

Lens Bokeh Ratings

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Overview

“*Bokeh*,” also sometimes romanized as *boke* or *bo-ke*, pronounced *bo* as in bone and *ke* as in Kenneth with equal stress on both syllables, is a Japanese term usually written in katakana that roughly means “blurry.” I’m told it has many shades of meaning in Japanese, including “fuzzy in the head.” As a photographic term it might be more precise to say *pinto-bokeh*, which means “focus blur,” or *bokeh-aji*, which literally means “flavor of blur.” Bokeh, regardless of what you may have read on the web, merely refers to the subjective visual quality of the way lenses render out-of-depth-of-field objects in pictures. (That is, it does not encompass motion-blur and camera shake effects. Photoshop actions such as Gaussian blur are also outside of the scope of the present discussion.)

There’s really no such thing as “good” or “bad” bokeh, at least not reliably. It’s mostly a matter of taste. Generally speaking, what photographers mostly care about is that out-of-focus areas not be ugly or garish enough to be intrusive or distracting; bad bokeh in this sense is similar to a typo in a page of printed text. If any particular lens meets the criterion of being unobtrusive in any particular picture, then you really

don't have to worry about it too much beyond that, unless you want to. And, if any photographer wants to exploit interesting or unusual or "bad" bokeh for artistic purposes, there is, as far as I know, no law against it.

Please also note that my rankings are entirely personal and subjective. I'm not telling you what to think. The lenses I've awarded a 10 may not be to your own taste (although I think this is unlikely), and if I've given something a 5, it doesn't mean you should sell yours. (I'm just having fun here.) The other obvious caveat is that I haven't tried every lens there is. If I haven't rated a lens you're interested in, please don't write to me to ask me what I think of it. I will add more lenses I'm confident in judging to future revisions of this file.

Generalizations

I've found as a general rule that bokeh gets progressively more problematic:

- the larger the aperture
- the closer the focus
- the more distant the background
- the more contrasty the background

What these rules of thumb predict, quite naturally, is that you'll have an easier time avoiding distracting bokeh with most lenses if you stop down a bit, keep the focus at moderate distances, and avoid contrasty backgrounds. With any lens, we discover our own limits for what we'll tolerate, and then either shoot within those limits or deal with the con-



"Ramen," by Alan Soon. A test shot made with a Voigtlander 40mm $f/1.4$ Nokton wide open at $f/1.4$. This is close to a worst case for *bokeh*.

sequences. The above rules of thumb also predict that "worst case" bokeh is easy to provoke: it's when you use the lens's widest aperture, focus as close as the lens can, and include an effectively infinite background with harsh contrast such as specular highlights. Alan Soon's picture at left, from a photo.net discussion, is a good example.

Front and *rear* bokeh (meaning in front of, or behind, the plane of best focus) might also differ.

In some fields, such as meteorology, descriptive adjectives are given precise meanings. In a weather report, for example, the adjective "mild" means a specific range of temperatures, and "rain" actually means precipitation of more than 20 minute

continuous duration (any less and it's a "shower"). As far as adjectives about bokeh are concerned, I'm aware that Japanese lens connoisseurs use a number of descriptive terms to distinguish various specific visual effects in bokeh. Some of these terms were explained in the article "The Terminology of Bokeh," by Oren Grad, *Photo Techniques*, March/April 1997. The most common, perhaps, is "ni-sen," which means

“double-line.” Generally, I’ve never tried to assign descriptive adjectives to out-of-focus effects in any rigorous way; if I describe such effects at all, it’s only in a colloquial attempt to perhaps encourage the reader to better see what I’m talking about.

Focal length, lens type, and marque can also be very roughly generalized. For instance, Bronica medium-format lenses tend to have a very smooth, pleasing bokeh rendering, as do Canon small-format lenses. Zeiss lenses tend to be poor. Primes tend to be better than zooms; spherical lenses are usually better than aspherical types; and 35mm focal-length lenses are, as a whole, better than 50mms.

Finally, it must be admitted that there is a psychological aspect to this subject. For one thing, some people just don’t like photographs in which anything is blurry, and dislike being



told that they (or anybody) should look at those areas. This is perfectly reasonable, except that some pictures undeniably have large areas of visually very distinctive out-of-focus rendering, such as *Mimi IV* by Tony Rowlett, above, taken with a Leica Noctilux. And, of course, you can’t prevent anyone from looking at your pictures however they wish

to. The other psychological aspect of bokeh is even more annoying: the tendency to pay too *much* attention to it. Although it's a prominent part of some pictures, it's no more important generally than any other technical aspect of photographs, such as micro-detail, color cross-contamination, or granularity/noise, and it's probably best not to obsess about it. The picture, after all, is the thing.

