SYLVANIA

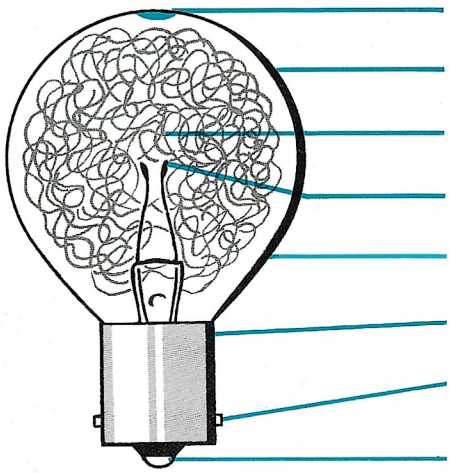
BLUE DOT FLASHBULBS

Sylvania research leads the way. From the time Sylvania first adopted the Blue Dot as a safeguard against defective flashbulbs, the company has continuously sought to improve flashbulb design and performance. Development of Sylvania's primer-coated, super-sensitive filament gave instantaneous firing of the filler. Sylvania's glass stem support for filaments in miniature flashbulbs meant surer firing every time. And Sylvania research with Zirconium has led to the development of miniature, even **sub**-miniature, flashbulbs with the light output of bulbs four times larger.

THE WORLD'S MOST POPULAR FLASHBULB!

THE FLASHBULB WITH SURE-SHOT FEATURES

Sylvania's Blue Dot, the original Blue Dot in the industry, is more than a trade mark . . . it's a guarantee of quality. The dot is actually a chemical — an ultra-sensitive material **inside** the flashbulb that remains blue as long as the bulb is operational; turns pink if there's a defect. There's a special kind of confidence that goes with using Sylvania flashbulbs. The Blue Dot tells you — at a glance — you're sure to get the picture.



Blue Dot — built-in bulb tester.

Tough, color-corrected safety coating contains MM59 to neutralize lacquer odor.

Evenly-distributed combustible filler assures consistent peak light output and synchronization.

Primer-coated super-sensitive filament assures firing even with weak batteries.

Round shape insures even lighting.

One-piece aluminum base gives perfect seating, assures perfect electrical contact.

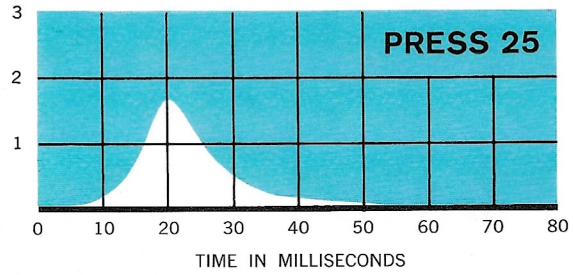
Extruded pins facilitate positive trouble-free positioning in flasholder.

High Bolivian tin content in base solder resists corrosion, eliminates burnishing or moistening — assures positive electrical contact.

A WORD ABOUT LIGHTING DIAGRAMS

Next to each flashbulb, you will find a small graphlike diagram.

These diagrams are not as confusing as they may look; in fact once you learn to read them, you'll find that they'll tell you the whole story about a specific lamp, at a glance. For they are simply plottings of the intensity of a flash at various regular intervals of time, following the moment of electrical contact that sets it off. The light intensity is called a "Lumen," and the amount of intensity is measured in millions of "Lumens." The time interval for each measurement is measured in Milliseconds (a millisecond is 1/1000th of a second).



By looking at the chart, you can learn 3 facts:

1 How rapidly the lamp reaches its peak intensity . . . an indication of the synchronization for which it is made.

2 How much light output is obtainable; indicating simply how much light the flashbulb produces: a clue to how far the light will reach.

3 How long the bulb remains at or near its peak. This controls the shutter speeds at which it is most effective.

You should find each of these facts useful, particularly when you're faced with matching a flashbulb to a specific type of shutter and synchronization.

The number of lumens a lamp emits is a clear indication of its "range" (the distance the effective light will reach). For close-in work, short range lamps are most effective. When the area to be covered is fairly deep, a medium range lamp is recommended. And for long shots, your best bet is a long range lamp.

Here's how lamp ranges stack up:

Up to 8,000 lumens — Short range
8,000-30,000 lumens — Medium range
30,000-60,000 lumens — Long range
Over 60,000 lumens — Extra-long range

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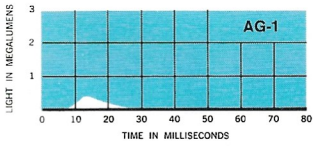
BLUE DOT FLASHBULBS



SYLVANIA AG-1 FLASHBULB

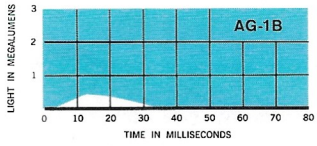
Small as a peanut, this sub-miniature flashbulb has revolutionized flash equipment. Almost 100 can fit easily in an average jacket pocket — yet each produces as much light as the M-2.

Synchronization: Excellent with simple box cameras. Fine for X or F synchronization with adjustable cameras up to 1/60 sec. May be used for M synchronization at all shutter speeds. May also be used with many late model focal plane cameras.

