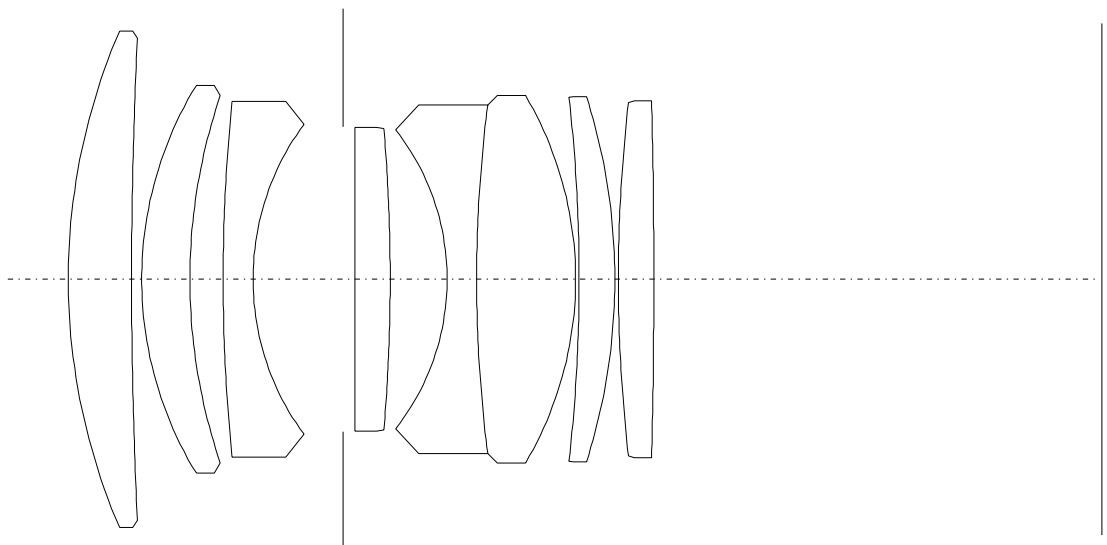




For a lens of such high speed, the LEICA SUMMILUX-R 50 mm f/1.4 achieves extraordinary image performance and high contrast across the entire focusing range. The wide-open aperture of f/1.4 is a fully functional working aperture. Stopping the lens down by one or two stops enhances its high performance. By setting the lens at f/1.4, composition can be influenced creatively by the reduced depth of field. Because of its great speed and compact size, this lens adds much flexibility to the outstanding working characteristics of the standard 50 mm focal length.

— Lens shape





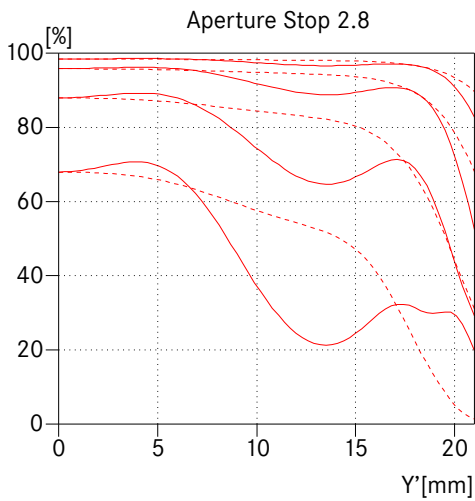
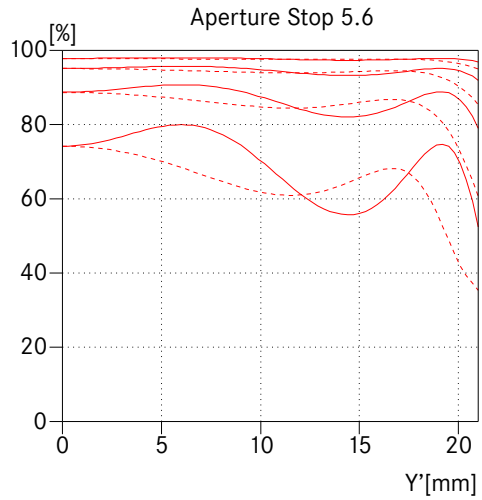
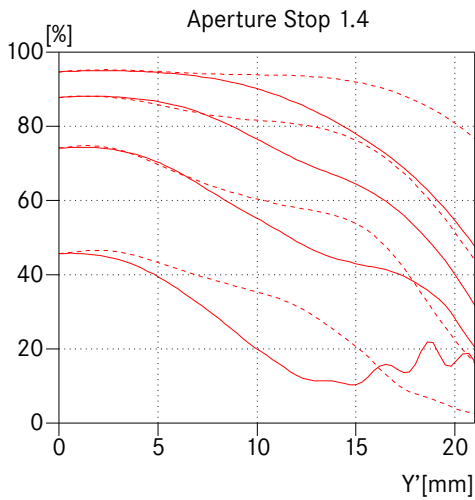
— Engineering drawing

