

Welch House Cottage

Installation : Arena Lighting

Project number :
Customer : Cronshaw FM
Processed by : Dave Harrison
Date : 23.12.2019

We have the pleasure in attaching our Lighting Design for the aforementioned project for your approval

Illuminance and uniformity levels are shown for your approval with calculations having been carried out as per the information, drawings and / or specifications details provided. Please check to confirm that all details are correct, especially dimensions of the room(s) and fitting specification to ensure these are as required. In the absence of a written specification areas will be illuminated to the recommended standards according to their primary function. Areas are generally to be open without any obstructions above the working plane unless otherwise advised

Where applicable the design conforms to the latest recommendations and guidelines. If conformity to LG7 is to be proved with exact figure, we may need to add or change the luminaire types. We have used common design parameters for ceiling heights and reflectances of room surfaces - (wall 50% ceiling 70% floor 20%) as well as maintenance factors (LED light source up to 0.9), in our calculations unless details were provided otherwise

Please note that it is the installers responsibility to check and confirm TP(a) and TP(b) requirements as per Building Regulations Approved Document B Fire Safety 2006 with amendments 2010-2013. Compliant luminaires will generally be proposed dependant on the application and / or area type. Should the product specified by us be subsequently replaced with an inferior / non compliant product type - any liability and / or cost incurred for subsequent remedial work required would be the responsibility of the client

Emergency lighting will be designed to the recommended guidelines set out in BS5266. Provision for High Risk areas will be made ONLY where obvious and / or those identified by the client. It is the responsibility of the Purchaser / Installer to ensure that the design complies with local fire and health and safety regulations. In the event that the design is not found to comply we will adjust the design in consultation with the customer to ensure that it does comply with such regulations. Please be aware of the Part L2 requirements and check that conformity has been met where required

The following calculations are based on manufacturer lamp / luminaire data however, in practice gradual divergencies can occur. Specific site conditions (such as ambient temperature) can also effect the performance of luminaires and any such adverse conditions should be detailed prior to calculations being carried out to ensure adequate provision has been made for these

Whilst every effort will be made to adhere to the written or product specification provided, it is always the responsibility of the customer to ensure that any design scheme, specification and / or product supplied satisfies fully and complies with the end users requirements and is suitable for the installation - If unsure of any suggested fittings it is advisable to order samples in advance following values are based on exact calculations on calibrated lamps, luminaires and their arrangement. In practice, gradual divergencies can occur

The following values are based on precise calculations performed on calibrated lamp and luminaires, and their configurations, whereby gradual unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

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1 Luminaire data

1.1 THORNeco, LEO LED FL IP66 200W 8... (96630255 (STD -...))

1.1.1 Data sheet

Manufacturer: THORNeco

96630255 (STD - standard)

LEO LED FL IP66 200W 840 PC

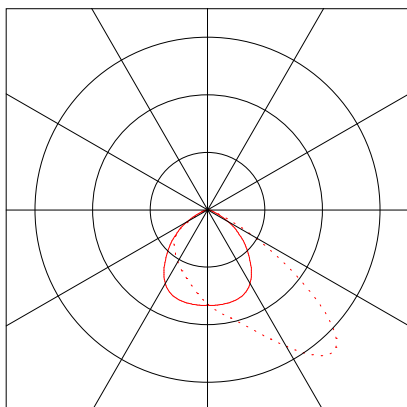
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 100 lm/W
Classification : A50 ↓100.0% ↑0.0%
CIE Flux Codes : 53 91 99 100 100
Glare : G*6 / D6
Power : 200 W
Luminous flux : 20000 lm

Equipped with

Quantity : 1
Designation : LED-TE144
200W
Colour : 4000
Luminous flux : 20000 lm
Colour reproduction : 80

