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

FIRE PROTECTION POWER
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	4	1	5.2	1205	P	0.311	0.0393	0.297	3.72	3.10%	3.10%
	Cumulative Total									3.72	3.10%	
1	South Run 2	8	1	5.2	576	P	0.787	0.0411	0.726	4.35	3.63%	3.63%
	Cumulative Total									4.35	3.63%	
1	South Run 3	4	1	5.2	1356	P	0.311	0.0393	0.297	4.19	3.49%	3.49%
	Cumulative Total									4.19	3.49%	
1	South Run 4	4	1	5.2	996	P	0.311	0.0393	0.297	3.08	2.56%	2.56%
	Cumulative Total									3.08	2.56%	