#### Technical Data

<b>Angle of view (diagonal, horizontal, vertical)</b>	47°, 40°, 27°
<b>Optical design</b>	<b>Number of elements / groups:</b> 8 / 7 <b>Focal length:</b> 52.3 mm <b>Entrance pupil:</b> 28 mm (related to the first lens surface in light direction) <b>Focusing range:</b> 0.5 m to Infinity
<b>Distance setting</b>	<b>Scale:</b> Combined meter/feet-increments <b>Smallest object field:</b> 178 mm x 266 mm <b>Highest reproduction ratio:</b> 1:7.4
<b>Diaphragm</b>	<b>Setting / Type:</b> Preset diaphragm with clickstops (including half values), Fully automatic diaphragm
<b>Bayonet</b>	<b>Smallest aperture:</b> f/16 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 60
<b>Lens hood</b>	Built-in, telescopic
<b>Dimensions and weight</b>	<b>Length:</b> 51 mm <b>Largest diameter:</b> 70 mm <b>Weight:</b> approx. 490 g



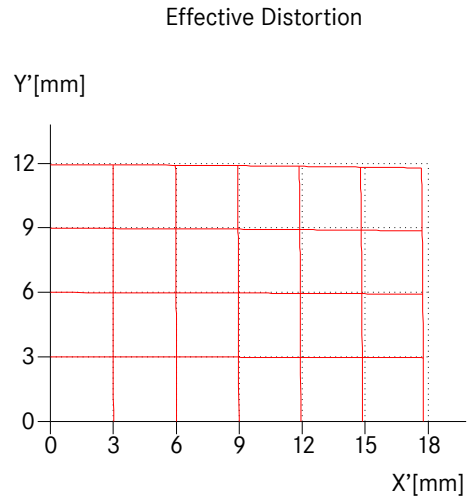
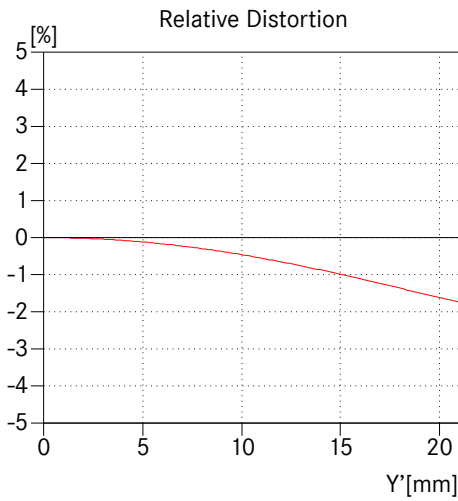
— MTF graphs



