

# Lens Performance Survey

## Numeric Output

All values are given in percent with a max. of 100 pts obviously). A few explanations about the shortcuts can be found at the end of this document.

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon EF 14mm f/2.8 USM L</b>	62	-	83	-	59	-	79	-	neutral	74	85	89	14
<b>Canon EF 15mm f/2.8 Fisheye</b>	63	-	85	-	73	-	30	-	neutral	59	50	92	14
<b>Canon EF 20mm f/2.8 USM</b>	77	-	90	-	81	-	83	-	neutral	76	89	83	45
<b>Canon EF 24mm f/1.4 USM L</b>	74	-	94	-	72	-	83	-	neutral	76	88	84	16
<b>Canon EF 24mm f/2.8</b>	76	-	92	-	86	-	85	-	neutral	77	68	73	39
<b>Canon TS-E 24mm f/3.5L</b>	62	-	76	-	76	-	92	-	slightly warm	74	40	90	7
<b>Canon EF 28mm f/1.8 USM</b>	59	-	87	-	60	-	84	-	neutral	62	90	79	17
<b>Canon EF 28mm f/2.8</b>	75	-	90	-	85	-	86	-	neutral	80	52	69	35
<b>Canon EF 35mm f/2</b>	75	-	94	-	92	-	90	-	neutral	81	67	84	18
Lens	Perf. w/open	Perf. w/open	Perf. s/down	Perf. s/down	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:

	(wide):	(long):	(wide):	(long):									
<b>Canon EF 35mm f/1.4 USM L</b>	89	-	97	-	95	-	94	-	slightly warm	92	89	87	11
<b>Canon EF 50mm f/1.4 USM</b>	77	-	95	-	92	-	88	-	neutral	88	80	80	109
<b>Canon EF 50mm f/1.8 I</b>	63	-	90	-	84	-	98	-	slightly warm	87	54	74	51
<b>Canon MP-E65mm f/2.8 1-5x Macro</b>	75	-	100	-	80	-	100	-	neutral	80	-	80	1
<b>Canon EF 50mm f/1.8 II</b>	67	-	90	-	94	-	95	-	neutral	78	47	26	136
<b>Canon EF 50mm f/2.5 macro</b>	83	-	94	-	92	-	91	-	neutral	91	45	70	15
<b>Canon EF 85mm f/1.2 USM L</b>	83	-	97	-	77	-	79	-	neutral	86	42	96	13
<b>Canon EF 85mm f/1.8 USM</b>	83	-	97	-	98	-	97	-	neutral	87	95	87	90
<b>Canon TS-E 90mm f/2.8</b>	88	-	100	-	100	-	100	-	neutral	80	-	100	1
<b>Canon EF 200mm f/1.8 USM L</b>	100	-	100	-	90	-	100	-	warm	100	100	100	2
-													
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon EF 100mm f/2 USM</b>	88	-	97	-	100	-	97	-	slightly warm	91	97	88	34
<b>Canon EF 400mm f/2.8 USM L IS</b>	100	-	100	-	100	-		-	warm	100	80	100	1

<b>Canon EF 600mm f/4 USM L IS</b>	100	-	100	-	100	-	100	-	slightly warm	100	89	100	2
<b>Canon EF 100mm f/2.8 macro</b>	88	-	97	-	97	-	96	-	neutral	90	36	83	48
<b>Canon EF 100mm f/2.8 USM macro</b>	90	-	100	-	99	-	99	-	neutral	90	96	87	33
<b>Canon EF 500mm f/4 USM L IS</b>	98	-	100	-	100	-	100	-	neutral	100	96	100	10
<b>Canon EF 135mm f/2 USM L</b>	93	-	99	-	93	-	97	-	slightly warm	90	91	98	36
<b>Canon EF 135mm f/2.8 Softfocus</b>	60	-	86	-	93	-	84	-	slightly warm	64	33	59	12
<b>Canon EF 300mm f/2.8 USM L IS</b>	100	-	100	-	100	-	100	-	neutral	87	96	95	8
<b>Canon EF 180mm f/3.5 USM L macro</b>	91	-	99	-	95	-	92	-	neutral	83	77	96	12

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon EF 200mm f/2.8 USM L EF 1.4x</b>	76	-	88	-	92	-	96	-	neutral	72	86	90	6
<b>Canon EF 200mm f/2.8 USM L +EF 2x</b>	69	-	78	-	88	-	94	-	neutral	60	68	80	3
<b>Canon EF 200mm f/2.8 USM L I II</b>	88	-	97	-	97	-	96	-	neutral	87	92	95	68
<b>Canon EF 500mm f/4.5 USM L</b>	98	-	100	-	100	-	100	-	neutral	96	95	100	6
<b>Canon EF 300mm f/2.8 USM L</b>	97	-	100	-	99	-	98	-	neutral	92	99	100	13

<b>Canon EF 300mm f/4 USM L</b>	95	-	97	-	99	-	98	-	neutral	93	97	97	29
<b>Canon EF 300mm f/4 USM L IS</b>	88	-	97	-	95	-	99	-	neutral	83	94	95	31
<b>Canon EF 400mm f/2.8 USM L I</b>	91	-	95	-	100	-	100	-	neutral	95	100	100	3
<b>Canon EF 400mm f/5.6 USM L</b>	87	-	92	-	99	-	97	-	neutral	96	92	95	15
<b>Canon EF 400mm f/2.8 USM L II</b>	96	-	100	-	100	-	97	-	slightly warm	96	100	100	9
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon EF 600mm f/4 USM L II</b>	98	-	100	-	100	-	100	-	slightly warm	98	100	100	6
<b>Canon EF 17-35mm f/2.8 USM L</b>	78	83	89	92	82	96	68	90	neutral	77	94	95	57
<b>Canon EF 16-35mm f/2.8 USM L</b>	81	82	91	90	87	95	74	89	slightly warm	81	99	96	26
<b>Canon EF 20-35mm f/2.8 L</b>	86	89	96	96	95	97	84	95	neutral	81	70	95	25
<b>Canon EF 20-35mm f/3.5-4.5 USM</b>	64	64	81	79	83	89	64	82	neutral	66	83	73	48
<b>Canon EF 22-55mm f/4-5.6 USM</b>	56	54	73	67	60	76	50	61	neutral	55	71	31	19
<b>Canon EF 28-90mm f/4-5.6 USM I II</b>	29	22	40	37	52	59	35	52	neutral	32	39	23	17
<b>Canon EF 24-85mm f/3.5-4.5 USM</b>	63	61	75	75	78	85	61	77	neutral	65	79	71	70

<b>Canon EF 28-200mm f/3.5-5.6 USM</b>	42	30	62	56	60	76	70	70	neutral	56	90	50	3
<b>Canon EF 28-135mm f/3.5-5.6 USM IS</b>	62	63	77	75	78	86	59	74	neutral	63	76	69	138
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon EF 28-70mm f/2.8 USM L</b>	87	87	94	94	90	94	89	93	slightly warm	83	91	88	100
<b>Canon EF 28-70mm f/3.5-4.5 I II</b>	68	65	84	81	62	78	66	83	neutral	72	51	65	38
<b>Canon EF 28-80mm f/3.5-5.6 USM I</b>	59	56	70	65	67	88	60	76	neutral	69	76	65	21
<b>Canon EF 28-80mm f/3.5-5.6 USM II III</b>	50	47	63	62	63	67	56	55	neutral	56	60	44	37
<b>Canon EF 28-80mm f/3.5-5.6 USM IV V</b>	43	42	52	55	66	73	56	65	neutral	53	61	42	60
<b>Canon EF 28-80mm f/2.8-4 USM L</b>	78	80	84	85	62	67	69	75	neutral	67	57	79	22
<b>Canon EF 28-105mm f/3.5-4.5 USM</b>	56	56	72	71	77	87	64	78	neutral	62	81	69	259
<b>Canon EF 35-350mm f/3.5-5.6 USM L</b>	78	75	89	87	87	91	74	84	neutral	78	88	97	27
<b>Canon EF 55-200mm f/4.5-5.6 USM</b>	42	42	52	52	80	88	75	75	neutral	52	42	32	3
<b>Canon EF 70-210mm f/3.5-4.5 USM</b>	65	55	76	69	81	75	76	75	neutral	70	81	63	29

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon EF 80-200mm f/2.8 L</b>	86	86	95	93	90	89	94	93	slightly warm	79	73	94	36
<b>Canon EF 70-200mm f/4 USM L</b>	91	90	98	96	95	93	91	91	neutral	88	91	94	45
<b>Canon EF 70-200mm f/2.8 USM L</b>	90	90	95	95	96	97	95	95	neutral	88	96	98	123
<b>Canon EF 70-200mm f/2.8 USM L EF 1.4x</b>	79	81	89	90	89	91	90	89	slightly warm	81	77	98	10
<b>Canon EF 70-200mm f/2.8 USM L EF 2.0x</b>	73	74	81	79	88	88	86	86	neutral	78	61	96	26
<b>Canon EF 50-200mm f/3.5-4.5 L</b>	90	92	94	96	94	79	83	75	warm	76	40	71	7
<b>Canon EF 70-200mm f/2.8 USM L IS</b>	91	92	97	97	99	99	100	98	slightly warm	86	91	99	16
<b>Canon EF 75-300mm f/4-5.6 I,II,III,IS</b>	56	46	69	59	81	80	76	75	neutral	58	46	49	135
<b>Canon EF 100-300mm f/4.5-5.6 USM</b>	58	47	70	60	98	96	93	90	neutral	71	86	69	54
<b>Canon EF 100-300mm f/5.6 L</b>	76	72	88	85	88	83	76	75	slightly warm	74	63	62	25
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon EF 100-400mm f/4.5-5.6 USM L IS</b>	85	84	95	93	96	97	98	95	slightly warm	81	86	95	51
<b>Minolta AF 20mm f/2.8</b>	74	-	96	-	85	-	67	-	neutral	68	55	86	7

