



# ZEISS Otus ML 1.4/85

## Technische Daten/Technical Specifications



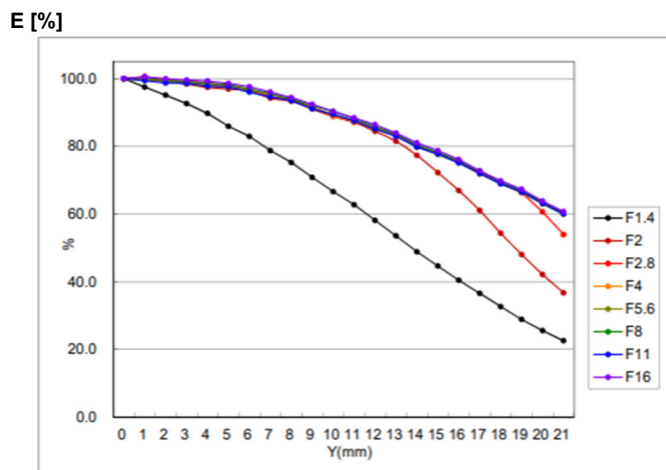
<b>Brennweite/Focal length</b>	85 mm (3.34")
<b>Blendenbereich/Aperture range</b>	f/1.4 – f/16
<b>Linsen / Gruppen/Lens elements / Groups</b>	15/11
<b>Fokussierbereich/Focusing range</b>	0,8 m (31.49 ") – ∞
<b>Arbeitsabstand/Free working distance</b>	0,68 m (26.77") – ∞
<b>Bildfeld*/Angular field* (diag. / horiz. / vert.)</b>	14,48° / 12,38° / 8,29°
<b>Bildkreisdurchmesser/Diameter of image field</b>	43 mm (1.69")
<b>Anlagemaß/Flange focal distance</b>	E-Mount: 18 mm (0.7") RF-Mount: 20 mm (0.78") Z-Mount: 16mm (0.62")
<b>Objektfeld bei Naheinstellung*</b>	0,8 m (31.49 ")
<b>Coverage at close range (MOD)*</b>	
<b>Abbildungsmaßstab bei Naheinstellung</b>	12,57°
<b>Image ratio at MOD</b>	
<b>Filterdurchmesser/Filter thread</b>	77 mm (3.03")
<b>Lage der Eintrittspupille (vor der Bildebene)</b>	81.6 mm (3.21")
<b>Entrance pupil position ( in front of image plane)</b>	
<b>Drehwinkel des Fokussierings (inf – MOD)</b>	244°
<b>Rotation angle of focusing ring (inf – MOD)</b>	
<b>Durchmesser max./Diameter max.</b>	87,9 mm (3.46")
<b>Durchmesser des Fokussierings</b>	87,9 mm (3.46")
<b>Diameter of focusing ring</b>	
<b>Länge (ohne Objektivdeckel)/Length (without lens caps)</b>	E-Mount: 113 mm (4.44") RF-Mount: 113 mm (4.44") Z-Mount: 116 mm (4.56")
<b>Länge (mit Objektivdeckeln)/Length (with lens caps)</b>	E-Mount: 127 mm (5.03") RF-Mount: 126 mm (4.96") Z-Mount: 129mm (5.07")
<b>Gewicht/Weight</b>	E-Mount: 1033 g (2.292 lbs) RF-Mount: 1060 g (2.336 lbs) Z-Mount: 1061 g (2.339 lbs)

\* bezugnehmend auf das 24x36mm Format/referring to 36 mm format



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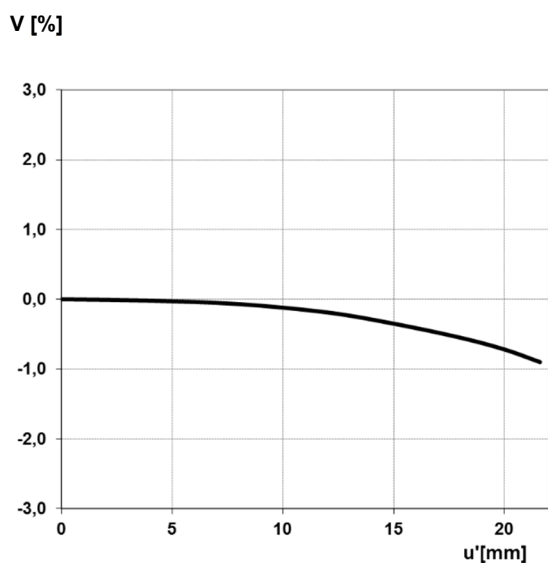
## Relative Beleuchtungsstärke/Relative Illuminance



Die relative Beleuchtungsstärke zeigt die Abnahme der Bildhelligkeit von der Mitte des Bildes zu den Ecken. Angabe in Prozent.

The relative illumination shows in percent the decrease in image brightness from the image center to edge.

