ADVANCED ILLUMINATION
Precision LED Lighting for Vision and Imaging

SL191
Structured Pattern Generator

- Designed for applications requiring structured illumination
- Ideal for locating edges, offsets, and assessing topography
- For use with standard C Mount 2/3" lenses
- Uses negatively patterned 21mm reticle
- Requires reticle and lens (sold separately)
- Complete package includes Pattern Generator, Reticle of choice preinstalled, and Final Focusing Lens

shown with optional final focusing lens

Click for SL191 Package Sheet

Ordering Information

Stock Product: Shipped Next Day

SL191-WHIIC
SL191-625IC

Configured with inline Current Source

Standard Product Variation: Shipped Within Two Weeks

	Spectral wavelength	Optional power compatibility	Optional Connector
SL191 -	XXX	XX	XXX
	(blue) 455	IC	M12*
	(green) 530	i3	(i3: 5-pin male;
	(red) 625	C2	IC: 4-pin male)
	(white) WHI	C3	
		C5	

IC = Continuous-on gate on/off drive (24 volt PS required)

i3 = Combined continuous-on and strobe over-drive (24 volt PS required.)

C2 = Ai Connector

C3 = Pulsar 710 Connector

C5 = Pulsar 320 Connector

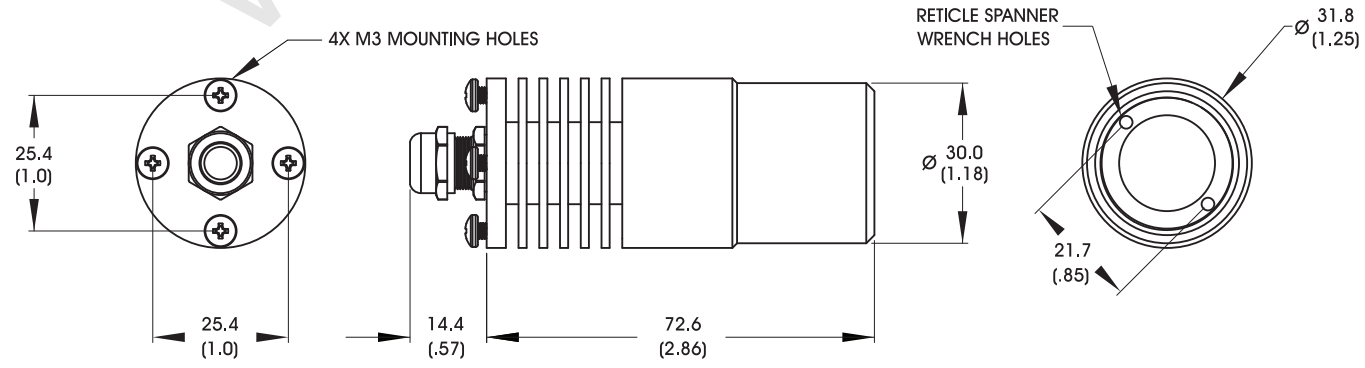
* Available with IC and i3 options only

Irradiance (mW/cm²) & **Illuminance** (Lux)

Measured at the end of the barrel: **3.0 mW/cm2**
245,000 Lux (white)

Dimensional Information

Click for Installation Models & Drawings



STANDARD CABLE LENGTH: 1.5 Meter (59")

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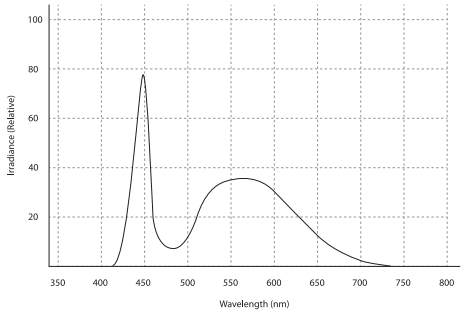
sales@avsupply or call: 1-858-565-1101

Color Temperature (Standard Product)

CCT = 5500k (typical)



Power Consumption

5.5 Watts @ 24v DC

General Specifications

Weight:	127.6 g (4.5 oz)	Operating Temperature:	0-60 C°
Finish:	Black Anodized	Meets Specifications:	CE, RoHS

