**Exhibit 5.1**

January 12, 2010

Lighting Science Group Corporation

1227 South Patrick Drive, Building 2A

Satellite Beach, Florida 32937

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| Re: | Lighting Science Group Corporation Amendment No. 1 to Registration Statement on Form S-1 (Registration No. 333-162966) |

Ladies and Gentlemen:

We have acted as counsel to Lighting Science Group Corporation, a Delaware corporation (the “Company”), in connection with the preparation and filing by the Company with the Securities and Exchange Commission of Amendment No. 1 to the Registration Statement on Form S-1 (the “Registration Statement”) under the Securities Act of 1933, as amended (the “Securities Act”). The Registration Statement includes the related prospectus (the “Prospectus”) to be furnished to certain Holders (as such term is defined in the Registration Statement), and relates to:

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|  | (i) | the registration of up to an aggregate of 14,037,885 rights to be distributed by the Company to certain Holders (the “Rights”) and representing the right to purchase up to an aggregate of 25,268,193 units consisting of an aggregate of (a) 25,268,193 shares of Series D Non-Convertible Preferred Stock (“Series D Preferred Stock”) and (b) warrants (the “Warrants”) representing the right to purchase up to an aggregate of 25,268,193 shares of the Company’s common stock, par value $0.001 per share (the “Common Stock”); |

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|  | (ii) | the registration of the Series D Preferred Stock that may be issued upon exercise of the Rights; |

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|  | (iii) | the registration of the Warrants that may be issued upon exercise of the Rights; and |

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|  | (iv) | the registration of the Common Stock underlying such Warrants that may be issued upon exercise of the Warrants. |

This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

The opinions expressed herein are limited to the Delaware General Corporation Law, as currently in effect (the “DGCL”), applicable provisions of the Constitution of the State of Delaware, as currently in effect (the “Delaware Constitution”), and judicial decisions reported as of the date hereof that interpret the DGCL and such applicable provisions of the Delaware Constitution (collectively, “Delaware Law”).

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In rendering the opinions expressed herein, we have examined and relied upon the originals, or copies certified to our satisfaction, of: (i) the Registration Statement and the Prospectus and all exhibits thereto; (ii) the Company’s Certificate of Incorporation and any amendments thereto to date certified by the Secretary of State of the State of Delaware (the “Certificate of Incorporation”); (iii) the Company’s Bylaws and any amendments thereto to date certified by an officer of the Company (the “Bylaws”); (iv) a specimen stock certificate for the Common Stock; (v) the form of Warrant; (vi) a specimen stock certificate of the Series D Preferred Stock; (vii) the minutes and records of the corporate proceedings of the Company with respect to, among other matters, the distribution of the Rights, the issuance of the Series D Preferred Stock and the issuance of the Warrants and the underlying Common Stock; (viii) a certificate executed by an officer of the Company, dated as of the date hereof; and (ix) such other records, documents and instruments as we have deemed necessary for the expression of the opinion stated herein.

In making the foregoing examinations, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified or photostatic copies thereof and the authenticity of the originals of such latter documents. As to all questions of fact material to these opinions, where such facts have not been independently established, and as to the content and form of certain minutes, records, resolutions or other documents or writings of the Company, we have relied, to the extent we have deemed reasonably appropriate, upon representations or certificates of officers of the Company or governmental officials. Finally, we have assumed that any certificates representing the shares of Common Stock and Series D Preferred Stock, when issued, will comply with Delaware Law, the Certificate of Incorporation and the Bylaws.

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Based upon the foregoing and subject to the qualifications stated herein, we are of the opinion that:

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|  | 1. | The Rights, when distributed, will be valid and binding obligations of the Company. |

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|  | 2. | The Series D Preferred Stock, when issued upon the due exercise of the Rights in accordance with the respective terms thereof, will be validly issued, fully paid and non-assessable shares of Series D Preferred Stock of the Company. |

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|  | 3. | The Warrants, when issued upon due exercise of the Rights in accordance with the respective terms thereof, will be valid and binding obligations of the Company. |

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|  | 4. | The Common Stock, when issued upon the due exercise of the Warrants in accordance with the respective terms thereof, will be validly issued, fully paid and non-assessable shares of Common Stock of the Company. |

We hereby consent to the filing of this opinion with the Securities and Exchange Commission as an exhibit to the Registration Statement and the use of our name under the caption “Legal Matters” in the Prospectus. In giving such consent, we do not thereby concede that our firm is within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Securities and Exchange Commission promulgated thereunder. This opinion is given as of the date hereof and we assume no obligation to update or supplement such opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes that may hereafter occur.

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| Very truly yours, |
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| HAYNES AND BOONE, LLP |