Light Output: 7,000 lumen seconds. Peaks at 15 milliseconds. A short range lamp.

Base: Glass groove.

Reflector: For maximum light output, use a 2″ polished reflector or reflector-adapter.



SYLVANIA AG-1B FLASHBULB

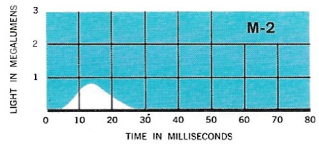
The blue-coated version of this revolutionary sub-miniature flashbulb; color-corrected for use with Daylight-type color films, indoors or out.

Synchronization: Excellent with simple box cameras. Fine for X or F synchronization with adjustable cameras up to 1/60 second. May be used for M synchronization at all shutter speeds. May also be used with many late model focal plane cameras.

Light Output: 4,000 lumen seconds. Peaks at 15 milliseconds. A short range lamp.

Base: Glass groove.

Reflector: For maximum light output, use a 2″ polished reflector or reflector-adapter.



SYLVANIA M-2 FLASHBULB

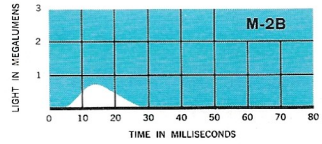
A superb color-corrected lamp; tops for shooting Type F color films with box-type cameras. Exclusive rigid glass stem cushions filament.

Synchronization: Excellent with simple box cameras. Fine for X or F synchronization with adjustable cameras up to 1/60 second.

Light Output: 7,500 lumen seconds. Peaks at 13 milliseconds. A short range lamp.

Base: Miniature; miniature adapter fits it to midget-base reflectors.

Reflector: For maximum light output, use a 3″ polished reflector.



SYLVANIA M-2B FLASHBULB

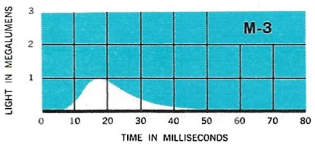
This tiny, powerful blue flashbulb is fully color-corrected for use with new high-speed Daylight-type color films and for fill-in lighting with **all** Daylight-type color films.

Synchronization: Excellent with simple box cameras. Fine for X or F synchronization with adjustable cameras up to 1/60 second.

Light Output: 4,000 lumen seconds. Peaks at 13 milliseconds. A short range lamp.

Base: Miniature; miniature adapter fits it to midget-base reflectors.

Reflector: For maximum light output, use a 3″ polished reflector.



SYLVANIA M-3 FLASHBULB

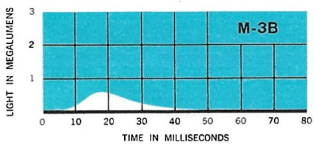
New, Zirconium-filled, this miniature flashbulb meets the fine characteristics of both the M-5 and M-25 flashbulbs, provides light output of a flashbulb four times larger.

Synchronization: Ideal for both class M shutters and simple box cameras. Rapid initial rise and relatively flat output characteristics meet requirements of most late model focal plane cameras.

Light Output: 16,000 lumen seconds. Peaks at 17 milliseconds. A medium range lamp.

Base: Miniature; miniature adapter fits it to midget base reflectors.

Reflector: For maximum light output, use a 3″ polished reflector.



SYLVANIA M-3B FLASHBULB

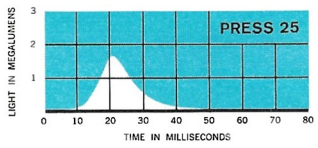
The blue coated versions of the M-3. This miniature blue flashbulb is color-corrected for use with daylight color film indoors or out, achieves greater picture depth and truer color than any regular miniature flashbulb.

Synchronization: Ideal for box-type cameras and class M shutters. Rapid initial rise and relatively flat output characteristics meet the requirements of most late model focal plane cameras.

Light Output: 9,000 lumen seconds. Peaks at 17 milliseconds. A medium range lamp.

Base: Same as M-2B, miniature adapter fits it to midget-base reflectors.

Reflector: For maximum light output, use a 3″ polished reflector.



SYLVANIA PRESS 25 FLASHBULB

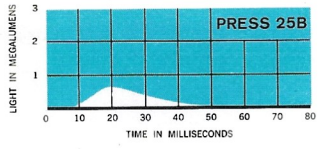
The most powerful midget flashbulb; first choice of press, commercial and leading amateur photographers.

Synchronization: Ideal for M synchronization at **all** shutter speeds.

Light Output: 21,000 lumen seconds. Peaks at 20 milliseconds. A medium range lamp.

Base: Midget; midget adapter fits it to screw-base reflectors.

Reflector: For maximum light output, use a 4″-5″ polished reflector.



SYLVANIA PRESS 25B FLASHBULB

Most powerful blue midget flashbulb for Daylight-type color films. Popular among amateurs and professionals who prefer midget lamps.

Synchronization: M synchronization at **all** shutter speeds.

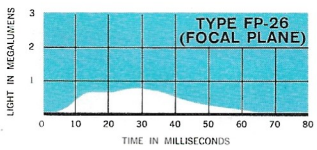
Light Output: 10,000 lumen seconds. Peaks at 20 milliseconds. A medium range lamp.

Base: Midget; midget adapter fits it to screw-base reflectors.

