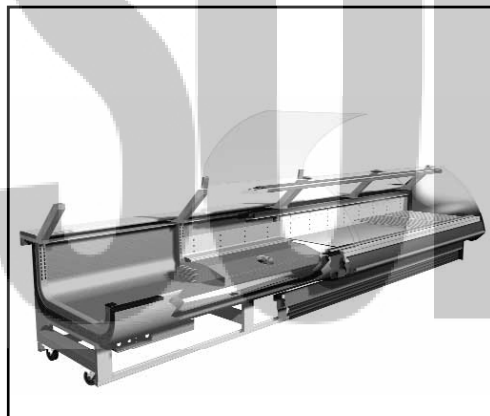
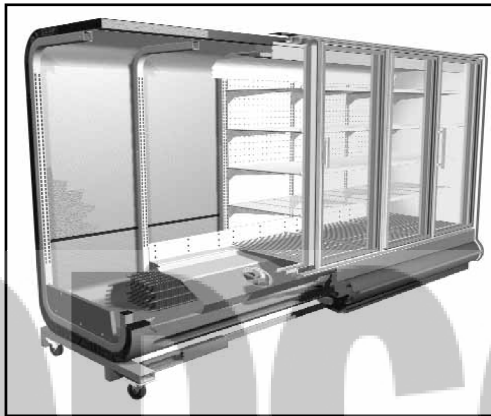


Hill PHOENIX
E X C E L L E N C E™



Display

Case

Engineering

Reference

Manual

1998

A **DOVER** DIVERSIFIED COMPANY

Rev 5/98

OBSOLETE



Statement of Purpose

We will lead the markets we serve with innovative products, solutions and technological advances in a relentless pursuit to exceed customer expectations.

We will create a culture that promotes teamwork, integrity and respect for our customers, our suppliers and ourselves.

We are intolerant of mediocrity and dedicated to continuous improvement as a way of life.

As a result, **Hill PHOENIX** will enhance the success of our customers, the return to our shareholders, and the satisfaction of our employees.

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OIM / OIM(B) / OIM(BB)	66-69
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O3UM	28, 34, 35
O3.5UM	28, 36
O4UM	28, 37
O5UM	28, 38
O5DM	4-7
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Island Merchandisers	55 & 65
O3IC / O3IC(B)	56-60
OIM / OIM(B) / OIM(BB)	66-69
ONIM / ONIM(B)	70-72

Service Merchandisers	93
OSA	94-96
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O3UM	28, 34, 35
O3.5UM	28, 36
O4UM	28, 37
O5UM	28, 38
O5DM	4-7
Island Merchandisers	55 & 65
O3IC / O3IC(B)	56-60
OIM / OIM(B) / OIM(BB)	66-69
ONIM / ONIM(B)	70-72
Service Merchandisers	93
OSA	94-96
OSM	98-100
OSAG	102-104
OSI	106-108
Self-Service Merchandisers	113
OSIO	114-116
OSIOA-4'	118-119

**Multi-Deck
Merchandisers**

Notes:

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Front sill height does not affect case performance unless specifically shown.*

Rear Load Multi-Deck Dairy Merchandisers

5DSO - 8' & 12' rear load dairy

Electrical Data

High Efficiency Fans Anti-Condensate Heaters Defrost Heaters												
Model		Fans per Case	Standard Fans		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
5DSO	8'	2	1.06	60	0.46	50	- - - ¹	- - -	3.85	800	4.44	1066
	12'	3	1.59	90	0.69	75	- - -	- - -	5.77	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
5DSO ²	8'	0.46	130	0.46	130	4.85	797
	12'	1.65	195	1.65	195	9.76	1154

² Lighting data is for electronic ballasts.

Guidelines & Control Settings

Model	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
5DSO	1600	17	34	48	140

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

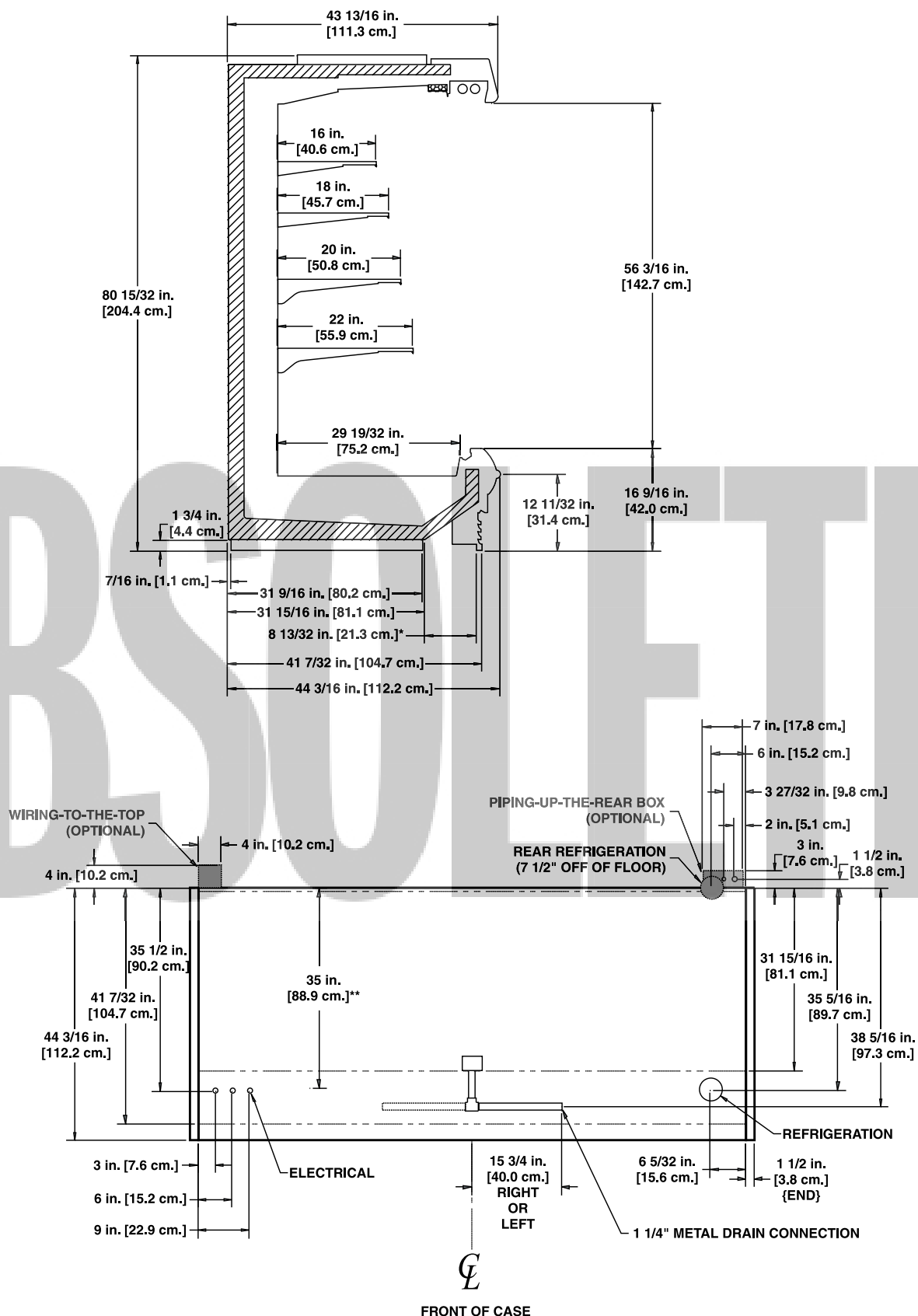
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
5DSO	4	30	49	- - -	- - -	34	42	42	46

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

5DSO



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 1 INCH TO CASE HEIGHT

• SUCTION LINE 7/8", LIQUID LINE - 5/8"

5-Deck Dairy/Deli/Produce Merchandisers

O5DM - 6', 8' & 12' dairy/deli/produce

Electrical Data

High Efficiency Anti-Condensate Defrost Heaters												
Model		Fans per Case	Standard Fans		Fans		Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5DM	6'	2	1.00	60	0.60	28	- - - ¹	- - -	2.88	600	3.33	798
	8'	3	1.50	90	0.90	42	- - -	- - -	3.85	800	4.44	1065
	12'	4	2.00	120	1.20	56	- - -	- - -	5.78	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
O5DM Non-lighted Fronts/Lighted fronts	6'	0.48/0.96	58/116	0.48	58	4.08/4.56	494/552
	8'	0.48/0.96	58/116	0.48	58	4.08/4.56	494/552
	12'	0.70/1.40	83/166	0.70	83	6.06/6.76	729/812

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
O5DM Deli w/ Shelf Lights	18"	1600	17	30	44	250
	21"	1570	17	30	44	250
	23"	1530	17	30	44	250
	26"	1500	17	30	44	250
O5DM Dairy Bulk Produce w/o Shelf Lights	21"	1450	27	36	52	250
	23"	1420	27	36	52	250
	26"	1390	27	36	52	250
O5DM Dairy Cut Produce w/ Shelf Lights	18"	1500	22	34	47	265
	21"	1460	22	34	47	265
	23"	1430	22	34	47	265
	26"	1400	22	34	47	265

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

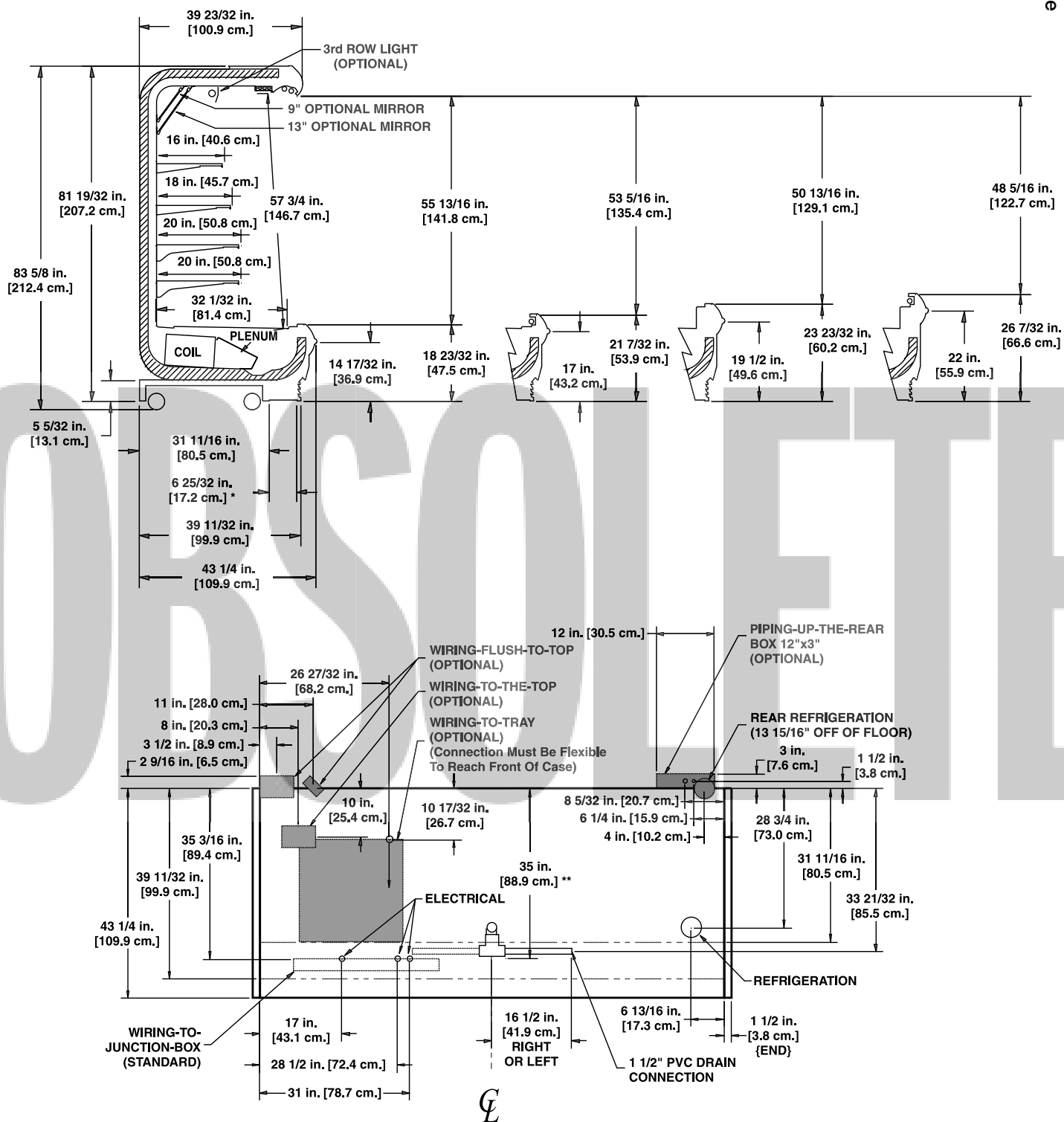
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O5DM Deli/Dairy/Produce	3	32	47	42	44	26	47	42	52

Medium Temperature Defrost Schedule

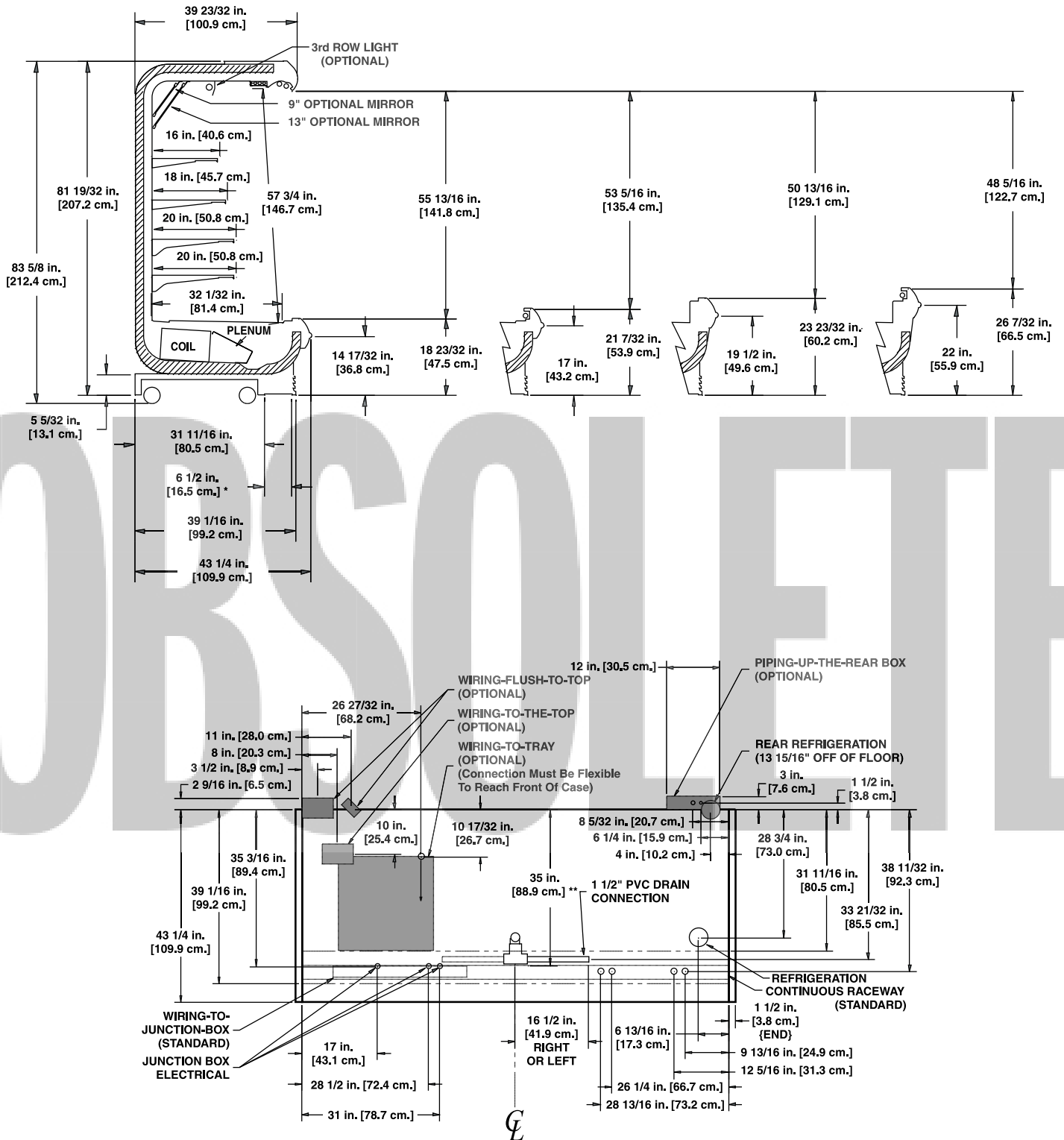
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

O5DM



O5DM (CURVED FRONT PANEL)



NOTES:

FRONT OF CASE

* 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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
(WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

Narrow 5-Deck Dairy/Deli/Produce Merchandisers

ON5DM - 6', 8' & 12' narrow dairy/deli/produce

Electrical Data

Model	Fans per Case		High Efficiency Anti-Condensate Defrost Heaters									
			Standard Fans		Fans		Heaters		208 Volts		240 Volts	
			120 Volts	120 Volts	120 Volts	120 Volts	120 Volts	120 Volts	208 Volts	208 Volts	240 Volts	240 Volts
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON5DM Non-lighted Fronts/ Lighted Fronts	6'	3	1.50	90	0.90	42	---	---	2.88	600	3.33	798
	8'	4	2.00	120	1.20	56	---	---	3.85	800	4.44	1065
	12'	5	2.50	150	1.50	70	---	---	5.78	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
ON5DM Non-lighted Fronts/ Lighted Fronts	6'	0.48/0.96	58/116	0.48	58	4.08/4.56	494/552
	8'	0.48/0.96	58/116	0.48	58	4.08/4.56	494/552
	12'	0.70/1.40	83/166	0.70	83	6.06/6.76	729/812

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
ON5DM	18"	1815	17	32	47	215
	27"	1685	17	31	40	215

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

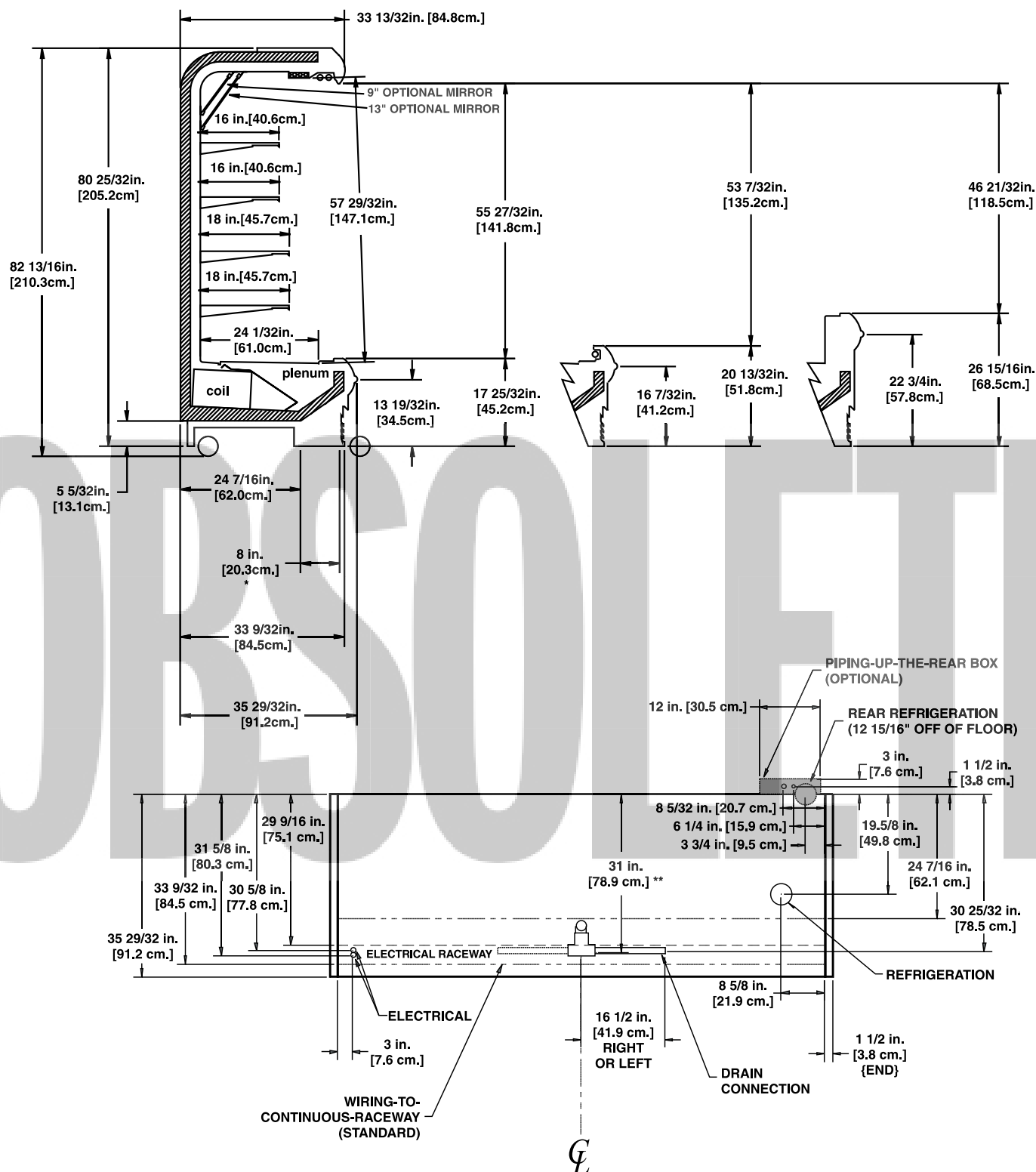
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ON5DM	4	32	47	42	44	26	47	42	52

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

ON5DM



NOTES:

FRONT OF CASE

* 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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL (WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

Multi-Deck Frozen Food Merchandisers

05Z - 6', 8' & 12' frozen food

Electrical Data

Model		Fans per Case				Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Pri. ¹	Sec. ¹	Amb. ¹	Total	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
						Amps	Watts	Amps	Watts	Amps	Watts	Amps ²	Watts	Amps ²	Watts
05Z	6'	4	2	2	8	4.20	297	1.70	230	2.03	244	10.00	3600	11.50	4794
	8'	5	3	2	10	6.25	371	2.55	288	2.56	307	13.30	4800	15.40	6390
	12'	7	4	3	14	8.75	520	3.57	403	4.05	486	20.00	7200	23.00	9585

¹ Pri.=Primary, Sec.=Secondary, Amb.=Ambient.

² Note: 3 phase load. Figure given is maximum amps per phase.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
05Z	6'	0.48	58	0.48	58	1.44	68
	8'	0.48	58	0.48	58	1.44	174
	12'	0.70	83	0.70	83	2.10	249

Guidelines & Control Settings

Model	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)		
					Pri.	Sec.	Amb.
05Z	1840	-18	-5	0	650	425	275

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
05Z	2	34	50	- - - ⁵	- - -	24	47	50	50

⁵ Note: - - - not an option on this case model.

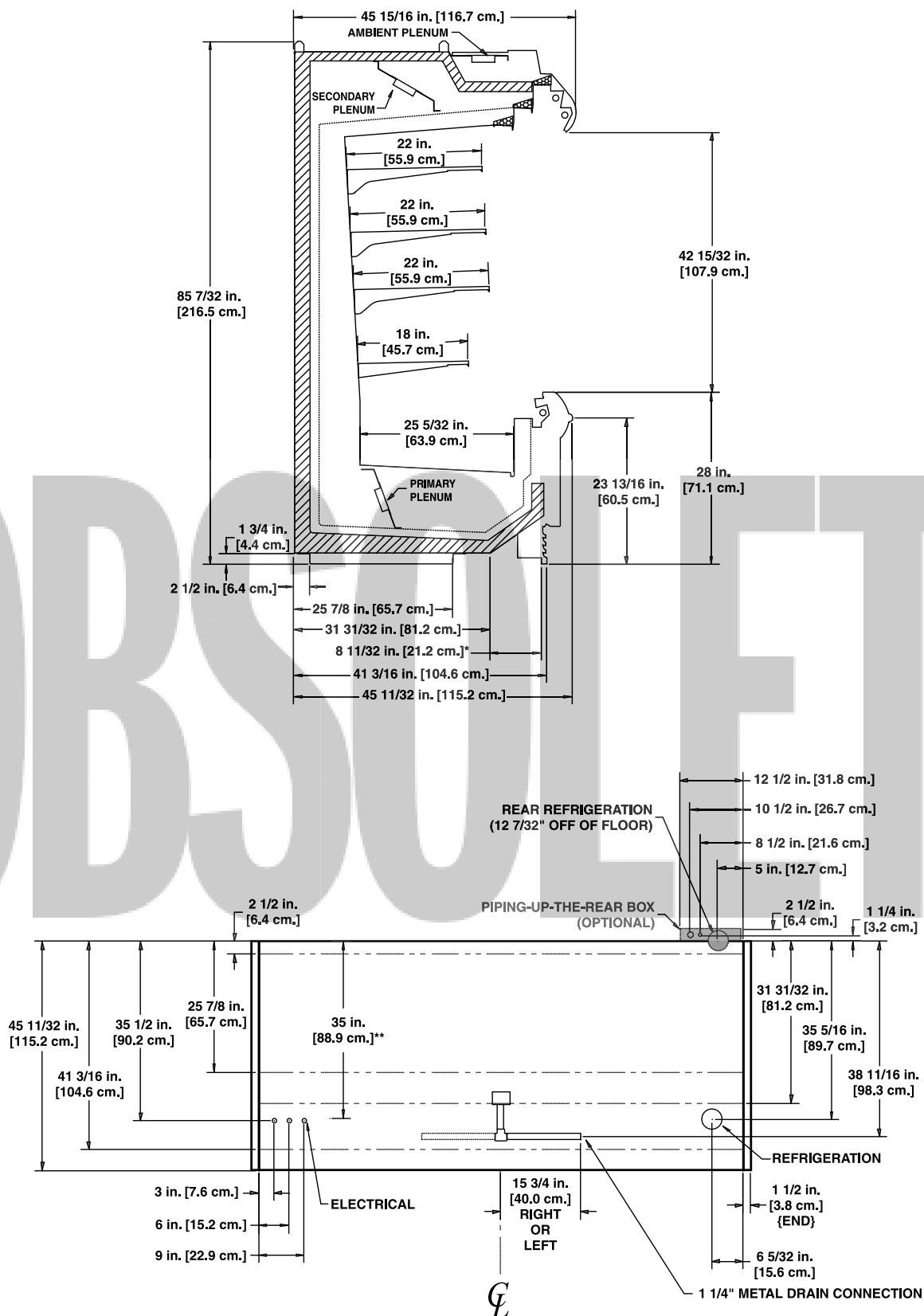
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	10 pm - 6 pm**

** Or immediately after store closing hour

All measurements are taken per CRMA specifications.

O5Z



NOTES:

FRONT OF CASE

* STUB-UP AREA

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

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

• A 4" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL

• SUCTION LINE - 1 1/8", LIQUID LINE - 5/8"

Multi-Deck Meat Merchandisers

OHM - 6', 8' & 12' high meat

Electrical Data

High Efficiency Anti-Condensate Defrost Heaters												
Model		Fans per Case	Standard Fans		Fans		Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHM	6'	2	1.00	60	0.64	28	0.50	61	2.88	600	3.33	798
	8'	3	1.50	90	0.96	42	0.57	69	3.85	800	4.44	1065
	12'	4	2.00	120	1.28	56	0.83	100	5.78	1200	6.67	1600

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OHM	6'	0.48	58	0.48	58	4.08	494
	8'	0.48	58	0.48	58	4.08	494
	12'	0.70	83	0.70	83	6.06	729

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ¹	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OHM	27"	1450	17	28	40	350
	31" & 33"	1350	17	28	40	350

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

Defrost Controls

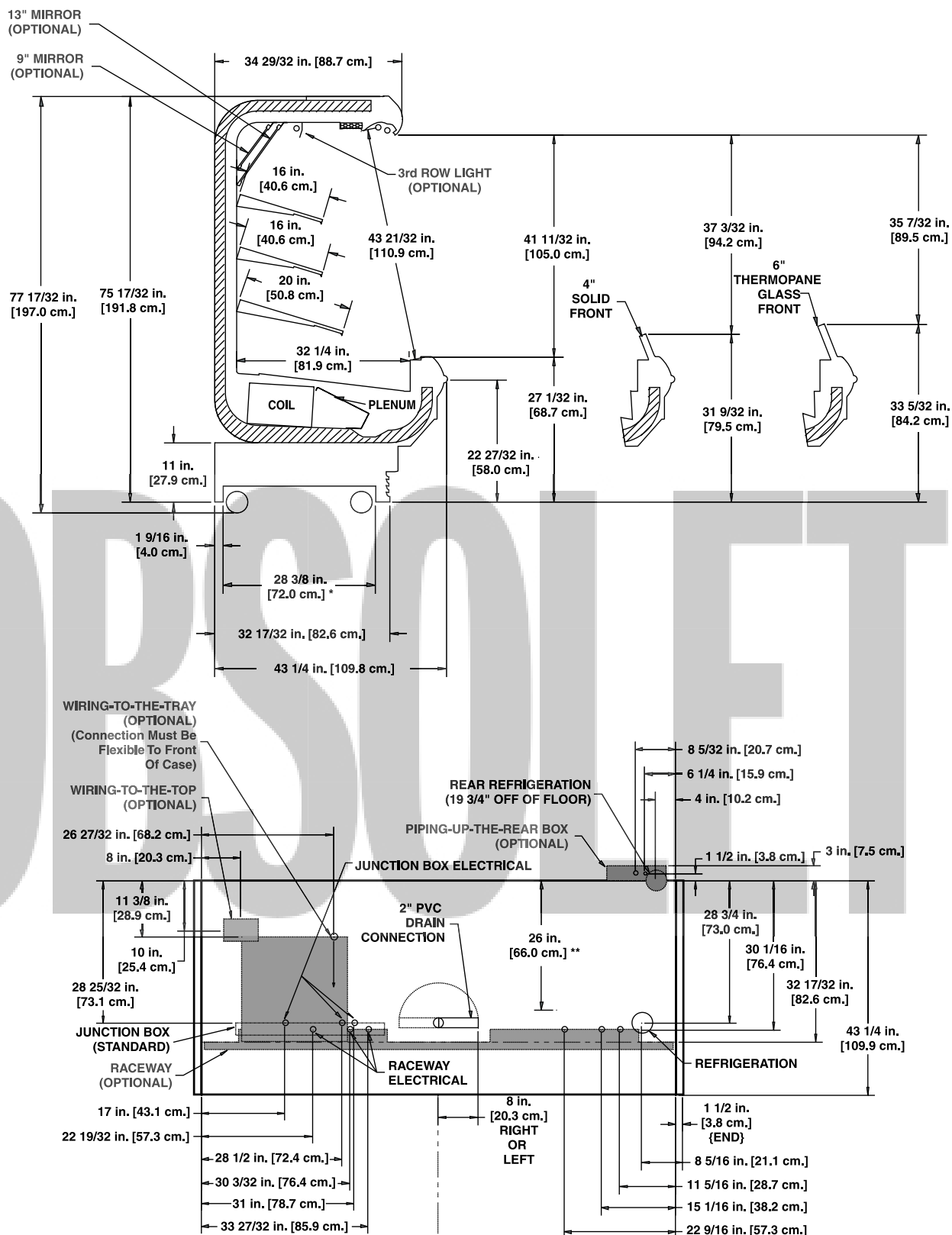
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OHM	3	32	47	44	42	26	39	60	55

