

Light Topics There is no color without light Color in Light, Color in Pigment, Color Perceptior Color Blindness, Synesthesia



Light is energy. Circadian Systems, SAD, Photosensitivity, Aging Eye, Jet Lag, Red Light Therapy, Sleep

<u>Topics</u>



Dark-Sky, LED Light Sources Commercial Lighting, Senior ighting, Human Centric



Lighting Research Institutions, Associations Publications, Books, Terminology

Where to find information on Light + Human Health?

Observation – For over 15 years, after each Circadian and Dark Sky seminar, I would ask the speaker, "Do you have a website where I can learn more?" The speaker always replied, "No." Then I would ask, "Should I build one?" every speaker I asked said 'YES!"

- **Question** If I am looking for this information, are others? If I build it, will they come? • Test the theory – Build it and see if anyone visits.
- Quantify the experiment Add a 'global map' to log visitors. • Conclusion – See map at the end.

Build a website

- Teach it to learn it = Lifelong Learning
- How do you refresh your memory after the conventions? • Where do you learn more or review what you learned?
- How do you give back to your industry where you have spent a lifetime learning the art and science of illumination?
- What if there was a place to learn the basics of light and color, and be linked to more in depth research? Can't find it build it.
- Audience Expert or novice, this information is for you.
- Those new to the field of lighting. • Professionals who want introduction, review, and background reading. • Curious novice and interested public.

Write it, build it, launch it.

sunlight contains all colors. These page

wis color in light different th

tow is color in paint changed by Does paint fade?

Color Spectrum

Visible light and the electromagnetic spectrum, what is color?

Light is Energy

Electromagnetic Radiation Radio - Visible - UV

you more about color and light

Organize Data - Site Architecture

- **Divide Information into four categories:** • Chroma = Light and Color
- Therapy = Light and Health • Light = Architectural Lighting Design and Light Pollution
- Research = Resources and Research in Lighting

Chroma Topics

olor Phenomena

What is your favorite color? Do you know why?

Therapy Topics

SLEEP CYCLES & LIGHT

Image, Activating a Neutral,

21 C

Synesthesia

or; the ability to perceive t

senses information you n intellectually.

Deborah Borrowdale-Coo What Color is Today?

is color in paint changed by

Color Blind Interview What would you like to ask?

Learning Objectives for each topic page.

Create in depth topic

pages on an array of

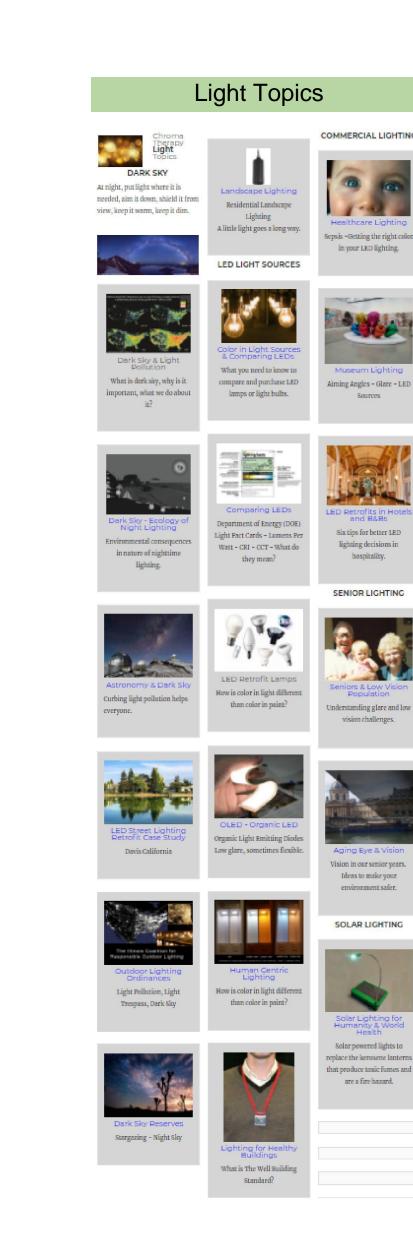
lighting design queries.

What do lighting designers need to know about light + human health?

Social Responsibility - will sharing human factors in light aid good design?

