



HEALTHY  PLANTS  PROFITS  PEOPLE™

# Lighting Financial Analysis Cannabis and Hemp 1,000 Square Feet

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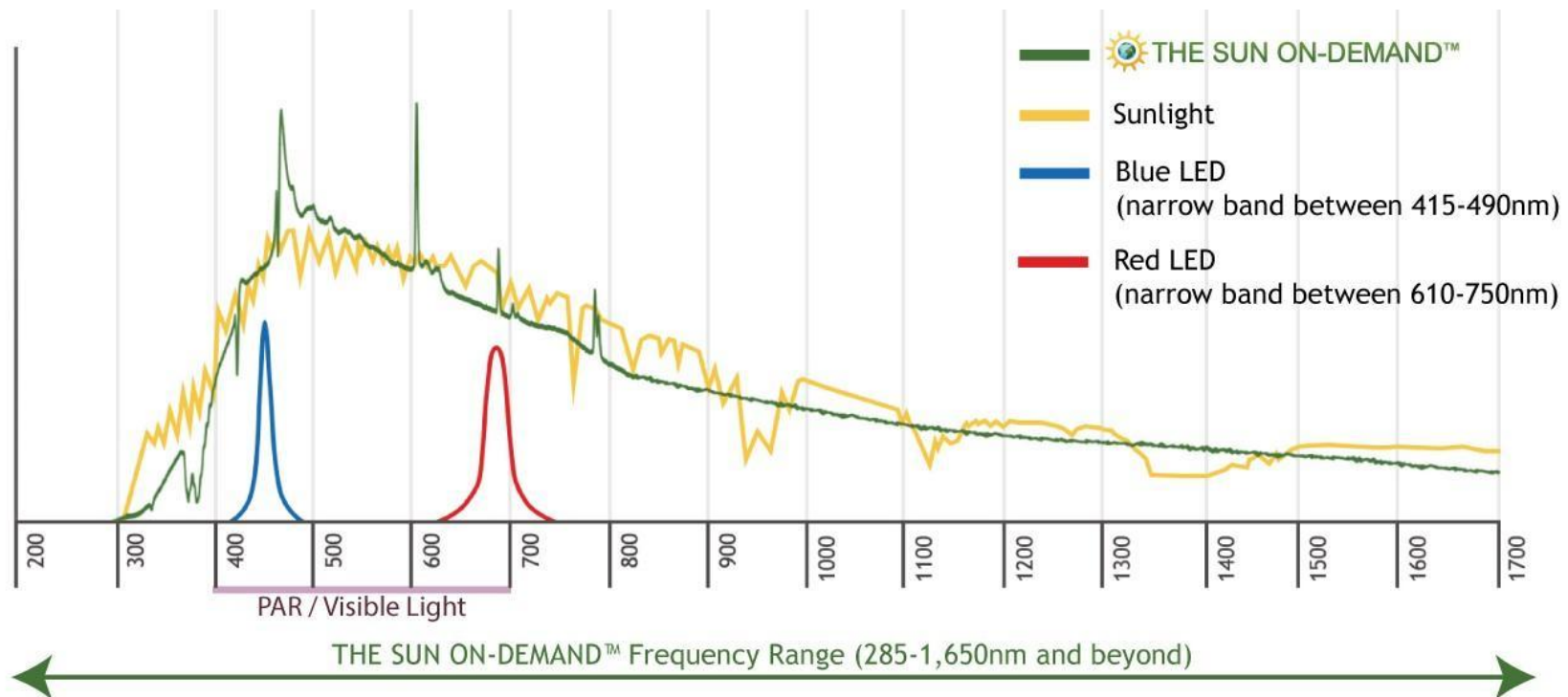
Request to Purchase: [www.TheSunOnDemand/Get-Started/](http://www.TheSunOnDemand/Get-Started/)

Cannabis grown by: Nickolas Robb, owner Uplift'N and Hampshire

# Sunlighting for Healthier Plants and Higher Quality

## The Sun On-Demand™ Differentiators

AZENTIVE's The Sun On-Demand™ delivers all of the frequencies and permutations of frequencies of true sunlight from UV-B, UV-A, PAR, IR, to far IR, from 285 nm to 1650 nm and beyond. This allows for all of the plant's photo and frequency processes to occur, builds healthy immune systems and circadian rhythms, and penetrates deep into the plant cells, the canopy, and the soil food web. It also allows the plant and the soil food web to go through all of their natural photo-processes because the frequencies penetrate deep into the plant's cells, the canopy, and the soil. No other indoor light source can deliver the same.