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OHM



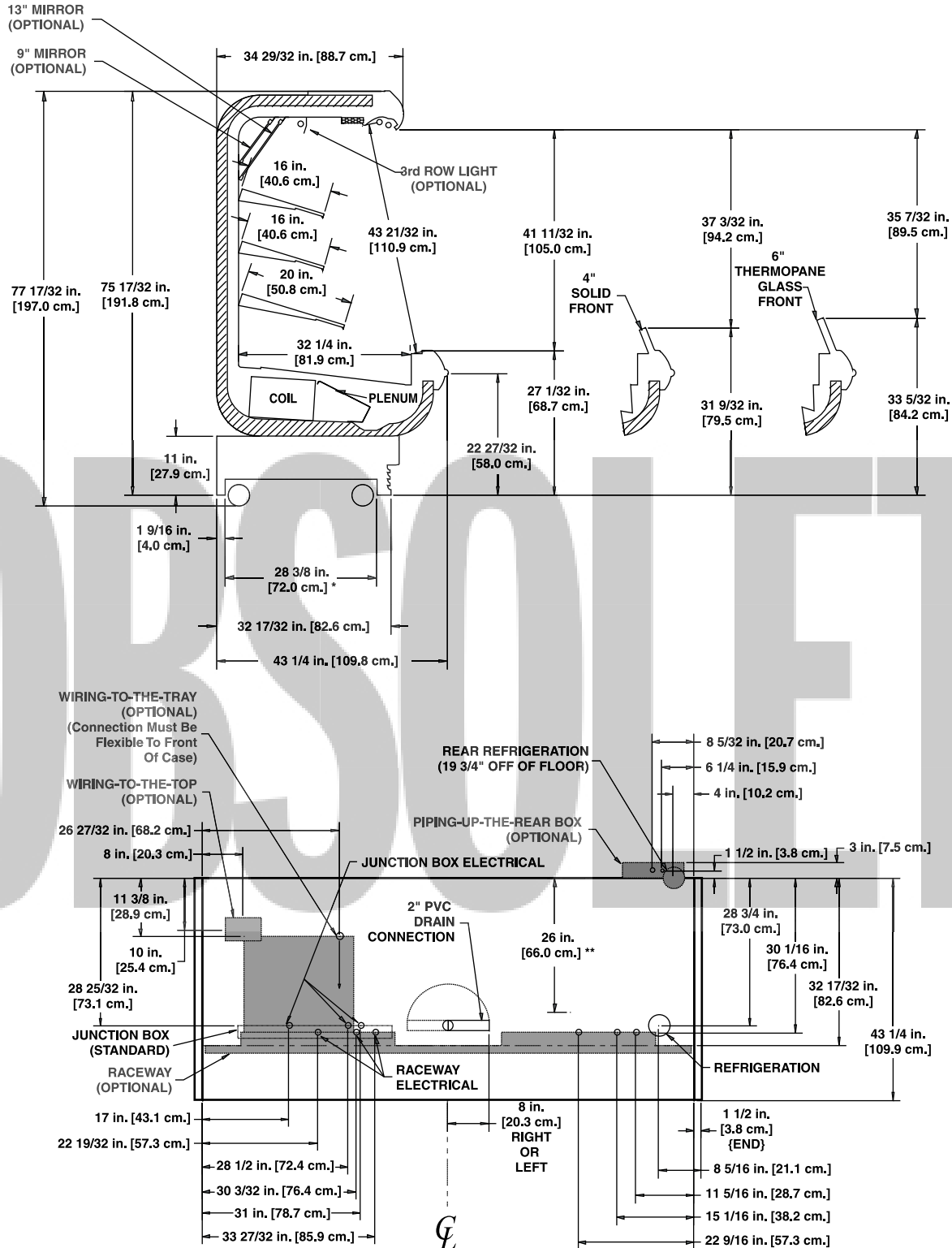
NOTES:

- * 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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL (WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

CL

OHM (CURVED FRONT PANEL)



OBSOLETE

High Multi-Deck Meat Merchandisers

OHMH- 6', 8' & 12' - 83" high meat

Electrical Data

High Efficiency Anti-Condensate Defrost Heaters												
Model		Fans per Case	Standard Fans		Fans		Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHMH	6'	3	1.50	90	0.90	68	1.00	121	2.88	600	3.33	798
	8'	4	2.00	120	1.20	90	1.14	138	3.85	800	4.44	1065
	12'	5	2.50	150	1.50	112	1.66	199	5.78	1200	6.67	1600

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OHMH	6'	0.48	58	0.48	58	4.56	552
	8'	0.48	58	0.48	58	4.56	552
	12'	0.70	83	0.70	83	8.72	812

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft'	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OHMH	27"	1600	12	26	37	330
	31" & 33"	1500	12	26	37	330

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
OHMH	4	50	50	- - - ³	- - -	26	67	- - -	- - -

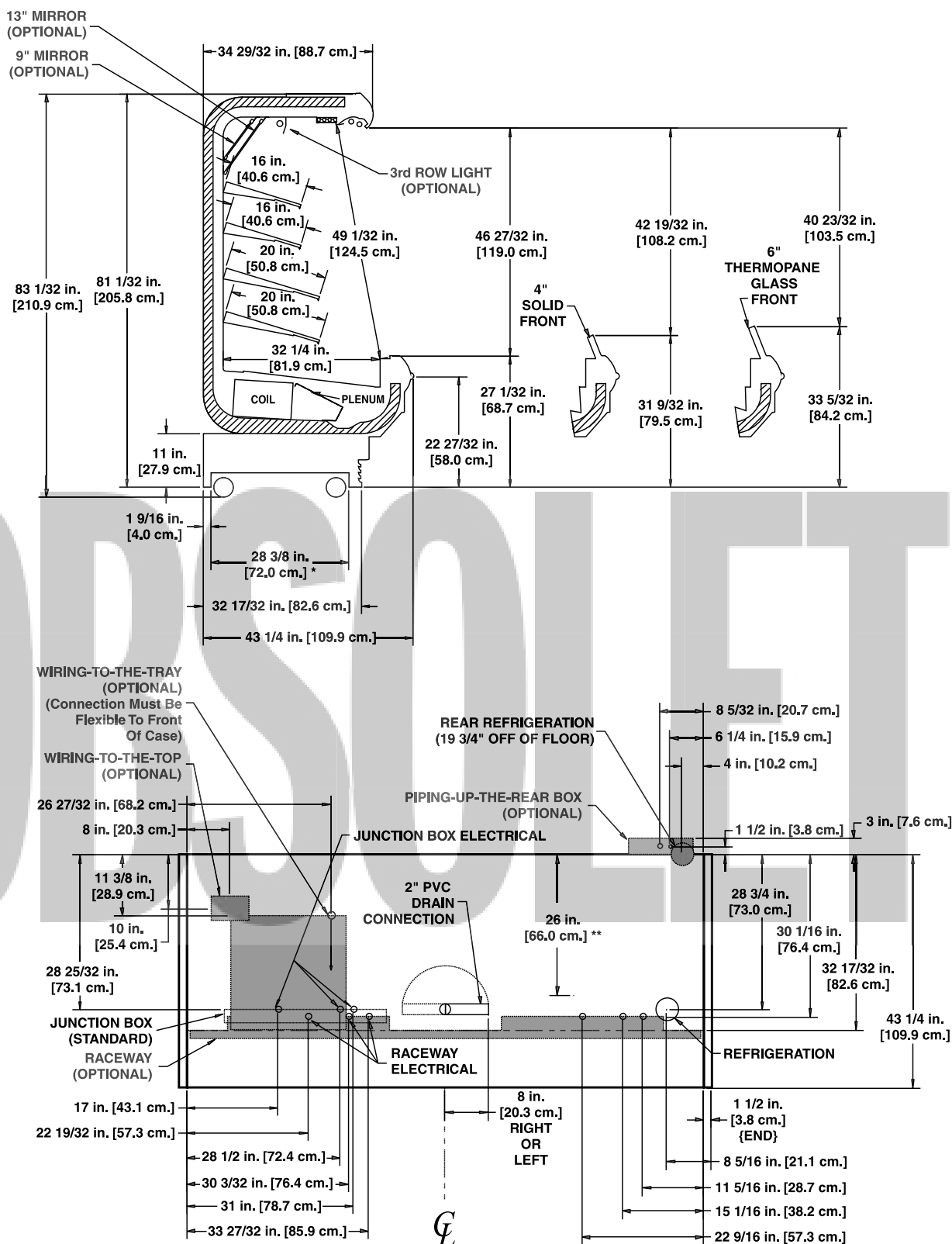
³ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OHMH



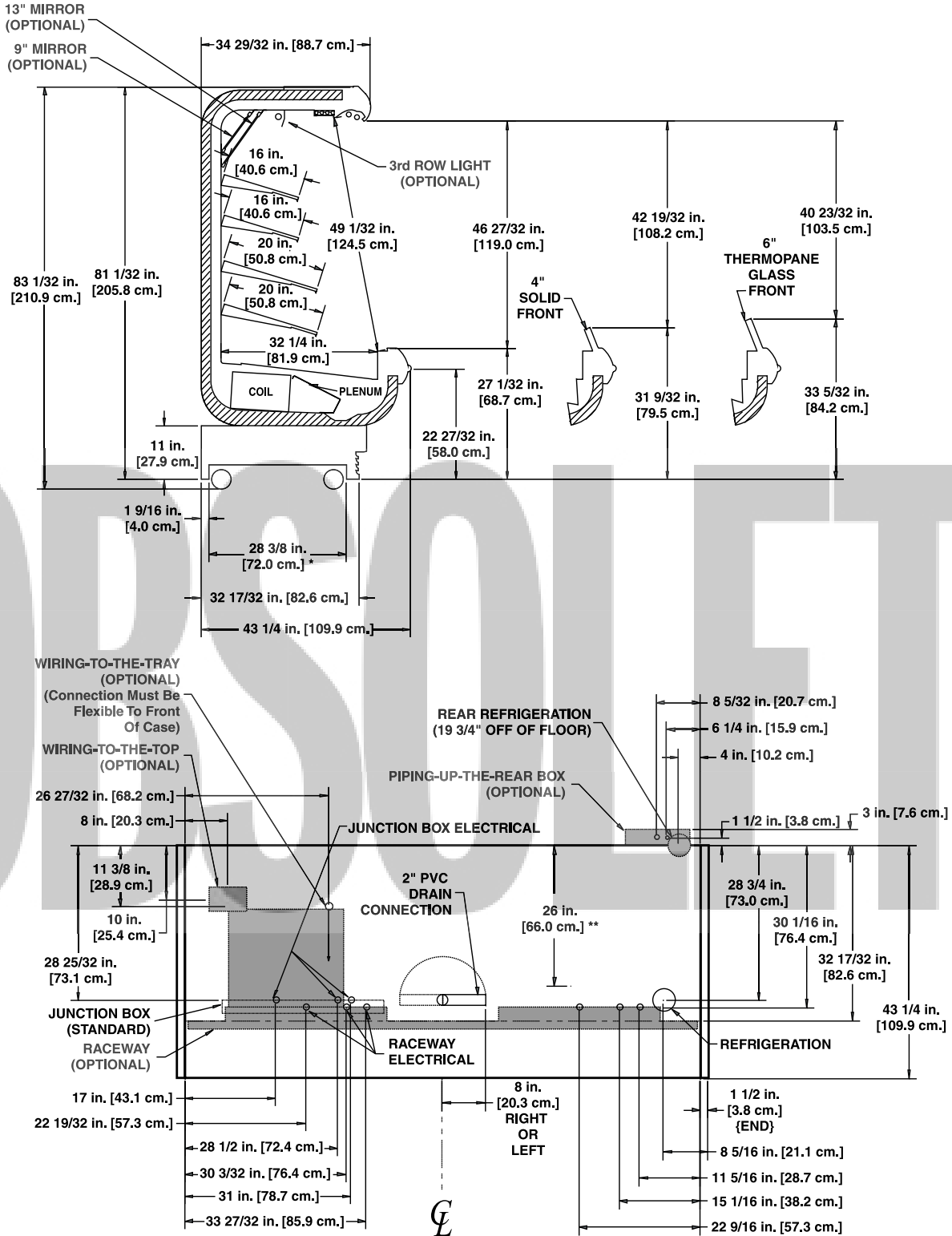
NOTES:

* 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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL (WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

OHMH (CURVED FRONT PANEL)



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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL (WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

OBSOLETE

Multi-Deck Produce Merchandisers

OHP - 6', 8' & 12' high produce

Electrical Data

High Efficiency Anti-Condensate												
Model		Fans per Case	Standard Fans		Fans		Heaters ¹		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHP	6'	2	1.00	60	0.64	28	0.50	61	2.88	600	3.33	798
	8'	3	1.50	90	0.96	42	0.57	69	3.85	800	4.44	1065
	12'	4	2.00	120	1.28	56	0.83	100	5.78	1200	6.67	1600

¹ Anti-condensate heater data for reduced (cut produce) temperature option only.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OHP	6'	0.48	58	0.48	58	3.66	446
	8'	0.48	58	0.48	58	3.66	446
	12'	0.70	83	0.70	83	5.50	662

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
OHP Standard Temp.	27"	855	27	36	48	250
OHP Reduced Temp.	27"	1215	22	31	45	440

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
OHP Standard Temp.	2	- - - ⁴	- - -	56	40	- - -	- - -	56	40
OHP Reduced Temp.	3	24	48	30	48	20	48	30	48

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

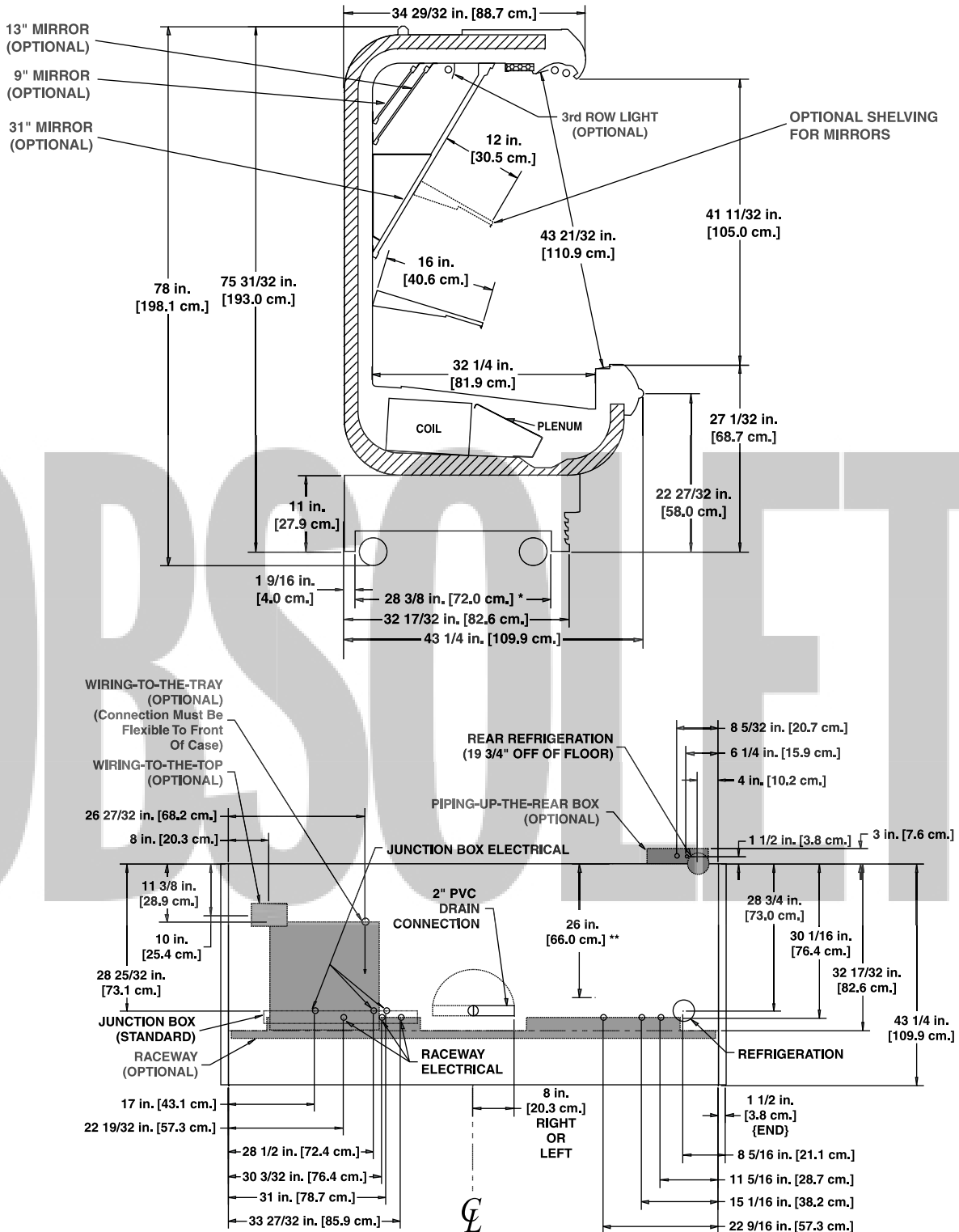
All measurements are taken per CRMA specifications.

$\mathcal{G}$ 

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

- 21

OHP (CURVED FRONT PANEL)



NOTES:

FRONT OF CASE

- * 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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL (WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

OBSOLETE

High Multi-Deck Produce Merchandisers

OHPH- 8' & 12' - 83" high produce

Electrical Data

High Efficiency Anti-Condensate Defrost Heaters												
Model Fans per Case			Standard Fans		Fans		Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHPH	6'	3	1.50	90	0.90	68	1.00	121	2.88	600	3.33	798
	8'	4	2.00	120	1.20	90	1.14	138	3.85	800	4.44	1065
	12'	5	2.50	150	1.50	112	1.66	199	5.78	1200	6.67	1600

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OHPH	6'	0.48	58	0.48	58	4.14	504
	8'	0.48	58	0.48	58	4.14	504
	12'	0.70	83	0.70	83	6.20	745

Guidelines & Control Settings

Model	BTUH/ft ¹	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OHPH	1640	17	30	45	315

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

Defrost Controls

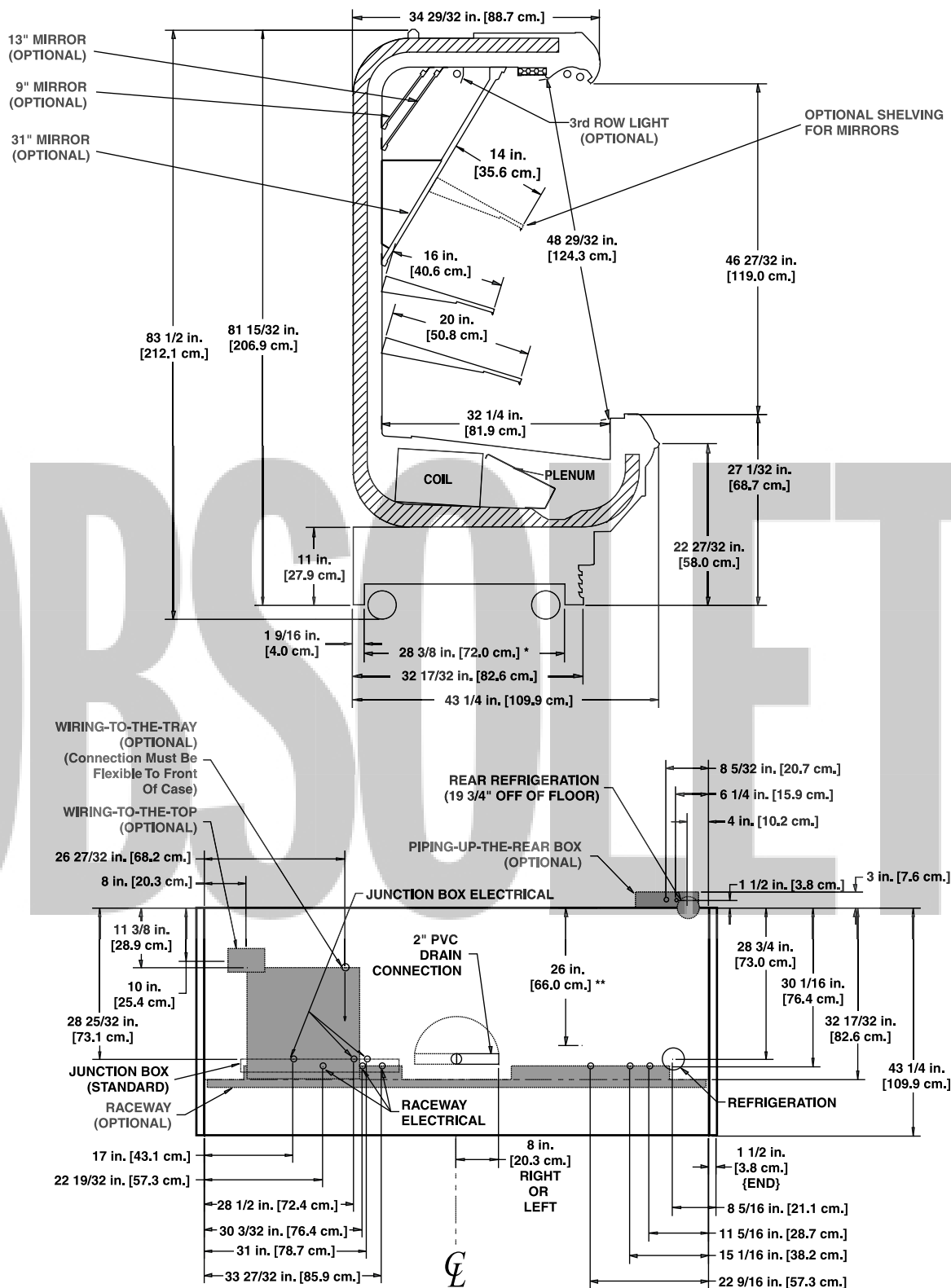
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OHPH	3	34	52	50	50	26	50	50	50

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OHPH



NOTES:

FRONT OF CASE

* 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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL (WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
(WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

OBSOLETE

Multi-Deck Utility/Meat Merchandisers

OUM - 6', 8' & 12' utility/meat

Electrical Data

High Efficiency Fans												
Model			Fans per Case		Standard Fans		Anti-Condensate Heaters ¹		Defrost Heaters			
					120 Volts		120 Volts		120 Volts		208 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OUM	6'	2	1.00	60	0.60	45	0.20	24	2.88	600	3.33	798
	8'	3	1.50	90	0.90	68	0.25	30	3.85	800	4.44	1065
	12'	4	2.00	120	1.20	90	0.38	46	5.78	1200	6.67	1600

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

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
O2UM	6'	NA²	NA	0.48	58	1.44	174
	8'	NA	NA	0.48	58	1.44	174
	12'	NA	NA	0.70	83	2.10	249
O2.5UM	6'	NA	NA	0.48	58	1.92	232
	8'	NA	NA	0.48	58	1.92	232
	12'	NA	NA	0.70	83	2.84	340
O3UM	6'	NA	NA	0.48	58	2.36	282
	8'	NA	NA	0.48	58	2.36	282
	12'	NA	NA	0.70	83	3.50	415

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
O3.5UM	6'	NA	NA	0.48	58	2.36	282
	8'	NA	NA	0.48	58	2.36	282
	12'	NA	NA	0.70	83	3.50	415
O4UM	6'	NA	NA	0.48	58	2.36	282
	8'	NA	NA	0.48	58	2.36	282
	12'	NA	NA	0.70	83	3.50	415
O5UM	6'	NA	NA	0.48	58	2.76	336
	8'	NA	NA	0.48	58	2.76	336
	12'	NA	NA	0.70	83	4.10	496

² Not applicable.

Guidelines & Control Settings

Model³	Front Sill Heights	BTUH/ft⁴	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity⁵ (FPM)
O2UM	27", 31", 33"	1000	17	27	43	300
O2.5UM	27", 31", 33"	1020	17	27	45	225
O3UM	27", 31", 33"	1030	17	27	45	225
O3.5UM	27", 31", 33"	1300	17	30	45	300
O4UM	33"	1460	17	30	45	300
O5UM⁶	33"	1490	17	30	45	300

³ All OUM models only available for meat application with 33" front

⁴ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁵ Average discharge air velocity at peak of defrost.

⁶ O5UM only available for cheese application. Not available for meat.

Defrost Controls

Model	Defrosts Per Day	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)
OUM	3/4⁷	50	55	- - -⁸	- - -	26	39	60	55

⁷ 4 defrosts per day for O4UM and O5UM cases, Deli/Cheese application.

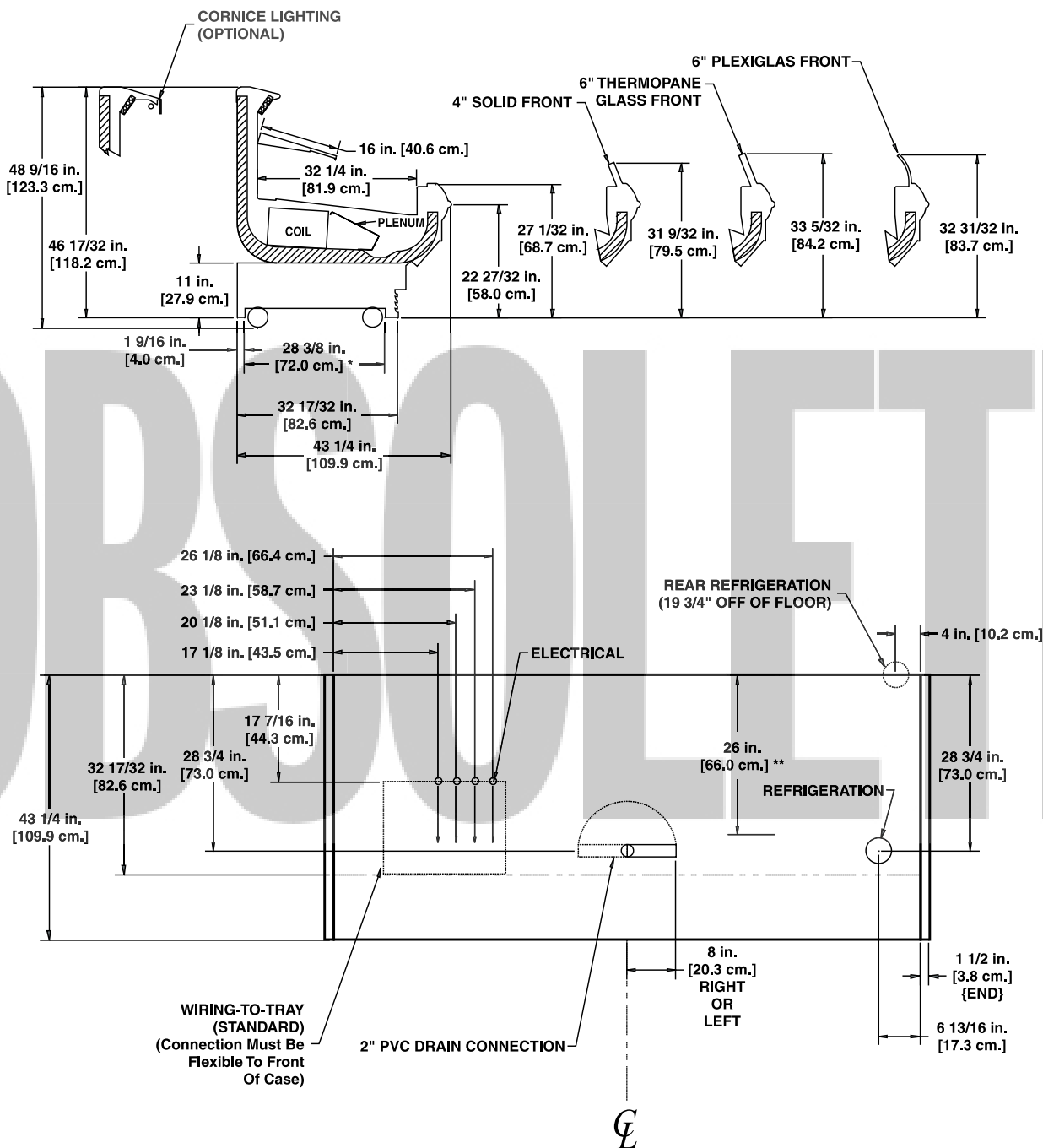
⁸ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

O2UM (11" BASEFRAME)



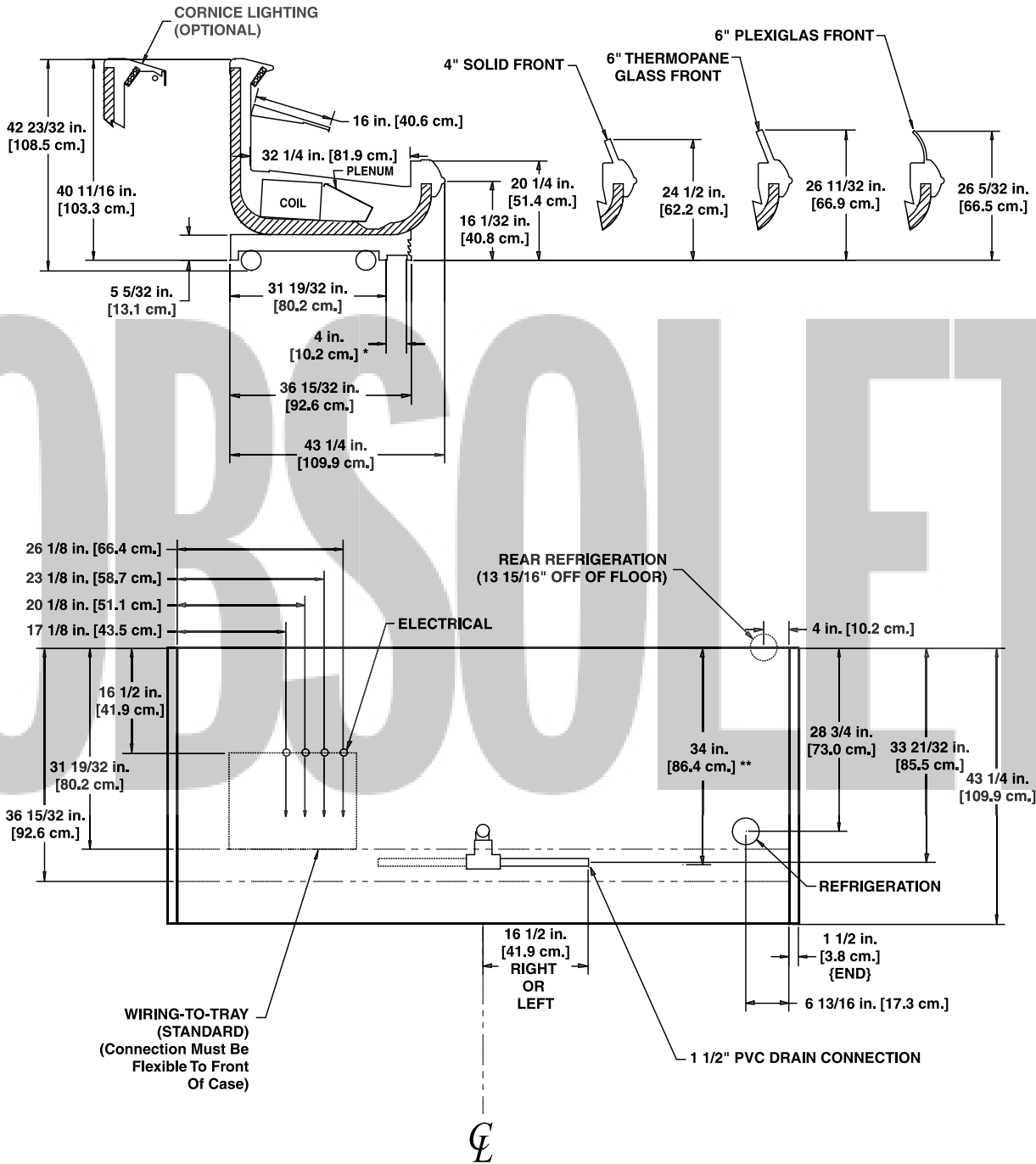
NOTES:

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

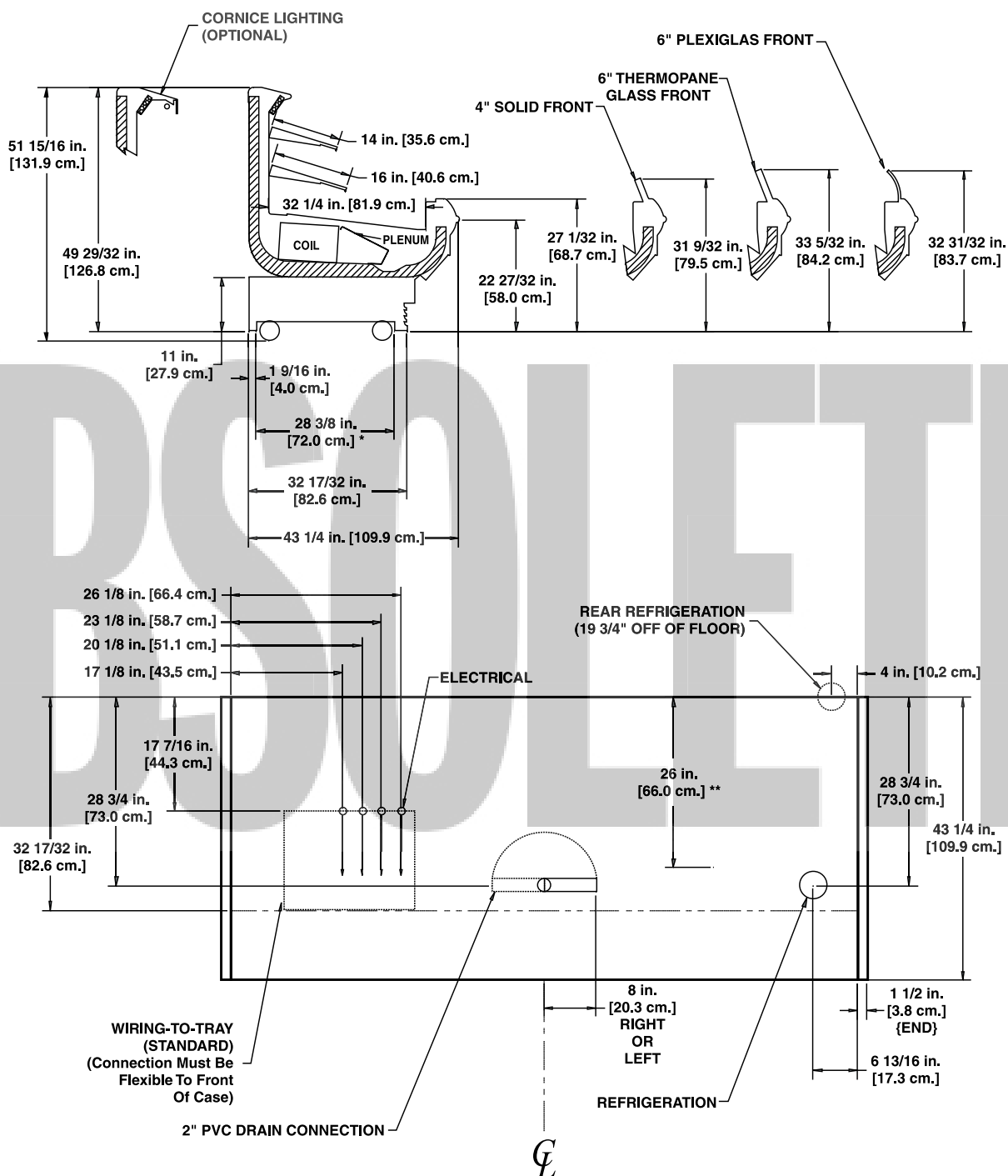
O2UM (5 5/32" BASEFRAME)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

