

# HUSSMANN®



## Freedom Line RFL with INNOVATOR Doors or INNOVATOR III Doors

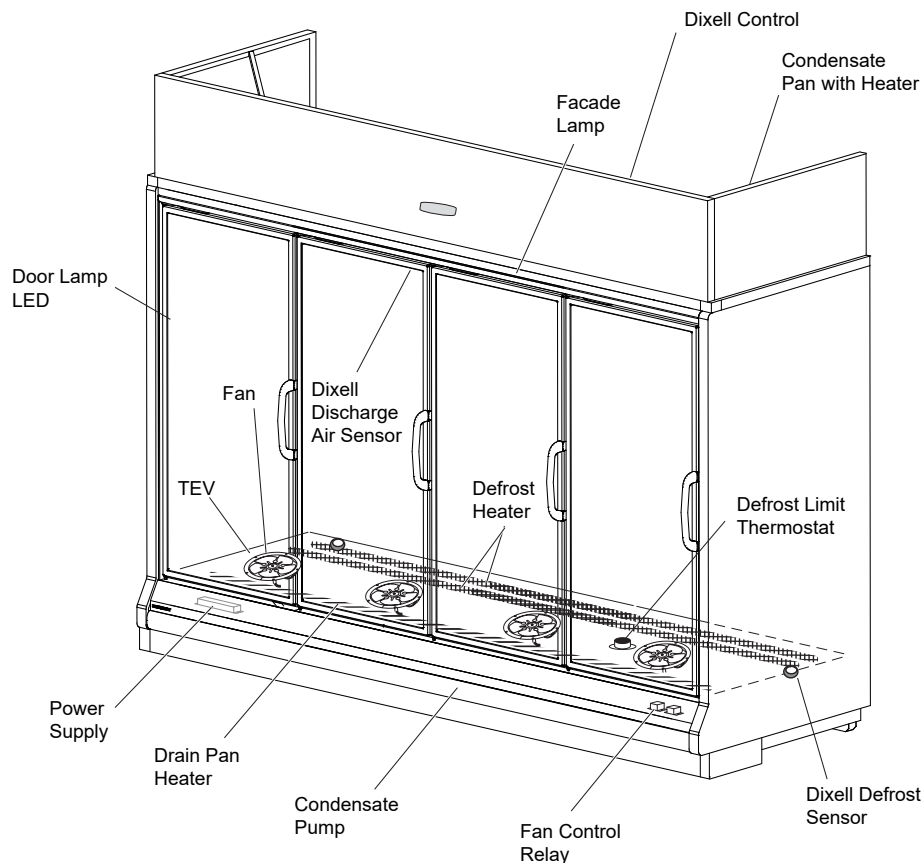
Low Temperature

Technical Data Sheet  
**P/N 3002316\_F**

**NSF® Certified**

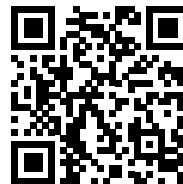
April 2020

**DOE 2017**  
Energy Efficiency  
Compliant



**Warning:**  
**Terminal block**  
**NOT for**  
**case-to-case**  
**wire connection!**

*Refer to INNOVATOR REACH-IN GLASS DOOR  
INSTALLATION AND SERVICE manual, P/N  
0425683, for Innovator, and Innovator II door  
and frame replacement parts.*



Scan the QR code on your mobile device  
to access additional product information  
or order parts.

Parts may also be ordered at:

**parts.hussmann.com**

**Call toll free: 1.855.487.7778**

We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.

Note: Revision F: reformatted data sheet per updated requirements, updated estimated charges, electrical, product data and wiring diagrams.

