



HELIOS

65 MP Y IMAGING SYSTEM

PRE-LIMINARY

Specification

ADMESY

colorimeters | spectroradiometers | lightmeters

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Patent pending!!

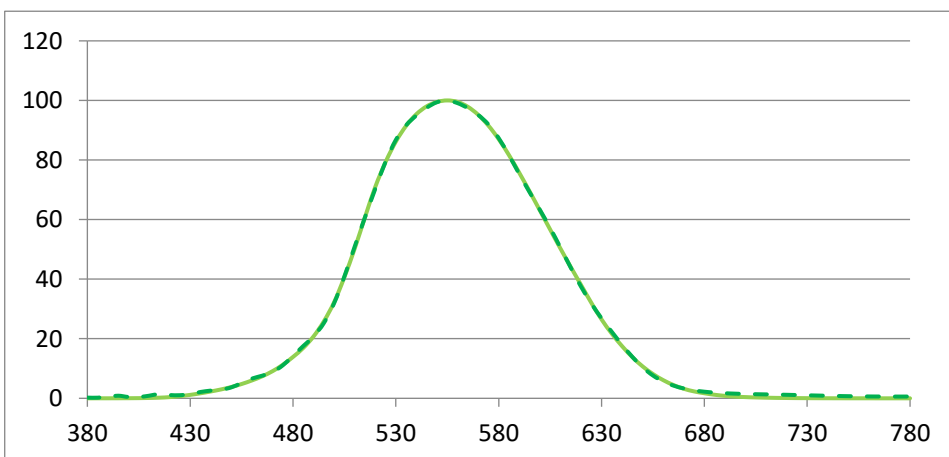
HELIOS Y

The Helios Y is the ultimate 2D Luminance imaging CMOS sensor combining a high accuracy interference based Y filter. In order to compensate for the angle effects of the lens a very special design was developed for the filter. This make the Helios Y stand apart from any other solution on the market when accuracy is key



HIGHLIGHTS

- Supports several Canon EF lenses
- Highly accurate and uniform Y filter, in-house made
- Automatic aperture and focus control by software command
- Flatfield calibrated for several apertures
- Automatically applied corrections for flatfield over applied aperture and focus distance
- High accuracy
- Dark current compensated
- Flat Field calibrated over the focus distance



Patent pending!!

SPECIFICATIONS

Interface	
Ethernet	10GIGE Ethernet interface (should support jumbo packets)
12 V power	12 V DC regulated (supplied in package)

Power ratings				
	Min. voltage	Typical voltage	Max. voltage	Max. current
12 V power	11 V	12 V	13 V	3000 mA

General	
Temperature	15°C to +35°C
Humidity	10 % to 70 % non-condensing
Weight	0.9kg (without lens)

Luminance camera specification	
Model	Helios Y
Detector	65MP gpixel detector
Spectral response	Approximates CIE 1931 color matching function (Y < 3%, f1 error)
Luminance accuracy	± 3%

Sensor specification	
Resolution	9344 x 7000
Sensor	GMAX3265
Output format	12bit
Integration time	1 ms – 10 s (can be longer)
Dynamic range	65 dB

Measurement system	
Lenses supported	50mm (FOV +/-20.5 degree), 85mm (FOV +/- 12.4)
Focus and aperture	Electronically controlled
OD filter	Can be ordered separately, (will be mounted on front of lens when ordering)
Working range	400mm to 2000mm for 50mm lens 850mm to 2000mm for 85mm lens Working range is defined from body of device to object being tested.
Aperture available	F#2.0, F#2.8, F#5.6, F#8..0

General performance		
Parameter	Range	Accuracy
Non-uniformity after flat field calibration	± 1%	—
AD converter	12 bit ADC converter	—
Luminance (Y)	Depending on aperture and time between 1ms – 10sec ¹	± 3%
Image process time	650ms per image ²	—
Measurement time	Integration time + process time	

1) Camera can integrate longer than 10s

2) with 10 GigE

Patent pending!!