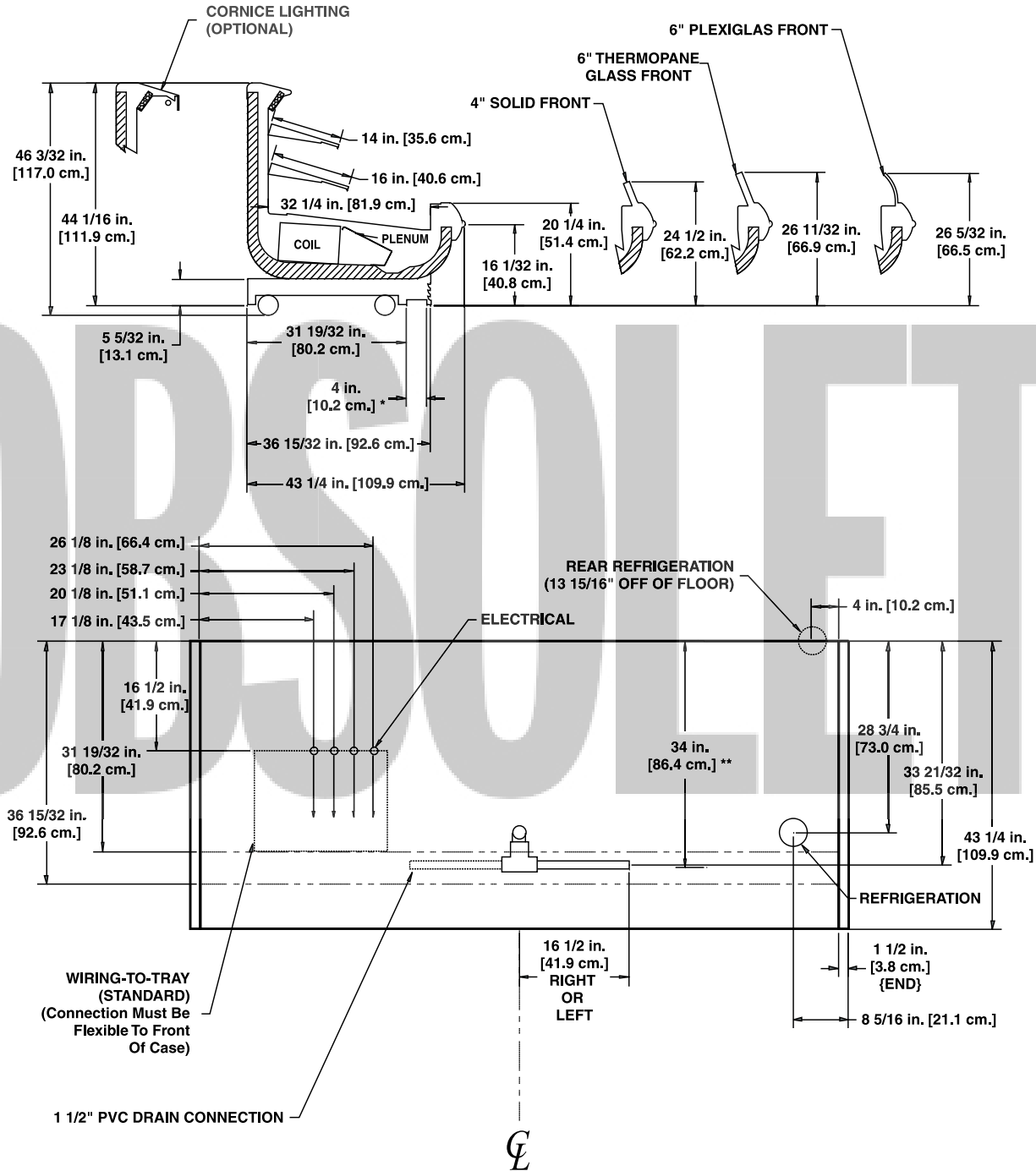
O2.5UM (11" BASEFRAME)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

O2.5UM (5 5/32" BASEFRAME)



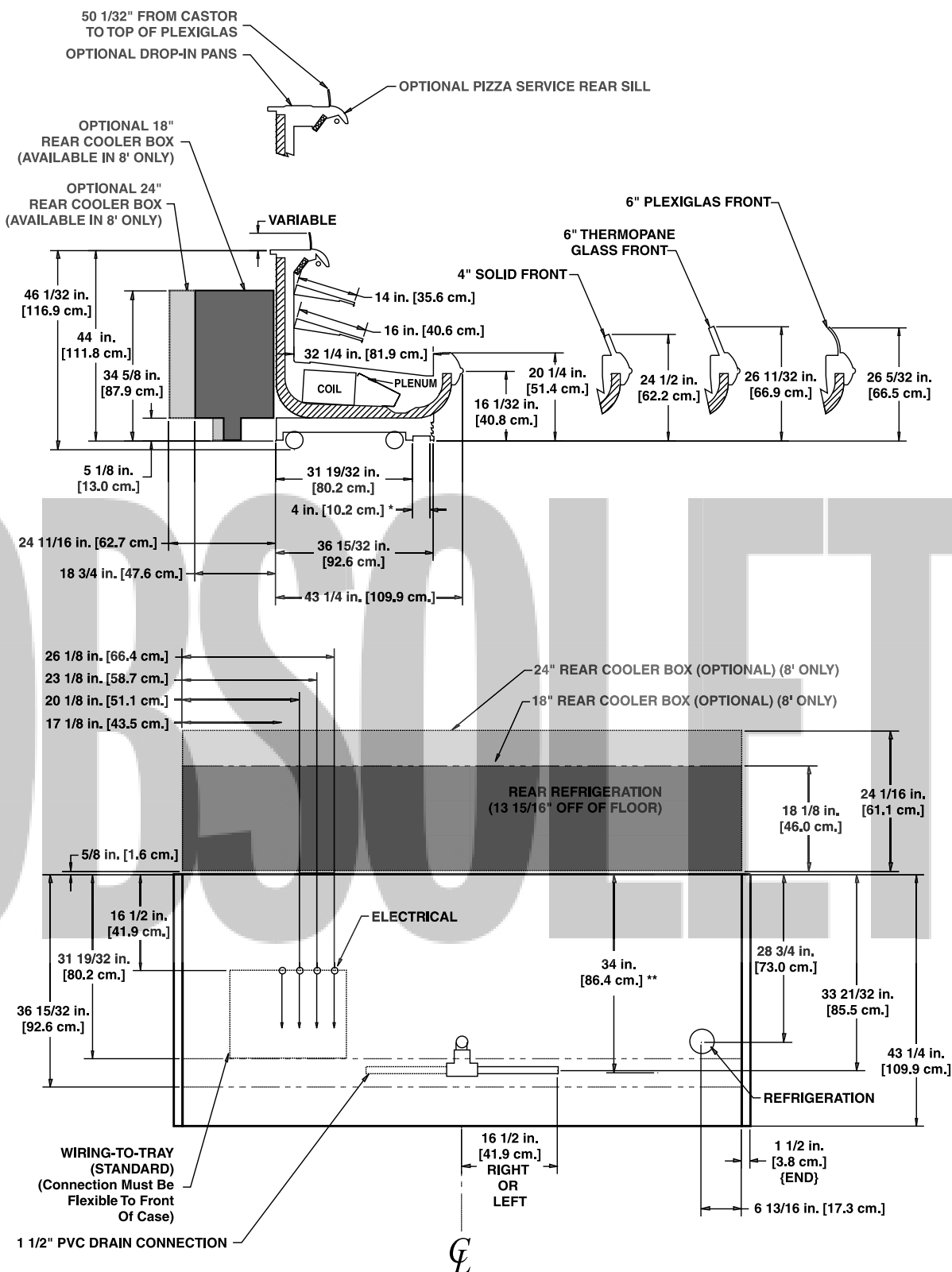
NOTES:

FRONT OF CASE

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

O2.5UM REFRIGERATED BOX APPLICATION



NOTES:

FRONT OF CASE

* STUB-UP AREA

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

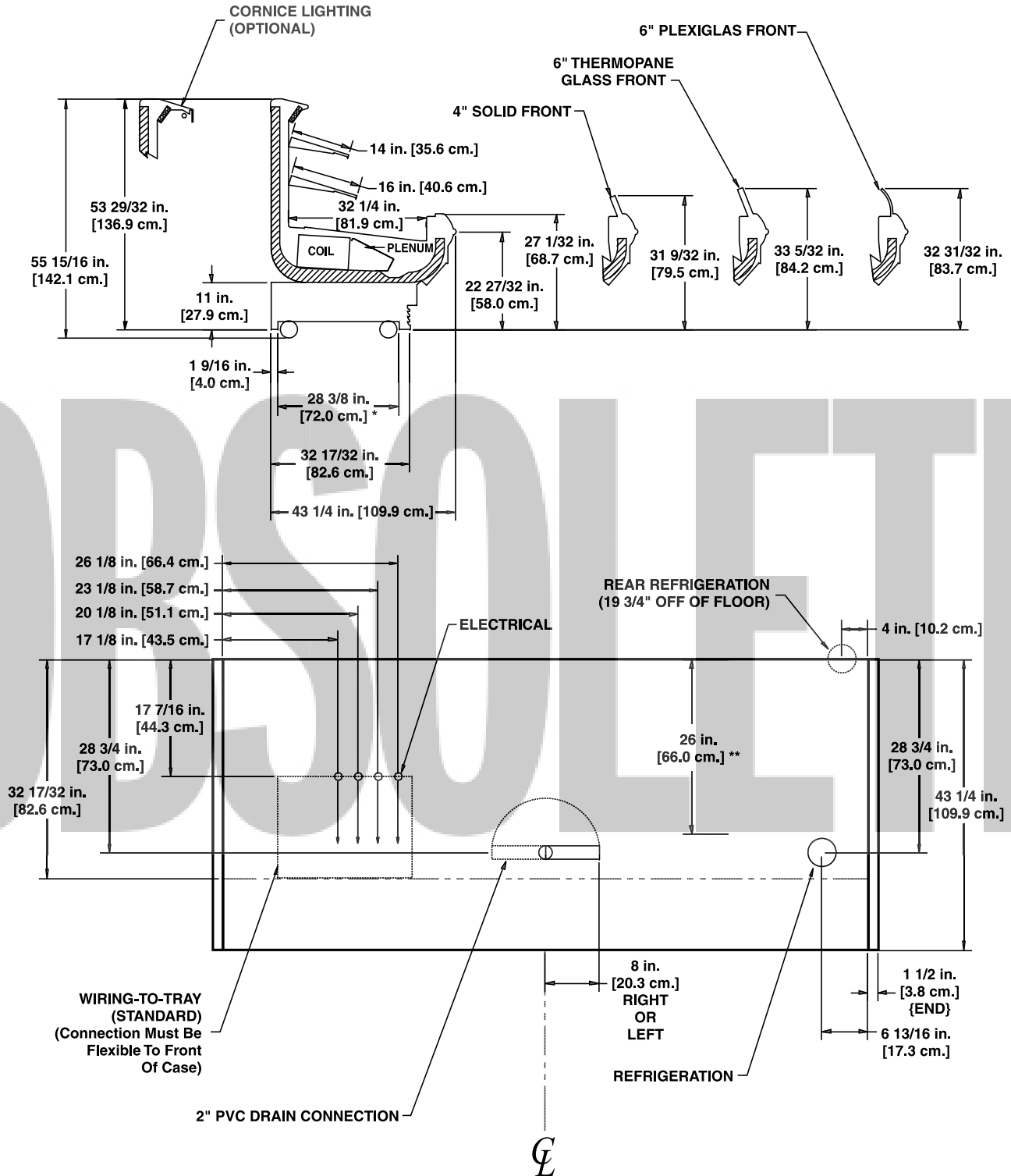
• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

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

• BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE

• SUCTION LINE - 7/8", LIQUID LINE - 5/8"

O3UM (11" BASEFRAME)



NOTES:

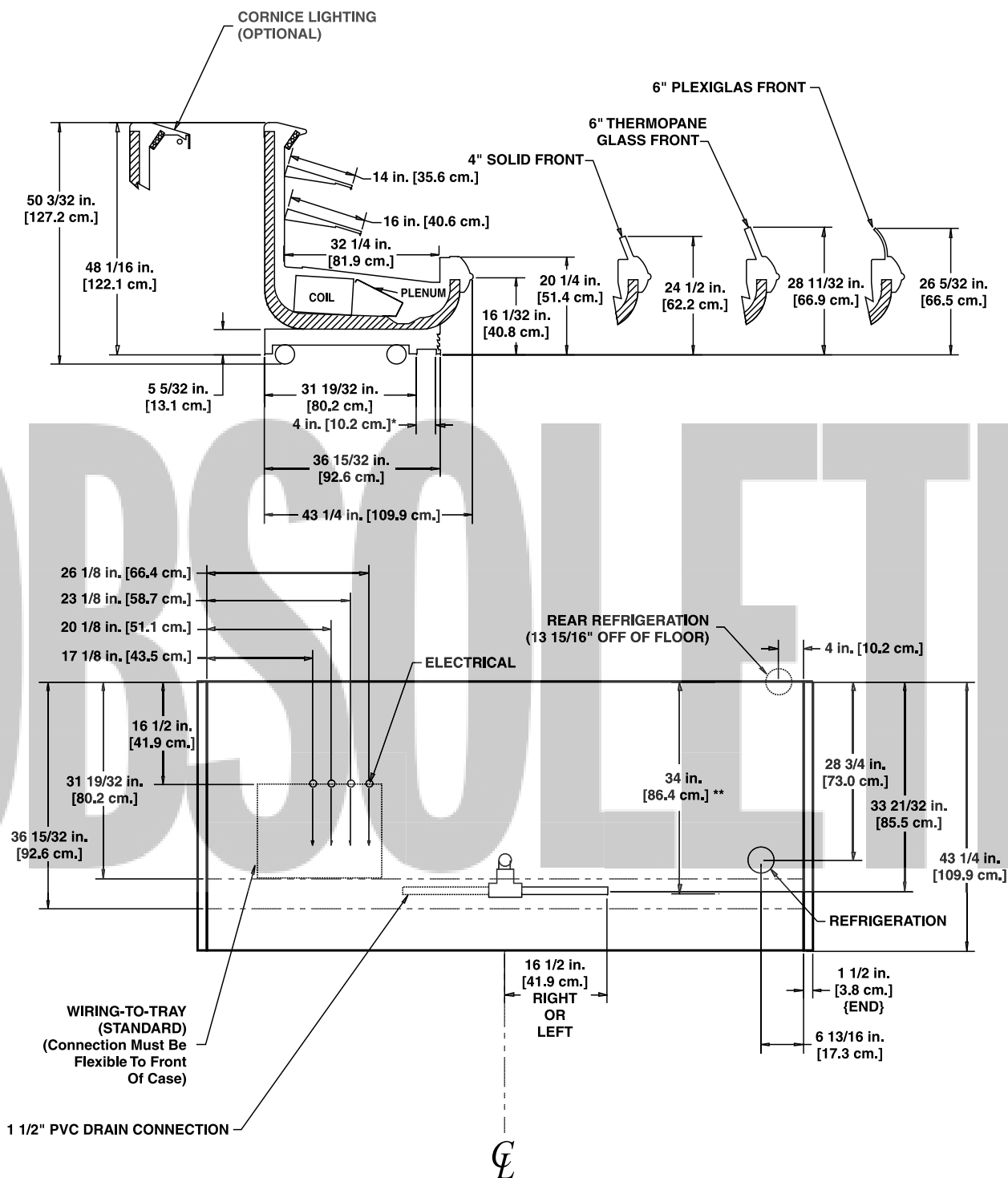
FRONT OF CASE

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

O3UM (5 5/32" BASEFRAME)



NOTES:

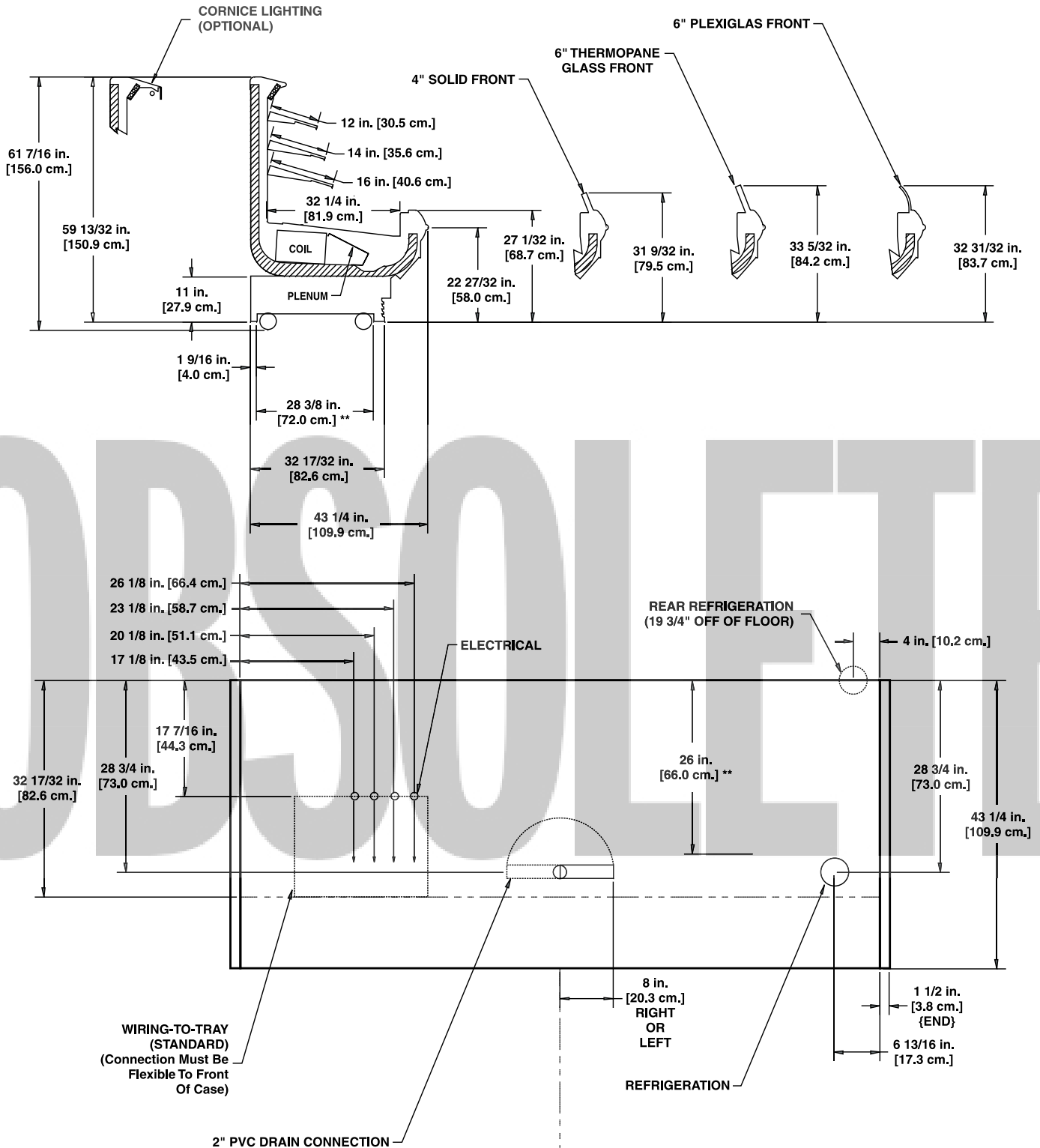
FRONT OF CASE

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

O3.5UM

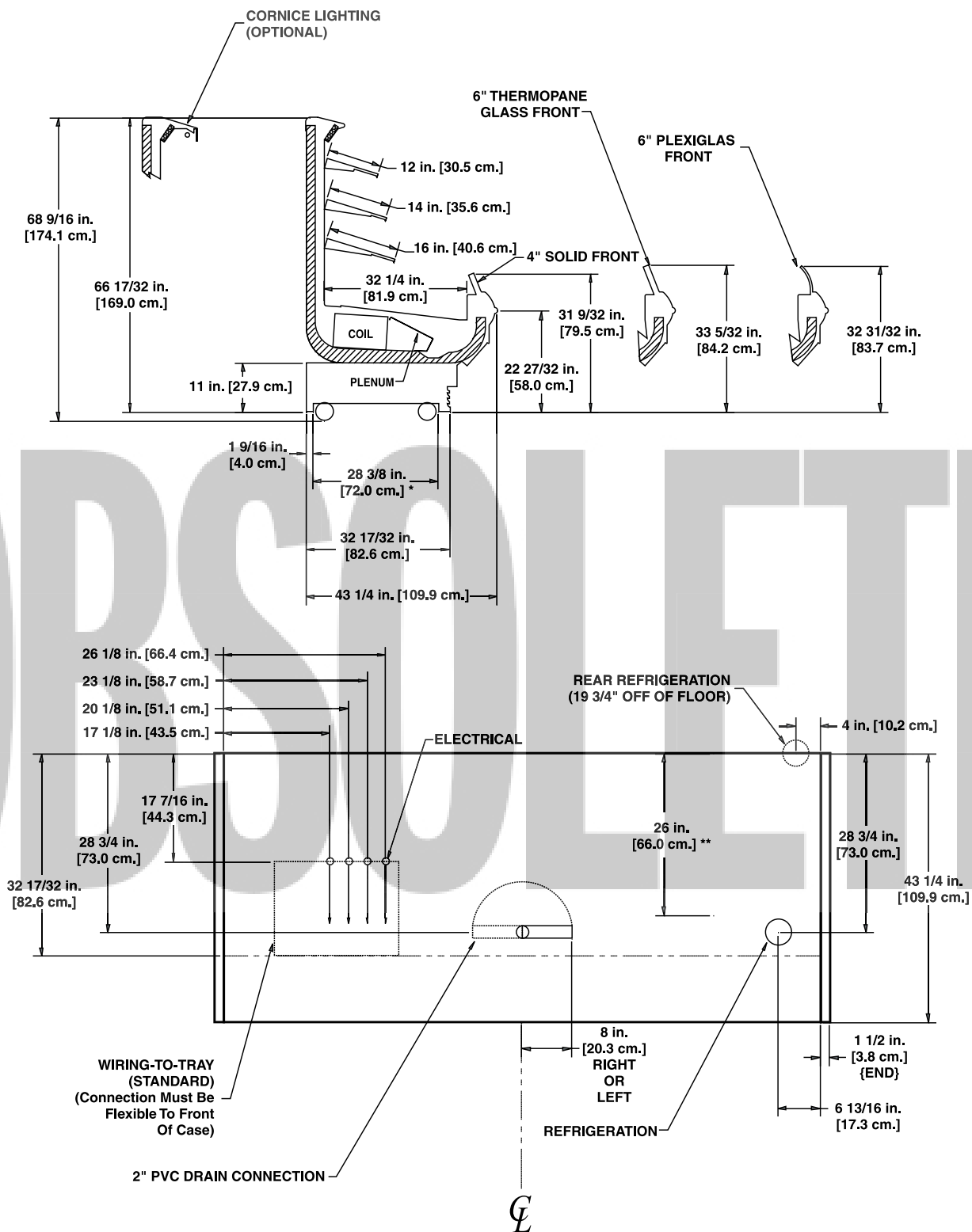


NOTES:

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

O4UM



NOTES:

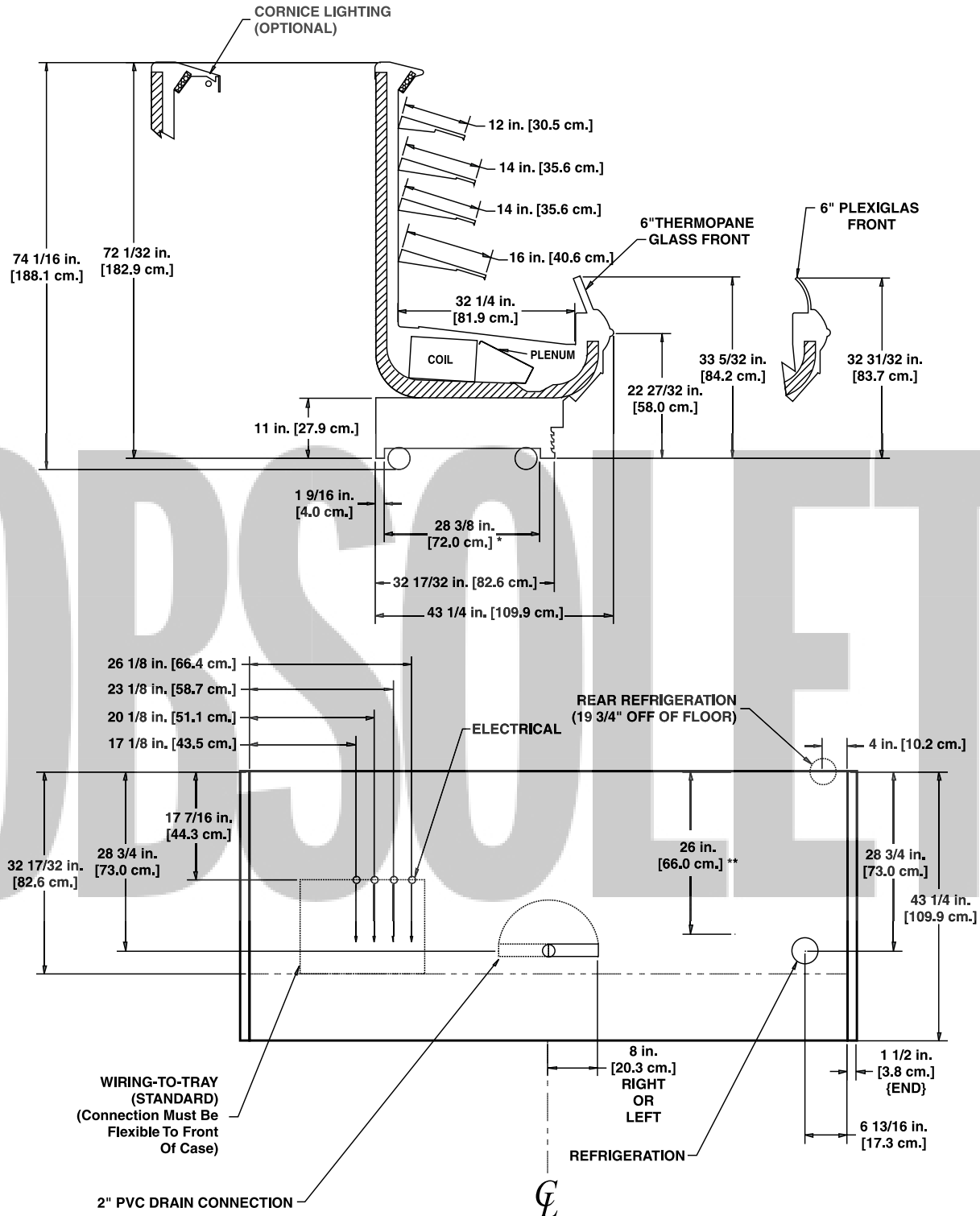
FRONT OF CASE

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

O5UM



NOTES:

FRONT OF CASE

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

**Single Deck
Merchandisers**

Notes:

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Front sill height does not affect case performance unless specifically shown.*

Single Deck Cheese Merchandisers

OC - 6', 8' & 12' cheese

Electrical Data

Model			Fans per Case		Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters	
					120 Volts		120 Volts		120 Volts		208 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OC	6'	2	1.00	50	0.60	38	- - - ¹	- - -	2.88	600	3.33	798
	8'	2	1.00	50	0.60	38	- - -	- - -	3.85	800	4.44	1065
	12'	3	1.50	75	0.90	57	- - -	- - -	5.78	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OC	6'	NA ²	NA	0.48	58	0.48	58
	8'	NA	NA	0.48	58	0.48	58
	12'	NA	NA	0.70	83	0.70	83

² Not applicable.

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OC	27"	410	17	26	39	240
	31" & 33"	300	17	26	39	240

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

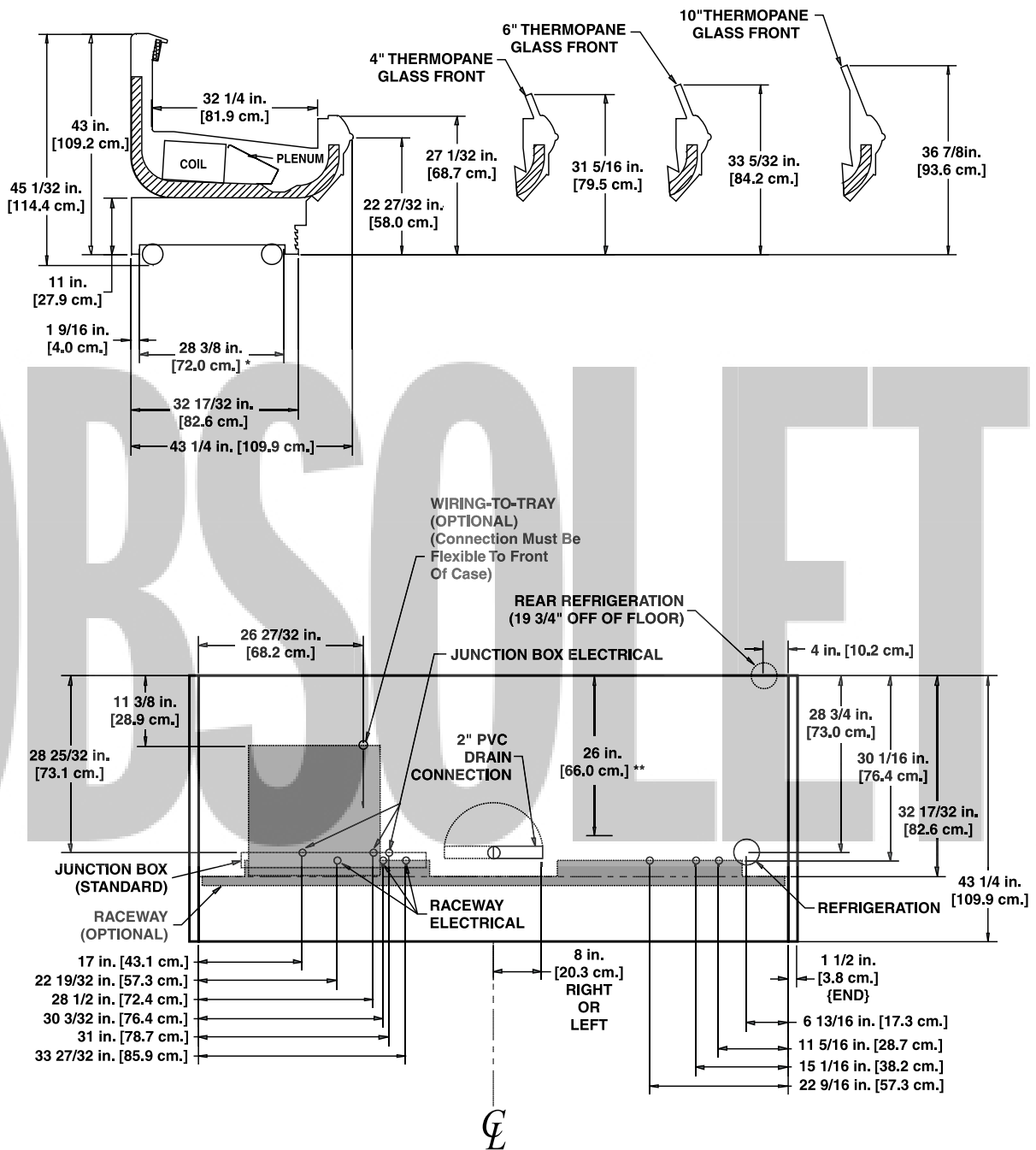
Defrost Controls

Model	Defrosts Per Day	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)
OC	2	40	49	- - -	- - -	26	63	- - -	- - -

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.



