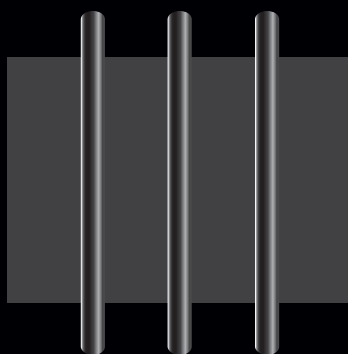


# C O N F I N E M E N T



**Luminaire** Led



## The Confinement Story

Confinement fixtures resolve unique challenges not seen in any other environment. Products installed in cells are subject to deliberate and repeated tampering. These fixtures must be able to withstand calculated, creative, and repeated attempts to disassemble, modify, and otherwise compromise the integrity of the protective envelope. Design life must be measured in decades rather than years.

Luminaire LED brings nearly 40 years of design experience to this unique challenge. The initial phase of the design process consisted of obtaining existing offerings and evaluating their strengths and weaknesses. Our design team reviewed even the most minute details for suitability in multi-decade unsupervised environments. We then applied the latest available technology in manufacturing, finite element analysis, and production to address weaknesses in existing designs as well as to refine strengths.

The result of these design efforts is a series of confinement fixtures developed to be the most durable, simple to service, and efficient products available for the confinement market. All optical electronic components are mounted on an individually removable tray, designed to be replaced in the cell as a single-unit utilizing a single electric connection. Hardened tamper resistant fasteners, concealed hinges, and heavy-gauge stainless steel construction guard against deliberate tampering. These features provide best in class performance with minimal operating expense.

LEDs are solid state devices that can offer lifetimes and efficiencies unmatched by any other source. The base LED chip uses a chemically altered solid state material that emits photons when a voltage is applied. Micro optics and phosphor technology are then used to gather these photons and control the color and distribution of the emitted light. The chips are typically bonded to a metallic substrate for initial heat dissipation and encased in a protective optical coating to resist physical damage.

### Corner Mount

The Corner Mount unit is mounted between the wall and ceiling, and can be used to illuminate an entire cell or small gathering area. It features a hinged clamshell design and is available in a wide variety of gauges and lens combinations.



### Strength

The Confinement Series commonly features Z-brackets that are secured to hardened studs, which are directly welded to the housings. Fixtures are available in up to 12 gauge stainless steel. Additionally, curves and sloped surfaces contribute strength and rigidity to the design.