Data sheet - Freedom Line RFL

## Engineering Plan Views

Reach-In  
3 & 4 Door

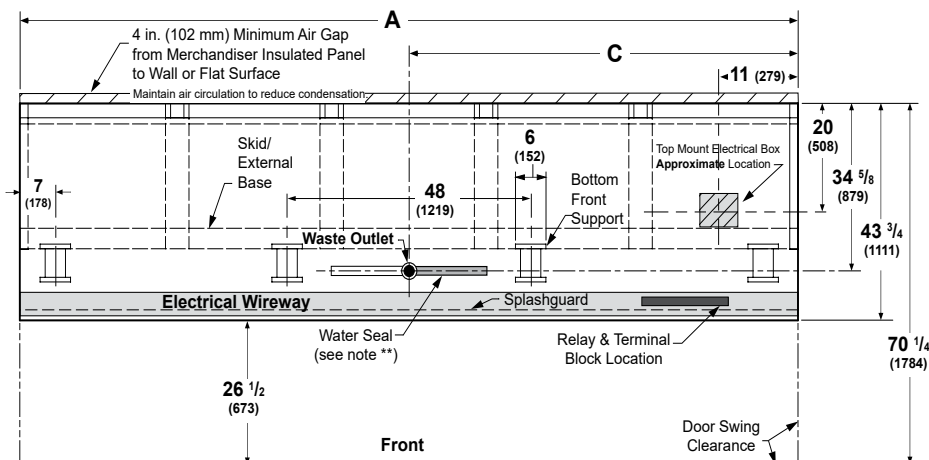
## Freedom Line RFL Plan View

### PHYSICAL DATA

Merchandiser Drip Pipe (in.)	1 1/4
Merchandiser Liquid Line (in.)	3/8
Merchandiser Suction Line (in.)	5/8

Dimensions shown as inches and (mm).

### Freedom Line — Standard Plan View 4 Door



General	2 Dr	3 Dr	4 Dr	5 Dr
	62 (1575)	92 1/2 (2350)	122 7/8 (3121)	153 3/8 (3896)
<b>(A)</b> Case Length (without ends or partitions) <b>**NOTE:</b> Each solid end adds approximately 2 3/8 in (60 mm) to length of line up; each partition add approximately 2 3/4 in (70 mm); case to case joints can add approximately 1/8 in (3 mm) for gasket material.				
Maximum O/S dimension of case back to front (Includes bumper. Add 26 1/2 in. (673 mm) for door swing.)	43 3/4 (1111)	43 3/4 (1111)	43 3/4 (1111)	43 3/4 (1111)
Back of case to rear of splashguard	39 7/8 (1013)	39 7/8 (1013)	39 7/8 (1013)	39 7/8 (1013)
Width of Skidrail	3 3/4 (95)	3 3/4 (95)	3 3/4 (95)	3 3/4 (95)
Width of Bottom Front Support	6 (152)	6 (152)	6 (152)	6 (152)
Stub-up area between front support and splashguard	3 1/8 (79)	3 1/8 (79)	3 1/8 (79)	3 1/8 (79)
<b>Electrical Service</b>				
<b>(B)</b> RH end of case to the center of nearest knockout RH end of case to the center of LH knockout Back O/S of case to center of knockout <b>* NOTE:</b> Electrical Field Wiring Connection Point is at terminal.				
	4 (102)	4 (102)	4 (102)	4 (102)
	58 (1473)	88 1/2 (2248)	118 7/8 (3019)	149 3/8 (3794)
	41 5/8 (1058)	41 5/8 (1058)	41 5/8 (1058)	41 5/8 (1058)
<b>Waste Outlet</b>				
<b>(C)</b> Right end of case to center of waste outlet Back O/S of case to center of waste outlet				
	23 7/8 (606)	54 1/4 (1378)	46 1/4 (1175)	76 5/8 (1946)
	34 5/8 (879)	34 5/8 (879)	34 5/8 (879)	34 5/8 (879)
<b>Water Seal</b>				
Edge of water seal to center of waste outlet Schedule 40 PVC drip pipe <b>** NOTE:</b> Field installed water seal outlets, tees, and connectors are shipped with case				
	13 (330)	13 (330)	13 (330)	13 (330)
	1 1/4 (32)	1 1/4 (32)	1 1/4 (32)	1 1/4 (32)
<b>Refrigeration Outlet</b>				
RH end of case to center of RH refrigeration outlet Back O/S of case to center of refrigeration outlet Outside bottom front supports from end of case Center bottom front support from Centerline <i>Distance between Center and Outside supports will vary</i>				
	5 3/8 (137)	5 3/8 (137)	5 3/8 (137)	5 3/8 (137)
	32 (813)	32 (813)	32 (813)	32 (813)
	6 3/4 (170)	6 3/4 (170)	6 3/4 (170)	6 3/4 (170)
	24 (610)	24 (610)	24 (610)	24 (610)

# Freedom Line Reach-in Top-Mount-Refrigeration Ready 2, 3, 4 & 5 Door Model

Standard Reach-in configuration consists of Innovator I doors, energy efficient fan motors, and LED vertical lighting.