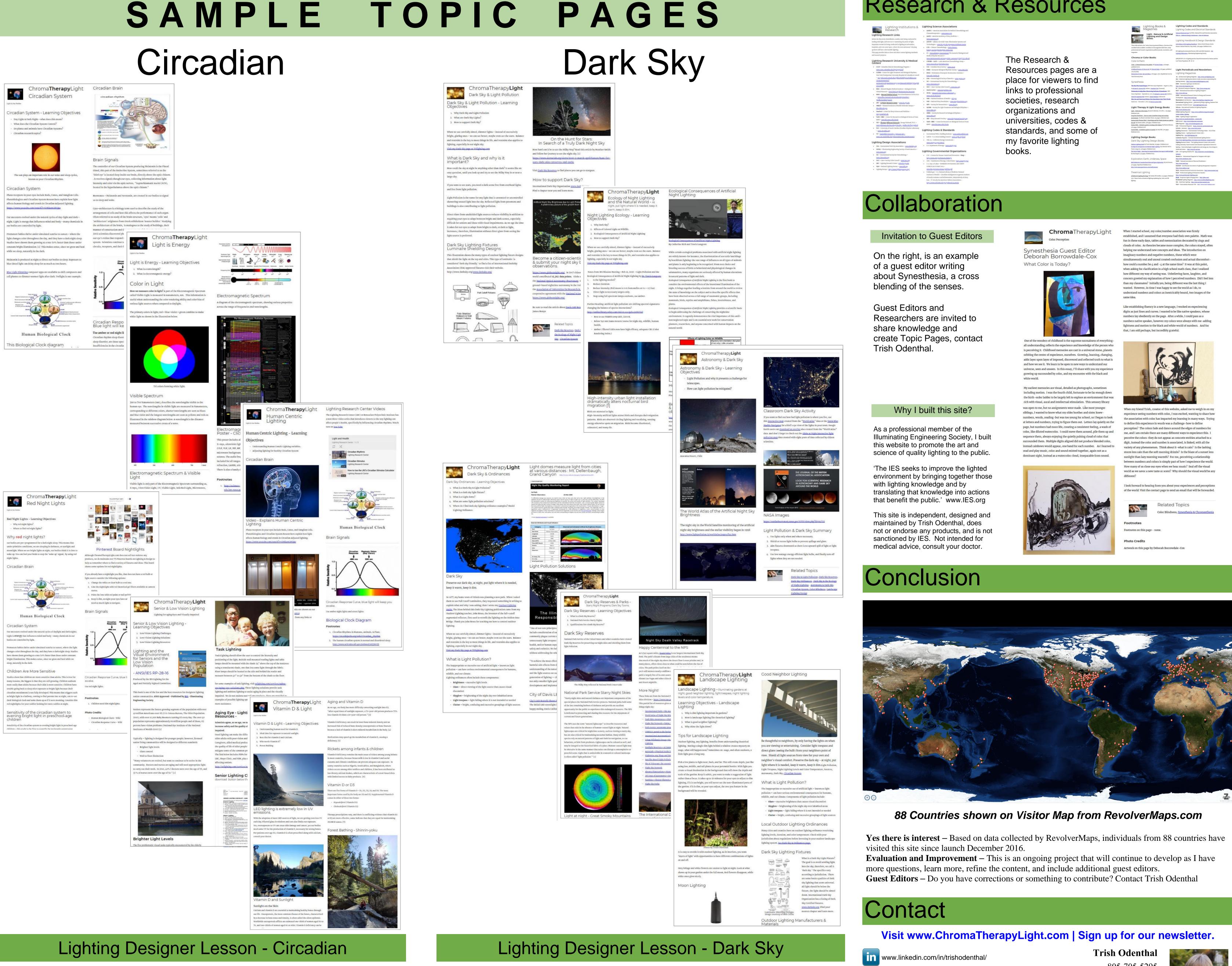
How is this website