Dimensions : 394 mm x 72 mm x 456 mm

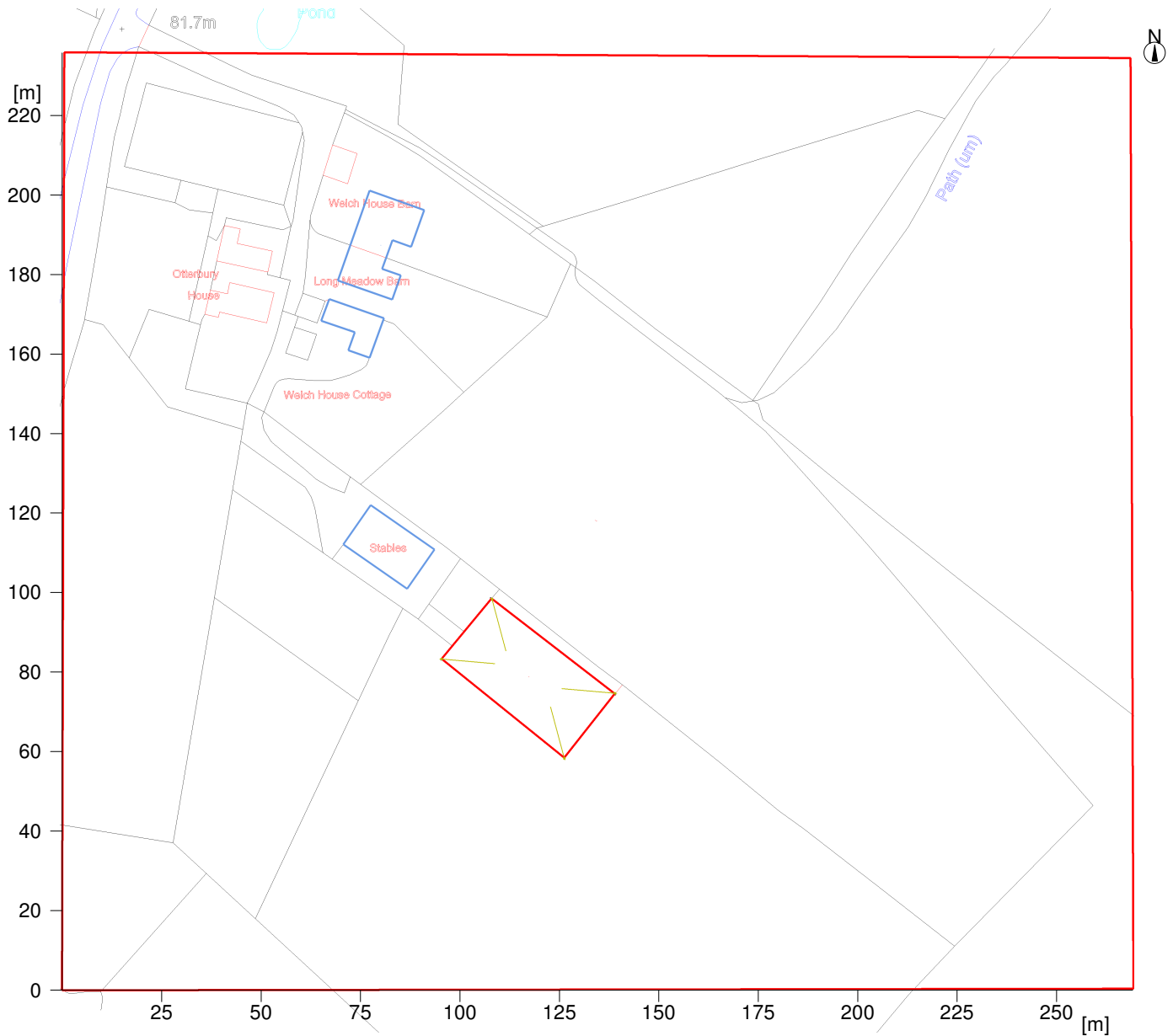




2 Exterior 1

2.1 Description, Exterior 1

2.1.1 Floor plan



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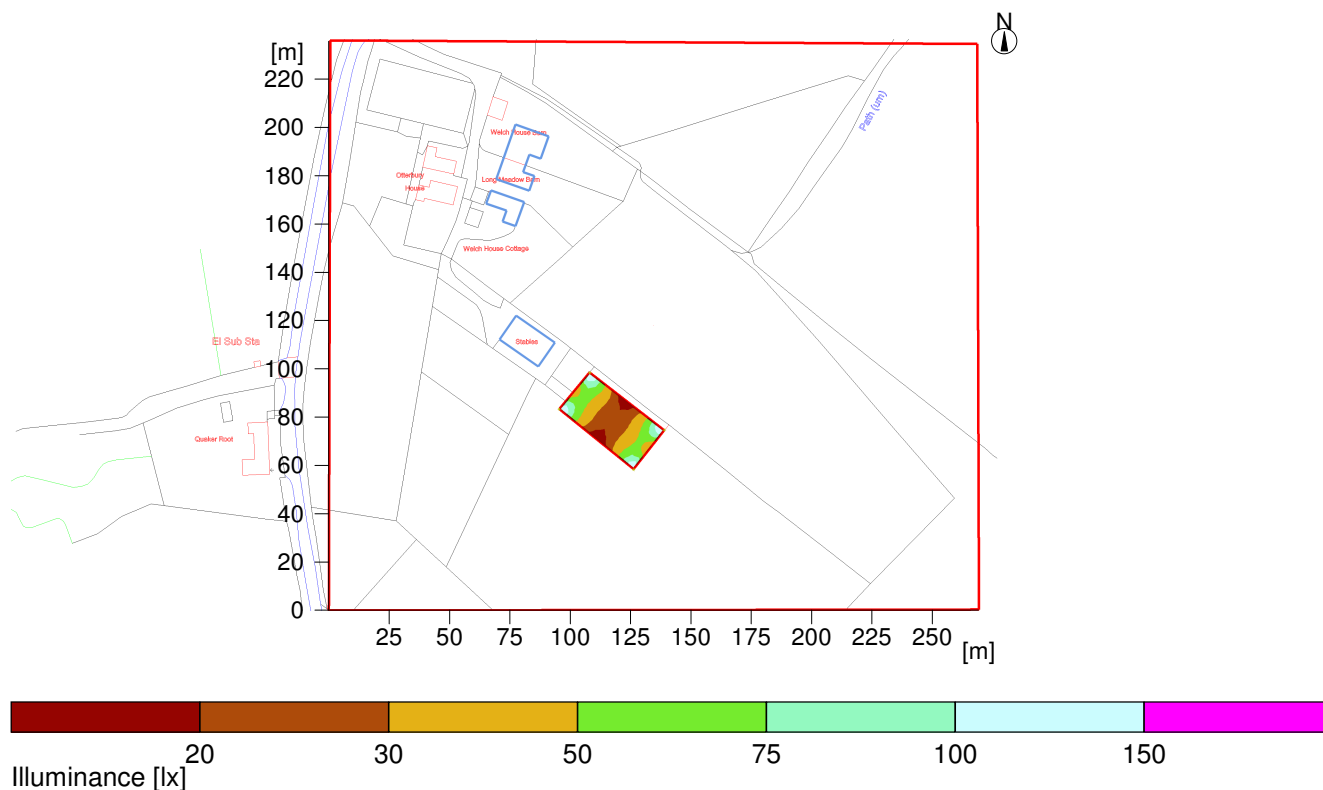


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2 Exterior 1

2.2 Summary, Exterior 1

2.2.1 Result overview, Arena



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Height (phot centre) [m]:	5.80 m
Maintenance factor	0.80

Total luminous flux of all lamps	80000 lm
Total power	800 W
Total power per area (63038.36 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	44 lx
Minimum illuminance	Emin	16 lx
Maximum illuminance	Emax	113 lx
Uniformity Uo	Emin/Em	1:2.8 (0.36)
Diversity Ud	Emin/Emax	1:7.12 (0.14)

Type No. Make

1	4	THORNeco
		Order No. : 96630255 (STD - standard)
		Luminaire name : LEO LED FL IP66 200W 840 PC
		Equipment : 1 x LED-TE144 200W 200 W / 20000 lm

