

# iCE LED Surgical Lighting System



ice 25<sup>LED</sup>

ice 30<sup>LED</sup>



**A**mico  
www.amico.com

# iCE LED Surgical Lighting System



## Two LED Lighthead Options

### ice 30<sup>LED</sup>

- 30" (762 mm) diameter
- 80 LED's
- 160,000 lux
- 7.6"-12" (193 - 305 mm) light pattern
- Laminar flow openings

### ice 25<sup>LED</sup>

- 25" (635 mm) diameter
- 52 LED's
- 160,000 lux or 130,000 lux
- 7.6"-11" (193 - 279 mm) light pattern

## Application

The iCE LED Surgical Lighting System is designed to illuminate the surgical field with a cool, bright white light and an adjustable pattern size. The Amico ceiling mount plate is designed to allow for easy installation whether you are upgrading your current lighting or planning a brand new facility.

## Description

The iCE LED Surgical Lighting System brings the newest LED technology to the Operating Room. The iCE LED Surgical Lights are designed for superior shadow control, increased depth of field and light intensity. They have a CRI of 95 and an R9 greater than 90, allowing surgeons to easily differentiate between tissues. The 4500K color temperature provides a crisp white light, without the color-fringing or color-shifting properties of multicolor LED's, providing natural color to ensure that the surgical field remains clearly illuminated.

The iCE Surgical Lighting System is upgradeable and customizable and can be ordered in a variety of configurations consisting of multiple lightheads, HD cameras, monitors and future-proof suspension systems. We also offer flush-mounted wall control panels that complement the standard control panels located on each lighthead.

### Common Areas of Usage in a Clinical Environment Include:

- Operating Rooms
- Emergency Departments
- Procedure Rooms
- Intensive Care Units



## Features

**iCE Cool LED's:** Not only do the iCE LED's produce a bright white light, but they are extremely COOL! Minimal power is required to illuminate the latest LED technology incorporated into the Amico iCE LED Surgical Lights. This allows surgeons to work comfortably under any combination or number of our lights.



**Eco-Friendly and Long Lasting:** Our iCE LED Surgical Lights last a minimum of 50,000 hours, translating into decades of energy cost savings. The ultra-efficient technology leaves a "Green Footprint" wherever it is installed.

**Easy to Clean:** Crafted with smooth surfaces, our lightheads are exceptionally easy to clean. Furthermore, the iCE lightheads are engineered from robust medical grade material resistant to most cleaning agents.

**Emergency Bypass:** This serves as protection should users experience a circuit board failure due to an electrical surge or malfunction. Simply press the push button located on the yoke and you will bypass the wall and lighthead controls. The light will turn on and off, at full power, until you switch off the emergency mode. This minimizes down time and enables the lighthead to be used even while repair parts are ordered.

**Shadow Reduction and Deep Cavity Illumination:** This is created with multiple overlapping beams and adjustable by turning a centrally mounted handle to create a long, homogeneous column of light. This allows surgeons to effortlessly direct a precise light pattern into the surgical field while providing the ideal balance of shadow reduction and deep cavity illumination.

**Focusable Light Pattern:** The integrated manual focus handle allows clinicians to intuitively and comfortably focus the iCE LED Surgical Light or extend working distances (beyond 1 meter) in the surgical field. Just a short turn of the sterile focus handle will maximize light intensity without having to reposition the lightheads.

**HD Video Camera:** Each lighthead is offered with an HD Camera, camera ready or without camera depending on your needs. All cameras come network ready and offer functions such as focus, zoom, brightness, rotation, freeze and source select as standard features.

**Lighthead and Wall Control Panels:** Each lighthead comes with a yoke-mounted control panel which includes five dimming levels, depth mode for deeper light penetration, endo mode for low light during endoscopy procedures and a sync function that enables users to synchronize multiple lights. Our flush mounted wall control panels are another convenient way to control the lights outside the sterile field.