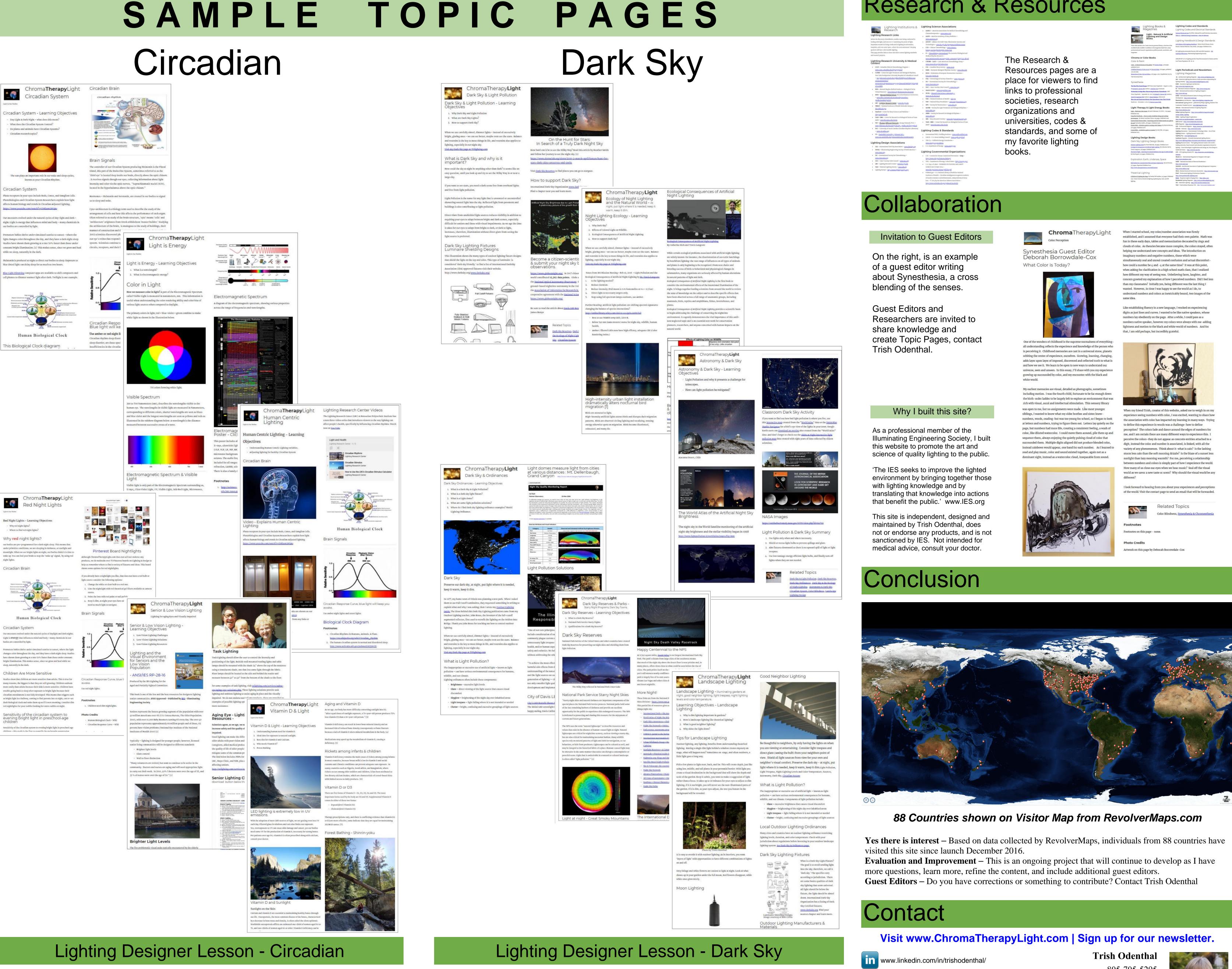
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