Power Options

C2 CONNECTOR

Current Regulators:
CS100, CS100-IC
CS300, CS300-IC

Intensity Controllers:
MS210, MS220
CS410, CS420

Strobe Controllers:
S4000
S6000
S6000-AS

C3 CONNECTOR

Strobe Controller:
Pulsar 710

C5 CONNECTOR

Strobe Controller:
Pulsar 320

IC: Inline Current Source:

Power Supplies:
PS24-TL (1.6A)

i3: Inline Strobe Unit:

Power Supplies:
PS24-TL (1.6A)

Accessories / Additional Information Links

RETICLES

Click for Reticle Data Sheet

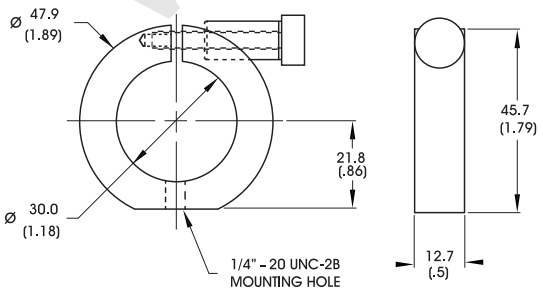
LENSES

Click for Lens Data Sheet

RETICLE REPLACEMENT

Click for Reticle Replacement Instructions

C-ring Mount (p/n: CM-30) Dimensional Information



DIMENSIONS ARE IN MILLIMETERS (INCHES)

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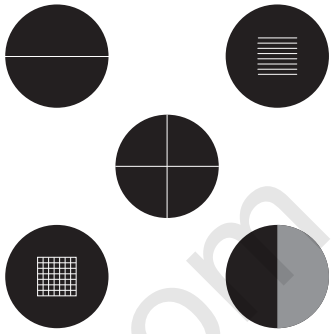
RETICLES

- For use with the SL191 Pattern Projector Light
- Five field-replaceable standard patterns available
- 0.050mm line width photolithography
- Available as part of a complete SL191 package (Light, Lens, Reticle), or individually.
- Reticles include spanner wrench
- Please contact Ai for custom reticle patterns



Click for SL191 Data Sheet | Click for Lens Data Sheet | Click for Reticle Replacement Instructions