<b>Minolta AF 20mm f/2.8 new</b>	92	-	97	-	100	-	81	-	neutral	85	65	92	7
<b>Minolta AF 24mm f/2.8</b>	85	-	96	-	82	-	80	-	neutral	84	72	81	10
<b>Minolta AF 24mm f/2.8 new</b>	85	-	90	-	65	-	88	-	neutral	87	55	83	4
<b>Minolta AF 28mm f/2</b>	75	-	89	-	78	-	92	-	neutral	74	42	74	5
<b>Minolta AF 28mm f/2.8</b>	65	-	83	-	84	-	75	-	neutral	60	56	66	25
<b>Minolta AF 35mm f/1.4 G</b>	84	-	95	-	95	-	100	-	neutral	100	44	78	6
<b>Minolta AF 35mm f/2</b>	82	-	98	-	98	-	100	-	neutral	91	74	80	13
<b>Minolta AF 50mm f/1.4</b>	65	-	94	-	95	-	96	-	neutral	88	66	82	32

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta AF 50mm f/1.4 II</b>	61	-	98	-	96	-	98	-	neutral	81	77	90	14
<b>Minolta AF 50mm f/1.7</b>	70	-	88	-	95	-	97	-	neutral	79	62	73	71
<b>Minolta AF 50mm f/2.8 macro</b>	84	-	95	-	100	-	100	-	neutral	83	40	70	8
<b>Minolta AF 3.5 50mm macro</b>	88	-	94	-	100	-	100	-	neutral	100	40	80	2
<b>Minolta AF 85mm f/1.4 G</b>	87	-	97	-	98	-	97	-	neutral	88	52	97	28
<b>Minolta AF 100mm f/2</b>	82	-	96	-	94	-	100	-	neutral	91	36	90	10

<b>Minolta AF 85mm f/1.4 G D</b>	96	-	100	-	100	-	100	-	slightly warm	93	65	100	4
<b>Minolta AF 100mm f/2.8 macro</b>	86	-	97	-	95	-	96	-	neutral	90	47	88	30
<b>Minolta AF 100mm f/2.8 macro D</b>	92	-	100	-	96	-	100	-	neutral	91	17	94	5
<b>Minolta STF 135mm f/2.8</b>	88	-	88	-	-	-	75	-	-	-	-	60	1
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta AF 135mm f/2.8</b>	80	-	94	-	97	-	90	-	neutral	78	64	84	17
<b>Minolta AF 200mm f/2.8 APO G +1.4xAPO</b>	85	-	100	-	88	-	100	-	slightly warm	88	64	100	2
<b>Minolta AF 200mm f/2.8 APO G</b>	92	-	99	-	92	-	100	-	slightly warm	95	72	95	26
<b>Minolta AF 300mm f/2.8 APO G</b>	98	-	100	-	98	-	97	-	slightly warm	95	92	97	7
<b>Minolta AF 300mm f/4 APO G</b>	92	-	98	-	87	-	100	-	neutral	93	74	97	8
<b>Minolta AF 300mm f/4 APO G 1.4xAPO</b>	85	-	94	-	100	-	100	-	neutral	97	73	100	6
<b>Minolta AF 400mm f/4.5 APO G</b>	100	-	100	-	100	-	100	-	neutral	100	66	98	10
<b>Minolta AF 500mm f/8 Reflex</b>	86	-	86	-	86	-	92	-	neutral	80	43	83	7



<b>Minolta AF 4.0 600mm APO G</b>	100	-	100	-	90	-	100	-	warm	100	100	100	2
<b>Minolta AF 17-35mm f/3.5G</b>	91	95	96	98	83	97	79	89	slightly cool	83	63	91	7
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta AF 20-35mm f/3.5-4.5</b>	80	77	93	88	80	91	64	73	neutral	77	64	71	5
<b>Minolta AF 24-50mm f/4</b>	72	73	82	84	100	97	82	91	neutral	76	45	82	13
<b>Minolta AF 24-85mm f/3.5-4.5</b>	72	75	84	80	80	91	68	81	neutral	75	62	73	75
<b>Minolta AF 24-105mm f/3.5-4.5 D</b>	69	70	84	83	78	86	71	81	neutral	71	68	79	30
<b>Minolta AF 28-70mm f/2.8 G</b>	96	93	97	97	96	95	95	96	neutral	93	34	92	20
<b>Minolta AF 28-80mm f/3.5-5.6</b>	38	38	45	46	56	60	48	57	neutral	38	27	35	26
<b>Minolta AF 28-80mm f/4-5.6</b>	45	46	55	53	74	92	66	83	neutral	58	42	53	26
<b>Minolta AF 28-85mm f/3.5-4.5</b>	66	69	75	75	85	91	76	77	neutral	69	59	75	27
<b>Minolta AF 28-105mm f/4-5.6</b>	60	60	67	67	71	82	61	71	neutral	78	53	65	7
<b>Minolta AF 28-135mm f/4-4.5</b>	74	74	88	86	93	96	74	81	slightly warm	64	49	93	17

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta AF 28-105mm f/3.5-4.5</b>	64	63	73	73	81	87	77	87	slightly warm	71	62	69	31
<b>Minolta AF 70-210mm f/4</b>	65	70	84	80	89	93	85	88	neutral	62	27	74	26
<b>Minolta AF 70-210mm f/3.5-4.5</b>	71	70	84	86	96	97	92	92	neutral	74	59	63	8
<b>Minolta AF 80-200mm f/2.8 APO (black)</b>	88	83	89	88	96	96	100	100	neutral	75	55	88	7
<b>Minolta AF 80-200mm f/2.8 APO G</b>	93	89	98	96	96	98	94	96	neutral	92	67	98	37
<b>Minolta AF 80-200mm f/2.8 APO G +1.4x</b>	58	58	58	58	60	60	67	67	slightly warm	60	47	100	2
<b>Minolta AF 2.8 80-200mm APO G +2.0x</b>	75	72	81	81	84	84	86	81	slightly warm	67	69	93	5
<b>Minolta AF 75-300mm f/4.5-5.6</b>	59	56	65	65	81	81	78	81	neutral	58	39	58	18
<b>Minolta AF 70-210mm f/4.5-5.6</b>	59	61	71	78	89	94	80	79	slightly warm	56	30	60	4
<b>Minolta AF 75-300mm f/4.5-5.6 II</b>	48	43	60	52	85	88	81	80	neutral	61	32	56	13

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
------	----------------------------	----------------------------	----------------------------	----------------------------	------------------	------------------	------------------	------------------	--------	--------	--------------	-------------------	----------------

<b>Minolta AF 100-300mm f/4.5-5.6 APO</b>	81	79	91	89	93	93	89	86	neutral	78	49	79	32
<b>Minolta AF 100-300mm f/4.5-5.6 APO D</b>	75	80	83	90	95	95	89	93	neutral	80	58	82	8
<b>Minolta AF 100-400mm f/4.5-6.7 APO</b>	78	71	83	79	73	75	75	73	neutral	74	46	74	10
<b>Nikkor AF 14mm f/2.8 ED D</b>	85	-	90	-	95	-	100	-	neutral	80	85	100	5
<b>Nikkor AI-S 15mm f/3.5</b>	65	-	84	-	50	-	73	-	slightly warm	29	-	95	10
<b>Nikkor AI-S 18mm f/3.5</b>	75	-	92	-	63	-	84	-	neutral	65	-	100	4
<b>Nikkor AF 16mm f/2.8 Fisheye</b>	69	-	92	-	83	-	0	-	neutral	75	65	78	4
<b>Nikkor AF 18mm f/2.8</b>	66	-	78	-	74	-	50	-	neutral	59	48	70	5
<b>Nikkor AI-S 20mm f/2.8</b>	71	-	92	-	70	-	68	-	slightly warm	75	40	96	26
<b>Nikkor AF 20mm f/2.8</b>	79	-	93	-	82	-	71	-	neutral	78	62	79	64
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Nikkor AI-S 24mm f/2</b>	86	-	97	-	93	-	87	-	neutral	87	-	100	17
<b>Nikkor AF 24mm f/2.8</b>	81	-	95	-	91	-	87	-	neutral	82	64	82	61

<b>Nikkor AF 28mm f/1.4 Aspherical</b>	59	-	79	-	74	-	85	-	slightly warm	75	50	94	6
<b>Nikkor AI-S 28mm f/2.8</b>	82	-	98	-	83	-	88	-	neutral	87	0	98	27
<b>Nikkor AF 28mm f/2.8</b>	71	-	87	-	87	-	80	-	neutral	77	54	67	20
<b>Nikkor AI-S 35mm f/1.4</b>	60	-	89	-	79	-	78	-	slightly warm	67	40	89	23
<b>Nikkor AF 35mm f/2</b>	80	-	93	-	95	-	92	-	neutral	88	53	77	31
<b>Nikkor AI-S 50mm f/1.4</b>	72	-	95	-	89	-	96	-	neutral	82	-	91	37
<b>Nikkor AF 50mm f/1.4</b>	77	-	90	-	95	-	92	-	neutral	86	61	76	51
<b>Nikkor AF 50mm f/1.8</b>	76	-	93	-	94	-	94	-	neutral	85	56	64	122

