admesy

ADVANCED MEASUREMENT SYSTEMS

SPECIFICATIONS

cylon

colorimeter

Cylon: innovative ring of light

The Cylon colorimeter's most outstanding feature is its innovative, stabilised lighting technology: Creating a perfectly 360 degree lit and controlled measurement environment on even the hardest and uneven surfaces. Amongst others the Cylon is used in the high speed production of carpets, textiles, tiles or quality control on leather.

The Cylon's lighting technology is developed from Admesy's Steropes series stable light sources and is designed in such way that no area remains unlit. Inside is a high speed and stable colorimeter giving the best measurements over and over.

Highlights

- Reflective colour measurement according to 45/0 degree standard around 360 degrees
- Measurements of surfaces with variations in height up to 5 mm
- Suitable for non-contact measurements
- Measure colour and luminance in various colour spaces: XYZ, CIELab, LCH, Luv
- Measure deltaE according to CIE1976, CIE1994, CIE2000, CMC
- Trigger input and output for in line applications. General Purpose I/O for control
- Works on various operating systems: Windows, OSX, Linux, winCE
- SCPI command interface for easy integration in other applications
- USBTMC standard compliant – full speed USB2.0 interface
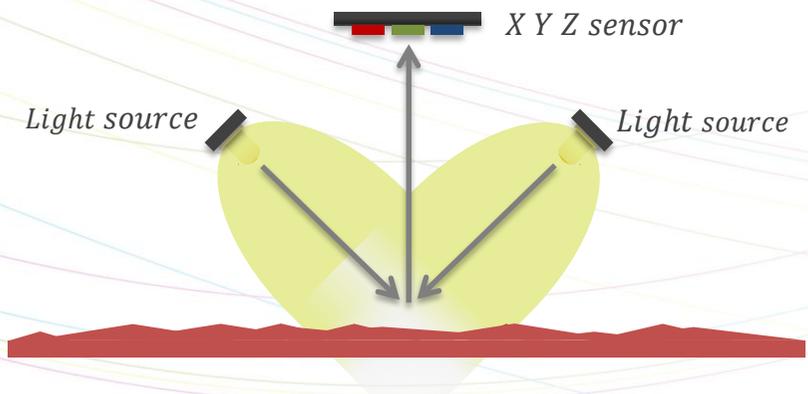- Directly supported in Labview / Labwindows / Visual Studio via VISA library

Fig 1 Cylon multi angle 45/0 degree measurement principle.

Cylon general specifications

Interfaces	
USB 2.0	USBMTC compliant, SCPI command set, full speed device
RS232	Command set similar to USB
Ethernet	Command set similar to USB
Trigger in & out	5V compliant

Power ratings	Min voltage	Typical voltage	Max voltage	Max Current
DC powered	14.5V	15V	15.5V	360mA

Measurement system	
Photo detector	Silicon photo diode using interference based XYZ filters
Spectral response	Approximates CIE 1931 2 degree colour matching functions
Measurement parameters	XYZ, Yxy, CIEL*a*b*, Luv, LCH, ΔE (CIE1976, CIE1994, CIE2000, CMC)
Optical system	45º circumferential lighting, 0º measurement
FOV detector	10 degrees
Measurement spot size	15 – 45 mm
Measurement speed	Sample mode: 10000 measurement/s Average mode: 20 measurements/s
Size (HxWxD)	220 x 140 x 140 mm
Mounting	Numerous options, depending on application
Weight	5.0 kg

