



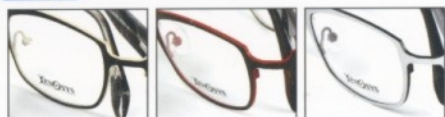
SURGICAL TELESCOPES & PORTABLE LED LIGHT SYSTEM



FEATURE

- Larger field of view & depth of focus
- Lighter & Smaller Telescopes
- Clear & Bright vision over full field
- No distortion, no fatigue
- The telescope of KEPLERIAN type which Prism is contained internally offers high resolution : Looks3500, Looks5000 series
- Frame
 - Frames of Anti-allergic Pure Titanium & laser protective goggle
 - Ergonomic and Stylish Pure Titanium frame & Plastic temples
- Color of Frame

Front part



Rear part



Front / Rear

Black	Khaki	Silver
Ivory	Red	Black

SPECIFICATION

Model	Mag.	F.O.V.@40cm	Weight*
Looks2500	2.5X	160mm@40cm	41.0g
Looks3000	3.0X	70mm@40cm	46.8g
Looks3500	3.5X	98mm@40cm	75.5g
Looks5000	5.0X	62mm@40cm	83.0g
Flip-up	Magnification : 2.5x, 3.0x Working Distance : 30cm, 36cm, 42cm, 48cm		

* Weight based on TTL loupe with plano lens

>>> Looks 2500



>>> Looks 3000



>>> Looks 3500



>>> Looks 5000



>>> Flip-up 2.5x, 3.0x



Why do we wear the Surgical Telescope?

1. Magnified Image → Resolution limit that be accorded sensor density of human-eye
2. Correction of Defects → Myopia, Hypermetropia, Astigmatism, Presbyopia, Strabismus
3. Remedy of Posture → Keep a straight & better posture to prevent backache or stiff shoulder.
4. Protection from Infection → Eye-wear like protective goggle



Magnified Image



Correction of Defects



Remedy of Posture



Prevention of Infection

What kind of Surgical Telescope shall be recommended?

A good surgical telescope should have small size, optimization of optical performance, and co-axial alignment & convergence of its two sight lines into one point. It is important to select products properly manufactured through accurate evaluation technology. Three conditions of selection are as follows;

1. Optical : Mag., FOV, Depth of Focus, Resolution, Unaffected Color, Aligned Axis.
2. Mechanical : Rigidity, Durability, Allergy (mat'l), Appearance.
3. Comfortable : Weight, Size, Fitting.

	Optical performance	Weight	Size	Convergence
Good	No distortion / Clear	Light	Small	Aligned axis
Bad	Distortion / Blur	Heavy	Large	Misaligned axis

L²S PORTABLE LED LIGHT SYSTEM

LED Lens Module



Model		LLM0982	LLM0974	LLM0966
Brightness(lux) @WD400mm	1 st step	9,000	10,000	14,000
	2 nd step	16,000	19,000	26,000
	3 rd step	20,000	23,000	32,000
	4 th step	24,000	28,000	38,000
Illumination diameter @WD400mm		Ø82mm	Ø74mm	Ø66mm
Weight		35.1g	32.8g	34.2g
Uniformity		more than 68%@WD400mm		
Light Source		High power LED (2 watt)		
Color Temp.		6000 K		
LED life span		50,000 hrs or more		

Control Unit



Auxiliary Control Unit



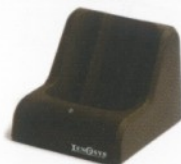
Power Switch	ON/OFF
Brightness control	4 step control
Input voltage	DC 7.4V
Weight	Control unit : 35 g, Auxiliary control unit : 21.2 g

Battery Pack (Provide one spare battery pack)



Operating Time (Under condition of 3hr - charging)	18 hrs @1 st step
	9 hrs @2 nd step
	7 hrs @3 rd step
	5 hrs @4 th step
Battery type	Li-ion
Capability	DC7.4V, 2600 mA
Charging time	5 hrs (full charge)
Weight	126 g

