![Cooper Lighting Solutions logo]
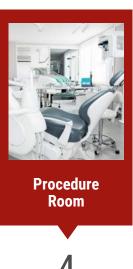
COOPER
Lighting Solutions

Healthcare Spaces

Fail-Safe is a leading provider of specialty grade lighting products for the healthcare industry designed to perform in a wide variety of complex environments.

Fail-Safe's complete family of luminaires are designed to meet the most demanding application needs in all healthcare spaces including examination rooms, procedure rooms, operating rooms, patient rooms, MRI suites, and behavioral health rooms.

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Glossary of Terms

Term	Definition	Benefit
IP64	Dustproof; sealed against low pressure hose down	Dust cannot get into the lighting fixture. Lighting fixture can be cleaned by spraying it down.
IP65	Dustproof; sealed against moderate pressure hose down	No dust can pass from the plenum to the room through this lighting fixture. Can be easily cleaned by including hosing down the lighting fixture.
IP66	Dustproof; sealed against high pressure hose down	No dust can pass from the plenum to the room through the lighting fixture. Can be easily cleaned using high pressure sterilization cleaning.
ISO 5	Fixture is certified for use in sterile cleanroom applications	No air can pass through the lighting fixture between the room and the plenum space.
Antimicrobial Paint	Paint contains a special additive to prevent bacteria or germs from growing and settling on metal surfaces	Painting metal surfaces in antimicrobial finishes helps reduce the risk of HAIs (Hospital Acquired Infections) in healthcare facilities.
NSF	Food safety rating; lighting fixture can be used in food processing and preparation areas	Lighting fixture can be easily wiped clean. Paint is resistant to chipping. Materials used contain no potentially harmful chemicals.
Wipe Down	Ability of the lighting fixture to be easily wiped down without snags, or risk of cleaner entering the fixture	Fixture is designed for easy cleaning, but not necessarily to the level of an NSF rating.
MIL-STD-461-G	Certification for lighting fixtures with limited conducted and radiated electromagnetic interference	Applies to operating room lighting fixtures. Lighting fixtures do not create electronic "noise" which could potentially interfere with sensitive operating room electronics.
Non-Ferrous	Not containing any magnetic materials	Lighting fixture contains no steel that could cause interference or interaction with the magnets used in an MRI machine.

Examination Room

Space Overview ▶ Typically, the first step in treatment at a medical facility is a visit to an examination room. In an examination room, it is important to not have only sufficient light but also high quality light to properly evaluate a patient's condition. Recently, a shift has been made from utilitarian design of examination rooms to a more aesthetically appealing layout. As part of this shift, the use of lighting that is visually aligned to common spaces in the facility has become more prevalent in these rooms.

Examination Room

Design Features

Light Levels

- Moderate-to-high light levels
- Variable light levels through switching or dimming
- Combined use of general and task lighting within space

Light Quality

- 80 CRI minimum, 90 CRI preferred
- Required to make qualitative color-based diagnoses

