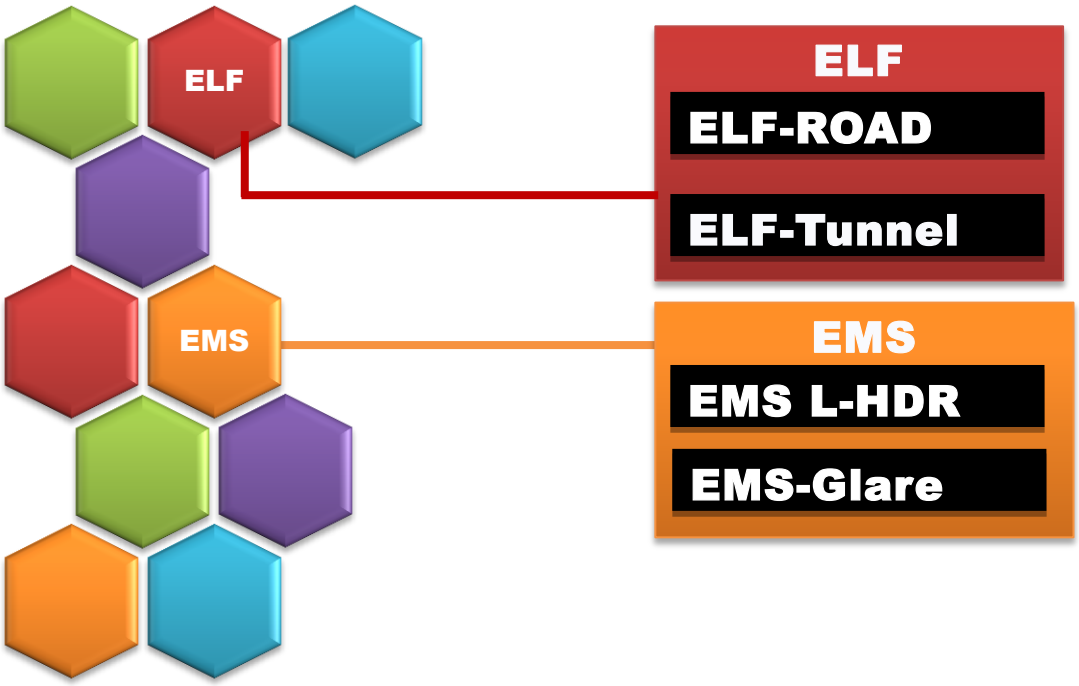
Video Luminance Meter

HI-LAND KOREA

Opimized solutions for luminance



ELF SYSTEM Video luminance analysis system

EMS SYSTEM HDR(1~30,000 cd/m² Simultaneous measurement)

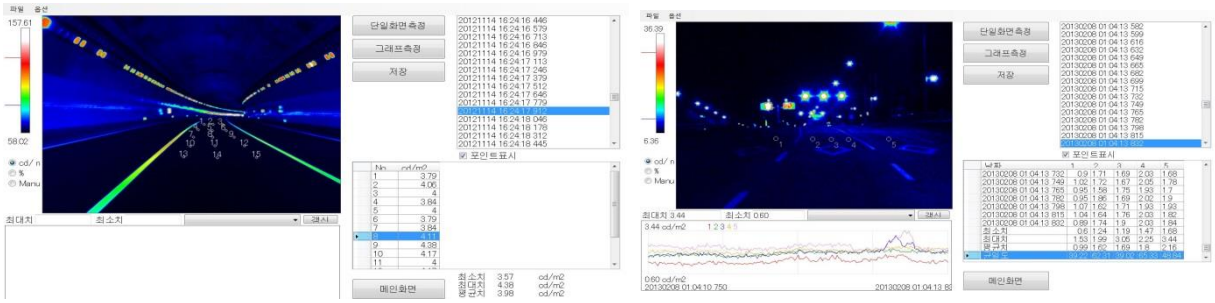
ELF System (Video Luminance System)

ELF System is Video Luminance Meter based on high technology CCD camera developed in Japan Highland Company. It can conveniently measure luminance value according to position and Change with time. Attached to the vehicle safety and convenience, road lighting, tunnel lighting can be measured. In addition, you can measure associated with light pollution such as Electronic display and decorative lighting.