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Micro-Nikkor AI-S 55mm f/2.8</b>	86	-	97	-	97	-	98	-	neutral	89	-	87	13
<b>Micro-Nikkor AF 60mm f/2.8</b>	82	-	96	-	96	-	96	-	neutral	90	41	86	50
<b>Nikkor AI-S 105mm f/2.5</b>	91	-	97	-	100	-	100	-	neutral	97	-	94	14
<b>Nikkor AF 85mm f/1.4</b>	90	-	98	-	89	-	98	-	neutral	86	63	92	24
<b>Nikkor AF 85mm f/1.8</b>	82	-	96	-	96	-	98	-	neutral	83	59	79	80

<b>Nikkor AI-S 105mm f/1.8</b>	90	-	100	-	96	-	98	-	neutral	91	-	100	10
<b>Micro-Nikkor AI-S 2.8 105mm</b>	79	-	97	-	95	-	97	-	neutral	89	-	92	8
<b>Micro-Nikkor AF 105mm f/2.8</b>	88	-	97	-	99	-	98	-	neutral	91	48	89	49
<b>Nikkor AF 105mm DC f/2</b>	84	-	96	-	88	-	100	-	neutral	91	52	97	15
<b>Nikkor AF 135mm DC f/2</b>	78	-	88	-	89	-	100	-	slightly warm	85	55	100	4
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Nikkor AF 180mm ED f/2.8</b>	91	-	97	-	97	-	97	-	neutral	88	54	92	56
<b>Nikkor AF-S 300mm f/4 IF-ED</b>	88	-	96	-	97	-	100	-	slightly warm	94	95	91	9
<b>Micro-Nikkor AI-S 200mm f/4 ED</b>	77	-	95	-	95	-	100	-	neutral	90	-	97	6
<b>Micro-Nikkor AF 200mm f/4 ED</b>	88	-	94	-	90	-	88	-	slightly warm	100	33	81	6
<b>Nikkor AF-S 300mm f/2.8 IF- ED</b>	87	-	96	-	98	-	98	-	neutral	87	96	100	17
<b>Nikkor AI-S 300mm f/4.5 IF- ED</b>	80	-	91	-	94	-	94	-	neutral	78	-	100	8
<b>Nikkor AF 300mm f/4 IF-ED</b>	87	-	96	-	98	-	98	-	neutral	90	45	96	35
<b>Nikkor AF-I 400mm f/2.8 IF-</b>	98	-	100	-	100	-	100	-	neutral	100	96	100	5

ED													
<b>Nikkor AF-S 500mm f/4 IF-ED</b>	98	-	98	-	100	-	100	-	neutral	96	100	100	7
<b>Nikkor AF 20-35mm f/2.8</b>	87	88	96	95	87	88	79	91	neutral	84	75	95	38
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Nikkor AF-S 17-35mm f/2.8 ED</b>	88	90	95	95	88	94	73	84	neutral	85	96	98	41
<b>Nikkor AF 18-35mm f/3.5-4.5 ED</b>	70	76	86	90	74	91	57	78	neutral	71	57	67	21
<b>Nikkor AF 24-50mm f/3.3-4.5</b>	72	74	88	86	88	94	70	88	neutral	74	55	73	57
<b>Nikkor AF 24-85mm f/2.8-4</b>	55	61	72	75	71	85	56	68	neutral	67	52	69	29
<b>Nikkor AF-S 24-85mm f/3.5-4.5 ED G</b>	61	71	80	84	92	98	62	67	neutral	71	82	69	7
<b>Nikkor AF 24-120mm f/3.5-5.6 D</b>	66	62	79	73	74	83	69	76	neutral	60	52	75	116
<b>Nikkor AF-S 28-70mm f/2.8 ED</b>	85	87	93	93	92	97	91	93	slightly warm	86	95	96	45
<b>Nikkor AF 28-105mm f/3.5-4.5 D</b>	72	72	82	83	79	86	75	86	neutral	72	53	71	100
<b>Nikkor AF 28-70mm f/3.5-4.5</b>	63	65	78	76	76	87	64	83	neutral	68	45	68	42
<b>Nikkor AF 28-80mm f/3.5-5.6</b>	52	52	62	61	67	80	59	75	neutral	50	42	39	50

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Nikkor AF 28-100mm f/3.5-5.6 G</i></b>	38	38	38	38	80	80	75	75	warm	60	40	40	1
<b><i>Nikkor AF 28-85mm f/3.5-4.5</i></b>	63	64	76	77	83	89	74	85	neutral	61	44	76	31
<b><i>Nikkor AF 28-200mm f/3.5-5.6 IF</i></b>	48	38	53	47	62	69	51	56	slightly warm	49	33	52	33
<b><i>Nikkor AF 70-210mm f/4</i></b>	54	54	84	80	88	100	86	86	neutral	60	20	51	3
<b><i>Nikkor AF 35-70mm f/2.8</i></b>	85	85	93	94	89	95	85	92	neutral	75	52	88	76
<b><i>Nikkor AF 35-105mm f/3.5-4.5</i></b>	63	61	83	80	82	89	65	73	neutral	72	42	75	23
<b><i>Micro-Nikkor AF 70-180mm f/4.5-5.6 ED</i></b>	87	92	93	94	97	96	96	98	neutral	87	44	90	17
<b><i>Nikkor AF 80-200mm f/2.8 ED (Push)</i></b>	86	87	94	94	94	93	90	92	neutral	88	52	93	50
<b><i>Nikkor AF 80-200mm f/2.8 ED TC-14A</i></b>	77	82	88	91	92	92	90	90	slightly warm	83	58	92	5
<b><i>Nikkor AF 80-200mm f/2.8 ED TC-201</i></b>	76	76	77	77	88	88	84	84	neutral	76	47	94	8
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Nikkor AF 80-200mm f/2.8 ED</i></b>	85	81	94	91	93	89	94	90	neutral	83	58	94	103

<b>Nikkor AF-S 80-200mm f/2.8 ED</b>	88	88	94	93	86	88	86	88	neutral	85	88	98	69
<b>Nikkor AF 80-200mm f/4.5-5.6</b>	62	57	71	69	75	81	68	72	slightly warm	59	35	45	14
<b>Nikkor AF 70-210mm f/4-5.6</b>	62	62	74	73	84	87	76	77	neutral	67	37	57	37
<b>Nikkor AF 70-300mm f/4-5.6 G</b>	53	47	61	53	70	69	77	82	neutral	65	25	44	7
<b>Nikkor AI-S 50-300mm f/4.5 ED</b>	87	87	89	89	100	100	94	94	slightly warm	95	-	95	5
<b>Nikkor AF 75-300mm f/4.5-5.6</b>	71	66	84	82	79	84	71	78	neutral	66	38	69	18
<b>Nikkor AF 70-300mm f/4-5.6 ED</b>	60	55	70	67	82	80	81	79	neutral	66	38	51	54
<b>Nikkor AI-S 200-400mm f/4 ED</b>	100	100	100	100	100	100	100	100	warm	100	-	100	1
<b>Nikkor AF 80-400mm f/4.5-5.6 D ED VR</b>	85	81	92	88	94	97	90	95	neutral	82	34	88	15

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Pentax SMC-A 15mm f/3.5</b>	62	-	82	-	44	-	94	-	neutral	61	-	96	5
<b>Pentax SMC-A/FA 20mm f/2.8</b>	73	-	96	-	65	-	60	-	neutral	79	57	73	14
<b>Pentax SMC-FA* 24mm f/2 AL (IF)</b>	77	-	98	-	92	-	89	-	neutral	92	50	99	16
<b>Pentax SMC-FA 31mm f/1.8 Limited</b>	100	-	100	-	80	-	100	-	neutral	100	80	100	1



<b><i>Pentax SMC-FA 28mm f/2.8 AL</i></b>	74	-	92	-	73	-	88	-	neutral	84	55	76	15
<b><i>Pentax SMC-FA 35mm f/2 AL</i></b>	70	-	98	-	78	-	91	-	neutral	86	54	68	12
<b><i>Pentax SMC-FA 43mm f/1.9 Limited</i></b>	65	-	95	-	90	-	91	-	slightly warm	92	52	97	13
<b><i>Pentax SMC-FA 50mm f/1.4</i></b>	75	-	92	-	92	-	92	-	neutral	88	52	84	35
<b><i>Pentax SMC-FA 50mm f/1.7</i></b>	73	-	92	-	92	-	94	-	neutral	83	53	76	35
<b><i>Pentax SMC-A 50mm f/2</i></b>	52	-	76	-	81	-	79	-	slightly warm	59	-	73	16
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Pentax SMC-FA/F 2.8 50mm macro</i></b>	91	-	94	-	96	-	93	-	neutral	90	52	88	11
<b><i>Pentax SMC-FA* 85mm f/1.4 (IF)</i></b>	67	-	95	-	94	-	92	-	neutral	85	38	90	16
<b><i>Pentax SMC-FA 77m f/1.8 Limited</i></b>	83	-	100	-	89	-	100	-	neutral	98	60	97	6
<b><i>Pentax SMC-FA/F 100mm f/2.8 macro</i></b>	88	-	97	-	98	-	99	-	neutral	94	44	91	21
<b><i>Pentax SMC-FA 100mm f/3.5 macro</i></b>	66	-	91	-	85	-	88	-	slightly cool	85	30	20	4
<b><i>Pentax SMC-FA 135mm f/2.8 (IF)</i></b>	79	-	94	-	95	-	100	-	neutral	89	57	89	14

