

# Charting a Course to Energy Independence

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## Lighting the way to Greener Retailing

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# What problem are we going to solve?

- Costly Maintenance.
- Frequent Bulb Failures.
- Non-uniform product illumination.
- High Energy Costs.



**BRIGHTER, MORE  
VIBRANT DISPLAYS**

# Product Merchandising



### Sales Performance Improvement at Supermarket Trial

	Vantium Lighting - \$	36W Fluorescent Lighting - \$
Annual Sales Per Door	42,338	35,578
% Sales Improvement	19%	-
% Margin on goods sold	16%	16%
\$ Margin on goods sold	6,774	5,692
\$ Annual Improvement	\$1082 per Door	-



# Technology Comparison



# You may know the story by now

## Existing Technologies



### Halogen lights bulbs

Inefficient ( $\sim 20$  lm/w)

Radiates high levels of heat

Short lifetime typically  $\sim 3k$



### Fluorescent Tubes

Radiates IR and UV

Hot Terminals

Lifetime typically 10-20k \*

\* In  $25^{\circ}C$  ambient temperature



# Technology Comparison

## LED ~100 lm/Watt

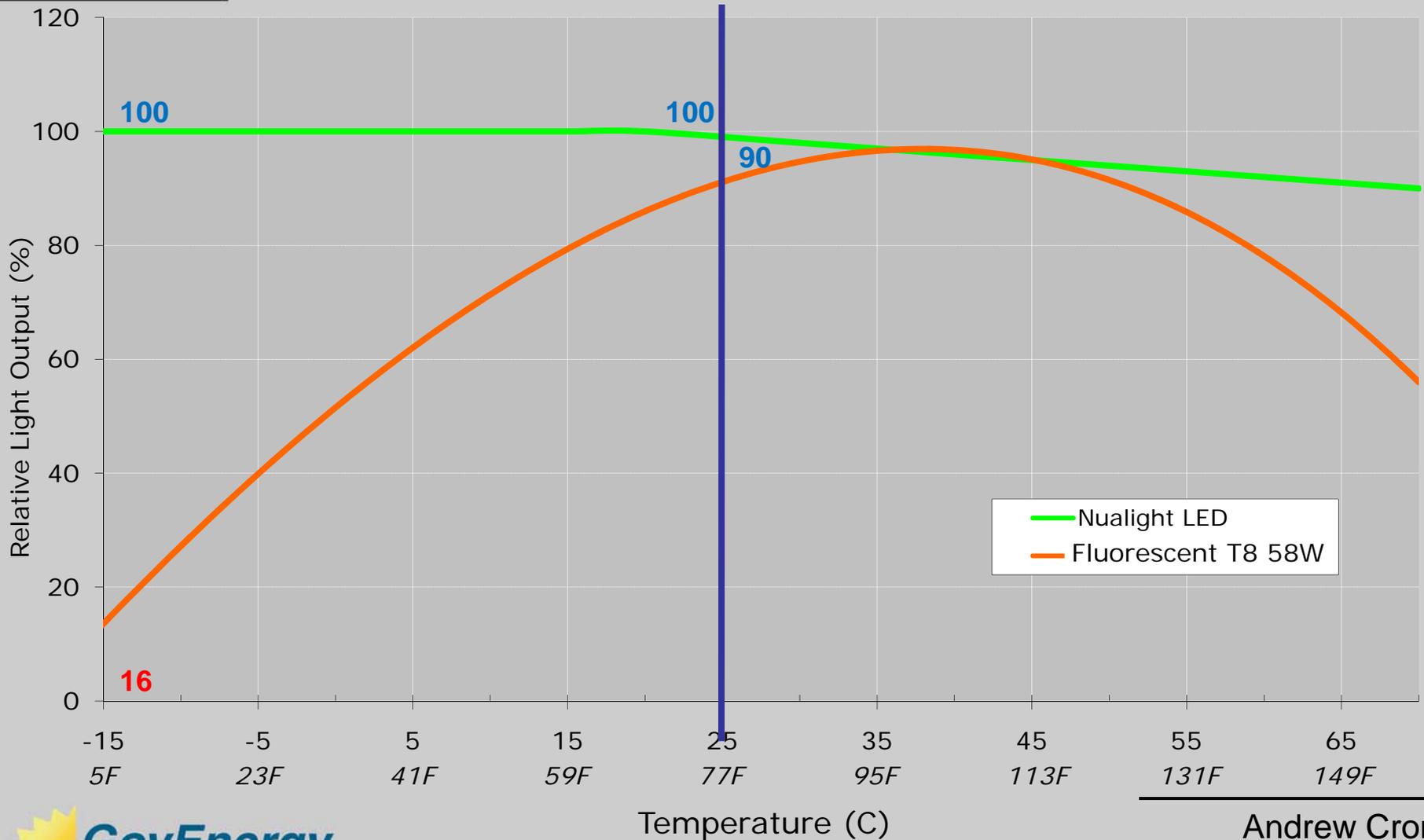
- o Directional output
- o Low profile/Scalable lengths
- o Safe low voltage 24VDC
- o Robust / non-toxic
- o Instant start-up
- o Even heat distribution
- o Suitable for low temps
- o No UV or IR
- o Long lifetime 70% @ 50k Hr
- o Graceful decay of light

