



10440 Bradford Road, Unit A Littleton, Colorado 80127 USA
info@agi32.com www.agi32.com t.303.972.8852 f.303.972.8851

FOR IMMEDIATE RELEASE

September 2, 2009 – Littleton, Colorado, U.S.A. Lighting Analysts, Inc. announces a joint proposal with DIAL GmbH and byHeart Consultants to introduce a modification to the EULUMDAT photometric format to recognize absolute photometry.

Absolute Photometry and the EULUMDAT Format

The Illuminating Engineering Society (IES) has recently published guidelines with respect to the photometric testing and representation of Solid State Lighting (SSL) products in the form of publication LM-79-2009. This document states that SSL products shall be tested using the absolute method of luminaire photometry and represented to the industry as such. The IES document on photometric format, LM-63-2000 (and previous versions) includes a provision to handle the presentation of absolute photometric data. However, the most common photometric format used in Europe, the EULUMDAT format developed by Dr. Axel Stockmar, does not currently include such a provision.

Recognizing this potential problem, a joint effort between DIAL GmbH, the authors of the DIALux software, Ian Ashdown of byHeart Consultants, author of Helios calculation and rendering technology and Lighting Analysts, Inc., authors of the AGi32 and Photometric Toolbox software programs, has resulted in a simple and elegant way to handle absolute photometry within the current EULUMDAT file specification. This is an interpretative change only and is fully compatible with all existing EULUMDAT files.

DIAL, byHeart and Lighting Analysts have agreed to modify their respective software programs to recognize these modifications within EULUMDAT format files on the next release to facilitate the use of absolute photometry by European lighting product manufacturers.

With our deepest respect to all manufacturers, laboratories, and software vendors, we present this unified approach in hope that it will be recognized and employed quickly to smooth the way for the acceptance of SSL products within the European market and others utilizing the EULUMDAT standard.

The changes in interpretation of the EULUMDAT format to accommodate absolute photometry are shown below and are available on the following internet sites:

www.agi32.com

www.dial.de

www.helios32.com

EULUMDAT and Absolute Photometry

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This document¹ describes how to generate and interpret an EULUMDAT file containing absolute photometric data.

Without any changes to the EULUMDAT file format specification, an EULUMDAT file representing absolute photometry can be interpreted as:

Item	Designation	Absolute Photometry Value	Notes
26	Number n of standard sets of lamps	1	1
26a	Number of lamps	-n (number of light emitters)	2
26b	Type of lamps	<Unchanged>	3
26c	Total luminous flux of lamps (lumens)	Luminous flux (lm) of luminaire	4
...			
30	Luminous intensity distribution (cd/klm)	<Unchanged>	5

Notes

1. Field 26. There can be only one standard set of lamps for absolute photometry, and the value is fixed at 1.
2. Field 26a. While the number of lamps 'n' is meaningless for absolute photometry, it may still be useful to indicate the number of light emitters, such as the number of LEDs. The value is therefore retained, but its sign is negative to indicate absolute photometry.
3. Field 26b. Type of lamp is just informative. It could be for example the ILCO OS code for a reflector lamp, or the manufacturer's name for a type of LED.
4. Field 26c. In accordance with the principles of absolute photometry, this field reports the measured luminous flux of the luminaire rather than the total manufacturer's rated lumens of the lamps.

An advantage of this interpretation for the luminaire manufacturer is that the reported luminous flux can be measured with for example an integrating sphere rather than a goniophotometer. This makes it possible to measure one luminaire with a goniophotometer to determine its luminous intensity distribution, and then measure multiple identical luminaires to obtain an average total luminous flux value.

5. Field 30. All values are stated in candela per kilolumen (cd/klm). The advantage is that there is no change to the existing format.

This interpretation is *fully compatible* with existing EULUMDAT photometric data files, and also with existing lighting design software programs as long as they do not perform range checking on field 26a. (This is unlikely, as the number of lamps is not required

¹ This document is a joint proposal of Lighting Analysts Inc. (www.agi32.com) and DIAL (www.dial.de).

when interpreting the luminous flux distribution of a luminaire.)

Implementation

Given that no changes are required to the EULUMDAT file format specification, support for absolute photometry can be provided immediately. Responsibilities for the various parties include:

1. Photometric Testing Laboratories
 - Use –n in field 26a to designate absolute photometric data reports. (This is a convention only.)
2. Luminaire Manufacturers
 - Request EULUMDAT files with –n in field 26a for products requiring absolute photometry (primarily for solid-state lighting products, but also for lamps and luminaires with non-removable lamps).
3. Lighting Design Software Manufacturers
 - Modify future version of their products to indicate EULUMDAT files with absolute photometric data.