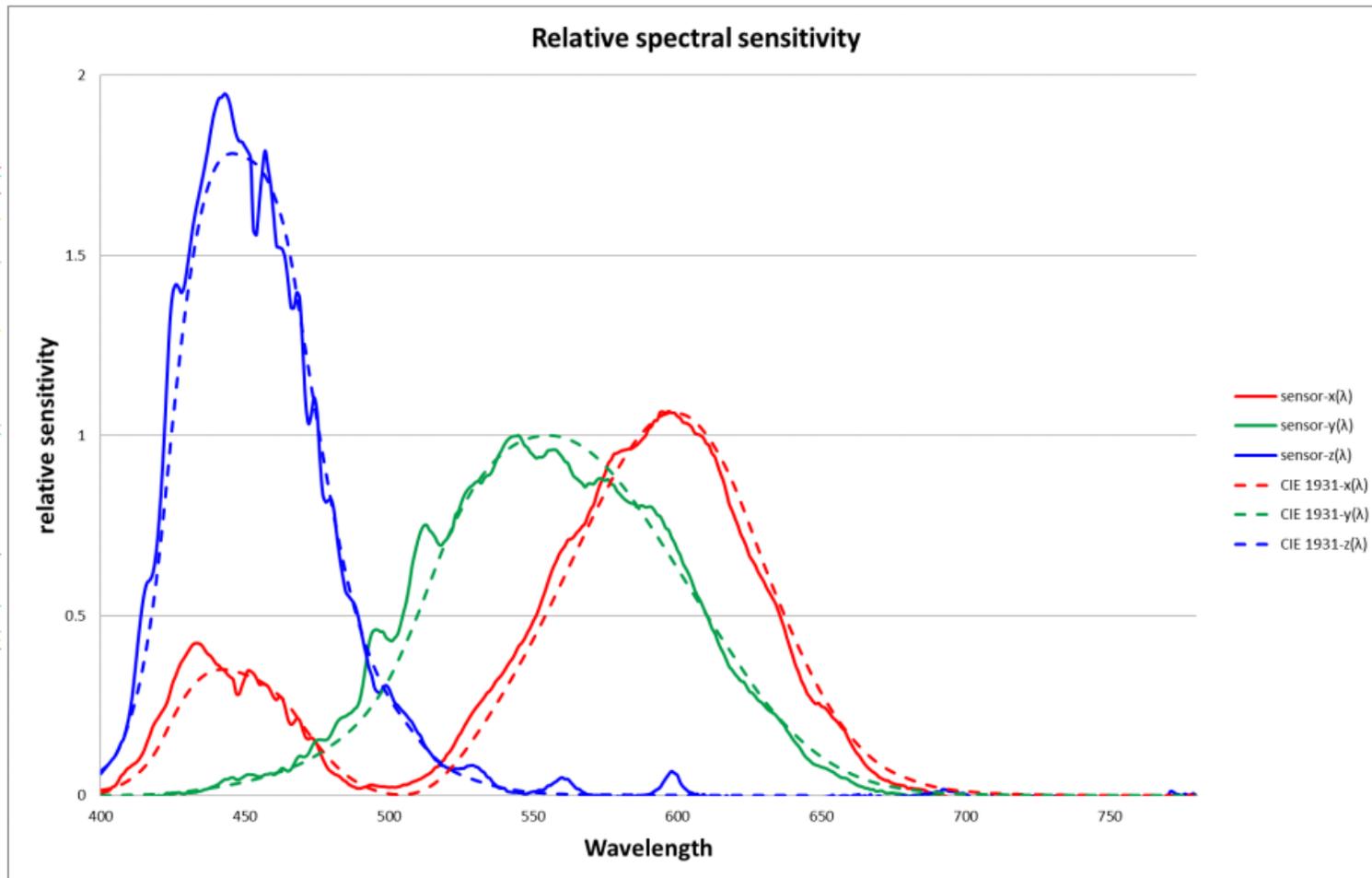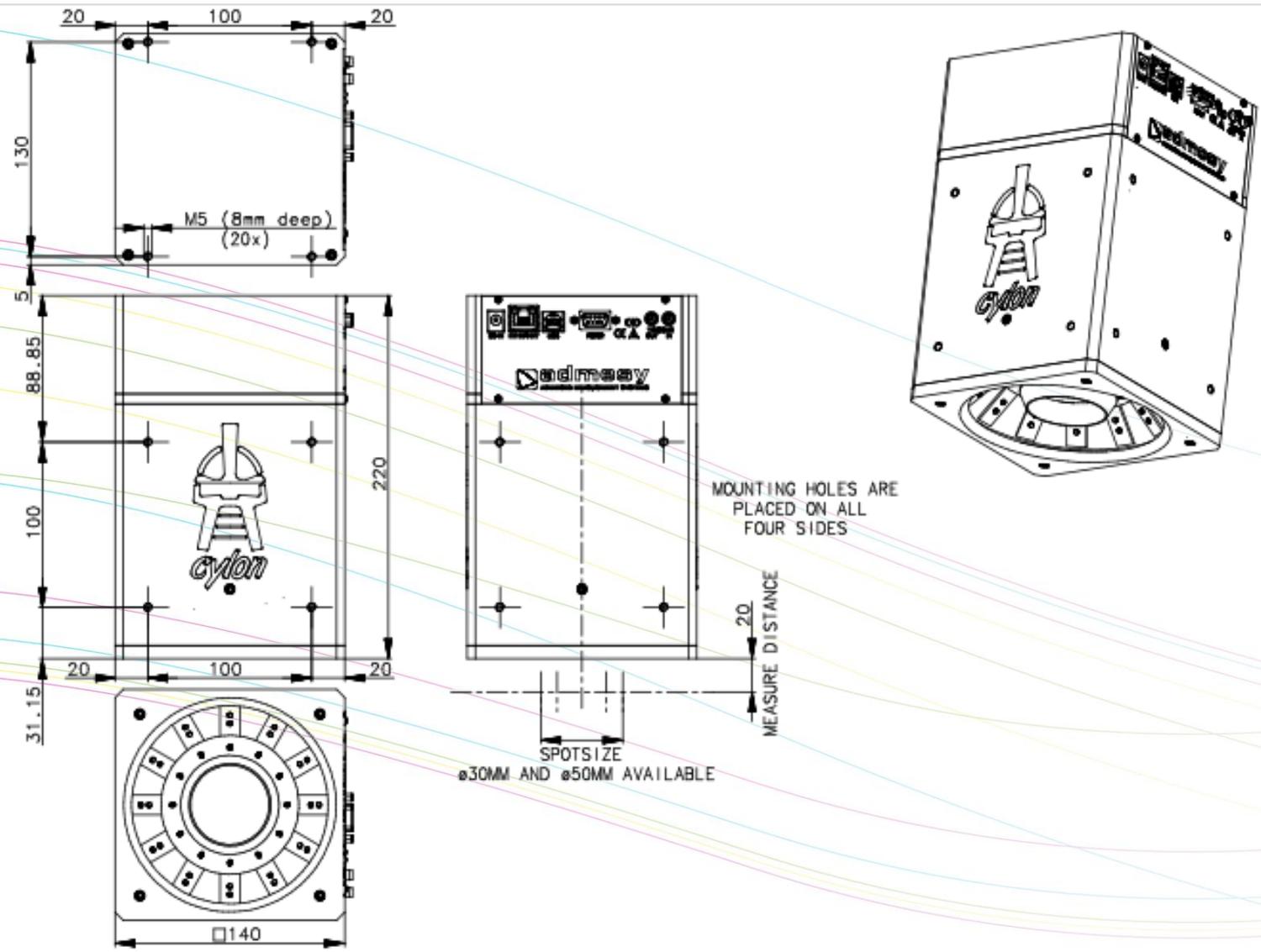# Typical spectral sensitivity of Cylon colorimeter

Fig 3 Spectral sensitivity of the Arges colorimeter.

Cylon colorimeter specifications

Colorimeter			
Parameter	**Range**	**Accuracy**	**Repeatability**
Resolution	16bit for X, Y and Z	> 60dB without averaging for X, Y, Z	Resolution
Light source output (Y)	White LED Light output is optically stabilized	Within +/- 0.3% over entire lifetime	+/- 0.1% internal light source stability
Illuminant	D65, D50 and C....		
Inter instrument agreement	$\Delta E < 1.5$ (measured on 24 tiles of the gretag chart)		
DeltaE	> 0.05	0.02	+/- 0.03 CIE 1976
Absolute accuracy	$\Delta E < 0.5$ (measured on grey tiles of the gretag chart) $\Delta E < 3$ (average of 24 measurements on the gretag chart)		ΔE of 0.2
Operating Temperature	10 - 40°C		

Cylon dimensions

MOUNTING HOLES ARE
PLACED ON ALL
FOUR SIDES

MEASURE DISTANCE

SPOTSIZE
ø30MM AND ø50MM AVAILABLE

M5 (8mm deep)
(20x)

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