

Leica DM6B

Objective Properties

Objective	NA	WD (mm)	*Resolution (μm)		Depth of Field (mm)	Brightness	Pixel Size ($\mu\text{m}/\text{pixel}$)
			Episcopic	Diascopic			
5x N Plan	0.12		2.54	2.54	69.4	0.1	1.296
10x N Plan (DIC)	0.25		1.22	1.22	16.0	0.4	0.648
20x HCPL Fluotar (DIC)	0.55		0.55	0.55	3.3	2.3	0.324
40x HCPL Fluotar (DIC)	0.80		0.38	0.38	1.6	2.6	0.162
100x HCPL Fluotar (DIC)	1.32		0.23	0.27	0.9	3.0	0.650

NA (numerical aperture): affects nearly everything about your image; report this along with the magnification when you publish

WD (working distance): how deep you can image; e.g. to image all the way through a 0.2 mm object, you need a WD > 0.2

Resolution*: sizes smaller than this cannot be measured; objects closer than this distance cannot be distinguished

Episcopic = for fluorescence; **Diascopic** = for transmitted light (brightfield, DIC, phase contrast)

Depth of Field: the thickness of the sample that appears in focus at the same time

Brightness: relative measure of how much light is collected by the objective (for fluorescence only)

Pixel size: the size of each pixel in microns; assumes no camera binning or additional magnifying lenses

Fluorescence Filter Properties

Fluor. Filter Set	"color"	Ex. (nm)	Em. (nm)	Example Fluorophores
DAPI	blue	325-375	435-485	DAPI, Hoechst
GFP	green	450-490	500-550	Fluorescein, GFP, Alexa Fluor 488
RHOD	red	541-551	565-605	Rhodamine, propidium iodide, Alexa Fluor 546, Cy3