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Datasheet for the decision of 16 June 2025

Case Number: T 0031/23 - 3.4.01

Application Number: 12769197.0

Publication Number: 2749126

IPC: H05B45/10

Language of the proceedings: EN

Title of invention:
MODULARIZED LED LAMP

Patent Proprietor:
Cree Lighting USA LLC

Opponent:
Siteco GmbH

Headword:
Modularized LED Lamp / Cree Lighting

Relevant legal provisions:
EPC Art. 123(2), 123(3)

Keyword:
Auxiliary Requests 3 to 15 - added subject-matter (yes)
Auxiliary Request 3 - extension of protection (yes)

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Case Number: T 0031/23 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 16 June 2025

Appellant: (Patent Proprietor)	Cree Lighting USA LLC 9201 Washington Avenue Racine WI 54306 (US)
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Appellant: (Opponent)	Siteco GmbH Georg-Simon-Ohmstr. 50 83301 Traunreut (DE)
Representative:	Schmidt, Steffen Boehmert & Boehmert Anwaltspartnerschaft mbB Pettenkoferstrasse 22 80336 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 31 October 2022 concerning maintenance of the European Patent No. 2749126 in amended form.**

Composition of the Board:

Chair	P. Scriven
Members:	T. Petelski
	R. Winkelhofer

Summary of Facts and Submissions

I. In their interlocutory decision, the Opposition Division found that the claims of the patent, and of the (then) first auxiliary request contained subject-matter that extended beyond the content of the application as filed, in various aspects. They also found that the patent could be maintained, in amended form, on the basis of the (then) second auxiliary request.

II. Both the proprietor and the opponent appealed this decision.

III. During oral proceedings before the Board, the proprietor withdrew their appeal.

IV. The final requests of the parties were as follows:

(a) The opponent (appellant) requested that the decision be set aside and the patent revoked. Further, they argued that Auxiliary Requests 4 to 15 should not be admitted into the proceedings.

(b) The proprietor (respondent) requested that the patent be maintained on the basis of Auxiliary Request 3 (second auxiliary request before the Opposition Division), i.e. that the opponent's appeal be dismissed. Alternatively, they requested that the patent be maintained according to one of

Auxiliary Requests 4 to 15, all of which were filed during opposition proceedings, as follows:

- Auxiliary Requests 4 to 9, on 22 March 2022 as (then) first to sixth auxiliary requests;

- Auxiliary Requests 10 to 15, on 22 March 2022 as (then) versions "A" of the first to sixth auxiliary requests.

V. Claim 1 of Auxiliary Request 3 reads as follows (reference signs omitted):

A modular LED lamp comprising:

an interchangeable LED module comprising at least one LED, the interchangeable LED module including an LED controller operable to determine brightness and color characteristics for LEDs in the LED module and a non-volatile memory with the brightness and color characteristics stored therein, the brightness and color characteristics stored in the non-volatile memory being a target brightness and a target color characteristic; and

an interchangeable power supply unit for supplying drive current to the at least one LED, the interchangeable power supply unit including a PSU controller to control current supplied to the interchangeable LED module by the interchangeable power supply unit in response to signaling from the LED controller as to the brightness and color

characteristics stored in the non-volatile memory of the interchangeable LED module,

characterized by the brightness and color characteristics for the at least one LED in the LED module being measured during production; and

the interchangeable power supply unit further being interconnectable with the interchangeable LED module at mating connections so that the interchangeable LED module and the interchangeable power supply unit can be manufactured separately.

VI. Claim 1 of each of Auxiliary Requests 4 to 9 differs from that of Auxiliary Request 3, *inter alia*, in the following two points, which are relevant for this decision:

(a) Instead of referring to brightness *and* colour characteristics, they refer to brightness *and/or* colour characteristics.

(b) The brightness and the colour characteristics are no longer defined as "being a target brightness and a target color characteristic".

VII. Claim 1 of each of Auxiliary Requests 10 to 15 differs from that of Auxiliary Request 3, *inter alia*, in the above point (b), but not in (a).