## ↔ Fluorescent ~ 90 lm/Watt

- o 360° output
- o Larger profile/Fixed lengths
- o Hazardous voltages ~600v
- o Fragile glass/ Toxic mercury
- o Slow start / ignition
- o Very hot terminals
- o Problematic in low temps
- o UV and IR radiation
- o Short lifetime 10-20k Hrs
- o Catastrophic fail - instant



# Technology Comparison – Light output



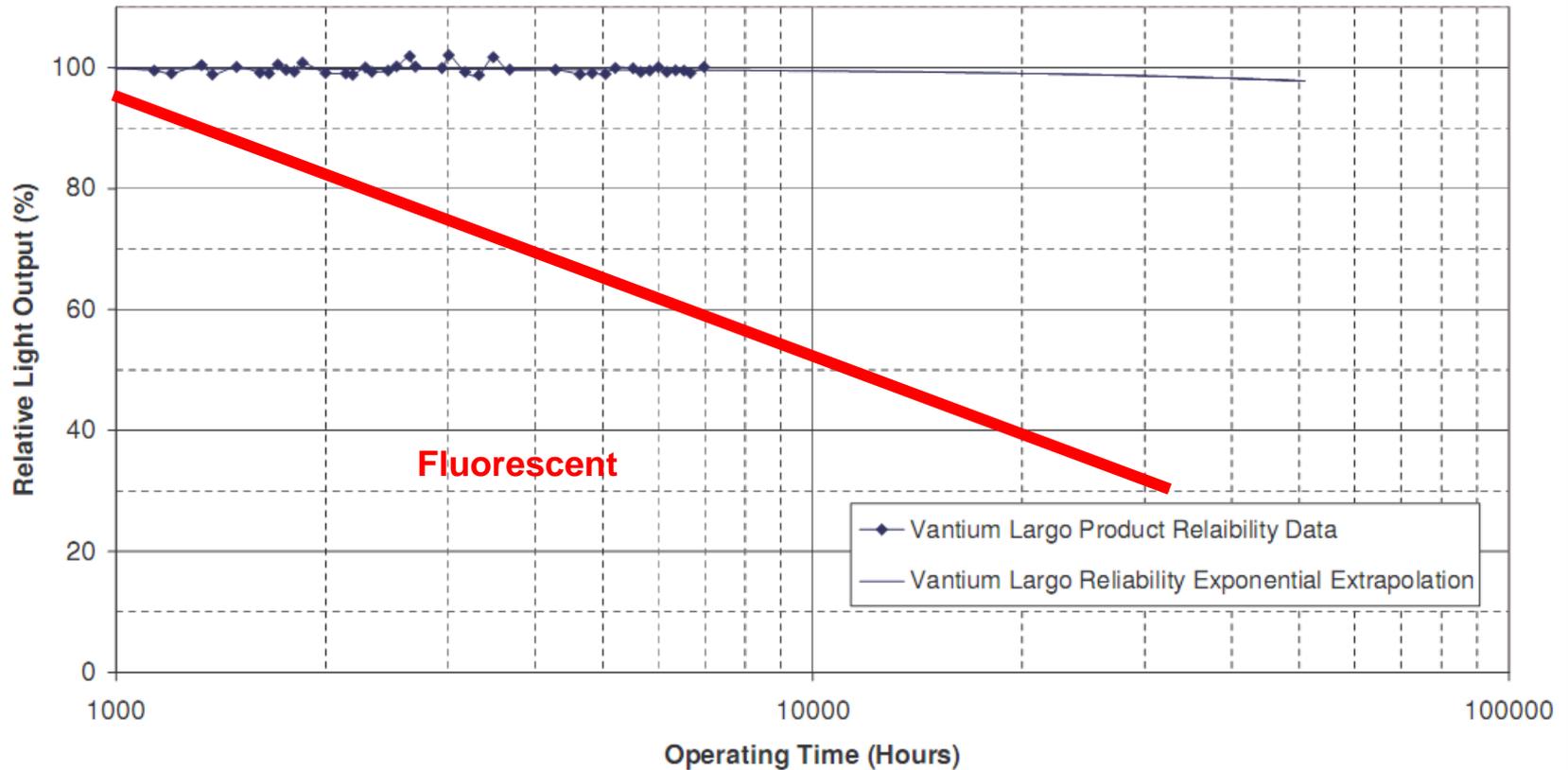


# Technology Comparison – Lifetime

## Largo Product Reliability

$T_A = 23\text{degC}$ ; RH = 50%

$L_{70\%} : > 50000$  hours





# Refrigeration Loading





# Nualight



# Vantium Flexibility



**ENERGY OPTIMISATION**



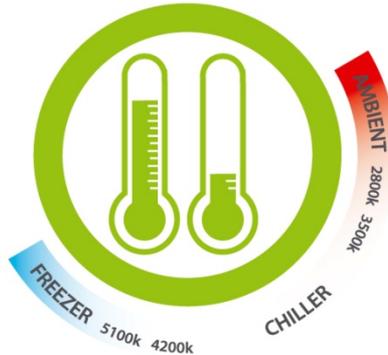
**BRIGHTER, MORE VIBRANT DISPLAYS**



**SPEED OF INSTALLATION**



**LIGHT INTENSITY**



**COLOUR TEMPERATURE**



**EASY TO RETROFIT**



# Vantium Technology Platform

## OPTICAL DESIGN

Patented design to extract maximum brightness by throwing light to the centre of the case. Provides unrivalled smoothness and uniformity and puts the light exactly where the retailer needs it – on the product face.

## ELECTRICAL CONNECTORS

Customised connectors to order that do not interfere with the servicing needs of other independent refrigeration components.

## MATERIALS

Nualight only uses Tier 1 LED suppliers using their most appropriate LED product. It does not subscribe to “one source fits all” approach.

## PROTECTIVE COVER

The unique cover design ensures the Nualight product reduces glare and optimises clarity.

## INTEGRATION

Nualight provides customised retrofit / factory fit brackets for each case type. The fixture can be mounted independent of mullion if required (i.e. freestanding). The design lends itself to a unobtrusive, inconspicuous, concealed fixture.

## SEAL

Proprietary design for anti-freeze/ anti-sweat.

## LIFETIME

The aluminium enables improved heat management resulting in unrivalled fixture lifetime. The slim profile is more aesthetically pleasing and allows for easier integration. The robustness of the design means it can handle tougher environments and is ideally suited for the busiest shops.





