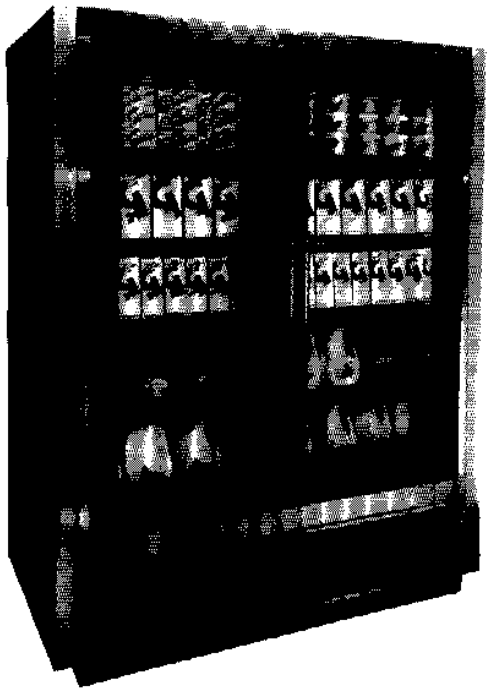
INSTALLATION AND OPERATING INSTRUCTIONS

FOR

SELF-CONTAINED, UPRIGHT DISPLAY REFRIGERATORS

MODELS RI-2-CSC & RI-2-CSC-F
RI-3-CSC & RI-3-CSC-F



Retain this manual for future reference

ZERO ZONE
WAUKESHA WISCONSIN

UL

CRMA
CRS-S186

ZERO ZONE
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GENERAL INFORMATION

Introduction

The information contained in this manual pertains to ZERO ZONE 2- and 3-door self-contained coolers used for refrigerated food or floral merchandising. ZERO ZONE has made every effort to produce refrigeration equipment of the highest quality using state-of-the-art components and modern manufacturing techniques. Read these instructions carefully and completely before attempting to install ZERO ZONE equipment. Refer to all National, State and Local electrical, health and HVACR code requirements before installation. These display coolers are designed to operate in an air conditioned environment where the air temperature is maintained at 75°F or lower and the relative humidity does not exceed 55%.

Inspection

These display coolers were factory tested, inspected and properly packed to ensure delivery in the best possible condition. The equipment should be uncrated and checked for damage before and after unloading immediately upon delivery. ALL CLAIMS FOR DAMAGES MUST BE FILED WITH THE TRANSPORTATION COMPANY—NOT WITH ZERO ZONE. The carrier will supply necessary report and claim forms.

Once uncrated, verify that the available electrical supply corresponds with that specified on the cooler's rating plate. The rating plate can be found on the ceiling of the cooler above the left hand door.

Location

The ZERO ZONE upright reach-in cooler permits a wide choice of locations and uses less valuable floor space than conventional open types of cases. These coolers MUST NOT be installed in a location where they would be exposed to the direct rays of the sun or near a source of radiant heat. Locate on a floor with sufficient strength because if the building floor sags, the doors may bind. The reach-in cooler must be level and plumb for proper operation.

A minimum of a 4 inch space between the back of the cooler and the building wall or shelving must be maintained for proper air flow.

INSTALLATION

Electrical

The cooler lights, fans, door heaters and compressor operate on 115 volt, 1 phase, 60 Hz. Wiring would be sized according to the amperage rating stamped on the rating plate.

All internal wiring has been completed at the factory. The 115 volt power connection is made to the leads in the ballast box located in the right side of the compressor compartment.

SUCTION AND RECEIVER SERVICE VALVES MUST BE OPENED BEFORE COOLER IS STARTED.

Start-Up

Before starting the unit, remove all blocking from compressor and condenser fan area. Make sure the compressor floats free on its mounting springs. Remove the valve stem caps from the suction and liquid line service valves and open both valves (back-seat). Replace valve stem caps after the valves have been opened.

The unit can be started after both service valves have been opened and the 115 volt power has been connected.