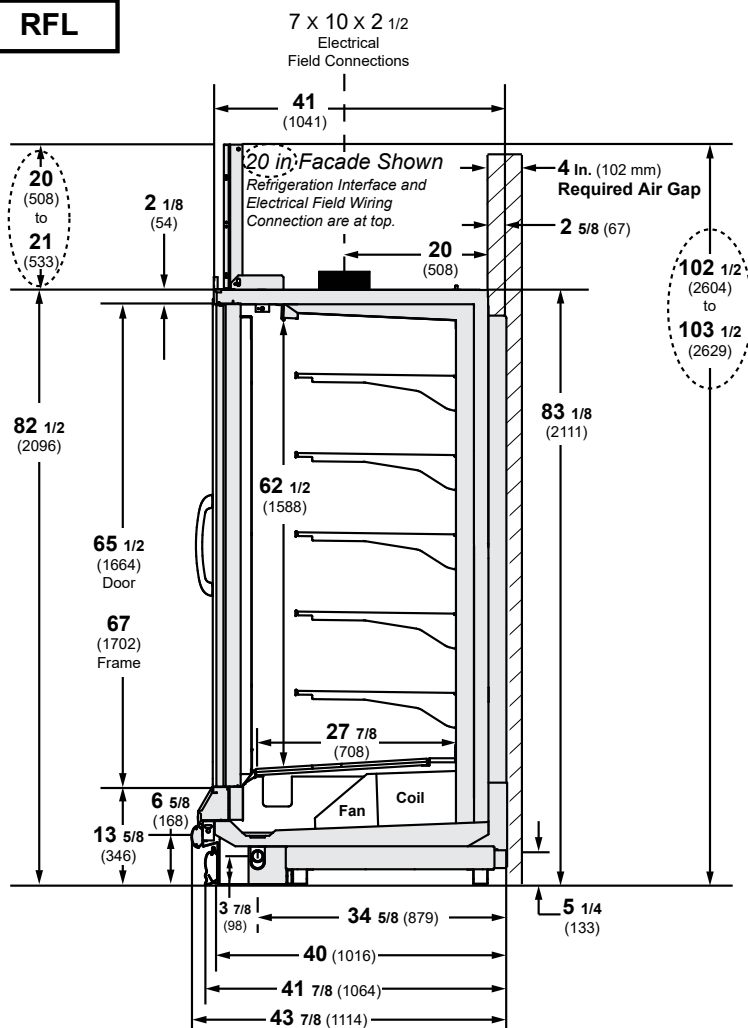
Husmann refrigerated merchandisers configured for sale for use in the United States meet or surpass the requirements of the DOE 2017 energy efficiency standards.

Provide adequate clearance for air circulation at rear to reduce condensation.

Dimensions shown as inches and (mm).

**Freedom  
Line  
RFL**

**RFL**



**Freedom Line RFL**

With Innovator Doors or Innovator III Doors  
Low Temperature

## REFRIGERATION DATA

Note: This data is based on store temperature and humidity that does not exceed 75°F and 55% R.H.

	FF	IC	AHRI Rating*
Discharge Air (°F)	-5	-12	-2
Evaporator (°F)	-11	-19	-7
Unit Sizing (°F)	-14	-22	-10

\*With door A/S controller

## Btu/hr/Door

### INNOVATOR

Parallel	955	1065	910
Conventional	970	1085	940

### INNOVATOR III

Parallel	935	1035
Conventional	955	1055

§ Average evaporator temperature shown. Use dew point for high glide refrigerants for unit sizing. Care should be taken to use the dew point in PT tables for measuring and adjusting superheat. Adjust evaporator pressure as needed to maintain discharge air temperature shown.

## DEFROST DATA

	FF	IC
Frequency (hr)	24	24
Defrost Water (lb/Dt/day)	1.2	1.2

(± 15% based on merchandiser configuration and product loading.)

