

# LIGHT TRAPS FOR POULTRY HOUSES

Reproductive characteristics of chickens are affected by day length. For this reason, artificial lighting is used inside mechanically ventilated pullet houses to control “day length” and thus, optimize productivity. Not only must artificial lighting be supplied but natural daylight must also be excluded. Light traps are used in mechanically ventilated pullet houses to restrict the transmittance of outside light while allowing air to pass through. Both light restriction and minimal airflow restriction are important factors for a properly designed house.

## Characterizing Light Traps

A light trap test consists of two components:

- Resistance to airflow
- Resistance to light transmission

## Resistance to Airflow

The light traps were mounted in a 48" x 48" opening in the BESS Lab airflow measurement chamber. Resistance to airflow is presented in graphical format with static pressure (in. water) plotted vs. face velocity (fpm). *When comparing light traps at a given face velocity, a lower static pressure indicates less airflow resistance.*

## Resistance to Light Transmission

Four 1500W halogen lamps were placed outside the light traps to simulate direct sunlight. Light measurements were taken at the outside face and the inside face of the light trap. The “Light Reduction Factor” was calculated by dividing the outside light intensity by the inside light intensity. *When comparing light traps, a higher “Light Reduction Factor” indicates greater resistance to light transmission.*

## Installation and Management Factors Affecting Performance

Care should be taken during installation to insure a tight installation with no gaps between sections. Any light leakage can lower the installed Light Reduction Factor. Accumulation of light colored dust on the light trap may also lower the Light Reduction Factor.

## Additional References

Czarick, M., M.P. Lacy and G.L. Van Wicklen. 1998. *Light Traps for Breeder Pullet Houses*. Poultry Housing Tips. Volume 10 Number 3. Cooperative Extension Service, The University of Georgia, Athens, GA 30602

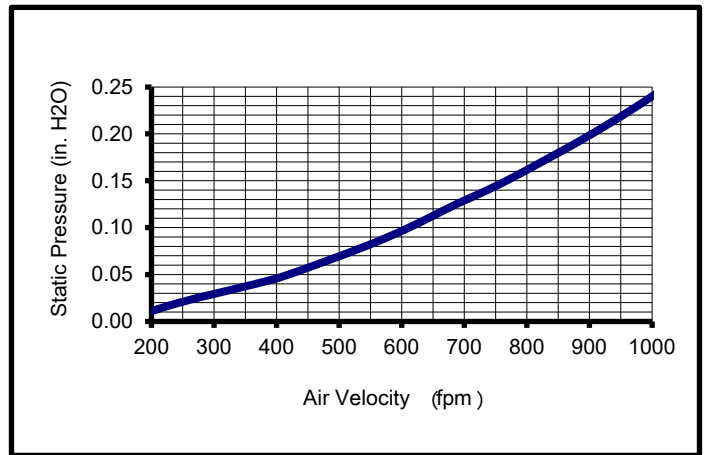
Wineland, M.J. 1990. *Light Management for Broiler Breeders*. Poultry Science Facts. North Carolina Agricultural Extension Service, Poultry Science Department, N.C. State University, Raleigh, NC 27695

