



Design Guide for **Lighting the Roadway in Work Zones**



Lighting the Roadway in Work Zones

Publication of this Design Guide
has been approved by IES.
Suggestions for revisions
should be directed to IES.

Prepared by the Roadway Work Zone Lighting Sub-Committee
of the IES Roadway Lighting Committee

Copyright 2016 by the Illuminating Engineering Society.

Approved by the IES Board of Directors, June 13, 2016, as a Transaction of the Illuminating Engineering Society.

All rights reserved. No part of this publication may be reproduced in any form, in any electronic retrieval system or otherwise, without prior written permission of the IES.

Published by the Illuminating Engineering Society, 120 Wall Street, New York, New York 10005.

IES Standards and Guides are developed through committee consensus and produced by the IES Office in New York. Careful attention is given to style and accuracy. If any errors are noted in this document, please forward them to Brian Liebel, Technical Director of Standards, at the above address for verification and correction. The IES welcomes and urges feedback and comments.

Printed in the United States of America.

ISBN # 978-0-87995-336-2

DISCLAIMER

IES publications are developed through the consensus standards development process approved by the American National Standards Institute. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on lighting recommendations. While the IES administers the process and establishes policies and procedures to promote fairness in the development of consensus, it makes no guaranty or warranty as to the accuracy or completeness of any information published herein.

The IES disclaims liability for any injury to persons or property or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document.

In issuing and making this document available, the IES is not undertaking to render professional or other services for or on behalf of any person or entity. Nor is the IES undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.

The IES has no power, nor does it undertake, to police or enforce compliance with the contents of this document. Nor does the IES list, certify, test or inspect products, designs, or installations for compliance with this document. Any certification or statement of compliance with the requirements of this document shall not be attributable to the IES and is solely the responsibility of the certifier or maker of the statement.

**Subcommittee on Roadway Lighting Work Zones
of the IES Roadway Lighting Committee**

Carl Andersen, *Sub-Chair*
Stephen Spitulski, *Vice Chair*
Michael Dudas, *Secretary*

M. Aitkenhead
 B. Chau
 M. Freedman
 R. Patel
 P. Lutkevich*

*Advisory

Roadway Lighting Committee

Jon Hart, *Chair*
Norm Dittmann, *Vice Chair*
Andrew Silbiger, *Secretary*
Ed Morel, *Treasurer*

M. Aitkenhead	J. Degnan*	J. Levy*	S. Schmidt*
B. Ananthanarayanan	J. Doyle	I. Lewin	R. Schwab**
S.W. Annoh*	M. Dudas	T. Li*	C. Shaflik*
C. Andersen	K. Fairbanks**	D. Line*	B. Shelby**
J. Delvin Armstrong	M. Fee	L. Livingston*	J. Simard
P. Arumugasaamy	T. Fenimore	P. Lutkevich*	J. Simmers*
T. Baker*	M. Freedman	L. Lutley*	W. Smelser
J. Bastianpillai	M. Gabriel*	M. Maltezos	L. Smith
A. Bloomfield*	R. Gibbons	J. McCormick**	M. Smolyansky*
P. Box**	R. Gupta	S. McKnight**	S. Spitulski
G. Bradford	G. Harlow*	D. McLean*	R. Stark
S. Braun	J. Harvey*	J. Meyers**	R. Stempok
M. Bucci	R. Harvey*	J. Mickel**	M. Tedesco
K. Burkett	G. Hauser*	C. Miller*	C. Thomas*
J. Buraczynski*	J. Havard	K. Molloy	R. Topolova*
J. Busser**	W. Hughes	D. Monahan	P. Van Der Pol
M. Canavan**	D. Husby**	C. Mondesir*	R. Vincent
E. Cacique*	R. Kauffman	R. Monsoor	V. Waight**
C. Chadwick	D. Keith	K. Negash	J. Weaver
B. Chau*	E. Kramer	H. Odle**	S. Wegner
G. Chelvanayagam	J. Kroll	C. Oerkvitz**	S. Wentworth*
A. Cheng*	M. Janoff**	D. Okon**	R. Yeager
V. Cimino	J. Jewell**	C. Pekar*	
R. Clear	R. Jones*	L. Radetsky	Advisory Members*
P. Conlos**	S. Lansford	R. Rainer	Honorary Members**
S. Coyle*	L. Leetzow	R. Reed	
C. Craig**	O. Letamendi*	E. Rowsell**	
D. Crawford	R. LeVere**	P. Sabau	

Please refer to the IES Bookstore after you purchase this IES Standard, for possible
Errata, Addenda, and Clarifications, www.ies.org/bookstore

Contents

1.0	Introduction	1
2.0	Considerations For Work Zone Lighting For Roadway Users	1
2.1	General	1
2.2	Transient Adaptation And Glare	1
3.0	Work Zone Categories	2
3.1	Mobile Work Zones	2
3.2	Short Duration Work Zones	2
3.3	Intermediate Duration Work Zones	2
3.4	Long Term Work Zones	2
4.0	Work Zone Lighting Systems	2
4.1	Temporary (Fixed) Lighting Systems	2
4.2	Portable Systems	2
4.2.1	Light Plants	2
4.2.2	Balloon-Type Luminaires	3
4.3	Equipment-Mounted Lighting	3
5.0	Guidelines For Lighting Travel Lanes In Long Duration Work Zones	4
5.1	Rural Highways	4
5.2	Urban Surface Streets With Street Lighting	4
5.3	Freeways	4
6.0	Lighting Flagging Stations	4
	References	5
	Additional Reading	5