

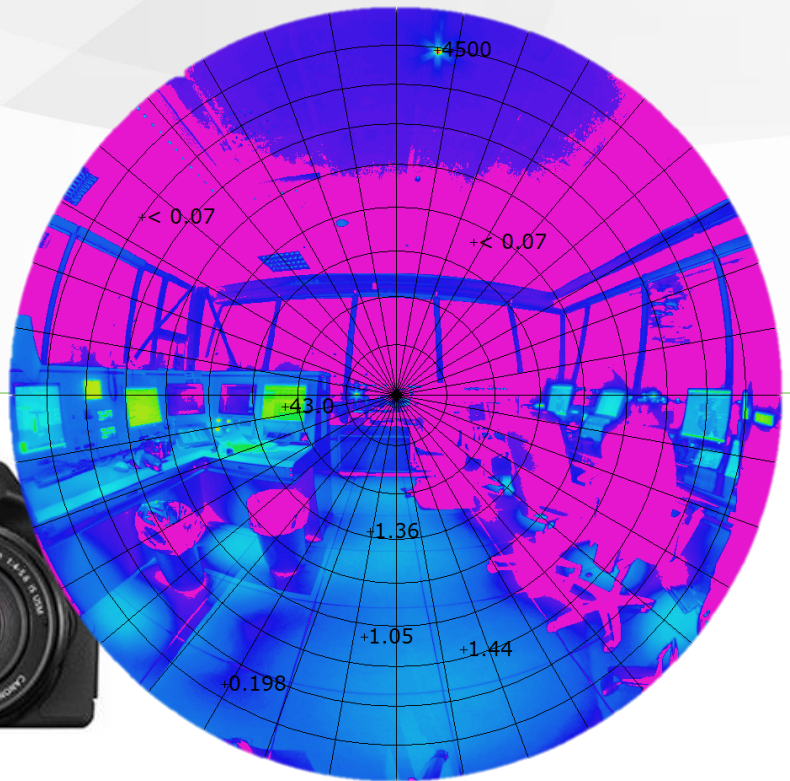


PHOTOLUX

3.2

QUALITY & COMFORT

A MOBILE SYSTEM
FOR LUMINANCE
&
VISUAL COMFORT DIAGNOSIS



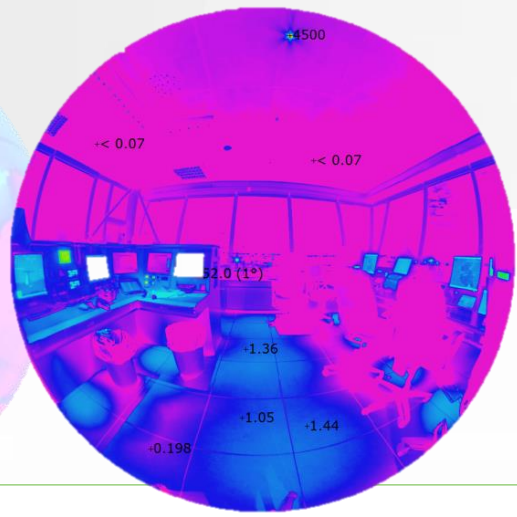
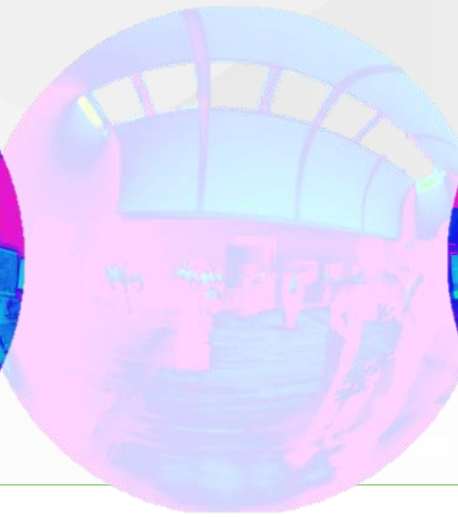
PHOTOMETRIC MEASUREMENT SYSTEM

