

**DESCRIPTION**

The E&G Steeler features a die-cast aluminum neck for superior strength and an extruded aluminum hinged door frame with stainless steel latches for access to the lamp without tools. The E&G is fully enclosed and gasketed at three separate points to prevent entry of external contaminants. U.L. listed and labeled for damp location. CSA Certified. The E&G Steeler is perfect for textile mills, gymnasiums, hangars, assembly and auto service areas.

|                    |  |             |
|--------------------|--|-------------|
| <b>Catalog #</b>   |  | <b>Type</b> |
| <b>Project</b>     |  |             |
| <b>Comments</b>    |  | <b>Date</b> |
| <b>Prepared by</b> |  |             |

**SPECIFICATION FEATURES**

**Construction**

**HOUSING:** Heavy-duty, formed steel housing with an open air ballast for cooler operation is finished in a white polyester powder coat. **NECK:** Die-cast aluminum neck with staggered mounting bosses for eight-position adjustability of the socket providing a variety of distributions from concentrated to wide.

**Electrical**

**BALLAST:** High power factor ballast with class H insulation. Minimum starting temperature is -40°C (-40°F) for HPS and -30°C (-20°F) for MH. CSA certified. **SOCKET:** Mogul-base porcelain socket.

The system is completely enclosed and gasketed at three points: door to reflector, reflector to neck, and neck to housing. **LENS:** Clear tempered glass lens in an extruded aluminum hinged door frame with stainless steel latches allows access for relamping without tools.

**Optical**

**REFLECTOR SYSTEM:** Computer designed, faceted SA23 reflector provides maximum photometric performance and beam efficiency.

**Mounting**

Easy slide-on die-cast aluminum mounting box with tapped opening for 3/4" conduit.

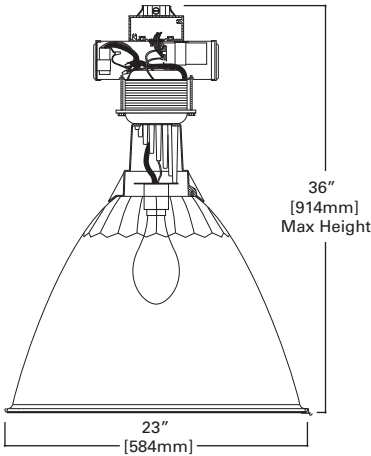


**SE**  
**23" E&G**  
**STEELER**

**320 - 1000W**  
**High Pressure Sodium**  
**Pulse Start Metal Halide**  
**Metal Halide**

**ALUMINUM HIGH-BAY**

**DIMENSIONS**



**TECHNICAL DATA**

EISA Compliant ©  
65° Ambient Environment  
55° Ambient Environment (450W and above)  
External Supply Wire Rating  
90° Minimum

**ENERGY DATA**

**CWI Ballast Input Watts**  
400W HPS HPF (465 Watts)  
400W MH HPF (475 Watts)

**CWA Ballast Input Watts**

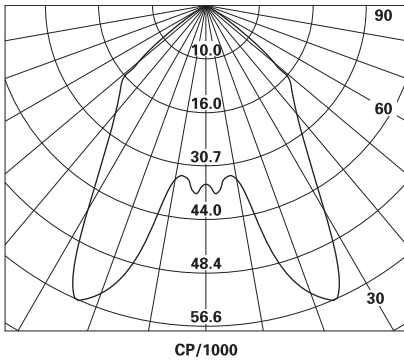
320W MP HPF (365 Watts) ©  
350W MP HPF (400 Watts) ©  
400W MP HPF (452 Watts) ©  
400W HPS HPF (465 Watts)  
450W MP HPF (508 Watts) ©  
600W HPS HPF (665 Watts)  
750W HPS HPF (850 Watts)  
750W MP HPF (820 Watts)  
1000W HPS HPF (1100 Watts)  
1000W MH HPF (1085 Watts)  
1000W MP HPF (1070 Watts)

