

# ECO Spot™ LED40D User Manual

Thank you for choosing an ECO Spot™ Gobo projector.

Please read this manual before installing or operating this fixture, follow the safety precautions listed below and observe all warnings.

**WARNING!**

**Some models are equipped with a voltage selector switch on the back plate of the unit. Select the correct Line Voltage before Operating.**

**Package Contents**

- ✓ Projector with power cord
- ✓ Test Gobo
- ✓ Spare gobo retaining ring and spare drive belt
- ✓ Gobo adapter for D- to E-Size gobos with retaining ring

**Safety Information**

- Place your fixture at a suitable place with good air flow.
- Keep flammable materials away from the fixture.
- Minimum distance to flammable material = 1 ft (0.3m).
- Provide a minimum clearance of 4 in (10cm) around air vents.
- Use only genuine spare parts for part replacement.
- Do not look directly into the lamp; it can result in eye damage.
- Always unplug the unit from the power mains before any service is done.
- Light fixtures should be installed and maintained only by qualified personnel with experience in lighting equipment and general electrical experience.

**Electrical Safety**

- Disconnect the fixture from AC power before handling the fixture.
- Always ground (earth) the fixture electrically.
- Use only a power source that complies with local building and electrical codes and has both, overload and ground-fault protection.
- Do not use the fixture if the power cable or power plug is in any way damaged, defective or wet, or if they show signs of overheating.

### Handling Instructions

- Before the initial start-up, please unpack and carefully check for damage caused during transportation.
- Place your fixture at a suitable place with good air flow.
- Make sure there are no flammable materials close to the lamp.
- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.

### Warranty

One Year from Date of Purchase. Keep your receipt for reference and contact your dealer in case of warranty issues.

### Projection Lenses

The projector accommodates interchangeable projection lenses to allow optimizing the projection size and resulting brightness at varying distances. The more narrow the lens, the smaller and brighter the image will be at a given distance.

### Focusing

- Power up the projector by pressing the power switch in the back.
- Focus the projection by twisting the lens in and out until the image is well focused. When used for the first time, the lens will often need to be twisted outwards many rotations to reach the focusing point.
- Turn on the gobo rotator with the push-button in the back and switch it off when the gobo projects in the desired position.
- Re-adjust the focus if necessary.

### Gobo Rotator

The gobo rotator can be turned on/off with the push-button switch on the back plate. There are no controls for rotating speed or direction.

### Multi-functional Yoke

- The yoke can slide over the whole length of the fixture body to accommodate a wide range of pointing directions.
- The yoke serves as stand.
- The yoke can be screwed to a wall or ceiling or fastened with a C-clamp

**Gobo Placement** (see *Specifications* for Gobo Dimensions)

The ES-LED40D uses D-Size gobos or E-Size gobos with an adapter ring. See the Specifications for exact dimensions. For max. image size and brightness use the larger gobos. The recommended gobo image diameter is 32mm. An Image Diameter of up to 40mm is possible with some loss in focusing quality.

- Unscrew the thumbscrews to remove the front cover with the projection lens.
- For E-Size gobos, use the screw-in adapter ring. For larger gobos, remove the adapter ring and use the larger retaining ring.
- Push the two pins of the gobo retaining ring together and pull out the retaining ring. Carefully remove the old gobo and replace it with the new gobo.
- If you have a glass gobo, place the more reflective side towards the light bulb.
- Replace the retaining ring and make sure it evenly pushes the gobo all the way back.
- Replace the front cover and adjust the focus by screwing the projection lens in or out.



