

Internal Lighting

Installation : Lighting Calcs

Project number : SY0425-92 Barnsley Bin Stores

Customer :

Processed by : EP

Date : 04.09.2025

Project description:

Notes:

Ceiling height of 2m assumed

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.

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

Object : Internal Lighting
Installation : Lighting Calcs
Project number : SY0425-92 Barnsley Bin Stores
Date : 04.09.2025



Table of contents

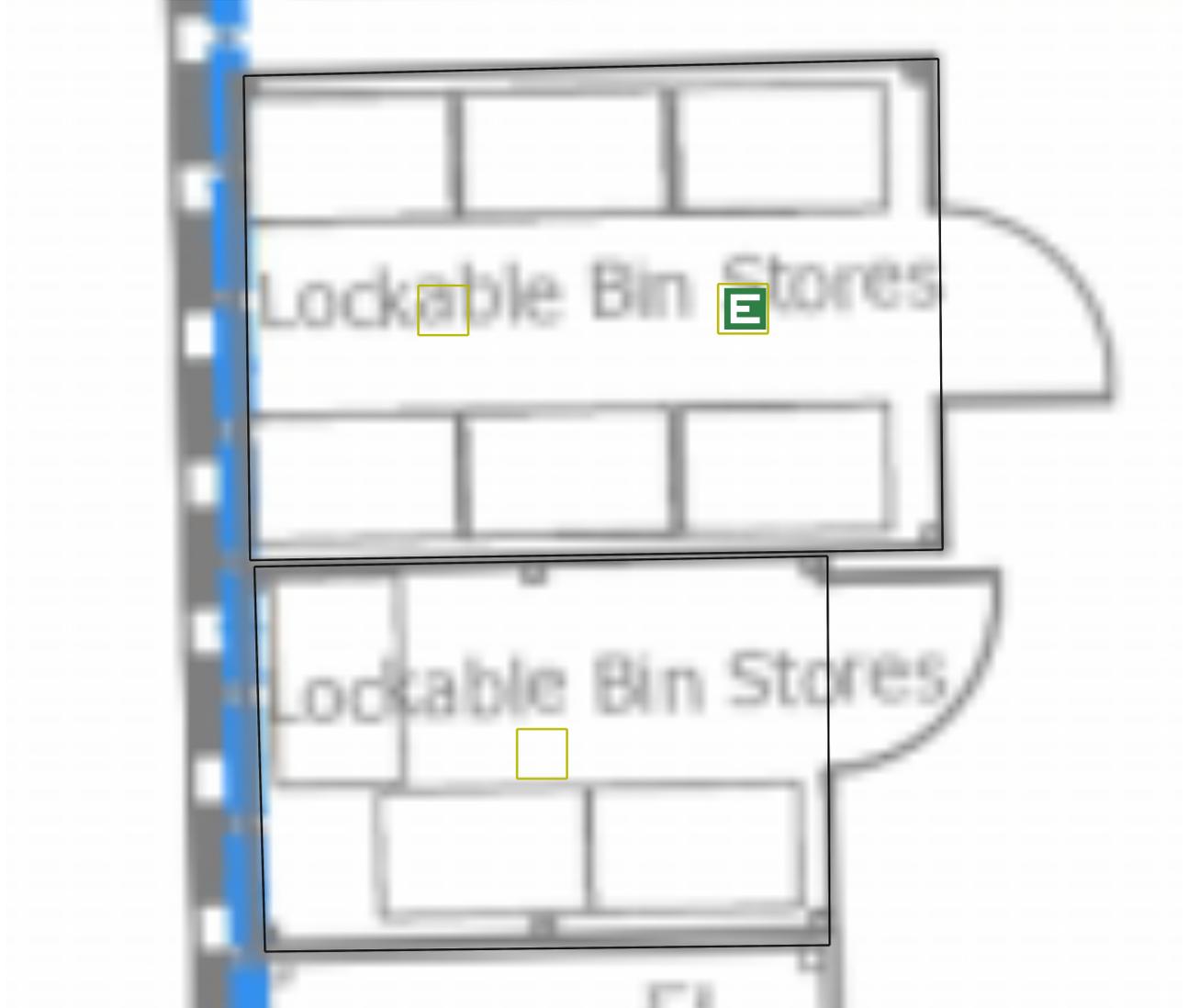
First Page	1
Table of contents	2
Description, Floor 1	
.1 Floor plan	3
1 Large Bin Store	
1.1 Summary, Large Bin Store	
1.1.1 Result overview, Evaluation area 1	4
1.2 Summary, Large Bin Store	
1.2.1.1 Result overview (emergency lighting)	5
2 Small Bin Store	
2.1 Summary, Small Bin Store	
2.1.1 Result overview, Evaluation area 1	6
2.2 Summary, Small Bin Store	
2.2.1.1 Result overview (emergency lighting)	8

