

Abstract Submitted  
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**Improved Design for Cosine Collectors** ELEONORA FIGUEROA, TAMU — A cosine collector is a detector whose response to incident light is proportional to the cosine of the angle between the incident light and collector's surface normal. These detectors have been used for many years to measure relative and absolute spectral intensity of a multitude of radiant sources. After close inspection of commercial cosine collectors we noticed a systematic problem with most of the collectors offered - they do not adequately measure the cosine value they claim to measure. We have designed a new cosine collector that accurately measures the cosine of incident light with unprecedented accuracy. The strength of this detector lies in the geometry used for the detector aperture. It allows over 99% of incident light to be collected while acting as a slit to produce the expected cosine behavior.

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