

### Commercial Load calc

General lighting load\_\_\_220.42

Receptacle Demand\_\_\_220.47

Fixed Electric Space Heating\_\_\_100% of nameplate. HVAC..100% of the largest unit only in optional calc(220.82/84)

Largest motor rule.. add 25% of the largest motor FLA to the total VA(220.50) 430.24

1- General lighting VA (sqft x va/sqft from 220.42(A)

2- Recptacles VA usually given or 1/VA/sqft x area)

3- Apply demand factors to lighting+receptacles

4- Add 100% of fixed equipment ( signs, water heaters ect.)

5- Add 25% to largest motor (if any motors)

6- Choose the largest conductor size between 3.16 and table 8

If there is a motor add 125% to the Amps and check on 310.16. If not, just check the conductor size on 310.16. The add up all the loads and check for circular mils on table 8.

### Motor branch circuit & Feeder sizing

1-Find FLA Go to 430.250 find volts match to HP= FLA. **ADD 125%**

2-Conductor Ampacity Go to 310.16 find small conductor( next size up)

3-Overcurrent Protection(OCPD)FLA + Inverse time breaker=250% of FLA **430.52**. Then 240.6 Round up for standard breaker size.

4- Feeder 125% largest + 100% others.

Service Calc +25% largest motor FLA



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