Ease of Cleaning

- Wipe down design allows easy cleaning of fixtures
- Louvers and openings allow places for germs to hide and thrive so avoid if possible
- Antimicrobial finishes prevent germs from multiplying on metal surfaces
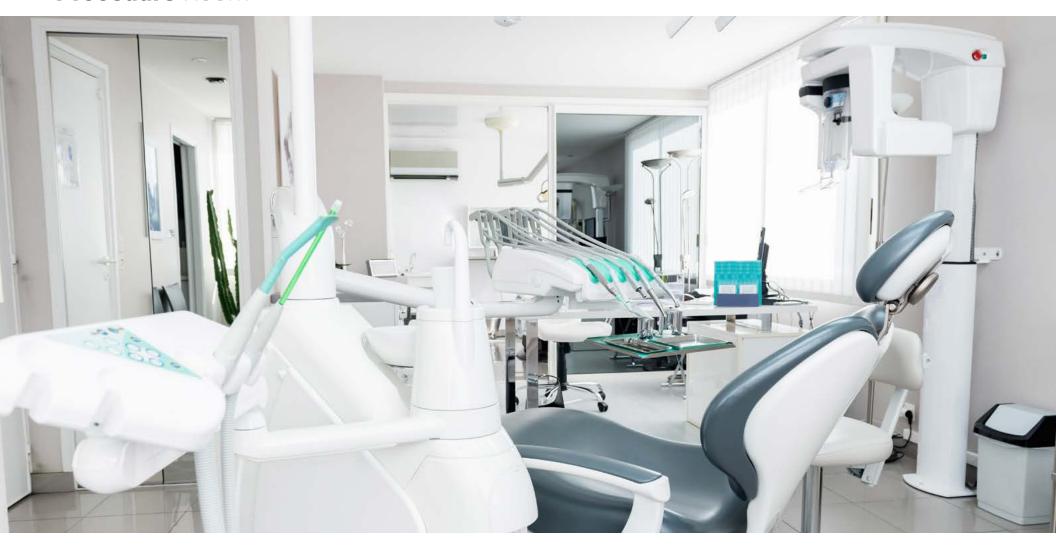
Click on products to learn more

Featured Products

FSN

- 4" Aperture Slot
- Sealed for a sterile environment
- Easily Cleaned
- Shallow depth under 3"

FCZ

- Sealed Center Basket fixture
- High lumen outputs and 90CRI option
- VividTune option

FLD4B (open)

- Open medical downlight
- Aesthetics comparable to traditional downlights
- CRI up to 97
- ViviidTune™ White Tuning Technology

	FSN	FCZ	FLD4B (open)
Sizes	6" x 2', 6" x 4', 6" x 8'	1' x 4', 2' x 2', 2' x 4'	4'
Mounting	Recessed Slot	Recesssed Troffer	Recessed Downlight
UL Location	Wet	Wet	Wet
Max Lumens	3,900 (4ft)	16,000	4,000
CRI	80	80, 90	80, 90, 97
Ease of Cleaning	Wipe Down	Wipe Down	Wipe Down, Antimicrobial
IP Rating	IP66	IP65	IP65
NSF Rating	Standard	Standard	Standard

Procedure Room

Space Overview

After or possibly instead of visiting an examination room, a patient will frequently be sent to a procedure room. These rooms are used for minor and minimally invasive procedures where a local anesthetic may be used, but a general anesthetic is unnecessary. Since the patient is typically conscious, it is important to maintain visual comfort for the patient while also ensuring sufficiently high light levels to perform procedures.

Procedure Room

Design Features

Light Levels
- High light levels required for performing minor procedures
- Proper light distributions needed to avoid glare on monitors and screens

Light Quality
- Minimum of 80 CRI
- Color quality important in patient evaluations

Sealed and Gasketed
- Room and equipment must be regularly sterilized
- Properly sealed fixtures aids in routine cleaning
- Antimicrobial finish on metal surfaces to prevent germ reproduction
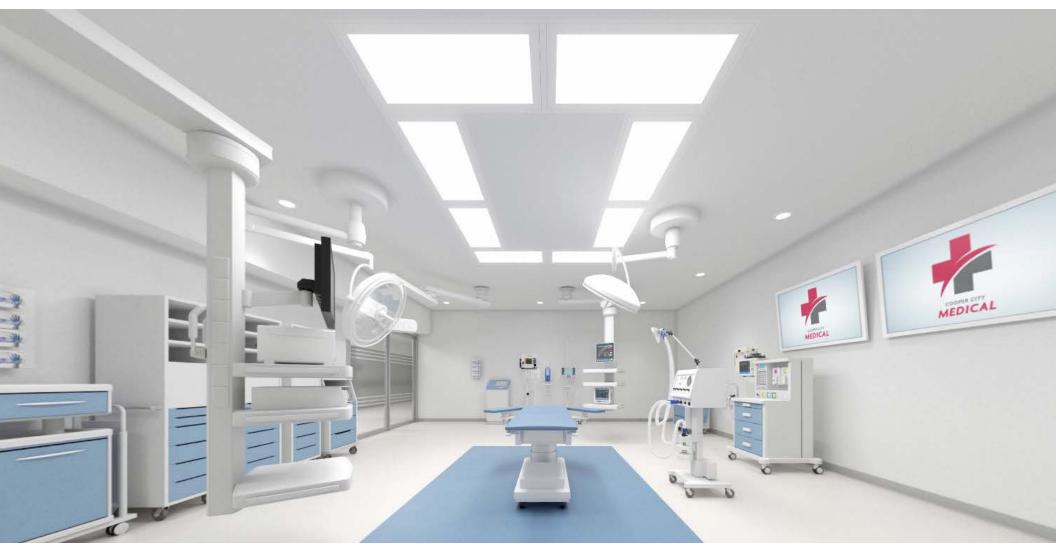
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Featured Products

