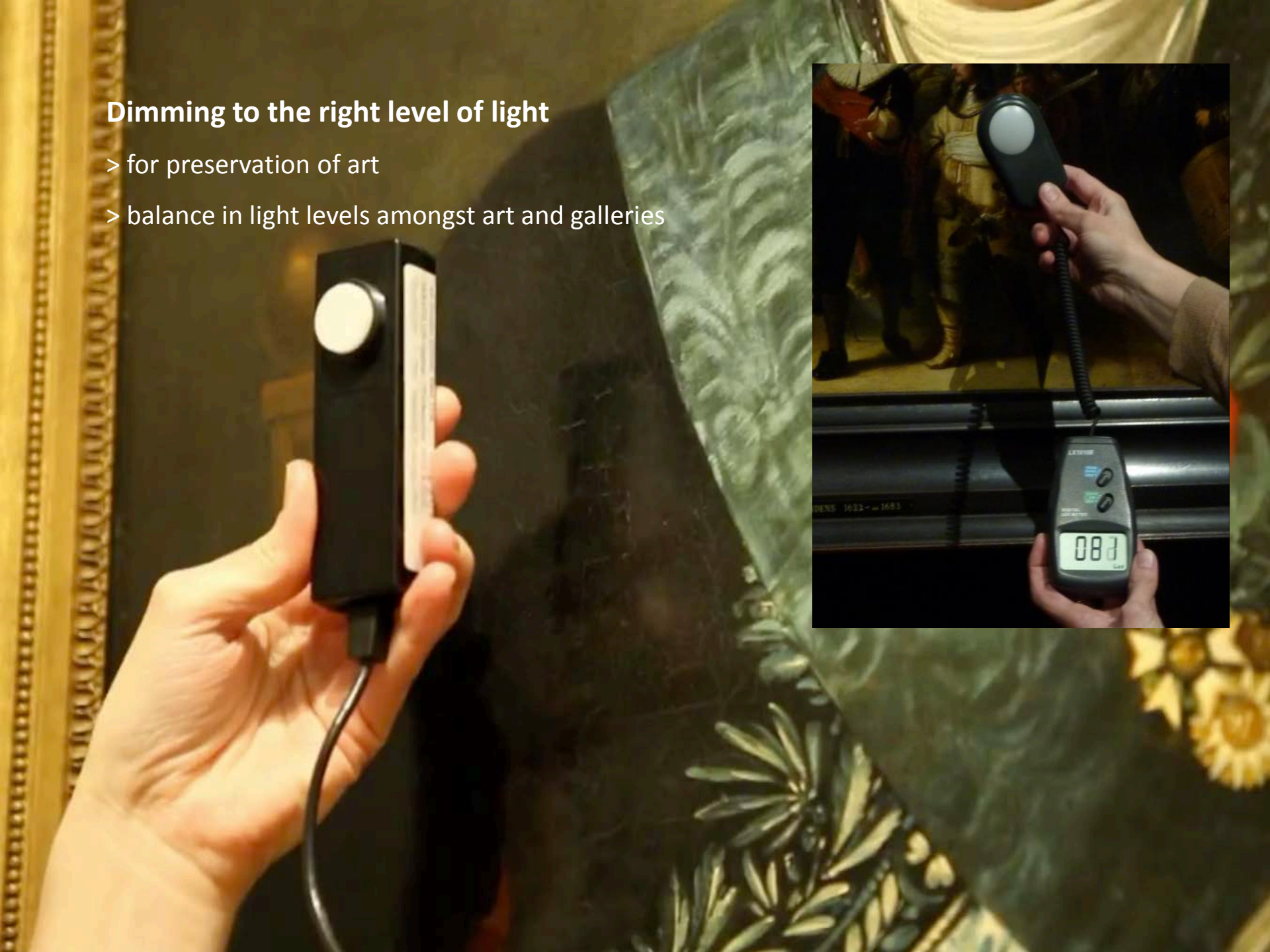


Dimming to the right level of light



Dimming to the right level of light

- > for preservation of art
- > balance in light levels amongst art and galleries





Tuning spatial lighting





Tuning spatial lighting and lighting of art





Lighting the Rijksmuseum:

“SPECIALS”



