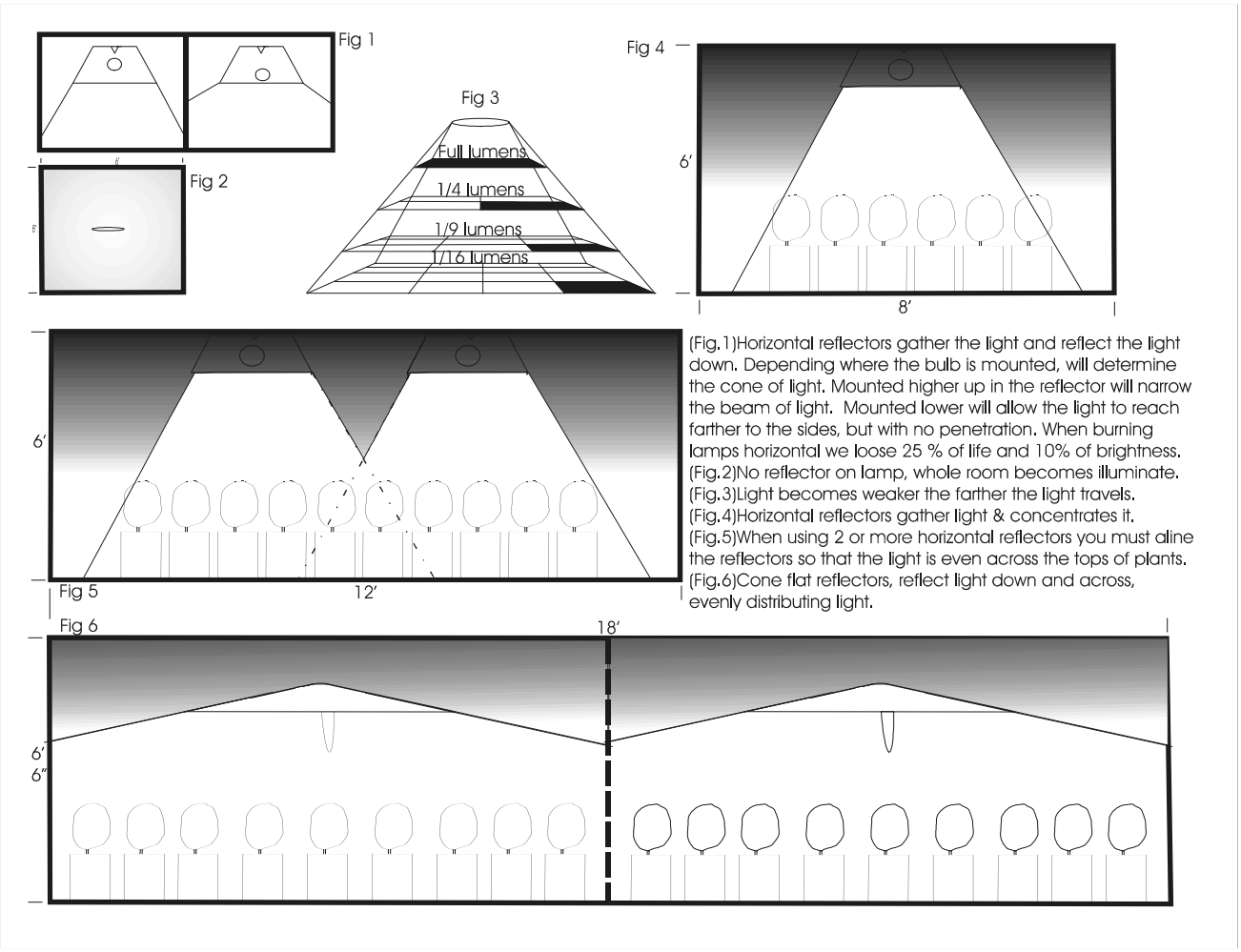
Lighting Square footage



(Fig.1)Horizontal reflectors gather the light and reflect the light down. Depending where the bulb is mounted, will determine the cone of light. Mounted higher up in the reflector will narrow the beam of light. Mounted lower will allow the light to reach farther to the sides, but with no penetration. When burning lamps horizontal we loose 25 % of life and 10% of brightness.
(Fig.2)No reflector on lamp, whole room becomes illuminate.
(Fig.3)Light becomes weaker the farther the light travels.
(Fig.4)Horizontal reflectors gather light & concentrates it.
(Fig.5)When using 2 or more horizontal reflectors you must aline the reflectors so that the light is even across the tops of plants.
(Fig.6)Cone flat reflectors, reflect light down and across, evenly distributing light.

Metal Halide MH, white light for growing. High Presure Sodium HPS, red, orange and yellow light used for flowering. The best source of flowering light will use a combination of MH, and HPS, light. By placing 2 lights in the flowering room the light is unrivaled by any single lamp source. Using HPS only in the flowering room is a very common practice producing great results. When deciding on the light wattage to buy for your growing area we need to know the floor space. Lenght (2') X width (4') = square foot area (8sq.ft), divided by wattage of lamp (400w) = 50 watts per ft. The minimum wattage should produce at least 10 watts (not recommended) the maximum light recommended 80 watts per square foot. The ideal lighting from artifical source is 35 watts per square foot. The maximum distance your light source should be away from the growing tip of the plants is 2 feet. Start with light about 24 inches away from plants growing tips, allow plants to grow up to about 16 inches away from light source then raise light to about 24 inches away from growing tips. Choosing the right reflector to illuminate your growing area. Delivering more than 35 watts per square foot, will tighten flower formation and incease friut size, but will return a lower yeild. By calulating rooms square footage and delivering between 25 - 35 watts per square foot, will allow maximum plants per growing area. By adding more plants into larger growing area allows for more flowering sites. (L) 4 X (W) 4 = 16 sq. ft. 400 watt light divided by 16 = 25 watts per square ft., plenty of light as long as we do not allow plants to grow taller than 3 feet high see fig#3. When light source is placed to far above plants, this reduces amount of light delivered. Verticle reflectors can be placed closer to plants than Horizontal. The cone shape of Verticle reflectors have been engeneerd to focus light downward and sideways across the growing area. By placing Verticle reflectors side by side, and about 2 feet from each other will maximize amount of plants under light source. If one of the lights in room happen to be weaker, the light from the reflectors beside that one will help to even out light. Or if you are trying to blend two different colour light sorces together. Horizontal Reflectors concentrate light downward, leaving very little light escaping to the sides. Some reflectors sockets are mounted lower, allowing for the escape of light to the sides but have very little light penatration. Reflectors that gather all the light and focus it downward will need to be raised higher to illumniate a wider area. There is a trade off, of very bright light concentrated on a few plants or raising the lights to cover more growing area. Buy a horizontal reflector that does not allow the light to pass back through the arc tube. Burning HID Lighting horizontaly, 10% of light output and 25% of the life of the bulb will be reduced.