	ENW	SGI	FLD6B
	• Low glare due to Wavestream™ technology • Easy to clean • Visual alignment with non-medical spaces	• Sealed center basket design • Electronics accessible below the ceiling plane	• Easy cleaning with clear full bottom lens • Medium distribution for optical control
Sizes	1' x 2', 1' x 4', 2' x 2', 2' x 4'	1' x 2', 1' x 4', 2' x 2', 2' x 4'	6"
Mounting	Recessed Troffer	Recessed Troffer	Recessed Downlight
UL Location	Wet Location	Wet Location (Optional)	Wet Location
Max Lumens	6,700	11,500	7,000
CRI	80, 90	80, 90	80, 90, 97
Ease of Cleaning	Wipe Down	Wipe Down, Antimicrobial	Wipe Down
IP Rating	IP66	IP65	IP66
NSF Rating	Standard	Optional	Standard

Operating Room

Space Overview

In operating rooms, light levels and distributions are key requirements. Bright lights are used to illuminate the space to ensure proper visibility of the patient for surgeons and other medical staff. In addition, modern surgical suites have numerous monitors and displays so eliminating glare by optimizing the lighting layout is of utmost importance.

Operating Room

Fail-Safe

Design Features

Light Levels and Quality

- Very high light levels
- Optical control needed to to avoid glare on screens and monitors
- Green LEDs can help with contrast and minimize glare

Sealed and Gasketed

- Prevent air from the plenum space entering into the operating room
- Improves ease of cleaning the fixtures

Electromagnetic Interference (EMI) Control

- Avoid interference with sensitive electronics
- Some ORs require MIL-STD-461 compliance

Click on products to learn more

Featured Products

	ORL	FLD6B/OR
	• Operating room troffer • Green LEDs for glare reduction applications • High lumen output	• Downlight designed for operating room environments • Certified for EMI control • Easy to clean • Light distribution designed to reduce glare
Sizes	1' x 4', 2' x 2', 2' x 4'	6"
Mounting	Recessed Troffer	Recessed Downlight
UL Location	Wet Location	Wet Location
Max Lumens	28,000	5,000
CRI	80, 90	80, 90, 97
Ease of Cleaning	Wipe Down, Antimicrobial	Wipe Down, Antimicrobial
IP Rating	IP66	IP66
NSF Rating	Standard	Standard
MIL-STD-461-G	Optional	Optional

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Patient Room

The patient room is considered one of the most critical areas of a healthcare facility. Patients will typically spend several days in these rooms and it is important to provide lighting that meets the needs of a variety of patient types. From reading and night lights to bright examination lights during doctor and nurse visits, lighting in these spaces must fulfill a number of functions. Patients will also spend hours looking at these fixtures so maintaining an aesthetically pleasing design and ensuring visual comfort is critical to enhancing patient satisfaction.