**ACME  
LTP Poultry light trap**

**Test:**  
02218

**Light trap description:**  
Plastic vertical vanes  
spaced on 0.75" centers

**Light reduction factor:**  
**28,000,000:1**

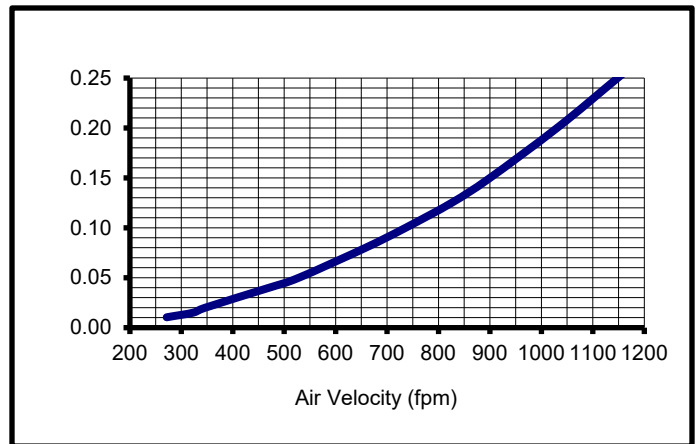


**BIG DUTCHMAN  
Lamelia Light Trap, Brownout**

**Test:**  
23285

**Light trap description:**  
Plastic vertical vanes  
spaced on 1.2" centers  
8.7" deep

**Light reduction factor:**  
**4,100:1**

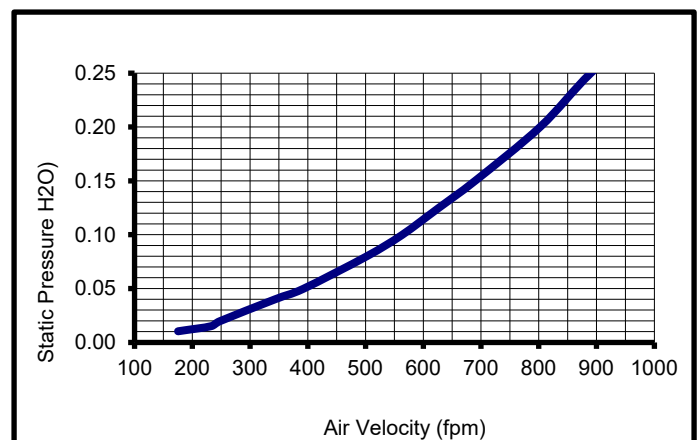


**BIG DUTCHMAN  
Lamelia Light Trap, Blackout**

**Test:**  
23286

**Light trap description:**  
Plastic vertical vanes  
spaced on 1.2" centers  
8.2" deep

**Light reduction factor:**  
**7,100,000:1**

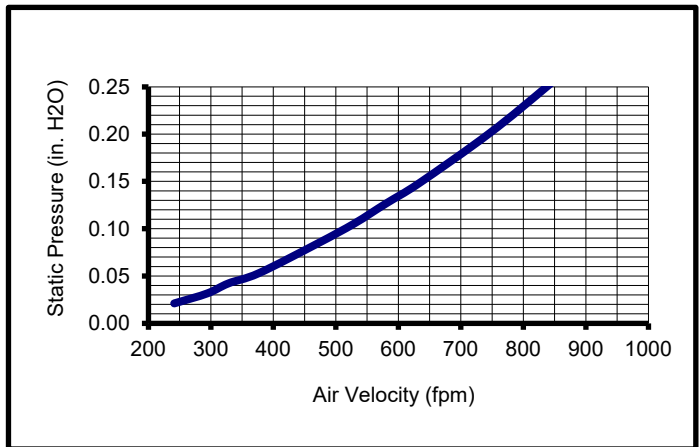


**BRENTWOOD INDUSTRIES  
LT CDX150**

**Test:**  
00126

**Light trap description:**  
Plastic sectional design  
11" thick x 12" wide sections