CALIBRATED DIGITAL CAMERA: *CANON EOS 70D*

FISH-EYE LENS

PROCESSING SOFTWARE: *PHOTOLUX*

ADD-ONS: *PHOTOLUX BATCH & PHOTOLUX SHOOTER*



INTERNAL LIGHTING

CREATE, FROM PHOTOS OF A CAMERA, HDR LUMINANCES MAPS (FROM $0.1\text{CD}/\text{M}^2$ TO $500,000\text{CD}/\text{M}^2$) WITH A 180° FIELD OF VISION AND CURVES OF CALIBRATION

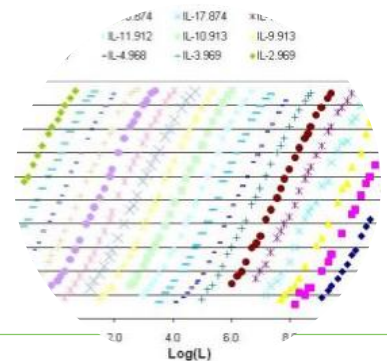
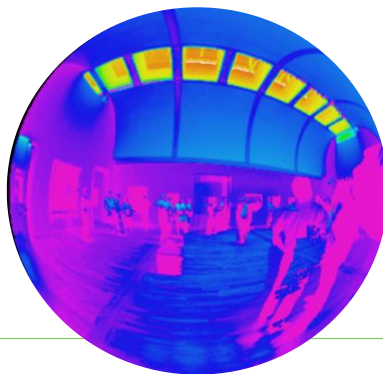
MAKE LUMINANCE STATISTICAL ANALYSIS ON THE COMPLETE MAP OR ON A SELECTED ZONE