Charging Cradle



Battery Charger



Input	AC100-240V, 50/60Hz, 1.0-0.55A
Output	DC8.4V, 1.5A

Optional Accessories



Protective Goggle



Universal adapter
clip for general glasses



Rigid Head band



Anti-curing
filter for dentist

L²S PORTABLE LED LIGHT SYSTEM

FEATURE

- * Illumination is similar to sunlight
- * Brighter than others
- * Larger and Uniform
- * Co-axial lighting system (No shadow)
- * Easy to exchange battery pack
- * Easy to recharge
- * Long operating time
- * Easy to clip main body onto belt
- * One extra free battery pack
- * Auxiliary control unit (Remote control)



LED Lens Module (3 types)



Auxiliary Control Unit



Control Panel



SPECIFICATION

- * Lamp Type
 - High power LED (White color)
- * Weight
 - Control Unit : 40g, Battery pack: 126g,
 - LED Lens Module (has 3 optional types)

Model	LLM0982	LLM0974	LLM0966
Weight	35.1 g	32.8 g	34.2 g

Where LLM0982 is standard model.

* Brightness & Operating time

Step	Brightness (lux) @Wd400mm			Operating time (hrs)
	LLM0982	LLM0974	LLM0966	
1 st step	9,000	10,000	14,000	18
2 nd step	16,000	19,000	26,000	9
3 rd step	20,000	23,000	32,000	7
4 th step	24,000	28,000	38,000	5

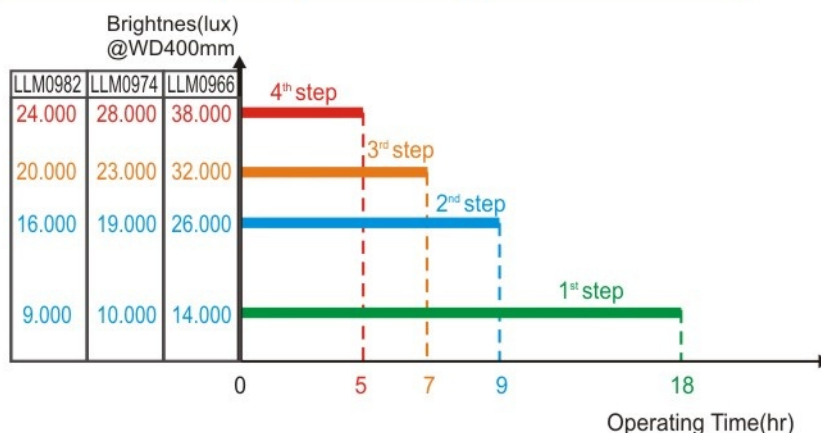
* Diameter of Illumination @Wd400mm

Model	LLM0982	LLM0974	LLM0966
Dia.	Ø82 mm	Ø74 mm	Ø6 mm

- * Electric charging time : 5 hrs (full charge)
- * Optional Accessory
 - Protective Goggle
 - Headband
 - Anti-curing Filter
 - Universal adapter clip for general glasses