Terms

I've ranked some lenses on a 10 scale, with reservations or conditions noted. The current list is by no means complete; I will add more as I get to it. (See p. 1, top right-hand corner, for the version number of this text.) Here's what the numbers mean:

- 10 = Functionally perfect in ordinary usage
- 9 = Outstanding, exceptional, capable of great beauty
- 8 = Extremely good, far better than average
- 7 = Very good, solid performer, bokeh not a limitation
- 6 = Decent, above average in most circumstances
- 5 = Acceptable
- 3 = Pretty awful under certain conditions
- 1 = So butt-fugly you'd have to be blind not to scream

When a lens is marked with a superscript star (^{*}) it simply indicates that the ranking is provisional either because I haven't used the lens myself or I haven't seen a large enough sampling of example photographs. Naturally, the list is dense with lenses in the focal-length range I use, and weak in lens types I have little experience with. Because this is an entirely subjective list, I have not asked anyone else for input, nor

will I. Therefore there are not now, nor will there ever be, significant numbers of long telephotos, zooms, or consumer-grade lenses represented. The list is not currently arranged in any particular order but may be in a future revision.

The Current Ratings (52 Lenses)

Olympus OM Zuiko 40mm <i>f</i> /2	7
Olympus OM Zuiko 100mm <i>f</i> /2	8
Olympus OM Zuiko 50mm <i>f</i> /2 macro	6
Canon EF 35mm <i>f</i> /2	7
Leica 50mm Summicron-M (current version)	5
Leitz 50mm Summicron-M (7-element rigid)	6
Leitz 50mm Summicron-M (7-element collapsible)	7
Leica 35mm Summicron-M (4th generation)	10 ¹
Leica 75mm <i>f</i> /1.4 Summilux-M	9
Canon EF 100mm <i>f</i> /2.8 Macro (non-USM)	10
Canon EF 100mm <i>f</i> /2.8 Macro (USM)	7
Rodenstock Apo-Sironar-S view camera lenses	10
Rodenstock Sironar-N view camera lenses	9

¹ Worsens considerably as focus gets closer and apertures get wider

Schneider Super-Angulon view camera lenses 7

Schneider Symmar view camera lenses 6

Schneider Apo-Symmar view camera lenses 5*

Pentax 50mm *f*/1.4 7²

A Special Case



Any lens of extremely wide aperture is especially susceptible to complex blur effects, especially at the apertures at which it suffers from relatively more spherical aberration and curvature of field. The **Leica Noctilux**, designed by the late Dr. Walter Mandler at Ernst Leitz Canada, can yield bokeh effects anywhere from a 3 to a 10, usually closer to the latter than the former. It is a wonderful lens to experiment with if you like bokeh, and must be considered “beyond rating.” A warning, however: it’s not for the faint of heart!

Konica Hexanon 40mm *f*/1.8 (SLR lens) 3

Konica Hexanon 28mm *f*/1.8 (SLR lens) 6*

Konica Hexanon 85mm *f*/1.8 (SLR lens) 6

² Every K-mount generation

Nikon AF-Nikkor 50mm <i>f</i> /1.4	3
Bronica Zenzanon S 150mm <i>f</i> /3.5	9
Bronica Zenzanon PS 150mm <i>f</i> /4	7
Zeiss Contax Planar 50mm <i>f</i> /1.4	3
Zeiss Contax Sonnar 85mm <i>f</i> /2.8	5
Zeiss Contax Planar 85mm <i>f</i> /1.4	8
Zeiss Contax Distagon 35mm <i>f</i> /2.8	5
Zeiss Contax Distagon 28mm <i>f</i> /2.8	7
Zeiss Contax Planar 100mm <i>f</i> /2	8
Canon EF 50mm <i>f</i> /1.4	8
Canon EF 50mm <i>f</i> /1.8	6
Nikon AF-Nikkor 50mm <i>f</i> /1.8	5
Canon FD 50mm <i>f</i> /1.8	7
Canon FD 50mm <i>f</i> /1.4	5
Olympus OM Zuiko 50mm <i>f</i> /1.4	3
Canon EF 28mm <i>f</i> /2.8	7
Canon EF 28mm <i>f</i> 1.8	5
Canon EF 85mm <i>f</i> 1.8	8
Canon EF 100mm <i>f</i> /2	7
Zeiss Contax Vario-Sonnar 28–85mm	5

Zeiss Contax Vario-Sonnar 35–70mm	7
Zeiss Contax Distagon 35mm <i>f</i> /1.4	5
Nikon AF Zoom-Nikkor 24–85mm	7 ³
Nikon AF-Nikkor 35mm <i>f</i> /2	6
Nikon AF-Nikkor 24mm <i>f</i> /2.8	8
Konica M-Hexanon 50mm <i>f</i> /2	7
Konica M-Hexanon 90mm <i>f</i> /2.8	6
Leica 35mm Summicron-R (11215)	6
Leica 90mm Summicron-R (11219)	8
Leica 35mm Summilux-M Aspherical	7
Leica 35mm Summicron-M ASPH.	6
Minolta M-Rokkor 40mm <i>f</i> /2	7



³ Among zooms, an 8; better than most.