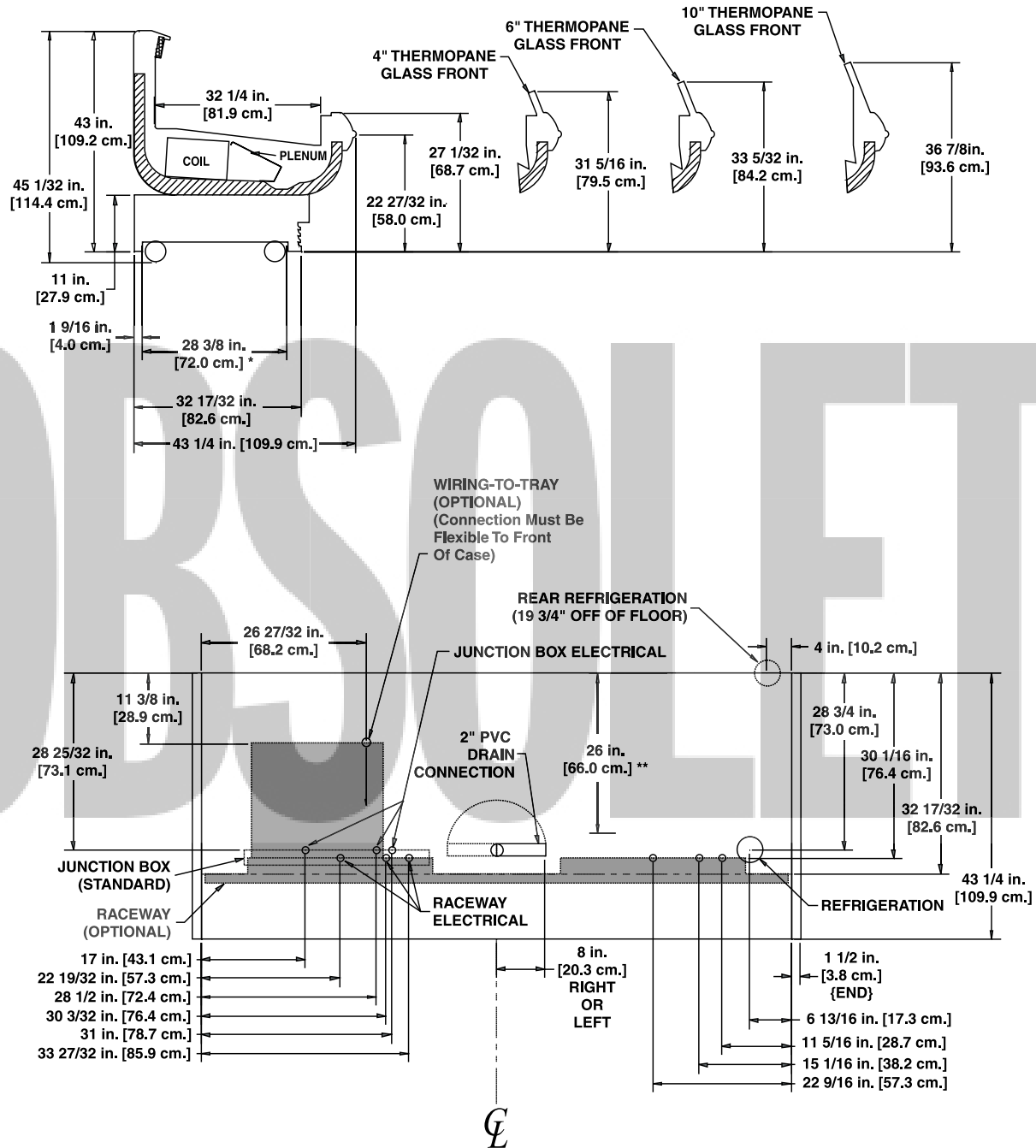
NOTES:

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

OC (CURVED FRONT PANEL)



NOTES:

FRONT OF CASE

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

OBSOLETE

Single Deck Meat Merchandisers

OM - 6', 8' & 12' meat

Electrical Data

Model			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	Amps
OM	6'	2	1.00	50	0.60	38	0.20	24	2.88	600	3.33	798	
	8'	2	1.00	50	0.60	38	0.25	30	3.85	800	4.44	1065	
	12'	3	1.50	75	0.90	57	0.38	46	5.78	1200	6.67	1600	

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OM	6'	NA ¹	NA	0.48	58	2.28	274
	8'	NA	NA	0.48	58	2.28	274
	12'	NA	NA	0.70	83	3.36	399

¹ Not applicable.

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
OM	27"	380	17	26	39	240
	31" & 33"	285	17	26	39	240

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

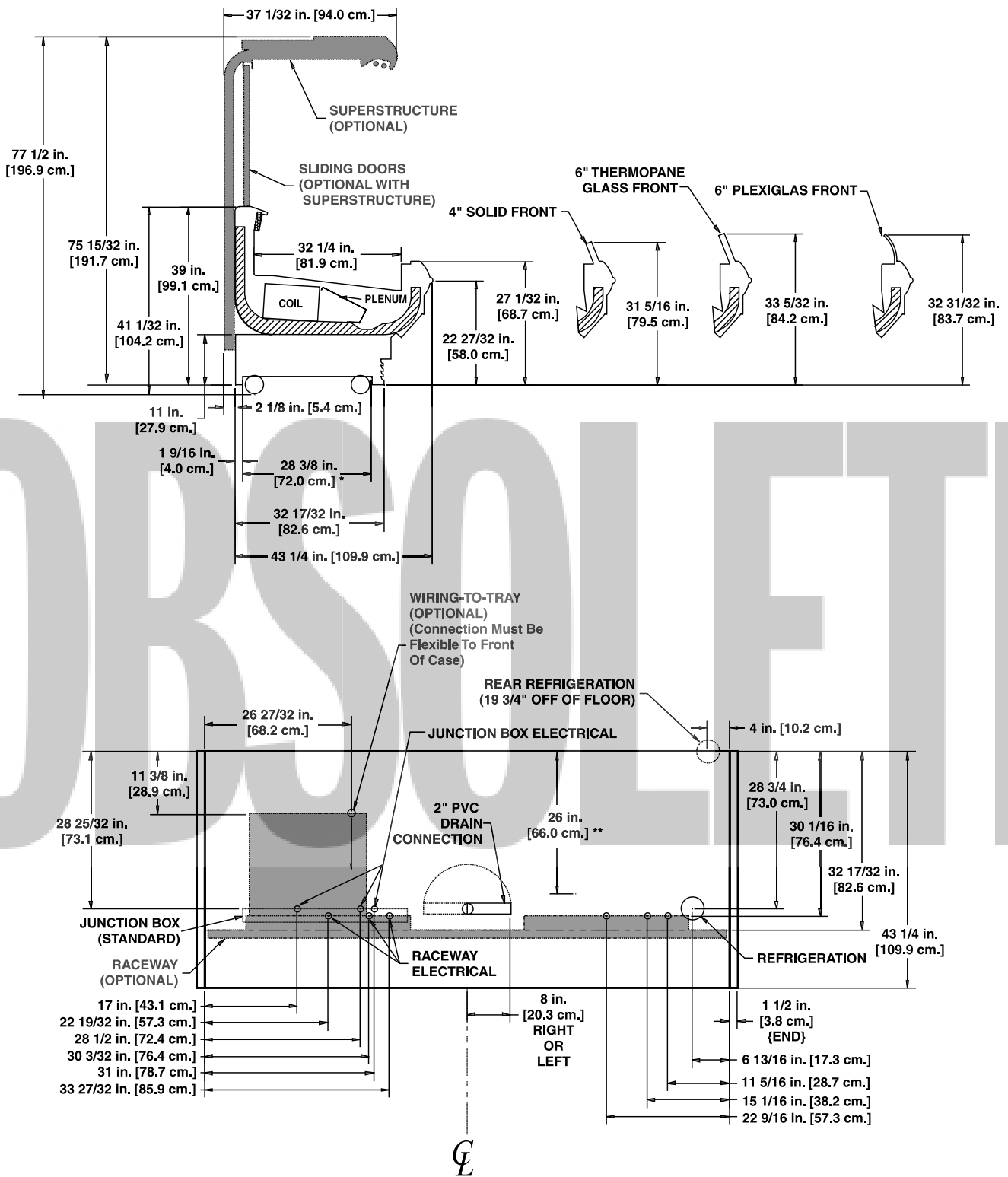
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OM	2	40	49	-- ⁴	---	26	63	---	---

⁴ NOTE: --- not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.



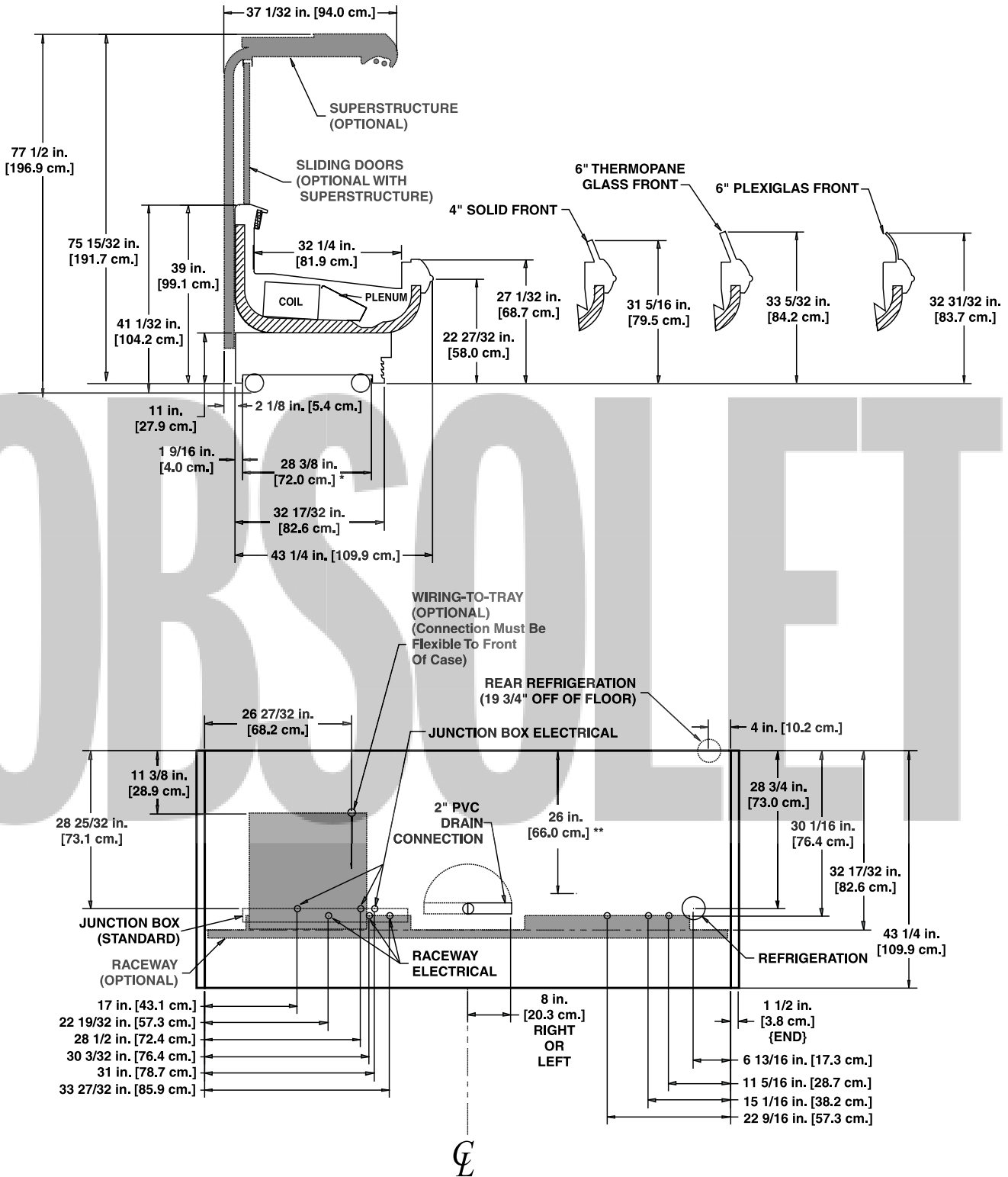
NOTES:

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

FRONT OF CASE

OM (CURVED FRONT PANEL)



NOTES:

FRONT OF CASE

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

OBSOLETE

Single Deck Frozen Meat Merchandisers

OMZ - 6', 8' & 12' frozen meat

Electrical Data

Model			Fans per Case		Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters	
					120 Volts		120 Volts		120 Volts		208 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps¹	Watts	Amps¹	Watts
OMZ	6'	2	1.00	60	0.60	45	1.52	182	5.00	1800	5.76	2394
	8'	3	1.50	90	0.90	68	1.71	207	6.66	2400	7.69	3195
	12'	4	2.00	120	1.20	90	2.49	299	7.99	2880	9.24	3840

¹ NOTE: 3 phase load. Figures given in maximum amps per phase.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OMZ	6'	NA ²	NA	0.48	58	0.48	58
	8'	NA	NA	0.48	58	0.48	58
	12'	NA	NA	0.70	83	0.70	83

² Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OMZ	550	-23	-10	0	120

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

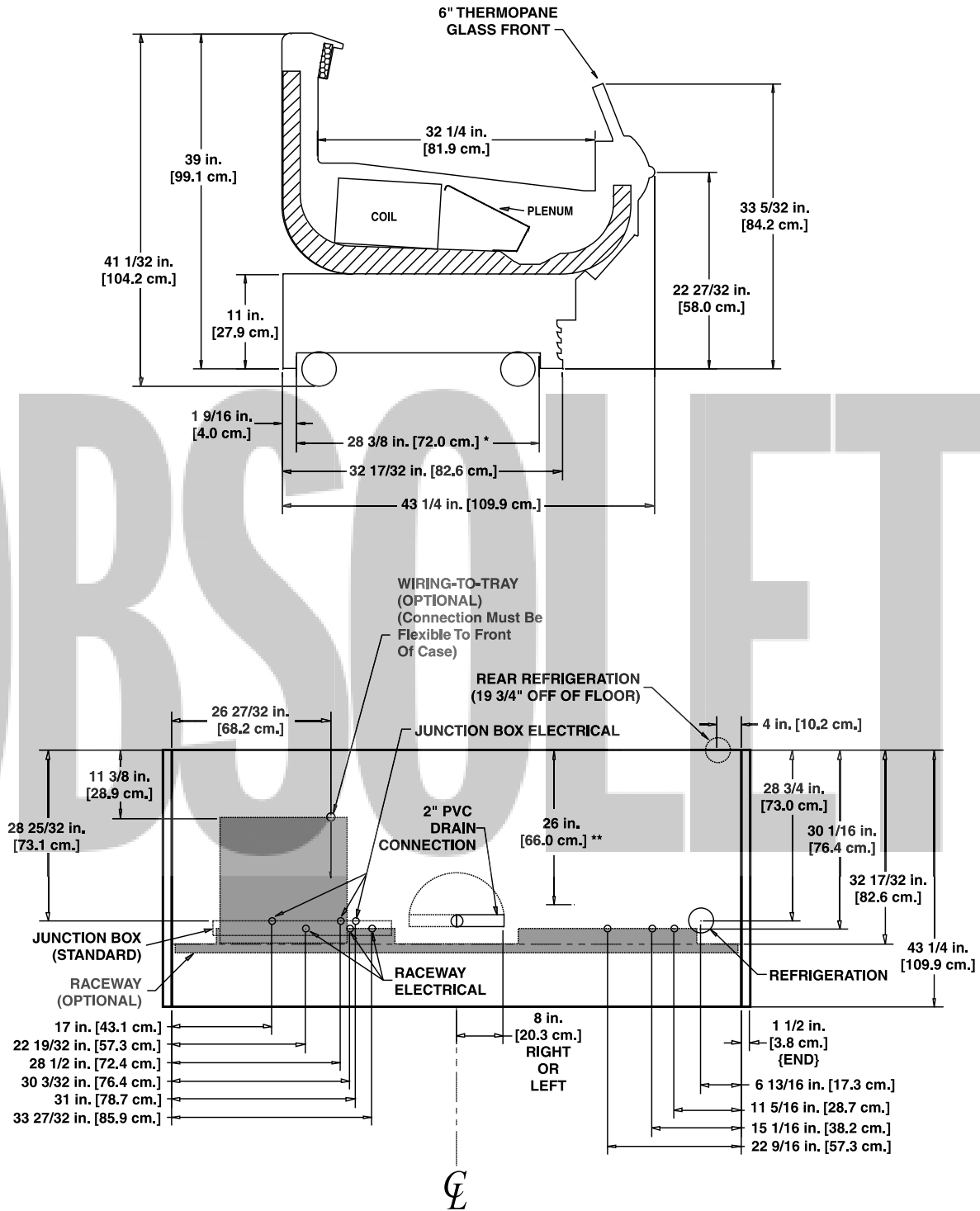
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OMZ	4	45	47	- - - ⁵	- - -	35	45	- - -	- - -

⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

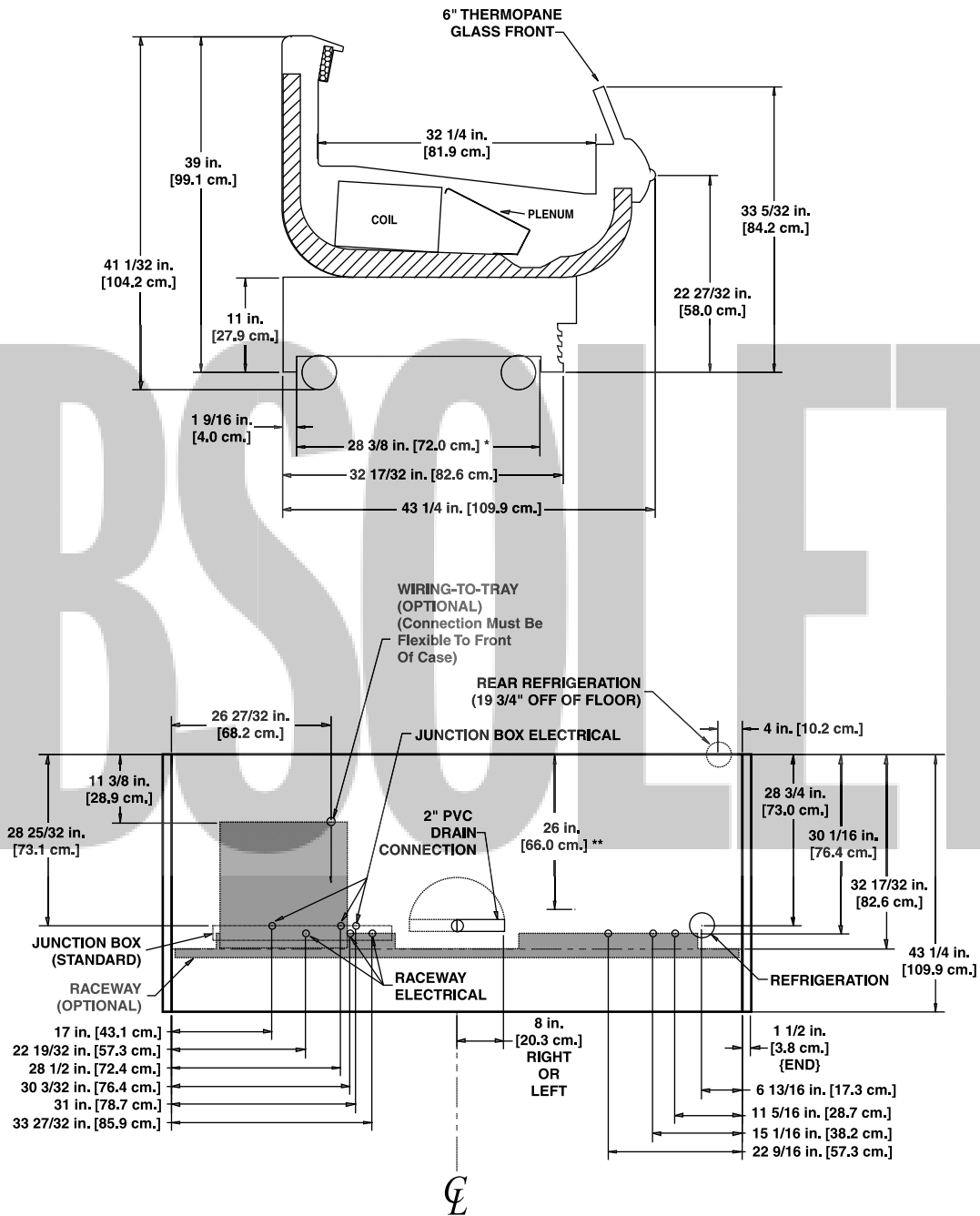


NOTES:

FRONT OF CASE

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

OMZ (CURVED FRONT PANEL)



NOTES:

FRONT OF CASE

* STUB-UP AREA

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

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

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

• SUCTION LINE - 7/8", LIQUID LINE - 5/8"

OBSOLETE

Single Deck Produce Merchandisers

OP - 6', 8' & 12' produce

Electrical Data

Model			Fans per Case		Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters	
					120 Volts		120 Volts		120 Volts		208 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OP	6'	2	1.00	50	0.60	38	- - - ¹	- - -	2.88	600	3.33	798
	8'	2	1.00	50	0.60	38	- - -	- - -	3.85	800	4.44	1065
	12'	3	1.50	75	0.90	57	- - -	- - -	5.78	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OP	6'	NA ²	NA	0.48	58	0.48	58
	8'	NA	NA	0.48	58	0.48	58
	12'	NA	NA	0.70	83	0.70	83

² Not applicable

Guidelines & Control Settings

Model	Rear Sill Heights	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OP Standard Temp.	39"	230	27	30	50	210
	43"	290	27	30	50	210
OP Reduced Temp.	39"	375	22	27	45	210
	43"	405	22	27	45	210

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

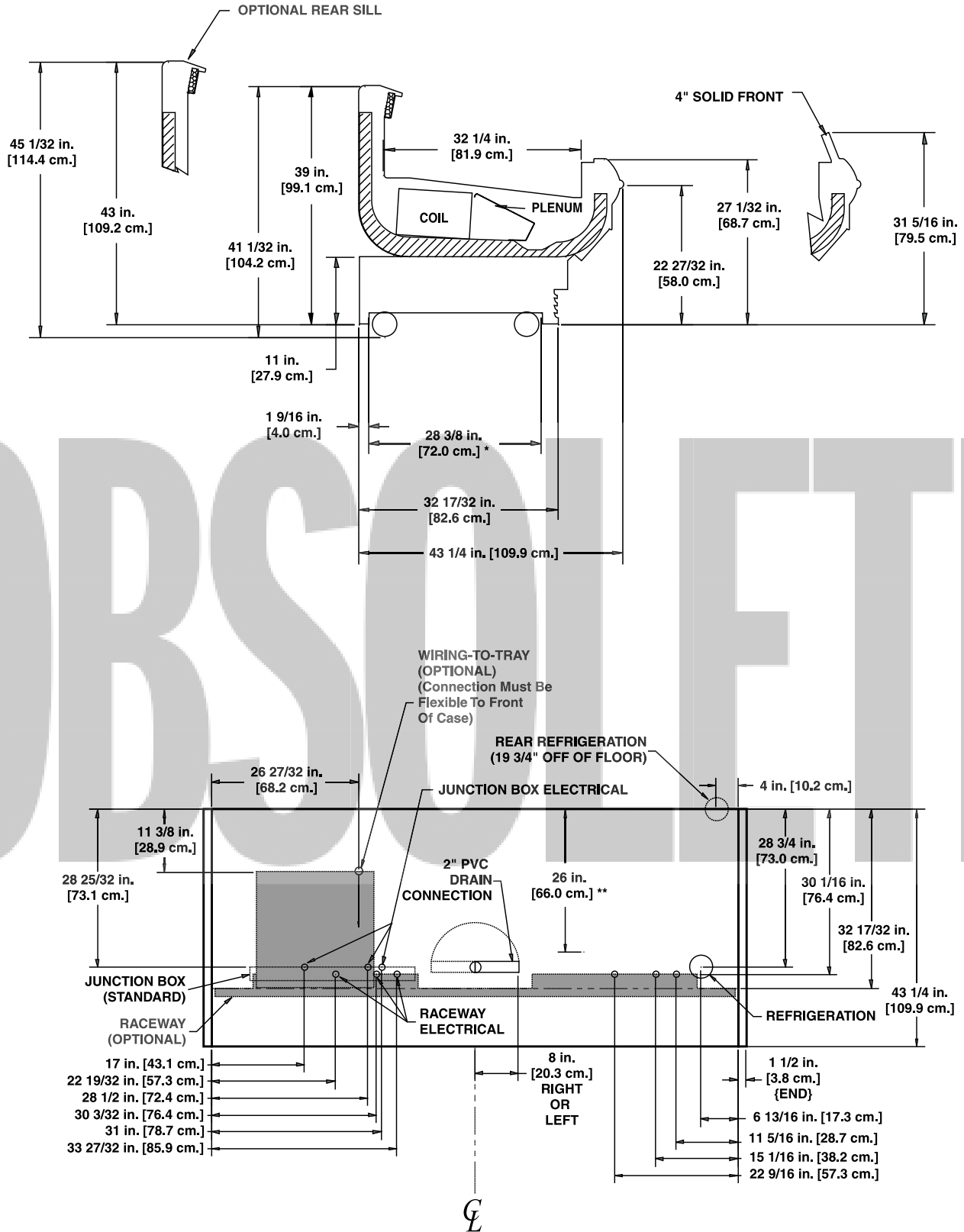
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OP	2	40	52	60	42/44	26	65	40	44

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

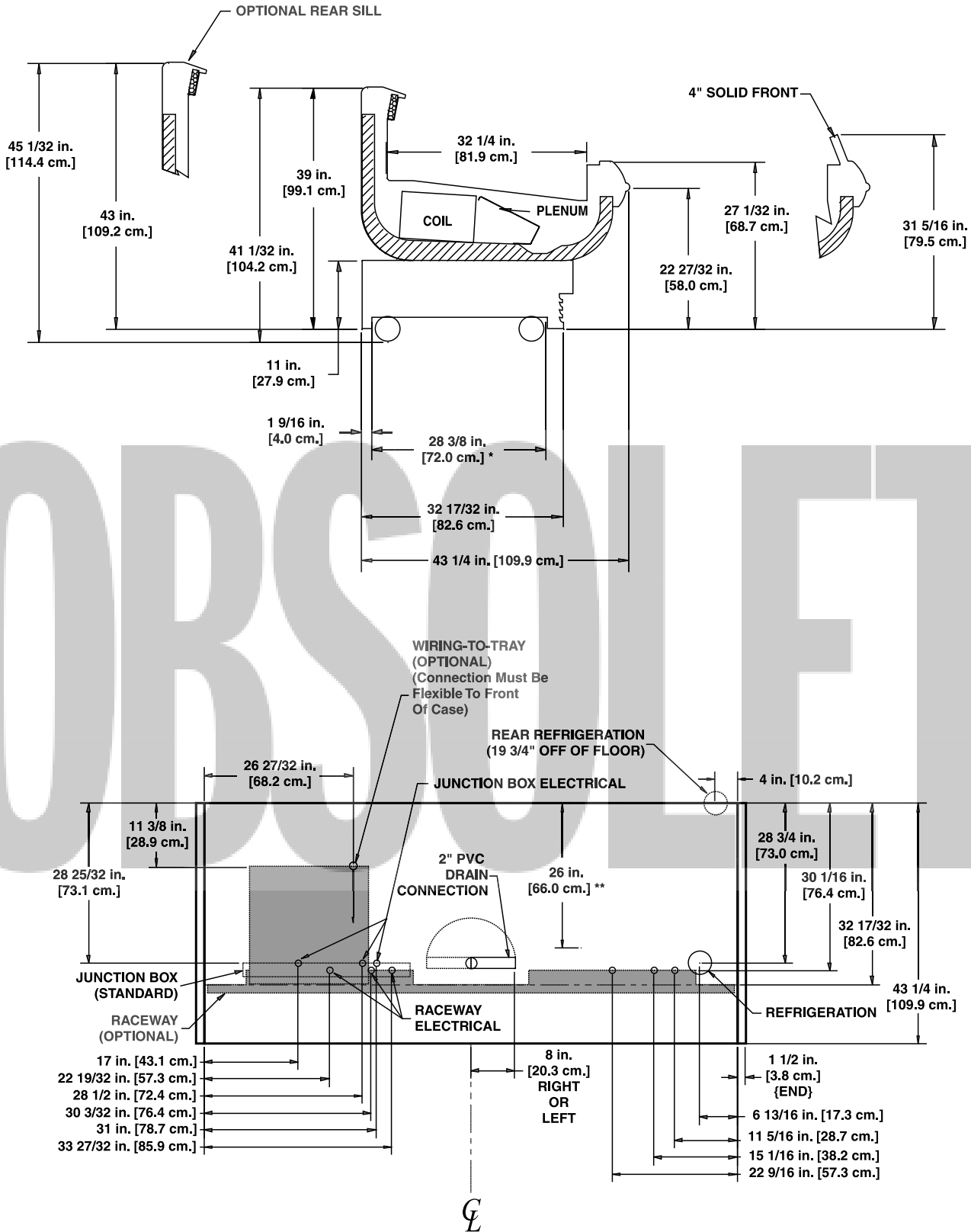
All measurements are taken per CRMA specifications.

OP



SINGLE DECK
Produce

OP (CURVED FRONT PANEL)



NOTES:

* STUB-UP AREA

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8", LIQUID LINE - 5/8"

**Multi-Deck Island
Merchandisers**

Notes:

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Front sill height does not affect case performance unless specifically shown.*

Wide Island 3-Deck Cheese/Deli Merchandisers

O3IC - 8' & 12' wide island double wraparound end

O3IC(B) - 8' & 12' wide island single joint end

Electrical Data

Model			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	Amps
O3IC	8'	6	2.04	117	0.90	98	0.82	98	4.30	902	5.00	1200	
	12'	8	2.72	156	1.20	130	1.08	130	7.22	1502	8.33	2000	
O3IC(B)	8'	6	2.04	117	0.90	98	0.75	90	4.30	902	5.00	1200	
	12'	8	2.72	156	1.20	130	1.17	140	7.22	1502	8.33	2000	

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
O3IC	8'	NA ¹	NA	2.42	198	8.38	600
	12'	NA	NA	2.05	192	9.38	684
O3IC(B)	8'	NA	NA	1.73	179	6.14	483
	12'	NA	NA	1.85	185	7.64	567

¹ Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
O3IC/O3IC(B)	1150 ⁴	17	29	48	160

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ O3IC: add 700 BTUH per wraparound end.