**SHIPPING DATA**

**Approximate Net Weight:**  
50 lbs. (23 kgs.)



PHOTOMETRICS



**MHSE-ENSA23-M-1000**  
1000-Watt MH  
110,000-Lumen Clear Lamp

**Coefficients Of Utilization**

| rc         | Effective floor cavity reflectance |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |  |  |
|------------|------------------------------------|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|----|--|--|
|            | 80%                                |    |    |    | 70% |    |    |    | 50% |    |    |    | 30% |    |    |    | 10% |    |    |    | 0% |  |  |
| rv         | 70                                 | 50 | 30 | 10 | 70  | 50 | 30 | 10 | 50  | 30 | 10 | 50 | 30  | 10 | 50 | 30 | 10  | 50 | 30 | 10 | 0  |  |  |
| <b>RCR</b> |                                    |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |  |  |
| 0          | 90                                 | 90 | 90 | 90 | 88  | 88 | 88 | 88 | 84  | 84 | 84 | 81 | 81  | 81 | 77 | 77 | 77  | 76 |    |    |    |  |  |
| 1          | 86                                 | 84 | 82 | 80 | 84  | 82 | 80 | 79 | 79  | 77 | 76 | 76 | 75  | 74 | 73 | 73 | 72  | 70 |    |    |    |  |  |
| 2          | 82                                 | 78 | 74 | 72 | 80  | 76 | 73 | 71 | 74  | 71 | 69 | 72 | 70  | 68 | 69 | 68 | 67  | 65 |    |    |    |  |  |
| 3          | 77                                 | 72 | 68 | 65 | 75  | 71 | 67 | 64 | 69  | 66 | 63 | 67 | 64  | 62 | 65 | 63 | 61  | 60 |    |    |    |  |  |
| 4          | 73                                 | 67 | 62 | 59 | 71  | 66 | 62 | 58 | 64  | 61 | 58 | 63 | 60  | 57 | 61 | 59 | 56  | 55 |    |    |    |  |  |
| 5          | 68                                 | 62 | 57 | 53 | 67  | 61 | 56 | 53 | 60  | 56 | 53 | 58 | 55  | 52 | 57 | 54 | 52  | 51 |    |    |    |  |  |
| 6          | 64                                 | 57 | 52 | 49 | 63  | 56 | 52 | 48 | 55  | 51 | 48 | 54 | 50  | 48 | 53 | 50 | 47  | 46 |    |    |    |  |  |
| 7          | 60                                 | 52 | 47 | 44 | 59  | 52 | 47 | 44 | 51  | 46 | 43 | 50 | 46  | 43 | 49 | 45 | 43  | 42 |    |    |    |  |  |
| 8          | 56                                 | 48 | 43 | 40 | 55  | 48 | 43 | 40 | 47  | 42 | 39 | 46 | 42  | 39 | 45 | 42 | 39  | 38 |    |    |    |  |  |
| 9          | 52                                 | 44 | 39 | 36 | 52  | 44 | 39 | 36 | 43  | 39 | 35 | 42 | 38  | 35 | 42 | 38 | 35  | 34 |    |    |    |  |  |
| 10         | 49                                 | 41 | 36 | 32 | 48  | 40 | 36 | 32 | 40  | 35 | 32 | 39 | 35  | 32 | 38 | 35 | 32  | 31 |    |    |    |  |  |

**Candlepower**

| Degree | CP    |
|--------|-------|
| 0      | 32993 |
| 5      | 32475 |
| 10     | 33367 |
| 15     | 48423 |
| 20     | 56176 |
| 25     | 56578 |
| 30     | 42528 |
| 35     | 30754 |
| 40     | 25350 |
| 45     | 21820 |
| 50     | 15307 |
| 55     | 5157  |
| 60     | 1086  |
| 65     | 423   |
| 70     | 176   |
| 75     | 72    |
| 80     | 68    |
| 85     | 34    |
| 90     | 0     |