**Light reduction factor:**  
**68,000,000:1**

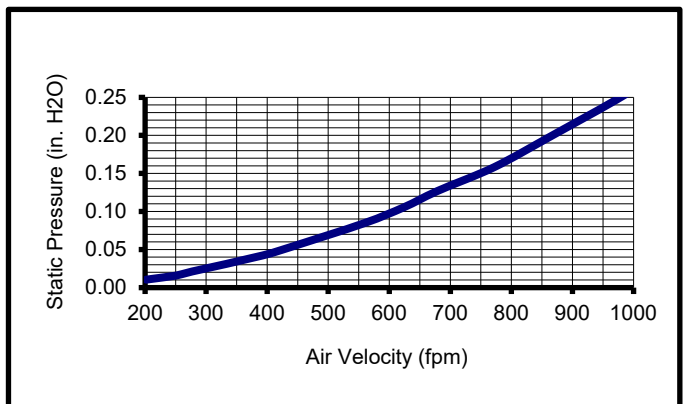


**BRENTWOOD INDUSTRIES  
LT DE120**

**Test:**  
00125

**Light trap description:**  
Plastic sectional design  
11.5" x 12" wide sections

**Light reduction factor:**  
**1,900,000:1**

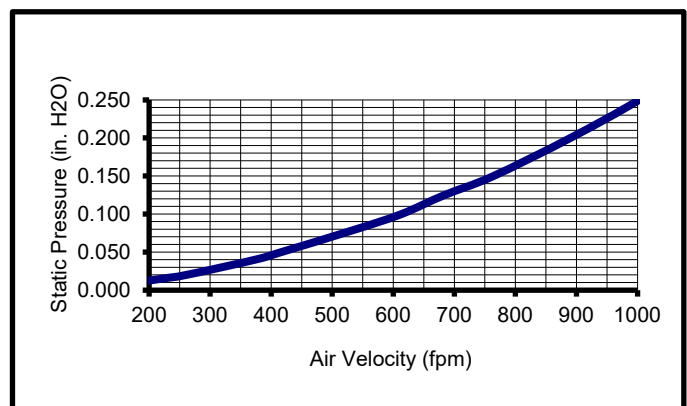


**DANDY  
MAX FLOW**

**Test:**  
12160

**Light trap description:**  
Plastic vertical vanes spaced at 0.8"

**Light reduction factor:**  
**7,000,000:1**

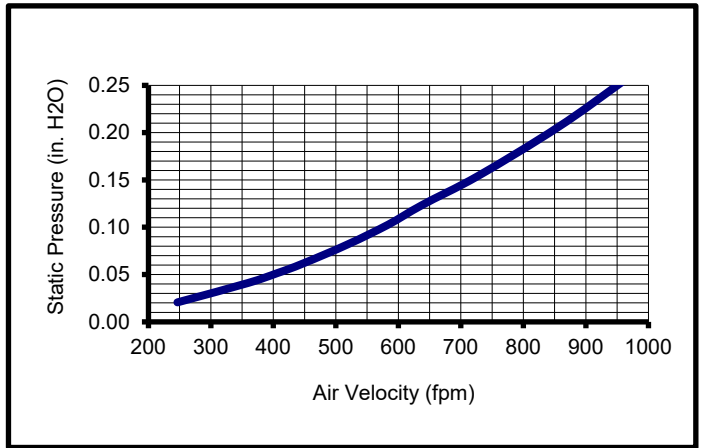


**DDI  
BROWNOUT 1.1**

**Test:**  
01066

**Light trap description:**  
Plastic vertical vanes spaced at 1.1"

**Light reduction factor:**  
4,000,000:1

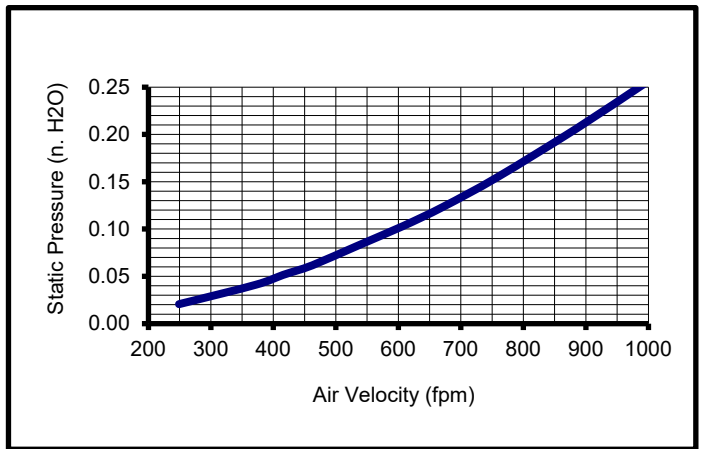


**DDI  
BROWNOUT 1.0**

**Test:**  
01067

**Light trap description:**  
Plastic vertical vanes spaced at 1.0"

**Light reduction factor:**  
8,500,000:1

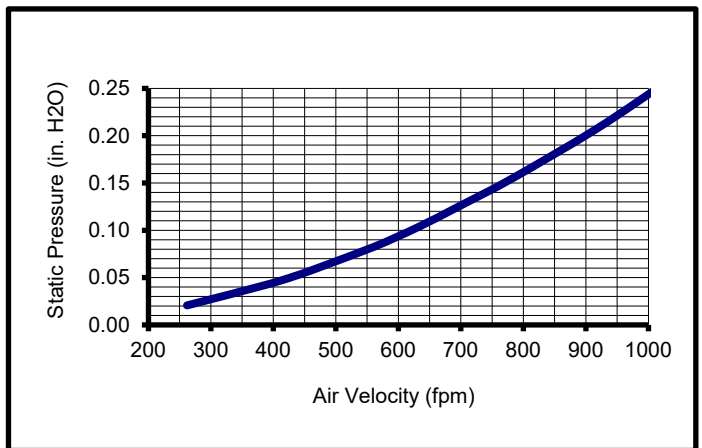


**DDI  
SUPERDARK 0.7"**

**Test:**  
01068