Reflector: For maximum light output, use a 4″-5″ polished reflector.

SYLVANIA

BLUE DOT FLASHBULBS



SYLVANIA TYPE FP-26 FLASHBULB

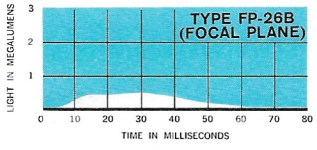
A powerful midget lamp, resembling the popular Press 25, but with an extra-long flash duration. For all focal plane cameras up to 4″ x 5″.

Synchronization: Focal plane only.

Light Output: 20,500 lumen seconds. Reaches substantial plateau at 11 milliseconds. A medium range lamp.

Base: Midget; midget adapter fits it to screw-base reflectors.

Reflector: For maximum light output, use a 4″-5″ polished reflector.



SYLVANIA TYPE FP-26B FLASHBULB

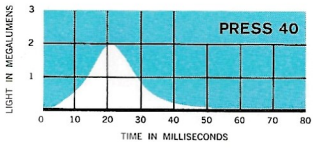
For the perfect combination of focal plane shutter and Daylight-type color film. This is a blue-coated version of the FP-26.

Synchronization: Focal plane only.

Light Output: 9,800 lumen seconds. Reaches substantial plateau at 11 milliseconds. A medium range lamp.

Base: Midget; midget adapter fits it to screw-base reflectors.

Reflector: For maximum light output, use a 4″-5″ polished reflector.



SYLVANIA PRESS 40 FLASHBULB

Exceptionally versatile, powerful flashbulb. Popular among press photographers, professionals and amateurs when they need greater coverage.

Synchronization: Extra power, long peak flash assures foolproof M synchronization, even at high shutter speeds. Can be used with many focal plane cameras.

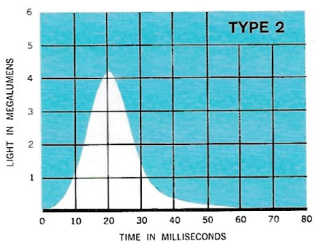
Light Output: 33,000 lumen seconds. Peaks at 20 milliseconds. A long range lamp.

Base: Medium screw.

Reflector: For maximum light output, use a 6½″-7½″ polished reflector.

SYLVANIA FLASHBULB COATINGS

Clear or blue, all Sylvania flashbulbs are coated with a thin, tough film of lacquer as a protection against breaking or shattering. For clear bulbs, the coating is optically clear, will not affect color balance even when used with the most critical color films. On Sylvania blue flashbulbs, the coating is carefully color corrected and balanced under the most rigid laboratory conditions, provides maximum fidelity when used with daylight color films. Furthermore, lacquer application is carefully controlled every step of the way to avoid uneven coating or dripping. A special aromatic agent, MM59, is added to neutralize the normally acrid lacquer odor.



SYLVANIA TYPE 2 FLASHBULB

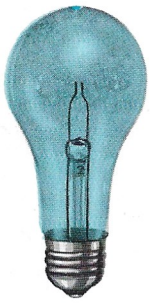
A high-powered flashbulb, especially recommended for multi-light set-ups of banquets or large-scale groups. A favorite lamp among commercial photographers.

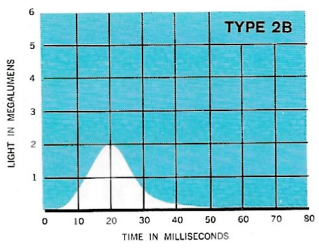
Synchronization: M synchronization at **all** between-the-lens shutter speeds.

Light Output: 70,000 lumen seconds. Peaks at 20 milliseconds. An extra-long range lamp.

Base: Medium screw.

Reflector: For maximum light output, use a 6½"-7½" polished reflector.





SYLVANIA TYPE 2B FLASHBULB

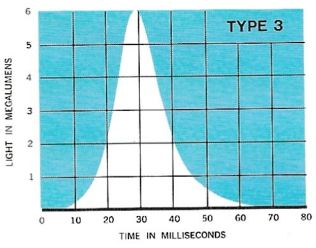
The blue-coated counterpart of the Sylvania Type 2 flashbulb, recommended for assignments involving multiple-light set-ups with Daylight-type color films.

Synchronization: M synchronization at **all** between-the-lens shutter speeds.

Light Output: 33,500 lumen seconds. Peaks at 20 milliseconds. A long range lamp.

Base: Medium screw.

Reflector: For maximum light output, use a 6½"-7½" polished reflector.



SYLVANIA TYPE 3 FLASHBULB

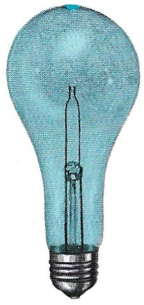
The most powerful flashbulb made. Designed expressly for photographs of banquets or ballrooms. Popular for industrial work, and multiple light shots where even lighting of large areas is a necessity.

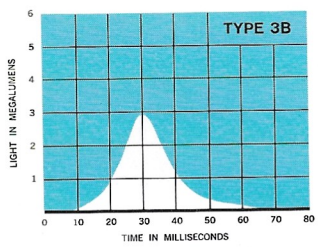
Synchronization: S synchronization. For optimum effectiveness, shutter speeds should not exceed 1/30 second, maximum.