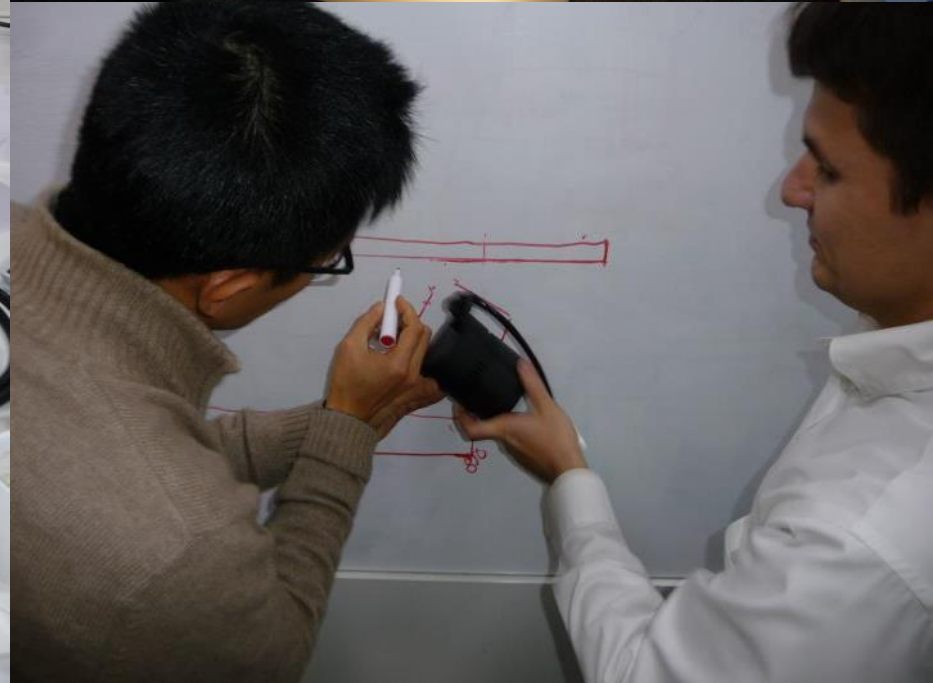
Lighting the Rijksmuseum:

FRONT HALL CHANDELIERS

Concept Rendering from Wilmotte
October 2012



detailing with design team > Wilmotte, Bronnenberg, Philips and Beersnielsen





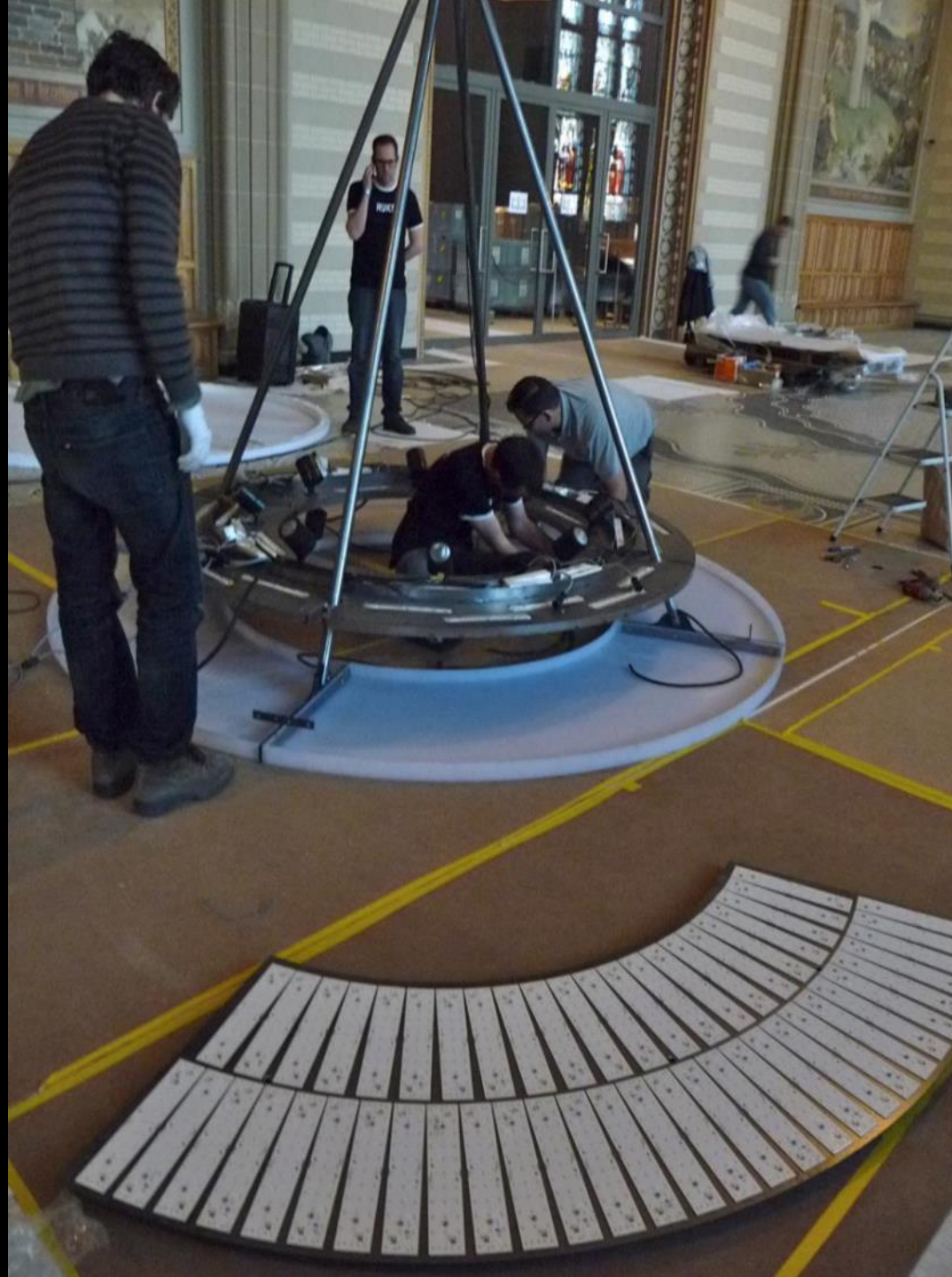
ВНИМАНИЕ! При монтаже необходимо соблюдать следующие требования:

- 1. Все элементы должны быть установлены строго по схеме.
- 2. При монтаже необходимо использовать только рекомендованные материалы.
- 3. Все соединения должны быть выполнены с соблюдением требований к качеству монтажа.
- 4. При монтаже необходимо соблюдать требования к безопасности.

Схема монтажа:



Схема монтажа:





Review of mock-up with design team and client

Aiming the lights







Lighting the Rijksmuseum:

DOLL HOUSES



Miniature Dollhouses

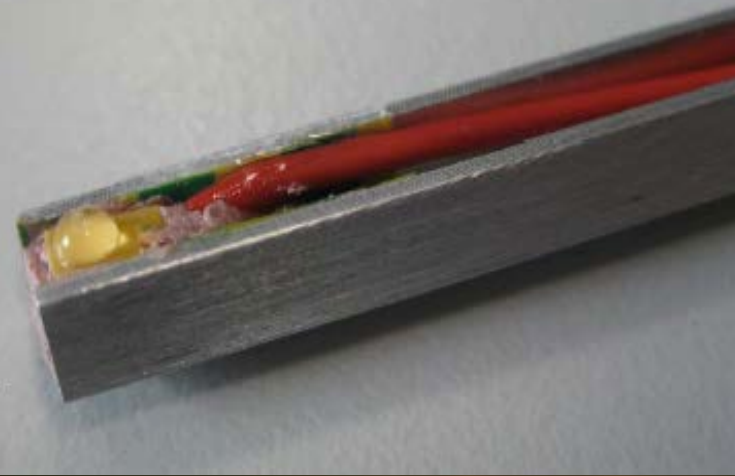


Fiber optic lighting used in Dollhouses

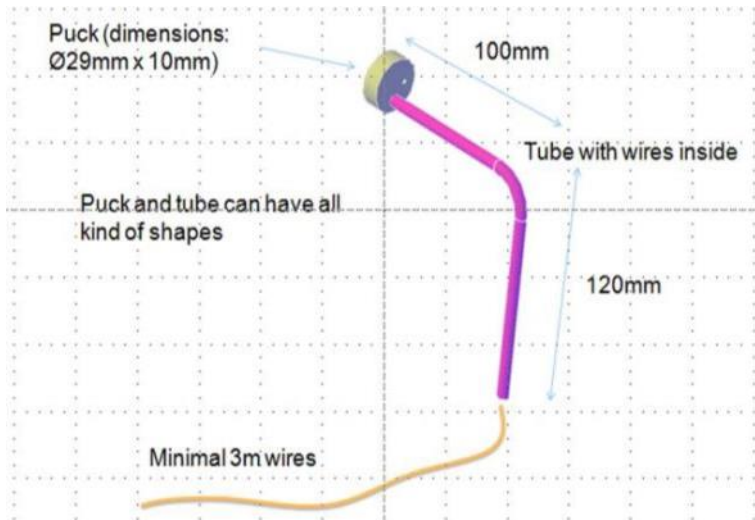
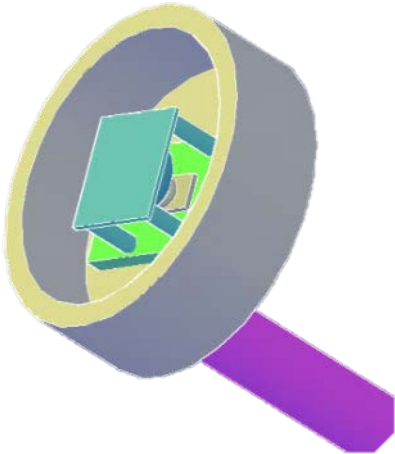
What about the shadows??