**Light trap description:**  
Plastic vertical vanes spaced at 0.7"

**Light reduction factor:**  
85,000,000:1

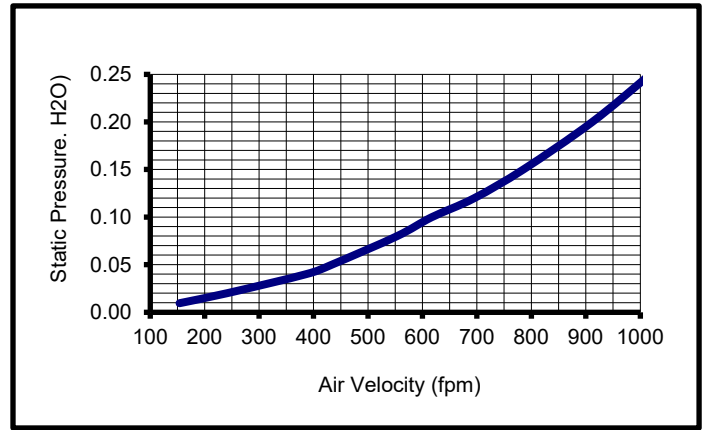


**GIGOLA & RICCARDI  
PCO 160**

**Test:**  
17570

**Light trap description:**  
Plastic 1" x 2" grid  
6.3" deep

**Light reduction factor:**  
82,000:1

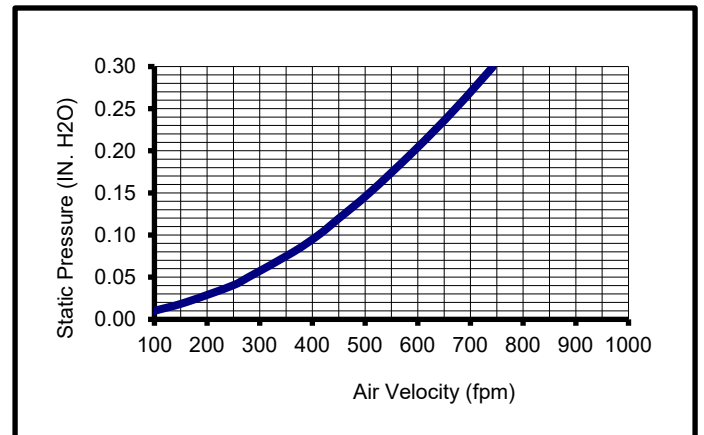


**GIGOLA & RICCARDI  
COOLING & DARKENING CELLULOSE  
PAD**

**Test:**  
17571

**Light trap description:**  
Corrugated cellulose cooling pad  
5.9" deep

**Light reduction factor:**  
1,000,000:1

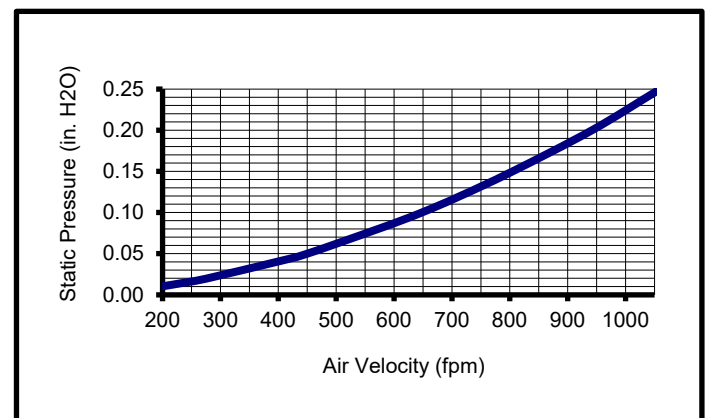


**HIRED HAND  
HHI BLACKOUT**

**Test:**  
04340

**Light trap description:**  
Plastic vertical vanes spaced at 0.75",  
9.8" deep

**Light reduction factor:**  
14,000,000:1



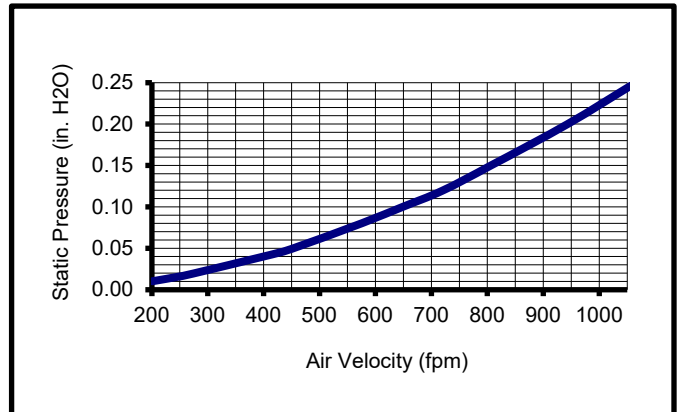
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**HIRED HAND  
HHI BROWNOUT**