<b><i>Pentax SMC-FA* 200mm f/2.8 ED (IF)</i></b>	80	-	95	-	97	-	100	-	neutral	93	65	100	7
<b><i>Pentax SMC-A* 2.8 200mm ED</i></b>	88	-	100	-	80	-	100	-	-	80	-	80	1
<b><i>Pentax SMC-A* 200mm f/4 ED macro</i></b>	98	-	100	-	100	-	100	-	neutral	92	-	100	5
<b><i>Pentax SMC-FA* 2.8 300mm ED (IF)</i></b>	88	-	100	-	100	-	100	-	neutral	80	60	100	1
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Pentax SMC-FA* 300mm f/4.5 ED (IF)</i></b>	89	-	99	-	98	-	98	-	neutral	90	43	94	12
<b><i>Pentax SMC-FA* 400mm f/5.6 ED (IF)</i></b>	59	-	81	-	92	-	100	-	neutral	72	68	88	3
<b><i>Pentax SMC-A 5.6 400mm</i></b>	75	-	94	-	100	-	100	-	neutral	100	-	100	2
<b><i>Pentax SMC-FA* 600mm f/4 ED (IF)</i></b>	89	-	100	-	95	-	100	-	slightly warm	92	62	100	3
<b><i>Pentax SMC-F 3.5-4.5 17-28mm Fisheye</i></b>	50	54	81	84	72	78	5	12	neutral	70	40	68	5
<b><i>Pentax SMC-FA 20-35mm f/4 AL</i></b>	61	70	81	86	66	85	64	80	slightly warm	74	43	67	10
<b><i>Pentax SMC-FA 24-90mm f/3.5-4.5 AL</i></b>	75	66	95	86	66	70	72	72	neutral	80	58	56	15
<b><i>Pentax SMC-FA* 28-70mm f/2.8 AL</i></b>	75	74	91	91	92	96	79	94	slightly warm	92	55	64	12

<b><i>Pentax SMC-FA 28-70mm f/4 AL</i></b>	59	58	78	78	75	95	64	81	neutral	75	52	60	59
<b><i>Pentax SMC-FA 28-80mm f/3.5-4.7</i></b>	60	48	74	63	81	90	65	78	neutral	72	46	49	16
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Pentax SMC-FA 28-80mm f/3.5-5.6</i></b>	58	53	71	65	72	69	56	80	slightly warm	79	45	50	14
<b><i>Pentax SMC-FA 28-105mm f/4-5.6</i></b>	65	64	75	72	80	84	70	74	neutral	76	44	61	21
<b><i>Pentax SMC-FA 28-105mm f/3.2-4.5 AL</i></b>	62	66	76	78	64	92	65	65	neutral	80	56	66	6
<b><i>Pentax SMC-FA 70-200mm f/4-5.6</i></b>	62	59	72	69	80	78	70	67	neutral	72	50	57	18
<b><i>Pentax SMC-FA* 80-200mm f/2.8 ED (IF)</i></b>	86	85	97	92	87	94	87	92	slightly warm	90	54	88	12
<b><i>Pentax SMC-FA/F 100-300mm f/4.5-5.6</i></b>	61	54	71	63	85	84	85	82	slightly warm	63	43	49	17
<b><i>Pentax SMC-FA 80-320mm f/4.5-5.6</i></b>	62	50	74	61	79	69	83	51	neutral	67	24	48	18
<b><i>Sigma AF 18-35mm f/3.5-4.5 Aspherical</i></b>	45	43	59	57	58	77	50	67	slightly warm	42	38	48	39
<b><i>Sigma AF 17-35mm f/2.8-4 EX (HSM)</i></b>	52	51	75	70	72	82	67	82	warm	54	52	72	29
<b><i>Sigma AF 15-30mm f/3.5-4.5 EX</i></b>	51	52	72	69	70	85	71	81	warm	48	45	80	22

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Sigma AF 21-35mm f/3.5-4.2</i></b>	72	68	84	83	81	88	76	84	neutral	59	39	67	12
<b><i>Sigma AF 24-70mm f/2.8 EX DF</i></b>	59	58	79	74	81	89	73	53	neutral	55	50	69	22
<b><i>Sigma AF 24-70mm f/3.5-5.6 Asph. HF</i></b>	64	64	71	66	68	77	66	78	slightly warm	62	64	49	6
<b><i>Sigma AF 24-70mm f/3.5-5.6 Asph.</i></b>	46	47	60	59	71	89	56	80	neutral	51	41	50	29
<b><i>Sigma AF 28-70mm f/2.8 EX DF</i></b>	73	66	88	86	76	83	67	68	neutral	63	50	76	17
<b><i>Sigma AF 28-70mm f/2.8 EX</i></b>	70	69	84	81	76	83	74	71	neutral	69	54	72	95
<b><i>Sigma AF 28-70mm f/2.8</i></b>	75	75	83	84	87	93	83	91	neutral	69	44	61	84
<b><i>Sigma AF 28-135mm f/3.8-5.6 Asph. macro</i></b>	52	54	72	73	73	87	51	70	slightly cool	62	38	64	19
<b><i>Sigma AF 28-80mm f/3.5-5.6 Asph. macro</i></b>	47	54	62	62	67	85	70	83	neutral	54	42	45	34
<b><i>Sigma AF 28-105mm f/2.8-4 Asph.</i></b>	54	55	64	65	71	80	61	66	neutral	59	47	61	70
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Sigma AF 28-105mm f/3.8-5.6 UC III</i></b>	40	35	61	52	60	63	50	60	warm	45	28	49	5
<b><i>Sigma AF 28-200mm f/3.5-5.6 DL</i></b>	34	38	42	43	60	70	41	58	neutral	54	26	44	16

<b><i>Sigma AF 70-210mm f/2.8 APO</i></b>	76	73	87	86	86	84	90	91	slightly warm	74	48	80	43
<b><i>Sigma AF 70-200mm f/2.8 APO EX (HSM)</i></b>	78	81	89	90	92	95	89	91	neutral	81	79	89	72
<b><i>Sigma AF 70-210mm f/3.5-4.5 APO macro</i></b>	64	60	82	79	84	89	83	84	neutral	68	44	59	26
<b><i>Sigma AF 28-300mm f/3.5-6.3 Asph. DL</i></b>	37	39	50	49	63	64	49	55	neutral	53	40	58	10
<b><i>Sigma AF 70-300mm f/4-5.6 APO macro</i></b>	60	55	72	65	83	84	79	78	neutral	57	31	54	76
<b><i>Sigma AF 70-300mm f/4-5.6 APO m. Super</i></b>	50	41	64	53	78	73	63	61	neutral	52	23	46	25
<b><i>Sigma AF 135-400mm f/4.5-5.6 APO Asph.</i></b>	74	57	85	72	84	79	87	82	slightly warm	70	32	75	34
<b><i>Sigma AF 100-300mm f/4 APO EX (HSM)</i></b>	79	73	90	88	86	89	87	90	neutral	81	82	90	7
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Sigma AF 170-500mm f/5-6.7 APO Asph.</i></b>	60	50	71	62	79	81	79	77	slightly cool	61	34	62	31
<b><i>Sigma AF 50-500mm f/4-6.3 APO EX (HSM)</i></b>	70	68	79	74	84	79	80	84	slightly warm	69	62	83	16
<b><i>Sigma AF 14mm f/3.5</i></b>	48	-	62	-	63	-	66	-	neutral	40	52	64	12
<b><i>Sigma AF 14mm f/2.8 EX (HSM)</i></b>	50	-	76	-	66	-	41	-	neutral	44	77	75	11
<b><i>Sigma AF 18mm f/3.5</i></b>	40	-	62	-	50	-	57	-	neutral	44	37	66	12
<b><i>Sigma AF 20mm f/1.8 EX (HSM)</i></b>	67	-	92	-	78	-	82	-	neutral	81	64	80	13

<b><i>Sigma AF 24mm f/1.8 EX (HSM)</i></b>	74	-	93	-	88	-	81	-	slightly warm	77	56	72	12
<b><i>Sigma AF 24mm f/2.8 macro</i></b>	70	-	88	-	83	-	71	-	neutral	66	53	69	39
<b><i>Sigma AF 28mm f/1.8 I II</i></b>	48	-	77	-	57	-	71	-	slightly warm	53	48	63	13
<b><i>Sigma AF 28mm f/1.8 EX (HSM)</i></b>	38	-	75	-	80	-	75	-	neutral	40	40	60	1
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Sigma AF 50mm f/2.8 macro</i></b>	62	-	78	-	100	-	87	-	neutral	75	23	60	5
<b><i>Sigma AF 50mm f/2.8 macro EX</i></b>	84	-	93	-	93	-	95	-	neutral	81	25	68	18
<b><i>Sigma AF 90mm f/2.8 macro</i></b>	64	-	77	-	93	-	100	-	neutral	72	31	64	11
<b><i>Sigma AF 105mm f/2.8 macro EX</i></b>	82	-	95	-	93	-	98	-	neutral	84	29	87	55
<b><i>Sigma AF 300mm f/2.8 APO</i></b>	75	-	89	-	82	-	91	-	neutral	70	44	66	6
<b><i>Sigma AF 300mm f/4 APO macro (HSM)</i></b>	77	-	92	-	93	-	91	-	slightly cool	74	51	85	15
<b><i>Sigma AF 180mm f/3.5 EX macro (HSM)</i></b>	84	-	95	-	88	-	95	-	neutral	74	47	87	15
<b><i>Sigma AF 400mm f/5.6 APO</i></b>	48	-	61	-	75	-	72	-	slightly warm	54	26	54	9