**The Coolest Endoscopy Light:** Four tiny LED's create an unparalleled, uniform glow in the room allowing surgeons to concentrate on the monitors during endoscopy procedures in darkened rooms.

**Thin and Lightweight:** The iCE LED Surgical Light boasts an extremely thin profile and is lightweight, making it very easy to maneuver to any desired position on our suspension arms.

**Laminar Flow Design:** The ultra thin design of the Amico iCE LED Surgical Lights allow for effective laminar flow in the Operating Room. For the iCE 30 specifically, we have engineered four stylish openings to aid in laminar flow movement.

**Suspension System:** Designed with the user in mind, the suspension system gives you unrestricted rotation of the lighthead around its own axis and allows greater movement.



iCE Cool LED's



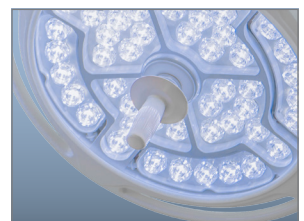
Easy to Clean



Emergency Bypass



Control Panel



Endoscopy light



Thin and Lightweight



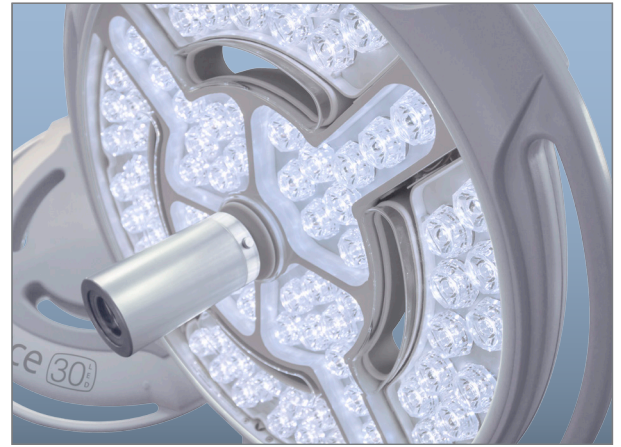
Laminar Flow Design



## Video Integration

Amico's in-light HD camera offers users the ability to replace a centrally mounted focusing handle with an HD camera that doubles as a light focusing handle. With a 3,000,000 pixel resolution CMOS chip, up to 120x stable zoom, working distance from 10 mm to 1000 mm and a signal to noise ratio that exceeds 50 dB; Amico's HD camera is guaranteed to meet the demanding needs of the Operating Room.

The camera is encased in a sealed, impact-resistant aluminum housing with a tool-free quick disconnect system. A locking cable connector prevents accidental disengagement. The quick disconnect system also ensures a single camera can be shared amongst multiple lightheads. Adding an HD camera does not compromise lighthead functionality nor optical performance.



The camera coupled with an integration system enables users to document surgical procedures for both teaching and archival purposes. With the integration system, all functions of the camera can also be controlled remotely with the camera control box. Functions such as zoom, focus, brightness, freeze and camera rotation come standard.

Note:

- The lightheads must be purchased with the camera-ready adder to allow Amico's in-light HD camera to work
- Software modifications may need to be made if a non-certified integration company is used

## Standard Accessories

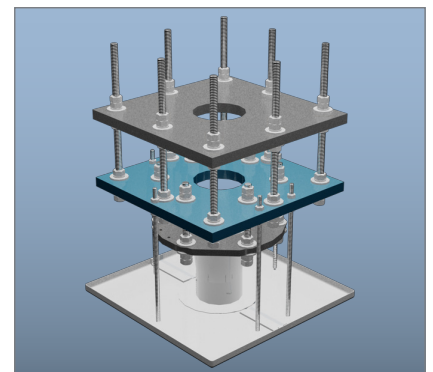
Amico offers a variety of standard accessories:

- Sterile disposable covers for the non-sterilizable handle used for adjusting the pattern of the light beam
- Sterile disposable covers for the in-light HD camera
- Sterilizable handles which allow the user to autoclave the handle before each use



## Support Structure

The hospital or contractor supplied and installed ceiling structure must be level and meet all structural requirements. These requirements, as specified in the client-specific submittal package, must be met to ensure the best and safest results from the Amico supplied structure.