**Spacing Criterion 1.4**

| Zone | %Lamp | Zone  | %Lamp |
|------|-------|-------|-------|
| 0-30 | 37.4  | 0-90  | 75.9  |
| 0-40 | 55.39 | 0-180 | 0.0   |
| 0-60 | 75.4  | Total | 75.9  |

ORDERING INFORMATION

Sample Number: MPSE-ENSA23-M-1000-MT-Q

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

**Lamp Type**

**MP**=Pulse Start Metal<sup>1</sup> Halide  
**MH**=Metal Halide<sup>1</sup>  
**HP**=High Pressure<sup>2</sup> Sodium

**Series**

**SE**= E & G Steeler

**Reflector Type**

**ENSA**=Enclosed & Gasketed Spun Aluminum

**Reflector Diameter**

**23**= 23" Diameter

**Distribution**<sup>3</sup>

**C**= Concentrated  
**M**= Medium  
**W**= Wide

**Lamp Wattage**

**MP**  
**320**=320W  
**400**=400W  
**MH**  
**400**= 400W  
**HP**  
**400**= 400W

**Voltage**<sup>4</sup>

**120V**=120V  
**208V**=208V  
**240V**=240V  
**277V**=277V  
**347V**= 347V  
**480V**= 480V  
**MT**= Multi-Tap,<sup>5</sup> wired 277V  
**TT**= Triple-Tap,<sup>6</sup> wired 347V  
**5T**= 5-Tap<sup>7</sup>

**Options**

**C3**=3' Cord with no plug (Specify Voltage)<sup>8</sup>  
**PC3**=3' Cord with NEMA Plug (120V-L5-15P,<sup>8</sup> 208V-L6-15P, 347V-L37-20P, AND 480V-L8-20P) Other cord lengths are available by specifying length (PC6 for 6' Cord) Requires FH-1 or FL-1, or SHK. Example: PC3-120V Use with TPPH-NEMA. Specify Voltage.  
**PHC**= Power Cord and Plug (18" Power Cord and Non-NEMA plug configuration. Must be used with FL-1 and TPPH (Thru-Way Pendant Power Hook). Must specify single voltage.  
**PHC-NEMA**= Power Cord and NEMA Plug (18" Power Cord and 20 AMP NEMA plug configuration). Must be used with FL-1 and TPPH-NEMA (Thru-Way Pendant Power Hook).  
**PS**= Protective Starter (Available in 1000W HPS only. For other wattages consult factory).  
**P**= Pre-set Socket Position from the factory  
**FH-1**= Die-cast Aluminum Fixture Hook (with 3/4" threads for easy installation)  
**FL-1**=Malleable Iron Plated Fixture Loop (with 3/4" threads for easy installation)  
**SHK**=Die-cast Aluminum Fixture Hook (with safety screw and 3/4" threads for easy installation)  
**HSW**=Integral LumaWatt Sensor and Control<sup>9</sup> w/ Wide Distribution  
**F1**=Single Fuse (120, 277 or 347V only)  
**F2**=Double Fuse (208, 240 or 480V only)  
**SCF**=3' Aircraft Safety Cable secures Housing to Ceiling (Alternative lengths available. Example: SCF6 = 6' Cable)  
**Q**=Quartz Restrike (Hot Strike Only)  
**EM**=Quartz Restrike with "Delay Relay" (Quartz lamp strikes at both hot and cold starts)  
**EM/SC**=Emergency Separate Circuit<sup>10</sup>  
**L/TCB**=Less Top Connector Box (Housing shipped less top connector box. (Specify when using TWMBBS accessory)  
**LL**=Lamp Included<sup>11</sup>  
**SCR**=Aircraft Safety Cable-Housing to Reflector  
**W/MWS**=MWS Industrial components attached to the fixture at the factory. (Standard cord length is 3 ft. 6 ft. and 11 ft. also available. Please refer to MWS Modular Wiring System section for additional information.