Defrost Controls

Model	Defrosts Per Day	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)
O3IC/O3IC(B)	4	30	55	44	47	26	55	- - - ⁵	- - -

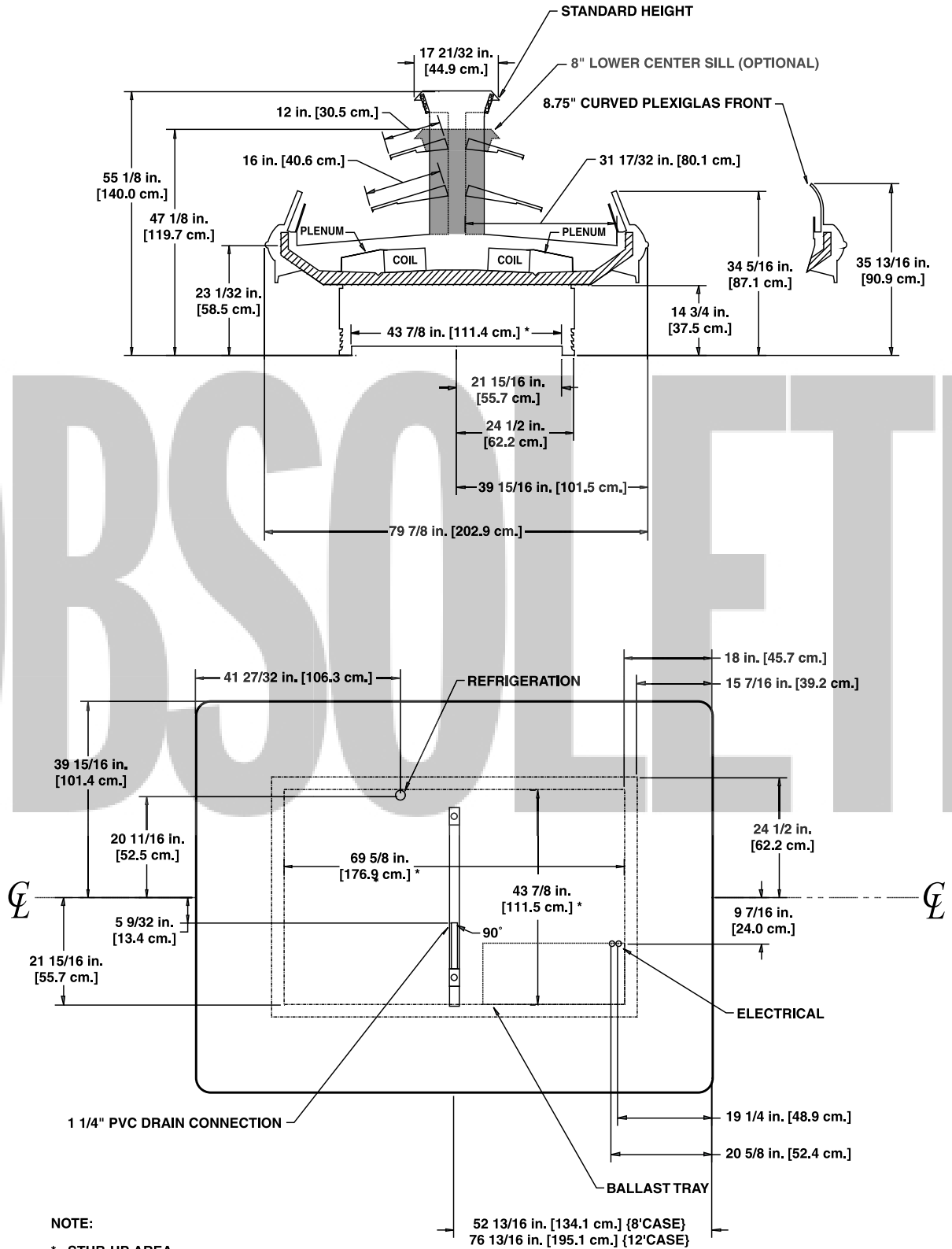
⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

O3IC (14 3/4" BASEFRAME)



Cheese/Deli

MULTI-DECK ISLAND

Technical drawing of the BSR-1000T shower head assembly, showing dimensions and components.

Top View Dimensions:

- 25 31/32 in. [66.0 cm.]
- 10 11/16 in. [27.1 cm.] *
- 37 15/16 in. [96.3 cm.]
- 39 15/16 in. [101.5 cm.]
- 79 7/8 in. [202.9 cm.]
- 4 31/32 in. [12.6 cm.]

Side View Dimensions:

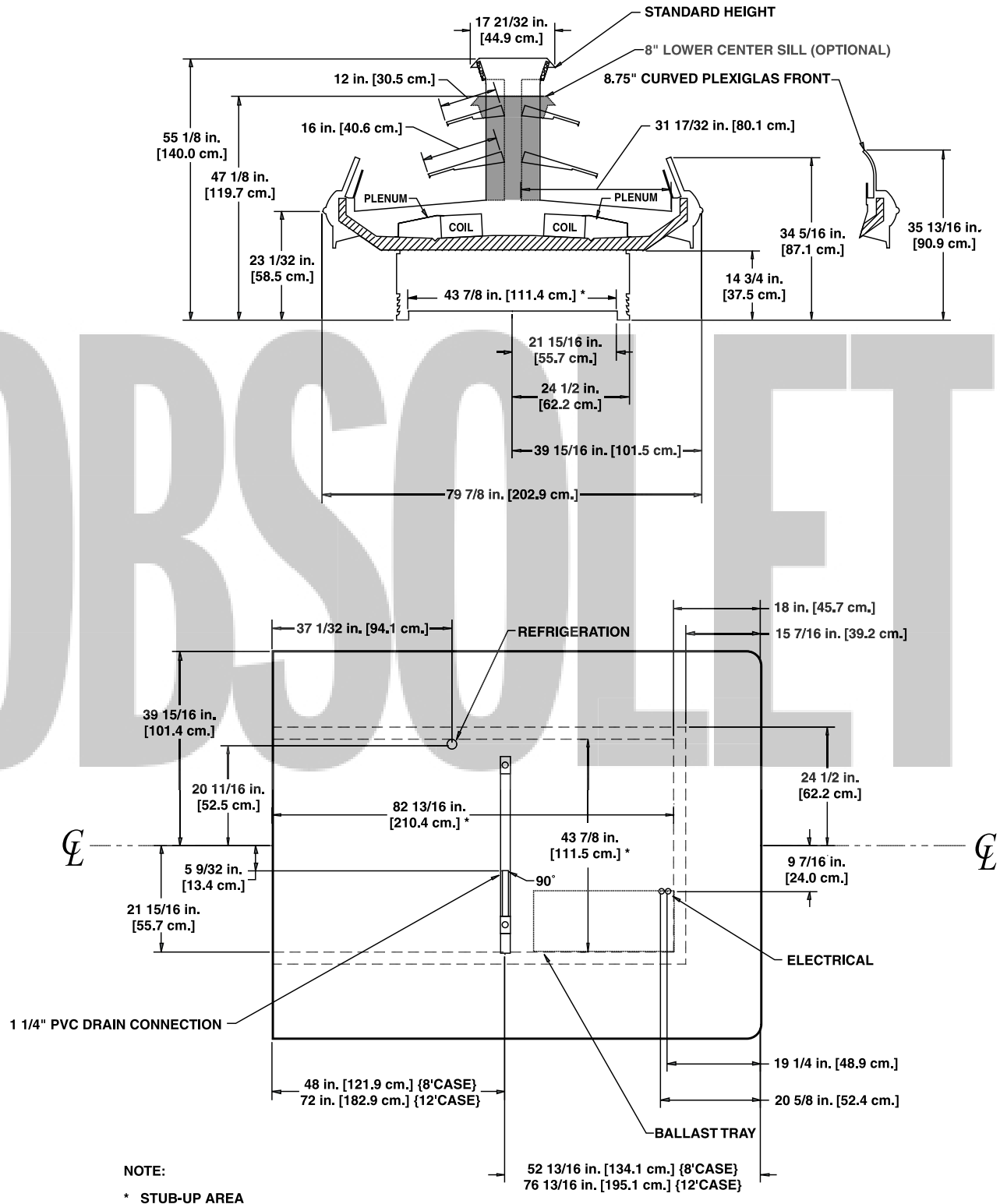
- 16 13/16 in. [42.7 cm.]
- 13 13/16 in. [35.1 cm.]
- 11 7/32 in. [28.5 cm.]
- 25 31/32 in.
- 4 13/16 in. [12.2 cm.]
- 2 in. [5.1 cm.]
- 39 15/16 in. [101.4 cm.]

Components and Labels:

- 1 1/4" METAL DRAIN CONNECTION



O3IC(B)
(14 3/4" BASEFRAME)



Cheese/Deli

MULTI-DECK ISLAND

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

OBSOLETE

Wide Island 3-Deck Produce Merchandisers

O3IP - 8' & 12' wide island double wraparound end

O3IP(B) - 8' & 12' wide island single joint end

Electrical Data

Model	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
O3IP	8'	6	2.04	117	0.90	83	0.82	98	---	---	---
	12'	8	2.72	156	1.20	110	1.08	130	---	---	---
O3IP(B)	8'	6	2.04	117	0.90	83	0.75	90	---	---	---
	12'	8	2.72	156	1.20	110	1.17	141	---	---	---

¹ NOTE: --- not an option on this case model.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
O3IP	8'	NA ²	NA	2.42	198	8.38	600
	12'	NA	NA	2.29	204	9.38	684
O3IP(B)	8'	NA	NA	1.73	179	6.14	483
	12'	NA	NA	1.85	185	7.64	567

² Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
O3IP/O3IP(B)	1050 ⁵	22	34	48	160

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

⁵ O3IP: add 650 BTUH per wraparound end.

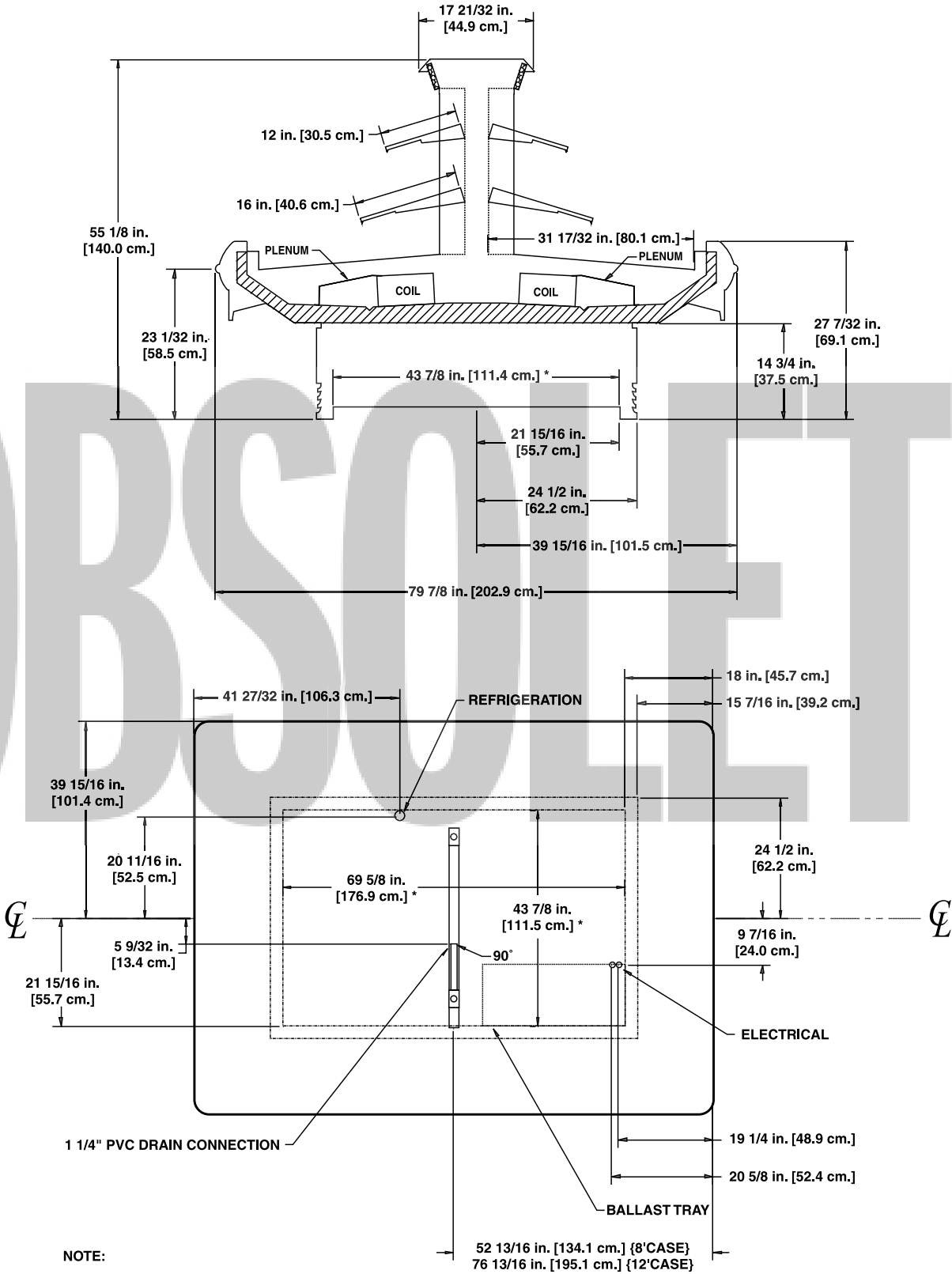
Defrost Controls

Model	Defrosts Per Day	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)
O3IP/O3IP(B)	3	---	---	44	38	---	---	---	---

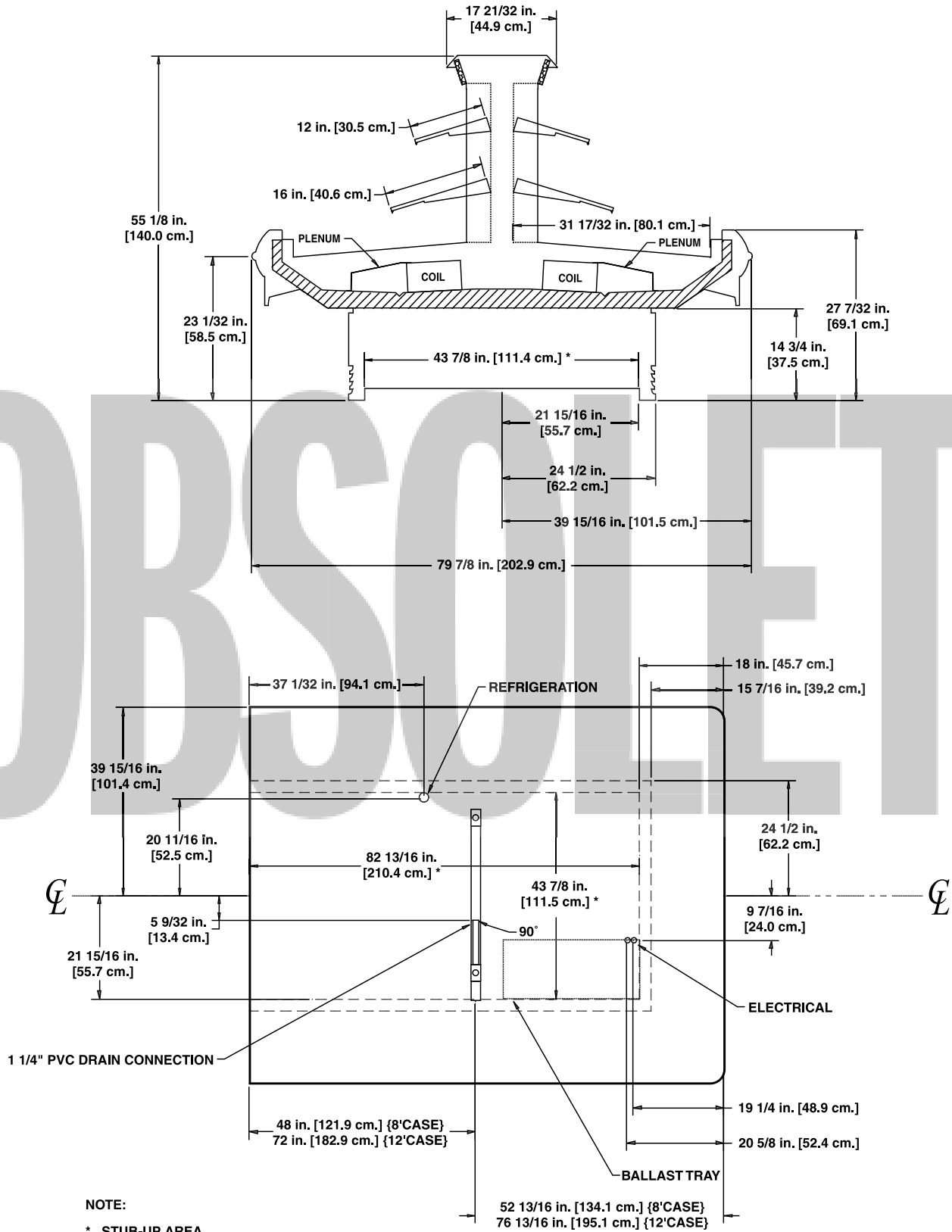
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.



O3IP(B)



**Single Deck Island
Merchandisers**

Notes:

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Front sill height does not affect case performance unless specifically shown.*

Wide Island Meat/Deli Merchandisers

OIM - 8' & 12' wide island double wraparound ends

OIM(B) - 6', 8' & 12' wide island single joint end

OIM(BB) - 8' wide island double joint ends

Electrical Data

High Efficiency Fans												
Fans per Case			Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIM	8'	6	2.04	114	0.90	87	0.82	98	4.34	902	5.00	1200
	12'	8	2.72	152	1.20	108	1.08	130	7.22	1502	8.33	2000
OIM(B)	6'	4	1.36	76	0.60	54	0.57	69	3.25	676	3.75	900
	8'	6	2.04	114	0.90	87	0.75	90	4.34	902	5.00	1200
	12'	8	2.72	152	1.20	108	1.17	141	7.22	1502	8.33	2000
OIM(BB)	8'	6	2.04	114	0.90	81	0.92	110	4.34	902	5.00	1200

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OIM	8'	NA ¹	NA	NA	NA	5.04	288
	12'	NA	NA	NA	NA	6.50	466
OIM(B)	6'	NA	NA	NA	NA	3.15	180
	8'	NA	NA	NA	NA	4.61	358
	12'	NA	NA	NA	NA	5.87	430
OIM(BB)	8'	NA	NA	NA	NA	3.98	322

¹ Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
OIM/OIM(B)/OIM(BB) Meat	770 ⁴	12	26	31	140
OIM/OIM(B)/OIM(BB) Deli	560 ⁵	17	28	33	140

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ OIM (meat): +400 BTUH per wraparound end.

⁵ OIM (deli): +250 BTUH per wraparound end.

Defrost Controls

Model	Defrosts Per Day	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)
OIM/OIM(B)/OIM(BB)	3	40	42	- - - ⁶	- - -	26	39	- - -	- - -

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

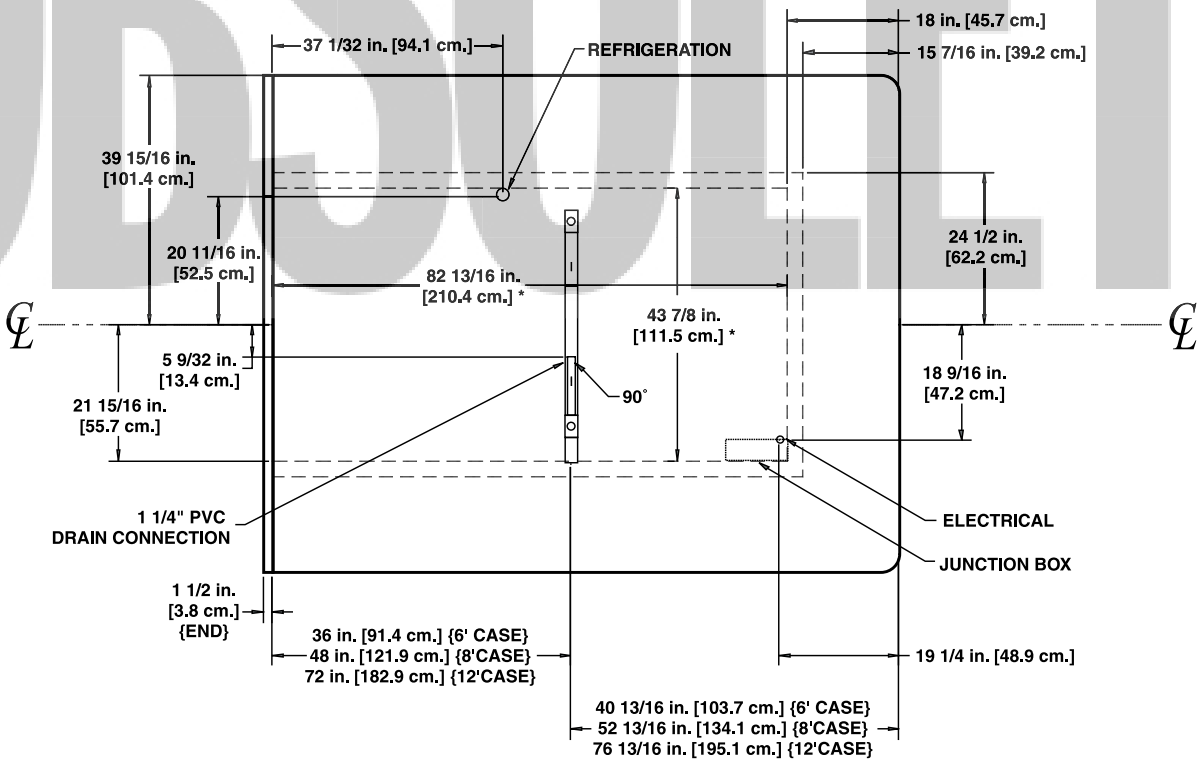
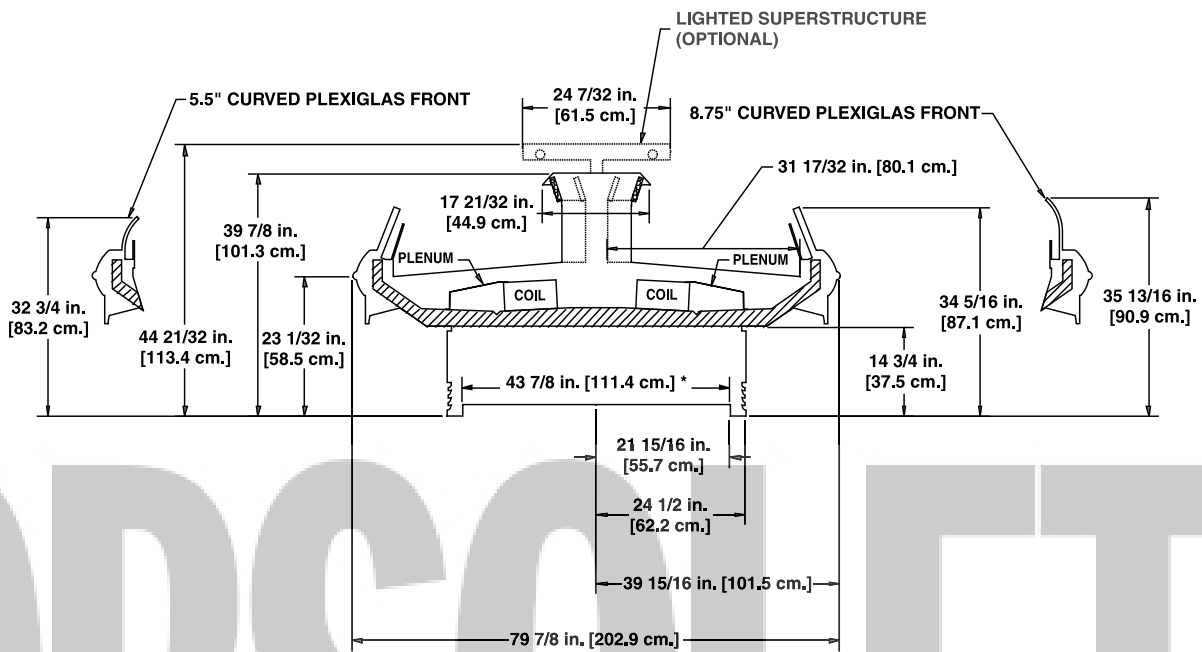
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

SINGLE DECK ISLAND



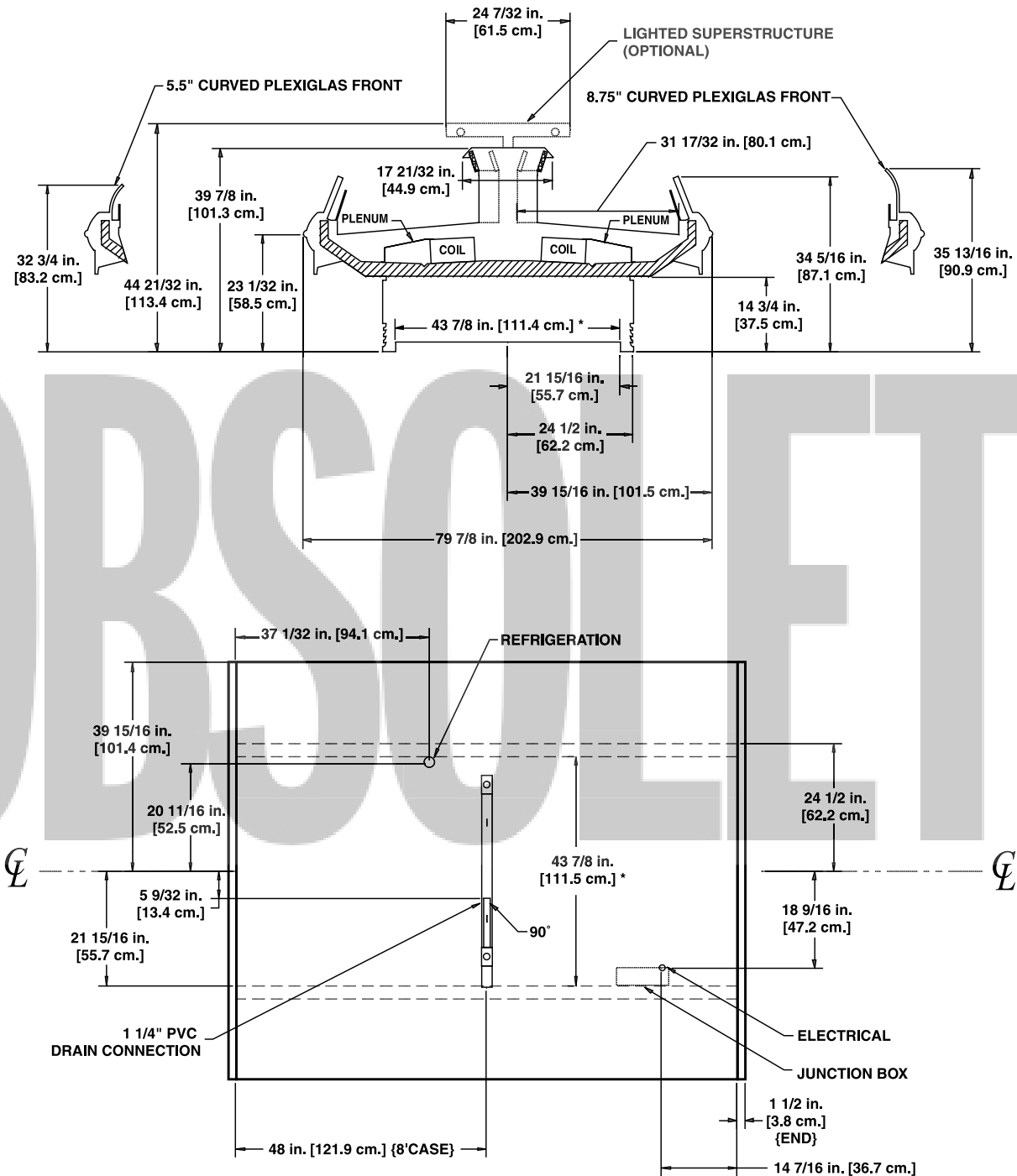
OIM(B)



NOTE:

* STUB-UP AREA

OIM(BB)



SINGLE DECK ISLAND
Meat/Deli

Narrow Island Meat/Deli Merchandisers

ONIM - 8' & 12' wide island double wraparound ends

ONIM(B) - 8' & 12' wide island single joint end

Electrical Data

Model			Fans per Case		Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters	
					120 Volts		120 Volts		120 Volts		208 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONIM	8'	6	2.00	114	0.90	87	0.82	98	4.33	902	5.00	1200
	12'	8	2.70	152	1.20	108	1.08	130	7.22	1502	8.33	2000
ONIM(B)	8'	6	2.00	114	0.90	87	0.75	90	4.33	902	5.00	1200
	12	8	2.70	152	1.20	108	1.17	141	7.22	1502	8.33	2000

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
ONIM	8'	NA ¹	NA	NA	NA	1.26	72
	12'	NA	NA	NA	NA	1.46	178
ONIM(B)	8'	NA	NA	NA	NA	1.26	72
	12'	NA	NA	NA	NA	1.46	178

¹ Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
ONIM/ONIM(B) Meat	885 ⁴	12	25	34	180
ONIM/ONIM(B) Deli	860 ⁴	17	28	37	180

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ ONIM: + 400 BTUH per wraparound end.

Defrost Controls

Model	Defrosts Per Day	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)
ONIM/ONIM(B)	3	35	47	- - - ⁵	- - -	- - -	- - -	- - -	- - -

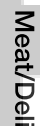
⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

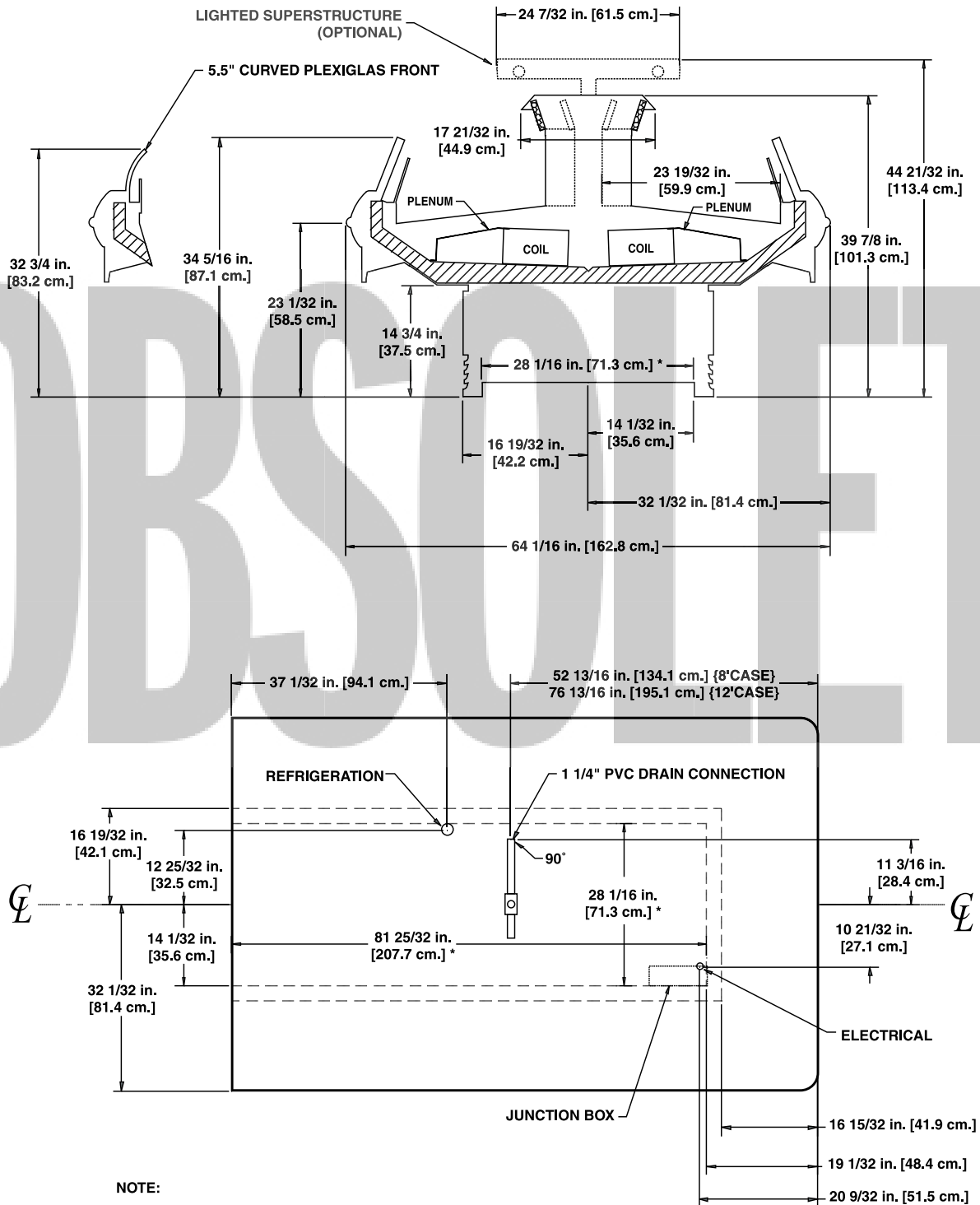
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

SINGLE DECK ISLAND
Meat/Dei



ONIM(B)



OBSOLETE

Wide Island Produce Merchandisers

OIP - 8' & 12' wide island double wraparound end
OIP(B) - 6', 8', 10' & 12' wide island single joint end
OIP(BB) - 8' & 12' wide island double joint

Electrical Data

Model	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
OIP	8'	6	2.04	114	0.90	81	0.33	40	---	---	---	---
	12'	8	2.72	152	1.20	108	0.66	79	---	---	---	---
OIP(B)	6'	4	1.36	76	0.60	54	0.31	37	---	---	---	---
	8'	6	2.04	114	0.90	81	0.46	55	---	---	---	---
	10'	6	2.04	114	0.90	81	0.66	79	---	---	---	---
	12'	8	2.72	152	1.20	108	0.78	93	---	---	---	---
OIP(BB)	8'	6	2.04	114	0.90	81	0.83	100	---	---	---	---
	12'	8	2.72	152	1.20	108	1.25	150	---	---	---	---

¹ NOTE: --- not an option on this case model.

