



ART LIGHTING

CONTOUR
PROJECTORS



LED

Surface Mount LED Projector

Phantom™ New Surface Mount Projector is an optical framing projector with remodeler IC-Rated housing, designed for fine art illumination in new buildings.

When it comes to professional lighting art, nothing is more impressive or visually effective than an optical framing projector. A hidden light source with a controlled beam of light precisely illuminates the canvas. Phantom Contour Projectors are designed by a professional installer and have been engineered so that anyone can complete the install. The options we offer make this LED projector one of the most versatile and best art lighting fixtures on the market today.



ETL LISTED

Conforms to UL STD 1598 Requirements
Certified to CSA STD C22.2 NO.250.0



PROJECTOR

The Phantom™ Surface Mount LED projector shown in matte black. This model is also available in powder-coat white with black anodized accents and in natural aluminum with black anodized accents. Custom colors are available upon request at an additional charge.

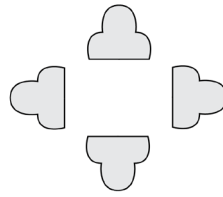


APPLICATION

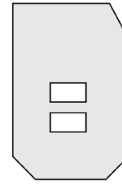
A Phantom™ Surface Mount LED projector with adjustable shutters was offset mounted on top of a tall piece of furniture (visible on the far right) in such a way that the client would have easy access to install and adjust the projector in a room with a 24 foot ceiling. This unique installation is a perfect example of how this versatile product can be adapted and mounted anywhere in a room to fit a customer's vision.

Masking Method

There are three masking methods available for the LED Contour Projector: standard aluminum shutters for square or rectangular artworks, custom-cut brass templates for multiple or irregularly shaped artworks, and stainless steel gobos (Rosco® Type M) for patterned lighting effects.



ALUMINUM SHUTTERS



BRASS TEMPLATE



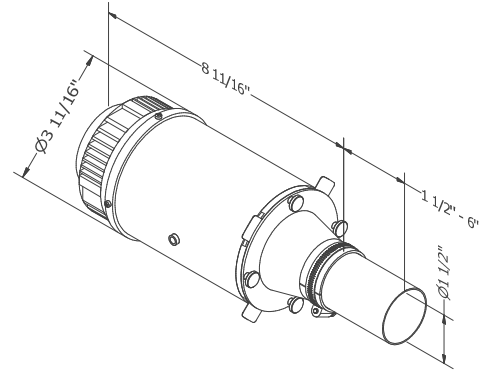
STAINLESS STEEL GOBO

Projector Details

High performance optical framing projector with variable optics system consisting of two (2) 39mm focal lenses and two (2) 60mm condensing lenses designed for both long and short throws as well as off center mounting. The special Achromatic focal lenses produce crisp sharp lines without any chromatic abnormalities.

LIGHT SOURCE

Proprietary LED light engine with a custom concentric parabolic reflector, aluminum heat sink, active DC cooling fan and CREE® XHP70 3000K LED with 90+ CRI and average lamp life of 30,000 hours.

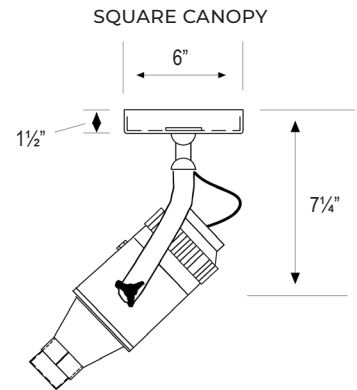
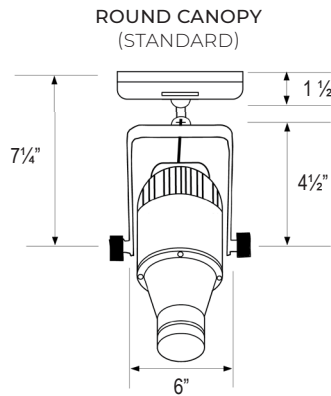


SML Housing Dimensions

The IP-RATED surface mount canopy is designed to easily attach to any 3/0 box or 4/0 box and comes with a universal bracket and mounting screws. Both the LED and fan drivers are mounted inside the canopy for easy connection. Standard canopy is round with a square canopy available if desired.

ELECTRICAL SPECS

Includes auto-sensing 120-277V, 50/60Hz, 1750mA constant current electronic LED driver, Tri-Dimming (MLV forward phase, ELV reverse phase, 0-10V) and a non-dimming 12VDC fan power supply. Optional on-board 0-10V dimmer control available for setting output levels.



