

RELUX Report

Lewis Lane Phase 4

Installation : Lighting Design

Project number : INT1370

Customer :

Processed by : NB

Date : 29.02.2024



Details of Common Design Parameters and Calculation Nominal Values can be found at the back of this report. These will be used unless otherwise instructed.

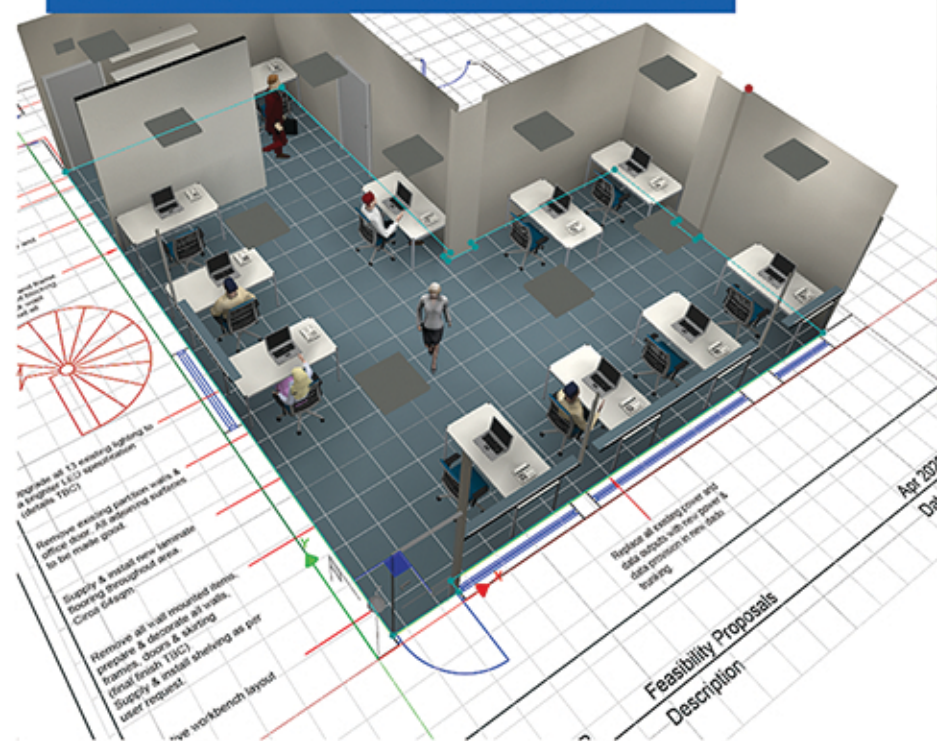
The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

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



Lighting Design:

Offices



Workspace Solutions

Dynamic lighting design to enhance the working environment adapting to individual needs and work areas.

Our Service

Independent professional lighting design considering all factors in delivering a successful project. We don't just consider light levels.

- ✓ CIBSE Guidelines LG7 Compliance
- ✓ Emergency Lighting BS5266-1:2016
- ✓ LIA & ICEL Certified Designers
- ✓ Project Support



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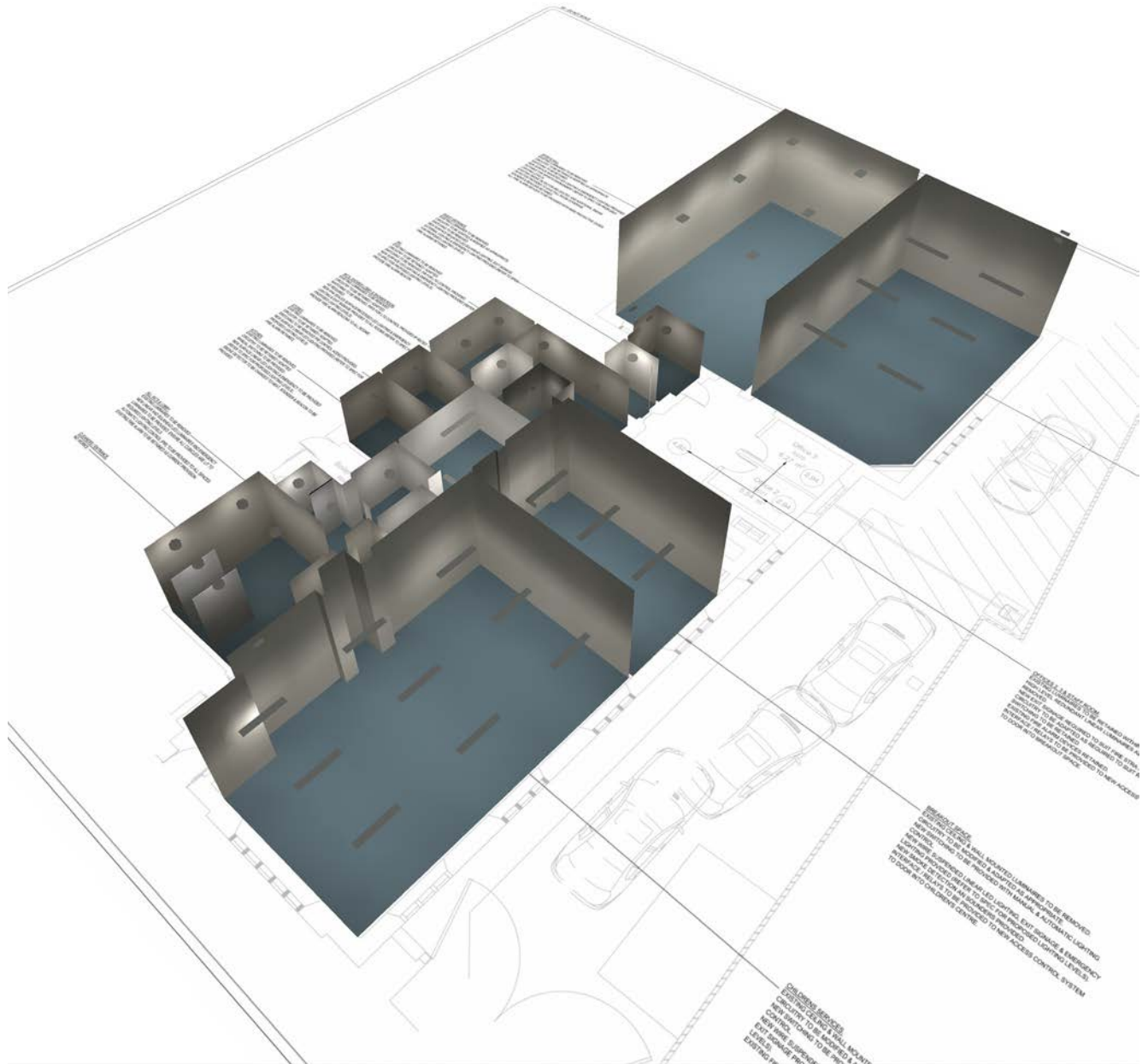
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Description, Main Building

.1 Floor 3D



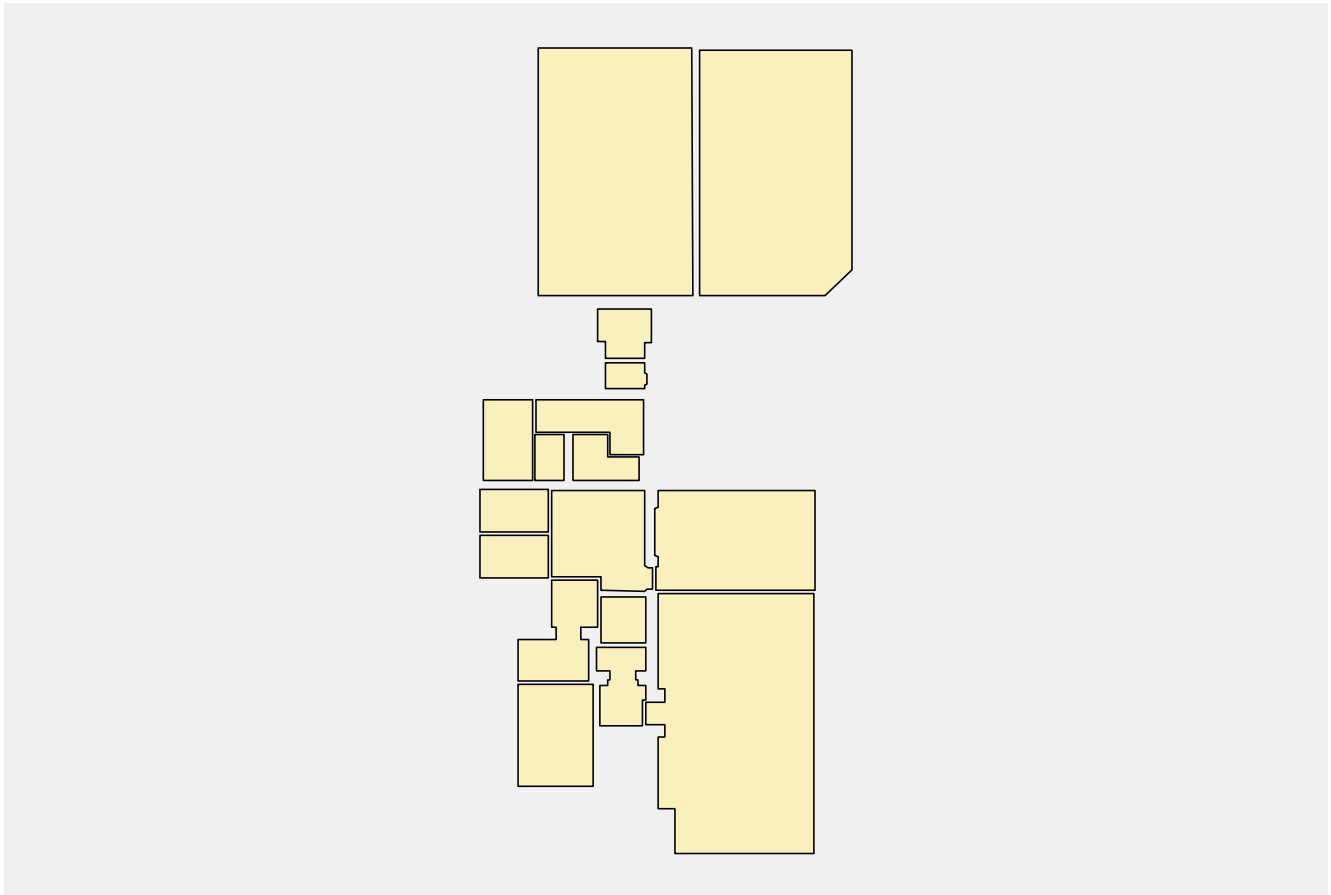
Description, Main Building

.2 Floor plan



Summary, Main Building




.3 Floor overview



| | | |
|----------------------|-----------------------|------------|
| Number of rooms | 17 | |
| Total area | 357 m ² | Calculated |
| Number of luminaires | 57 | |
| Total luminous flux | 278330 lm | |
| Total power | 2151 W | |
| Total power per area | 6.02 W/m ² | |














Parts list

Type No. Make

| | | Intulux Lighting | | |
|---|-------|-------------------------|-----------------------------|--------------------------|
| 4 | 13E x | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
|  | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |
| 5 | 1 x | Order No. | : !FBHLED214K | |
|  | | Luminaire name | : C1 | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| 6 | 2E x | Order No. | : EBHM3MLEDBL | -- Emergency Lighting -- |
|  | | Luminaire name | : E2 | |
| | | Equipment | : 1 x LED 5 W / 250 lm (0%) | |
| | | Emergency | : 250 lm | |

Summary, Main Building

.3 Floor overview

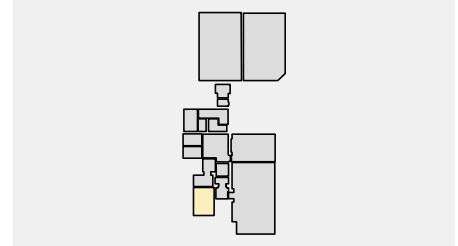
| | | | | |
|----|------|---|---------------------------------------|--------------------------|
| 8 | 4E x |  | Order No. : FEBLEDS3MNMST | -- Emergency Lighting -- |
| | | | Luminaire name : EXIT/B | |
| | | | Equipment : 1 x / 14.9 lm (0%) | |
| | | | Emergency : 14.9 lm | |
| 9 | 4 x |  | Order No. : !FBHLED144K | |
| | | | Luminaire name : C2 | |
| | | | Equipment : 1 x LED 14 W / 1821 lm | |
| 10 | 7 x |  | Order No. : !FWLED5534KSK | |
| | | | Luminaire name : A2 | |
| | | | Equipment : 1 x LED 53 W / 6434 lm | |
| 11 | 2E x |  | Order No. : !FWLED5534KSKEMF | -- Emergency Lighting -- |
| | | | Luminaire name : A2E | |
| | | | Equipment : 1 x LED 53 W / 6434 lm | |
| | | | Emergency : 485 lm (7.5 %) | |
| 12 | 2 x |  | Order No. : !FLPLEDB5234K | |
| | | | Luminaire name : D | |
| | | | Equipment : 1 x LED 23 W / 2918 lm | |
| 13 | 5 x |  | Order No. : !FWLED6684KSK | |
| | | | Luminaire name : A3 | |
| | | | Equipment : 1 x LED 68 W / 8255 lm | |
| 14 | 4E x |  | Order No. : !FWLED6684KSKEMF | -- Emergency Lighting -- |
| | | | Luminaire name : A3E | |
| | | | Equipment : 1 x LED 68 W / 8255 lm | |
| | | | Emergency : 485 lm (5.9 %) | |
| 15 | 1E x |  | Order No. : !FDLLED33EMAST | -- Emergency Lighting -- |
| | | | Luminaire name : E1/IP | |
| | | | Equipment : 1 x / 128.4 lm (0%) | |
| | | | Emergency : 128.4 lm | |
| 16 | 3 x |  | Order No. : !FDLLED124KAGI | |
| | | | Luminaire name : F | |
| | | | Equipment : 1 x LED 12 W / 850 lm | |
| 17 | 1 x |  | Order No. : !FDPLEDB5454K | |
| | | | Luminaire name : G | |
| | | | Equipment : 1 x LED 45 W / 4955 lm | |
| 18 | 2E x |  | Order No. : !FDPLEDB5454KEMF | -- Emergency Lighting -- |
| | | | Luminaire name : GE | |
| | | | Equipment : 1 x LED 45 W / 4955 lm | |
| | | | Emergency : 440 lm (8.9 %) | |
| 19 | 4 x |  | Order No. : !LBLS82.54KWB | |
| | | | Luminaire name : H | |
| | | | Equipment : 1 x LED 82.5 W / 12891 lm | |
| 20 | 2E x |  | Order No. : !LBLS82.54KWBEM | -- Emergency Lighting -- |
| | | | Luminaire name : HE | |
| | | | Equipment : 1 x LED 82.5 W / 12891 lm | |
| | | | Emergency : 450 lm (3.5 %) | |

Summary, Main Building

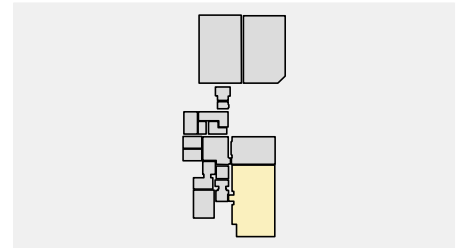
.3 Floor overview

Rooms

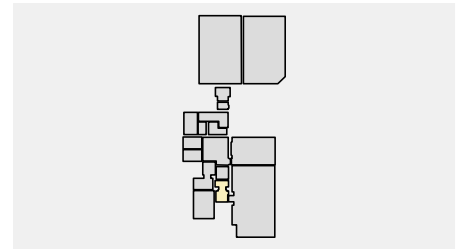
| | |
|---|-----------------------|
| Ladies WC | 5 x Luminaires |
| Total luminous flux | 10927 lm |
| Total power | 84 W |
| Total power per area (15 m ²) | 5.51 W/m ² |
| \bar{E}_m | 207 lx |
| E_{min} | 121 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.58 |
| RUG | <=19.0 |



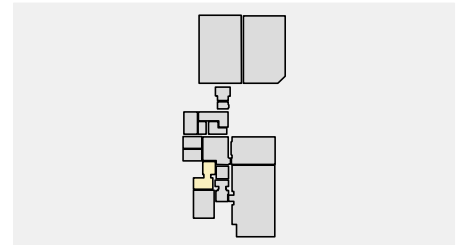
| | |
|---|-----------------------|
| Children and Family Centre Serv | 10 x Luminaires |
| Total luminous flux | 57906 lm |
| Total power | 477 W |
| Total power per area (79 m ²) | 6.01 W/m ² |
| \bar{E}_m | 458 lx |
| E_{min} | 370 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.81 |
| RUG | <=20.7 |



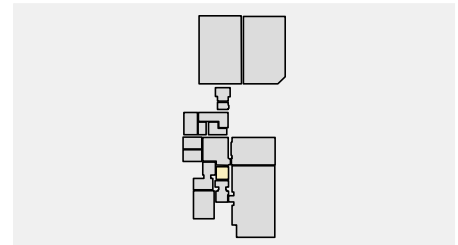
| | |
|--|-----------------------|
| Lobby | 2 x Luminaires |
| Total luminous flux | 5464 lm |
| Total power | 42 W |
| Total power per area (7 m ²) | 6.34 W/m ² |
| \bar{E}_m | 219 lx |
| E_{min} | 186 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.85 |
| RUG | <=20.8 |



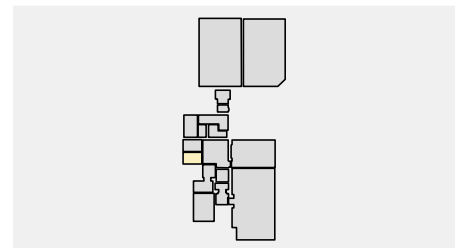
| | |
|---|-----------------------|
| Gents WC | 3 x Luminaires |
| Total luminous flux | 7285 lm |
| Total power | 56 W |
| Total power per area (11 m ²) | 5.22 W/m ² |
| \bar{E}_m | 229 lx |
| E_{min} | 150 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.65 |
| RUG | --- |



| | |
|--|-----------------------|
| Acc WC | 1 x Luminaires |
| Total luminous flux | 2732 lm |
| Total power | 21 W |
| Total power per area (4 m ²) | 5.12 W/m ² |
| \bar{E}_m | 217 lx |
| E_{min} | 208 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.96 |
| RUG | 10.0 |



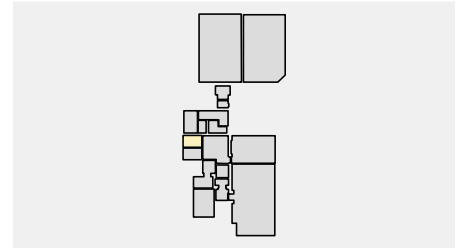
| | |
|--|-----------------------|
| Store 1 | 1 x Luminaires |
| Total luminous flux | 2918 lm |
| Total power | 23 W |
| Total power per area (6 m ²) | 3.97 W/m ² |
| \bar{E}_m | 209 lx |
| E_{min} | 157 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.75 |
| RUG | <=18.3 |



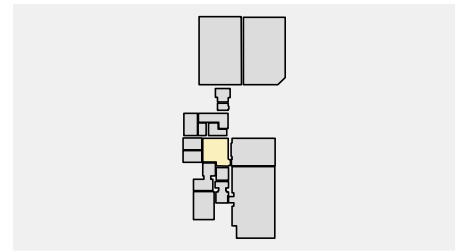
Summary, Main Building

.3 Floor overview

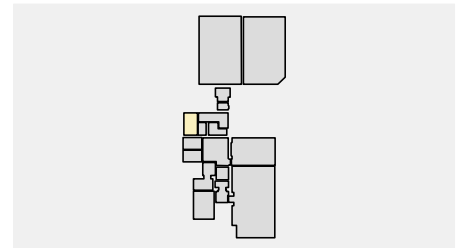
| | |
|--|-----------------------|
| Store 2 | 1 x Luminaires |
| Total luminous flux | 2918 lm |
| Total power | 23 W |
| Total power per area (6 m ²) | 3.97 W/m ² |
| \bar{E}_m | 209 lx |
| E_{min} | 156 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.75 |
| RUG | <=18.3 |



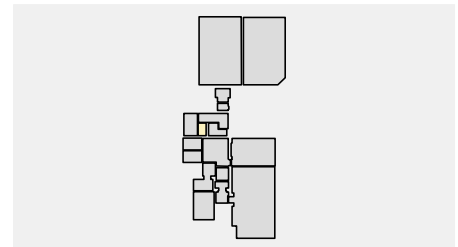
| | |
|---|-----------------------|
| Kitchen | 3 x Luminaires |
| Total luminous flux | 14865 lm |
| Total power | 135 W |
| Total power per area (18 m ²) | 7.70 W/m ² |
| \bar{E}_m | 542 lx |
| E_{min} | 367 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.68 |
| RUG | <=21.1 |



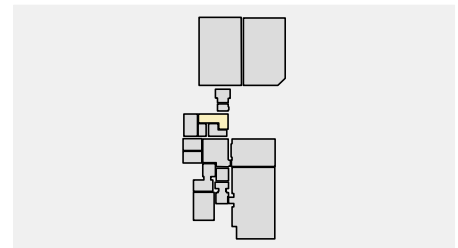
| | |
|--|-----------------------|
| Acc WC 2 | 2 x Luminaires |
| Total luminous flux | 5464 lm |
| Total power | 42 W |
| Total power per area (8 m ²) | 5.30 W/m ² |
| \bar{E}_m | 236 lx |
| E_{min} | 211 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.90 |
| RUG | <=20.9 |



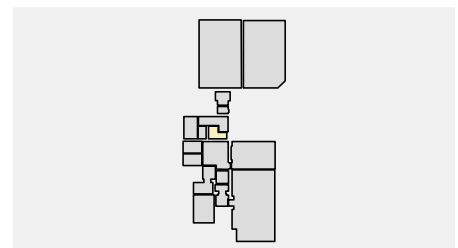
| | |
|--|-----------------------|
| WC 1 | 1 x Luminaires |
| Total luminous flux | 2732 lm |
| Total power | 21 W |
| Total power per area (3 m ²) | 7.88 W/m ² |
| \bar{E}_m | 246 lx |
| E_{min} | 237 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.97 |
| RUG | 10.0 |



| | |
|--|-----------------------|
| Wetroom Lobby | 2 x Luminaires |
| Total luminous flux | 5464 lm |
| Total power | 42 W |
| Total power per area (8 m ²) | 4.96 W/m ² |
| \bar{E}_m | 184 lx |
| E_{min} | 151 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.82 |
| RUG | --- |



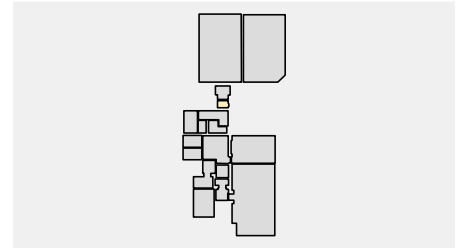
| | |
|--|-----------------------|
| Shower Room | 4 x Luminaires |
| Total luminous flux | 2550 lm |
| Total power | 36 W |
| Total power per area (5 m ²) | 7.75 W/m ² |
| \bar{E}_m | 305 lx |
| E_{min} | 278 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.91 |
| RUG | --- |



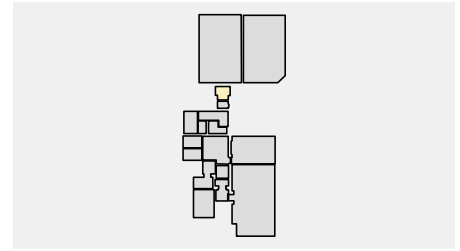
Summary, Main Building

.3 Floor overview

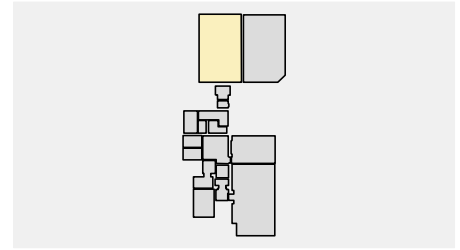
| | |
|--|------------------------|
| WC 2 | 1 x Luminaires |
| Total luminous flux | 2732 lm |
| Total power | 21 W |
| Total power per area (2 m ²) | 10.18 W/m ² |
| \bar{E}_m | 249 lx |
| E_{min} | 230 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.92 |
| RUG | 10.0 |



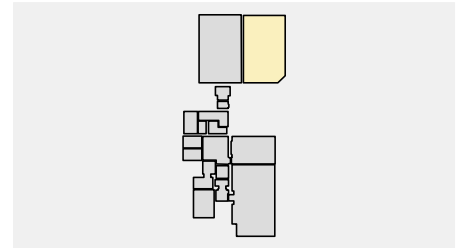
| | |
|--|-----------------------|
| Guest Entrance | 3 x Luminaires |
| Total luminous flux | 2732 lm |
| Total power | 21 W |
| Total power per area (5 m ²) | 4.37 W/m ² |
| \bar{E}_m | 159 lx |
| E_{min} | 147 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.92 |
| RUG | <=19.1 |



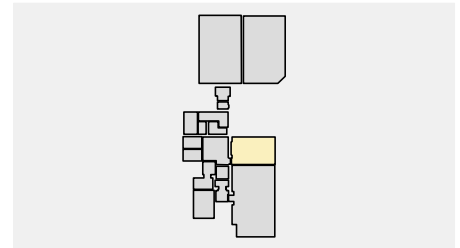
| | |
|---|-----------------------|
| Sports Hall | 6 x Luminaires |
| Total luminous flux | 77346 lm |
| Total power | 495 W |
| Total power per area (76 m ²) | 6.52 W/m ² |
| \bar{E}_m | 524 lx |
| E_{min} | 397 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.76 |
| RUG | 10.0 |



| | |
|---|-----------------------|
| Group Space | 8 x Luminaires |
| Total luminous flux | 49530 lm |
| Total power | 408 W |
| Total power per area (74 m ²) | 5.53 W/m ² |
| \bar{E}_m | 447 lx |
| E_{min} | 363 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.81 |
| RUG | <=20.9 |



| | |
|---|-----------------------|
| Breakout Space | 4 x Luminaires |
| Total luminous flux | 24765 lm |
| Total power | 204 W |
| Total power per area (32 m ²) | 6.46 W/m ² |
| \bar{E}_m | 483 lx |
| E_{min} | 354 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.73 |
| RUG | <=19.4 |




1 Ladies WC


1.1 Description, Ladies WC

1.1.1 Luminaire data/Room elements

Product data:

Type No./Make

- Intulux Lighting**
- 4 2E x  Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

 - 9 3 x  Order No. : !FBHLED144K
 Luminaire name : C2
 Equipment : 1 x LED 14 W / 1821 lm

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 4 | 2.50 | 3.25 | 3.46 | 0.00 | 0.00 | 0.00 | 2.50 | 3.25 | 0.00 |
| E 5 | 0.75 | 3.25 | 3.46 | 0.00 | 0.00 | 0.00 | 0.75 | 3.25 | 0.00 |
| Intulux Lighting C2 !FBHLED144K | | | | | | | | | |
| 1 | 0.55 | 0.75 | 3.46 | 0.00 | 0.00 | 0.00 | 0.55 | 0.75 | 0.00 |
| 2 | 1.70 | 0.80 | 3.46 | 0.00 | 0.00 | 0.00 | 1.70 | 0.80 | 0.00 |
| 3 | 2.85 | 0.75 | 3.46 | 0.00 | 0.00 | 0.00 | 2.85 | 0.75 | 0.00 |

E : Active in Emergency

Structural elements

Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.45 | 0.75 | 2.35 | 3.55 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 3.35 | -0.05 | 0.00 | 2.35 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 3.35 | 4.50 | 0.00 | 0.00 | 3.55 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 0.00 | 4.50 | 0.00 | 2.35 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.00 | -0.05 | 0.00 | 0.00 | 3.55 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.50 | 4.00 | 3.46 | 2.35 | 3.55 | 180.00 | 0.00 | 180.00 |

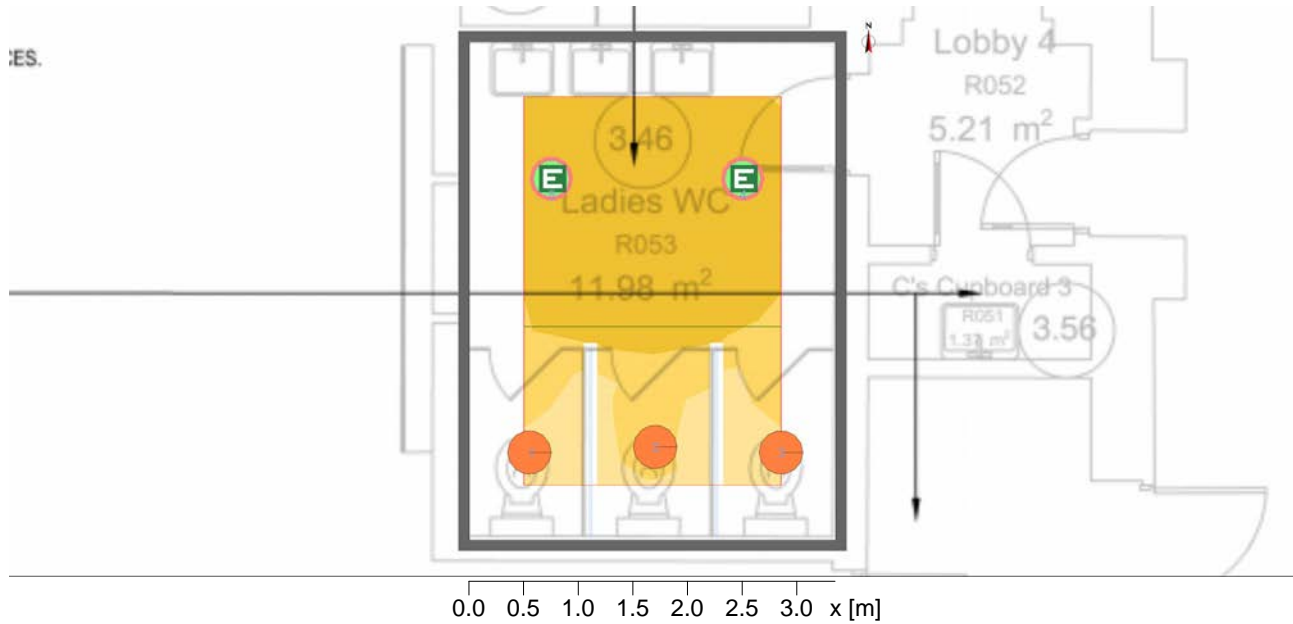
Others

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | | rho[%] |
|------|-------|-------|-------|--------|-------|--------|----------------|--------|--------|
| | | | | | | | L axis | Q axis | |
| Tr 1 | 1.10 | 1.70 | 0.00 | 0.02 | 1.70 | 270.00 | 0.00 | 0.00 | 50 |
| Tr 2 | 2.25 | 1.70 | 0.00 | 0.02 | 1.70 | 270.00 | 0.00 | 0.00 | 50 |

