

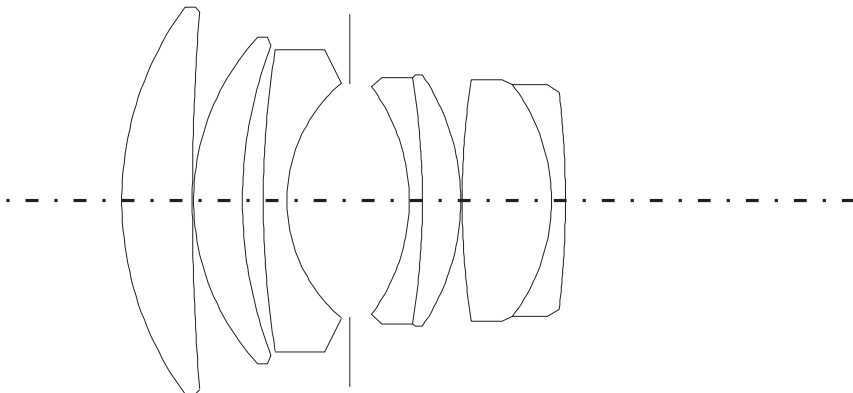


# LEICA SUMMILUX-R 80 mm f/1.4



Minimal vignetting, moderate contrast, uniform image quality across the entire picture area and very good resolution of fine detail characterize this extraordinary lens. This lens does not exhibit unwanted reflections, even under very bright, contrasting conditions at full aperture. Tonal reproduction with fine nuances and delicate transitions to unsharpness produce exceedingly beautiful portraits with transparent yet saturated colors – even when there are strong light sources in the background.

## — Lens shape





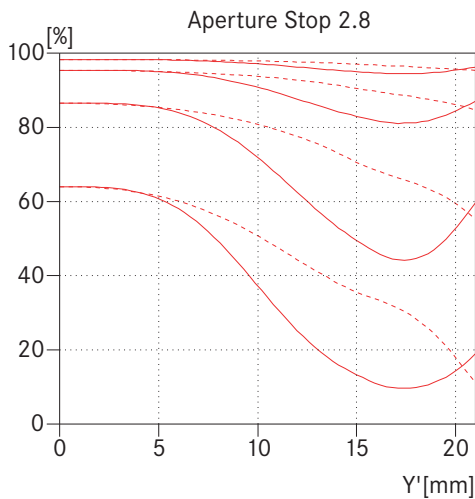
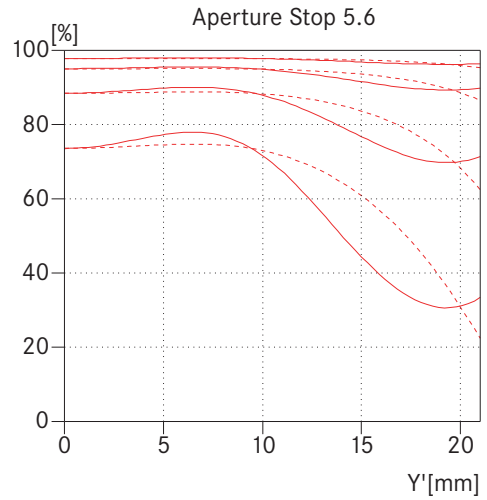
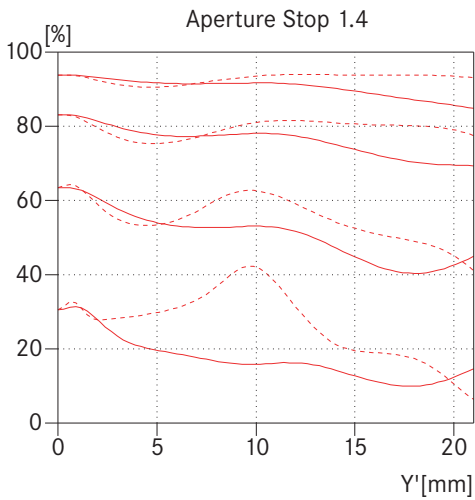
— Engineering drawing