# The Nualight Difference



- LEADERSHIP**  
100 years Combined Expertise in Food Retail Merchandising & LED Applications
- RETAIL FOCUS**  
Patented Vantium Technology Platform Exclusively Designed for Food Retail
- FLEXIBILITY**  
Any length, any colour, any shape  
Electrical connections customised to each case
- INTEGRATION**  
Dedicated project management  
Factory-Fit / Retrofit
- INSTALLATION**  
One-stop shop  
New / Refurbished / Existing Stores

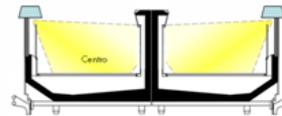
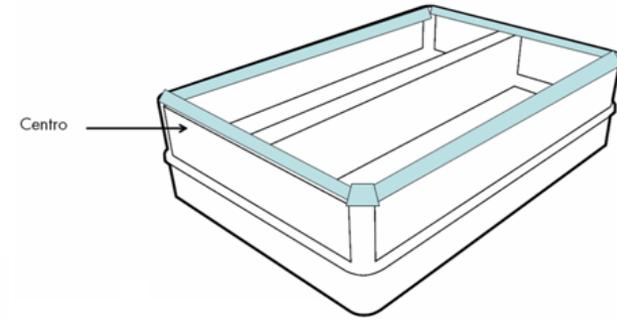
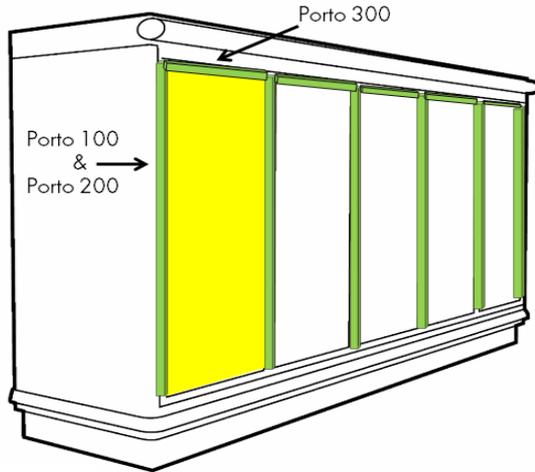
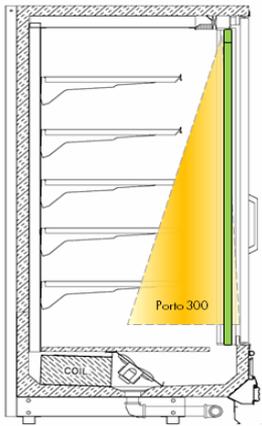
## PROJECT MANAGEMENT

- Dedicated OEM engineers
- Local and national install teams
- Refrigeration expertise
- Consultant designers
- Total system solution