**Spectrum Note:** The LED lines are for demonstration purposes only. LEDs have much less intensity than the Sun and narrower bands of frequencies than shown on the graph.

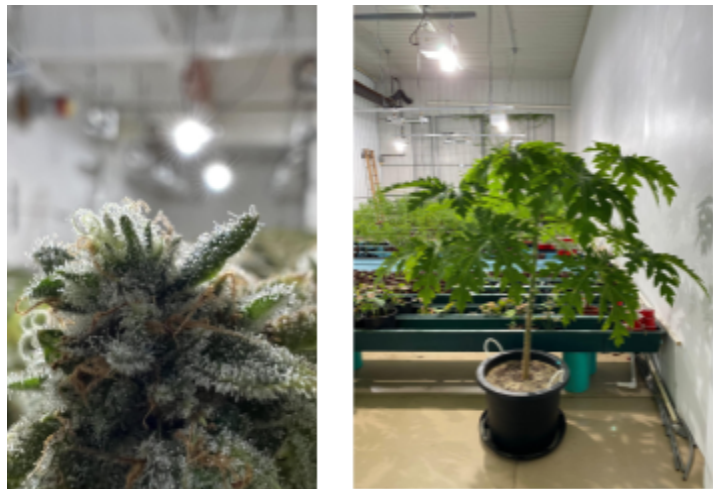
# Aligning with Nature

## Lower CapEx and OpEx with The Sun On-Demand™



The Sun On-Demand™ is the most efficient and effective indoor sunlighting technology available. Acting regeneratively not only increases compound expression and quality, but it also leads to healthy profits from lower OpEx and CapEx, reduced risks, and product differentiation and enhancement. It's a true win-win scenario that harmonizes healthy profits, healthy plants, and healthy people for you, your business, and the planet.

AZENTIVE offers a holistic approach to bringing Mother Nature indoors for complete genetic expression, healthier mother plants, clones, and seedlings, and plant growing cycles just like outdoor growing. Sunlighting from The Sun On-Demand™ will contribute to stronger immune systems and the highest quality medicine. It is the most energy efficient and cost effective growing light available. Along with healthy growing methods, our “pocket sun” can help eliminate chemical inputs, pest issues, and plant illnesses.



*Cannabis and Papaya grown by: BeLeaf Consulting*

Thriving Plants under Indoor Sunlighting (left), using the only light capable of supporting truly regenerative living soil to:

- Grow a wide variety of chemovars indoors, opening the door to a diverse set of plant-based medicines.
- Achieve complete compound expression, healthy immune systems and circadian rhythms, and higher quality.
- Jump start your outdoor farm with ready-to-plant hardened teens, overwinter and grow winter crops.

AZENTIVE's The Sun On-Demand™ matches the natural spectrum and frequencies of sunlight (Page 1). Each fixture covers about 100 square feet for Cannabis growth (Page 2), making it the most efficient, effective, and cost-effective growing light available.

# Aligning with Nature

## Lower CapEx and OpEx with The Sun On-Demand™

### Eliminate Losses from Inefficient Artificial Lighting

The following tables compare lighting options for 1,000 square feet of indoor food cultivation. They are scalable to help you customize it to your situation. The Sun On-Demand™ is the most cost-effective and efficient option, keeping money in your pocket every minute of every hour that you are lighting your plants.

Table 1 compares the annual OpEx cost of lighting electricity use and lighting-related heat for one year. In the case of Metal Halide (MH) or High Pressure Sodium (HPS), they also include the cost of replacing bulbs. Finally, we add the annual OpEx costs to calculate a Total Estimated Annual OpEx. You'll see that The Sun On-Demand™ is the most efficient and cost-effective option by a significant margin.

Since The Sun On-Demand™ provides sunlighting, comparisons to artificial lights (e.g., MH, LEDs) are not true apples-to-apples comparisons. The Sun On-Demand™ provides additional financial benefits. Just one example: UV frequencies benefit plant health, contribute to reduced disease, and improve food quality and taste. In addition, growing in sunlighting allows you to cultivate unique, proprietary crops and a large variety of crops, even during the off-season.

