

dersdeo
öğrenmenin en kolay yolu ol!

FİZİK

OPTİK

(GÖLGE – YARI GÖLGE)

Kaynak veya kaynaklardan yayılan ışınlar ortamda ilerlerken saydam olmayan cisimlerin üzerlerine düşürülürse cisimleri geçemediklerinden cisimlerin arka kısmında ışıksız bölgeler yani **gölgeler** oluşur.

Hiç ışık almayan bölgelere **tam gölge**, bazı kaynaklardan ışık alıp, bazı kaynaklardan ışık almayan bölgelere **yarı gölge** denir.

Saydam Cisimler

Cam, su, hava

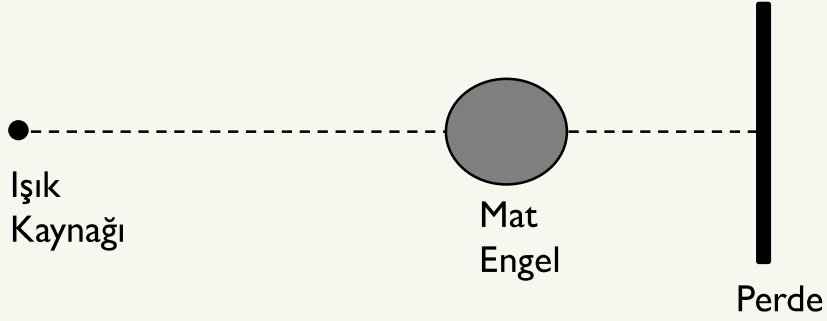
Yarı Saydam

Buzlu cam, kağıt

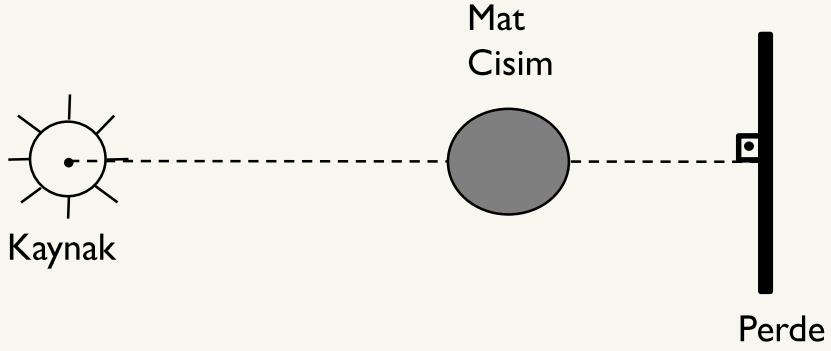
Saydam Olmayan

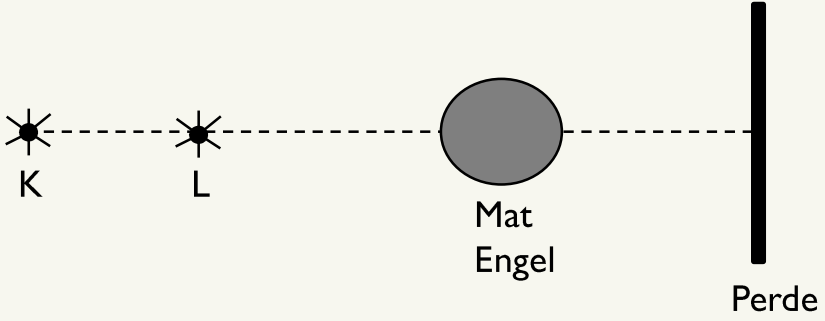
Demir, tahta