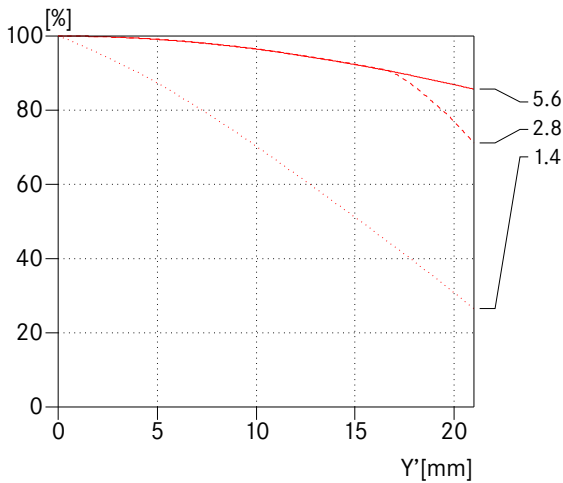
The MTF is indicated both at full aperture and at f/5.6 at long taking distances (infinity). Shown is the contrast in percentage for 5, 10, 20 and 40 lp/mm across the height of the 35 mm film format, for tangential (dotted line) and sagittal (solid line) structures, in white light. The 5 and 10 lp/mm 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 21.6mm is the radial distance between the edge and the middle of the image field for the format 24mm x 36mm. 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	
0,5	0,497 - 0,503	0,496 - 0,505	0,494 - 0,506	0,491 - 0,509	0,488 - 0,513	0,483 - 0,519	0,476 - 0,526	0,466 - 0,540	1/7,58
0,6	0,595 - 0,605	0,593 - 0,607	0,590 - 0,610	0,587 - 0,614	0,581 - 0,620	0,574 - 0,629	0,565 - 0,641	0,550 - 0,662	1/9,52
0,7	0,693 - 0,707	0,690 - 0,710	0,687 - 0,714	0,681 - 0,720	0,674 - 0,729	0,663 - 0,742	0,650 - 0,759	0,630 - 0,789	1/11,5
0,8	0,791 - 0,810	0,787 - 0,813	0,782 - 0,819	0,775 - 0,827	0,765 - 0,839	0,751 - 0,856	0,734 - 0,880	0,708 - 0,922	1/13,4
0,9	0,888 - 0,913	0,883 - 0,917	0,877 - 0,924	0,867 - 0,935	0,855 - 0,950	0,837 - 0,974	0,816 - 1,005	0,783 - 1,061	1/15,3
1	0,985 - 1,016	0,979 - 1,022	0,971 - 1,031	0,959 - 1,044	0,944 - 1,063	0,922 - 1,093	0,896 - 1,133	0,856 - 1,207	1/17,2
1,2	1,178 - 1,223	1,170 - 1,232	1,158 - 1,246	1,141 - 1,266	1,119 - 1,295	1,087 - 1,341	1,051 - 1,403	0,995 - 1,521	1/21,1
1,5	1,465 - 1,537	1,452 - 1,552	1,433 - 1,574	1,407 - 1,607	1,372 - 1,655	1,325 - 1,732	1,269 - 1,840	1,187 - 2,054	1/26,8
2	1,937 - 2,068	1,913 - 2,095	1,881 - 2,136	1,834 - 2,200	1,775 - 2,293	1,694 - 2,447	1,603 - 2,672	1,472 - 3,161	1/36,4
3	2,858 - 3,158	2,805 - 3,225	2,734 - 3,324	2,635 - 3,486	2,513 - 3,729	2,350 - 4,165	2,175 - 4,882	1,935 - 6,861	1/55,5
5	4,611 - 5,461	4,474 - 5,669	4,293 - 5,990	4,049 - 6,547	3,763 - 7,477	3,404 - 9,507	3,043 - 14,42	2,588 - 107,8	1/93,8
10	8,545 - 12,06	8,076 - 13,14	7,501 - 15,03	6,776 - 19,18	6,005 - 30,36	5,131 - 248,6	4,345 - ∞	3,464 - ∞	1/189
∞	58,06 - ∞	41,48 - ∞	29,65 - ∞	20,77 - ∞	14,85 - ∞	10,41 - ∞	7,591 - ∞	5,237 - ∞	1/∞