<b><i>Sigma AF 400mm f/5.6 APO macro</i></b>	66	-	83	-	95	-	95	-	slightly warm	75	57	68	9
<b><i>Sigma AF 400mm f/5.6 APO macro HSM</i></b>	77	-	83	-	95	-	94	-	slightly warm	77	68	82	4
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Sigma AF 300mm f/2.8 APO EX (HSM)</i></b>	79	-	89	-	91	-	86	-	slightly warm	67	79	82	5
<b><i>Sigma AF 500mm f/4.5 APO EX (HSM)</i></b>	90	-	98	-	92	-	100	-	neutral	84	100	92	6
<b><i>Sigma AF 800mm f/5.6 APO EX (HSM)</i></b>	88	-	100	-	100	-	100	-	neutral	80	80	80	1
<b><i>Tamron AF 20-40mm f/2.7-3.5 SP Asp. IF</i></b>	68	66	85	85	92	94	61	70	slightly warm	43	59	74	19
<b><i>Tamron AF 24-135mm f/3.5-5.6 SP Asp. IF</i></b>	58	55	80	77	79	90	64	55	neutral	69	46	78	23
<b><i>Tamron AF 24-70mm f/3.3-5.6 Asp.</i></b>	51	54	70	70	62	76	70	87	neutral	49	46	48	13
<b><i>Tamron AF 28-80mm f/4-5.6 Asp.</i></b>	52	55	65	66	80	86	75	90	neutral	57	38	42	31
<b><i>Tamron AF 28-105mm f/4-5.6 IF</i></b>	44	47	60	62	76	91	56	75	neutral	49	37	46	10
<b><i>Tamron AF 28-105mm f/2.8 SP LD Asp. IF</i></b>	65	64	78	78	83	92	64	70	slightly warm	68	49	73	36
<b><i>Tamron AF 28-200mm f/3.8-5.6 SLDA IF</i></b>	41	36	55	50	65	75	48	60	neutral	45	38	52	59

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Tamron AF 28-300mm f/3.5-6.3 LD IF</i></b>	41	41	51	50	54	60	54	60	neutral	50	38	47	24
<b><i>Tamron AF 28-200mm f/3.8-5.6 SLDA IF II</i></b>	40	32	55	47	62	68	60	74	slightly warm	47	34	47	17
<b><i>Tamron AF 28-200mm f/3.8-5.6 XR LD macro</i></b>	-7	48	67	67	64	83	62	71	neutral	51	27	59	7
<b><i>Tamron AF 35-105mm f/2.8 SP IF</i></b>	66	68	78	90	87	93	56	78	slightly warm	51	47	72	5
<b><i>Tamron AF 80-200mm f/4.5-5.6</i></b>	59	63	72	70	85	100	89	95	neutral	79	48	58	6
<b><i>Tamron AF 70-210mm f/2.8 SP LD</i></b>	84	81	91	89	95	94	94	94	neutral	75	69	84	18
<b><i>Tamron AF 70-210mm f/2.8 SP LD +2xTC</i></b>	62	57	62	62	60	69	61	61	slightly warm	60	51	49	2
<b><i>Tamron AF 75-300mm f/4-5.6</i></b>	58	60	62	61	86	79	78	79	neutral	61	53	54	16
<b><i>Tamron AF 70-300mm f/4-5.6 LD</i></b>	58	45	71	55	88	89	90	80	neutral	64	34	45	20
<b><i>Tamron AF 70-300mm f/4-5.6 LD macro</i></b>	56	43	62	57	73	83	78	70	slightly cool	45	10	52	6

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Tamron AF 200-400mm f/5.6 LD IF</i></b>	62	56	71	66	83	80	82	78	neutral	67	45	66	30



<i><b>Tamron AF 14mm f/2.8 SP</b></i>	75	-	92	-	80	-	50	-	slightly cool	33	67	93	3
<i><b>Tamron AF 90mm f/2.8 SP macro</b></i>	83	-	96	-	97	-	95	-	neutral	86	46	75	62
<i><b>Tamron AF 300mm f/2.8 SP LD</b></i>	79	-	86	-	92	-	79	-	neutral	75	71	84	7
<i><b>Tokina AF 20-35mm f/2.8 AT-X Pro</b></i>	83	80	92	91	87	95	81	90	neutral	79	67	95	42
<i><b>Tokina AF 19-35mm f/3.5-4.5</b></i>	65	66	84	79	68	89	49	78	neutral	51	51	67	19
<i><b>Tokina AF 20-35mm f/3.5-4.5 I</b></i>	75	78	84	84	87	96	62	79	neutral	68	62	70	11
<i><b>Tokina AF 20-35mm f/3.5-4.5 II</b></i>	71	72	84	82	79	86	60	78	neutral	72	57	84	31
<i><b>Tokina AF 24-40mm f/2.8 AT-X</b></i>	56	59	73	70	85	89	63	81	slightly cool	66	56	80	4
<i><b>Tokina AF 24-200mm f/3.5-5.6 AT-X</b></i>	65	63	80	78	67	75	68	70	slightly warm	64	68	84	29
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<i><b>Tokina AF 28-105mm f/3.5-4.5</b></i>	59	59	74	73	71	88	68	82	neutral	65	49	79	37
<i><b>Tokina AF 28-70mm f/2.8 AT-X</b></i>	78	79	89	90	88	94	81	90	neutral	81	58	90	24
<i><b>Tokina AF 28-70mm f/2.6-2.8 AT-X Pro</b></i>	72	73	85	86	81	93	81	87	neutral	73	62	90	54
<i><b>Tokina AF 28-70mm f/2.6-2.8 AT-X Pro II</b></i>	74	77	85	86	85	91	82	89	neutral	73	60	90	116

<b><i>Tokina AF 28-80mm f/2.8 AT-X Pro</i></b>	69	66	89	89	84	93	79	81	neutral	69	66	95	33
<b><i>Tokina AF 80-200mm f/2.8 AT-X Pro</i></b>	80	76	91	89	93	92	94	94	neutral	82	58	93	43
<b><i>Tokina AF 80-200mm f/2.8 AT-X Pro 2xTC</i></b>	73	54	73	67	93	93	90	90	slightly warm	67	40	93	5
<b><i>Tokina AF 28-70mm f/2.8 AT-X Pro SV</i></b>	62	62	100	88	100	100	75	100	neutral	80	60	100	1
<b><i>Tokina AF 80-200mm f/2.8 AT-X</i></b>	75	76	85	90	96	96	91	90	slightly warm	85	59	87	13
<b><i>Tokina AF 75-300mm f/4-5.6</i></b>	56	62	62	69	84	91	67	91	neutral	27	17	53	8
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Tokina AF 100-300mm f/4 AT-X I II</i></b>	84	82	93	90	85	89	85	86	neutral	72	56	84	18
<b><i>Tokina AF 80-400mm f/4.5-5.6 AT-X</i></b>	63	54	75	64	86	85	90	89	neutral	65	44	79	32
<b><i>Tokina AF 17mm f/3.5 AT-X</i></b>	76	-	87	-	77	-	59	-	neutral	74	60	86	16
<b><i>Tokina AF 17mm f/3.5 AT-X Pro</i></b>	63	-	90	-	81	-	57	-	neutral	66	57	90	17
<b><i>Tokina AF 100mm f/2.8 AT-X macro</i></b>	72	-	91	-	85	-	91	-	slightly warm	76	69	96	6
<b><i>Tokina AF 300mm f/2.8 AT-X Pro</i></b>	83	-	94	-	97	-	100	-	neutral	88	84	97	9

<b><i>Tokina AF 300mm f/4 AT-X</i></b>	61	-	71	-	88	-	100	-	neutral	75	42	79	6
<b><i>Tokina AF 300mm f/2.8 AT-X I II</i></b>	74	-	93	-	92	-	93	-	neutral	84	51	92	8
<b><i>Tokina AF 400mm f/5.6 AT-X</i></b>	63	-	80	-	97	-	98	-	slightly warm	84	44	84	23
<b><i>Vivitar AF 19-35mm f/3.5-4.5</i></b>	47	44	68	64	67	79	55	68	slightly warm	42	46	37	23
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Vivitar AF 70-210mm f/2.8-4</i></b>	49	41	59	54	61	53	55	65	slightly warm	40	23	45	15
<b><i>Vivitar AF 100-400mm f/4.5-6.7</i></b>	45	18	60	28	50	30	25	12	warm	48	12	16	4
<b><i>Vivitar AF 100mm f/3.5 macro</i></b>	78	-	89	-	92	-	89	-	slightly warm	81	44	43	20
<b><i>Carl-Zeiss T* 28-70mm f/3.5-4.5</i></b>	85	84	91	88	72	94	76	82	slightly warm	76	-	83	8
<b><i>Carl-Zeiss Distagon T* 35mm f/1.4</i></b>	90	-	97	-	91	-	96	-	slightly warm	90	-	96	15
<b><i>Carl-Zeiss Distagon T* 35mm f/2.8</i></b>	80	-	96	-	93	-	88	-	neutral	90	-	94	23
<b><i>Carl-Zeiss Tessar T* 45mm f/2.8</i></b>	91	-	98	-	99	-	99	-	neutral	99	-	87	13
<b><i>Carl-Zeiss Planar T* 85mm f/1.4</i></b>	84	-	99	-	95	-	99	-	neutral	94	-	99	38
<b><i>Carl-Zeiss Sonnar T* 85mm f/2.8</i></b>	89	-	99	-	96	-	93	-	neutral	95	-	95	16