Stock Product:
Shipped Next Day

ROL
Single Line

RCH
Cross-hair

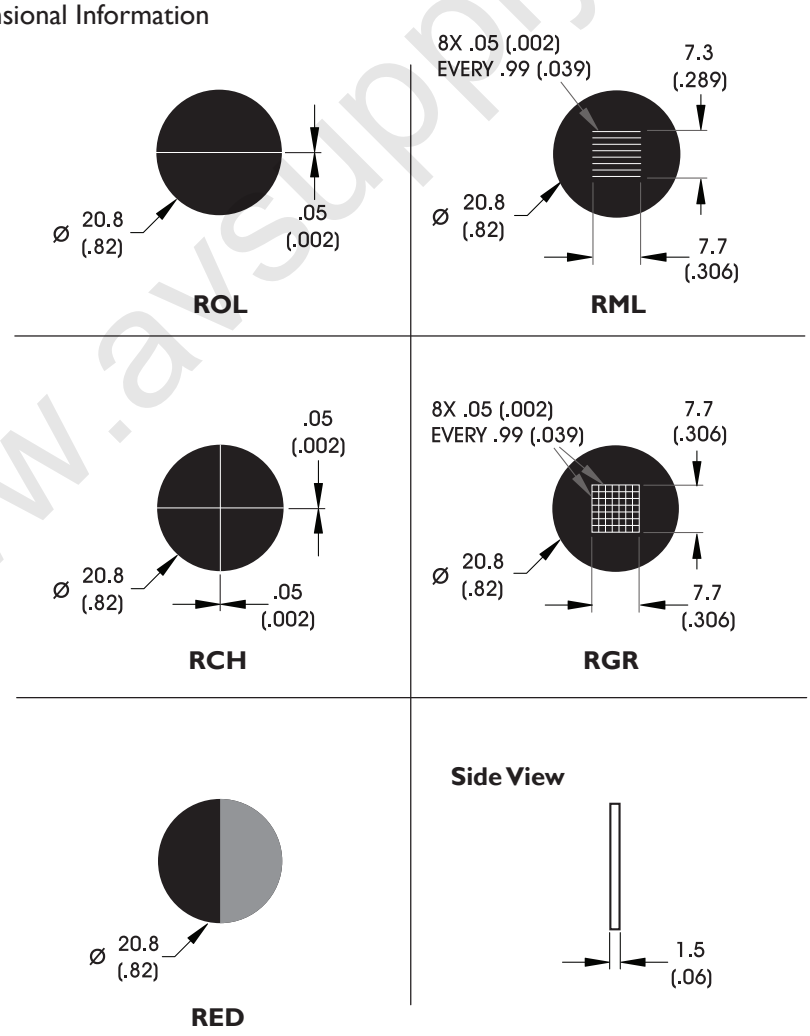
RED
Edge

RML
Multiple Line

RGR
Grid

RKT
5 Reticle Kit, includes:
ROL, RCH, RML,
RED, and RGR

Dimensional Information



DIMENSIONS ARE IN MILLIMETERS (INCHES)

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ADVANCED ILLUMINATION
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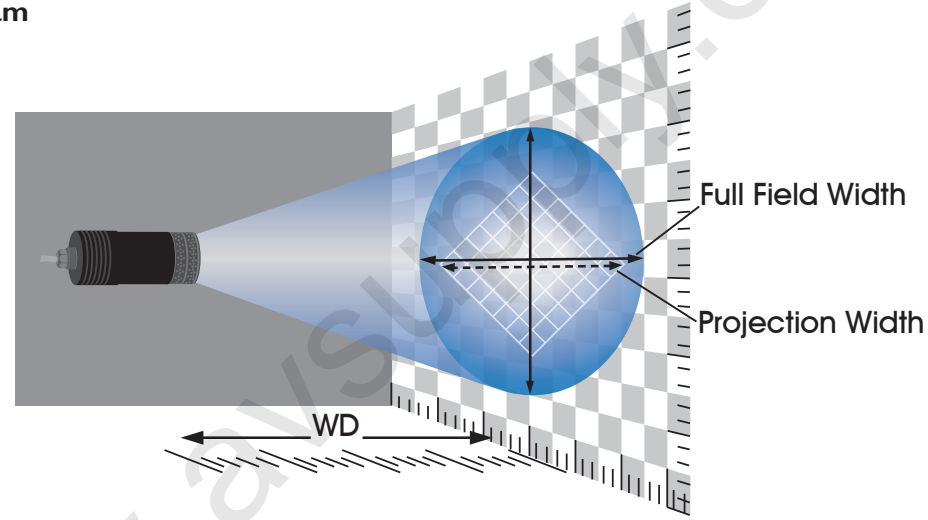
Standard & Telecentric Vision Lenses

- Edmund Optics Compact TECHSPEC fixed focal length, as well as Compact Telecentric and Silver Series Telecentric Lenses
- Standard C-Mount, 2/3" format lenses
- For use with the SL191 Structured Pattern Generator

Click for SL191 Data Sheet | Click for Reticle Data Sheet

SL191 Projection Diagram



Edmund Optics TECHSPEC standard vision and imaging FFL lens, 2/3" format, C-Mount

Click to View Edmund Optics Fixed Focal Length Lens Data Sheet

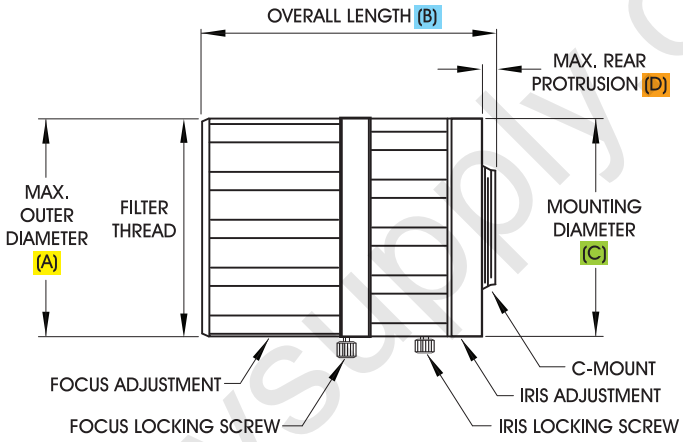
Edmund Optics TECHSPEC standard vision and imaging FFL lens, 2/3" format, C-Mount (cont.)