Object : Internal Lighting
Installation : Lighting Calcs
Project number : SY0425-92 Barnsley Bin Stores
Date : 04.09.2025



Description, Floor 1

.1 Floor plan

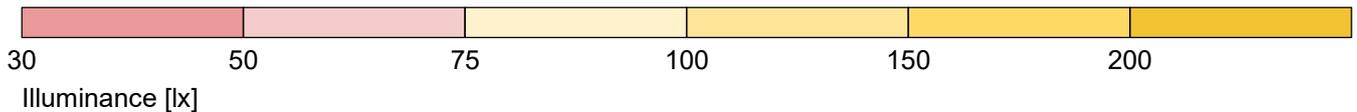
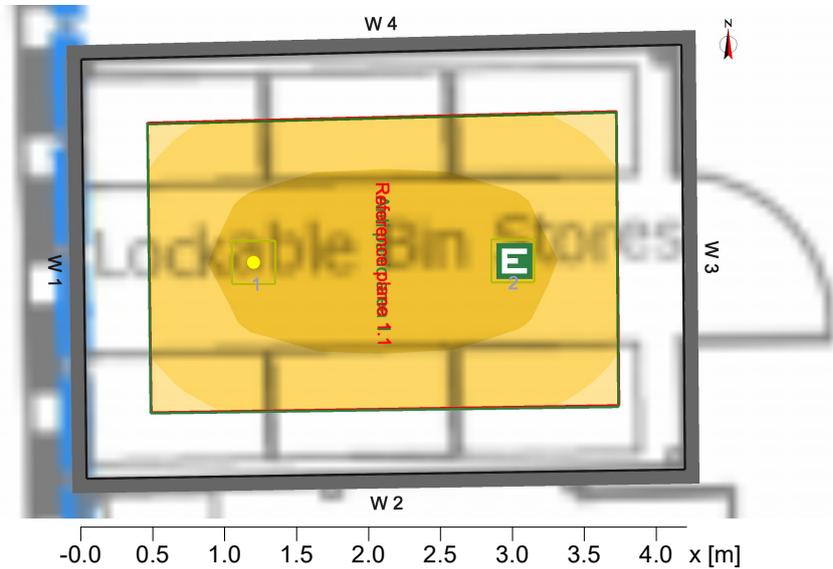


Object : Internal Lighting
 Installation : Lighting Calcs
 Project number : SY0425-92 Barnsley Bin Stores
 Date : 04.09.2025

1 Large Bin Store

1.1 Summary, Large Bin Store

1.1.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.00 m
Maintenance factor	0.80
Luminaire luminous flux	4400.00 lm
Total power	41.0 W
Total power per area (12.28 m ²)	3.34 W/m ² (1.73 W/m ² /100lx)

Evaluation area 1

Reference plane 1.1

	Horizontal	cylindrical
\bar{E}_m	193 lx	81 lx
E_{min}	154 lx	61 lx
$E_{min}/\bar{E}_m (U_o)$	0.80	0.76
$E_{min}/E_{max} (U_d)$	0.67	
E_z/E_h		0.33
Position	0.00 m	0.45 m

Type No./Make

1	2E x	THORNeco	
		Order No.	: 96635286 (STD - standard)
		Luminaire name	: LARA VARIOFLEX 300 2200 830/35/40
		Equipment	: 1 x LED-TE592 20C5W 20.5 W / 2200 lm
		Emergency	: 210 lm (9.5 %)

