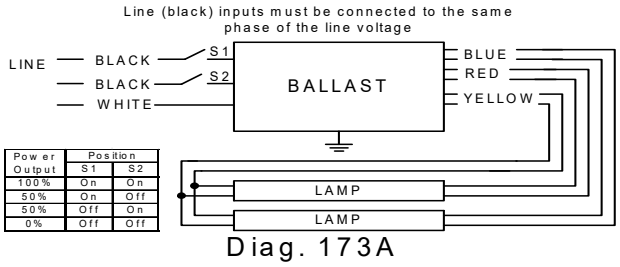
Electrical Specifications at 120V

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (℉/C)	Input Current (Amps)	Input Power (Watts)	Ballast Factor	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
F17T8	1	17	0/-18	0.13	15	0.88	10	0.99	1.7	5.87
F17T8	2	17	0/-18	0.24	29	0.88	10	0.99	1.7	3.03
F25T8	1	25	0/-18	0.18	22	0.88	10	0.99	1.7	4.00
F25T8	2	25	0/-18	0.34	40	0.88	10	0.99	1.7	2.20
F32T8/ES (25W)	2	25	60/16	0.38	45	0.88	10	0.99	1.7	1.96
F32T8/ES 28W@100%	2	28	60/16	0.40	48	0.88	10	0.99	1.7	1.83
F32T8/ES 28W@50%	2	28	60/16	0.20	24	0.28	10	0.99	1.7	1.17
F32T8@100%	1	32	0/-18	0.24	29	0.87	10	0.99	1.7	3.00
* F32T8@100%	2	32	0/-18	0.47	56	0.87	10	0.99	1.7	1.55
F32T8@50%	1	32	0/-18	0.11	13	0.28	10	0.99	1.7	2.15
F32T8@50%	2	32	0/-18	0.21	25	0.28	10	0.99	1.7	1.12

Wiring Diagram



Diag. 173A

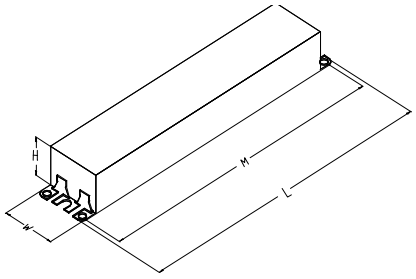
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.
Black	25	63.5
White	25	63.5
Blue	33	83.8
Red	33	83.8
Yellow	48	121.9
Gray		0
Violet		0

	in.	cm.
Yellow/Blue		0
Blue/White		0
Brown		0
Orange		0
Orange/Black		0
Black/White		0
Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

RoHS COMPLIANT

Revised 01/16/13

Step-Dim IOP2S32SCSD

IOP-2S32-SC-SD@120	
Brand Name	**STEP-DIM**
Ballast Type	**Electronic Dimming**
Starting Method	**Programmed Start**
Lamp Connection	**Series**
Input Voltage	**120-277**
Input Frequency	**50/60 HZ**
Status	**Active**

Electrical Specifications at 120V

Notes:

Section I - Physical Characteristics

1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.

1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

Section II - Performance

2.1 Ballast shall be Programmed Start.

2.2 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.

2.3 Ballast shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).

2.4 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.

2.5 Ballast shall have a Power Factor greater than 0.98 at 100% power and greater than 0.90 at 50% power for primary lamp.

2.6 Ballast shall have a ballast factor of 0.87 for primary T8 lamps or a ballast factor of 0.95 or 1.15 for primary T5HE lamps at full light output.

2.7 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.

2.8 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line and 100% power.

2.9 Ballast shall have a Class A sound rating.

2.10 Ballast shall have a minimum starting temperature of 0C (32F) for standard T5HE lamps or -18C (0F) for standard T8 lamps and 16C (60F) for energy-saving T8 lamps. Consult lamp manufacturer for temperature versus light output characteristics.

2.11 Ballast shall tolerate sustained open circuit and short circuit output conditions.

2.12 Ballast shall provide Lamp EOL Protection Circuit for T5 lamps.

2.13 Ballast shall control light output in two steps: 100% power and 50% power. Control shall be any device that switches the line voltage input. Both line voltage inputs must be on the same phase.

2.14 Ballast shall ignite the lamps at any light output setting without first going to another output setting.

Section III - Regulatory

3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).

3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.

3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.

3.4 Ballast shall comply with ANSI C82.11 where applicable.

3.5 Ballast shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.

3.6 Ballast shall comply with UL Type CC rating.

3.7 Ballast shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

4.1 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.

4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.