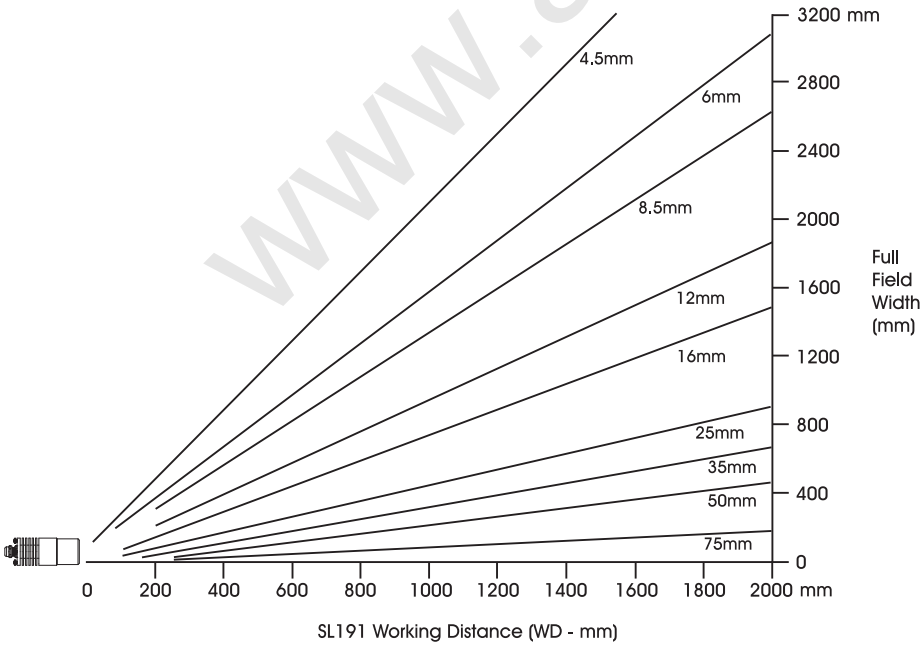
Lens (Ai PN)	Focal Length	Lens Min. Focus Working Dist. (MOD)	Min / Max Focused Reticle Pattern Working Distance	Projected Full Field Width @ MOD	Projected Full Field Width @ 2000mm Working Distance	Filter Thread Size	Dimensional Data A	B	C	D
FFL-4.5*	4.5mm	25mm	10 / >2000	65	4500	M58.0 x0.75mm***	40.0mm	37.5mm	32.0mm	2.78mm
FFL-6*	**6mm**	**75mm**	**75° / >2000****	**135**	**3100**	**M34.0 x 0.5mm**	**36.0mm**	**48.9mm**	**35.8mm**	**1.4mm**
FFL-8.5*	8.5mm	200mm	150° / >2000	270	2600	M25.5 x 0.5mm	32.0mm	34.5mm	32.0mm	0.0mm
FFL-12*	**12mm**	**200mm**	**350^ / >2000**	**190**	**1850**	**M25.5 x 0.5mm**	**32.0mm**	**27.9mm**	**32.0mm**	**0.5mm**
FFL-16	**16mm**	**100mm**	**150 / >2000**	**70**	**1400**	**M25.5 x 0.5mm**	**33.0mm**	**40.5mm**	**33.0mm**	**1.0mm**
FFL-25	**25mm**	**100mm**	**110 / >2000**	**45**	**875**	**M25.5 x 0.5mm**	**31.0mm**	**30.5mm**	**31.0mm**	**1.3mm**
FFL-35	35mm	165mm	185 / >2000	50	625	M25.5 x 0.5mm	33.0mm	41.0mm	33.0mm	0.0mm
FFL-50	50mm	250mm	250 / >2000	55	450	M25.5 x 0.5mm	35.8mm	53.7mm	35.8mm	2.85mm
FFL-75	75mm	250mm	255 / >2000	35	300	M49.0 x 0.75mm	54.0mm	119.7mm	46.0mm	0.0mm