1 Ladies WC

1.2 Summary, Ladies WC

1.2.1 Result overview, Evaluation area 1



General

| | |
|--|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 3.46 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 10927.00 lm |
| Total power | 84.0 W |
| Total power per area (15.24 m ²) | 5.51 W/m ² (2.66 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|--------|-------------|
| \bar{E}_m | 207 lx | cylindrical |
| E_{min} | 121 lx | 85 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.58 | 54 lx |
| $E_{min}/E_{max} (U_d)$ | 0.45 | 0.63 |
| E_z/E_h | | 0.35 |
| Position | 0.75 m | 1.20 m |
| RUG (1.5H 2.1H) | <=19.0 | |
| Luminaire : | | |
| (C1E, IFBHLED214K/EMF) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 126 lx | 0.64 |
| M 1.1 (Wall) | 180 lx | 0.36 |
| M 1.2 (Wall) | 183 lx | 0.35 |
| M 1.3 (Wall) | 190 lx | 0.62 |
| M 1.4 (Wall) | 185 lx | 0.35 |



Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

1 Ladies WC

1.2 Summary, Ladies WC

1.2.1 Result overview, Evaluation area 1

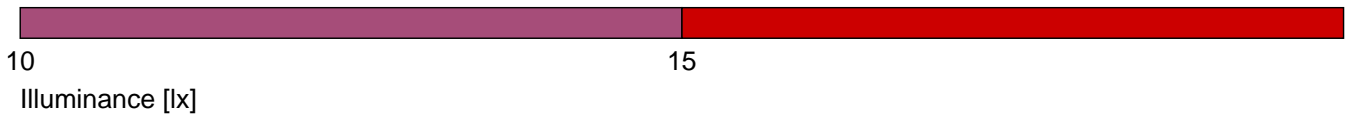
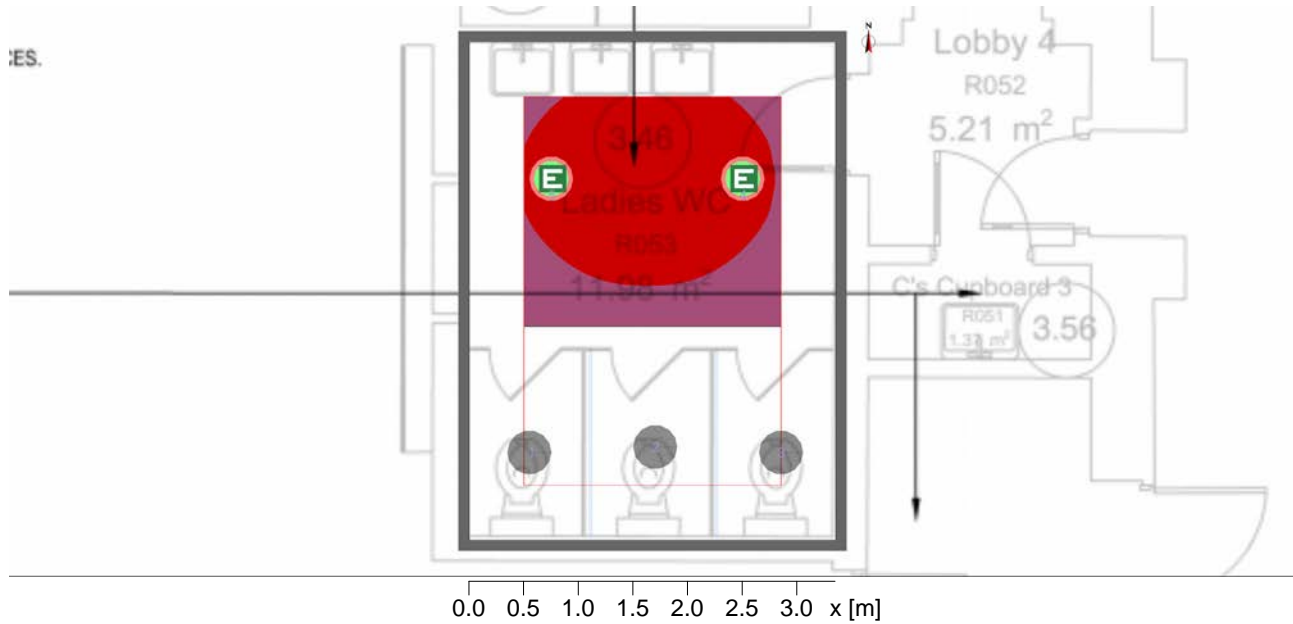
Type No. Make

- Intulux Lighting**
- 4 2E x  Order No. : !FBHLED214K/EMF -- Emergency Lighting --
Luminaire name : C1E
Equipment : 1 x LED 21 W / 2732 lm
Emergency : 520 lm (19.0 %)
- 9 3 x  Order No. : !FBHLED144K
Luminaire name : C2
Equipment : 1 x LED 14 W / 1821 lm

1 Ladies WC

1.3 Summary, Ladies WC

1.3.1 Result overview (emergency lighting)

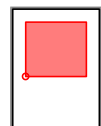


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 3.41 m
 Maximum I : 140 cd $\le 1600\text{ cd}$

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|-------------------|---------------------|-----------|------------|
| 1 | Anti panic area 1 | 11.49 lx | 17.35 lx | 1: 1.51 |
| | | $\ge 0.5\text{ lx}$ | | $\ge 1:40$ |



Type No. Make

4 2E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)






2 Children and Family Centre Services

2.1 Description, Children and Family Centre Services

2.1.1 Luminaire data/Room elements

Product data:

Type No.Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| | | Intulux Lighting | | |
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |
| | | | | |
| 10 | 7 x | Order No. | : !FWLED5534KSK | |
|  | | Luminaire name | : A2 | |
| | | Equipment | : 1 x LED 53 W / 6434 lm | |
| | | | | |
| 11 | 2E x | Order No. | : !FWLED5534KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A2E | |
| | | Equipment | : 1 x LED 53 W / 6434 lm | |
| | | Emergency | : 485 lm (7.5 %) | |

| No. | Centre point | | | Rotation angle | | Target coordinates | | | |
|--|--------------|-------|-------|----------------|--------|--------------------|--------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting EXIT/B FEBLEDS3MNMST | | | | | | | | | |
| XE 1 | -0.50 | 2.93 | 4.86 | 0.00 | 0.00 | 0.00 | 6.20 | 2.93 | 2.21 |
| Intulux Lighting A2 !FWLED5534KSK | | | | | | | | | |
| 1.1 | 0.39 | 1.93 | 3.00 | 0.00 | 0.00 | 0.00 | 0.39 | 1.93 | 0.00 |
| 1.3 | 5.39 | 1.93 | 3.00 | 0.00 | 0.00 | 0.00 | 5.39 | 1.93 | 0.00 |
| 1.4 | 0.39 | 5.80 | 3.00 | 0.00 | 0.00 | 0.00 | 0.39 | 5.80 | 0.00 |
| 1.5 | 2.89 | 5.80 | 3.00 | 0.00 | 0.00 | 0.00 | 2.89 | 5.80 | 0.00 |
| 1.6 | 5.39 | 5.80 | 3.00 | 0.00 | 0.00 | 0.00 | 5.39 | 5.80 | 0.00 |
| 1.7 | 0.39 | 9.67 | 3.00 | 0.00 | 0.00 | 0.00 | 0.39 | 9.67 | 0.00 |
| 1.9 | 5.39 | 9.67 | 3.00 | 0.00 | 0.00 | 0.00 | 5.39 | 9.67 | 0.00 |
| Intulux Lighting A2E !FWLED5534KSKEMF | | | | | | | | | |
| E 1.2 | 2.89 | 1.93 | 3.00 | 0.00 | 0.00 | 0.00 | 2.89 | 1.93 | 0.00 |
| E 1.8 | 2.89 | 9.67 | 3.00 | 0.00 | 0.00 | 0.00 | 2.89 | 9.67 | 0.00 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

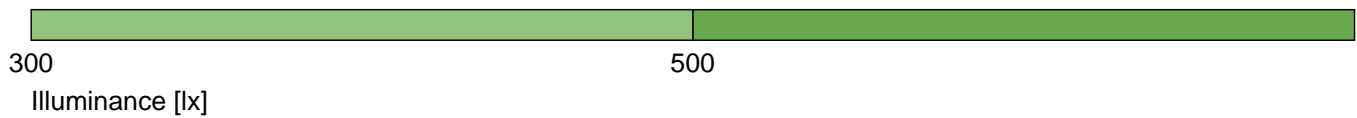
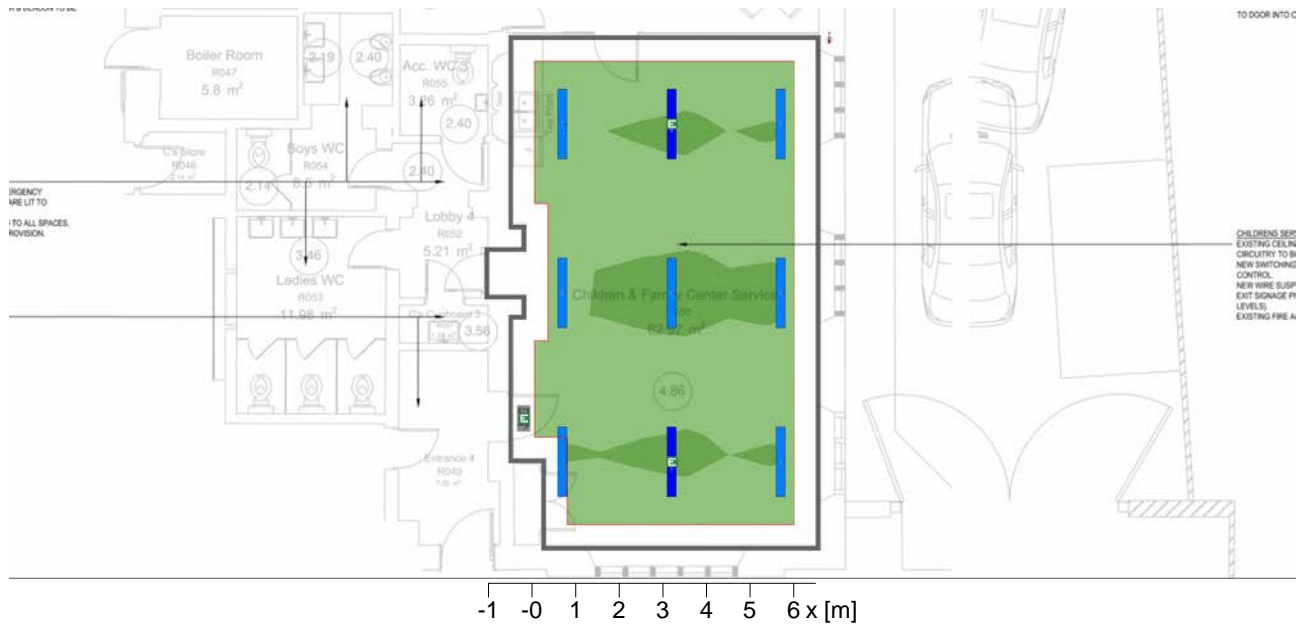
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | | | | | | | | |
| | -0.25 | 2.50 | 0.75 | 5.95 | 10.60 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 6.20 | 0.00 | 0.00 | 5.20 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 6.20 | 11.60 | 0.00 | 0.00 | 10.60 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 0.75 | 11.60 | 0.00 | 5.95 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.75 | 7.35 | 0.00 | 0.00 | 3.25 | 0.00 | 90.00 | 90.00 |
| M 1.5 (W) | 0.75 | 2.00 | 0.00 | 0.00 | 2.24 | 0.00 | 90.00 | 90.00 |
| M 1.6 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 1.40 | 0.00 | 90.00 | 90.00 |
| M 1.7 (Rø) | 0.25 | 4.70 | 4.86 | 5.95 | 10.60 | 180.00 | 0.00 | 180.00 |

2 Children and Family Centre Services

2.2 Summary, Children and Family Centre Services

2.2.1 Result overview, Evaluation area 1



General

| | |
|---------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Maintenance factor | 0.80 |
| Total luminous flux | 57906.00 lm |
| Total power | 477.0 W |
| Total power per area (79.32 m²) | 6.01 W/m² (1.31 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 458 lx | 208 lx |
| E_{min} | 370 lx | 172 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.81 | 0.82 |
| $E_{min}/E_{max} (U_d)$ | 0.67 | |
| E_z/E_h | | 0.42 |
| Position | 0.75 m | 1.20 m |
| RUG (4.3H 6.6H) | <=20.7 | |
| Luminaire : | | |
| (A2, IFWLED5534KSK) | | |

Major surfaces

| | | |
|-----------------|--------|-------|
| | E_m | U_o |
| M 1.7 (Ceiling) | 106 lx | 0.79 |
| M 1.1 (Wall) | 182 lx | 0.46 |
| M 1.2 (Wall) | 244 lx | 0.34 |
| M 1.3 (Wall) | 177 lx | 0.45 |
| M 1.4 (Wall) | 216 lx | 0.39 |
| M 1.5 (Wall) | 190 lx | 0.51 |
| M 1.6 (Wall) | 251 lx | 0.28 |

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

2 Children and Family Centre Services

2.2 Summary, Children and Family Centre Services

2.2.1 Result overview, Evaluation area 1

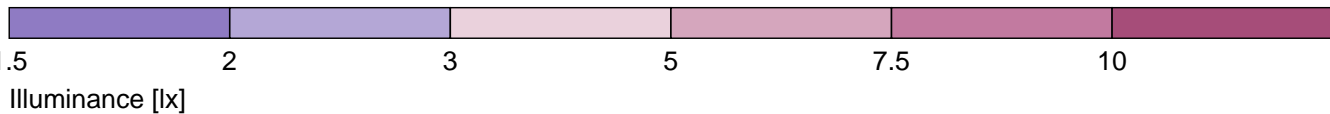
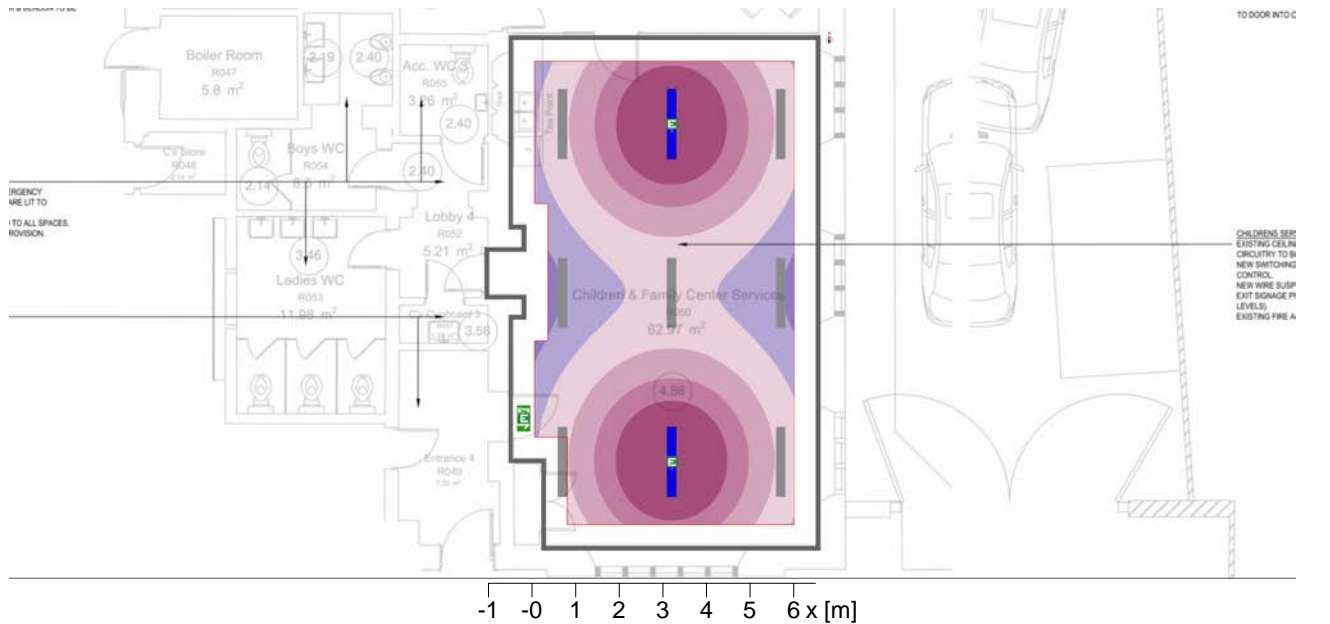
Type No. Make

| Type | No. | Make | Order No. | Equipment | Emergency |
|------|------|-------------------------|------------------|------------------------|--------------------------|
| 10 | 7 x | Intulux Lighting | !FWLED5534KSK | 1 x LED 53 W / 6434 lm | |
| 11 | 2E x | | !FWLED5534KSKEMF | 1 x LED 53 W / 6434 lm | -- Emergency Lighting -- |

2 Children and Family Centre Services

2.3 Summary, Children and Family Centre Services

2.3.1 Result overview (emergency lighting)



General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) -variable-
 Maximum I : 170 cd

Anti panic area:

| No. | Surface Emin [lx] | Ud Emax [lx] | Ud |
|-----|-------------------|--------------|-----------|
| 1 | 1.76 lx | 14.59 lx | 1: 8.29 |
| | >= 0.5 lx | | >= 1 : 40 |



Type No. Make

- Intulux Lighting**
- 8 1E x Order No. : FEBLEDS3MMNST -- Emergency Lighting --
 Luminaire name : EXIT/B
 Equipment : 1 x / 14.9 lm (0%)
 Emergency : 14.9 lm
 - 11 2E x Order No. : !FWLED5534KSKEMF -- Emergency Lighting --
 Luminaire name : A2E
 Equipment : 1 x LED 53 W / 6434 lm
 Emergency : 485 lm (7.5 %)

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024

3 Lobby

3.1 Description, Lobby

3.1.1 Luminaire data/Room elements

Product data:

Type No.Make

4 2E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)



| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1 | 1.00 | 1.04 | 2.40 | 0.00 | 0.00 | 0.00 | 0.99 | 1.04 | 0.00 |
| E 2 | 1.00 | 2.93 | 2.40 | 0.00 | 0.00 | 0.00 | 0.99 | 2.93 | 0.00 |

E : Active in Emergency

Structural elements

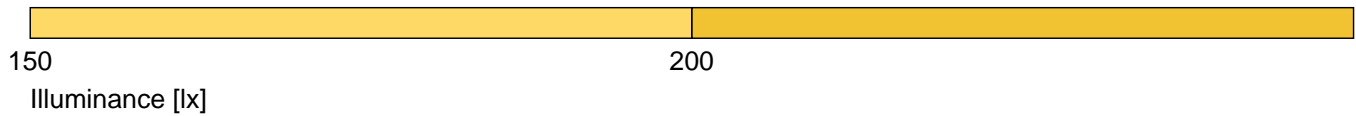
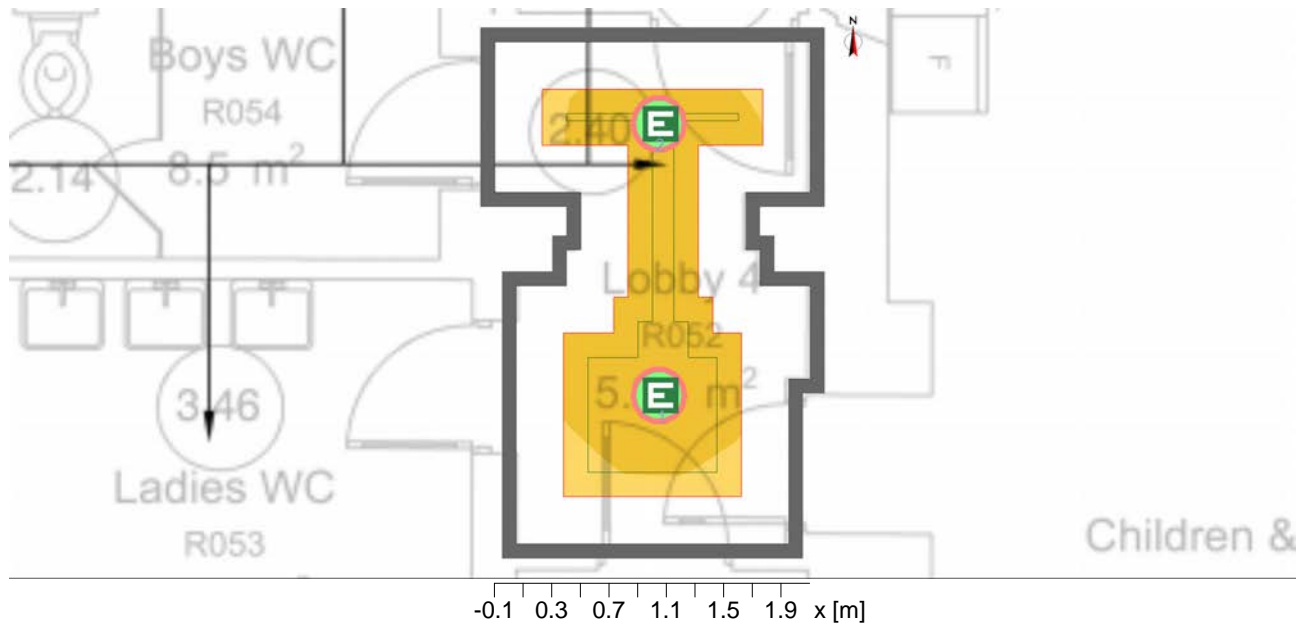
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.33 | 0.33 | 0.00 | 1.54 | 2.84 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 1.90 | 0.00 | 0.00 | 1.33 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 0.15 | 3.50 | 0.00 | 1.54 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.3 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 1.26 | 0.00 | 90.00 | 90.00 |
| M 1.4 (Ro) | 0.33 | 1.47 | 2.40 | 1.54 | 2.84 | 180.00 | 0.00 | 180.00 |

3 Lobby

3.2 Summary, Lobby

3.2.1 Result overview, Evaluation area 1



General

| | |
|--------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 5464.00 lm |
| Total power | 42.0 W |
| Total power per area (6.62 m²) | 6.34 W/m² (2.90 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|-------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 219 lx | 87 lx |
| E_{min} | 186 lx | 80 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.85 | 0.92 |
| $E_{min}/E_{max} (U_d)$ | 0.76 | |
| E_z/E_h | | 0.31 |
| Position | 0.00 m | 0.45 m |
| RUG (1.9H 3.1H) | ≤ 20.8 | |
| Luminaire : | | |
| (C1E, IFBHLED214K/EMF) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.4 (Ceiling) | 152 lx | 0.60 |
| M 1.1 (Wall) | 208 lx | 0.64 |
| M 1.2 (Wall) | 269 lx | 0.46 |
| M 1.3 (Wall) | 202 lx | 0.56 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

3 Lobby

3.2 Summary, Lobby

3.2.1 Result overview, Evaluation area 1

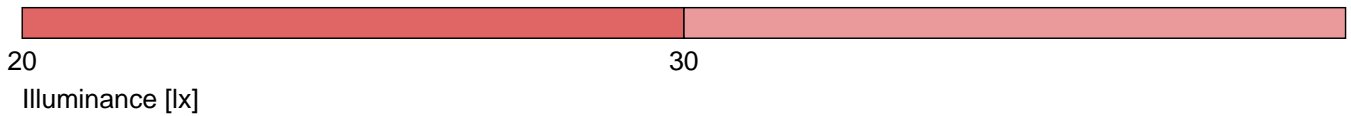
Type No. Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 2E x | Intulux Lighting | | |
|  | | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
| | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |

3 Lobby

3.3 Summary, Lobby

3.3.1 Result overview (emergency lighting)

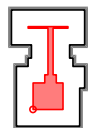


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 140 cd <= 500 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|---|---------|-----------|-----------|-----------|
| Anti panic area 1.1 | | | | |
| Calculation field: 1.2m x 2.5m (6 x 12 pts), Height = 0.00m | | | | |
| 1 | | 22.03 lx | 30.80 lx | 1: 1.40 |
| | | >= 0.5 lx | | >= 1 : 40 |



Type No. Make

4 2E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024



4 Gents WC

4.1 Description, Gents WC

4.1.1 Luminaire data/Room elements

Product data:

Type No./Make

- Intulux Lighting**
- 4 2E x  Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)
- 9 1 x  Order No. : !FBHLED144K
 Luminaire name : C2
 Equipment : 1 x LED 14 W / 1821 lm

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 2 | 2.50 | 3.35 | 2.40 | 0.00 | 0.00 | 0.00 | 2.50 | 3.35 | 0.00 |
| E 3 | 2.20 | 1.00 | 2.40 | 0.00 | 0.00 | 0.00 | 2.20 | 1.00 | 0.00 |
| Intulux Lighting C2 !FBHLED144K | | | | | | | | | |
| 1 | 0.50 | 0.90 | 2.40 | 0.00 | 0.00 | 0.00 | 0.50 | 0.90 | 0.00 |

E : Active in Emergency

Structural elements

Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.50 | 0.00 | 2.55 | 3.50 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 3.15 | 0.00 | 0.00 | 2.15 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 3.15 | 1.85 | 0.00 | 0.00 | 0.85 | 0.00 | 90.00 | -90.00 |
| M 1.9 (W) | 3.55 | 4.50 | 0.00 | 0.00 | 1.10 | 0.00 | 90.00 | -90.00 |
| M 1.10 (W) | 0.50 | 4.50 | 0.00 | 1.05 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.11 (W) | 0.50 | 2.40 | 0.00 | 0.00 | 1.10 | 0.00 | 90.00 | 90.00 |
| M 1.12 (W) | 0.00 | 1.85 | 0.00 | 0.70 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.13 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 0.85 | 0.00 | 90.00 | 90.00 |
| M 1.14 (R0) | 0.50 | 1.35 | 2.40 | 2.55 | 3.50 | 180.00 | 0.00 | 180.00 |

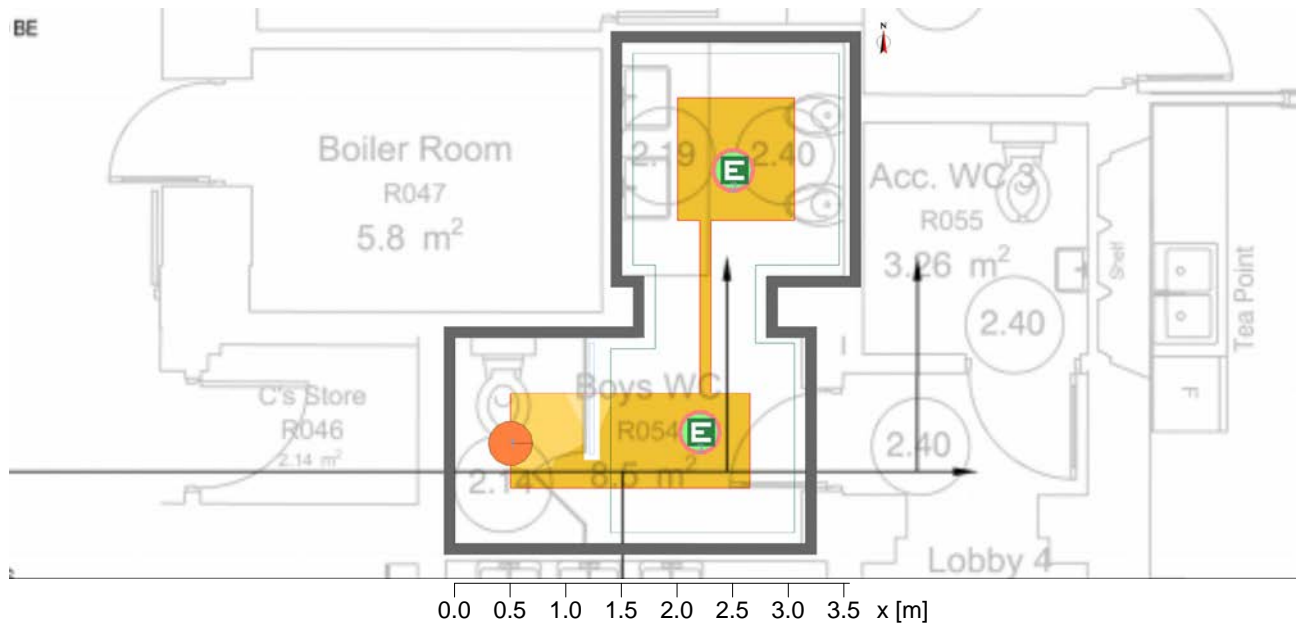
Others

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | | rho[%] |
|------|-------|-------|-------|--------|-------|--------|----------------|--------|--------|
| | | | | | | | L axis | Q axis | |
| Tr 1 | 1.25 | 1.80 | 0.00 | 0.04 | 1.00 | 270.00 | 0.00 | 0.00 | 50 |

4 Gents WC

4.2 Summary, Gents WC

4.2.1 Result overview, Evaluation area 1



General

| | |
|---------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 7285.00 lm |
| Total power | 56.0 W |
| Total power per area (10.74 m²) | 5.22 W/m² (2.28 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 229 lx | 104 lx |
| E_{min} | 150 lx | 77 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.65 | 0.74 |
| $E_{min}/E_{max} (U_d)$ | 0.57 | |
| E_z/E_h | | 0.37 |
| Position | 0.00 m | 0.45 m |
| RUG (--- ---) | --- | |

Hints:
 - Room dimensions deviate too much from a rectangular room.