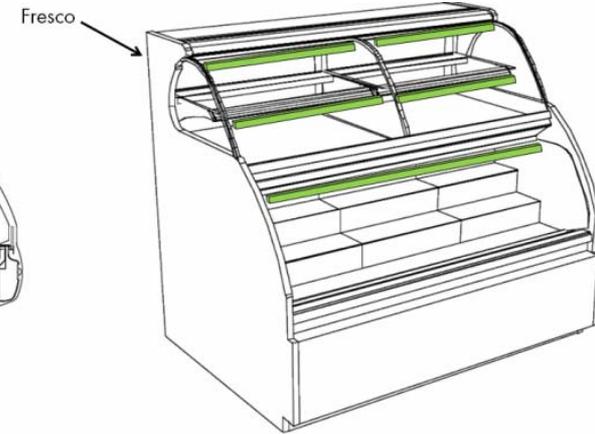
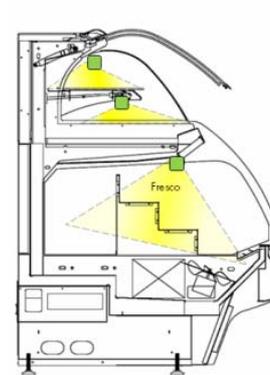
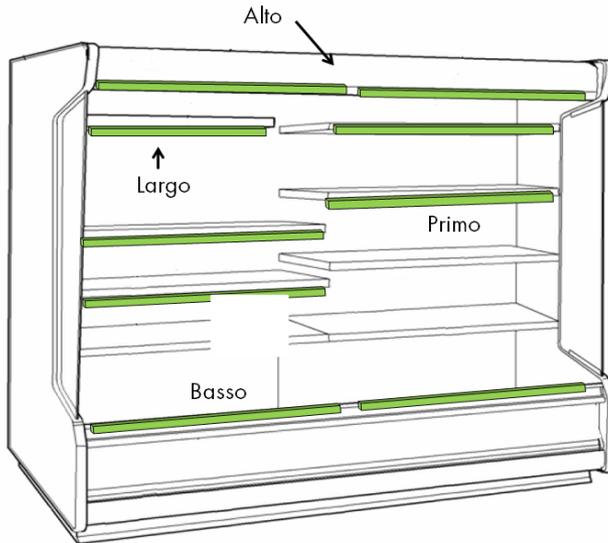
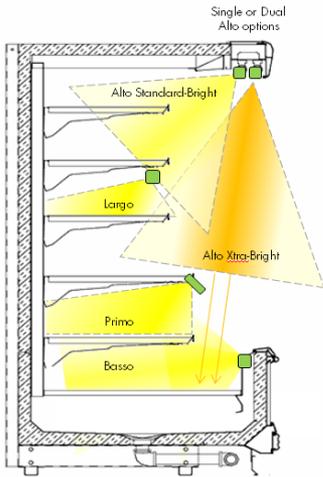
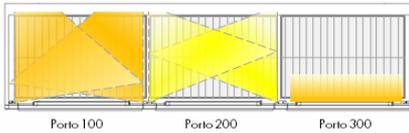


# Product Range – Application Focused

Click-fit



Frozen



Chilled





# Return of Investment

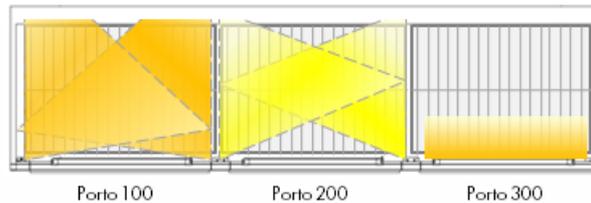
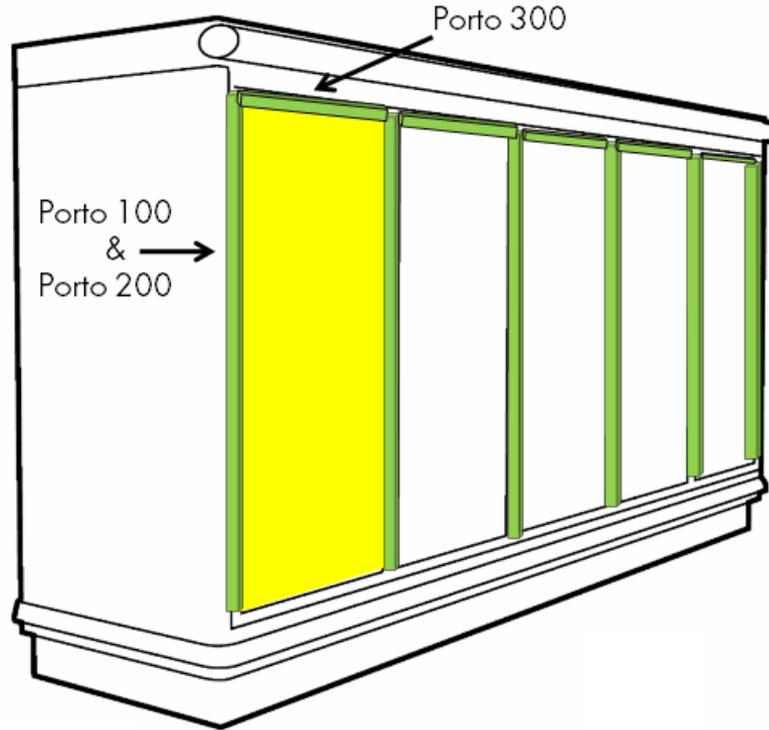
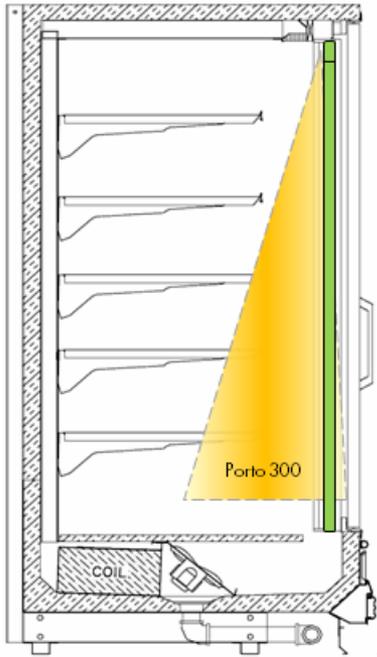


