

LONDON BOROUGH OF HILLINGDON

Secondary Schools Expansion Project

External Lighting Strategy Report – Ruislip School

JULY 2017

CONTACTS

MARTIN STAMP
Principal Electrical Engineer

dd +44 (0)20 3014 9092
m +44 (0)7841 507474
e martin.stamp@arcadis.com

Arcadis.
Arcadis House
34 York Way
London N1 9AB
United Kingdom

CC YEH
Technical Director

dd +44 (0)20 3014 9199
m +44 (0)7734 780 665
e cc.yeh@arcadis.com

Arcadis.
Arcadis House
34 York Way
London N1 9AB
United Kingdom

London Borough of Hillingdon

External Lighting Strategy Report – Ruislip School

Author	Martin Stamp
Checker	CC Yeh
Approver	CC Yeh
Report No	UA009222/RS/001
Date	JUL 2017

VERSION CONTROL

Version	Date	Author	Changes
0	28.07.17	Martin Stamp	First Issue

This report dated **Click here to enter a date.** has been prepared for **Click here to enter text.**(the "Client") in accordance with the terms and conditions of appointment dated **Click here to enter a date.**(the "Appointment") between the Client and **Arcadis Consulting (UK) Limited** ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

CONTENTS

EXECUTIVE SUMMARY 1

1.1 Introduction 2

1.2 Planning Layout Reference 2

2.0 Lighting Standards..... 2

3.0 Lighting Strategy 2

4.1 Conclusion 3

APPENDICES

APPENDIX A

Luminaire Schedule

APPENDIX B

Proposed External Luminaire Images

APPENDIX C

Lighting Computer Plot for Ruislip School

Executive Summary

The secondary schools expansion project within London Borough of Hillingdon includes the following secondary schools:

- Vyners School
- Ruislip School

This report outlines the proposed lighting strategy for the external environments, specifically for Ruislip School.

The existing school is located within a residential area with housing adjoining on the western site boundary/elevation only. The northern boundary/elevation follows council owned highway (Sidmouth Drive) with the east and southern elevations adjoining school owned sports pitches.

Light trespass and line of sight from the adjacent residential properties have been taken into consideration when establishing an appropriate lighting scheme.

The objective of the proposed lighting strategy is to provide safe and functional lighting for the external environment within the school boundary during darkness, but without affecting the surrounding residents.

To meet this requirement, the proposed lighting scheme established is as follows:

- For the building perimeter, the security lighting will be provided by means of wall mounted LED luminaires with asymmetric lenses which will be fixed along the walls to provide localized downward lights.

It should be noted that no artificial lighting will be provided to the outdoor sports pitch.

From the initial lighting assessment, it indicates that the proposed lighting scheme outlined above provides satisfactory lighting performance and that there is no adverse effect to the surrounding residents.

1.1 Introduction

Arcadis has been commissioned by London Borough of Hillingdon to provide a turnkey solution to deliver the secondary schools expansion project which includes the following schools:

- Vyners School
- Ruislip School

In respect of the design of the building engineering systems including lighting system for this project, Arcadis is currently involved in the concept and scheme design. The detailed design will be undertaken and developed by the prospective “Design and Build” Contractor at a later date.

This report outlines the proposed lighting strategy specifically for the external areas of Ruislip School to support the planning application. For consistency, the lighting design principle adopted is also applicable to the other school.

1.2 Planning Layout Reference

The lighting layout strategy is based on the scheme drawings provided by Callison RTKL submitted as part of the planning application of submission.

2.0 Lighting Standards

The lighting strategy has been based on the following standards/guides:

- CIBSE/SLL Lighting Guide 5: Lighting for Education - 2011
- CIBSE/SLL Lighting Guide 6: The Exterior Environment – 2016
- CIBSE/SLL Lighting Guide 10: Daylighting – A Guide for Designers: Lighting for the Built Environment – 2014
- British Standard BS5489 Part 9: Road lighting

3.0 Lighting Strategy

Consideration has been given to the effect of light spillage to the adjacent residential properties however the new building extension is being located on an existing area of the school playground in between the existing school building and the outdoor sports pitch. There is significant distance between the new building and the closest residence resulting in negligible lighting overspill.