Light Output: 110,000 lumen seconds. Peaks at 30 milliseconds. An extra-long range lamp.

Base: Medium screw.

Reflector: For maximum light output, use a 6½"-7½" polished reflector.





SYLVANIA TYPE 3B FLASHBULB

Blue-colored twin to Sylvania's potent Type 3 flashbulb, this is the most powerful bulb manufactured for use with Daylight-type color film. Especially designed for large area photographs requiring even, broad light coverage.

Synchronization: S synchronization. For optimum effectiveness, shutter speeds should not exceed 1/30 second, maximum.

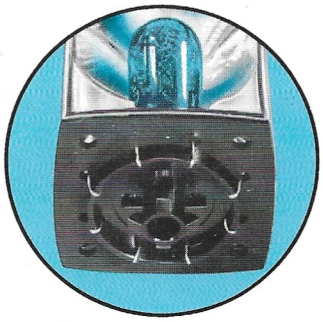
Light Output: 53,000 lumen seconds. Peaks at 30 milliseconds. A long range lamp.

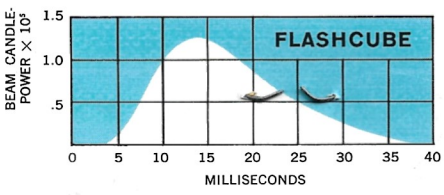
Base: Medium screw.

Reflector: For maximum light output, use a 6½"-7½" polished reflector.

SYLVANIA

BLUE DOT FLASHCUBE





lets you take four flash pictures without changing bulbs!

It gives four flashes per unit by mere rotation (automatically). It's a revolution in flash picture-taking convenience and ease. With the Sylvania Blue Dot Flashcube you are always ready for the next shot, because you can shoot four pictures in as little as five seconds. Sylvania Blue Dot Flashcube is four miniature blue lamps (smaller than an AG-1) and four reflectors enclosed in one plastic cube.

Synchronization: For use with new Kodak Instamatic camera models 104, 154, 304, 404, 704, 804 and Kodak Automatic and Motormatic 35R4 cameras. Fine for X or F synchronization with adjustable cameras up to 1/30th sec. May be used for M synchronization at all shutter speeds.

Light Output: 2,000 beam candlepower seconds. Peaks at 13 milliseconds. Precise concentrating reflector has 50% more illumination than previous "pop up" reflectors with AG-1B.

Easy to Use: Pops onto camera in an instant. Pops off easily; manually or by ejection, and is barely warm to the touch. Brand new precision formed, protected reflector for each picture. Plastic window on cube provides additional protection against breakage, and offers built-in flashguard for every shot. Blue Dot on each lamp is visible through window. Tells you the lamp is good before you use it.

New Positive Base: Self-cleaning "wipe" contact results in fewer missed shots. Contacts are rugged and not easily bent. Base offers automatic rotation of cube and eliminates necessity of flash attachments on newest type cameras.

GUIDE DATA FOR SYLVANIA FLASHCUBES

Shooting Distances for Simple Cameras

All color film types	4 to 9 feet
Black and White film types	4 to 15 feet

Guide Numbers for Adjustable Cameras
Below film speed and across from shutter speed, read guide number

Film Speed Index (See film instr. sheet)	10 to 12	25 to 32	40 to 64	100 to 125	160 to 200	320 to 500
Shutter Speed	**Guide Number**					
"X" Sync. Up to 1/30	32	55	75	100	130	200
Up to 1/70	22	36	50	70	90	130
"M" Sync. 1/125	18	30	42	60	75	110
1/250	15	24	34	48	60	90
1/500	12	19	28	38	48	70

For F-stop, divide Guide No. by lamp-to-subject distance in feet.

UNIVERSAL BLUE TYPE: Balanced to average color film response (virtually all color film now daylight type). Also used with all Black and White film. Color temperature approximately 5,500°K.

Type	Class	Approx. total light output-beam candle-power seconds	Approx. time to peak (milliseconds)	Approx. duration at ½ peak (milliseconds)	Approx. peak beam candle-power	Voltage range for operation	Approx. color temperature	Shape	Face Width (in.)	Max. Over-all Length (in.)	Base	Cubes per Pack	Cubes per Case	Nearest Comparable Unit
Flashcube	MF	2,000	13	15	130,000	3-45	5500°K	Cube	1⅛	1 13/32	Plastic	3 cubes 12 flashes	36 cubes 144 flashes	None

