

Philips L-Prize® A19 LED Lamp Reverse Engineering & Costing Report

System Plus Consulting



**Winner of the DoE L Prize competition to replace 60W incandescent bulb
Featuring 9 blue LED and 9 red LED and remote phosphor
Achieving 940lm for 10W , a color temp. of 2700K with a CRI of 92**

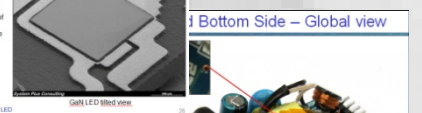
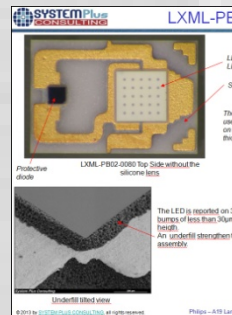
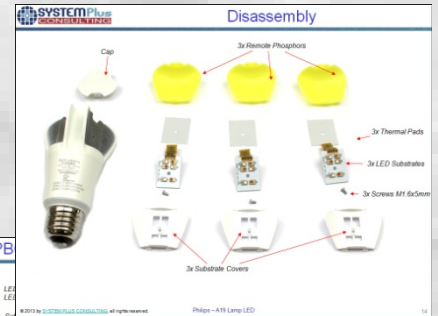
Philips Lighting has designed this A19 LED lamp replacement for 60W bulbs in order to win the DoE L Prize competition. Technical specifications were fulfilled: omnidirectional light, luminous Flux of 940 lm at 10W, a correlated color temperature (CCT) of 2700K, and a Color rendering index (CRI) of 92.

This is achieved using 9 blue LEDs and 9 red LEDs assembled on 3 ceramic substrates, combined with 3 remote phosphors to produce the warm color of the bulb.

The retail price of the lamp has decreased since its introduction early 2012, but it is still above the initial objectives. Will it catch up ?

System Plus Consulting has performed a full technical and economic analysis of the L-Prize® lamp in order to estimate today manufacturing cost. This report provides:

- Detailed photos
- Material analysis including phosphor
- LED assembly description
- Detailed bill-of-material
- Assembly process flow
- Manufacturing cost & Selling price estimation



Manufacture

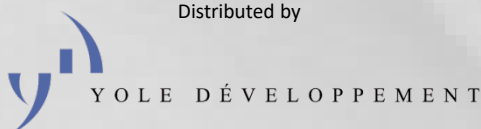
Part	Quantity	Unit Price	Total Price
Philips A19 Lamp	1	1.00	1.00
Remote Phosphor	3	0.20	0.60
Thermal Pad	3	0.10	0.30
LED Substrate	3	0.10	0.30
Screw M3.5x5mm	3	0.05	0.15
Substrate Cover	3	0.05	0.15
Total			2.50

The Total Manufacturing Cost is estimated to include for Material Cost (■■■■) for Added Value Cost (■■■■) and for the subcontractor overheads (■■■■).

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- ✓ Power Price+ to estimate the cost of any power component or module
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- ✓ SYS.Cost a costing tool for electronic boards and systems

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- ✓ LED CoSim+
- ✓ Power CoSim+
- ✓ TSV CoSim+ (thru silicon vias)

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