Variable Optical Imaging System

High-definition Imaging Lens Set

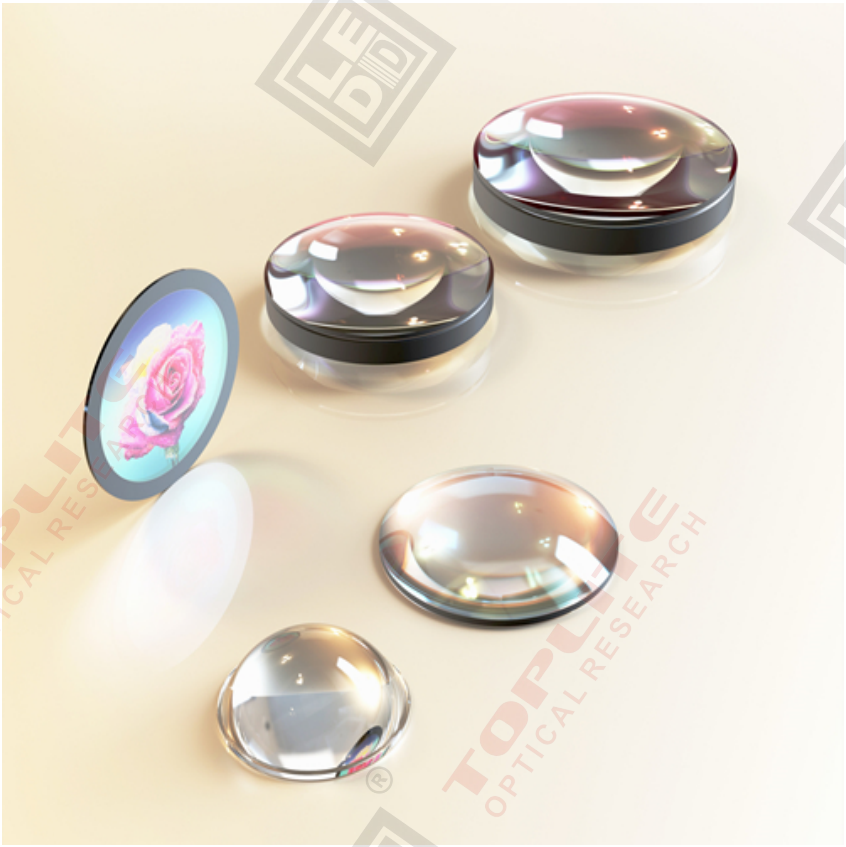
IMM80

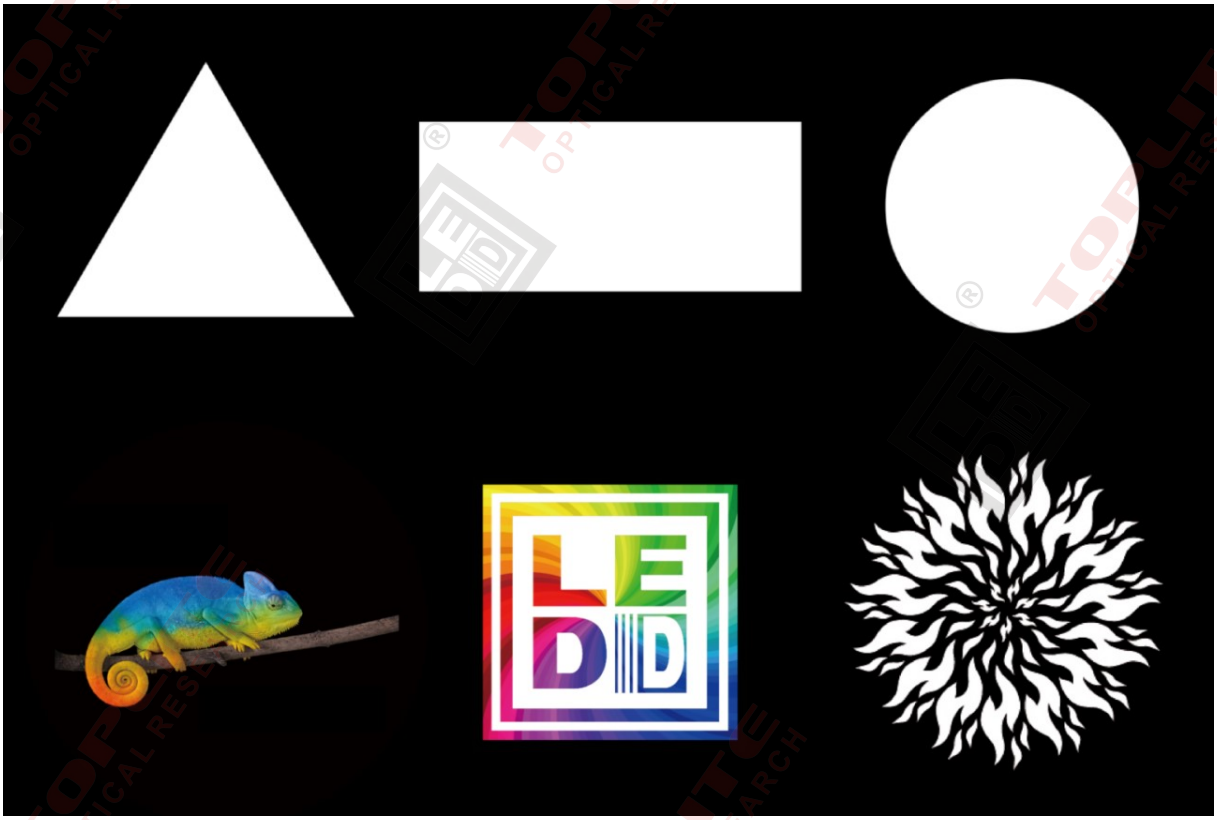
The "IMM80 Imaging Lens Set" includes three different imaging lenses with varying diameters and thicknesses, all are made of special glass materials using high-precision grinding and surface polishing processes. These lenses are coated with multiple layers of high-transmittance film and, through precise bonding, form a low-dispersion lens group with high resolution, offering high-quality imaging.