Bold Items are Stock Parts

Notes: Values are in mm, are approximate, and may vary for non-Edmund Optics Lenses
*Significant pin-cusion projection of 2-D reticle patterns; Reticle RML (multi-line) and RGD (grid) not recommended.
^ 1/2mm spacer ring required for sharp focus at less than 700mm WD (MOD becomes 150mm)
° 1/2mm spacer ring required for sharp focus
** 2000mm max WD with rocommended 1/2 mm spacer
*** Requires a special adapter from Edmund Optics, p/n: 87425

Dimensional Diagram



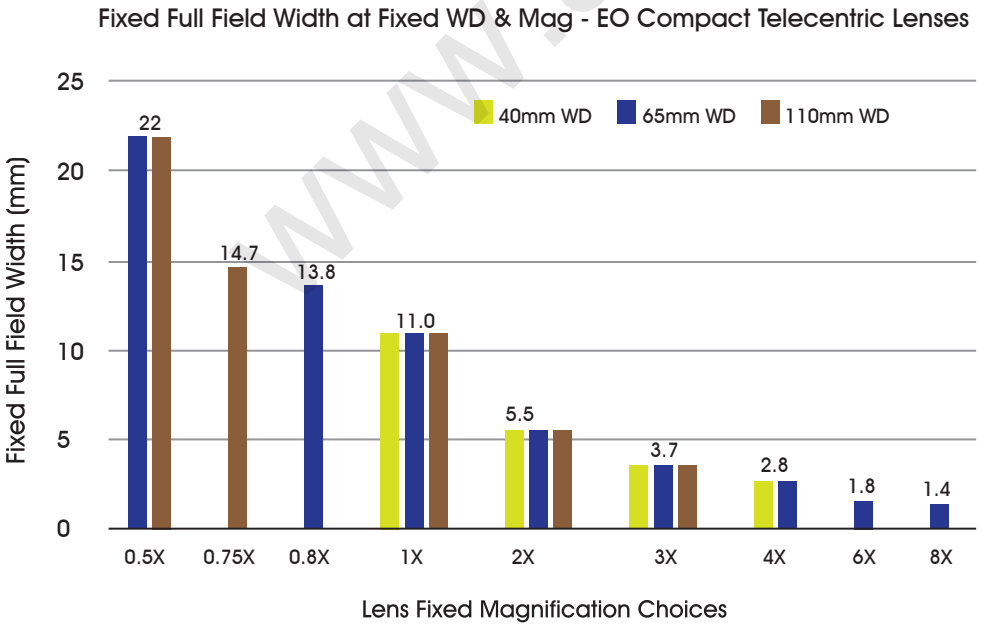


- Working Distance is from the front of the lens.
- Y-axis represents projected Full Field Width.
- Please note that each lens has a specific minimum focus working distance (MOD).
- Projection distances and angles are specific for Edmund Optics TechSpec compact vision lenses - other lenses of similar focal length may vary.
- Pattern projection widths for Ai RGR (grid) and RML (multi-line) reticles are ~50% of the lens Full Field Width as these patterns don't cover the entire reticle - adjust lens focal length selection shorter or increase WD. See SL191 Projection Diagram (left) and also the Reticle Data sheet for more detail.