USER INFORMATION

Cleaning

The cooler should be thoroughly cleaned before start-up and routinely thereafter to maintain a clean appearance. Use a mild detergent and warm water (never an abrasive cleaner) to wipe out the inside of the cooler. Wash down all glass doors with a good quality glass cleaner. The cooler will remain bright and sparkling with just a few minutes of cleaning each week.

Note: *Do not use high pressure water or steam to clean the interior.*

Shelf Location (See Specifications)

The shelves are adjustable in 1/2 inch increments and may be located in any position for best display advantage due to the air discharge arrangement. It is suggested that the uppermost shelf be placed 10 to 11 inches down from the ceiling and the remaining shelves approximately 10-1/2 inches apart at the front of the cooler.

The rear of each shelf may be set lower than the front on each successive shelf so the shelf slants downward at the rear.

Temperature Control

The cooler temperature is controlled by a low pressure control, located in the compressor compartment. The control is factory set to maintain a cooler air temperature of 36°F to 42°F. An adjustment knob on top of the low pressure control permits fine tuning of the cooler temperature.

To raise the case temperature, turn the adjusting knob to a higher number. To lower the case temperature, turn the knob to a lower number. The factory set position is at "5." Maximum cold is "1."

When properly adjusted the unit should not run continuously. Off cycle time allows the coil to deice automatically. If a coil freeze-up occurs, unsatisfactory cooler temperatures will result.

Loading the Cooler

The cooler may be loaded with merchandise after the desired case temperature has been achieved. When loading the shelves, leave at least 1-1/2 inches between the top of the merchandise and the shelf immediately above it. This allows customers to remove the product from the cooler easily.

Products should be placed on the shelves in an orderly fashion. Whenever possible, leave some room between the rows of packages so that chilled air can filter over and around products.

For proper display, the products should be placed on edge and slanted to the back so the customer can see the faces of the packages. Rotate inventory on a regular basis.

Light Switch

The light switch is located inside the cooler in the upper right corner of the frame. Always turn the lights off when replacing a bulb.

Coil Deicing

Periodic deicing to keep the coil free of excessive frost for top efficiency is accomplished automatically during the unit off cycle.

⚠ CAUTION ⚠

ADJUSTING THE CASE TEMPERATURE TO TOO LOW A SETTING WILL CAUSE THE UNIT TO RUN CONTINUOUSLY. IF CONTINUAL OPERATION OCCURS, THE OFF-CYCLE DEFROST STAGE WILL BE DEFEATED, RESULTING IN UNSATISFACTORY COOLER OPERATION.

SERVICE

⚠ CAUTION ⚠

DISCONNECT POWER TO THE CASE BEFORE SERVICING ELECTRICAL COMPONENTS.

Evaporator

The evaporator coil, located at the rear ceiling of the cooler, is factory assembled with an expansion valve. To inspect the coil, the coil cover can be removed as follows. Loosen two thumb screws on the underside of the coil cover until forward edge drops down exposing the evaporator coil and fan assemblies. While supporting the cover, unplug the fan electrical connection from main coil housing. Pull the coil cover forward disengaging alignment pins and freeing the cover for removal.

Expansion Valve

A thermostatic expansion valve, with adjustable super-heat and thermal bulb, is mounted to the evaporator coil. Under certain conditions, it may be necessary to adjust the super-heat setting for maximum coil effectiveness. To adjust the expansion valve, remove the coil cover as described for evaporator inspection. Remove the cap from the bottom of the valve. When looking up the valve stem, turn the valve stem counterclockwise to open the valve. Turn the valve stem clockwise to close the valve. Measure the suction line temperature at the expansion valve sensing bulb and compare it to the corrected suction temperature corresponding to the saturated pressure.

Turn the valve stem only 1/4 turn at a time and allow sufficient time for the valve to settle before making any further adjustments. Replace the valve stem cap after the valve super-heat has been adjusted.

Evaporator Fans

Air is circulated throughout the cooler with shaft down, 115 volt medium temperature fan motors. These motors must be operating at all times. The fans are mounted on the evaporator coil cover. To service the fans, they are accessed by removal of the coil cover as described under SERVICE/EVAPORATOR.

