

Title (en)  
Electric lamp with condensate reservoir and method of operation thereof

Title (de)  
Elektrische Lampe mit Kondensatreservoir und Verfahren zum Betrieb derselben

Title (fr)  
Lampe électrique avec réservoir du condensat et procédé d'opération d'une telle lampe

Publication  
**EP 1363313 A2 20031119 (EN)**

Application  
**EP 03010898 A 20030515**

Priority  
• US 38094602 P 20020516  
• US 24705702 A 20020919

Abstract (en)  
A ceramic discharge lamp, and method of operating same, is provided which contains a cavity between a clear sapphire tube and a PCA cap. During lamp operation, the cavity holds the molten salts to act as a constant temperature reservoir of the molten salts. By manipulating the shape of the cap, for example the curvature of the internal dome, or by building in an offsetting lip, the volume of the cavity can be controlled. By adjusting the thickness of the adjacent cap walls, or by the addition of exterior heat sinking or radiating features on the cap, the temperature of the salt reservoir can be further controlled. The reservoir facilitates providing materials for the plasma at a constant pressure, but without letting the fill condensate flow over and coat the light emitting portions of the clear sapphire transmission cavity wall. As a result, the arc has more stable performance, and the generated light escapes without being interfered with by condensed salts, or fluid salts moving on the light transmitting surfaces. In this way the lamp can be overdosed with salts, while functionally appearing to be minimally dosed.

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**H01J 61/30**; **H01J 61/82**

IPC 8 full level  
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CPC (source: EP KR)  
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Cited by  
EP1398823A3; US8035304B2; US8299709B2; US7839089B2; WO2009080413A1; WO2008057678A3; US7615929B2; US7358666B2; US7443091B2; US7215081B2; US7892061B2; US7432657B2; US7438621B2; US7132797B2; US7378799B2; US7852006B2; US7977885B2

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