ELF System Feature	
Video Luminance Rec	After video recording (over 15frame/s), luminance analysis is possible by the every each frame.
Compact and light	Can be attached to the vehicle, easy to move
Various solutions	Luminance analysis and graph analysis with time(HDR, Glare, Uniformity)

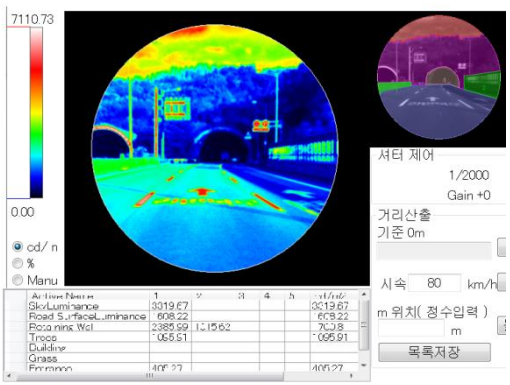
ELF ROAD – Road measurements

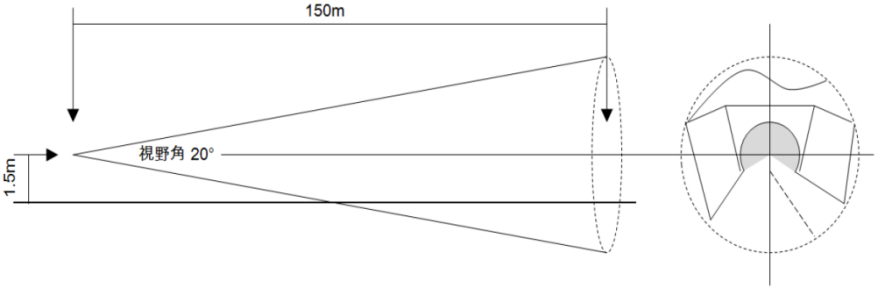
- ✤ According to KS3701 standard, comprehensive uniformity, lane axial uniformity, average road surface luminance measurable.
- ✤ Identify a luminance change in accordance with time and location in the video measurement graphically.



ELF Tunnel

- ✤ According to CIE88 standard, Veiling Luminance Method[option] and L20 Method measurable.
- ✤ Distance can be calculated by Constant speed drive





EMS System (HDR System)

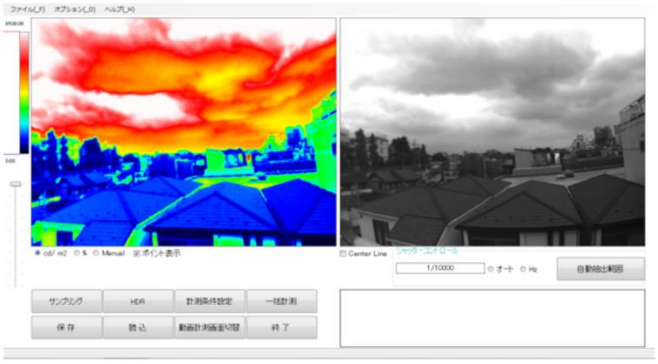
✤ EMS System using the high-precision spectral luminous efficiency CCD camera.
HDR (High Dynamic Range) measurements are possible
Compact, light, affordable new product developed based on the conventional high-precision luminance system.