Lights

800 milliamp bulbs are standard with these coolers. There are three bulbs in the 2-door coolers and four bulbs in the 3-door coolers. The full height bulbs provide even illumination of the entire case contents for a better presentation. To ensure maximum component life, always replace with 800 milliamp bulbs. Use retainer clips and lamp shields.

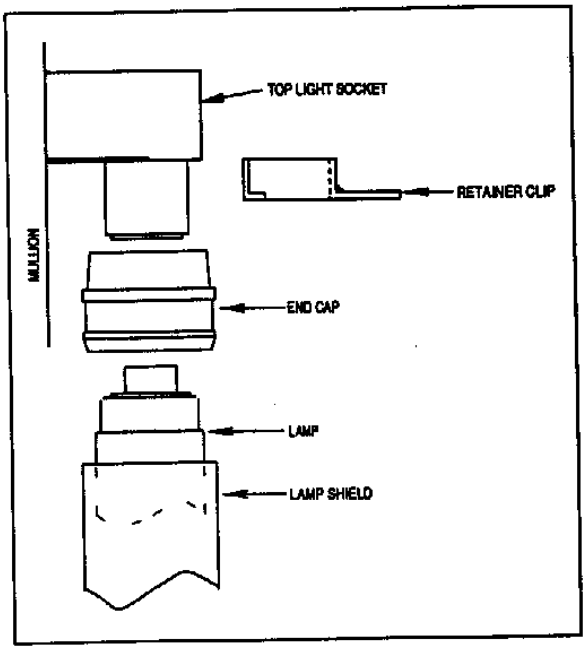


Figure 1. Removing Lamp

To change a light bulb, turn off the light switch and remove the retainer clip located between the socket and end cap. Carefully push the lamp upward into the spring-loaded lamp socket to allow the bulb to be removed from the bottom socket. (See Figure 1.) Remove the end caps and lamp shield.

Compressor Access Panel

The compressor access panel located at the front bottom of the cooler can be removed by removing the screws at the bottom ends of the panel. Drop the panel down and pull out. The panel must be removed before any service work can be done to the compressor, light ballasts, and pressure control.

Compressor

The 115 volt, 1 phase, 60 Hz, R-22 compressor is mounted in the compressor compartment located below the cooler. (Floral case 2-CSC-F uses R-12) The condensing unit is equipped with liquid line and suction service valves for refrigeration technician service.

Light Ballast

The 3-door cooler has four (4) single-lamp ballasts. They are located in the galvanized ballast boxes. Two ballasts are located on the right side and two on the left side of the compressor compartment.

The 2-door cooler has one (1) single-lamp and one (1) two-lamp ballast. Both are located in the galvanized ballast box located on the right side of the compressor compartment.

To remove the ballast box cover, remove the sheet metal screws from the bottom of the ballast box and slide the cover upwards to disengage the top flange. The cover can then be removed for ballast inspection or replacement.