HELIOS Y MEASUREMENT DATA

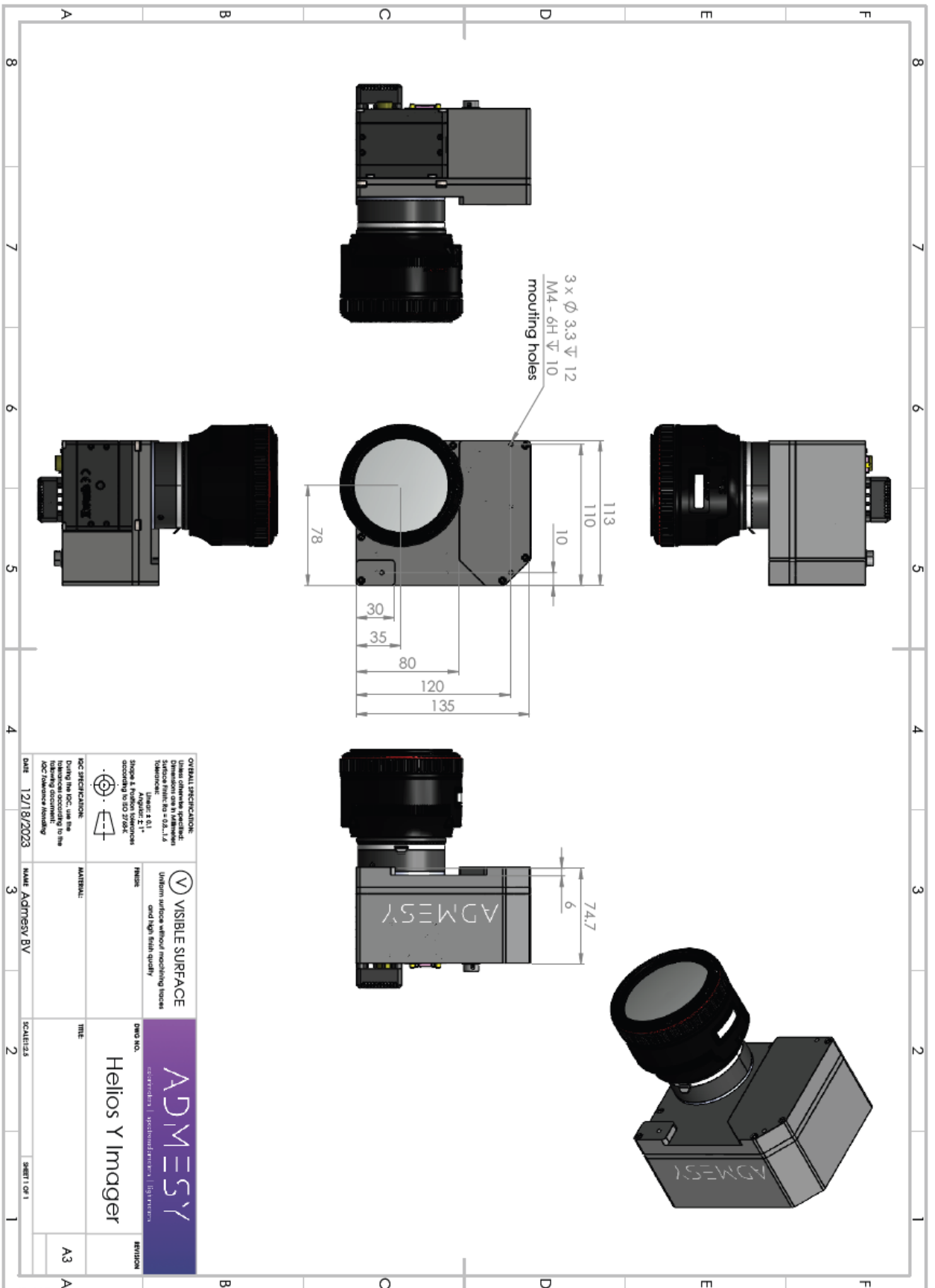
F2.0 aperture	value		condition	
Luminance range [Cd/m ²]	400 – 0.0005		Integration time of 16666us to 10sec, lowest values is based on SNR of 50 with 100x100 binning	
Luminance range [Cd/m ²]	6400 – 0.0005		Integration time of 1000us to 10sec, lowest values is based on SNR of 50 with 100x100 binning	
Repeatability [2*stdev – Y%]				
luminance level @ int time	No binning	2x2 binning	10x10 binning	100x100 binning
0.001 @10 sec	x	x	20%	2%
0.005 @10 sec	x	20%	4%	0.4%
0.01 @10 sec	20%	10%	2%	0.2%
0.05 @10 sec	7%	3.5%	1%	0.1%
0.05 @3 sec	16%	8%	1.5%	0.15%
0.1 @3 sec	10%	5%	1%	0.1%
0.3 @3 sec	5.3%	2.6%	0.5%	0.1%
1 @1sec	5%	2.5%	0.5%	0.1%
10 @100ms	5%	2.5%	0.5%	0.1%
100 @16.666ms	4%	2%	0.4%	0.1%

Remark, 1 stdev equals SNR, so if 2 stdev is 20% this means a the SNR has a value of 10:1, if the value is 2% this means SNR is 100

For higher aperture the luminance levels can be multiplied by the ratio of the aperture size

Patent pending!!

HELIOS Y DIMENSIONS



ADMESY

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