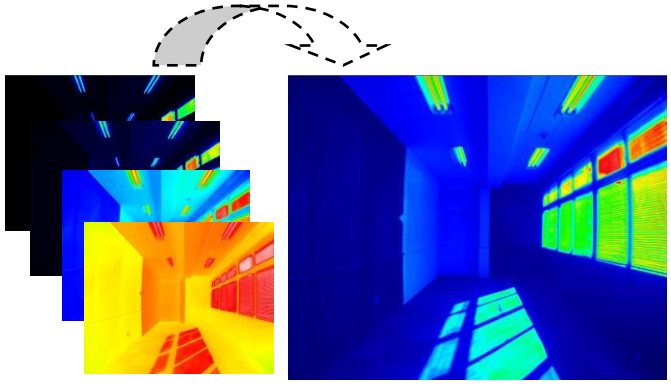
✤ **USB connecting with PC**

EMS L- HDR

✤ HDR luminance analysis is possible to capture an image of a high and low-luminance at one time.

✤ Over 1:100,000 Luminance ratio HDR specification.





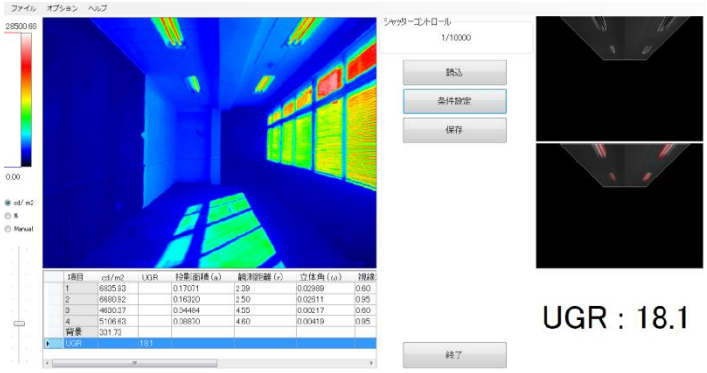
EMS L– HDR Image

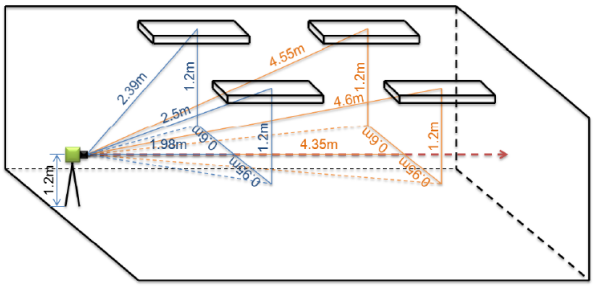
EMS Glare

✤ Glare evaluation software.

✤ CIE Standard UGR(Unified Glare Rating) function.

✤ HI-LAND dedicated algorithm Glare evaluation.





Guth Position Index P

$$UGR = 8\log_{10}\left[\frac{0.25}{L_b}\sum\frac{L^2\omega}{\rho^2}\right]$$

CIE Pub.117 Standard parameters for UGR

Em's Option System

Illuminance also can be measured by dome filter!!

ELF & EMS specification

Equipment	Camera	USB CCD Camera 1/4” VGA (640×480) (1200x1800 Extra Inquiry)
	Wavelength Sensitivity	Luminosity correction filter (only Monochrome) / Using V(λ) filter
	Connect method	USB 2.0 (Length 2m)
	Lens	6 mm fixed focus lens H35° V 26° (standard) 4 mm fixed focus lens H 50° V 37° 2.2 mm fixed focus lens H 90° V 67° 12.5 – 50 mm zoom lens H 21° V 16°
	Filter	Option : ND filter
Measurement	Measurement range	0.5 ~ 30,000 cd/m^2 (ND Filter is needed over 30,000 cd/m^2)
	Measurement accuracy	±3% (CIE Standard A light source basis)
	Measurement reproducibility	±1% (CIE Standard A light source basis)
	Data display	The Second decimal digits
System	PC Requirements (option)	Intel® CORE™ i5 fair Notebook (Only sale japan Including Notebook) FWXGA (1,366×768) over ELC : FWXGA or WSVGA (1,024×600)
	OS	Windows7~10 32bit & 64bit

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