

THERMAL WEAPON SIGHTS AND HAND-HELD IR OPTICAL SOLUTIONS





LONG WAVE IR THERMAL IMAGING LENSES FOR THERMAL WEAPON SIGHTS (TWS) AND HAND-HELD THERMAL IMAGERS (HHTI)

Ophir IR Optics is a leading provider of high-performance IR optical elements and assemblies for advanced defense thermal imaging applications.

With decades of knowledge and experience, having designed and delivered thousands of thermal imaging optics for multiple defense applications, Ophir has earned its reputation as a world-leading manufacturer of Infrared thermal imaging optics for any defense application.

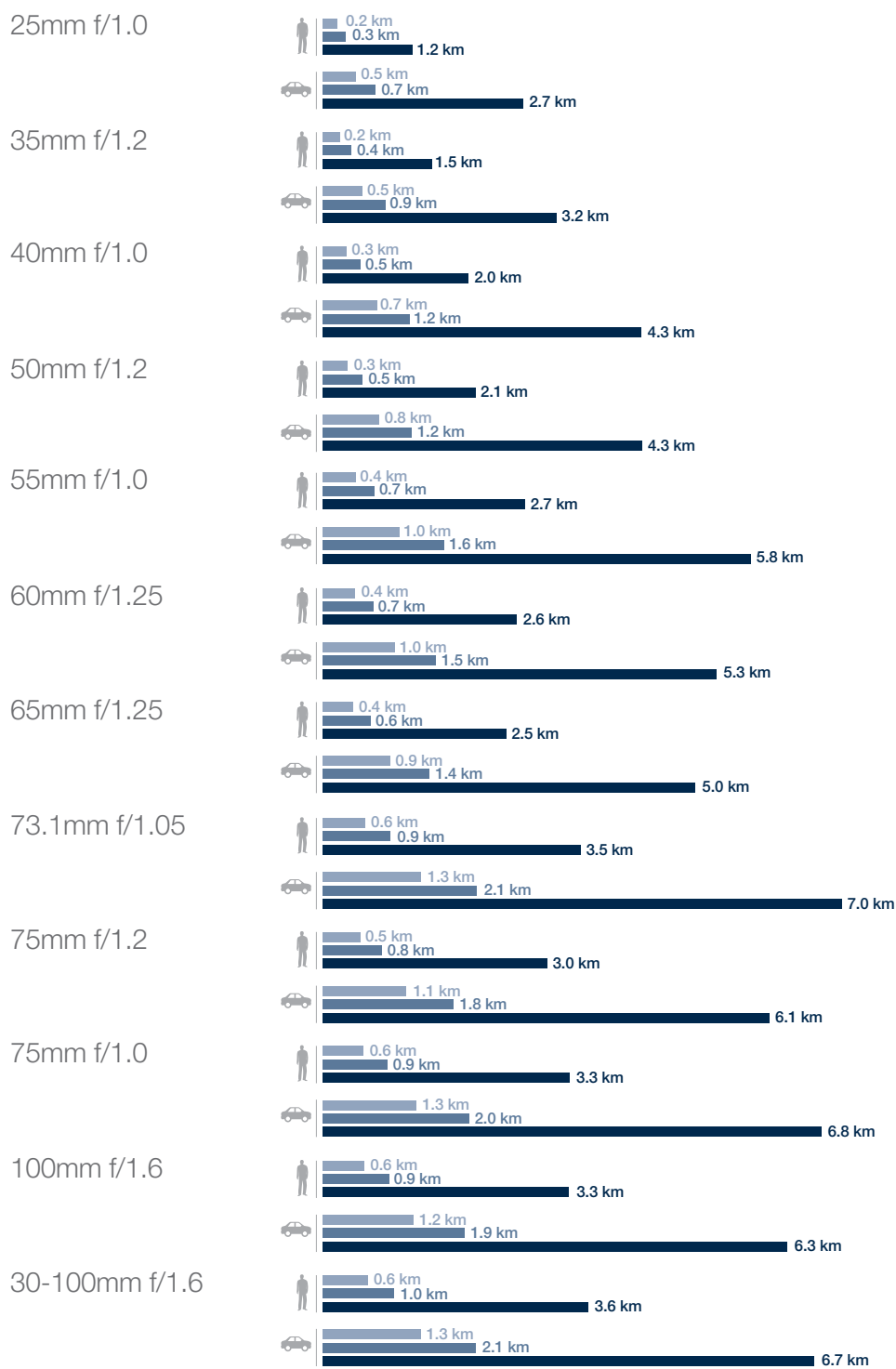
High precision, high MTF, LWIR thermal imaging lenses

