



Case No.: 13-0034 -EL-EEC

Mercantile Customer: Mr. Chuck, LLC - Poland Giant Eagle

Electric Utility: Ohio Edison Company

Program Title or
Description: Proj. 1 - Produce Track Lighting Upgrades
Proj. 2 - Ref. Case LED Retrofits
Proj. 3 - H.E. Refrigerated Cases

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. [10-834-EL-POR](#)

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up to the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Mercantile Customer Information

Name: Poland Giant Eagle

Principal address: 3130 Center Road Poland, OH 44515

Address of facility for which this energy efficiency program applies: 3130 Center Road Poland, OH 44515

Name and telephone number for responses to questions: Charles Zander (330) 757-3735

Electricity use by the customer (check the box(es) that apply):

- ☒ The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)
- ☐ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

Section 2: Application Information

A) The customer is filing this application (choose which applies):

- ☐ Individually, without electric utility participation.
- ☒ Jointly with the electric utility.

B) The electric utility is: Ohio Edison Company

C) The customer is offering to commit (check any that apply):

- ☐ Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☒ Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

- ☒ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)). **If Checked, Please see Exhibit 1 and Exhibit 2**
- ☐ Installation of new equipment to replace equipment that needed to be replaced. The customer installed new equipment on the following date(s): _____.
- ☐ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s): _____.
- ☐ Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

- 1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: 220,388 kWh

- 2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____ kWh

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment. **Please see Exhibit 1 if applicable**

- 3) If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____ kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment. **Please see Exhibit 1 if applicable**

- 4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

- ☒ Coincident peak-demand savings from the customer's energy efficiency program.
- ☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
- ☐ Potential peak-demand reduction (check the one that applies):
 - ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
 - ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

9/17/2012 - See Exhibit 2A

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

See Exhibit 2A - 33 kW

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

☒ Option 1: A cash rebate reasonable arrangement.

OR

☐ Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

☐ Commitment payment

B) The value of the option that the customer is seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

☒ A cash rebate of \$8,991.00. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for _____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

☐ A commitment payment valued at no more than \$_____. (Attach documentation and calculations showing how this payment amount was determined.)

OR

- ☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- ☐ Total Resource Cost (TRC) Test. The calculated TRC value is: _____(Continue to Subsection 1, then skip Subsection 2)
- ☒ Utility Cost Test (UCT) . The calculated UCT value is: **See Exhibit 3** (Skip to Subsection 2.)

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The incremental measure costs were _____.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were **See Exhibit 3**

The utility's program costs were **See Exhibit 3**

The utility's incentive costs/rebate costs were **See Exhibit 3**

Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.
- A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:
 - 1) any confidentiality requirements associated with the agreement;
 - 2) a description of any consequences of noncompliance with the terms of the commitment;
 - 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
 - 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
 - 5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.



Public Utilities Commission

Application to Commit
Energy Efficiency/Peak Demand
Reduction Programs
(Mercantile Customers Only)

Case No.: ~~EL-EEC~~ -EL-EEC

State of Ohio :

Charles Zander , Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Mr. Chuck, LLC dba Poland Giant Eagle

[insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.

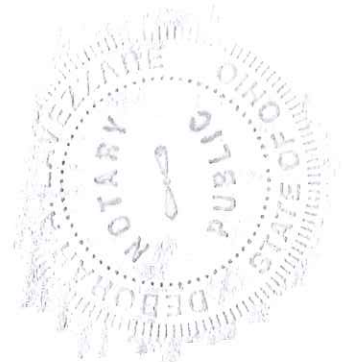
 *Managing Member*
Signature of Affiant & Title

Sworn and subscribed before me this 30 day of NOVEMBER, 2012 Month/Year


Signature of official administering oath

DEBORAH LAVEZZARE
Print Name and Title

My commission expires on 11.18.2015



Customer Legal Entity Name: Mr. Chuck L.C.C.

Site Address: Poland Giant Eagle

Principal Address: 3130 Center Road

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Produce Track Lighting Upgrades	(154) 150 watt Par38 track lights in the produce area were upgraded with (154) 24 watt LED lamps. The LED lamps use less energy than the incandescent floods and have a tighter beam angle, which helps to direct the light exactly where it is needed.	See the attached lighting calculator "GE 0688_Lighting Calculator.xls".	1 to 2 years. The decision to upgrade the produce lighting was made to conserve energy, increase light levels on the product displays, and reduce maintenance costs.	N/A
2	Refrigerated Case LED Retrofits	The existing refrigerated cases were lit by F58T8 fluorescent lamps with cold temperature electronic ballasts. The fluorescent lamps were replaced with GE Immersion 9 and 18 watt LED strips and electronic drivers. At total of 170 lamps were retrofitted.	Please see the attached lighting calculator "GE 0688_P2_Lighting Calculator.xls".	1 to 2 years. The decision to upgrade the lighting in the refrigerated cases was made to reduce energy use, increase light levels and reduce maintenance costs.	N/A
3	High Efficiency Refrigerated Cases	18 existing refrigerated food cases were replaced with 18 new cases with high efficiency options installed. Electrically commutated motors and LED lighting options were chosen instead of using the standard shaded pole motors and fluorescent lighting technology. While the standard cases require a lower initial financial commitment, the high efficiency cases require less energy to operate. The following high-efficiency Hill Phoenix cases were installed: (4) 6RBLH 12", (4) OHPH 8', (2) OHPH 12', (2) ON5DMH 8', (2) ON5DMH 12', (3) ON3UM 8', and ORZH 3 Door.	Please see the attached energy savings calculations "GE 0688_P3_Refrigerated Cases Calculations.pdf".	2 to 3 years. The decision to upgrade the refrigerated cases was made to reduce energy use, increase product shelf life and to reduce maintenance costs.	N/A

Docket No. 13-0034

Site: 3130 Center Road

Exhibit 2

Customer Legal Entity Name: Mr. Chuck L.C.C.
Site Address: Poland Giant Eagle
Principal Address: 3130 Center Road

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) <i>Note 1</i>
2011	2,306,160	2,306,160	2,306,160
Average	2,306,160	2,306,160	2,306,160

Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) \$	Eligible Rebate Amount (H) \$ <i>Note 2</i>	Commitment Payment \$
1	Produce Track Lighting Upgrades	10/30/2012	\$10,780	\$5,390	117,529	117,529	19	\$5,876	\$4,407	
2	Refrigerated Case LED Retrofits	09/17/2012	\$22,530	\$11,265	70,574	70,574	9	\$3,529	\$2,647	
3	High Efficiency Refrigerated Cases	11/08/2012	\$735,564	\$367,782	32,285	32,285	5	\$2,583	\$1,937	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
	Total		\$768,874		220,388	220,388	33	\$11,988	\$8,991	\$0

Docket No. 13-0034
Site: 3130 Center Road

Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) The eligible rebate amount is based upon 75% of the rebates offered by the FirstEnergy Commercial and Industrial Energy Efficiency programs or 75% of \$0.08/kWh for custom programs for all energy savings eligible for a cash rebate as defined in the PUCO order in Case NO.10-834-EL-EEC dated 9/15/2010, not to exceed the lesser of 50% of the project cost or \$250,000 per project. The rebate also cannot exceed \$500,000 per customer per year, per utility service territory.

Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	118	\$ 308	\$ 36,232	\$ 1,350	\$4,407	\$1,175	\$ 6,932	5.2
2	71	\$ 308	\$ 21,757	\$ 1,350	\$2,647	\$706	\$ 4,702	4.63
3	32	\$ 308	\$ 9,953	\$ 1,350	\$1,937	\$323	\$ 3,610	2.76
Total	220	\$ 308	67,941	4,050	\$8,991	\$2,204	15,245	4.5

Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) * (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Mr. Chuck L.C.C. ~ Poland Giant Eagle
Docket No. 13-0034

Site: 3130 Center Road

Lighting Inventory Form

Applicant Name:	Mr. Chuck LLC
Facility Name:	Giant Eagle Store #0050 Poland, Ohio
Date:	9/14/2012
Lighting Zone (select one):	Lighting Zone 2

Instructions: Please use one line for each fixture type in a room or area.
For existing or proposed control, choose OCC for Occupancy Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.
The total of Column 5, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive.

[illegible]

[illegible]

Project Estimated Annual Savings Summary

Lighting

Estimated Annual kWh Savings	117,529
Total Change in Connected Load	19.40

Annual Estimated Cost Savings	\$11,752.90
Annual Operating Hours	5,408

Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$5,876.45
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$0.00
Total retrofit CFL Incentive @ \$1/screw-in CFL lamp; \$15/hard-wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	\$0.00
Total retrofit LED Exit Incentive @ \$10/exit sign	\$0.00
Total Lighting Controls Incentive @ \$25/occupancy sensor and \$25/daylight sensor (includes all Lighting Controls, both interior and exterior)	\$0.00

Total Calculated Incentive	\$5,876.45
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Total Fixture Quantity excluding retrofit CFLs and LED Exit Signs	154
Total Lamp Quantity for retrofit Screw-In CFLs	0

Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	0
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimated your coincidence factor (CF) and applicant equivalent full-load hours (EFLH) for facility type "Other" indicated on the Lighting Form tab

This store is open from 7:00A.M - 10:00P.M. Monday - Saturday and 7:00A.M. - 9:00P.M. on Sunday.

Demand Savings (For Internal Use Only)	16.12
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Lighting Inventory Form

Applicant Name:	Mr. Chuck LLC
Facility Name:	Grant Eagle Store #0508 Poland, Ohio
Date:	11/29/2012
Location Zone (extension only):	Location Row 3

Instructions: Please use one line for each fixture type in a room or area.
For existing or proposed control, choose OCC for Occupancy Sensor, DAYLGT for photosensor, or NONE for none. Controls must save energy to qualify.
The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the Non-Standard Lighting form.

[illegible]

Project Estimated Annual Savings Summary

Lighting

Estimated Annual kWh Savings	70,574
Total Change in Connected Load	8.70

Annual Estimated Cost Savings	\$7,057.40
Annual Operating Hours	5,408

Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$3,528.70
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$0.00
Total retrofit CFL Incentive @ \$1/screw-in CFL lamp; \$15/hard-wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	\$0.00
Total retrofit LED Exit Incentive @ \$10/exit sign	\$0.00
Total Lighting Controls Incentive @ \$25/occupancy sensor and \$25/daylight sensor (includes all Lighting Controls, both interior and exterior)	\$0.00

Total Calculated Incentive	\$3,528.70
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Total Fixture Quantity excluding retrofit CFLs and LED Exit Signs	170
Total Lamp Quantity for retrofit Screw-In CFLs	0

Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	0
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimated your coincidence factor (CF) and applicant equivalent full-load hours (EFLH) for facility type "Other" indicated on the Lighting Form tab

This store is open from 7:00A.M - 10:00P.M. Monday - Saturday and 7:00A.M. - 9:00P.M. on Sunday.

Demand Savings (For Internal Use Only)	8.09
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Ohio Edison • The Illuminating Company • Toledo Edison

Mercantile Customer Program - Custom Project Rebate Calculator

Project Name and Number:	High Efficiency Refrigerated Cases
Site Name:	Giant Eagle #688 Poland
Completed by (Name):	Fazio Mechanical
Date completed:	11/8/2012

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08
HE Refrigerated Cases	32,285	2582.80
Total Project Energy Savings kWh	32,285	
Total Custom Prescriptive Rebate Amount \$		\$ 2,582.80

Notes about this rebate calculation:

Old refrigerated food cases were replaced with high-efficiency cases. The new cases were fitted with LED lighting and electrically commutated motors for an increase in energy and maintenance savings. The high efficiency measures were compared against the standard options of LED case lighting and shaded-pole motors to determine the energy savings. Please see the attached document "GE 0688_P3_Refrigerated Cases Calculations.pdf" for the calculated energy savings.

[illegible]

	Fans	Fans W after	Lights W Before	Lights W After
	180	84	420	21.6
	180	84	420	21.6
	540	252	560	31.9
	300	140	336	23.9
	480	224	224	19.9
	900	420	112	15.9
	900	420	112	15.9
	180	27.6	112	15.9
	180	27.6	112	15.9
	90	27.99	240	16
Fans Before kWh	33,660.5			
Fans After kWh	14,622.1			
Lights Before kWh	14,320.4			
Lights After kWh	1,073.5			



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STORE LOCATOR



Address

Poland Giant Eagle
 3130 Center Road
 Poland, OH 44514
 (330) 757-3735 (Store)
 (330) 757-4099 (Pharmacy)
 (330) 757-3774 (Pharmacy Fax)

Manager

Brenda Shuster

[CONTACT US](#)

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View

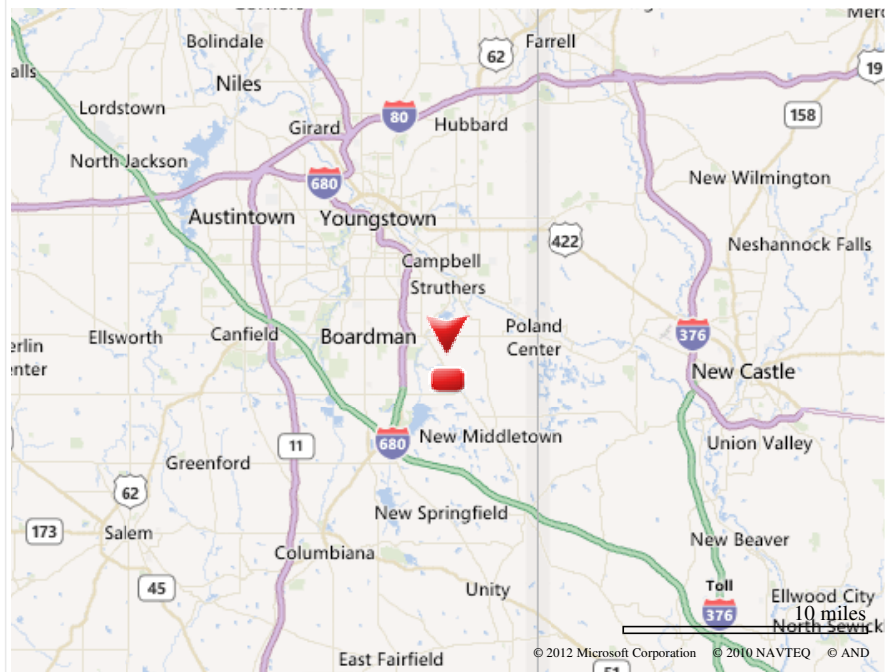
Sunday	7:00 AM - 9:00 PM
Monday	7:00 AM - 10:00 PM
Tuesday	7:00 AM - 10:00 PM
Wednesday	7:00 AM - 10:00 PM
Thursday	7:00 AM - 10:00 PM
Friday	7:00 AM - 10:00 PM
Saturday	7:00 AM - 10:00 PM

[see what's on sale!](#)

Departments


Bakery	Grocery Inedible
Bank (Huntington National Bank)	HBC
Beer	Hot Foods
Beer/Wine/Liquor	Immunizations
Cafe	Liquor
Dairy	Lottery
Deli	Meat
Dry Cleaning	Olive Bar
DVD Sales	Pharmacy
Floral	Photo Kiosk
Front End	Pizza
Frozen	Prepared Foods
General	Produce
General Merchandise	Redbox DVD Rental
Gift Card Mall	Kiosk
Gift Cards	Seafood
Grab & Go	Service Centers
Greeting Cards	Western Union
Grocery Edible	Wine

Map



Directions From ...