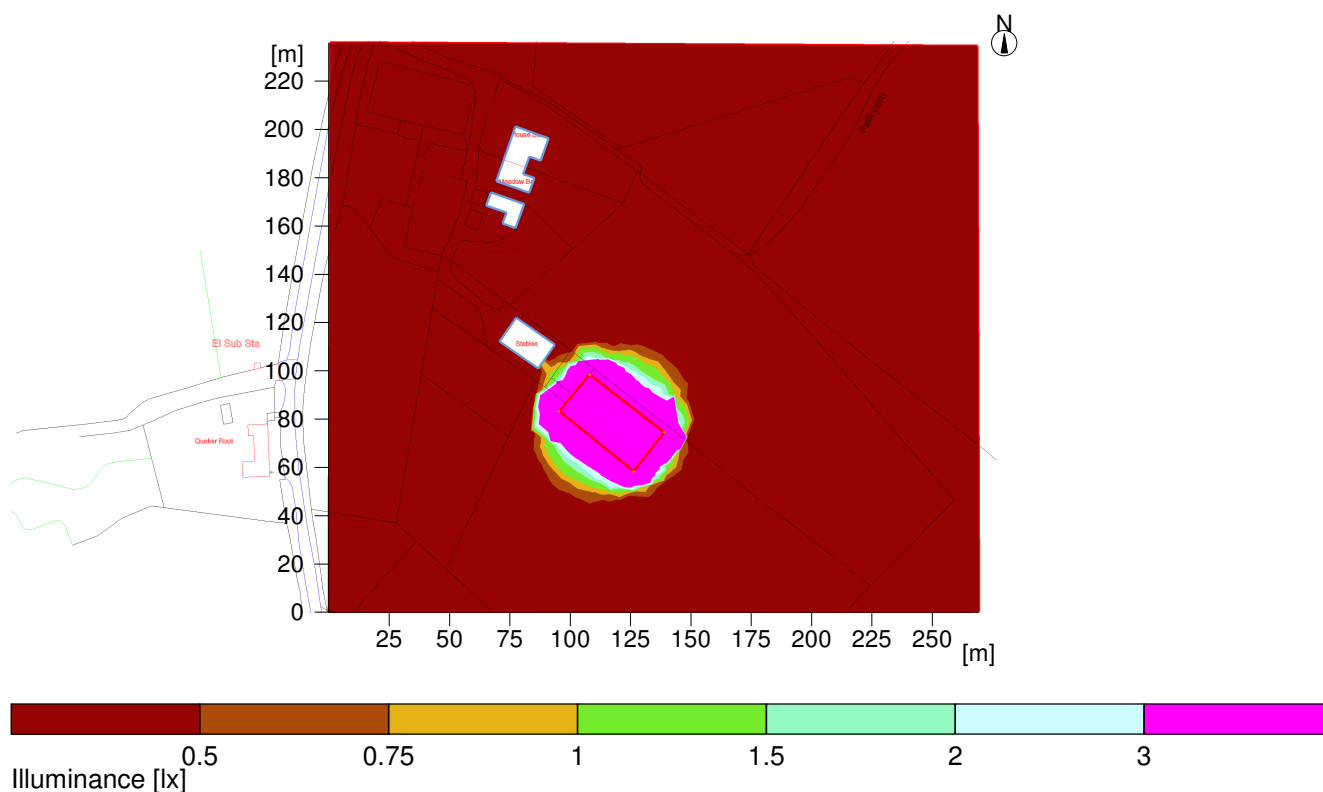
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2.2 Summary, Exterior 1

2.2.2 Result overview, Evaluation area 1



General

Calculation algorithm used
Height (phot centre)
Maintenance factor

Average indirect fraction
5.80 m
0.80

Total luminous flux of all lamps
Total power
Total power per area (63038.36 m²)

80000.00 lm
800.0 W
0.01 W/m² (1.32 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

Horizontal
Em
0.96 lx
Emin
0 lx
Emin/Em (Uo)

Emin/Emax (Ud)