Reasons for the Decision

Auxiliary Request 3 - added subject-matter

1. Claim 1 defines a modular LED lamp with an LED module, in which a target brightness and a target colour characteristic for LEDs in the LED module are stored in a non-volatile memory. It also defines the stored brightness and colour characteristics as "being measured during production".

2. The existence of a basis for those definitions, in the application as filed, was contested.

3. The proprietor pointed out that the a description had to be considered as a whole, for determining its disclosure. With reference to the following passages of the application as filed

   - page 1, lines 22 to 25
   - page 2, lines 2 to 7 and 14 to 19
   - page 3, lines 9 to 22
   - page 9, line 23, to page 10, line 14 and
   - page 15, lines 5 to 7,

   they explained what the skilled person would have understood from the application.

4. That was, that the purpose of the stored information was to allow adjustment of the LED supply current such that the LED light output had a desired (target) brightness and a desired (target) colour characteristic. In order to provide the necessary information for the adjustment, the LEDs were

calibrated at the time of their production, which included measurement of their light output. Consequently, the skilled person would have understood that it was these calibration values that were stored in the memory. Hence, the brightness and colour characteristics were stored in the form of calibration values, which allowed the adjustment of the LED supply current such that the light of the LED had the target brightness and target colour characteristic values.

5. The proprietor observed that this was exactly the same subject-matter as defined in claim 1. The skilled person, striving to understand claim 1 in a technically meaningful way, would have realised that the "target brightness" and "target color characteristic" were not stored in the form of specific target *values*, but, instead, in the form of calibration values that allowed the PSU (power supply unit) controller to adjust the supply current of the LED such that it generated output light with the target values. Accordingly, the skilled person would also have understood that measuring the target brightness and target colour characteristic at the time of their production did not involve direct measurement of the target values, which the skilled person would have ruled out as technically meaningless, but rather an indirect measurement of the light output of the LED - just as measuring the volume of a cuboid would be carried out by measuring its length, width, and height. Such was the only reasonable understanding of claim 1.

6. According to the proprietor, this meant that the subject-matter of claim 1 did not extend beyond the content of the application as filed.

7. This argumentation is not persuasive since the skilled person would understand both the application and claim 1 differently.

The skilled person's understanding of claim 1

8. Claim 1 explicitly defines that "a target brightness and a target color characteristic" for the at least one LED in the LED module are "being measured during production" and "stored" in the "non-volatile memory" of the LED module. The stored target parameters are signalled to the PSU controller, which, in response, controls the current supplied to the LED module.

9. The definition of the stored parameters in claim 1 is clear and there is no reason the skilled person would understand it in any other than its literal sense. The storage of target parameters makes perfect technical sense, in so far as these parameters would allow the controller to determine the correct supply current, when also provided with calibration information. Contrary to the proprietor's argument, even the measurement of a target brightness and a target colour characteristic (e.g. the colour temperature) is not technically unreasonable. It could, for example, be done by measuring the light output of a reference LED, or by measuring the output of the same LED at a certain supply current, provided that this is how the target value has been defined.

10. Therefore, the skilled person would not have ruled out such a measurement as technically impossible or meaningless, and certainly would not have reinterpreted it in such a way that it would become a measurement of calibration values.

11. In fact, claim 1 does not mention calibration at all. There is also no reason why the skilled person would have understood the measured and stored "target brightness" and "target color characteristic" to be calibration data, which is something completely different. In particular, claim 2 defines that "a calibration value" is "also" stored in the memory, meaning that it is stored in addition to the target brightness and target colour characteristic and is, therefore, something different.

12. Consequently, the skilled person understands that claim 1, true to its wording, defines that it is the actual target brightness and target colour characteristic of the LEDs that is measured during production and stored in the memory.

13. This, however, has a basis neither in the claims as originally filed, nor in the original description and drawings.

The claims as originally filed

14. The claims as originally filed do not mention any measurement of brightness or colour characteristics at all. However, similar to current claim 2, they imply that calibration values (original claim 14) are something other than the target brightness and target colour characteristics (original claim 13).

