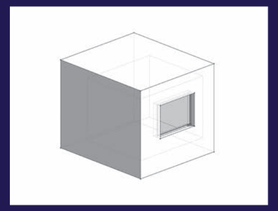
3-5 September, Loughborough University, UK
2018 International Radiance
Workshop

DANISH BUILDING RESEARCH INSTITUTE
AALBORG UNIVERSITY COPENHAGEN

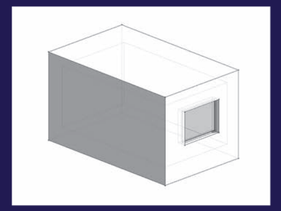
DAYLIGHT CALCULATIONS IN PRACTICE

AN INVESTIGATION OF THE ABILITY OF NINE DAYLIGHT SIMULATION PROGRAMS TO CALCULATE THE DAYLIGHT FACTOR IN FIVE TYPICAL ROOMS

SBI 2013:26

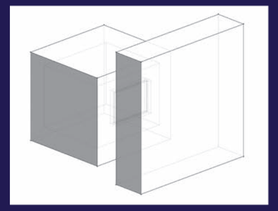


SIMPLE ROOM

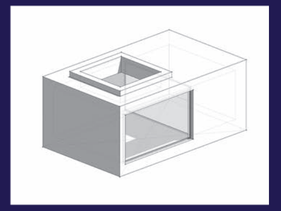


DEEP ROOM

ROOM WITH LIGHT SHELF



ROOM WITH OBSTRUCTION



ROOM WITH BORROWED LIGHT

Proceedings of BS2013:
13th Conference of International Building Performance Simulation Association, Chambéry, France, August 26-28

DEFINITION OF A REFERENCE OFFICE FOR STANDARDIZED EVALUATIONS OF DYNAMIC FAÇADE AND LIGHTING TECHNOLOGIES

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1 Massachusetts Institute of Technology, Cambridge, MA 02139, USA
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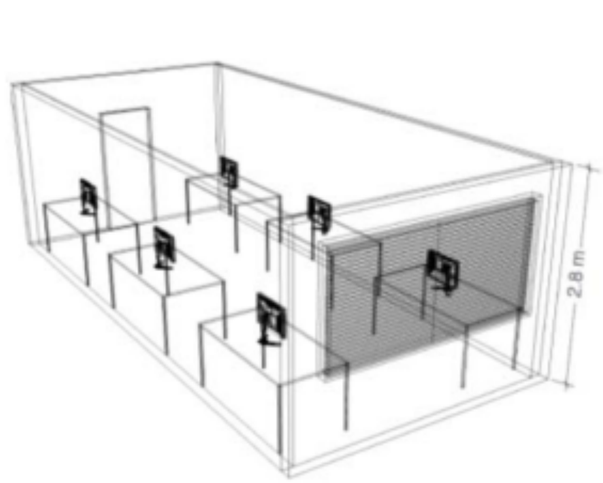
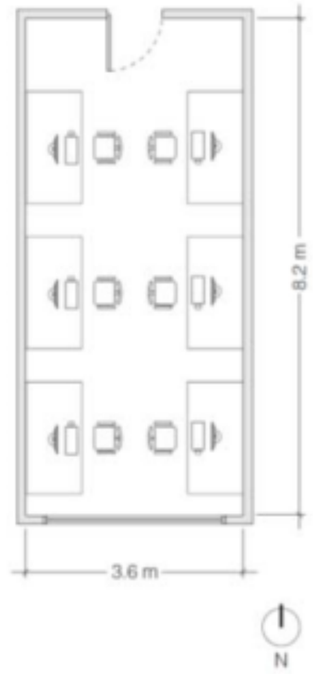
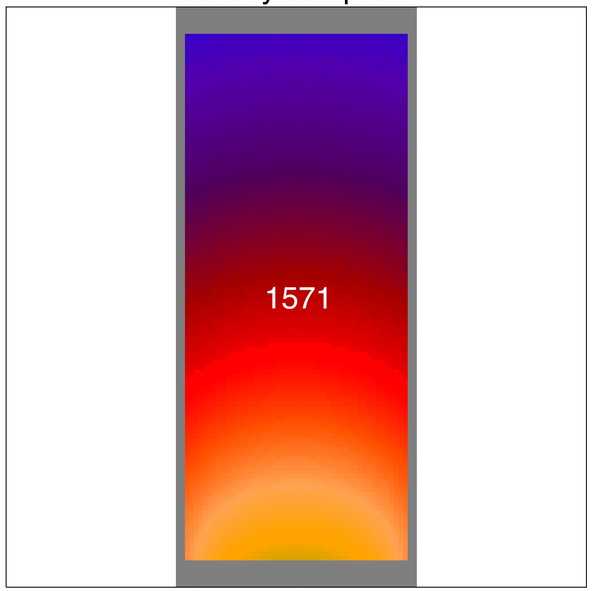