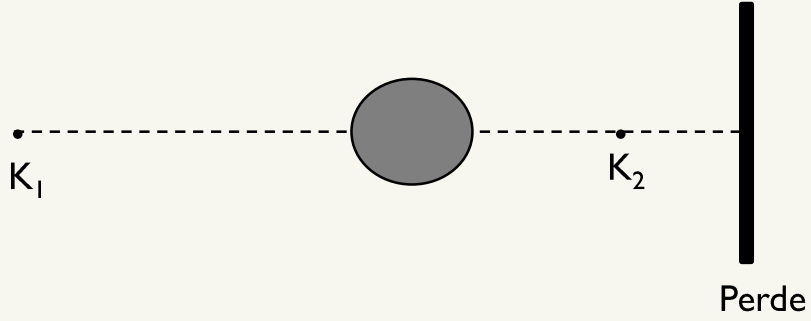
Noktasal Işık Kaynağı

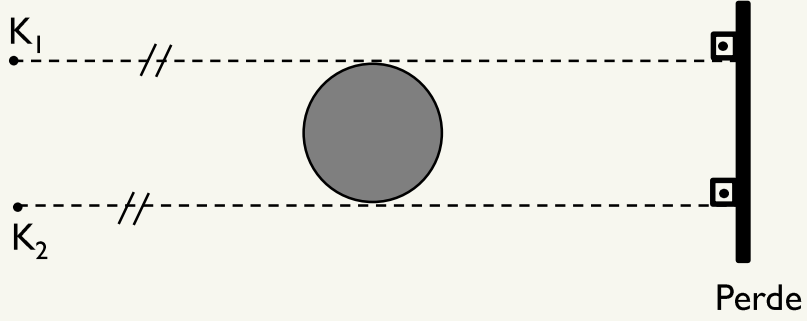


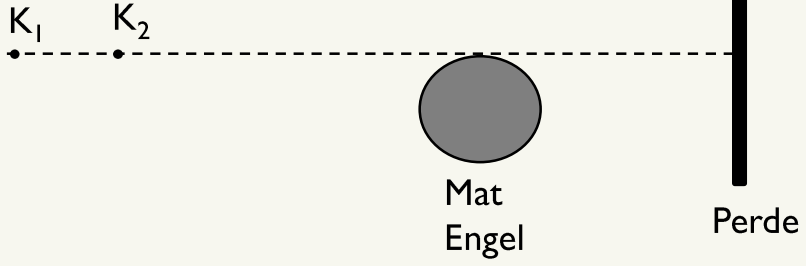
Küresel Işık Kaynağı

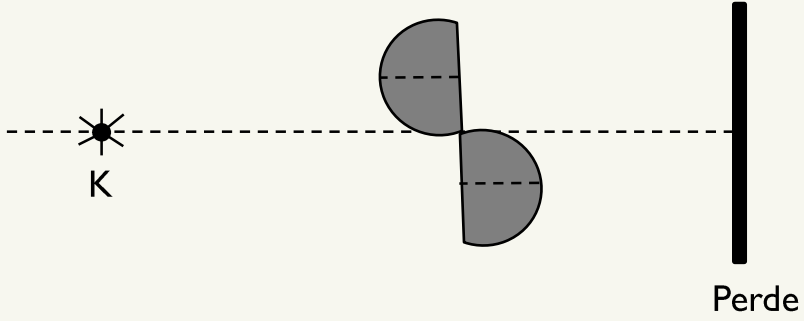


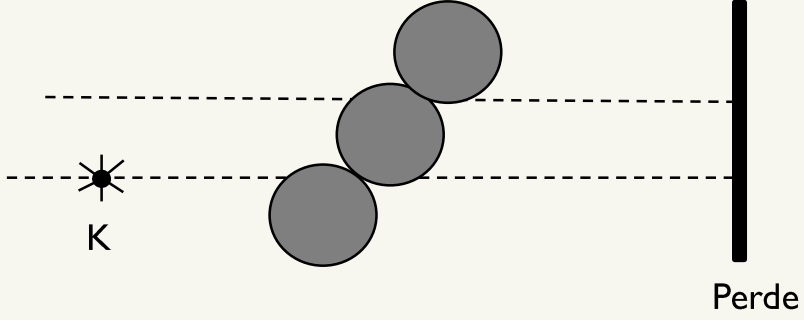


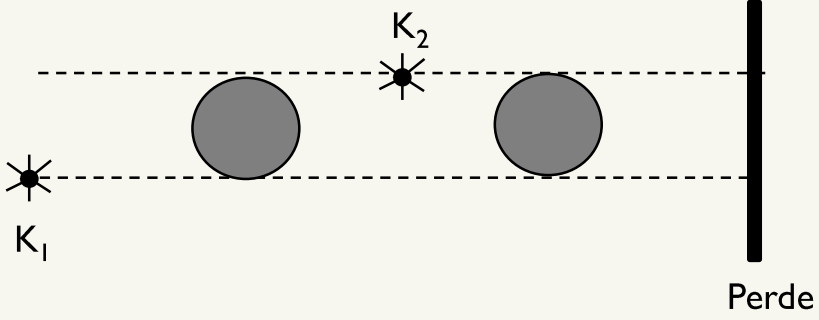


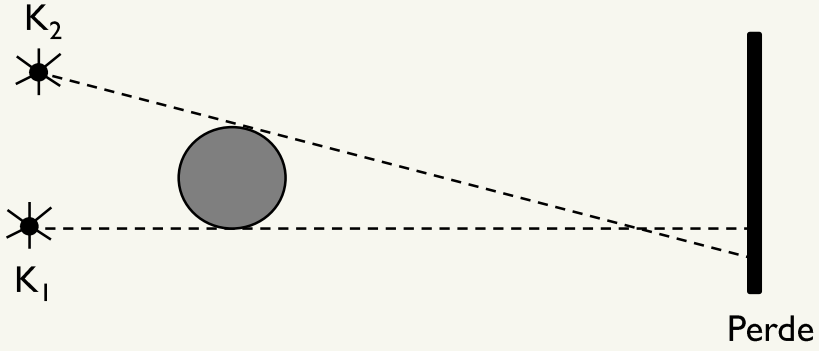