## Installation

Amico provides a single or tandem mounting plate for installation to the hospital-provided ceiling structure. This mounting plate can be located anywhere in the room as designated by the architect: above the center of the surgical table or to the right, left, top or bottom of it. A ceiling cover is also provided to help close off and cover this opening to create a seamless Operating Room.

The standard wall control is provided with a 30' cable allowing it to be mounted anywhere in the vicinity of the lights. All required rough-ins are the hospital's responsibility. A drawing of the back box cut-out is provided at time of purchase.

## Construction

Amico's iCE LED Surgical Lighting System was designed with the Surgeon and the Operating Room in mind. Robust and durable, the iCE LED Surgical Lights are made from the highest quality materials. The materials chosen are capable of withstanding most cleaning agents while the seamless design guarantees easy cleaning. The material strength also ensures that the iCE LED Surgical Lights are capable of withstanding impacts without getting damaged or shattering.

With over 95% light transmission, the single plastic front screen used on the Amico iCE LED Surgical Lights allows the maximum amount of light transmission. The drift-free suspension system available in both single and dual yokes enables the user to always have full freedom of movement regardless of room conditions.

Amico's confidence in the quality and durability of our iCE LED Surgical Lights is supported by our industry leading 5 year warranty.

## Preventative Maintenance

All maintenance listed in our user manual must be completed within specified time periods to ensure the longevity of the product. All repairs must be completed either by Amico technicians or by Amico-certified technicians.

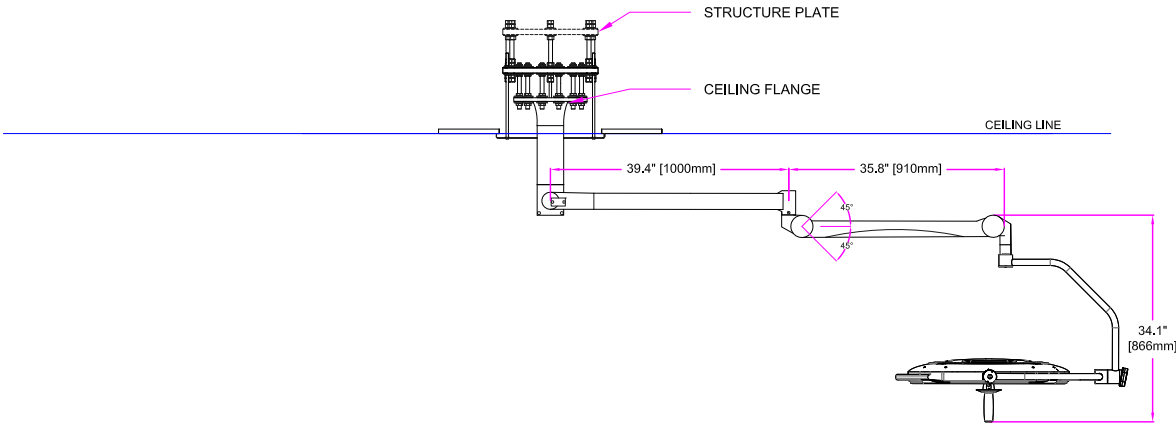
## OR Lights and Booms... Innovating from Above