15. Therefore, the original claims are no basis for the stored target parameters being measured during production, and they do not provide support for the proprietor's view that the target parameters are stored in the form of calibration data.

The original description

16. According to page 9, line 23, to page 10, line 14, of the description as filed (and as published), information can be "programmed into the non-volatile memory at the time that the LEDs light output is measured during production". The information "can include data representing brightness and color characteristics".

17. The passage is silent about how the stored information is related to the light output measurement - or if it is related to it at all. For example, it is entirely conceivable that the light output is measured by recording its power and spectrum as a function of the LED supply current. In that case, a target colour temperature could be determined based on the measurement data, for example, it could be defined to be the colour temperature of the LED at 90% of its maximum supply current, and this target value might be stored as "data representing color characteristics".

18. The example demonstrates that the passage on pages 9 and 10 neither says that the stored data actually includes measured brightness or colour characteristic, nor that it includes any brightness or a colour characteristic that is different from the target value.

19. The proprietor is correct in that the above-cited passage, which is related to detailed embodiments of the invention, has to be read together with the general description of the invention on page 3, lines 9 to 17. The latter passage elaborates on the information that is stored in the memory: "Parameters, for which data is stored in a memory ... can include a target color characteristic and target brightness, which can be

determined at the time the LED module, is manufactured". The same passage states that "a run time for the lamp" can "also" be stored in the memory, and that "a calibration value or values used to manage the LED module thermally and with respect to its brightness can also be stored".

20. Hence, the description as filed is clear in that the calibration data is something other than the target brightness and target colour characteristic, which is why it does not support the proprietor's view.

21. The subsequent passage, spanning pages 3 and 4, describes that the PSU controller uses the information stored in the memory, including "calibration values for temperature and brightness determination", to adjust the drive current of the LEDs in order to "provide light of the target values in brightness and/or color". Page 15, lines 4 to 7, contains an example, in which an LED that was measured as "slightly too bright", stores a calibration value of 5.

22. Reading these passages in combination tells the following.

During production, the light output of the LEDs is measured. Information that is required for the PSU controller to adjust the light output to provide desired brightness and colour characteristic is also determined during production. All this information is stored in the memory of the LED controller in the form of parameters. The stored parameters can, specifically, include:

- calibration values;
- run time;

- target brightness; and
- target colour characteristics.

23. Whether and how the determination of one or more of these parameters is based on the measured light output is left open. The storage of yet other parameters is not implied, because the explicitly-mentioned parameters are those that are necessary, or at least useful, for the purpose of controlling the supply current: if the PSU controller is configured for the normal (uncalibrated) behaviour of the LED, it can use the target parameters to determine and provide the appropriate supply current, and it can use the calibration parameters and the run time to adjust the supply current to account for deviations in the light output of LEDs from the expected behaviour. Such deviations can be caused by fluctuations in manufacturing, run time, or environmental conditions.

24. What is not disclosed by the application as filed, however, is:

(a) the storage of a target brightness and a target colour characteristic that were measured during production, since these parameters were only determined, but not measured, during production;

(b) the storage of brightness and colour characteristics that are not target parameters, since these are not described as parameters useful for controlling the supply current; and

(c) the storage of (non-target) brightness and colour characteristics that were measured during production, since the application does not disclose

a relation between these parameters and the measurement.

25. As a consequence of point (a), the subject-matter of claim 1 extends beyond the content of the application as filed, contrary to the prohibition in Article 123(2) EPC. Points (b) and (c) are relevant for the auxiliary requests, which will be assessed below.

26. Hence, Auxiliary Request 3 is not allowable.

Auxiliary Request 3 - extension of protection

27. Claim 1 specifies that the brightness and colour characteristics stored in the memory of the LED controller are a target brightness and a target colour characteristic. This means that claim 1 covers embodiments, in which the memory only contains the target brightness and target colour characteristics, but no other brightness or colour characteristics.

