ECO Spot™ LED40C 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.

Below is a general Gobo Changer description, please see the separate *ECO Spot Gobo Changer Manual* for Details

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

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.

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

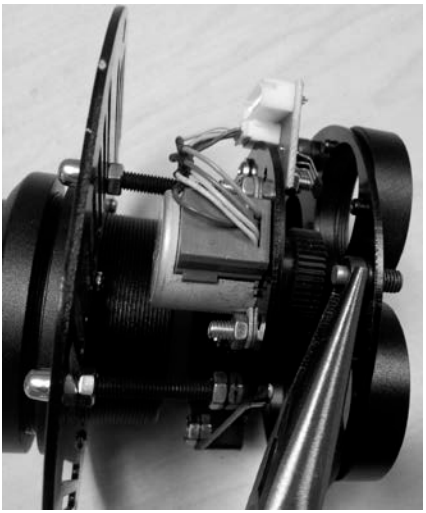
Gobo Changer Functionality (see the Gobo Changer Manual for details)

The gobo changer has four gobo slots. A timer continuously switches between the different gobos. Unless customized (see below), it will go a full sequence (slot 1,2,3,4,1,2,…). Turn on and off the gobo changer with the small switch on the back plate.

Interval Timer: The interval timer can be set by turning the knob on the back plate from continuous up to approx. 120 seconds changing interval.

Single Gobo: For showing only a single gobo w/o any changes, simply turn off the changer power switch on the back plate when the correct gobo shows.

Two or Three Gobos: For showing 2 or 3 gobos only. The changer is equipped with four sensor magnets, one for each gobo slot. For showing only three gobos, remove one magnet. For two gobos, remove two magnets. Unscrew the magnet with pliers.



Tip: Screw the removed magnet back in from the opposite to keep it for later use.

Static Slot: The unit has an additional static slot, which can be used in two ways:

- **Color Overlay** in conjunction with b/w gobos in the changers Gobo Wheel and a color filter in the Static Slot.
- **Gobo Color Changer** in conjunction in the changers Gobo Wheel.

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:
10in x 5.25in (254mm x 133mm) (L x D)
The projection lens adds 0.5 to 2in (12 to 50mm) to the length.
Yoke Height: 6in (127mm)
Weight 8lbs (3.6kg)

Gobo Dimensions

This changer takes **E-Size** Metal or Glass Gobos and Dichroic filters.
Outer Diameter (OD): 37.5mm
Max. Image Diameter (ID): 25mm
Max Thickness: 4mm

LED Lamp

- Power: 40W
- Rated Bulb life 50,000h
- Color Temp. 5,500k, +/-500k
- Rated luminous flux: 2,000lm
- Effective luminous flux: 1100lm

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, 25°
- Medium f=70mm, 20°
- Semi-Narrow f=100mm, 15°
- Narrow f=140mm, 10°

ECO Spot™ Photometrics

Model / Gobo Size	Color Temp.	Lens	Beam Mult.	Effective lm	CD	Value	PROJECTION DISTANCE IN FEET (ft) 3	6	9	12	15	18	24	30	36	42	64	88	112	136	200
ES-LED40E ES-LED40C ES-LED40CE E-Size	5500k +/- 500k	140mm (10°)	0.18	549	21,600	Image Diam. (ft)			1.6	2.2	2.7	3.2	4.3	5.4	6.5	7.6	12	16			
						Illumination (fc)			267	150	96	67	38	24	17	12	5	3			
		100mm (15°)	0.26	879	16,560	Image Diam. (ft)		1.6	2.3	3.1	3.9	4.7	6.2	7.8	9.4	11	17				
						Illumination (fc)		460	204	115	74	51	29	18	13	9	4				
		70mm (20°)	0.35	762	7,920	Image Diam. (ft)	1.1	2.1	3.2	4.2	5.3	6.3	8.4	11	13	15					
						Illumination (fc)	880	220	98	55	35	24	14	9	6	4					
		50mm (25°)	0.45	1099	6,912	Image Diam. (ft)	1.4	2.7	4.1	5.4	6.8	8.1	11	14	16	19					
						Illumination (fc)	768	192	85	48	31	21	12	8	5	4					

GoboSource Custom Gobos and Projection Solutions

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. **Projection Size = Distance x Beam Mult.** For the Distance needed to achieve a desired Projection Size, Divide the Projection size by the Beam Multiplier. **Distance = Projection Size / Beam Mult.**
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	