Major surfaces

| | | |
|------------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.14 (Ceiling) | 201 lx | 0.66 |
| M 1.1 (Wall) | 253 lx | 0.65 |
| M 1.2 (Wall) | 241 lx | 0.65 |
| M 1.9 (Wall) | 218 lx | 0.68 |
| M 1.10 (Wall) | 221 lx | 0.74 |
| M 1.11 (Wall) | 230 lx | 0.67 |
| M 1.12 (Wall) | 192 lx | 0.58 |

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024



4 Gents WC

4.2 Summary, Gents WC

4.2.1 Result overview, Evaluation area 1

M 1.13 (Wall) 237 lx 0.50

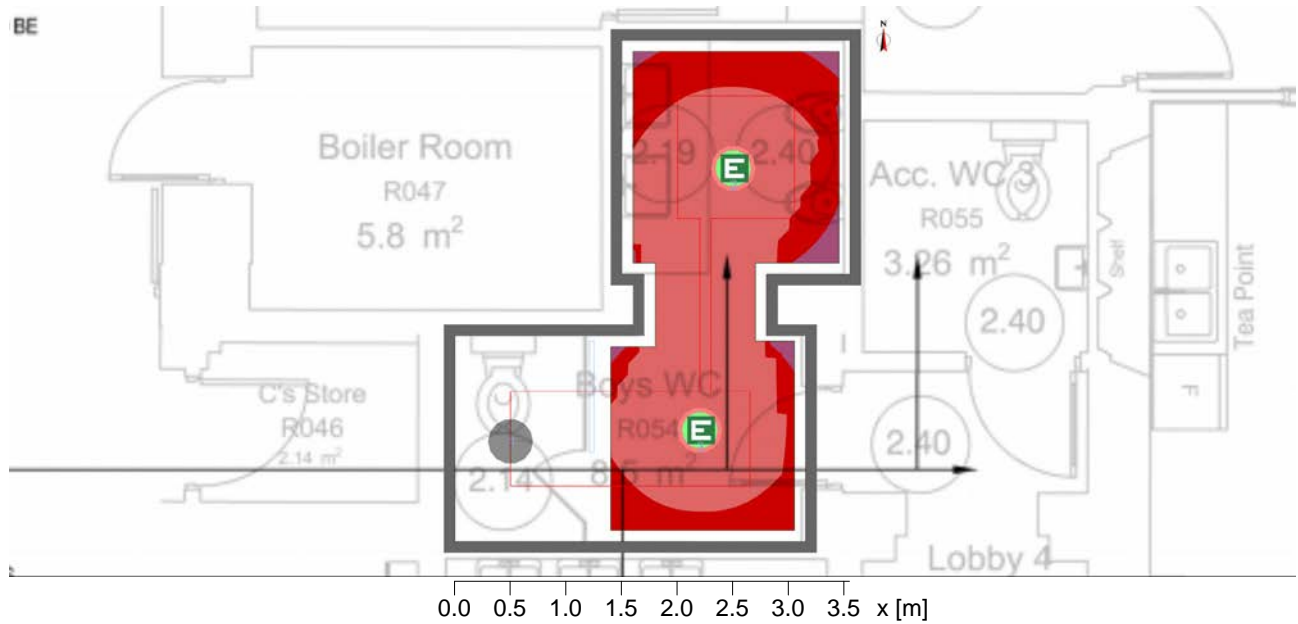
Type No. Make

| | | Intulux Lighting | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 2E x | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
|  | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |
| 9 | 1 x | Order No. | : !FBHLED144K | |
|  | | Luminaire name | : C2 | |
| | | Equipment | : 1 x LED 14 W / 1821 lm | |

4 Gents WC

4.3 Summary, Gents WC

4.3.1 Result overview (emergency lighting)

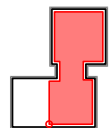


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 140 cd <= 500 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|-------------------|-----------|-----------|----------|
| 1 | Anti panic area 1 | 12.52 lx | 26.75 lx | 1: 2.14 |
| | | >= 0.5 lx | | >= 1: 40 |



Type No. Make

4 2E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024


5 Acc WC

5.1 Description, Acc WC

5.1.1 Luminaire data/Room elements

Product data:

Type No.Make

4 1E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1 | 1.00 | 1.00 | 2.40 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |

E : Active in Emergency

Structural elements

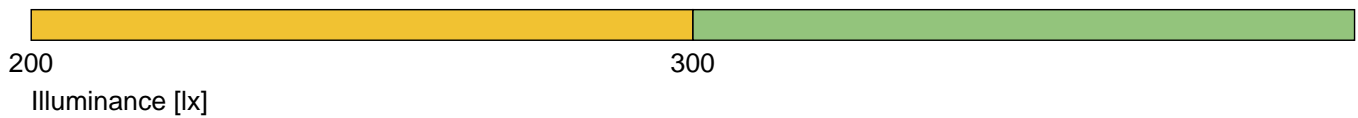
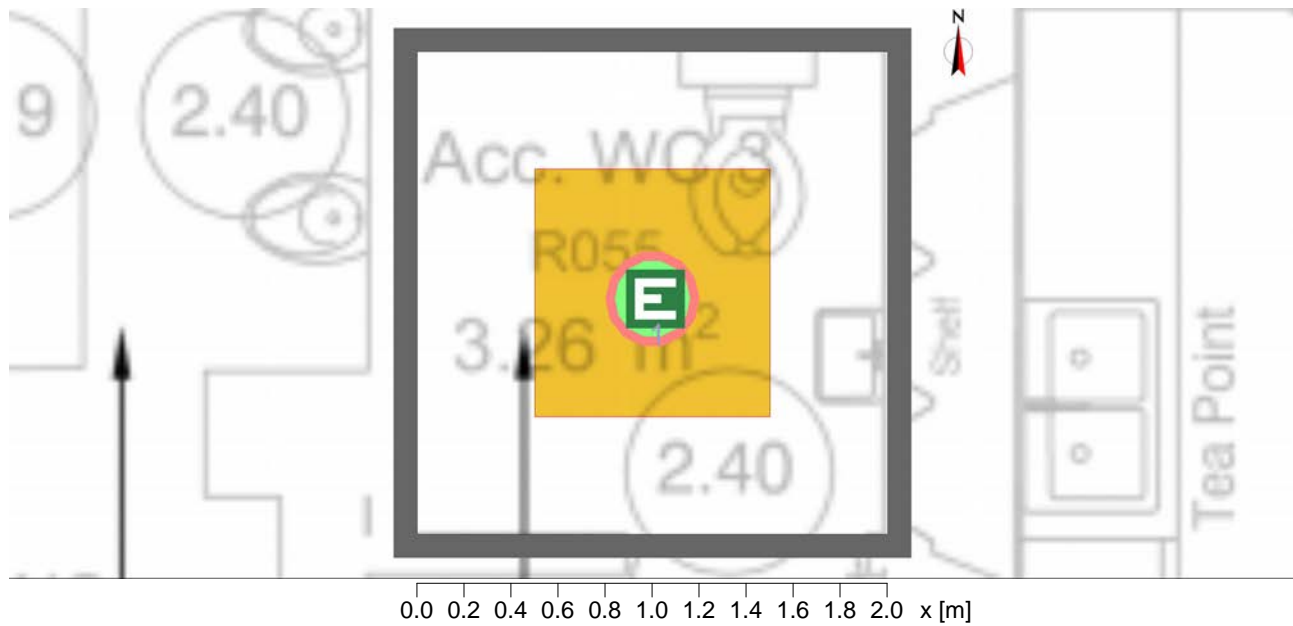
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.50 | 0.00 | 1.00 | 1.05 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 2.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 2.00 | 2.05 | 0.00 | 0.00 | 1.05 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 0.00 | 2.05 | 0.00 | 1.00 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 1.05 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.50 | 1.55 | 2.40 | 1.00 | 1.05 | 180.00 | 0.00 | 180.00 |

5 Acc WC

5.2 Summary, Acc WC

5.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 2732.00 lm |
| Total power | 21.0 W |
| Total power per area (4.10 m ²) | 5.12 W/m ² (2.36 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 217 lx | 96 lx |
| E_{min} | 208 lx | 88 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.96 | 0.92 |
| $E_{min}/E_{max} (U_d)$ | 0.93 | |
| E_z/E_h | | 0.34 |
| Position | 0.00 m | 0.45 m |
| RUG (1.7H 1.8H) | 10.0 | |

Luminaire :
 (C1E, !FBHLED214K/EMF)

Hints:
 - Encountered room dimensions less than 2H. RUG value has been set to 10 as lower limit.

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 209 lx | 0.69 |
| M 1.1 (Wall) | 235 lx | 0.66 |
| M 1.2 (Wall) | 234 lx | 0.66 |
| M 1.3 (Wall) | 229 lx | 0.68 |
| M 1.4 (Wall) | 234 lx | 0.66 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

5 Acc WC

5.2 Summary, Acc WC

5.2.1 Result overview, Evaluation area 1

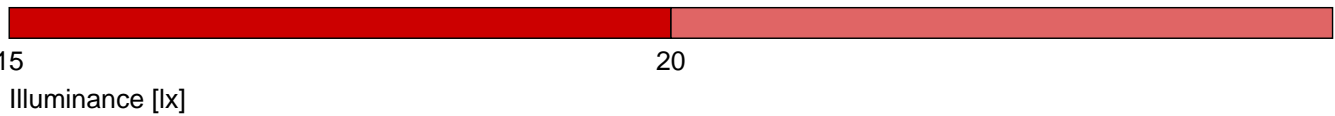
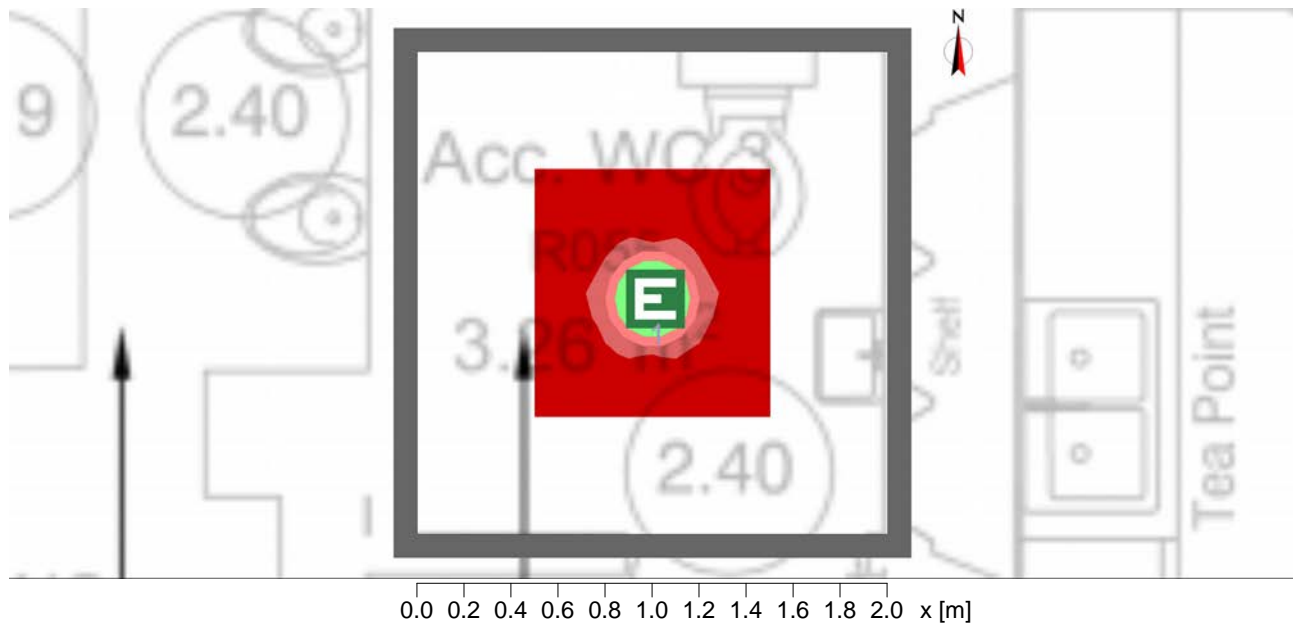
Type No.Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 1E x | Intulux Lighting | | |
|  | | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
| | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |

5 Acc WC

5.3 Summary, Acc WC

5.3.1 Result overview (emergency lighting)

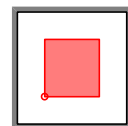


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 140 cd $\leq 500\text{ cd}$

Anti panic area:

| No. | Surface | | Ud |
|---|----------------------|-----------|-------------|
| | Emin [lx] | Emax [lx] | |
| Anti panic area 1.1 | | | |
| Calculation field: 1m x 1.05m (5 x 5 pts), Height = 0.00m | | | |
| 1 | 17.17 lx | 20.47 lx | 1: 1.19 |
| | $\geq 0.5\text{ lx}$ | | $\geq 1:40$ |



Type No. Make

4 1E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024

6 Store 1

6.1 Description, Store 1

6.1.1 Luminaire data/Room elements

Product data:

Type No.Make

Intulux Lighting
 12 1 x Order No. : !FLPLEDB5234K
 Luminaire name : D
 Equipment : 1 x LED 23 W / 2918 lm

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting D !FLPLEDB5234K | | | | | | | | | |
| 1 | 1.52 | 0.95 | 2.40 | 270.00 | 0.00 | 0.00 | 1.52 | 0.95 | 0.00 |

Structural elements

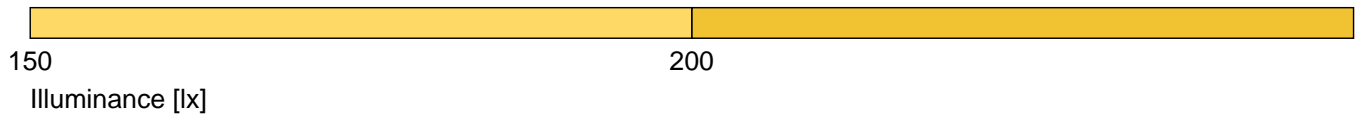
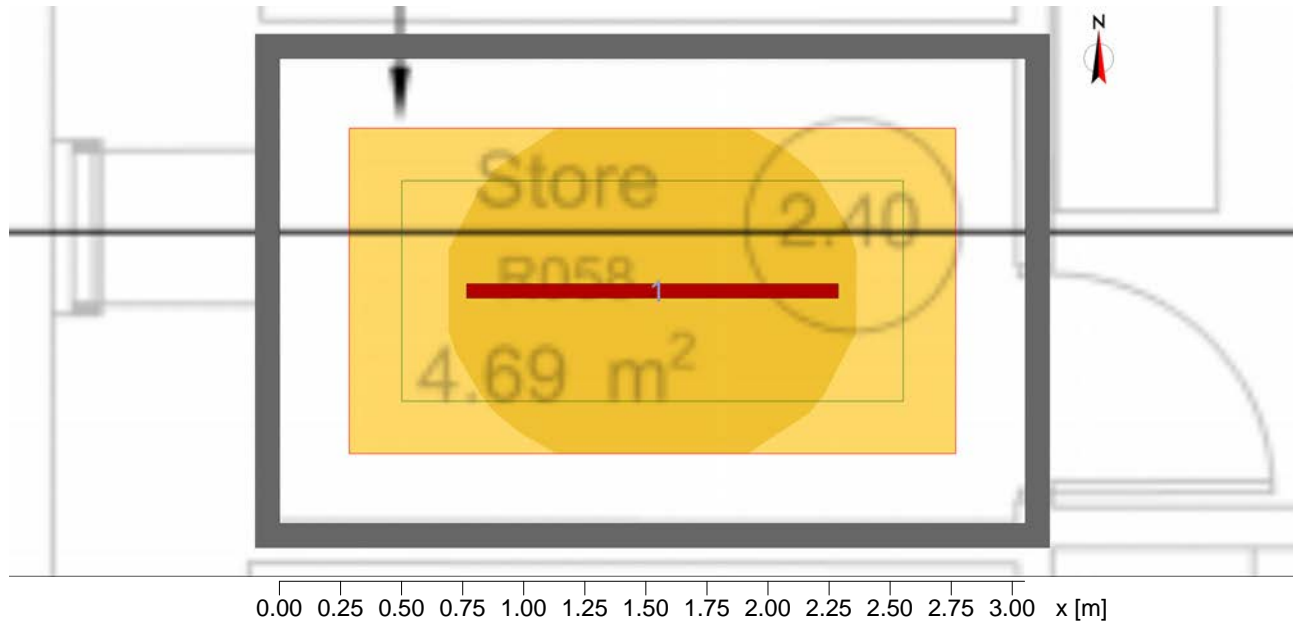
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.28 | 0.28 | 0.75 | 2.48 | 1.33 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 3.05 | 0.00 | 0.00 | 2.33 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 3.05 | 1.90 | 0.00 | 0.00 | 1.33 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 0.00 | 1.90 | 0.00 | 2.33 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 1.33 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.28 | 1.61 | 2.40 | 2.48 | 1.33 | 180.00 | 0.00 | 180.00 |

6 Store 1

6.2 Summary, Store 1

6.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 2918.00 lm |
| Total power | 23.0 W |
| Total power per area (5.80 m ²) | 3.97 W/m ² (1.90 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| \bar{E}_m | Horizontal | cylindrical |
| E_{min} | 209 lx | 93 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 157 lx | 87 lx |
| $E_{min}/E_{max} (U_d)$ | 0.75 | 0.93 |
| E_z/E_h | 0.60 | |
| Position | | 0.33 |
| RUG (1.6H 2.6H) | 0.75 m | 1.20 m |
| Luminaire : | <=18.3 | |
| (D, !FLPLEDB5234K) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 137 lx | 0.43 |
| M 1.1 (Wall) | 153 lx | 0.53 |
| M 1.2 (Wall) | 116 lx | 0.69 |
| M 1.3 (Wall) | 153 lx | 0.53 |
| M 1.4 (Wall) | 117 lx | 0.69 |

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

6 Store 1

6.2 Summary, Store 1

6.2.1 Result overview, Evaluation area 1

Type No.Make

| | | | |
|----|-----|-------------------------|--------------------------|
| 12 | 1 x | Intulux Lighting | |
| | | Order No. | : !FLPLEDB5234K |
| | | Luminaire name | : D |
| | | Equipment | : 1 x LED 23 W / 2918 lm |

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024

7 Store 2

7.1 Description, Store 2

7.1.1 Luminaire data/Room elements

Product data:

Type No.Make

Intulux Lighting
 12 1 x Order No. : !FLPLEDB5234K
 Luminaire name : D
 Equipment : 1 x LED 23 W / 2918 lm

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting D !FLPLEDB5234K | | | | | | | | | |
| 1 | 1.52 | 0.95 | 2.40 | 270.00 | 0.00 | 0.00 | 1.52 | 0.95 | 0.00 |

Structural elements

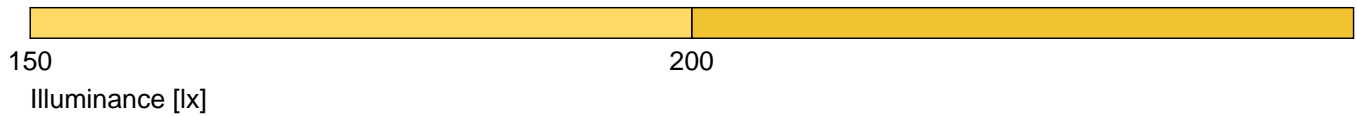
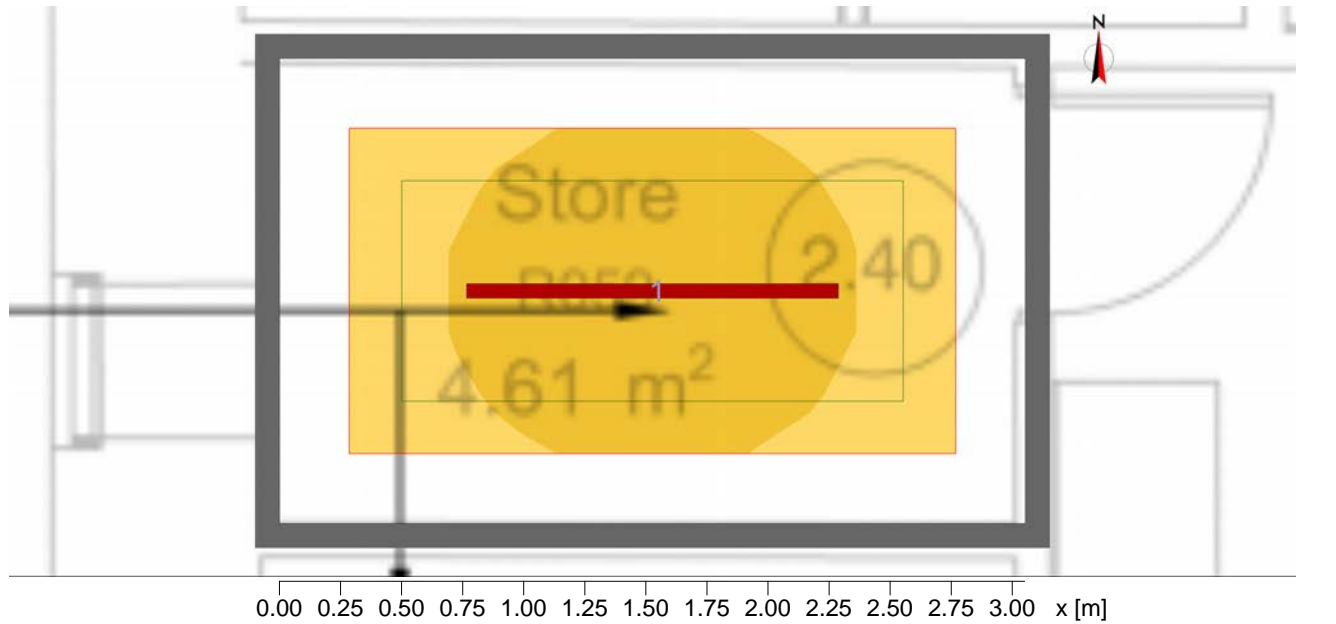
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.28 | 0.28 | 0.75 | 2.48 | 1.33 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 3.05 | 0.00 | 0.00 | 2.33 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 3.05 | 1.90 | 0.00 | 0.00 | 1.33 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 0.00 | 1.90 | 0.00 | 2.33 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 1.33 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.28 | 1.61 | 2.40 | 2.48 | 1.33 | 180.00 | 0.00 | 180.00 |

7 Store 2

7.2 Summary, Store 2

7.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 2918.00 lm |
| Total power | 23.0 W |
| Total power per area (5.79 m ²) | 3.97 W/m ² (1.90 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 209 lx | 93 lx |
| E_{min} | 156 lx | 86 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.75 | 0.93 |
| $E_{min}/E_{max} (U_d)$ | 0.59 | |
| E_z/E_h | | 0.33 |
| Position | 0.75 m | 1.20 m |
| RUG (1.6H 2.6H) | <=18.3 | |
| Luminaire : | | |
| (D, !FLPLEDB5234K) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 137 lx | 0.43 |
| M 1.1 (Wall) | 153 lx | 0.53 |
| M 1.2 (Wall) | 116 lx | 0.69 |
| M 1.3 (Wall) | 153 lx | 0.53 |
| M 1.4 (Wall) | 116 lx | 0.69 |

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

7 Store 2

7.2 Summary, Store 2

7.2.1 Result overview, Evaluation area 1

Type No.Make

| | | | |
|----|-----|-------------------------|--------------------------|
| 12 | 1 x | Intulux Lighting | |
| | | Order No. | : !FLPLEDB5234K |
| | | Luminaire name | : D |
| | | Equipment | : 1 x LED 23 W / 2918 lm |

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024



8 Kitchen

8.1 Description, Kitchen

8.1.1 Luminaire data/Room elements

Product data:

Type No./Make

| | | | | | |
|---|------|-------------------------|--------------------------|--------------------------|--|
| | | Intulux Lighting | | | |
| 17 | 1 x | Order No. | : !FDPLEDB5454K | | |
|  | | Luminaire name | : G | | |
| | | Equipment | : 1 x LED 45 W / 4955 lm | | |
| | | | | | |
| 18 | 2E x | Order No. | : !FDPLEDB5454KEMF | -- Emergency Lighting -- | |
|  | | Luminaire name | : GE | | |
| | | Equipment | : 1 x LED 45 W / 4955 lm | | |
| | | Emergency | : 440 lm (8.9 %) | | |

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting G !FDPLEDB5454K | | | | | | | | | |
| 1.3 | 1.16 | 2.57 | 2.40 | 180.00 | 0.00 | 0.00 | 1.16 | 2.57 | 0.00 |
| Intulux Lighting GE !FDPLEDB5454KEMF | | | | | | | | | |
| E 1.1 | 1.05 | 0.55 | 2.40 | 270.00 | 0.00 | 0.00 | 1.05 | 0.55 | 0.00 |
| E 1.2 | -1.22 | 2.59 | 2.40 | 180.00 | 0.00 | 0.00 | -1.23 | 2.59 | 0.00 |

E : Active in Emergency

Structural elements

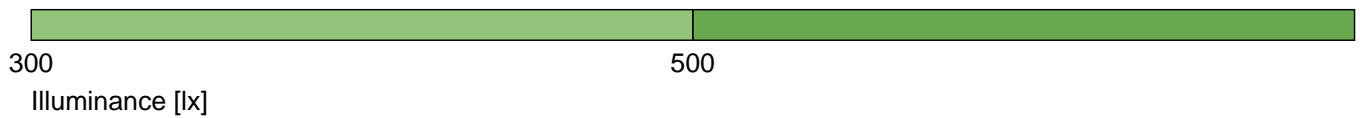
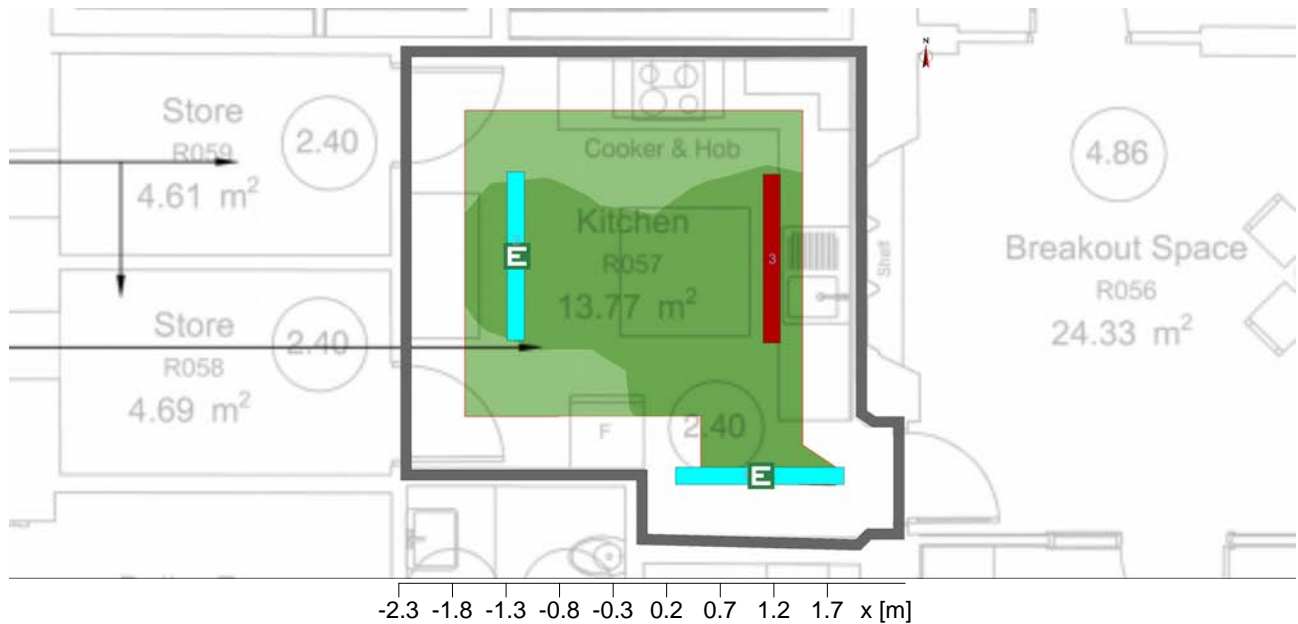
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.49 | 0.75 | 3.68 | 3.58 | 358.53 | 0.00 | 0.00 |
| M 1.1 (W) | 1.95 | -0.05 | 0.00 | 1.37 | 0.03 | 0.00 | 90.00 | 178.53 |
| M 1.2 (W) | 1.95 | 4.45 | 0.00 | 0.00 | 2.63 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 2.20 | 4.45 | 0.00 | 3.43 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 2.20 | 0.60 | 0.00 | 0.00 | 3.13 | 0.00 | 90.00 | 90.00 |
| M 1.5 (W) | 0.00 | 0.60 | 0.00 | 1.54 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.6 (Ro) | 0.50 | 1.10 | 2.40 | 3.68 | 3.58 | 178.53 | 0.00 | 180.00 |

8 Kitchen

8.2 Summary, Kitchen

8.2.1 Result overview, Evaluation area 1



General

| | |
|---------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 14865.00 lm |
| Total power | 135.0 W |
| Total power per area (17.54 m²) | 7.70 W/m² (1.42 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|-------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 542 lx | 287 lx |
| E_{min} | 367 lx | 231 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.68 | 0.80 |
| $E_{min}/E_{max} (U_d)$ | 0.49 | |
| E_z/E_h | | 0.46 |
| Position | 0.75 m | 1.20 m |
| RUG (3.9H 3.9H) | ≤ 21.1 | |
| Luminaire : | | |
| (GE, IFDPLEDB5454KEMF) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.6 (Ceiling) | 240 lx | 0.58 |
| M 1.1 (Wall) | 514 lx | 0.53 |
| M 1.2 (Wall) | 391 lx | 0.56 |
| M 1.3 (Wall) | 273 lx | 0.84 |
| M 1.4 (Wall) | 329 lx | 0.70 |
| M 1.5 (Wall) | 232 lx | 0.84 |



Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

8 Kitchen

8.2 Summary, Kitchen

8.2.1 Result overview, Evaluation area 1

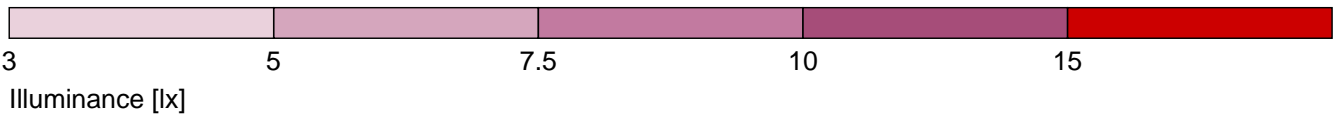
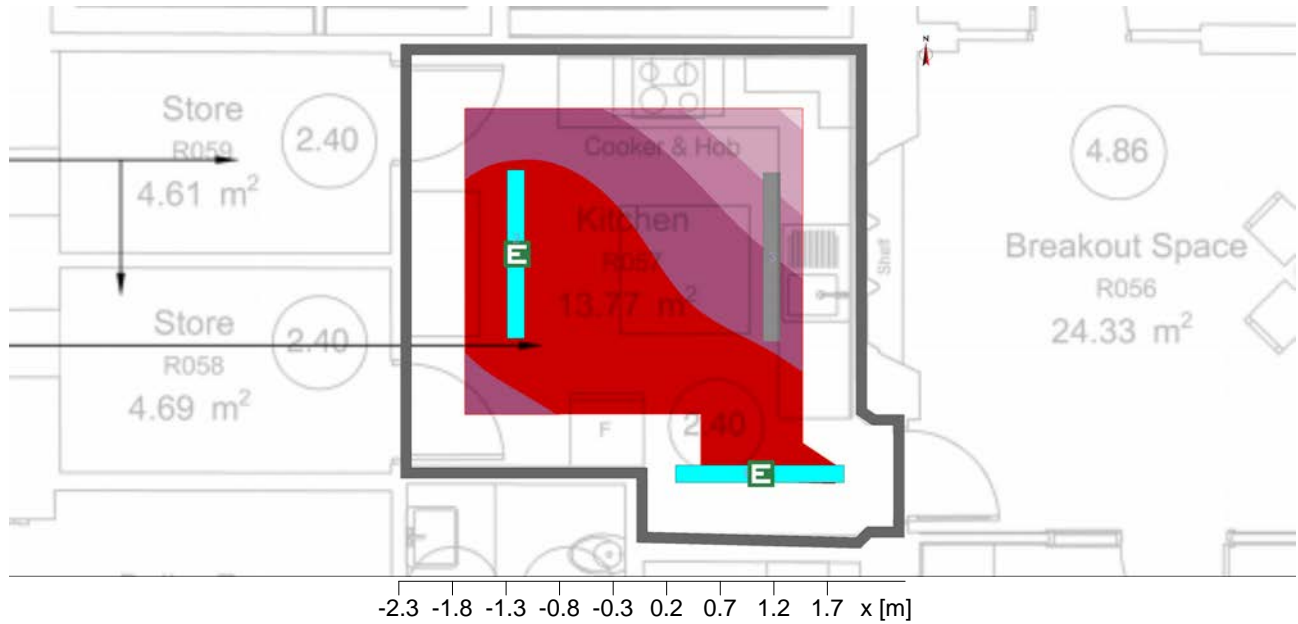
Type No.Make

| | | Intulux Lighting | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 17 | 1 x | Order No. | : !FDPLEDB5454K | |
|  | | Luminaire name | : G | |
| | | Equipment | : 1 x LED 45 W / 4955 lm | |
| 18 | 2E x | Order No. | : !FDPLEDB5454KEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : GE | |
| | | Equipment | : 1 x LED 45 W / 4955 lm | |
| | | Emergency | : 440 lm (8.9 %) | |