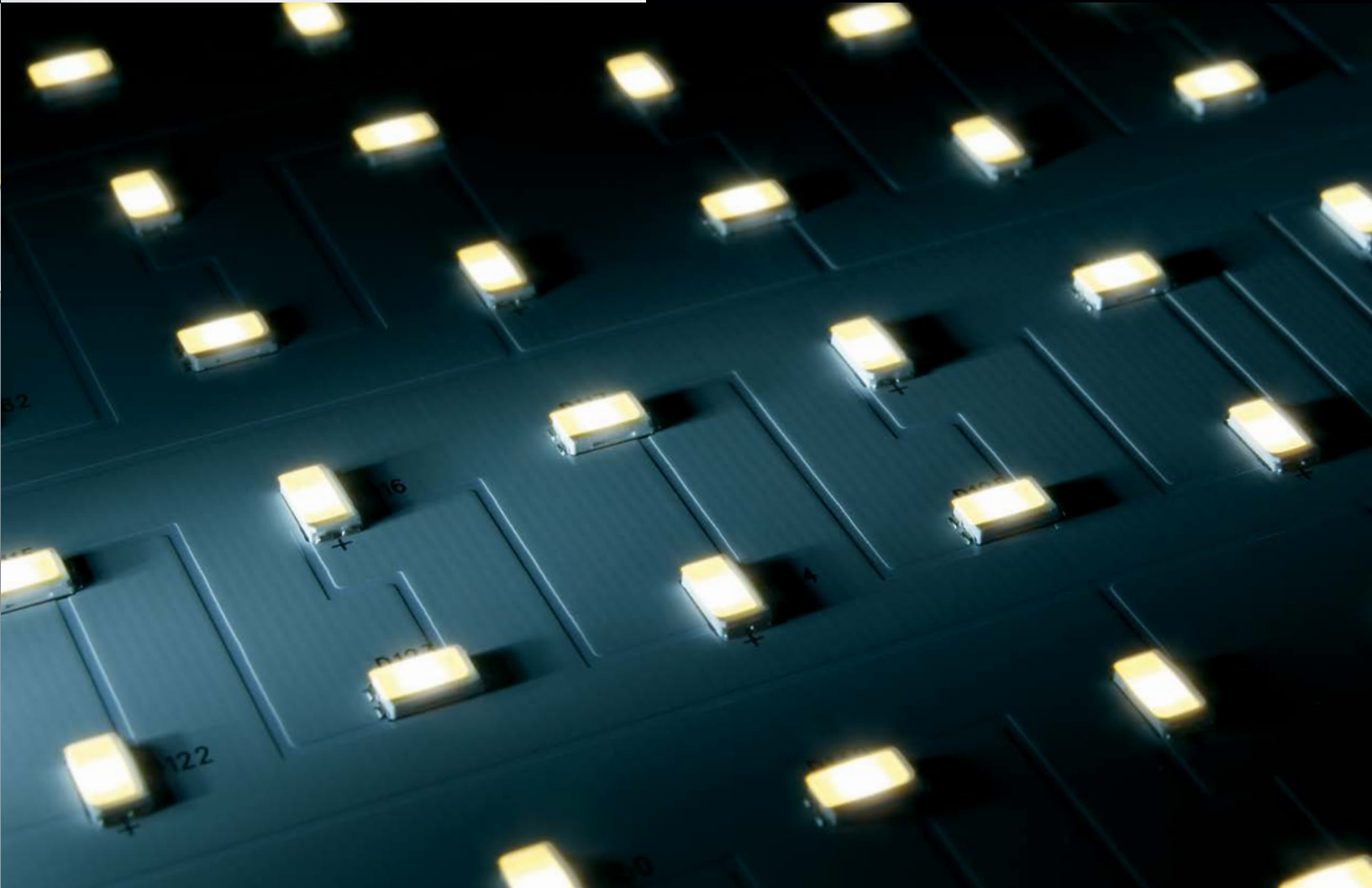
### Surface Mount

The Surface Mount unit is designed to be ceiling mounted within a cell and provide general as well as task illumination. Multiple options of gauge material, lensing, and output are available.



### Technology

The Confinement Series of luminaires was designed from the ground up to use LEDs. Additionally, a unique, modular service tray allows for future upgrades as well as simplified service.



## Wall Mount

The Wall Mount unit will generally be used for task-specific purposes such as grooming, bathing, and writing. Each specified optical opening can be controlled individually for multiple use functions.