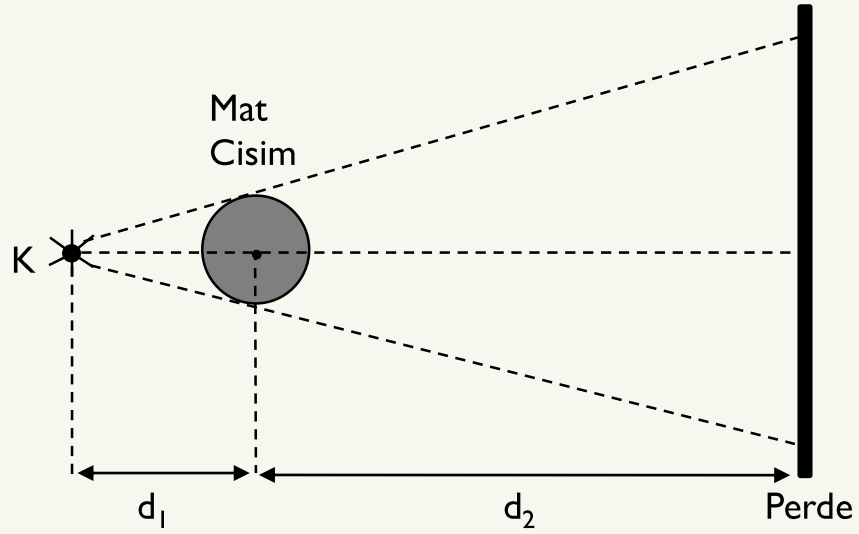


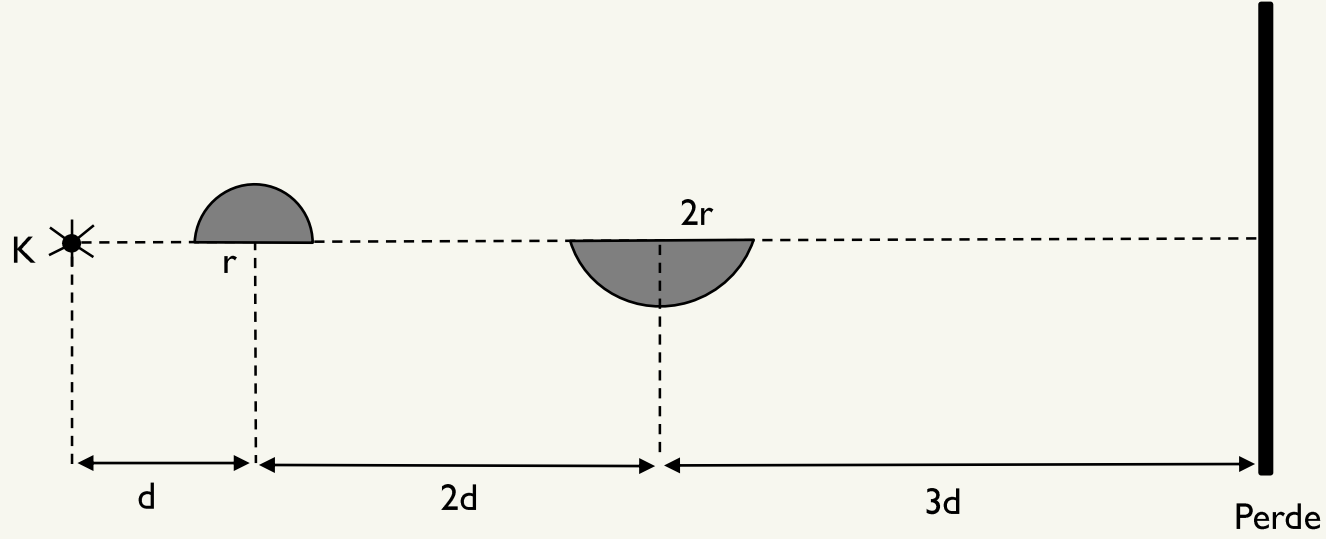




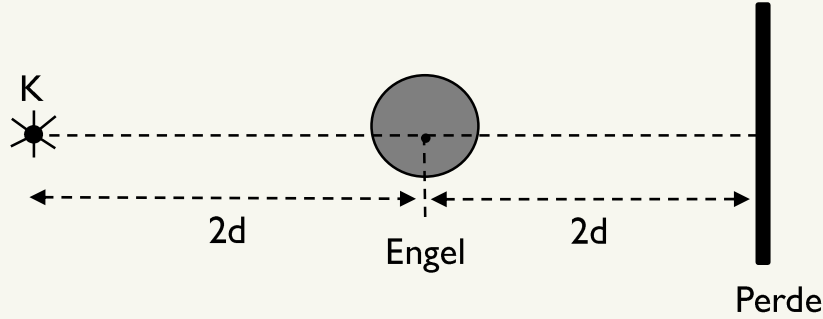




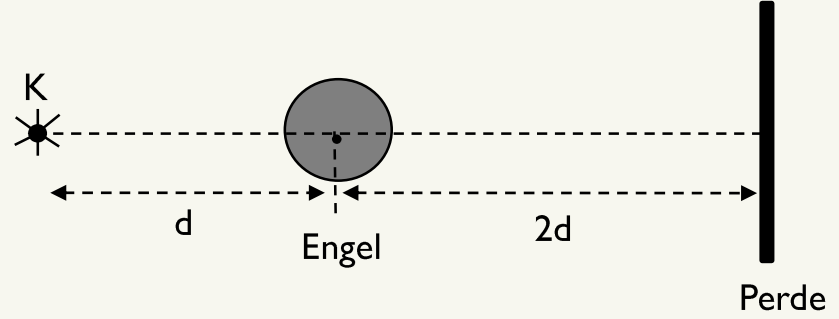




ÖRNEK



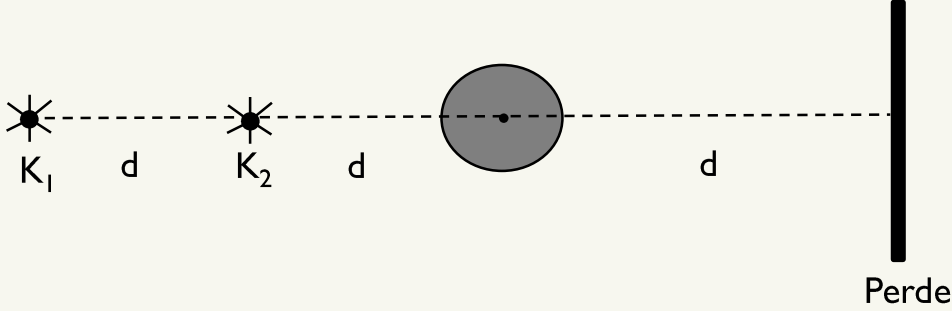
Şekil – I



Şekil – II

Şekil – I ve II’de oluşturulan gölge alanları oranı nedir?