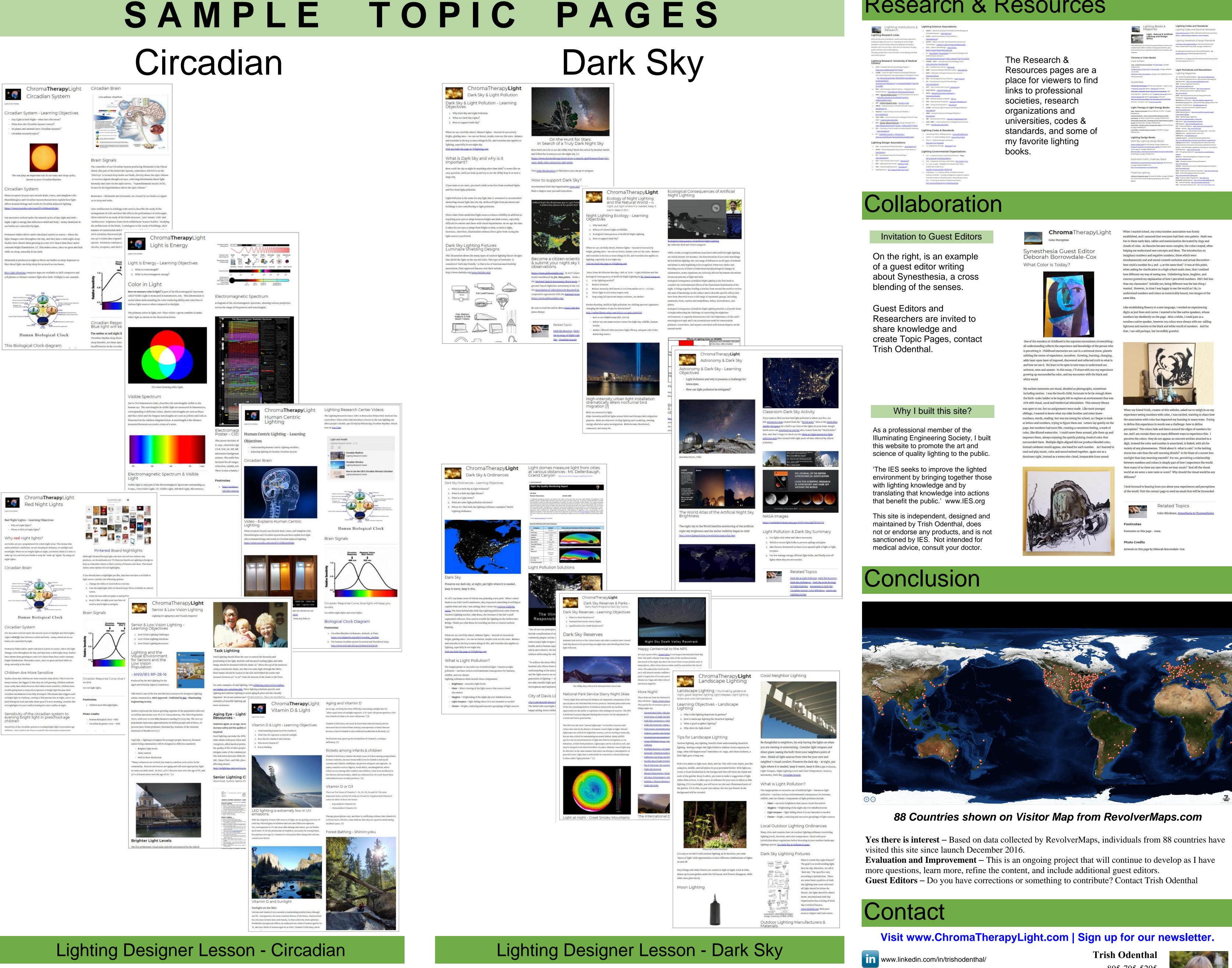