8 Kitchen

8.3 Summary, Kitchen

8.3.1 Result overview (emergency lighting)



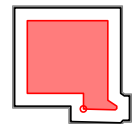
General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 130 cd <= 500 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|-----------|-----------|-----------|
| 1 | Anti panic area 1.1 | 4.49 lx | 19.70 lx | 1: 4.38 |
| | | >= 0.5 lx | | >= 1 : 40 |

Calculation field: 3.59m x 3.49m (7 x 7 pts), Height = 0.00m



Type No. Make

18 2E x **Intulux Lighting**
 Order No. : !FDPLEDB5454KEMF -- Emergency Lighting --
 Luminaire name : GE
 Equipment : 1 x LED 45 W / 4955 lm
 Emergency : 440 lm (8.9 %)

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024



9 Acc WC 2

9.1 Description, Acc WC 2

9.1.1 Luminaire data/Room elements

Product data:

Type No./Make

- Intulux Lighting**
- 4 1E x  Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)
- 5 1 x  Order No. : !FBHLED214K
 Luminaire name : C1
 Equipment : 1 x LED 21 W / 2732 lm

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1.2 | 1.10 | 2.70 | 2.40 | 270.00 | 0.00 | 0.00 | 1.10 | 2.70 | 0.00 |
| Intulux Lighting C1 !FBHLED214K | | | | | | | | | |
| 1.1 | 1.10 | 0.90 | 2.40 | 270.00 | 0.00 | 0.00 | 1.10 | 0.90 | 0.00 |

E : Active in Emergency

Structural elements

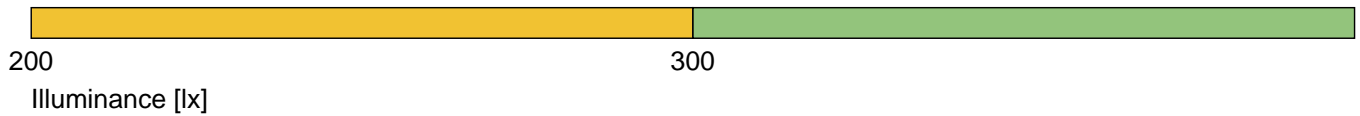
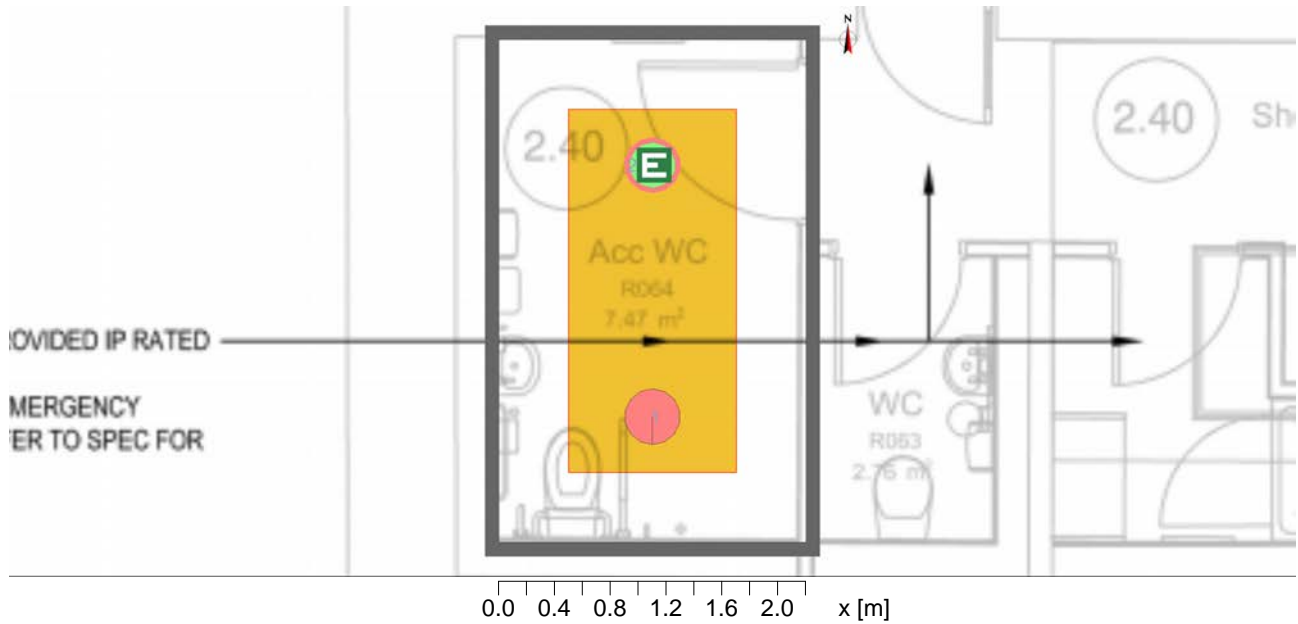
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.50 | 0.00 | 1.20 | 2.60 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 2.20 | 0.00 | 0.00 | 1.20 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 2.20 | 3.60 | 0.00 | 0.00 | 2.60 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 0.00 | 3.60 | 0.00 | 1.20 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 2.60 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.50 | 3.10 | 2.40 | 1.20 | 2.60 | 180.00 | 0.00 | 180.00 |

9 Acc WC 2

9.2 Summary, Acc WC 2

9.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 5464.00 lm |
| Total power | 42.0 W |
| Total power per area (7.92 m ²) | 5.30 W/m ² (2.25 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 236 lx | 93 lx |
| E_{min} | 211 lx | 81 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.90 | 0.87 |
| $E_{min}/E_{max} (U_d)$ | 0.83 | |
| E_z/E_h | | 0.31 |
| Position | 0.00 m | 0.45 m |
| RUG (1.9H 3.1H) | <=20.9 | |
| Luminaire : | | |
| (C1, !FBHLED214K) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 138 lx | 0.64 |
| M 1.1 (Wall) | 236 lx | 0.65 |
| M 1.2 (Wall) | 216 lx | 0.72 |
| M 1.3 (Wall) | 236 lx | 0.65 |
| M 1.4 (Wall) | 216 lx | 0.72 |



Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

9 Acc WC 2

9.2 Summary, Acc WC 2

9.2.1 Result overview, Evaluation area 1

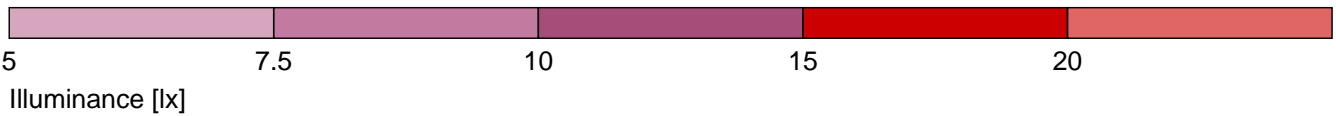
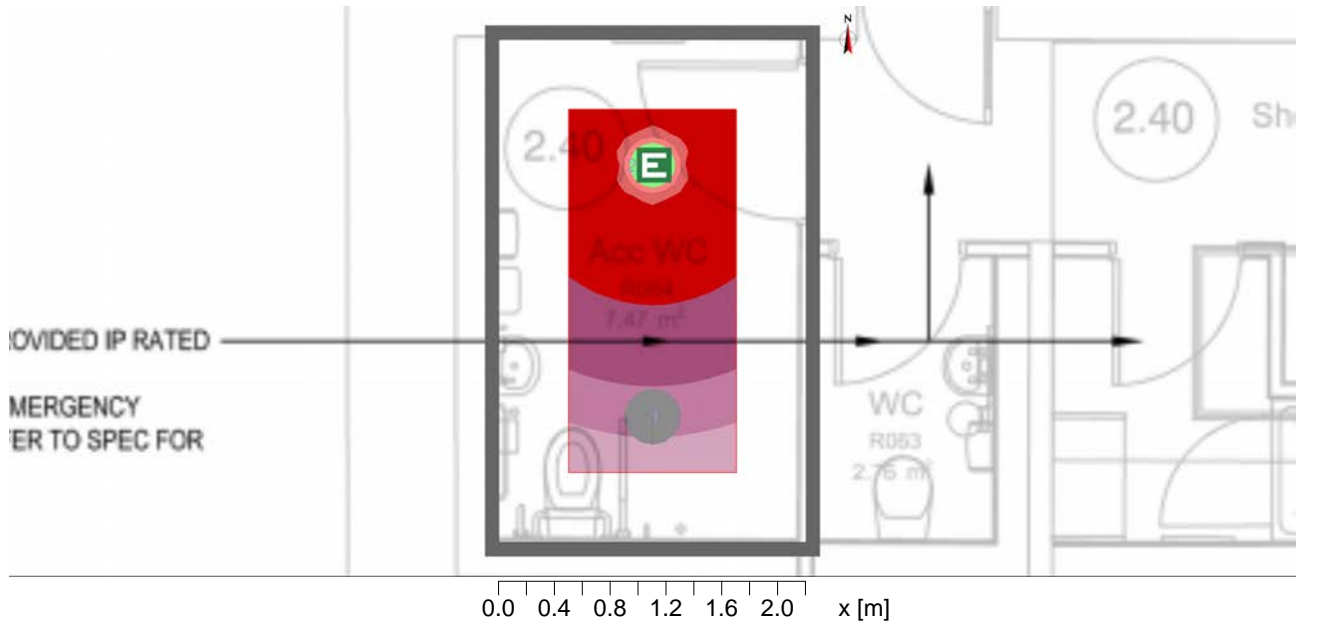
Type No.Make

| | | Intulux Lighting | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 1E x | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
|  | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |
| 5 | 1 x | Order No. | : !FBHLED214K | |
|  | | Luminaire name | : C1 | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |

9 Acc WC 2

9.3 Summary, Acc WC 2

9.3.1 Result overview (emergency lighting)



General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 140 cd $\leq 500\text{ cd}$

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|----------------------|-----------|-------------|
| 1 | Anti panic area 1.1 | 5.59 lx | 20.50 lx | 1: 3.66 |
| | | $\geq 0.5\text{ lx}$ | | $\geq 1:40$ |



Type No. Make

4 1E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024


10 WC 1

10.1 Description, WC 1

10.1.1 Luminaire data/Room elements

Product data:

Type No.Make

Intulux Lighting
 4 1E x Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1 | 0.60 | 1.03 | 2.40 | 0.00 | 0.00 | 0.00 | 0.60 | 1.02 | 0.00 |

E : Active in Emergency

Structural elements

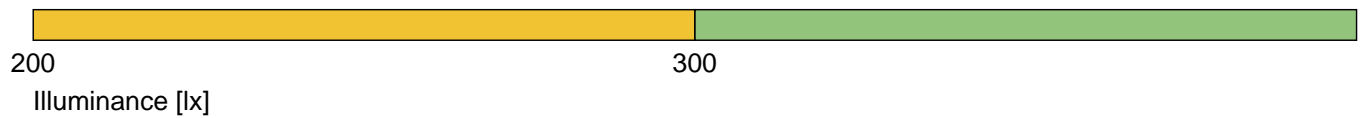
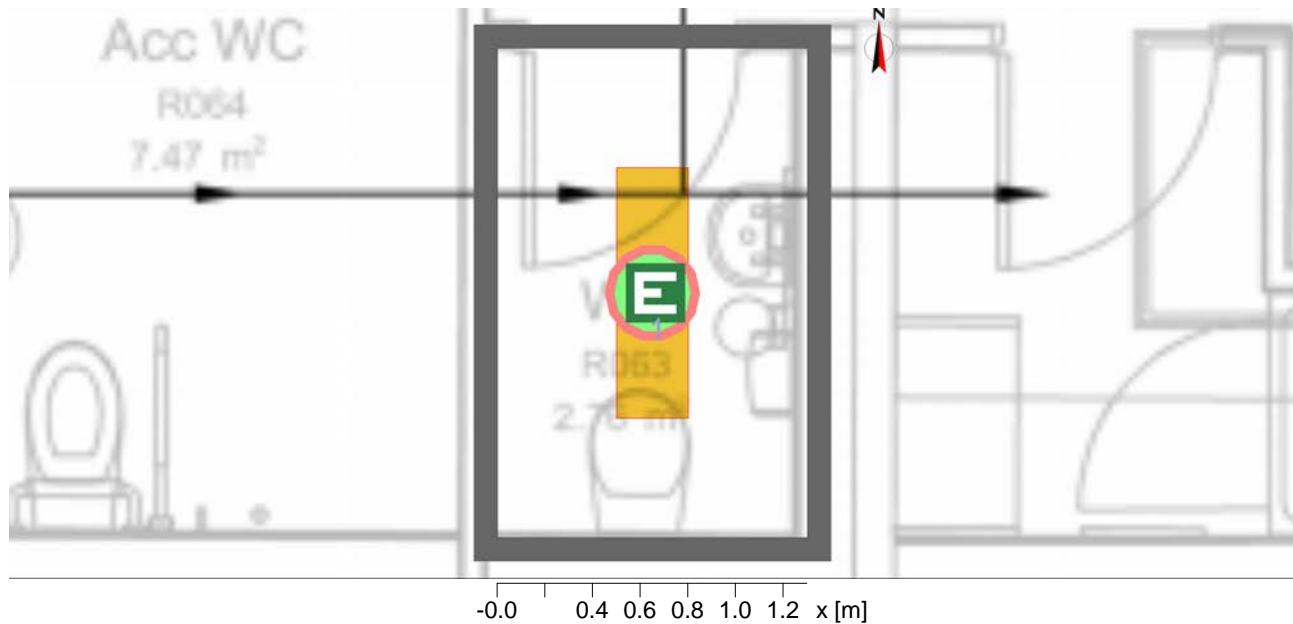
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|--------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.45 | 0.50 | 0.00 | 0.30 | 1.05 | 0.00 | 0.00 | 0.00 |
| M 1.4 (W) | 1.25 | 2.05 | 0.00 | 0.00 | 1.05 | 0.00 | 90.00 | -90.00 |
| M 1.5 (W) | 0.05 | 0.00 | 0.00 | 0.00 | 1.05 | 0.00 | 90.00 | 90.00 |
| M 1.6 (Ro) | 0.45 | 1.55 | 2.40 | 0.30 | 1.05 | 180.00 | 0.00 | 180.00 |

10 WC 1

10.2 Summary, WC 1

10.2.1 Result overview, Evaluation area 1



General

| | |
|--------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 2732.00 lm |
| Total power | 21.0 W |
| Total power per area (2.66 m²) | 7.88 W/m² (3.21 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 246 lx | 109 lx |
| E_{min} | 237 lx | 104 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.97 | 0.96 |
| $E_{min}/E_{max} (U_d)$ | 0.94 | |
| E_z/E_h | | 0.33 |
| Position | 0.00 m | 0.45 m |
| RUG (1.1H 1.8H) | 10.0 | |

Luminaire :
 (C1E, !FBHLED214K/EMF)

Hints:
 - Encountered room dimensions less than 2H. RUG value has been set to 10 as lower limit.

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.6 (Ceiling) | 372 lx | 0.61 |
| M 1.4 (Wall) | 326 lx | 0.53 |
| M 1.5 (Wall) | 326 lx | 0.53 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

10 WC 1

10.2 Summary, WC 1

10.2.1 Result overview, Evaluation area 1

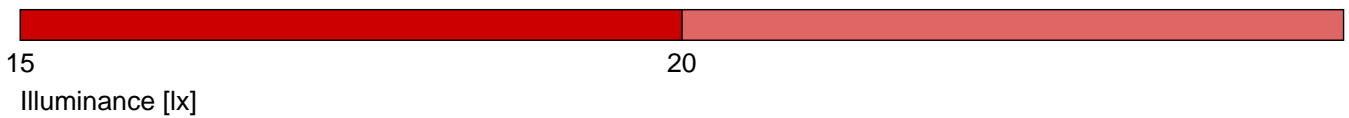
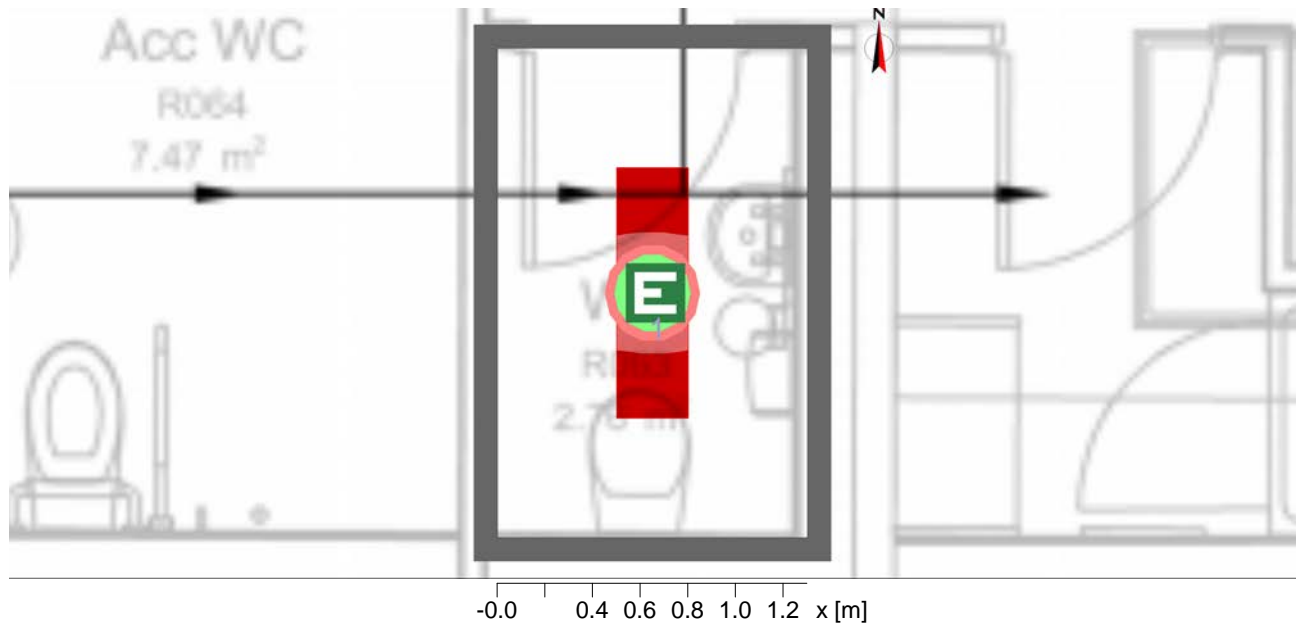
Type No.Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 1E x | Intulux Lighting | | |
|  | | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
| | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |

10 WC 1

10.3 Summary, WC 1

10.3.1 Result overview (emergency lighting)

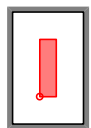


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 140 cd $\leq 500\text{ cd}$

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|--|---------|----------------------|-----------|-------------|
| Anti panic area 1.1 | | | | |
| Calculation field: 0.3m x 1.05m (3 x 12 pts), Height = 0.00m | | | | |
| 1 | | 18.61 lx | 20.48 lx | 1: 1.10 |
| | | $\geq 0.5\text{ lx}$ | | $\geq 1:40$ |



Type No. Make

4 1E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024


11 Wetroom Lobby

11.1 Description, Wetroom Lobby

11.1.1 Luminaire data/Room elements

Product data:

Type No.Make

4 2E x **Intulux Lighting**

 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1 | -2.26 | 1.73 | 2.40 | 0.00 | 0.00 | 0.00 | -2.26 | 1.73 | 0.00 |
| E 2 | 0.75 | 1.31 | 2.40 | 0.00 | 0.00 | 0.00 | 0.76 | 1.31 | 0.00 |

E : Active in Emergency

Structural elements

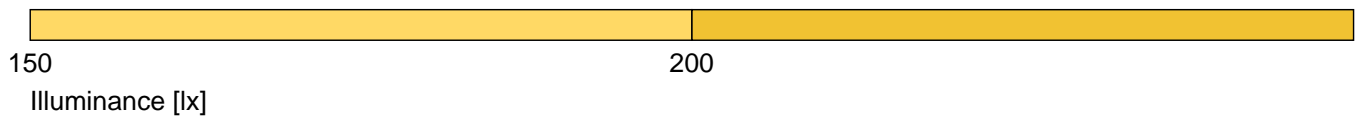
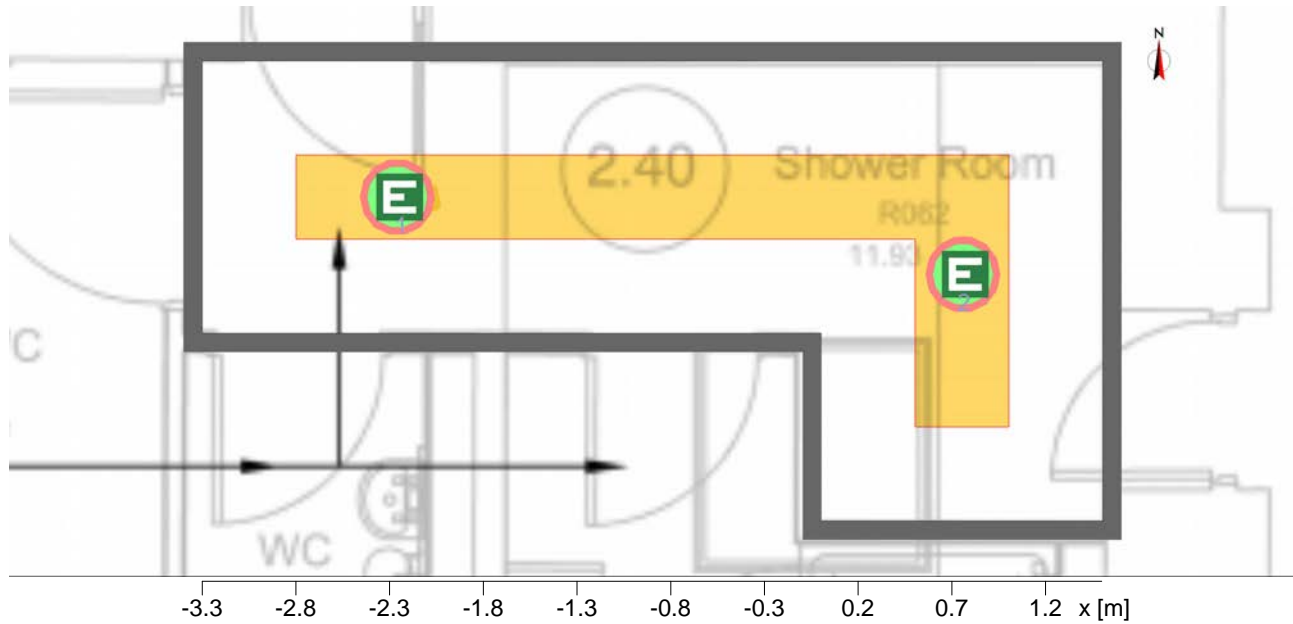
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | -2.80 | 1.50 | 0.00 | 3.80 | 1.45 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 1.50 | 0.00 | 0.00 | 0.50 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 1.50 | 2.45 | 0.00 | 0.00 | 1.45 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 3.30 | 2.45 | 0.00 | 3.80 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.6 (W) | 0.00 | 1.00 | 0.00 | 2.30 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.7 (Rø) | 2.80 | 1.95 | 2.40 | 3.80 | 1.45 | 180.00 | 0.00 | 180.00 |

11 Wetroom Lobby

11.2 Summary, Wetroom Lobby

11.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 5464.00 lm |
| Total power | 42.0 W |
| Total power per area (8.46 m ²) | 4.96 W/m ² (2.70 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 184 lx | 74 lx |
| E_{min} | 151 lx | 61 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.82 | 0.82 |
| $E_{min}/E_{max} (U_d)$ | 0.75 | |
| E_z/E_h | | 0.32 |
| Position | 0.00 m | 0.45 m |
| RUG (--- ---) | --- | |

Hints:
 - Room dimensions deviate too much from a rectangular room.

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.7 (Ceiling) | 142 lx | 0.42 |
| M 1.1 (Wall) | 160 lx | 0.70 |
| M 1.2 (Wall) | 217 lx | 0.54 |
| M 1.3 (Wall) | 176 lx | 0.59 |
| M 1.6 (Wall) | 181 lx | 0.50 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

11 Wetroom Lobby

11.2 Summary, Wetroom Lobby

11.2.1 Result overview, Evaluation area 1

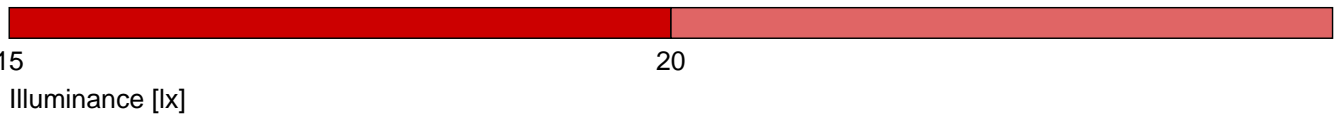
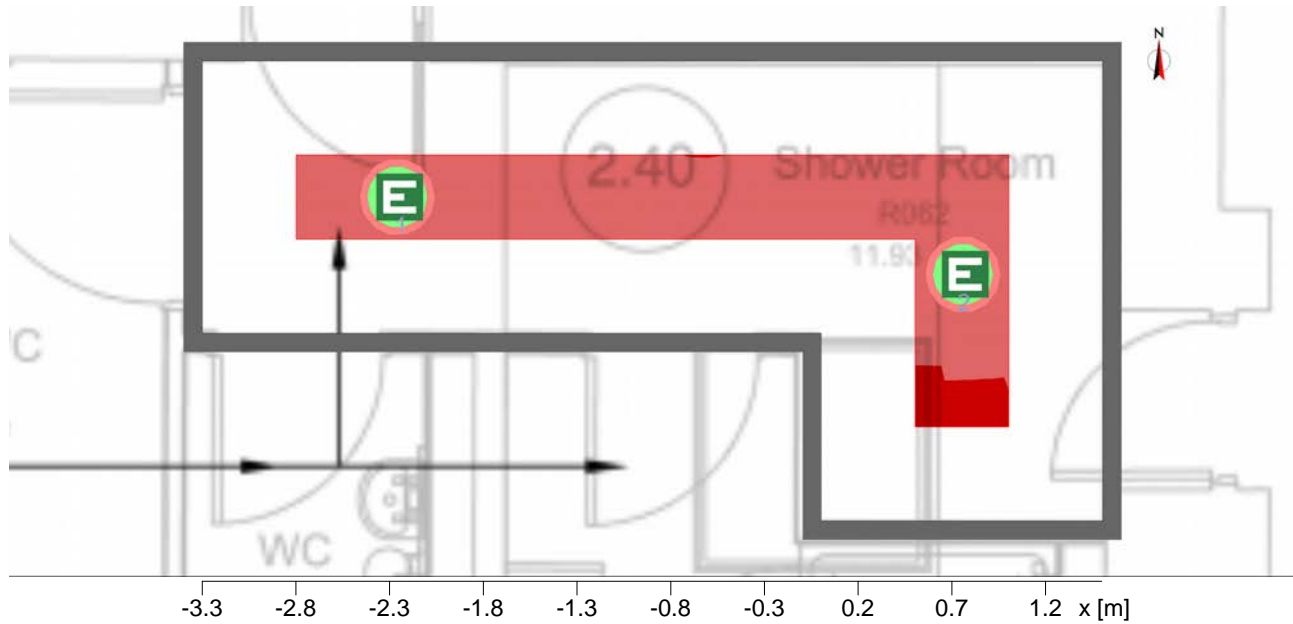
Type No.Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 2E x | Intulux Lighting | | |
|  | | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
| | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |

11 Wetroom Lobby

11.3 Summary, Wetroom Lobby

11.3.1 Result overview (emergency lighting)



General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 140 cd $\leq 500\text{ cd}$

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|----------------------|-----------|-------------|
| 1 | Anti panic area 1.1 | 16.26 lx | 23.75 lx | 1: 1.46 |
| | | $\geq 0.5\text{ lx}$ | | $\geq 1:40$ |



Type No. Make

4 2E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)



12 Shower Room

12.1 Description, Shower Room

12.1.1 Luminaire data/Room elements

Product data:

Type No./Make

- Intulux Lighting**
- 15 1E x  Order No. : !FDLLEDS3EMAST -- Emergency Lighting --
 Luminaire name : E1/IP
 Equipment : 1 x / 128.4 lm (0%)
 Emergency : 128.4 lm
- 16 3 x  Order No. : !FDLLED124KAGI
 Luminaire name : F
 Equipment : 1 x LED 12 W / 850 lm

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|--|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting E1/IP !FDLLEDS3EMAST | | | | | | | | | |
| XE 1 | 0.75 | 0.87 | 2.40 | 0.00 | 0.00 | 0.00 | 0.75 | 0.87 | 0.00 |
| Intulux Lighting F !FDLLED124KAGI | | | | | | | | | |
| 2 | 0.76 | 0.54 | 2.40 | 0.00 | 0.00 | 0.00 | 0.76 | 0.54 | 0.00 |
| 3 | 2.10 | 0.53 | 2.40 | 0.00 | 0.00 | 0.00 | 2.10 | 0.53 | 0.00 |
| 4 | 0.78 | 1.60 | 2.40 | 0.00 | 0.00 | 0.00 | 0.78 | 1.60 | 0.00 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

