New

Biosirus

Intelligent Lighting

Advanced LED Lighting

60/80/100/150/200/300 Watts








- **Chip-on-Board (COB) Design; High Thermal Conductivity**
- **Long Life: 50,000–80,000 hours; Lm/Watt > 110**
- **High Lumen Maintenance > 70% after 50,000 hours**
- **CRI ≥80; R9≥20 (True Colour; Tri-Chromatic RGB)**
- **Wide Range Colour Temperature: 2700k – 6500k**
- **High Power Factor ≥ 0.95 (lower Demand Charges)**
- High Savings:
  - 100W LED Lamp Replaces – 200W Fl. (T5/T8); 400W MH; 500W MV
  - Energy Savings – Up to 75% compared to MH/MV
  - Cooler Lamp Temperature – 80 deg. C (versus 300 deg. C for MH/MV)
- Instant Start – No Preheating
- No Flash, No Glare, No Risk of Eye Damage
- Optically Controlled Parabolic Beam angles – 7/15/31/50/ 95/132/180 degrees
- High-Tech Ballast
- Wide Operating Voltage Range -110V (80-140V); 220V (180-270V)
- High Performance Aluminum Housing
- Applications:
  - Indoor – Industrial, Commercial, Institutional, Utilities
  - Outdoor – High Mast, Floodlights, Street lights, Perimeter, Wall mount
  - Explosion Proof Applications
  - High Bay (10-30m); Medium (6-10m); Low (4-6m)
- -40 to +50 Deg. C operating range; IP 65-68
- UL, CE, DLC
- 5 year Warranty / Extended Warranty Options
- Financing Available

Comparison:

Parameters (Av. current market comparators)	Advanced Induction	Advanced Induction	FL. (T5/T8)	MV	MH
Wattage (Watts)	100	100	200	500	400
Watts Consumed (Watts)	105	90-100	225	580	460
Luminescence @ 10m (Lux)	90	97	2-4	58	92
Life (hours)	50,000 – 80,000	60,000 – 100,000	8,000 – 12,000	4,000	8,000
Lumen Maintenance	70% after 50,000 Hrs	70% after 60,000 Hrs	50% after 8,000 Hrs	50% after 4,000 Hrs	50% after 8,000 Hrs
Power Factor	≥ 0.95	≥0.98	0.9	0.6 – 0.9	0.9
Heat Output (deg C)	60-80	60-70	≤60	>300	>400
Start Up	Instant	Instant	Instant	Preheating	Preheating
Directional Lamp Elements	Yes	No	No	No	No
Glare / Flash	Yes	No	No	Yes	Yes
Colour Rendering (Ra.) **R9 Rendering**	75-80 9-20	≥80 31-35	40-70 -(5-20)	≥40 -(68–299)	≥60 -(88-113)
Flicker	No	No	Yes	No	No

The Lumen Myth:

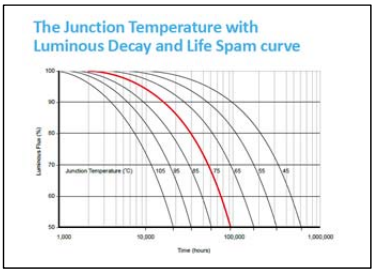
What matters is how the eye sees the work surface. Design lumens (Photopic) as measured by the light meter, can be misleading. Pupil lumen (Scotopic) represents the sensitivity of the eye to interior lighting conditions and cannot be measured directly by light meters. **This factor can be significant for high CRI lamps.**
The combination of low bulb temperature and pupil lumen is key.

- Temperatures above 200 deg. C causes reflector oxidation & bulb darkening
- Pupil lumens for LED/Induction is significantly higher than MH/MV (see picture)
- High R9 value is a significant contributor *(many are negative or around zero)*

Same design lumen can have different "usable light output" and "apparent brightness".
The resultant lux "magnification" for Induction/LED can be almost 1.7-2.0 times MH/MV even from a casting height of 10 metres. **Higher lumen does not mean higher "human-eye" luminescence!**

Let's Talk Colour:

The extent of color presence of illuminated objects is called color rendering. It directly equates to color fidelity. High color rendering performs a better color reproducibility, offering more nature-like color. The Advanced LED lighting's color rendering beats almost all lighting systems.



And Savings Too:

Parameters (Av. current market comparators)	Advanced LED	Advanced Induction	FL. (T5/T8)	MV	MH
Individual Lamp:					
• Wattage (Watts)	100	100	200	500	400
• Watts Consumed (Watts)	100	108	225	580	460
Relative Consumption	1.0	1.08	2.25	5.8	4.6
Annual Energy Used/Lamp:					
• Kwh/day (@ 10hrs/day)	1.0	1.08	2.25	5.80	4.60
• kWh/year (@ 360 days)	360.00	389.00	810.00	2,088.00	1,656.00
Energy Cost /Lamp					
• Annual Cost (@10 ¢/kwh) 1 Year Relativity	$36.00	$38.80 +$2.80	$81.00 +$45.00	$208.80 +$172.80	$165.60 +$129.60
5 year Relativity		+$14.00	+$225.00	+$864.00	+$648.00
Extra: Bulb Replacement + Labour	(No)	(No)	(Yes)	(Yes)	(Yes)
• Annual Cost (@15 ¢/kwh) 1 Year Relativity	$54.00	$58.32 +$4.32	$121.50 +$67.50	$313.20 +$259.20	$248.40 +$194.40
5 year Relativity		+21.60	+$337.50	+$1,296.00	+$972.00
Extra: Bulb Replacement + Labour	(No)	(No)	(Yes)	(Yes)	(Yes)

Do the math for 100 lamps or 500 lamps in your facility – the savings are huge with Advance Induction lighting.

Additional Savings with Advanced Induction Lighting:

- Lower air-conditioning (or cooling) costs (65 deg. C for LED vs. 300 deg. C for MH / MV). Excellent for Refrigeration Plants, Server Farms, Greenhouses, Air-conditioned areas
- Single 15 Amp breaker circuit at 120V can take 10-12 LED lamps (vs just 2-3 for MH/MV). Savings in new build.
- Lower Demand Charges (≥0.95 pf for LED vs. 0.9/lower pf for all others)

Call us for any details or a trial project

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