Patient Room

Design Features

Mounting Location

- Light location is determined by the bed's location
- Wall mount vs ceiling mount

Light Levels

- Moderate-to-high light levels
- Single fixture needs to peform mulitple functions at widely varied light levels
- Color temperature selectability to maintain patient comfort
- Light levels for every time of day

Controls

- Low voltage control for nurse call systems
- Dimming vs non-dimming

Click on products to learn more

Featured Products

	MPBL	APN	APR	MCL
	• Headwall mounted direct/indirect • Architectural-style aesthetics	• Designed to provide functionality with modern aesthetics • Mounts recessed beside the bed • Multifunction ambient/exam/ reading with optional nurse call integration	• Combines maximum functionality with simple, elegant visual appeal • Multi-function: ambient/exam/ nightlight/reading	• Wall mounted chart and night light • Photocell for nightlight, push button for chartlight • Scoop design directs light only where desired
Sizes	2', 3', 4'	6" x 4', 5', 6'	2' x 2', 2' x 4'	Single-Gang
Mounting	Surface Wall	Recessed Slot	Recessed Troffer	Recessed Wall, Junction Box
UL Location	Damp Location	Wet Location Optional	Wet Location Optional	Wet Location
Max Lumens	UP: 7,100 Down: 5,500	4 ft. Ambient: 3,000 4 ft. Exam: 3,000	Ambient: 4,500 Exam: 15,000	30
CRI	80, 90	80, 90	80, 90	TBD
Ease of Cleaning	Wipe Down	Wipe Down	Wipe Down	Wipe Down
IP Rating	–	IP65 (Optional)	IP65 (Optional)	–

MRI Suite

Space Overview ▷ MRI (Magnetic Resonance Imaging) rooms use large magnets to create a magnetic field which can be analyzed to generate an image of the body or its parts. As a result, any fixtures used in an MRI suite must be made using non-magntic components and generate no EMI (Electromagnetic Interference) from their electrical components. It is important to provide a comforting and visually pleasing environment for patients as they undergo MRI scanning.

MRI Suite

Design Features

Light Levels

- Low-to-moderate light levels
- Use of decorative fixtures to create soothing environment

Non-Ferrous

- Fixtures must be made from non-magnetic materials

Electromagnetic Interference

- Power supplies must be located outside of the MRI room shielding area
- Incoming DC power must be filtered before entering the room
- Unfiltered power or AC can cause issues in scan results