**Accessories**<sup>13</sup>

**C3**=3' Cord-No Plug - Requires FH-1, FL-1, or SHK  
**PC3**=3' Cord with NEMA Plug - (120V-L5, 208V-L6-15P, 347V-L37-20P and 480V-L8-20P) Other cord lengths are available by specifying length (PC6 for 6' cord). Requires FH-1 or FL-1, or SHK. Use with TPPH-NEMA. Specify Voltage.  
**PHC**= Power Cord and Non-NEMA plug configuration. Must be used with FL-1 and TPPH (Thru-Way Pendant Power Hook)  
**PHC-NEMA**= Power Cord and NEMA plug - 18" Power Cord and 20 Amp NEMA plug configuration. Must be used with FL-1 and TPPH-NEMA (Thru-Way Pendant Power Hook)  
**MBT**= Twin Mount Bracket (Fixtures must be same voltage and without hooks, loops or plugs.)  
**TPPH**= Thru-Way Pendant Power Hook. Requires FL-1 and PHC. Specify Voltage.  
**TPPH-F**= Thru-Way Pendant Power Hook Single Fuse, 120, 277 or 347 Volt. Requires FL-1 and PHC. Specify Voltage.  
**TPPH-F2**= Thru-Way Pendant Power Hook - Double Fused, 208, 240, or 480 Volt. Requires FL-1 and PHC. Specify Voltage.  
**TPPH-F-QD**= Thru-Way Pendant Power Hook Single Fuse, Quick Disconnect. Requires FL-1 and PHC. Specify Voltage (120, 277, or 347V)  
**TPPH-F2-QD**= Thru-Way Pendant Power Hook Double Fuse, Quick Disconnect. Requires FL-1 and PHC. Specify Voltage (208, 240, or 480V)  
**TPPH-NEMA**=Thru-Way Pendant Power Hook. Requires FL-1 and PHC-XXXV-NEMA. (Specify  
**FH-1**=Fixture Hook  
**FL-1**=Fixture Loop  
**SHK**=Hook with Safety Screw  
**TWMBBS**=Thru-Way Mounting Box<sup>14</sup>

- Notes:**
- Approved lamp containment barrier required when enclosed rated MP/ML/MH lamps are used. 2005 NEC code requires that open luminaires must utilize a safety glass bottom (SGB) accessory or an Open rated socket (OR) and lamp.
  - Not available in 175, 200, 320, 350 and 450W.
  - Factory set for concentrated, medium or wide distributions otherwise fixture is shipped in medium setting.
  - Products also available in non-US voltages and 50HZ for international markets. Consult your Cooper Representative for availability and ordering information. 88% Efficient EISA Compliant MP Fixtures not available in 347V and TT Voltages.
  - Multi-Tap ballast 120/208/240/277V wired 277V.
  - Triple-Tap ballast 120/277/347V wired 347V.
  - 5-Tap ballast 120/208/240/277/480V wired 277V. 400W Metal Halide only. 88% efficient EISA Compliant MP fixtures not available in 5-Tap Voltages.
  - Requires FH-1 or FL-1 or SHK.
  - 30 second time delay when switching from bright to dim. Consult individual lamp manufacturers recommendations for compatible lamps. For use with CWA ballast only.
  - Not available with HL or HC options.
  - Lamp is shipped separately.
  - Not available with PC3, C3, PHC or MWS. Not available with single circuit MWS special order.
  - Order separately.
  - Specify L/TCB when using thru-way mounting box (TWMBBS) accessory.

| LAMP TYPE                     | WATTAGE                        |
|-------------------------------|--------------------------------|
| Pulse Start Metal Halide (MP) | 320, 350, 400, 450, 750, 1000W |
| Metal Halide (MH)             | 400, 1000W                     |
| High Pressure Sodium (HP)     | 400, 600, 750W                 |

| VOLTAGE CHART          |                                   |
|------------------------|-----------------------------------|
| MT= Multi-Tap          | 120/208/240/277V (wired 277V)     |
| TT= Triple-Tap         | 120/277/347V (wired 347V)         |
| 5T= 5-Tap <sup>9</sup> | 120/208/240/277/480V (wired 277V) |