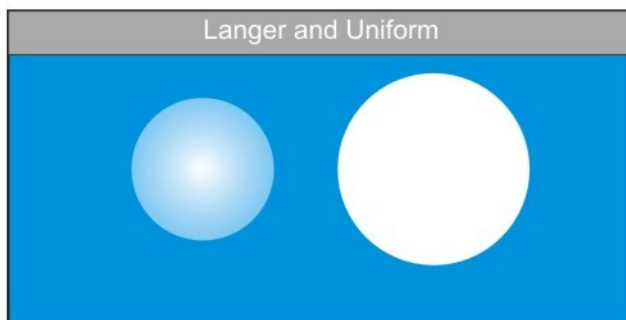
Operating Time and Brightnes



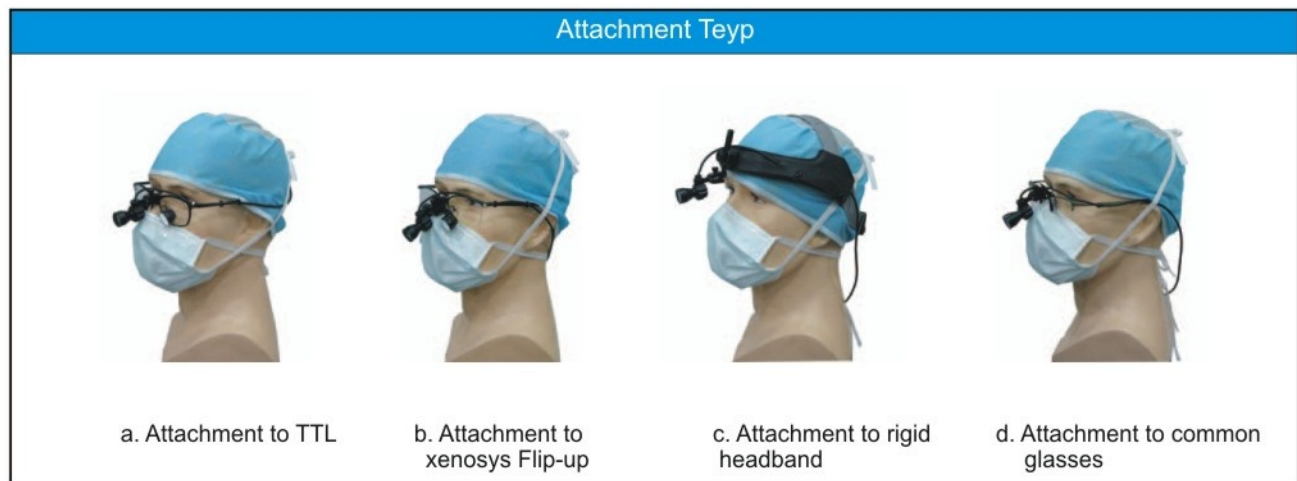
※ Under condition of battery charging for 3 hrs

The detailed features of LED Headlight

1. L2S is brightest among the existing LED Headlight systems.
2. LED has the power consumption of 2watt comparing to other products with 3 watt.
3. The illumination area is large and the brightness distribution is uniform.
4. The illumination and sight is at same axis without any shadow.



5. L2S can be attached to headband, surgical telescopes (TTL, Flip-Up) and any glasses easily. It has light weight.



6. By applying a constant current circuit, there is no change of brightness during its working.
7. Remaining battery power can be checked by lamp indicator and by beeping at 5 minute before power off.
8. The battery pack is normally charged for 3 hours and it can work for 5hours (4th step mode) at least and up to 18 hours (1st step mode).
9. Battery can work for 300 time recharges and discharges at least (typically 500 times) and the lifetime of LED element is above 50,000 hours normally.

Looks3200



FOV 86 mm
@WD 40cm

Looks2800

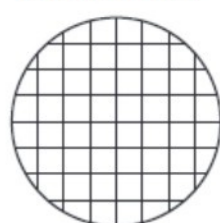


FOV 130 mm
@WD 40cm

FEATURE

- Ultra Light Weight & Less burden in nose and ear
- Through carrier lens vision is comfortable due to small telescope size
- Clear & Bright vision over Full field

No distortion / Clear



Looks

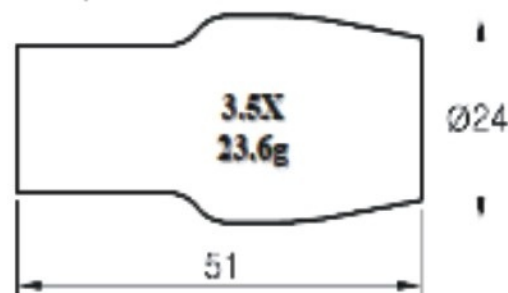
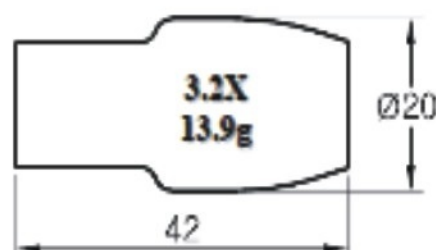
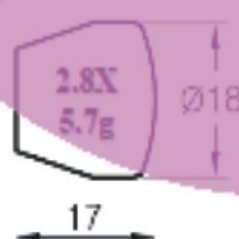
Distortion / Blur