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SYLVANIA

BLUE DOT SPECIFICATIONS

SYLVANIA CLEAR FLASHBULBS

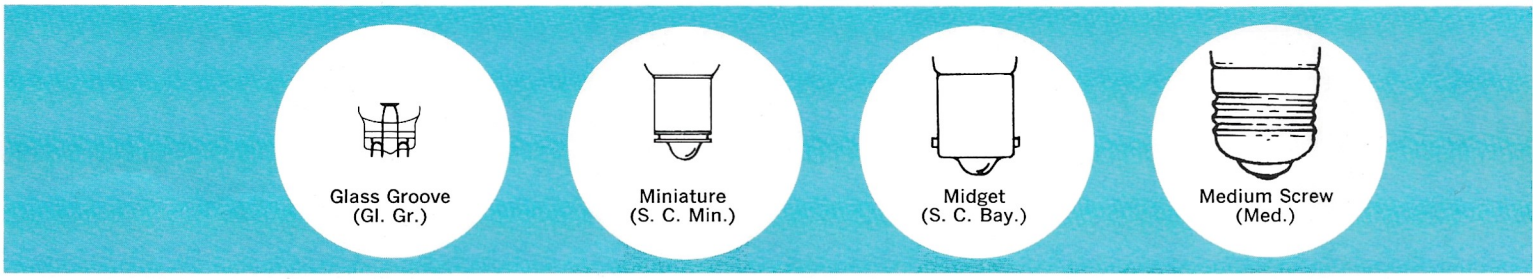
Type	Class	Approx. Total Light Output (Lumen Seconds)	Approx. Time To Peak (Milli-seconds)	Approx. Duration At ½ Peak (Milli-seconds)	Approx. Peak Lumens	Voltage Range for Operation	Approx. Color Tem-perature	Bulb Shape	Bulb Diam. (In.)	Max. Overall Length (In.)	Base	Bulbs Per Pack	Bulbs Per Case	Nearest Com-parable Bulb (Other Mfr.)
AG-1	MF	7,000	15	15	450,000	3-45	3800°K	T-3¾	15/32	1 5/16	Gl. Gr.	12	144	AG-1
M-2	MF	7,500	13	8.5	800,000	3-45	3800°K	T-6½	27/32	1 25/32	S.C. Min.	12	144	M-2
M-3	M	16,000	17	15	1,000,000	3-45	3800°K	T-6½	27/32	1 25/32	S.C. Min.	12	144	M-5
Press 25	M	21,000	20	14	1,600,000	3-45	3800°K	B-12	1½	2⅝	S.C. Bay.	12	144	5
Type FP-26	FP	20,500	—	24	600,000*	3-45	3800°K	B-12	1½	2⅝	S.C. Bay.	12	144	6
Press 40	M	33,000	20	17	1,900,000	3-45	3800°K	A-15	1⅞	4 1/16	Med.	8	120	11
Type 2	M	70,000	20	18	4,200,000	3-125	3800°K	A-19	2⅜	4¾	Med.	6	60	22
Type 3	S	110,000	30	18	6,000,000	3-125	3800°K	A-23	2⅞	5 15/16	Med.	1	60	50

SYLVANIA BLUE FLASHBULBS

Type	Class	Approx. Total Light Output (Lumen Seconds)	Approx. Time To Peak (Milli-seconds)	Approx. Duration At ½ Peak (Milli-seconds)	Approx. Peak Lumens	Voltage Range for Operation	Approx. Color Tem-perature	Bulb Shape	Bulb Diam. (In.)	Max. Overall Length (In.)	Base	Bulbs Per Pack	Bulbs Per Case	Nearest Com-parable Bulb (Other Mfr.)
AG-1B	MF	4,000	15	15	250,000	3-45	6000°K	T-3¾	15/32	1 5/16	Gl. Gr.	12	144	AG-1B
M-2B	MF	4,000	13	8.5	420,000	3-45	6000°K	T-6½	27/32	1 25/32	S.C. Min.	12	144	M-2B
M-3B	M	9,000	17	15	550,000	3-45	6000°K	T-6½	27/32	1 25/32	S.C. Min.	12	144	M-5B
Press 25B	M	10,000	20	14	760,000	3-45	6000°K	B-12	1½	2⅝	S.C. Bay.	12	144	5B
FP-26B	FP	9,800	—	24	270,000*	3-45	6000°K	B-12	1½	2⅝	S.C. Bay.	12	144	6B
Type 2B	M	33,500	20	18	2,000,000	3-125	6000°K	A-19	2⅜	4¾	Med.	6	60	22B
Type 3B	S	53,000	30	18	2,900,000	3-125	6000°K	A-23	2⅞	5 15/16	Med.	1	60	50B

*Average Plateau Intensity

SYLVANIA BLUE DOT FLASHBULB BASE TYPES



SYLVANIA

BLUE DOT GUIDE NUMBER DATA

FLASH EXPOSURE

The charts below are a quick guide to perfect exposures when Sylvania Blue Dot flashbulbs are used.

The Guide Numbers are shown opposite the Flashbulb Number and Shutter Speed—directly below the Exposure Index for different film types.

Reflectors: These Guide Numbers are based upon use of the reflector numbers circled beneath each flashbulb name: (1) 4-5 inch polished reflector, (2) 6½-7½ inch polished reflector, (3) Studio reflector, (4) 3 inch polished reflector, (5) 2 inch polished reflector. Note: When using satin-finish reflectors of same size, open lens one-half f stop.

The Method (for monochrome and indoor color): If using a Press 25 flashbulb with a shutter speed of 1/125 second, and a Film Exposure Index of 64, the guide number listed is #160. Divide this number by the distance in feet between flashbulb and subject to find lens opening. At 10 ft. distance, this opening would be 16, use f/16.

Reverse Method for Outdoor Flash: When using flashbulbs outdoors, adjust lens opening and shutter speed to prevailing weather conditions. Then divide the Guide Number by the f stop—and you have the distance in feet from your subject where your flashbulb should be fired.

