



Cree SmartCast®
lighting retrofit demonstration:
LED fixtures and controls
for advanced holistic
lighting solutions

PRESENTER

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Slipstream creates, tests, delivers, and scales the next generation of energy efficiency and renewable energy programs that move us farther, faster toward a clean energy economy.

PARTNER



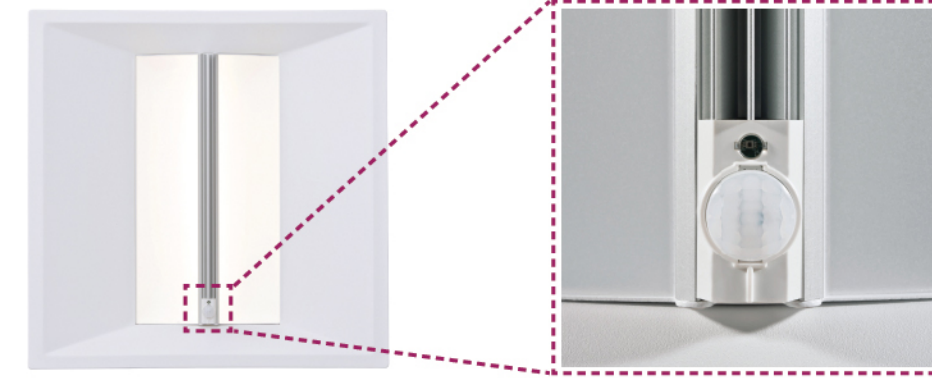
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TECHNOLOGY



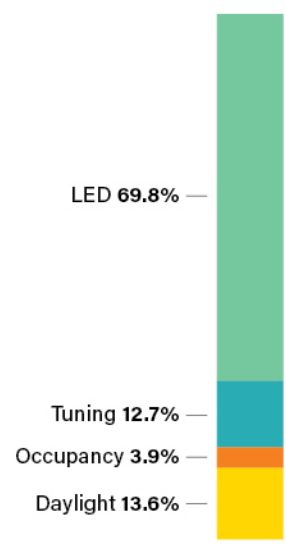
Photos courtesy of Cree

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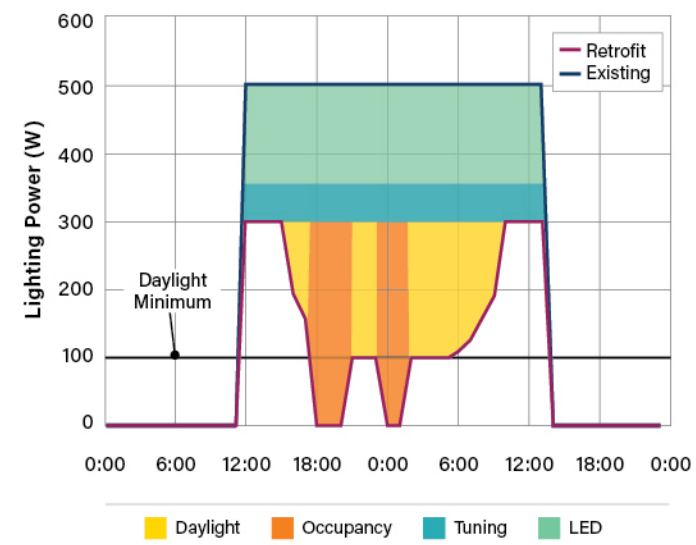
SAVINGS

WHERE DID THE SAVINGS COME FROM?