<i>ELECTRIC</i>	FF	IC
Temp Term (°F)	48°	48°
Failsafe (minutes)	45	45

<i>GAS</i>	Not Available
<i>OFFTIME</i>	Not Recommended

Refrigeration data continued on page 4.

## NSF Certification

This merchandiser model is manufactured to meet NSF/ANSI (National Sanitation Foundation) Standard #7 requirements for construction, materials & cleanability.

## **Freedom Line RFL**

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Low Temperature

### **REFRIGERATION DATA CONTINUED**

#### **CONVENTIONAL CONTROLS**

	<b>Cut In</b>	<b>Cut Out</b>
<b>HPC (psig)</b>	320	395
<b>LPC (psig)</b>	15	5

#### **Working Charge<sup>1</sup>**

*Total working charge with recommended Hussmann Air-Cooled condensing unit installed:*

1 dr	2 lbs, 5 oz	/	1.04 kg
2 dr	6 lbs	/	2.72 kg
3 dr	6 lbs, 8 oz	/	2.95 kg
4 dr	6 lbs, 14 oz	/	3.13 kg
5 dr	7 lbs, 6 oz	/	3.36 kg

*Total working charge with recommended HMDSLMT Water-Cooled condensing unit installed:*

1 dr	1 lbs, 14 oz	/	0.86 kg
2 dr	2 lbs, 6 oz	/	1.09 kg
3 dr	3 lbs, 8 oz	/	1.59 kg
4 dr	4 lbs	/	1.81 kg
5 dr	6 lbs, 10 oz	/	2.99 kg

<sup>1</sup> The total refrigerant charge includes the case and condensing unit. Both ship pre-charged with a portion of the total refrigerant.

**Hussmann recommends against frame heater cycling with *Innovator doors or Innovator III* doors to prevent door seals from freezing to the frames and tearing.**

***Freedom Line RFL***  
**With Innovator Doors or Innovator III Doors**  
**Low Temperature**

## Electrical Data

	2Dr	3Dr	4Dr	5Dr				
Number of Fans—12W	2	3	4	5				
	Amperes				Watts			
Merchandiser	2Dr	3Dr	4Dr	5Dr	2Dr	3Dr	4Dr	5Dr
<b>Energy Efficient Evaporator Fan</b>								
120V 50/60Hz Innovator	0.60	0.90	1.20	1.50	36	54	72	90
<b>Door Anti-sweat Heaters (on fan circuit)</b>								
120V 50/60Hz Innovator	1.50	2.30	3.00	3.80	182	273	364	455
120V 50/60Hz Innovator III	0.9	1.3	1.7	2.2	104	156	208	260
<b>Frame Anti-sweat Heaters (on fan circuit)</b>								
120V 50/60Hz Innovator	0.78	1.18	1.57	1.97	94	141	188	236
<b>Heated Condensate Pan</b>	5.0	5.0	5.0	5.0	600	600	600	600
<b>Condensate Pump</b>	1.9	1.9	1.9	1.9	87	87	87	87
<b>Defrost</b>								
Drain Heaters (120V)	0.63	1.25	2.00	2.57	75	150	240	300
208V 1Ø Electric Defrost	6.72	10.08	13.46	16.82	1400	2100	2800	3500
<b>Maximum Overcurrent</b>								
Protection Device (MOPD)	20	20	20	20				

**ONLY LIGHTING CONFIGURATIONS THAT ARE COMPLIANT WITH THE U.S. DEPT. OF ENERGY (DOE) 2017 REGULATION ARE AVAILABLE FOR SALE FOR USE IN THE U.S.A.**

Standard Vertical LED Lighting	2Dr	3Dr	4Dr	5Dr	2Dr	3Dr	4Dr	5Dr
120V	0.31	0.46	0.62	0.77	37.1	55.6	74.2	92.7

† Notes:

1. Single point electrical input for the RFL Freedom case requires a 208/230V connection at the top of the case for the case components, defrost heater, and optional field-installed condensing unit.
2. For total electrical circuit requirements refer to the condensing unit data sheet and include any optional components.