Lighting Data

Model			Standard Lighting		Typical per Light Row		Maximum Lighting	
			120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts
OIP	8'	NA ²	NA	NA	NA	NA	3.78	216
	12'	NA	NA	NA	NA	NA	5.06	288
OIP(B)	6'	NA	NA	NA	NA	NA	1.89	108
	8'	NA	NA	NA	NA	NA	3.15	180
	10'	NA	NA	NA	NA	NA	---	---
	12'	NA	NA	NA	NA	NA	4.41	252
OIP(BB)	8'	NA	NA	NA	NA	NA	2.52	144
	12'	NA	NA	NA	NA	NA	3.78	216

² Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OIP/OIP(B)/OIP(BB)	650 ⁵	22	34	48	140

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

⁵ OIP: +600 BTUH per wraparound end.

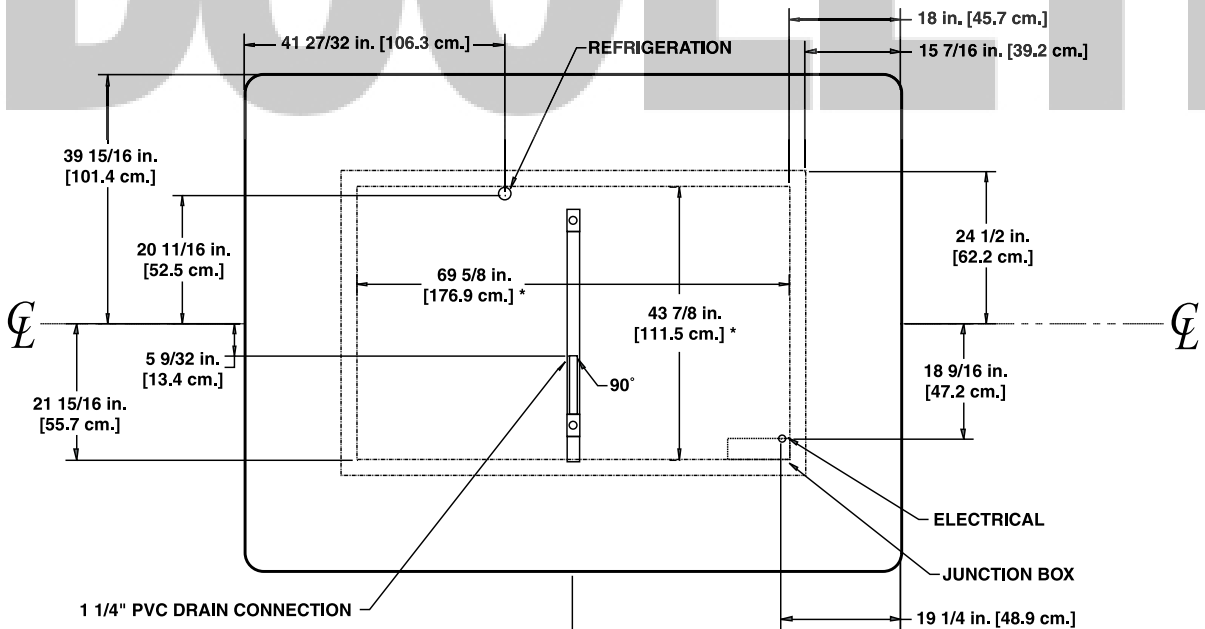
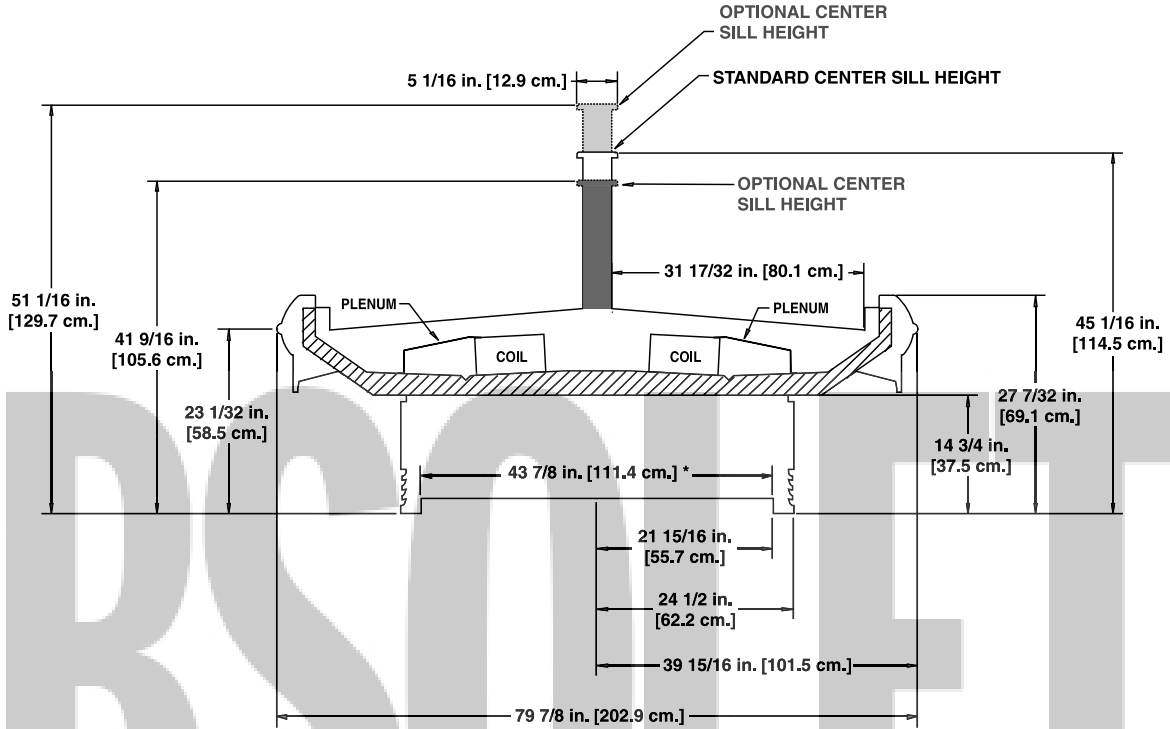
Defrost Controls

Model	Defrosts Per Day	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)
OIP/OIP(B)/OIP(BB)	3	---	---	44	38	---	---	---	---

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

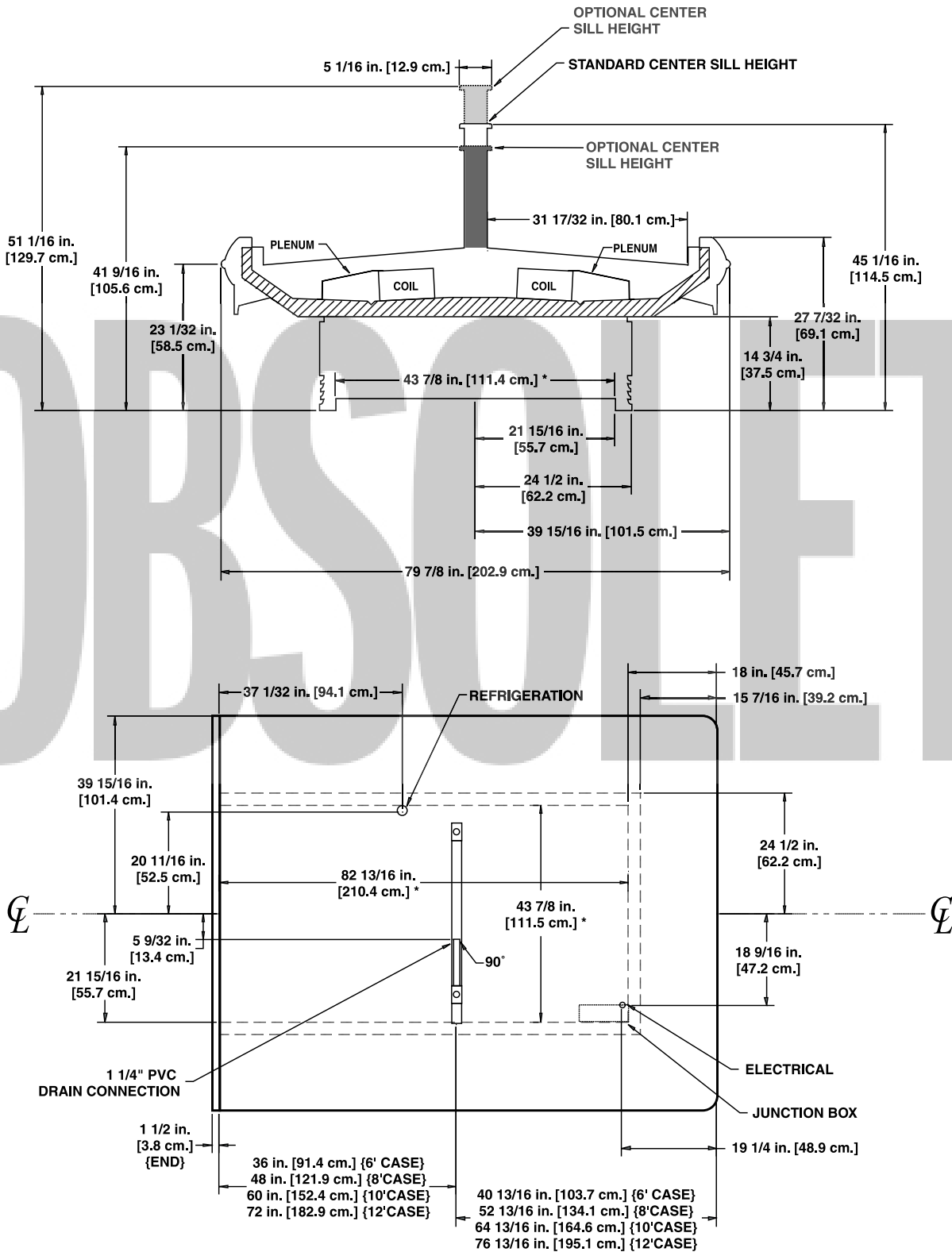


NOTE:

* STUB-UP AREA

SINGLE DECK ISLAND
Produce

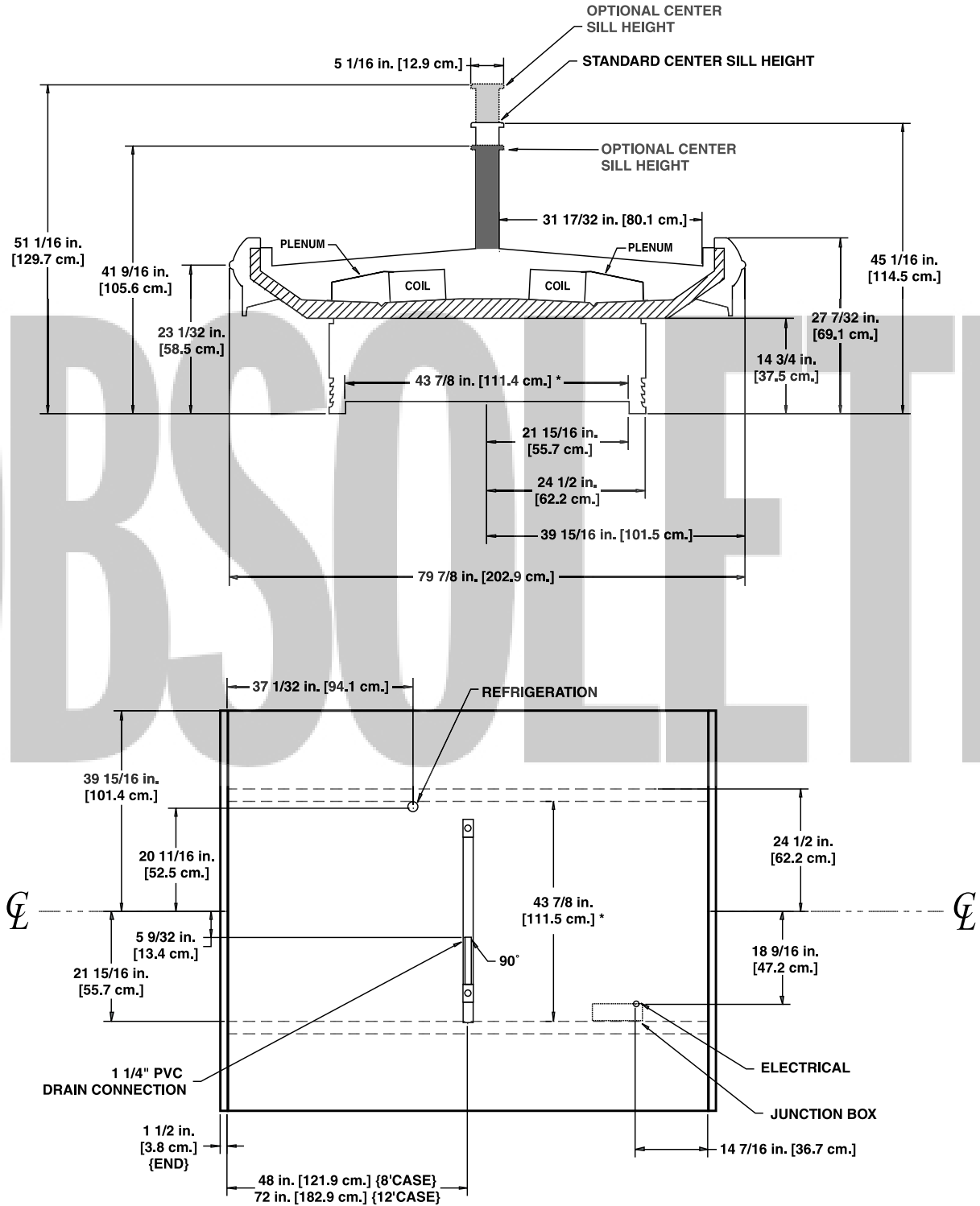
OIP(B)



NOTE:

* STUB-UP AREA

OIP(BB)



NOTE:

* STUB-UP AREA

SINGLE DECK ISLAND
Produce

Wide Island Frozen Food & Ice Cream Merchandisers

OWIZ - 8' & 12' wide island freezer

OWIZ(G) - 8' & 12' wide island freezer with front glass

Electrical Data

Model		Fans per Case	Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters ²			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWIZ	F-8' ¹	4	1.80	166	0.60	55	3.13	379	7.69	1600	8.88	2130
	F-12'	6	2.70	249	0.90	83	4.77	572	11.54	2400	13.31	3195
	C-8'	4	1.80	166	0.60	55	3.13	379	11.54	2400	13.31	3195
	C-12'	6	2.70	249	0.90	83	4.77	572	17.31	3600	19.98	4795
OWIZ(G)	F-8'	4	1.80	166	0.60	55	4.53	545	7.69	1600	8.88	2130
	F-12'	6	2.70	249	0.90	83	6.85	800	11.54	2400	13.31	3195
	C-8'	4	1.80	166	0.60	55	4.53	545	11.54	2400	13.31	3195
	C-12'	6	2.70	249	0.90	83	6.85	800	17.31	3600	19.98	4795

¹ F = frozen food, C = ice cream.

² Defrost data for one side of case only.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OWIZ/	8'	NA ³	NA	1.28	148	2.56	296
OWIZ(G)	12'	NA	NA	1.92	222	3.84	444

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ⁴	Evaporator °F	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁵ (FPM)
OWIZ-F	600	-18	-10	0	180
OWIZ-C	700	-33	-20	-12	180
OWIZ(G)-F	600	-18	-12	0	180
OWIZ(G)-C	700	-33	-20	-12	180

⁴ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
OWIZ-F & C OWIZ(G)-F & C	1	60	49	- - - ⁶	- - -	20	59	- - -	- - -

⁶ NOTE: - - - not an option on this case model.

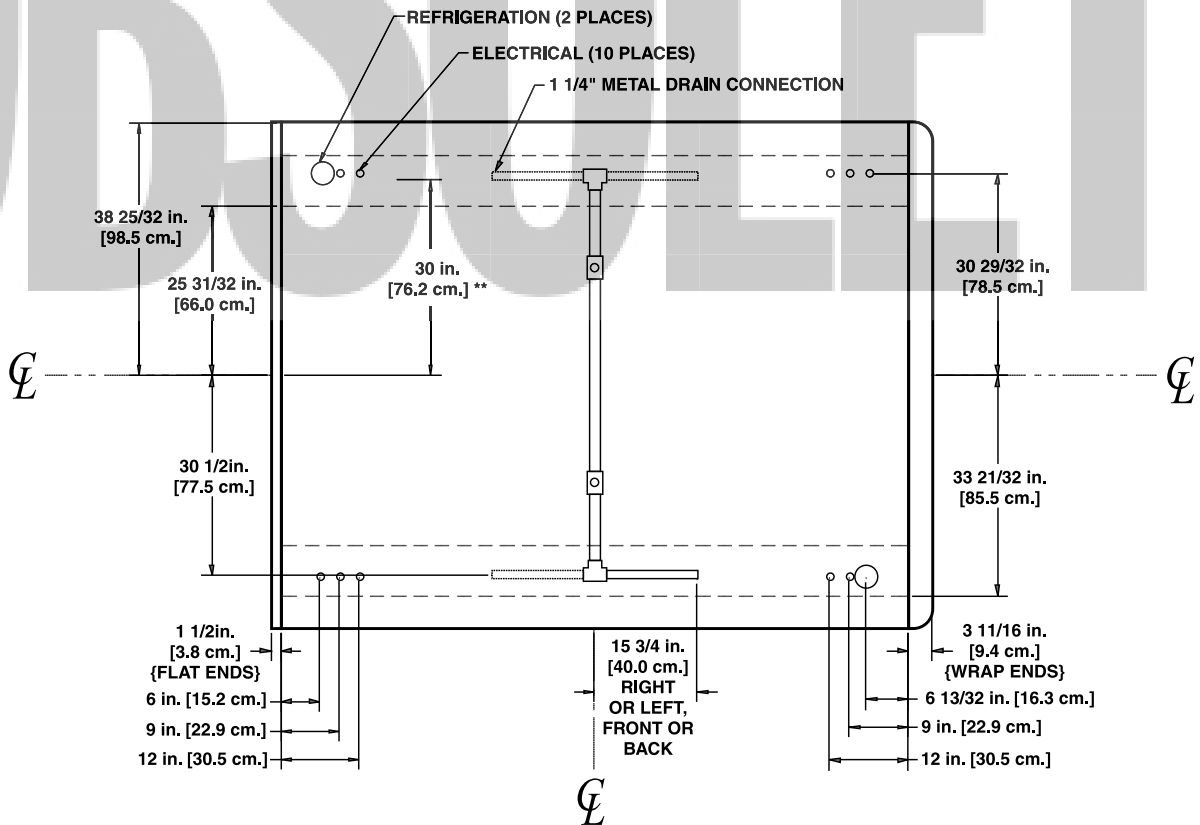
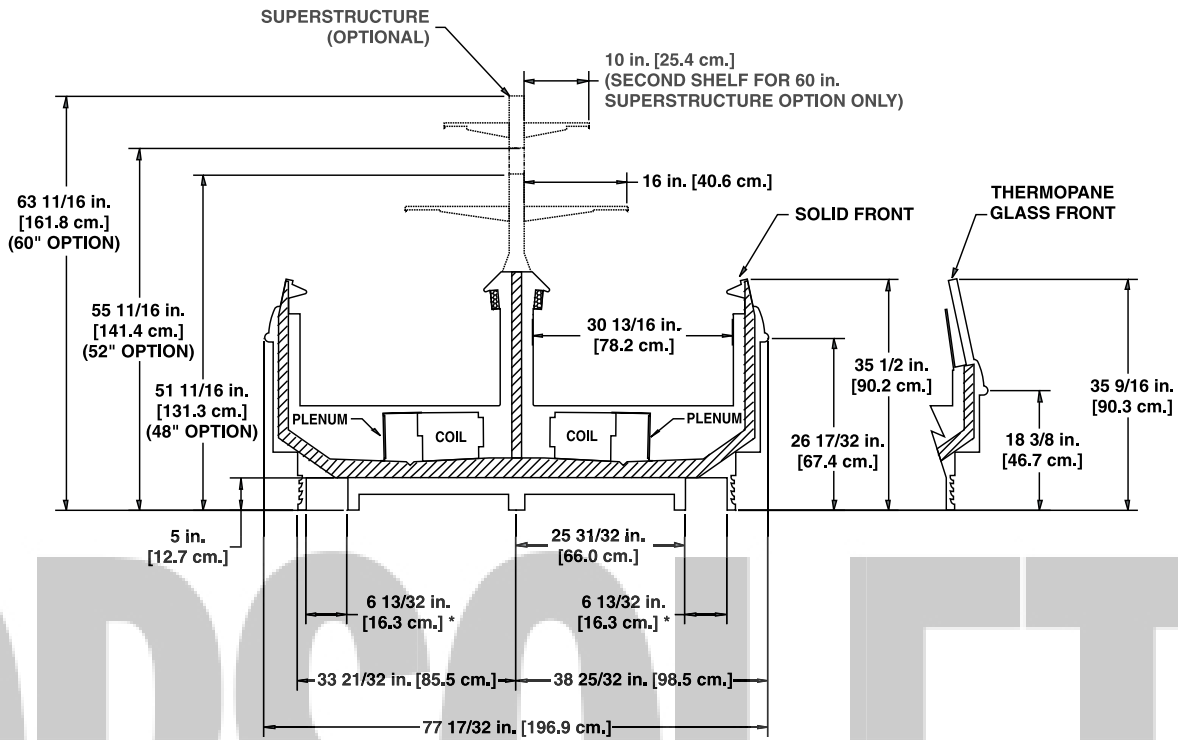
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	10 pm - 6 pm**

** Or immediately after store closing hour

All measurements are taken per CRMA specifications.

OWIZ/OWIZ(G)



NOTES:

* STUB-UP AREA

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

SINGLE DECK ISLAND
Frozen Food &
Ice Cream

Wide Island Frozen Food & Ice Cream Merchandisers

OWEZ - wide island freezer end case

OWEZ(G) - wide island freezer end case with front glass

Electrical Data

Model		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
OWEZ	F ¹	2	0.90	83	0.30	28	1.56	188	5.77	1200	6.65	1596
	C	2	0.90	83	0.30	28	1.56	188	8.65	1800	9.98	2394
OWEZ(G)	F	2	0.68	39	0.30	28	2.13	256	5.77	1200	6.65	1596
	C	2	0.68	39	0.30	28	2.13	256	8.65	1800	9.97	2394

¹ F = Frozen food, C = Ice cream

Lighting Data

Model	Standard Lighting		Typical per Light Row		Maximum Lighting	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
OWEZ/	---	---	---	---	---	---
OWEZ(G)	---	---	---	---	---	---

² NOTE: --- not an option on this case model.

Guidelines & Control Settings

Model	BTUH/cs ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OWEZ-F	2700	-18	-12	0	200
OWEZ-C	3300	-33	-22	-12	200
OWEZ(G)-F	2700	-18	-12	0	200
OWEZ(G)-C	3300	-33	-22	-12	200

³ BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
OWEZ-F & C OWEZ(G)-F & C	1	60	49	---	---	20	59	---	---

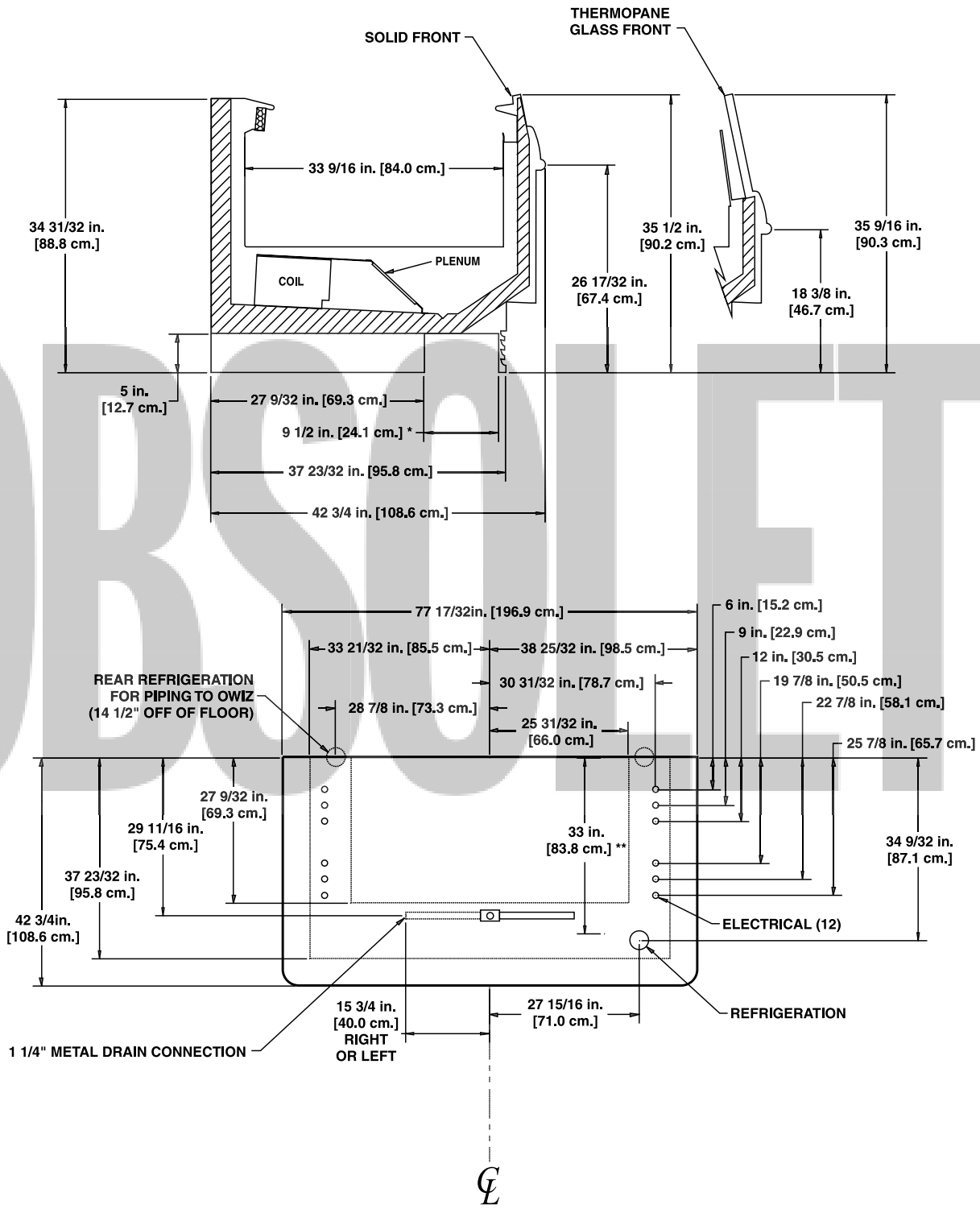
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	10 pm - 6 pm**

** Or immediately after store closing hour

All measurements are taken per CRMA specifications.

OWEZ/OWEZ(G)



NOTES:

* STUB-UP AREA

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

SINGLE DECK ISLAND
Frozen Food &
Ice Cream

Island Frozen Food Merchandisers

OIZ - 8' & 12' island freezer

Electrical Data

High Efficiency Fans												
Model		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
OIZ	8'	3	1.02	59	0.45	41	1.27	146	15.38	3200	17.75	4260
	12'	4	1.36	78	0.60	55	2.00	225	23.08	4800	26.63	6390

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OIZ	8'	---	---	---	---	---	---
	12'	---	---	---	---	---	---

¹ NOTE: --- not an option on this case model.

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
OIZ	520	-24	-12	-4	200

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

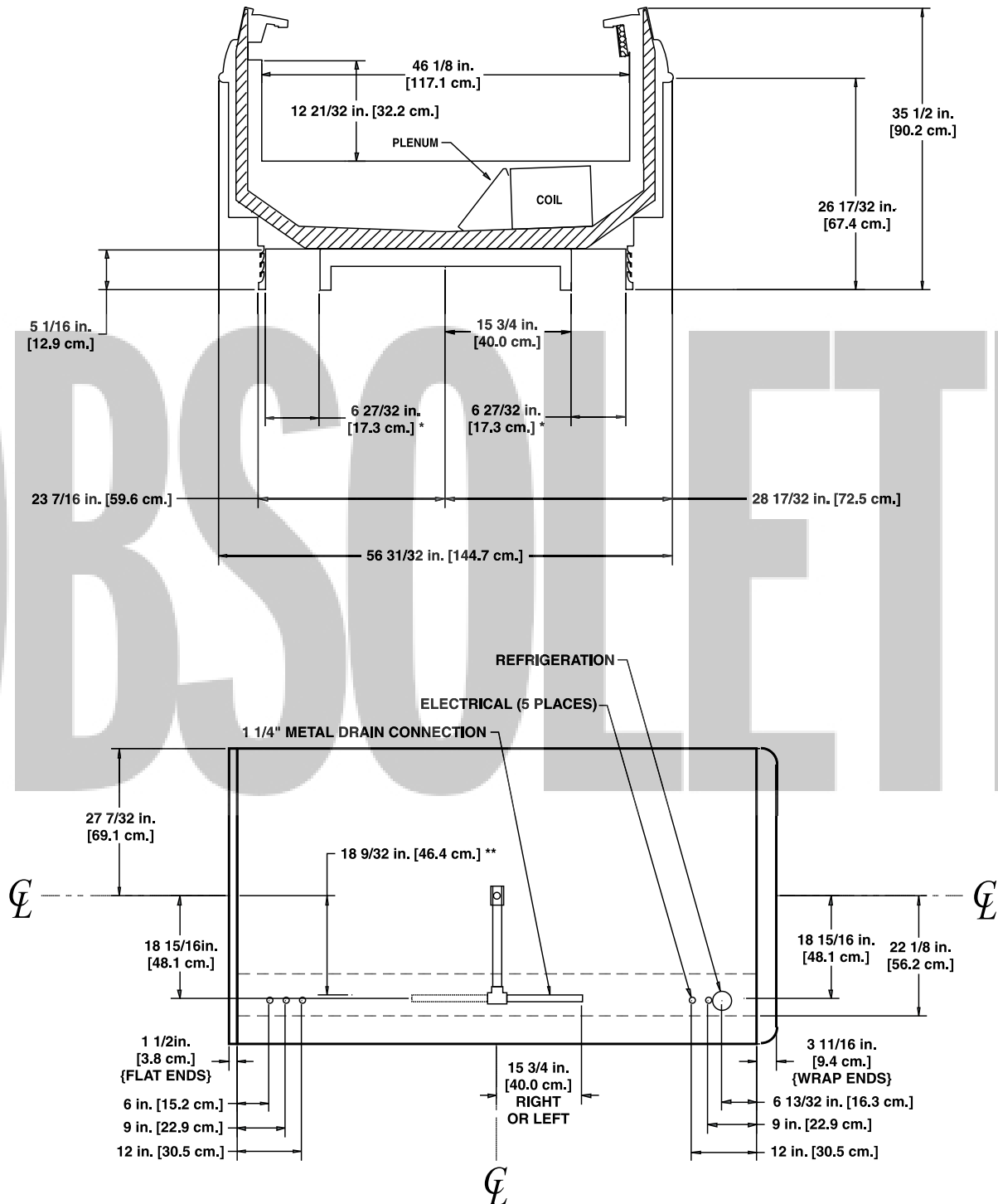
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OIZ	1	45	43	---	---	---	---	---	---

Low Temperature Defrost Schedule

No.	Per Day	Hours
1		10 pm
2		10 pm - 6 pm**

** Or immediately after store closing hour

All measurements are taken per CRMA specifications.



SINGLE DECK ISLAND
Frozen Food & Ice Cream

NOTES:

* STUB-UP AREA

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

Narrow Island Frozen Food & Ice Cream Merchandisers

CIZO - 8' & 12' narrow island freezer

Electrical Data

High Efficiency Fans												
Model			Fans per Case		Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters	
					120 Volts		120 Volts		120 Volts		208 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
CIZO-F ¹	8'	2	0.68	39	0.30	28	1.32	166	7.69	1600	8.88	2130
	12'	3	1.02	59	0.45	41	2.03	244	11.54	2400	13.31	3195
CIZO-C	8'	2	0.68	39	0.30	28	1.32	166	11.54	2400	13.31	3195
	12'	3	1.02	59	0.45	41	2.03	244	17.31	3600	19.98	4795

¹ F = Frozen food, C = Ice cream.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
CIZO-F	8'	---	---	---	---	---	---
	12'	---	---	---	---	---	---
CIZO-C	8'	---	---	---	---	---	---
	12'	---	---	---	---	---	---

² NOTE: --- not an option on this case model.