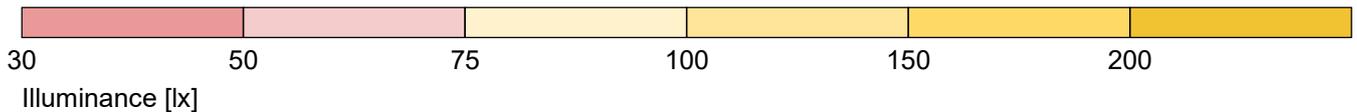
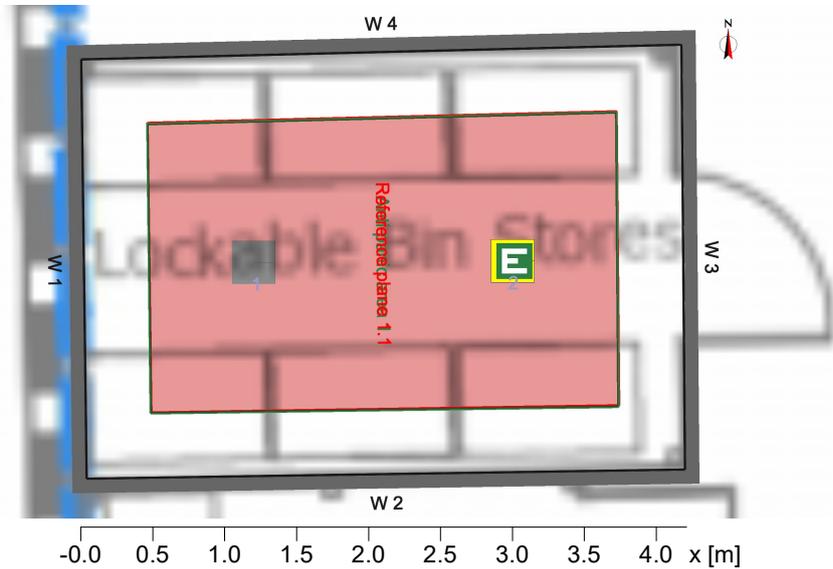
Object : Internal Lighting
 Installation : Lighting Calcs
 Project number : SY0425-92 Barnsley Bin Stores
 Date : 04.09.2025



1 Large Bin Store

1.2 Summary, Large Bin Store

1.2.1.1 Result overview (emergency lighting)

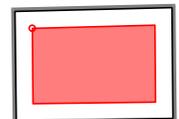


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 1.96 m
 Maximum I : 60 cd <= 500 cd

Anti panic area:

No.	Surface Emin [lx]	Surface Emax [lx]	Ud
Anti panic area 1			
Calculation field: 2.07m x 3.26m (5 x 7 pts), Height = 0.00m			
1	1.51 lx >= 0.5 lx	12.44 lx	1: 8.24 >= 1 : 40



Type No./Make

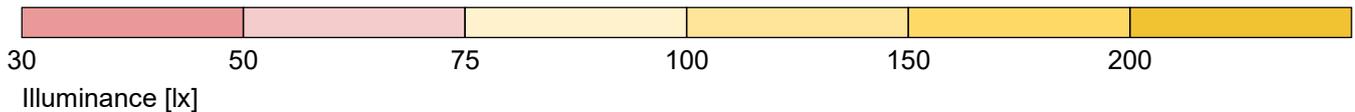
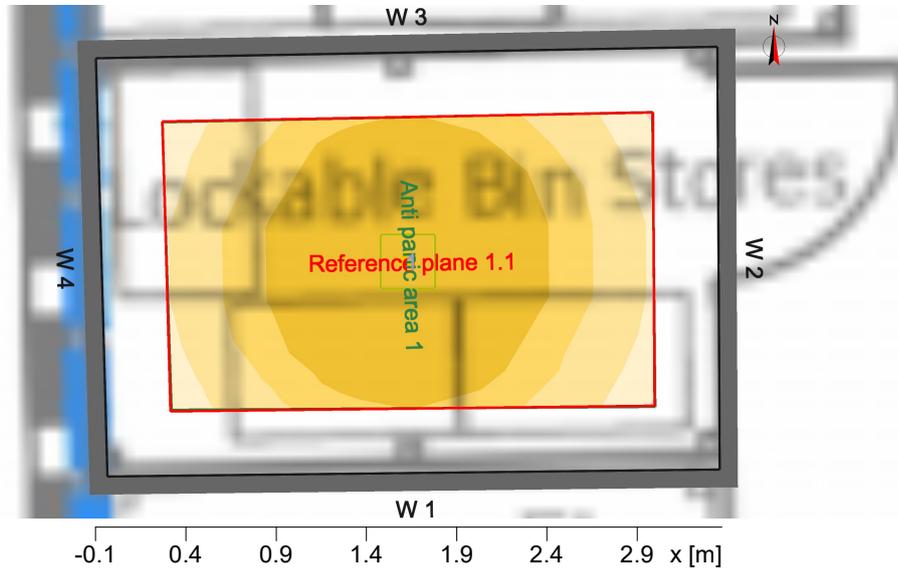
1	1E x	THORNeco	Order No. : 96635286 (STD - standard) -- Emergency Lighting --
			Luminaire name : LARA VARIOFLEX 300 2200 830/35/40
			Equipment : 1 x LED-TE592 20C5W 20.5 W / 2200 lm
			Emergency : 210 lm (9.5 %)

Object : Internal Lighting
 Installation : Lighting Calcs
 Project number : SY0425-92 Barnsley Bin Stores
 Date : 04.09.2025

2 Small Bin Store

2.1 Summary, Small Bin Store

2.1.1 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	2.00 m
Maintenance factor	0.80
Luminaire luminous flux	2200.00 lm
Total power	20.5 W
Total power per area (8.00 m ²)	2.56 W/m ² (1.26 W/m ² /100lx)

