

Litewave™ HE

Recessed Lens Luminaire

LITECONTROL

A recessed enclosed luminaire featuring the latest highly efficient lens technology.

## 2x4

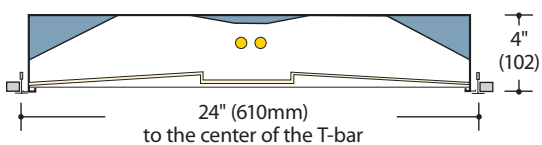


## Features

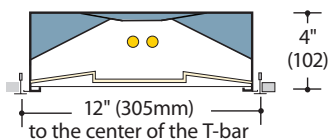
- Highly efficient one-piece extruded lens
- Available in 2 x 2, 2 x 4, and 1 x 4 sizes
- All sizes available with 1-, 2-, and 3-lamp T8 and T5 and 1- and 2-lamp T5HO
- Cradle to Cradle Silver Certified<sup>CM</sup>



## 2x4 or 2x2



## 1x4



## 1x4



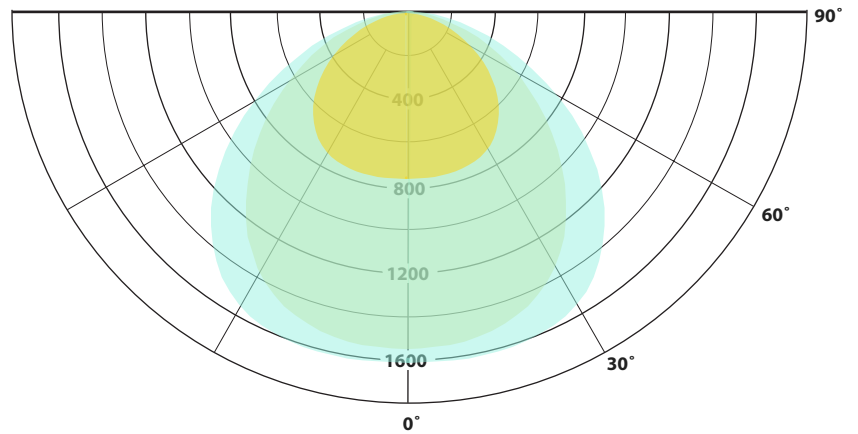
## 2x2



## Performance

- Achieves efficiencies over 80% in many configurations
- Provides lighting onto nearby vertical surfaces to avoid the “cave effect”
- Satisfies most utility rebate programs
- Uses NEMA premium ballasts
- Provides efficient diffusion of lamp images
- Prevents light leaks with gasketed door

- 2x2 2-lamp T8
- 1x4 2-lamp T8
- 2x4 2-lamp T8



**Contractor friendly with easy access to lamps and easy-to-clean lens.**

## Maintenance

- One-piece “lift & shift” door frame allows for easy access
- Safety tethers hold door in place during maintenance
- Lens can be handled without fingerprinting
- HE lens needs no special cleaning; simply wipe with window cleaner
- No protective films to remove





## Lighting Classrooms

**Performance and comfort in an educational setting.**



Many classrooms today use older 3-lamp parabolic fixtures. These fixtures focus the light on the desks but result in dark walls and shadows on the whiteboard, creating a gloomy atmosphere in the room. The 2-lamp Litewave HE uses much less energy and provides a pleasant learning environment with brighter room surfaces, more uniform lighting, and less shadowing.

Evaluating the benefits of the high quality lighting provided by the Litewave HE requires looking beyond simple desktop footcandle levels. Our perceptions of room brightness and pleasantness depend on vertical surface lighting, not just the desk tops. And classroom learning depends on effective lighting on the whiteboard as well as the desks. The example on the next page demonstrates the improved learning environment provided by Litewave HE.