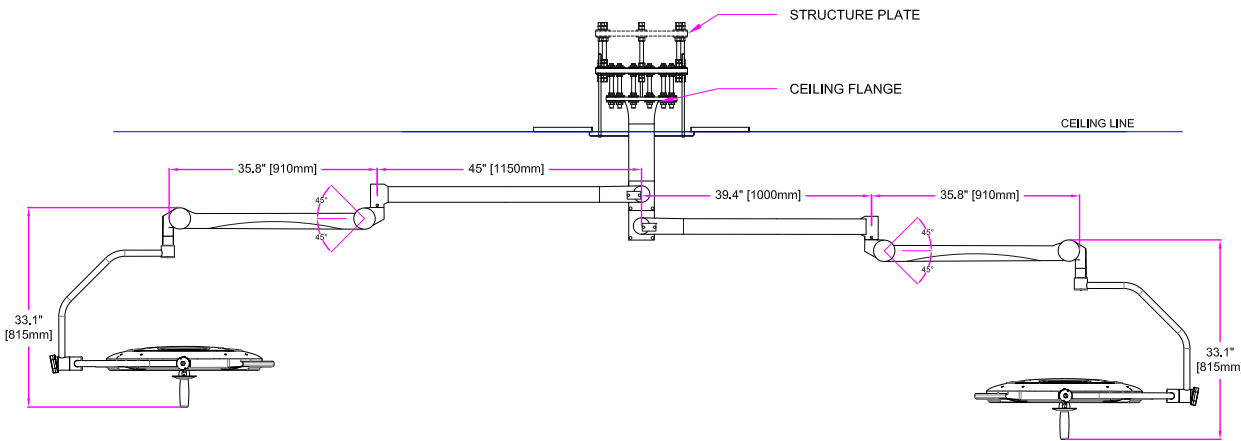
# Typical Drawings

(Not for Construction)

