

# EV - LV - ISO Relationships

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EV Exposure Value Table

	<i>f</i> 1.4	<i>f</i> 2.0	<i>f</i> 2.8	<i>f</i> 4.0	<i>f</i> 5.6	<i>f</i> 8.0	<i>f</i> 11	<i>f</i> 16	<i>f</i> 22	<i>f</i> 32
1 s	1	2	3	4	5	6	7	8	9	10
1/2 s	2	3	4	5	6	7	8	9	10	11
1/4 s	3	4	5	6	7	8	9	10	11	12
1/8 s	4	5	6	7	8	9	10	11	12	13
1/15 s	5	6	7	8	9	10	11	12	13	14
1/30 s	6	7	8	9	10	11	12	13	14	15
1/60 s	7	8	9	10	11	12	13	14	15	16
1/125 s	8	9	10	11	12	13	14	15	16	17
1/250 s	9	10	11	12	13	14	15	16	17	18
1/500 s	10	11	12	13	14	15	16	17	18	19
1/1000 s	11	12	13	14	15	16	17	18	19	20

## Exposure Values:

The Table above shows the range of **EV** (1-20) that an SRT is capable of being set to, in Whole Stops, *f* 1.4 to *f* 32 and **1 second** to **1/1000 second**. The table does not show Intermediate or Half Stops such as *f* 1.2, *f* 1.7, *f* 3.5, *f* 4.5, etc. They of course, would be between the Whole Stops, and produce fractional **EV** numbers. Each **EV** number represents one stop in exposure. It is important to remember that using neutral density or other filters will affect these values.

**EV** (Exposure Value) is a measure of a combination of a camera's shutter and aperture settings without any regard to the amount of light in the scene, or the speed of the film. In other words, it represents, how much of the scene's available light will be allowed, by the camera, to get to the film. The **EV** Scale is an open ended, non linear one and can be applied to all cameras. Every time you move from one number in the EV scale to the next, the exposure value it represents is either multiplied or divided by a factor of 2. This is true of *f* stops and shutter speed stops as well. Again, EV is only a measure of the potential amount of light that will strike the film.

It is important to notice that EV numbers can be represented by several Shutter Speed and Aperture combinations. For instance, an **EV** of **14** can be a setting of *f* 4.0 @ 1/1000, or a setting of *f* 32 @ 1/15. Both settings

admit the same amount of light. The former setting could be used for fast moving (sports) subjects and the latter, could be used for maximum depth of field (Landscapes).

**Light Values:**

When you know the brightness of the scene (**LV Light Value**) and the sensitivity of the film (**ISO/ASA**), your light meter will give you a required **EV** setting. Cameras settings are seldom displayed in EV numbers. The **LV** scale is similar to the **EV** scale. In fact when using film with a speed of **ISO/ASA 100**, they are identical. All you need to know is what the **LV** of the scene is. The **LV** is usually determined with a light meter. The brighter a scene the higher the **LV** number. For instance the amount of light from the direct Sun might produce an **LV** of 25 or more, a very dark night would be a **LV** near zero. An average scene in daylight will be around an **LV** of 14. Below are some typical **LV** numbers of common scenes;

**LV Light Value Table**

<b>LV</b>	<b>Type of Scene (Brightness)</b>
<b>1</b>	Very Dark, Not Practical except for Timed Exposures
<b>2</b>	Very Dim, Total Lunar Eclipse, Moon Lit Scenes
<b>3 - 4</b>	Dim Indoor Lighting, Candle Light, Street Lights on Wet Streets
<b>5 - 6</b>	Brightly lit indoors, Amusement parks at Night
<b>7 - 8</b>	Well lit Professional Sporting Events at Night
<b>9 - 10</b>	Just after Sunset or Just before Sunrise.
<b>11 - 12</b>	Dark Overcast Daylight Scenes, Total Solar Eclipse
<b>13</b>	Cloud Covered Daylight Scenes
<b>14</b>	Average Daylight, Normal Side Lit Subjects, Partly Cloudy
<b>15</b>	Bright Daylight, Front Lit, Light colored Subjects
<b>16</b>	Bright Daylight reflecting off Snow or Water
<b>17 - 20</b>	Too Bright to be Very Practical

**Shooting Without a Light Meter**

As you can see these Light Values become somewhat subjective without the aid of a Light Meter. You might want to create your own Table by recording the data (lens, shutter, aperture and film) of all your shots and perceived scene characteristics. Later you can select your best shots and

edit the above table or create your own. So just what good is all this?, you may ask. Shooting without a meter is possible, using these tables and your "Minds Eye". Photography is part Art and part Science. Today with all the automatic widgets, it has become mostly Science. Not using a meter, will bring more Art back into your photography. You may think this is all too slow, but wouldn't you be more proud of your shots, knowing that they are your creation, rather than a coincidence or accident of Science.

You can arrive at a *correct EV* setting using these Tables, then select the proper Shutter Speed and Aperture, for the film you are using. Since the **LV** and **EV** numbers are the same at ISO/ASA 100, you would only have to adjust for other film speeds. Common ISO/ASA speeds for film are 25, 50, 100, 200, 400 and 800. These speeds are each one stop from each other. If you judge the Light Value to be 14, and your film speed is **ISO/ASA 100**, then (**LV=EV=14**).

For film speeds of;

**ISO/ASA 25 (LV-2) = 12EV**

**ISO/ASA 50 (LV-1) = 13 EV**

**ISO/ASA 200 (LV+1) = 15 EV**

**ISO/ASA 400 (LV+2) = 16 EV**

**ISO/ASA 800 (LV+3) = 17 EV**

Since modern Print Film has such a wide latitude for exposure, coupled with the fact that current printing equipment "corrects" for errors, you can produce very good Prints using this method. I have used this method several times, and was always surprised at just how good it works. Slide film is not so forgiving, but it can work also. It's a good idea to bracket your important shots, plus or minus a stop or two.

Light meters measure the average brightness or only a small area of the scene or two (CLC), to set the exposure. This is a compromise at best, and will not always give the best exposure. The engineers have done the best they can with meters to produce *acceptable* (snapshot quality) pictures. The SRT meters are definitely in that class. Your eyes and brain are far more sensitive and creative than any meter could ever be. Think about it, you judge the final results with your eyes, Why not begin the process, that way?

Give this method a try, and if your meter does work, you can check to see how close you come to it's readings. Your *arrived at* exposure may even be better. As a matter of fact, I'm not sure that Ansel Adams used a light meter. I know for a fact that the famous Civil War Photographer, Mathew B. Brady didn't use one. Maybe the "Minds Eye" is best, after all.

<http://home.pcisys.net/~rlsnpjs/minolta/ev%20lv%20asa.html>