

Frequently Asked Questions

Performance of AR-Type Lamps

What is the lumen output of AR70 and AR111 lamps?

Requests are often received for the lumen output values for aluminum reflector or AR-type lamps. Usually, this is a meaningless specification; **candlepower** is the appropriate value for a reflector lamp since they are used for accent and display lighting. Most computer programs, however, are set up for general lighting layouts which require lumen values, therefore, those wishing to use reflector lamps for general lighting will need to have lumen information.



The performance of an AR70 lamp was evaluated in terms of lumen output and the results are summarized below.

The lumen output of an aluminum reflector lamp with a glare shield cap was measured in the integrating sphere. First a reference lamp with nominal candela value was selected. By directing light out of the reflector lamp onto the sphere baffle, it was possible to illuminate the sphere walls evenly. In the following order, lumen output readings of the reflector lamp were measured:

Bare lamp without reflector and cap	100%
Lamp in reflector without glare cap	87%
Lamp in reflector with glare cap	40%

The percentages to the right denote the light output of the three arrangements relative to the bare burner.

As noted in information received from OSRAM GmbH, aluminum reflectors tend to reduce the output of bare burners by approximately 10-15%; a 13% loss was measured in this case. Almost 50% of the light is absorbed by the glare shield cap, which almost completely shrouds the lamp filament. The total 60% light loss of these type lamps is the price paid for low glare and very tight beam patterns.