Sylvania Color Flashbulbs: No filter is needed for blue color flashbulbs when used with daylight color film because their color qualities match those of daylight color films.

SYLVANIA CLEAR FLASHBULBS

		Film Speed (Tungsten)								
Lamp Type	Shutter Speeds	10 12 16	20 25 32	40 50 64	80 100 125	160 200 250	320 400 500	650 800 1000	1250 1600 2000	2500 3200 4000
Zirconium-Filled Flashbulb AG-1 (Class MF) 3800°K (5)	F, X, or M 1/30th	50	75	110	150	200	300	420	600	850
	F, X, or M 1/60th	42	60	85	120	170	240	340	480	700
	M only 1/125th	38	55	75	110	150	220	300	440	600
	M only 1/250th	30	44	65	90	130	180	260	360	500
	M only 1/500th	26	36	50	75	100	150	200	300	420
M-2 (Class MF) 3800 K (4)	Up to 1/60th	60	90	120	180	240	360	500	700	1000
Zirconium-Filled Flashbulb M-3 (Class M) 3800°K (4)	M Sync. Up to 1/30th	85	130	180	260	360	500	700	1000	1450
	1/60th	75	110	150	220	300	440	600	850	1200
	1/125th	65	90	130	180	260	360	500	750	1050
	1/250th	50	75	100	150	200	300	420	600	800
	1/500th	40	60	85	120	170	240	340	480	650
	X Sync. Up to 1/30th	95	130	190	260	380	550	750	1100	1500
	Focal Plane Up to 1/30th	95	130	190	260	380	550	750	1100	1500
	1/125th	55	80	120	170	240	340	460	650	950
	1/250th	40	60	85	120	170	240	340	460	650
	1/500th	28	42	60	85	120	170	240	340	460
	1/1000th	20	30	42	60	85	120	170	240	340
Press 25 (Class M) 3800°K (1)	Up to 1/30th	95	140	200	280	400	550	800	1100	1600
	1/60th	90	130	180	260	360	500	750	1050	1450
	1/125th	75	110	160	220	320	440	650	900	1250
	1/250th	60	85	120	180	240	360	500	700	1000
	1/500th	46	65	95	130	190	260	380	550	750
	1/750th	34	50	70	100	140	200	280	400	550
Press 40 (Class M) 3800°K (2)	Up to 1/30th	100	150	200	300	420	600	850	1200	1650
	1/60th	90	130	180	260	360	500	750	1050	1450
	1/125th	75	110	160	220	320	440	600	900	1250
	1/250th	60	85	120	170	240	340	480	700	950
	1/500th	46	65	95	130	190	260	380	550	750
Focal Plane Lamp Type FP-26 (Class FP) 3800°K (1)	Up to 1/30th	100	140	200	280	400	550	800	1150	1600
	1/125th	48	70	95	140	190	280	380	550	800
	1/250th	34	48	70	95	140	190	280	380	550
	1/500th	24	34	48	70	95	140	190	280	380
	1/1000th	17	24	34	48	70	95	140	190	280
Type 2 (Class M) 3800°K (2)	Up to 1/30th	150	220	300	420	600	850	1200	1700	2400
	1/60th	130	190	260	380	550	750	1050	1500	2150
	1/125th	110	160	220	320	460	650	900	1300	1850
	1/250th	85	130	180	260	360	500	700	1000	1400
	1/500th	70	100	140	200	280	400	550	800	1100
Type 3 (Class S) 3800°K (3)	Up to 1/30th	200	280	400	550	800	1150	1600	2250	3200

SYLVANIA BLUE FLASHBULBS

		Film Speed (Daylight)					
Lamp Type	Shutter Speeds	10 12	16 20	25 32	50 64	100 125	160 200
Zirconium-Filled Flashbulb AG-1B (Class MF) 6000°K (5)	F, X, or M 1/30th	38	48	60	85	120	150
	F, X, or M 1/60th	30	38	48	70	95	120
	M only 1/125th	28	34	44	60	85	110
	M only 1/250th	22	28	36	50	70	90
	M only 1/500th	18	24	30	42	60	75
M-2B (Class MF) 6000°K (4)	Up to 1/60th	42	55	70	95	140	170
Zirconium-Filled Flashbulb M-3B (Class M) 6000°K (4)	M Sync. Up to 1/30th	65	80	100	140	200	260
	1/60th	55	70	85	120	170	220
	1/125th	46	60	75	100	140	180
	1/250th	36	46	60	80	120	150
	1/500th	30	38	48	65	95	120
	X Sync. Up to 1/30th	65	85	110	150	220	280
	Focal Plane Up to 1/30th	65	85	110	150	220	280
	1/125th	42	50	65	95	130	170
	1/250th	30	38	48	65	95	120
	1/500th	20	26	34	46	65	85
	1/1000th	15	19	24	34	46	60
Press 25B (Class M) 6000°K (1)	Up to 1/30th	65	80	100	150	200	260
	1/60th	60	75	95	130	190	240
	1/125th	50	65	85	120	160	200
	1/250th	40	50	65	90	130	160
	1/500th	30	40	50	70	100	120
Focal Plane Lamp Type FP-26B (Class FP) 6000°K (1)	Up to 1/30th	65	85	110	150	220	260
	1/125th	32	40	50	75	100	130
	1/250th	22	28	36	50	70	90
	1/500th	16	20	26	36	50	65
	1/1000th	11	14	18	26	36	46
Type 2B (Class M) 6000°K (2)	Up to 1/30th	100	130	160	220	320	400
	1/60th	85	110	140	200	280	360
	1/125th	75	95	120	170	240	300
	1/250th	60	75	95	130	190	240
	1/500th	44	55	75	100	140	180
Type 3B (Class S) 6000°K (3)	Up to 1/30th	130	170	220	300	420	550