**Technical Data**

<b>Angle of view (diagonal, horizontal, vertical)</b>	30°, 25°, 17°
<b>Optical design</b>	<b>Number of elements / groups:</b> 7 / 5 <b>Focal length:</b> 80.3 mm <b>Entrance pupil:</b> 52.6 mm (related to the first lens surface in light direction) <b>Focusing range:</b> 0.8 m to Infinity
<b>Distance setting</b>	<b>Scale:</b> Combined meter/feet-increments <b>Smallest object field:</b> 192 mm x 288 mm <b>Highest reproduction ratio:</b> 1:8
<b>Diaphragm</b>	<b>Setting / Type:</b> Preset diaphragm with clickstops (including half values), Fully automatic diaphragm <b>Smallest aperture:</b> f/16
<b>Bayonet</b>	LEICA R quick-change bayonet for LEICA R3 to LEICA R9 with mechanical, and, for LEICA R8/R9, additional electronic exposure control
<b>Filter (type)</b>	Internal thread for screw-in type filters E 67
<b>Lens hood</b>	Built-in, telescopic
<b>Dimensions and weight</b>	<b>Length:</b> 69 mm <b>Largest diameter:</b> 75 mm <b>Weight:</b> approx. 700 g



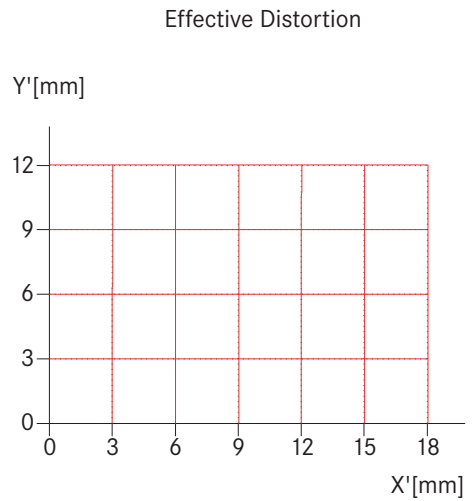
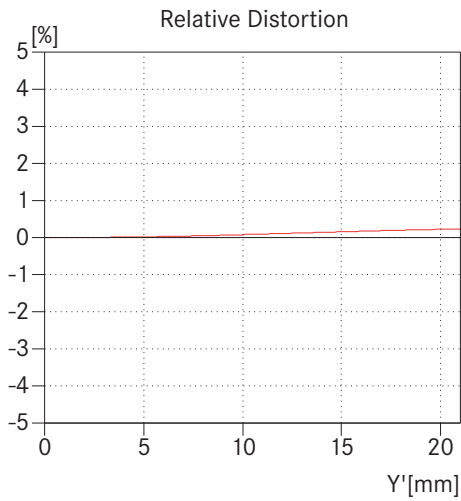
— MTF graphs



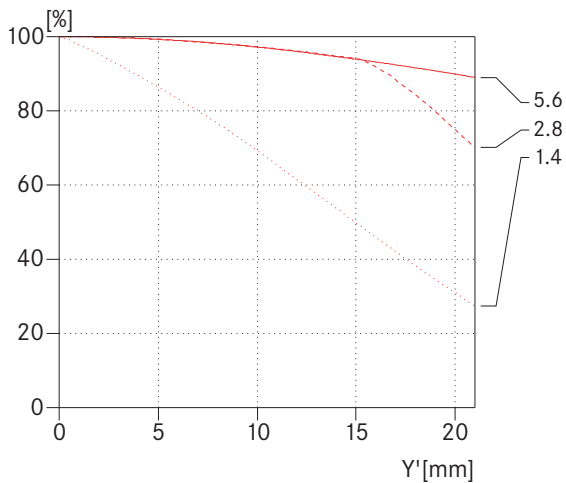
The MTF is indicated both at full aperture and at f/5.6 at long taking distances (infinity). Shown is the contrast in percentage for 5, 10, 20 and 40 lp/mm across the height of the 35 mm film format, for tangential (dotted line) and sagittal (solid line) structures, in white light. The 5 and 10 lp/mm will give an indication regarding the contrast ratio for large object structures. The 20 and 40 lp/mm records the resolution of finer and finest object structures.