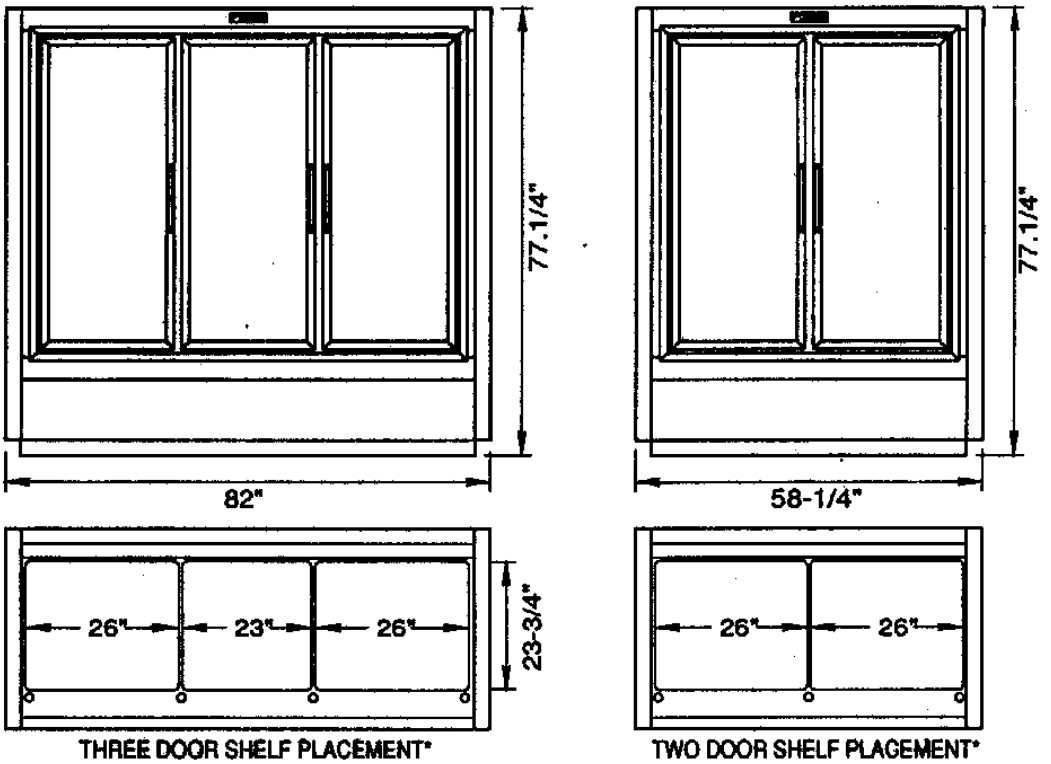
PREVENTIVE MAINTENANCE

1. Clean condenser fins at least once every 6 months, more often if cooler is in a dusty location.
2. Keep floor pan and condensate drain tube clear of debris.

SPECIFICATIONS

MODEL	WEIGHT	OUTSIDE DIMENSIONS (INCHES)			INSIDE DIMENSIONS (INCHES)			GROSS CUBE	NET SHELF AREA (SQ. FT.)	
		W	H	D	W	H	D		CSC	CSC-F
2-CSC	855	58-1/4	77-1/4	33-3/4	53	58	27-1/4	48.5	42.8	25.7
3-CSC	1290	82	77-1/4	33-3/4	76-3/4	58	27-1/4	70.2	61.7	37

MODEL	ELECTRICAL FANS, LIGHTS, ANTI-SWEAT; COMPRESSOR		REFRIGERANT	CHARGE (LBS)	H.P.
2-CSC	115V-1ph-60Hz	14.9 AMPS	R-22	2-1/2#	1/2
2-CSC-F	115V-1ph-60Hz	11.5 AMPS	R-12	2#	1/3
3-CSC	115V-1ph-60Hz	20 AMPS	R-22	3#	3/4
3-CSC-F	115V-1ph-60Hz	15.1 AMPS	R-22	2-1/2#	1/2