28. Such subject-matter is not covered by claim 1 of the patent. In the latter, the memory is defined to contain "brightness and/or color characteristics".

29. Claim 4 of the patent defines that "a target brightness" and "a target color characteristic" are "also stored" in the memory. As claim 4 refers to claim 1 via claims 3 and 2, "also" means that these data are stored in the memory in addition to the data stored according to claims 1, 2, and 3.

30. This means that, according to claim 4 of the patent, the memory contains the following data:

(a) "a target brightness" (claim 4),

(b) "a target color characteristic" (claim 4),

(c) at least one of "brightness" and "color characteristics" (claim 1),

(d) at least one of a temperature, a calibration value, and a run time (claim 2), and

(e) a threshold temperature (claim 3).

31. There is no indication, in the claims of the patent, that would make the skilled person consider that the "target brightness" and the "target color characteristic" might be specific realizations of the "brightness" and "color characteristics", or might even be identical to them. Hence, they are different parameters.

32. Consequently, claim 1 of the patent does not cover an LED lamp, in which the memory of the LED controller only includes "a target brightness and a target color characteristic", without also including "brightness" and "color characteristics".

33. According to a first line of argumentation by the proprietor, the brightness and colour characteristics defined in claim 1 of the patent were used to control the supply current for the LEDs. They could well be general parameters that comprised the more specific target brightness and target colour characteristic. In that case, claim 4 of the patent merely defined that the same target brightness and target colour characteristic were also stored for a different, not

defined purpose, resulting in each of those values being stored twice.

34. According to a second line of argumentation, the skilled person would have understood that it was calibration data that was measured and stored, regardless of whether the claims spoke of the target or the non-target brightness and colour characteristics.

35. Neither argument is persuasive. The first is not, because according to the common understanding of language, storing non-target parameters and "also" storing target parameters means that two different kinds of parameters are stored, not that the former are stored in the particular form of the latter . Further, storing the same parameters twice would not make sense without further explanation, because using a parameter for different purposes does not require that it be stored more than once. The second argument is not persuasive either, because the skilled person does not understand the stored parameters to be calibration data, for the reasons explained above (see points 9. to 11.).

36. Consequently, claim 1 extends protection beyond that conferred by the claims of the patent, contrary to the prohibition in Article 123(3) EPC.

37. Hence, Auxiliary Request 3 is not allowable for this reason, either.

Auxiliary Requests 4 to 15 - added subject-matter

38. Unlike claim 1 of Auxiliary Request 3, claim 1 of each of Auxiliary Requests 4 to 15 does not define the "brightness and/or color characteristics" (Auxiliary Requests 4 to 9) or the "brightness and color characteristics" (Auxiliary Requests 10 to 15) as "being a target brightness and a target color characteristic". Instead, each of Auxiliary Requests 4 to 15 contains a claim (claim 3 or 4) that is dependent on claim 1, which defines that "a target brightness and a target color characteristic are also stored in the non-volatile memory". This means that, similar to the claims of the patent (see above points 28. to 31.), the memory contains

(a) at least one of the parameters "brightness" and "colour characteristics", which are measured during production,

and, optionally,

(b) the additional, different parameters "target brightness" and "target color characteristic".

39. As was concluded with regard to Auxiliary Request 3, under above points 24. (b) and (c), there is no basis, in the application as filed, for such storage of brightness or colour characteristics that are not the target parameters, let alone for the storage of brightness or colour characteristics that are measured during production.

40. The proprietor did not present any arguments beyond those presented with regard to Auxiliary Request 3.

41. Consequently, the subject-matter of claim 1 of each of Auxiliary Requests 4 to 15 extends beyond the content of the application as filed, contrary to the prohibition in Article 123(2) EPC.

42. Hence, regardless of any issue with their admission, Auxiliary Requests 4 to 15 are not allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chair:

D. Meyfarth P. Scriven

Decision electronically authenticated