<b>Carl-Zeiss Planar T* 100mm f/2</b>	94	-	98	-	98	-	100	-	neutral	94	-	100	10
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Carl-Zeiss Apo-Sonnar T* 200mm f/2</b>	88	-	100	-	100	-	100	-	-	100	-	100	1
<b>Carl-Zeiss Tessar T* 200mm f/4</b>	86	-	95	-	92	-	97	-	neutral	89	-	100	7
<b>Carl-Zeiss Apo-Tessar T* 300mm f/2.8</b>	92	-	100	-	100	-	100	-	neutral	100	-	100	2
<b>Carl-Zeiss Distagon T* 15mm f/3.5</b>	81	-	94	-	80	-	88	-	neutral	70	-	90	2
<b>Carl-Zeiss Distagon T* 18mm f/4</b>	75	-	88	-	70	-	91	-	slightly warm	67	-	83	9
<b>Carl-Zeiss Distagon T* 21mm f/2.8</b>	88	-	98	-	89	-	97	-	slightly warm	82	-	97	16
<b>Carl-Zeiss Distagon T* 25mm f/2.8</b>	80	-	95	-	91	-	94	-	neutral	97	-	95	24
<b>Carl-Zeiss Distagon T* 28mm f/2.8</b>	78	-	93	-	84	-	87	-	slightly warm	87	-	93	35
<b>Carl-Zeiss Planar T* 50mm f/1.4</b>	79	-	97	-	92	-	94	-	neutral	88	-	92	66
<b>Carl-Zeiss Planar T* 50mm f/1.7</b>	75	-	95	-	93	-	94	-	slightly warm	88	-	91	27
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:

<b>Carl-Zeiss Makro-Planar T* 60mm f/2.8</b>	99	-	100	-	100	-	100	-	neutral	97	-	100	10
<b>Carl-Zeiss Makro-Planar T* 100mm f/2.8</b>	95	-	99	-	99	-	100	-	neutral	98	-	98	18
<b>Carl-Zeiss Sonnar T* 135mm f/2.8</b>	87	-	96	-	98	-	97	-	neutral	90	-	93	30
<b>Carl-Zeiss Sonnar T* 180mm f/2.8</b>	86	-	93	-	98	-	95	-	neutral	90	-	94	10
<b>Carl-Zeiss Tessar T* 300mm f/4</b>	84	-	94	-	98	-	97	-	neutral	94	-	84	9
<b>Carl-Zeiss T* 28-85mm f/3.3-4</b>	87	85	94	94	83	87	78	86	neutral	80	-	91	13
<b>Carl-Zeiss T* 80-200mm f/4</b>	77	75	90	86	88	65	96	85	slightly warm	75	-	95	12
<b>Carl-Zeiss V-S. T* 100-300mm f/4.5-5.6</b>	93	88	98	98	95	96	95	96	slightly warm	92	-	90	8
<b>Carl-Zeiss T* 35-135mm f/3.3-4.5</b>	78	78	94	94	93	93	81	100	slightly warm	95	-	100	4
<b>Carl-Zeiss Distagon T* 16mm f/2.8 Fish</b>	91	-	100	-	85	-	0	-	neutral	100	-	85	3
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Carl-Zeiss Distagon T* 28mm f/2</b>	84	-	100	-	79	-	84	-	slightly warm	91	-	100	6
<b>Carl-Zeiss Planar T* 55mm f/1.2</b>	85	-	100	-	100	-	100	-	warm	100	-	100	2

<b>Carl-Zeiss Planar T* 85mm f/1.2</b>	75	-	100	-	80	-	88	-	warm	90	-	100	5
<b>Carl-Zeiss Sonnar T* 100mm f/3.5</b>	94	-	100	-	100	-	100	-	slightly warm	100	-	91	4
<b>Carl-Zeiss Sonnar T* 135mm f/2</b>	96	-	100	-	93	-	100	-	slightly warm	87	-	100	3
<b>Carl-Zeiss Tessar T* 200mm f/3.5</b>	74	-	86	-	82	-	100	-	warm	80	-	82	3
<b>Carl-Zeiss Apo- Tessar T* 600mm f/4</b>	75	-	88	-	100	-	100	-	-	100	-	100	1
<b>Carl-Zeiss T* 35-70mm f/3.4</b>	72	67	100	100	100	100	94	94	slightly warm	100	-	95	3
<b>Carl-Zeiss T* 70-210mm f/3.5</b>	88	88	100	100	100	100	100	100	warm	80	-	100	1
<b>Carl-Zeiss AF T* 50mm f/1.4 N</b>	96	-	100	-	93	-	100	-	neutral	100	-	100	2
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Carl-Zeiss AF T* 100mm f/2.8 N</b>	100	-	100	-	100	-	100	-	warm	100	-	100	1
<b>Carl-Zeiss AF T* 24-85mm f/3.5-4.5 N</b>	85	84	91	95	90	96	85	88	slightly warm	96	-	90	6
<b>Carl-Zeiss AF T* 70-210mm f/3.5-4.5 N</b>	60	72	68	72	68	68	50	50	neutral	68	-	68	2
<b>Carl-Zeiss AF T* 70-300mm f/4-5.6 N</b>	82	75	88	80	100	100	75	75	warm	100	-	100	2

<b><i>Olympus Zuiko MC 16mm f/3.5 fisheye</i></b>	79	-	92	-	66	-	0	-	neutral	89	-	100	5
<b><i>Olympus Zuiko MC 18mm f/3.5</i></b>	85	-	98	-	68	-	97	-	neutral	68	-	98	10
<b><i>Olympus Zuiko MC 21mm f/2</i></b>	55	-	80	-	48	-	54	-	slightly warm	68	-	95	4
<b><i>Olympus Zuiko MC 21mm f/3.5</i></b>	89	-	93	-	64	-	75	-	slightly warm	70	-	100	6
<b><i>Olympus Zuiko MC 24mm f/2</i></b>	76	-	92	-	80	-	84	-	slightly warm	73	-	98	9
<b><i>Olympus Zuiko MC 24mm f/2.8</i></b>	80	-	90	-	89	-	91	-	neutral	76	-	92	5
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Olympus Zuiko MC 28mm f/2</i></b>	81	-	96	-	80	-	92	-	slightly warm	60	-	93	4
<b><i>Olympus Zuiko MC 28mm f/2.8</i></b>	57	-	89	-	80	-	81	-	slightly warm	76	-	90	8
<b><i>Olympus Zuiko MC 35mm f/2</i></b>	76	-	96	-	83	-	87	-	neutral	80	-	92	13
<b><i>Olympus Zuiko MC 35mm f/2.8</i></b>	73	-	84	-	76	-	82	-	slightly warm	80	-	89	4
<b><i>Olympus Zuiko MC 35mm f/2.8 shift</i></b>	69	-	78	-	73	-	83	-	slightly warm	53	-	80	4
<b><i>Olympus Zuiko MC 50mm f/1.2</i></b>	76	-	92	-	100	-	100	-	neutral	82	-	94	3
<b><i>Olympus Zuiko MC 50mm f/1.4</i></b>	69	-	92	-	81	-	88	-	neutral	84	-	94	10

<b><i>Olympus Zuiko MC 50mm f/1.8</i></b>	72	-	90	-	96	-	95	-	neutral	74	-	86	16
<b><i>Olympus Zuiko MC 50mm f/2 macro</i></b>	89	-	98	-	100	-	96	-	slightly warm	97	-	100	6
<b><i>Olympus Zuiko MC 50mm f/3.5 macro</i></b>	75	-	97	-	97	-	96	-	slightly warm	90	-	93	8
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Olympus Zuiko MC 85mm f/2</i></b>	68	-	82	-	94	-	91	-	slightly warm	80	-	90	8
<b><i>Olympus Zuiko MC 90mm f/2 macro</i></b>	79	-	98	-	97	-	100	-	slightly warm	87	-	97	6
<b><i>Olympus Zuiko MC 100mm f/2</i></b>	94	-	100	-	100	-	100	-	slightly warm	90	-	98	9
<b><i>Olympus Zuiko MC 100mm f/2.8</i></b>	81	-	88	-	92	-	100	-	slightly warm	79	-	95	7
<b><i>Olympus Zuiko MC 135mm f/2.8</i></b>	70	-	88	-	92	-	91	-	slightly warm	84	-	95	4
<b><i>Olympus Zuiko MC 135mm f/3.5</i></b>	55	-	81	-	85	-	81	-	slightly warm	63	-	85	4
<b><i>Olympus Zuiko MC 180mm f/2</i></b>	100	-	100	-	93	-	100	-	slightly cool	100	-	100	2
<b><i>Olympus Zuiko MC 180mm f/2.8</i></b>	62	-	86	-	95	-	83	-	slightly warm	86	-	91	4
<b><i>Olympus Zuiko MC 200mm f/4</i></b>	58	-	70	-	90	-	88	-	slightly warm	77	-	84	7
<b><i>Olympus Zuiko MC 250mm f/2</i></b>	94	-	100	-	70	-	100	-	neutral	90	-	100	2



Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Olympus Zuiko MC 300mm f/4.5</i></b>	70	-	84	-	92	-	92	-	slightly warm	85	-	93	8
<b><i>Olympus Zuiko MC 350mm f/2.8</i></b>	75	-	79	-	80	-	100	-	-	80	-	100	2
<b><i>Olympus Zuiko MC 400mm f/6.3</i></b>	75	-	88	-	100	-	100	-	slightly warm	89	-	100	2
<b><i>Olympus Zuiko MC 35-80mm f/2.8</i></b>	92	94	98	98	84	100	75	100	neutral	93	-	97	6
<b><i>Olympus Zuiko MC 28-48mm f/3.5-4.5</i></b>	50	50	75	75	60	-	50	-	warm	60	-	80	1
<b><i>Olympus Zuiko MC 35-70mm f/3.5-4.5</i></b>	47	41	72	62	80	90	62	69	neutral	55	-	75	4
<b><i>Olympus Zuiko MC 75-150mm f/4</i></b>	58	46	75	62	93	100	92	88	slightly warm	53	-	93	3
<b><i>Olympus Zuiko MC 65-200mm f/4</i></b>	69	62	81	75	90	100	88	100	slightly warm	70	-	90	2
<b><i>Canon New FD 14mm f/2.8 L</i></b>	62	-	88	-	80	-	75	-	neutral	60	-	100	1
<b><i>Canon New FD 17mm f/4</i></b>	71	-	88	-	80	-	100	-	neutral	87	-	100	2
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Canon New FD 20mm f/2.8</i></b>	78	-	98	-	70	-	71	-	slightly cool	62	-	67	7
<b><i>Canon New FD 24mm f/1.4 L</i></b>	62	-	88	-	80	-	88	-	cool	80	-	90	2

<b>Canon New FD 24mm f/2</b>	54	-	75	-	80	-	92	-	neutral	67	-	73	3
<b>Canon New FD 24mm f/2.8</b>	74	-	91	-	81	-	80	-	neutral	79	-	80	7
<b>Canon New FD 28mm f/2</b>	79	-	88	-	100	-	100	-	neutral	87	-	87	2
<b>Canon New FD 28mm f/2.8</b>	71	-	91	-	92	-	84	-	slightly warm	81	-	83	10
<b>Canon New FD 35mm f/2</b>	90	-	93	-	100	-	94	-	neutral	83	-	87	7
<b>Canon New FD 35mm f/2.8</b>	50	-	88	-	80	-	75	-	neutral	80	-	60	1
<b>Canon New FD 50mm f/1.2 L</b>	62	-	100	-	80	-	75	-	warm	80	-	80	1
<b>Canon New FD 50mm f/1.4</b>	74	-	94	-	95	-	99	-	neutral	81	-	88	20

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon New FD 50mm f/1.8</b>	52	-	77	-	95	-	92	-	neutral	71	-	57	11
<b>Canon New FD 50mm f/3.5 macro</b>	90	-	97	-	96	-	100	-	slightly warm	96	-	80	6
<b>Canon New FD 85mm f/1.2 L</b>	82	-	97	-	89	-	100	-	slightly warm	86	-	98	9
<b>Canon New FD 85mm f/1.8</b>	74	-	95	-	100	-	100	-	slightly warm	91	-	85	5
<b>Canon New FD 100mm f/2</b>	91	-	98	-	100	-	100	-	slightly warm	93	-	97	5

<b>Canon New FD 100mm f/2.8</b>	83	-	97	-	100	-	100	-	neutral	95	-	80	5
<b>Canon New FD 100mm f/4 macro</b>	65	-	92	-	93	-	100	-	neutral	67	-	100	4
<b>Canon New FD 135mm f/2</b>	89	-	100	-	100	-	100	-	slightly cool	91	-	91	2
<b>Canon New FD 135mm f/2.8</b>	83	-	94	-	96	-	98	-	neutral	84	-	86	8
<b>Canon New FD 200mm f/1.8 L</b>	75	-	100	-	80	-	100	-	neutral	60	-	100	1
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon New FD 200mm f/2.8</b>	76	-	94	-	100	-	100	-	slightly cool	91	-	95	4
<b>Canon New FD 200mm f/4</b>	82	-	91	-	100	-	94	-	neutral	86	-	75	4
<b>Canon New FD 300mm f/2.8 L</b>	94	-	100	-	100	-	100	-	warm	90	-	100	2
<b>Canon New FD 300mm f/4</b>	70	-	75	-	80	-	75	-	warm	80	-	80	2
<b>Canon New FD 300mm f/4 L</b>	88	-	100	-	100	-	100	-	cool	80	-	80	3
<b>Canon New FD 300mm f/5.6</b>	88	-	95	-	100	-	100	-	neutral	100	-	80	2
<b>Canon New FD 500mm f/4.5 L</b>	88	-	100	-	100	-	100	-	neutral	80	-	80	1
<b>Canon New FD 20-35mm f/3.5 L</b>	75	81	88	94	70	90	50	100	neutral	70	-	80	2

<b>Canon New FD 28-85mm f/4</b>	75	72	95	85	80	100	75	90	warm	80	-	68	5
<b>Canon New FD 35-105mm f/3.5</b>	78	74	88	86	85	87	71	84	neutral	70	-	77	12
-													
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Canon New FD 35-105mm f/3.5-4.5</b>	94	69	94	88	80	90	88	62	neutral	80	-	80	2
<b>Canon New FD 50-300mm f/4.5 L</b>	75	75	75	75	60	40	75	50	neutral	60	-	60	1
<b>Canon New FD 70-210mm f/4</b>	54	57	72	69	88	90	92	90	slightly cool	68	-	73	4
<b>Canon New FD 75-200mm f/4.5</b>	52	45	68	52	80	80	50	75	neutral	60	-	68	2
<b>Canon New FD 85-300mm f/4.5</b>	52	52	68	68	80	100	75	100	neutral	60	-	80	2
<b>Canon New FD 80-200mm f/4 L</b>	91	91	100	98	100	100	100	100	slightly warm	93	-	91	5
<b>Canon New FD 100-200mm f/5.6</b>	100	100	100	100	-	60		50	neutral	100	-	60	1
<b>Canon New FD 100-300mm f/5.6</b>	76	49	97	74	95	91	100	79	neutral	80	-	75	3
<b>Minolta MD 17mm f/4 MC</b>	38	-	75	-	91	-	64	-	slightly warm	80	-	100	2
<b>Minolta MD 20mm f/2.8 MC</b>	82	-	95	-	84	-	80	-	neutral	92	-	92	2

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta MD 24mm f/2.8 MC</b>	71	-	89	-	94	-	79	-	neutral	74	-	87	7
<b>Minolta MD 28mm f/2 MC</b>	12	-	88	-	100	-	75	-	neutral	40	-	80	1
<b>Minolta MD 28mm f/2.8 MC</b>	76	-	86	-	95	-	87	-	neutral	74	-	74	8
<b>Minolta MD 28mm f/3.5 MC</b>	32	-	61	-	60	-	72	-	slightly warm	62	-	49	3
<b>Minolta MD 35mm f/2.8 MC</b>	85	-	88	-	96	-	92	-	slightly warm	76	-	80	3
<b>Minolta MD 35mm f/1.8 MC</b>	75	-	91	-	96	-	87	-	slightly warm	80	-	84	6
<b>Minolta MD 45mm f/2 MC</b>	38	-	38	-	100	-	100	-	-	80	-	80	1
<b>Minolta MD 50mm f/1.7 MC</b>	70	-	86	-	95	-	92	-	neutral	77	-	77	13
<b>Minolta MD 50mm f/1.4 MC</b>	76	-	88	-	75	-	96	-	neutral	85	-	86	10
<b>Minolta MD 50mm f/1.2 MC</b>	47	-	100	-	91	-	94	-	warm	100	-	100	3

-

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta MD 50mm f/3.5 MC macro</b>	80	-	100	-	100	-	100	-	slightly warm	82	-	90	4

<b>Minolta MD 85mm f/2 MC</b>	75	-	98	-	96	-	95	-	neutral	89	-	85	4
<b>Minolta MD 100mm f/2.5 MC</b>	88	-	100	-	100	-	100	-	slightly warm	86	-	88	3
<b>Minolta MD 100mm f/4 MC macro</b>	88	-	100	-	100	-	100	-	neutral	100	-	90	3
<b>Minolta MD 135mm f/2.8 MC</b>	72	-	91	-	100	-	100	-	neutral	72	-	79	7
<b>Minolta MD 135mm f/3.5 MC</b>	59	-	75	-	94	-	93	-	neutral	60	-	76	4
<b>Minolta MD 200mm f/4 MC</b>	38	-	62	-	100	-	75	-	cool	60	-	100	1
<b>Minolta MD 200mm f/2.8 MC</b>	68	-	85	-	100	-		-	-	-	-	80	2
<b>Minolta MD 300mm f/4.5 MC</b>	70	-	79	-	94	-	100	-	neutral	82	-	94	3
<b>Minolta MD 400mm f/5.6 MC APO</b>	79	-	96	-	93	-	100	-	slightly cool	80	-	80	3
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta MD 24-35mm f/3.5 MC</b>	51	43	60	51	100	100	70	65	cool	80	-	56	3
<b>Minolta MD 24-50mm f/4 MC</b>	62	75	75	75	80	100	75	100	cool	40	-	80	1
<b>Minolta MD 28-85mm f/3.5-4.5 MC</b>	88	71	100	95	91	100	89	89	slightly warm	91	-	100	2