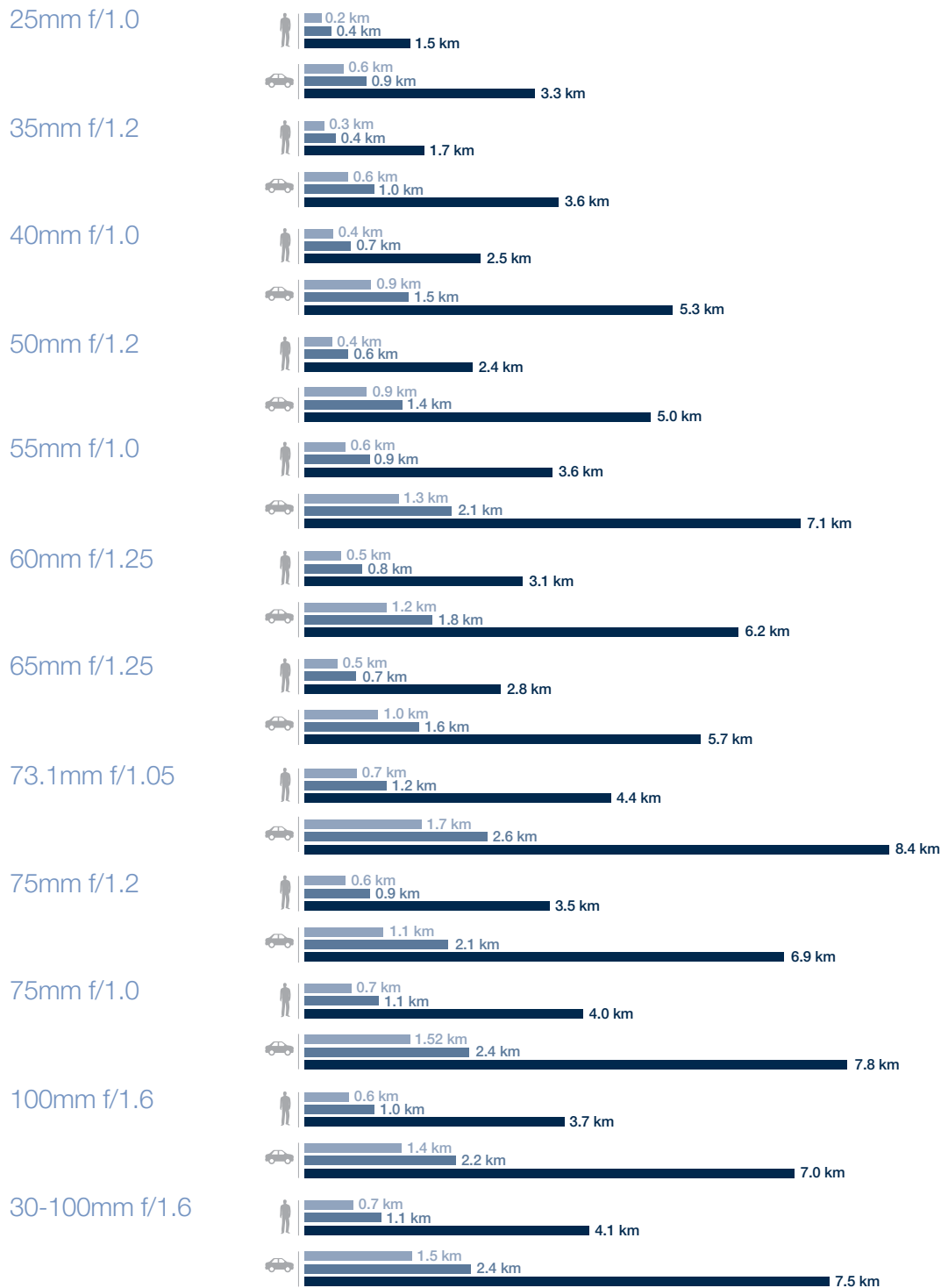
Ophir's wide range of fixed and manual focus LWIR thermal imaging lenses provide an enhanced situational awareness and surveillance capabilities, designed for many different platforms, such as hand-held thermal imager and thermal weapon sights allowing exceptional thermal imaging performance in various environments including:

- High precision
- Lightweight and compact designs answering the strict SWaP restraints
- Ruggedized design for durability in harshest environmental conditions
- Accurate Line-of-Sight (LOS)
- High precision optics with MTF close to the diffraction limit
- Focal length ranges from 25mm to 100mm
- US and European military standard compliance for temperature, shock, vibration and environmental sealing including DIN 3140, IPC 620, MIL-PRF 13830, Mil-PRF 85285, MIL STD 810, MIL-C-48497, MIL-C-48616, ISO 10110 sections 1-19, ANSIVASQ Z1.4.
- Available with high durability (HD) or hard carbon (HC) coatings
- Most manual focus lenses are also available as fixed focus lenses.

Detection, Recognition & Identification (DRI) performance

17 μ m pixel size detector*





Identification
 Recognition
 Detection

Vehicle size 2.3m x 2.3m

Human size 1.7m X 0.5m

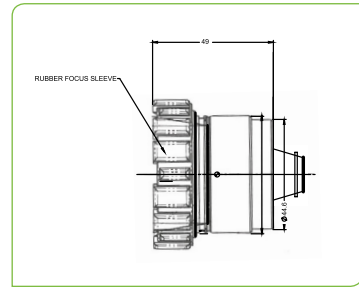
Note: Calculation used are based on "Johnson Criteria" | Real world performance may vary depending on the weather conditions
 * Assumptions: 30Hz frame rate | 0.2km⁻¹ atmospheric attenuation coefficient | 50% detection probability | 1.74x0.46m human size and ΔT = 5°C | 2.3x2.3m vehicle size and ΔT = 2°C | 50mK NETD.

SupIR 40mm f/1.0,
Manual Focus
680395*



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25μ	5.7°	11.3°	13.5°		
17μ	3.9°	7.8°	9.3°	15.3°	
12μ	2.7°	5.5°	6.6°	10.9°	17.2°

Property	Value
Optical	
Back Focal Length	17.82mm in air
Mechanical	
Weight	144gr
Max. Dimensions	Ø61mm x 49mm
Environmental	
Operating Temperature	-40°C to +80°C
Storage Temperature	-50°C to +85°C
Sealing	IP 67 front element only

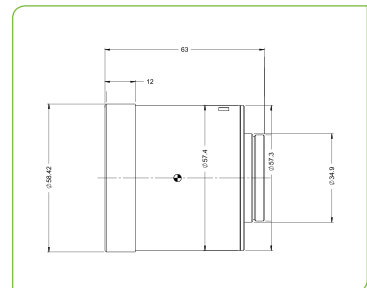
* Requires export license

SupIR 50mm f/1.2,
Fixed Athermalized
680114



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25μ	4.6°	9.1°	11.0°		
17μ	3.1°	6.2°	7.5°	12.4°	
12μ	2.2°	4.4°	5.3°	8.8°	14.0°

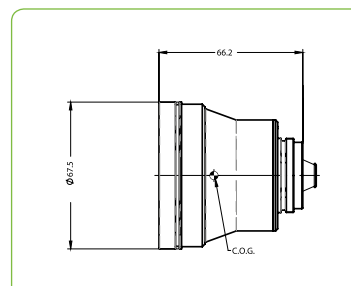
Property	Value
Optical	
Back Focal Length	33.68mm in air
Mechanical	
Weight	244gr
Max. Dimensions	Ø58.42mm x 63mm
Environmental	
Operating Temperature	-40°C to +80°C
Storage Temperature	-55°C to +85°C
Sealing	IP 67 front element only

SupIR 55mm f/1.0, Fixed Athermalized 680372



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25 μ	4.2°	8.3°	10.0°		
17 μ	2.8°	5.7°	6.8°	11.3°	
12 μ	2.0°	4.0°	4.8°	8.0°	12.7°
10 μ	1.7°	3.3°	4.0°	6.4°	10.6°