Position
0.00 m

Type No.\Make

THORNeco	
1	4
Order No.	: 96630255 (STD - standard)
Luminaire name	: LEO LED FL IP66 200W 840 PC
Equipment	: 1 x LED-TE144 200W 200 W / 20000 lm

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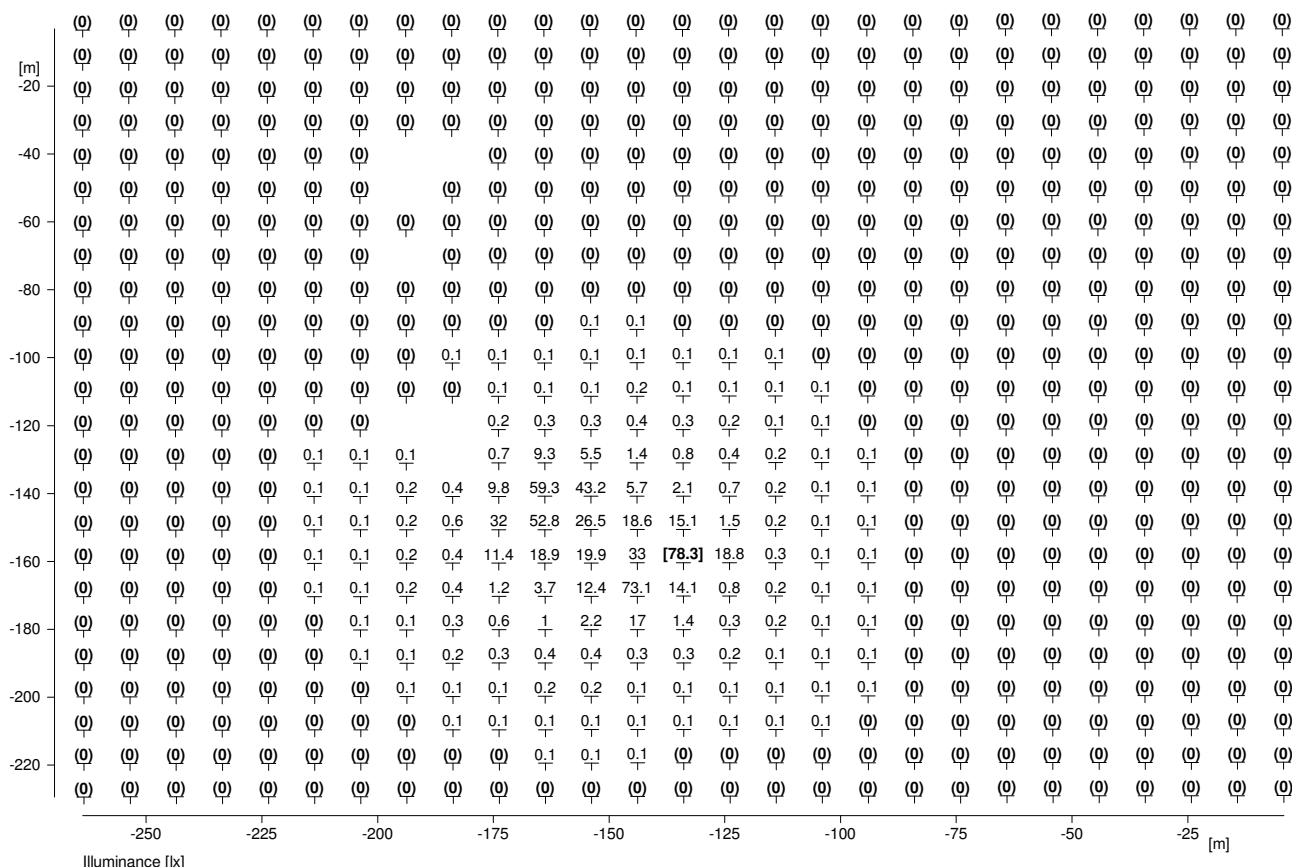


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2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)



Height reference plane : 0.00 m
 Average illuminance : 1 lx
 Minimum illuminance : 0 lx
 Maximum illuminance : 78.3 lx
 Uniformity Uo : ---
 Diversity Ud : ---