The lighting design criteria adopted are tabulated below for information:

External Area	Average Illumination Level (Lux)	Uniformity
Building Perimeter	26	0.4
Footpath	18	0.4

4.0 Conclusion

The initial lighting calculations has been carried out and is based on the luminaires manufactured by Holophane. The associated lighting plots are attached in Appendix C for information. The results indicate that the lighting performance is satisfactory and that there is no light spillage to the surrounding residential properties.

APPENDIX A

Luminaire Schedule

Refer to lighting computer plots in Appendix C

APPENDIX B

Proposed External Luminaire Images

Image of Proposed Luminaire	Description
	Wall mounted luminaire compete with LED lamps and asymmetrical reflector for building security lighting. Note: Colour of body to be agreed with the Architects.

APPENDIX C

Lighting Computer Plot for Ruislip School



Ruislip High School

Designer

Tony Barnett

Date _____

Jul 7 2017

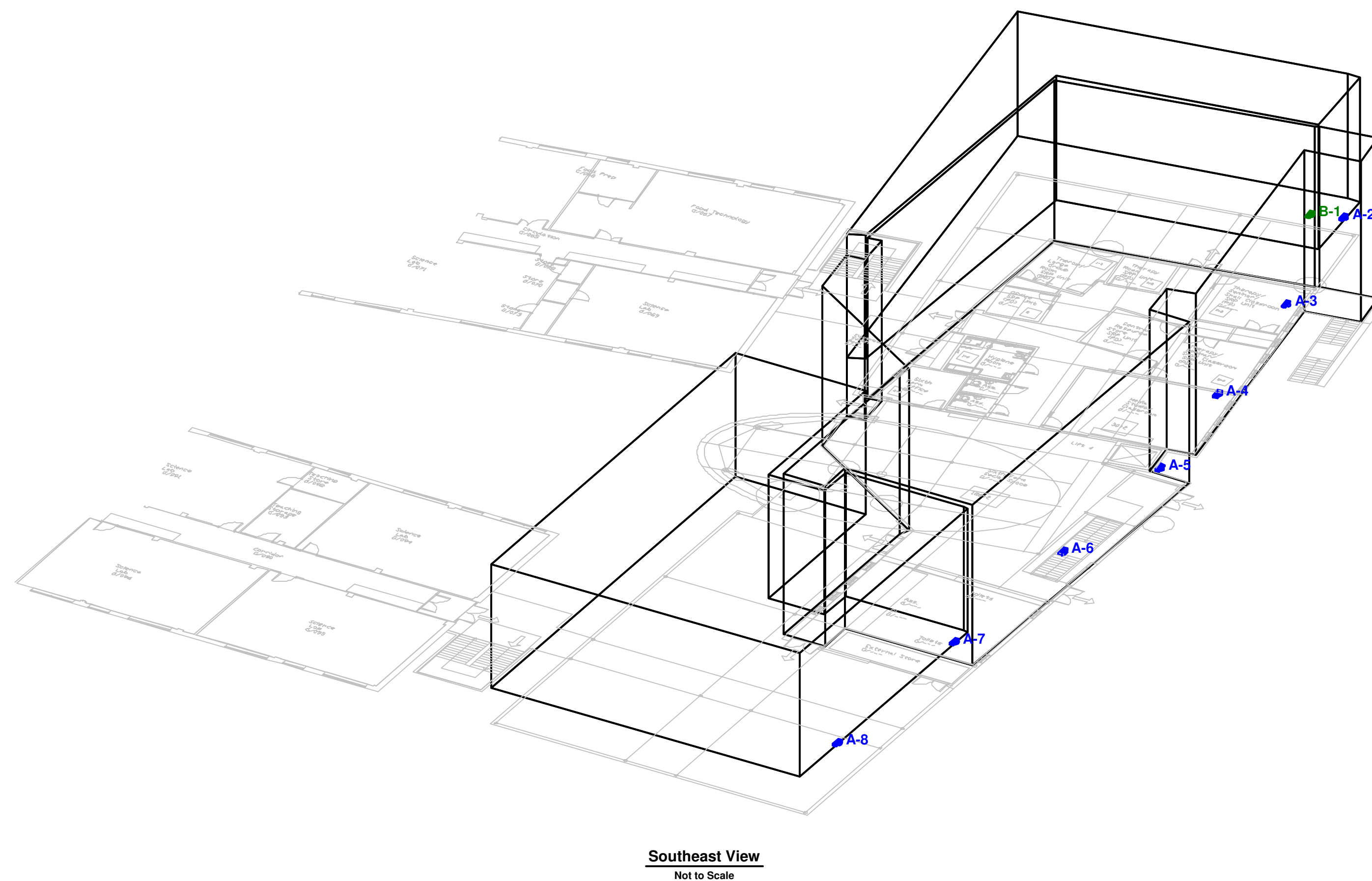
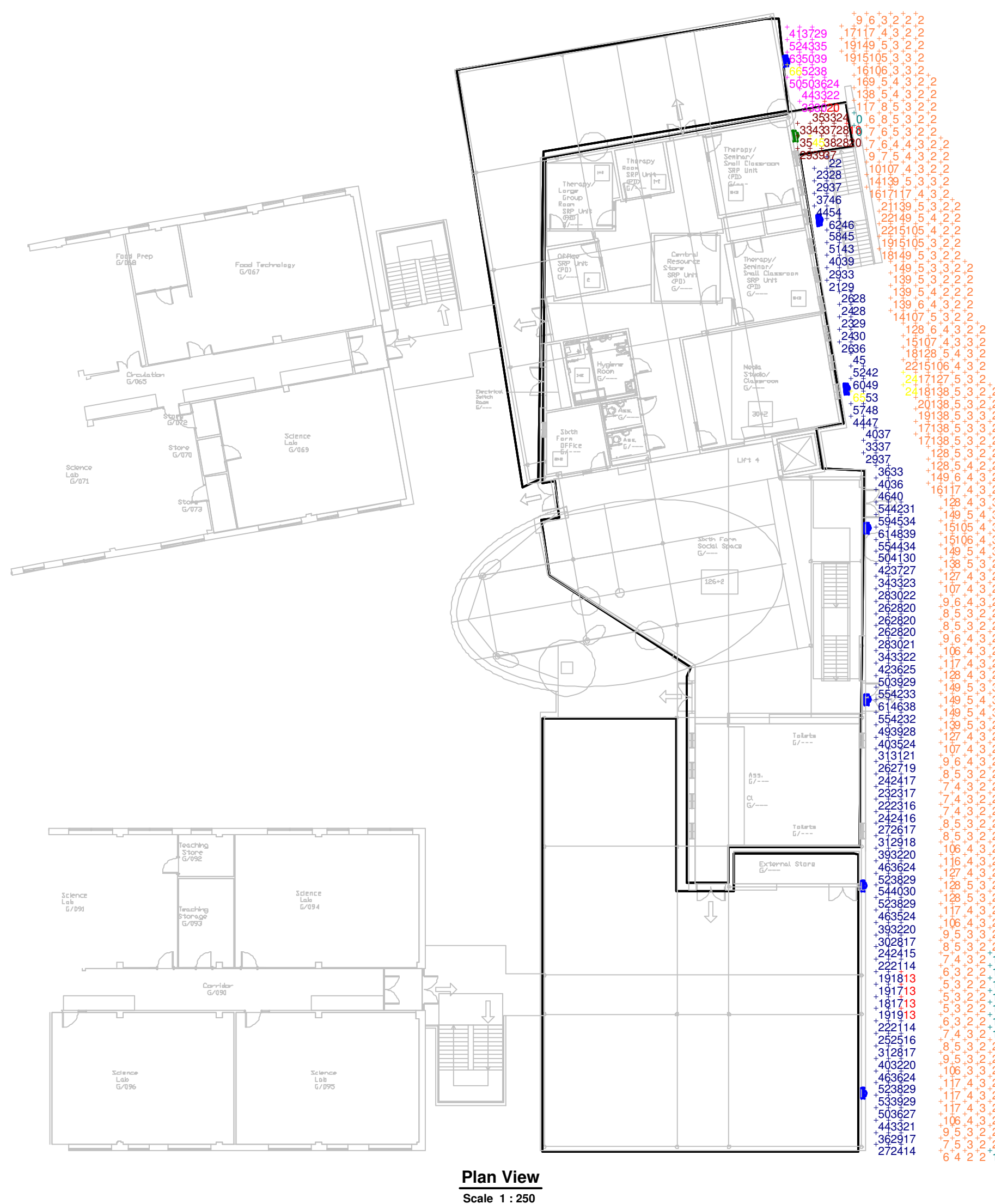
Scale