# Return of Investment

- The cost of LEDs is currently **NOT** prohibitive.
- Return of investment for retro-fit is typically 2.0 – 3.0 years.
- Return of investment for OEM integration can achieve 1.0 – 2.0 years.



# Return of Investment



Frozen

## FLUORESCENT

5 Door Case  
2 x T5 28W - Per Centre Mullion (4)  
1 x T5 28W - Per End Mullion (2)

Total = 280 W

## LED RETURN ON INVESTMENT

### Porto 100

1500mm

5 Door Case

1 x Porto 100 26W - Per Centre Mullion (4)  
1 x Porto 100 17.5W - Per End Mullion (2)

Total = 139 W

### Return of Investment

LED Luminaire Cost Estimate = €800  
Installation Cost Estimate = €140  
Total = €940

2.3 Years ROI (Index Linked)

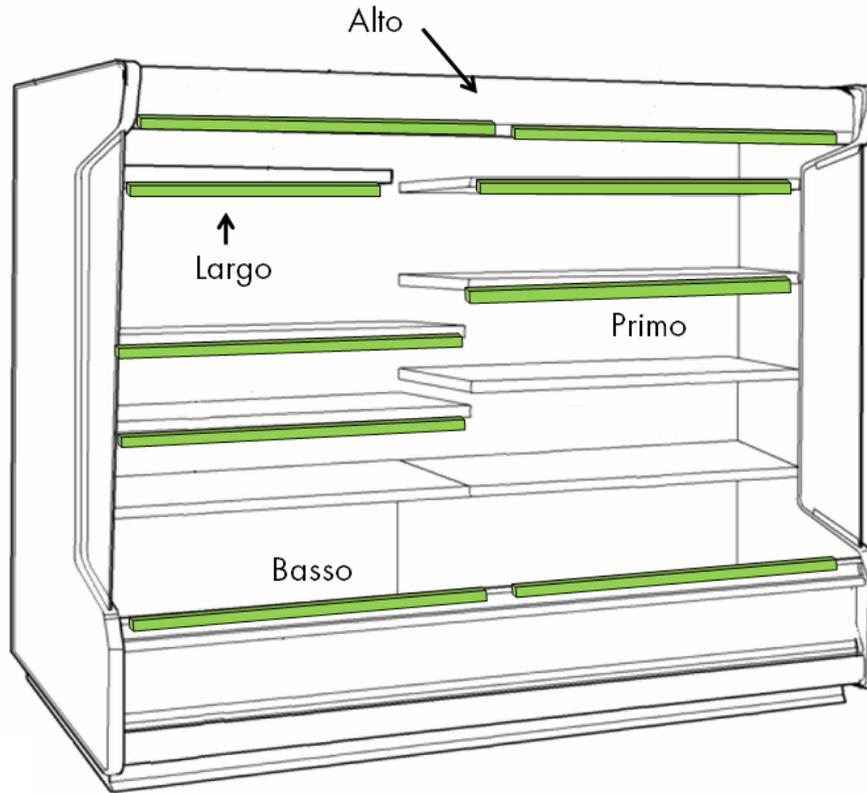
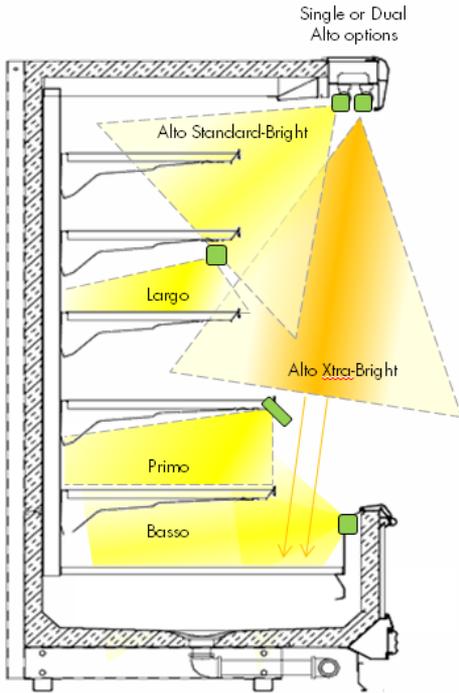
€400 per year savings