4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market

4.4 Ballast shall be Philips Advance part # _____ or approved equal.

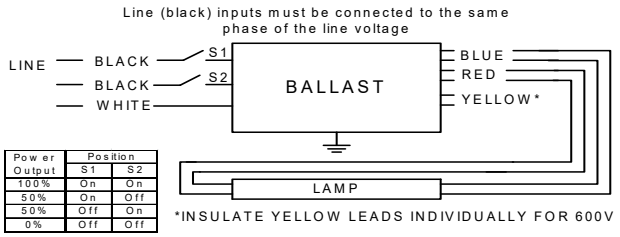
Revised 01/16/13

Step-Dim IOP2S32SCSD

Electrical Specifications at 120V

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (℉/C)	Input Current (Amps)	Input Power (Watts)	Ballast Factor	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
F17T8	1	17	0/-18	0.13	15	0.88	10	0.99	1.7	5.87
F17T8	2	17	0/-18	0.24	29	0.88	10	0.99	1.7	3.03
F25T8	1	25	0/-18	0.18	22	0.88	10	0.99	1.7	4.00
F25T8	2	25	0/-18	0.34	40	0.88	10	0.99	1.7	2.20
F32T8/ES (25W)	2	25	60/16	0.38	45	0.88	10	0.99	1.7	1.96
F32T8/ES 28W@100%	2	28	60/16	0.40	48	0.88	10	0.99	1.7	1.83
F32T8/ES 28W@50%	2	28	60/16	0.20	24	0.28	10	0.99	1.7	1.17
F32T8@100%	1	32	0/-18	0.24	29	0.87	10	0.99	1.7	3.00
F32T8@100%	2	32	0/-18	0.47	56	0.87	10	0.99	1.7	1.55
* F32T8@50%	1	32	0/-18	0.11	13	0.28	10	0.99	1.7	2.15
F32T8@50%	2	32	0/-18	0.21	25	0.28	10	0.99	1.7	1.12

Wiring Diagram



Power Output	Position S1	Position S2
100%	On	On
50%	On	Off
50%	Off	On
0%	Off	Off

Diag. 170A

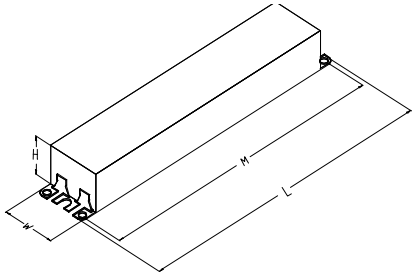
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.
Black	25	63.5
White	25	63.5
Blue	33	83.8
Red	33	83.8
Yellow	48	121.9
Gray		0
Violet		0

	in.	cm.
Yellow/Blue		0
Blue/White		0
Brown		0
Orange		0
Orange/Black		0
Black/White		0
Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

RoHS COMPLIANT

Revised 01/16/13

IOP-2S32-SC-SD@120	
Brand Name	**STEP-DIM**
Ballast Type	**Electronic Dimming**
Starting Method	**Programmed Start**
Lamp Connection	**Series**
Input Voltage	**120-277**
Input Frequency	**50/60 HZ**
Status	**Active**

Electrical Specifications at 120V

Notes:

Section I - Physical Characteristics

1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.

1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

Section II - Performance

2.1 Ballast shall be Programmed Start.

2.2 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.

2.3 Ballast shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).

2.4 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.

2.5 Ballast shall have a Power Factor greater than 0.98 at 100% power and greater than 0.90 at 50% power for primary lamp.

2.6 Ballast shall have a ballast factor of 0.87 for primary T8 lamps or a ballast factor of 0.95 or 1.15 for primary T5HE lamps at full light output.

2.7 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.

2.8 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line and 100% power.

2.9 Ballast shall have a Class A sound rating.

2.10 Ballast shall have a minimum starting temperature of 0C (32F) for standard T5HE lamps or -18C (0F) for standard T8 lamps and 16C (60F) for energy-saving T8 lamps. Consult lamp manufacturer for temperature versus light output characteristics.

2.11 Ballast shall tolerate sustained open circuit and short circuit output conditions.

2.12 Ballast shall provide Lamp EOL Protection Circuit for T5 lamps.

2.13 Ballast shall control light output in two steps: 100% power and 50% power. Control shall be any device that switches the line voltage input. Both line voltage inputs must be on the same phase.

2.14 Ballast shall ignite the lamps at any light output setting without first going to another output setting.

Section III - Regulatory

3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).

3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.

3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.

3.4 Ballast shall comply with ANSI C82.11 where applicable.

3.5 Ballast shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.

3.6 Ballast shall comply with UL Type CC rating.

3.7 Ballast shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

4.1 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.

4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.