These lenses can be freely combined and, when used with specific LED light sources and condensing lens sets, can create special optical imaging systems of fixed or variable beam angles. The projected light spots exhibit high clarity, uniform, fullness, distortion less than 1%, and are free from color fringing(like blue, yellow). IMM80 imaging lens set is particularly well-suited for high-definition imaging, pattern projection, profile cutting, and other medium to high-power LED lighting applications.

Applications scope: High-definition LED imaging lights, pattern projection lights, cutting lights, profile spotlighting, and more.

Application Areas: Stage performances, cultural and tourism landscapes, film and video shooting, commercial photography, museums, art galleries, and more.





Main Parameters:

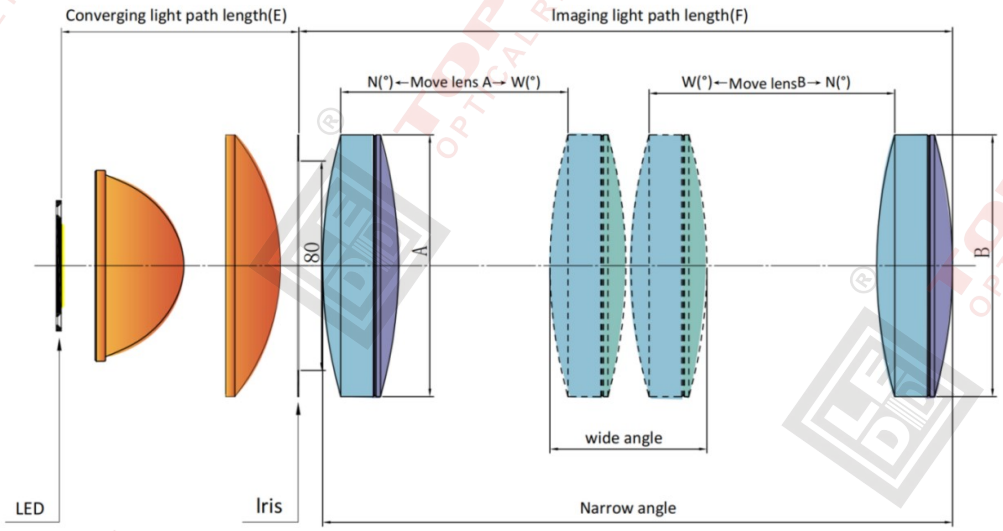
Product Model	IMM80		
Product Type	Optical Imaging Lens Set		
LED	High integrated LED or COB, LES ≤ Φ28mm, LED matrix module, e.g. STONEHENGE, MATBEAM, MATGOBO		
Condensing Lens Set	IMMDX100X273, IMMDX10073 lens diameter: Φ73mm, Φ100mm, Used to adapt to single LED, like COB		
Gate (Effective Gobo Size)	≤Φ80mm		
Achromatic Cemented Lens	Φ100mm, Φ140mm		
Coatings	Multi-layer anti-reflection		
Angles	Fixed	14°, 19°, 26°, 36°, 40°, 50°, 55°,	Provide the schematic diagram of the light path for each angle option
	Zoom	11~32°, 15~30°, 16~30°, 17~36°, 22~40°, 28~55°, 30~55°, 30~60°,	
Model Description	IMM80-F36， F indicates fixed focus, angle is 36°.		
	IMM80-Z1530， Z indicates zoom, zoom range is 15°~30°.		

