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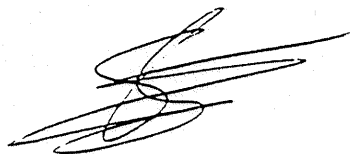
To whom it may concern

Uw kenmerk	Ons kenmerk	Datum	Doorkiesnummer
	SB/HB/93.180	June 6, 1995	
Onderwerp			

Subject: Damaging effects of artificial light at Angkor Wat

Possible effects of light on building materials are either of a primary nature (light  $\leftrightarrow$  materials interaction) or of a secondary nature (growth of plants/organisms under the influence of light). In both cases light intensity (lighting levels), exposure time and spectral distribution (e.g. UV) are determining factors. When we look at the influence of daylight we typically have an average 12 hours exposure each day, with average lighting levels of 50.000 lux with a full spectrum including infra red and ultra violet (UV). With artificial lighting as applied in Sound & Light shows we have light exposures of less than 1 hour per day at average lighting levels that are thousand times less (in the order of 50 lux) than daylight levels and spectral distributions that contain less harmful frequencies than daylight (or direct sunlight). It should also be noted that especially for the secondary effects minimum threshold levels are required to e.g. induce/sustain growth of living organisms. These levels are significantly higher than the artificial lighting levels encountered. But even if we neglect the minimum threshold effects and only look at total radiation dose one day of daylight exposure is more harmful than one Sound & Light show per night during thirty years. Practical experience with decorative floodlighting of historical buildings all over the world confirm that even after thirty years no effects have been found due to light exposure from such installations.

Sincerely yours,



Prof. Dr. S.H.A. Begemann  
Building Physics Dept.