Address	City	State	Zip	
<input type="text"/>	<input type="text"/>	--Select	<input type="text"/>	GET DIRECTIONS

Bakery Hours		 Pharmacy Hours		Prepared Foods Hours	
		Dept. phone (330) 757-4099			
Sunday	7:00 AM - 8:00 PM	Sunday	9:00 AM - 5:00 PM	Sunday	7:00 AM - 7:00 PM
Monday	7:00 AM - 8:00 PM	Monday	9:00 AM - 9:00 PM	Monday	7:00 AM - 7:00 PM
Tuesday	7:00 AM - 8:00 PM	Tuesday	9:00 AM - 9:00 PM	Tuesday	7:00 AM - 7:00 PM
Wednesday	7:00 AM - 8:00 PM	Wednesday	9:00 AM - 9:00 PM	Wednesday	7:00 AM - 7:00 PM
Thursday	7:00 AM - 8:00 PM	Thursday	9:00 AM - 9:00 PM	Thursday	7:00 AM - 7:00 PM
Friday	7:00 AM - 8:00 PM	Friday	9:00 AM - 9:00 PM	Friday	7:00 AM - 7:00 PM
Saturday	7:00 AM - 8:00 PM	Saturday	9:00 AM - 7:00 PM	Saturday	7:00 AM - 7:00 PM
Deli Hours					
Sunday	7:00 AM - 9:00 PM				
Monday	7:00 AM - 10:00 PM				
Tuesday	7:00 AM - 10:00 PM				
Wednesday	7:00 AM - 10:00 PM				
Thursday	7:00 AM - 10:00 PM				
Friday	7:00 AM - 10:00 PM				

Saturday	7:00 AM - 10:00 PM
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Customer Care: 1-800-553-2324 (9:00 a.m. - 9:00 p.m. — 7 days a week)

[My HR eConnection](#) (Team Members Only — Login Required)

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DEFINITY™

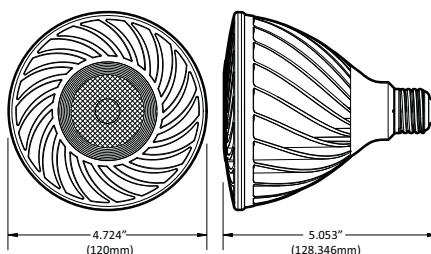
US & EUROPEAN SPECIFICATION SHEET PAR38 & PAR38 Hi-Output

BENEFITS

- Dimmable to 5% of light on most dimmers.³
- Up to four unique beam distributions for application flexibility.
- Suitable for damp locations.
- 18/24 Watts – 80% more efficient than comparable 90/120 Watt Halogen lamps.
- Maintenance free operation, lasts up to 16 times longer than conventional lighting.
- Superior thermal management allows for product usage in enclosed luminaires.
- Centralized optical package provides high quality point source beam versus pixilated designs.
- RoHS compliant – contains no mercury or lead.

FEATURES¹

Equivalent Source	
Standard	Up to 90W Halogen
High Output	Up to 120W Halogen
L70 lumen depreciation design criteria =	
	50,000 hours
Early Submission ENERGY STAR Life =	
	25,000 hours ²
Housing	Painted
Socket	E26 Edison base (US) E27 (Europe)
Beam Spread	10°, 15°, 25°, 40°
Spot, Narrow Flood, Flood	
Operating Temperature	-20° C to +40° C
MOL	5.05", 129mm
Voltage	120 & 230 VAC
Weight	1.54lbs., 700g
Power Factor	≥.77
Warranty	5 year limited
Standards	UL1993, File: E320663



Specifications supplied are nominal. Please refer to the DOE's Lighting Facts Tolerance Guidelines.
¹Values are nominal.

² Early Submission ENERGY STAR Life = 25,000 hours (L70 lumen depreciation design criteria = 50,000 hours.) For directional lamps, Energy Star early submission dictates that manufacturers can only claim 25,000 hour life with 3000 hour actual life test data, 6,000 hour LM80 data and in-situ temperature measurements. Once a product has been fully qualified, manufacturers may increase the lifetime of a product by demonstrating full compliance with the ENERGY STAR criteria at the new lifetime with Lumen Maintenance at the minimum required test period. Refer to Energy Star website.

³ See dimmer compatibility chart on next page.
⁴ 230V utilizes E27 base, otherwise consult factory.



ORDERING INFORMATION \ \ DFN 38 WW FL 120

Family	Product	Color (CCT)	Light Output	Distribution	Voltage
DFN Definity	38 PAR38	W27 Warm White 2700K	(leave blank for standard)	FL 40° Flood	120 120 Volt
		WW Warm White 3000K	V2 High Output	NFL 25° Narrow Flood	230 230 Volt ⁴
		NW Neutral White 4000K		SP 15° Spot	
		CW Cool White 5000K		NSP 10° Narrow Spot ⁴	

NORTH AMERICAN CERTIFICATIONS



EUROPEAN CERTIFICATIONS



ENVIRONMENT



DIMMER CAPABILITIES

Make	Model
Ace	34050, 3027596
Cooper	9536AD
Leviton	6633-PL, 6684, 6631, IPI06-ILX
Lutron	S-600PR-WH, DV-600PR-WH, TG-600PR-WH, AY600P, Q600P, GL600, CN-600PHW, DV-603PG, S-600, S-600P, LG-600P, D-600PH, TT-300NLH, TG-603PG, HW/LP-RPM-4A-120, HW/LP-RPM-4U-120, QSG-6D, SZ-6ND, HW/LP-RPM-4A-120, HW/LP-RPM-4U-120, HxD-6ND, QSG-6D, PHPM-WBX w/DVF-103P, PHPM-PA w/QSG-6D
Legrand	DrRD4W

EUROPEAN DIMMER CAPABILITIES

Make	Model
Base	BLI12-WIT
Baseline	Inbouw BLI12, Opbouw BLI15
Busch	2250U, 2200, 2247U, 2250U
Clipsal	32E450LM
Gira	030000/I01
Halolite	HADSP400, HADSP801
Ikea	Dimma EF700DC
Kopp	Rome 23278
Kupp	Rome 23278, Rome 23314, Rome 23316, Europa
Lichtregler	T43
Lumeo	Domus T-10
Lutron	LSSI-501B-FAW
Merten	5721, 5771
Niko	310-01701, 310-01401, 09-013
Peha	Drespa 21209, 2297-521, Tronic 433HAB, Drespa Primar815
Praxis	Halo
Siemens	u-Contact
WinTop	Top 13002, Top 13112, Top 13412
WyYun	W13-C142, W13-C152, W13-C162

Specifications supplied are nominal. Please refer to the DOE's Lighting Facts Tolerance Guidelines.

¹ Values are nominal.

² Early Submission ENERGY STAR Life = 25,000 hours (L70 lumen depreciation design criteria = 50,000 hours.) For directional lamps, Energy Star early submission dictates that manufacturers can only claim 25,000 hour life with 3000 hour actual life test data, 6,000 hour LM80 data and in-situ temperature measurements. Once a product has been fully qualified, manufacturers may increase the lifetime of a product by demonstrating full compliance with the ENERGY STAR criteria at the new lifetime with Lumen Maintenance at the minimum required test period. Refer to Energy Star website.

³ Specify 120V/230V

PAR38

Part Number	Base Type	Watts	Beam Angle ¹	Lumens	Voltage	Efficacy	CRI	CBCP	Energy Star ²
DFN 38 NW NFL XXX ³	E26/E27	18W	25	950	120/230	53	85	4099	✓
DFN 38 WW NFL XXX ³	E26/E27	18W	25	840	120/230	47	85	3493	✓
DFN 38 W27 NFL XXX ³	E26/E27	18W	25	850	120/230	47	85	3574	✓
DFN 38 CW NFL XXX ³	E26/E27	18W	25	1290	120/230	71	67	4711	
DFN 38 NW FL XXX ³	E26/E27	18W	40	890	120/230	49	85	1766	✓
DFN 38 WW FL XXX ³	E26/E27	18W	40	850	120/230	47	85	1568	✓
DFN 38 W27 FL XXX ³	E26/E27	18W	40	864	120/230	48	85	1658	
DFN 38 CW FL XXX ³	E26/E27	18W	40	1092	120/230	61	67	2030	
DFN 38 NW SP XXX ³	E26/E27	18W	15	950	120/230	53	85	6977	✓
DFN 38 WW SP XXX ³	E26/E27	18W	15	850	120/230	47	85	6055	✓
DFN 38 W27 SP XXX ³	E26/E27	18W	15	850	120/230	47	85	6194	✓
DFN 38 CW SP XXX ³	E26/E27	18W	15	1290	120/230	72	67	8019	
DFN 38 NW NSP XXX ³	E26/E27	18W	10	950	120/230	47	85	12600	
DFN 38 WW NSP XXX ³	E26/E27	18W	10	850	120/230	47	85	11200	
DFN 38 W27 NSP XXX ³	E26/E27	18W	10	850	120/230	53	85	11200	
DFN 38 CW NSP XXX ³	E26/E27	18W	10	1290	120/230	72	67	14400	

PAR38 Hi-Output

Part Number	Base Type	Watts	Beam Angle ¹	Lumens	Voltage	Efficacy	CRI	CBCP	Life
DFN 38 NW V2 NFL XXX ³	E26/E27	24W	25	1375	120/230	57	85	5500	50,000
DFN 38 WW V2 NFL XXX ³	E26/E27	24W	25	1300	120/230	54	85	5200	50,000
DFN 38 W27 V2 NFL XXX ³	E26/E27	24W	25	1250	120/230	52	85	5000	50,000
DFN 38 CW V2 NFL XXX ³	E26/E27	24W	25	1460	120/230	61	67	5900	50,000
DFN 38 NW V2 FL XXX ³	E26/E27	24W	40	1375	120/230	57	85	2500	50,000
DFN 38 WW V2 FL XXX ³	E26/E27	24W	40	1300	120/230	54	85	2400	50,000
DFN 38 W27 V2 FL XXX ³	E26/E27	24W	40	1250	120/230	52	85	2250	50,000
DFN 38 CW V2 FL XXX ³	E26/E27	24W	40	1460	120/230	61	67	2700	50,000
DFN 38 NW V2 SP XXX ³	E26/E27	24W	15	1375	120/230	57	85	9400	50,000
DFN 38 WW V2 SP XXX³	E26/E27	24W	15	1300	120/230	54	85	8900	50,000
DFN 38 W27 V2 SP XXX ³	E26/E27	24W	15	1250	120/230	52	85	8500	50,000
DFN 38 CW V2 SP XXX ³	E26/E27	24W	15	1460	120/230	61	67	10000	50,000
DFN 38 NW V2 NSP XXX ³	E26/E27	24W	10	1375	120/230	57	85	18200	50,000
DFN 38 WW V2 NSP XXX ³	E26/E27	24W	10	1300	120/230	54	85	17200	50,000
DFN 38 W27 V2 NSP XXX ³	E26/E27	24W	10	1250	120/230	52	85	16500	50,000
DFN 38 CW V2 NSP XXX ³	E26/E27	24W	10	1460	120/230	61	67	19200	50,000

NFL: Narrow Flood FL: Flood SP: Spot NSP: Narrow Spot NW: Neutral White WW: Warm White W27: Warm White 2700K
CW: Cool White CBCP: Center Beam Candle Power

Cautions

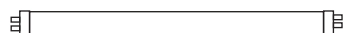
- Turn power off before inspection, installation, or removal.
- Risk of Electric Shock – Do not use where directly exposed to water or weather.
- For use in completely enclosed fixtures.
- Suitable for damp locations
- Do not open – no user serviceable parts inside.
- North America use on 120VAC, 50-60 Hz circuits, RoW use on 220-240, 50 Hz.
- This device is not intended for use with emergency exit fixtures or emergency exit lights.
- Added weight of the device may cause instability of a free-standing portable luminaire.
- Use only with a portable table lamp that is provided with a shade.
- Use in portable table lamps in which the distance from the bottom of the base to the top of the lampholder does not exceed three (3) times the minimum base diameter.
- This device complies with Part 15 of the FCC rules and has been tested and found to comply with the limits for a Class B digital device. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
- For compatible dimmers, see www.LSGC.com/Library

SPECIFICATION SHEET : IH2-UNV-270-T8

This Is An Original Product From Fulham Co., Inc

Description : Universal Voltage, Auto Restart With Cold Starting Feature For Refrigeration Application/s.

This Ballast Will Operate Following Lamps.