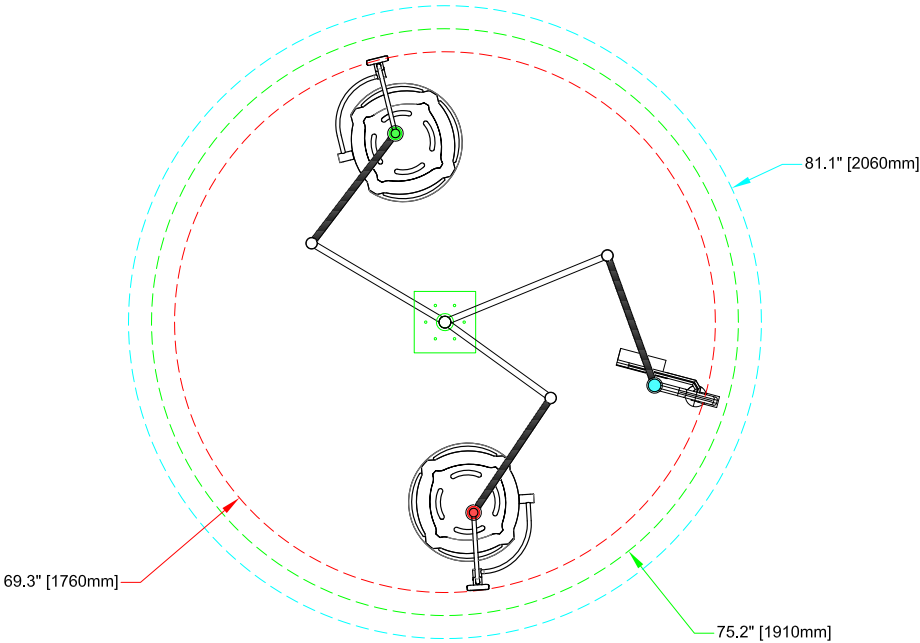
Single Ceiling Mount



Dual Ceiling Mount



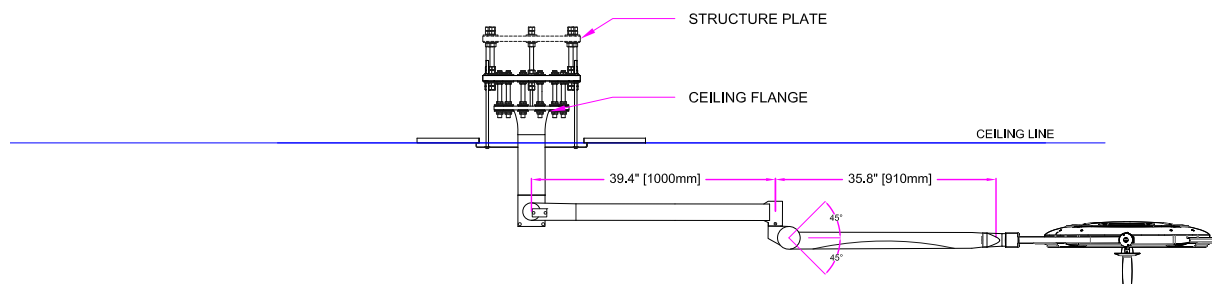
Dual Ceiling Mount with Monitor



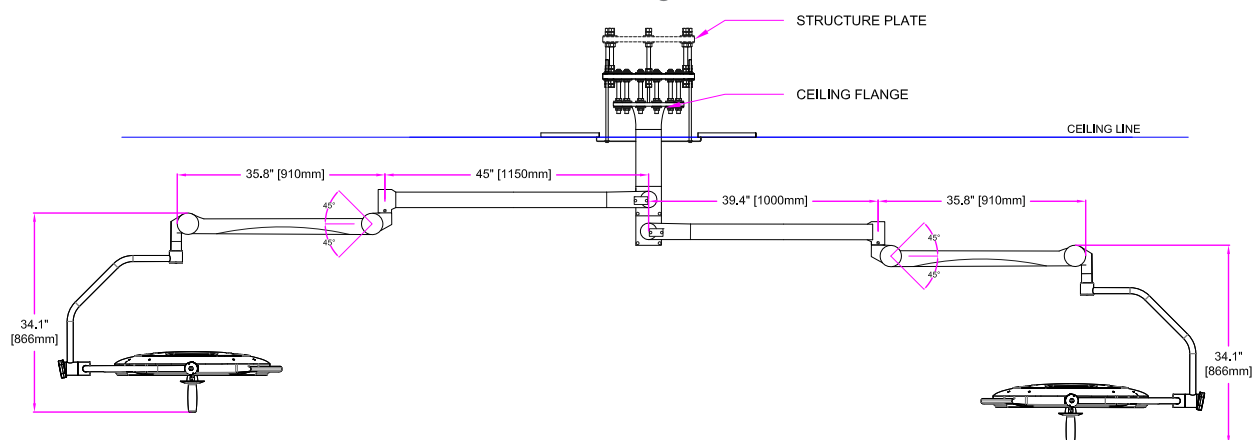
# Typical Drawings

(Not for Construction)

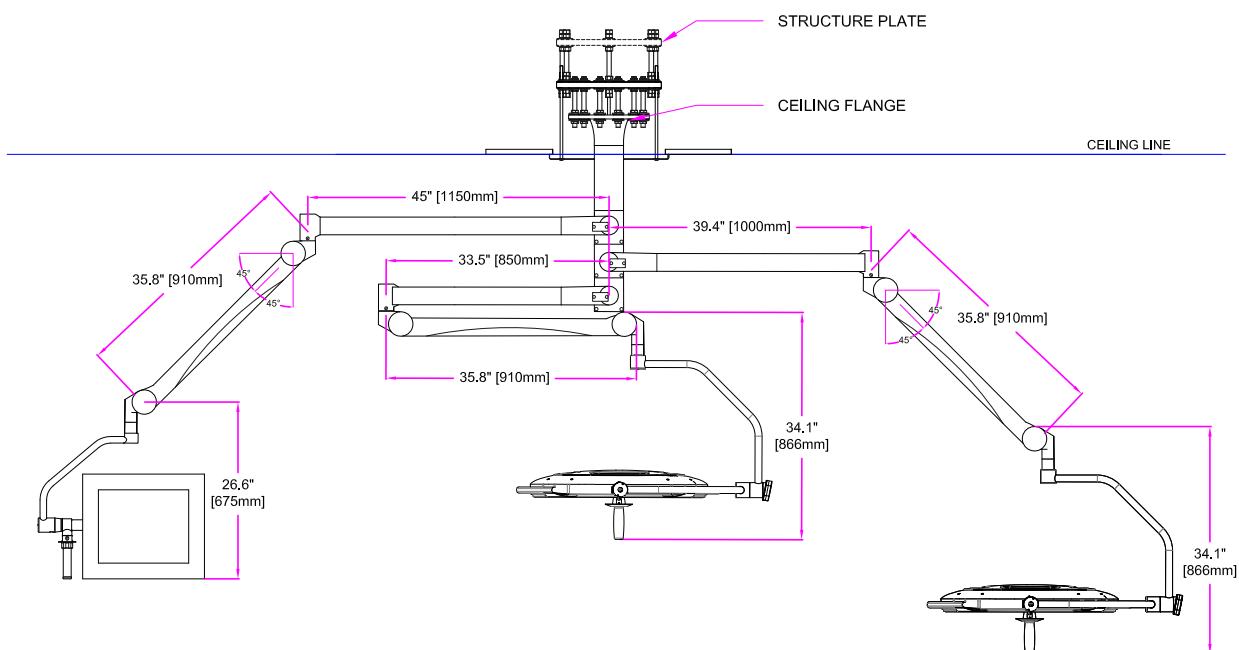
## Single Ceiling Mount – For Low Ceiling



