Photon etc
A spectrum of solutions

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MONTREAL, QUEBEC, H2S 2X3
CANADA

HypIRia™

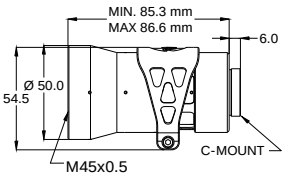
THE ONLY OBJECTIVE LENSES
OPTIMIZED OVER THE 1 TO 2.9 µm BAND

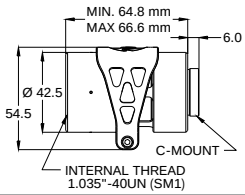


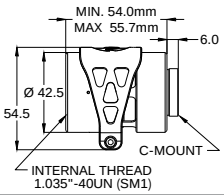
The HypIRia line of objective lenses is a unique hybrid which combines the precision of scientific NIR spectroscopy and multi-band imaging with the flexibility and ruggedness required for industrial machine vision.

Inspired by the ZephIR, the HypIRia lens is optimized for laboratory-grade characterization in low-light over the 1 to 2.9 µm band. Low chromatic aberration enables quality spectral measurements while a combination of a wide aperture and anti-reflective broadband coatings provide a balance of good signal to noise and throughput. HypIRia is optimized for a 30 µm pixel sensor but has also proven adequate for a 15 µm sensor such as the one found on the ZephIR 1.7.

An industry first, this remarkable lens is suitable for machine vision thanks to its sturdy stainless steel encapsulation resistant to thermal fluctuations, reliable manual fine focus and three focal length configurations. The last feature provides narrow to wide fields of view while maintaining competitive levels of barrel distortion.

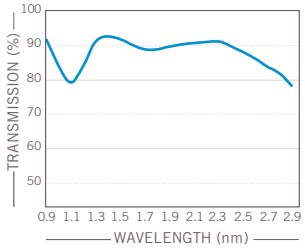


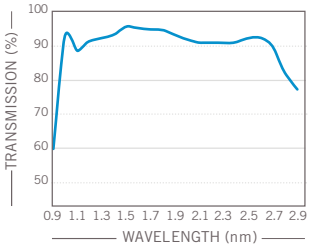


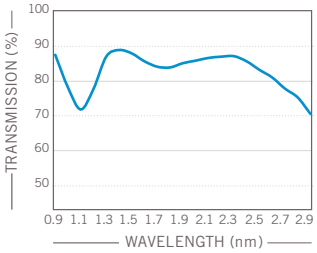


TECHNICAL SPECIFICATIONS	HYPIRIA 11	HYPIRIA 15	HYPIRIA 25
OPTICAL CHARACTERISTICS			
Focal length (mm)	11.0 mm	15.0 mm	25.3 mm
F-number	2.1	2.1	2.6
Image size	Diameter: 12.3 mm	Diameter: 12.3 mm	Diameter: 12.3 mm
Spectral range	1 - 2.9 µm	1 - 2.9 µm	1 - 2.9 µm
Optical output	Telecentric ± 2.9° (image space)	Telecentric ± 1.1° (image space)	Telecentric ± 0.1° (image space)
RMS Spot radius*	11.2 µm	10.4 µm	8.8 µm
Maximum working distance	Infinity	Infinity	Infinity
Minimum working distance (mm)	300	300	300
Full Diagonal Angle of View	60.4°	44.6°	27.6°
H	47.2°	34.8°	21.7°
V	37.8°	27.8°	17.5°
Full diagonal FOV @ 1m distance	1164 mm	820 mm	491 mm
MTF-50 on the sensor (l/mm)	19	21	25
Distorsion	< 5%	< 5%	< 5%
MECHANICAL CHARACTERISTICS			
Dimensions (mm)	55.5 x 50 x 92	54.5 x 48 x 70	54.5 x 48 x 60
Mount	C-Mount	C-Mount	C-Mount
Weight	0.6 kg	0.5 kg	0.4 kg
Front Filter Thread	M45 x 0.5	1.035-40 UNS-2A (Thorlabs SM1 Compatible)	1.035-40 UNS-2A (Thorlabs SM1 Compatible)

*Average over the whole image and all wavelengths







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