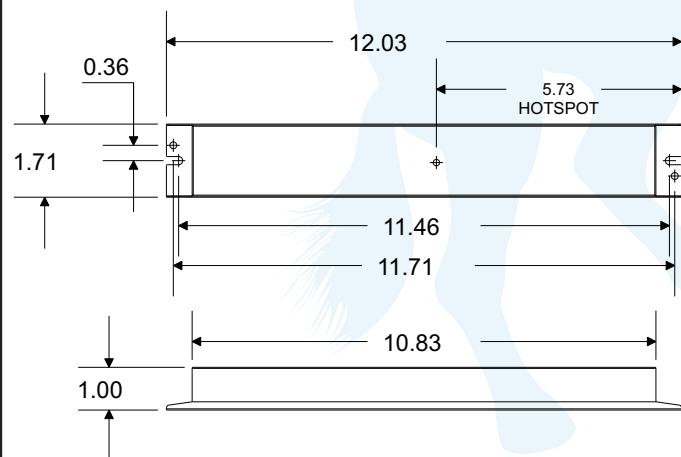


F58T8, F70T8

ELECTRICAL DATA (120V APPLICATION)

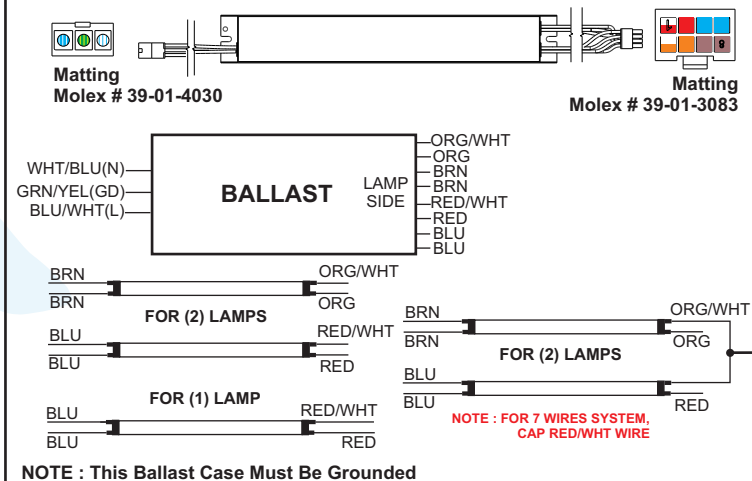
INPUT VOLT: 120V \pm 10% , 50/60Hz						
LAMP WATTS/TYPE	F58T8	F70T8	F58T8	F70T8	-	-
LAMPS OPERATED	1	1	2	2		
INPUT POWER (W)	66	78	133	157		
LINE CURRENT	0.56	0.65	1.11	1.31		
POWER FACTOR	> 0.9					
THD	< 10 %					
CURRENT CREST FACTOR	< 1.7					
EMI/RFI COMPLIANCE	FCC PART 18-A (Non-Consumer)					
SOUND RATING	" A "					
BALLAST TYPE	PROGRAMMED PREHEAT START					
VOLTAGE TRANSIENTS	ANSI 62.41					
INPUT/PROTECTION	FUSE					
OUTPUT/PROTECTION	DEACTIVATED LAMP PROTECTION					
MIN. OPERATING TEMP	-30 $^{\circ}$ C (-22 $^{\circ}$ F)					
MAX. CASE TEMP	70 $^{\circ}$ C (158 $^{\circ}$ F)					
TYPE	"CC"					
APPROVALS/CLASS	UL /cUL LISTED, CLASS " P ", 1 OUTDOOR					

MECHANICAL DATA



WIRING DIAGRAM

WIRES	WHT	BLK	GRN					
LENGTH-INCHES	7 \pm 1"	7 \pm 1"	7 \pm 1"					
WIRES	ORG/WHT	ORG	BRN	BRN	RED/WHT	RED	BLU	BLU
LENGTH-INCHES	7 \pm 1"	7 \pm 1"	7 \pm 1"	7 \pm 1"	7 \pm 1"	7 \pm 1"	7 \pm 1"	7 \pm 1"



Fulham Co., Inc extends limited warranty only to the original purchaser or to the first user for the period of **3 years** from the date of manufacture as indicated by the date code stamped on each product and when properly installed and under normal conditions of use. For additional warranty guide line, please refer to our Complete Product Catalog OR call Customer Service at 1-323-599-5000.

DUE TO A PROGRAM OF CONTINUOUS IMPROVEMENT, FULHAM Co., INC RESERVES THE RIGHT TO MAKE ANY VARIATION IN DESIGN OR CONSTRUCTION TO THE EQUIPMENT DESCRIBED.

Address : 12705 South Van Ness Ave., Hawthorne, CA 90250 Tel.: 1-323-599-5000, Fax.: 1-323-754-9060. Website: www.fulham.com 2006-142-1 rev C



Commercial Products & Solutions

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GE T8

[Print this Page](#)[Convert to PDF](#)**GENERAL CHARACTERISTICS**

Lamp type	Linear Fluorescent - Straight Linear
Bulb	T8
Base	Medium Bi-Pin (G13)
Wattage	58
Rated Life	20000 hrs
Bulb Material	Soda lime

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	5200
Mean Lumens	4940
Nominal Initial Lumens per Watt	89
Color Temperature	4000 K
Color Rendering Index (CRI)	85

ELECTRICAL CHARACTERISTICS

Lamp Current	0.700 A
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DIMENSIONS

Nominal Length	60
Bulb Diameter (DIA)	1
Max Base Face to Base Face (A)	1500

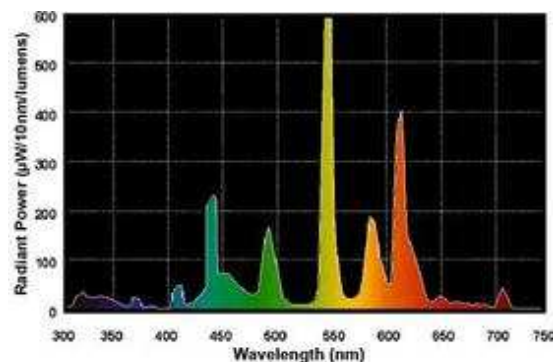
PRODUCT INFORMATION

Product Code	40081
Description	F58T8/841PLYLXLR
Standard Package	Case
Standard Package GTIN	10043168400814
Standard Package Quantity	25
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	25
UPC	043168400817

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
99651	GE254MVPS90-F	2	0.99	1.09

Base

[View Larger](#)**ADDITIONAL RESOURCES**[Catalogs](#)[Testimonials](#)[Disposal Policies & Recycling Information](#)**GRAPHS & CHARTS****Spectral Power Distribution**

IMMERSION™

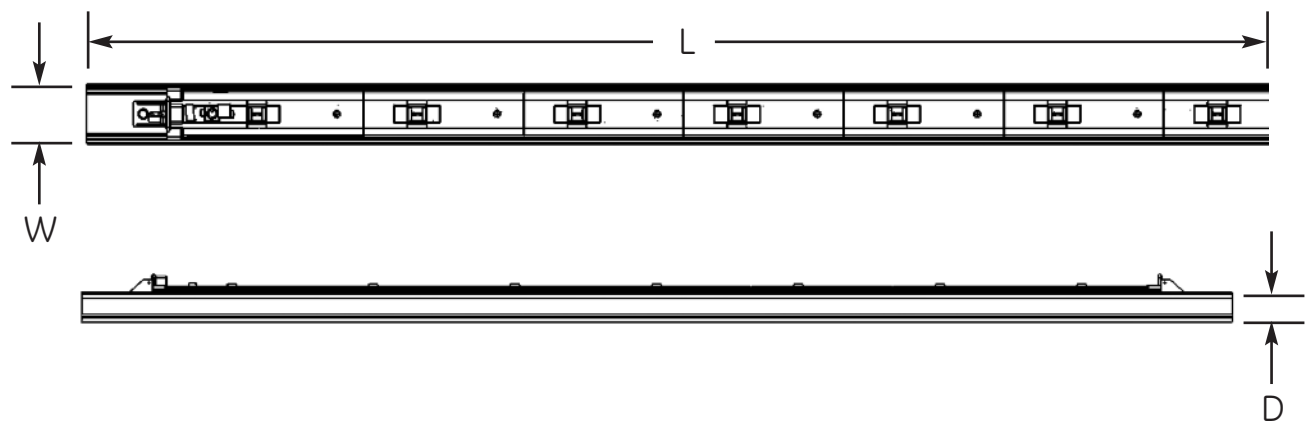
LED Refrigerated Display Lighting

Vertical Cases
RV40 Series

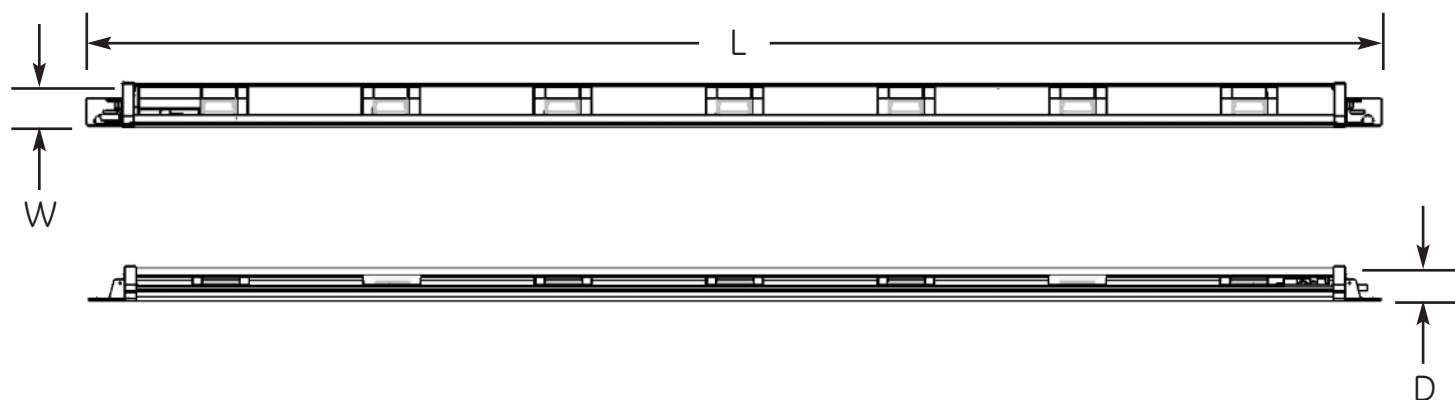


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LED Lights

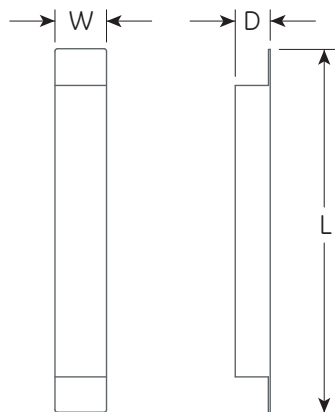


Center LED Lights

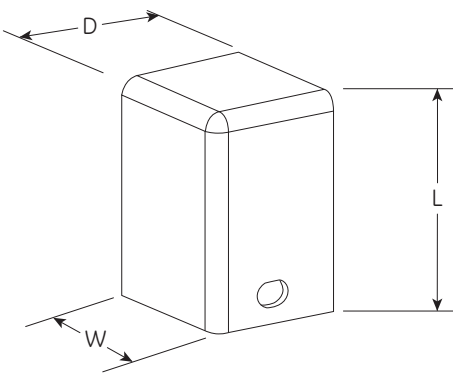


End LED Lights

Accessories



LED Driver



Wire Cover

Product Code (Single)	Description	Item	DIMENSIONAL DATA		
			Length (L)	Width (W)	Depth (D)
79813	GEPS4000NCMUL-SY	LED Driver	(inch) 10.75	1.65	1.05
			(mm) 273	42	26.7
79814	GE-CV-4060CTR	Wire Cover	(inch) 1.77	1.42	1.19
			(mm) 45.01	36	30.23

