LED FACT SHEET

LIGHT EMITTING DIODE PROPERTIES

- EMITS LIGHT IN A FORWARD DIRECTION (UNLIKE INCANDESCENT WHICH EMITS LIGHT IN ALL DIRECTIONS)
    - SOPHISTICATED ENGINEERING IS USED TO CREATE LED BULBS THAT SHINE IN ALL DIRECTIONS
- LOW ENERGY CONSUMPTION & HEAT GENERATION
- CAN PRODUCE DIFFERENT COLORS
- LONG LIFE CYCLE
- DESIGN FLEXIBILITY - FIXTURES CAN BE MADE INTO INTERESTING SHAPES AND FORMS THAT ARE IMPOSSIBLE FOR SOCKETED FIXTURES

RAW LUMENS

- A **CALCULATED VALUE** (E.G., 100 LUMENS PER WATT * 5 WATTS = 500 RAW LUMENS)
- DOES NOT CONSIDER ELEMENTS THAT CAN REDUCE OVERALL LIGHT OUTPUT, SUCH AS DIFFUSERS OR SHADES
- ALWAYS HIGHER THAN DELIVERED LUMENS
- ONE 60W INCANDESCENT LIGHT BULB EMITS APPROXIMATELY 800 RAW LUMENS

DELIVERED LUMENS

- A MEASURED VALUE USING LIGHT MEASUREMENT TOOLS (ALWAYS LESS THAN RAW)
- CONSIDERS ALL ELEMENTS THAT REDUCE THE AMOUNT OF LIGHT OUTPUT, SUCH AS DIFFUSERS AND SHADES
- A MORE ACCURATE METRIC FOR EVALUATING THE EFFECTIVE LIGHT OUTPUT OF A FIXTURE

INTEGRATED LED

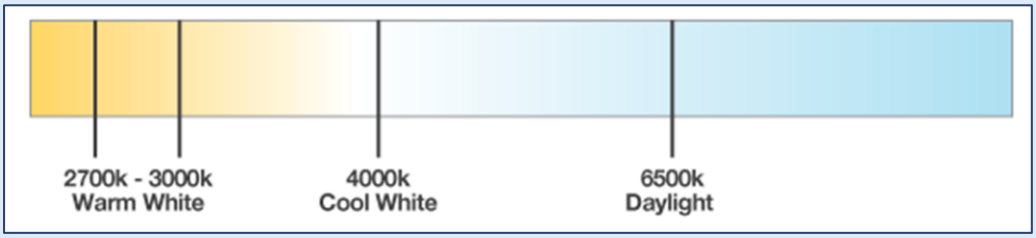
- INTEGRATED LED FIXTURES HAVE THE LED COMPONENT BUILT INTO THEM AND DO NOT REQUIRE A LIGHT BULB
    - STANDARD FIXTURES ARE SOCKETED AND REQUIRE A LIGHT BULB
- THE LED COMPONENT IS OFTEN A STRIP OF DIODES OR A LED MODULE (SOMETIMES REFERRED TO AS A LED WAFER) AND IS USUALLY BEHIND A DIFFUSER
- REQUIRES THE USE OF A DRIVER
    - DRIVERS ARE NOT “ONE SIZE FITS ALL” AND ARE SOMETIMES BUILT INTO THE LED MODULE
    - DRIVERS HAVE WATTAGE LIMITS (A HIGHER WATTAGE OFTEN MEANS A LARGER DRIVER)
- DRIVERS CAN OFTEN BE EASILY REPLACED. THE LED COMPONENT OFTEN CANNOT BE EASILY REPLACED.
    - SOME FIXTURES ARE BUILT TO ALLOW FOR EASIER REPLACEMENT OF THE LED COMPONENT
- IF A COMPLETE FIXTURE STOPS WORKING, THE PROBLEM IS LIKELY THE DRIVER, NOT THE LED COMPONENT
- IF AN INDIVIDUAL LED FAILS, THE PROBLEM IS LIKELY THE LED COMPONENT, NOT THE DRIVER

CRI – COLOUR RENDERING INDEX

- COLOUR RENDERING: THE EFFECT OF LIGHT ON THE COLOUR APPEARANCE OF AN OBJECT
- A MEASURED VALUE RANGING FROM 0 – 100. A HIGHER NUMBER MEANS THAT COLOURS WILL APPEAR CLOSER TO HOW THEY LOOK UNDER NATURAL LIGHT
- EXAMPLE: THE COLOUR RED WILL APPEAR DIFFERENT UNDER DIFFERENT TYPES OF LIGHTING. RED UNDER CANDLELIGHT LOOKS DIFFERENT THAN THE SAME RED UNDER FLUORESCENT LIGHT
    - INCANDESCENT LIGHTING IS CONSIDERED TO HAVE A CRI OF 100, WHICH MEANS IT RENDERS ALL VISIBLE LIGHT PERFECTLY AS IT WOULD UNDER NATURAL LIGHT
    - CRI OF LED LIGHT USUALLY RANGES FROM 80S TO LOW 90S
- OVER 80 CRI IS STANDARD FOR LEDS, OVER 90 IS VERY GOOD, 100 IS THE SUN OR AN INCANDESCENT LIGHT BULB

CCT – CORRELATED COLOR TEMPERATURE

- A MEASURE OF THE LIGHT SOURCE COLOR APPEARANCE
- MEASURED IN KELVIN (K) I.E., 2700K OR 3000K EMITS A WARMER TEMPERATURE, 4000K-6000K IS MORE BLUE



LED DIMMERS

- DIFFERENT BRANDS LIST LED DIMMERS UNDER DIFFERENT NAMES
- COMMONLY MARKETED AS C•L DIMMER, LED+ DIMMER, CFL/LED DIMMER
- ALL SHOULD BE COMPATABLE WITH A DIMMABLE LED FIXTURE

L70 RATED LIFE (AKA LUMEN MAINTENANCE LIFE OR RATED LIFE)

- THE TIME IT TAKES FOR THE LED TO DEGRADE TO 70% OF ITS ORIGINAL LIGHT OUTPUT
- UNLIKE INCANDESCENT BULBS, LED DEGRADE OVER TIME (SIMILAR TO CFL) RATHER THAN FAIL ALL AT ONCE

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