Phantom LED Contour Projectors - Ordering Matrix
Sample Order Number: **SML-1-1-0-1-U**

HOUSING	MASKING	LENS COMBINATION	ACCESSORY OPTIONS	CANOPY	COLOR
SML	1	1	0	1	U
SML	1 - Shutters 2 - Template 3 - Gobo	1 - Achromatic 75fl Lenses <i>(Wide Flood Lenses)</i> 2 - Achromatic 100fl Lenses <i>(Flood Light Lenses)</i> 3 - Achromatic 150fl Lenses <i>(Narrow Spot Lenses)</i>	0 - None 1 - 2700K Dichroic Filter 2 - 3500K Dichroic Filter 3 - 4000K Dichroic Filter 4 - On-board 0-10V Dimmer	1 - Round 2 - Square	U - Unfinished W - White B - Black

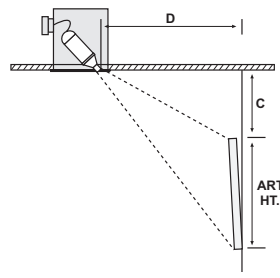
Standard Configuration includes a round canopy, two toned unfinished aluminum with black projector accents, 120-277V auto-sensing LED/Fan drivers, optical framing projector with 39mm 75fl focal lenses and adjustable shutter masking set.

Determining the Location of Projector in Ceiling

Example: Let's say you have a painting that is 36" High x 24" Wide and it is down from the ceiling roughly 20" to top of canvas. Doing the math, you get $20" + 12" + 4" = 36"$ out from the wall to the front of the housing as a starting point. The projector can be moved back, left or right as needed to avoid obstructions in the ceiling or to address reflective glare and frame shadows.

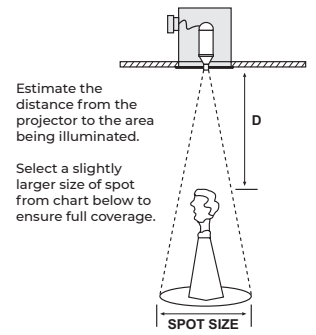
An oversized painting can be accommodated in the same way by using two (2) Contour Projectors, mounted at oblique angles. Complimentary design assistance is available from the factory.

VERTICAL TARGET



SLOTTED COVER PLATE (STANDARD)

HORIZONTAL TARGET

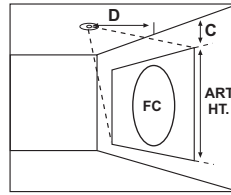


PIN HOLE COVER PLATE (OPTIONAL)

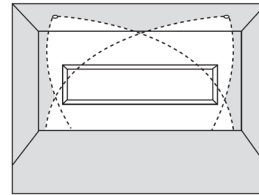
CALCULATING THROW DISTANCE:

$$C + 1/3 \text{ of art height} + 4 = D$$

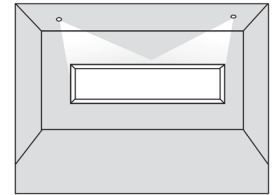
C = Distance down from ceiling to top of the art
 D = Distance out from wall where projector mounts
 (See first illustration to the right)



Formula Illustration



Overlapping Beam Diagram



Oversize Beam Spread Result

Achromatic Focal Lens Performance Chart

THROW DISTANCE (IN FEET)			1'		2'		3'		4'		5'	
Beam Spread	Lens Combo	Beam Angle	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles
Wide Flood Lens	75/75	60°	14"	750	28"	194	42"	101	55"	56	69"	37
Flood Light	100/100	48°	11"	968	21"	458	32"	194	43"	120	53"	79
Narrow Spot	150/150	28°	6"	1968	12"	1210	18"	471	24"	267	30"	181
THROW DISTANCE (IN FEET)			6'		7'		8'		9'		10'	
Beam Spread	Lens Combo	Beam Angle	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles
Wide Flood Lens	75/75	60°	83"	26	97"	20	111"	14	125"	11	139"	9
Flood Light	100/100	48°	64"	55	75"	41	85"	31	96"	26	107"	20
Narrow Spot	150/150	28°	36"	120	42"	88	48"	67	54"	55	60"	44
THROW DISTANCE (IN FEET)			11'		12'		13'		14'		15'	
Beam Spread	Lens Combo	Beam Angle	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles
Wide Flood Lens	75/75	60°	-	-	-	-	-	-	-	-	-	-
Flood Light	100/100	48°	118"	16	128"	13	139"	11	150"	9	160"	7
Narrow Spot	150/150	28°	66"	37	72"	33	78"	25	84"	22	90"	17
THROW DISTANCE (IN FEET)			16'		17'		18'		19'		20'	
Beam Spread	Lens Combo	Beam Angle	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles	Spot Size	Foot Candles
Wide Flood Lens	75/75	60°	-	-	-	-	-	-	-	-	-	-
Flood Light	100/100	48°	-	-	-	-	-	-	-	-	-	-
Narrow Spot	150/150	28°	98"	17	102"	15	108"	13	114"	11	120"	9