## Dual Ceiling Mount



## Dual Ceiling Mount with Monitor



# Specifications and Listings



Performance	Units	ice 30 <sup>i</sup>	ice 25 <sup>i</sup>	ice 25 <sup>i</sup>
		160,000	160,000	130,000
Lighthead Diameter	in (cm)	30 (76)	25 (64)	25 (64)
Light Intensity (Central Luminance)	lx (fc)	160,000 (14,870)	160,000 (14,870)	130,000 (12,080)
Brightness Control	%	5 - 100	5 - 100	5 - 100
Light Field Diameter	in (cm)	7.6 - 12 (19 - 31) <sup>1</sup>	7.6 - 11 (19 - 28) <sup>1</sup>	7.6 - 11 (19 - 28) <sup>1</sup>
Depth of Illumination (L1+L2) at 60%	in (cm)	27.25 - 48 (69 - 122)	28.5 - 48.25 (72 - 123)	28.5 - 48.25 (72 - 123)
Depth of Illumination (L1+L2) at 20%	in (cm)	42 (107)	46.20 (117)	46.20 (117)
Color Rendering Index (Ra)		95 <sup>2</sup>	95 <sup>2</sup>	95 <sup>2</sup>
R9		>90	>90	>90
R13		97 <sup>2</sup>	97 <sup>2</sup>	97 <sup>2</sup>
Color Temperature (Standard)	K	4,500 <sup>3</sup>	4,500 <sup>3</sup>	4,500 <sup>3</sup>
Shadow Dilution				
Single Mask	%	44	41	41
Double Mask	%	41	41	41
Cavity	%	97	100	100
Single Mask with Cavity	%	41	39	39
Double Mask with Cavity	%	40	39	39
Number of LED's (main)		80	52	52
Number of Other LED's		320	208	208
LED Service Life	hours	50,000	50,000	50,000
Total Radiant Power at Max Intensity	W/m <sup>2</sup>	415.3	519	421.7
Power Consumption at Lighthead	w @ 24 VDC	200	150	150
Electricity (VAC)		Universal VAC	Universal VAC	Universal VAC
Emergency Bypass		Yes	Yes	Yes
Mounting Options		Ceiling, Wall	Ceiling, Wall	Ceiling, Wall
Certificates		ETL, FDA	ETL, FDA	ETL, FDA

All tests conducted per 60601-2-41 standard • <sup>1</sup>LFD has a tolerance of 5% • <sup>2</sup>CRI has a tolerance of 2.5% • <sup>3</sup>CCT has a tolerance of 15%



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