## Relative Verzeichnung/Relative Distortion



Die Relative Verzeichnung zeigt die Abweichung der aktuellen von der idealen Bildhöhe.

The relative distortion shows in percent the deviation of the actual from the ideal image height.

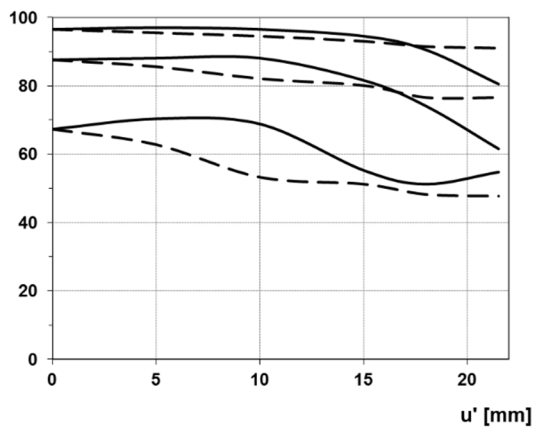
Angaben für unendlich.  
Data for infinity.



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## MTF Charts

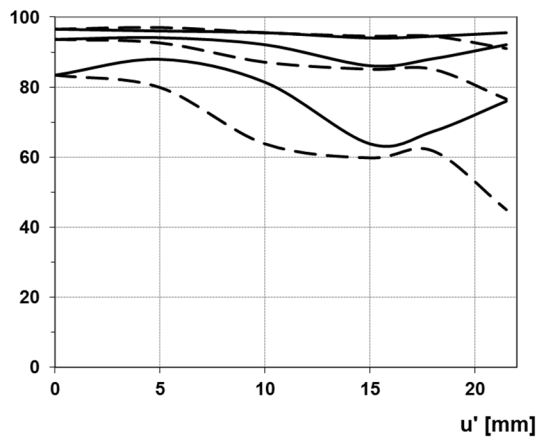
MTF [%]



Blendenzahl:  $k = 1,4$  / f-number = 1.4

— Sagittal  
... Tangential

MTF [%]



Blendenzahl:  $k = 4$  / f-number = 4.0

— Sagittal  
... Tangential

Modulationsübertragung MTF als Funktion der Bildhöhe ( $u'$ ) und Spaltorientierung. Weißes Licht. Ortsfrequenzen  $R=10, 20$  und  $40$  Perioden/mm. // Modulation transfer MTF as a function of the image height ( $u'$ ) and slit orientation. White light. Spatial frequencies  $R=10, 20$  and  $40$  cycles/mm.



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## Schärfentiefe/Depth of Field (DOF)

Engraved Distance	f/1.4		f/2		f/2.8		f/4		f/5.6		f/8		f/11		f/16	
	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to
infinity	167.58 6	INF	121.39 9	INF	85.843	INF	60.7	INF	42.921	INF	30.35	INF	21.461	INF	15.175	INF
10 m	13.756	16.491	13.338	17.135	12.753	18.207	12.009	19.976	11.093	23.157	10.012	29.889	8.8	50.759	7.514	4031.4 1
5 m	6.713	7.312	6.612	7.437	6.464	7.633	6.265	7.931	6.004	8.392	5.67	9.146	5.256	10.476	4.764	13.189
3 m	3.903	4.102	3.868	4.141	3.816	4.202	3.745	4.292	3.649	4.425	3.521	4.629	3.355	4.952	3.145	5.493
2 m	2.944	3.058	2.924	3.08	2.894	3.114	2.853	3.163	2.796	3.236	2.72	3.345	2.618	3.512	2.487	3.779
1.50 m	2.461	2.54	2.447	2.556	2.426	2.579	2.396	2.613	2.356	2.663	2.301	2.737	2.227	2.849	2.131	3.024
1.20 m	1.974	2.026	1.965	2.036	1.951	2.051	1.932	2.073	1.905	2.105	1.868	2.151	1.819	2.221	1.753	2.328
1.00 m	1.681	1.719	1.675	1.726	1.664	1.737	1.65	1.753	1.63	1.776	1.603	1.81	1.566	1.859	1.516	1.934
0.80 m	1.485	1.515	1.48	1.521	1.472	1.529	1.46	1.542	1.445	1.56	1.423	1.586	1.393	1.624	1.353	1.682
0.70 m	1.19	1.21	1.187	1.214	1.181	1.219	1.174	1.227	1.163	1.239	1.149	1.256	1.129	1.281	1.102	1.317
0.60 m	0.993	1.007	0.99	1.01	0.987	1.014	0.981	1.02	0.974	1.028	0.963	1.04	0.949	1.057	0.929	1.083
0.50 m	0.894	0.906	0.892	0.908	0.889	0.911	0.884	0.916	0.878	0.923	0.869	0.933	0.857	0.947	0.841	0.968