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FOCAL PLANE CAMERAS and FLASHBULB SYNCHRONIZATION

SYLVANIA
BLUE DOT FLASHBULBS

The World's Most Popular Brand

Sylvania's introduction of zirconium as a flashlamp combustible has resulted in an increased use of medium and medium-fast peaking flashlamps with focal plane cameras. These flashlamps, namely the AG-1 and M-3, with their rapid initial rise and relatively flat output characteristics are similar to focal plane flashlamps and may be used with many late model cameras. They cannot, however, be used with all focal plane cameras.

Focal plane camera shutters generally consist of metal or cloth curtains that travel across and very close to the film plane. Exposure is controlled by the width of opening between the two curtains and the lens aperture setting. In order to obtain uniform negative density, the amount of light hitting the film should not exceed a two to one ratio from one edge to the other. The FP-26 flashbulb was designed especially to produce a uniform plateau of light to achieve uniform negative density. The AG-1 and more especially the M-3 flashlamps may also produce this type of result provided the shutter curtains start to open within a specified time interval and the curtain travel time across the film plane is not abnormally long. When slow shutter speeds are used (speeds up to and including 1/30 sec.) "X" synchronization is generally recommended. At these speeds and sync almost all types of flashlamps may be used and only those cameras with abnormally long curtain travel time would be limited to the FP-26 flashlamp.

At the faster shutter speeds the delay or opening time of the first shutter curtain and the curtain travel time become more critical. With these speeds only the focal plane sync setting should be used. Due to variations in delay time used by the various focal plane manufacturers, and sometimes even among models of the same cameras, it may be necessary to run a test roll to determine what flashlamps best suit a particular camera.

In order to eliminate some of the guesswork as to which flashlamps, shutter speeds, and synchronization should be used with focal plane cameras, a representative group of popular camera models have been checked for performance characteristics. A complete summary of these cameras with suggested synchronization, shutter speed settings, and flashlamps follows.

FOCAL PLANE CAMERAS
FLASHBULB GUIDE TABLE

Focal Plane Camera	Sync. Setting	Recommended Shutter Speeds		
		AG-1	M-3	FP-26
Alpa Reflex 6C	X-F	Up to 1/30	Up to 1/30	Up to 1/30
	M	1/30-1/60	1/30-1/125	1/30-1/125
Argus SLR	X	Up to 1/30	Up to 1/30	Up to 1/30
	FP	Not Rec.	1/125-1/1000	1/30-1/1000
Beseler Topcon C	X	Not Rec.	Up to 1/30	Up to 1/30
	F	Not Rec.	1/125-1/1000*	1/30-1/1000
Bronica	X	Up to 1/30	Up to 1/30	Up to 1/30
	M	Not Rec.	1/30-1/1000	1/30-1/1000
Canonflex RM	X-M	Up to 1/30	1/30-1/1000	1/30-1/1000
Contarex	X-M	Up to 1/30	Up to 1/30	Up to 1/30 1/125-1/1000
Contax IIIa	X	Up to 1/25	Up to 1/25	Up to 1/25
Exa II	X	Up to 1/30	Up to 1/30	Up to 1/30
Exakta VXIIa	X or F	Up to 1/25	Up to 1/25	Up to 1/25
	M	Not Rec.	1/25-1/1000*	1/25-1/1000
Hexacon	X or FP	Up to 1/50	Up to 1/100	Up to 1/100
Konica FP	X	Up to 1/60	Up to 1/60	Up to 1/30
	M	1/30-1/60	1/30-1/1000	1/30-1/1000
Leica IIIg	X-F-M	Up to 1/60	1/30-1/1000**	1/30-1/1000
Leica M-2, M-3		Up to 1/30 Up to 1/250	Up to 1/30 1/30-1/1000**	Up to 1/30 1/30-1/1000**
Leica (Synchro Dial)		Up to 1/60	Up to 1/60	1/30-1/1000
Minolta SR-1	X	Up to 1/30	Up to 1/30	Up to 1/30
	FP	Up to 1/60	1/30-1/500	1/30-1/500**
Miranda C	F-X	Up to 1/30	Up to 1/30	Up to 1/30
	FP	Not Rec.	1/60-1/1000*	1/30-1/1000