Edmund Optics Compact Telecentric, 40mm WD, 2/3" format, C-Mount

Click to View Edmund Optics Telecentric Lens Data Sheet

Lens (Ai PN)	Primary Mag	WD (+- 1mm)	Depth of Field	Filter Thread Size
CT-40-1	1X	40mm	(+-) 0.5mm	M17 x 0.5mm
CT-40-2	2X	40mm	(+-) 0.17mm	M16 x 0.5mm
CT-40-3	3X	40mm	(+-) 0.08mm	N/A
CT-40-4	4X	40mm	(+-) 0.05mm	M16 x 0.5mm
CT-65-0.5	0.5X	65mm	(+-) 1.85mm	M29.5 x 0.5mm
CT-65-0.8	0.8X	65mm	(+-) 1.2mm	M20 x 0.5mm
CT-65-1	1X	65mm	(+-) 0.9mm	M17 x 0.5mm
CT-65-2	2X	65mm	(+-) 0.23mm	M17 x 0.5mm
CT-65-3	3X	65mm	(+-) 0.12mm	M16 x 0.5mm
CT-65-4	4X	65mm	(+-) 0.09mm	M16 x 0.5mm
CT-65-6	6X	65mm	(+-) 0.05mm	M17 x 0.5mm
CT-65-8	8X	65mm	NA	N/A
CT-110-0.5	0.5X	110mm	(+-) 1.9mm	M37 x 0.75mm
CT-110-0.75	0.75X	110mm	(+-) 1.2mm	M25.5 x 0.5mm
CT-110-1	1X	110mm	(+-) 1.2mm	M20.5 x 0.5mm
CT-110-2	2X	110mm	(+-) 0.49mm	M16 x 0.5mm
CT-110-3	3X	110mm	(+-) 0.18mm	M16 x 0.5mm



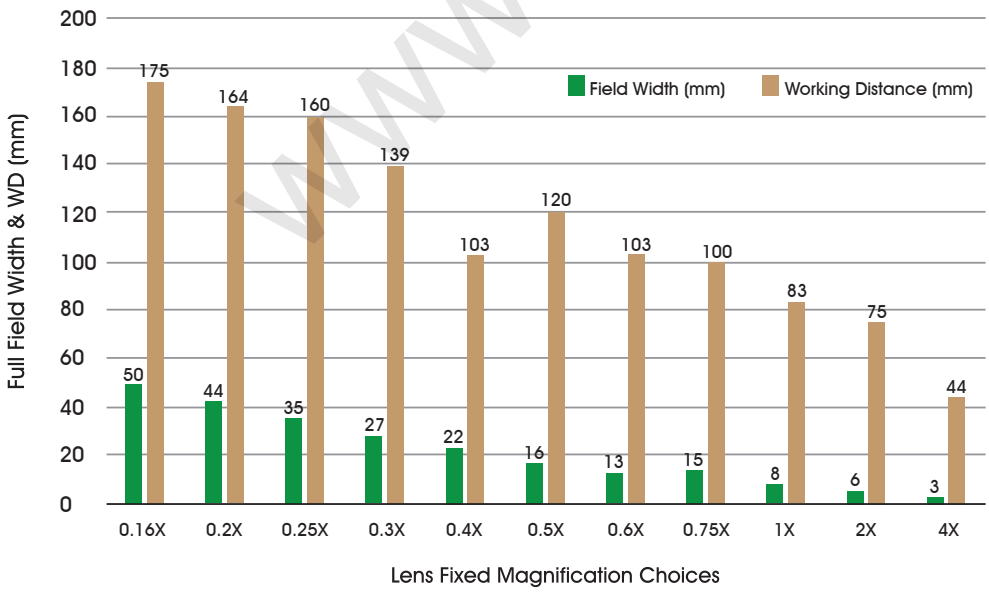
- Optional Edmund Optics Compact Telecentric Lenses.
- 3 different standard fixed WD - 40mm, 65mm, and 110mm.
- Same Full Field Width at magnification for all 3 WD.
- Projection distances and Full Field Widths are specific to EO Compact Telecentric Lenses.
- Pattern projection widths for Ai RGR (Grid) and RML (Multi Line) reticles are ~50% of the lens full field width as these patterns don't cover the entire reticle - adjust lens magnification selection smaller to compensate (eg. 3X to 2X).
- See SL191 Projection Diagram (left), and also the Reticle Data Sheet for more detail.
- C-Mount