Guidelines & Control Settings

Model	BTUH/ft ³	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
CIZO-F	370	-23	-20	-6	255
CIZO-C	390	-33	-30	-12	255

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
CIZO-F	1	60	49	---	---	20	59	---	---
CIZO-C	1	48	49	---	---	20	59	---	---

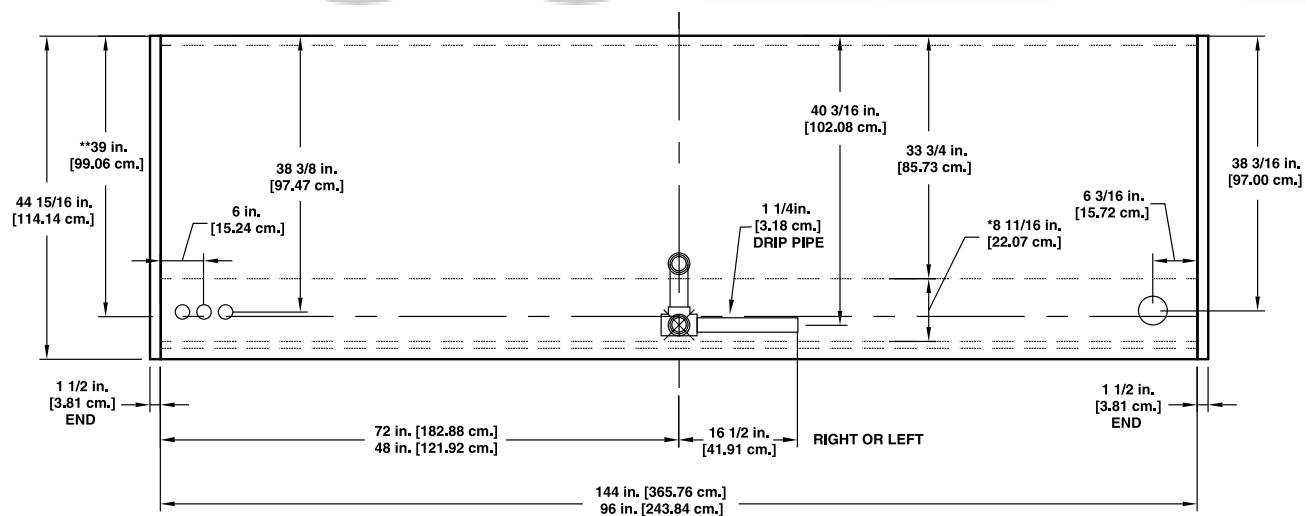
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	10 pm - 6 pm**

** Or immediately after store closing hour

All measurements are taken per CRMA specifications.

SINGLE DECK ISLAND
Frozen Food &
Ice Cream



NOTES:

* STUB-UP AREA

**** RECOMMENDED STUB-UP CENTERLINE**

OBSOLETE



Reach-in Door Merchandisers

Notes:

- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.

Glass Door Reach-in Beverage Merchandisers

ORB - 2, 3, 4 & 5-door reach in beverage

Electrical Data

High Efficiency Anti-Condensate Defrost Heaters												
			Standard Fans		Fans		Heaters		Defrost Heaters			
Model		Fans per Case	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps¹	Watts	Amps¹	Watts
ORB	2-door	2	1.00	52	0.60	40	1.35	162	7.62	2742	8.78	3645
	3-door	3	1.50	78	1.00	60	1.76	211	8.60	3095	9.90	4110
	4-door	4	2.00	104	1.30	80	2.34	281	11.31	4066	13.08	5439
	5-door	5	2.50	130	1.60	100	2.89	347	13.81	4966	15.93	6602

¹Note: 3 phase load. Figure given is maximum amps per phase.

Lighting Data²

Model		Standard ² Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
ORB	2-door	1.90	228	NA ³	NA	2.00	242
	3-door	2.30	276	NA	NA	2.60	312
	4-door	3.10	372	NA	NA	3.30	398
	5-door	3.50	420	NA	NA	3.90	468

² Standard lighting for Ardco doors, maximum for Anthony doors.

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ⁴	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁵ (FPM)
ORB 1-door	1400	22	27	30	280

⁴ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
ORB	1	46	53	-- ⁶	--	24	73	--	--

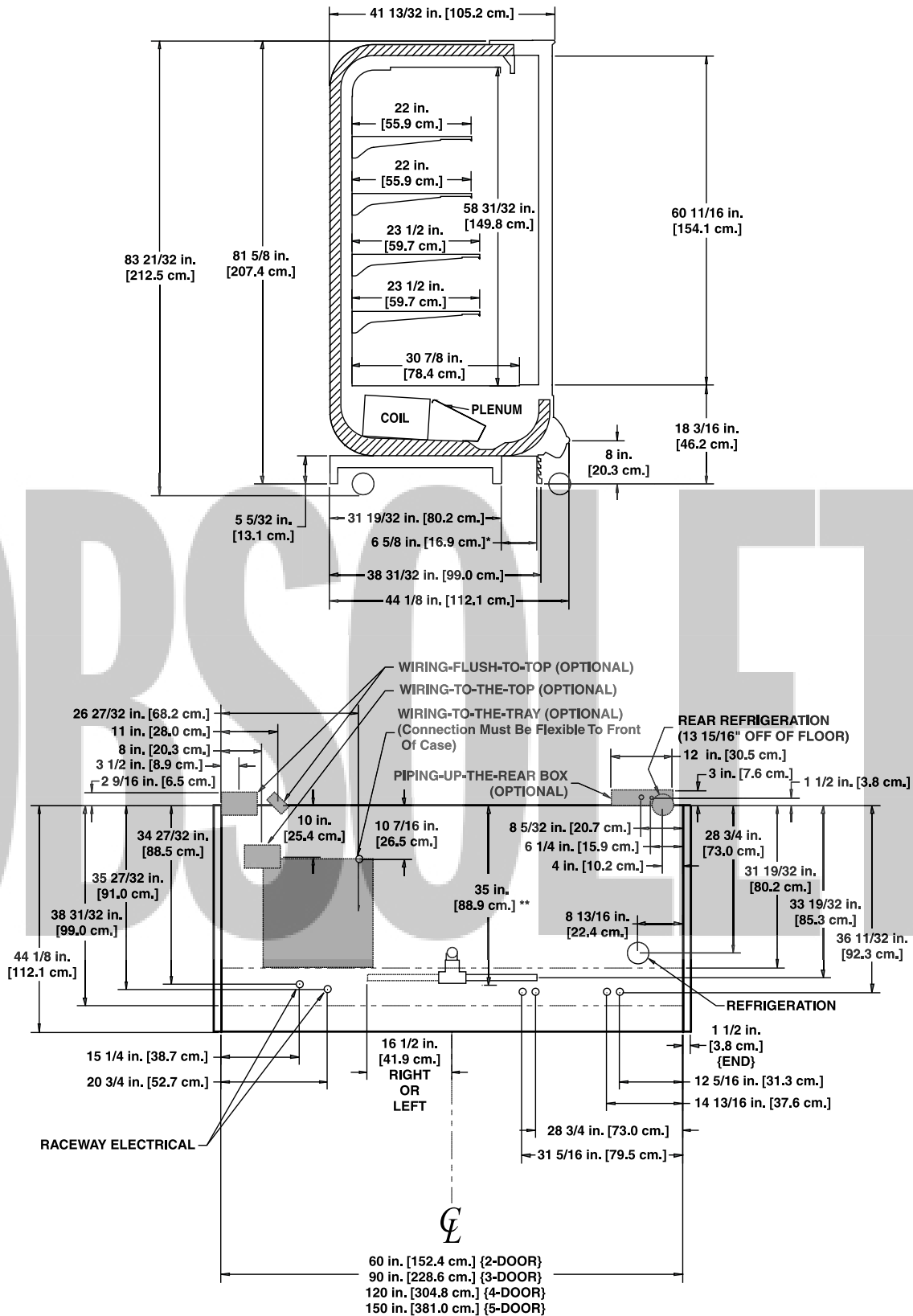
⁶ NOTE: -- not an option on this case model.

Low Temperature Defrost Schedule	
No. Per Day	Hours
1	10 pm
2	10 pm - 6 pm**

** Or immediately after store closing hour

All measurements are taken per CRMA specifications.

ORB



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 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL (WHEN THE CASE IS PIPED TO THE REAR A 3" TO 4" GAP MAY BE REQUIRED)
- SUCTION LINE 7/8", LIQUID LINE - 5/8"

Beverage

REACH-IN

Glass Door Reach-in Frozen Food & Ice Cream Merchandisers

ORZ - 2, 3, 4 & 5-door reach in freezer

Electrical Data

High Efficiency Anti-Condensate Defrost Heaters												
Model Fans per Case			Standard Fans		Fans		Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps¹	Watts	Amps¹	Watts
ORZ	2-door	2	1.00	52	0.60	40	4.20	504	7.62	2742	8.78	3645
	3-door	3	1.50	78	1.00	60	6.00	720	8.60	3095	9.90	4110
	4-door	4	2.00	104	1.30	80	7.85	942	11.31	4066	13.08	5439
	5-door	5	2.50	130	1.60	100	9.60	1152	13.81	4966	15.93	6602

¹ Note: 3 phase load. Figure given is maximum amps per phase.

Lighting Data²

Model		Standard ² Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
ORZ	2-door	1.90	228	NA ³	NA	2.00	242
	3-door	2.30	276	NA	NA	2.60	312
	4-door	3.10	372	NA	NA	3.30	398
	5-door	3.50	420	NA	NA	3.90	468

² Standard lighting for Ardco doors, maximum for Anthony doors.

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ⁵	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁶ (FPM)
ORZ-F ⁴ 1-door	1400	-13	-8	-5	280
ORZ-C 1-door	1600	-23	-12	-10	280

⁴ F = Frozen food, C = Ice cream

⁵ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁶ Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	Electric Defrost ⁷		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)
ORZ	1	46	53	-- ⁸	---	24	73	---	---

⁷ For cases equipped with CPC case controllers use bi-metallic defrost controls with a setting of 73° F.

⁸ NOTE: --- not an option on this case model.

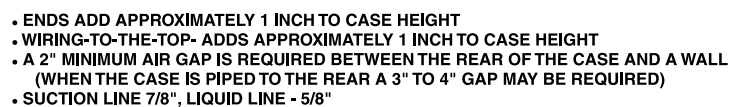
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	10 pm - 6 pm**

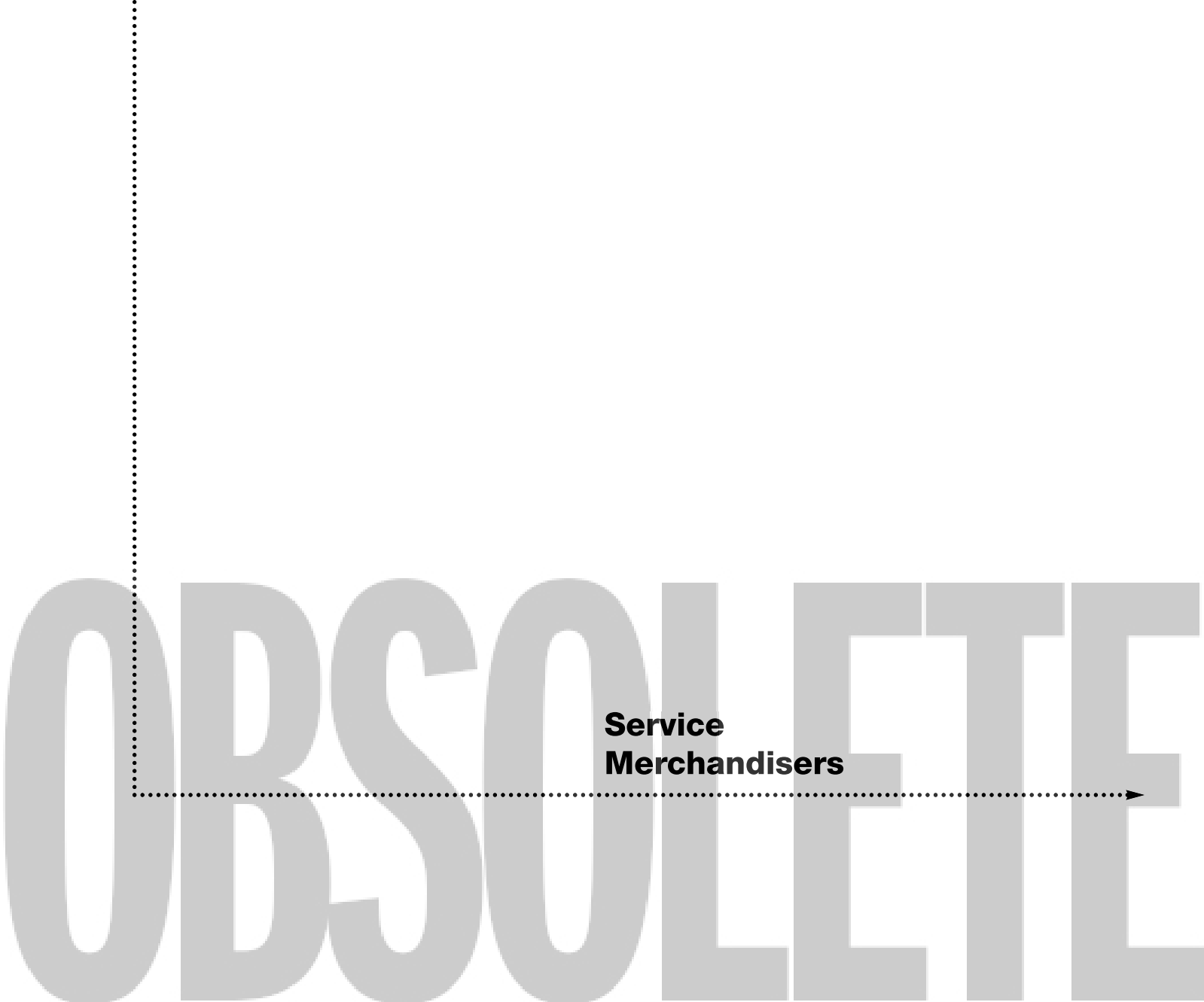
** Or immediately after store closing hour

All measurements are taken per CRMA specifications.

REACH-IN



OBSOLETE



Service Merchandisers

Notes:

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Front sill height does not affect case performance unless specifically shown.*

American Style Deli/Seafood Merchandisers

OSA - 6', 8' & 12' american style full service

Electrical Data

High Efficiency Fans Anti-Condensate Heaters												
Model		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
OSA	6'	2	0.68	35	0.30	25	0.31	37	2.88	599	3.32	797
	8'	3	1.02	53	0.45	38	0.97	115	3.85	800	4.44	1065
	12'	4	1.36	70	0.60	50	1.50	179	5.77	1200	6.66	1600

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OSA	6'	0.48	58	0.48	58	2.28	278
	8'	0.48	58	0.48	58	2.28	278
	12'	0.70	83	0.70	83	3.50	415

Guidelines & Control Settings

Model	BTUH/ft ¹	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OSA w/ Shelf Lights	320	22	24	39	235
OSA w/o Shelf Lights	290	22	24	39	235

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
OSA	2	35	50	- - - ³	- - -	- - -	- - -	- - -	- - -

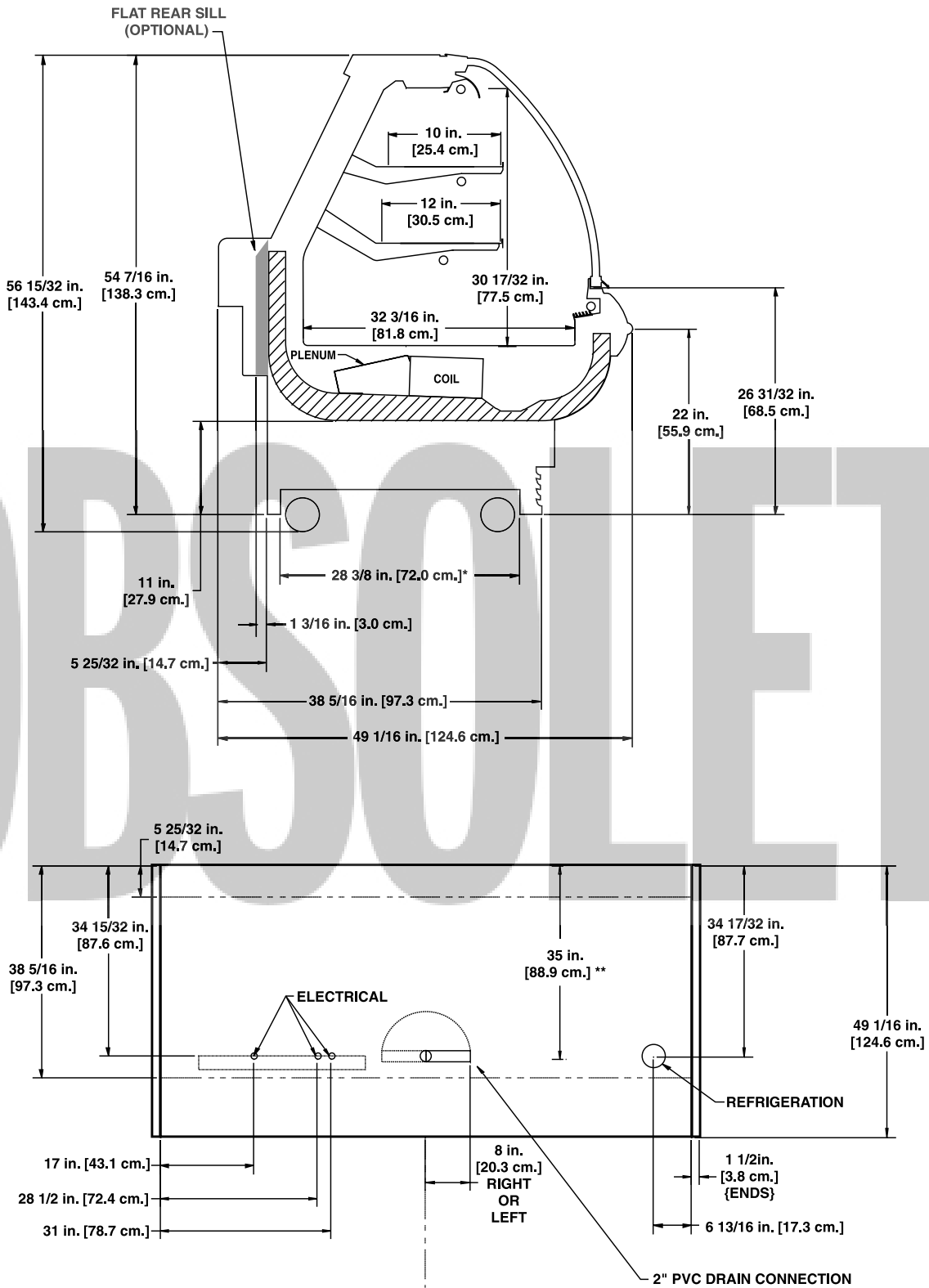
³ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OSA (11" BASEFRAME)

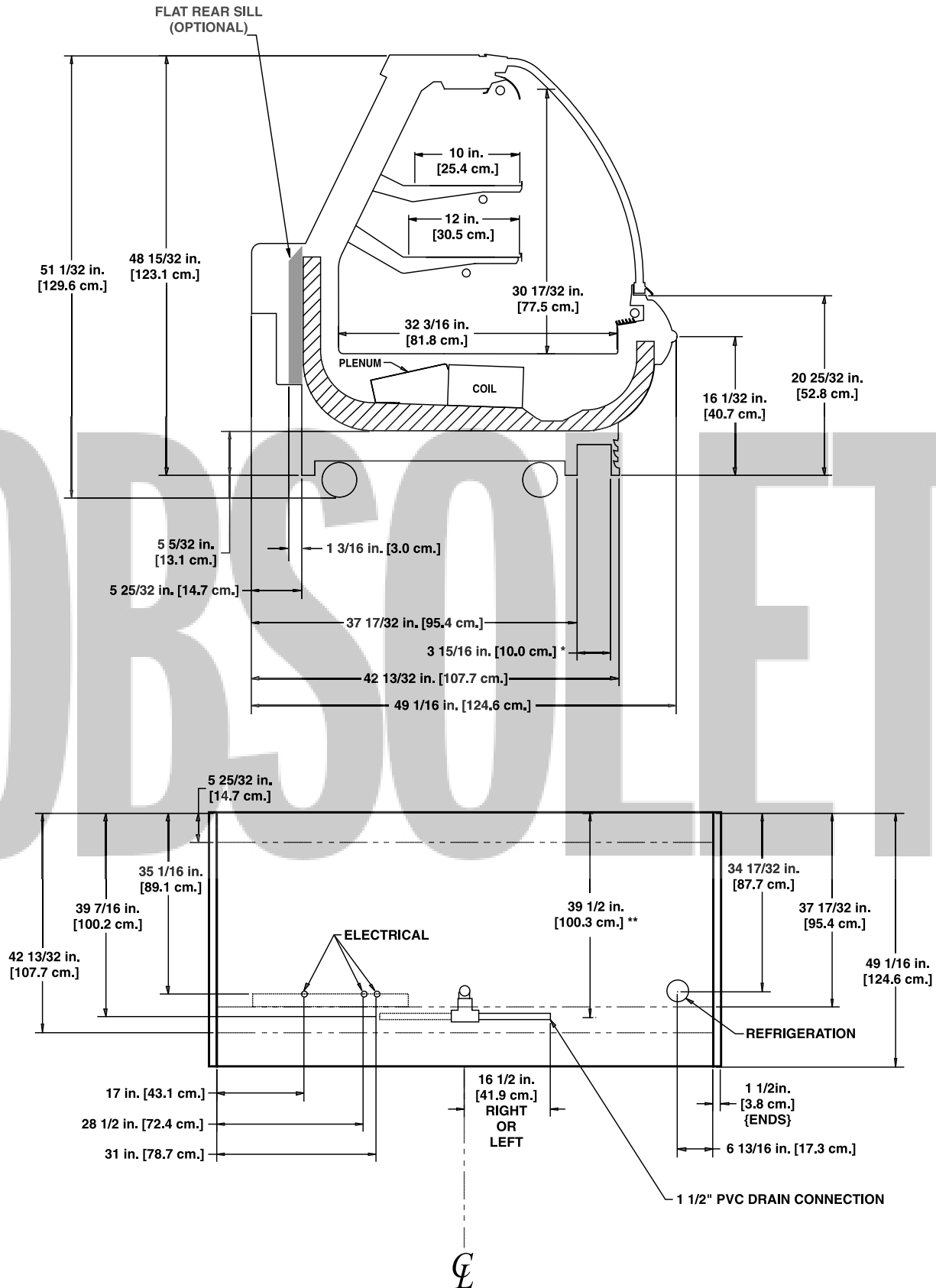


NOTES:

* STUB-UP AREA

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

OSA (5 5/32" BASEFRAME)



NOTES:

* STUB-UP AREA

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

OBSOLETE

American Style Flat Glass Deli/Seafood Merchandisers

OSM - 8' & 12' american style flat glass full service

Electrical Data

High Efficiency Fans												Anti-Condensate Heaters		Defrost Heaters			
Model		Fans per Case	Standard Fans		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts				
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts					
OSM	8'	3	1.02	53	0.45	38	1.25	150	3.85	800	4.44	1065					
	12'	4	1.36	70	0.60	50	1.88	226	5.77	1200	6.66	1600					

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OSM	8'	0.48	58	0.48	58	2.28	278
	12'	0.70	83	0.70	83	3.50	415

Guidelines & Control Settings

Model	BTUH/ft ¹	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OSM	320	22	24	39	235

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	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)
OSM	2	35	50	- - - ³	- - -	- - -	- - -	- - -	- - -

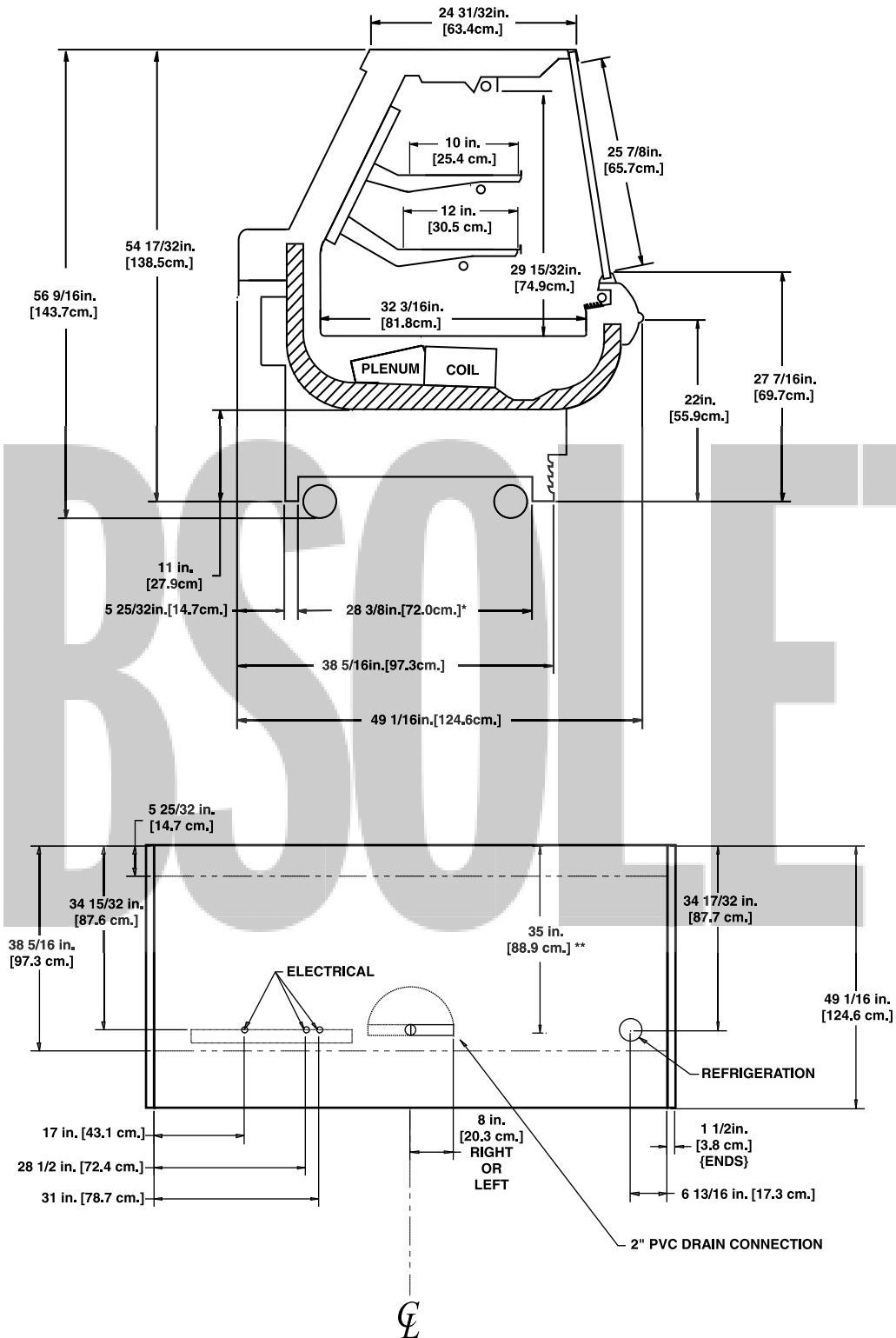
³ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OSM (11" BASEFRAME)



NOTES:

FRONT OF CASE

* STUB-UP AREA

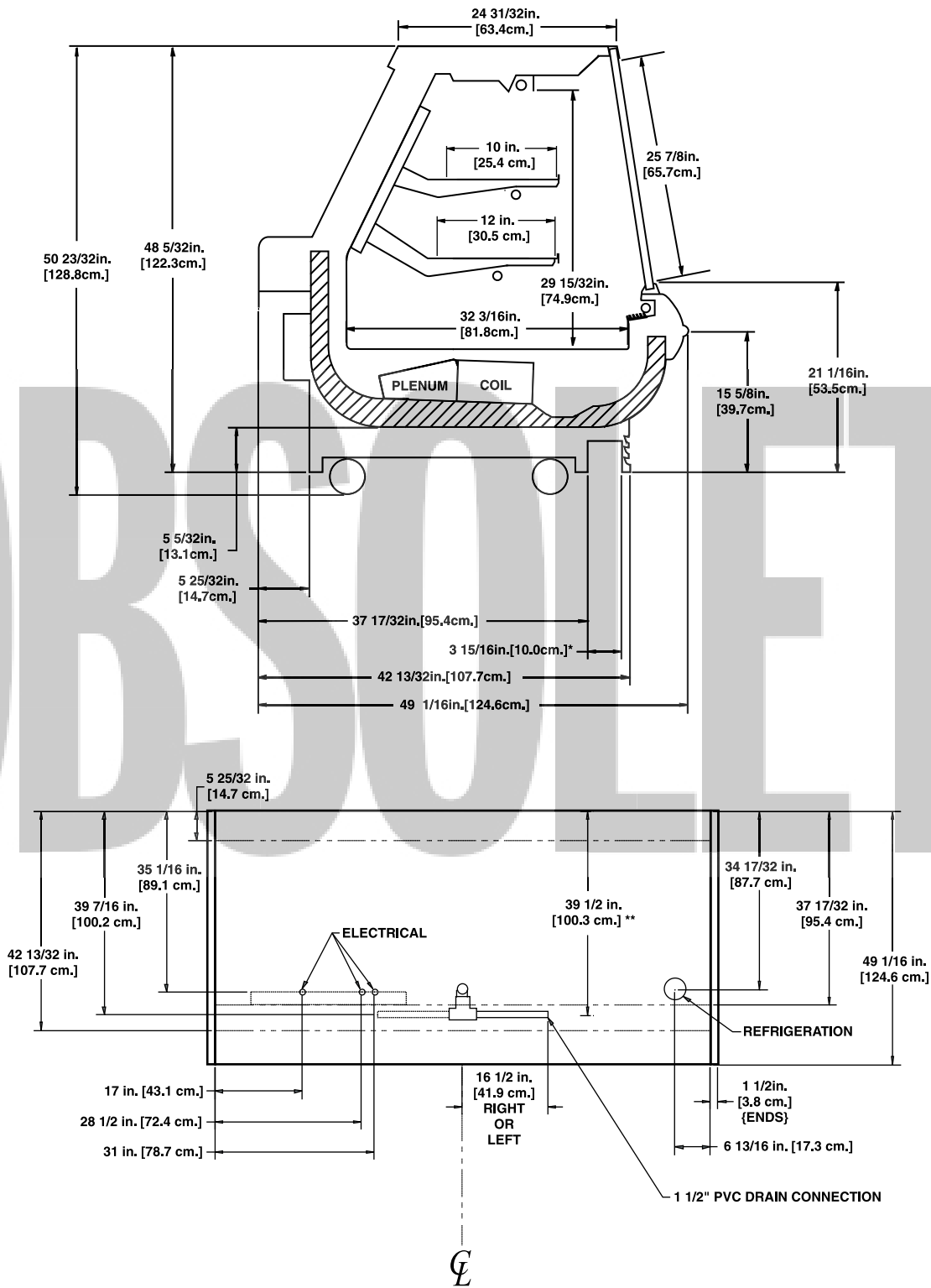
** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

Dell/Seafood

SERVICE

OSM (5 5/32" BASEFRAME)



FRONT OF CASE

NOTES:

* STUB-UP AREA

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

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

OBSOLETE

American Style Deli Gravity Coil Merchandisers

OSAG - 8' & 12' american style full service, gravity coil

Electrical Data

Model	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
OSAG	8'	3	1.02	53	0.45	38	0.97	115	---	---	---
	12'	4	1.36	70	0.60	50	1.50	179	---	---	---

¹ NOTE: --- not an option on this case model.