**Test:**  
04341

**Light trap description:**  
Plastic vertical vanes spaced at 1",  
9.8" deep

**Light reduction factor:**  
5,600,000:1



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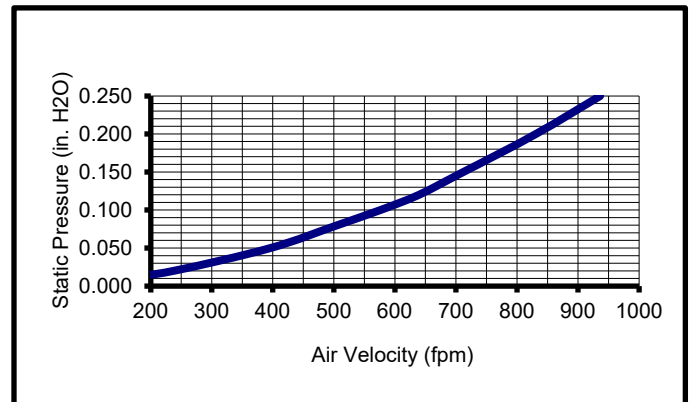
**QINGDAO SHUANGJUNLI MACHINERY  
Co., LTD**

**50" DM-LT**

**Test:**  
17648

**Light trap description:**  
Plastic vertical vanes spaced at 1.1",  
9.8" deep

**Light reduction factor:**  
13,000,000:1



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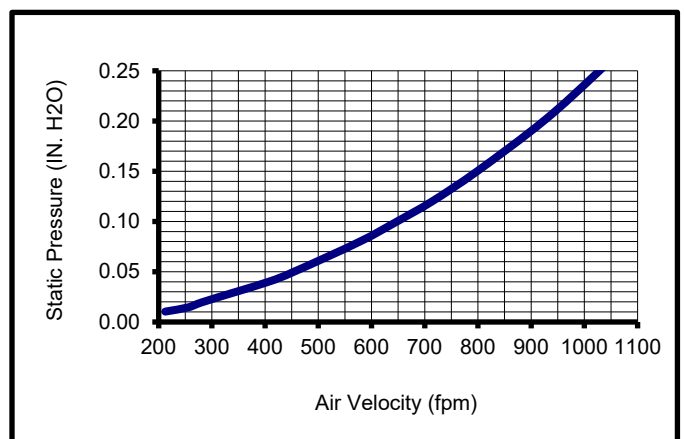
**RED TRUCK SUPPLY**