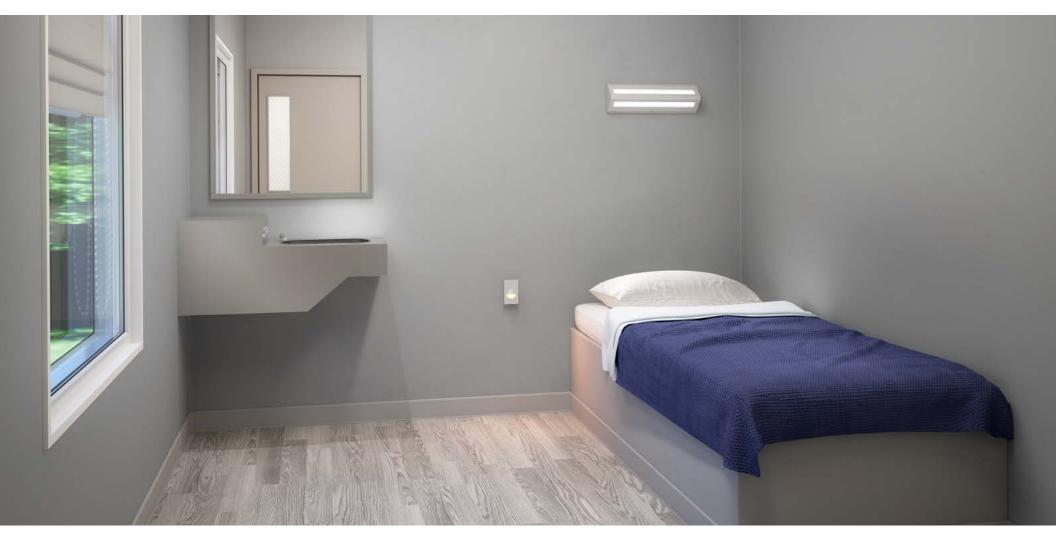Click on products to learn more

Featured Products

	MRI-R6DNLT	CV-LEL		MRI-ATR	MRI-ASR
	• Non-ferrous downlight • Remote drivers capable of powering up to 15 fixtures	• Decorative imagery fixtures • Designed to mount on wall or ceiling • Luminous scenery ceilings relax patients		• Non-Ferrous Construction • Remote Drivers • Fully Luminous	• Non-Ferrous Construction • Remote Driver • Lines of Light
Sizes	6"	2' x 2', 2' x 4'	Various	1' x 4', 2' x 2', 2' x 4'	2" and 4" aperture; 2', 4', 8'
Mounting	Recessed Downlight	Recessed Grid	Surface Wall	Recessed Grid	Recessed Grid
UL Location	Damp	Damp	Damp	Damp	Damp
Max Lumens	1,800	N/A	N/A	7,000	1,000 Lumens/ft
CRI	80	N/A	N/A	80, 90	80, 90
Ease of Cleaning	Wipe Down	Wipe Down	Wipe Down	Wipe Down	Wipe Down
Non-Ferrous	Standard	Optional	Optional	Standard	Standard
Remote Driver	Up to 15 fixtures	100W	1-per fixture	Varies	Varies

Behavioral Health

Lighting in behavioral or mental health facilities must perform all the functions of general ambient and specialized healthcare light fixtures while withstanding the high levels of physical abuse that can occur in these environments. Unfortunately, some patients may also attempt to engage in self-harm while residing in these facilities and light fixtures must be designed to resist these attempts by patients. While it is important for fixtures to be robust in design, they must also be visually comforting to patients. Use of institutional or correctional looking fixtures can be detrimental to patient well being.

Behavioral Health

Design Features

Self-Harm Resistance

- Lenses should be made of polycarbonate and fasteners should be tamperproof
- Edges and sides should be sloped to avoid ligature points

Mounting Type

- Surface and wall mounted fixtures present an increased risk of self harm by patients
- Ceilings are typically sheetrock, requiring either integrally flanged fixtures or drywall kits

Aesthetics

- Matte paint finishes that are less harsh vs. gloss finishes maintain the look and feel of a healthcare facility while still keeping patient well being in mind
- Fixtures providing visual alignment to non behavioral products is preferred to aid in patient well being

Click on products to learn more

Featured Products

	FWL	FSP	ENV	FLD6B
	• Wall mounted high abuse behavioral health bedlight • Steel construction and polycarbonate lens designed to withstand frequent abuse • Sloped sides create a ligature resistant design • Matte finishes and diffuse optics create a soothing environment	• Sealed Panel Design • Fully luminous aesthetic • Polycarbonate lens options to withstand abuse	• Full bottom lens creates tamper-resistant fixture • Ligature resistant design • Easy to clean • Architectural-style aesthetics	• Bottom trim ring resistant to abuse • Trim ring on fixture prevents patient access
Sizes	18", 24", 48"	1' x 4', 2' x 2', 2' x 4'	1' x 2', 1' x 4', 2' x 2', 2' x 4'	6"
Mounting	Surface Wall	Recessed Troffer	Recessed Troffer	Recessed Downlight
UL Location	Damp Location	Wet Location	Wet Location	Wet Location
Max Lumens	6,000	6,700	6,100	7,000
CRI	80, 90	80	80, 90	80, 90, 97
Ease of Cleaning	Wipe Down, Antimicrobial		Wipe Down	Wipe Down, Antimicrobial
Lens Thickness	Up to 0.250"	Up to 0.375"	0.250"	0.250"
IP Rating	–	IP65 / IP66	IP66	IP66
NSF Rating	–	Standard	Standard	Standard

Lighting Brands
Ametrix
AtLite
Corelite
Ephesus
Fail-Safe
Halo
Halo Commercial
Invue
io
Iris
Lumark
Lumière
McGraw-Edison
Metalux
MWS
Neo-Ray
Portfolio
RSA
Shaper
Streetworks
Sure-Lites

Controls Brands
Greengate
Fifth Light

Connected Lighting Systems
HALO Home
WaveLinx

IoT Platform
Trellix

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