4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market

4.4 Ballast shall be Philips Advance part # _____ or approved equal.

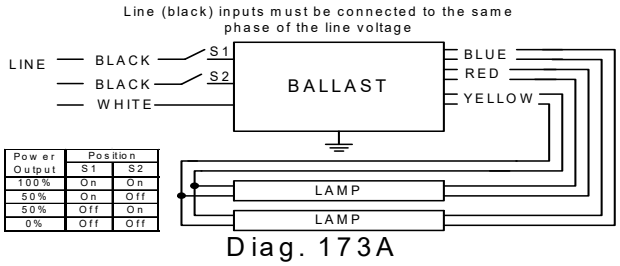
Revised 01/16/13

Step-Dim IOP2S32SCSD

Electrical Specifications at 277V

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (℉/C)	Input Current (Amps)	Input Power (Watts)	Ballast Factor	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
F17T8	1	17	0/-18	0.07	16	0.88	10	0.90	1.7	5.50
F17T8	2	17	0/-18	0.11	29	0.88	10	0.96	1.7	3.03
F25T8	1	25	0/-18	0.09	23	0.88	10	0.94	1.7	3.83
F25T8	2	25	0/-18	0.15	40	0.88	10	0.97	1.7	2.20
F32T8/ES (25W)	2	25	60/16	0.17	45	0.88	10	0.98	1.7	1.96
F32T8/ES 28W@100%	2	28	60/16	0.18	48	0.88	10	0.98	1.7	1.83
F32T8/ES 28W@50%	2	28	60/16	0.09	24	0.28	10	0.96	1.7	1.17
F32T8@100%	1	32	0/-18	0.11	29	0.87	10	0.99	1.7	3.00
* F32T8@100%	2	32	0/-18	0.21	56	0.87	10	0.98	1.7	1.55
F32T8@50%	1	32	0/-18	0.05	14	0.28	10	0.93	1.7	2.00
F32T8@50%	2	32	0/-18	0.10	26	0.28	10	0.95	1.7	1.08

Wiring Diagram



Diag. 173A

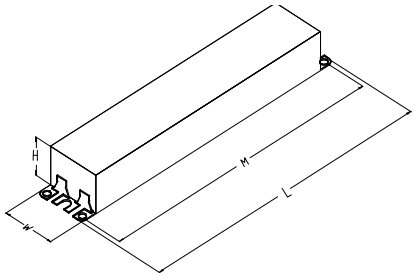
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.
Black	25	63.5
White	25	63.5
Blue	33	83.8
Red	33	83.8
Yellow	48	121.9
Gray		0
Violet		0

	in.	cm.
Yellow/Blue		0
Blue/White		0
Brown		0
Orange		0
Orange/Black		0
Black/White		0
Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

RoHS COMPLIANT

Revised 01/16/13

Step-Dim IOP2S32SCSD

IOP-2S32-SC-SD@277	
Brand Name	**STEP-DIM**
Ballast Type	**Electronic Dimming**
Starting Method	**Programmed Start**
Lamp Connection	**Series**
Input Voltage	**120-277**
Input Frequency	**50/60 HZ**
Status	**Active**

Electrical Specifications at 277V

Notes:

Section I - Physical Characteristics

1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.

1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

Section II - Performance

2.1 Ballast shall be Programmed Start.

2.2 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.

2.3 Ballast shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).

2.4 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.

2.5 Ballast shall have a Power Factor greater than 0.98 at 100% power and greater than 0.90 at 50% power for primary lamp.

2.6 Ballast shall have a ballast factor of 0.87 for primary T8 lamps or a ballast factor of 0.95 or 1.15 for primary T5HE lamps at full light output.

2.7 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.

2.8 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line and 100% power.

2.9 Ballast shall have a Class A sound rating.

2.10 Ballast shall have a minimum starting temperature of 0C (32F) for standard T5HE lamps or -18C (0F) for standard T8 lamps and 16C (60F) for energy-saving T8 lamps. Consult lamp manufacturer for temperature versus light output characteristics.

2.11 Ballast shall tolerate sustained open circuit and short circuit output conditions.

2.12 Ballast shall provide Lamp EOL Protection Circuit for T5 lamps.

2.13 Ballast shall control light output in two steps: 100% power and 50% power. Control shall be any device that switches the line voltage input. Both line voltage inputs must be on the same phase.

2.14 Ballast shall ignite the lamps at any light output setting without first going to another output setting.

Section III - Regulatory

3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).

3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.

3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.

3.4 Ballast shall comply with ANSI C82.11 where applicable.

3.5 Ballast shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.

3.6 Ballast shall comply with UL Type CC rating.

3.7 Ballast shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

4.1 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.

4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.