	Product Code (Single)	Product Code (10-Pack)	Description	Item	PERFORMANCE DATA							DIMENSIONAL DATA			
					Color Temp (K)*	Lumens**	LPW	Lumens Per ft (m)	Life (Hours)	CRI (Typical)	Power (Watts)***	Length (L)	Width (W)	Depth (D)	
5000K	79777	79780	GELT403050CTR-SY, -SB	30" LED Light - Center	5000	644	71.6	258 846	50,000	75	9	(inch) (mm)	29.30 744.2	2.58 65.5	1.28 32.5
	79778	79781	GELT403050EDR-SY, -SB	30" LED Light - Right End	5000	379	79	152 500	50,000	75	4.8	(inch) (mm)	29.30 744.2	2.06 52.4	1.59 40.4
	79779	79782	GELT403050EDL-SY, -SB	30" LED Light - Left End											
	79795	79798	GELT403650CTR-SY, -SB	36" LED Light - Center	5000	652	68.6	217 712	50,000	75	9.5	(inch) (mm)	35.16 893.1	2.58 65.5	1.28 32.5
	79796	79799	GELT403650EDR-SY, -SB	36" LED Light - Right End	5000	395	79	132 433	50,000	75	5	(inch) (mm)	35.16 893.1	2.06 52.4	1.59 40.4
	79797	79800	GELT403650EDL-SY, -SB	36" LED Light - Left End											
	65602	65605	GELT404850CTR-SY, -SB	48" LED Light - Center	5000	872	74.5	218 715	50,000	75	11.7	(inch) (mm)	48.50 1232.4	2.60 65.5	1.30 32.5
	65603	65606	GELT404850EDR-SY, -SB	48" LED Light - Right End	5000	477	78.2	119 390	50,000	75	6.1	(inch) (mm)	48.50 1232.4	2.10 52.3	1.60 40.4
	65604	65607	GELT404850EDL-SY, -SB	48" LED Light - Left End											
	79741	79744	GELT406050CTR-SY, -SB	60" LED Light - Center	5000	1070	66.9	214 702	50,000	75	16	(inch) (mm)	60.3 1532	2.58 65.5	1.28 32.5
	79742	79745	GELT406050EDR-SY, -SB	60" LED Light - Right End	5000	650	81.3	130 427	50,000	75	8	(inch) (mm)	60.3 1532	2.06 52.4	1.59 40.4
	79743	79746	GELT406050EDL-SY, -SB	60" LED Light - Left End											
	79759	79762	GELT407050CTR-SY, -SB	70" LED Light - Center	5000	1268	65.7	227 744	50,000	75	19.3	(inch) (mm)	70.75 1797.1	2.58 65.5	1.28 32.5
	79760	79763	GELT407050EDR-SY, -SB	70" LED Light - Right End	5000	739	78.9	132 434	50,000	75	10	(inch) (mm)	70.75 1797.1	2.06 52.4	1.59 40.4
	79761	79764	GELT407050EDL-SY, -SB	70" LED Light - Left End											
4000K	79783	79786	GELT403040CTR-SY, -SB	30" LED Light - Center	4000	606	67.3	242 794	50,000	80	9	(inch) (mm)	29.30 744.2	2.58 65.5	1.28 32.5
	79784	79787	GELT403040EDR-SY, -SB	30" LED Light - Right End	4000	335	69.8	134 440	50,000	80	4.8	(inch) (mm)	29.30 744.2	2.06 52.4	1.59 40.4
	79785	79788	GELT403040EDL-SY, -SB	30" LED Light - Left End											
	79801	79804	GELT403640CTR-SY, -SB	36" LED Light - Center	4000	638	67.2	213 699	50,000	80	9.5	(inch) (mm)	35.16 893.1	2.58 65.5	1.28 32.5
	79802	79805	GELT403640EDR-SY, -SB	36" LED Light - Right End	4000	331	66.2	110 361	50,000	80	5	(inch) (mm)	35.16 893.1	2.06 52.4	1.59 40.4
	79803	79806	GELT403640EDL-SY, -SB	36" LED Light - Left End											
	65608	65611	GELT404840CTR-SY, -SB	48" LED Light - Center	4000	806	68.9	202 663	50,000	80	11.7	(inch) (mm)	48.50 1232.4	2.60 65.5	1.30 32.5
	65609	65612	GELT404840EDR-SY, -SB	48" LED Light - Right End	4000	441	72.3	110 361	50,000	80	6.1	(inch) (mm)	48.50 1232.4	2.10 52.3	1.60 40.4
	65610	65613	GELT404840EDL-SY, -SB	48" LED Light - Left End											
	79747	79750	GELT406040CTR-SY, -SB	60" LED Light - Center	4000	1070	59	213 698	50,000	80	18	(inch) (mm)	60.3 1532	2.58 65.5	1.28 32.5
	79748	79751	GELT406040EDR-SY, -SB	60" LED Light - Right End	4000	650	72	129 424	50,000	80	9	(inch) (mm)	60.3 1532	2.06 52.4	1.59 40.4
	79749	79752	GELT406040EDL-SY, -SB	60" LED Light - Left End											
	79765	79768	GELT407040CTR-SY, -SB	70" LED Light - Center	4000	1213	62.8	217 712	50,000	80	19.3	(inch) (mm)	70.75 1797.1	2.58 65.5	1.28 32.5
	79766	79769	GELT407040EDR-SY, -SB	70" LED Light - Right End	4000	695	69.5	124 408	50,000	80	10	(inch) (mm)	70.75 1797.1	2.06 52.4	1.59 40.4
	79767	79770	GELT407040EDL-SY, -SB	70" LED Light - Left End											
3500K	65614	65617	GELT404835CTR-SY, -SB	48" LED Light - Center	3500	753	64.4	188 617	50,000	80	11.7	(inch) (mm)	48.50 1232.4	2.60 65.5	1.30 32.5
	65615	65618	GELT404835EDR-SY, -SB	48" LED Light - Right End	3500	416	68.2	104 341	50,000	80	6.1	(inch) (mm)	48.50 1232.4	2.10 52.3	1.60 40.4
	65616	65619	GELT404835EDL-SY, -SB	48" LED Light - Left End											
	79753	79756	GELT406035CTR-SY, -SB	60" LED Light - Center	3500	1055	58.6	211 692	50,000	80	18	(inch) (mm)	60.3 1532	2.58 65.5	1.28 32.5
	79754	79757	GELT406035EDR-SY, -SB	60" LED Light - Right End	3500	589	65.4	118 386	50,000	80	9	(inch) (mm)	60.3 1532	2.06 52.4	1.59 40.4
	79755	79758	GELT406035EDL-SY, -SB	60" LED Light - Left End											
	79771	79774	GELT407035CTR-SY, -SB	70" LED Light - Center	3500	1148	59.5	205 674	50,000	80	19.3	(inch) (mm)	70.75 1797.1	2.58 65.5	1.28 32.5
	79772	79775	GELT407035EDR-SY, -SB	70" LED Light - Right End	3500	649	64.9	116 381	50,000	80	10	(inch) (mm)	70.75 1791.1	2.06 52.4	1.59 40.4
	79773	79776	GELT407035EDL-SY, -SB	70" LED Light - Left End											

*Color temp (CCT) +/- 10%

**Based on typical in-store performance.

***System watts Typ AC based on Typical in-store performance

LED Driver Performance Data

79813
GEPS4000NCMUL-SY

	Min	Typical	Max
Input Voltage (VAC)	100		240
Input Current (A)		1	
Input Line Frequency (Hz)		50/60	
LED Light Output Voltage (VDC)		12	
Output Power (W)			60
Max Output Current (A)		5	
Total Harmonic Distortion		N/A*	
Power Factor at >80% Load (48W @ 120 VAC, 48W @ 240VAC)	0.9		
Operating Temperature Range (°C)	-20 C		45 C
Storage Temperature Range (°C)	-40 C		70 C

Conforms to the following standards:



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class [A] RFLD complies with the Canadian standard ICES-005.
Ce DEFR de la classe [A] est conforme à la NMB-005 du Canada.



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1 - 8 8 8 - 6 9 - 4 3 - 5 3 3

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DISP030-R092111

GE
Lighting Solutions

Technical Guide

IMMERSION™

LED Refrigerated Display Lighting

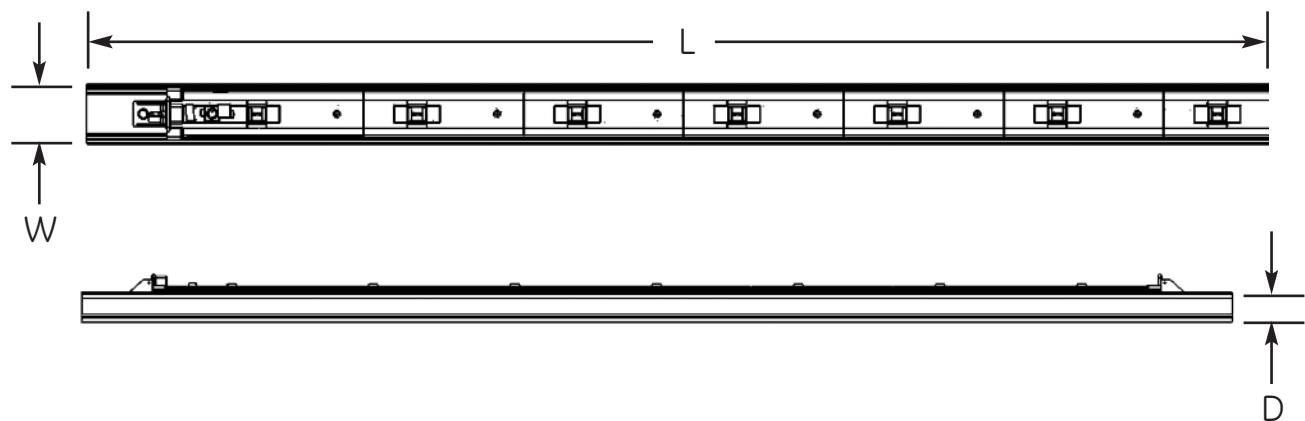
Vertical Cases
RV40 Series



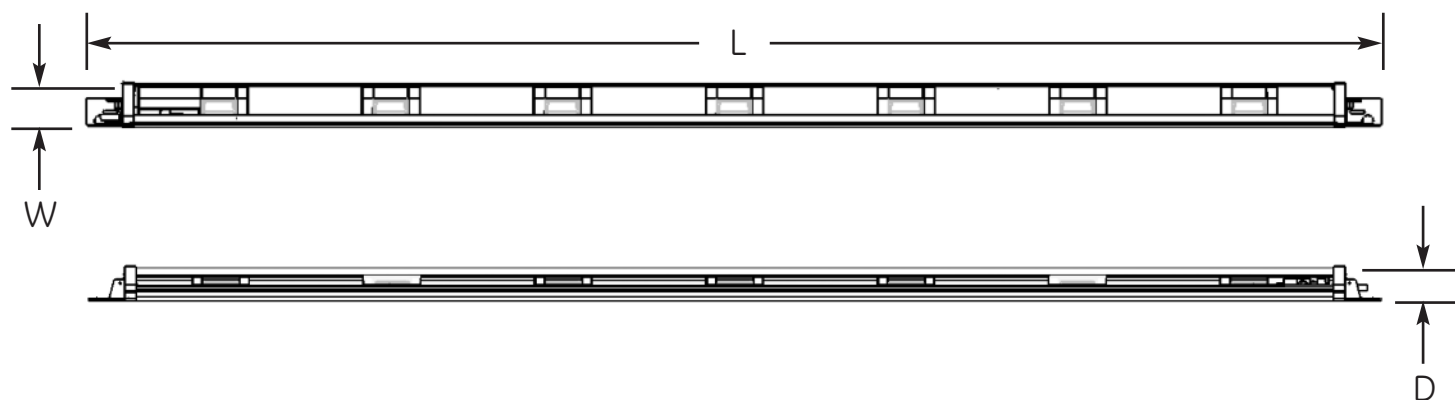
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LED Lights

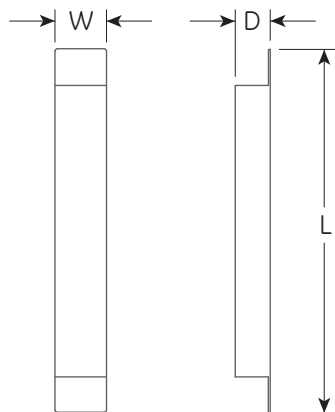


Center LED Lights

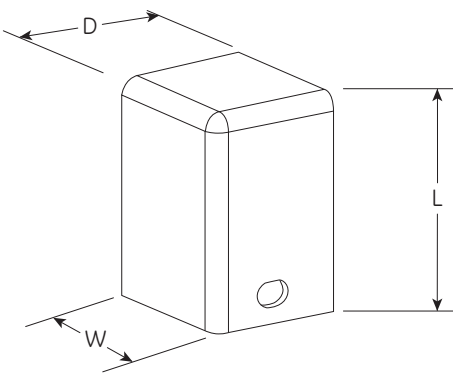


End LED Lights

Accessories



LED Driver



Wire Cover

Product Code (Single)	Description	Item	DIMENSIONAL DATA		
			Length (L)	Width (W)	Depth (D)
79813	GEPS4000NCMUL-SY	LED Driver	(inch) 10.75	1.65	1.05
			(mm) 273	42	26.7
79814	GE-CV-4060CTR	Wire Cover	(inch) 1.77	1.42	1.19
			(mm) 45.01	36	30.23

