

DIALux,

[10].

()

0,85

1x1

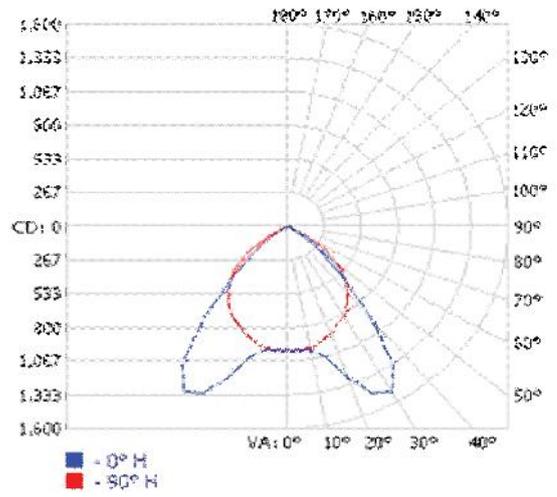
600 x 600

(.1).



.1.

[11].



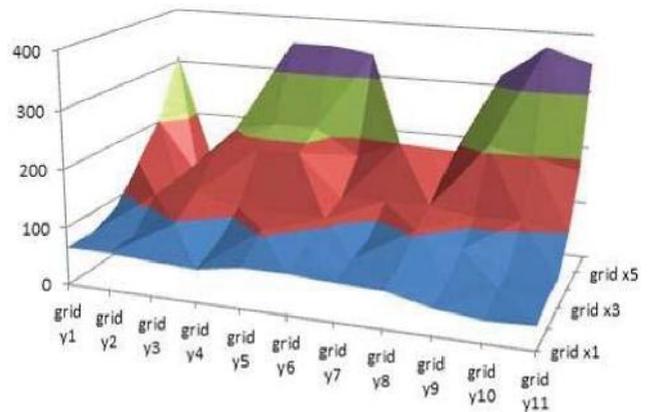
.3.



.2.

	68.5%
	35 /
	66
	3400
	4 x T5 14

1x1 ,
grid x1....grid x5, grid y1 ...grid y11

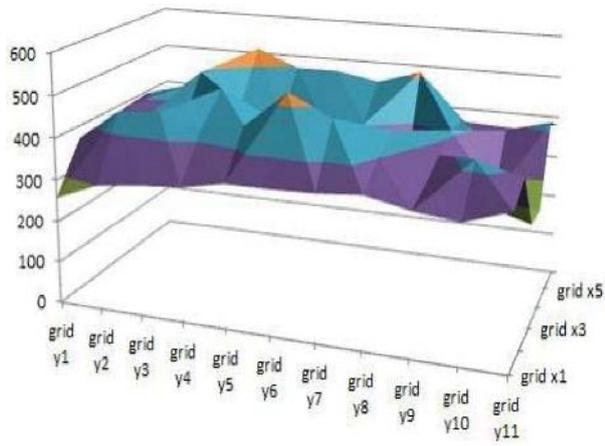


.4.

[9, 12].

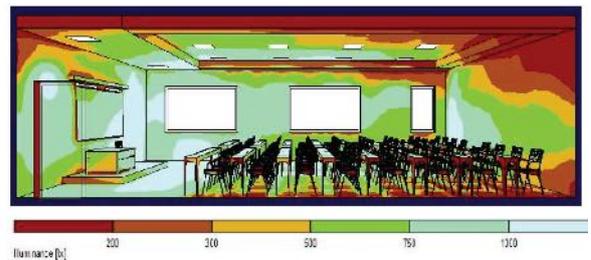
10.00

[13, 14].



. 5. () .

20.00 (.8) 800 .



. 8.



. 6.



. 7.

1. ; , - - - - -
 2. . - - - - -
 3. . - - - - -
 4. () . - - - - -
 5. . - - - - -

1. . . . - - . : - 1999. - 265 .
 2. . . . /
 . 3- . . . - - :
 . 2006. - 972 .
 3. . . . //
 . - 2008. - 5. - .23-25. -
 4. : / . . . ; . .
 . . . - - : . -
 2013. - 288 .