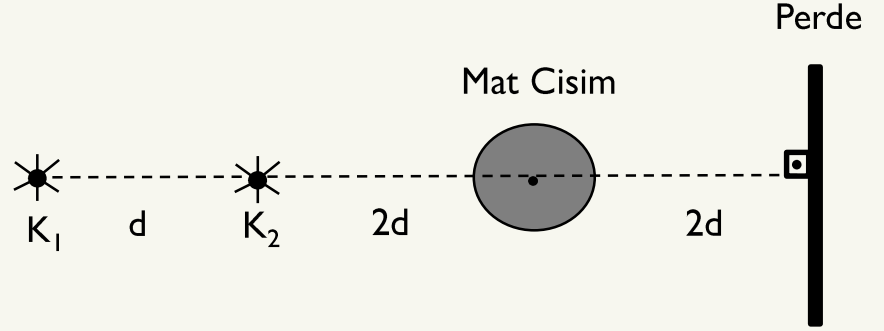
ÖRNEK

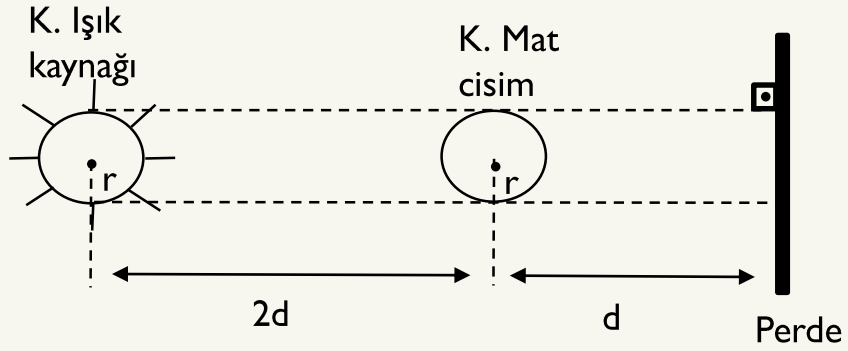


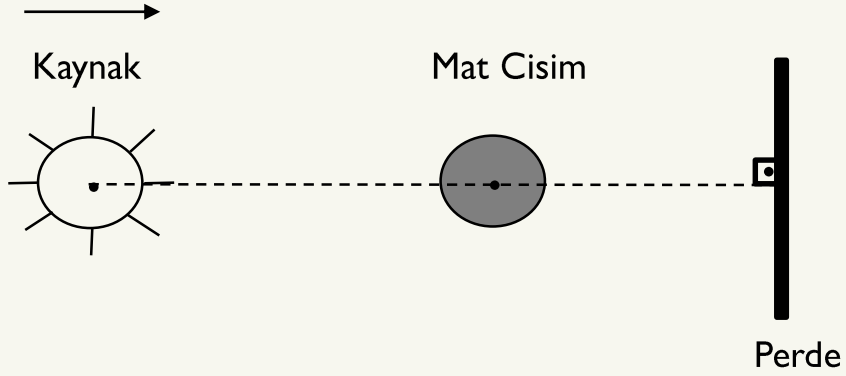
Özdeş noktasal kaynaklar ve saydam olmayan top, perdenin önüne şekildeki gibi konulmuştur. Buna göre, perdede oluşan tam gölgenin alanı A_1 , yarı gölgenin alanı A_2 ise, $\frac{A_1}{A_2}$ oranı kaçtır ?