	Product Code	Product Code			PERFORMANCE DATA							DIMENSIONAL DATA			
	(Single)	(10-Pack)	Description	Item	Color Temp (K)*	Lumens**	LPW	Lumens Per ft (m)	Life (Hours)	CRI (Typical)	Power (Watts)***	Length (L)	Width (W)	Depth (D)	
5000K	79777	79780	GELT403050CTR-SY, -SB	30" LED Light - Center	5000	644	71.6	258 846	50,000	75	9	(inch) (mm)	29.30 744.2	2.58 65.5	1.28 32.5
	79778	79781	GELT403050EDR-SY, -SB	30" LED Light - Right End	5000	379	79	152	50,000	75	4.8	(inch)	29.30	2.06	1.59
	79779	79782	GELT403050EDL-SY, -SB	30" LED Light - Left End				500				(mm)	744.2	52.4	40.4
	79795	79798	GELT403650CTR-SY, -SB	36" LED Light - Center	5000	652	68.6	217 712	50,000	75	9.5	(inch) (mm)	35.16 893.1	2.58 65.5	1.28 32.5
	79796	79799	GELT403650EDR-SY, -SB	36" LED Light - Right End	5000	395	79	132	50,000	75	5	(inch)	35.16	2.06	1.59
	79797	79800	GELT403650EDL-SY, -SB	36" LED Light - Left End				433				(mm)	893.1	52.4	40.4
	65602	65605	GELT404850CTR-SY, -SB	48" LED Light - Center	5000	872	74.5	218 715	50,000	75	11.7	(inch) (mm)	48.50 1232.4	2.60 65.5	1.30 32.5
	65603	65606	GELT404850EDR-SY, -SB	48" LED Light - Right End	5000	477	78.2	119	50,000	75	6.1	(inch)	48.50	2.10	1.60
	65604	65607	GELT404850EDL-SY, -SB	48" LED Light - Left End				390				(mm)	1232.4	52.3	40.4
	79741	79744	GELT406050CTR-SY, -SB	60" LED Light - Center	5000	1070	66.9	214 702	50,000	75	16	(inch) (mm)	60.3 1532	2.58 65.5	1.28 32.5
	79742	79745	GELT406050EDR-SY, -SB	60" LED Light - Right End	5000	650	81.3	130	50,000	75	8	(inch)	60.3	2.06	1.59
	79743	79746	GELT406050EDL-SY, -SB	60" LED Light - Left End				427				(mm)	1532	52.4	40.4
	79759	79762	GELT407050CTR-SY, -SB	70" LED Light - Center	5000	1268	65.7	227 744	50,000	75	19.3	(inch) (mm)	70.75 1797.1	2.58 65.5	1.28 32.5
	79760	79763	GELT407050EDR-SY, -SB	70" LED Light - Right End	5000	739	78.9	132	50,000	75	10	(inch)	70.75	2.06	1.59
	79761	79764	GELT407050EDL-SY, -SB	70" LED Light - Left End				434				(mm)	1797.1	52.4	40.4
4000K	79783	79786	GELT403040CTR-SY, -SB	30" LED Light - Center	4000	606	67.3	242 794	50,000	80	9	(inch) (mm)	29.30 744.2	2.58 65.5	1.28 32.5
	79784	79787	GELT403040EDR-SY, -SB	30" LED Light - Right End	4000	335	69.8	134	50,000	80	4.8	(inch)	29.30	2.06	1.59
	79785	79788	GELT403040EDL-SY, -SB	30" LED Light - Left End				440				(mm)	744.2	52.4	40.4
	79801	79804	GELT403640CTR-SY, -SB	36" LED Light - Center	4000	638	67.2	213 699	50,000	80	9.5	(inch) (mm)	35.16 893.1	2.58 65.5	1.28 32.5
	79802	79805	GELT403640EDR-SY, -SB	36" LED Light - Right End	4000	331	66.2	110	50,000	80	5	(inch)	35.16	2.06	1.59
	79803	79806	GELT403640EDL-SY, -SB	36" LED Light - Left End				361				(mm)	893.1	52.4	40.4
	65608	65611	GELT404840CTR-SY, -SB	48" LED Light - Center	4000	806	68.9	202 663	50,000	80	11.7	(inch) (mm)	48.50 1232.4	2.60 65.5	1.30 32.5
	65609	65612	GELT404840EDR-SY, -SB	48" LED Light - Right End	4000	441	72.3	110	50,000	80	6.1	(inch)	48.50	2.10	1.60
	65610	65613	GELT404840EDL-SY, -SB	48" LED Light - Left End				361				(mm)	1232.4	52.3	40.4
	79747	79750	GELT406040CTR-SY, -SB	60" LED Light - Center	4000	1070	59	213 698	50,000	80	18	(inch) (mm)	60.3 1532	2.58 65.5	1.28 32.5
	79748	79751	GELT406040EDR-SY, -SB	60" LED Light - Right End	4000	650	72	129	50,000	80	9	(inch)	60.3	2.06	1.59
	79749	79752	GELT406040EDL-SY, -SB	60" LED Light - Left End				424				(mm)	1532	52.4	40.4
	79765	79768	GELT407040CTR-SY, -SB	70" LED Light - Center	4000	1213	62.8	217 712	50,000	80	19.3	(inch) (mm)	70.75 1797.1	2.58 65.5	1.28 32.5
	79766	79769	GELT407040EDR-SY, -SB	70" LED Light - Right End	4000	695	69.5	124	50,000	80	10	(inch)	70.75	2.06	1.59
	79767	79770	GELT407040EDL-SY, -SB	70" LED Light - Left End				408				(mm)	1797.1	52.4	40.4
3500K	65614	65617	GELT404835CTR-SY, -SB	48" LED Light - Center	3500	753	64.4	188 617	50,000	80	11.7	(inch) (mm)	48.50 1232.4	2.60 65.5	1.30 32.5
	65615	65618	GELT404835EDR-SY, -SB	48" LED Light - Right End	3500	416	68.2	104	50,000	80	6.1	(inch)	48.50	2.10	1.60
	65616	65619	GELT404835EDL-SY, -SB	48" LED Light - Left End				341				(mm)	1232.4	52.3	40.4
	79753	79756	GELT406035CTR-SY, -SB	60" LED Light - Center	3500	1055	58.6	211 692	50,000	80	18	(inch) (mm)	60.3 1532	2.58 65.5	1.28 32.5
	79754	79757	GELT406035EDR-SY, -SB	60" LED Light - Right End	3500	589	65.4	118	50,000	80	9	(inch)	60.3	2.06	1.59
	79755	79758	GELT406035EDL-SY, -SB	60" LED Light - Left End				386				(mm)	1532	52.4	40.4
	79771	79774	GELT407035CTR-SY, -SB	70" LED Light - Center	3500	1148	59.5	205 674	50,000	80	19.3	(inch) (mm)	70.75 1797.1	2.58 65.5	1.28 32.5
	79772	79775	GELT407035EDR-SY, -SB	70" LED Light - Right End	3500	649	64.9	116	50,000	80	10	(inch)	70.75	2.06	1.59
79773	79776	GELT407035EDL-SY, -SB	70" LED Light - Left End	381				(mm)				1791.1	52.4	40.4	

*Color temp (CCT) +/- 10%

**Based on typical in-store performance.

***System watts Typ AC based on Typical in-store performance

LED Driver Performance Data

79813
GEPS4000NCMUL-SY

	Min	Typical	Max
Input Voltage (VAC)	100		240
Input Current (A)		1	
Input Line Frequency (Hz)		50/60	
LED Light Output Voltage (VDC)		12	
Output Power (W)			60
Max Output Current (A)		5	
Total Harmonic Distortion		N/A*	
Power Factor at >80% Load (48W @ 120 VAC, 48W @ 240VAC)	0.9		
Operating Temperature Range (°C)	-20 C		45 C
Storage Temperature Range (°C)	-40 C		70 C

Conforms to the following standards:



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class [A] RFLD complies with the Canadian standard ICES-005.
Ce DEFR de la classe [A] est conforme à la NMB-005 du Canada.



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DISP030-R092111

Electrical Data

Doors ¹	Fans Per Case	High Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	2	0.31	18	---	---	---	---
3-door	3	0.46	28	---	---	---	---
4-door	4	0.61	37	---	---	---	---
5-door	5	0.77	46	---	---	---	---
8'	4	0.61	37	---	---	---	---
12'	6	0.92	55	---	---	---	---

Anti-Condensate Heater Data

Doors	Door Size	Anthony					
		101		Eliminator ³		Vista - C ³	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	1.09	110	0.80	96	1.00	120
3-door		1.60	162	1.17	140	1.33	160
4-door		2.11	213	1.53	184	1.72	206
5-door		2.60	262	1.88	226	2.10	252
8'	24"	---	---	---	---	1.23	148
	32"	1.62	194	1.19	143	---	---
12'	24"	---	---	---	---	1.71	205
	36"	2.26	272	1.66	199	---	---

Lighting Data

Standard lighting 60 watt per

Doors	Door Size	LED Lighting											
		Optimax ⁴ Pro			Vista-C ⁴ Optimax Pro			GE IMMERSION			Crossfire/Polaris ⁴		
		120 Volts		BTUH Credit Per Door	120 Volts		BTUH Credit Per Door	120 Volts		BTUH Credit Per Door	120 Volts		BTUH Credit
		Amps	Watts		Amps	Watts		Amps	Watts		Amps	Watts	
2-door	30"	0.36	43	205	0.36	43	205	0.33	39	210	---	---	---
3-door		0.53	64	177	0.53	64	177	0.48	58	182	---	---	---
4-door		0.71	85	163	0.71	85	163	0.64	77	168	---	---	---
5-door		0.88	106	154	0.88	106	154	0.80	96	159	---	---	---
8'	24"	---	---	---	0.53	64	133	---	---	---	---	---	---
	32"	0.53	64	177	---	---	---	0.48	58	182	---	---	---
12'	24"	---	---	---	0.85	102	93	---	---	---	---	---	---
	36"	0.71	85	163	---	---	---	0.64	77	168	---	---	---

Guidelines & Control Settings

Application	Doors	Door Size	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
			Conventional	Parallel				
Beverage Produce	2-5 door	30"	914	863	34	6 - 8	38	250
	8'	24"	731	690	34	6 - 8	38	250
		32"	974	920	34	6 - 8	38	250
	12'	24"	731	690	34	6 - 8	38	250
		36"	1096	1035	34	6 - 8	38	250
Deli/Dairy Cut Produce	2-5 door	30"	946	893	32	6 - 8	36	250
	8'	24"	762	720	32	6 - 8	36	250
		32"	1006	950	32	6 - 8	36	250
	12'	24"	762	720	32	6 - 8	36	250
		36"	1128	1065	32	6 - 8	36	250
Meat	2-5 door	30"	1009	953	28	6 - 8	32	250
	8'	24"	807	762	28	6 - 8	32	250
		32"	1077	1017	28	6 - 8	32	250
	12'	24"	807	762	28	6 - 8	32	250
		36"	1211	1144	28	6 - 8	32	250

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	---	---	30	40	---	---

1 8-foot cases can consist of 3 (32") doors or 4 (24") doors; 12-foot cases can consist of 4 (36") doors or 6 (24") doors.

2 NOTE: " - - - " indicates that feature is not an option on this case model.

3 Values provided are for doors with no heat on the glass.

4 Low-power lights. High-power option available.

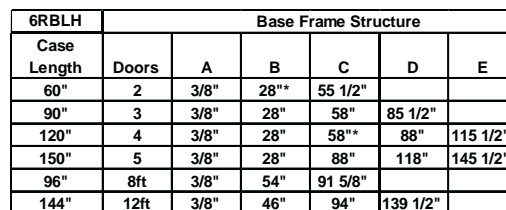
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm



6RBLH

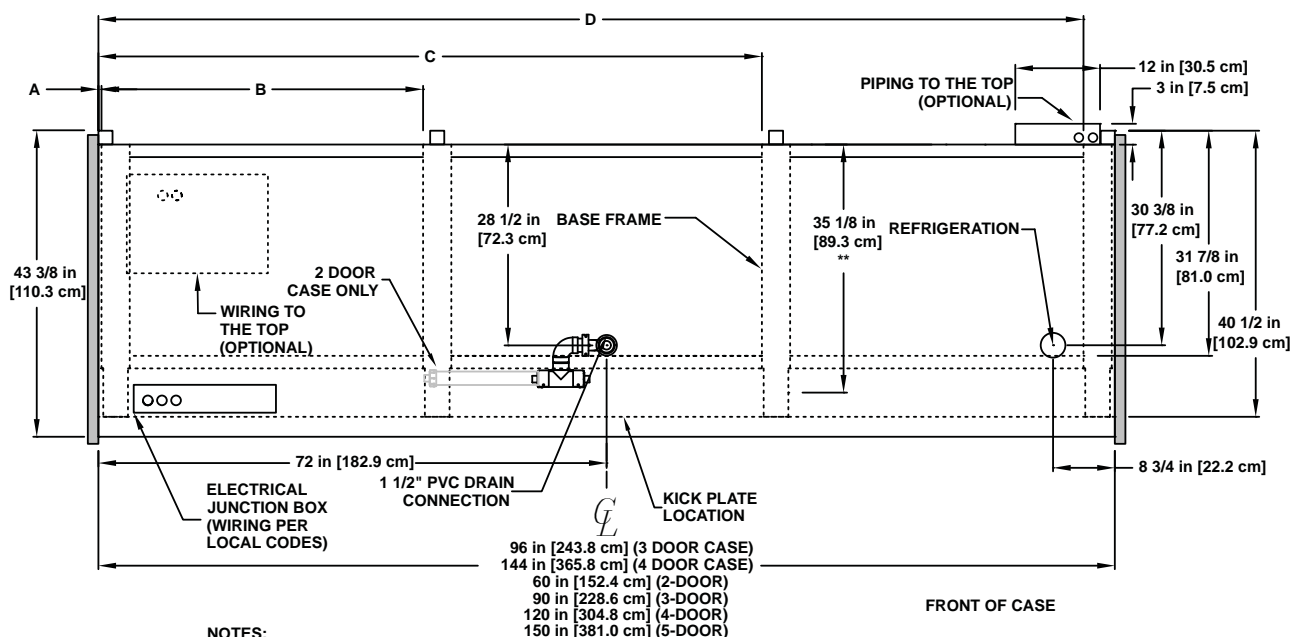


STANDARD SWING DOOR
2,3,4,5 DOOR CASES
 ↳ 30 in [76.2 cm] ↳

STANDARD SWING DOOR
12' CASE
 ↳ 36 in [91.4 cm] ↳

STANDARD SWING DOOR
8' CASE
 ↳ 32 in [81.3 cm] ↳

BI-SWING DOOR (VISTA C)
8' & 12' CASES
 ↳ 24 in [61.0 cm] ↳ 24 in [61.0 cm] ↳



SOLID SHELVES 16 , 20 , 22 , 24, & 27



OHPH High Multi-Deck Merchandiser

6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	Standard Fans		High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	3	1.50	90	0.70	42	---	---	2.88	600	3.33	798
8'	4	2.00	120	0.93	56	---	---	3.85	800	4.44	1065
12'	5	2.50	150	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Fluorescent Lighting (Per Light Row)		Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts
6'	2	3'	0.37	44	0.14	16.6	0.30	35.8
8'	2	4'	0.47	56	0.20	23.8	0.44	52.4
12'	3	4'	0.70	84	0.30	35.7	0.66	78.6

2 rows of lamps per

Guidelines & Control Settings

Model	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1445	1340	6 - 8	26	30	330
Bulk Produce	1181	1095	6 - 8	29	31	230

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	26	45	50	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

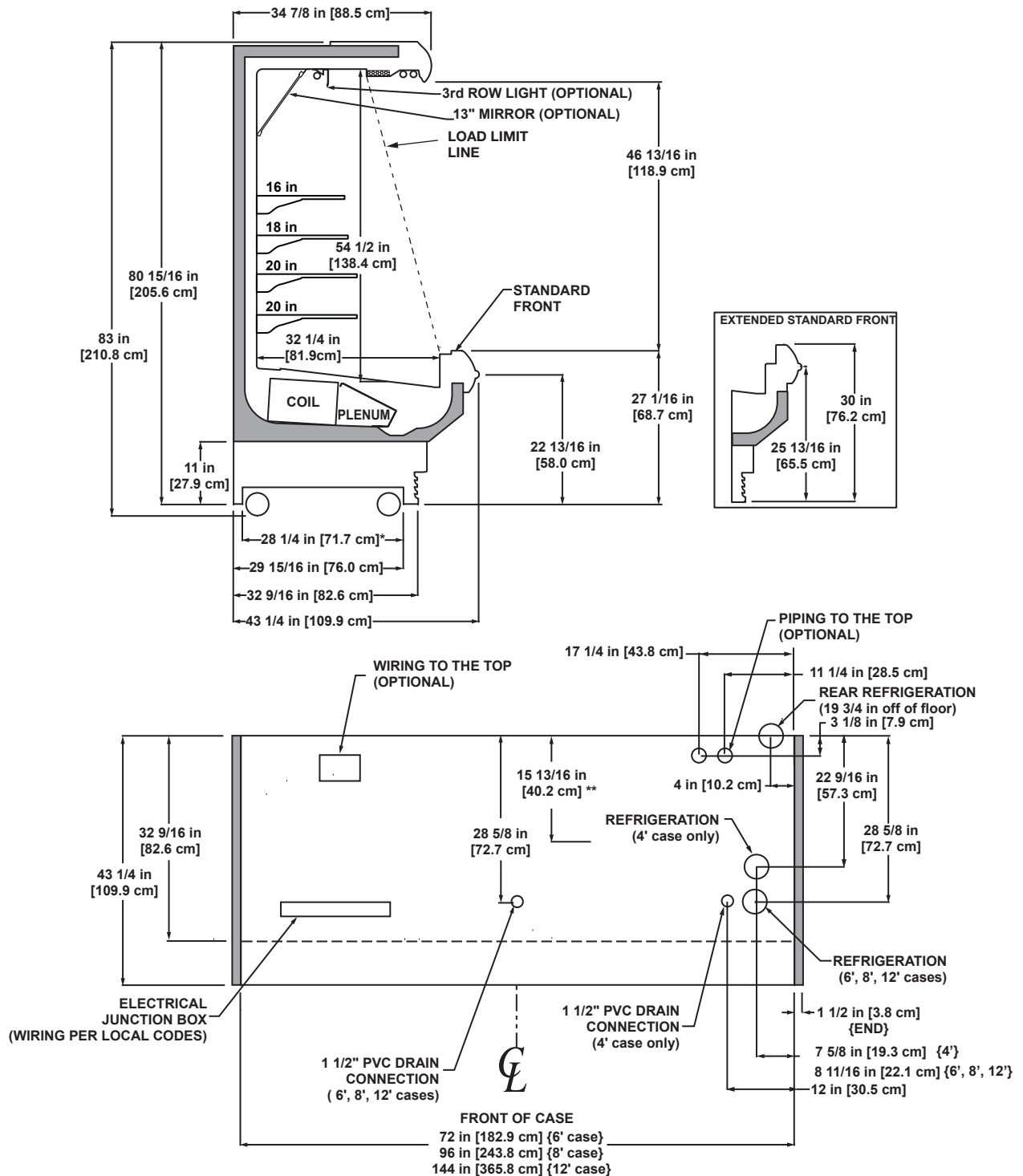
2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For T8 lighted shelves and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Standard fans increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak of defrost.