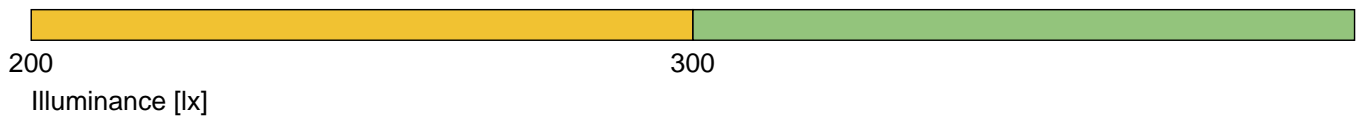
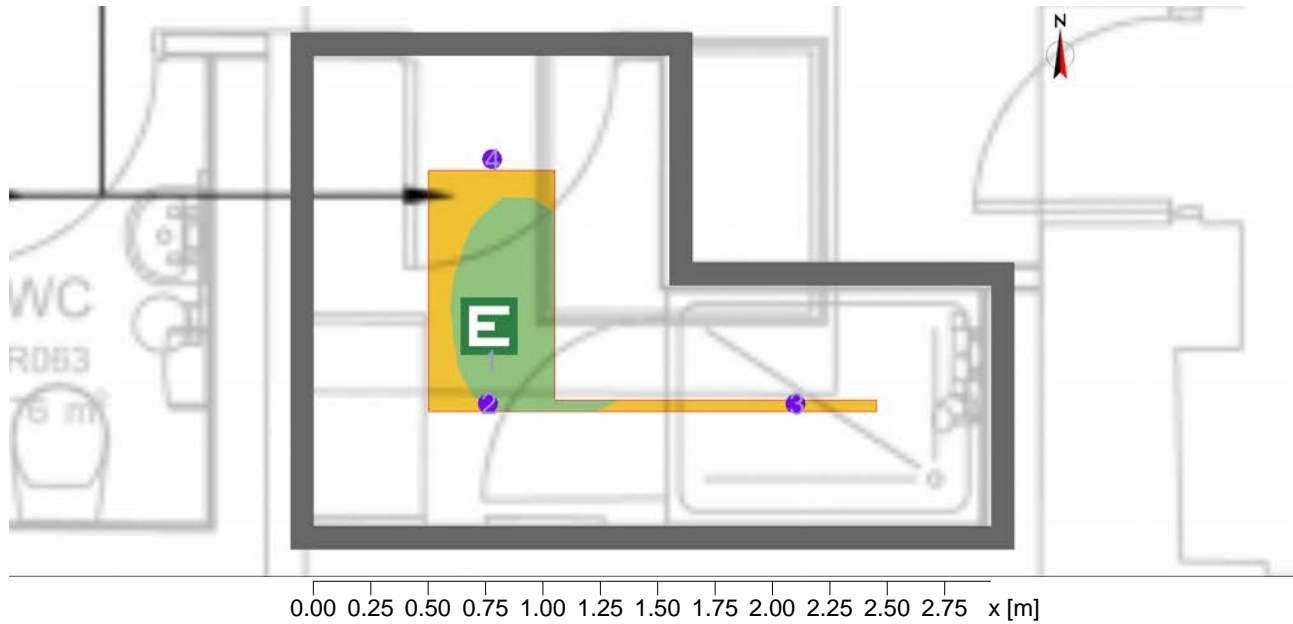
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.50 | 0.00 | 1.95 | 1.05 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 2.95 | 0.00 | 0.00 | 1.95 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 0.00 | 2.05 | 0.00 | 0.55 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.3 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 1.05 | 0.00 | 90.00 | 90.00 |
| M 1.4 (Ro) | 0.50 | 1.55 | 2.40 | 1.95 | 1.05 | 180.00 | 0.00 | 180.00 |

12 Shower Room

12.2 Summary, Shower Room

12.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 2550.00 lm |
| Total power | 36.0 W |
| Total power per area (4.65 m ²) | 7.75 W/m ² (2.54 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|--|------------|-------------|
| \bar{E}_m | Horizontal | cylindrical |
| E_{min} | 305 lx | 76 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 278 lx | 67 lx |
| $E_{min}/E_{max} (U_d)$ | 0.91 | 0.88 |
| E_z/E_h | 0.86 | |
| Position | | 0.20 |
| RUG (--- ---) | 0.00 m | 0.45 m |
| Luminaire : (F, IFDLLED124KAGI) | --- | |
| Hints: | | |
| - The luminous area is less than 0.005m ² . | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.4 (Ceiling) | 43 lx | 0.96 |
| M 1.1 (Wall) | 123 lx | 0.52 |
| M 1.2 (Wall) | 155 lx | 0.66 |
| M 1.3 (Wall) | 101 lx | 0.60 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

12 Shower Room

12.2 Summary, Shower Room

12.2.1 Result overview, Evaluation area 1

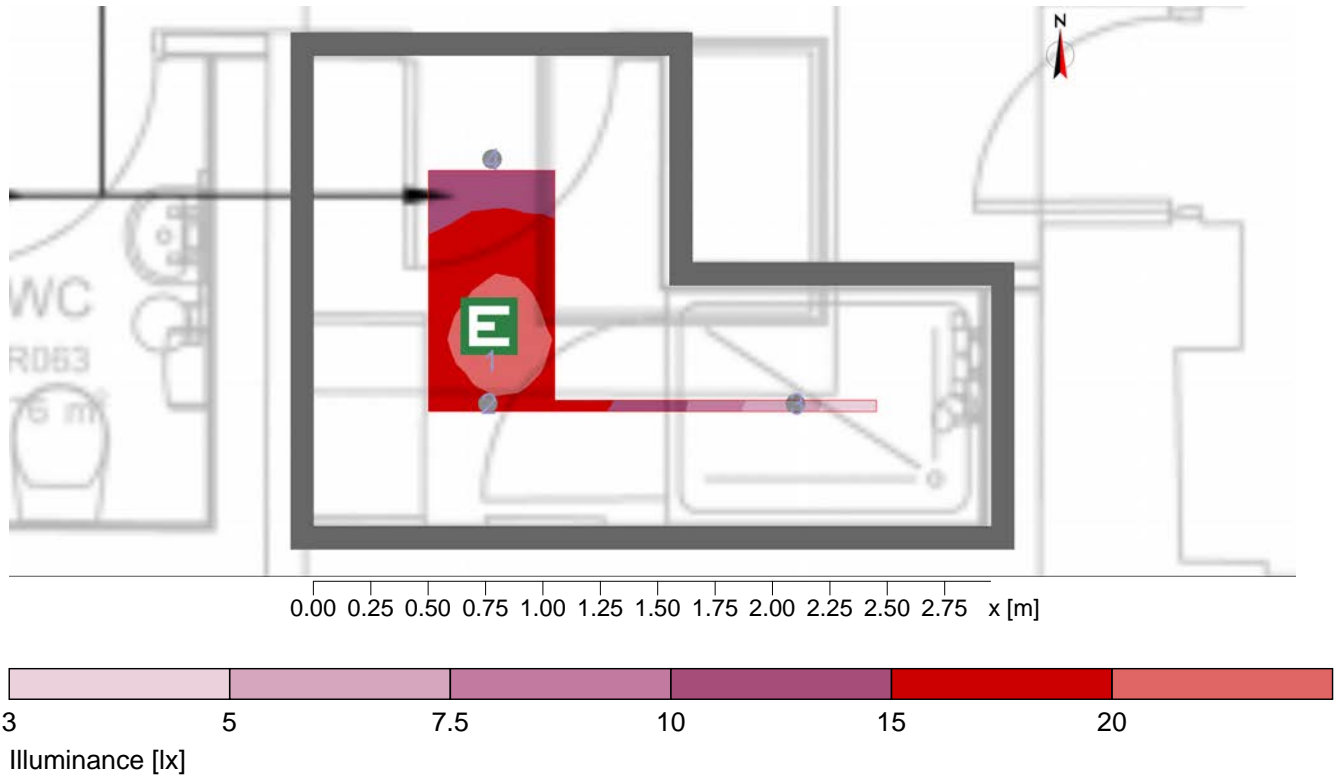
Type No.Make

16 3 x **Intulux Lighting**
 Order No. : !FDLLED124KAGI
Luminaire name : F
Equipment : 1 x LED 12 W / 850 lm

12 Shower Room

12.3 Summary, Shower Room

12.3.1 Result overview (emergency lighting)

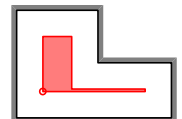


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 150 cd $\leq 500\text{ cd}$

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|----------------------|-----------|-------------|
| 1 | Anti panic area 1.1 | 3.58 lx | 21.15 lx | 1: 5.91 |
| | | $\geq 0.5\text{ lx}$ | | $\geq 1:40$ |



Type No. Make

15 1E x **Intulux Lighting**
 Order No. : !FDLLED3EMAST -- Emergency Lighting --
 Luminaire name : E1/IP
 Equipment : 1 x / 128.4 lm (0%)
 Emergency : 128.4 lm

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024

13 WC 2

13.1 Description, WC 2

13.1.1 Luminaire data/Room elements

Product data:

Type No.Make

4 1E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)



| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1 | 0.92 | 0.57 | 2.40 | 0.00 | 0.00 | 0.00 | 0.92 | 0.57 | 0.00 |

E : Active in Emergency

Structural elements

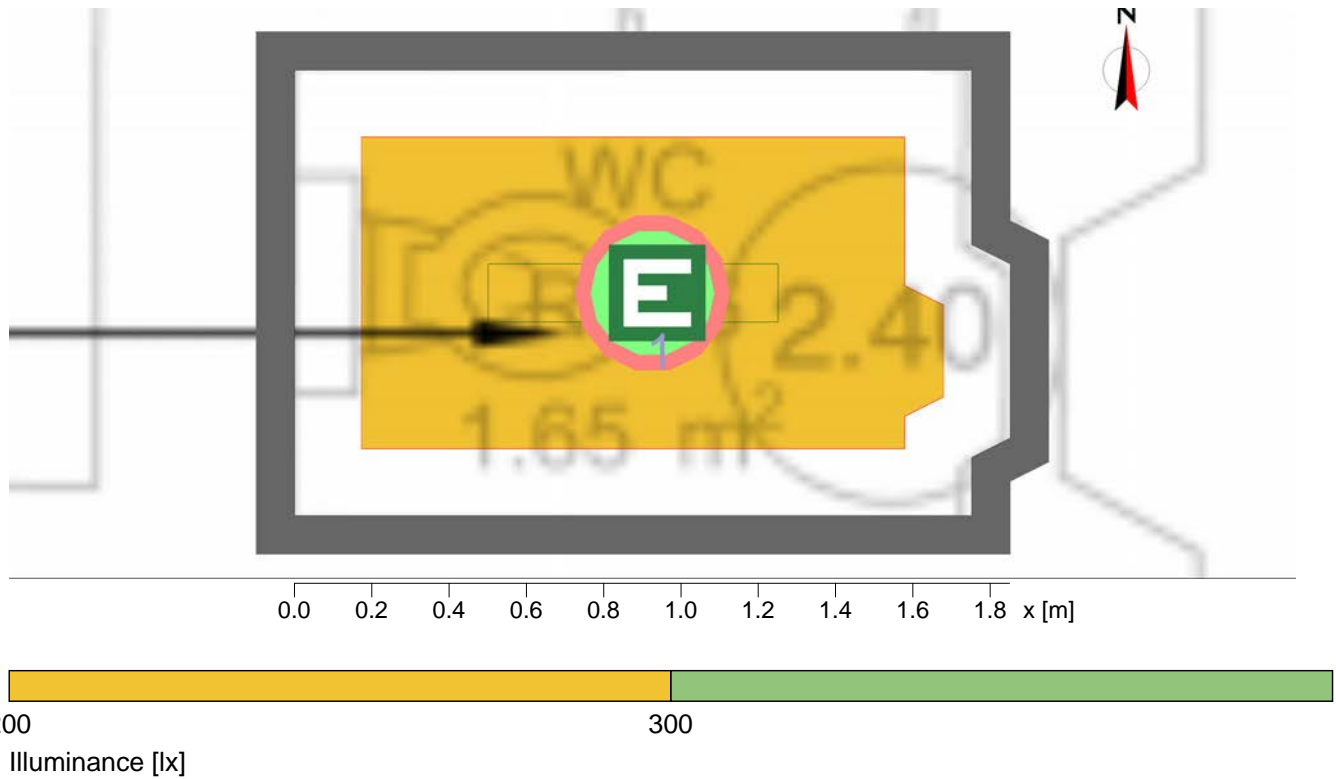
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.17 | 0.17 | 0.00 | 1.50 | 0.80 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 1.75 | 0.00 | 0.00 | 1.22 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 0.00 | 1.15 | 0.00 | 1.22 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.3 (Ro) | 0.17 | 0.98 | 2.40 | 1.50 | 0.80 | 180.00 | 0.00 | 180.00 |

13 WC 2

13.2 Summary, WC 2

13.2.1 Result overview, Evaluation area 1



General

| | |
|---|---|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 2732.00 lm |
| Total power | 21.0 W |
| Total power per area (2.06 m ²) | 10.18 W/m ² (4.09 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 249 lx | 122 lx |
| E_{min} | 230 lx | 117 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.92 | 0.96 |
| $E_{min}/E_{max} (U_d)$ | 0.86 | |
| E_z/E_h | | 0.37 |
| Position | 0.00 m | 0.45 m |
| RUG (1.6H 1.0H) | 10.0 | |

Luminaire :
 (C1E, !FBHLED214K/EMF)

Hints:
 - Encountered room dimensions less than 2H. RUG value has been set to 10 as lower limit.

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.3 (Ceiling) | 333 lx | 0.73 |
| M 1.1 (Wall) | 371 lx | 0.42 |
| M 1.2 (Wall) | 373 lx | 0.42 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

13 WC 2

13.2 Summary, WC 2

13.2.1 Result overview, Evaluation area 1

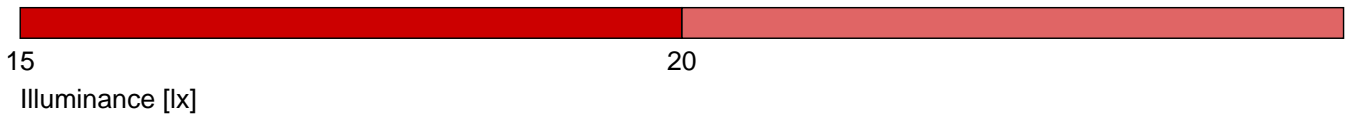
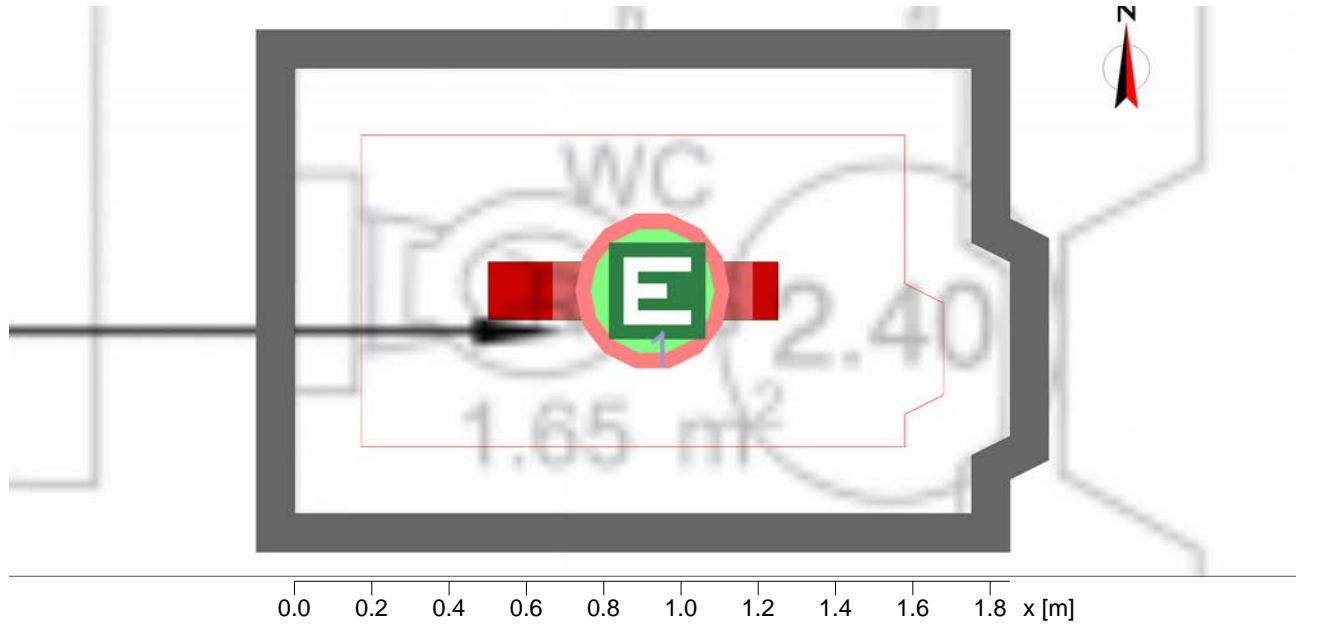
Type No.Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 1E x | Intulux Lighting | | |
|  | | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
| | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |

13 WC 2

13.3 Summary, WC 2

13.3.1 Result overview (emergency lighting)

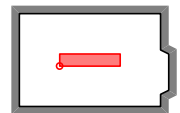


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.35 m
 Maximum I : 140 cd $\leq 500\text{ cd}$

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|----------------------|-----------|-------------|
| 1 | Anti panic area 1.1 | 19.30 lx | 20.41 lx | 1: 1.06 |
| | | $\geq 0.5\text{ lx}$ | | $\geq 1:40$ |



Type No. Make

4 1E x **Intulux Lighting**
 Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)




14 Guest Entrance

14.1 Description, Guest Entrance

14.1.1 Luminaire data/Room elements

Product data:

Type No.Make

| | | Intulux Lighting | | |
|---|------|-------------------------|-----------------------------|--------------------------|
| 4 | 1E x | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
|  | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |
| 6 | 1E x | Order No. | : EBHM3MLEDBL | -- Emergency Lighting -- |
|  | | Luminaire name | : E2 | |
| | | Equipment | : 1 x LED 5 W / 250 lm (0%) | |
| | | Emergency | : 250 lm | |
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |

| No. | Centre point | | | Rotation angle | | Target coordinates | | | |
|--|--------------|-------|-------|----------------|--------|--------------------|--------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1 | 0.85 | 1.32 | 2.40 | 0.00 | 0.00 | 0.00 | 0.85 | 1.32 | 0.00 |
| Intulux Lighting E2 EBHM3MLEDBL | | | | | | | | | |
| XE 3 | -0.93 | 1.40 | 2.40 | 0.00 | 0.00 | 0.00 | -0.35 | 1.40 | 1.11 |
| Intulux Lighting EXIT/B FEBLEDS3MNMST | | | | | | | | | |
| XE 2 | -0.12 | 1.44 | 2.40 | 0.00 | 0.00 | 0.00 | 2.05 | 1.44 | 1.49 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

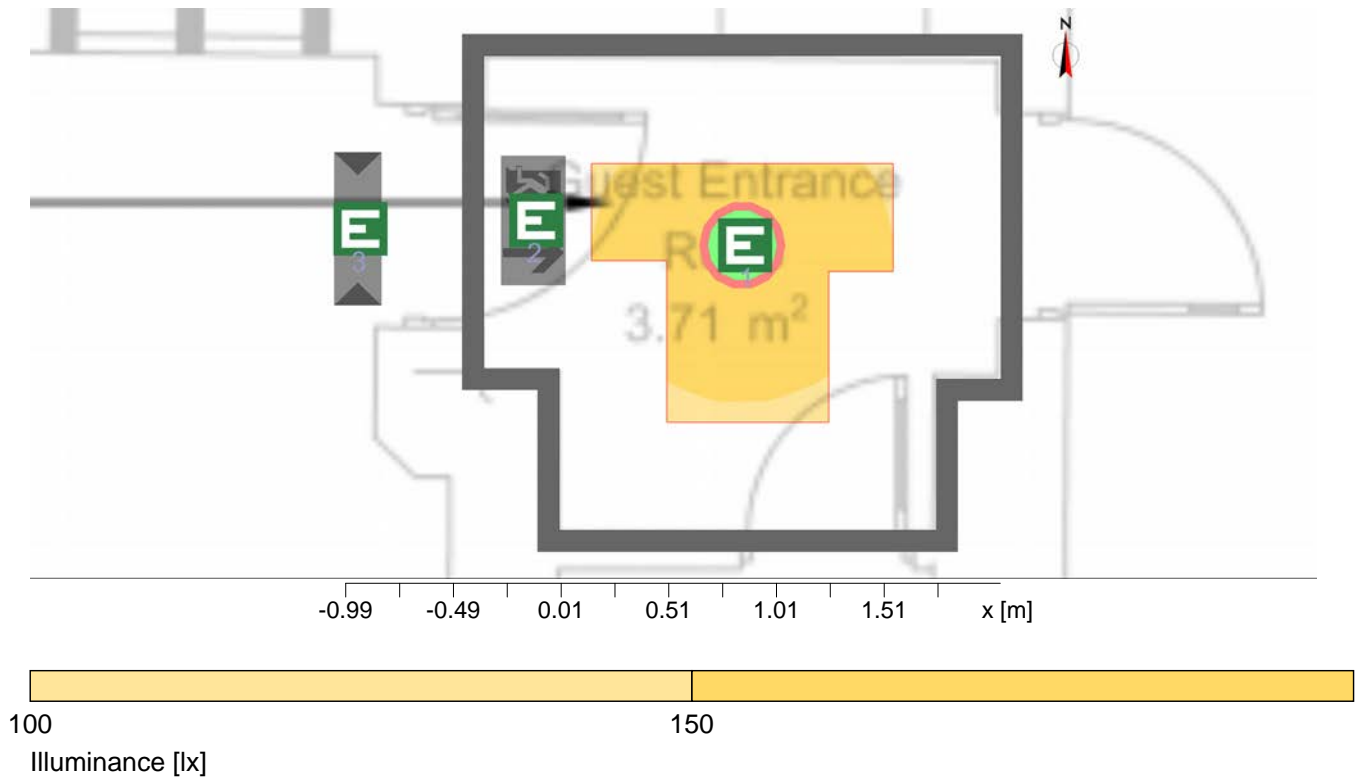
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | | | | | | | | |
| | 0.50 | 0.50 | 0.00 | 1.40 | 1.20 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 1.75 | 0.00 | 0.00 | 0.75 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.10 (W) | 2.05 | 2.20 | 0.00 | 0.00 | 0.50 | 0.00 | 90.00 | -90.00 |
| M 1.11 (W) | 2.35 | 2.20 | 0.00 | 1.40 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.12 (R) | 0.50 | 1.25 | 2.40 | 1.40 | 1.20 | 180.00 | 0.00 | 180.00 |

14 Guest Entrance

14.2 Summary, Guest Entrance

14.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.40 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 2732.00 lm |
| Total power | 21.0 W |
| Total power per area (4.81 m ²) | 4.37 W/m ² (2.74 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 159 lx | 57 lx |
| E_{min} | 147 lx | 50 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.92 | 0.87 |
| $E_{min}/E_{max} (U_d)$ | 0.87 | |
| E_z/E_h | | 0.27 |
| Position | 0.00 m | 0.45 m |
| RUG (1.9H 2.1H) | <=19.1 | |
| Luminaire : | | |
| (C1E, IFBHLED214K/EMF) | | |

Major surfaces

| | | |
|------------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.12 (Ceiling) | 135 lx | 0.50 |
| M 1.1 (Wall) | 150 lx | 0.73 |
| M 1.10 (Wall) | 164 lx | 0.66 |
| M 1.11 (Wall) | 186 lx | 0.56 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

14 Guest Entrance

14.2 Summary, Guest Entrance

14.2.1 Result overview, Evaluation area 1

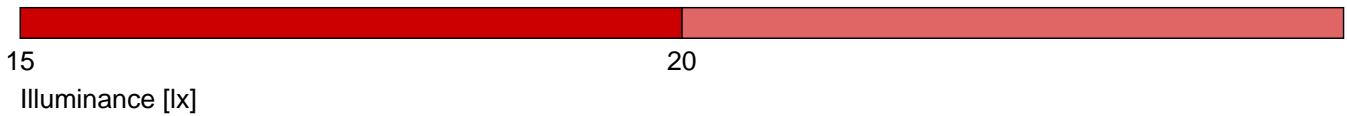
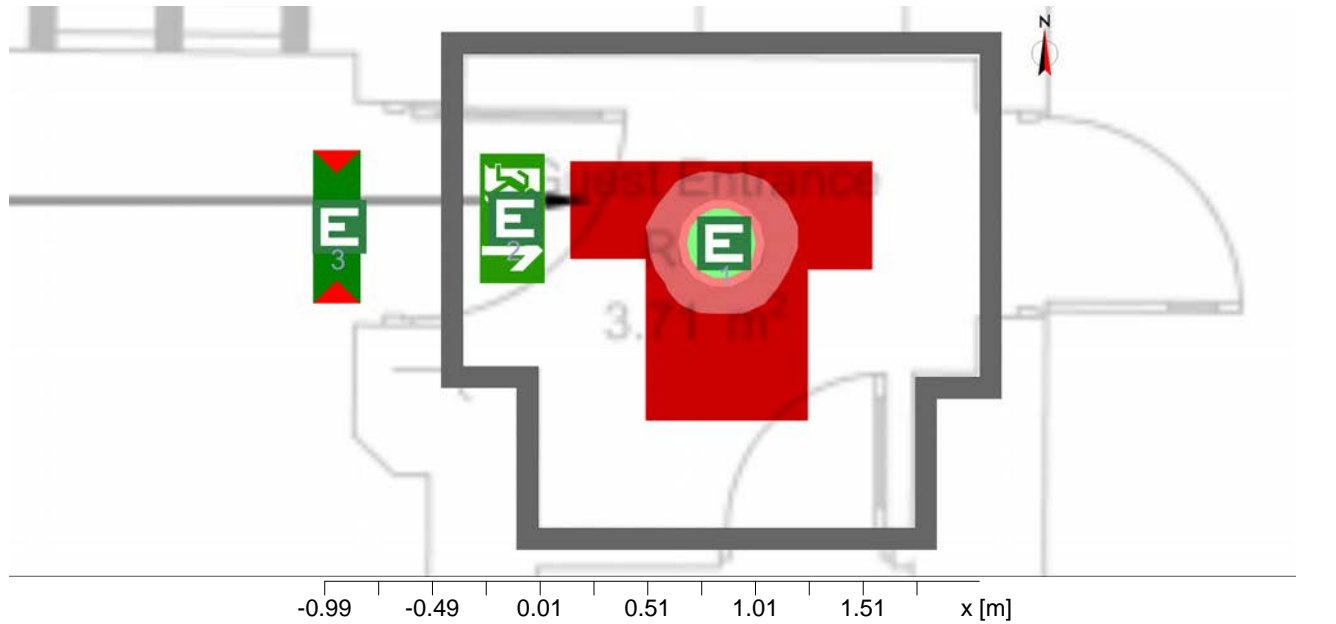
Type No.Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 1E x | Intulux Lighting | | |
|  | | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
| | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |

14 Guest Entrance

14.3 Summary, Guest Entrance

14.3.1 Result overview (emergency lighting)

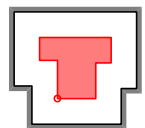


General



Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : -variable-
 Maximum I : 140 cd

Anti panic area:

| No. | Surface Emin [lx] | Surface Emax [lx] | Ud |
|--|-------------------|-------------------|-----------|
| Anti panic area 1.1 | | | |
| Calculation field: 1.4m x 1.2m (6 x 5 pts), Height = 0.00m | | | |
| 1 | 15.95 lx | 20.79 lx | 1: 1.30 |
| | >= 0.5 lx | | >= 1 : 40 |



Type No. Make


- Intulux Lighting**
- 4 1E x  Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)
 - 6 1E x  Order No. : EBHM3MLEDBL -- Emergency Lighting --
 Luminaire name : E2
 Equipment : 1 x LED 5 W / 250 lm (0%)
 Emergency : 250 lm

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

14 Guest Entrance

14.3 Summary, Guest Entrance

14.3.1 Result overview (emergency lighting)

| | | | | |
|---|------|----------------|----------------------|--------------------------|
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024



15 Sports Hall

15.1 Description, Sports Hall

15.1.1 Luminaire data/Room elements

Product data:

Type No./Make

- Intulux Lighting**
- 19 4 x  Order No. : !LBLS82.54KWB
 Luminaire name : H
 Equipment : 1 x LED 82.5 W / 12891 lm
- 20 2E x  Order No. : !LBLS82.54KWBEM -- Emergency Lighting --
 Luminaire name : HE
 Equipment : 1 x LED 82.5 W / 12891 lm
 Emergency : 450 lm (3.5 %)

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|--|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting H !LBLS82.54KWB | | | | | | | | | |
| 1.1 | 1.73 | 1.84 | 4.82 | 0.00 | 0.00 | 0.00 | 1.72 | 1.84 | 0.00 |
| 1.3 | 1.73 | 5.53 | 4.82 | 0.00 | 0.00 | 0.00 | 1.72 | 5.53 | 0.00 |
| 1.4 | 5.17 | 5.53 | 4.82 | 0.00 | 0.00 | 0.00 | 5.17 | 5.53 | 0.00 |
| 1.6 | 5.17 | 9.21 | 4.82 | 0.00 | 0.00 | 0.00 | 5.17 | 9.21 | 0.00 |
| Intulux Lighting HE !LBLS82.54KWBEM | | | | | | | | | |
| E 1.2 | 5.17 | 1.84 | 4.82 | 0.00 | 0.00 | 0.00 | 5.17 | 1.84 | 0.00 |
| E 1.5 | 1.73 | 9.21 | 4.82 | 0.00 | 0.00 | 0.00 | 1.72 | 9.21 | 0.00 |

E : Active in Emergency

Structural elements

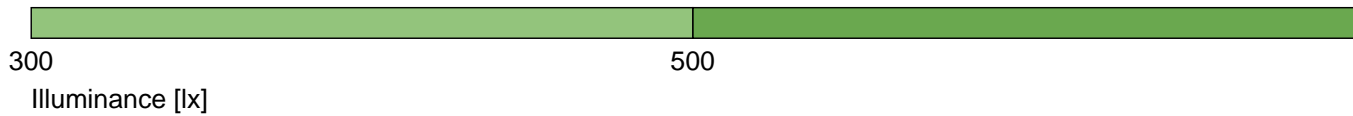
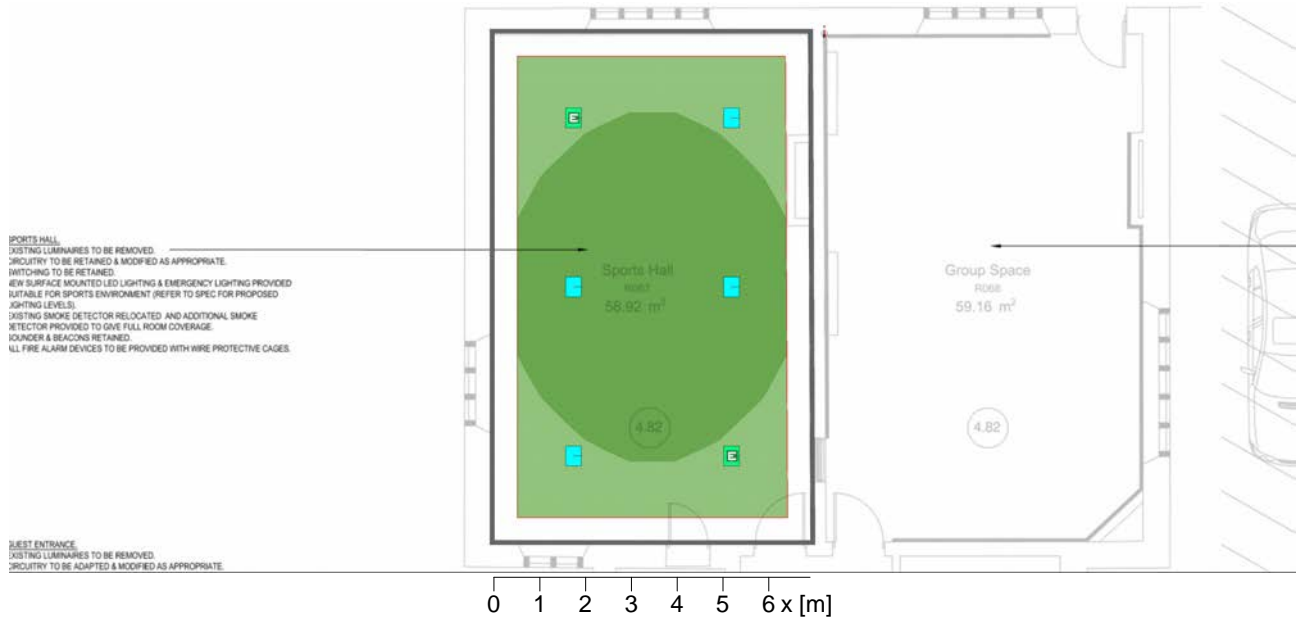
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.50 | 0.00 | 5.90 | 10.05 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 6.90 | 0.00 | 0.00 | 5.90 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 6.85 | 11.05 | 0.00 | 0.05 | 10.05 | 0.00 | 90.00 | -89.74 |
| M 1.3 (W) | 0.00 | 11.05 | 0.00 | 5.85 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 10.05 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.50 | 10.55 | 4.82 | 5.90 | 10.05 | 180.00 | 0.00 | 180.00 |

15 Sports Hall

15.2 Summary, Sports Hall

15.2.1 Result overview, Evaluation area 1



General

| | |
|--|--|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 4.82 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 77346.00 lm |
| Total power | 495.0 W |
| Total power per area (75.97 m ²) | 6.52 W/m ² (1.24 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 524 lx | 213 lx |
| E_{min} | 397 lx | 168 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.76 | 0.79 |
| $E_{min}/E_{max} (U_d)$ | 0.62 | |
| E_z/E_h | | 0.38 |
| Position | 0.00 m | 0.45 m |
| RUG (3.1H 1.9H) | 10.0 | |

Luminaire :

(H, ILBLS82.54KWB)

Hints:

- Encountered room dimensions less than 2H. RUG value has been set to 10 as lower limit.