*A qualified electrician should perform all wiring in accordance with the NEC code and/or all local codes. Wire sizing must take into account the total distance from the electrical panel to the Freedom case.*

## Freedom Line RFL

With Innovator Doors or Innovator III Doors  
Low Temperature

### Product Data

<i>Recommended Usable Cube</i> <sup>2</sup> ( <i>Cu Ft/Dr</i> )	25.14 ft <sup>3</sup> /Dr (0.71 m <sup>3</sup> /Dr)
<i>AHRI Total Display Area</i> <sup>1</sup> ( <i>Sq Ft/Dr</i> )	13.31 ft <sup>2</sup> /Dr (1.24 m <sup>2</sup> /Dr)
<i>Shelf Area</i> <sup>2</sup> ( <i>Sq Ft/Dr</i> )	29.32 ft <sup>2</sup> /Dr (2.72 m <sup>2</sup> /Dr)

<sup>1</sup> Computed using AHRI 1200 standard methodology: Total Display Area, ft<sup>2</sup> [m<sup>2</sup>]/Unit of Length, ft [m]

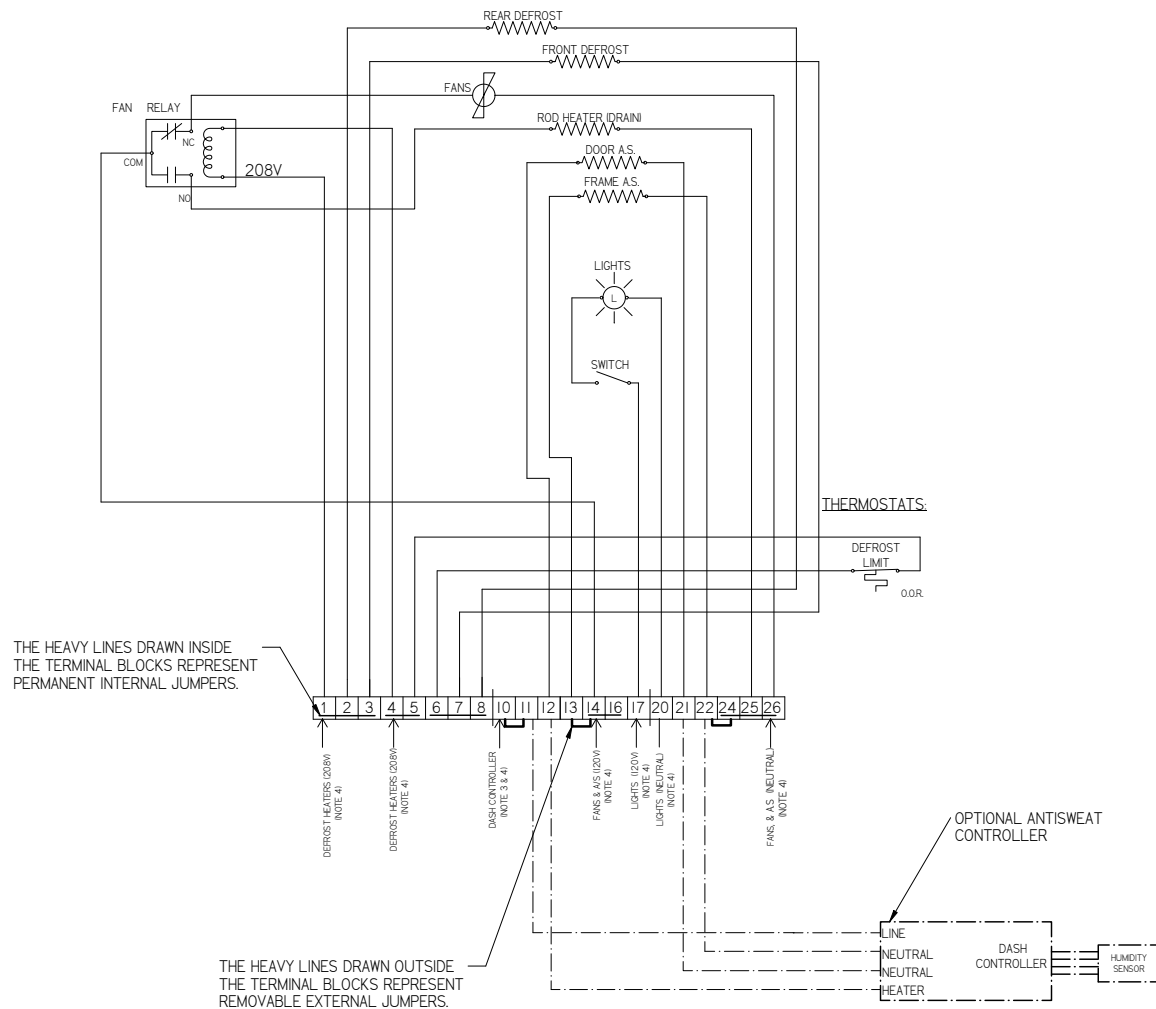
<sup>2</sup> Shelf Surface Area and Recommended Usable Cube are composed of bottom deck plus standard shelf complement, as shown in the Hussmann *Product Reference Guide*. The standard shelf complement for this model is (5) rows of 26-inch shelves.