OHPH High Multi-Deck Merchandiser

6', 8' & 12' (Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

• FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

• WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT

• A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL

• AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"

• DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



Electrical Data

Case Length	Fans Per Case	Standard Fans		High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	1.00	60	0.47	28	---	---	1.92	400	2.22	532
6'	3	1.50	90	0.70	42	---	---	2.88	600	3.33	798
8'	4	2.00	120	0.93	56	---	---	3.85	800	4.44	1065
12'	5	2.50	150	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Fluorescent Lighting (Per Light Row)		Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts
4'	1	4'	0.23	28	0.10	11.9	0.22	26.2
6'	2	3'	0.37	44	0.14	16.6	0.30	35.8
8'	2	4'	0.47	56	0.20	23.8	0.44	52.4
12'	3	4'	0.70	84	0.30	35.7	0.66	78.6

2 rows of lights per

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Bulk Produce	Parallel				
Dairy Cut Produce	Std. Dairy	1856	1691	6 - 8	22	32	215
	2.5" Ext.	1807	1646	6 - 8	22	31	215
	5" Ext.	1777	1619	6 - 8	22	31	215
	7.5" Ext.	1713	1561	6 - 8	22	31	215
Beverage Bulk Produce	Std. Dairy	1701	1550	6 - 8	29	37	215
	2.5" Ext.	1655	1508	6 - 8	29	36	215
	5" Ext.	1598	1456	6 - 8	29	36	215
	7.5" Ext.	1570	1430	6 - 8	29	36	215

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: "-" indicates that feature is not an option on this case model.

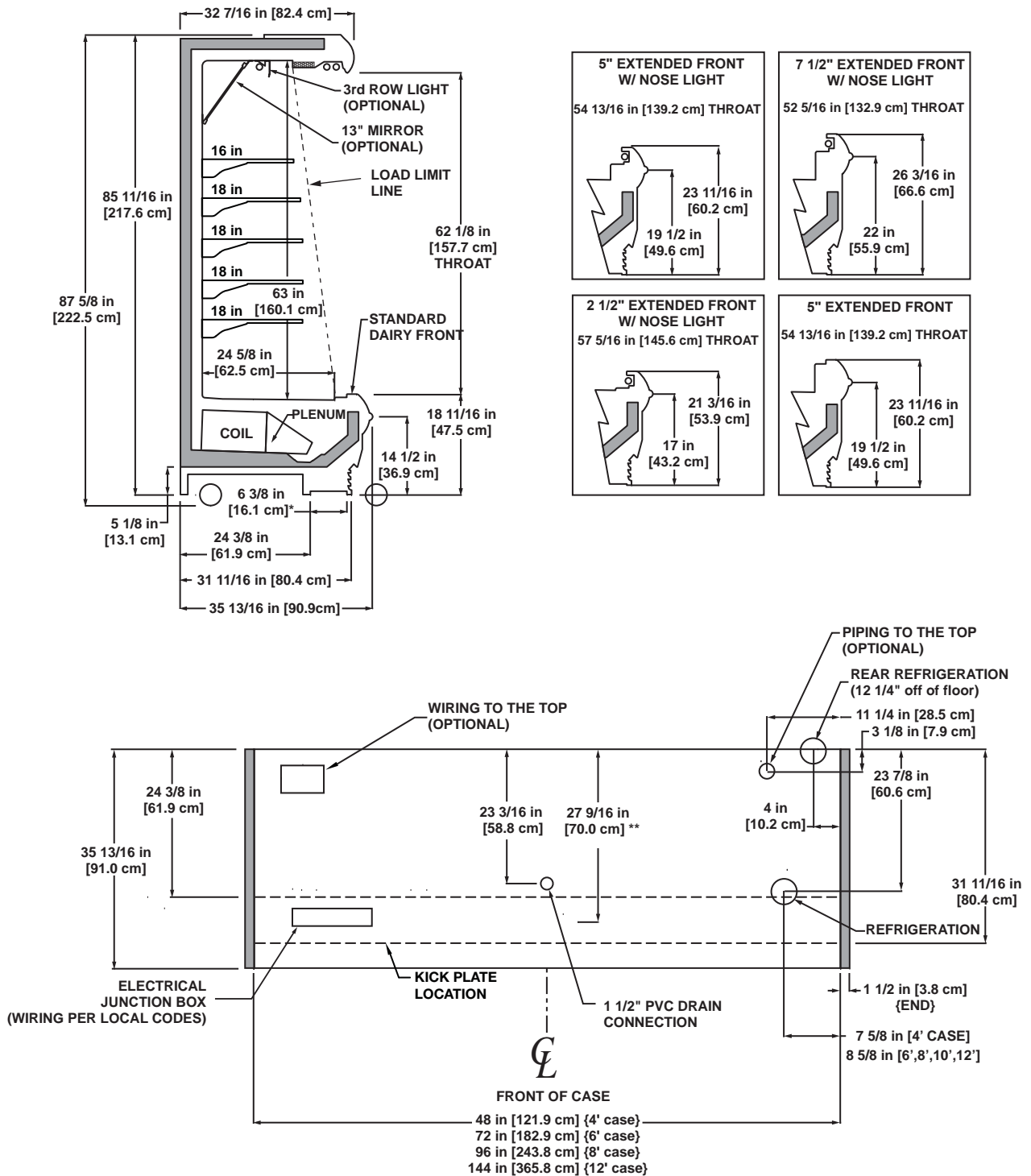
2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For T8 lighted shelves and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Standard fans increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak of defrost.

ON5DMH Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Beverage / Dairy / Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18" TOP SHELF MUST BE 16" OR SHORTER.
- RECOMMENDED CONFIGURATION IS 16" SHELF AND 3 OR 4 18" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OHPH High Multi-Deck Merchandiser

6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	Standard Fans		High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	3	1.50	90	0.70	42	---	---	2.88	600	3.33	798
8'	4	2.00	120	0.93	56	---	---	3.85	800	4.44	1065
12'	5	2.50	150	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Fluorescent Lighting (Per Light Row)		Clearvoyant LED Lighting (Per Light Row)			
					Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts
6'	2	3'	0.37	44	0.14	16.6	0.30	35.8
8'	2	4'	0.47	56	0.20	23.8	0.44	52.4
12'	3	4'	0.70	84	0.30	35.7	0.66	78.6

2 rows of lamps per

Guidelines & Control Settings

Model	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1445	1340	6 - 8	26	30	330
Bulk Produce	1181	1095	6 - 8	29	31	230

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	26	45	50	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For T8 lighted shelves and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Standard fans increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak of defrost.

MULTI-DECK

225

Electrical Data

Case Length	Fans Per Case	Standard Fans		High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	1.00	60	0.47	28	---	---	1.92	400	2.22	532
6'	3	1.50	90	0.70	42	---	---	2.88	600	3.33	798
8'	4	2.00	120	0.93	56	---	---	3.85	800	4.44	1065
12'	5	2.50	150	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Fluorescent Lighting (Per Light Row)		Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts
4'	1	4'	0.23	28	0.10	11.9	0.22	26.2
6'	2	3'	0.37	44	0.14	16.6	0.30	35.8
8'	2	4'	0.47	56	0.20	23.8	0.44	52.4
12'	3	4'	0.70	84	0.30	35.7	0.66	78.6

2 rows of lights per

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Bulk Produce	Parallel				
Dairy Cut Produce	Std. Dairy	1856	1691	6 - 8	22	32	215
	2.5" Ext.	1807	1646	6 - 8	22	31	215
	5" Ext.	1777	1619	6 - 8	22	31	215
	7.5" Ext.	1713	1561	6 - 8	22	31	215
Beverage Bulk Produce	Std. Dairy	1701	1550	6 - 8	29	37	215
	2.5" Ext.	1655	1508	6 - 8	29	36	215
	5" Ext.	1598	1456	6 - 8	29	36	215
	7.5" Ext.	1570	1430	6 - 8	29	36	215

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

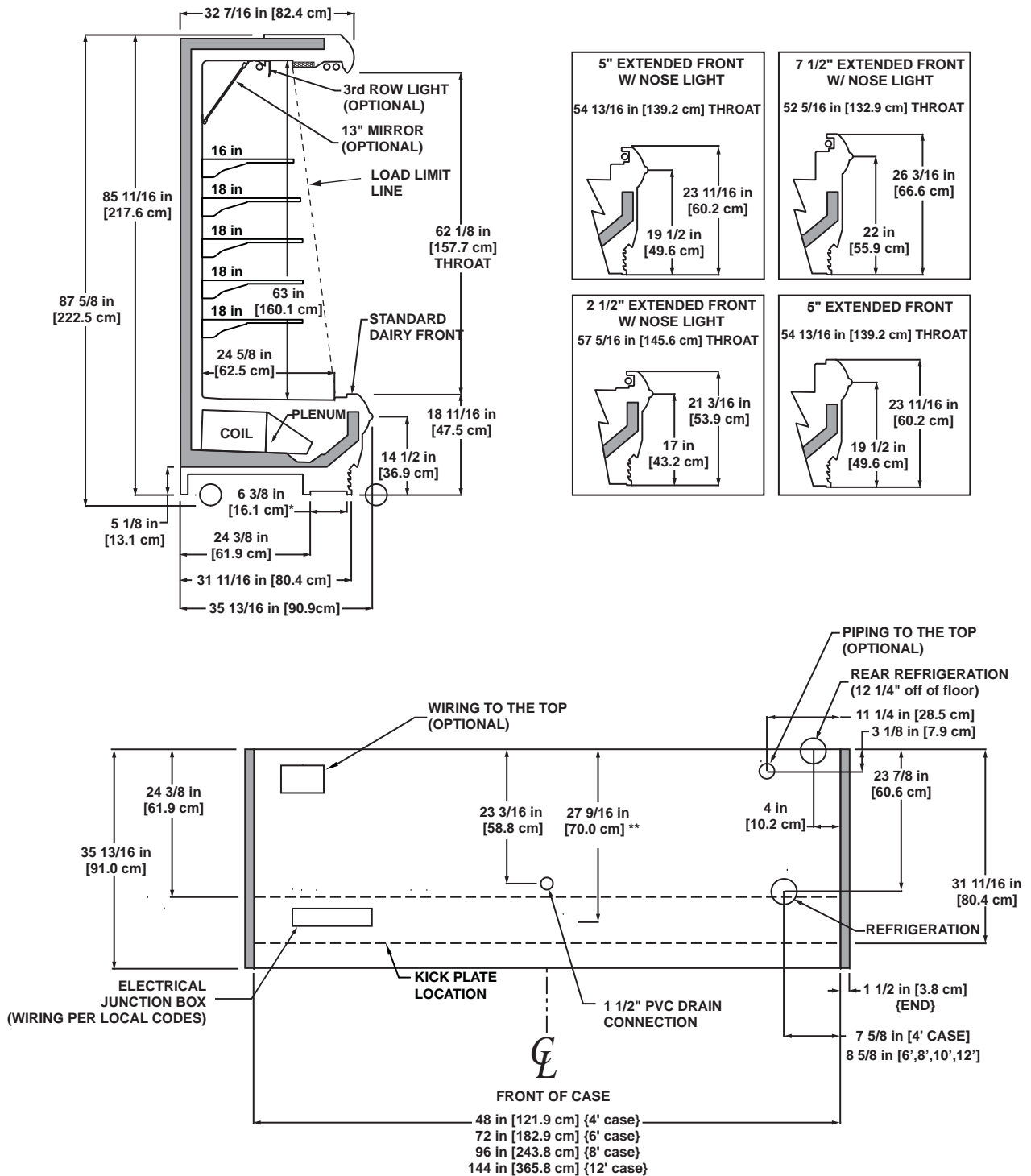
2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For T8 lighted shelves and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Standard fans increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak of defrost.