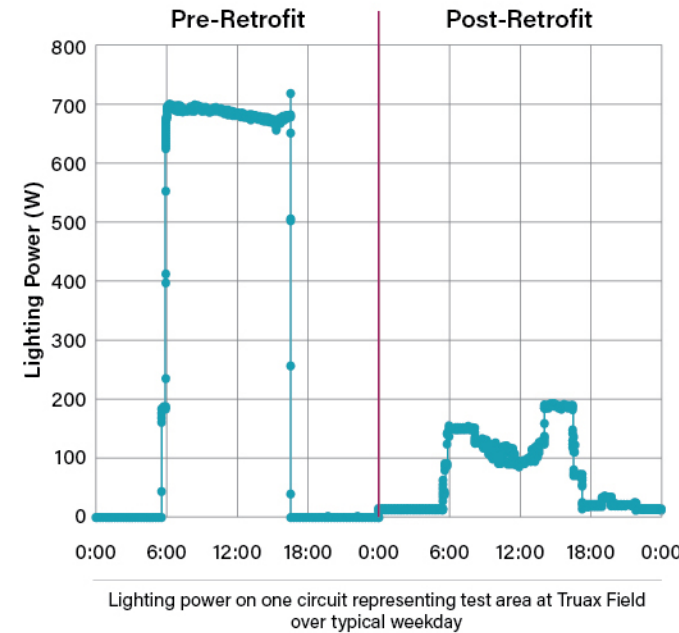
Calculated Savings Proportions



Example Daily Profile



MONITORED POWER



CALCULATED SAVINGS

Percent savings for lighting component of metric only

Building	Annual Electric Consumption		Peak Demand		Greenhouse Gas Emissions		Utility Cost	
	kWh/ft²	%	kW/ft²	%	lbCO₂e/ft²	%	\$/ft²	%
Truax Bldg A	1.2	67%	0.7	70%	2.1	67%	\$0.22	68%
Selfridge Bldg A	1.8	63%	0.9	62%	2.3	63%	\$0.34	63%
Selfridge Bldg B	3.6	71%	1.2	74%	4.6	71%	\$0.55	73%
All	2.5	69%	1.0	70%	3.3	69%	\$0.41	69%

Significant savings across all performance metrics

2019 simple payback of 20 years.
Expected to decrease as technology's market penetration increases.

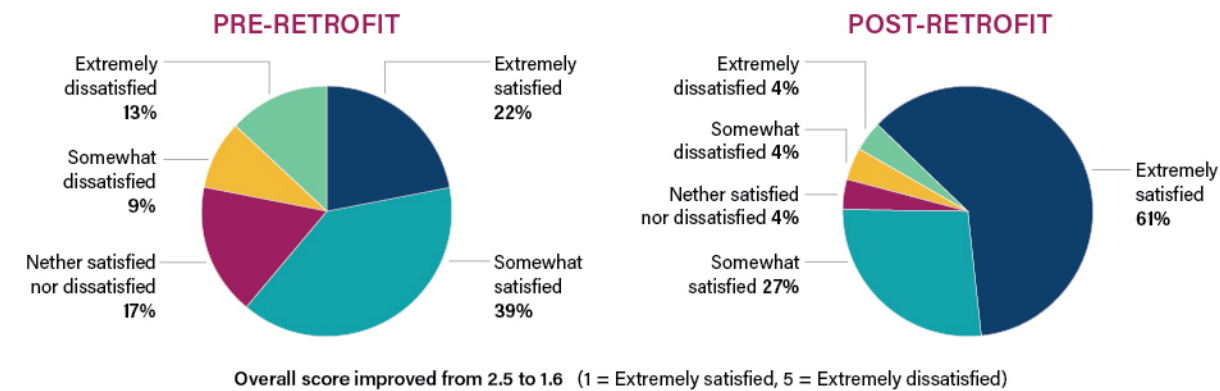
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LIGHT LEVELS

Building	Averaged UFC Recommendation (fc)	Measured Illuminance (fc) [% difference from UFC]		
		Pre-Retrofit	Post-Retrofit	Adjusted
Truax Bldg A	30.0	29.3 [-2%]	16.5 [-45%]	25.0 [-17%]
Selfridge Bldg A	24.0	35.9 [50%]	28.3 [18%]	28.3 [18%]
Selfridge Bldg B	30.0	39.8 [33%]	25.1 [-16%]	26.0 [-13%]
All	28.1	36.4 [29%]	24.2 [-14%]	26.5 [-6%]

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OCCUPANT SATISFACTION—LIGHTING



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SITES

Truax Field Air National Guard Base Dane County, WI



PRE-RETROFIT



POST-RETROFIT

Selfridge Air National Guard Base, Macomb County, MI



PRE-RETROFIT



POST-RETROFIT