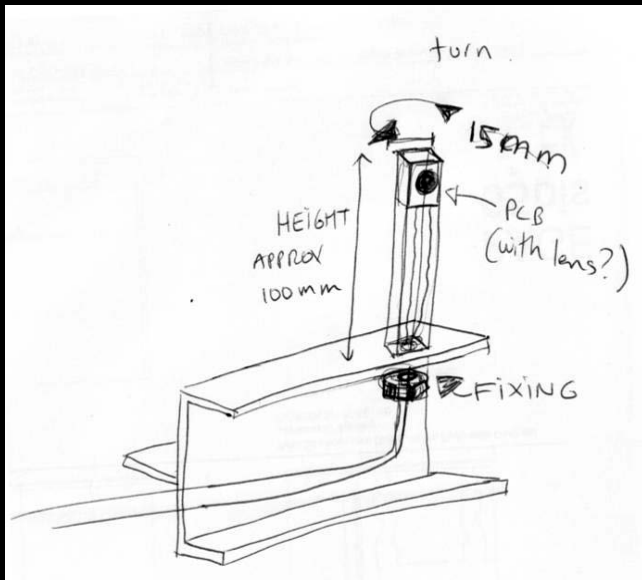
prototype 1 - light stick



prototype 2



prototype 3

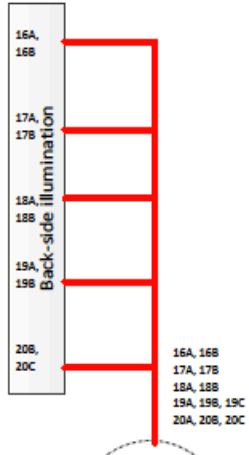


prototype 4



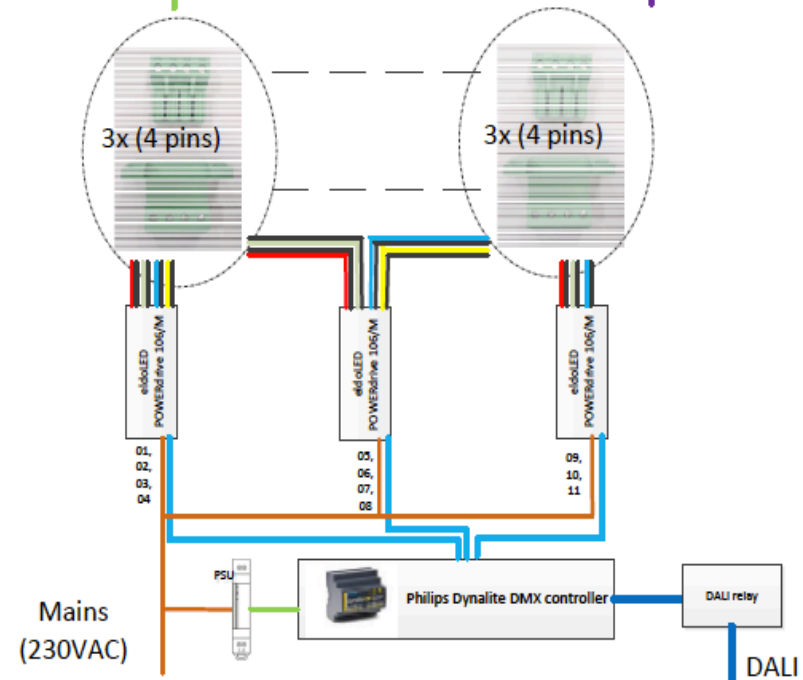


A diagram showing a 3x5 grid of cells. Each cell contains a blue vertical bar. The cells are numbered 01 through 15. The grid is divided into three horizontal sections by two horizontal lines (one green, one purple). The top section contains cells 01-05, the middle section contains cells 06-10, and the bottom section contains cells 11-15. The middle section also contains two additional labels, 08A and 08B, positioned between cells 06 and 07.



1	7	2
2		2
1	1	1

The diagram shows a 3x3 grid of rooms, each with a red border. The rooms are numbered 01 through 11. The top row contains rooms 01, 02, 03, and 04. The middle row contains rooms 05, 06, 07, and 08. The bottom row contains rooms 09, 10, and 11. Blue lines represent doors between adjacent rooms. A green path starts at the bottom left, goes up to room 05, then right to room 06, and then up to room 01. A purple path starts at the bottom right, goes up to room 08, then left to room 07, and then up to room 04.



Philips Lighting installation for Rijksmuseum Dollhouses

Overview complete system





RIJKS MUSEUM

PHILIPS

ARUP

beersnielsen



WILMOTTE & ASSOCIÉS SA

Cruz y Ortiz arquitectos