FOCAL PLANE CAMERAS
FLASHBULB GUIDE TABLE

Focal Plane Camera	Sync. Setting	Recommended Shutter Speeds		
		AG-1	M-3	FP-26
Miranda DR	X	Up to 1/30	Up to 1/30	Up to 1/30
	FP	Not Rec.	1/30-1/1000*	1/30-1/1000
Nikon S-3	*F or FX	Up to 1/30	Up to 1/30	Up to 1/30
	Red Dot	1/30-1/60	1/30-1/125	1/30-1/125
	Green Dot	1/30-1/125	1/30-1/1000**	1/30-1/1000**
Nikon F	*F or FX	Up to 1/30	Up to 1/30	Up to 1/30
	Red Dot	1/30-1/60	1/30-1/125	1/30-1/125
	Green Dot	1/30-1/125	1/30-1/1000**	1/30-1/1000**
PetriFlex V	X	Up to 1/30	Up to 1/30	Up to 1/30
	FP	Not Rec.	1/30-1/1000*	1/30-1/1000
Praktica IV	X or F	Up to 1/25	Up to 1/25	Up to 1/25
Praktina FX	X	Up to 1/25	Up to 1/25	Up to 1/25
	F	Not Rec.	1/25-1/1000*	1/25-1/1000
Praktina FX-2	X	Up to 1/25	Up to 1/25	Up to 1/25
	F	1/25-1/100	1/25-1/100	1/25-1/100
Pentax H-2, H-3	X	Up to 1/30	Up to 1/30	Up to 1/30
	FP	Not Rec.	1/30-1/1000*	1/30-1/1000
Yashica J-3	X	Up to 1/30	Up to 1/30	Up to 1/30
	FP	Not Rec.	1/30-1/500	1/30-1/500

*Individual models of these cameras may show some trailing edge underexposure at slow shutter speeds with the M-3 flashbulb.

**Individual models of these cameras may show some leading edge underexposure at extremely fast shutter speeds with the M-3 flashbulb. It may be more noticeable with the FP-26 flashbulb.

NOTE: The recommended shutter speeds and flashlamps listed above are intended only as general guides for focal plane cameras. Due to variations in synchronization in individual cameras it is suggested that a test roll be run using the above information as a starting point for correct shutter speed settings. Refer to the tables on the pages following for guide number data.

GUIDE NUMBERS FOR FOCAL PLANE CAMERAS

SYLVANIA AG-1

Tungsten Film Speed (See film instr. sheet)		10 to 16	20 to 32	40 to 64	80 to 125	160 to 250	500 to 800
Shutter Speed		Guide Number					
"X" Sync up to 1/30		46	65	110	130	190	340
"FP" Sync. Only	1/125	28	40	65	80	120	200
	1/250	19	26	42	50	75	130
	1/500	13	19	30	38	55	95
	1/1000	8	12	19	24	34	60

SYLVANIA AG-1 BLUE

Daylight Film Speed (See film instr. sheet)		10 to 12	25 to 32	50 to 64	100 to 125	160 to 200
Shutter Speed		Guide Number				
"X" Sync. up to 1/30		32	50	75	95	130
"FP" Sync. Only	1/125	20	30	44	55	80
	1/250	12	20	30	38	55
	1/500	10	14	22	26	38
	1/1000	6	10	14	18	24

Guides based on 2" polished reflector, open one f stop for others.

SYLVANIA M-3

Tungsten Film Speed (See film instr. sheet)		10 to 16	20 to 32	40 to 64	80 to 125	160 to 250	320 to 500
Shutter Speed		Guide Number					
"X" Sync. up to 1/30		90	130	180	260	360	500
"FP" Sync. Only	1/30	95	130	190	260	380	550
	1/125	55	80	120	170	240	340
	1/250	40	60	85	120	170	240
	1/500	28	42	60	85	120	170
	1/1000	20	30	42	60	85	120

SYLVANIA M-3 BLUE

Daylight Film Speed (See film instr. sheet)		10 to 12	16 to 20	25 to 32	50 to 64	100 to 125	160 to 200
Shutter Speed		Guide Number					
"X" Sync. up to 1/30		65	80	100	140	200	260
"FP" Sync. Only	1/30	65	85	110	150	220	280
	1/125	42	50	65	95	130	170
	1/250	30	38	48	65	95	120
	1/500	20	26	34	46	65	85
	1/1000	15	19	24	34	46	60

Guide for 3" polished reflector; open ½ f stop for others.

GUIDE NUMBERS FOR FOCAL PLANE CAMERAS

SYLVANIA FP-26

Tungsten Film Speed (See film inst. sheet)		10 to 16	20 to 32	40 to 64	80 to 125	160 to 250	320 to 500
Shutter Speed		Guide Number					
Up to 1/30		100	140	200	280	400	550
Focal Plane Sync. Only	1/125	48	70	95	140	190	280
	1/250	34	48	70	95	140	190
	1/500	24	34	48	70	95	140
	1/1000	17	24	34	48	70	95

Guide for 4"-5" polished reflector; open ½ f-stop for others.

SYLVANIA FP-26 BLUE

Daylight Film Speed (See film inst. sheet)		10 to 12	16 to 20	25 to 32	50 to 64	100 to 125	160 to 200
Shutter Speed		Guide Number					
Up to 1/30		65	85	110	150	220	260
Focal Plane Sync. Only	1/125	32	40	50	75	100	130
	1/250	22	28	36	50	70	90
	1/500	16	20	26	36	50	65
	1/1000	11	14	18	26	36	46

Guide for 4"-5" polished reflector; open ½ f-stop for others.