As shown at A1

Drawing No.

P155-070717 A

1 of 1



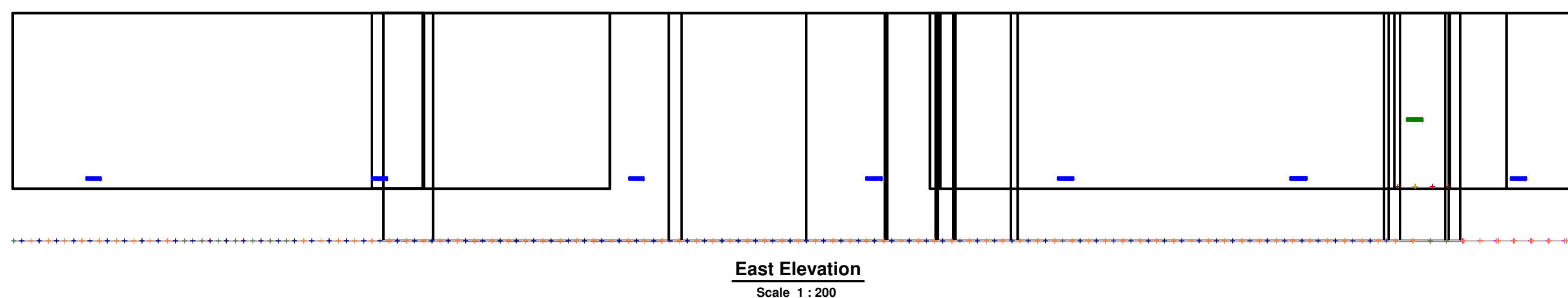
LUMINAIRE SCHEDULE									
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	A	7	DEW.LA024.NR.CGL	Denver Elite Wall mount at 2.7m	LED C.2000LM - 4000K	DEW.LA024.NR.CGL.IES	Absolute	0.80	24
	B	1	DEW.LA024.AY.CGL	Denver Elite Wall mount at 5.3m from ground level	LED C.2000LM - 4000K	DEW.LA024.AY.CGL.IES	Absolute	0.80	24

STATISTICS						
Description	Symbol	Avg	Max	Min	Min/Max	Min/Avg
Exit Landing	+	33 lux	45 lux	18 lux	0.40	0.55
Perimeter	+	40 lux	66 lux	20 lux	0.30	0.50
Perimeter	+	33 lux	65 lux	13 lux	0.20	0.39
Spill Zone	+	6 lux	24 lux	0 lux	0.00	0.00

NOTES

Holophone Europe Limited offer a Lighting Design Service in good faith and without charge. Every effort is made to ensure we interpret design briefs accurately and in-turn provide suitable and detailed proposals. However, the final responsibility for the design and any recommendations offered within lies with the client. Holophone Europe Limited, does not therefore accept any liability for loss, damage incurred or design misinterpretation.