# Lighting Classrooms

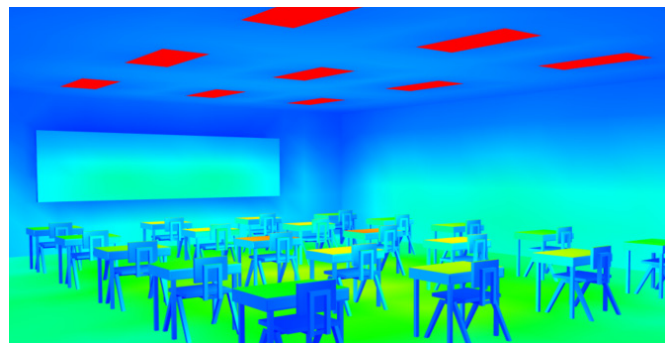
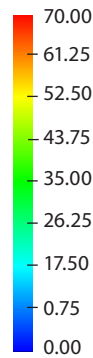
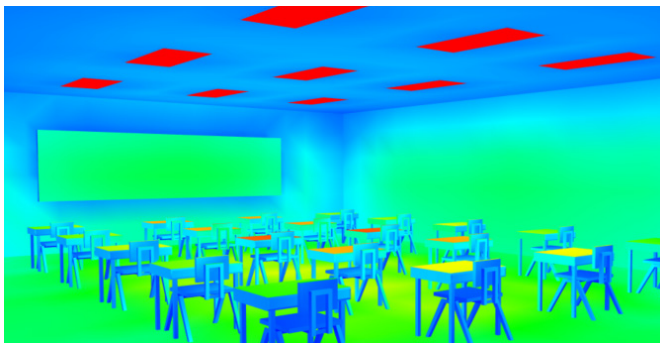
Save energy and improve learning with less shadows and better whiteboard lighting.

## 24ft x 30ft Classroom

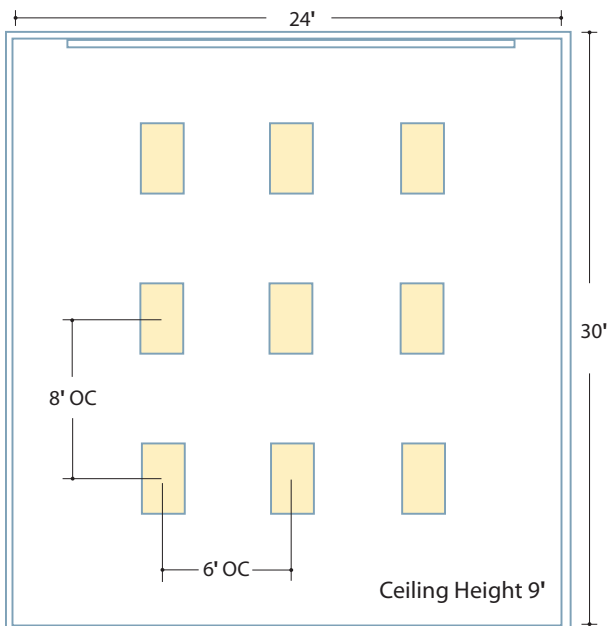
Litewave HE



The Competition (Deep Cell Parabolic)



Illuminance (Fc)



24ft x 30ft Classroom					
Fixture	Lamping	Fixture Efficiency (%)	Power Density (W/ft <sup>2</sup> )	Avg FC	Max/Min FC Ratio
<b>Workplane</b>					
Litewave HE 2x4	(2) 32W T8	82	0.7	45	4.6
4" Parabolic 18 Cell	(3) 32W T8	62	1.1	55	7.8
Lensed Troffer	(3) 32W T8	77	1.1	65	6.6
<b>Whiteboard</b>					
Litewave HE 2x4	(2) 32W T8	82	0.7	27	1.4
4" Parabolic 18 Cell	(3) 32W T8	62	1.1	23	1.6
Lensed Troffer	(3) 32W T8	77	1.1	29	1.8

The 2-lamp Litewave HE greatly reduces the W/ft<sup>2</sup> compared to a 3-lamp parabolic, provides more light onto the whiteboard, and provides much better uniformity as shown by the max:min footcandle ratio. The desktop footcandles meet recommended levels, and the room appears brighter because of the greatly improved wall lighting and the overall increased uniformity.

**Assumptions/Givens for Example:** Calculated values using AGI 32 software

Light Loss Factor = 0.78, Surface Reflectances = 80/50/20, Workplane height = 2.5', Whiteboard Location = Centered horizontally in the front of the room, 3' above the floor

# Lighting Offices

Avoid the cave effect for a brighter, more pleasant office.