THE COMFORT INDEX **UGR** (EN 12464-1) CALCULATION ALLOWING TO ESTIMATE THE CONFORMITY OF THE INTERNAL LIGHTING

CALCULATION OF THE INDEX RELATED TO THE NATURAL LUMINANCE IMPACT WITHIN A SPACE **DGI**

INTERNAL LIGHTING SIMULATION FOR NATURAL LIGHT RELYING ON THE WINDOWS EXTERNAL ENVIRONMENT LUMINANCES MAPS

AND MEASURES ON THE OUTSIDE SKY CONDITIONS – SKY SCANNER



PUBLIC EXTERNAL LIGHTING

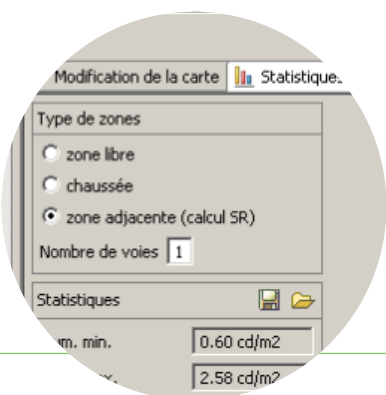
PUBLIC EXTERNAL LIGHTING - CEN 13201

COMMON INTERFACE WITH *PHOTOLUX*

USER FRIENDLY APPLICATIONS & INTERFACE

STATISTICS CALCULATION **CEN13201**

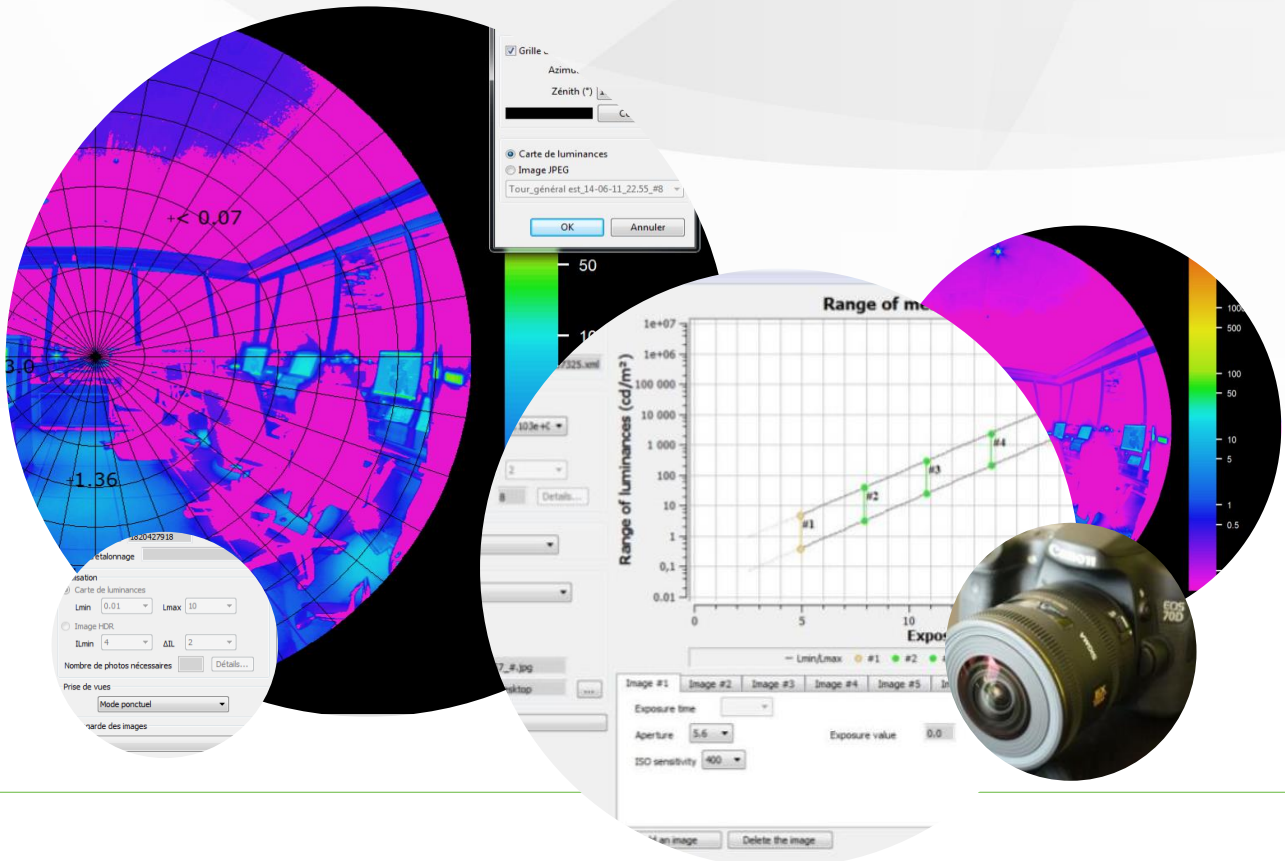
TI CALCULATION UNDER DEVELOPMENT



MEASUREMENT SYSTEM USE

STUDIES COVERING LUMINANCE AND VISUAL COMFORT CAN BE USED IN DIFFERENT TYPE OF PROJECTS AND SPACES:-

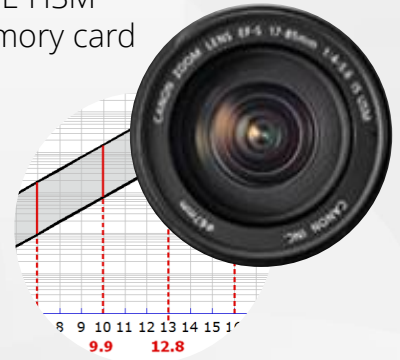
- AIRPORTS, TRAINS STATIONS, TRAINS...
- SPORT HALLS AND STADIUMS
- OFFICE BUILDINGS
- RESIDENTIAL PROJECTS
- FACTORIES AND PLANTS
- SCHOOLS & UNIVERSITIES
- MUSEUM AND PUBLIC SPACES
- CONCERT HALLS & THEATERS
- LANDSCAPE AND OUTDOORS
- PUBLIC EXTERNAL LIGHTING