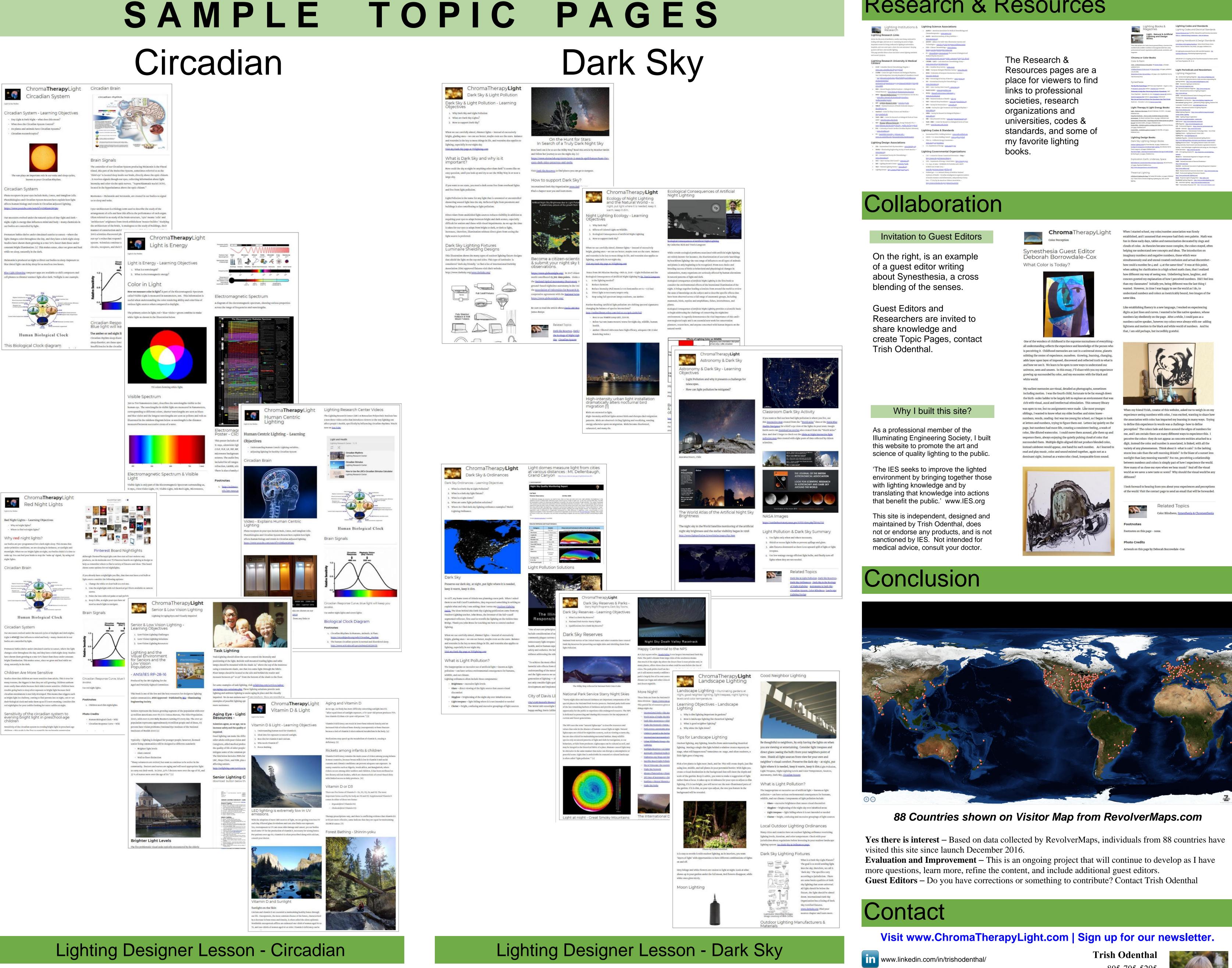


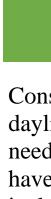
Lighting Links to Educational Resources











Circadian System Day Light & Dark Night ological clock and your brai







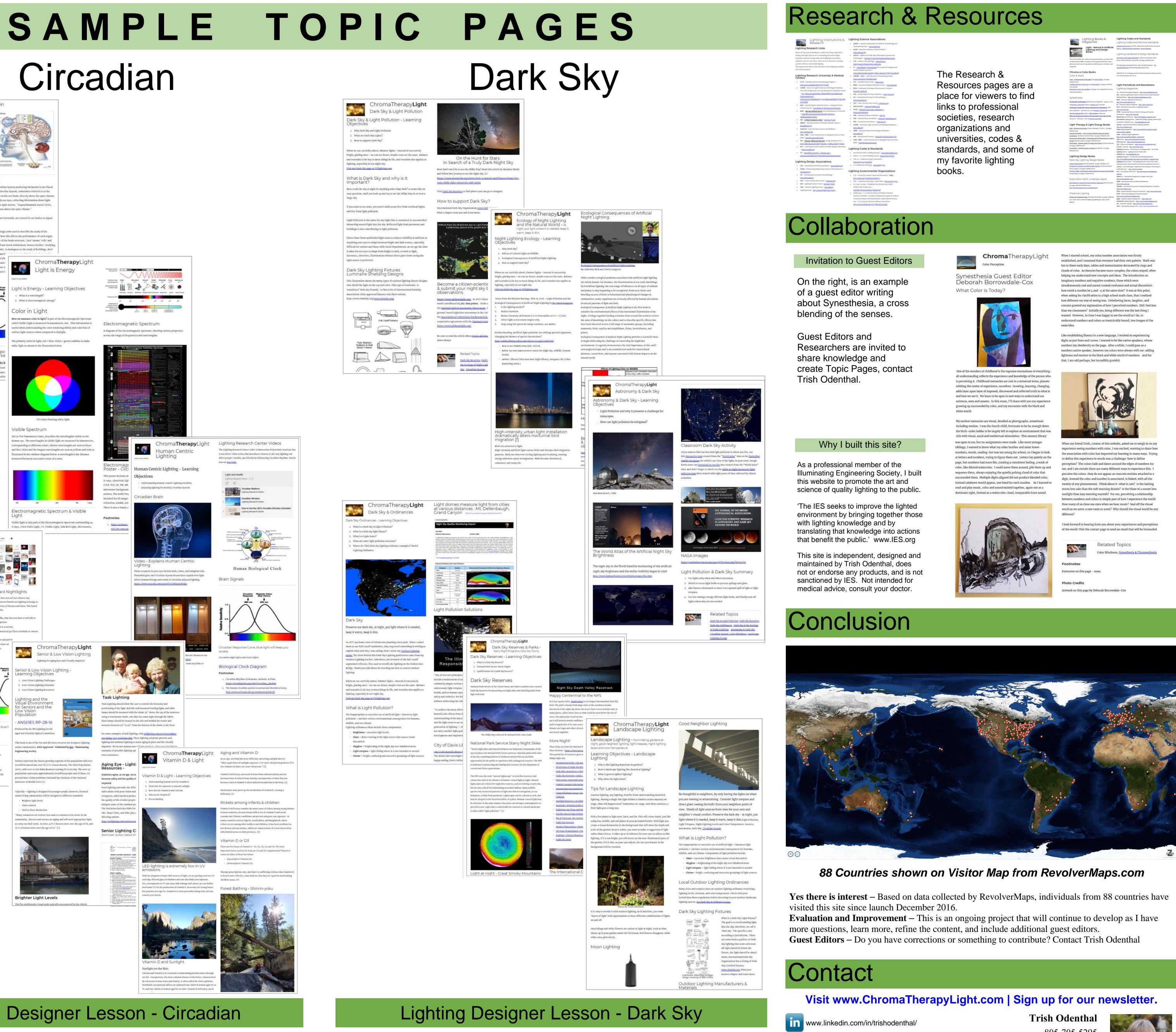






Everything has energy.

ChromaTherapyLight.com Color - Circadian - Light - Research Lighting Education



Consider the natural rhythms of the human body when designing lighting. Provide opportunities for natural daylight and a dark nights sleep. Use a variety of lighting levels to articulate the spaces. Understand special needs of the aging eye in senior care facility design regarding glare and light intensity. Many visually impaired have difficulty distinguishing between stairs and shadows and seeing the separation between walls and floors, include analysis of interior finishes in your lighting design.

Understand the consequences of sky glow, over lighting, and light trespass. Program outdoor lighting to go dim or off when not needed. Do no harm with your outdoor lighting realizing the impact it has on all living beings including: a neighbor sleeping, a trout in a stream, or birds navigating at night. Learn about dark sky lighting fixtures and know that your lighting specifications impact the lives of many. Educate you clients.