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 131 lx | 0.92 |
| M 1.1 (Wall) | 337 lx | 0.52 |
| M 1.2 (Wall) | 355 lx | 0.47 |
| M 1.3 (Wall) | 338 lx | 0.52 |
| M 1.4 (Wall) | 352 lx | 0.48 |



Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

15 Sports Hall

15.2 Summary, Sports Hall

15.2.1 Result overview, Evaluation area 1

Type No.Make

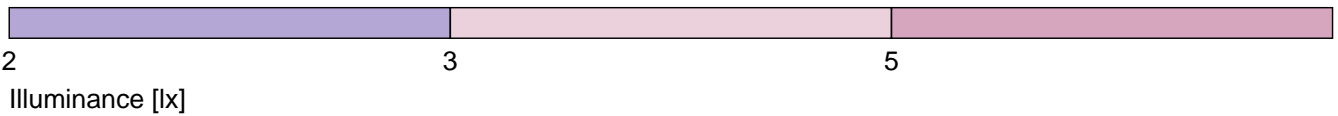
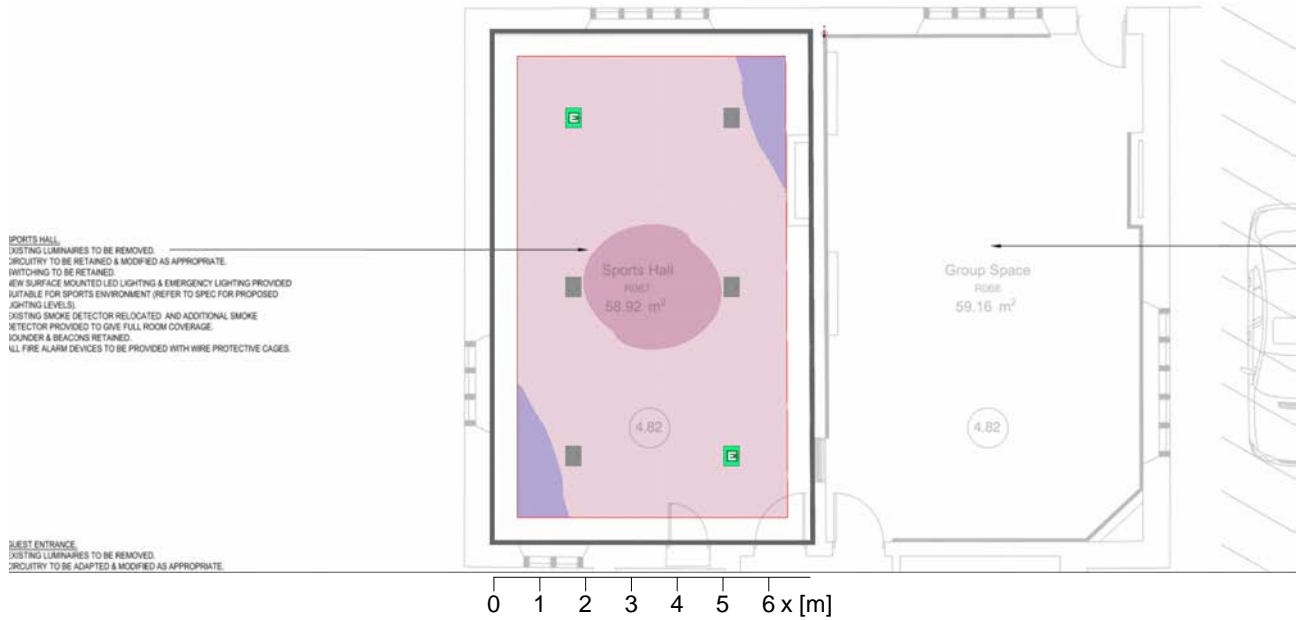
| | | Intulux Lighting | |
|---|------|-------------------------|--|
| 19 | 4 x | Order No. | : !LBLS82.54KWB |
|  | | Luminaire name | : H |
| | | Equipment | : 1 x LED 82.5 W / 12891 lm |
| 20 | 2E x | Order No. | : !LBLS82.54KWBEM -- Emergency Lighting -- |
|  | | Luminaire name | : HE |
| | | Equipment | : 1 x LED 82.5 W / 12891 lm |
| | | Emergency | : 450 lm (3.5 %) |

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024

15 Sports Hall

15.3 Summary, Sports Hall

15.3.1 Result overview (emergency lighting)

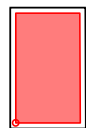


General


Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 4.77 m
 Maximum I : 180 cd $\leq 5000\text{ cd}$

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|----------------------|-----------|-------------|
| 1 | Anti panic area 1.1 | 2.08 lx | 5.48 lx | 1: 2.63 |
| | | $\geq 0.5\text{ lx}$ | | $\geq 1:40$ |



Type No. Make

Intulux Lighting
 20 2E x  Order No. : !LBLS82.54KWBEM -- Emergency Lighting --
 Luminaire name : HE
 Equipment : 1 x LED 82.5 W / 12891 lm
 Emergency : 450 lm (3.5 %)





16 Group Space

16.1 Description, Group Space

16.1.1 Luminaire data/Room elements

Product data:

Type No.\Make

| | | | | |
|---|------|-------------------------|-----------------------------|--------------------------|
| | | Intulux Lighting | | |
| 6 | 1E x | Order No. | : EBHM3MLEDBL | -- Emergency Lighting -- |
|  | | Luminaire name | : E2 | |
| | | Equipment | : 1 x LED 5 W / 250 lm (0%) | |
| | | Emergency | : 250 lm | |
| | | | | |
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |
| | | | | |
| 13 | 4 x | Order No. | : !FWLED6684KSK | |
|  | | Luminaire name | : A3 | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| | | | | |
| 14 | 2E x | Order No. | : !FWLED6684KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A3E | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| | | Emergency | : 485 lm (5.9 %) | |

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|--|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting E2 EBHM3MLEDBL | | | | | | | | | |
| XE 2 | 6.11 | 11.23 | 4.82 | 90.00 | 0.00 | 0.00 | 6.15 | 13.45 | 0.00 |
| Intulux Lighting EXIT/B FEBLEDS3MNMST | | | | | | | | | |
| XE 1 | 6.11 | 10.71 | 4.82 | 90.00 | 0.00 | 0.00 | 6.11 | 10.95 | 4.65 |
| Intulux Lighting A3 !FWLED6684KSK | | | | | | | | | |
| 1.2 | 5.10 | 1.83 | 3.00 | 270.00 | 0.00 | 0.00 | 5.10 | 1.83 | 0.00 |
| 1.3 | 1.70 | 5.47 | 3.00 | 270.00 | 0.00 | 0.00 | 1.70 | 5.47 | 0.00 |
| 1.4 | 5.10 | 5.47 | 3.00 | 270.00 | 0.00 | 0.00 | 5.10 | 5.47 | 0.00 |
| 1.5 | 1.70 | 9.13 | 3.00 | 270.00 | 0.00 | 0.00 | 1.70 | 9.13 | 0.00 |
| Intulux Lighting A3E !FWLED6684KSKEMF | | | | | | | | | |
| E 1.1 | 1.70 | 1.83 | 3.00 | 270.00 | 0.00 | 0.00 | 1.70 | 1.83 | 0.00 |
| E 1.6 | 5.10 | 9.13 | 3.00 | 270.00 | 0.00 | 0.00 | 5.10 | 9.13 | 0.00 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | | | | | | | | |
| | 0.50 | 0.50 | 0.75 | 5.80 | 9.95 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 5.60 | 0.00 | 0.00 | 4.60 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 6.80 | 1.15 | 0.00 | 0.84 | 0.80 | 0.00 | 90.00 | -136.22 |
| M 1.3 (W) | 6.80 | 10.95 | 0.00 | 0.00 | 8.80 | 0.00 | 90.00 | -90.00 |

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

16 Group Space

16.1 Description, Group Space

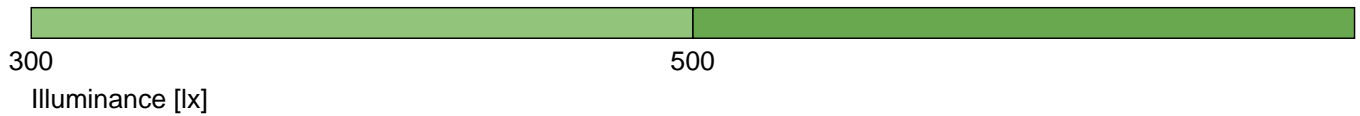
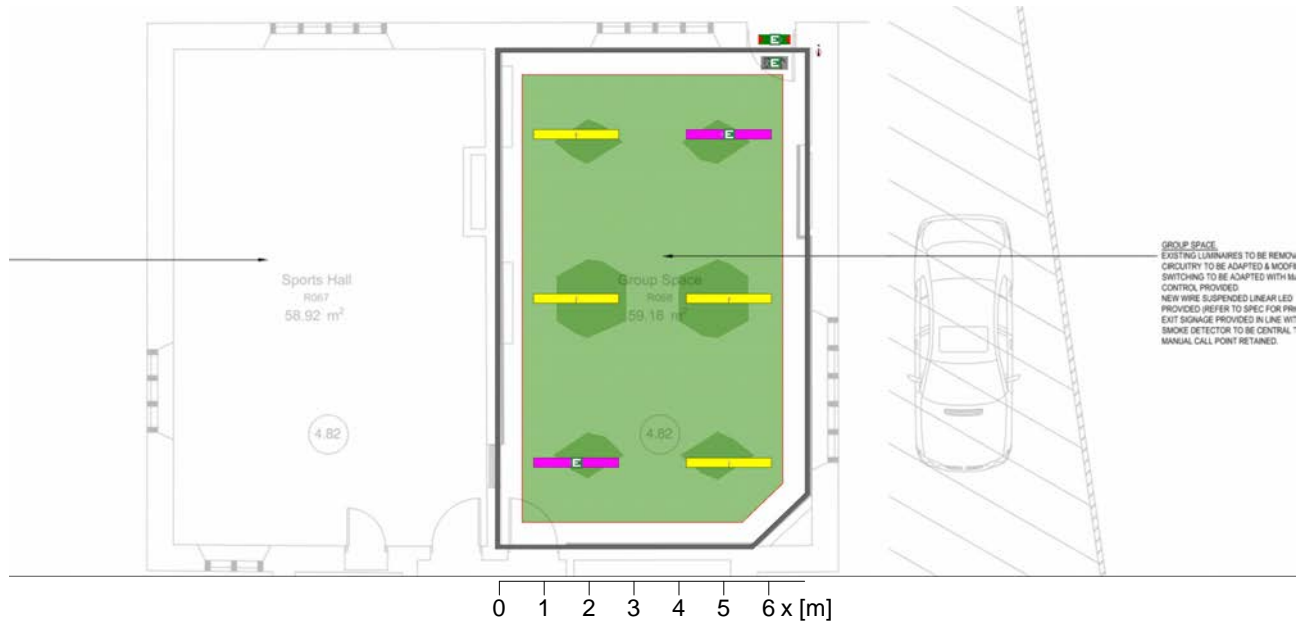
16.1.1 Luminaire data/Room elements

| | | | | | | | | |
|----------|------|-------|------|------|------|--------|-------|--------|
| M 1.4 (W | 0.00 | 10.95 | 0.00 | 5.80 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.5 (W | 0.00 | 0.00 | 0.00 | 0.00 | 9.95 | 0.00 | 90.00 | 90.00 |
| M 1.6 (R | 0.50 | 10.45 | 4.82 | 5.80 | 9.95 | 180.00 | 0.00 | 180.00 |

16 Group Space

16.2 Summary, Group Space

16.2.1 Result overview, Evaluation area 1



General

| | |
|---------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Maintenance factor | 0.80 |
| Total luminous flux | 49530.00 lm |
| Total power | 408.0 W |
| Total power per area (73.77 m²) | 5.53 W/m² (1.24 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|-------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 447 lx | 198 lx |
| E_{min} | 363 lx | 172 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.81 | 0.87 |
| $E_{min}/E_{max} (U_d)$ | 0.64 | |
| E_z/E_h | | 0.41 |
| Position | 0.75 m | 1.20 m |
| RUG (3.9H 6.2H) | ≤ 20.9 | |
| Luminaire : | | |
| (A3E, IFWLED6684KSKEMF) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.6 (Ceiling) | 100 lx | 0.81 |
| M 1.1 (Wall) | 190 lx | 0.45 |
| M 1.2 (Wall) | 206 lx | 0.40 |
| M 1.3 (Wall) | 184 lx | 0.41 |
| M 1.4 (Wall) | 188 lx | 0.47 |
| M 1.5 (Wall) | 183 lx | 0.41 |



Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

16 Group Space

16.2 Summary, Group Space

16.2.1 Result overview, Evaluation area 1

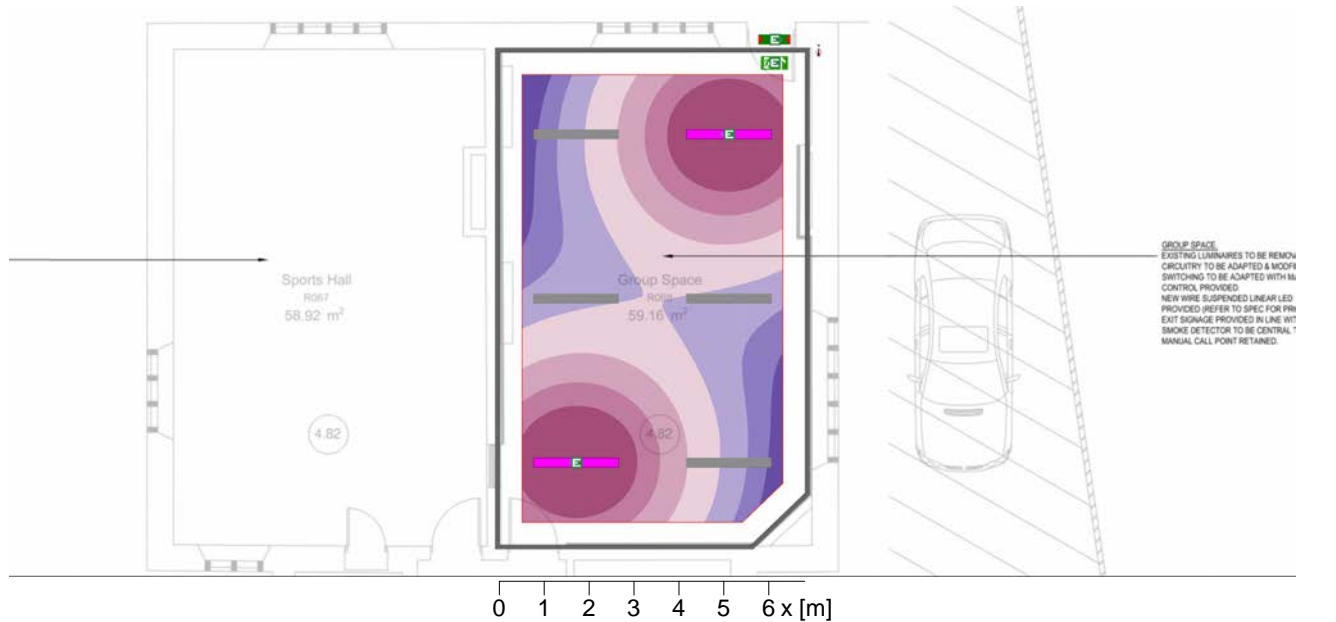
Type No. Make

| | | Intulux Lighting | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 13 | 4 x | Order No. | : !FWLED6684KSK | |
|  | | Luminaire name | : A3 | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| 14 | 2E x | Order No. | : !FWLED6684KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A3E | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| | | Emergency | : 485 lm (5.9 %) | |

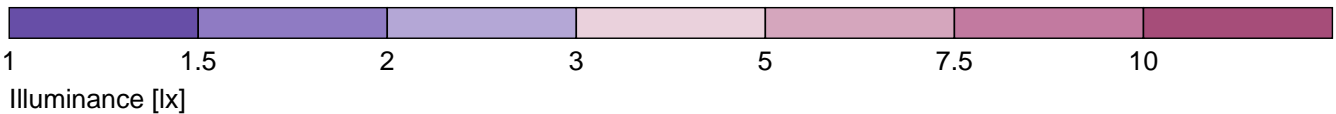
16 Group Space

16.3 Summary, Group Space

16.3.1 Result overview (emergency lighting)



GROUP SPACE
 EXISTING LUMINAIRES TO BE REMOVED
 CIRCUITRY TO BE ADAPTED & MODIFIED
 SWITCHING TO BE ADAPTED WITH MLC
 CONTROL PROVIDED
 NEW WIRE SUSPENDED LINEAR LED
 PROVIDED (REFER TO SPEC FOR PH)
 EXIT SIGNAGE PROVIDED IN LINE WITH
 SMOKE DETECTOR TO BE CENTRAL
 MANUAL CALL POINT RETAINED.

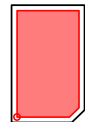


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) -variable-
 Maximum I : 170 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|-----------|-----------|-----------|
| 1 | Anti panic area 1.1 | 1.01 lx | 14.35 lx | 1: 14.14 |
| | | >= 0.5 lx | | >= 1 : 40 |



Type No. Make

- Intulux Lighting**
- 6 1E x Order No. : EBHM3MLEDBL -- Emergency Lighting --
 Luminaire name : E2
 Equipment : 1 x LED 5 W / 250 lm (0%)
 Emergency : 250 lm
 - 8 1E x Order No. : FEBLEDS3MNMST -- Emergency Lighting --
 Luminaire name : EXIT/B
 Equipment : 1 x / 14.9 lm (0%)
 Emergency : 14.9 lm

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

16 Group Space

16.3 Summary, Group Space

16.3.1 Result overview (emergency lighting)

| | | | | |
|----|------|----------------|--------------------------|--------------------------|
| 14 | 2E x | Order No. | : !FWLED6684KSKEMF | -- Emergency Lighting -- |
| | | Luminaire name | : A3E | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| | | Emergency | : 485 lm (5.9 %) | |




17 Breakout Space

17.1 Description, Breakout Space

17.1.1 Luminaire data/Room elements

Product data:

Type No./Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| | | Intulux Lighting | | |
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |
| | | | | |
| 13 | 1 x | Order No. | : !FWLED6684KSK | |
|  | | Luminaire name | : A3 | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| | | | | |
| 14 | 2E x | Order No. | : !FWLED6684KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A3E | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| | | Emergency | : 485 lm (5.9 %) | |

| No. | Centre point | | | Rotation angle | | Target coordinates | | | |
|--|--------------|-------|-------|----------------|--------|--------------------|--------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting EXIT/B FEBLEDS3MNMST | | | | | | | | | |
| XE 1 | 2.45 | 0.25 | 4.86 | 90.00 | 0.00 | 0.00 | 2.45 | 4.45 | 3.17 |
| Intulux Lighting A3 !FWLED6684KSK | | | | | | | | | |
| 1.2 | 3.52 | 2.23 | 3.00 | 0.00 | 0.00 | 0.00 | 3.52 | 2.23 | 0.00 |
| Intulux Lighting A3E !FWLED6684KSKEMF | | | | | | | | | |
| E 1.1 | 1.16 | 2.23 | 3.00 | 0.00 | 0.00 | 0.00 | 1.16 | 2.23 | 0.00 |
| E 1.3 | 5.89 | 2.23 | 3.00 | 0.00 | 0.00 | 0.00 | 5.89 | 2.23 | 0.00 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

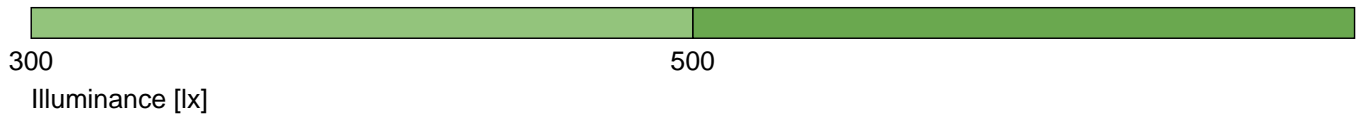
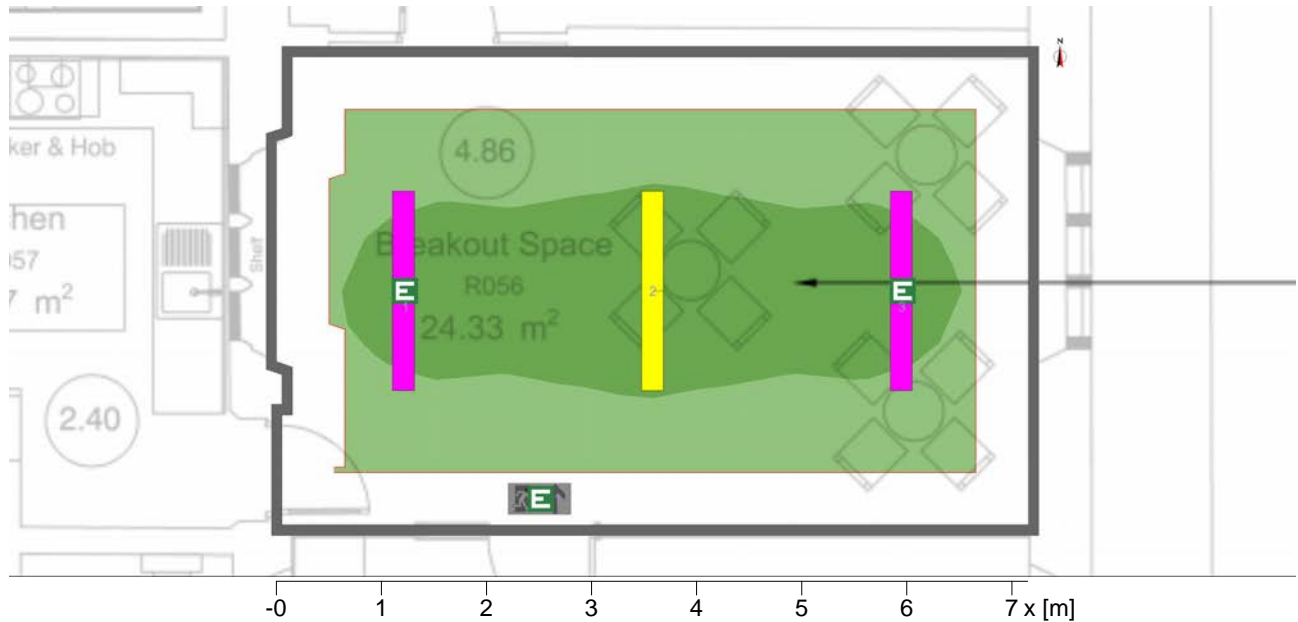
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane | 1.1 | | | | | | | |
| | 0.45 | 1.91 | 0.75 | 6.15 | 3.45 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 7.10 | 0.00 | 0.00 | 6.10 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 7.10 | 4.45 | 0.00 | 0.00 | 3.45 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 0.10 | 4.45 | 0.00 | 6.00 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.05 | 1.55 | 0.00 | 0.00 | 1.47 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.45 | 3.29 | 4.86 | 6.15 | 3.45 | 180.00 | 0.00 | 180.00 |

17 Breakout Space

17.2 Summary, Breakout Space

17.2.1 Result overview, Evaluation area 1



General

| | |
|---------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Maintenance factor | 0.80 |
| Total luminous flux | 24765.00 lm |
| Total power | 204.0 W |
| Total power per area (31.58 m²) | 6.46 W/m² (1.34 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|-------------|-------------|
| \bar{E}_m | 483 lx | cylindrical |
| E_{min} | 354 lx | 196 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.73 | 0.87 |
| $E_{min}/E_{max} (U_d)$ | 0.56 | |
| E_z/E_h | | 0.36 |
| Position | 0.75 m | 1.20 m |
| RUG (2.5H 4.1H) | ≤ 19.4 | |
| Luminaire : | | |
| (A3E, !FWLED6684KSKEMF) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 93 lx | 0.80 |
| M 1.1 (Wall) | 167 lx | 0.43 |
| M 1.2 (Wall) | 214 lx | 0.35 |
| M 1.3 (Wall) | 167 lx | 0.43 |
| M 1.4 (Wall) | 237 lx | 0.33 |



Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

17 Breakout Space

17.2 Summary, Breakout Space

17.2.1 Result overview, Evaluation area 1

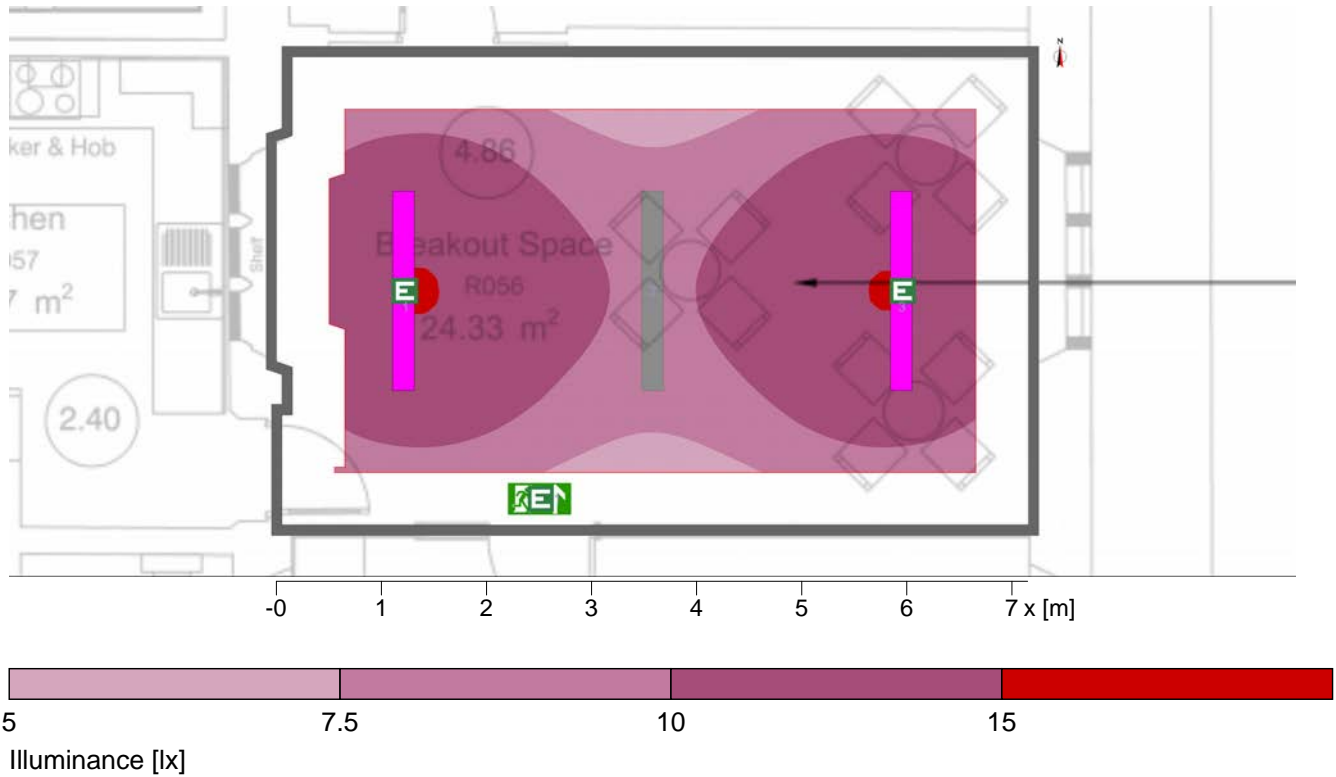
Type No.Make

| | | Intulux Lighting | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 13 | 1 x | Order No. | : !FWLED6684KSK | |
|  | | Luminaire name | : A3 | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| 14 | 2E x | Order No. | : !FWLED6684KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A3E | |
| | | Equipment | : 1 x LED 68 W / 8255 lm | |
| | | Emergency | : 485 lm (5.9 %) | |