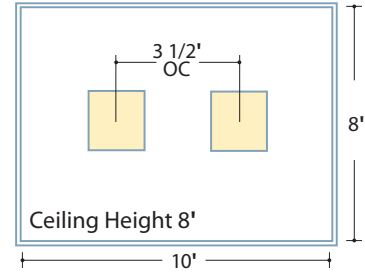


## 8ft x 10ft Small Office

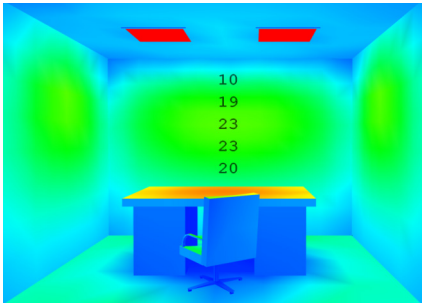
Litewave HE 2x2



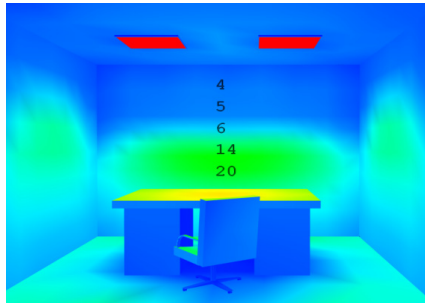
The Competition (Deep Cell Parabolic)



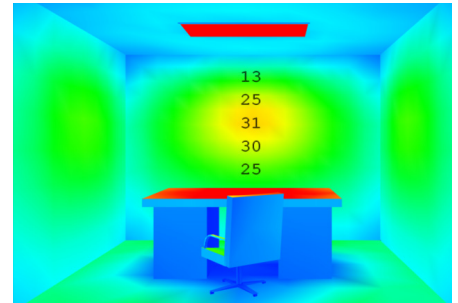
Litewave HE 2x2



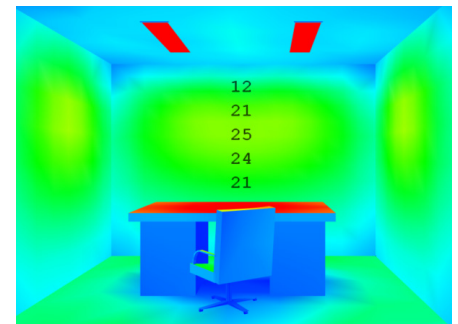
The Competition (Deep Cell Parabolic)



Litewave HE 2x4



Litewave HE 1x4



8ft x 10ft				Desktop		Wall	
Fixture	Lamping	Fixture Efficiency (%)	LPD (W/ft <sup>2</sup> )	Avg FC	Max/Min FC Ratio	Avg FC	Max/Min FC Ratio
<b>Two 2x2</b>							
Litewave HE 2x2	(2) 17W T8	75	0.7	34	1.2	16	2.3
Deep-cell Parabolic	(2) 17W T8	57	0.7	32	1.1	9	3.8
<b>Two 1x4</b>							
Litewave HE 1x4	(1) 32W T8	83	0.7	40	1.1	19	2.8
<b>One 2x4</b>							
Litewave HE 2x4	(2) 32W T8	82	0.7	41	1.2	20	3.9

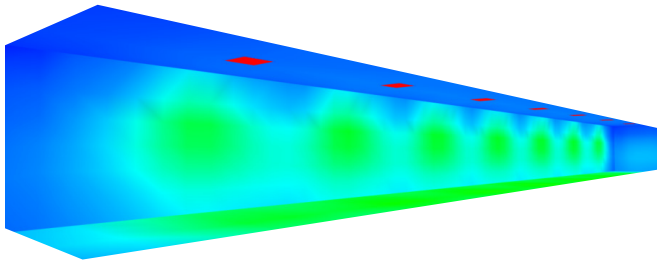
**Assumptions/Givens for Examples:** Calculated values using AGI 32 software  
Ballast Factor = 0.88, Light Loss Factor = 0.78, Surface Reflectances = 80/50/20, Desk Height = 2.5'

The pseudo-color renderings above dramatically show the "cave effect" produced by parabolic fixtures in private offices, with dark corners and upper walls. Litewave HE fixtures provide adequate desktop footcandle levels with much better vertical surface lighting.