4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market

4.4 Ballast shall be Philips Advance part # _____ or approved equal.

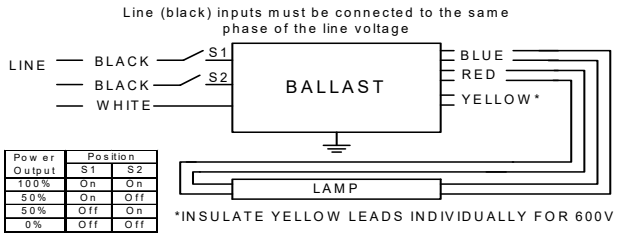
Revised 01/16/13

Step-Dim IOP2S32SCSD

Electrical Specifications at 277V

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (℉/C)	Input Current (Amps)	Input Power (Watts)	Ballast Factor	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
F17T8	1	17	0/-18	0.07	16	0.88	10	0.90	1.7	5.50
F17T8	2	17	0/-18	0.11	29	0.88	10	0.96	1.7	3.03
F25T8	1	25	0/-18	0.09	23	0.88	10	0.94	1.7	3.83
F25T8	2	25	0/-18	0.15	40	0.88	10	0.97	1.7	2.20
F32T8/ES (25W)	2	25	60/16	0.17	45	0.88	10	0.98	1.7	1.96
F32T8/ES 28W@100%	2	28	60/16	0.18	48	0.88	10	0.98	1.7	1.83
F32T8/ES 28W@50%	2	28	60/16	0.09	24	0.28	10	0.96	1.7	1.17
* F32T8@100%	1	32	0/-18	0.11	29	0.87	10	0.99	1.7	3.00
F32T8@100%	2	32	0/-18	0.21	56	0.87	10	0.98	1.7	1.55
F32T8@50%	1	32	0/-18	0.05	14	0.28	10	0.93	1.7	2.00
F32T8@50%	2	32	0/-18	0.10	26	0.28	10	0.95	1.7	1.08

Wiring Diagram



Power Output	Position S1	Position S2
100%	On	On
50%	On	Off
50%	Off	On
0%	Off	Off

Diag. 170A

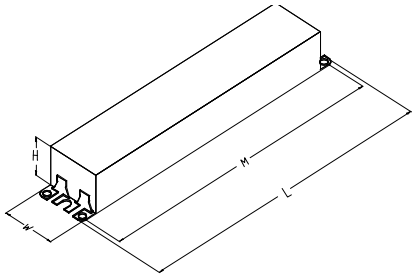
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.
Black	25	63.5
White	25	63.5
Blue	33	83.8
Red	33	83.8
Yellow	48	121.9
Gray		0
Violet		0

	in.	cm.
Yellow/Blue		0
Blue/White		0
Brown		0
Orange		0
Orange/Black		0
Black/White		0
Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

Revised 01/16/13

IOP-2S32-SC-SD@277	
Brand Name	**STEP-DIM**
Ballast Type	**Electronic Dimming**
Starting Method	**Programmed Start**
Lamp Connection	**Series**
Input Voltage	**120-277**
Input Frequency	**50/60 HZ**
Status	**Active**

Electrical Specifications at 277V

Notes:

Section I - Physical Characteristics

1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.

1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

Section II - Performance

2.1 Ballast shall be Programmed Start.

2.2 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.

2.3 Ballast shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).

2.4 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.

2.5 Ballast shall have a Power Factor greater than 0.98 at 100% power and greater than 0.90 at 50% power for primary lamp.

2.6 Ballast shall have a ballast factor of 0.87 for primary T8 lamps or a ballast factor of 0.95 or 1.15 for primary T5HE lamps at full light output.

2.7 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.

2.8 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line and 100% power.

2.9 Ballast shall have a Class A sound rating.

2.10 Ballast shall have a minimum starting temperature of 0C (32F) for standard T5HE lamps or -18C (0F) for standard T8 lamps and 16C (60F) for energy-saving T8 lamps. Consult lamp manufacturer for temperature versus light output characteristics.

2.11 Ballast shall tolerate sustained open circuit and short circuit output conditions.

2.12 Ballast shall provide Lamp EOL Protection Circuit for T5 lamps.

2.13 Ballast shall control light output in two steps: 100% power and 50% power. Control shall be any device that switches the line voltage input. Both line voltage inputs must be on the same phase.

2.14 Ballast shall ignite the lamps at any light output setting without first going to another output setting.

Section III - Regulatory

3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).

3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.

3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.

3.4 Ballast shall comply with ANSI C82.11 where applicable.

3.5 Ballast shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.

3.6 Ballast shall comply with UL Type CC rating.

3.7 Ballast shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

4.1 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.

4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.

4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market

4.4 Ballast shall be Philips Advance part # _____ or approved equal.

Revised 01/16/13

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281 Hillmount Road,
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