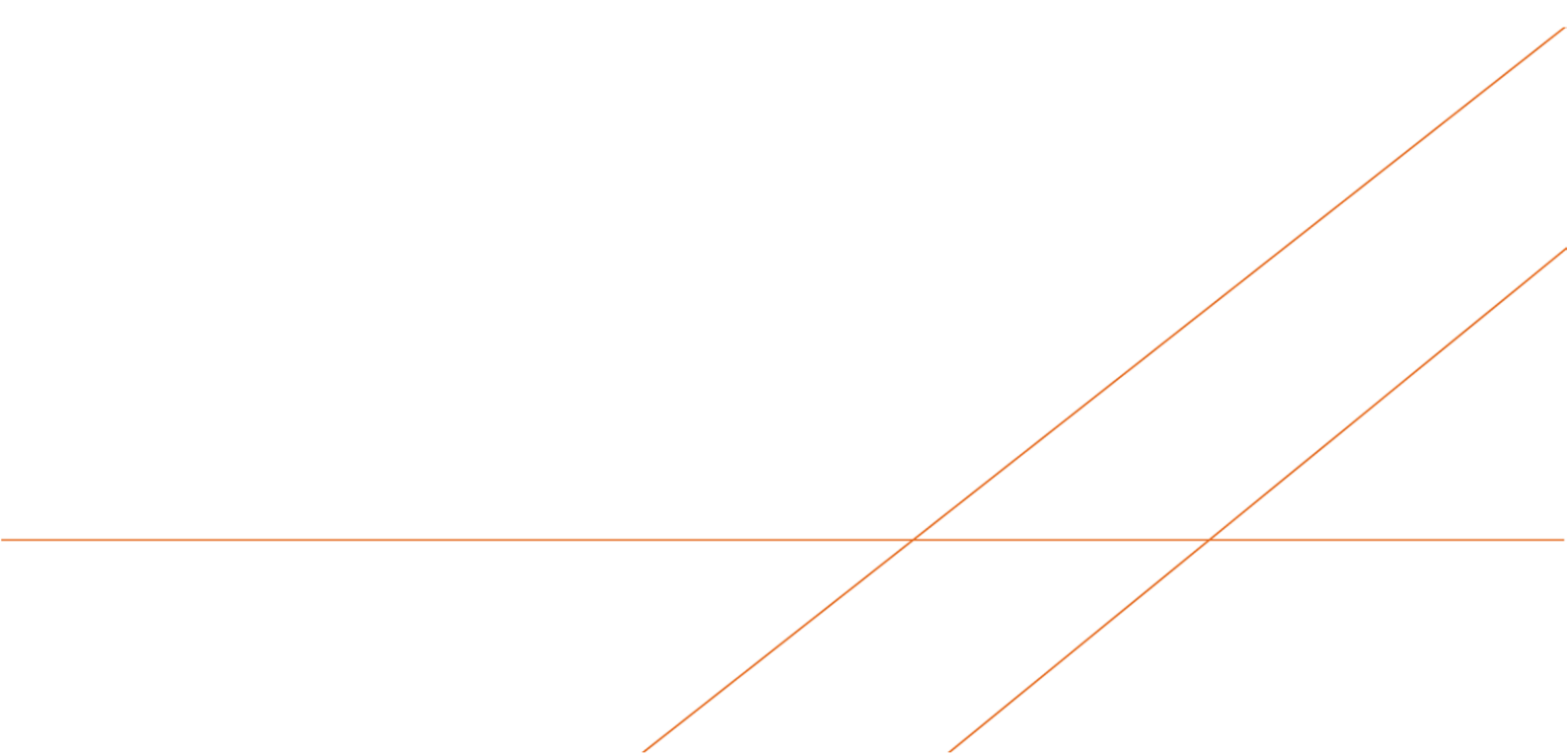
Results provided within this Holophane design are derived from specific product photometry; the substitution of luminaires either with alternative Holophane units or other manufacturers products may not produce the same results.



Arcadis Consulting (UK) Limited

Arcadis House
34 York Way
London N1 9AB
United Kingdom
T: +44 (0)20 7812 2000

[arcadis.com](https://www.arcadis.com)

A decorative graphic consisting of three orange lines: one horizontal line spanning the width of the page, and two diagonal lines intersecting it from the bottom left towards the top right.