ON5DMH Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Beverage / Dairy / Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18" TOP SHELF MUST BE 16" OR SHORTER.
- RECOMMENDED CONFIGURATION IS 16" SHELF AND 3 OR 4 18" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



Electrical Data

Case Length	Fans Per Case	Standard Fans		High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	1.00	60	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	1.00	60	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	1.50	90	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	2.00	120	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Fluorescent Lighting (Per Light Row)		Clearvoyant LED Lighting (Per Light Row)			
			120 Volts		Standard Power (Cornice or Shelf)		High Power (Cornice)	
			Amps	Watts	Amps	Watts	Amps	Watts
4'	1	4'	0.23	28	0.10	11.9	0.22	26.2
6'	2	3'	0.37	44	0.14	16.6	0.30	35.8
8'	2	4'	0.47	56	0.20	23.8	0.44	52.4
12'	3	4'	0.70	84	0.30	35.7	0.66	78.6

Guidelines & Control Settings

²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge³ Air Velocity (FPM)
Conventional	Parallel				
811	752	6 - 8	22	28	230

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

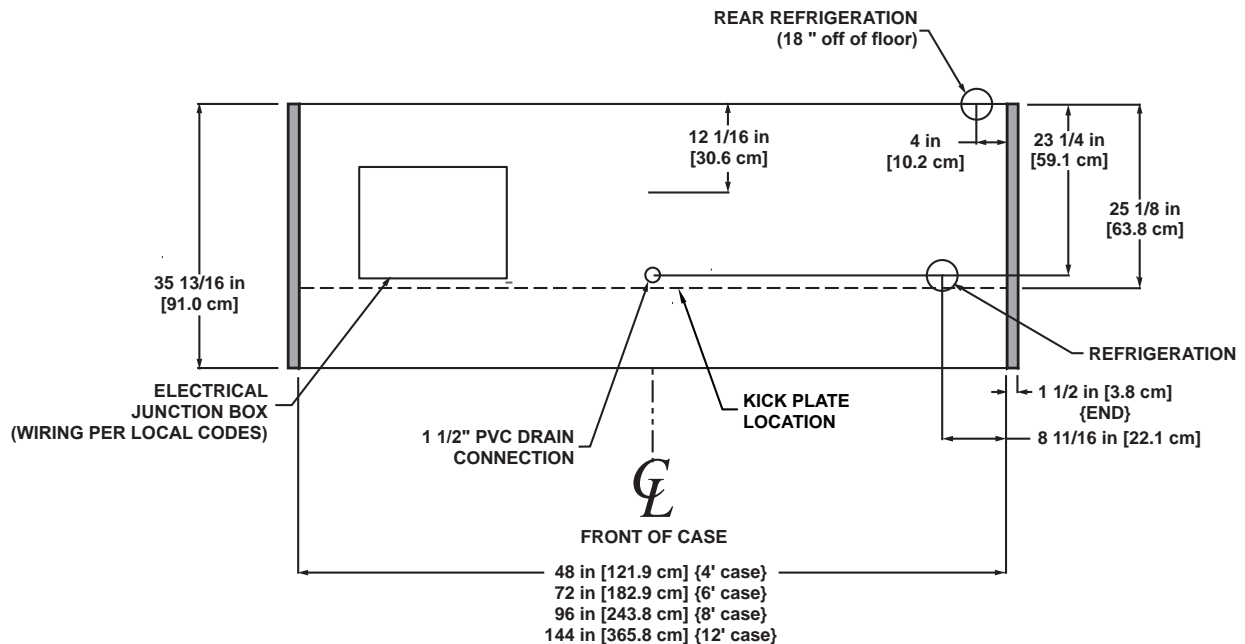
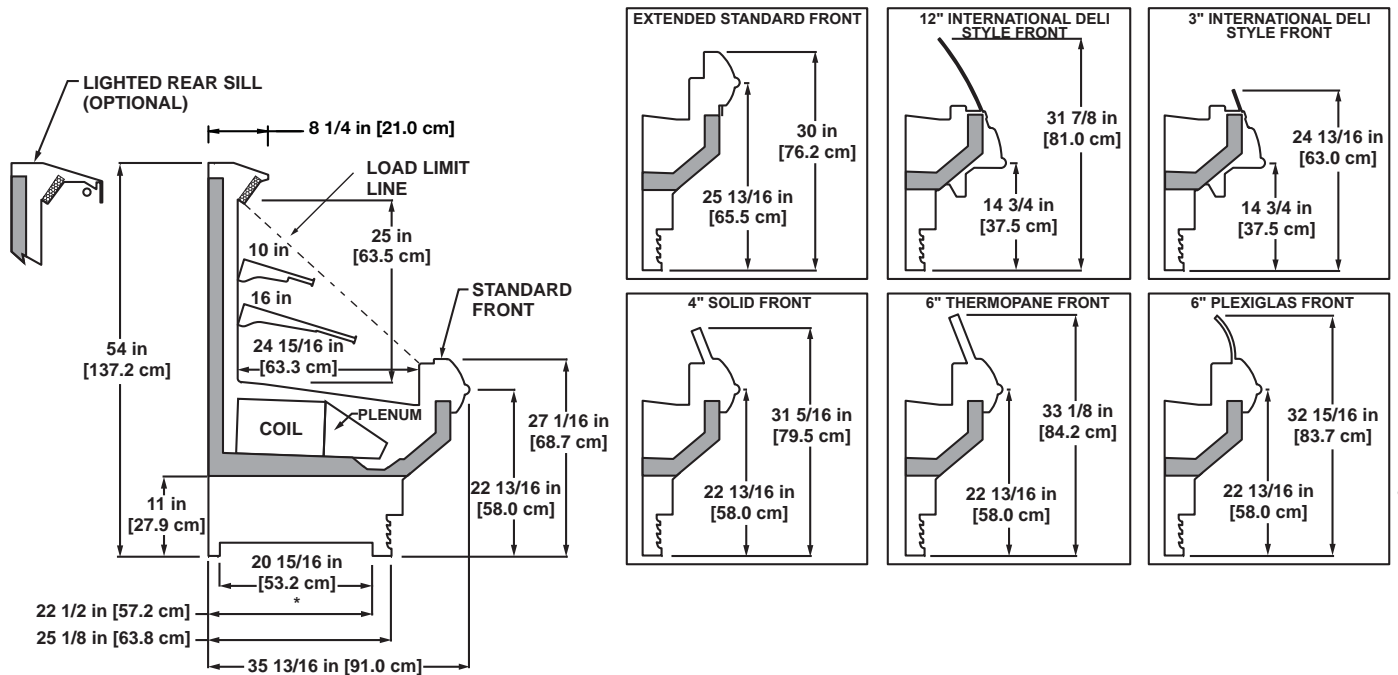
1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Listed case BTUH/ft indicates unlighted shelves. For T8 lighted shelves and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Standard fans increase refrigeration load by 96 BTUH/fan.
- Model ON3UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

(11" BASEFRAME)

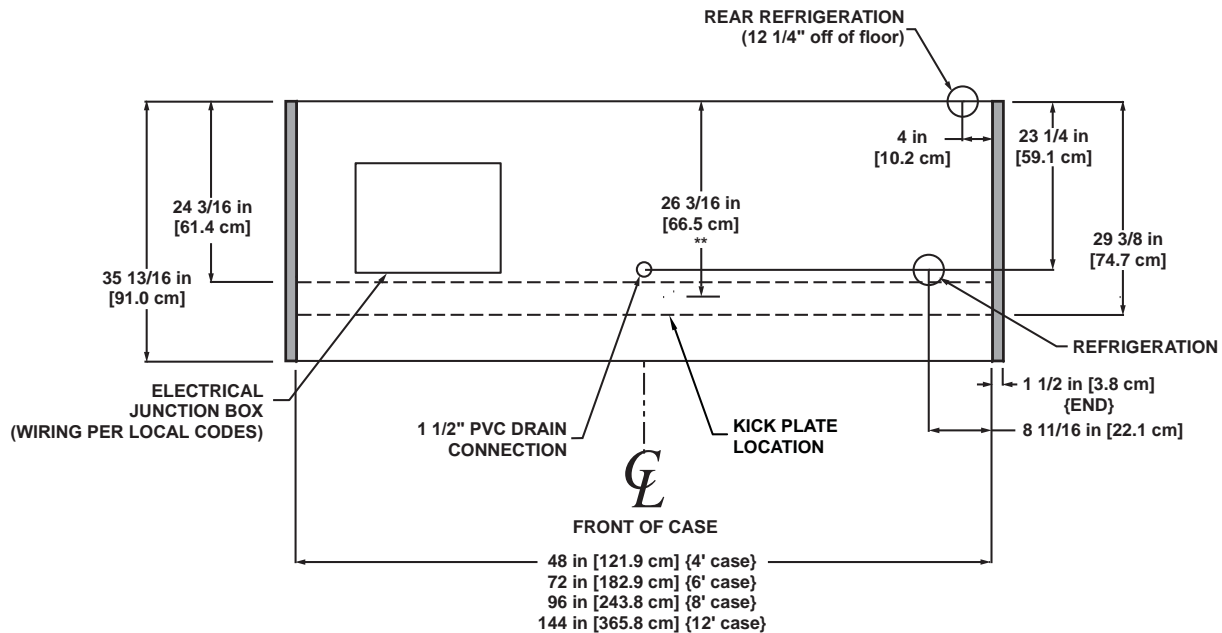
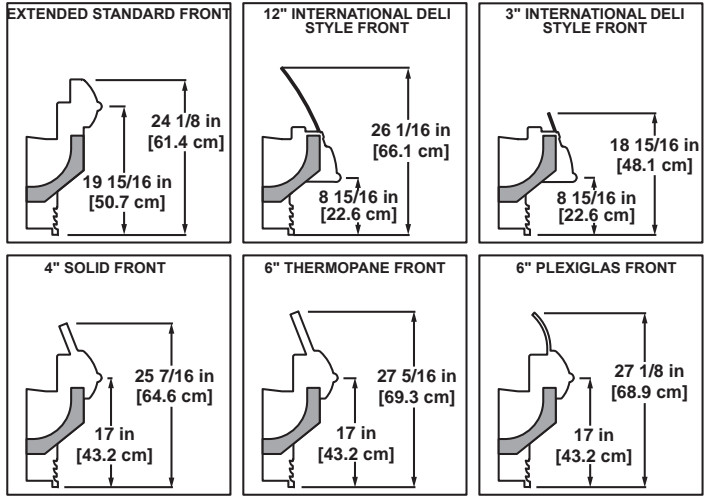
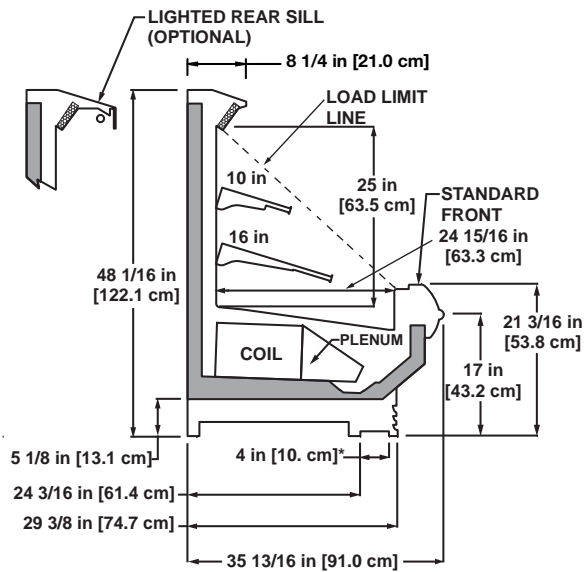


NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

(5" BASEFRAME)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

Electrical Data

Doors	Fans Per Case	Standard Fans		High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ¹ (3-Phase)			
		120 Volts		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps ²	Watts	Amps ²	Watts
2-door	2	1.00	60	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	1.50	90	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	2.00	120	0.611	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	2.50	150	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	3.00	180	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

Doors	Fluorescent Lighting					LED Lighting					
	Standard (60w)		Optimax Pro ³			GE IMMERSION			Crossfire/Polaris ³		
	120 Volts		120 Volts		BTUH Credit Per Door	120 Volts		BTUH Credit Per Door	120 Volts		BTUH Credit Per Door
	Amps	Watts	Amps	Watts		Amps	Watts		Amps	Watts	
2-door	1.50	180	0.33	39	145	0.27	32	152	0.25	30	154
3-door	2.00	240	0.48	58	144	0.40	48	152	0.38	45	154
4-door	2.50	300	0.64	77	135	0.53	64	143	0.50	60	146
5-door	3.00	360	0.80	96	131	0.67	80	138	0.63	75	141
6-door	3.50	420	0.96	115	127	0.80	96	135	0.75	90	138

Anti-Condensate Heater Data

Doors	Anthony						Gemtron					
	101		Eliminaator ⁴		Eliminaator 2 ⁴		Polar		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	4.10	492	1.79	214	1.24	149	2.39	287	1.67	201	1.19	143
3-door	5.89	707	2.63	315	1.81	217	3.58	430	2.50	301	1.78	214
4-door	7.77	932	3.46	415	2.37	284	4.77	573	3.33	401	2.37	285
5-door	9.61	1154	4.35	522	2.98	358	6.00	720	4.20	505	3.00	360
6-door	11.23	1347	5.20	624	3.56	427	7.14	857	4.98	599	3.54	425

ORZH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Guidelines & Control Settings

Application	Door	⁵ BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	Standard	1286	1249	-11	3 - 5	-3	405
	Eliminaator/Polar LE	1127	1095	-11	3 - 5	-3	405
Ice Cream	Standard	1347	1309	-17	3 - 5	-8	405
	Eliminaator/Polar LE	1166	1133	-17	3 - 5	-8	405

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁷	--- ⁸	---	24	73 ⁹	---	---