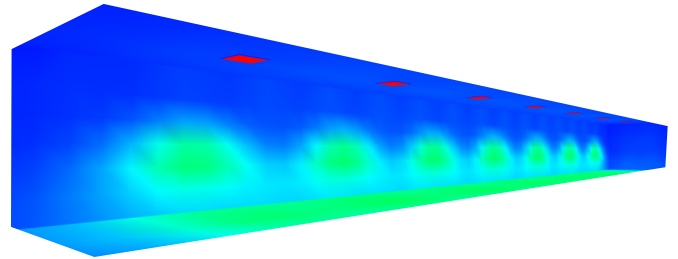
# Lighting for Corridors

Less energy, fewer fixtures and brighter walls in your corridors.

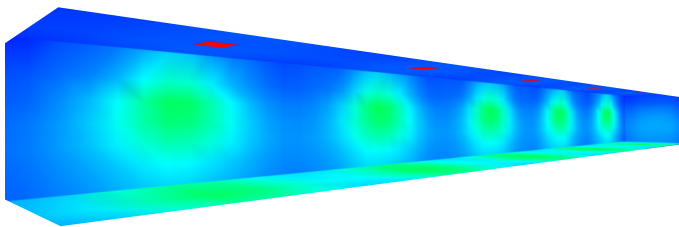
Litewave HE 2x2 12ft OC



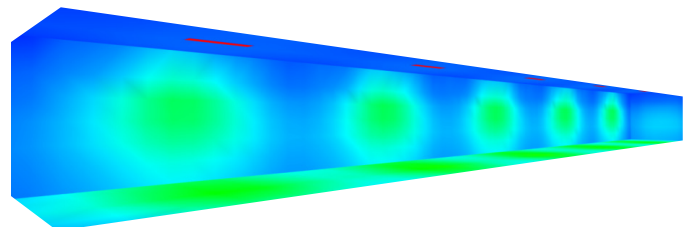
The Competition (Deep Cell Parabolic) 12ft OC



Litewave HE 2x2 18ft OC



Litewave HE 1x4 18ft OC

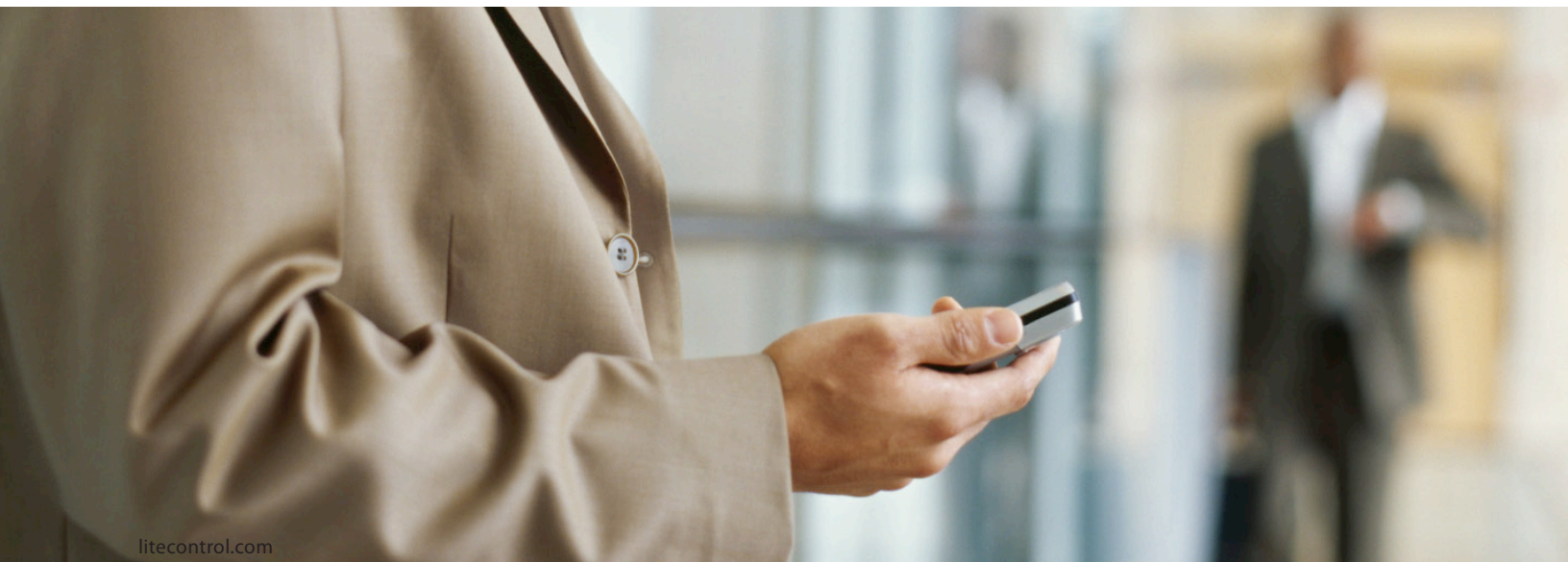
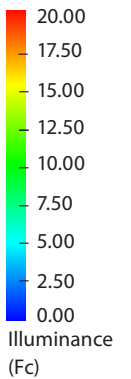