TECHNICAL SHEET

ELECTRONICS

- SENSOR: CMOS Canon APS-C Size 22,3 x 14,9 mm with 5566 (H) x 3706 (V)
- LENS TYPE: Sigma 4.5mm F2.8 EX DC CIRCULAR FISHEYE HSM
- DATA TRANSMISSION: USB 2.0 and SD, SDHC, SDXC Memory card



SOFTWARE FUNCTIONALITIES

- Produces luminance map from digital pictures
- Identify the camera serial number, and uses the corresponding calibration curves
- Applies the calibration curves to the luminosity L^* (validity range: [20, 85]) of each pixel and compute the corresponding luminance
- Uses as many pictures of a same scene as needed to compute all the luminances of a dynamic range luminance mapping (HDR)
- Produces a false color map (Based on a logarithmic luminance scale)
- Covers a large luminance range: 0.1 cd/m² to 500 000 cd/m²

ADD-ONS

PHOTOLUX BATCH:

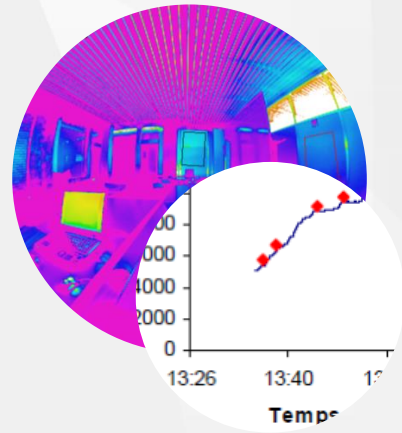
In a batch mode: different photo series are automatically identified and calculated without opening the software

PHOTOLUX SHOOTER:

Allows to automate the exposure settings and the recording of the series of photos with different aperture settings and with different time steps up to x days

MAIN FEATURES

- PRODUCE THE LUMINANCE MAP
 - Relative scale
 - Absolute scale
 - Correction factor
- EDIT THE LUMINANCE MAP
 - Pixel mode
 - Luminance meter mode
 - Add pointer mode
 - Threshold zones
- ANALYSIS OF THE LUMINANCE MAP
 - Zone characteristics: Select a zone, name it, apply a correction factor to this zone
 - Display Functions
 - Zoom in or out, drag or zoom all
 - Display a grid to identify the angular coordinates of a given point in the map
 - Replace the false color display by one of the pictures used to create the map
 - Statistics tab (whole map or specific zone): Find the minimum, the average and the maximum luminance values, standard deviation and the illuminance resulting from these luminances
 - Compute visual comfort Indices: UGR; Visual Comfort Probability; Daylight glare index

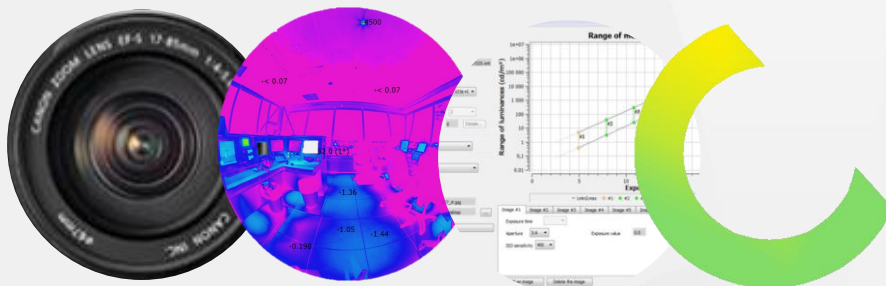


OUTPUT (Export function)

- IMAGE: File extension .bmp
- LIGHT PHOTOMETRIC DATA: Luminance-generic/brut (tab); Luminance-Radiance; Intensity distribution file (.ies); Genelux (.lum); Radiance (.rad)

TECHNICAL CLARIFICATION

- Can not be used for measuring colored light sources (LED)
- Operating system: Windows Vista, 7, 8, (10 in progress)



114 Rue Vauban
69006 Lyon
FRANCE

T: +33 4 78 65 14 25
photolux@soft-energy.com
www.photolux-luminance.com