Edmund Optics Silver Series Telecentric, 2/3” format, C-Mount

Click to View Edmund Optics Telecentric Lens Data Sheet

Lens (Ai PN)	Primary Mag	WD (+- 1mm)	Depth of Field	Filter Thread Size
ST-0.16	0.16X	175mm	(+-) 19.7mm @ f/10	M62 x 0.75mm
ST-0.2	0.2X	164mm	(+-) 12.9mm @ f/10	M58 x 0.75mm
ST-0.25	0.25X	160mm	(+-) 8.2mm @ f/10	M46 x 0.75mm
ST-0.3	0.3X	139mm	(+-) 5.7mm @ f/10	M43 x 0.75mm
ST-0.4	0.4X	103mm	(+-) 3.0mm @ f/10	M43 x 0.75mm
ST-0.5	0.5X	120mm	(+-) 2.1mm @ f/10	M37 x 0.75mm
ST-0.6	0.6X	103mm	(+-) 1.4mm @ f/10	M40.5 x 0.5mm
ST-0.75	0.75X	100mm	(+-) 0.8mm @ f/10	M30 x 0.5mm
ST-1	1X	83mm	(+-) 0.5mm @ f/10	M37 x 0.75mm
ST-2	2X	75mm	(+-) 0.13mm @ f/10	M43 x 0.75mm
ST-4	4X	44mm	(+-) 0.03mm @ f/10	M58 x 0.75mm

Full Field Width & WD - EO Silver Series Telecentric Lenses



- Optional Edmund Optics Silver Series Telecentric Lenses.
- Fixed Magnification and Working Distance (WD) +/- 3mm.
- Projection distances and Full Field Widths are specific to EO Silver Series Telecentric Lenses.
- Pattern projection widths for Ai RGR (grid) and RML (multi-line) reticles are ~50% of the lens full field width as these patterns don't cover the entire reticle - adjust lens magnification selection smaller to compensate (eg. 2X to 1X).
- See SL191 Projection Diagram (left) and also the Reticle Data Sheet for more detail.
- C-Mount

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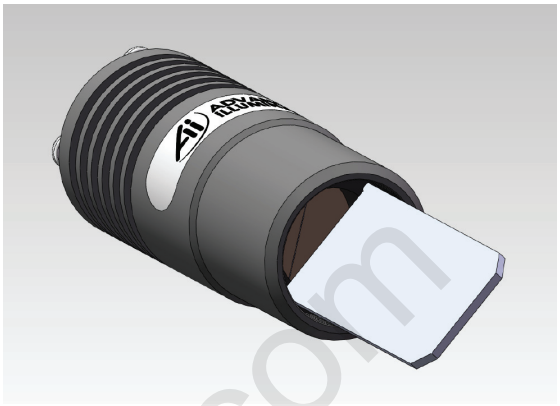
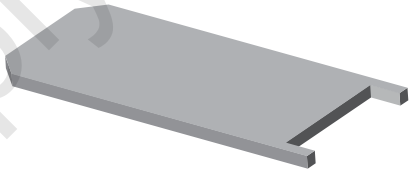
RETICLE REPLACEMENT



SL191 with spanner wrench



Spanner Wrench

(Images for reference only)

Pattern Replacement Procedure

(Please read and understand all the following steps before proceeding.)

- Power down the SL191 Pattern Projector Light
- Unscrew the final focusing lens, (if any)
- Locate the two slots on opposing sides of the reticle retainer ring and carefully engage the spanner wrench
- Removing the reticle works best with the projector facing downward
- Turn counterclockwise to loosen; clockwise to tighten (when facing into the projector)
- Place the reticle and retaining ring on the wrench, oriented with the purple chromed side facing into the projector
- Carefully seat the reticle into the projector and turn clockwise to tighten, ensuring that it is flat and flush with the housing
- If threaded properly, the reticle and retainer will screw in smoothly (do not force or it will cross-thread)
- Do not overtighten
- Keep dust and fingerprints off the reticles and also projector diffuser located under the reticle
- Do NOT remove the diffuser unless instructed by Ai to service

Click for SL191 Data Sheet | Click for Reticle Data Sheet | Click for Lens Data Sheet

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