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OSAG	8'	0.48	58	0.48	58	1.80	220
	12'	0.70	83	0.70	83	2.80	332

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Discharge Air ³ (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OSAG	270	12	21-31	38	125

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Measured 1" below louver.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

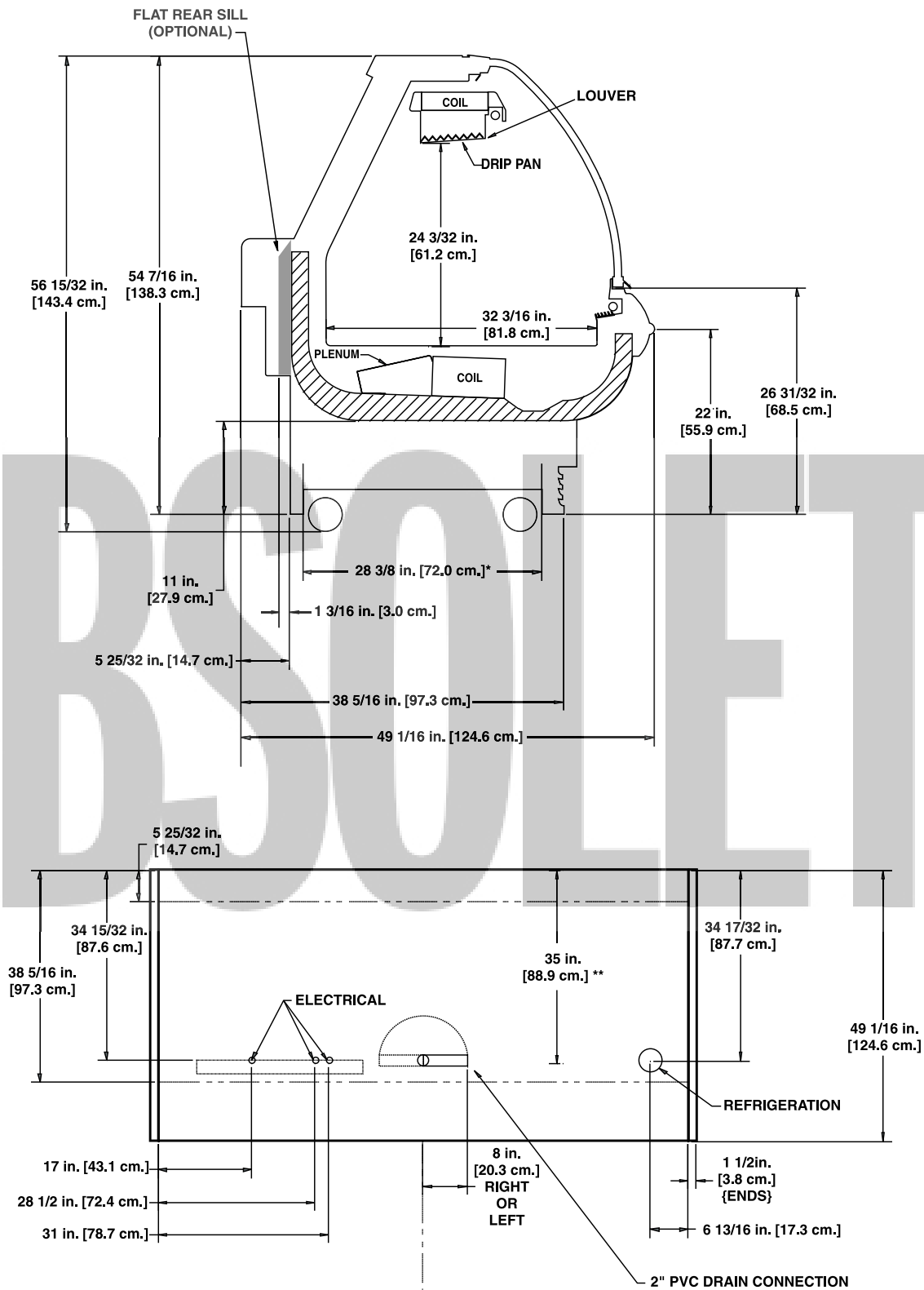
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OSAG	2	---	---	65	46	---	---	---	---

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OSAG (11" BASEFRAME)

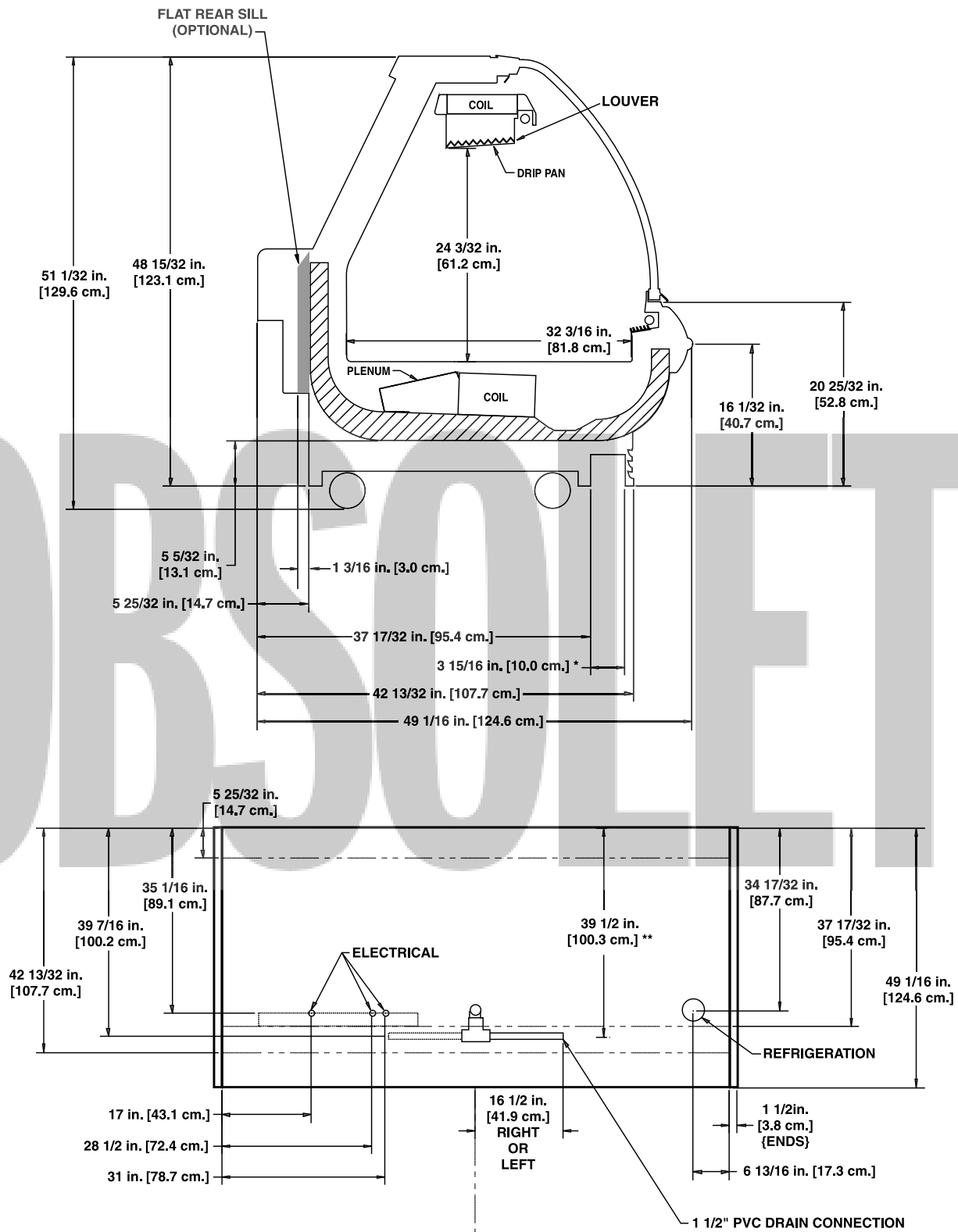


NOTES:

* STUB-UP AREA

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

OSAG (5 5/32" BASEFRAME)



℄

NOTES:

FRONT OF CASE

* STUB-UP AREA

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

OBSOLETE

International Style Deli/Seafood Merchandisers

OSI - 4', 8' & 12' international style full service

Electrical Data

High Efficiency Anti-Condensate													
Model			Fans per Case		Standard Fans		Fans		Heaters		Defrost Heaters		
					120 Volts		120 Volts		120 Volts		208 Volts		240 Volts
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps
OSI	4'	2	0.68	35	0.30	25	0.57	68	1.92	400	2.22	532	
	8'	3	1.02	53	0.45	38	1.22	146	3.85	800	4.44	1065	
	12'	4	1.36	70	0.60	50	1.88	225	5.77	1200	6.66	1600	

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OSI	4'	0.48	58	0.32	37	0.80	95
	8'	0.90	110	0.48	58	1.38	168
	12'	1.40	166	0.70	83	2.10	249

Guidelines & Control Settings

Model	BTUH/ft ¹	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OSI	350	22	31	38	175

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

Defrost Controls

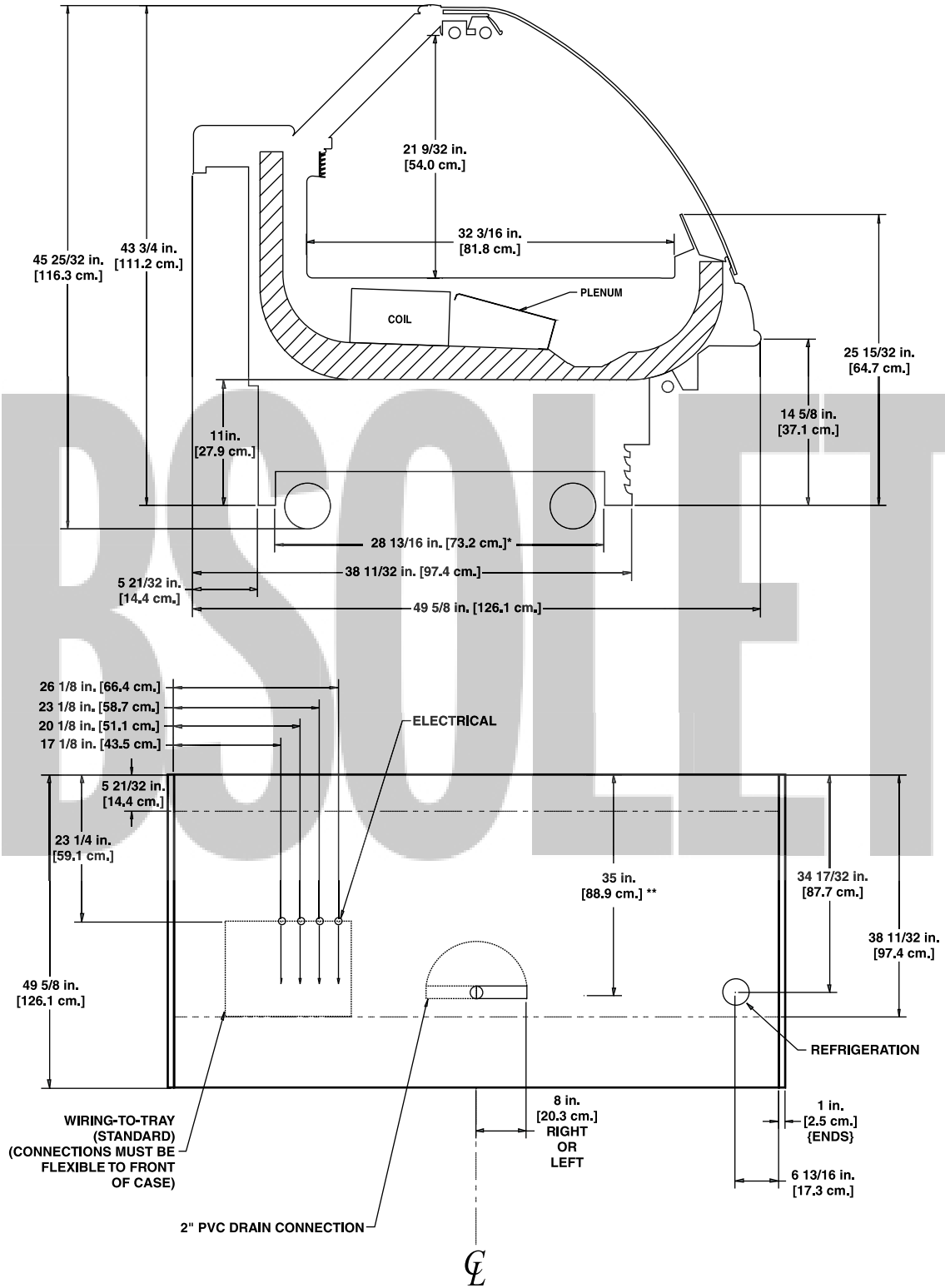
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OSI	3	30	60	- - - ³	- - -	- - -	- - -	- - -	- - -

³ NOTE: - - - not an option on this case model.

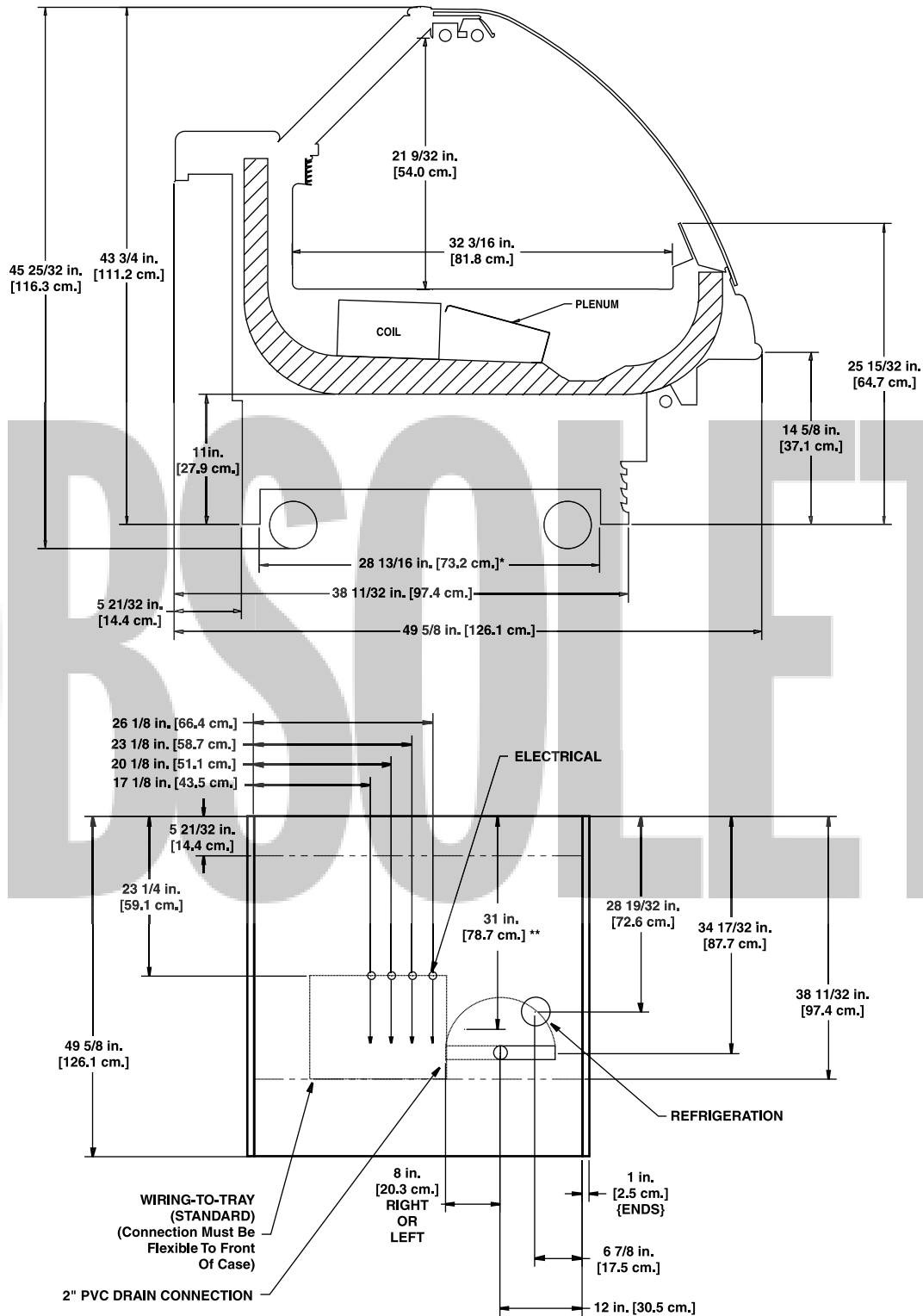
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.



OSI-4'



NOTES:

FRONT OF CASE

* STUB-UP AREA

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

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

OBSOLETE

International Style Deli/Seafood Self-Contained Mobile Merchandisers

OSIA-4' - full service mobile self-contained deli/seafood

Electrical Data

Model	Fans per Case	Standard Fans		High Efficiency Fans		Anti-Condensate Heaters Frt. Sill		Anti-Condensate Heaters Rear Sill		Defrost Heaters		Drain Pan Heaters	
		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSIA-4'	2	0.68	66	0.15		0.43	51	0.14	17	3.30	400	4.20	500

Guidelines & Control Settings

Model	24 hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
OSIA-4'		12-14	6-8	24-26	33-34	

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.	Max. Evap. Temp. (°F)	High Side Press. (psig)	Low Side Press. (psig)
OSIA-4'	115	1	60	1/3	8.90	48.0	R134A	2.8	45	440	162

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

Model	Defrosts Per Day	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)
OSIA-4'	2	45	47	- - - ⁴	- - -	- - -	- - -	- - -	- - -

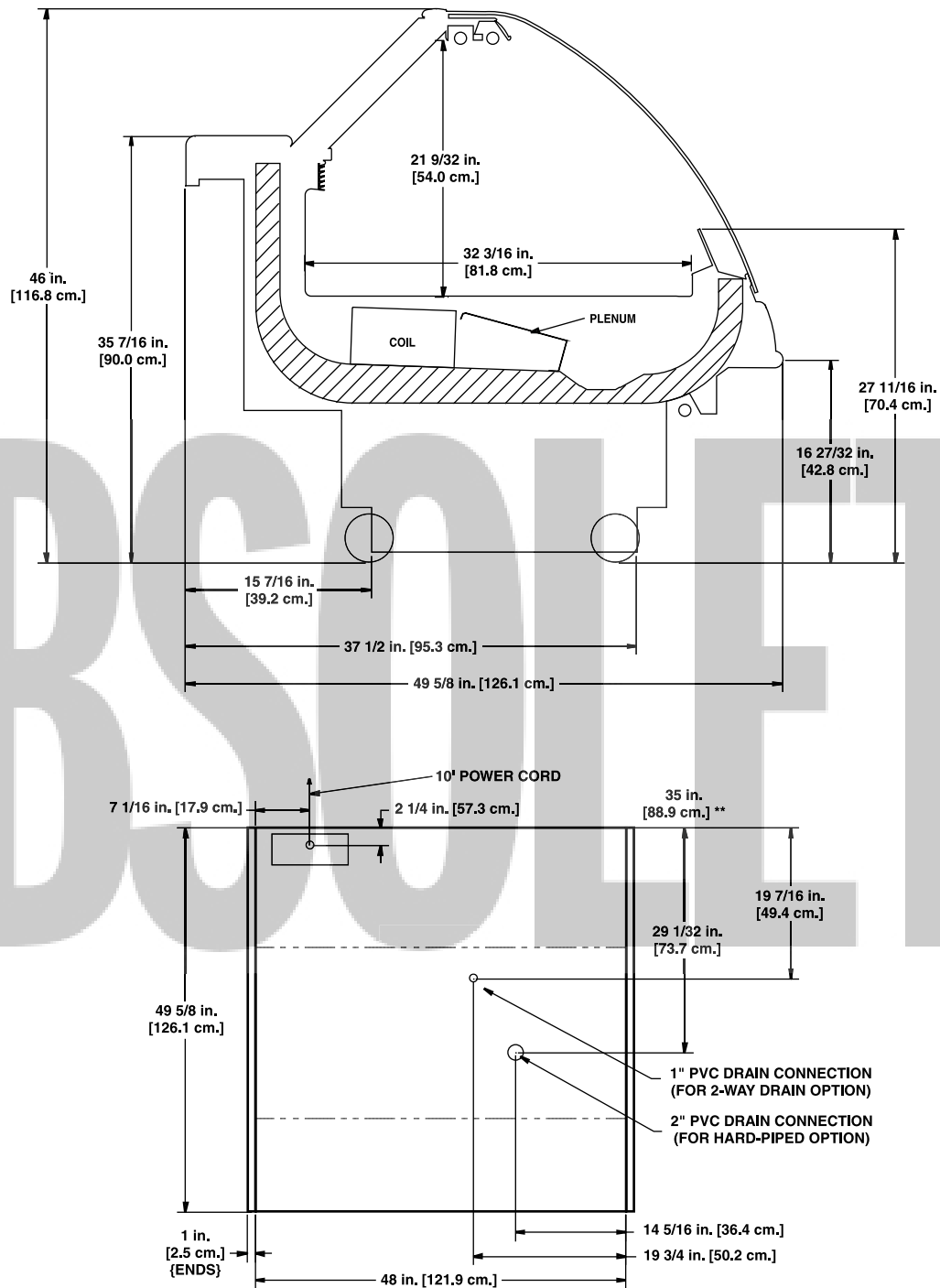
⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OSIA-4'



NOTE:

ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

Del/Seafood

SERVICE

OBSOLETE



Self-Service Merchandisers

Notes:

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Front sill height does not affect case performance unless specifically shown.*

International Style Self-Service Deli/Seafood Merchandisers

OSIO - 4', 8' & 12' international style self-service

Electrical Data

High Efficiency Anti-Condensate												
Model		Fans per Case	Standard Fans		Fans		Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSIO	4'	2	0.68	35	0.30	25	0.43	51	1.92	400	2.22	532
	8'	3	1.02	53	0.45	38	0.97	116	3.85	800	4.44	1065
	12'	4	1.36	70	0.60	50	1.50	179	5.77	1200	6.67	1600

Lighting Data

Model		Standard Lighting		Typical per Light Row		Maximum Lighting	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
OSIO	4'	NA ¹	NA	0.32	37	0.32	37
	8'	NA	NA	0.48	58	0.48	58
	12'	NA	NA	0.70	83	0.70	83

¹ Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OSIO	695 ³	12	24	33	180

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Calculated from OSIOA data compressor tables

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

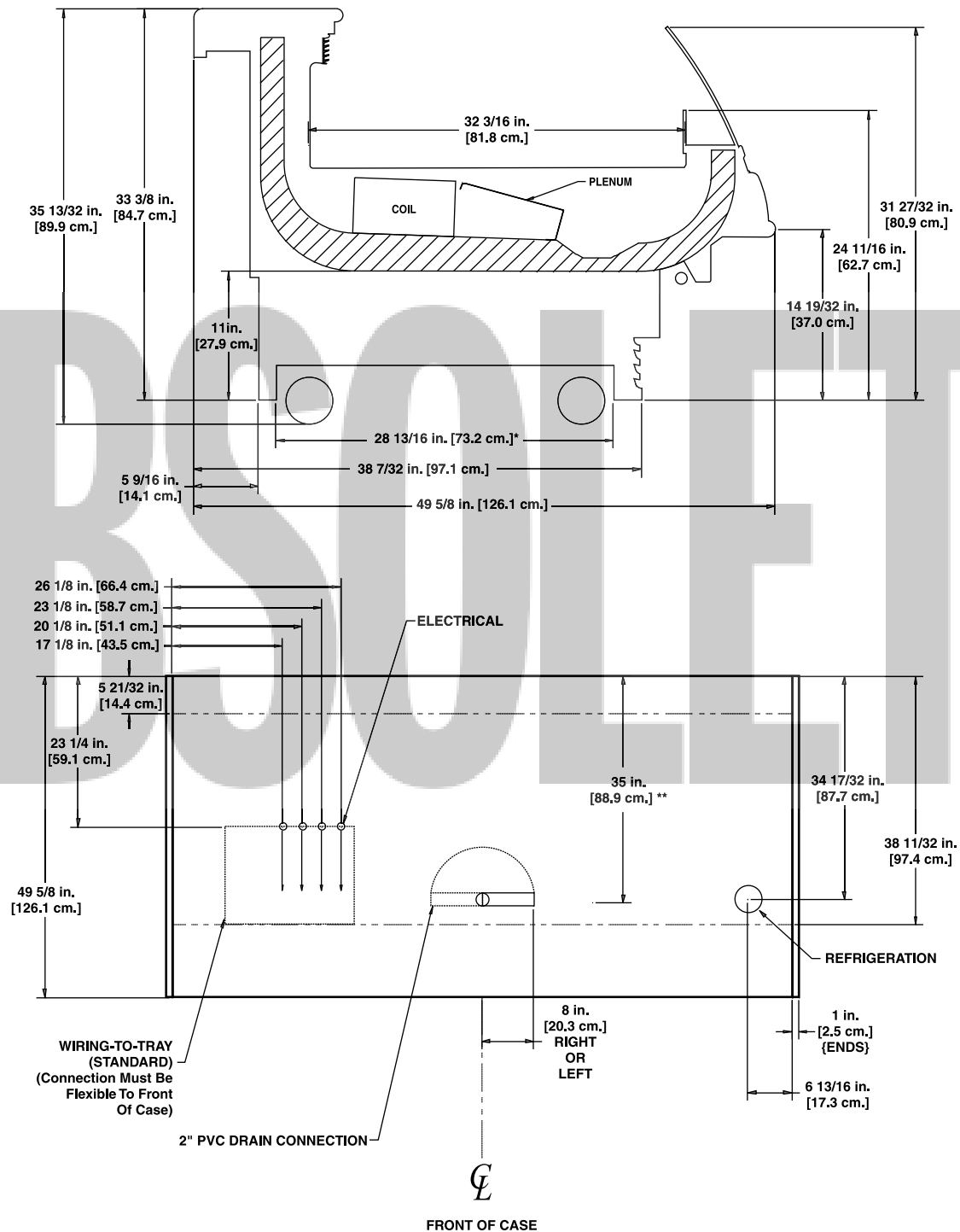
Model	Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OSIO	3	35	50	- - - ⁵	- - -	- - -	- - -	- - -	- - -

⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.



NOTES:

* STUB-UP AREA

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

FRONT VIEW DIMENSIONS:

- Overall Height: 35 13/32 in. [89.9 cm.]
- Top Section Height: 33 3/8 in. [84.7 cm.]
- Top Section Width: 31 27/32 in. [80.9 cm.]
- Top Section Depth: 11 in. [27.9 cm.]
- Top Section Width (Internal): 28 13/16 in. [73.2 cm.]*
- Top Section Width (Internal): 38 7/32 in. [97.1 cm.]
- Top Section Width (Internal): 49 5/8 in. [126.1 cm.]
- Top Section Depth (Internal): 5 9/16 in. [14.1 cm.]
- Top Section Depth (Internal): 24 11/16 in. [62.7 cm.]
- Top Section Depth (Internal): 14 19/32 in. [37.0 cm.]
- Top Section Depth (Internal): 31 27/32 in. [80.9 cm.]

REAR VIEW DIMENSIONS:

- Overall Width: 49 5/8 in. [126.1 cm.]
- Overall Height: 38 11/32 in. [97.4 cm.]
- Top Section Height: 26 1/8 in. [66.4 cm.]
- Top Section Height: 23 1/8 in. [58.7 cm.]
- Top Section Height: 20 1/8 in. [51.1 cm.]
- Top Section Height: 17 1/8 in. [43.5 cm.]
- Top Section Height: 5 21/32 in. [14.4 cm.]
- Top Section Height: 23 1/4 in. [59.1 cm.]
- Top Section Height: 31 in. [78.7 cm.]**
- Top Section Height: 28 19/32 in. [72.6 cm.]
- Top Section Height: 34 17/32 in. [87.7 cm.]
- Top Section Height: 1 in. [2.5 cm.] {ENDS}
- Top Section Height: 6 7/8 in. [17.5 cm.]
- Top Section Height: 12 in. [30.5 cm.]
- Top Section Height: 8 in. [20.3 cm.] RIGHT OR LEFT

COMPONENTS AND NOTES:

- COIL**: Located in the top section of the rear view.
- PLENUM**: Located in the top section of the rear view.
- ELECTRICAL**: Located in the top section of the rear view.
- REFRIGERATION**: Located in the top section of the rear view.
- WIRING-TO-TRAY (STANDARD)**: (Connection Must Be Flexible To Front Of Case)
- 2" PVC DRAIN CONNECTION**

* STUB-UP AREA
** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

OBSOLETE

International Style Self-Service Deli/Seafood Self-Contained Mobile Merchandisers

OSIOA-4' - self service mobile self-contained deli/seafood

Electrical Data

Model	Fans per Case	Standard Fans		High Efficiency Fans		Anti-Condensate Heaters Frt. Sill		Anti-Condensate Heaters Rear Sill		Defrost Heaters		Drain Pan Heaters	
		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSIOA-4'	2	0.68	66	0.15		0.43	51	0.14	17	3.30	400	4.20	500

Guidelines & Control Settings

Model	24 hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
OSIOA-4'	14.1	12-14	6-8	24-26	33-34	182

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.	Max. Evap. Temp. (°F)	High Side Press. (psig)	Low Side Press. (psig)
OSIOA-4'	115	1	60	1/2	10.40	48.0	R134A	2.8	45	440	162

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

Model	Defrosts Per Day	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)
OSIOA-4'	4	40	47	- - - ⁴	- - -	- - -	- - -	- - -	- - -

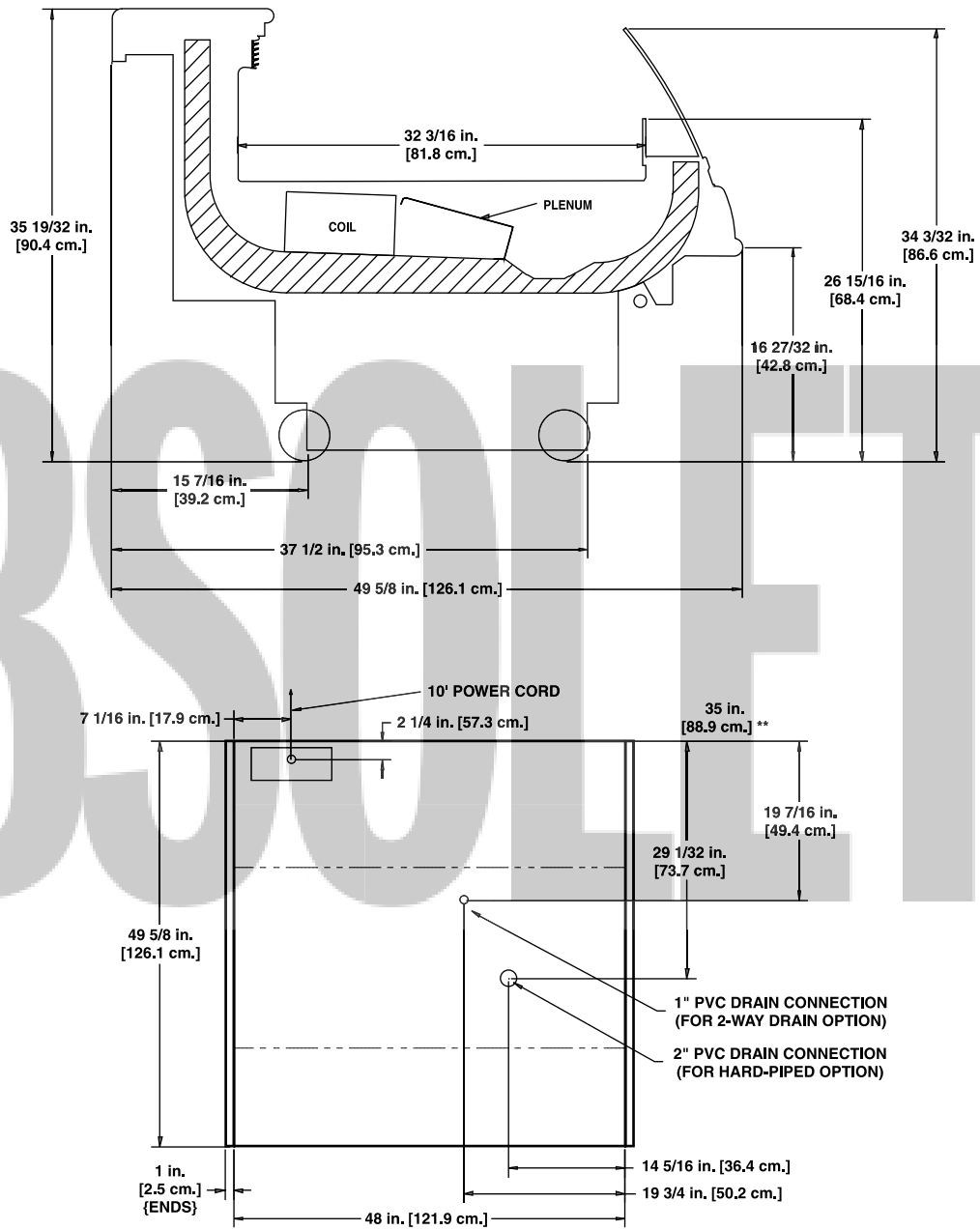
⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.

OSIOA-4'

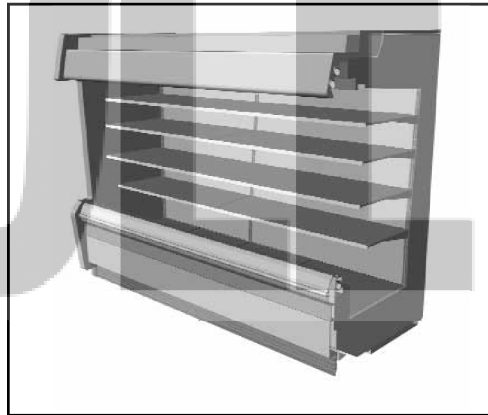


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DELETE

OBSOLETE



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