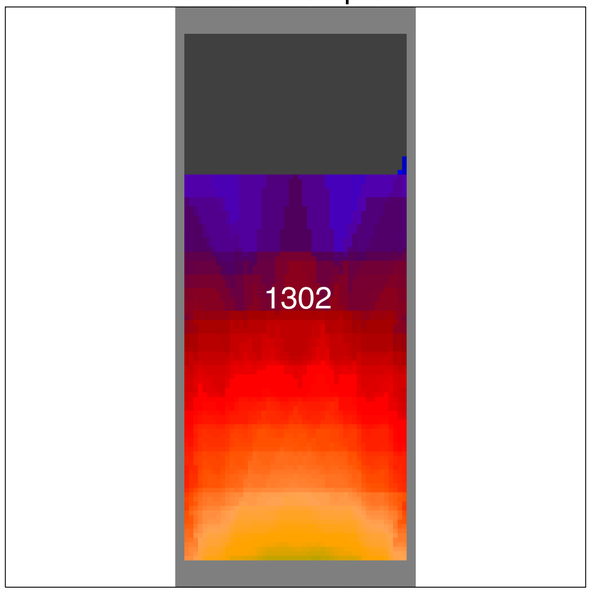
	UDI-a [300-3000lx]	DA [300lx]	sDA [300lx,50%]	ASE [1000lx, 250hr]	TAI
Deep room	37.5%	42.4%	31.0%	16.5%	3291 klx hr
Little room with light shelf	56.7%	61.5%	55.2%	15.1%	3718 klx hr
Little room with obstruction	17.8%	18.1%	10.8%	0%	945 klx hr