Evaluation area 1

Reference plane 1.1

	Horizontal	cylindrical
\bar{E}_m	203 lx	96 lx
E_{min}	101 lx	63 lx
$E_{min}/\bar{E}_m (U_o)$	0.50	0.66
$E_{min}/E_{max} (U_d)$	0.28	
E_z/E_h		0.34
Position	0.75 m	1.20 m

Major surfaces

	\bar{E}_m	U_o
M 1.5 (Ceiling)	46 lx	0.67
M 1.1 (Wall)	99 lx	0.62
M 1.2 (Wall)	76 lx	0.74
M 1.3 (Wall)	98 lx	0.51
M 1.4 (Wall)	78 lx	0.74

Object : Internal Lighting
Installation : Lighting Calcs
Project number : SY0425-92 Barnsley Bin Stores
Date : 04.09.2025



2 Small Bin Store

2.1 Summary, Small Bin Store

2.1.1 Result overview, Evaluation area 1

Type No. Make

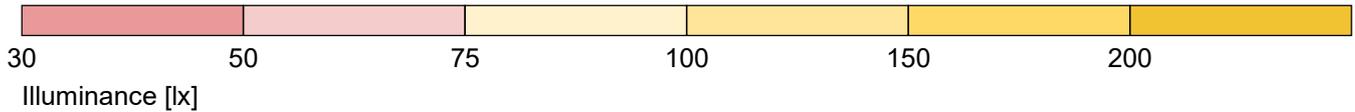
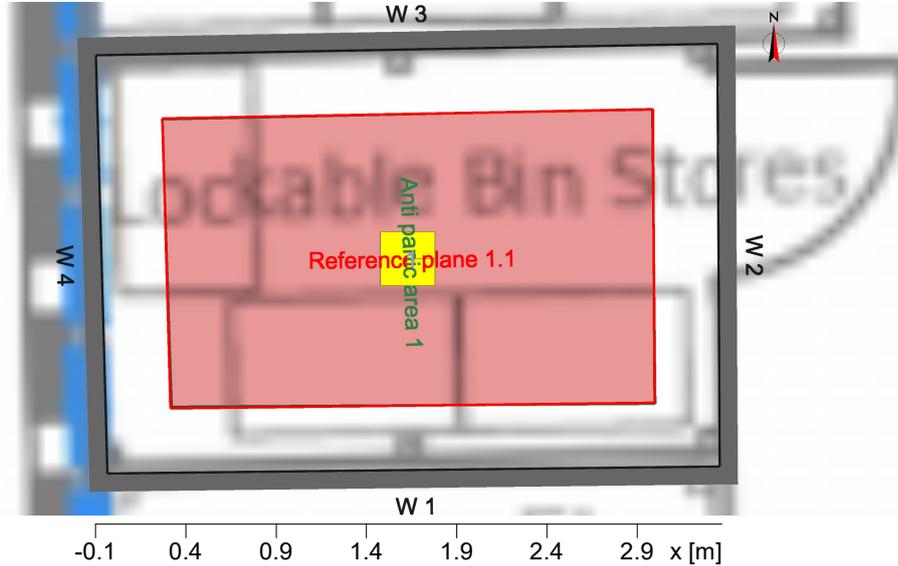
1	1E x	THORNeco	Order No. : 96635286 (STD - standard) -- Emergency Lighting --
		Luminaire name : LARA VARIOFLEX 300 2200 830/35/40	
		Equipment : 1 x LED-TE592 20C5W 20.5 W / 2200 lm	
		Emergency : 210 lm (9.5 %)	

Object : Internal Lighting
 Installation : Lighting Calcs
 Project number : SY0425-92 Barnsley Bin Stores
 Date : 04.09.2025

2 Small Bin Store

2.2 Summary, Small Bin Store

2.2.1.1 Result overview (emergency lighting)

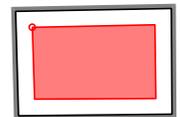


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 1.96 m
 Maximum I : 60 cd <= 500 cd

Anti panic area:

No.	Emin [lx]	Surface Emax [lx]	Ud
Anti panic area 1			
Calculation field: 1.67m x 2.71m (4 x 7 pts), Height = 0.00m			
1	4.68 lx >= 0.5 lx	12.45 lx	1: 2.66 >= 1 : 40



Type No./Make

1	1E x	THORNeco	Order No. : 96635286 (STD - standard) -- Emergency Lighting --
			Luminaire name : LARA VARIOFLEX 300 2200 830/35/40
			Equipment : 1 x LED-TE592 20C5W 20.5 W / 2200 lm
			Emergency : 210 lm (9.5 %)