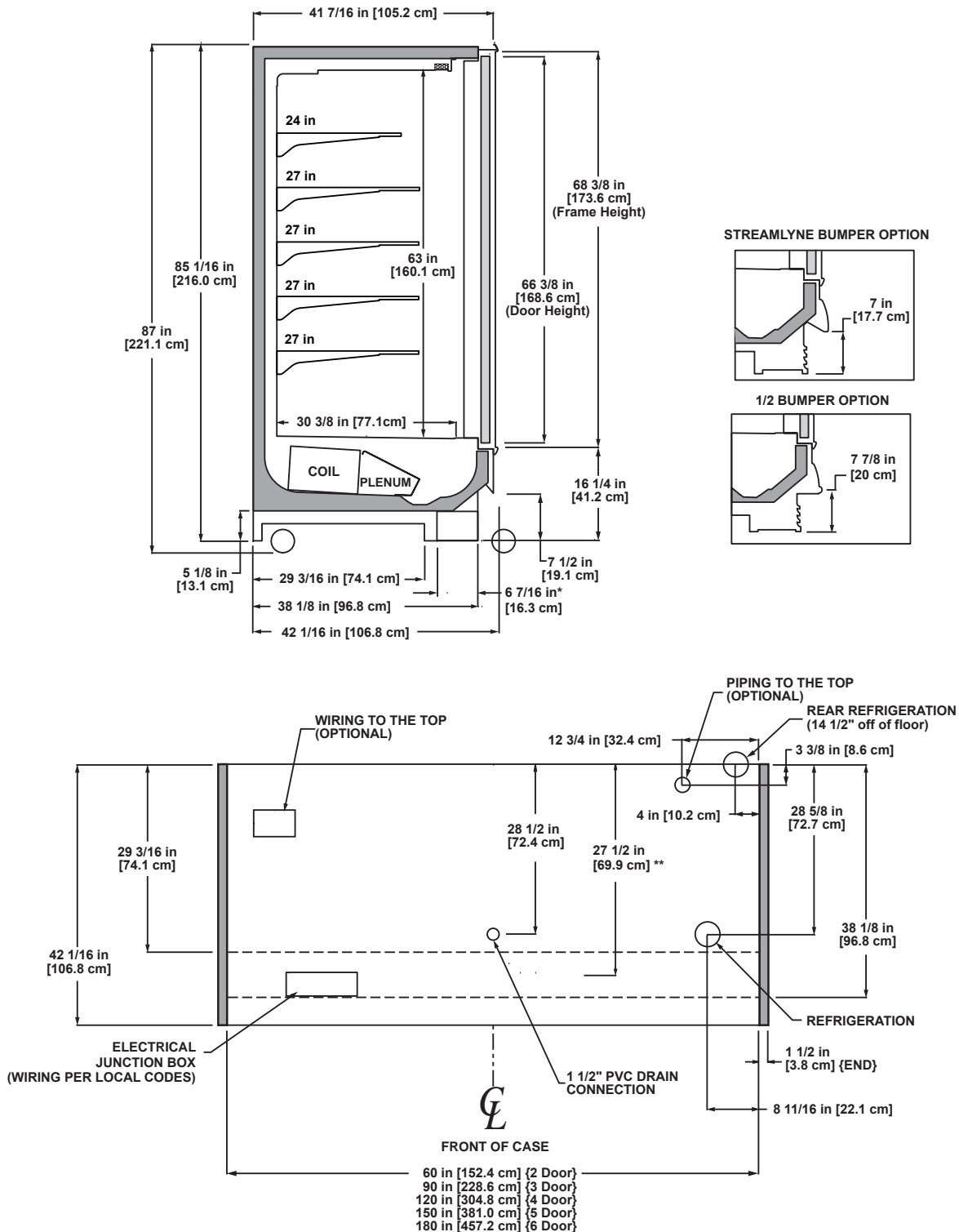
- 1 3-phase load is unbalanced.
- 2 Figure given is maximum line amperage per phase.
- 3 Low-power lights. High-power option available.
- 4 Values provided are for doors with no heat on the glass.
- 5 Standard fans increase refrigeration load by 96 BTUH/fan.
- 6 Average discharge air velocity at peak of defrost.
- 7 The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- 8 NOTE: " - - " indicates that feature is not an option on this case model.
- 9 The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

REACH-IN

Frozen Food / Ice Cream

ORZH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (2DR & 3DR) 5/8", LIQUID LINE (4DR, 5DR & 6DR) 7/8"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES
- RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

[illegible]

	Fans	Fans W after	Lights W Before	Lights W After
	180	84	420	21.6
	180	84	420	21.6
	540	252	560	31.9
	300	140	336	23.9
	480	224	224	19.9
	900	420	112	15.9
	900	420	112	15.9
	180	27.6	112	15.9
	180	27.6	112	15.9
	90	27.99	240	16
Fans Before kWh	33,660.5			
Fans After kWh	14,622.1			
Lights Before kWh	14,320.4			
Lights After kWh	1,073.5			

Mercantile Customer Project Commitment Agreement
Cash Rebate Option

THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT (“Agreement”) is made and entered into by and between Ohio Edison Company, its successors and assigns (hereinafter called the “Company”) and Mr. Chuck L.L.C., Taxpayer ID No. 26-2782620 its permitted successors and assigns (hereinafter called the “Customer”) (collectively the “Parties” or individually the “Party”) and is effective on the date last executed by the Parties as indicated below.

WITNESSETH

WHEREAS, the Company is an electric distribution utility and electric light company, as both of these terms are defined in R.C. § 4928.01(A); and

WHEREAS, Customer is a mercantile customer, as that term is defined in R.C. § 4928.01(A)(19), doing business within the Company’s certified service territory; and

WHEREAS, R.C. § 4928.66 (the “Statute”) requires the Company to meet certain energy efficiency and peak demand reduction (“EE&PDR”) benchmarks; and

WHEREAS, when complying with certain EE&PDR benchmarks the Company may include the effects of mercantile customer-sited EE&PDR projects; and

WHEREAS, Customer has certain customer-sited demand reduction, demand response, or energy efficiency project(s) as set forth in attached Exhibit 1 (the “Customer Energy Project(s)”) that it desires to commit to the Company for integration into the Company’s Energy Efficiency & Peak Demand Reduction Program Portfolio Plan (“Company Plan”) that the Company will implement in order to comply with the Statute; and

WHEREAS, the Customer, pursuant to the Public Utilities Commission of Ohio’s (“Commission”) September 15, 2010 Order in Case No. 10-834-EL-EEC, desires to pursue a cash rebate of some of the costs pertaining to its Customer Energy Project(s) (“Cash Rebate”) and is committing the Customer Energy Project(s) as a result of such incentive.

WHEREAS, Customer’s decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of a Cash Rebate.

WHEREAS, in consideration of, and upon receipt of, said cash rebate, Customer will commit the Customer Energy Project(s) to the Company and will comply with all other terms and conditions set forth herein.

NOW THEREFORE, in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, do hereby agree as follows:

1. **Customer Energy Projects.** Customer hereby commits to the Company and Company accepts for integration into the Company Plan the Customer Energy Project(s) set forth on attached Exhibit 1. Said commitment shall be for the life of the Customer Energy Project(s). Company will incorporate said project(s) into the Company Plan to the extent that such projects qualify. In so committing, and as evidenced by the affidavit attached hereto as Exhibit A, Customer acknowledges that the information provided to the Company about the Customer Energy Project(s) is true and accurate to the best of its knowledge.

- a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer further acknowledges and agrees that the Company shall take ownership of the energy efficiency capacity rights associated with said Project(s) and shall, at its sole discretion, aggregate said capacity into the PJM market through an auction. Any proceeds from any such bids accepted by PJM will be used to offset the costs charged to the Customer and other of the Company's customers for compliance with state mandated energy efficiency and/or peak demand requirements
 - b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively, as appropriate, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's cash rebate discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligations.
 - c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
 - d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of the Commission's standard joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
 - e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
2. **Joint Application to the Commission.** The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" ("Joint Application") in which they will seek the Commission's approval of (i) this Agreement; (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's Cash Rebate.

The Joint Application shall include all information as set forth in the Commission's standard form which, includes without limitation:

- i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
- ii. A copy of this Agreement; and
- iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.

3. **Customer Cash Rebate.** Upon Commission approval of the Joint Application, Customer shall provide Company with a W-9 tax form, which shall at a minimum include Customer's tax identification number. Within the greater of 90 days of the Commission's approval of the Joint Application or the completion of the Customer Energy Project, the Company will issue to the Customer the Cash Rebate in the amount set forth in the Commission's Finding and Order approving the Joint Application.
- a. Customer acknowledges: i) that the Company will cap the Cash Rebate at the lesser of 50% of Customer Energy Project(s) costs or \$250,000; ii) the maximum rebate that the Customer may receive per year is \$500,000 per Taxpayer Identification Number per utility service territory; and iii) if the Customer Energy Project qualifies for a rebate program approved by the Commission and offered by the Company, Customer may still elect to file such project under the Company's mercantile customer self direct program, however the Cash Rebate that will be paid shall be discounted by 25%; and
 - b. Customer acknowledges that breaches of this Agreement, include, but are not limited to:
 - i. Customer's failure to comply with the terms and conditions set forth in the Agreement, or its equivalent, within a reasonable period of time after receipt of written notice of such non-compliance;
 - ii. Customer knowingly falsifying any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application.
 - c. In the event of a breach of this Agreement by the Customer, Customer agrees and acknowledges that it will repay to the Company, within 90 days of receipt of written notice of said breach, the full amount of the Cash Rebate paid under this Agreement. This remedy is in addition to any and all other remedies available to the Company by law or equity.
4. **Termination of Agreement.** This Agreement shall automatically terminate:
- a. If the Commission fails to approve the Joint Agreement;
 - b. Upon order of the Commission; or
 - c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's Cash Rebate, provided that Customer provides the Company with written notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

5. **Confidentiality.** Each Party shall hold in confidence and not release or disclose to any person any document or information furnished by the other Party in connection with this Agreement that is designated as confidential and proprietary ("Confidential Information"), unless: (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; or (iii) such document or information was available to the receiving Party on a non-confidential basis at the time of disclosure.
- a. Notwithstanding the above, a Party may disclose to its employees, directors, attorneys, consultants and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, directors, attorneys,

consultants and agents have been advised of the confidential nature of this information and through such disclosure are deemed to be bound by the terms set forth herein.

- b. A Party receiving such Confidential Information shall protect it with the same standard of care as its own confidential or proprietary information.
 - c. A Party receiving notice or otherwise concluding that Confidential Information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall endeavor to: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such Confidential Information, including without limitation, the filing of such information under a valid protective order.
 - d. By executing this Agreement, Customer hereby acknowledges and agrees that Company may disclose to the Commission or its Staff any and all Customer information, including Confidential Information, related to a Customer Energy Project, provided that Company uses reasonable efforts to seek confidential treatment of the same.
6. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the payment of the Cash Rebate.
7. **Notices.** Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement must be in writing and must be delivered or sent by overnight express mail, courier service, electronic mail or facsimile transmission addressed as follows:

If to the Company:

FirstEnergy Service Company
76 South Main Street
Akron, OH 44308
Attn: Victoria Nofziger
Telephone: 330-384-4684
Fax: 330-761-4281
Email: vmnofziger@firstenergycorp.com

If to the Customer:

Mr. Chuck L.L.C.
3130 Center Road
Poland, OH 44514
Attn: Charles Zander Jr.
Telephone: 330-757-3735
Fax:
Email: charles.zander@giantteagle.com

or to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the business day will be deemed received on the next business day; provided that notice by facsimile transmission will be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

8. **Authority to Act.** The Parties represent and warrant that they are represented by counsel in connection with this Agreement, have been fully advised in connection with the execution thereof, have taken all legal and corporate steps necessary to enter into this Agreement, and that the undersigned has the authority to enter into this Agreement, to bind the Parties to all provisions herein and to take the actions required to be performed in fulfillment of the undertakings contained herein.
9. **Non-Waiver.** The delay or failure of either party to assert or enforce in any instance strict performance of any of the terms of this Agreement or to exercise any rights hereunder conferred, shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights at any later time or on any future occasion.
10. **Entire Agreement.** This Agreement, along with related exhibits, and the Company's Rider DSE, or its equivalent, as amended from time to time by the Commission, contains the Parties' entire understanding with respect to the matters addressed herein and there are no verbal or collateral representations, undertakings, or agreements not expressly set forth herein. No change in, addition to, or waiver of the terms of this Agreement shall be binding upon any of the Parties unless the same is set forth in writing and signed by an authorized representative of each of the Parties. In the event of any conflict between Rider DSE or its equivalent and this document, the latter shall prevail.
11. **Assignment.** Customer may not assign any of its rights or obligations under this Agreement without obtaining the prior written consent of the Company, which consent will not be unreasonably withheld. No assignment of this Agreement will relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained.
12. **Severability.** If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remaining portions of this Agreement, and the Parties further agree to substitute for the invalid portion a valid provision that most closely approximates the economic effect and intent of the invalid provision.
13. **Governing Law.** This Agreement shall be governed by the laws and regulations of the State of Ohio, without regard to its conflict of law provisions.
14. **Execution and Counterparts.** This Agreement may be executed in multiple counterparts, which taken together shall constitute an original without the necessity of all parties signing the same page or the same documents, and may be executed by signatures to electronically or telephonically transmitted counterparts in lieu of original printed or photocopied documents. Signatures transmitted by facsimile shall be considered original signatures.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year set forth below.

Ohio Edison Company_
(Company)

By: John C. Largin

Title: V.P. Of Energy Efficiency

Date: 12-10-12

Mr. Chuck, LLC_
(Customer)

By: [Signature]

Title: Managing Member

Date: 11-30-12

STATE OF OHIO)

) SS:

COUNTY OF Mahoning)

I, Charles F Zenda Jr., being first duly sworn in accordance with law, deposes and states as follows:

1. I am the Managing Member of Mr. Chuck, LLC ("Customer") As part of my duties, I oversee energy related matters at the Company.
2. The Customer has agreed to commit certain energy efficiency projects to Ohio Edison Company ("Utility"), which are the subject of the agreement to which this affidavit is attached ("Project(s)").
3. In exchange for making such a commitment, the Utility has agreed to provide Customer with Cash ("Incentive"). This Incentive was a critical factor in the Customer's decision to go forward with the Project(s) and to commit the Project(s) to the Utility.
4. All information related to said Project(s) that has been submitted to the Utility is true and accurate to the best of my knowledge.

FURTHER AFFIANT SAYETH NAUGHT.

Charles F Zenda Jr.

Sworn to before me and subscribed in my presence this 30 day of 11, 2012.

Deborah Lavezzare
Notary

Deborah A. Lavezzare
Notary Public, State of Ohio
My Commission Expires: 11-18-2015

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

2/14/2013 5:25:30 PM

in

Case No(s). 13-0034-EL-EEC

Summary: Application electronically filed by Ms. Lindsey E Sacher on behalf of Ohio Edison Company and Mr. Chuck, LLC - Poland Giant Eagle