- sagittal structures
- - - tangential structures

— Distortion



— Vignetting



Distortion is the deviation of the real image height (in the picture) from the ideal image height. The relative distortion is the percentage deviation. The ideal image height results from the object height and the magnification. The image height of 21.6 mm is the radial distance between the edge and the middle of the image field for the format 24 mm x 36 mm. The graph of the effective distortion illustrates the appearance of straight horizontal and vertical lines in the picture.

Vignetting is a continuous decrease of the illumination to the edges of the image field. The graph shows the percentage lost of illumination over the image height. 100% means no vignetting.

- sagittal structures
- - - tangential structures



— Depth of field table

		Aperture Stop								Magnification
		1,4	2	2,8	4	5,6	8	11	16	
Distance Setting [m]	0,8	0,796 - 0,804	0,795 - 0,805	0,792 - 0,808	0,789 - 0,811	0,785 - 0,816	0,779 - 0,822	0,771 - 0,831	0,759 - 0,846	1/7,98
	0,9	0,895 - 0,906	0,893 - 0,907	0,890 - 0,910	0,886 - 0,914	0,881 - 0,920	0,873 - 0,929	0,863 - 0,941	0,847 - 0,961	1/9,24
	1	0,993 - 1,007	0,991 - 1,009	0,988 - 1,013	0,983 - 1,018	0,976 - 1,026	0,966 - 1,037	0,954 - 1,052	0,934 - 1,077	1/10,5
	1,1	1,092 - 1,109	1,089 - 1,111	1,085 - 1,115	1,079 - 1,122	1,070 - 1,131	1,058 - 1,146	1,043 - 1,164	1,020 - 1,195	1/11,8
	1,2	1,190 - 1,210	1,187 - 1,213	1,182 - 1,219	1,174 - 1,227	1,164 - 1,238	1,150 - 1,255	1,132 - 1,277	1,104 - 1,316	1/13,0
	1,3	1,288 - 1,312	1,285 - 1,316	1,279 - 1,322	1,270 - 1,332	1,258 - 1,345	1,241 - 1,366	1,220 - 1,392	1,187 - 1,439	1/14,3
	1,5	1,484 - 1,516	1,479 - 1,521	1,471 - 1,530	1,459 - 1,543	1,443 - 1,561	1,420 - 1,589	1,393 - 1,626	1,349 - 1,691	1/16,8
	1,7	1,680 - 1,721	1,673 - 1,728	1,663 - 1,739	1,647 - 1,757	1,627 - 1,780	1,597 - 1,817	1,562 - 1,866	1,507 - 1,953	1/19,3
	2	1,972 - 2,029	1,962 - 2,039	1,948 - 2,055	1,926 - 2,080	1,898 - 2,114	1,858 - 2,167	1,810 - 2,237	1,735 - 2,365	1/23,0
	2,5	2,455 - 2,546	2,441 - 2,562	2,418 - 2,588	2,384 - 2,628	2,341 - 2,683	2,279 - 2,770	2,206 - 2,887	2,095 - 3,107	1/29,2
	3	2,936 - 3,067	2,914 - 3,091	2,881 - 3,129	2,834 - 3,188	2,772 - 3,270	2,685 - 3,401	2,583 - 3,582	2,431 - 3,930	1/35,5
	4	3,886 - 4,121	3,848 - 4,165	3,790 - 4,235	3,706 - 4,345	3,601 - 4,501	3,453 - 4,757	3,286 - 5,121	3,040 - 5,873	1/47,9
	5	4,822 - 5,192	4,763 - 5,263	4,674 - 5,376	4,547 - 5,555	4,388 - 5,814	4,170 - 6,251	3,926 - 6,901	3,578 - 8,351	1/60,4
	7	6,655 - 7,384	6,540 - 7,530	6,373 - 7,765	6,137 - 8,148	5,850 - 8,721	5,465 - 9,752	5,051 - 11,45	4,487 - 16,12	1/85,3
20	17,40 - 23,51	16,62 - 25,11	15,57 - 27,97	14,22 - 33,74	12,75 - 46,56	11,04 - 108,5	9,456 - ∞	7,636 - ∞	1/247	
∞	133,6 - ∞	97,80 - ∞	69,89 - ∞	48,93 - ∞	34,97 - ∞	24,49 - ∞	17,83 - ∞	12,28 - ∞	1/∞	