Schematic diagram of imaging light path

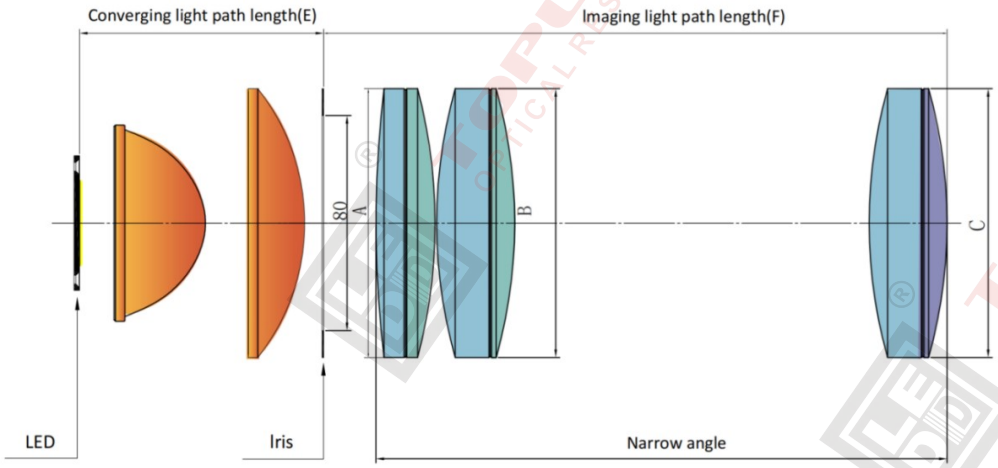
There are two typical variable optical imaging system schematic diagrams are showed here. Each one consists of four parts, from left to right they are, LED, condensing lens set, gate (Gobo), and imaging lens set. The condensing lens set is composed of three plano-convex lenses, and the gate (effective gobo size) is Φ80mm.

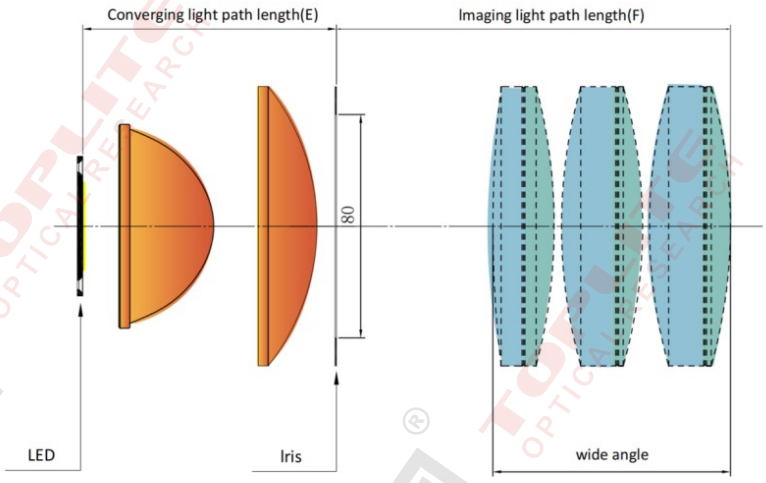
①As shown in the following diagram, the part of imaging lens set consists of two achromatic cemented lenses. This is a zoom system, it output wide beam when two lenses are closing to each other, if the two lenses move away from each other, the output beam will be narrow-angle.

Address: A11-04, Panyu Innovation and Technology Park, Shilou Town, Panyu District, Guangzhou, P.R.China
Tel：+86 020 82161267 | Email：led3d@led3d.com | Website：https://www.led3d.com/en/



②As shown in the following diagram, the part of imaging lens set consists of three achromatic cemented lenses. We can divide these three lenses into two groups. From left to right, group 1 includes A and B, group 2 is C. This is a zoom system, it output wide beam when two lens groups are closing to each other, if the two lens groups move away from each other, the output beam will be narrow-angle.