5. . . . // - 2. Spravochnaya kniga po svetotekhnike / Pod red. YU. B. Ayzenberga. 3-ye izd. pererab. i dop. — M.: Znak. — 2006. — 972 s.
- . – 2005. – 6. - 3. Fedorov S.N. Prioritetnyye napravleniya dlya povysheniya energoeffektivnosti zdaniy // Energoberezheniye. – 2008. – 5. –s.23-25.
- 6 4712:2007. . - 4. Energoeffektivnoye elektricheskoye osveshcheniye: uchebnoye posobiye/ S.M. Gvozdev i dr.; pod red. A.P. Varfolomeyeva. – M.: Izdatel'skiy dom MEI. – 2013. – 288 s.
- . . . 01.07.20007. - 5. Energoberezheniye i energoaudit v osvetitel'nykh i obluchatel'nykh ustanovkakh: uchebnoye posobiye/ Kungs A.YA., Tsuglenok N.V. – Krasnoyarsk: KGAU, 2003.
- .: . – 2007. – 25 . - 6. DSTU 4712:2007. Yenergozberezhennya. Palivno-yenergetichn balansi promislovikh p dpry y mstv. Metodika pobudovi ta analizu. Chin. Vid 01.07.20007. – Derzhstandart Ukraini, 2007. – 25 s.
7. . . . // - 7. Loskutov A. B. Metodika raschota ekonomii elektroenergii v deystvuyushchikh osvetitel'nykh ustanovkakh pomeshcheniy pri provedenii energeticheskogo audita / A. B. Loskutov, A. S. Shevchenko // Elektropanorama. – 2000.–Vip. 5–6.–S.24–27.–Bibliogr.: s. 27.
- / . . . , . . . // - 8. Trunova I. M. Vdoskonalennya metodiki yenergetichnogo auditu sistemi osvítleniya/ I. M. Trunova, L. YU. Volotka, T. L. Nasêdkína // Vísnik KHDTUSG. Problemi yenergozabezpechennya ta yenergozberezhennya v APK Ukraini. – 2012 – Vip.130. – S. 33–35. – Bibliogr.: s. 33.
- . – 2000. – . 5–6. – . 24–27. – 9. Zagal'ň vimogi do organ zats y ta provedennya yenergetichnogo auditu: Tipova metodika. – Zatv. nakazom 56 v d 20.05.2010 r. Nats onal'nogo agentstva Ukra ni z pitan' zabezpechennya yefektivnogo vikoristannya yenergetichnikh resursív. – 90 s.
- . – 2012 – .130. – . 33–35. – 10. Energoberezheniye i energoaudit v osvetitel'nykh i obluchatel'nykh ustanovkakh: uchebnoye posobiye/ Kungs A.YA., Tsuglenok N.V. – Krasnoyarsk: KGAU, 2003.
- .: .33. - 11. Guide for the Application of the Commission Regulation (EU) No. 1194/2012 Setting Ecodesign Requirements for Directional Lamps, Light Emitting Diode Lamps and Related Equipment. – Brussels: LIGHTINGEUROPE. – 2013. – 96p.
9. 56 20.05.2010 . - 12. M. Krarti, Erickson P., Hillman T. A simplified Method to Estimate Energy Savings of Artificial Lighting Use from Daylighting Building and Environment // Building and Environment. – 2005.– 40 – . 747-754.
- . – 2010. – 90 . - 13. Yezioro, A; Dong, B; Leite, F An applied artificial intelligence approach towards assessing building performance simulation tools //Energy and Buildings. – 2008. – 40 (4). – . 612.
10. : - 14. P. Leslie, J. M. Pearce, R. Harrap, S. Daniel. The application of smartphone technology to economic and environmental analysis of building energy conservation strategies // International Journal of Sustainable Energy. – 2012. – 31 (5). – pp. 295-311.

References

1. Energoberezheniye v osveshchenii. Pod red. prof. YU.B. Ayzenberga. – M.: Znak. – 1999. – 265 s.

14. P. Leslie, J. M. Pearce, R. Harrap, S. Daniel. The application of smartphone technology to economic and environmental analysis of building energy conser-

vation strategies // International Journal of Sustainable Energy. – 2012. – 31 (5). – pp. 295-311.

E-mail – vasilyevauo@gmail.com

E-mail –happy.light9574@ gmail.com

E-mail – vasilyev.ant@gmail.com

LIGHT-AUDIT: OPTIMIZATION OF ELECTRIC ENERGY CONSUMPTION IN LIGHTING FOR CLASSROOMS

U. . Vasilyeva, . . Lyashenko, A.L. Vasilyev

Actual ways optimizing the energy consumption of lighting systems for education facilities with high levels of ambient normalized horizontal illuminance on the audit results have been highlighted. Efficient using electricity and decreasing the cost of the lighting needs can be achieved by such arrangements: improving the lighting systems; applying efficient light sources, correct selection and placement of fixtures and rational application of new lighting fixtures and devices, optimizing lighting networks and control systems, the rational organization of lighting operation. Optimization of the lighting of the lighting systems is justifying the choice of means and methods of lighting. One of the important issues determining the efficiency of indoor lighting is the choice of lighting systems. The simulation results have been shown that using daylight and artificial lighting can realized high energy efficiency of the lighting system with the corrective approach. Implementation of energy-efficient lighting arrangements can significantly reduced energy consumption, thereby decreasing greenhouse gas emissions.

Keywords: light audit, lighting systems, modeling lighting, natural lighting, artificial lighting, combined lighting