Others

- Frame color option

Front	Black	Khaki	Silver
Rear	Ivory	Red	Black



ACTUAL SIZE & WEIGHT

SPECIFICATION (@WD 40cm)

Model	Mag.	Weight [±]	F.O.V.	Resolution	Distortion
Looks3200	3.2X	56.60 g	86mm	More than 28 lp/mm	Less than 1%
Looks2800	2.8X	40.00 g	130mm	More than 24 lp/mm	Less than 1%

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FEATURE

- >> The image with good quality can be obtained because the uniform light of L2S or XLS300W will be illuminated at the affected parts.
- >> Since the depth of focus is good, the focus will be fit in wide range (WD400mm \pm 50mm) during the operation.
- >> The images took can be stored in the DVD, video tapes, or personal computer by optional installation.
- >> When the recorded data were viewed by the educatee, there are advantages of video from the standpoint of the operator.

SPECIFICATION

Description	<ul style="list-style-type: none">- Model: XCS640- Free focus (adjustable from 200 to 600 mm)- 720 X 480 S-VGA Resolution
Standard Articles	<ul style="list-style-type: none">- Micro camera(H768 x V494 pixels) with cable length 3m- Camera lens 3 types (Among 82mm, 74mm, 68mm):<ul style="list-style-type: none">- f=18mm (Standard)- Camera control unit
Optional	<ul style="list-style-type: none">- DVD, VCR Recorder- LCD Monitor combined TV Function- Xenon Light Source(XLS300W) & Light guide (3m length)- LED Light System (L2S)- Integration Cart- Microcamera(H768xV494 pixels) with cable length 5m- Camera lens f=12mm & 25mm