Property

Value

Optical

Back Focal Length 12.03mm in air

Mechanical

Weight 177gr

Max. Dimensions \varnothing 67.5mm x 66.2mm

Environmental

Operating Temperature -40°C to +80°C

Storage Temperature -54°C to +85°C

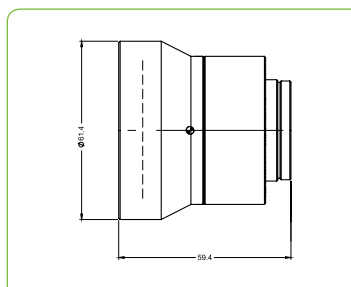
Sealing IP 67 front element only

SupIR 60mm f/1.25, Fixed Athermalized 680260



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25 μ	3.8°	7.6°	9.0°		
17 μ	2.6°	5.2°	6.2°	10.2°	
12 μ	1.8°	3.7°	4.4°	7.3°	11.5°

Property

Value

Optical

Back Focal Length 13.66mm in air

Mechanical

Weight 212gr

Max. Dimensions \varnothing 61.4mm x 59.4mm

Environmental

Operating Temperature -40°C to +80°C

Storage Temperature -54°C to +85°C

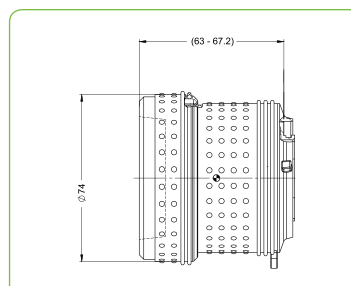
Sealing IP 67 front element only

SupIR 65mm f/1.25,
Manual Focus
680061



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25μ	3.5°	7.0°	8.4°		
17μ	2.4°	4.8°	5.7°	9.6°	
12μ	1.7°	3.4°	4.1°	6.8°	10.8°

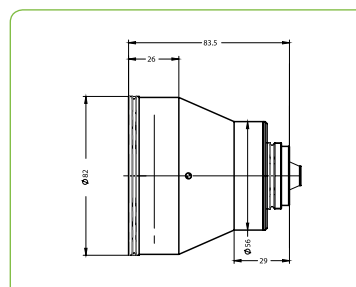
Property	Value
Optical	
Back Focal Length	25.76mm in air
Mechanical	
Weight	490gr
Max. Dimensions	Ø72.75mm x 79.25mm
Environmental	
Operating Temperature	-40°C to +80°C
Storage Temperature	-55°C to +85°C
Sealing	IP 67 front element only

SupIR 73.1mm f/1.05,
Fixed Athermalized
680311



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x512	1024x768
25μ	3.1°	6.2°	7.5°		
17μ	2.1°	4.3°	5.0°	8.5°	
12μ	1.5°	3.0°	3.61°	6.0°	9.55°
10μ	1.2°	2.5°	3.0°	5.0°	7.98°

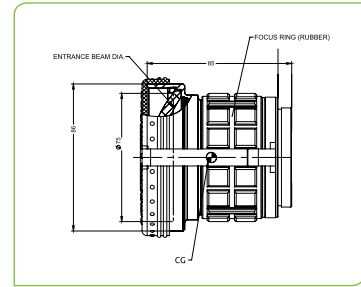
Property	Value
Optical	
Back Focal Length	24.68mm in air
Mechanical	
Weight	380gr
Max. Dimensions	Ø82mm x 83.5mm
Environmental	
Operating Temperature	-40°C to +80°C
Storage Temperature	-54°C to +85°C
Sealing	IP 67 front element only

SupIR 75mm f/1.0,
Manual Focus
680274



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25μ	3.0°	6.1°	7.3°		
17μ	2.1°	4.1°	5.0°	8.3°	
12μ	1.5°	2.9°	3.5°	5.8°	9.3°
10μ	1.2°	2.4°	2.9°	4.9°	7.8°

