Calculation based on NEC Table 9
Z (effective) = R*PF+Xsin(arcos(pf))

| | |
|---|---|
| **No. of Phases (1 or 3)=** | 1 |
| **Voltage (L-L)=** | 120 |
| **Power Factor=** | 0.9 |

**ILLUMINATION**
**VOLTAGE DROP CALCULATIONS**

| | | Cu. | Cond. | Circuit | | Raceway | Line to neutral | | | Segment | | Cumulative |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Item #** | **Circuit Designation** | **Cond. Size** | **per phase** | **Segment Load (A)** | **Raceway length** | **Type (P or S)** | **"R" per 1000ft** | **"X" per 1000ft** | **Effective "Z" / 1000ft** | **Voltage Drop l-l** | **% V Drop** | **% V Drop** |
| 1 | South Run 1 | 8 | 1 | 4 | 380 | P | 0.787 | 0.0411 | 0.726 | 2.21 | 1.84% | 2.06% |
| 2 | - | 8 | 1 | 8 | 15 | P | 0.787 | 0.0411 | 0.726 | 0.26 | 0.22% | 2.06% |
| | **Cumulative Total** | | | | | | | | | 2.47 | 2.06% | |
| 1 | South Run 2 | 10 | 1 | 4 | 235 | P | 1.2 | 0.05 | 1.102 | 2.07 | 1.73% | 1.95% |
| 2 | - | 10 | 1 | 4 | 15 | P | 1.2 | 0.05 | 1.102 | 0.26 | 0.22% | 1.95% |
| | **Cumulative Total** | | | | | | | | | 2.34 | 1.95% | |
| 1 | South Run 3 | 6 | 1 | 4 | 400 | P | 0.495 | 0.0417 | 0.464 | 1.48 | 1.24% | 3.04% |
| 2 | - | 6 | 1 | 4 | 180 | P | 0.495 | 0.0417 | 0.464 | 1.34 | 1.11% | 3.04% |
| 3 | - | 6 | 1 | 4 | 75 | P | 0.495 | 0.0417 | 0.464 | 0.83 | 0.70% | 3.04% |
| | **Cumulative Total** | | | | | | | | | 3.65 | 3.04% | |
| 1 | South Run 4 | 8 | 1 | 4 | 400 | P | 0.787 | 0.0411 | 0.726 | 2.32 | 1.94% | 3.03% |
| 2 | - | 8 | 1 | 8 | 75 | P | 0.787 | 0.0411 | 0.726 | 1.31 | 1.09% | 1.09% |
| | **Cumulative Total** | | | | | | | | | 3.63 | 3.03% | |