Direct sky comp of TAI



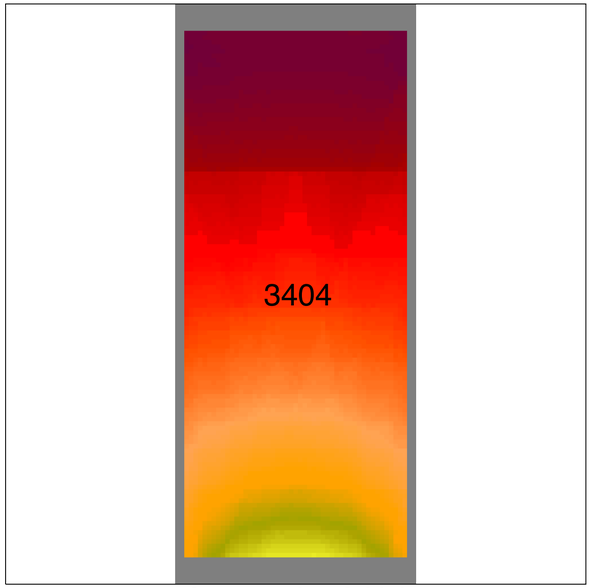
Area wght. 1571

Direct sun comp of TAI



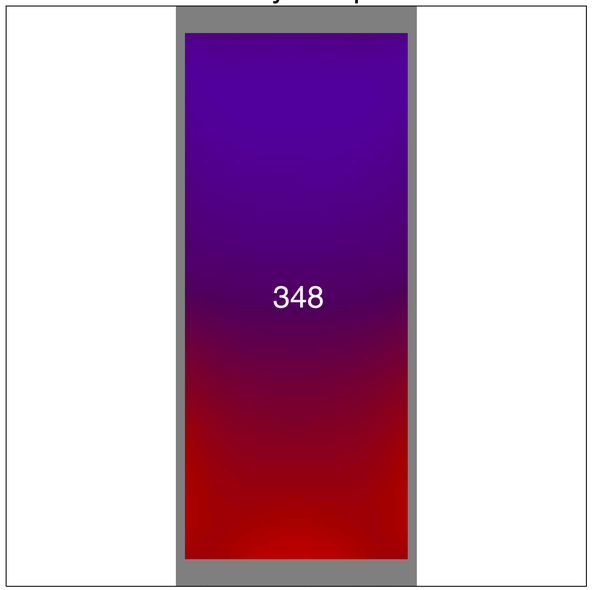
Area wght. 1302

Total annual illumination



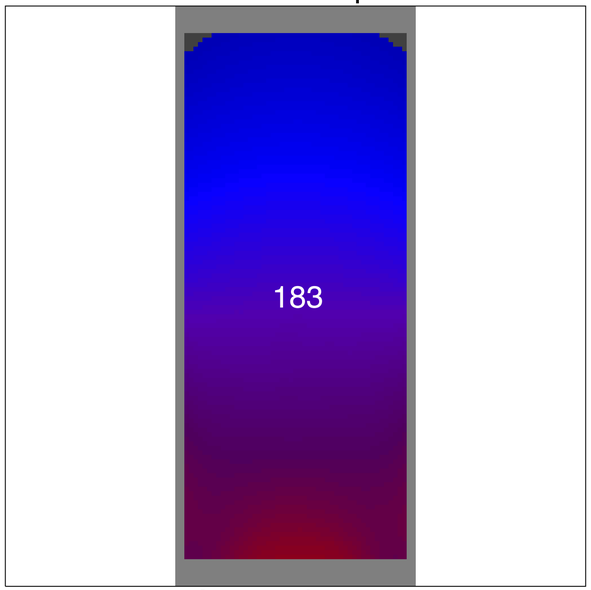
Area wght. 3404

Indirect sky comp of TAI



Area wght. 348

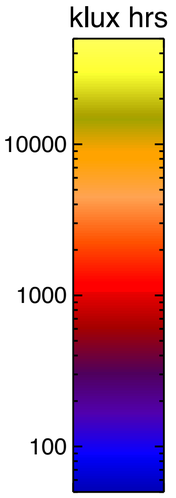
Indirect sun comp of TAI

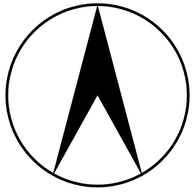


Area wght. 183

Cumulative metrics

deep_room/deep_room_wp
deep_room_wp
Hours:08.00-18.00





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Deep room

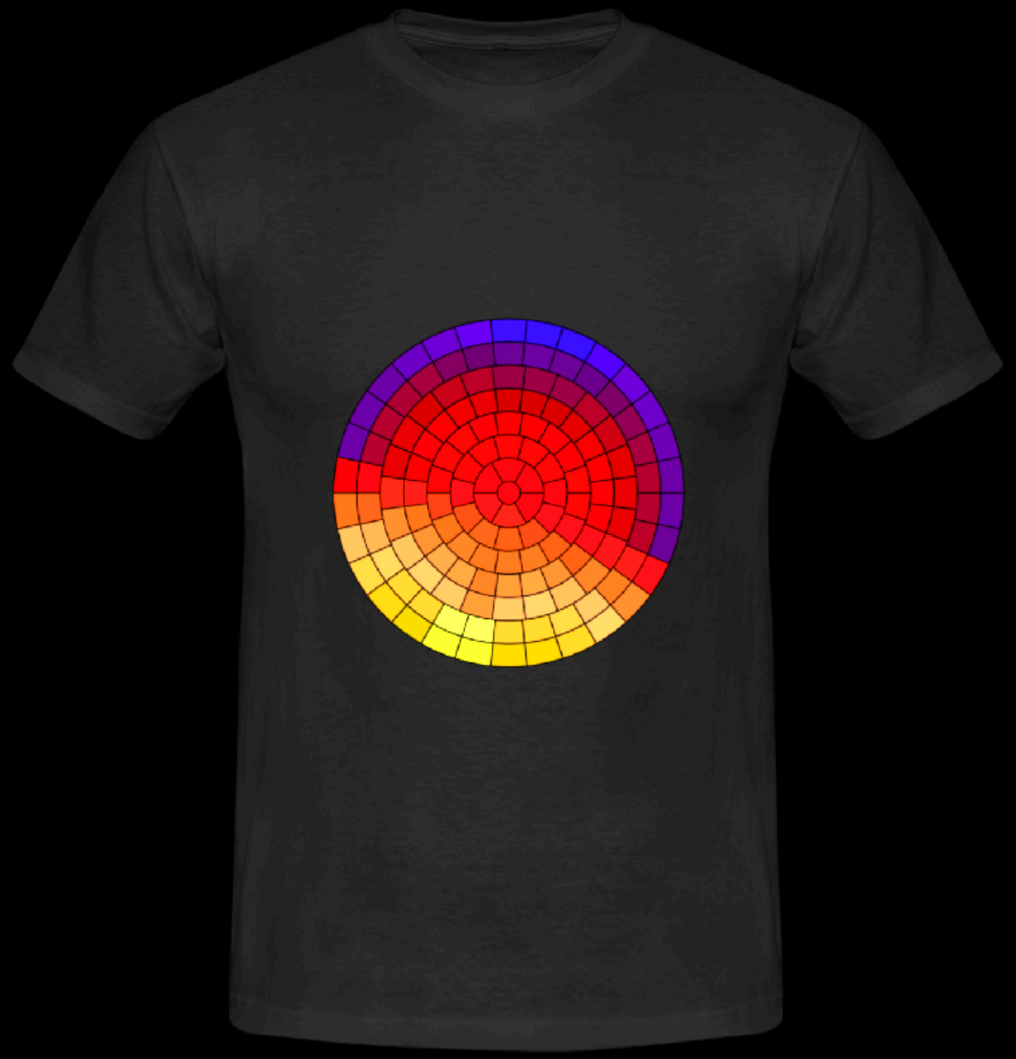
	UDI-a [300-3000lx]	DA [300lx]	sDA [300lx,50%]	ASE [1000lx, 250hr]	TAI [klx hr]
OUR RESULTS	38	42	31	17	3291
Greg	39	45	31	20	3747
Dan Glaser	35	41	27	17	n.a.
James and Ruth	32	36	37	25	2473
Abel and Bruno	36	43	30	43	3754

Little room with light shelf

	UDI-a [300-3000lx]	DA [300lx]	sDA [300lx,50%]	ASE [1000lx, 250hr]	TAI [klx hr]
OUR RESULTS	57	62	55	15	3718
Greg	59	65	55	20	4074
Dan Glaser	n.a.	61	57	16	n.a.
James and Ruth	61	65	97	33	3575
Abel and Bruno	58	67	51	86	4967

Little room with obstruction

	UDI-a [300-3000lx]	DA [300lx]	sDA [300lx,50%]	ASE [1000lx, 250hr]	TAI [klx hr]
OUR RESULTS	18	18	11	0	945
Greg	18	19	13	4	1146
Dan Glaser	12	13	9	0	n.a.
James and Ruth	17	18	13	8	1213
Abel and Bruno	18	20	13	16	1257



Radiance 2018
Loughborough, UK