Property

Value

Optical

Back Focal Length 22.7±0.5mm in air

Mechanical

Weight 580gr

Max. Dimensions Ø 86mm x 89mm

Environmental

Operating Temperature -40°C to +60°C

Storage Temperature -40°C to +60°C

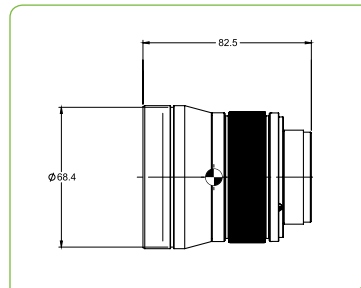
Sealing IP67 front element only; IP54 handwheel & interface

SupIR 75mm f/1.2,
Manual Focus
680318



HD
FORMAT

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25μ	3.0°	6.1°	7.3°		
17μ	2.1°	4.1°	4.9°	8.2°	
12μ	1.5°	2.9°	3.5°	5.8°	9.3°

Property

Value

Optical

Back Focal Length 14.33mm in air

Mechanical

Weight 265gr

Max. Dimensions Ø68.4mm x 82.5mm

Environmental

Operating Temperature -30°C to +70°C

Storage Temperature -30°C to +70°C

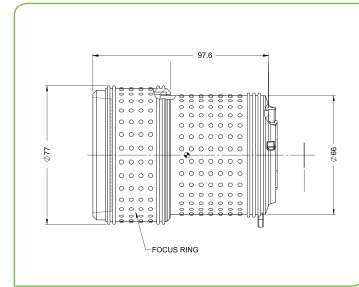
Sealing IP 67 front element only

SupIR 100mm f/1.6, Manual Focus 680121



**HD
FORMAT**

TYPICAL ICD



HFOV	160x120	320x240	384x288	640x480	1024x768
25μ	2.3°	4.6°	5.5°	9.1°	
17μ	1.6°	3.1°	3.7°	6.2°	9.8°
12μ	1.1°	2.2°	2.6°	4.4°	7.0°

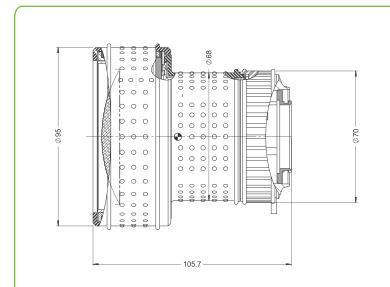
Property	Value
Optical	
Back Focal Length	21.33mm in air
Mechanical	
Weight	370gr
Max. Dimensions	Ø77mm x 102.5mm
Environmental	
Operating Temperature	-40°C to +80°C
Storage Temperature	-55°C to +85°C
Sealing	IP 67 front element only

SupIR 30-100mm f/1.6, Manual Focus and Zoom 680151



**HD
FORMAT**

TYPICAL ICD



NFOV(100mm)						WFOV(30mm)					
HFOV	160x120	320x240	384x288	640x480	1024x768	HFOV	160x120	320x240	384x288	640x480	1024x768
25μ	2.3°	4.6°	5.5°	9.1°		25μ	7.6°	15.2°	18.3°	31.0°	
17μ	1.6°	3.1°	3.7°	6.2°	9.8°	17μ	5.1°	10.3°	12.4°	20.8°	33.9°
12μ	1.1°	2.2°	2.6°	1.1°	7.0°	12μ	3.6°	7.3°	8.7°	14.6°	23.5°

Property	Value	
Optical		
Average Transmission (8-12μm)	WFOV	NFOV
Back Focal Length	80% (HC)/ 86% (HD)	
Distortion (in diagonal)	≥31.56mm in air	
Minimum Focus Range	<8%	<2%
	2m	2m
Mechanical		
Weight	650gr	
Max. Dimensions	Ø94mm x 105mm	
Environmental		
Operation Temperature	-40°C to +80°C	
Storage Temperature	-54°C to +85°C	
Sealing	IP 67 front element only	



About Ophir IR Optics

With decades worth of knowledge and experience, Ophir Optronics Solutions LTD., Infrared Optics, an MKS Company (NASDAQ: MKSI), is a world-leading designer and manufacturer of high performance IR thermal lenses and optical elements for SWIR, MWIR & LWIR imaging. Using advanced technologies, innovative engineering, and design configurations, Ophir provides a global solution for homeland security, surveillance, commercial and defense applications: IR Components and complex lens assemblies with fixed or motorized focus and zoom lenses.

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