CHROMA THERAPY LIGHT

HOME CHROMA THERAPY LIGHT RESEARCH AE

Healing and Wellness with Light

CHROMA THERAPY LIGHT **COLOR - CIRCADIAN - LIGHT - RESEARCH** LIGHTING EDUCATION

NOT INTENDED FOR MEDICAL ADVICE, CONSULT YOUR DOCTOR

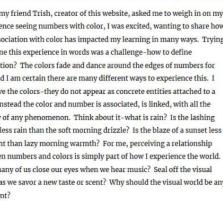
Institutions &	Lighting Science Associations
n	 AAMCC – American Association for Medical Chronobiology and
ks	Chronotherapeutics - www.aamoc.net
	 AASM – American Academy of Sleep Medicine –
dies were being conducted in	www.zasmnet.org
nining the power of light.	 ASSIST – Alliance for Solid-State Illumination Systems and
in lighting at universities, the next astronauts' sleeping	Technologies - <u>www.lrc.rpi.edu/programs/solidstate/assist</u>
the next astronauts steeping	CCB - Chinese Chronobiology - <u>www.chrono-</u>
5- ther current lighting standards	biology.net/English/English-index.htm
and content optimity intentions	 CI – <u>chronobiology International</u>, The Journal of Biological and Medical Rhythm Research –
	www.informaworld.com/smpp/title-content=t713597233-db=all
versity & Medical	CMDRB - LACG - Latin American Chronobiology Group -
,	www.crono.icb.usp.br/indexi.htm
obiology Program -	CSS - Canadian Sleep Society - www.css.to
wspi/sad	EBRS - European Biological Rhythms Society - www.ebrs.info
nent and Biological Rhythms,	FENS - Federation of European Neuroscience Societies -
ty Hospital of Columbia & Cornell	fens.mdc-berlin.de
hin/WebObjects/PublicA.wts	GSA – Gerontological Society of America – www.geron.org
	ISC - International Society for Chronobiology -
psych&wosid=HEdZQL7n54qEsb	www.chronoint.org
	 ISCC - Inter-Society Color Council - www.iscc.org
Institute - Biological Clocks	 MAYO CLINIC – www.mayoclinic.com
g/biointeractive/museum	 MCSL – Munsell Color Science Laboratory –
Eva Schernhammer Dr.P.H. M.D.	www.cis.rit.edu/mcsl
bership/member-	 NIH - National Institutes of Health - nih gov
and the set of a	 NSF – National Sleep Foundation – <u>www.sleepfoundation.org</u>
- www.lrc.rpi.edu Health Bethesda Campus -	 SFN – Society for Neuroscience – <u>www.sfn.org</u>
scann bennisda campus -	 SLTBR – Society for Light Treatment and Biological Rhythms –
nces and Medicine -	www.slthe.org
ices and Menicine -	 SRBR – Society for Research in Biological Rhythms –
ch on Biological Clocks at Texas	www.srbr.org
S	 SRS – Sleep Research Society – <u>www.sleepresearchsociety.org</u>
sity, George Brainard, Ph.D	 TAM- CRBC - Center for Research on Biological Clocks at Texas
aculty_profile.cfm?key=gxb116	A&M - www.bio.tamu.edu/clocks
ina Circadian Rhythm Laboratory	
	Lighting Codes & Standards
inson Lab -	 International WELL Building Institute - <u>www.wellcertified.com</u>
nlab/index.html#research	 LEEDS - U.S. Green Building Council - <u>www.usgbc.org/leed</u>
	 Title 24 - California Energy Commission -
ciations	www.energy.ca.gov/title24
sociation - www.darksley.org	 U.S. Department of Energy - <u>www.energy.gov</u>
ng Society of North America –	
	Lighting Governmental Organizations
hronobiology -	 CDC - Centers for Disease Control and Prevention - Sleep -
	http://www.cdc.gov/features/dssleep/
cil - www.iscc.org	 DOE - Department of Energy, United States - <u>http://energy.gov/</u>
-www.lrc.rpi.edu	 U.S. Dept. of Labor - WORKERS ON FLEXIBLE AND SHIFT
- www.nlb.org	SCHEDULES IN MAY 2004 -
ghtingrurope.org/	www.bls.gov/news.release/pdf/flex.pdf
	 PubMed.gov – U.S. National Library of Medicine National
	Institutes of Health - Circadian misalignment augments markers of insulin resistance and inflammation, independently of sleep
	or insulin resistance and inflammation, independently of sizep loss. – © 2014 by the American Diabetes Association. –
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www.instagram.com/trishodenthal/

www.pinterest.com/trishodenthal/ [75 lighting fixture & design boards]

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