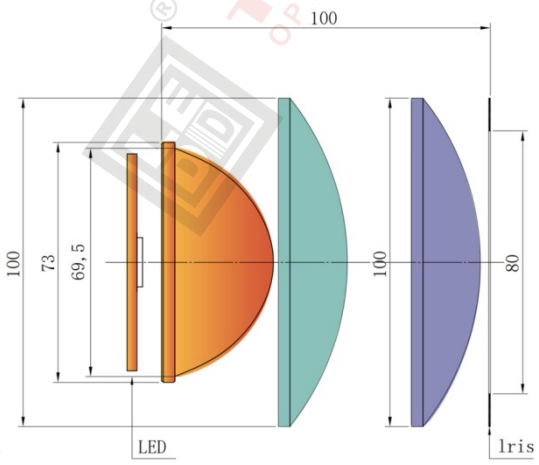
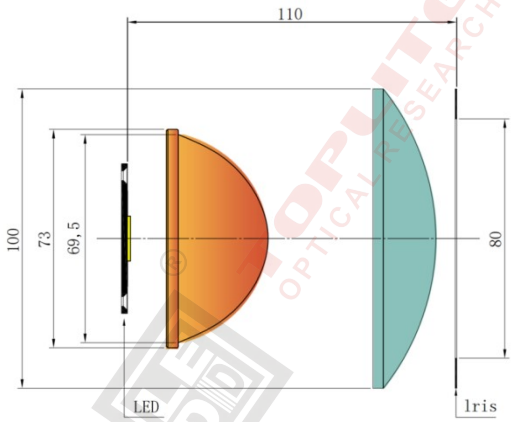
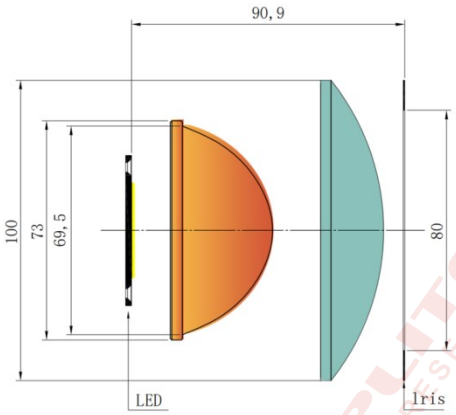




IMM80 imaging beam angle selection list:

No.	IMM80 Model	Angle (°)	Imaging lens size (mm)			Total light path length： E+F (mm)	
			A	B	C	Condensing lens set: E	Imaging lens set: F
1	IMM80-F14	14	Φ100	Φ140	-	90.9	452.9
2	IMM80-F19	19	Φ100	Φ100	-	90.9	299.5
3	IMM80-F26	26	Φ100	Φ100	-	90.9	234.1
4	IMM80-F36	36	Φ100	Φ100	-	90.9	169.6
5	IMM80-F40	40	Φ100	Φ100	-	90.9	157.6
6	IMM80-F50	50	Φ100	Φ100	Φ100	90.9	172.1
7	IMM80-F55	55	Φ100	Φ100	Φ100	90.9	141.1
8	IMM80-Z1132	11 ~ 32	Φ100	Φ140	-	90.9	461.5
9	IMM80-Z1530	15 ~ 30	Φ100	Φ140	-	90.9	435.5
10	IMM80-Z1630	16 ~ 30	Φ100	Φ100	-	90.9	304
11	IMM80-Z1736	17 ~ 36	Φ100	Φ100	-	90.9	322.5
12	IMM80-Z2240	22 ~ 40	Φ100	Φ100	-	90.9	250.2
13	IMM80-Z2855	28 ~ 55	Φ100	Φ100	Φ100	90.9	285
14	IMM80-Z3055	30 ~ 55	Φ100	Φ100	Φ100	90.9	232.1
15	IMM80-Z3060	30 ~ 60	Φ100	Φ100	Φ100	90.9	230.6

In the above lists, the imaging length F is the maximum imaging length of the system which is the length at the smallest angle value within a zoom range. The condensing part uses a lens set of IMMDX10073(set as high-efficiency). If there is another lens set used in the system for LED focusing, the corresponding E value will change, as shown in the list below.

Condensing lens set model	Schematic diagram	Remark
IMMDX100X273		LED LES≤ Φ28mm
IMMDX10073		high uniformity, LED LES≤ Φ28mm
IMMDX10073		high efficiency, LED LES≤ Φ28mm