<b>Minolta MD 28-70mm f/3.5-4.8 MC</b>	46	39	58	49	67	78	68	80	slightly warm	54	-	61	7
<b>Minolta MD 35-70mm f/3.5 MC</b>	72	73	88	89	92	95	79	86	neutral	82	-	82	6
<b>Minolta MD 35-70mm f/3.5 MC macro</b>	82	78	92	92	100	100	89	100	neutral	90	-	87	3
<b>Minolta MD 35-105mm f/3.5-4.5 MC</b>	50	46	62	67	60	70	38	25	warm	50	-	60	3
<b>Minolta MD 70-210mm f/4 MC</b>	65	51	80	68	92	92	83	83	slightly warm	67	-	81	6
<b>Minolta MD 100-200mm f/5.6 MC</b>	12	12	12	12	80	80	50	50	warm	40	-	80	1
<b>Minolta MD 100-300mm f/4 MC</b>	69	75	81	75	100	100	100	100	neutral	80	-	80	2
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Minolta MD 100-500mm f/8 MC</b>	95	95	100	100	100	100	100	100	slightly warm	100	-	100	2
<b>Leica M Elmarit 21mm f/2.8 Asph.</b>	91	-	100	-	88	-	100	-	neutral	95	-	100	3
<b>Leica M Elmarit 24mm f/2.8 Asph.</b>	90	-	100	-	82	-	89	-	slightly warm	93	-	100	6
<b>Leica M Elmarit 28mm f/2.8</b>	94	-	98	-	80	-	89	-	neutral	66	-	88	8
<b>Leica M Summilux 35mm f/1.4 Asph.</b>	84	-	95	-	86	-	96	-	neutral	86	-	90	7

<b>Leica M Summicron 35mm f/2 Asph.</b>	95	-	98	-	91	-	96	-	neutral	91	-	98	16
<b>Leica M Noctilux 50mm f/1</b>	93	-	97	-	64	-	84	-	warm	98	-	100	8
<b>Leica M Summilux 50mm f/1.4</b>	75	-	100	-	80	-	75	-	neutral	90	-	100	2
<b>Leica M Summicron 50mm f/2</b>	87	-	96	-	92	-	100	-	slightly warm	89	-	97	22
<b>Leica M Elmar 50mm f/2.8</b>	89	-	96	-	100	-	88	-	slightly warm	50	-	100	3
-													
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Leica M Summilux 75mm f/1.4</b>	85	-	100	-	96	-	100	-	slightly warm	91	-	100	5
<b>Leica M APO- Summicron 90mm f/2</b>	100	-	100	-	100	-	100	-	neutral	89	-	98	11
<b>Leica M Elamrit 90mm f/2.8</b>	91	-	100	-	95	-	100	-	neutral	100	-	100	4
<b>Leica M APO-Telyt 135mm f/3.4</b>	100	-	100	-	-	-		-	-	-	-	-	1
<b>Leica M Tri-Elmar 28-35-50m m f/4</b>	85	85	92	96	80	91	89	89	warm	91	-	100	3
<b>C.Zeiss T* Biogon 21mm f/2.8 G</b>	80	-	100	-	89	-	100	-	neutral	80	74	94	7
<b>C.Zeiss T* Biogon 28mm f/2.8 G</b>	82	-	98	-	93	-	89	-	neutral	89	62	92	15



<b>C.Zeiss T* Planar 35mm f/2 G</b>	76	-	97	-	97	-	86	-	neutral	76	60	84	14
<b>C.Zeiss T* Planar 45mm f/2 G</b>	92	-	100	-	98	-	99	-	neutral	92	59	92	18
<b>C.Zeiss T* Tessar 90mm f/2.8 G</b>	94	-	100	-	100	-	98	-	neutral	91	58	97	11
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>C.Zeiss T* Tessar 90mm f/2.8 G</b>	88	-	100	-	100	-	100	-	neutral	80	-	100	1
<b>C.Zeiss T* 35-70mm f/3.5-5.6 G</b>	60	60	75	75	92	92	90	90	slightly warm	76	100	80	2
<b>Konica Hexanon 28mm f/2.8</b>	75	-	86	-	69	-	71	-	neutral	63	-	89	2
<b>Konica Hexanon 50mm f/2</b>	80	-	88	-	93	-	100	-	neutral	74	-	81	5
<b>Konica Hexanon 90mm f/2.8</b>	94	-	94	-	100	-	100	-	neutral	90	-	90	2
<b>Hasselblad Xpan 30mm f/5.6</b>	88	-	100	-	100	-	75	-	cool	80	-	100	1
<b>Hasselblad Xpan 45mm f/4</b>	95	-	100	-	66	-	100	-	neutral	85	-	96	5
<b>Hasselblad Xpan 90mm f/4</b>	100	-	100	-	100	-	100	-	neutral	80	-	100	1
<b>Voigtländer Heliar 12mm f/5.6 Asph.</b>	75	-	100	-	51	-	69	-	slightly warm	80	-	95	4
<b>Voigtlander Ultron 28mm f/1.9</b>	88	-	100	-	80	-	75	-	neutral	80	-	80	1

Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Voigtlander Heliar 15mm f/4.5</i></b>	77	-	92	-	50	-	56	-	neutral	81	-	86	14
<b><i>Voigtlander Skopar 25mm f/4</i></b>	86	-	96	-	88	-	91	-	neutral	82	-	82	13
<b><i>Voigtlander Ultron 35mm f/1.7</i></b>	91	-	95	-	96	-	100	-	neutral	93	-	83	15
<b><i>Voigtlander Skopar 35mm f/2.5</i></b>	90	-	100	-	96	-	100	-	slightly cool	96	-	81	7
<b><i>Voigtlander Nokton 50mm f/1.5</i></b>	79	-	93	-	96	-	100	-	slightly cool	88	-	91	6
<b><i>Voigtlander Heliar 75mm f/2.5</i></b>	90	-	100	-	100	-	100	-	neutral	97	-	80	7
<b><i>Voigtlander Lanthar 90mm f/3.5 APO</i></b>	88	-	100	-	100	-	100	-	neutral	80	-	80	2
<b><i>Leica R 19mm f/2.8 '98</i></b>	100	-	100	-	100	-	100	-	warm	80	-	100	1
<b><i>Leica R 21mm f/4 '68</i></b>	75	-	100	-	40	-		-	neutral	60	-	100	1
<b><i>Leica R 24mm f/2.8 '98</i></b>	69	-	94	-	20	-	88	-	neutral	80	-	100	2
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b><i>Leica R 24mm f/2.8 '90</i></b>	56	-	80	-	69	-	57	-	slightly warm	66	-	89	4
<b><i>Leica R 28mm f/2.8 '98</i></b>	100	-	100	-	80	-	75	-	neutral	100	-	80	1

<b>Leica R 28mm f/2.8 PC '88</b>	88	-	100	-	80	-	100	-	neutral	70	-	100	2
<b>Leica R 35mm f/2 '97</b>	62	-	100	-	40	-	75	-	neutral	90	-	100	2
<b>Leica R 35mm f/2.8 '86</b>	88	-	100	-	80	-	75	-	warm	80	-	100	1
<b>Leica R 50mm f/1.4 '79</b>	31	-	88	-	20	-	62	-	neutral	70	-	100	2
<b>Leica R 50mm f/2 '79</b>	79	-	100	-	73	-	83	-	neutral	80	-	100	3
<b>Leica R 60mm f/2.8 macro '86</b>	88	-	100	-	50	-	100	-	neutral	100	-	100	2
<b>Leica R 90mm f/2.8 '83</b>	88	-	100	-	90	-	88	-	neutral	90	-	100	2
<b>Leica R 100mm f/2.8 APO macro '97</b>	100	-	100	-	100	-	100	-	neutral	91	-	100	4
-													
Lens	Perf. w/open (wide):	Perf. w/open (long):	Perf. s/down (wide):	Perf. s/down (long):	Vign. (wide):	Vign. (long):	Dist. (wide):	Dist. (long):	Color:	Flare:	AF Speed:	Build Quality:	No. Inputs:
<b>Leica R 180mm f/3.4 APO '80</b>	100	-	100	-	60	-	100	-	slightly warm	87	-	100	3
<b>Leica R 35-70mm f/4 '98</b>	75	81	88	94	90	100	62	100	warm	80	-	100	2
<b>Leica R 80-200mm f/4 '98</b>	88	88	88	88	-	-		-	neutral	80	-	100	1

Overall inputs: 9351

## Shortcuts:

- = No Input yet!

Perf. w/o (wide) = Performance with wide-open aperture at the Wide Focal Length - e.g. 28mm f/3.5 for a 28-135mm f/3.5-5.6 zoom or a fix-focal lens.

Perf. w/o (long) = Performance with wide-open aperture at the Long Focal Length - e.g. 135mm f/5.6 for a 28-135mm f/3.5-5.6 zoom

Perf. s/d (wide) = Performance stopped down to f/8 at the Wide Focal Length

Perf. s/d (long) = Performance stopped down to f/8 at the Long Focal Length

Vign. (wide) = Vignetting at the Wide Focal Length - e.g. 28mm for a 28-135mm zoom or a fix-focal lens.

Vign. (long) = Vignetting at the Long Focal Length - e.g. 135mm for a 28-135mm zoom.

Dist. (wide) = Distortions at the Wide Focal Length - e.g. 28mm for a 28-135mm zoom or a fix-focal lens.

Dist. (long) = Distortions at the Long Focal Length - e.g. 135mm for a 28-135mm zoom.

Color = Color balance (cool (towards blue), slightly cool, neutral, slightly warm, warm (towards yellow))

Flare = degree of contrast loss and ghostings in contra light situations.

AF Speed = Focusing speed of the lens motor

No. Inputs = Number of user inputs for this Lens

---