17 Breakout Space

17.3 Summary, Breakout Space

17.3.1 Result overview (emergency lighting)

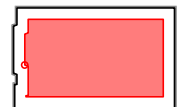


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) -variable-
 Maximum I : 170 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|-----------|-----------|-----------|
| 1 | Anti panic area 1.1 | 6.51 lx | 15.14 lx | 1: 2.33 |
| | | >= 0.5 lx | | >= 1 : 40 |

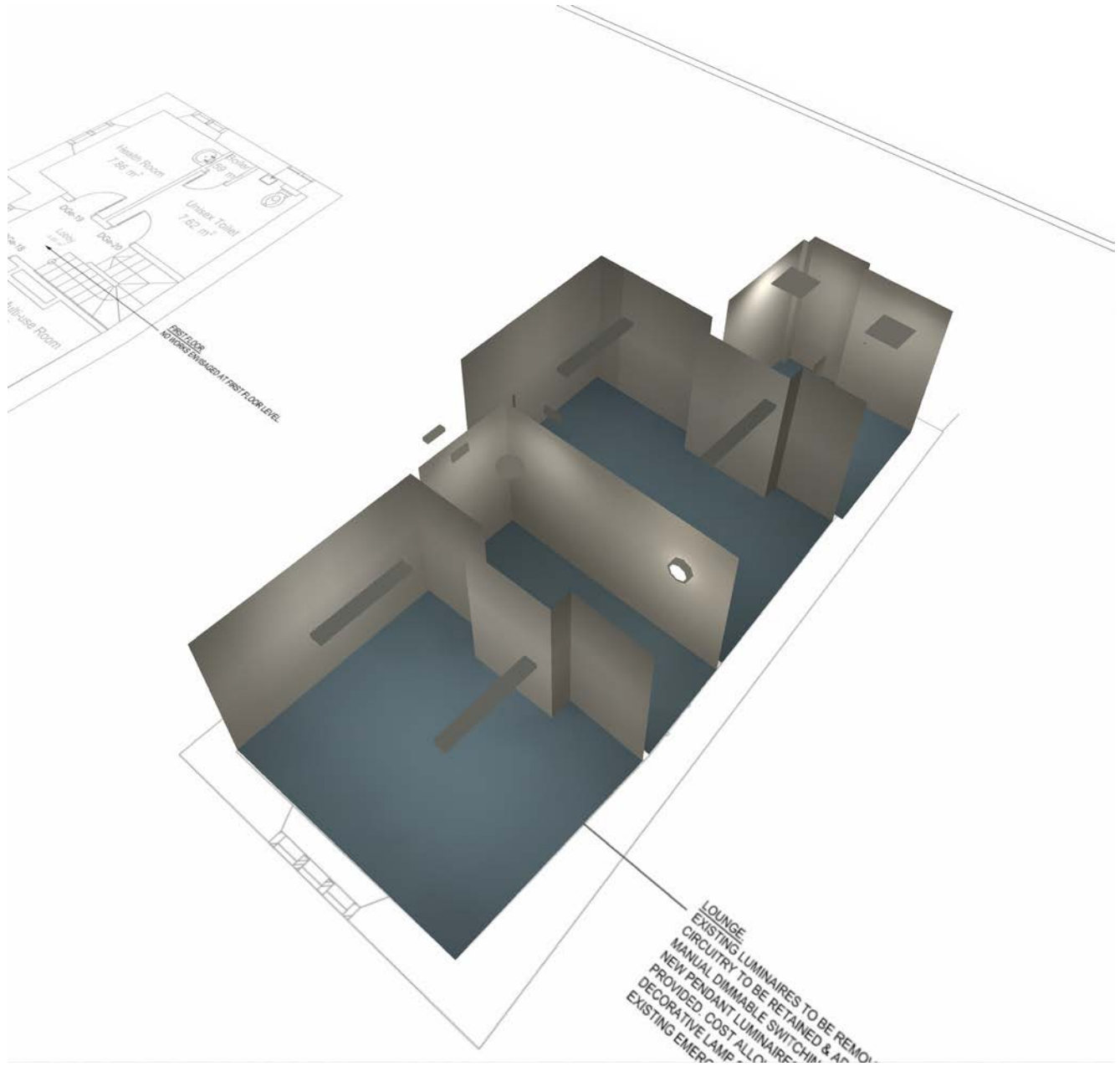


Type No. Make

| Type | No. | Make | Order No. | Equipment | Emergency |
|------|------|------------------|------------------------------------|--------------------------|--------------------------|
| 8 | 1E x | Intulux Lighting | : FEBLEDS3MMST | : 1 x / 14.9 lm (0%) | -- Emergency Lighting -- |
| | | | Luminaire name : EXIT/B | | |
| | | | Equipment : 1 x / 14.9 lm (0%) | | |
| | | | Emergency : 14.9 lm | | |
| 14 | 2E x | | : !FWLED6684KSKEMF | : 1 x LED 68 W / 8255 lm | -- Emergency Lighting -- |
| | | | Luminaire name : A3E | | |
| | | | Equipment : 1 x LED 68 W / 8255 lm | | |
| | | | Emergency : 485 lm (5.9 %) | | |

Description, Coach House

.1 Floor 3D



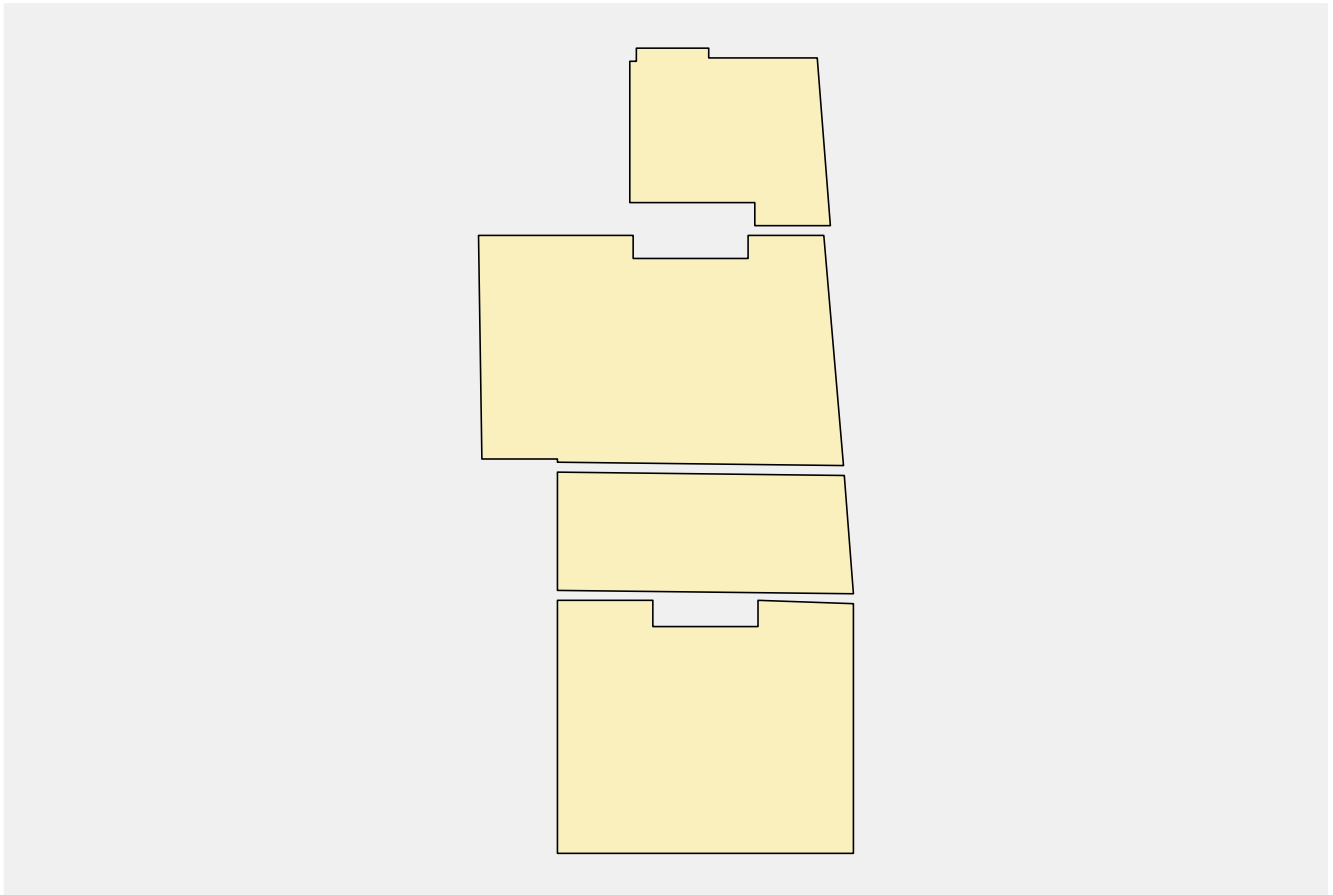
Description, Coach House

.2 Floor plan



Summary, Coach House

.3 Floor overview



| | | |
|----------------------|-----------------------|------------|
| Number of rooms | 4 | |
| Total area | 50 m ² | Calculated |
| Number of luminaires | 13 | |
| Total luminous flux | 37490 lm | |
| Total power | 313 W | |
| Total power per area | 6.31 W/m ² | |







Parts list

Type No. Make

| | | Intulux Lighting | | |
|---|------|-------------------------|--------------------------------|--------------------------|
| 1 | 1 x | Order No. | : !FWLED5384KSK | |
| | | Luminaire name | : A1 | |
| | | Equipment | : 1 x LED 38 W / 4613 lm | |
| 2 | 1E x | Order No. | : !FWLED5384KSKEMF | -- Emergency Lighting -- |
| | | Luminaire name | : A1E | |
| | | Equipment | : 1 x LED 38 W / 4613 lm | |
| | | Emergency | : 485 lm (10.5 %) | |
| 3 | 2 x | Order No. | : !P322X24K | |
| | | Luminaire name | : B | |
| | | Equipment | : 1 x LED 4000k 34 W / 3600 lm | |

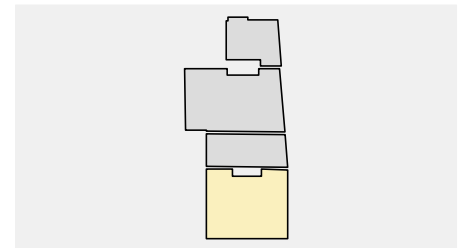
Summary, Coach House

.3 Floor overview

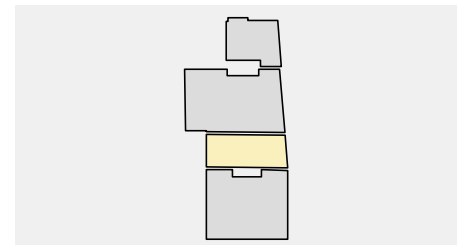
| | |
|--|--|
| <p>4 3E x</p>  | <p>Order No. : !FBHLED214K/EMF -- Emergency Lighting -- Luminaire name : C1E Equipment : 1 x LED 21 W / 2732 lm Emergency : 520 lm (19.0 %)</p> |
| <p>6 1E x</p>  | <p>Order No. : EBHM3MLEDBL -- Emergency Lighting -- Luminaire name : E2 Equipment : 1 x LED 5 W / 250 lm (0%) Emergency : 250 lm</p> |
| <p>7 1E x</p>  | <p>Order No. : FDLLEDPS1.5EMFOA -- Emergency Lighting -- Luminaire name : E1 Equipment : 1 x 1*LED / 201 lm (0%) Emergency : 201 lm</p> |
| <p>8 2E x</p>  | <p>Order No. : FEBLEDS3MNMST -- Emergency Lighting -- Luminaire name : EXIT/B Equipment : 1 x / 14.9 lm (0%) Emergency : 14.9 lm</p> |
| <p>10 1 x</p>  | <p>Order No. : !FWLED5534KSK Luminaire name : A2 Equipment : 1 x LED 53 W / 6434 lm</p> |
| <p>11 1E x</p>  | <p>Order No. : !FWLED5534KSKEMF -- Emergency Lighting -- Luminaire name : A2E Equipment : 1 x LED 53 W / 6434 lm Emergency : 485 lm (7.5 %)</p> |

Rooms

| | |
|------------------------------|----------------|
| Contact Lounge | 2 x Luminaires |
| Total luminous flux | 12868 lm |
| Total power | 106 W |
| Total power per area (17 m²) | 6.37 W/m² |
| \bar{E}_m | 464 lx |
| E_{min} | 341 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.74 |
| RUG | <=18.0 |



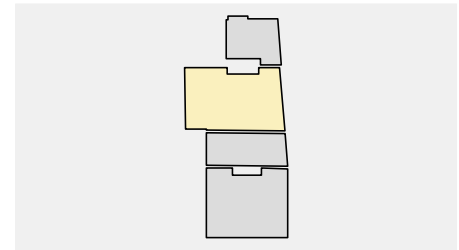
| | |
|-----------------------------|----------------|
| Stairs | 5 x Luminaires |
| Total luminous flux | 8196 lm |
| Total power | 63 W |
| Total power per area (8 m²) | 7.90 W/m² |
| \bar{E}_m | 237 lx |
| E_{min} | 179 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.76 |
| RUG | --- |



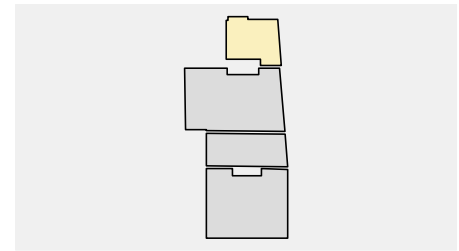
Summary, Coach House

.3 Floor overview

| | |
|---|-----------------------|
| Reception | 3 x Luminaires |
| Total luminous flux | 9226 lm |
| Total power | 76 W |
| Total power per area (18 m ²) | 4.23 W/m ² |
| \bar{E}_m | 306 lx |
| E_{min} | 247 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.81 |
| RUG | ≤ 17.4 |



| | |
|--|-----------------------|
| Kitchen | 3 x Luminaires |
| Total luminous flux | 7200 lm |
| Total power | 68 W |
| Total power per area (7 m ²) | 9.69 W/m ² |
| \bar{E}_m | 408 lx |
| E_{min} | 323 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.79 |
| RUG | 10.0 |



Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024



1 Contact Lounge

1.1 Description, Contact Lounge

1.1.1 Luminaire data/Room elements

Product data:

Type No./Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| | | Intulux Lighting | | |
| 10 | 1 x | Order No. | : !FWLED5534KSK | |
|  | | Luminaire name | : A2 | |
| | | Equipment | : 1 x LED 53 W / 6434 lm | |
| | | | | |
| 11 | 1E x | Order No. | : !FWLED5534KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A2E | |
| | | Equipment | : 1 x LED 53 W / 6434 lm | |
| | | Emergency | : 485 lm (7.5 %) | |

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|--|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting A2 !FWLED5534KSK | | | | | | | | | |
| 1.2 | 3.38 | 1.92 | 2.80 | 0.00 | 0.00 | 0.00 | 3.37 | 1.92 | 0.00 |
| Intulux Lighting A2E !FWLED5534KSKEMF | | | | | | | | | |
| E 1.1 | 1.13 | 1.92 | 2.80 | 0.00 | 0.00 | 0.00 | 1.12 | 1.92 | 0.00 |

E : Active in Emergency

Structural elements

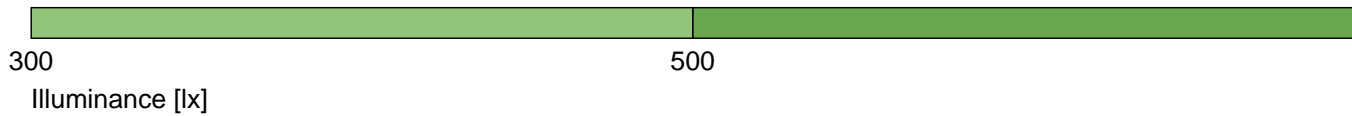
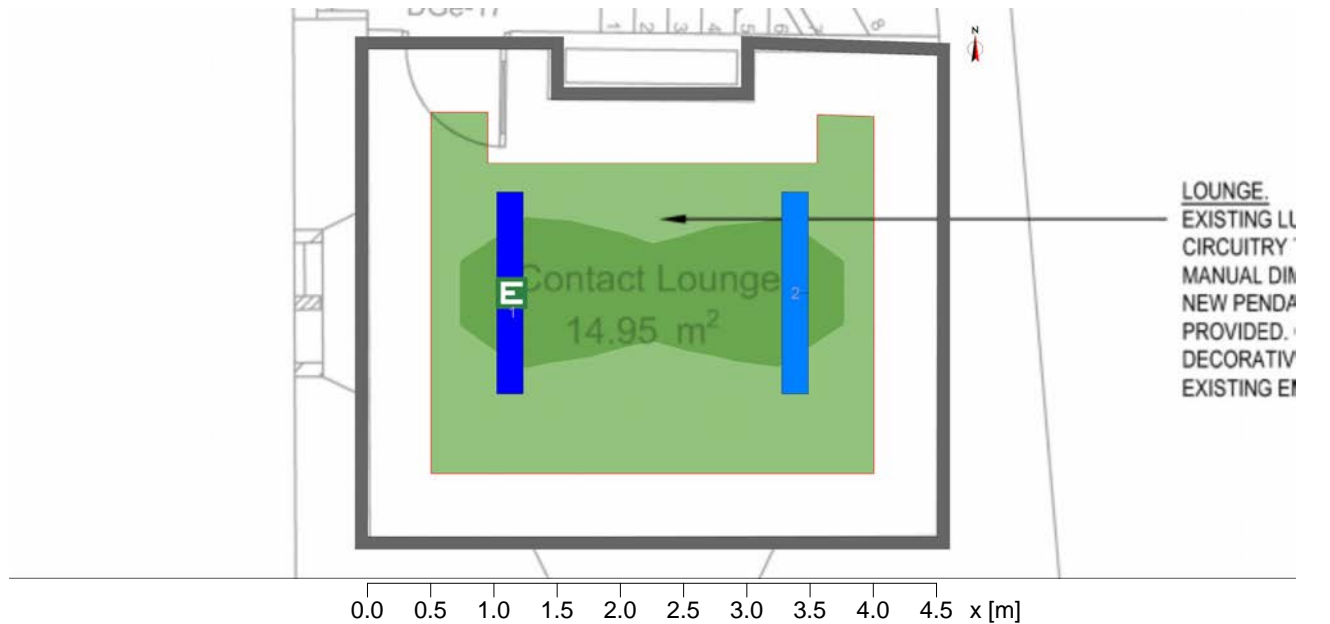
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | 0.50 | 0.50 | 0.75 | 3.50 | 2.85 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 4.50 | -0.00 | 0.00 | 3.66 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.2 (W) | 4.50 | 3.80 | 0.00 | 0.00 | 2.96 | 0.00 | 90.00 | -90.00 |
| M 1.3 (W) | 1.45 | 3.45 | 0.00 | 1.12 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 0.00 | 90.00 | 90.00 |
| M 1.5 (Ro) | 0.50 | 3.35 | 2.80 | 3.50 | 2.85 | 180.00 | 0.00 | 180.00 |

1 Contact Lounge

1.2 Summary, Contact Lounge

1.2.1 Result overview, Evaluation area 1



General

| | |
|---------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.80 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 12868.00 lm |
| Total power | 106.0 W |
| Total power per area (16.65 m²) | 6.37 W/m² (1.37 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|--------|-------------|
| \bar{E}_m | 464 lx | cylindrical |
| E_{min} | 341 lx | 182 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.74 | 161 lx |
| $E_{min}/E_{max} (U_d)$ | 0.62 | 0.88 |
| E_z/E_h | | 0.33 |
| Position | 0.75 m | 1.20 m |
| RUG (2.5H 2.9H) | <=18.0 | |
| Luminaire : | | |
| (A2E, IFWLED5534KSKEMF) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.5 (Ceiling) | 145 lx | 0.62 |
| M 1.1 (Wall) | 215 lx | 0.87 |
| M 1.2 (Wall) | 265 lx | 0.67 |
| M 1.3 (Wall) | 246 lx | 0.74 |
| M 1.4 (Wall) | 264 lx | 0.66 |

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

1 Contact Lounge

1.2 Summary, Contact Lounge

1.2.1 Result overview, Evaluation area 1

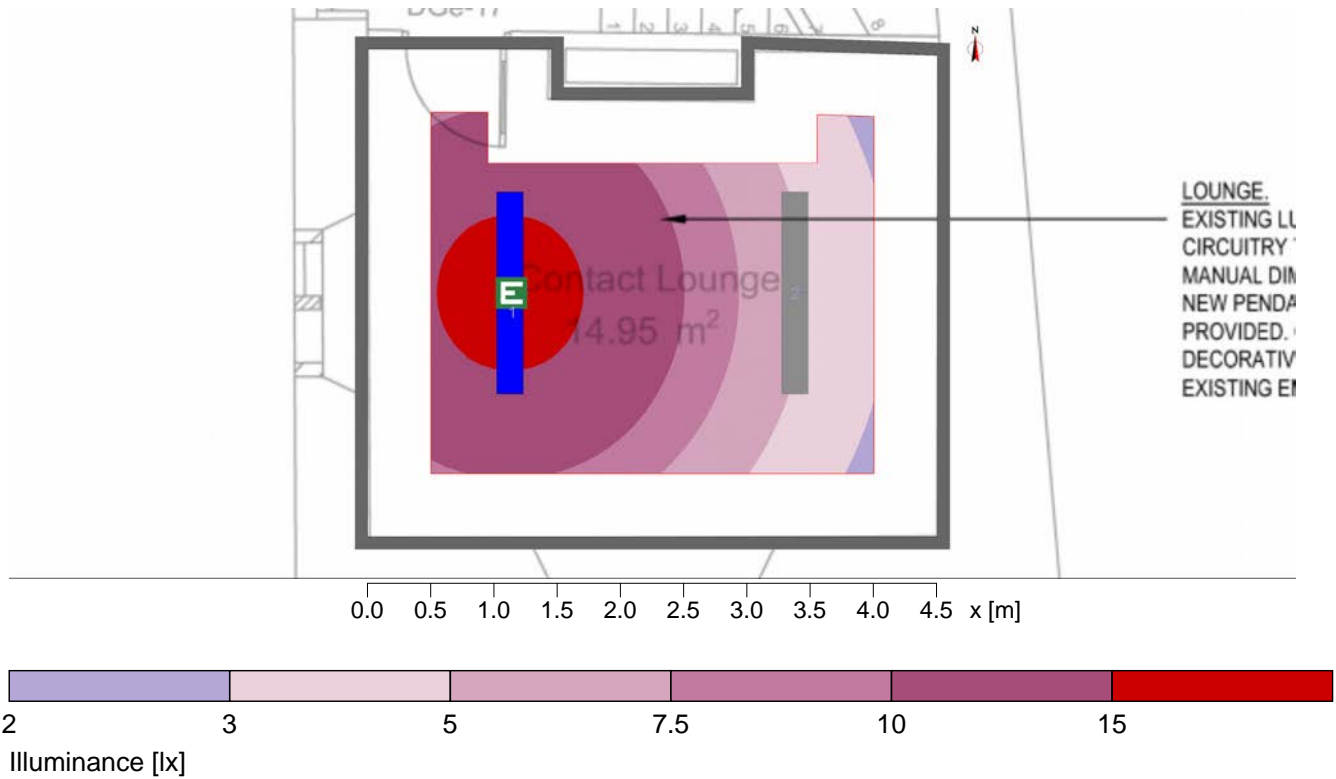
Type No.Make

| Type No. | Make | Order No. | Equipment | Emergency |
|----------|------|------------------|------------------------|--------------------------|
| 10 | 1 x | !FWLED5534KSK | 1 x LED 53 W / 6434 lm | |
| 11 | 1E x | !FWLED5534KSKEMF | 1 x LED 53 W / 6434 lm | -- Emergency Lighting -- |

1 Contact Lounge

1.3 Summary, Contact Lounge

1.3.1 Result overview (emergency lighting)



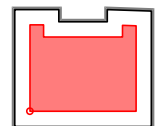
General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.76 m
 Maximum I : 170 cd <= 900 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|-----------|-----------|-----------|
| 1 | Anti panic area 1.1 | 2.56 lx | 16.43 lx | 1: 6.42 |
| | | >= 0.5 lx | | >= 1 : 40 |

Calculation field: 3.5m x 2.85m (7 x 6 pts), Height = 0.00m



Type No. Make

| Type No. | Make | Order No. | Equipment | Emergency |
|----------|------------------|--------------------|--------------------------|--------------------------|
| 11 | Intulux Lighting | : !FWLED5534KSKEMF | : 1 x LED 53 W / 6434 lm | : 485 lm (7.5 %) |
| | | : A2E | | |
| | | | | -- Emergency Lighting -- |




2 Stairs

2.1 Description, Stairs

2.1.1 Luminaire data/Room elements

Product data:

Type No.\Make

| | | | | |
|---|------|-------------------------|-----------------------------|--------------------------|
| | | Intulux Lighting | | |
| 4 | 3E x | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
|  | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |
| | | | | |
| 6 | 1E x | Order No. | : EBHM3MLEDBL | -- Emergency Lighting -- |
|  | | Luminaire name | : E2 | |
| | | Equipment | : 1 x LED 5 W / 250 lm (0%) | |
| | | Emergency | : 250 lm | |
| | | | | |
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |

| No. | Centre point | | | Rotation angle | | Target coordinates | | | |
|--|--------------|-------|-------|----------------|--------|--------------------|--------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting C1E !FBHLED214K/EMF | | | | | | | | | |
| E 1 | 0.92 | 0.92 | 2.80 | 0.00 | 0.00 | 0.00 | 0.91 | 0.92 | 0.00 |
| E 2 | 3.49 | -0.04 | 1.80 | 89.36 | 0.00 | -90.00 | 3.51 | 1.76 | 1.80 |
| E 3 | 3.50 | 1.76 | 1.80 | 269.34 | 0.00 | -90.00 | 3.48 | -0.04 | 1.80 |
| Intulux Lighting E2 EBHM3MLEDBL | | | | | | | | | |
| XE 5 | -0.33 | 0.63 | 2.80 | 0.00 | 0.00 | 0.00 | -0.00 | 0.63 | 2.05 |
| Intulux Lighting EXIT/B FEBLEDS3MNMST | | | | | | | | | |
| XE 4 | 0.18 | 0.65 | 2.80 | 0.00 | 0.00 | 0.00 | 4.45 | 0.65 | 1.09 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

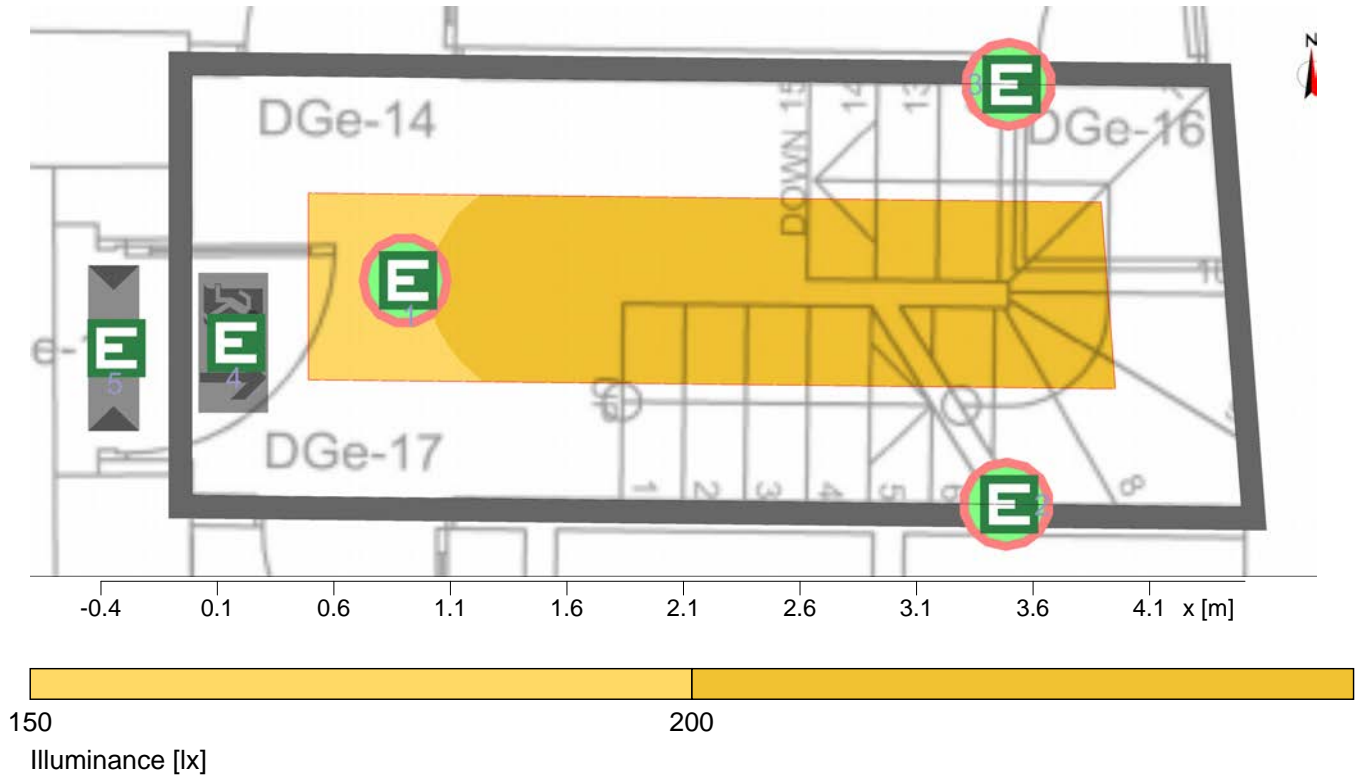
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|------------|-------|-------|-------|--------|-------|--------|----------------|--------|
| | | | | | | | L axis | Q axis |
| Ref. plane | 1.1 | | | | | | | |
| | 0.50 | 0.49 | 0.00 | 3.48 | 0.84 | 359.36 | 0.00 | 0.00 |
| M 1.1 (W) | 4.50 | -0.05 | 0.00 | 3.50 | 0.04 | 0.00 | 90.00 | 179.36 |
| M 1.4 (W) | 4.36 | 1.75 | 0.00 | 0.06 | 0.80 | 0.00 | 90.00 | -85.62 |
| M 1.5 (W) | 0.00 | 1.80 | 0.00 | 3.36 | 0.04 | 0.00 | 90.00 | -0.66 |
| M 1.6 (W) | 0.00 | 0.00 | 0.00 | 0.00 | 0.80 | 0.00 | 90.00 | 90.00 |
| M 1.7 (Ro) | 0.50 | 1.29 | 2.80 | 3.48 | 0.84 | 179.36 | 0.00 | 180.00 |

2 Stairs

2.2 Summary, Stairs

2.2.1 Result overview, Evaluation area 1



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Maintenance factor | 0.80 |
| Total luminous flux | 8196.00 lm |
| Total power | 63.0 W |
| Total power per area (7.97 m ²) | 7.90 W/m ² (3.34 W/m ² /100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| \bar{E}_m | Horizontal | cylindrical |
| E_{min} | 237 lx | 116 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 179 lx | 80 lx |
| $E_{min}/E_{max} (U_d)$ | 0.76 | 0.69 |
| E_z/E_h | 0.62 | |
| Position | | 0.38 |
| RUG (--- ---) | 0.00 m | 0.45 m |
| Hints: | --- | |

- Luminaires of the same type with equal height and orientation were not found.