#### ESTIMATED SHIPPING WEIGHT <sup>4</sup>

	<i>2 Dr</i>	<i>3 Dr</i>	<i>4 Dr</i>	<i>5 Dr</i>	<i>Solid End (each)</i>
<b>Standard Freedom Line Merchandiser (18-Inch Facade, no Arch)</b>					
<b>lb (kg)</b>	997 (453)	1295 (589)	1595 (725)	1874 (852)	55 (25)

<sup>4</sup> Actual weights will vary according to optional kits included.

***Freedom Line* RFL**  
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 Low Temperature



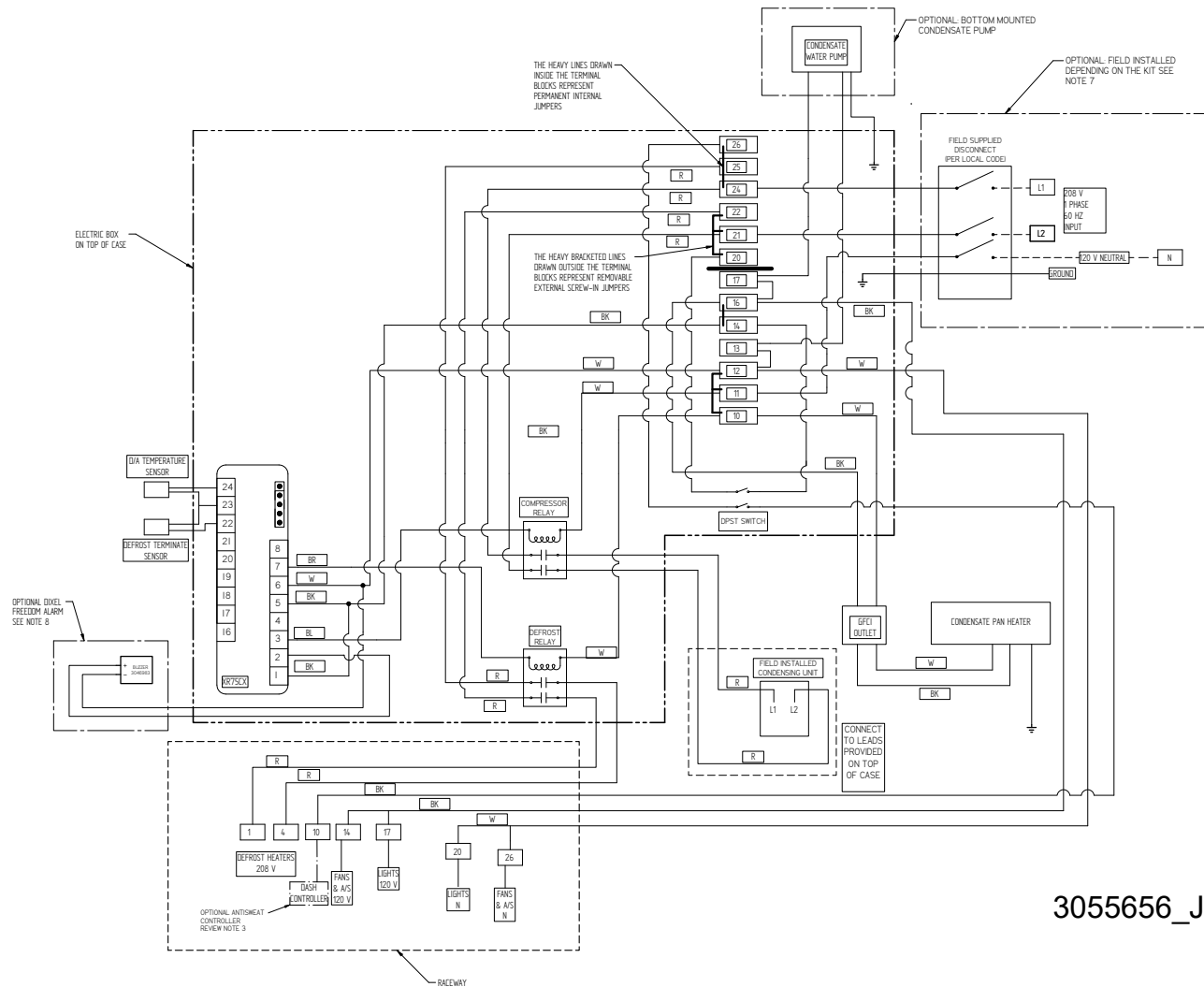
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### Electric Defrost Sequence - Low Temperature

