


13 January 2022

Kishoge 110 kV Substation
110 kV GIS Building Compound Lighting
Calculations



“Safety, Loyalty, Integrity, Commitment, & Teamwork”

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H&MV ENGINEERING

Kishoge 110 kV Substation

110 kV GIS Building Compound Lighting Calculations

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1. Revision History

Date	Revision	Comment
13/01/2022	00	Initial Revision

2. Introduction

The purpose of this study is to calculate the average illuminance within the Kishoge 110 kV compound. Sufficient illumination shall be provided to allow safe operating and movement within the compound.

3. Design Parameters

The horizontal illuminance shall exceed 2 lux throughout the HV compound in accordance with Eirgrid specification XDS-GFS-014-001-R2.


4. Conclusion

All the design parameters were satisfied. The worst-case illuminance is E_{min} [lx] 2.09.

5. Luminaire Parts List

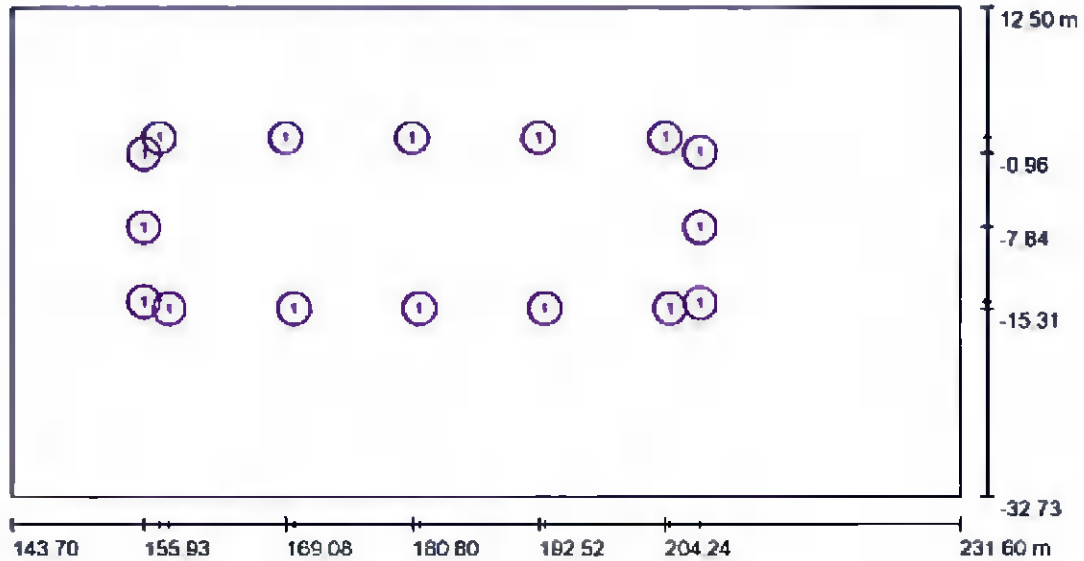
16 Pieces LEDVANCE 4058075097704 FLOODLIGHT 135
135 W 4000 K IP65 BK
Article No.: 4058075097704
Luminous flux (Luminaire): 15000 lm
Luminous flux (Lamps): 15000 lm
Luminaire Wattage: 135.0 W
Luminaire classification according to CIE: 100
CIE flux code: 53 84 97 100 100
Fitting: 1 x FLOODLIGHT 135 W 4000 K IP65 BK
(Correction Factor 1.000).