## Sustainability

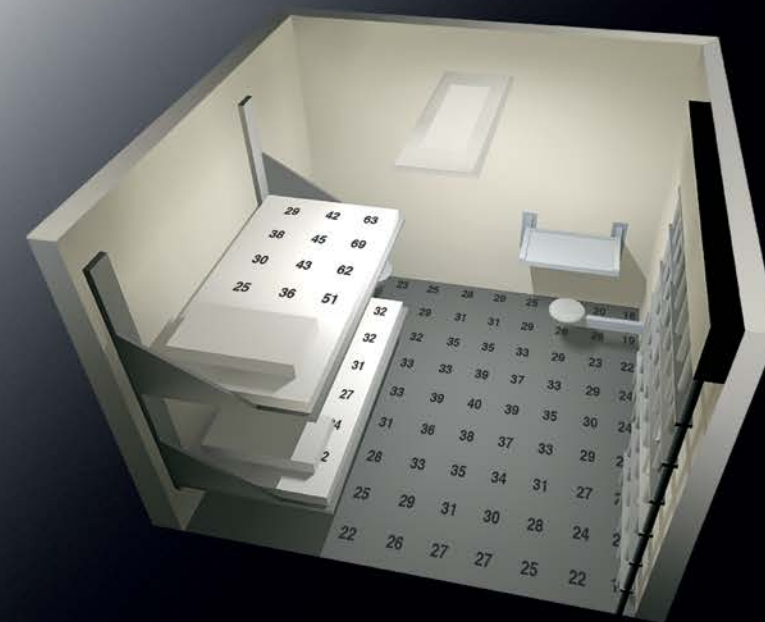
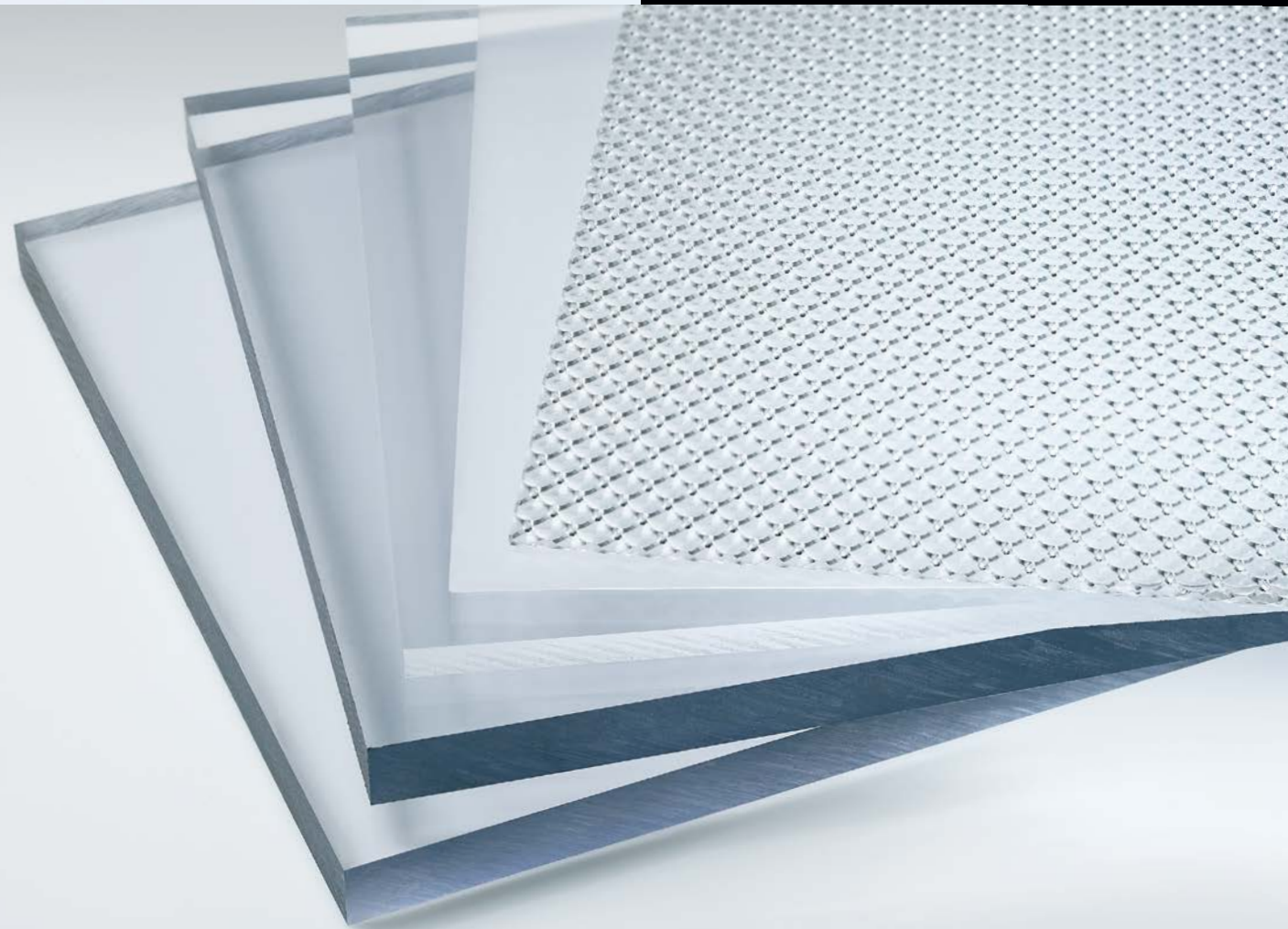
The outstanding technology and strength of these fixtures provide longevity on multiple levels. Lifetime reduction in energy consumption as well as the ability to withstand the challenges in a confinement environment ensure decades long sustainability.

### Detention Fluorescent to LED Comparison - 10' X 10' Cell

Avg. fc Maintained	Ceiling Mount Fixture	Efficacy Lumens/Watt	Input Watts per fixture	Electrical Cost per Year (\$)		
				0.10/kWh	0.15/kWh	0.20/kWh
27.8	Typical 2X4 (3) F32T8	73	84	73.58	110.38	147.17
24.5	Luminaire LED SM13	76	54	47.22	70.82	94.43
Electricity Cost Savings per Year per Cell				\$ 26.37	\$ 39.55	\$ 52.74

Avg. fc Maintained	Corner Mount Fixture	Efficacy Lumens/Watt	Input Watts per fixture	Electrical Cost per Year (\$)		
				0.10/kWh	0.15/kWh	0.20/kWh
16.1	Typical 4' (3) F32T8	50	80	70.80	105.12	140.16
20.3	Luminaire LED CM13	72	55	47.83	71.74	95.66
Electricity Cost Savings per Year per Cell				\$ 22.25	\$ 33.38	\$ 44.50

	Lamp Life Hours	Lamp Changes per 10 Years
Fluorescent	20,000	4.38
Luminaire LED	130,000	0



Typical Cell Photometrics  
Catalog No. SM13-50W-0-CC-A4  
10' X 10' X 8' Area

High efficiency LED source with micro-optic diffuser provides even illumination across cells using minimal fixtures.

# I L L U M I N A T I N G



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