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.7 (Ceiling) | 287 lx | 0.50 |
| M 1.1 (Wall) | 266 lx | 0.52 |
| M 1.4 (Wall) | 411 lx | 0.50 |
| M 1.5 (Wall) | 265 lx | 0.51 |
| M 1.6 (Wall) | 243 lx | 0.57 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

2 Stairs

2.2 Summary, Stairs

2.2.1 Result overview, Evaluation area 1

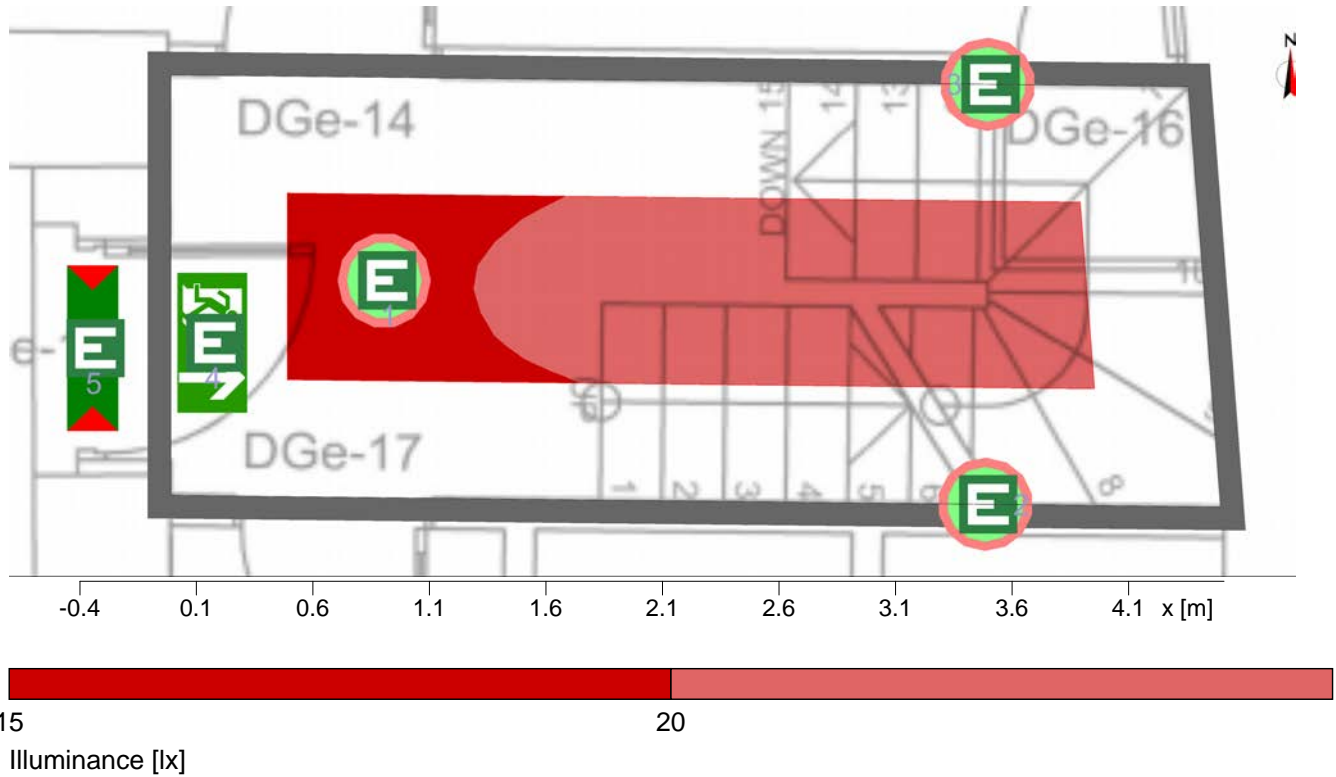
Type No. Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 4 | 3E x | Intulux Lighting | | |
|  | | Order No. | : !FBHLED214K/EMF | -- Emergency Lighting -- |
| | | Luminaire name | : C1E | |
| | | Equipment | : 1 x LED 21 W / 2732 lm | |
| | | Emergency | : 520 lm (19.0 %) | |

2 Stairs

2.3 Summary, Stairs

2.3.1 Result overview (emergency lighting)

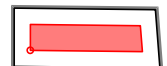


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : -variable-
 Maximum I : 140 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|-----------|-----------|-----------|
| 1 | Anti panic area 1.1 | 16.35 lx | 29.03 lx | 1: 1.78 |
| | | >= 0.5 lx | | >= 1 : 40 |



Type No. Make


- Intulux Lighting**
- 4 3E x Order No. : !FBHLED214K/EMF -- Emergency Lighting --
 Luminaire name : C1E
 Equipment : 1 x LED 21 W / 2732 lm
 Emergency : 520 lm (19.0 %)
 - 6 1E x Order No. : EBHM3MLEDBL -- Emergency Lighting --
 Luminaire name : E2
 Equipment : 1 x LED 5 W / 250 lm (0%)
 Emergency : 250 lm

Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

2 Stairs

2.3 Summary, Stairs

2.3.1 Result overview (emergency lighting)

| | | | | |
|---|------|----------------|----------------------|--------------------------|
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |

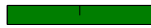


3 Reception

3.1 Description, Reception

3.1.1 Luminaire data/Room elements

Product data:

Type No.Make

| | | | | |
|---|------|-------------------------|--------------------------|--------------------------|
| | | Intulux Lighting | | |
| 1 | 1 x | Order No. | : !FWLED5384KSK | |
|  | | Luminaire name | : A1 | |
| | | Equipment | : 1 x LED 38 W / 4613 lm | |
| | | | | |
| 2 | 1E x | Order No. | : !FWLED5384KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A1E | |
| | | Equipment | : 1 x LED 38 W / 4613 lm | |
| | | Emergency | : 485 lm (10.5 %) | |
| | | | | |
| 8 | 1E x | Order No. | : FEBLEDS3MNMST | -- Emergency Lighting -- |
|  | | Luminaire name | : EXIT/B | |
| | | Equipment | : 1 x / 14.9 lm (0%) | |
| | | Emergency | : 14.9 lm | |

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|--|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting A1 !FWLED5384KSK | | | | | | | | | |
| 1.2 | 4.11 | 1.65 | 2.80 | 0.00 | 0.00 | 0.00 | 4.11 | 1.65 | 0.00 |
| Intulux Lighting A1E !FWLED5384KSKEMF | | | | | | | | | |
| E 1.1 | 1.34 | 1.65 | 2.80 | 0.00 | 0.00 | 0.00 | 1.34 | 1.65 | 0.00 |
| Intulux Lighting EXIT/B FEBLEDS3MNMST | | | | | | | | | |
| XE 1 | 1.81 | 0.12 | 2.80 | 90.00 | 0.00 | 0.00 | 1.81 | 3.40 | 1.47 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

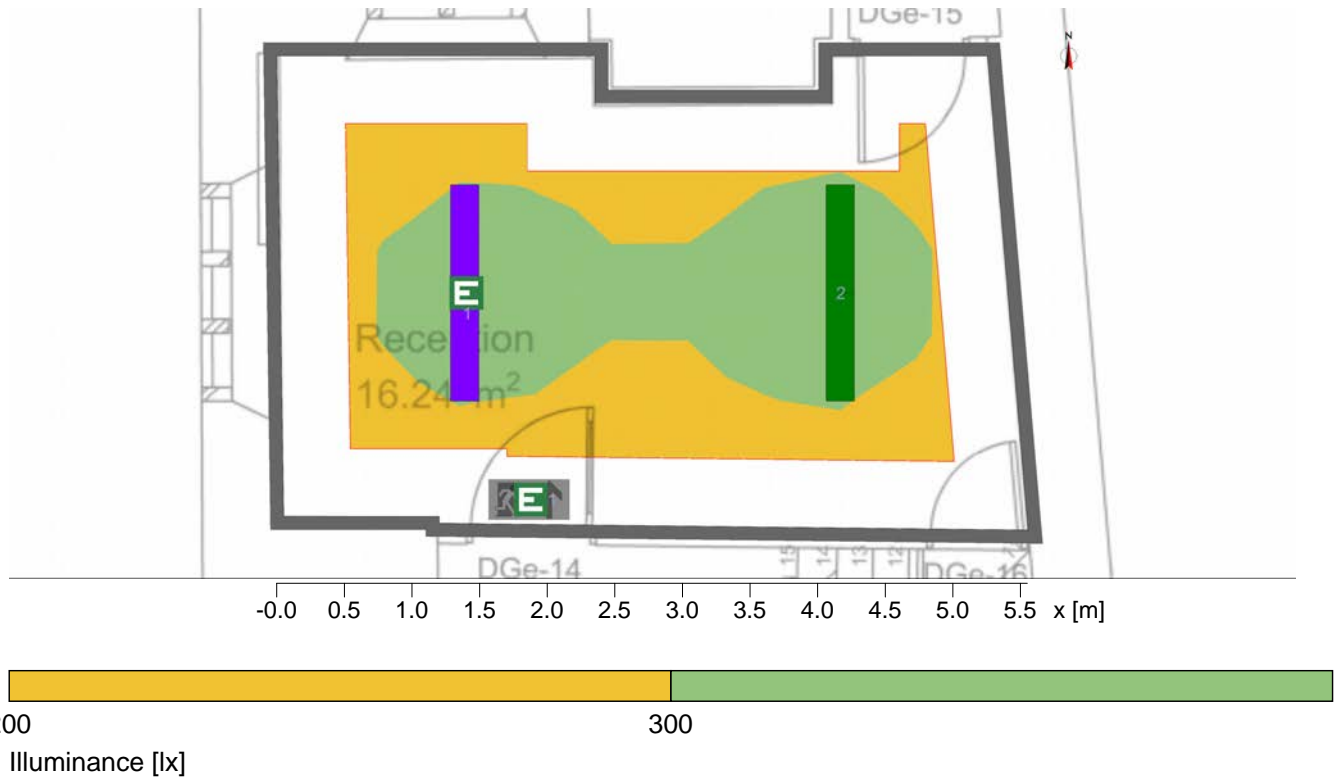
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|--------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | | | | | | | | |
| | 0.49 | 0.50 | 0.75 | 4.50 | 2.49 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 5.50 | -0.10 | 0.00 | 3.51 | 0.04 | 0.00 | 90.00 | 179.34 |
| M 1.2 (W) | 5.20 | 3.40 | 0.00 | 0.23 | 2.66 | 0.00 | 90.00 | -85.10 |
| M 1.3 (W) | 2.30 | 3.05 | 0.00 | 1.22 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.4 (W) | 0.45 | 3.40 | 0.00 | 1.30 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.5 (W) | 0.00 | 0.00 | 0.00 | 0.04 | 2.56 | 0.00 | 90.00 | 90.84 |
| M 1.6 (Ro) | 0.46 | 2.90 | 2.80 | 4.50 | 2.49 | 180.00 | 0.00 | 180.00 |

3 Reception

3.2 Summary, Reception

3.2.1 Result overview, Evaluation area 1



General

| | |
|---------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.80 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 9226.00 lm |
| Total power | 76.0 W |
| Total power per area (17.97 m²) | 4.23 W/m² (1.38 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| \bar{E}_m | Horizontal | cylindrical |
| E_{min} | 306 lx | 120 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 247 lx | 105 lx |
| $E_{min}/E_{max} (U_d)$ | 0.81 | 0.88 |
| E_z/E_h | 0.67 | 0.33 |
| Position | 0.75 m | 1.20 m |
| RUG (2.2H 3.6H) | <=17.4 | |
| Luminaire : | | |
| (A1E, IFWLED5384KSKEMF) | | |

Major surfaces

| | | |
|-----------------|-------------|-------|
| | \bar{E}_m | U_o |
| M 1.6 (Ceiling) | 97.1 lx | 0.62 |
| M 1.1 (Wall) | 153 lx | 0.81 |
| M 1.2 (Wall) | 178 lx | 0.67 |
| M 1.3 (Wall) | 162 lx | 0.75 |
| M 1.4 (Wall) | 147 lx | 0.80 |
| M 1.5 (Wall) | 168 lx | 0.72 |



Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

3 Reception

3.2 Summary, Reception

3.2.1 Result overview, Evaluation area 1

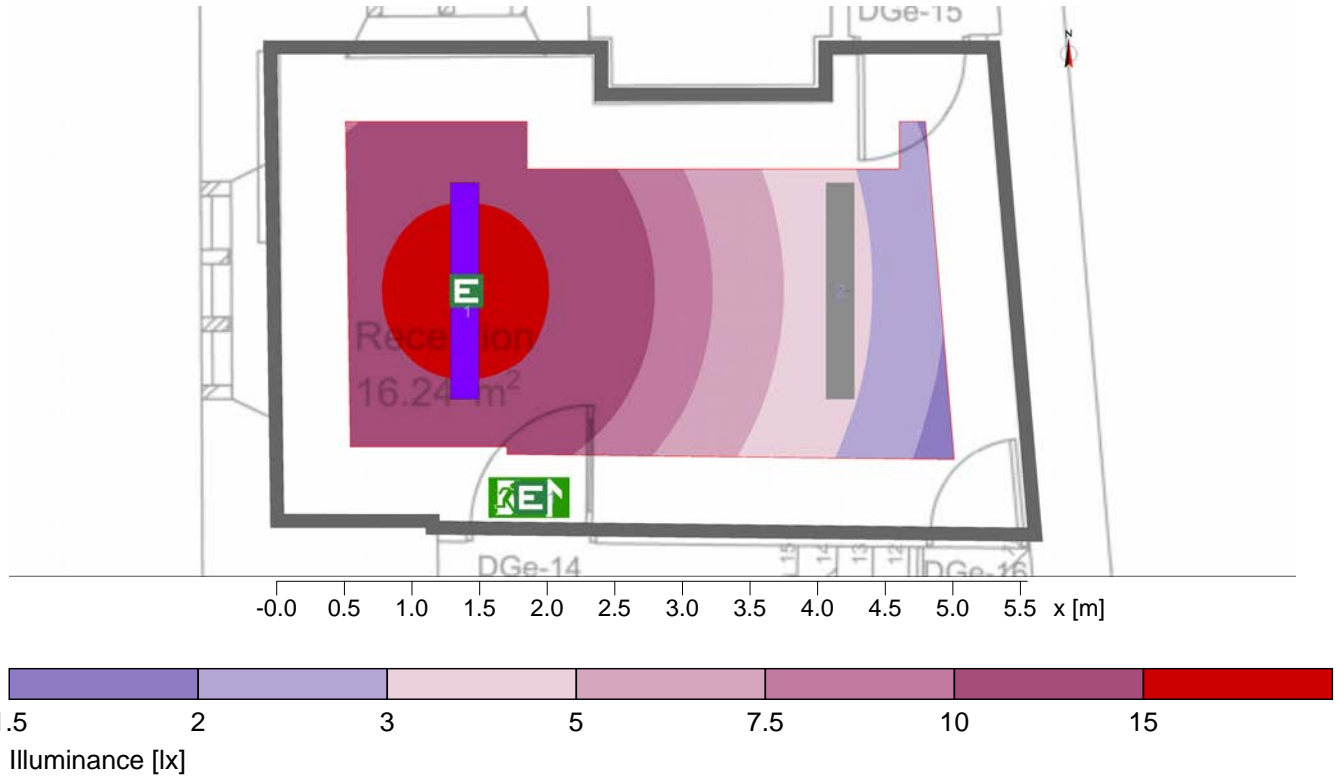
Type No.Make

| | | Intulux Lighting | | |
|---|------|-------------------------|--------------------------|--------------------------|
| 1 | 1 x | Order No. | : !FWLED5384KSK | |
|  | | Luminaire name | : A1 | |
| | | Equipment | : 1 x LED 38 W / 4613 lm | |
| 2 | 1E x | Order No. | : !FWLED5384KSKEMF | -- Emergency Lighting -- |
|  | | Luminaire name | : A1E | |
| | | Equipment | : 1 x LED 38 W / 4613 lm | |
| | | Emergency | : 485 lm (10.5 %) | |

3 Reception

3.3 Summary, Reception

3.3.1 Result overview (emergency lighting)

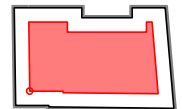


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : -variable-
 Maximum I : 170 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|-----|---------------------|-----------|-----------|----------|
| 1 | Anti panic area 1.1 | 1.63 lx | 16.61 lx | 1: 10.18 |
| | | >= 0.5 lx | | >= 1: 40 |



Type No. Make

| Type No. | Make | Order No. | Equipment | Emergency |
|----------|------------------|--------------------|--------------------------|--------------------------|
| 2 | Intulux Lighting | : !FWLED5384KSKEMF | : 1 x LED 38 W / 4613 lm | : 485 lm (10.5 %) |
| | | | | -- Emergency Lighting -- |
| 8 | Intulux Lighting | : FEBLEDS3MNMST | : 1 x / 14.9 lm (0%) | : 14.9 lm |
| | | | | -- Emergency Lighting -- |

Object : Lewis Lane Phase 4
 Installation : Lighting Design
 Project number : INT1370
 Date : 29.02.2024


4 Kitchen


4.1 Description, Kitchen

4.1.1 Luminaire data/Room elements

Product data:

Type No./Make

- Intulux Lighting**
- 3 2 x  Order No. : IP322X24K
 Luminaire name : B
 Equipment : 1 x LED 4000k 34 W / 3600 lm

 - 7 1E x  Order No. : FDLLEDPS1.5EMFOA -- Emergency Lighting --
 Luminaire name : E1
 Equipment : 1 x 1*LED / 201 lm (0%)
 Emergency : 201 lm

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Intulux Lighting B IP322X24K | | | | | | | | | |
| 1 | -1.34 | 1.45 | 2.80 | 0.00 | 0.00 | 0.00 | -1.34 | 1.45 | 0.00 |
| 2 | 0.46 | 1.45 | 2.80 | 0.00 | 0.00 | 0.00 | 0.46 | 1.45 | 0.00 |
| Intulux Lighting E1 FDLLEDPS1.5EMFOA | | | | | | | | | |
| XE 3 | 0.31 | 0.95 | 2.80 | 0.00 | 0.00 | 0.00 | 0.31 | 0.95 | 0.00 |

E : Active in Emergency
 X : Off for general artificial light

Structural elements

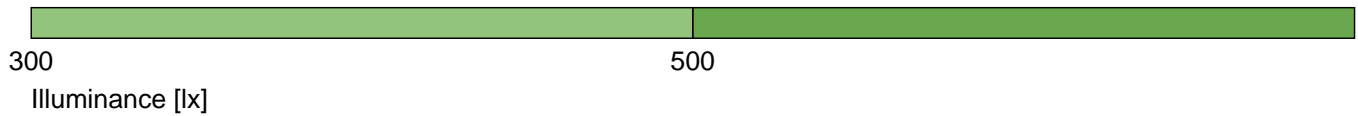
Measuring surface

| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | Rotation angle | |
|----------------|-------|-------|-------|--------|-------|--------|----------------|---------|
| | | | | | | | L axis | Q axis |
| Ref. plane 1.1 | -1.50 | 0.75 | 0.75 | 2.21 | 1.89 | 0.00 | 0.00 | 0.00 |
| M 1.1 (W) | 0.95 | 2.55 | 0.00 | 0.14 | 1.78 | 0.00 | 90.00 | -85.52 |
| M 1.2 (W) | 0.70 | 2.55 | 0.00 | 1.16 | 0.00 | 0.00 | 90.00 | -0.00 |
| M 1.3 (W) | 1.90 | 0.35 | 0.00 | 0.00 | 1.50 | 0.00 | 90.00 | 90.00 |
| M 1.4 (W) | 0.00 | 0.35 | 0.00 | 1.33 | 0.00 | 0.00 | 90.00 | -180.00 |
| M 1.5 (R) | 0.50 | 2.09 | 2.80 | 2.21 | 1.89 | 180.00 | 0.00 | 180.00 |

4 Kitchen

4.2 Summary, Kitchen

4.2.1 Result overview, Evaluation area 1



General

| | |
|--------------------------------|-----------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of luminaire plane | 2.80 m |
| Maintenance factor | 0.80 |
| Total luminous flux | 7200.00 lm |
| Total power | 68.0 W |
| Total power per area (7.02 m²) | 9.69 W/m² (2.37 W/m²/100lx) |

Evaluation area 1

Reference plane 1.1

| | | |
|---------------------------|------------|-------------|
| | Horizontal | cylindrical |
| \bar{E}_m | 408 lx | 168 lx |
| E_{min} | 323 lx | 143 lx |
| $E_{min}/\bar{E}_m (U_o)$ | 0.79 | 0.85 |
| $E_{min}/E_{max} (U_d)$ | 0.73 | |
| E_z/E_h | | 0.33 |
| Position | 0.75 m | 1.20 m |
| RUG (1.9H 1.7H) | 10.0 | |

Luminaire :
 (B, IP322X24K)

Hints:

- Encountered room dimensions less than 2H. RUG value has been set to 10 as lower limit.

Major surfaces

| | \bar{E}_m | U_o |
|-----------------|-------------|-------|
| M 1.5 (Ceiling) | 123 lx | 0.83 |
| M 1.1 (Wall) | 299 lx | 0.48 |
| M 1.2 (Wall) | 267 lx | 0.58 |
| M 1.3 (Wall) | 340 lx | 0.47 |
| M 1.4 (Wall) | 274 lx | 0.59 |


Object : Lewis Lane Phase 4
Installation : Lighting Design
Project number : INT1370
Date : 29.02.2024

4 Kitchen

4.2 Summary, Kitchen

4.2.1 Result overview, Evaluation area 1

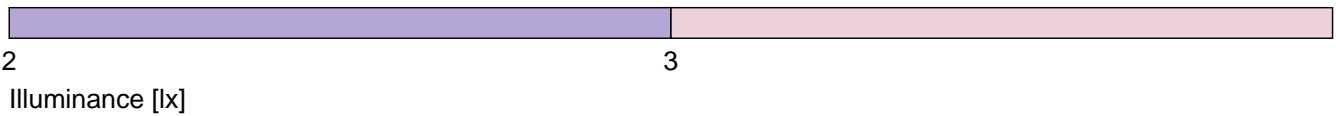
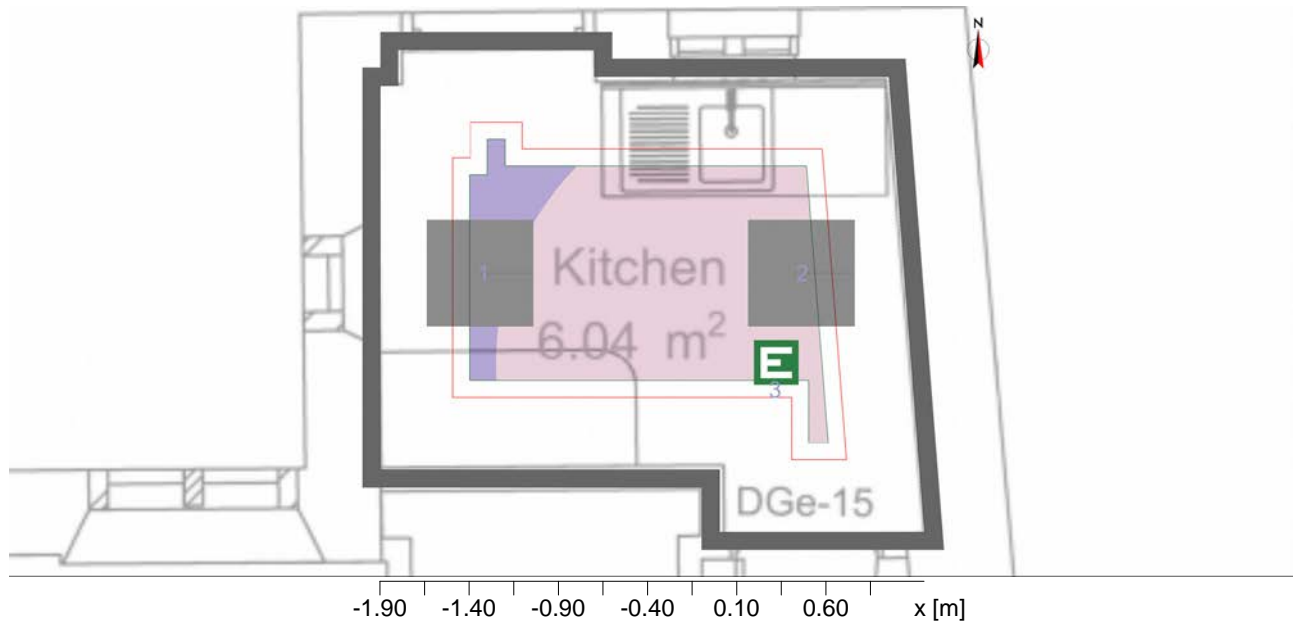
Type No.Make

| | | | |
|---|-----|-------------------------|--------------------------------|
| 3 | 2 x | Intulux Lighting | |
|  | | Order No. | : !P322X24K |
| | | Luminaire name | : B |
| | | Equipment | : 1 x LED 4000k 34 W / 3600 lm |

4 Kitchen

4.3 Summary, Kitchen

4.3.1 Result overview (emergency lighting)

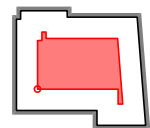


General

Calculation algorithm used : Direct component
 Maintenance factor : 0.8
 Height (phot. centre) : 2.80 m
 Maximum I : 59 cd <= 900 cd

Anti panic area:

| No. | Surface | Emin [lx] | Emax [lx] | Ud |
|---|---------|-----------|-----------|-----------|
| Anti panic area 1.1 | | | | |
| Calculation field: 2.01m x 1.7m (6 x 5 pts), Height = 0.00m | | | | |
| 1 | | 2.66 lx | 3.91 lx | 1: 1.47 |
| | | >= 0.5 lx | | >= 1 : 40 |



Type No.Make

7 1E x **Intulux Lighting**
 Order No. : FDLLEDPS1.5EMFOA -- Emergency Lighting --
 Luminaire name : E1
 Equipment : 1 x 1*LED / 201 lm (0%)
 Emergency : 201 lm



The following common design parameters will be used unless otherwise instructed.

Common Design Parameters

Calculations unless stated otherwise are based upon an open plan area without obstructions above the working plane set at 0.75m

Corridors, Entrance Halls, Waiting Areas, Atria, Staircases and Lobbies will be calculated using the floor as a reference plane

Calculation Nominal Values

Maintenance Factor – 0.80

Reflectance Values

- Standard Interior – 70/50/20
- Warehouse Interior – 50/30/20

Ambient temperature 25°C

If any part of scheme is deemed unsuitable for the application, please advise for respecification and calculation.

Emergency Lighting

Emergency Lighting has been designed in accordance with BS5266-1:2016.

The design is to be used as an indicative layout only – additional lighting may be required and needs to be checked with the responsible person to satisfy the Risk Assessment.

Emergency calculations have been based on 0.5lux for open areas and 1 lux for escape routes where known.

Please advise of all additional requirements for any high-risk areas or points of emphasis i.e. call points, first aid points and evacuation equipment

L2 Requirements

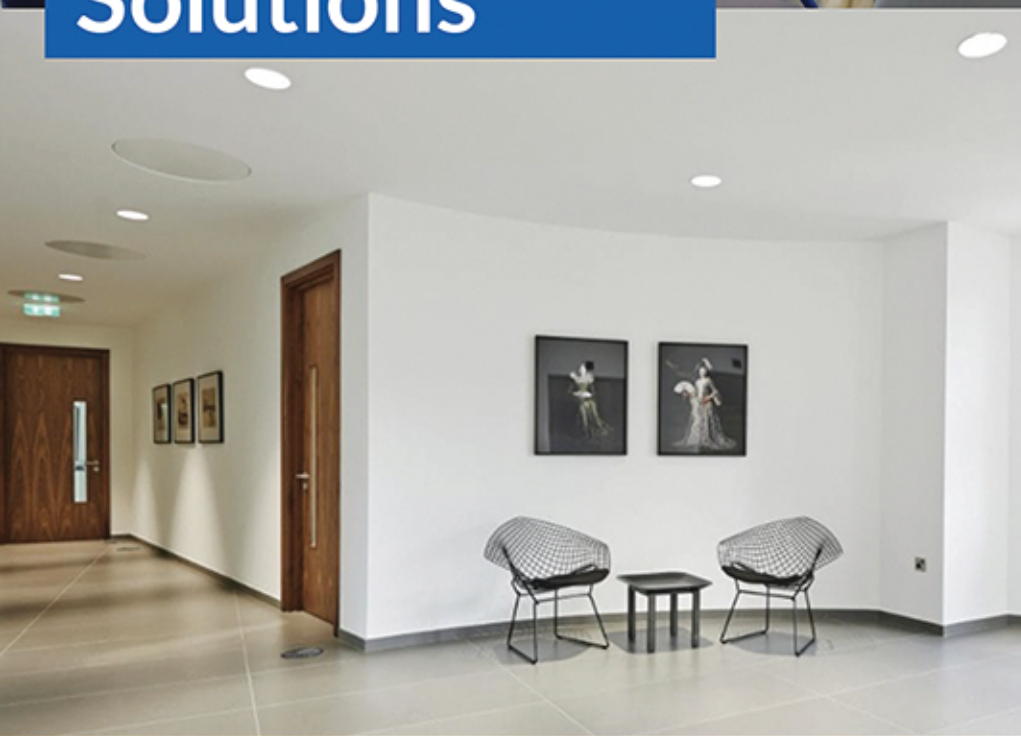
Check that conformity has been met where required. Ensure that fire hoods are used where needed to conform with current building regulations.

Lighting Project Specification

Independent lighting specialist offering a full range of luminaires and controls that meet your criteria. Sourcing a wide range of recognised, reliable and quality branded components including Tridonic, Philips CREE, Xicato, Osram and Helvar. We specialise in providing a lighting solution that will fit your budget.



Engineered Lighting Solutions



MADE IN THE UK

Combining our experience with the latest and most efficient lighting technology we aim to design and propose the minimum number of luminaires to help you secure and succeed with your project.