Corridor				Floor	Wall	
Fixture	Lamping	Efficiency (%)	Power Density W/ft <sup>2</sup>	Avg FC	Avg FC	Max/Min FC Ratio
Litewave HE 2x2 18ft OC	(2) 17W T8	75	0.2	6	4	4.0
Litewave HE 2x2 12ft OC	(2) 17W T8	75	0.3	9	6	4.5
Litewave HE 1x4 18ft OC	(1) 32W T8	83	0.2	8	5	4.0
Deep-cell Parabolic 12ft OC	(2) 17W T8	57	0.3	7	3	7.0

### Assumptions/Givens for Examples:

Calculated values using AGI 32 software  
 Light Loss Factor = 0.78, Surface Reflectances = 80/50/20  
 Wall Height = 9', Corridor width = 10'

Corridor lighting solutions often focus only on footcandles on the floor, sometimes with grim results. A typical solution with recessed parabolic fixtures spaced on 12' centers provides the required 5-10 footcandles, but produces very dark upper walls and high max:min ratios on the walls. Using Litewave HE fixtures on the same spacing increases the light levels with greatly improved wall lighting. Or you can space the Litewave HE fixtures further apart to save energy and still have adequate light levels and improved wall lighting.



Fixture Style	Ceiling Grid	Size (feet)	Height Above Ceiling	Lamping	Shielding Options	Value Tier	LiteSpeed Quick-Ship
<b>HE Lens (LHE)</b>	15/16" grid (G) 9/16" narrow grid (NG) Screw slot (SS) Drywall (R)	2 x 2 2 x 4 1 x 4	4"	T8 T5	One-piece extruded HE Lens	\$	10 DAY
<b>Recessed Center Basket (LRC)</b>	15/16" grid (G) 9/16" narrow grid (NG) Screw slot (SS) Drywall (R)	2 x 2 2 x 4	4 3/4"	T8 T5 CFL	Perforated Basket	\$	
		1 x 4	4 1/4"				
<b>4" Dropped Center Basket (L4C)</b>	15/16" grid (G) 9/16" narrow grid (NG) Screw slot (SS) Drywall (R)	2 x 2 2 x 4 1 x 4	2 1/8"	T8 T5 CFL	Perforated Basket	\$	
<b>7" Dropped Center Basket (L7C)</b>	15/16" grid (G) 9/16" narrow grid (NG) Screw slot (SS) Drywall (R)	2 x 2 2 x 4 1 x 4	3/4"	T8 T5 CFL	Perforated Basket	\$	
<b>Recessed Side Basket (LRS)</b>	15/16" grid (G) 9/16" narrow grid (NG) Screw slot (SS) Drywall (R)	2 x 2 2 x 4	4 3/4"	T8 T5 CFL	Perforated Basket	\$	
<b>Recessed Asymmetric Basket (LRA)</b>	15/16" grid (G) 9/16" narrow grid (NG) Screw slot (SS) Drywall (R)	2 x 2 2 x 4	4 3/4"	T8 T5 CFL	Perforated Basket	\$	
		1 x 4	4 1/4"				

© 2011 LITECONTROL. Printed in U.S.A./BO101202-01  
Cradle to Cradle Certified™ is a certification mark of MBDC.

Visit [litecontrol.com](http://litecontrol.com) for full product details, including technical sheets, photometric data and IES files.