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6 HV Compound

6.1 HV Compound / Normal Lighting / Summary



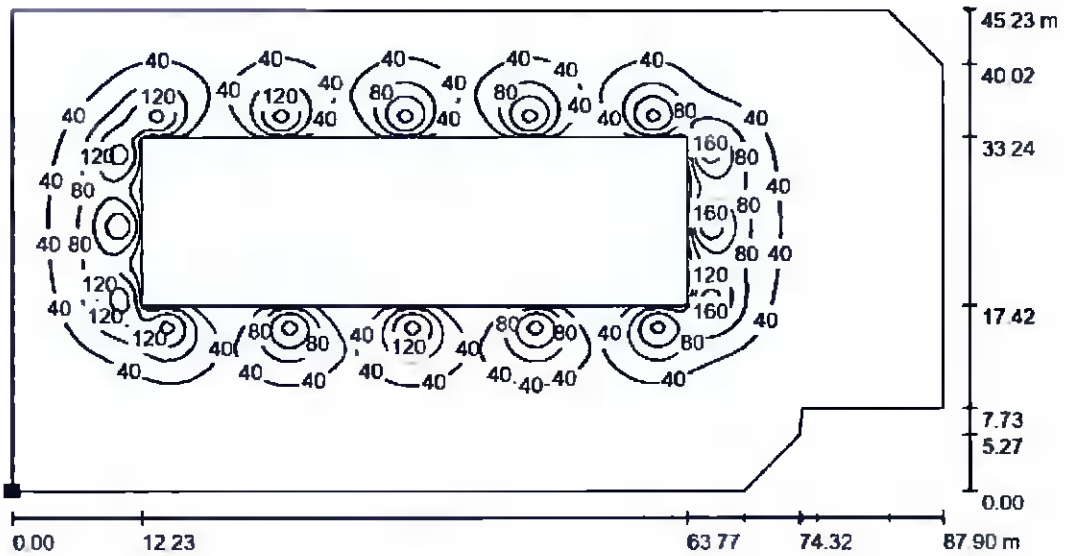
Scale 1 : 629

Luminaire Parts List

No.	Pieces	Designation
1	16	LEDVANCE 4058075097704 FLOODLIGHT 135 135 W 4000 K IP85 BK

- Lights have been mounted at a height of 4.4 m above ground level.
- Measurements above are taken from the fence line around the substation building from drawing no. ESSDUB98-CSE-00-XX-DR-C-2103.

6.2 HV Compound / Isolines (E)



Values in Lux, Scale 1 : 629

Position of surface in external scene:
Marked point:
(143.700 m, -32.730 m, 0.750 m)



Grid: 128 x 128 Points

E_{av} [lx]
38

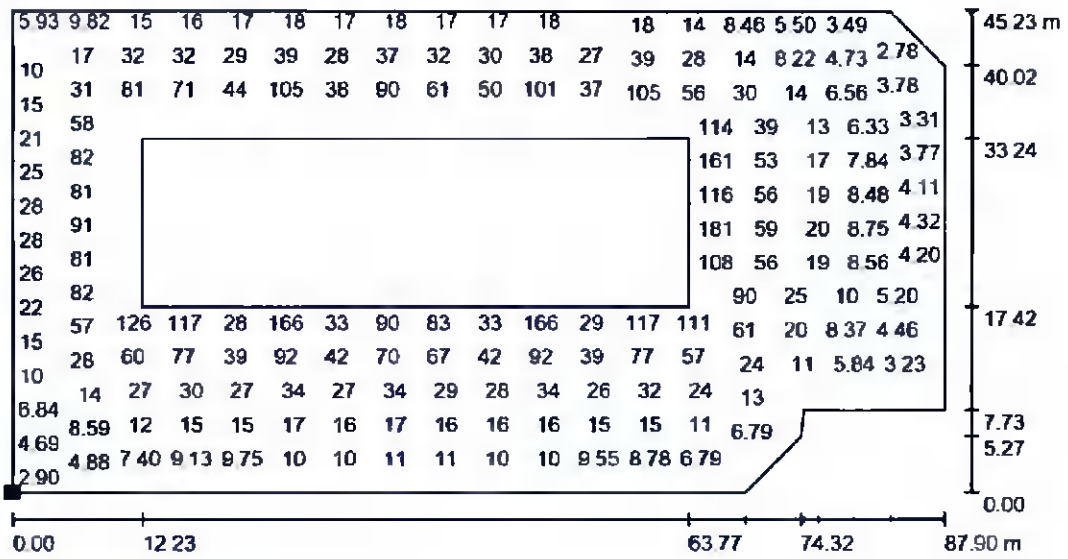
E_{min} [lx]
2.09

E_{max} [lx]
187

$u0$
0.055

E_{min} / E_{max}
0.011

6.3 HV Compound / Value Chart (E)



Values in Lux, Scale 1 : 629

Not all calculated values could be displayed.

Position of surface in external scene:
Marked point:
(143.700 m, -32.730 m, 0.750 m)



Grid: 128 x 128 Points

E_{av} [lx]
38

E_{min} [lx]
2.09

E_{max} [lx]
187

$u0$
0.055

E_{min} / E_{max}
0.011