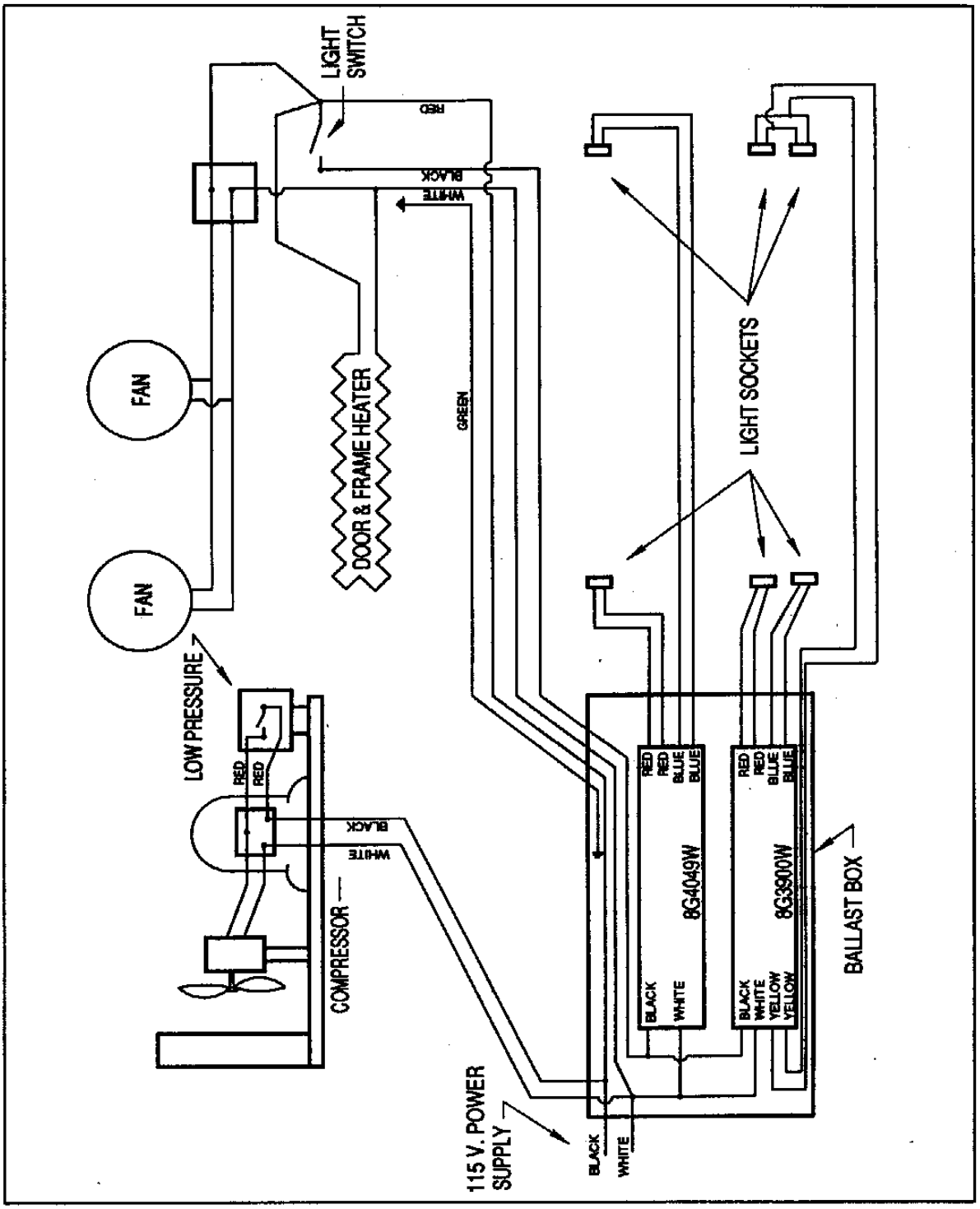


THREE DOOR SHELF PLACEMENT*

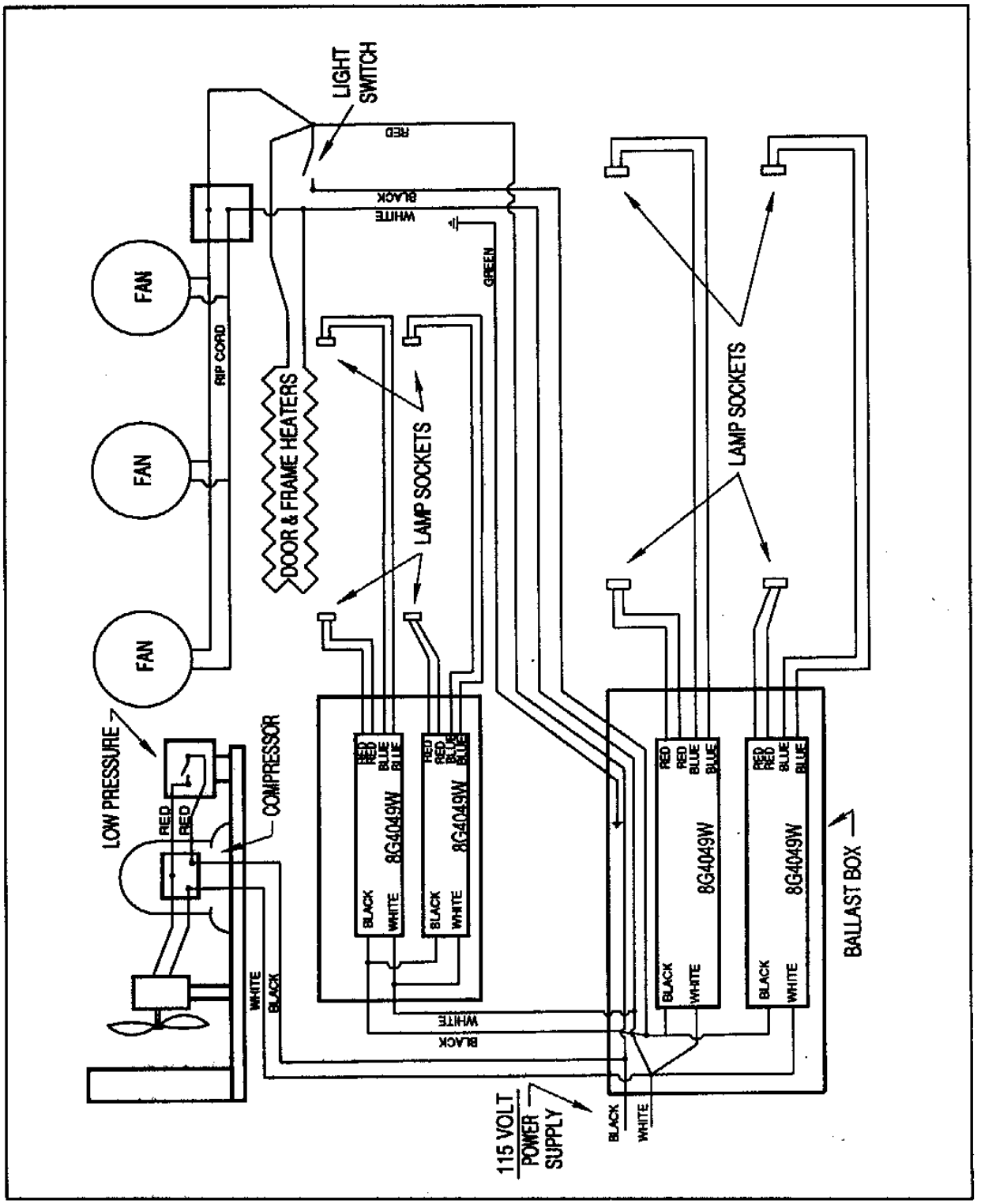
TWO DOOR SHELF PLACEMENT*

*CSC 5-FLAT SHELVES PER DOOR
FLORALS 3-FLAT SHELVES PER DOOR

WIRING DIAGRAM FOR RI-2-CSC AND 2-CSC-F



WIRING DIAGRAM FOR RI-3-CSC AND 3-CSC-F



PARTS LIST

Part No.	Description	Quantity			
		RI-2-CSC	RI-3-CSC	RI-2-CSC-F	RI-3-CSC-F
	Ballast				
63-0039	2 Lamp	1		1	
63-0041	1 Lamp	1	4	1	4
	Lamp				
63-0051	F48T12CWHO	3	4	3	4
63-0052	Lamp Assembly (Lamp, Jacket and 2 End Grommets)	3	4	3	4
63-0045	Lamp End Grommet (2)				
75-0019	Top Lampholder				
75-0120	Bottom Lampholder				
63-0042	Lamp Jacket				
63-0117	Fan Motor Assembly (Motor and Lexan Blade)	2	3	2	3
63-0008	Fan Blade — Aluminum			2	3
55-Clip	Shelf Clip	As Req'd	As Req'd	As Req'd	As Req'd
69-0047	Pressure Control	1	1	1	1
69-0003	Expansion Valve R-22 (FV-1/2-C)	1	1		1
69-0021	Expansion Valve R-12 (BFF-A-C)			1	