The combination of L2S and Camera System



The combination of XLS300W and Camera System

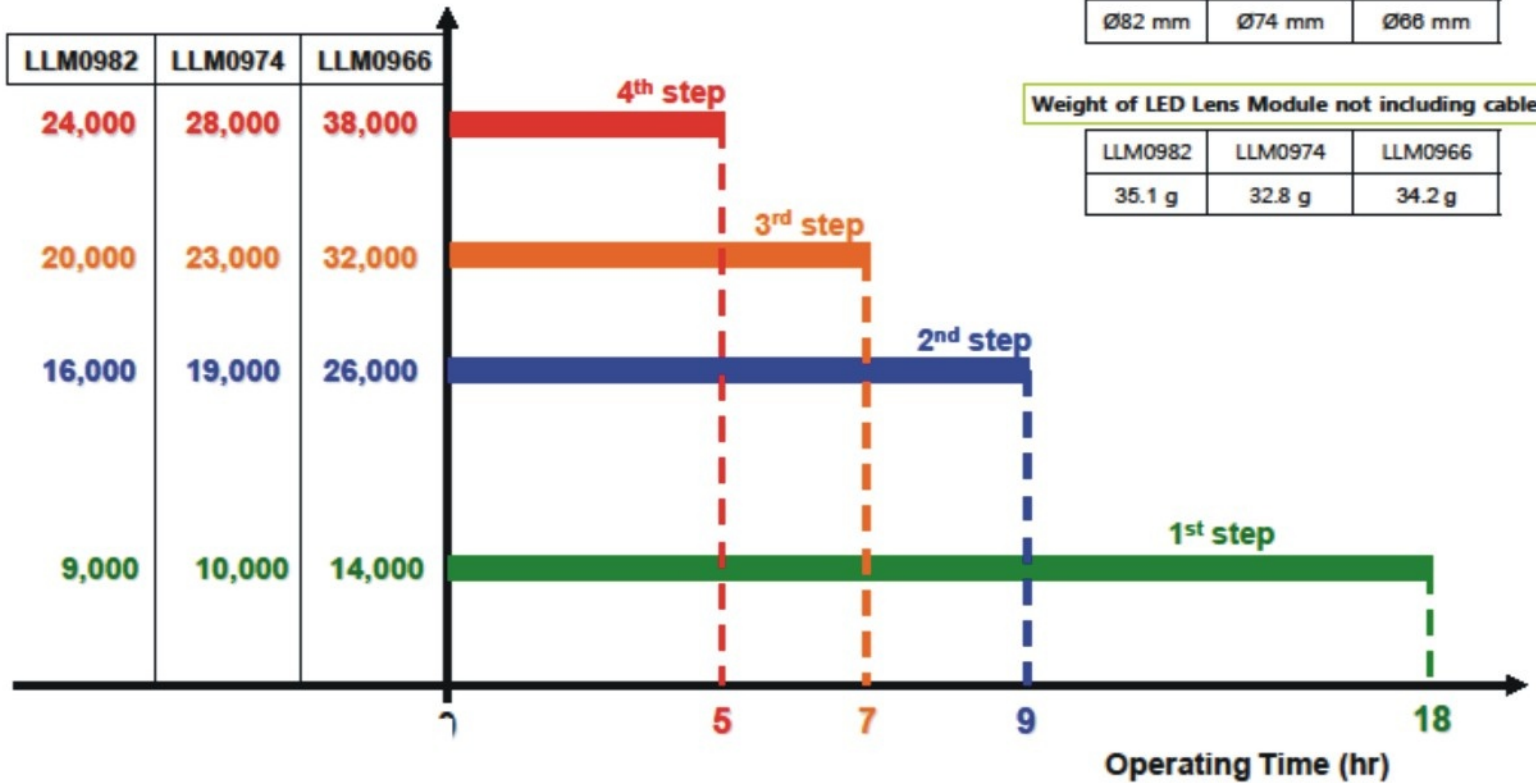


New L2S

Brightness (lux) & Operating Time (hr)

(Model Name: LLM0982, LLM0974, LLM0966)

lux @WD400mm



Diameter of illumination @WD400mm

LLM0982	LLM0974	LLM0966
Ø82 mm	Ø74 mm	Ø66 mm

Weight of LED Lens Module not including cable

LLM0982	LLM0974	LLM0966
35.1 g	32.8 g	34.2 g

Comparison of LLM Types



LLM (LED Lens Module) has Serial number like below picture

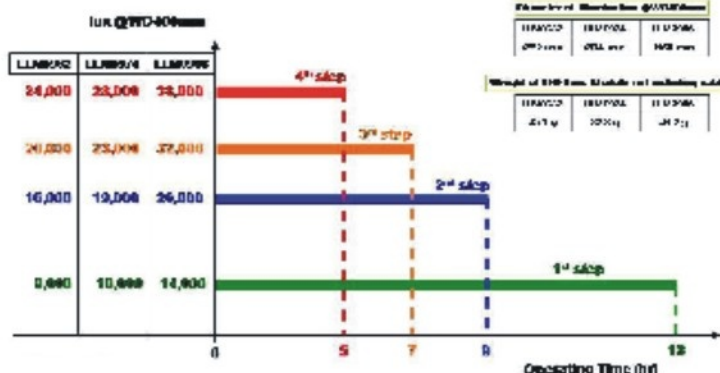


- LLM0982: Flat lens with 18.55mm Diameter
- LLM0974: Round lens with 18.52mm Diameter
- LLM0966: Much rounder lens with 21mm Diameter

New L2S

Brightness (lux) & Operating Time (hr)

(Model Name: LLM0982, LLM0974, LLM0966)



Diameter of illumination @WD400mm

LLM0982	LLM0974	LLM0966
Ø82 mm	Ø74 mm	Ø66 mm

Weight of LED Lens Module not including cable

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