**For D-Size gobos, remove the E-Size Adapter and leave it out:**



Line Voltage

If your model is equipped with a Line Voltage Selector in the back, select the correct line voltage:

- US Setting (120V)  
90-130V, 50/60Hz, 0.4A, 48W
- International Setting (220V)  
90-240V, 50/50Hz, 0.4A, 48W

If no Line Voltage Selector is present your model is autosensing:  
90-240V, 50/60Hz, 0.4A, 48W

Ambient Operating Temperature

-13 to 104°F (-25 to 40°C)

Dimensions / Weight

Body without yoke:  
10.5 x 6 x 3.75in (L x W x H)  
(267 x 153 x 95mm)  
The projection lens adds 0.5 to 2in (12 to 50mm) to the length.  
Height with yoke: 7.75in (197mm)  
Weight 7lbs (3kg)

Gobo Dimensions D-Size

Metal or Glass Gobos and Dichroic filters  
The projector takes D-Size gobos:  
Outer Diameter (OD): 53mm  
Image Diameter (ID): 32mm (max 38mm)  
Max Thickness: 4mm

Larger ID up to 40mm is possible with some loss in focusing quality, for optimal focus stay within 32mm image size. An adapter for the smaller E-Size gobos is included.

LED Lamp

- Power: 40W
- Rated Bulb life 50,000h
- Color Temperature 5,500k, +/- 500k
- Rated luminous flux: 2,000lm
- Effective luminous flux: 1400lm

Lens Options

The projector can be equipped with standard ECO Spot projection lenses. A larger focal length (f) makes a smaller projection angle and therefore a smaller but brighter image. Currently these lenses are available:

- Wide f=50mm  
35°/25° for D/E-Size gobos
- Medium f=70mm  
28°/20° for D/E-Size gobos
- Semi-Narrow f=100mm  
21°/15° for D/E-Size gobos
- Narrow f=140mm  
14°/10° for D-Size gobos

ECO Spot™ Photometrics										PROJECTION DISTANCE IN FEET (ft)																							
Model	Gobo Size	Color Temp.	Lens	Beam Mult.	Effective In.	CD	Value			3	6	9	12	15	18	24	30	36	42	64	88	112	136	200									
ES-LED40D ES-LED40DE D-Size	500K +/- 500K						140mm (14")		Image Diam. (ft)	2.3	3.0	3.8	4.5	6.0	7.6	9.1	10.6	16	22														
									Illumination (ft)			302	170	109	76	43	27	19	14	6	3												
							100mm (10")		Image Diam. (ft)	2.2	3.3	4.4	5.5	6.6	8.7	10.9	13.1	15	23														
									Illumination (ft)			384	171	96	61	43	24	15	11	8	3												
							70mm (7")		Image Diam. (ft)	1.5	2.9	4.4	5.9	7.4	8.8	11.8	15	18	21														
							50mm (5")		Image Diam. (ft)	1.5	3.8	5.7	7.6	9.5	11.3	15	19	23	26														
									Illumination (ft)			640	160	71	40	26	18	10	6	4	1												
How to Read the Illumination Values																																	
Foot Candles (ft)										For a quick overview, the illumination values in the tables are color coded. There are many factors that determine the visibility of a projection, such as ambient light, color and reflectiveness of the projection surface, competing light, gobo colors, projector color temperature, and other factors. Therefore our recommendations should only be used as guidelines and we cannot guarantee a successful application. If you are unsure, please call us to discuss.																							
Projection Size Calculation										For the resulting Projection Size at any given Distance, Multiply the number in the "Beam Mult." column with your Projection Distance. For the Distance needed to achieve a desired Projection Size, Divide the Projection size by the Beam Multiplier.																							
300+										Extreme brightness for extremely bright environments, i.e. bright areas, additionally flooded with daylight, such as Lobby, Retail, Trade Show, Environment. Outdoors (shady, no direct sunlight). Color gobos project in vibrant colors.																							
45-300										Very high brightness for very bright environments, such as Office, Lobby, Retail, Trade Show, Environment. Color gobos project in vibrant colors. Outdoors well visible at night with vibrant colors.																							
15-45										Sufficient brightness for regular environments, such as Bars, Clubs, and intimate Restaurants, Theaters, and dimmed Conference rooms. Outdoors well visible at night. Color gobos should preferably be used with lighter colors and the projection surface should be light and somewhat reflective.																							
15-3										Only advisable for very dark environments and subtle projection of light colored artwork, preferably on light, reflective projection surface. Outdoors visible at night.																							
										Metric Conversions: For Meters multiply feet by .3048. For Lux multiply footcandles by 10.76.																							