1. Power from the defrost relay energizes Defrost Heaters and 208V Evaporator Fan Relay Coil (5). Relay Contacts open the fan circuit and energizes the Drain Pan Heater.
2. When Defrost Termination Thermostat ends defrost period, the defrost relay opens the Defrost Heater and Evaporator Fan Relay Coil Circuits. The Drain Pan Heater goes off and fans are on.

# Freedom Line RFL

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Low Temperature

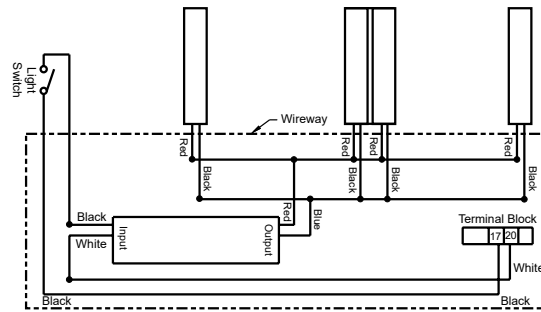


Single Point Wiring Diagram

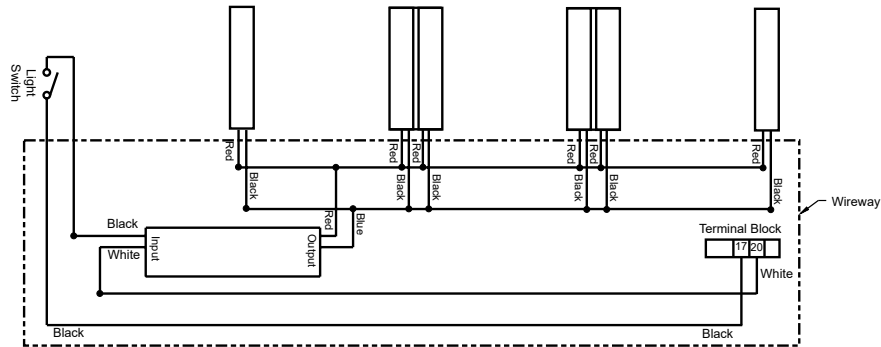


# Standard Vertical Lighting LED Fixtures

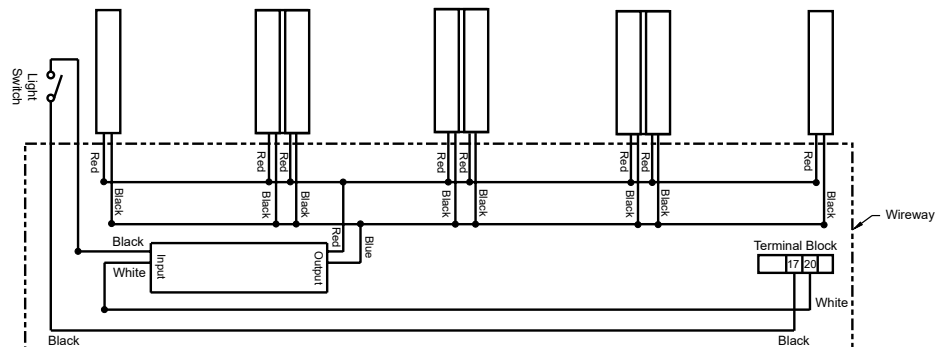
**Freedom Line RFL**  
With Innovator Doors or Innovator III Doors  
Low Temperature