Store Opening [14Hr/364Days]  
Electricity € 0.13 Kw/Hr  
Maintenance €60.00 /Hr  
LED installation 30 mins /Luminaire





# Return of Investment



**Chilled**

## FLUORESCENT

3.5 meter Case  
 2 x T8 36W – Double Row Canopy (3)  
 5 x T8 36W – Undershelf, 5 per 1.2m bay (15)

( Canopy 216W ) + ( Undershelf 540W )  
**Total = 756 W**

## LED RETURN ON INVESTMENT

### Alto & Largo

3.5 meter Case  
 1 x Alto 28W - Per 1.2m bay (3)  
 5 x Largo 15W- Per 1.2m bay (15)

( Canopy 84W ) + ( Undershelf 225W )  
**Total = 309 W**

### Return of Investment

LED Luminaire Cost Estimate = €1,440  
 Installation Cost Estimate = €360  
**Total = €1,800**

**2.1 Years ROI** (Index Linked)  
**€835 per year savings**

Store Opening	[14Hr/364Days]
Electricity	€ 0.13 Kw/Hr
Maintenance	€60.00 /Hr
LED installation	20 mins /Luminaire



# Retro-Fit Vs OEM

- What is the true cost of LED for a case manufacturer?

Retro-Fit	2.0 – 3.0 years
LED Installed cost	= € 1,875
TOTAL	= € 1,875
Total annual savings	= € 835
Index Linked ROI	= 2.1 years

OEM	1.0 – 2.0 years
LED Installed cost	= € 1,875
<i>LESS Cost of Fluorescent fixtures &amp; fittings</i>	<i>= - € 900</i>
TOTAL	= € 975
Total annual savings	= € 835
Index Linked ROI	= 1.16 years



# Return of Investment - Non Measurables

- Quality of Lighting.
- Improved product illumination.  
Resulting in enhanced merchandising opportunities leading to an increase in sales.
- Reduced health and safety costs.
- Reduced carbon footprint.
- Product lifetime is in excess of 5 years



# Nualight

- 70% GLOBAL
  - OEM
  - Food Retailers
- 100 years of combined Food Retail & LED manufacturing.
- Manufacturing
  - USA & Europe
- FREE Consulting & Design Service

## APPROVED PARTNERS





# More Information

- The value of enhanced product merchandising
- Technology Comparison
- Nualight have a solution for every illumination challenge.
- Return of Investment

**“Lighting the way to greener retail  
– a research paper on digital lighting”**

[http://www.nualight.ie/datasheets/Research\\_Paper\\_05\\_08.pdf](http://www.nualight.ie/datasheets/Research_Paper_05_08.pdf)





# Questions

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