* **Light and socket we chose the standard values regardless of the value of power calculated**

|  |  |  |
| --- | --- | --- |
| Type | Circuit Breaker | Cable(mm2) |
| Light | 1\*10A | 3\*1.5 |
| Socket | 1\*16A | 3\*2.5 |

* **Calculation to current, circuit breaker (CB) and cable**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Type of load | | Current | Istart group | CB | Cable |
| Load not motor | Single Phase |  | ------ | CB > 1.25 \* Iload | Cable > CB |
| Three Phase |  | ------ | CB > 1.25 \* Iload | Cable > CB |
| Load motor | Single Phase |  | Is | CB > Is | cable > 1.25\* Iload |
| Three Phase |  | Is | CB > Is | cable > 1.25\* Iload |

In normal the Istart for the motor known, in this calculation I choose it Istart =2.5 \* Iload

The demand depends on the number of motors ( 3 elevator motors )

* **standard values of CB**

6, 10, 15, 16, 20, 25, 32, 40, 50, 63, 100, 125, 150, 163, 200, 225, 250, 250, 300, 400, 500, 630, 800, 1000, 1200, 1500, 1750, 2000, 2200, 2500, 3000, 3200, 4000, 5000, 6000

* **standard values of cable IEC**

|  |  |  |
| --- | --- | --- |
| AC current 3 phase | AC current single phase | Cross section area (mm2) |
| 14 | 15 | 1.5 |
| 18 | 21 | 2.5 |
| 24 | 28 | 4 |
| 31 | 36 | 6 |
| 44 | 50 | 10 |
| 59 | 66 | 16 |
| 77 | 88 | 25 |
| 97 | 109 | 35 |
| 117 | 131 | 50 |
| 149 | 167 | 70 |
| 180 | 202 | 95 |
| 208 | 234 | 120 |

* **Elevators motor**

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The hospital have two floors so we choose geard, speed = 2m/s, three elevators 🡺 DF=0.77

Elevator1 1000 kg, P = 17 KW

Elevator2 1500 kg, P = 26 KW

Elevator3 2000 kg, P = 34 KW