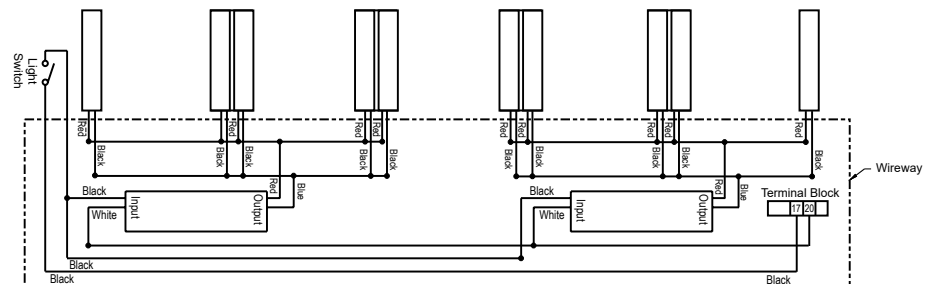
2 Door LED Light Wiring Diagram



3 Door LED Light Wiring Diagram



4 Door LED Light Wiring Diagram



5 Door LED Light Wiring Diagram

## WARNING

All components must have mechanical ground, and the merchandiser must be grounded.

R= Red Y = Yellow G = Green BL = Blue BK = Black W + White

● = 120V Power ○ = 120V Neutral  $\perp$  = Field Ground  $\text{---}||\text{---}$  = Case Ground

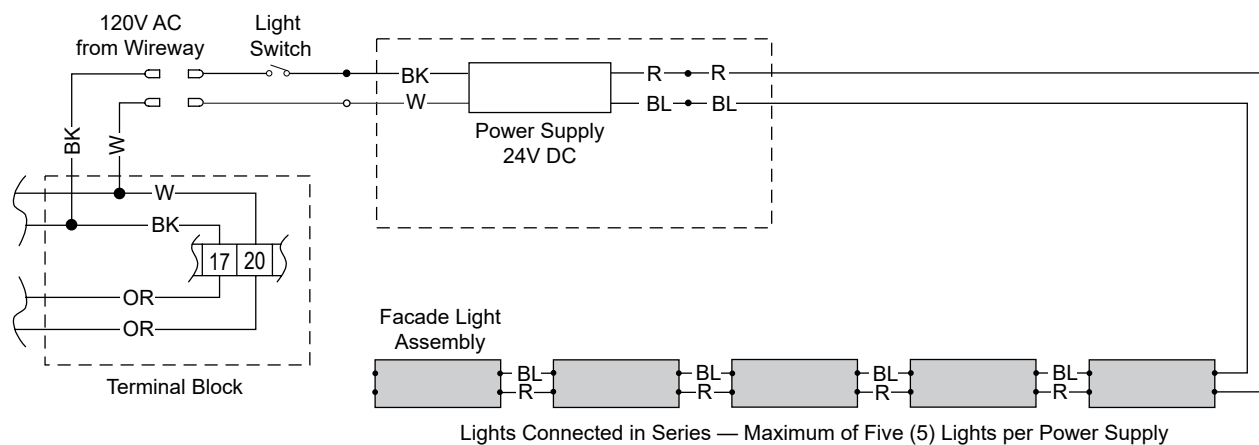
## Freedom Line RFL

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R = Red P = Purple 2P = Purple (2 Bands)  
DB = Dark Blue BK = Black BL = Blue  
BR = Brown Y = Yellow OR = Orange W = White

**THESE ARE MARKER COLORS (WIRE MAY VARY).**

### Optional External Facade LED Wiring



#### WARNING

All components must have mechanical ground, and the merchandiser must be grounded.

● = 120V Power

○ = 120V Neutral

⊥ = Field Ground

≡ = Case Ground