**RTS 26**

**Test:**  
10469

**Light trap description:**  
Plastic vertical vanes spaced at 0.8",  
9" deep

**Light reduction factor:**  
26,000,000:1

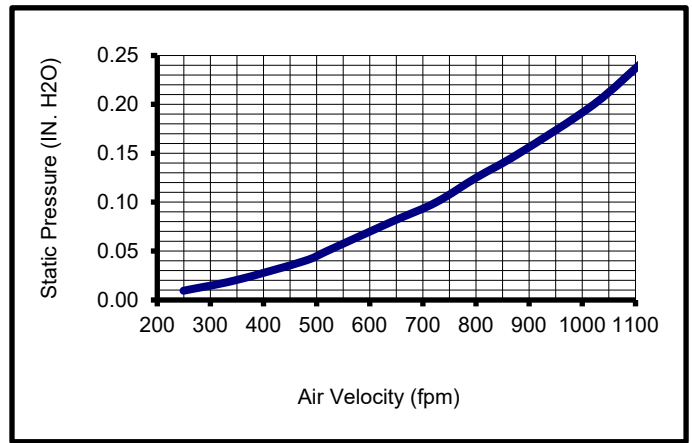


**RED TRUCK SUPPLY  
RTS BROWN**

**Test:**  
12738

**Light trap description:**  
Plastic vertical vanes spaced at 0.8",  
5" deep

**Light reduction factor:**  
**21,000:1**

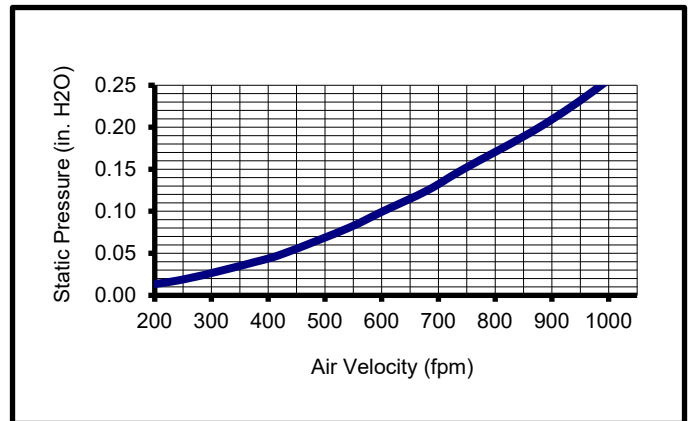


**TERMOTECNICA PERICOLI S.R.L.  
LTP**

**Test:**  
12347

**Light trap description:**  
Plastic vertical vanes spaced at 1.1"  
10" deep

**Light reduction factor:**  
**2,200,000:1**

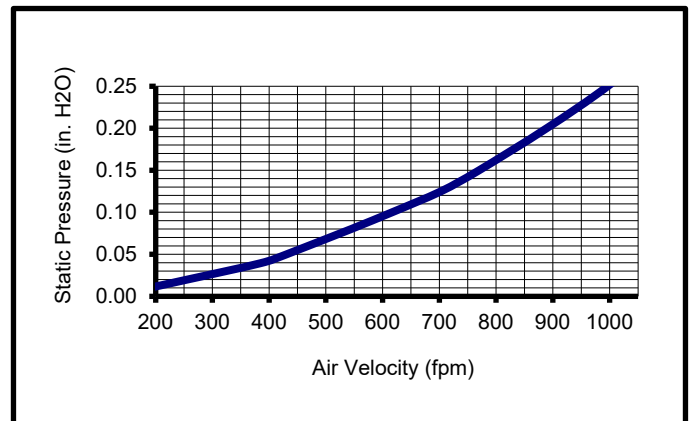


**TERMOTECNICA PERICOLI S.R.L.  
PERIDARK 130**

**Test:**  
12348

**Light trap description:**  
Modular plastic  
5.1" deep

**Light reduction factor:**  
**5,600:1**



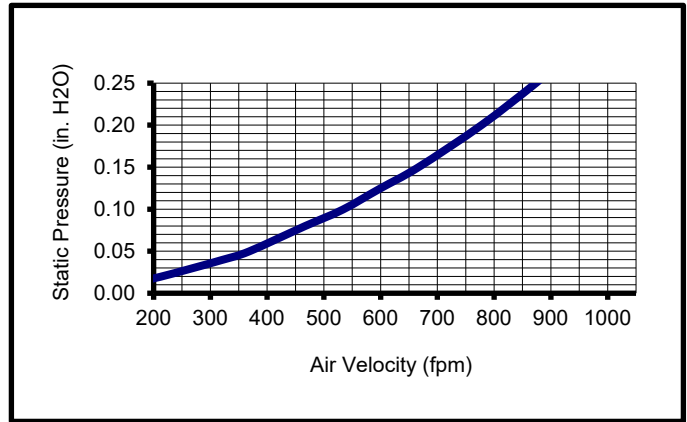
**TERMOTECNICA PERICOLI S.R.L.**  
**PERIDARK 260**

**Test:**  
12349

**Light trap description:**  
Modular plastic  
10.2" deep

**Light reduction factor:**  
**13,000,000:1**

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## POULTRY LIGHT TRAP MANUFACTURERS

Acme Engineering & Manufacturing Corp. ph. (918) 682-7791  
P.O. Box 978 [www.acmeag.com](http://www.acmeag.com)  
Muskogee, OK 74402

Big Dutchman, Inc ph. 616-582-4010  
3900 John F. Donnelly Dr. [www.bigdutchmanusa.com](http://www.bigdutchmanusa.com)  
Holland, MI 49424

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P.O. Box 605 [www.brentwoodindustries.com](http://www.brentwoodindustries.com)  
Reading, PA 19603-0605

Dandy ph. (800) 222-4166  
P.O. Box 409 email: [gmsales@i-america.net](mailto:gmsales@i-america.net)  
Statesville, NC 28687-0409 <http://dandypullethouse.com>

DDI ph. (563) 557-0385  
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Dubuque, IA 52001

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Hired Hand, Inc. ph. (800) 642-0123  
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