**Table 1: Lighting comparison - electricity, heat output, & annual operational cost (1,000 sq ft)**

	1,045W MH or HPS	650W LED	The Sun On-Demand ™	Improvement with The Sun On-Demand™
Number of lights recommended	50	50	<b>10</b>	80% fewer fixtures
Estimated annual lighting electricity cost (Avg. \$0.11/kWh, 14 hours/day)	\$29,370	\$18,268	<b>\$7,645</b>	\$21,725 less than MH/HPS \$10,624 less than LED
Estimated annual lighting-related HVAC cost (Avg. \$0.11/kWh)	\$9,692	\$6,029	<b>\$2,523</b>	\$7,169 less than MH/HPS \$3,506 less than LED
Annual bulb replacement (MH/HPS only)	\$4,500	\$0	<b>\$0</b>	\$4,500 less than MH/HPS
<b>Estimated annual OpEx</b>	\$43,562	\$24,297	<b>\$10,167</b>	<b>\$33,394 less than MH/HPS</b> <b>\$14,130 less than LED</b>

Table Note: See Page 5, Table 3 for calculation assumptions.

# Aligning with Nature

## Lower CapEx and OpEx with The Sun On-Demand™

### Total Costs of Ownership Decrease From LED

Table 2 estimates lighting electricity, heat output, and CapEx comparisons, showing a clear advantage for The Sun On-Demand™ over LEDs. Lighting CapEx comparisons are conservative. We do not include additional costs of MH and LED lighting due to additional electrical infrastructure, chemical inputs, air conditioning requirements, additional labor from vertical growing, etc. Total cost of ownership represents the sum of lighting CapEx and OpEx for the first year.

**Table 2: Estimated Lighting CapEx Comparison (1,000 sq. ft.)**

	MH or HPS	650W LED	The Sun On-Demand™	Improvement with The Sun On-Demand™
Total lighting electricity use (kW)	52.3	32.5	<b>13.6</b>	74% decrease from MH/HPS 58% decrease from LED
Watts/Sq Ft	52.3	32.5	<b>13.6</b>	Meet tightening regulations.
Lighting heat (BTUs/hour)	178,173	110,825	<b>46,376</b>	Runs cooler in the summer.
A/C (tons)	15	9.25	<b>3.75</b>	
HVAC kWh per year	88,109	54,805	<b>22,394</b>	
Lighting amperage	225	135	<b>57</b>	Less electrical infrastructure needed.
CapEx per fixture (USD)	\$500	\$1,495	<b>\$5,999</b>	
Total lighting fixture cost				
-Based on advertised price	\$25,000	\$74,750	<b>\$59,990</b>	\$34,990 more than MH/HPS \$14,760 less than LED
-Does not include sales tax and shipping				
Total estimated annual OpEx (Table 1)	\$43,562	\$24,297	<b>\$10,167</b>	\$33,394 less than MH \$14,130 less than LED
<b>Cost of ownership, YR 1</b>	\$68,562	\$99,047	<b>\$70,157</b>	<b>\$1,596 more than MH/HPS</b> <b>\$28,890 decrease from LED</b>

# Aligning with Nature

## Optimize Production with The Sun On-Demand™

### Calculation Assumptions

Please note that when you expand the calculations above to three years or five years or ten years, the financial benefits grow substantially versus all artificial lighting. Hopefully, this document helps you apply the benefits to your facility! Feedback welcome.

Table 3 includes the assumptions that informed the lighting CapEx and OpEx estimates shown in Tables 1 and 2. MH, HPS, and LED coverage footprints and amperage estimates are based on manufacturer specifications. The Sun On-Demand™ 100 square foot footprint is typical for a Cannabis facility. The range of footprint is between 100 and 225 sq. ft. Annual energy costs assume year-round operation and an average 14-hour vegetation photoperiod (i.e., industry standard of 18 hours of vegetation light, and 12 hours of flower light). You should be able to reduce The Sun On-Demand™ operating hours, especially when growing in living soil. BTUs/hour are calculated using the ASHRAE standard 0.33 kW of cooling load per kW of lighting electricity.

**Table 3: Assumptions for lighting comparison & financial analysis**

	LED	HPS	The Sun On-Demand™
Coverage per light	4' x 4'	4' x 4'	10' x 10'
Wattage per light	645	1,000	1360
VAC	240	240	240
Amps per light	2.69	4.5	5.7
<b>Inputs:</b>			
Canopy dimensions: 1,000 square feet			
Average Lighting Hours per day: 14 hours			
Veg photoperiod: 18 hours, Flower photoperiod: 12 hours			
Cost per kWh: \$0.11			
Operation: year-round			