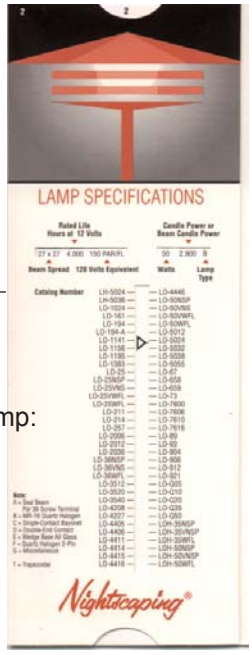
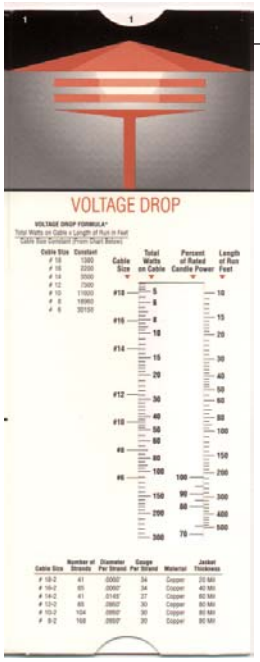
The ALL-NEW NightChart

INSTRUCTIONS





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VOLTAGE DROP

1. Calculate **Total Watts on Cable** Run.
2. On slide, take **Total Watts on Cable** run and match to **Cable Size.**
3. Look at **Percent of Rated Candle Power** (Never go below 70%).
4. Look to right under **Length of Run in Feet.** If the cable run will exceed this amount either go to larger cable size or make more runs with lesser wattage.

Example: 100 Watts on #12 cable at 80 percent rated candle power = maximum cable run of 96 feet.

You can also use this chart in reverse, if you know the length of your cable run. Take your slide and put the **Percent of Rated Candle Power** needed on the **Length of Run in Feet**. Then read **Cable Size** and look at **Total Watts on Cable**. This will tell you how many watts can be used on this run.

Additional Information on this side:

A. Voltage drop formula for manual calculations (Never exceed 1.4 volt drop)
B. Cable size constants for use with formula.
C. Cable information: (Always use UL/UF Landscape cable that meets these requirements).

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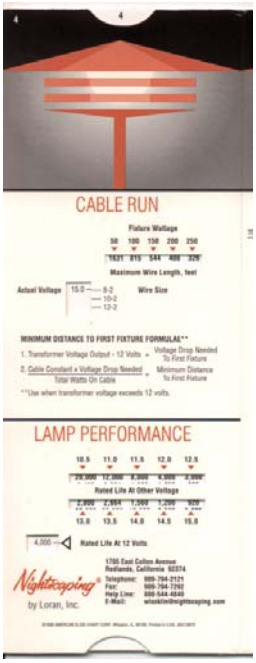
LAMP SPECIFICATIONS

1. Select lamp number and put slide triangle on this number.
2. Look in box at top and see the following information regarding this lamp:
   A. **Beam Spread** from lamp in degree.
   B. **Rated Life Hours at 12 Volts**.
   C. **120 Volts Equivalent**.
   D. **Watts** lamp consumes.
   E. **Candle Power or Beam Candle Power.**
   F. Lamp type = A, B, C, etc. (Look at note to determine type of lamp).



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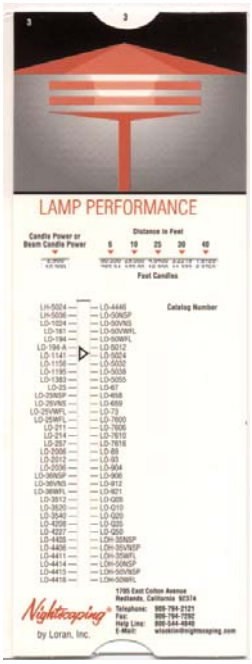
CABLE RUN

1. In box "**Actual Voltage**", take voltage output from transformer and put this number on **Wire Size**.
2. In box "**Fixture Wattage**", look at wattage used on this run. This will give you the **Maximum Wire Length, feet** allowable for this selection.
3. Make changes as needed.

When using high-output transformers use the formula to determine the required distance to the first fixture to insure that you have not exceeded 12 Volts at this fixture.



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LAMP PERFORMANCE

1. Select lamp number and put slide triangle on this number.
2. Look in box at top and see the following information regarding this lamp:
   A. **Candle Power or Beam Candle Power.**
   B. **Foot Candles** at various **Distances in Feet**

Example: Lo-4414 = 1,064 Candle power and provides 1.7 foot candles at 25 feet.

To figure foot candles at other distances use the following formula:

$$\frac{CP}{D^2} = FC$$

Candle Power = CP
Foot Candle= FC
Distance = D

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LAMP PERFORMANCE

1. Take **Rated Life at 12Volts** (acquire this number from lamp performance on slide chart #3)
2. Look at **Rated Life At Other Voltage** on lamp. This will give you rated life at various voltages.
3. Exceeding 12 Volts on lamp greatly reduces lamp life, lower voltages increase lamp life, never go below 10.5 Volts at lamp.

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