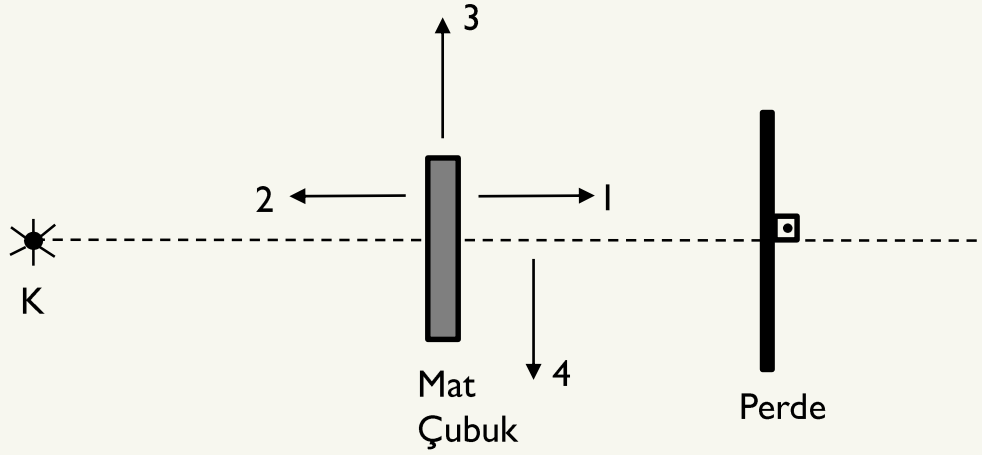
ÖRNEK

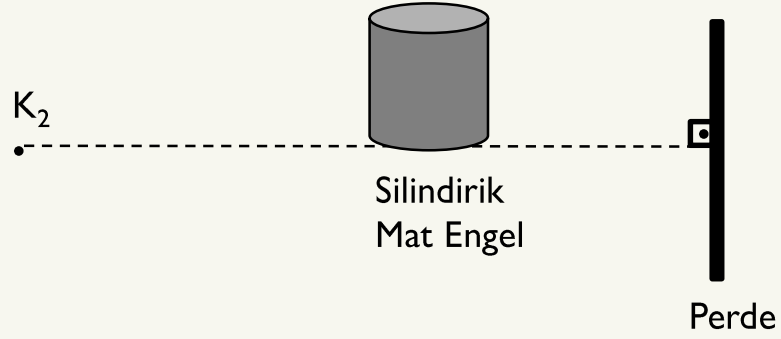
Şekildeki düzende oluşan tam gölgenin alanı S_1 , yarı gölgenin alanı S_2 olduğuna göre, $\frac{S_1}{S_2}$ oranı kaçtır?



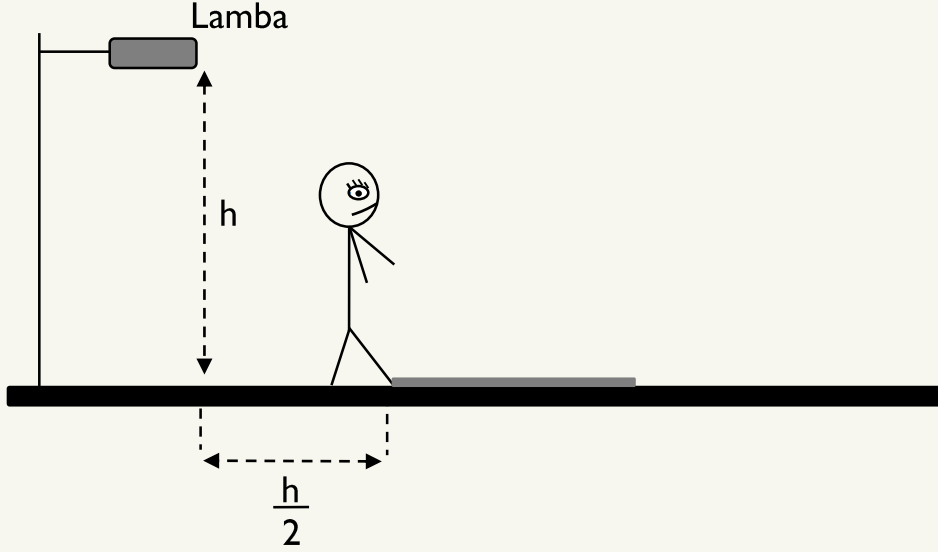






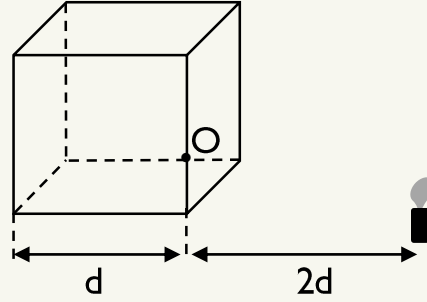
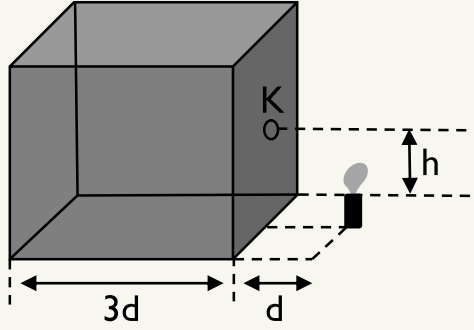


ÖRNEK



Yerden yüksekliği h olan bir sokak lambası önünde duran çocuğun gölgesi, boyuna eşittir. Buna göre, çocuğun boyu kaç h dir?

Pinhole (Kara Kutu)



Işık Kaynağının Görünüşü

